



TEST REPORT

Test Report No. : UL-RPT-RP11909763-1316A V3.0

Customer : Siemens AG
Model No. : MPCIE-R1-ABGNAC-U4
FCC ID : LYHRAPACV1
Technology : WLAN
Test Standard(s) : FCC Part 15.407(h)(2)

1. This test report shall not be reproduced except in full, without the written approval of UL VS LTD.
2. The results in this report apply only to the sample(s) tested.
3. The sample tested is in compliance with the above standard(s).
4. The test results in this report are traceable to the national or international standards.
5. Version 3.0 supersedes all previous versions.

Date of Issue: 25 March 2020

Checked by:

Ben Mercer
Senior Test Engineer, Radio Laboratory

Company Signatory:

Sarah Williams
Senior Test Engineer, Radio Laboratory
UL VS LTD



This laboratory is accredited by UKAS.
The tests reported herein have been
performed in accordance with its terms
of accreditation.

UL VS LTD

Unit 1-3 Horizon, Kingsland Business Park, Wade Road, Basingstoke, Hampshire, RG24 8AH, UK
Telephone: +44 (0)1256 312000
Facsimile: +44 (0)1256 312001

This page has been left intentionally blank.

Table of Contents

1. Customer Information	4
2. Summary of Testing	5
2.1. General Information	5
2.2. Summary of Test Results	5
2.3. Methods and Procedures	6
2.4. Deviations from the Test Specification	6
3. Equipment Under Test (EUT)	7
3.1. Identification of Equipment Under Test (EUT)	7
3.2. Description of EUT	7
3.3. Modifications Incorporated in the EUT	7
3.4. Additional Information Related to Testing	8
3.5. Support Equipment	9
3.6. Antennas	10
4. Operation and Monitoring of the EUT during Testing	11
4.1. Operating Modes	11
4.2. Configuration and Peripherals	12
5. Measurements, Examinations and Derived Results	13
5.1. General Comments	13
5.2. Test Results	14
5.2.1. U-NII Detection Bandwidth	14
5.2.2. Initial Channel Availability Check Time	17
5.2.3. Radar Burst at the Beginning of the Channel Availability Check Time	19
5.2.4. Radar Burst at the End of the Channel Availability Check Time	21
5.2.5. Channel Closing Transmission Time and Channel Move Time	23
5.2.6. Non-occupancy Period	25
5.2.7. Statistical Performance Check – Short Pulse Radar Types 1 - 4	27
5.2.8. Statistical Performance Check – Long Pulse Radar Type 5	41
5.2.9. Statistical Performance Check – Frequency Hopping Radar Type 6	46
6. Measurement Uncertainty	49
7. Report Revision History	50
Appendix 1. Test Equipment Used	51
Appendix 2. Test Set-Up	52
Appendix 3. Radar Calibration and Verification Data	53
Appendix 4. Statistical Performance Check– Radar Type 1 Trial Records	59
Appendix 5. Statistical Performance Check– Radar Type 2 Trial Records	62
Appendix 6. Statistical Performance Check– Radar Type 3 Trial Records	65
Appendix 7. Statistical Performance Check– Radar Type 4 Trial Records	68
Appendix 8. Statistical Performance Check– Radar Type 5 Trial Records	71
Appendix 9. Channel Loading	128
Appendix 10. Noise Floor Plots	130

1. Customer Information












Company Name:	Siemens AG
Address:	Östliche Rheinbrückenstr. 50, 76187 Karlsruhe, Germany

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR15.407
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart E (Unlicensed National Information Infrastructure Devices) - Section 15.407
Site Registration:	621311
Location of Testing:	UL VS LTD, Unit 3 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire, RG24 8AH, United Kingdom
Test Dates:	15 August 2019 to 22 August 2019

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 15.407(h)(2)	U-NII Detection Bandwidth	
Part 15.407(h)(2)(ii)	Initial Channel Availability Check Time	
Part 15.407(h)(2)(ii)	Radar Burst at the Beginning of the Channel Availability Check Time	
Part 15.407(h)(2)(ii)	Radar Burst at the End of the Channel Availability Check Time	
Part 15.407(h)(2)(iii)	Channel Closing Transmission Time and Channel Move Time	
Part 15.407(h)(2)(iv)	Non-occupancy Period	
Part 15.407(h)(2)	Statistical Performance Check – Short Pulse Radar Types 1-4	
Part 15.407(h)(2)	Statistical Performance Check – Long Pulse Radar Type 5	
Part 15.407(h)(2)	Statistical Performance Check – Frequency Hopping Radar Type 6	
Key to Results		
 = Complied  = Did not comply		

Note(s):

1. The EUT operates in the 5250-5350 MHz and 5470-5725 MHz. Tests were performed with the EUT operating on representative channels in the 5470-5725 MHz band.
2. The manufacturer confirms that information regarding the parameters of the radar waveforms is not available to, or configurable by the end user.
3. Testing was performed using the lowest declared antenna gain of 0.0 dBi.

2.3. Methods and Procedures

Reference:	KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02, April 08 2016
Title:	Compliance Measurement Procedures for Unlicensed-National Information Infrastructure Devices Operating in the 5250-5350 MHz and 5470-5725 MHz Bands Incorporating Dynamic Frequency Selection
Reference:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 December 14, 2017
Title:	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices (Part 15, Subpart E)

2.4. Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations or exclusions from the test specification identified above.

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT)

Brand Name:	SIEMENS
Model Name or Number:	MPCIE-R1-ABGNAC-U4
Test Sample Serial Number:	VPDO143428
Hardware Version:	1
Software Version:	V02.00.00
FCC ID:	LYHRAPACV1

3.2. Description of EUT

The equipment under test was a 4x4 MIMO radio module supporting WLAN 2.4 GHz and WLAN 5 GHz technologies. The EUT operates as a master device only. The EUT implements manual TPC - the output power is set during professional installation according to link budget and interference assessment for the complete wireless system.

3.3. Modifications Incorporated in the EUT

No modifications were made to the EUT during testing.

3.4. Additional Information Related to Testing

Technology Tested:	WLAN (IEEE 802.11a,n,ac) / U-NII	
Type of Unit:	Transceiver	
Modulation Type:	BPSK, QPSK, 16QAM, 64QAM, 256QAM	
Data rates:	802.11a	6, 9, 12, 18, 24, 36, 48 & 54 Mbps (SISO, or MIMO with CDD)
	802.11n HT20	MCS0 to MCS7 (≤ 4 spatial stream), (SISO, or MIMO with CDD)
	802.11n HT40	MCS0 to MCS7 (≤ 4 spatial stream), (SISO, or MIMO with CDD)
	802.11ac VHT20	MCS0 to MCS8 (≤ 4 spatial streams) (SISO, or MIMO with CDD)
	802.11ac VHT40	MCS0 to MCS9 (≤ 4 spatial streams) (SISO, or MIMO with CDD)
	802.11ac VHT80	MCS0 to MCS9 (≤ 4 spatial streams) (SISO, or MIMO with CDD)
Power Supply Requirement:	Nominal	24.0 VDC (PCB) 3.3 VDC & 5.0 VDC (Module)
Start Up Time:	27.3 s	
Transmit & Receive Frequency Range:	5250 MHz to 5350 MHz and 5470 MHz to 5725 MHz	
Channel Spacing:	20 MHz	
Transmit Channel Tested:	Channel Number	Channel Frequency (MHz)
	100	5500
Channel Spacing:	40 MHz	
Transmit Channel Tested:	Channel Number	Channel Frequency (MHz)
	102	5510
Channel Spacing:	80 MHz	
Transmit Channel Tested:	Channel Number	Channel Frequency (MHz)
	106	5530
Maximum EIRP:	27.2 dBm	
Minimum EIRP:	2.5 dBm	

