4.22.7.8 Top 270 (-75 dBm, 1090 MHz, MODE-S, DF11, Atten Off) MTL Test

This test will verify the following for a signal injected into the Top 270 port at 1090 MHz:

- Decoding ratio is at least 90% for largest acceptable MTL at the Top 270 Ant port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 21 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Top**	**Narrow**	**21 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: ***"RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 10**	**-75.0 ± 2.25 dBm**	**-**	**-**	**0**	**-**
OPR LIM	**≤ 10**	**-75.0 ± 2.5 dBm**	**-**	**-**	**0**	**-**

4.22.7.9 Top 270 (-75 dBm, 1090 MHz, MODE-S, DF11, Atten On) MTL Test

This test will verify the following for a signal injected into the Top 270 port at 1090 Mhz:

- Decoding ratio is at least 90% for largest acceptable MTL at the Top 270 Ant port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 21 0 86 0 1"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Top**	**Narrow**	**21 ms**	**Off**	**86**	**0**	**On**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: ***"RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 10**	**-75.0 ± 2.25 dBm**	**-**	**-**	**0**	**-**
OPR LIM	**≤ 10**	**-75.0 ± 2.5 dBm**	**-**	**-**	**0**	**-**

4.22.7.10 Top 270 (-75 dBm, 1093 MHz, ATCRBS) MTL Test

This test will verify the following for a signal injected into the Top 270 port at 1093 Mhz:

- Decoding ratio is at least 90% for largest acceptable MTL at the Top 270 Ant port

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1093.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 21 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	**Top**	**Wide**	**21 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 10**	**-75.0 ± 2.25 dBm**	**-**	**-**	**0**	**-**
OPR LIM	**≤ 10**	**-75.0 ± 2.0 dBm**	**-**	**-**	**0**	**-**

4.22.7.11 Top 270/0 (-72/-75 dBm, 1090 MHz, ATCRBS) Test

This test will verify the following for a signal injected into the Top270/Top0 ports:

- Decoding ratio of at least 99% for a signal that is 3 dB higher than the largest acceptable MTL

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**1090.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-72.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

ATCRBS replies will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 21 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	**Top**	**Wide**	**21 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-72.0 ± 2.25 dBm**	**3.0 ± 2.75 dBm**	**1**	**0**	**-**
OPR LIM	**≤ 1**	**-72.0 ± 2.5 dBm**	**3.0 ± 2.75 dBm**	**1**	**0**	**-**

4.22.7.12 Top 270/0 (-72/-75 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Test

This test will verify the following for a signal injected into the Top270/Top0 ports:

- Decoding ratio of at least 99% for a signal that is 3 dB higher than the largest acceptable MTL

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**1090.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-72.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 21 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Top**	**Narrow**	**21 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-72.0 ± 2.25 dBm**	**3.0 ± 2.75 dBm**	**1**	**0**	**-**
OPR LIM	**≤ 1**	**-72.0 ± 2.5 dBm**	**3.0 ± 2.75 dBm**	**1**	**0**	**-**

4.22.7.13 Top 270/0 (-72/-75 dBm, 1090 MHz, MODE-S, DF11, Atten On) Test

This test will verify the following for a signal injected into the Top 270/Top 0 ports:

- Decoding ratio of at least 99% for a signal that is 3 dB higher than the largest acceptable MTL

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**1090.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-72.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 21 0 86 0 1***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Top**	**Narrow**	**21 ms**	**Off**	**86**	**0**	**On**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-72.0 ± 2.25 dBm**	**3.0 ± 2.75 dBm**	**1**	**0**	**-**
OPR LIM	**≤ 1**	**-72.0 ± 2.5 dBm**	**3.0 ± 2.75 dBm**	**1**	**0**	**-**

4.22.7.14 Top 270/0 (-60/-66 dBm, 1090 MHz, ATCRBS) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	1090.0 ± 0.1 MHz	-66.0 ± 0.5 dBm
Top 90	-	-
Top 180	-	-
Top 270	1090.0 ± 0.1 MHz	-60.0 ± 0.5 dBm
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

ATCRBS replies will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 21 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	Top	Wide	21 ms	Off	86	0	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	≤ 1	-60.0 ± 2.25 dBm	6.0 ± 2.75 dBm	1	0	1
OPR LIM	≤ 1	-60.0 ± 2.5 dBm	6.0 ± 2.75 dBm	1	0	1

4.22.7.15 Top 270/0 (-60/-66 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	1090.0 ± 0.1 MHz	-66.0 ± 0.5 dBm
Top 90	-	-
Top 180	-	-
Top 270	1090.0 ± 0.1 MHz	-60.0 ± 0.5 dBm
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 21 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Top	Narrow	21 ms	Off	86	0	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	≤ 1	-60.0 ± 2.25 dBm	6.0 ± 2.75 dBm	1	0	1
OPR LIM	≤ 1	-60.0 ± 2.5 dBm	6.0 ± 2.75 dBm	1	0	1

4.22.7.16 Top 270/0 (-60/-66 dBm, 1090 MHz, MODE-S, DF11, Atten On) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	1090.0 ± 0.1 MHz	-66.0 ± 0.5 dBm
Top 90	-	-
Top 180	-	-
Top 270	1090.0 ± 0.1 MHz	-60.0 ± 0.5 dBm
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 21 0 86 0 1***"
This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Top**	**Narrow**	**21 ms**	**Off**	**86**	**0**	**On**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-60.0 ± 2.25 dBm**	**6.0 ± 2.75 dBm**	**1**	**0**	**1**
OPR LIM	**≤ 1**	**-60.0 ± 2.5 dBm**	**6.0 ± 2.75 dBm**	**1**	**0**	**1**

4.22.7.17 Top 270/0 (-48/-57 dBm, 1090 MHz, ATCRBS) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**1090.0 ± 0.1 MHz**	**-57.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-48.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

ATCRBS replies will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	**Top**	**Wide**	**12 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-48.0 ± 2.0 dBm**	**9.0 ± 2.5 dBm**	**1**	**0**	**1**
OPR LIM	**0**	**-48.0 ± 2.5 dBm**	**9.0 ± 2.5 dBm**	**1**	**0**	**1**

4.22.7.18 Top 270/0 (-48/-57 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**1090.0 ± 0.1 MHz**	**-57.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-48.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Top**	**Narrow**	**12 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-48.0 ± 2.25 dBm**	**9.0 ± 2.75 dBm**	**1**	**0**	**1**
OPR LIM	**0**	**-48.0 ± 2.5 dBm**	**9.0 ± 2.75 dBm**	**1**	**0**	**1**

4.22.7.19 Top 270/0 (-48/-57 dBm, 1090 MHz, MODE-S, DF11, Atten On) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**1090.0 ± 0.1 MHz**	**-57.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-48.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 12 0 86 0 1***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Top**	**Narrow**	**12 ms**	**Off**	**86**	**0**	**On**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-48.0 ± 2.25 dBm**	**9.0 ± 2.75 dBm**	**1**	**0**	**1**
OPR LIM	**0**	**-48.0 ± 2.5 dBm**	**9.0 ± 2.75 dBm**	**1**	**0**	**1**

4.22.7.20 Top 270/0 (-36/-48 dBm, 1090 MHz, ATCRBS) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**1090.0 ± 0.1 MHz**	**-48.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-36.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

ATCRBS replies will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	**Top**	**Wide**	**12 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**0**	**-**	**-**	**-**	**-**	**-**

4.22.7.21 Top 270/0 (-36/-48 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**1090.0 ± 0.1 MHz**	**-48.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-36.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Top	Narrow	12 ms	Off	86	0	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	0	-	-	-	-	-
OPR LIM	0	-	-	-	-	-

4.22.7.22 Top 270/0 (-36/-48 dBm, 1090 MHz, MODE-S DF11, Atten On) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	1090.0 ± 0.1 MHz	-48.0 ± 0.5 dBm
Top 90	-	-
Top 180	-	-
Top 270	1090.0 ± 0.1 MHz	-36.0 ± 0.5 dBm
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 12 0 86 0 1***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Top	Narrow	12 ms	Off	86	0	On

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	0	-	-	-	-	-
OPR LIM	0	-	-	-	-	-

4.22.7.23 Top 270/0 (-24/-25 dBm, 1090 MHz, ATCRBS) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	1090.0 ± 0.1 MHz	-25.0 ± 0.5 dBm
Top 90	-	-
Top 180	-	-
Top 270	1090.0 ± 0.1 MHz	-24.0 ± 0.5 dBm
Bot 0		
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

ATCRBS replies will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 21 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	Top	Wide	12 ms	Off	86	0	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**0**	**-**	**-**	**-**	**-**	**-**

4.22.7.24 Top 270/0 (-24/-25 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**1090.0 ± 0.1 MHz**	**-25.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-24.0 ± 0.5 dBm**
Bot 0		
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Top**	**Narrow**	**12 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**0**	**-**	**-**	**-**	**-**	**-**

4.22.7.25 Top 270/0 (-24/-25 dBm, 1090 MHz, MODE-S, DF11, Atten On) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**1090.0 ± 0.1 MHz**	**-25.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-24.0 ± 0.5 dBm**
Bot 0		
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 12 0 86 0 1"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Top**	**Narrow**	**12 ms**	**Off**	**86**	**0**	**On**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**0**	**-**	**-**	**-**	**-**	**-**

4.22.7.26 Top 270 (-90 dBm, 1090 MHz, MODE-S, DF17) ADS-B Sub MTL Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-90.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

DF17 squitters will be injected into the UUT Top 270 Ant port at MTL - 3dB.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	**0xAAAAAAAA**	**0x555555**	**0x8E5A06**

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	**Top**	**Narrow**	**31 ms**	**On**	**47**	**38**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**< 85**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**< 85**	**-**	**-**	**-**	**-**	**-**

4.22.7.27 Top 270 (-87 dBm, 1089 MHz, MODE-S, DF17) ADS-B MTL Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1089.0 ± 0.1 MHz**	**-87.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

DF17 squitters will be injected into the UUT Top 270 Ant port at MTL

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	**0xAAAAAAAA**	**0x555555**	**0x8E5A06**

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	**Top**	**Narrow**	**31 ms**	**On**	**47**	**38**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 10**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**≤ 10**	**-**	**-**	**-**	**-**	**-**

4.22.7.28 Top 270 (-87 dBm, 1090 MHz, MODE-S, DF17) ADS-B MTL Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-87.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

DF17 squitters will be injected into the UUT Top 270 Ant port at MTL.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	**0xAAAAAAAA**	**0x555555**	**0x8E5A06**

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	**Top**	**Narrow**	**31 ms**	**On**	**47**	**38**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 10**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**≤ 10**	**-**	**-**	**-**	**-**	**-**

4.22.7.29 Top 270 (-87 dBm, 1091 MHz, MODE-S, DF17) ADS-B MTL Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1091.0 ± 0.1 MHz**	**-87.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

DF17 squitters will be injected into the UUT Top 270 Ant port at MTL.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	**0xAAAAAAAA**	**0x555555**	**0x8E5A06**

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	**Top**	**Narrow**	**31 ms**	**On**	**47**	**38**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 10**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**≤ 10**	**-**	**-**	**-**	**-**	**-**

4.22.7.30 Top 270 (-84 dBm, 1090 MHz, MODE-S, DF17) ADS-B Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-84.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

DF17 squitters will be injected into the UUT Top 270 Ant port at MTL + 3dB

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	**0xAAAAAAAA**	**0x555555**	**0x8E5A06**

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	**Top**	**Narrow**	**31 ms**	**On**	**47**	**38**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**≤ 1**	**-**	**-**	**-**	**-**	**-**

4.22.7.31 Top 270 (-75 dBm, 1090 MHz, MODE-S, DF17) ADS-B Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1090.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

DF17 squitters will be injected into the UUT Top 270 Ant port at an intermediate power level.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	**0xAAAAAAAA**	**0x555555**	**0x8E5A06**

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	**Top**	**Narrow**	**31 ms**	**On**	**47**	**38**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**≤ 1**	**-**	**-**	**-**	**-**	**-**

4.22.7.32 Top 270 (-24 dBm, 1090 MHz, MODE-S, DF17) ADS-B Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	1090.0 ± 0.1 MHz	-24.0 ± 0.5 dBm
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

DF17 squitters will be injected into the UUT Top 270 Ant port at a high power level.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	0xAAAAAAAA	0x555555	0x8E5A06

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	Top	Narrow	31 ms	On	47	38	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	≤ 1	-	-	-	-	-
OPR LIM	≤ 1	-	-	-	-	-

4.22.8 TCAS Bottom 270 Receiver Tests [Group 63]

4.22.8.1 Bottom 270 (-81 dBm, 1090 MHz, ATCRBS) Sub MTL Test

This test verifies that no more than 10% replies shall be decoded for an input signal level of -81 dBm injected into the Bottom 270 Ant port. The RF level would be equivalent to -78 dBm at the antenna assuming 3 dB of cable loss.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-81.0 ± 0.5 dBm**

Step 2. Configure the EIT station to transmit 10 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	**Bottom**	**Wide**	**12 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≥ 90**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**≥ 90**	**-**	**-**	**-**	**-**	**-**

4.22.8.2 Bottom 270 (-81 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Sub MTL Test

This test verifies that no more than 10% replies shall be decoded for an input signal level of -81 dBm injected into the Bottom 270 Ant port. The RF level would be equivalent to -78 dBm at the antenna assuming 3 dB of cable loss.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-81.0 ± 0.5 dBm**

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Bottom**	**Narrow**	**12 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≥ 90**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**≥ 90**	**-**	**-**	**-**	**-**	**-**

4.22.8.3 Bottom 270 (-81 dBm, 1090 MHz, MODE-S, DF11, Atten On) Sub MTL Test

This test verifies that no more than 10% replies shall be decoded for an input signal level of -81 dBm injected into the Bottom 270 Ant port. The RF level would be equivalent to -78 dBm at the antenna assuming 3 dB of cable loss.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-81.0 ± 0.5 dBm**

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 1 1 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Bottom**	**Narrow**	**12 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≥ 90**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**≥ 90**	**-**	**-**	**-**	**-**	**-**

4.22.8.4 Bottom 270 (-75 dBm, 1090 MHz, ATCRBS) MTL Test

This test will verify the following for a signal injected into the Bottom 270 port at 1090 Mhz:

- Decoding ratio is at least 90% for largest acceptable MTL at the Bottom 270 Ant port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**

Step 2. Configure the EIT station to transmit 100 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 21 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	**Bottom**	**Wide**	**21 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 10**	**-75.0 ± 2.0 dBm**	**-**	**-**	**0**	**-**
OPR LIM	**≤ 10**	**-75.0 ± 2.5 dBm**	**-**	**-**	**0**	**-**

4.22.8.5 Bottom 270 (-75 dBm, 1090 MHz, MODE-S DF11, Atten Off) MTL Test

This test will verify the following for a signal injected into the Bottom 270 port at 1090 Mhz:

- Decoding ratio is at least 90% for largest acceptable MTL at the Bottom 270 Ant port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 12 0 86 0 0"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Bottom	Narrow	21 ms	Off	86	0	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: ***"RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	≤ 10	-75.0 ± 2.25 dBm	-	-	0	-
OPR LIM	≤ 10	-75.0 ± 2.5 dBm	-	-	0	-

4.22.8.6 Bottom 270 (-75 dBm, 1090 Mhz, MODE-S DF11, Atten On) MTL Test

This test will verify the following for a signal injected into the Bottom 270 port at 1090 Mhz:

- Decoding ratio is at least 90% for largest acceptable MTL at the Bottom 270 Ant port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	1090.0 ± 0.1 MHz	-75.0 ± 0.5 dBm

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 12 0 86 0 1"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Bottom	Narrow	21 ms	Off	86	0	On

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: ***"RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	≤ 10	-75.0 ± 2.25 dBm	-	-	0	-
OPR LIM	≤ 10	-75.0 ± 2.5 dBm	-	-	0	-

4.22.8.7 Bottom 270/0 (-72/-75 dBm, 1090 MHz, ATCRBS) Test

This test will verify the following for a signal injected into the Bottom 270/Bottom 0 ports :

- Decoding ratio of at least 99% for a signal that is 3 dB higher than the largest acceptable MTL

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	1090.0 ± 0.1 MHz	-75.0 ± 0.5 dBm
Bot 90	-	-
Bot 180	-	-
Bot 270	1090.0 ± 0.1 MHz	-72.0 ± 0.5 dBm

ATCRBS replies will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 21 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	**Bottom**	**Wide**	**21 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-72.0 ± 2.25 dBm**	**3.0 ± 2.75 dBm**	**1**	**0**	**-**
OPR LIM	**≤ 1**	**-72.0 ± 2.5 dBm**	**3.0 ± 2.75 dBm**	**1**	**0**	**-**

4.22.8.8 Bottom 270/0 (-72/-75 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Test

This test will verify the following for a signal injected into the Bottom 270/Bottom 0 ports :

- Decoding ratio of at least 99% for a signal that is 3 dB higher than the largest acceptable MTL

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1090.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-72.0 ± 0.5 dBm**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 21 0 86 0 0"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Bottom	Narrow	21 ms	Off	86	0	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: ***"RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	≤ 1	-72.0 ± 2.25 dBm	3.0 ± 2.75 dBm	1	0	-
OPR LIM	≤ 1	-72.0 ± 2.5 dBm	3.0 ± 2.75 dBm	1	0	-

4.22.8.9 Bottom 270/0 (-72/-75 dBm, 1090 MHz, MODE-S, DF11, Atten On) Test

This test will verify the following for a signal injected into the Bottom 270/Bottom 0 ports :

- Decoding ratio of at least 99% for a signal that is 3 dB higher than the largest acceptable MTL