3.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description:	Wireless Router (configured as Client device)
Brand Name:	SIEMENS
Model Name or Number:	MPCIE-R1-ABGNAC-U4
Serial Number:	VP17880421
FCC ID:	LYHRAPACV1

Description:	USB Debug Adapter
Brand Name:	SIEMENS
Model Name or Number:	Debug Box CPL
Serial Number:	N/A

Description:	Laptop PC
Brand Name:	Lenovo
Model Name or Number:	Thinkpad L470
Serial Number:	PF10T3JS

Description:	Laptop PC
Brand Name:	Lenovo
Model Name or Number:	Thinkpad L440
Serial Number:	R9-019EA0

Description:	Laptop PC
Brand Name:	Lenovo
Model Name or Number:	Thinkpad L480
Serial Number:	PF1EHZPL

3.6. Antennas

The table below lists the external antennas that the manufacturer intends to use with the EUT. The antenna gains were stated by Siemens AG.

Radiation Pattern	Antenna Type	Model Number	Gain @ 2.4 GHz (dBi)	Gain @ 5 GHz (dBi)	Cable Loss (dB)	Effective Gain (dBi)
Directional	Patch	ANT792-8DN	14	-	-	-
Directional	Patch	ANT793-8DK	-	23	8.8	14.2
Directional	Patch	ANT793-8DJ	-	18	4.4	13.6
Directional	Patch	ANT793-8DP	-	13.5	-	-
Sector	Patch	ANT795-6DC	9	9	-	-
Omni	Dipole	ANT792-6MN	6	-	-	-
Sector	Patch	ANT793-6DG	-	9	-	-
Omni	Dipole	ANT795-6MN	6	8	-	-
Omni	Dipole	ANT795-6MP	5	7	-	-
Omni	Dipole	ANT795-6MT	4	6	-	-
Omni	Dipole	ANT795-4MA	3	5	-	-
Omni	Dipole	ANT795-4MC	3	5	-	-
Omni	Dipole	ANT795-4MD	3	5	-	-
Omni	Dipole	ANT795-4MB	2	3	-	-
Omni	Dipole	ANT795-4MX	2	2.5	-	-

Note: ANT793-8DK and ANT793-8DJ require 10 m and 5 m connection cables respectively.

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

The EUT was tested in the following operating modes, unless otherwise stated:

- As a Master device, transmitting at maximum power. (The highest setting of 23 dBm was selected in the browser interface).
- For U-NII Detection Bandwidth and Statistical Performance Check tests, the EUT was set to a DFS test mode via a service login. In this mode it did not perform the channel move and blacklisting of the channel when detecting a radar. Instead, the EUT displayed radar detections in the terminal window and continued the current operation.
- For all other DFS tests, the EUT was configured in the standard end-user mode via the browser interface with no test modes enabled.

4.2. Configuration and Peripherals

The EUT was tested in the following configuration(s):

- All measurements were made using a conducted configuration.
- A laptop PC was used to configure the EUT parameters during the testing using a web browser interface or via a terminal application. The laptop was connected to the EUT via Ethernet and serial connections to set EUT parameters.
- The EUT's serial interface was used to report radar detection events.
- Further details of the conducted test network and set-up can be found in Appendix 2 of this test report.
- The EUT had 4 antenna ports on each radio module. These were connected to the test network via a 4-way splitter/combiner. Due to subtle differences in path loss from the splitter/combiner, the radar level was calibrated at the EUT antenna ports via the path with least loss, so the EUT would be tested in the worst-case scenario (other ports ≤ 0.2 dB below the required detection threshold).
- At the time of test, the EUT had a lowest declared antenna gain of 0.0 dBi The radar level to be presented at the antenna ports was calculated as:
 - $-64 \text{ dBm} + 0 \text{ dBi antenna gain} + 1 \text{ dB to account for variations} = -63 \text{ dBm radar level at antenna ports.}$

The list of supported antennas was revised after testing, with a lowest declared antenna gain of 2.5 dBi at 5 GHz. The use of 0 dBi in the above calculation results in a lower detection threshold, and is therefore worst case.

- UDP test data was streamed from the Master to the Client device using iPerf bandwidth testing tool. This was set to 12 Mbit/s for 20 MHz, 15 Mbit/s for 40 MHz and, 25 Mbit/s for 80 MHz channels respectively. The channel loading was measured as 19.4% for 20 MHz, 19.6% for 40 MHz and 18.8% for 80 MHz, therefore meeting the channel loading requirement of >17% in KDB 905462 D02 Section 7.7(c).
- Testing was performed on one radio module only (radio 1) since both radios in the EUT were declared by the customer to be identical.
- The EUT was powered via a 24 VDC bench power supply for all measurements

KDB 905462 D02 Table 3: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. Note 3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

5. Measurements, Examinations and Derived Results

5.1. General Comments

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to *Section 6 Measurement Uncertainty* for details.

In accordance with UKAS requirements all the measurement equipment is on a calibration schedule. All equipment was within the calibration period on the date of testing.

5.2. Test Results

5.2.1. U-NII Detection Bandwidth

Test Summary:

Test Engineer:	Matthew Botfield	Test Date:	16 August 2019
Test Sample Serial Number:	VPDO143428		

FCC Reference:	Part 15.407(h)(2)
Test Method Used:	KDB 905462 D02 Section 7.8.1 and Notes below

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	60

Notes:

1. In accordance with KDB 905462 D02 Table 2, the U-NII Detection Bandwidth test was performed on all supported channel bandwidths.
2. The 99% bandwidth was measured in accordance with FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, Section II D.
3. Tests were performed using a type 0 radar (as stated in KDB 905462 D02 Table 4, Note 3) and the radar detection threshold used was as calculated in Section 4.2 of this test report.
4. KDB 905462 D02 Section 7.8.1 requests testing detection bandwidth at 1 MHz steps near the channel edges until the entire 99% bandwidth is covered. However, smaller steps were used at the channel edges for greater accuracy.

U-NII Detection Bandwidth (continued)**Results: 20 MHz Master**

Channel Bandwidth (MHz)	99% Bandwidth (MHz)	U-NII Detection Bandwidth $F_H - F_L$ (MHz)	Result
20	18.524	≥ 19	Complied

Measurement Offsets from centre frequency (MHz)	Detection attempts successful from 10 attempts at each frequency	Detection Rate (%)
-9.5 (F_L)	10	100
-5	10	100
0 (5500 MHz)	10	100
+5	10	100
+9.5 (F_H)	10	100

The EUT exceeded the requirement of $\geq 90\%$ detection probability over 100% of the measured 99% bandwidth.