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	1090.0 ± 0.1 MHz	-75.0 ± 0.5 dBm
Bot 90	-	-
Bot 180	-	-
Bot 270	1090.0 ± 0.1 MHz	-72.0 ± 0.5 dBm

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 21 0 86 0 1"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Bottom	Narrow	21 ms	Off	86	0	On

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: ***"RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-72.0 ± 2.25 dBm**	**3.0 ± 2.75 dBm**	**1**	**0**	**-**
OPR LIM	**≤ 1**	**-72.0 ± 2.5 dBm**	**3.0 ± 2.75 dBm**	**1**	**0**	**-**

4.22.8.10 Bottom 270/0 (-60/-66 dBm, 1090 MHz, ATCRBS) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1090.0 ± 0.1 MHz**	**-66.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-60.0 ± 0.5 dBm**

ATCRBS replies will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 21 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	**Bottom**	**Wide**	**21 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-60.0 ± 2.25 dBm**	**6.0 ± 2.75 dBm**	**1**	**0**	**1**
OPR LIM	**≤ 1**	**-60.0 ± 2.5 dBm**	**6.0 ± 2.75 dBm**	**1**	**0**	**1**

4.22.8.11 Bottom 270/0 (-60/-66 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1090.0 ± 0.1 MHz**	**-66.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-60.0 ± 0.5 dBm**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 21 0 86 0 0"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Bottom**	**Narrow**	**21 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-60.0 ± 2.25 dBm**	**6.0 ± 2.75 dBm**	**1**	**0**	**1**
OPR LIM	**≤ 1**	**-60.0 ± 2.5 dBm**	**6.0 ± 2.75 dBm**	**1**	**0**	**1**

4.22.8.12 Bottom 270/0 (-60/-66 dBm, 1090 MHz, MODE-S, DF11, Atten On) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1090.0 ± 0.1 MHz**	**-66.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-60.0 ± 0.5 dBm**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 21 0 86 0 1"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Bottom**	**Narrow**	**21 ms**	**Off**	**86**	**0**	**On**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-60.0 ± 2.25 dBm**	**6.0 ± 2.75 dBm**	**1**	**0**	**1**
OPR LIM	**≤ 1**	**-60.0 ± 2.5 dBm**	**6.0 ± 2.75 dBm**	**1**	**0**	**1**

4.22.8.13 Bottom 270/0 (-48/-57 dBm, 1090 MHz, ATCRBS) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1090.0 ± 0.1 MHz**	**-57.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-48.0 ± 0.5 dBm**

ATCRBS replies will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	**Bottom**	**Wide**	**12 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-48.0 ± 2.25 dBm**	**9.0 ± 2.75 dBm**	**1**	**0**	**1**
OPR LIM	**0**	**-48.0 ± 2.5 dBm**	**9.0 ± 2.75 dBm**	**1**	**0**	**1**

4.22.8.14 Bottom 270/0 (-48/-57 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1090.0 ± 0.1 MHz**	**-57.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-48.0 ± 0.5 dBm**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 12 0 86 0 0"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Bottom	Narrow	12 ms	Off	86	0	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	0	-48.0 ± 2.25 dBm	9.0 ± 2.75 dBm	1	0	1
OPR LIM	0	-48.0 ± 2.5 dBm	9.0 ± 2.75 dBm	1	0	1

4.22.8.15 Bottom 270/0 (-48/-57 dBm, 1090 MHz, MODE-S, DF11, Atten On) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	1090.0 ± 0.1 MHz	-57.0 ± 0.5 dBm
Bot 90	-	-
Bot 180	-	-
Bot 270	1090.0 ± 0.1 MHz	-48.0 ± 0.5 dBm

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 12 0 86 0 1"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Bottom	Narrow	12 ms	Off	86	0	On

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	0	-48.0 ± 2.25 dBm	9.0 ± 2.75 dBm	1	0	1
OPR LIM	0	-48.0 ± 2.5 dBm	9.0 ± 2.75 dBm	1	0	1

4.22.8.16 Bottom 270/0 (-36/-48 dBm, 1090 MHz, ATCRBS) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	1090.0 ± 0.1 MHz	-48.0 ± 0.5 dBm
Bot 90	-	-
Bot 180	-	-
Bot 270	1090.0 ± 0.1 MHz	-36.0 ± 0.5 dBm

ATCRBS replies will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	Bottom	Wide	12 ms	Off	86	0	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**0**	**-**	**-**	**-**	**-**	**-**

4.22.8.17 Bottom 270/0 (-36/-48 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1090.0 ± 0.1 MHz**	**-48.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-36.0 ± 0.5 dBm**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 12 0 86 0 0"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Bottom**	**Narrow**	**12 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**0**	**-**	**-**	**-**	**-**	**-**

4.22.8.18 Bottom 270/0 (-36/-48 dBm, 1090 MHz, MODE-S, DF11, Atten On) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1090.0 ± 0.1 MHz**	**-48.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-36.0 ± 0.5 dBm**

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	**0x6944A900**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 12 0 86 0 1"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	**Bottom**	**Narrow**	**12 ms**	**Off**	**86**	**0**	**On**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**0**	**-**	**-**	**-**	**-**	**-**

4.22.8.19 Bottom 270/0 (-24/-25 dBm, 1090 MHz, ATCRBS) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1090.0 ± 0.1 MHz**	**-25.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-24.0 ± 0.5 dBm**

ATCRBS replies will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 ATCRBS replies upon receipt of the Pretrigger signal with data pulse widths of 500 ± 50 ns and consisting of the following ATCRBS reply data pattern:

F1	C1	A1	C2	A2	C4	A4	X	B1	D1	B2	D2	B4	D4	F2	SPI
1	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 0 0 0 12 0 86 0 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ATCRBS	**Bottom**	**Wide**	**12 ms**	**Off**	**86**	**0**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 ATCRBS replies from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**0**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**0**	**-**	**-**	**-**	**-**	**-**

4.22.8.20 Bottom 270/0 (-24/-25 dBm, 1090 MHz, MODE-S, DF11, Atten Off) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	1090.0 ± 0.1 MHz	-25.0 ± 0.5 dBm
Bot 90	-	-
Bot 180	-	-
Bot 270	1090.0 ± 0.1 MHz	-24.0 ± 0.5 dBm

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 12 0 86 0 0"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Bottom	Narrow	12 ms	Off	86	0	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	0	-	-	-	-	-
OPR LIM	0	-	-	-	-	-

4.22.8.21 Bottom 270/0 (-24/-25 dBm, 1090 Mhz, MODE-S, DF11, Atten On) Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	1090.0 ± 0.1 MHz	-25.0 ± 0.5 dBm
Bot 90	-	-
Bot 180	-	-
Bot 270	1090.0 ± 0.1 MHz	-24.0 ± 0.5 dBm

MODE-S DF11 Squitters will be injected into the UUT from these ports simultaneously.

Step 2. Configure the EIT station to transmit 10 MODE-S, DF11 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	CRC Word1
0x58123456	0x6944A900

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0xAAAAAA

Step 3. Setup the UUT for squitter listening by sending the HTS command: ***"EITST P1 2 0 1 1 12 0 86 0 1"***

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
MODE-S	Bottom	Narrow	12 ms	Off	86	0	On

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 10 MODE-S, DF-11 squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	0	-	-	-	-	-
OPR LIM	0	-	-	-	-	-

4.22.8.22 Bot 270 (-90 dBm, 1090 MHz, MODE-S, DF17) ADS-B Sub MTL Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-90.0 ± 0.5 dBm**

DF17 squitters will be injected into the UUT Bot 270 Ant port at MTL – 3dB.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	**0xAAAAAAAA**	**0x555555**	**0x8E5A06**

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 1 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	**Bot**	**Narrow**	**31 ms**	**On**	**47**	**38**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**< 85**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**< 85**	**-**	**-**	**-**	**-**	**-**

4.22.8.23 Bot 270 (-87 dBm, 1089 MHz, MODE-S, DF17) ADS-B MTL Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	1089.0 ± 0.1 MHz	-87.0 ± 0.5 dBm

DF17 squitters will be injected into the UUT Bot 270 Ant port at MTL.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	0xAAAAAAAA	0x555555	0x8E5A06

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 1 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	Bot	Narrow	31 ms	On	47	38	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	≤ 10	-	-	-	-	-
OPR LIM	≤ 10	-	-	-	-	-

4.22.8.24 Bot 270 (-87 dBm, 1090 MHz, MODE-S, DF17) ADS-B MTL Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	1090.0 ± 0.1 MHz	-87.0 ± 0.5 dBm

DF17 squitters will be injected into the UUT Bot 270 Ant port at MTL.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	0xAAAAAAAA	0x555555	0x8E5A06

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 1 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	Bot	Narrow	31 ms	On	47	38	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	≤ 10	-	-	-	-	-
OPR LIM	≤ 10	-	-	-	-	-

4.22.8.25 Bot 270 (-87 dBm, 1091 Mhz, MODE-S, DF17) ADS-B MTL Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	1091.0 ± 0.1 MHz	-87.0 ± 0.5 dBm

DF17 squitters will be injected into the UUT Bot 270 Ant port at MTL.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	0xAAAAAAAA	0x555555	0x8E5A06

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 1 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	Bot	Narrow	31 ms	On	47	38	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	≤ 10	-	-	-	-	-
OPR LIM	≤ 10	-	-	-	-	-

4.22.8.26 Bot 270 (-84 dBm, 1090 MHz, MODE-S, DF17) ADS-B Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-84.0 ± 0.5 dBm**

DF17 squitters will be injected into the UUT Bot 270 Ant port at MTL + 3dB.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	**0xAAAAAAAA**	**0x555555**	**0x8E5A06**

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 1 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	**Bot**	**Narrow**	**31 ms**	**On**	**47**	**38**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**≤ 1**	**-**	**-**	**-**	**-**	**-**

4.22.8.27 Bot 270 (-75 dBm, 1090 MHz, MODE-S, DF17) ADS-B Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1090.0 ± 0.1 MHz**	**-75.0 ± 0.5 dBm**

DF17 squitters will be injected into the UUT Bot 270 Ant port at an intermediate power level.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	**0xAAAAAAAA**	**0x555555**	**0x8E5A06**

Notes:

1. DF = Format, CA = Xpdr Capability, AA = Addressed Announced, ME = Ext Sqtr Msg

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 1 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	**Bot**	**Narrow**	**31 ms**	**On**	**47**	**38**	**Off**

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	**≤ 1**	**-**	**-**	**-**	**-**	**-**
OPR LIM	**≤ 1**	**-**	**-**	**-**	**-**	**-**

4.22.8.28 Bot 270 (-24 dBm, 1090 MHz, MODE-S, DF17) ADS-B Test

Step 1. Configure the EIT station UUT Rx paths as follows:

Ant Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	1090.0 ± 0.1 MHz	-24.0 ± 0.5 dBm

DF17 squitters will be injected into the UUT Bot 270 Ant port at a high power level.

Step 2. Configure the EIT station to transmit 100 MODE-S, DF17 squitters upon receipt of the Pretrigger signal with a data pattern as follows:

DF/CA/AA (Bytes 1- 4) Word0	ME (Bytes 5-8) Word1	ME (Bytes 9-11) Word2	CRC Word3
0x88555555	0xAAAAAAAA	0x555555	0x8E5A06

Notes:

1. DF = Format, CA = Transponder Capability, AA = Addressed Announced

2. The CRC is computed so that the PI (Parity Interrogator Identity) value = 0x000000

Step 3. Setup the UUT for squitter listening by sending the HTS command: "***EITST P1 2 1 2 1 31 1 47 38 0***"

This will configure squitter listening with the following attributes:

Type	Antenna	Band	Listening Window	Filter Enable	MOPS MTL	ADSB MTL	Attenuator
ADS-B	Bot	Narrow	31 ms	On	47	38	Off

Upon receipt of this command, HTS will the toggle the Pretrigger discrete which initiates transmission of 100 MODE-S squitters from the EIT station.

Step 4. After transmission/reception has occurred, read the UUT squitter reply queue by executing the following HTS command: "***RBL P1 3E0000 3E0C7C"***

Step 5. Verify the following:

	Missed Replies	Total Avg CV	Total Avg PD	Z	N	S
MFG LIM	≤ 1	-	-	-	-	-
OPR LIM	≤ 1	-	-	-	-	-

4.23 Transponder Transmitter Tests [Group 64 to 73] (DO-260A and DO-181C)

4.23.1 Transponder Transmitter Input Power & Voltage Monitor Tests [Group 64]

4.23.1.1 Xmt Top Ant - Input Power & Volt Mon Test

The following steps will verify that the LRU input power and the internal +70 Vdc are within specifications while transmitting Long Mode-S Squitters at a rate of 225 transmissions per second with all data bit set to 1 (this corresponds to a transmitter duty cycle of 1.3 %) out of the top RF ports.

Step 1. Transmit out the Top antenna ports 225 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 225 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command

Step 2. Read the current sourced from the DC power supply and verify the UUT input power is as follows: 40 W ≤ reading ≤ 140 W.

Step 3. Execute the following HTS commands to read the internal +70.0 Vdc monitor: "A2WDC P1 11 1", "ANRDC P1 11 4 V N F".

Step 4. Verify that the returned value is +70.0 Vdc (-4.8 Vdc, +4.94 Vdc).

4.23.1.2 Xmt Bot Ant - Input Power & Volt Mon Test

The following steps will verify that the LRU input power and the internal +70 Vdc are within specifications while transmitting Long Mode-S Squitters at a rate of 225 transmissions per second with all data bit set to 1 (this corresponds to a transmitter duty cycle of 1.3 %) out of the bottom RF ports.

Step 1. Transmit out the Bottom antenna ports 225 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 1 225 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command

Step 2. Read the current sourced from the DC power supply and verify the UUT input power is as follows: 40 W ≤ reading ≤ 140 W.

Step 3. Execute the following HTS commands to read the internal +70.0 Vdc monitor: "A2WDC P1 11 1", "ANRDC P1 11 4 V N F".

Step 4. Verify that the returned value is +70.0 Vdc (-4.8 Vdc, +4.94 Vdc).

4.23.2 Transponder Transmitter Frequency Tests [Group 65] (DO-181C 2.2.3.1)

4.23.2.1 XPDR: Transmitter Frequency Test

The XPDR Transmitter Frequency test will verify that the transmitter frequency is within the specified limits.

Step 1. Connect the spectrum analyzer to the Top 0 antenna port and setup for making the appropriate frequency measurement.

Step 2. Transmit out the Top antenna ports 100 long Mode-S squitters per second with all bits = 0, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 100 0 0 0 0 1 1 0" HTS command

Step 3. Verify the frequency is 1090 ± 0. 750000 MHz.

4.23.3 Transponder Transmitter Top 0 Pulse Parametrics Tests [Group 66]

4.23.3.1 Top 0 Long Mode S First/Last Pulse Pk Pwr & Droop Test (DO-181C 2.2.3.2 b, c ,d)

The following steps will verify the averaged peak power of the first and last pulses of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications. The droop from the first pulse to the last pulse will then be computed and verified to be within specification.

Step 1. Connect the Peak Power meter to TOP 0 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command

Step 3. Setup the Peak Power meter for making the appropriate peak power measurements of the first pulse.

Step 4. Using the Peak Power Meter, measure and record the peak power of the first pulse.

Step 5. Setup the Peak Power meter for making the appropriate peak power measurements of the last pulse.

Step 6. Using the Peak Power Meter, measure and record the peak power of the last pulse.

Step 7. Compute the value of the droop between the first and last pulses.

Step 8. Verify the following pulse measurements and computation:

Pulse	MFG Reading (dBm)	OPR Reading (dBm)
First	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Last	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Droop	computation ≤ 1.800 (dB)	computation ≤ 2.000 (dB)

4.23.3.2 Top 0 Long Mode S Second Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the second pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to TOP 0 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the second pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the second pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the second pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the second pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.3.3 Top 0 Long Mode S Last Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the last pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to TOP 0 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the last pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the last pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the last pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the last pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.4 Transponder Transmitter Top 90 Pulse Parametrics Tests [Group 67]

4.23.4.1 Top 90 Long Mode S First/Last Pulse Pk Pwr & Droop Test (DO-181C 2.2.3.2 b, c ,d)

The following steps will verify the averaged peak power of the first and last pulses of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications. The droop from the first pulse to the last pulse will then be computed and verified to be within specification.

Step 1. Connect the Peak Power meter to TOP 90 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command

Step 3. Setup the Peak Power meter for making the appropriate peak power measurements of the first pulse.

Step 4. Using the Peak Power Meter, measure and record the peak power of the first pulse.

Step 5. Setup the Peak Power meter for making the appropriate peak power measurements of the last pulse.

Step 6. Using the Peak Power Meter, measure and record the peak power of the last pulse.

Step 7. Compute the value of the droop between the first and last pulses.

Step 8. Verify the following pulse measurements and computation:

Pulse	MFG Reading (dBm)	OPR Reading (dBm)
First	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Last	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Droop	computation ≤ 1.800 (dB)	computation ≤ 2.000 (dB)

4.23.4.2 Top 90 Long Mode S Second Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the second pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to TOP 90 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the second pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the second pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the second pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the second pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.4.3 Top 90 Long Mode S Last Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the last pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to TOP 90 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the last pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the last pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the last pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the last pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.5 Transponder Transmitter Top 180 Pulse Parametrics Tests [Group 68]

4.23.5.1 Top 180 Long Mode S First/Last Pulse Pk Pwr & Droop Test (DO-181C 2.2.3.2 b, c ,d)

The following steps will verify the averaged peak power of the first and last pulses of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications. The droop from the first pulse to the last pulse will then be computed and verified to be within specification.

Step 1. Connect the Peak Power meter to TOP 180 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command

Step 3. Setup the Peak Power meter for making the appropriate peak power measurements of the first pulse.

Step 4. Using the Peak Power Meter, measure and record the peak power of the first pulse.

Step 5. Setup the Peak Power meter for making the appropriate peak power measurements of the last pulse.

Step 6. Using the Peak Power Meter, measure and record the peak power of the last pulse.

Step 7. Compute the value of the droop between the first and last pulses.

Step 8. Verify the following pulse measurements and computation:

Pulse	MFG Reading (dBm)	OPR Reading (dBm)
First	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Last	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Droop	computation ≤ 1.800 (dB)	computation ≤ 2.000 (dB)

4.23.5.2 Top 180 Long Mode S Second Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the second pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to TOP 180 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the second pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the second pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the second pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the second pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.5.3 Top 180 Long Mode S Last Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the last pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to TOP 180 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the last pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the last pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the last pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the last pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.6 Transponder Transmitter Top 270 Pulse Parametrics Tests [Group 69]

4.23.6.1 Top 270 Long Mode S First/Last Pulse Pk Pwr & Droop Test (DO-181C 2.2.3.2 b, c ,d)

The following steps will verify the averaged peak power of the first and last pulses of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications. The droop from the first pulse to the last pulse will then be computed and verified to be within specification.

Step 1. Connect the Peak Power meter to TOP 270 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command

Step 3. Setup the Peak Power meter for making the appropriate peak power measurements of the first pulse.

Step 4. Using the Peak Power Meter, measure and record the peak power of the first pulse.

Step 5. Setup the Peak Power meter for making the appropriate peak power measurements of the last pulse.

Step 6. Using the Peak Power Meter, measure and record the peak power of the last pulse.

Step 7. Compute the value of the droop between the first and last pulses.

Step 8. Verify the following pulse measurements and computation:

Pulse	MFG Reading (dBm)	OPR Reading (dBm)
First	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Last	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Droop	computation ≤ 1.800 (dB)	computation ≤ 2.000 (dB)

4.23.6.2 Top 270 Long Mode S Second Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the second pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to TOP 270 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the “EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0” HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the second pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the second pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the second pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the second pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.6.3 Top 270 Long Mode S Last Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the last pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to TOP 270 antenna port.

Step 2. Transmit out the Top antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the “EITST P1 6 0 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0” HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the last pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the last pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the last pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the last pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.7 Transponder Transmitter Bottom 0 Pulse Parametrics Tests [Group 70]

4.23.7.1 Bottom 0 Long Mode S First/Last Pulse Pk Pwr & Droop Test (DO-181C 2.2.3.2 b, c ,d)

The following steps will verify the averaged peak power of the first and last pulses of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications. The droop from the first pulse to the last pulse will then be computed and verified to be within specification.

Step 1. Connect the Peak Power meter to Bottom 0 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the “EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0” HTS command

Step 3. Setup the Peak Power meter for making the appropriate peak power measurements of the first pulse.

Step 4. Using the Peak Power Meter, measure and record the peak power of the first pulse.

Step 5. Setup the Peak Power meter for making the appropriate peak power measurements of the last pulse.

Step 6. Using the Peak Power Meter, measure and record the peak power of the last pulse.

Step 7. Compute the value of the droop between the first and last pulses.

Step 8. Verify the following pulse measurements and computation:

Pulse	MFG Reading (dBm)	OPR Reading (dBm)
First	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Last	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Droop	computation ≤ 1.800 (dB)	computation ≤ 2.000 (dB)

4.23.7.2 Bottom 0 Long Mode S Second Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the second pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to Bottom 0 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the second pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the second pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the second pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the second pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.7.3 Bottom 0 Long Mode S Last Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the last pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to Bottom 0 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the last pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the last pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the last pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the last pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.8 Transponder Transmitter Bottom 90 Pulse Parametrics Tests [Group 71]

4.23.8.1 Bottom 90 Long Mode S First/Last Pulse Pk Pwr & Droop Test(DO-181C 2.2.3.2 b, c ,d)

The following steps will verify the averaged peak power of the first and last pulses of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications. The droop from the first pulse to the last pulse will then be computed and verified to be within specification.

Step 1. Connect the Peak Power meter to Bottom 90 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the “EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0” HTS command

Step 3. Setup the Peak Power meter for making the appropriate peak power measurements of the first pulse.

Step 4. Using the Peak Power Meter, measure and record the peak power of the first pulse.

Step 5. Setup the Peak Power meter for making the appropriate peak power measurements of the last pulse.

Step 6. Using the Peak Power Meter, measure and record the peak power of the last pulse.

Step 7. Compute the value of the droop between the first and last pulses.

Step 8. Verify the following pulse measurements and computation:

Pulse	MFG Reading (dBm)	OPR Reading (dBm)
First	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Last	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Droop	computation ≤ 1.800 (dB)	computation ≤ 2.000 (dB)

4.23.8.2 Bottom 90 Long Mode S Second Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the second pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to Bottom 90 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the “EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0” HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the second pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the second pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the second pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the second pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.8.3 Bottom 90 Long Mode S Last Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the last pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to Bottom 90 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the “EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0” HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the last pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the last pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the last pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the last pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.9 Transponder Transmitter Bottom 180 Pulse Parametrics Tests [Group 72]

4.23.9.1 Bottom 180 Long Mode S First/Last Pulse Pk Pwr & Droop Test (DO-181C 2.2.3.2 b, c ,d)

The following steps will verify the averaged peak power of the first and last pulses of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications. The droop from the first pulse to the last pulse will then be computed and verified to be within specification.

Step 1. Connect the Peak Power meter to Bottom 180 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command

Step 3. Setup the Peak Power meter for making the appropriate peak power measurements of the first pulse.

Step 4. Using the Peak Power Meter, measure and record the peak power of the first pulse.

Step 5. Setup the Peak Power meter for making the appropriate peak power measurements of the last pulse.

Step 6. Using the Peak Power Meter, measure and record the peak power of the last pulse.

Step 7. Compute the value of the droop between the first and last pulses.

Step 8. Verify the following pulse measurements and computation:

Pulse	MFG Reading (dBm)	OPR Reading (dBm)
First	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Last	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Droop	computation ≤ 1.800 (dB)	computation ≤ 2.000 (dB)

4.23.9.2 Bottom 180 Long Mode S Second Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the second pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to Bottom 180 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the second pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the second pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the second pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the second pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.9.3 Bottom 180 Long Mode S Last Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the last pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to Bottom 180 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the last pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the last pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the last pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the last pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.10 Transponder Transmitter Bottom 270 Pulse Parametrics Tests [Group 73]

4.23.10.1 Bottom 270 Long Mode S First/Last Pulse Pk Pwr & Droop Test (DO-181C 2.2.3.2 b, c ,d)

The following steps will verify the averaged peak power of the first and last pulses of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications. The droop from the first pulse to the last pulse will then be computed and verified to be within specification.

Step 1. Connect the Peak Power meter to Bottom 270 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command

Step 3. Setup the Peak Power meter for making the appropriate peak power measurements of the first pulse.

Step 4. Using the Peak Power Meter, measure and record the peak power of the first pulse.

Step 5. Setup the Peak Power meter for making the appropriate peak power measurements of the last pulse.

Step 6. Using the Peak Power Meter, measure and record the peak power of the last pulse.

Step 7. Compute the value of the droop between the first and last pulses.

Step 8. Verify the following pulse measurements and computation:

Pulse	MFG Reading (dBm)	OPR Reading (dBm)
First	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Last	51.700 ≤ reading ≤ +55.300	51.500 ≤ reading ≤ +55.500
Droop	computation ≤ 1.800 (dB)	computation ≤ 2.000 (dB)

4.23.10.2 Bottom 270 Long Mode S Second Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the second pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to Bottom 270 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the second pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the second pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the second pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the second pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.23.10.3 Bottom 270 Long Mode S Last Pulse Rise/Fall Time & Pulse Width Test

The following steps will verify the averaged Pulse Width and rise/fall times of the last pulse of a Long Mode-S Squitter transmitted at a rate of 161 transmissions per second (with all data bits set to 1) are within specifications.

Step 1. Connect the Peak Power meter to Bottom 270 antenna port.

Step 2. Transmit out the Bottom antenna ports 161 long Mode-S squitter with all bits = 1, chase the forward power and disable RS-232 output from HTS by executing the "EITST P1 6 1 161 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 1 1 0" HTS command.

Step 3. Setup the Peak Power meter for making the appropriate pulse width measurement of the last pulse. Pulse width measurements should be taken at the half voltage or 6dB power points of the pulse.

Step 4. Using the Peak Power Meter, measure and record the pulse width of the last pulse.

Step 5. Setup the Peak Power meter for making the appropriate rise/fall time measurements of the last pulse. Rise time measurements should be made between the 10% to 90% voltage pulse waveform points (1% to 81% of power pulse waveform points) of the leading edge of the pulse. Fall time measurements should be made between the 90% to 10% voltage pulse waveform points (81% to 1% of power pulse waveform points) of the leading edge of the pulse.

Step 6. Using the Peak Power Meter, measure and record the rise/fall times of the last pulse.

Step 7. Verify the following pulse measurements:

Pulse Parameter	Reading
Pulse Width	+500.00 ± 50 ns
Rise Time	+75.00 ± 25 ns
Fall Time	+125.00 ± 75 ns

4.24 Transponder Receiver Tests [Group 74 to 84]

4.24.1 Transponder Receiver: Minimum Trigger Level (MTL) and Low-Level Tests [Group 74] (DO-181C 2.2.2.4 a, b, d, e)

Note 1: Since the transponder receiver hardware is the same for Mode S and ATCRBS, the Minimum Triggering Level set point is the same for both Mode S and ATCRBS. Because the specified MTL for Mode S is more strict than ATCRBS, the MTL for both Mode S and ATCRBS shall be -74 dBm ±3 dB.

Note 2: The MOPS DO-181C specifies RF levels at the antenna of an installed system, and assumes there is a 3dB loss between the antenna and the unit. Therefore, the RF levels specified in DO-181C should be 3dB less in the TRD. The MTL specified in the TRD for both Mode S and ATCRBS shall be -77 dBm ±3 dB.

Note 3: The MTL values below the nominal trigger level of -77 dBm do not need to be tested since the 90% reply ratio has to be met for the nominal values and above.

4.24.1.1 Transponder 0 Top Minimum Trigger Level Tests

4.24.1.1.1 Transponder Top 0 ATCRBS Mode-A MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Top 0 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.1.4.

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.1.2 Transponder Top 0 ATCRBS Mode-C MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Top 0 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.1.4.

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.1.3 Transponder Top 0 Mode-S MTL Test (DO-181C 2.2.2.4 b)

This test verifies that the minimum trigger level on the Top 0 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-S Interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid Mode-S interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90.

Step 6. Verify the RF level falls with the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74dBm**

4.24.1.1.4 Transponder Top 0 MTL Variation Test (DO-181C 2.2.2.4 e)

This test verifies that the minimum trigger levels for Mode-A and Mode-C Interrogations are within 1 dB of one another.

Step 1. Note the MTL determined in Test 4.24.1.1.1 .

Step 2. Note the MTL determined in Test 4.24.1.1.2 .

Step 3. The absolute value of the difference of the two shall be:

	Minimum	Maximum
Difference	**0 dB**	**1 dB**

4.24.1.1.5 Transponder Top 0 ATCRBS Mode-A Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 0 antenna port, the UUT does not reply to Mode-A interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**10**

4.24.1.1.6 Transponder Top 0 ATCRBS Mode-C Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 0 antenna port, the UUT does not reply to Mode-C interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**10**

4.24.1.1.7 Transponder Top 0 ATCRBS All-Call Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 0 antenna port, the UUT does not reply to All-Call interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS All-Call interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x800003E8
Word 1: 0x00000000
Word 2: 0x78410410
Word 3: 0x00020820
Word 4: 0x00000001
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**10**

4.24.1.1.8 Transponder Top 0 Mode-S Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 0 antenna port, the UUT does not reply to Mode-S interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**

Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-S UF-11 interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. Verify the RF level falls with the following:

	Minimum	**Maximum**
Replies	**0**	**10**

4.24.1.2 Transponder 90 Top Minimum Trigger Level Tests

4.24.1.2.1 Transponder Top 90 ATCRBS Mode-A MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Top 90 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	**Frequency**	**RF Level**
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.2.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.2.2 Transponder Top 90 ATCRBS Mode-C MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Top 90 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000

Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.2.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.2.3 Transponder Top 90 Mode-S MTL Test (DO-181C 2.2.2.4 b)

This test verifies that the minimum trigger level on the Top 90 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-S Interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid Mode-S interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90.

Step 6. Verify the RF level falls with the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.2.4 Transponder Top 90 MTL Variation Test (DO-181C 2.2.2.4 e)

This test verifies that the minimum trigger levels for Mode-A and Mode-C Interrogations are within 1 dB of one another.

Step 1. Note the MTL determined in Test 4.24.1.2.1 .

Step 2. Note the MTL determined in Test 4.24.1.2.2 .

Step 3. The absolute value of the difference of the two shall be:

	Minimum	Maximum
Difference	**0 dB**	**1 dB**

4.24.1.2.5 Transponder Top 90 ATCRBS Mode-A Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -81 dBm on the Top 90 antenna port, the UUT does not reply to Mode-A interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8

Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.2.6 Transponder Top 90 ATCRBS Mode-C Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -81 dBm on the Top 90 antenna port, the UUT does not reply to Mode-C interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.2.7 Transponder Top 90 ATCRBS All-Call Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -81 dBm on the Top 90 antenna port, the UUT does not reply to All-Call interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS All-Call interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x800003E8
Word 1: 0x00000000
Word 2: 0x78410410
Word 3: 0x00020820
Word 4: 0x00000001
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.2.8 Transponder Top 90 Mode-S Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 90 antenna port, the UUT does not reply to Mode-S interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. Verify the RF level falls with the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.3 Transponder Top 180 Minimum Trigger Level Tests

4.24.1.3.1 Transponder Top 180 ATCRBS Mode-A MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Top 180 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.3.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.3.2 Transponder Top 180 ATCRBS Mode-C MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Top 180 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.3.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.3.3 Transponder Top 180 Mode-S MTL Test (DO-181C 2.2.2.4 b)

This test verifies that the minimum trigger level on the Top 180 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-S Interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid Mode-S interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90.

Step 6. Verify the RF level falls with the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.3.4 Transponder Top 180 MTL Variation Test (DO-181C 2.2.2.4 e)

This test verifies that the minimum trigger levels for Mode-A and Mode-C Interrogations are within 1 dB of one another.

Step 1. Note the MTL determined in Test 4.24.1.3.1 .

Step 2. Note the MTL determined in Test 4.24.1.3.2 .

Step 3. The absolute value of the difference of the two shall be:

	Minimum	Maximum
Difference	**0 dB**	**1 dB**

4.24.1.3.5 Transponder Top 180 ATCRBS Mode-A Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 180 antenna port, the UUT does not reply to Mode-A interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.3.6 Transponder Top 180 ATCRBS Mode-C Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 180 antenna port, the UUT does not reply to Mode-C interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.3.7 Transponder Top 180 ATCRBS All-Call Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 180 antenna port, the UUT does not reply to All-Call interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS All-Call interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x800003E8
Word 1: 0x00000000
Word 2: 0x78410410
Word 3: 0x00020820
Word 4: 0x00000001
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.3.8 Transponder Top 180 Mode-S Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 180 antenna port, the UUT does not reply to Mode-S interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. Verify the RF level falls with the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.4 Transponder Top 270 Minimum Trigger Level Tests

4.24.1.4.1 Transponder Top 270 ATCRBS Mode-A MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Top 270 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.4.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.4.2 Transponder Top 270 ATCRBS Mode-C MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Top 270 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.4.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.4.3 Transponder Top 270 Mode-S MTL Test (DO-181C 2.2.2.4 b)

This test verifies that the minimum trigger level on the Top 270 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-S Interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid Mode-S interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90.

Step 6. Verify the RF level falls with the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.4.4 Transponder Top 270 MTL Variation Test (DO-181C 2.2.2.4 e)

This test verifies that the minimum trigger levels for Mode-A and Mode-C Interrogations are within 1 dB of one another.

Step 1. Note the MTL determined in Test 4.24.1.4.1 .

Step 2. Note the MTL determined in Test 4.24.1.4.2 .

Step 3. The absolute value of the difference of the two shall be:

	Minimum	Maximum
Difference	**0 dB**	**1 dB**

4.24.1.4.5 Transponder Top 270 ATCRBS Mode-A Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 270 antenna port, the UUT does not reply to Mode-A interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.4.6 Transponder Top 270 ATCRBS Mode-C Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 270 antenna port, the UUT does not reply to Mode-C interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0xA00003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.4.7 Transponder Top 270 ATCRBS All-Call Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Top 270 antenna port, the UUT does not reply to All-Call interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS All-Call interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x800003E8
Word 1: 0x00000000
Word 2: 0x78410410
Word 3: 0x00020820
Word 4: 0x00000001
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.4.8 Transponder Top 270 Mode-S Low-Level Test

This test verifies that at an input level of -84 dBm on the Top 270 antenna port, the UUT does not reply to Mode-S interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. Verify the RF level falls with the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.5 Transponder 0 Bottom Minimum Trigger Level Tests

4.24.1.5.1 Transponder Bottom 0 ATCRBS Mode-A MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Bottom 0 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.5.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.5.2 Transponder Bottom 0 ATCRBS Mode-C MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Bottom 0 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.5.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.5.3 Transponder Bottom 0 Mode-S MTL Test (DO-181C 2.2.2.4 b)

This test verifies that the minimum trigger level on the Bottom 0 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-S Interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid Mode-S interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90.

Step 6. Verify the RF level falls with the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.5.4 Transponder Bottom 0 MTL Variation Test (DO-181C 2.2.2.4 e)

This test verifies that the minimum trigger levels for Mode-A and Mode-C Interrogations are within 1 dB of one another.