Results: 40 MHz Master

Channel Bandwidth (MHz)	99% Bandwidth (MHz)	U-NII Detection Bandwidth $F_H - F_L$ (MHz)	Result
40	37.858	≥ 40	Complied

Measurement Offsets from centre frequency (MHz)	Detection attempts successful from 10 attempts at each frequency	Detection Rate (%)
-20 (F_L)	9	90
-15	10	100
-10	10	100
-5	9	90
0 (5510 MHz)	10	100
+5	10	100
+10	10	100
+15	10	100
+20 (F_H)	10	100

The EUT exceeded the requirement of $\geq 90\%$ detection probability over 100% of the measured 99% bandwidth.

U-NII Detection Bandwidth (continued)**Results: 80 MHz Master**

Channel Bandwidth (MHz)	99% Bandwidth (MHz)	U-NII Detection Bandwidth $F_H - F_L$ (MHz)	Result
80	77.106	≥80	Complied

Measurement Offsets from centre frequency (MHz)	Detection attempts successful from 10 attempts at each frequency	Detection Rate (%)
-40 (F _L)	10	100
-35	10	100
-30	10	100
-25	10	100
-20	10	100
-15	10	100
-10	10	100
-5	10	100
0 (5530 MHz)	10	100
+5	10	100
+10	10	100
+15	10	100
+20	10	100
+25	10	100
+30	10	100
+35	10	100
+40 (F _H)	10	100

The EUT exceeded the requirement of ≥90% detection probability over 100% of the measured 99% bandwidth.

Limits:**Part 15.407(h)(2)**

The device must sense for radar signals at 100 percent of its emission bandwidth.

KDB 905462 D02 Table 4: DFS Response Requirement Values

Parameter	Value
<i>U-NII Detection Bandwidth</i>	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.
Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

5.2.2. Initial Channel Availability Check Time**Test Summary:**

Test Engineer:	Matthew Botfield	Test Date:	20 August 2019
Test Sample Serial Number:	VPDO143428		

FCC Reference:	Part 15.407(h)(2)(ii)
Test Method Used:	KDB 905462 D02 Section 7.8.2.1 and Notes below

Environmental Conditions:

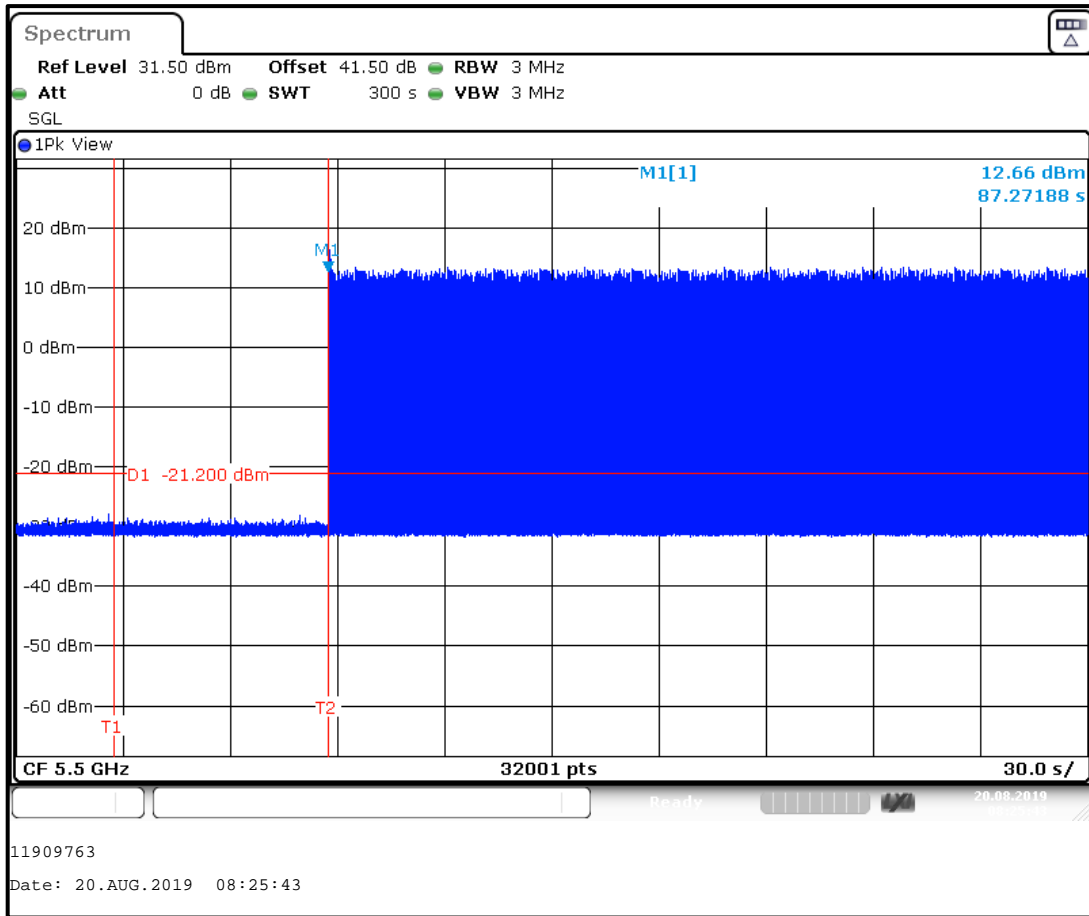
Temperature (°C):	22
Relative Humidity (%):	57

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Initial Channel Availability Check test can be performed on any single bandwidth. It was therefore tested only on an 80 MHz channel bandwidth.
2. The EUT Master device was powered on at the same time as the sweep was triggered. 30,001 sweep points were used on the spectrum analyser. The measurement was performed with the spectrum analyser in zero span and the 30,001 data points exported as an ASCII file. The ASCII file was then imported and analysed in Microsoft Excel.
3. No beacon or data transmission was seen from the Master during channel availability check time. The Master did not transmit for 60 seconds. The EUT therefore complies, as shown by the results plot on the following page.
4. The noise floor remained below the -21.2 dBm/MHz (74 dBµV/m at 3m) unintentional radiator limit. This was measured worst-case with a peak detector and 3 MHz RBW in accordance with KDB 905462 D02 Section 7.8.2.1(a).
5. The EUT start up time was measured to be 27.3 seconds.

Initial Channel Availability Check Time (continued)

Results: 80 MHz Master



Limits:

Part 15.407(h)(2)(ii)

A U-NII device shall check if there is a radar system already operating on the channel before it can initiate a transmission on a channel and when it has to move to a new channel. The U-NII device may start using the channel if no radar signal with a power level greater than the interference threshold values listed in paragraph (h)(2) of this part, is detected within 60 seconds.