Step 1. Note the MTL determined in Test 4.24.1.5.1 .

Step 2. Note the MTL determined in Test 4.24.1.5.2 .

Step 3. The absolute value of the difference of the two shall be:

	Minimum	Maximum
Difference	**0 dB**	**1 dB**

4.24.1.5.5 Transponder Bottom 0 ATCRBS Mode-A Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 0 antenna port, the UUT does not reply to Mode-A interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.5.6 Transponder Bottom 0 ATCRBS Mode-C Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 0 antenna port, the UUT does not reply to Mode-C interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.5.7 Transponder Bottom 0 ATCRBS All-Call Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 0 antenna port, the UUT does not reply to All-Call interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS All-Call interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x800003E8
Word 1: 0x00000000
Word 2: 0x78410410
Word 3: 0x00020820
Word 4: 0x00000001
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.5.8 Transponder Bottom 0 Mode-S Low-Level Test

This test verifies that at an input level of -84 dBm on the Bottom 0 antenna port, the UUT does not reply to Mode-S interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. Verify the RF level falls with the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.6 Transponder 90 Bottom Minimum Trigger Level Tests

4.24.1.6.1 Transponder Bottom 90 ATCRBS Mode-A MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Bottom 90 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.6.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.6.2 Transponder Bottom 90 ATCRBS Mode-C MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Bottom 90 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.6.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.6.3 Transponder Bottom 90 Mode-S MTL Test (DO-181C 2.2.2.4 b)

This test verifies that the minimum trigger level on the Bottom 90 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-S Interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid Mode-S interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90.

Step 6. Verify the RF level falls with the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.6.4 Transponder Bottom 90 MTL Variation Test (DO-181C 2.2.2.4 e)

This test verifies that the minimum trigger levels for Mode-A and Mode-C Interrogations are within 1 dB of one another.

Step 1. Note the MTL determined in Test 4.24.1.6.1 .

Step 2. Note the MTL determined in Test 4.24.1.6.2 .

Step 3. The absolute value of the difference of the two shall be:

	Minimum	Maximum
Difference	**0 dB**	**1 dB**

4.24.1.6.5 Transponder Bottom 90 ATCRBS Mode-A Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 90 antenna port, the UUT does not reply to Mode-A interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.6.6 Transponder Bottom 90 ATCRBS Mode-C Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 90 antenna port, the UUT does not reply to Mode-C interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.6.7 Transponder Bottom 90 ATCRBS All-Call Low-Level Test(DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 90 antenna port, the UUT does not reply to All-Call interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS All-Call interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x800003E8
Word 1: 0x00000000
Word 2: 0x78410410
Word 3: 0x00020820
Word 4: 0x00000001
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.6.8 Transponder Bottom 90 Mode-S Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 90 antenna port, the UUT does not reply to Mode-S interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. Verify the RF level falls with the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.7 Transponder Bottom 180 Minimum Trigger Level Tests

4.24.1.7.1 Transponder Bottom 180 ATCRBS Mode-A MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Bottom 180 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.7.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.7.2 Transponder Bottom 180 ATCRBS Mode-C MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Bottom 180 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.7.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.7.3 Transponder Bottom 180 Mode-S MTL Test (DO-181C 2.2.2.4 b)

This test verifies that the minimum trigger level on the Bottom 180 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-S Interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid Mode-S interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90.

Step 6. Verify the RF level falls with the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.7.4 Transponder Bottom 180 MTL Variation Test (DO-181C 2.2.2.4 e)

This test verifies that the minimum trigger levels for Mode-A and Mode-C Interrogations are within 1 dB of one another.

Step 1. Note the MTL determined in Test 4.24.1.7.1 .

Step 2. Note the MTL determined in Test 4.24.1.7.2 .

Step 3. The absolute value of the difference of the two shall be:

	Minimum	Maximum
Difference	**0 dB**	**1 dB**

4.24.1.7.5 Transponder Bottom 180 ATCRBS Mode-A Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 180 antenna port, the UUT does not reply to Mode-A interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.7.6 Transponder Bottom 180 ATCRBS Mode-C Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 180 antenna port, the UUT does not reply to Mode-C interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.7.7 Transponder Bottom 180 ATCRBS All-Call Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 180 antenna port, the UUT does not reply to All-Call interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS All-Call interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x800003E8
Word 1: 0x00000000
Word 2: 0x78410410
Word 3: 0x00020820
Word 4: 0x00000001
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.7.8 Transponder Bottom 180 Mode-S Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 180 antenna port, the UUT does not reply to Mode-S interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-84.0 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. Verify the RF level falls with the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.8 Transponder Bottom 270 Minimum Trigger Level Tests

4.24.1.8.1 Transponder Bottom 270 ATCRBS Mode-A MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Bottom 270 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.8.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.8.2 Transponder Bottom 270 ATCRBS Mode-C MTL Test (DO-181C 2.2.2.4 a)

This test verifies that the minimum trigger level on the Bottom 270 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90 or until the RF Level exceeds -74 dBm. Note the MTL for the purposes of Test 4.24.1.8.4 .

Step 6. Verify the RF level falls within the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.8.3 Transponder Bottom 270 Mode-S MTL Test (DO-181C 2.2.2.4 b)

This test verifies that the minimum trigger level on the Bottom 270 transponder port is between -80 dBm and -74 dBm at the UUT antenna port for Mode-S Interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-77.0 ± 3 dBm**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid Mode-S interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. If the number of replies decoded by the Virtex CCA is less than 90 per frame, increase the RF Level by 1 dB and repeat Step 4 and Step 5 until the number of replies per frame is at least 90.

Step 6. Verify the RF level falls with the following:

	Minimum	Maximum
RF Level	**-80 dBm**	**-74 dBm**

4.24.1.8.4 Transponder Bottom 270 MTL Variation Test (DO-181C 2.2.2.4 e)

This test verifies that the minimum trigger levels for Mode-A and Mode-C Interrogations are within 1 dB of one another.

Step 1. Note the MTL determined in Test 4.24.1.8.1 .

Step 2. Note the MTL determined in Test 4.24.1.8.2 .

Step 3. The absolute value of the difference of the two shall be:

	Minimum	Maximum
Difference	**0 dB**	**1 dB**

4.24.1.8.5 Transponder Bottom 270 ATCRBS Mode-A Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 270 antenna port, the UUT does not reply to Mode-A interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-84.0 dBm**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x48410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.8.6 Transponder Bottom 270 ATCRBS Mode-C Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 270 antenna port, the UUT does not reply to Mode-C interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-84.0 dBm**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x900003E8
Word 1: 0x00000000
Word 2: 0x68410410
Word 3: 0x00020820
Word 4: 0x00000000
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.8.7 Transponder Bottom 270 ATCRBS All-Call Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 270 antenna port, the UUT does not reply to All-Call interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-84.0 dBm**

Step 2. Configure the EIT station to transmit 100 ATCRBS All-Call interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x800003E8
Word 1: 0x00000000
Word 2: 0x78410410
Word 3: 0x00020820
Word 4: 0x00000001
Word 5: 0x00000000

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.1.8.8 Transponder Bottom 270 Mode-S Low-Level Test (DO-181C 2.2.2.4 d)

This test verifies that at an input level of -84 dBm on the Bottom 270 antenna port, the UUT does not reply to Mode-S interrogations.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-84.0 dBm**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8
Word 1: 0x00000000
Word 2: 0x58000000
Word 3: 0x4A430A00
Word 4: 0x00000000
Word 5: 0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 0***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames.

Step 5. Verify the RF level falls with the following:

	Minimum	Maximum
Replies	**0**	**5**

4.24.2 Transponder Receiver Dynamic Range Tests [Group 75] (DO-181C 2.2.2.4 c, f)

Note: The MTL (at the back of the box) is -77 +/-3dBm, so at its high end the MTL is -74dBm. -74dBm + 3dB = -71dBm.

4.24.2.1 Transponder ATCRBS Dynamic Range Test (DO-181C 2.2.2.4 c, f)

4.24.2.1.1 Transponder Top 0 ATCRBS Dynamic Range Test

This test verifies that the UUT Top 0 port generates at least 99% replies in the input range between -71 dBm and -24 dBm at the UUT antenna port.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**See Verification Table in Step 5**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each RF level listed in the table below, inject an RF signal at the specified input level at the top 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame at each input level.

Step 5. Verify the following:

	-71 dBm	**-60 dBm**	**-50 dBm**	**-40 dBm**	**-30 dBm**	**-24 dBm**
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.1.2 Transponder Top 90 ATCRBS Dynamic Range Test

This test verifies that the UUT Top 90 port generates at least 99% replies in the input range between -71 dBm and -24 dBm at the UUT antenna port.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**See Verification Table**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each RF level listed in the table below, inject an RF signal at the specified input level at the top 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame at each input level.

Step 5. Verify the following:

	-71 dBm	**-60 dBm**	**-50 dBm**	**-40 dBm**	**-30 dBm**	**-24 dBm**
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.1.3 Transponder Top 180 ATCRBS Dynamic Range Test

This test verifies that the UUT Top 180 port generates at least 99% replies in the input range between -71 dBm and -24 dBm at the UUT antenna port.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**See Verification Table**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each RF level listed in the table below, inject an RF signal at the specified input level at the top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame at each input level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.1.4 Transponder Top 270 ATCRBS Dynamic Range Test

This test verifies that the UUT Top 270 port generates at least 99% replies in the input range between -71 dBm and -24 dBm at the UUT antenna port.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**See Verification Table**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each RF level listed in the table below, inject an RF signal at the specified input level at the top 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame at each input level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.1.5 Transponder Bottom 0 ATCRBS Dynamic Range Test

This test verifies that the UUT Bottom 0 port generates at least 99% replies in the input range between -71 dBm and -24 dBm at the UUT antenna port.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**See Verification Table**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each RF level listed in the table below, inject an RF signal at the specified input level at the bottom 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame at each input level.

Step 5. Verify the following:

	-71 dBm	**-60 dBm**	**-50 dBm**	**-40 dBm**	**-30 dBm**	**-24 dBm**
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.1.6 Transponder Bottom 90 ATCRBS Dynamic Range Test

This test verifies that the UUT Bottom 90 port generates at least 99% replies in the input range between -71 dBm and -24 dBm at the UUT antenna port.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**See Verification Table**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each RF level listed in the table below, inject an RF signal at the specified input level at the bottom 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame at each input level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.1.7 Transponder Bottom 180 ATCRBS Dynamic Range Test

This test verifies that the UUT Bottom 180 port generates at least 99% replies in the input range between -71 dBm and -24 dBm at the UUT antenna port.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**See Verification Table**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each RF level listed in the table below, inject an RF signal at the specified input level at the bottom 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame at each input level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.1.8 Transponder Bottom 270 ATCRBS Dynamic Range Test

This test verifies that the UUT Bottom 270 port generates at least 99% replies in the input range between -71 dBm and -24 dBm at the UUT antenna port.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**See Verification Table**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each RF level listed in the table below, inject an RF signal at the specified input level at the bottom 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last 1-second frame at each input level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.2 Transponder Mode-S Dynamic Range Test (DO-181C 2.2.2.4 c)

4.24.2.2.1 Transponder Top 0 Mode-S Dynamic Range Test

This test verifies that the UUT Top 0 port generates at least 99% Mode-S replies in the input range between -71 dBm and -24 dBm at the UUT antenna port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**See Verification Table in Step 5**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the words in the Virtex CCA Interrogation RAM as described to achieve this:

Word 2: 0x58000000 [Uplink Format 11]
Word 3: 0x4A430A00 [Mode-S address FFFFFF with overlaid CRC]
Word 5: 0x00000008 [SPR delay to mid-range]

NOTE: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.2.2 Transponder Top 90 Mode-S Dynamic Range Test

This test verifies that the UUT Top 90 port generates at least 99% Mode-S replies in the input range between -71 dBm and -24 dBm at the UUT antenna port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**See Table**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the words in the Virtex CCA Interrogation RAM as described to achieve this:

Word 2: 0x58000000 [Uplink Format 11]
Word 3: 0x4A430A00 [Mode-S address FFFFFF with overlaid CRC]
Word 5: 0x00000008 [SPR delay to mid-range]

NOTE: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.2.3 Transponder Top 180 Mode-S Dynamic Range Test

This test verifies that the UUT Top 180 port generates at least 99% Mode-S replies in the input range between -71 dBm and -24 dBm at the UUT antenna port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**See Table**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the words in the Virtex CCA Interrogation RAM as described to achieve this:

Word 2: 0x58000000 [Uplink Format 11]
Word 3: 0x4A430A00 [Mode-S address FFFFFF with overlaid CRC]
Word 5: 0x00000008 [SPR delay to mid-range]

NOTE: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.2.4 Transponder Top 270 Mode-S Dynamic Range Test

This test verifies that the UUT Top 270 port generates at least 90% Mode-S replies in the input range between -71 dBm and -24 dBm at the UUT antenna port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**See Verification Table**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the words in the Virtex CCA Interrogation RAM as described to achieve this:

Word 2: 0x58000000 [Uplink Format 11]
Word 3: 0x4A430A00 [Mode-S address FFFFFF with overlaid CRC]
Word 5: 0x00000008 [SPR delay to mid-range]

NOTE: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.2.5 Transponder Bottom 0 Mode-S Dynamic Range Test

This test verifies that the UUT Bottom 0 port generates at least 99% Mode-S replies in the input range between -71 dBm and -24 dBm at the UUT antenna port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**See Verification Table**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the words in the Virtex CCA Interrogation RAM as described to achieve this:

Word 2: 0x58000000 [Uplink Format 11]
Word 3: 0x4A430A00 [Mode-S address FFFFFF with overlaid CRC]
Word 5: 0x00000008 [SPR delay to mid-range]

NOTE: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.2.6 Transponder Bottom 90 Mode-S Dynamic Range Test

This test verifies that the UUT Bottom 90 port generates at least 99% Mode-S replies in the input range between -71 dBm and -24 dBm at the UUT antenna port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**See Verification Table**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the words in the Virtex CCA Interrogation RAM as described to achieve this:

Word 2: 0x58000000 [Uplink Format 11]
Word 3: 0x4A430A00 [Mode-S address FFFFFF with overlaid CRC]
Word 5: 0x00000008 [SPR delay to mid-range]

NOTE: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.2.7 Transponder Bottom 180 Mode-S Dynamic Range Test

This test verifies that the UUT Bottom 180 port generates at least 99% Mode-S replies in the input range between -71 dBm and -24 dBm at the UUT antenna port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**See Verification Table**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the words in the Virtex CCA Interrogation RAM as described to achieve this:

Word 2: 0x58000000 [Uplink Format 11]
Word 3: 0x4A430A00 [Mode-S address FFFFFF with overlaid CRC]
Word 5: 0x00000008 [SPR delay to mid-range]

NOTE: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.2.2.8 Transponder Bottom 270 Mode-S Dynamic Range Test

This test verifies that the UUT Bottom 270 port generates at least 99% Mode-S replies in the input range between -71 dBm and -24 dBm at the UUT antenna port

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**See Verification Table**

Step 2. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the words in the Virtex CCA Interrogation RAM as described to achieve this:

Word 2: 0x58000000 [Uplink Format 11]
Word 3: 0x4A430A00 [Mode-S address FFFFFF with overlaid CRC]
Word 5: 0x00000008 [SPR delay to mid-range]

NOTE: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level.

Step 5. Verify the following:

	-71 dBm	-60 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**	**>= 99**

4.24.3 Transponder Receiver Out-of-Band Rejection Tests [Group 76] (DO-181C 2.2.2.2, DO-181C 2.2.2.3)

4.24.3.1 Transponder Top 0 Out-of-Band Test

This test verifies the bandwidth of the transponder 0 Top receiver.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**See Verification Table in Step 5**	-74**.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the proper number of replies at each frequency specified:

	1005 MHz	1055 MHz	1029.8 MHz	1030.2 MHz
Replies	**<= 5**	**<= 5**	**>= 90**	**>= 90**

4.24.3.2 Transponder Top 90 Out-of-Band Test

This test verifies the bandwidth of the transponder 90 Top receiver.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**See Table**	-74**.0 ± 0.5 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the proper number of replies at each frequency specified:

	1005 MHz	1055 MHz	1029.8 MHz	1030.2 MHz
Replies	**<= 5**	**<= 5**	**>= 90**	**>= 90**

4.24.3.3 Transponder Top 180 Out-of-Band Test

This test verifies the bandwidth of the transponder 180 Top receiver.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**See Table**	-74**.0 ± 0.5 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the proper number of replies at each frequency specified:

	1005 MHz	1055 MHz	1029.8 MHz	1030.2 MHz
Replies	**<= 5**	**<= 5**	**>= 90**	**>= 90**

4.24.3.4 Transponder Top 270 Out-of-Band Test

This test verifies the bandwidth of the transponder 270 Top receiver.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**See Table**	-74**.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the proper number of replies at each frequency specified:

	1005 MHz	1055 MHz	1029.8 MHz	1030.2 MHz
Replies	**<= 5**	**<= 5**	**>= 90**	**>= 90**

4.24.3.5 Transponder Bottom 0 Out-of-Band Test

This test verifies the bandwidth of the transponder 0 Bottom receiver.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**See Table**	-74**.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the proper number of replies at each frequency specified:

	1005 MHz	1055 MHz	1029.8 MHz	1030.2 MHz
Replies	**<= 5**	**<= 5**	**>= 90**	**>= 90**

4.24.3.6 Transponder Bottom 90 Out-of-Band Test

This test verifies the bandwidth of the transponder 90 Bottom receiver.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**See Table**	-74**.0 ± 0.5 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the proper number of replies at each frequency specified:

	1005 MHz	1055 MHz	1029.8 MHz	1030.2 MHz
Replies	**<= 5**	**<= 5**	**>= 90**	**>= 90**

4.24.3.7 Transponder Bottom 180 Out-of-Band Test

This test verifies the bandwidth of the transponder 180 Bottom receiver.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**See Table**	-74**.0 ± 0.5 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the proper number of replies at each frequency specified:

	1005 MHz	1055 MHz	1029.8 MHz	1030.2 MHz
Replies	**<= 5**	**<= 5**	**>= 90**	**>= 90**

4.24.3.8 Transponder Bottom 270 Out-of-Band Test

This test verifies the bandwidth of the transponder 270 Bottom receiver.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**See Table**	-74**.0 ± 0.5 dBm**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBC replies from the UUT that the Virtex card decoded in the last 1-second frame.