KDB 905462 D02 Table 4: DFS Response Requirement Values

Parameter	Value
Channel Availability Check Time	60 seconds

5.2.3. Radar Burst at the Beginning of the Channel Availability Check Time**Test Summary:**

Test Engineer:	Matthew Botfield	Test Date:	20 August 2019
Test Sample Serial Number:	VPDO143428		

FCC Reference:	Part 15.407(h)(2)(ii)
Test Method Used:	KDB 905462 D02 Section 7.8.2.2

Environmental Conditions:

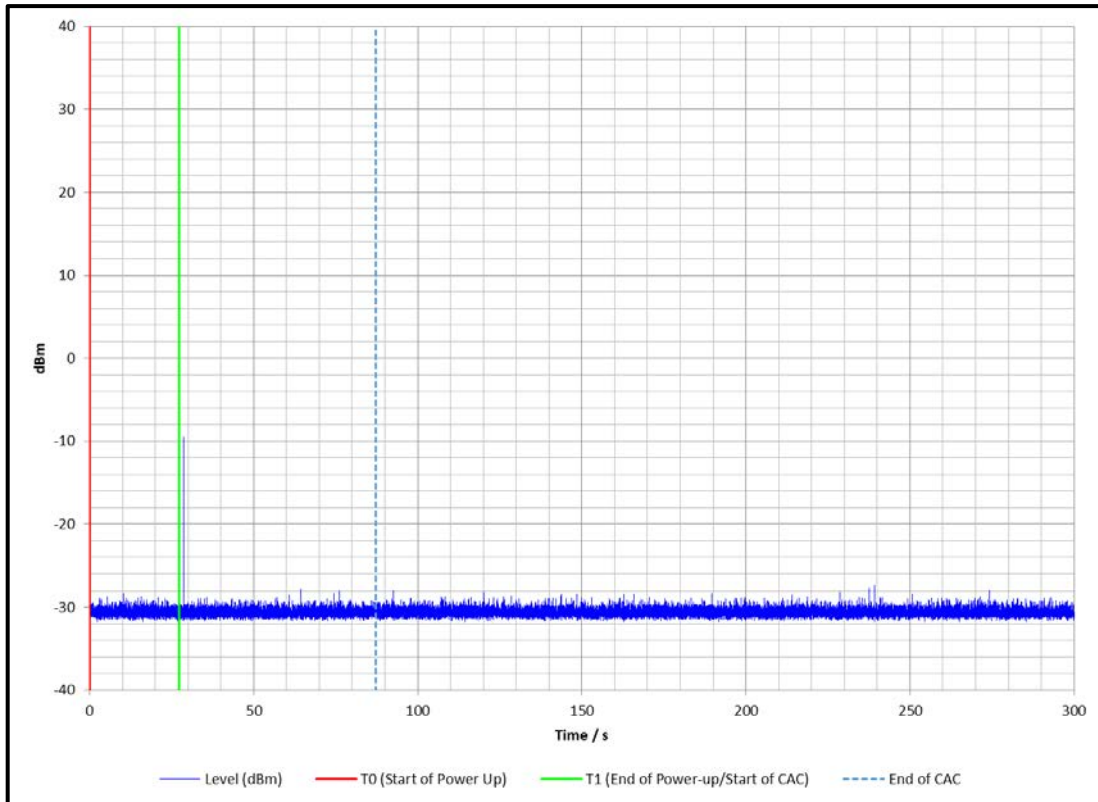
Temperature (°C):	22
Relative Humidity (%):	57

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Initial Channel Availability Check test was performed on any single bandwidth. It was therefore tested only on an 80 MHz channel bandwidth.
2. The radar was fired 28.7 seconds after power on, and therefore 1.4 seconds into the allowed 6 second radar window at the beginning of CAC.
3. Observation of Ch_r continued for >2.5 minutes after the radar burst was generated.
4. Tests were performed using a type 0 radar and the radar detection threshold used was as calculated in Section 4.2 of this test report.
5. The radar burst type 0, shown occurring just after the T1 line on the plot on the following page, was detected and no beacon or data transmission seen from the EUT after the end of CAC. Therefore the CAC starts at the time declared and, in conjunction with the *Radar Burst at the End of the Channel Availability Check Time* test, shows the CAC duration is greater or equal to the 60 second minimum.
6. All emissions remained below the -21.2 dBm/MHz (74 dBμV/m at 3m) unintentional radiator limit. This was measured worst-case with a peak detector and 3 MHz RBW to give equivalent results to the Initial Channel Availability Check test method defined in KDB 905462 D02 Section 7.8.2.1(a). Measured results were recorded and the EUT complies.

Radar Burst at the Beginning of the Channel Availability Check Time (continued)

Results: 80 MHz Master



Plot showing the radar at the beginning of CAC

Limits:

Part 15.407(h)(2)(ii)

A U-NII device shall check if there is a radar system already operating on the channel before it can initiate a transmission on a channel and when it has to move to a new channel. The U-NII device may start using the channel if no radar signal with a power level greater than the interference threshold values listed in paragraph (h)(2) of this part, is detected within 60 seconds.

KDB 905462 D02 Table 4: DFS Response Requirement Values

Parameter	Value
<i>Channel Availability Check Time</i>	60 seconds

5.2.4. Radar Burst at the End of the Channel Availability Check Time**Test Summary:**

Test Engineer:	Matthew Botfield	Test Date:	20 August 2019
Test Sample Serial Number:	VPDO143428		

FCC Reference:	Part 15.407(h)(2)(ii)
Test Method Used:	KDB 905462 D02 Section 7.8.2.3

Environmental Conditions:

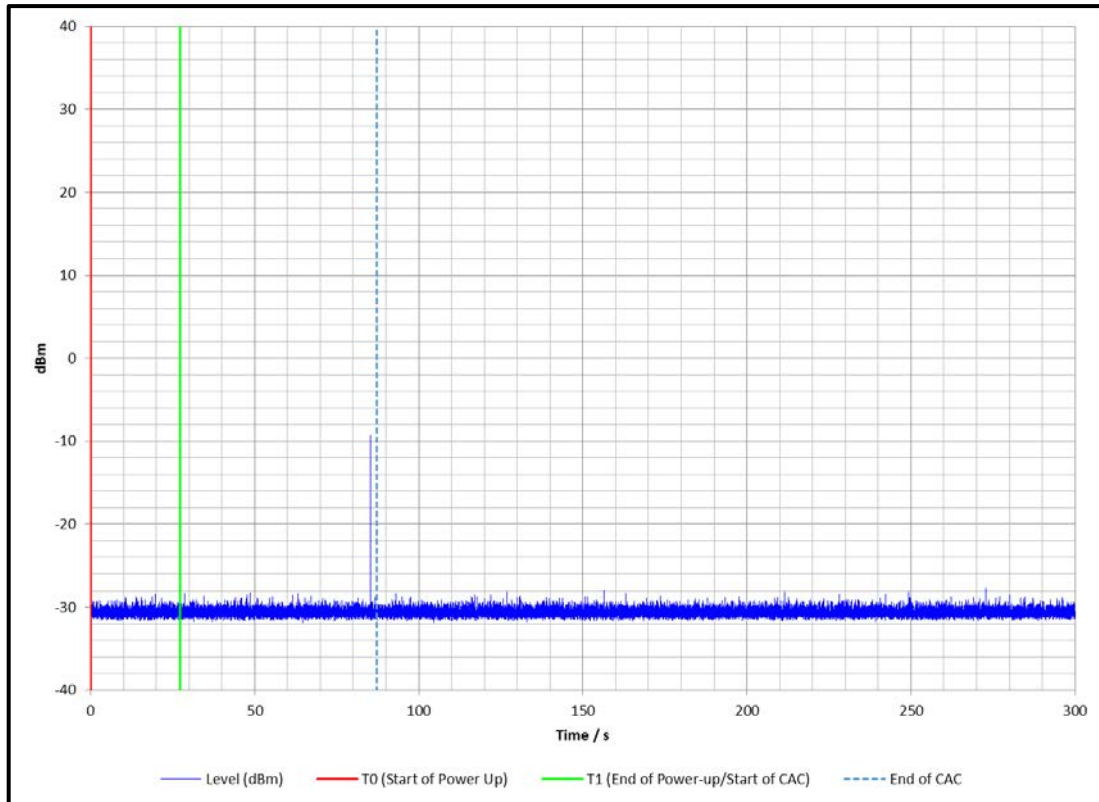
Temperature (°C):	22
Relative Humidity (%):	57