Step 5. Verify the proper number of replies at each frequency specified:

	1005 MHz	1055 MHz	1029.8 MHz	1030.2 MHz
Replies	**<= 5**	**<= 5**	**>= 90**	**>= 90**

4.24.4 Transponder Receiver ATCRBS Sidelobe Suppression (SLS) Tests [Group 77] (DO-181C 2.2.5.1)

4.24.4.1 Transponder Top 0 Mode-A Sidelobe Suppression Tests

4.24.4.1.1 Transponder Top 0 Mode-A SLS P2 ON 0dB Test

This test verifies that the UUT Top 0 port does not reply to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**See Table**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**<= 1**	**<= 1**	**<= 1**

4.24.4.1.2 Transponder Top 0 Mode-A SLS P2 ON 9dB Test

This test verifies that the UUT Top 0 port replies to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1 - 9 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**See Table**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1 - 9 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.2 Transponder Top 90 Mode-A Sidelobe Suppression Tests

4.24.4.2.1 Transponder Top 90 Mode-A SLS P2 ON 0dB Test

This test verifies that the UUT Top 90 port does not reply to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**See Table**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**<= 1**	**<= 1**	**<= 1**

4.24.4.2.2 Transponder Top 90 Mode-A SLS P2 ON 9dB Test

This test verifies that the UUT Top 90 port replies to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1 - 9 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**See Table**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1 - 9 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.3 Transponder Top 180 Mode-A Sidelobe Suppression Tests

4.24.4.3.1 Transponder Top 180 Mode-A SLS P2 ON 0dB Test

This test verifies that the UUT Top 180 port does not reply to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**See Table**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**<= 1**	**<= 1**	**<= 1**

4.24.4.3.2 Transponder Top 180 Mode-A SLS P2 ON 9dB Test

This test verifies that the UUT Top 180 port replies to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1 - 9 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**See Table**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1 - 9 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.4 Transponder Top 270 Mode-A Sidelobe Suppression Tests

4.24.4.4.1 Transponder Top 270 Mode-A SLS P2 ON 0dB Test

This test verifies that the UUT Top 270 port does not reply to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**See Table**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**<= 1**	**<= 1**	**<= 1**

4.24.4.4.2 Transponder Top 270 Mode-A SLS P2 ON 9dB Test

This test verifies that the UUT Top 270 port replies to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1 - 9 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**See Table**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1 - 9 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.5 Transponder Bottom 0 Mode-A Sidelobe Suppression Tests

4.24.4.5.1 Transponder Bottom 0 Mode-A SLS P2 ON 0dB Test

This test verifies that the UUT Bottom 0 port does not reply to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**See Table**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**<= 1**	**<= 1**	**<= 1**

4.24.4.5.2 Transponder Bottom 0 Mode-A SLS P2 ON 9dB Test

This test verifies that the UUT Bottom 0 port replies to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1 - 9 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**See Table**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1 - 9 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.6 Transponder Bottom 90 Mode-A Sidelobe Suppression Tests

4.24.4.6.1 Transponder Bottom 90 Mode-A SLS P2 ON 0dB Test

This test verifies that the UUT Bottom 90 port does not reply to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**See Table**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**<= 1**	**<= 1**	**<= 1**

4.24.4.6.2 Transponder Bottom 90 Mode-A SLS P2 ON 9dB Test

This test verifies that the UUT Bottom 90 port replies to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1 - 9 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**See Table**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1 - 9 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.7 Transponder Bottom 270 Mode-A Sidelobe Suppression Tests

4.24.4.7.1 Transponder Bottom 180 Mode-A SLS P2 ON 0dB Test

This test verifies that the UUT Bottom 180 port does not reply to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**See Table**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**<= 1**	**<= 1**	**<= 1**

4.24.4.7.2 Transponder Bottom 180 Mode-A SLS P2 ON 9dB Test

This test verifies that the UUT Bottom 180 port replies to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1 - 9 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**See Table**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1 - 9 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.8 Transponder Bottom 0 Mode-A Sidelobe Suppression Tests

4.24.4.8.1 Transponder Bottom 270 Mode-A SLS P2 ON 0dB Test

This test verifies that the UUT Bottom 270 port does not reply to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**See Table**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**<= 1**	**<= 1**	**<= 1**

4.24.4.8.2 Transponder Bottom 270 Mode-A SLS P2 ON 9dB Test

This test verifies that the UUT Bottom 270 port replies to Mode-A interrogations with the P2 pulse turned on and set to a level where P2 = P1 - 9 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**See Table**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P2 pulse on and adjust the EIT tester step attenuator such that the P2 level equals P1 - 9 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.9 Transponder ATCRBS Mode-A Only All-Call Tests

4.24.4.9.1 Transponder Top 0 Mode-A Only All-Call Test

This test verifies that the UUT Top 0 port does not reply to Mode-A Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.9.2 Transponder Top 90 Mode-A Only All-Call Test

This test verifies that the UUT Top 90 port does not reply to Mode-A Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.9.3 Transponder Top 180 Mode-A Only All-Call Test

This test verifies that the UUT Top 180 port does not reply to Mode-A Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.9.4 Transponder Top 270 Mode-A Only All-Call Test

This test verifies that the UUT Top 270 port does not reply to Mode-A Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.9.5 Transponder Bottom 0 Mode-A Only All-Call Test

This test verifies that the UUT bottom 0 port does not reply to Mode-A Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.9.6 Transponder Bottom 90 Mode-A Only All-Call Test

This test verifies that the UUT bottom 90 port does not reply to Mode-A Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.9.7 Transponder Bottom 180 Mode-A Only All-Call Test

This test verifies that the UUT bottom 180 port does not reply to Mode-A Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.9.8 Transponder Bottom 270 Mode-A Only All-Call Test

This test verifies that the UUT bottom 270 port does not reply to Mode-A Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**

Step 2. Configure the EIT station to transmit 100 Mode-A interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.10 Transponder ATCRBS Mode-C Only All-Call Tests

4.24.4.10.1 Transponder Top 0 Mode-C Only All-Call Test

This test verifies that the UUT Top 0 port does not reply to Mode-C Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.10.2 Transponder Top 90 Mode-C Only All-Call Test

This test verifies that the UUT Top 90 port does not reply to Mode-C Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.10.3 Transponder Top 180 Mode-C Only All-Call Test

This test verifies that the UUT Top 180 port does not reply to Mode-C Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.10.4 Transponder Top 270 Mode-C Only All-Call Test

This test verifies that the UUT Top 270 port does not reply to Mode-C Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.10.5 Transponder Bottom 0 Mode-C Only All-Call Test

This test verifies that the UUT bottom 0 port does not reply to Mode-C Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.10.6 Transponder Bottom 90 Mode-C Only All-Call Test

This test verifies that the UUT bottom 90 port does not reply to Mode-C Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.10.7 Transponder Bottom 180 Mode-C Only All-Call Test

This test verifies that the UUT bottom 180 port does not reply to Mode-C Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.10.8 Transponder Bottom 270 Mode-C Only All-Call Test

This test verifies that the UUT bottom 270 port does not reply to Mode-C Only All-Call interrogations with the P4 pulse turned on and set to a level where P4 = P3

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	-74**.0 ± 0.5 dBm**

Step 2. Configure the EIT station to transmit 100 Mode-C interrogations per second in a continuous loop. Turn the P3 pulse on and adjust the EIT tester step attenuator such that the P3 level equals P4.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid bottom ATCRBS replies from the UUT that the Virtex card decoded in the last frame.

Step 5. Verify replies are <= 5

4.24.4.11 Transponder Mode-C/Mode-S Only All-Call ATCRBS Tests

4.24.4.11.1 Transponder Top 0 Mode-C/Mode-S Only All-Call ATCRBS Test

This test verifies that the UUT Top 0 port generates ATCRBS replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 6 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**See Table**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 6 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.11.2 Transponder Top 90 Mode-C/Mode-S Only All-Call ATCRBS Test

This test verifies that the UUT Top 90 port generates ATCRBS replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 6 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**See Table**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 6 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.11.3 Transponder Top 180 Mode-C/Mode-S Only All-Call ATCRBS Test

This test verifies that the UUT Top 180 port generates ATCRBS replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 6 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**See Table**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 6 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.11.4 Transponder Top 270 Mode-C/Mode-S Only All-Call ATCRBS Test

This test verifies that the UUT Top 270 port generates ATCRBS replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 6 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**See Table**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 6 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.11.5 Transponder Bottom 0 Mode-C/Mode-S Only All-Call ATCRBS Test

This test verifies that the UUT Bottom 0 port generates ATCRBS replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 6 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**See Table**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 6 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.11.6 Transponder Bottom 90 Mode-C/Mode-S Only All-Call ATCRBS Test

This test verifies that the UUT Bottom 90 port generates ATCRBS replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 6 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**See Table**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 6 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.11.7 Transponder Bottom 180 Mode-C/Mode-S Only All-Call ATCRBS Test

This test verifies that the UUT Bottom 180 port generates ATCRBS replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 6 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**See Table**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 6 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.11.8 Transponder Bottom 270 Mode-C/Mode-S Only All-Call ATCRBS Test

This test verifies that the UUT Bottom 270 port generates ATCRBS replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 6 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**See Table**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 6 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top ATCRBS replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.12 Transponder Mode-C/Mode-S Only All-Call Mode-S Tests

4.24.4.12.1 Transponder Top 0 Mode-C/Mode-S Only All-Call Mode-S Test

This test verifies that the UUT Top 0 port generates Mode-S replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 1 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**See Table**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 1 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.12.2 Transponder Top 90 Mode-C/Mode-S Only All-Call Mode-S Test

This test verifies that the UUT Top 90 port generates Mode-S replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 1 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**See Table**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 6 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.12.3 Transponder Top 180 Mode-C/Mode-S Only All-Call Mode-S Test

This test verifies that the UUT Top 180 port generates Mode-S replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 1 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**See Table**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 1 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.12.4 Transponder Top 270 Mode-C/Mode-S Only All-Call Mode-S Test

This test verifies that the UUT Top 270 port generates Mode-S replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 1 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**See Table**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 1 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the top 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.12.5 Transponder Bottom 0 Mode-C/Mode-S Only All-Call Mode-S Test

This test verifies that the UUT Bottom 0 port generates Mode-S replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 1 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**See Table**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 1 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.12.6 Transponder Bottom 90 Mode-C/Mode-S Only All-Call Mode-S Test

This test verifies that the UUT Bottom 90 port generates Mode-S replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 1 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**See Table**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 1 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.12.7 Transponder Bottom 180 Mode-C/Mode-S Only All-Call Mode-S Test

This test verifies that the UUT Bottom 180 port generates Mode-S replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 1 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**See Table**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 1 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.4.12.8 Transponder Bottom 270 Mode-C/Mode-S Only All-Call Mode-S Test

This test verifies that the UUT Bottom 270 port generates Mode-S replies to Mode-C/Mode-S All-Call interrogations when P4 is set to a level of P3 – 1 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**See Table**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P4 pulse on and adjust the EIT tester step attenuator such that the P4 level equals P3 - 1 dB.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process Mode-S and ATCRBS interrogations and reply upon receipt of a valid interrogation.

Step 4. For each input level specified in the table below, inject the specified RF level into the bottom 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of valid top Mode-S replies from the UUT that the Virtex card decoded in the last frame. Repeat for each input power level.

Step 5. Verify the following:

	-74 **dBm**	**-50 dBm**	**-21 dBm**
Replies	**>= 90**	**>= 90**	**>= 90**

4.24.5 Transponder Receiver Mode S Formats Side Lobe Suppression (SLS) Tests [Group 78] (DO-181C 2.2.5.2)

4.24.5.1 Transponder Top 0 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Top 0 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P5 exceeds the received amplitude of P6 by 3 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P5 level equals P6 - 3 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the top 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of < 10 percent:

4.24.5.2 Transponder Top 0 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Top 0 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P6 exceeds the received amplitude of P5 by 12 dB or more.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P6 level equals P5 - 12 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the top 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of >= 99 percent:

4.24.5.3 Transponder Top 90 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Top 90 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P5 exceeds the received amplitude of P6 by 3 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P5 level equals P6 - 3 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the top 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of < 10 percent:

4.24.5.4 Transponder Top 90 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Top 90 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P6 exceeds the received amplitude of P5 by 12 dB or more.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P6 level equals P5 - 12 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the top 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of >= 99 percent:

4.24.5.5 Transponder Top 180 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Top 180 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P5 exceeds the received amplitude of P6 by 3 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P5 level equals P6 - 3 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of < 10 percent:

4.24.5.6 Transponder Top 180 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Top 180 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P6 exceeds the received amplitude of P5 by 12 dB or more.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P6 level equals P5 - 12 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of >= 99 percent:

4.24.5.7 Transponder Top 270 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Top 270 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P5 exceeds the received amplitude of P6 by 3 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P5 level equals P6 - 3 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the top 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of < 10 percent:

4.24.5.8 Transponder Top 270 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Top 270 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P6 exceeds the received amplitude of P5 by 12 dB or more.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P6 level equals P5 - 12 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the top 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of >= 99 percent:

4.24.5.9 Transponder Bottom 0 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Bottom 0 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P5 exceeds the received amplitude of P6 by 3 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P5 level equals P6 - 3 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the Bottom 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of < 10 percent:

4.24.5.10 Transponder Bottom 0 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Bottom 0 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P6 exceeds the received amplitude of P5 by 12 dB or more.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P6 level equals P5 - 12 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the *Bottom* 0 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of >= 99 percent:

4.24.5.11 Transponder Bottom 90 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Top 90 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P5 exceeds the received amplitude of P6 by 3 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P5 level equals P6 - 3 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the Bottom 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of < 10 percent:

4.24.5.12 Transponder Bottom 90 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Top 90 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P6 exceeds the received amplitude of P5 by 12 dB or more.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P6 level equals P5 - 12 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the *Bottom* 90 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of >= 99 percent:

4.24.5.13 Transponder Bottom 180 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Bottom 180 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P5 exceeds the received amplitude of P6 by 3 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P5 level equals P6 - 3 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the Bottom 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of < 10 percent:

4.24.5.14 Transponder Bottom 180 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Bottom 180 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P6 exceeds the received amplitude of P5 by 12 dB or more.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-55.0 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P6 level equals P5 - 12 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the Bottom top 180 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of >= 99 percent:

4.24.5.15 Transponder Bottom 270 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Bottom 270 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P5 exceeds the received amplitude of P6 by 3 dB

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-55.0 dBm**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P5 level equals P6 - 3 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the Bottom 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of < 10 percent:

4.24.5.16 Transponder Bottom 270 Side Lobe Suppression, Mode S Formats Test

This test verifies that the UUT Bottom 270 port generates Mode-S replies to Mode-S All-Call with a reply ratio when P6 exceeds the received amplitude of P5 by 12 dB or more.

Step 1. Configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-55.0 dBm**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-S All-Call interrogations per second in a continuous loop. Turn the P5 pulse on and adjust the EIT tester step attenuator such that the P6 level equals P5 - 12 dB. Configure the EIT station to transmit 50 Mode-S UF-11 interrogations per second in a continuous loop. Configure the Virtex Transponder Interrogation RAM words as follows:

Word0:0x200003E8
Word1:0x00000000
Word2:0x58000000
Word3:0x4A430A00
Word4:0x00000000
Word5:0x00000008

Note: The Virtex CCA cannot decode more than approximately 50 Mode-S replies per second. To prevent reply limiting, the maximum interrogation rate for Mode-S will be 50 interrogations per second.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

Step 4. For input levels in step one, inject the specified RF level into the Bottom 270 antenna port. Read the Reply RAM in the Virtex CCA in the End Item Tester to determine the number of top Mode-S replies from the UUT that the Virtex card decoded in the last two successive frames. Repeat for each input power level in step one.

Step 5. Verify the Mode S reply ratio of >= 99 percent:

4.24.6 Transponder Receiver ATCRBS Code Tests [Group 79] (DO-181C 2.2.13.1.2 b)

4.24.6.1 Transponder Receiver Mode-A Code Tests

4.24.6.1.1 Transponder Top 0 Mode-A Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the top 0 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0633 0000 0 0***" This sets the Mode-A 4096 code to 2525, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**2525**

4.24.6.1.2 Transponder Top 0 Mode-A Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the top 0 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 191A 0000 0 0***" This sets the Mode-A 4096 code to 5252, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**5252**

4.24.6.1.3 Transponder Top 0 Mode-A Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-A ATCRBS replies on the top 0 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.1.4 Transponder Top 0 Mode-A Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-A ATCRBS replies on the top 0 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 1 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 1, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.1.5 Transponder Top 90 Mode-A Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Top 90 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0633 0000 0 0***" This sets the Mode-A 4096 code to 2525, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**2525**

4.24.6.1.6 Transponder Top 90 Mode-A Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Top 90 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 191A 0000 0 0***" This sets the Mode-A 4096 code to 5252, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**5252**

4.24.6.1.7 Transponder Top 90 Mode-A Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-A ATCRBS replies on the Top 90 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.1.8 Transponder Top 90 Mode-A Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-A ATCRBS replies on the Top 90 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 1 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 1, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.1.9 Transponder Top 180 Mode-A Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Top 180 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0633 0000 0 0***" This sets the Mode-A 4096 code to 2525, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**2525**

4.24.6.1.10 Transponder Top 180 Mode-A Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Top 180 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 191A 0000 0 0***" This sets the Mode-A 4096 code to 5252, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**5252**

4.24.6.1.11 Transponder Top 180 Mode-A Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-A ATCRBS replies on the Top 180 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.1.12 Transponder Top 180 Mode-A Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-A ATCRBS replies on the Top 180 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 1 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 1, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.1.13 Transponder Top 270 Mode-A Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Top 270 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0633 0000 0 0***" This sets the Mode-A 4096 code to 2525, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**2525**

4.24.6.1.14 Transponder Top 270 Mode-A Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Top 270 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 191A 0000 0 0***" This sets the Mode-A 4096 code to 5252, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**5252**

4.24.6.1.15 Transponder Top 270 Mode-A Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-A ATCRBS replies on the Top 270 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)
Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 3. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.1.16 Transponder Top 270 Mode-A Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-A ATCRBS replies on the Top 270 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 1 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 1, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.1.17 Transponder Bot 0 Mode-A Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Bot 0 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0633 0000 0 0***" This sets the Mode-A 4096 code to 2525, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**2525**

4.24.6.1.18 Transponder Bot 0 Mode-A Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Bot 0 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)
Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 191A 0000 0 0***" This sets the Mode-A 4096 code to 5252, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 3. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**5252**

4.24.6.1.19 Transponder Bot 0 Mode-A Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-A ATCRBS replies on the Bot 0 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.1.20 Transponder Bot 0 Mode-A Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-A ATCRBS replies on the Bot 0 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 1 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 1, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.1.21 Transponder Bot 90 Mode-A Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Bot 90 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0633 0000 0 0***" This sets the Mode-A 4096 code to 2525, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**2525**

4.24.6.1.22 Transponder Bot 90 Mode-A Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Bot 90 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 191A 0000 0 0***" This sets the Mode-A 4096 code to 5252, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**5252**

4.24.6.1.23 Transponder Bot 90 Mode-A Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-A ATCRBS replies on the Bot 90 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.1.24 Transponder Bot 90 Mode-A Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-A ATCRBS replies on the Bot 90 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 1 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 1, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.1.25 Transponder Bot 180 Mode-A Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Bot 180 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0633 0000 0 0***" This sets the Mode-A 4096 code to 2525, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**2525**

4.24.6.1.26 Transponder Bot 180 Mode-A Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Bot 180 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 191A 0000 0 0***" This sets the Mode-A 4096 code to 5252, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**5252**

4.24.6.1.27 Transponder Bot 180 Mode-A Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-A ATCRBS replies on the Bot 180 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.1.28 Transponder Bot 180 Mode-A Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-A ATCRBS replies on the Bot 180 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 1 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 1, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.1.29 Transponder Bot 270 Mode-A Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Bot 270 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0633 0000 0 0***" This sets the Mode-A 4096 code to 2525, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**2525**

4.24.6.1.30 Transponder Bot 270 Mode-A Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-A ATCRBS replies on the Bot 270 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 191A 0000 0 0***" This sets the Mode-A 4096 code to 5252, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-A 4096 Code	**5252**

4.24.6.1.31 Transponder Bot 270 Mode-A Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-A ATCRBS replies on the Bot 270 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.1.32 Transponder Bot 270 Mode-A Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-A ATCRBS replies on the Bot 270 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x48410410 (Mode-A)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 1 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 1, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.2 Transponder Receiver Mode-C Code Tests

4.24.6.2.1 Transponder Top 0 Mode-C Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the top 0 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0633 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 2525, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**2525**

4.24.6.2.2 Transponder Top 0 Mode-C Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the top 0 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 191A 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 5252, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**5252**

4.24.6.2.3 Transponder Top 0 Mode-C Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-C ATCRBS replies on the top 0 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.2.4 Transponder Top 0 Mode-C Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-C ATCRBS replies on the top 0 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 1***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 1.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.2.5 Transponder Top 90 Mode-C Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Top 90 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0633 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 2525, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**2525**

4.24.6.2.6 Transponder Top 90 Mode-C Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Top 90 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 191A 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 5252, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**5252**

4.24.6.2.7 Transponder Top 90 Mode-C Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-C ATCRBS replies on the Top 90 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.2.8 Transponder Top 90 Mode-C Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-C ATCRBS replies on the Top 90 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 1***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 1.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.2.9 Transponder Top 180 Mode-C Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Top 180 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0633 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 2525, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**2525**

4.24.6.2.10 Transponder Top 180 Mode-C Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Top 180 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Step 3. Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 4. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 191A 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 5252, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 5. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**5252**

4.24.6.2.11 Transponder Top 180 Mode-C Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-C ATCRBS replies on the Top 180 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.2.12 Transponder Top 180 Mode-C Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-C ATCRBS replies on the Top 180 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 1***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 1.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.2.13 Transponder Top 270 Mode-C Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Top 270 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0633 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 2525, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**2525**

4.24.6.2.14 Transponder Top 270 Mode-C Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Top 270 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 191A 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 5252, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**5252**

4.24.6.2.15 Transponder Top 270 Mode-C Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-C ATCRBS replies on the Top 270 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.2.16 Transponder Top 270 Mode-C Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-C ATCRBS replies on the Top 270 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0xA00003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 1***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 1.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.2.17 Transponder Bot 0 Mode-C Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Bot 0 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0633 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 2525, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**2525**

4.24.6.2.18 Transponder Bot 0 Mode-C Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Bot 0 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 191A 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 5252, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**5252**

4.24.6.2.19 Transponder Bot 0 Mode-C Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-C ATCRBS replies on the Bot 0 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.2.20 Transponder Bot 0 Mode-C Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-C ATCRBS replies on the Bot 0 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 1***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 1.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.2.21 Transponder Bot 90 Mode-C Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Bot 90 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0633 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 2525, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**2525**

4.24.6.2.22 Transponder Bot 90 Mode-C Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Bot 90 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 191A 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 5252, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**5252**

4.24.6.2.23 Transponder Bot 90 Mode-C Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-C ATCRBS replies on the Bot 90 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.2.24 Transponder Bot 90 Mode-C Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-C ATCRBS replies on the Bot 90 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 1***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 1.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.2.25 Transponder Bot 180 Mode-C Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Bot 180 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0633 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 2525, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**2525**

4.24.6.2.26 Transponder Bot 180 Mode-C Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Bot 180 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 191A 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 5252, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**5252**

4.24.6.2.27 Transponder Bot 180 Mode-C Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-C ATCRBS replies on the Bot 180 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.2.28 Transponder Bot 180 Mode-C Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-C ATCRBS replies on the Bot 180 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 1***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 1.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.6.2.29 Transponder Bot 270 Mode-C Code Test – Code 2525

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Bot 270 antenna port using the code 2525.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0633 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 2525, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**2525**

4.24.6.2.30 Transponder Bot 270 Mode-C Code Test – Code 5252

This test verifies that the transponder properly sets the code bits in Mode-C ATCRBS replies on the Bot 270 antenna port using the code 5252.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 191A 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 5252, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
Mode-C 4096 Code	**5252**

4.24.6.2.31 Transponder Bot 270 Mode-C Code Test – SPI Off

This test verifies that the transponder does not set the SPI bit in Mode-C ATCRBS replies on the Bot 270 antenna port when the SPI indication is not on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 0***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 0.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**0**

4.24.6.2.32 Transponder Bot 270 Mode-C Code Test – SPI On

This test verifies that the transponder properly sets the SPI bit in Mode-C ATCRBS replies on the Bot 270 antenna port when the SPI indication is on.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

Word 0: 0x900003E8 (ATCRBS)
Word 1: 0x00000000 (Not Used)
Word 2: 0x68410410 (Mode-C)
Word 3: 0x00020820 (Nominal pulse delay)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000000 (Not Used)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Set up HTS to transmit the specified data in the reply by sending the HTS command "***EITST P1 5 0000 0000 0 1***" This sets the Mode-A 4096 code to 0, the Mode-C encoded altitude to 0, the Mode-A SPI bit to 0, and the Mode-C SPI bit to 1.

Step 4. Inject the specified RF level into the UUT, then read the Virtex card Interrogation reply FIFO at 0x00060000. Decode the reply data and determine that the data is as specified:

RF Level	-74 dBm
SPI Bit	**1**

4.24.7 Transponder Receiver Mode S Code Tests [Group 80] (DO-181C 2.2.13.1.2 b)

4.24.7.1 Transponder Top 0 Mode-S Format/Code Test for UF-0

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Top 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x00000000 (UF=0)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.2 Transponder Top 0 Mode-S Format/Code Test for UF-4

This test verifies that the transponder recognizes Uplink Format 4 interrogations and replies on the Top 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x20800000 (UF=4)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.3 Transponder Top 0 Mode-S Format/Code Test for UF-5

This test verifies that the transponder recognizes Uplink Format 5 interrogations and replies on the Top 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x28800000 (UF=5)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 61005000004450 00**

4.24.7.4 Transponder Top 0 Mode-S Format/Code Test for UF-16

This test verifies that the transponder recognizes Uplink Format 16 interrogations and replies on the Top 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x80800000 (UF=16)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.5 Transponder Top 90 Mode-S Format/Code Test for UF-0

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Top 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x00000000 (UF=0)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 61005000004450 00**

4.24.7.6 Transponder Top 90 Mode-S Format/Code Test for UF-4

This test verifies that the transponder recognizes Uplink Format 4 interrogations and replies on the Top 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x20800000 (UF=4)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.7 Transponder Top 90 Mode-S Format/Code Test for UF-5

This test verifies that the transponder recognizes Uplink Format 5 interrogations and replies on the Top 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x28800000 (UF=5)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 61005000004450 00**

4.24.7.8 Transponder Top 90 Mode-S Format/Code Test for UF-16

This test verifies that the transponder recognizes Uplink Format 16 interrogations and replies on the Top 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x80800000 (UF=16)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.9 Transponder Top 180 Mode-S Format/Code Test for UF-0

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Top 180 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x00000000 (UF=0)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.10 Transponder Top 180 Mode-S Format/Code Test for UF-4

This test verifies that the transponder recognizes Uplink Format 4 interrogations and replies on the Top 180 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x20800000 (UF=4)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.11 Transponder Top 180 Mode-S Format/Code Test for UF-5

This test verifies that the transponder recognizes Uplink Format 5 interrogations and replies on the Top 180 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x28800000 (UF=5)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.12 Transponder Top 180 Mode-S Format/Code Test for UF-16

This test verifies that the transponder recognizes Uplink Format 16 interrogations and replies on the Top 180 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x80800000 (UF=16)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.13 Transponder Top 270 Mode-S Format/Code Test for UF-0

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Top 270 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x00000000 (UF=0)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.14 Transponder Top 270 Mode-S Format/Code Test for UF-4

This test verifies that the transponder recognizes Uplink Format 4 interrogations and replies on the Top 270 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x20800000 (UF=4)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 61005000004450 00**

4.24.7.15 Transponder Top 270 Mode-S Format/Code Test for UF-5

This test verifies that the transponder recognizes Uplink Format 5 interrogations and replies on the Top 270 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x28800000 (UF=5)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.16 Transponder Top 270 Mode-S Format/Code Test for UF-16

This test verifies that the transponder recognizes Uplink Format 16 interrogations and replies on the Top 270 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x200003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x80800000 (UF=16)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 61005000004450 00**

4.24.7.17 Transponder Bot 0 Mode-S Format/Code Test for UF-0

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Bot 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x00000000 (UF=0)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 610050000044500 0**	**04A594B40FDD 61005000004450 00**	**04A594B40FDD 61005000004450 00**

4.24.7.18 Transponder Bot 0 Mode-S Format/Code Test for UF-4

This test verifies that the transponder recognizes Uplink Format 4 interrogations and replies on the Bot 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x20800000 (UF=4)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.19 Transponder Bot 0 Mode-S Format/Code Test for UF-5

This test verifies that the transponder recognizes Uplink Format 5 interrogations and replies on the Bot 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x28800000 (UF=5)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.20 Transponder Bot 0 Mode-S Format/Code Test for UF-16

This test verifies that the transponder recognizes Uplink Format 16 interrogations and replies on the Bot 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x80800000 (UF=16)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.21 Transponder Bot 90 Mode-S Format/Code Test for UF-0

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Bot 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x00000000 (UF=0)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.22 Transponder Bot 90 Mode-S Format/Code Test for UF-4

This test verifies that the transponder recognizes Uplink Format 4 interrogations and replies on the Bot 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x20800000 (UF=4)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.23 Transponder Bot 90 Mode-S Format/Code Test for UF-5

This test verifies that the transponder recognizes Uplink Format 5 interrogations and replies on the Bot 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x28800000 (UF=5)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.24 Transponder Bot 90 Mode-S Format/Code Test for UF-16

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Bot 0 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x80800000 (UF=16)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.25 Transponder Bot 180 Mode-S Format/Code Test for UF-0

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Bot 180 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x00000000 (UF=0)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.26 Transponder Bot 180 Mode-S Format/Code Test for UF-4

This test verifies that the transponder recognizes Uplink Format 4 interrogations and replies on the Bot 180 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x20800000 (UF=4)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-77 dBm
Mode-S Data	**A70814B411111111111111BB468E**

4.24.7.27 Transponder Bot 180 Mode-S Format/Code Test for UF-5

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Bot 180 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x28800000 (UF=5)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.28 Transponder Bot 180 Mode-S Format/Code Test for UF-16

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Bot 180 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x80800000 (UF=16)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.29 Transponder Bot 270 Mode-S Format/Code Test for UF-0

This test verifies that the transponder recognizes Uplink Format 0 interrogations and replies on the Bot 270 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x00000000 (UF=0)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.30 Transponder Bot 270 Mode-S Format/Code Test for UF-4

This test verifies that the transponder recognizes Uplink Format 4 interrogations and replies on the Bot 270 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x20800000 (UF=4)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.31 Transponder Bot 270 Mode-S Format/Code Test for UF-5

This test verifies that the transponder recognizes Uplink Format 5 interrogations and replies on the Bot 270 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x28800000 (UF=5)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.7.32 Transponder Bot 270 Mode-S Format/Code Test for UF-16

This test verifies that the transponder recognizes Uplink Format 16 interrogations and replies on the Bot 270 Antenna Port with the proper downlink format.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 50 Mode-S interrogations per second in a continuous loop.

Configure the Virtex Transponder Interrogation RAM words as follows:

Word 0: 0x100003E8 (Mode-S)
Word 1: 0x00000000 (Not Used)
Word 2: 0x80800000 (UF=16)
Word 3: 0x1C273200 (Encoded AP = 123456)
Word 4: 0x00000000 (Not Used)
Word 5: 0x00000008 (SPR Deviation = 0)

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 0 1 1***"

This will configure the UUT to process Mode-S interrogations and reply upon receipt of a valid interrogation.

Set the Mode-S address in HTS by sending the HTS command "***EITST P1 8 123456***"

Step 4. Inject an RF signal at each of the listed input levels. Read the Transponder reply FIFO in the Virtex card at 0x00060000 and verify the Mode-S data is as specified for the first reply at each power level:

RF Level	-74 dBm	-50 dBm	-40 dBm	-30 dBm	-21 dBm
Mode-S Data	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**	**04A594B40FDD 6100500000445000**

4.24.8 Transponder Receiver ATCRBS Pulse Duration Tests [Group 81] (DO-181C 2.2.6.3)

4.24.8.1 Transponder Receiver Mode-A Pulse Duration Tests

4.24.8.1.1 Transponder Top 0 Mode-A P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.2 Transponder Top 0 Mode-A P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.3 Transponder Top 0 Mode-A P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	**=<10**	**=<10**	**=<10**

4.24.8.1.4 Transponder Top 0 Mode-A P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.5 Transponder Top 0 Mode-A P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.6 Transponder Top 0 Mode-A P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.1.7 Transponder Top 90 Mode-A P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	1030.0 ± 0.1 MHz
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.8 Transponder Top 90 Mode-A P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	1030.0 ± 0.1 MHz
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.9 Transponder Top 90 Mode-A P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	**=<10**	**=<10**	**=<10**

4.24.8.1.10 Transponder Top 90 Mode-A P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.11 Transponder Top 90 Mode-A P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	1030.0 ± 0.1 MHz
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.12 Transponder Top 90 Mode-A P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	1030.0 ± 0.1 MHz
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.1.13 Transponder Top 180 Mode-A P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.14 Transponder Top 180 Mode-A P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 5. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 6. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 7. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.15 Transponder Top 180 Mode-A P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	1030.0 ± 0.1 MHz
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.1.16 Transponder Top 180 Mode-A P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	1030.0 ± 0.1 MHz
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.17 Transponder Top 180 Mode-A P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.18 Transponder Top 180 Mode-A P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	**=<10**	**=<10**	**=<10**

4.24.8.1.19 Transponder Top 270 Mode-A P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.20 Transponder Top 270 Mode-A P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.21 Transponder Top 270 Mode-A P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	1030.0 ± 0.1 MHz
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.1.22 Transponder Top 270 Mode-A P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	1030.0 ± 0.1 MHz
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.23 Transponder Top 270 Mode-A P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.24 Transponder Top 270 Mode-A P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.1.25 Transponder Bot 0 Mode-A P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	1030.0 ± 0.1 MHz
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.26 Transponder Bot 0 Mode-A P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	1030.0 ± 0.1 MHz
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.27 Transponder Bot 0 Mode-A P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	**=<10**	**=<10**	**=<10**