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Initial Channel Availability Check test was performed on any single bandwidth. It was therefore tested only on an 80 MHz channel bandwidth.
2. The radar was fired 85.4 seconds after power on, and therefore 1.9 seconds before the end of the allowed 6 second radar window at the end of CAC
3. Observation of Ch_r continued for >2.5 minutes after the radar burst was generated.
4. Tests were performed using a type 0 radar and the radar detection threshold was as calculated in Section 4.2 of this test report.
5. The radar burst type 0, shown occurring just before the End of CAC line on the plot on the following page, was detected and no beacon or data transmission seen from the EUT after the end of CAC. Therefore the CAC ends at the point declared and, in conjunction with the *Radar Burst at the Beginning of the Channel Availability Check Time* test, shows the CAC duration is greater than the 60 second minimum.
6. All emissions remained below the -21.2 dBm/MHz (74 dB μ V/m at 3m) unintentional radiator limit. This was measured worst-case with a peak detector and 3 MHz RBW to give equivalent results to the Initial Channel Availability Check test method defined in KDB 905462 D02 Section 7.8.2.1(a). Measured results were recorded and the EUT complies.

Radar Burst at the End of the Channel Availability Check Time (continued)

Results: 80 MHz Master



Plot showing the radar at the end of CAC

Limits:

Part 15.407(h)(2)(ii)

A U-NII device shall check if there is a radar system already operating on the channel before it can initiate a transmission on a channel and when it has to move to a new channel. The U-NII device may start using the channel if no radar signal with a power level greater than the interference threshold values listed in paragraph (h)(2) of this part, is detected within 60 seconds.

KDB 905462 D02 Table 4: DFS Response Requirement Values

Parameter	Value
Channel Availability Check Time	60 seconds

5.2.5. Channel Closing Transmission Time and Channel Move Time**Test Summary:**

Test Engineer:	Matthew Botfield	Test Date:	20 August 2019
Test Sample Serial Number:	VPDO143428		

FCC Reference:	Part 15.407(h)(2)(iii)
Test Method Used:	KDB 905462 D02 Section 7.8.3

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	57

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Initial Channel Availability Check test was performed on the widest channel bandwidth. It was therefore tested only on an 80 MHz channel bandwidth.
2. UDP test data was streamed from the Master to the Client device using iPerf2 bandwidth testing tool. The channel loading was 18.8% with a 25 Mbit/s data rate. This therefore met the channel loading requirement of >17% in KDB 905462 D02 Section 7.7(c).
3. Tests were performed using a type 0 radar and the radar detection threshold calculated in Section 4.2 of this test report.
4. The total channel closing time limit was 200 ms + 60 ms = 260 ms (from KDB 905462 D02 Table 4).
5. Radar burst type 0 was detected and channel move occurred within the channel move and channel closing time limits, therefore the EUT complied.

Results: 80 MHz Master - Channel Move Time

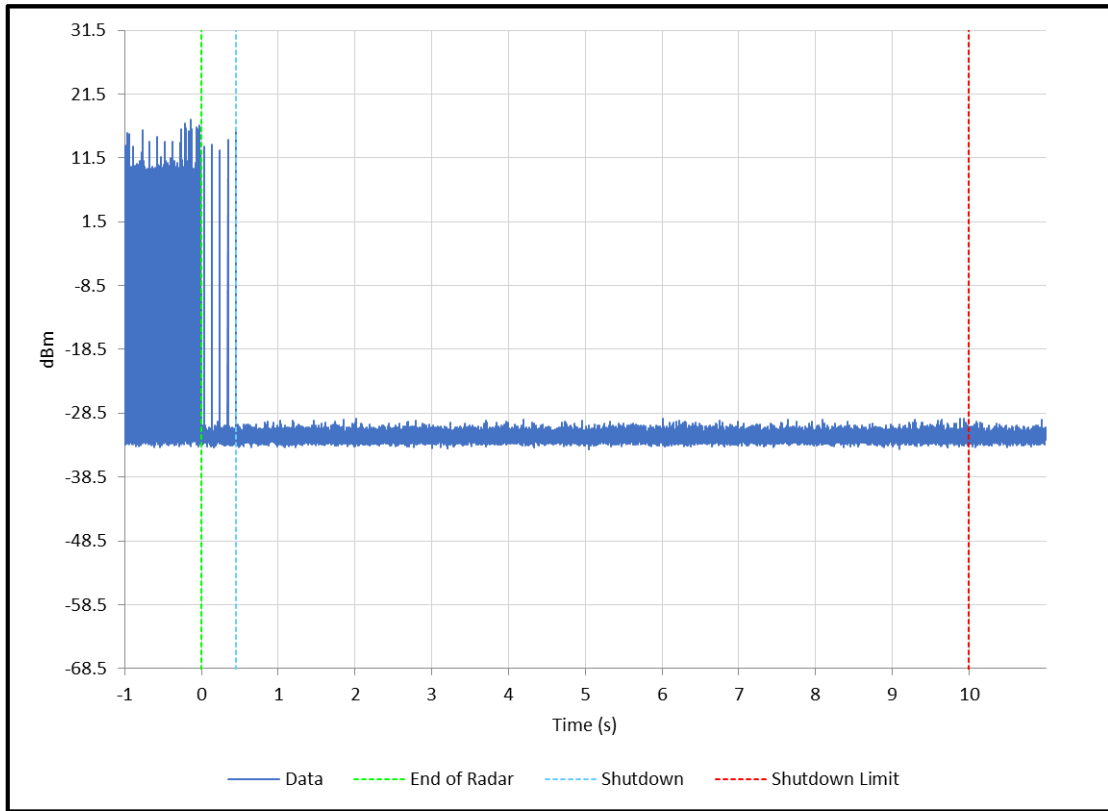
Channel (MHz)	Move Time (ms)	Limit (ms)	Margin (ms)	Detected
5570	445.3	10000	9554.7	Yes

Results: 80 MHz Master - Channel Closing Transmission Time

Channel (MHz)	Total Aggregate Tx Time (ms)	Limit (ms)	Margin (ms)	Tx Time >200 ms after end of radar (ms)	Limit (ms)	Margin (ms)
5570	4.9	260	255.1	2.6	60	57.4

Channel Closing Transmission Time and Channel Move Time (continued)

Results: 80 MHz Master



Plot showing the full 10 second shutdown limit

Limits:

Part 15.407(h)(2)(iii)

After a radar's presence is detected, all transmissions shall cease on the operating channel within 10 seconds. Transmissions during this period shall consist of normal traffic for a maximum of 200 ms after detection of the radar signal. In addition, intermittent management and control signals can be sent during the remaining time to facilitate vacating the operating channel.