4.24.8.1.28 Transponder Bot 0 Mode-A P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.29 Transponder Bot 0 Mode-A P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	1030.0 ± 0.1 MHz
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.30 Transponder Bot 0 Mode-A P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	1030.0 ± 0.1 MHz
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.1.31 Transponder Bot 90 Mode-A P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.32 Transponder Bot 90 Mode-A P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.33 Transponder Bot 90 Mode-A P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	1030.0 ± 0.1 MHz
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.1.34 Transponder Bot 90 Mode-A P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	1030.0 ± 0.1 MHz
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.35 Transponder Bot 90 Mode-A P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.36 Transponder Bot 90 Mode-A P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.1.37 Transponder Bot 180 Mode-A P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	1030.0 ± 0.1 MHz
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.38 Transponder Bot 180 Mode-A P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	1030.0 ± 0.1 MHz
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.39 Transponder Bot 180 Mode-A P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	**=<10**	**=<10**	**=<10**

4.24.8.1.40 Transponder Bot 180 Mode-A P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.41 Transponder Bot 180 Mode-A P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	1030.0 ± 0.1 MHz
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.42 Transponder Bot 180 Mode-A P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	1030.0 ± 0.1 MHz
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.1.43 Transponder Bot 270 Mode-A P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.44 Transponder Bot 270 Mode-A P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.45 Transponder Bot 270 Mode-A P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	1030.0 ± 0.1 MHz

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.1.46 Transponder Bot 270 Mode-A P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	1030.0 ± 0.1 MHz

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.1.47 Transponder Bot 270 Mode-A P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.1.48 Transponder Bot 270 Mode-A P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-A Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2 Transponder Receiver Mode-C Pulse Duration Tests

4.24.8.2.1 Transponder Top 0 Mode-C P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	1030.0 ± 0.1 MHz
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.2 Transponder Top 0 Mode-C P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	1030.0 ± 0.1 MHz
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.3 Transponder Top 0 Mode-C P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	**=<10**	**=<10**	**=<10**

4.24.8.2.4 Transponder Top 0 Mode-C P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.5 Transponder Top 0 Mode-C P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	1030.0 ± 0.1 MHz
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.6 Transponder Top 0 Mode-C P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 0 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	1030.0 ± 0.1 MHz
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.7 Transponder Top 90 Mode-C P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.2.8 Transponder Top 90 Mode-C P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.2.9 Transponder Top 90 Mode-C P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.10 Transponder Top 90 Mode-C P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	1030.0 ± 0.1 MHz
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.11 Transponder Top 90 Mode-C P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	1030.0 ± 0.1 MHz
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.12 Transponder Top 90 Mode-C P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 90 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	**=<10**	**=<10**	**=<10**

4.24.8.2.13 Transponder Top 180 Mode-C P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.14 Transponder Top 180 Mode-C P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	1030.0 ± 0.1 MHz
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.15 Transponder Top 180 Mode-C P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	1030.0 ± 0.1 MHz
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.16 Transponder Top 180 Mode-C P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.2.17 Transponder Top 180 Mode-C P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.18 Transponder Top 180 Mode-C P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 180 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	1030.0 ± 0.1 MHz
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.19 Transponder Top 270 Mode-C P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	1030.0 ± 0.1 MHz
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.20 Transponder Top 270 Mode-C P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.2.21 Transponder Top 270 Mode-C P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.22 Transponder Top 270 Mode-C P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	1030.0 ± 0.1 MHz
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.23 Transponder Top 270 Mode-C P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	1030.0 ± 0.1 MHz
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.24 Transponder Top 270 Mode-C P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Top 270 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	**=<10**	**=<10**	**=<10**

4.24.8.2.25 Transponder Bot 0 Mode-C P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.26 Transponder Bot 0 Mode-C P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	1030.0 ± 0.1 MHz
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.27 Transponder Bot 0 Mode-C P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	1030.0 ± 0.1 MHz
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.28 Transponder Bot 0 Mode-C P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.2.29 Transponder Bot 0 Mode-C P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.30 Transponder Bot 0 Mode-C P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 0 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	1030.0 ± 0.1 MHz
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.31 Transponder Bot 90 Mode-C P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	1030.0 ± 0.1 MHz
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.32 Transponder Bot 90 Mode-C P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.2.33 Transponder Bot 90 Mode-C P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.34 Transponder Bot 90 Mode-C P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	1030.0 ± 0.1 MHz
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.35 Transponder Bot 90 Mode-C P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	1030.0 ± 0.1 MHz
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.36 Transponder Bot 90 Mode-C P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 90 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	**=<10**	**=<10**	**=<10**

4.24.8.2.37 Transponder Bot 180 Mode-C P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.38 Transponder Bot 180 Mode-C P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	1030.0 ± 0.1 MHz
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.39 Transponder Bot 180 Mode-C P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	1030.0 ± 0.1 MHz
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.40 Transponder Bot 180 Mode-C P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.2.41 Transponder Bot 180 Mode-C P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.42 Transponder Bot 180 Mode-C P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 180 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	1030.0 ± 0.1 MHz
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.43 Transponder Bot 270 Mode-C P1 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P1 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	1030.0 ± 0.1 MHz

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.7 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.44 Transponder Bot 270 Mode-C P1 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P1 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.9 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.8.2.45 Transponder Bot 270 Mode-C P1 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P1 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.3 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	=<10	=<10	=<10

4.24.8.2.46 Transponder Bot 270 Mode-C P3 Pulsewidth (0.7 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P3 pulsewidth is set to 0.7 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	1030.0 ± 0.1 MHz

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.7 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.47 Transponder Bot 270 Mode-C P3 Pulsewidth (0.9 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P3 pulsewidth is set to 0.9 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	1030.0 ± 0.1 MHz

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.9 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.8.2.48 Transponder Bot 270 Mode-C P3 Pulsewidth (0.3 microsec) Test

This test verifies that the transponder receives interrogations Bot 270 port when the P3 pulsewidth is set to 0.3 microsecondst for Mode-C Interrogations.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.3 microseconds
P4 Pulse: OFF
Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulsewidths in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-77 dBm	-60 dBm	-48 dBm
Replies	**=<10**	**=<10**	**=<10**

4.24.9 Transponder Receiver All Call Pulse Duration Tests [Group 82] (DO-181C 2.2.6.3)

4.24.9.1 Transponder Top 0 Mode-C/Mode-S All-Call Pulse Duration Test (1.6 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**>=90**

4.24.9.2 Transponder Top 0 Mode-C/Mode-S All-Call Pulse Duration Test (1.2 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.2 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.3 Transponder Top 0 Mode-C/Mode-S All-Call Pulse Duration Test (2.5 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 2.5 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.4 Transponder Top 90 Mode-C/Mode-S All-Call Pulse Duration Test (1.6 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.9.5 Transponder Top 90 Mode-C/Mode-S All-Call Pulse Duration Test (1.2 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	-	-
Top 90	1030.0 ± 0.1 MHz	-76 dBm
Top 180	-	-
Top 270	-	-
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.2 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	=<10

4.24.9.6 Transponder Top 90 Mode-C/Mode-S All-Call Pulse Duration Test (2.5 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 2.5 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.7 Transponder Top 180 Mode-C/Mode-S All-Call Pulse Duration Test (1.6 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**>=90**

4.24.9.8 Transponder Top 180 Mode-C/Mode-S All-Call Pulse Duration Test (1.2 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.2 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.9 Transponder Top 180 Mode-C/Mode-S All-Call Pulse Duration Test (2.5 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 2.5 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.10 Transponder Top 270 Mode-C/Mode-S All-Call Pulse Duration Test (1.6 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**>=90**

4.24.9.11 Transponder Top 270 Mode-C/Mode-S All-Call Pulse Duration Test (1.2 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.2 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.12 Transponder Top 270 Mode-C/Mode-S All-Call Pulse Duration Test (2.5 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 2.5 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	=<10

4.24.9.13 Transponder Bot 0 Mode-C/Mode-S All-Call Pulse Duration Test (1.6 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	1030.0 ± 0.1 MHz	-76 dBm
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.9.14 Transponder Bot 0 Mode-C/Mode-S All-Call Pulse Duration Test (1.2 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.2 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.15 Transponder Bot 0 Mode-C/Mode-S All-Call Pulse Duration Test (2.5 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 2.5 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.16 Transponder Bot 90 Mode-C/Mode-S All-Call Pulse Duration Test (1.6 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.9.17 Transponder Bot 90 Mode-C/Mode-S All-Call Pulse Duration Test (1.2 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	-	-
Bot 90	1030.0 ± 0.1 MHz	-76 dBm
Bot 180	-	-
Bot 270	-	-

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.2 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	=<10

4.24.9.18 Transponder Bot 90 Mode-C/Mode-S All-Call Pulse Duration Test (2.5 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 2.5 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.19 Transponder Bot 180 Mode-C/Mode-S All-Call Pulse Duration Test (1.6 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**>=90**

4.24.9.20 Transponder Bot 180 Mode-C/Mode-S All-Call Pulse Duration Test (1.2 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.2 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.21 Transponder Bot 180 Mode-C/Mode-S All-Call Pulse Duration Test (2.5 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 2.5 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.22 Transponder Bot 270 Mode-C/Mode-S All-Call Pulse Duration Test (1.6 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-76 dBm**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.9.23 Transponder Bot 270 Mode-C/Mode-S All-Call Pulse Duration Test (1.2 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-76 dBm**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.2 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.9.24 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the pulsewidth of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-76 dBm**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 2.5 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.10 Transponder Receiver ATCRBS Pulse Position Tests [Group 83] (DO-181C 2.2.6.2)

4.24.10.1 Transponder Receiver Mode A Pulse Position Tests

4.24.10.1.1 Transponder Top 0 Mode A Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Top 0 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words

and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.2 Transponder Top 0 Mode A Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Top 0 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	1030.0 ± 0.1 MHz
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.3 Transponder Top 90 Mode A Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Top 90 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.1.4 Transponder Top 90 Mode A Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Top 90 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.5 Transponder Top 180 Mode A Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Top 180 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	1030.0 ± 0.1 MHz
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.6 Transponder Top 180 Mode A Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Top 180 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	1030.0 ± 0.1 MHz
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.7 Transponder Top 270 Mode A Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Top 270 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.1.8 Transponder Top 270 Mode A Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Top 270 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.1.9 Transponder Bot 0 Mode A Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Bot 0 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.10 Transponder Bot 0 Mode A Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Bot 0 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	1030.0 ± 0.1 MHz
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.11 Transponder Bot 90 Mode A Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Bot 90 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	1030.0 ± 0.1 MHz
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.12 Transponder Bot 90 Mode A Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Bot 90 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.1.13 Transponder Bot 180 Mode A Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Bot 180 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.14 Transponder Bot 180 Mode A Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Bot 180 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	1030.0 ± 0.1 MHz
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.15 Transponder Bot 270 Mode A Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Bot 270 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	1030.0 ± 0.1 MHz

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.1.16 Transponder Bot 270 Mode A Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Bot 270 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-A interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.2 Transponder Receiver Mode C Pulse Position Tests

4.24.10.2.1 Transponder Top 0 Mode C Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Top 0 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.2.2 Transponder Top 0 Mode C Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Top 0 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**1030.0 ± 0.1 MHz**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.2.3 Transponder Top 90 Mode C Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Top 90 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.2.4 Transponder Top 90 Mode C Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Top 90 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**1030.0 ± 0.1 MHz**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.2.5 Transponder Top 180 Mode C Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Top 180 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**1030.0 ± 0.1 MHz**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.2.6 Transponder Top 180 Mode C Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Top 180 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	1030.0 ± 0.1 MHz
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.2.7 Transponder Top 270 Mode C Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Top 270 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	1030.0 ± 0.1 MHz
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.2.8 Transponder Top 270 Mode C Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Top 270 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**1030.0 ± 0.1 MHz**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.2.9 Transponder Bot 0 Mode C Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Bot 0 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**1030.0 ± 0.1 MHz**
Bot 90	**-**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.2.10 Transponder Bot 0 Mode C Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Bot 0 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	1030.0 ± 0.1 MHz
Bot 90	-
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.2.11 Transponder Bot 90 Mode C Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Bot 90 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	1030.0 ± 0.1 MHz
Bot 180	-
Bot 270	-

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.2.12 Transponder Bot 90 Mode C Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Bot 90 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**1030.0 ± 0.1 MHz**
Bot 180	**-**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.2.13 Transponder Bot 180 Mode C Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Bot 180 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**

Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.10.2.14 Transponder Bot 180 Mode C Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Bot 180 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**1030.0 ± 0.1 MHz**
Bot 270	**-**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.2.15 Transponder Bot 270 Mode C Pulse Position Test (-0.2 microsec)

This test verifies that the transponder receives interrogations Bot 270 port when the P3 delay with respect to P1 is decreased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	-
Top 90	-
Top 180	-
Top 270	-
Bot 0	-
Bot 90	-
Bot 180	-
Bot 270	1030.0 ± 0.1 MHz

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = -0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	>=90	>=90	>=90	>=90	>=90

4.24.10.2.16 Transponder Bot 270 Mode C Pulse Position Test (+0.2 microsec)

This test verifies that the transponder receives interrogations Bot 270 port when the P3 delay with respect to P1 is increased by 0.2 microseconds below nominal.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency
Top 0	**-**
Top 90	**-**
Top 180	**-**
Top 270	**-**
Bot 0	**-**
Bot 90	**-**
Bot 180	**-**
Bot 270	**1030.0 ± 0.1 MHz**

Step 2. Configure the EIT station to transmit 100 ATCRBS Mode-C interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds, position delta = +0.2 microseconds
P4 Pulse: OFF

Note: The 9005108 test software automatically generates the Virtex programming words and the user may enter the specified pulse position deltas in natural units.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 0 0***"

This will configure the UUT to process ATCRBS interrogations and reply upon receipt of a valid ATCRBS interrogation.

Step 4. Inject an RF signal at each of the listed input levels and verify the reply efficiency is as specified:

RF Level	-76 dBm	-50 dBm	-40 dBm	-30 dBm	-24 dBm
Replies	**>=90**	**>=90**	**>=90**	**>=90**	**>=90**

4.24.11 Transponder Receiver All Call Pulse Position Tests [Group 84] (DO-181C 2.2.6.2)

4.24.11.1 Transponder Top 0 Mode-C/Mode-S All-Call Pulse Position Test (-0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 90	**-**	**-**

Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**>=90**

4.24.11.2 Transponder Top 0 Mode-C/Mode-S All-Call Pulse Position Test (+0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.3 Transponder Top 0 Mode-C/Mode-S All-Call Pulse Position Test (-0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.11.4 Transponder Top 0 Mode-C/Mode-S All-Call Pulse Position Test (+0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	=<10

4.24.11.5 Transponder Top 90 Mode-C/Mode-S All-Call Pulse Position Test (-0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	-	-
Top 90	1030.0 ± 0.1 MHz	-76 dBm
Top 180	-	-
Top 270	-	-
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.6 Transponder Top 90 Mode-C/Mode-S All-Call Pulse Position Test (+0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.7 Transponder Top 90 Mode-C/Mode-S All-Call Pulse Position Test (-0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.11.8 Transponder Top 90 Mode-C/Mode-S All-Call Pulse Position Test (+0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	=<10

4.24.11.9 Transponder Top 180 Mode-C/Mode-S All-Call Pulse Position Test (-0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	1030.0 ± 0.1 MHz	-76 dBm
Top 270	-	-
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.10 Transponder Top 180 Mode-C/Mode-S All-Call Pulse Position Test (+0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.11 Transponder Top 180 Mode-C/Mode-S All-Call Pulse Position Test (-0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.11.12 Transponder Top 180 Mode-C/Mode-S All-Call Pulse Position Test (+0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	=<10

4.24.11.13 Transponder Top 270 Mode-C/Mode-S All-Call Pulse Position Test (-0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	1030.0 ± 0.1 MHz	-76 dBm
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	-	-

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.14 Transponder Top 270 Mode-C/Mode-S All-Call Pulse Position Test (+0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified:

Mode-S replies	>=90

4.24.11.15 Transponder Top 270 Mode-C/Mode-S All-Call Pulse Position Test (-0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.11.16 Transponder Top 270 Mode-C/Mode-S All-Call Pulse Position Test (+0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified:

Mode-S replies	=<10

4.24.11.17 Transponder Bot 0 Mode-C/Mode-S All-Call Pulse Position Test (-0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.18 Transponder Bot 0 Mode-C/Mode-S All-Call Pulse Position Test (+0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.19 Transponder Bot 0 Mode-C/Mode-S All-Call Pulse Position Test (-0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.11.20 Transponder Bot 0 Mode-C/Mode-S All-Call Pulse Position Test (+0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	=<10

4.24.11.21 Transponder Bot 90 Mode-C/Mode-S All-Call Pulse Position Test (-0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.22 Transponder Bot 90 Mode-C/Mode-S All-Call Pulse Position Test (+0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**>=90**

4.24.11.23 Transponder Bot 90 Mode-C/Mode-S All-Call Pulse Position Test (-0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.11.24 Transponder Bot 90 Mode-C/Mode-S All-Call Pulse Position Test (+0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 180	**-**	**-**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	=<10

4.24.11.25 Transponder Bot 180 Mode-C/Mode-S All-Call Pulse Position Test (-0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	-	-
Bot 90	-	-
Bot 180	1030.0 ± 0.1 MHz	-76 dBm
Bot 270	-	-

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.26 Transponder Bot 180 Mode-C/Mode-S All-Call Pulse Position Test (+0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.27 Transponder Bot 180 Mode-C/Mode-S All-Call Pulse Position Test (-0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.11.28 Transponder Bot 180 Mode-C/Mode-S All-Call Pulse Position Test (+0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**1030.0 ± 0.1 MHz**	**-76 dBm**
Bot 270	**-**	**-**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	=<10

4.24.11.29 Transponder Bot 270 Mode-C/Mode-S All-Call Pulse Position Test (-0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	-	-
Top 90	-	-
Top 180	-	-
Top 270	-	-
Bot 0	-	-
Bot 90	-	-
Bot 180	-	-
Bot 270	1030.0 ± 0.1 MHz	-76 dBm

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	>=90

4.24.11.30 Transponder Bot 270 Mode-C/Mode-S All-Call Pulse Position Test (+0.05 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-76 dBm**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.05 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified:

Mode-S replies	>=90

4.24.11.31 Transponder Bot 270 Mode-C/Mode-S All-Call Pulse Position Test (-0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-76 dBm**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta -0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified::

Mode-S replies	**=<10**

4.24.11.32 Transponder Bot 270 Mode-C/Mode-S All-Call Pulse Position Test (+0.3 microsec)

This test verifies that the transponder generates Mode-S replies to Mode-C/Mode-S All-Call interrogations as the delay of the P4 pulse is varied.