KDB 905462 D02 Table 4: DFS Response Requirement Values

Parameter	Value
<i>Channel Move Time</i>	10 seconds See Note 1.
<i>Channel Closing Transmission Time</i>	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
<p>Note 1: <i>Channel Move Time</i> and the <i>Channel Closing Transmission Time</i> should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.</p> <p>Note 2: The <i>Channel Closing Transmission Time</i> is comprised of 200 milliseconds starting at the beginning of the <i>Channel Move Time</i> plus any additional intermittent control signals required to facilitate a <i>Channel</i> move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.</p>	

5.2.6. Non-occupancy Period**Test Summary:**

Test Engineer:	Matthew Botfield	Test Date:	20 August 2019
Test Sample Serial Number:	VPDO143428		

FCC Reference:	Part 15.407(h)(iv)
Test Method Used:	KDB 905462 D02 Section 7.8.3

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	57

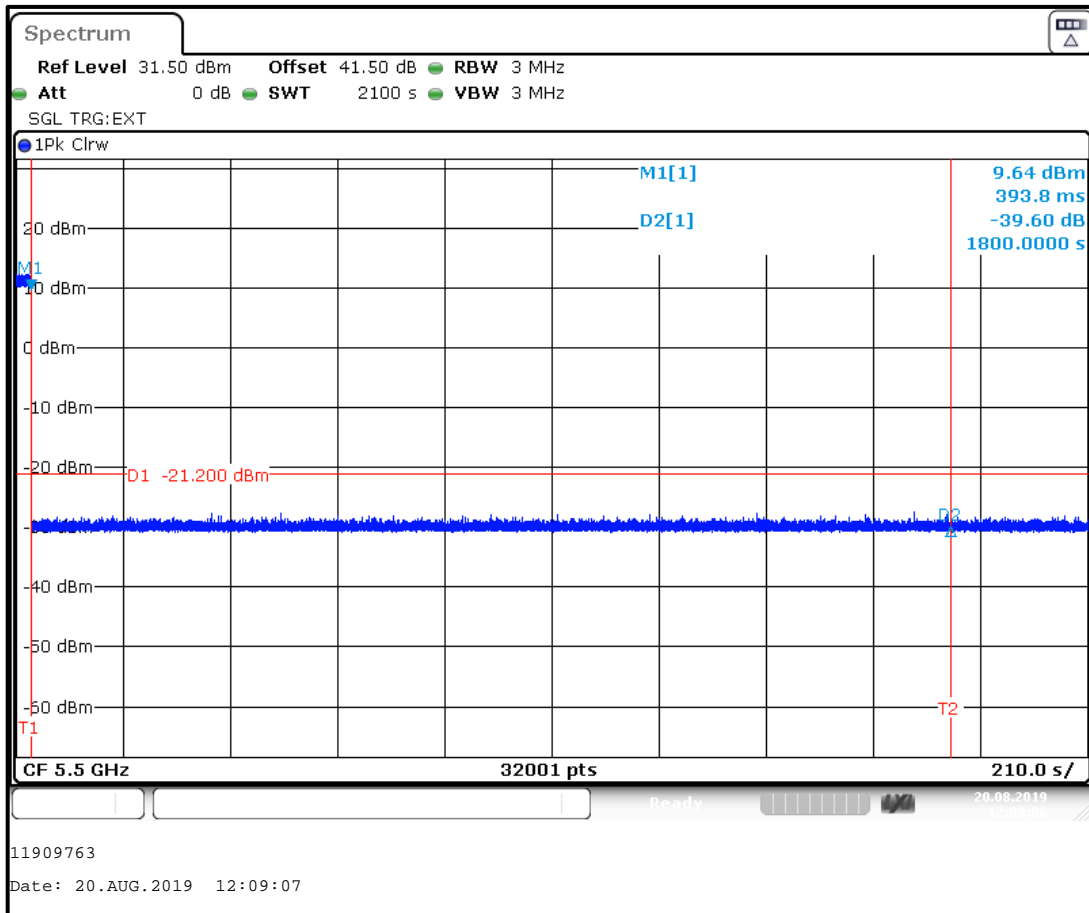
Notes:

1. In accordance with KDB 905462 D02 Table 2, the Initial Channel Availability Check test was performed on any single bandwidth. It was therefore tested only on an 80 MHz channel bandwidth.
2. UDP test data was streamed from the Master to the Client device using iPerf2 bandwidth testing tool. The channel loading was 18.8% with a 25 Mbit/s data rate. This therefore met the channel loading requirement of >17% in KDB 905462 D02 Section 7.7(c).
3. Tests were performed using a type 0 radar and the radar detection threshold calculated in Section 4.2 of this test report.
4. Radar burst type 0 was detected and the channel was vacated for >1800 seconds, meeting the 30 minute (1800 second) non-occupancy period. During this period all emissions remained below the -21.2 dBm/MHz (74 dB μ V/m at 3m) unintentional radiator limit. Channel move occurred within the channel move and channel closing time limits. Therefore the EUT complied.

Non-occupancy Period (continued)

Results: 80 MHz Master

Channel (MHz)	Trial	Non-Occ (min)	Limit (min)	Margin (min)	Result
5570	1	>34.5	30	>4.5	Complied



Limits:

Part 15.407(h)(2)(iv)

A channel that has been flagged as containing a radar system, either by a channel availability check or in-service monitoring, is subject to a non-occupancy period of at least 30 minutes. The non-occupancy period starts at the time when the radar system is detected.

KDB 905462 D02 Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes

5.2.7. Statistical Performance Check – Short Pulse Radar Types 1 - 4**Test Summary:**

Test Engineer:	Matthew Botfield	Test Dates:	20 August 2019 & 21 August 2019
Test Sample Serial Number:	VPDO143428		

FCC Reference:	Part 15.407(h)(2)
Test Method Used:	KDB 905462 D02 Section 7.8.4.1 and Notes below

Environmental Conditions:

Temperature (°C):	21 to 22
Relative Humidity (%):	57 to 60

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Statistical Performance Check test was performed on all supported channel bandwidths and frequencies selected within the radar detection bandwidth.
2. UDP test data was streamed from the Master to the Client device using iPerf2 bandwidth testing tool. This was set to 12 Mbit/s for 20 MHz, 15 Mbit/s for 40 MHz and 25 Mbit/s for 80 MHz channels respectively. The channel loading was measured as 19.4% for 20 MHz operation, 19.6% for 40 MHz, 18.8% and 80 MHz operation. This therefore met the channel loading requirement of >17% in KDB 905462 D02 Section 7.7(c).
3. Tests were performed using the radar detection threshold calculated in Section 4.2 of this report.
4. Parameters used for the short radar types 1, 2, 3, and 4 may be found in this test report Appendices 4, 5, 6, and 7 respectively.
5. Detections marked "No*" (with asterisk) indicate instances where the EUT terminal application showed it detected pulses but deemed them not a radar due to its perceived "frequency spread" or a "fractional PRI". Since the EUT would not perform a channel move in these instance, they have been recorded as not detected.
6. The EUT met the required detection probability, and therefore complied with the *Statistical Performance Check – Short Pulse Radar Types 1 – 4* test.