Step 1. Initially configure the EIT station UUT Rx paths as follows:

Antenna Port	Frequency	RF Level
Top 0	**-**	**-**
Top 90	**-**	**-**
Top 180	**-**	**-**
Top 270	**-**	**-**
Bot 0	**-**	**-**
Bot 90	**-**	**-**
Bot 180	**-**	**-**
Bot 270	**1030.0 ± 0.1 MHz**	**-76 dBm**

Step 2. Configure the EIT station to transmit 100 Mode-C/Mode-A All-Call interrogations per second in a continuous loop.

Configure the Virtex card as follows:

P1 Pulse: ON, pulsewidth = 0.8 microseconds
P2 Pulse: OFF
P3 Pulse: ON, pulsewidth = 0.8 microseconds
P4 Pulse: ON, pulsewidth = 1.6 microseconds, position delta +0.3 microseconds

Configure the EIT station such that the amplitude of the P4 pulse is equal to the P3 pulse.

Step 3. Setup the UUT for transponder reply processing by sending the HTS command: "***EITST P1 7 1 1 0***"

This will configure the UUT to process ATCRBS and Mode-S interrogations and reply upon receipt of a valid.

Step 4. Read the Virtex card and verify the UUT replies as specified:

Mode-S replies	**=<10**

APPENDIX A – T3CAS SOFTWARE/FIRMWARE LOADING PROCEDURE

A.1 INTRODUCTION

The T3CAS Processor Companion FPGA and each Processor 1, Processor 2 and Processor 3 FLASH memory must be Configured/Programmed with several baseline operational images before application software can be installed and executed on the T3CAS LRU.

The following procedures provide instructions to configure the Processor Companion FPGA operational firmware and program each processor FLASH memory images via the T3CAS CPA CCA Multi-Core, Single Scan Chain using a T3CAS CPA CCA Test fixture, JTAG download cable and In-Circuit Emulator.

Refer to Appendix A of the Acceptance Test Procedure for T3CAS (8007548-001) to obtain the T3CAS Initial Configuration Test Software and HTS Image(s) that are to be loaded onto the T3CAS CPA CCA prior to operation on the End Item Test Station. Since a JTAG download cable and emulator will be used, the image media will reside on a Compact Disc (CD).

A.2 EQUIPMENT

- T3CAS CPA CCA Test Fixture, ACSS Part No. 9003090-001.
- Xilinx Platform Cable USB II, Xilinx Part No. HW-USB-II-G.
- Wind Power ICE Emulator, Wind River Part No. HDW-101673-01-00.

Note: Instructions for installation and setup of the Wind River Emulator are located in document 8007550-001.

A.3 PC FPGA Firmware Configuration

Step 1. Ensure that Power is “OFF” on the CPA CCA Test Fixture.

Step 2. Insert the T3CAS Processor CCA to be programmed into the T3CAS CPA CCA Test Fixture.

Step 3. Install jumper across Pin 1 and Pin 2 on CPA CCA connector J9.

Step 4. Using the Xilinx Platform Cable USB II that is attached to the T3CAS CPA CCA Test Fixture PC, connect the JTAG ribbon cable connector to the CPA JTAG/Emulator Adapter CCA connector J3.

Step 5. Connect the JTAG/Emulator Adapter / Xilinx Platform Cable Assembly to T3CAS CCA connector J8.

Step 6. Apply Power to the T3CAS CPA CCA Test Fixture.

Step 7. The Status light on the front of the Xilinx Platform Cable USB II pod will turn Green when the pod is properly powered and ready for operation.

Step 8. Insert the T3CAS Initial Configuration Test Software Media CD referred to in Appendix A of T3CAS ATP document 8007548-001 into the CD ROM drive of the T3CAS CPA CCA Test Fixture PC.

Step 9. Create a directory named ‘9005100_002’ on the Local Disk of the T3CAS CPA CCA Test Fixture PC. If the directory already exists, go to Step 10.

Step 10. Copy the following files:

- 9005100_pgm.ipf
- 9005100_002.bit
- MPC8245BSDL2.bsd
- xc3s5000_fg900.bsd
- xc3s400an_fg400.bsd

From the T3CAS Initial Configuration Test Software Media CD installed in the PC CD ROM drive to the '9005100_002' Local Disk directory that was created in the previous step. If the files already are located in the directory, go to Step 11.

Step 11. Open the Xilinx iMPACT Tool using the icon on the desktop of the T3CAS CPA CCA Test Fixture PC.

Step 12. The iMPACT project window will appear; use this window to browse to the T3CAS CPA CCA Test Fixture PC local '9005100_002' directory, select project file "9005100_pgm.ipf" and then click "Open".

Step 13. Click "OK" to load the project file and display the T3CAS CPA CCA JTAG Scan Chain definition diagram.

Step 14. Right click on the "XC3S400AN" device in the Scan Chain diagram and select the "Assign New Configuration File" option.

Step 15. When the Assign New Configuration File menu appears, browse to the T3CAS CPA CCA Test Fixture PC local '9005100_002' directory, select bit file "9005100_002.bit" then click "Open".

Step 16. Right click a second time on the "XC3S400AN" device in the Scan Chain diagram and select the "Program Flash and Load FPGA" option.

Step 17. Once the Device Program Properties window appears, select "OK" to start the programming process.

Step 18. The Progress Dialog window appears, wait until the Progress Counter reaches 100% and the 'Program Succeeded' message appears.

Step 19. Right click a third time on the "XC3S400AN" device in the Scan Chain diagram and select the "Get Device Checksum" option.

Step 20. The Progress Dialog window appears, wait until the Progress Counter reaches 100% and the 'Checksum Succeeded' message appears.

Step 21. Read the calculated Checksum value in the Output window and verify that it matches the PC FPGA Checksum listed in Appendix A of the T3CAS ATP document 8007548-001.

Step 22. Close the Xilinx iMPACT tool.

Step 23. Remove Power from the T3CAS CPA CCA Test Fixture.

Step 24. Disconnect the Xilinx Platform Cable USB II ribbon cable connector from the CPA JTAG/Emulator Adapter CCA connector J3.

Step 25. Go to Section A.4, Processor 1 Emulator Initialization and Flash programming.

A.4 Processor 1 Emulator Initialization and Flash Programming

Step 1. Connect the emulator cable (the dual in-line connector cable labeled with PowerPC JTAG) to the T3CAS CPA JTAG/Emulator Adapter CCA connector J3, and then connect the JTAG/Emulator Adapter / Emulator cable assembly to T3CAS CPA CCA connector J8.

Step 2. Apply Power to the emulator (switch is on the rear). There should be a green light (power) on the front of the emulator box when the emulator is ready.

Step 3. Apply power to the T3CAS CPA CCA Test Fixture.

Step 4. Invoke VisionClick (7.11) from the start menu or desktop shortcut to open an emulator connection to Processor 1.

Step 5. Close the "Welcome To VisionClick" window.

Step 6. Click on the "Open Download/Project Dialog" menu bar button (yellow folder at far left). This will bring up the "PROJECTS/LOAD" Dialog window.

Step 7. In the "PROJECTS/Dialog" window, select the "T3CAS_CPA_P1.prj" project.

Step 8. In the "PROJECTS/Dialog" window, click on the "Activate" menu button on the bottom. This should cause the "Active Project" text for the project that you selected to turn **red**.

Step 9. In the "PROJECTS/Dialog" window, click on the "OK" button to close the PROJECTS/LOAD" Dialog window.

Step 10. Click on the "Reset Target and Emulator" menu bar button (blue crooked arrow to the right of the button that looks like a stop sign).

Step 11. Type the emulator command "rst" at the "BKM" prompt of the Processor 1 "Terminal" window, and then select the keyboard Enter key. At this point you should have a "BKM" prompt in the "Terminal" window and there should be a checkmark by the PCI register group within the "Registers" window.

Step 12. Click on the "Open Flash Programming Window" menu bar button (black and blue flash chip at the middle of the menu bar). This will bring up the TF FLASH PROGRAMMING window.

Step 13. Set the “Programming Algorithm” in the TF FLASH PROGRAMMING window to AMD 29LV128MH&L (8192 x 16) 4 DEVICES if it is not already set to this algorithm and ensure that the Initialize Target Prior to Erase and/or Program box is checked.

Step 14. Use the following information to program each Processor 1 Flash Image:

Processor 1 Images	Base Address	Erase to Address	Bias
P1 Boot Software	0x7FF00000	0x7FF7FFFF	0x00000000
P1 Data Loader (Copy 1)	0x7F500000	0x7F9FFFFF	0x00000000
P1 Data Loader (Copy 2)	0x7FA00000	0x7FEFFFFF	0x00500000
IOC FPGA (Copy 1)	0x7F100000	0x7F2FFFFF	0x00000000
IOC FPGA (Copy 2)	0x7F300000	0x7F4FFFFF	0x00200000
TCAS FPGA	0x7EA00000	0x7EBFFFFF	0x00000000
XPDR FPGA	0x7EC00000	0x7EDFFFFF	0x00000000
TX FPGA	0x7EE00000	0x7EFFFFFF	0x00000000
Hardware Information Table	0x7FF80000	0x7FF8FFFF	0x00000000
P1 HTS	0x7E000000	0x7E1FFFFF	0x00000000

a) Under the “File Name and Path” area in the TF FLASH PROGRAMMING window, click on the Select button and browse to the PC CD ROM drive and select the image file to be programmed and enter the corresponding Bias address information then select ‘OK’.

b) Under the “Device or Sector Base and End Address” area in the TF FLASH PROGRAMMING window, enter the Base Address and Erase to Address information for the image file to be programmed.

Step 15. Click on the ‘Erase and Program’ button at the bottom of the TF FLASH PROGRAMMING window. A status window will appear showing the status of the programming. When it reaches 100%, click on the ‘OK’ button.

Step 16. Repeat Steps 14 and 15 until all Processor 1 Flash Image files have been programmed.

Step 17. Click on the ‘OK’ button in the TF FLASH PROGRAMMING window.

Step 18. Type the emulator command "rst" at the "BKM" prompt of the Processor 1 "Terminal" window, and then select the keyboard Enter key.

Step 19. Go to Section A.5, Processor 2 Emulator Initialization and Flash Programming.

A.5 Processor 2 Emulator Initialization and Flash Programming

Step 1. Invoke VisionClick (7.11) from the start menu or desktop shortcut to open an emulator connection to Processor 2.

Step 2. Close the "Welcome To VisionClick" window.

Step 3. Click on the "Open Download/Project Dialog" menu bar button (yellow folder at far left). This will bring up the "PROJECTS/LOAD" Dialog window.

Step 4. In the "PROJECTS/Dialog" window, select the "T3CAS_CPA_P2.prj" project.

Step 5. In the "PROJECTS/Dialog" window, click on the "Activate" menu button on the bottom. This should cause the "Active Project" text for the project that you selected to turn **red**.

Note: If the VisionClick software displays an Error Window stating that it can not open a network connection, ignore the message and click “OK” and proceed with the next step.

Step 6. In the "PROJECTS/Dialog" window, click on the "OK" button to close the “PROJECTS/LOAD" Dialog window.

Step 7. Click on the "Reset Target and Emulator" menu bar button (blue crooked arrow to the right of the button that looks like a stop sign).

Step 8. Type the emulator command "rst" at the "BKM" prompt of the Processor 2 "Terminal" window, and then select the keyboard Enter key. At this point you should have a "BKM" prompt in the "Terminal" window and there should be a checkmark by the PCI register group within the "Registers" window.

Step 9. Click on the "Open Flash Programming Window" menu bar button (black and blue flash chip at the middle of the menu bar). This will bring up the TF FLASH PROGRAMMING window.

Step 10. Set the “Programming Algorithm” in the TF FLASH PROGRAMMING window to AMD 29LV128MH&L (8192 x 16) 4 DEVICES if it is not already set to this algorithm and ensure that the Initialize Target Prior to Erase and/or Program box is checked.

Step 11. Use the following information to program each Processor 2 Flash Image:

Processor 2 Images	Base Address	Erase to Address	Bias
P2 Boot Software	0x7FF00000	0x7FF7FFFF	0x00000000
P2 Data Loader (Copy 1)	0x7F500000	0x7F9FFFFF	0x00000000
P2 Data Loader (Copy 2)	0x7FA00000	0x7FEFFFFF	0x00500000
P2 HTS	0x7E000000	0x7E1FFFFF	0x00000000

a) Under the “File Name and Path” area in the TF FLASH PROGRAMMING window, click on the Select button and browse to the PC CD ROM drive and select the image file to be programmed and enter the corresponding Bias address information then select ‘OK’.

b) Under the “Device or Sector Base and End Address” area in the TF FLASH PROGRAMMING window, enter the Base Address and Erase to Address information for the image file to be programmed.

Step 12. Click on the ‘Erase and Program’ button at the bottom of the TF FLASH PROGRAMMING window. A status window will appear showing the status of the programming. When it reaches 100%, click on the ‘OK’ button.

Step 13. Repeat Steps 11 and 12 until all Processor 2 Flash Image files have been programmed.

Step 14. Click on the ‘OK’ button in the TF FLASH PROGRAMMING window.

Step 15. Type the emulator command "rst" at the "BKM" prompt of the Processor 2 "Terminal" window, and then select the keyboard Enter key.

Step 16. Go to Section A.6, Processor 3 Emulator Initialization and Flash Programming.

A.6 Processor 3 Emulator Initialization and Flash Programming

Step 1. Invoke VisionClick (7.11) from the start menu or desktop shortcut to open an emulator connection to Processor 3.

Step 2. Close the "Welcome To VisionClick" window.

Step 3. Click on the "Open Download/Project Dialog" menu bar button (yellow folder at far left). This will bring up the "PROJECTS/LOAD" Dialog window.

Step 4. In the "PROJECTS/Dialog" window, select the "T3CAS_CPA_P3.prj" project.

Step 5. In the "PROJECTS/Dialog" window, click on the "Activate" menu button on the bottom. This should cause the "Active Project" text for the project that you selected to turn **red**.

Note: If the VisionClick software displays an Error Window stating that it can not open a network connection, ignore the message and click “OK” and proceed with the next step.

Step 6. In the "PROJECTS/Dialog" window, click on the "OK" button to close the “PROJECTS/LOAD" Dialog window.

Step 7. Click on the "Reset Target and Emulator" menu bar button (blue crooked arrow to the right of the button that looks like a stop sign).

Step 8. Type the emulator command "rst" at the "BKM" prompt of the Processor 3 "Terminal" window, and then select the keyboard Enter key. At this point you

should have a "BKM" prompt in the "Terminal" window and there should be a checkmark by the PCI register group within the "Registers" window.

Step 9. Click on the "Open Flash Programming Window" menu bar button (black and blue flash chip at the middle of the menu bar). This will bring up the TF FLASH PROGRAMMING window.

Step 10. Set the “Programming Algorithm” in the TF FLASH PROGRAMMING window to AMD 29LV128MH&L (8192 x 16) 4 DEVICES if it is not already set to this algorithm and ensure that the Initialize Target Prior to Erase and/or Program box is checked.

Step 11. Use the following information to program each Processor 3 Flash Image:

Processor 3 Images	Base Address	Erase to Address	Bias
P3 Boot Software	0x7FF00000	0x7FF7FFFF	0x00000000
P3 Data Loader (Copy 1)	0x7F500000	0x7F9FFFFF	0x00000000
P3 Data Loader (Copy 2)	0x7FA00000	0x7FEFFFFF	0x00500000
P3 HTS	0x7E000000	0x7E1FFFFF	0x00000000

a) Under the “File Name and Path” area in the TF FLASH PROGRAMMING window, click on the Select button and browse to the PC CD ROM drive and select the image file to be programmed and enter the corresponding Bias address information then select ‘OK’.

b) Under the “Device or Sector Base and End Address” area in the TF FLASH PROGRAMMING window, enter the Base Address and Erase to Address information for the image file to be programmed.

Step 12. Click on the ‘Erase and Program’ button at the bottom of the TF FLASH PROGRAMMING window. A status window will appear showing the status of the programming. When it reaches 100%, click on the ‘OK’ button.

Step 13. Repeat Steps 11 and 12 until all Processor 3 Flash Image files have been programmed.

Step 14. Click on the ‘OK’ button in the TF FLASH PROGRAMMING window.

Step 15. Type the emulator command "rst" at the "BKM" prompt of the Processor 3 "Terminal" window, and then select the keyboard Enter key.

Step 16. Remove Power from the T3CAS CPA CCA Test Fixture.

Step 17. Disconnect the JTAG/Emulator Adapter / Emulator cable assembly from T3CAS CCA connector J8.

Step 18. Remove the jumper installed across Pin 1 and Pin 2 on CPA CCA connector J9.

Step 19. Remove the fully programmed T3CAS Processor CCA from the T3CAS CPA CCA Test Fixture.

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