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 20 MHz Master - Radar Type 1**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
1	1	5490.900	Yes
	2	5491.000	Yes
	3	5492.000	Yes
	4	5492.000	Yes
	5	5493.000	Yes
	6	5494.000	Yes
	7	5494.000	Yes
	8	5495.000	Yes
	9	5495.000	Yes
	10	5496.000	Yes
	11	5497.000	No*
	12	5497.000	Yes
	13	5498.000	Yes
	14	5498.000	Yes
	15	5499.000	Yes
	16	5500.000	Yes
	17	5500.000	Yes
	18	5501.000	Yes
	19	5501.000	Yes
	20	5502.000	Yes
	21	5502.000	Yes
	22	5503.000	No
	23	5504.000	Yes
	24	5504.000	Yes
	25	5505.000	Yes
	26	5505.000	Yes
	27	5506.000	Yes
	28	5507.000	Yes
	29	5508.000	Yes
	30	5509.100	Yes
EUT Test Frequency:		5500 MHz	
Detection Probability:		93.3 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 20 MHz Master - Radar Type 2**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
2	1	5490.900	Yes
	2	5491.000	Yes
	3	5492.000	Yes
	4	5492.000	No
	5	5493.000	Yes
	6	5494.000	Yes
	7	5494.000	Yes
	8	5495.000	Yes
	9	5495.000	Yes
	10	5496.000	Yes
	11	5497.000	Yes
	12	5497.000	No
	13	5498.000	Yes
	14	5498.000	Yes
	15	5499.000	Yes
	16	5500.000	Yes
	17	5500.000	Yes
	18	5501.000	Yes
	19	5501.000	Yes
	20	5502.000	Yes
	21	5502.000	Yes
	22	5503.000	Yes
	23	5504.000	Yes
	24	5504.000	Yes
	25	5505.000	Yes
	26	5506.000	Yes
	27	5507.000	Yes
	28	5507.000	Yes
	29	5508.000	Yes
	30	5509.100	Yes
EUT Test Frequency:		5500 MHz	
Detection Probability:		93.3 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 20 MHz Master - Radar Type 3**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
3	1	5490.900	Yes
	2	5491.000	Yes
	3	5492.000	Yes
	4	5492.000	No
	5	5493.000	Yes
	6	5494.000	Yes
	7	5494.000	Yes
	8	5495.000	Yes
	9	5495.000	Yes
	10	5496.000	Yes
	11	5497.000	Yes
	12	5497.000	Yes
	13	5498.000	Yes
	14	5498.000	Yes
	15	5499.000	Yes
	16	5500.000	Yes
	17	5500.000	Yes
	18	5501.000	Yes
	19	5501.000	Yes
	20	5502.000	Yes
	21	5502.000	Yes
	22	5503.000	Yes
	23	5504.000	Yes
	24	5504.000	Yes
	25	5505.000	Yes
	26	5506.000	Yes
	27	5507.000	No
	28	5507.000	Yes
	29	5508.000	Yes
	30	5509.100	Yes
EUT Test Frequency:		5500 MHz	
Detection Probability:		93.3 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 20 MHz Master - Radar Type 4**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
4	1	5490.900	Yes
	2	5491.000	Yes
	3	5492.000	Yes
	4	5492.000	Yes
	5	5493.000	Yes
	6	5494.000	Yes
	7	5494.000	Yes
	8	5495.000	Yes
	9	5495.000	Yes
	10	5496.000	Yes
	11	5497.000	Yes
	12	5497.000	Yes
	13	5498.000	Yes
	14	5498.000	Yes
	15	5499.000	No
	16	5500.000	Yes
	17	5500.000	Yes
	18	5501.000	Yes
	19	5501.000	Yes
	20	5502.000	Yes
	21	5502.000	Yes
	22	5503.000	Yes
	23	5504.000	Yes
	24	5504.000	Yes
	25	5505.000	Yes
	26	5506.000	Yes
	27	5507.000	Yes
	28	5507.000	Yes
	29	5508.000	Yes
	30	5509.100	No
EUT Test Frequency:		5500 MHz	
Detection Probability:		93.3 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 40 MHz Master - Radar Type 1**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
1	1	5491.100	Yes
	2	5492.000	Yes
	3	5493.000	Yes
	4	5495.000	Yes
	5	5496.000	Yes
	6	5497.000	Yes
	7	5498.000	Yes
	8	5500.000	Yes
	9	5501.000	Yes
	10	5502.000	Yes
	11	5503.000	Yes
	12	5505.000	Yes
	13	5506.000	Yes
	14	5507.000	Yes
	15	5508.000	Yes
	16	5510.000	Yes
	17	5511.000	Yes
	18	5512.000	Yes
	19	5513.000	Yes
	20	5514.000	Yes
	21	5516.000	Yes
	22	5517.000	Yes
	23	5518.000	Yes
	24	5519.000	Yes
	25	5521.000	Yes
	26	5522.000	Yes
	27	5523.000	Yes
	28	5524.000	Yes
	29	5526.000	Yes
	30	5528.900	Yes
EUT Test Frequency:		5510 MHz	
Detection Probability:		100 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 40 MHz Master - Radar Type 2**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
2	1	5491.100	Yes
	2	5492.000	No
	3	5493.000	Yes
	4	5495.000	Yes
	5	5496.000	Yes
	6	5497.000	Yes
	7	5498.000	No
	8	5500.000	Yes
	9	5501.000	Yes
	10	5502.000	Yes
	11	5503.000	Yes
	12	5505.000	No
	13	5506.000	Yes
	14	5507.000	No
	15	5508.000	Yes
	16	5510.000	No
	17	5511.000	Yes
	18	5512.000	Yes
	19	5513.000	Yes
	20	5514.000	Yes
	21	5516.000	Yes
	22	5517.000	Yes
	23	5518.000	Yes
	24	5519.000	Yes
	25	5521.000	Yes
	26	5522.000	Yes
	27	5523.000	Yes
	28	5524.000	Yes
	29	5526.000	Yes
	30	5528.900	Yes
EUT Test Frequency:		5510 MHz	
Detection Probability:		83.3 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 40 MHz Master - Radar Type 3**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
3	1	5491.100	Yes
	2	5492.000	Yes
	3	5493.000	Yes
	4	5495.000	No
	5	5496.000	Yes
	6	5497.000	No
	7	5498.000	Yes
	8	5500.000	Yes
	9	5501.000	No
	10	5502.000	Yes
	11	5503.000	Yes
	12	5505.000	Yes
	13	5506.000	Yes
	14	5507.000	Yes
	15	5508.000	Yes
	16	5510.000	No
	17	5511.000	Yes
	18	5512.000	Yes
	19	5513.000	Yes
	20	5514.000	Yes
	21	5516.000	Yes
	22	5517.000	Yes
	23	5518.000	Yes
	24	5519.000	No
	25	5521.000	Yes
	26	5522.000	Yes
	27	5523.000	Yes
	28	5524.000	Yes
	29	5526.000	No
	30	5528.900	Yes
EUT Test Frequency:		5510 MHz	
Detection Probability:		80.0 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 40 MHz Master - Radar Type 4**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
4	1	5491.100	Yes
	2	5492.000	No
	3	5493.000	No
	4	5495.000	Yes
	5	5496.000	Yes
	6	5497.000	No
	7	5498.000	Yes
	8	5500.000	Yes
	9	5501.000	Yes
	10	5502.000	Yes
	11	5503.000	No
	12	5505.000	Yes
	13	5506.000	Yes
	14	5507.000	Yes
	15	5508.000	Yes
	16	5510.000	Yes
	17	5511.000	Yes
	18	5512.000	Yes
	19	5513.000	Yes
	20	5514.000	No
	21	5516.000	No
	22	5517.000	Yes
	23	5518.000	Yes
	24	5519.000	Yes
	25	5521.000	Yes
	26	5522.000	No
	27	5523.000	No
	28	5524.000	Yes
	29	5526.000	Yes
	30	5528.900	Yes
EUT Test Frequency:		5510 MHz	
Detection Probability:		73.3%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 80 MHz Master - Radar Type 1**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
1	1	5491.500	Yes
	2	5493.000	Yes
	3	5495.000	Yes
	4	5498.000	Yes
	5	5500.000	Yes
	6	5502.000	Yes
	7	5505.000	Yes
	8	5507.000	Yes
	9	5510.000	Yes
	10	5512.000	Yes
	11	5515.000	Yes
	12	5517.000	Yes
	13	5520.000	Yes
	14	5523.000	Yes
	15	5526.000	Yes
	16	5528.000	Yes
	17	5530.000	Yes
	18	5533.000	Yes
	19	5535.000	Yes
	20	5537.000	Yes
	21	5540.000	Yes
	22	5543.000	Yes
	23	5547.000	Yes
	24	5550.000	Yes
	25	5554.000	Yes
	26	5557.000	Yes
	27	5560.000	Yes
	28	5562.000	Yes
	29	5565.000	Yes
	30	5568.500	Yes
EUT Test Frequency:		5530 MHz	
Detection Probability:		100 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 80 MHz Master - Radar Type 2**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
2	1	5491.500	Yes
	2	5493.000	Yes
	3	5495.000	Yes
	4	5498.000	Yes
	5	5500.000	Yes
	6	5502.000	Yes
	7	5505.000	Yes
	8	5507.000	Yes
	9	5510.000	Yes
	10	5512.000	Yes
	11	5515.000	Yes
	12	5517.000	Yes
	13	5520.000	Yes
	14	5523.000	Yes
	15	5526.000	Yes
	16	5528.000	Yes
	17	5530.000	No
	18	5533.000	Yes
	19	5535.000	Yes
	20	5537.000	Yes
	21	5540.000	Yes
	22	5543.000	Yes
	23	5547.000	Yes
	24	5550.000	Yes
	25	5554.000	Yes
	26	5557.000	Yes
	27	5560.000	Yes
	28	5562.000	Yes
	29	5565.000	Yes
	30	5568.500	Yes
EUT Test Frequency:		5530 MHz	
Detection Probability:		96.7 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 80 MHz Master - Radar Type 3**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
3	1	5491.500	Yes
	2	5493.000	Yes
	3	5495.000	Yes
	4	5498.000	Yes
	5	5500.000	Yes
	6	5502.000	Yes
	7	5505.000	Yes
	8	5507.000	Yes
	9	5510.000	Yes
	10	5512.000	Yes
	11	5515.000	Yes
	12	5517.000	Yes
	13	5520.000	Yes
	14	5523.000	Yes
	15	5526.000	Yes
	16	5528.000	Yes
	17	5530.000	Yes
	18	5533.000	Yes
	19	5535.000	Yes
	20	5537.000	Yes
	21	5540.000	Yes
	22	5543.000	Yes
	23	5547.000	Yes
	24	5550.000	Yes
	25	5554.000	Yes
	26	5557.000	Yes
	27	5560.000	Yes
	28	5562.000	Yes
	29	5565.000	Yes
	30	5568.500	Yes
EUT Test Frequency:		5530 MHz	
Detection Probability:		100 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 80 MHz Master - Radar Type 4**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
4	1	5491.500	Yes
	2	5493.000	Yes
	3	5495.000	Yes
	4	5498.000	Yes
	5	5500.000	Yes
	6	5502.000	Yes
	7	5505.000	Yes
	8	5507.000	Yes
	9	5510.000	Yes
	10	5512.000	Yes
	11	5515.000	Yes
	12	5517.000	Yes
	13	5520.000	Yes
	14	5523.000	Yes
	15	5526.000	Yes
	16	5528.000	Yes
	17	5530.000	Yes
	18	5533.000	Yes
	19	5535.000	Yes
	20	5537.000	Yes
	21	5540.000	Yes
	22	5543.000	Yes
	23	5547.000	Yes
	24	5550.000	Yes
	25	5554.000	Yes
	26	5557.000	Yes
	27	5560.000	Yes
	28	5562.000	Yes
	29	5565.000	Yes
	30	5568.500	Yes
EUT Test Frequency:		5530 MHz	
Detection Probability:		100 %	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: Aggregate Percentage of Successful Detection**

Radar Type	Channel Bandwidth		
	20 MHz	40 MHz	80 MHz
Type 1	93.3 %	100 %	100.0 %
Type 2	93.3 %	83.3 %	96.7 %
Type 3	93.3 %	80.0 %	100 %
Type 4	93.3 %	73.3 %	100 %
Aggregate	93.3 %	84.2 %	99.2 %

Limits:**KDB 905462 D02 Table 5 – Short Pulse Radar Test Waveforms**

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a.	$\text{Roundup} \left\{ \left(\frac{1}{360} \right) \times \left(\frac{19 \times 10^6}{PRI_{\mu\text{sec}}} \right) \right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A.			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

5.2.8. Statistical Performance Check – Long Pulse Radar Type 5**Test Summary:**

Test Engineer:	Matthew Botfield	Test Dates:	20 August 2019 & 21 August 2019
Test Sample Serial Number:	VPDO143428		

FCC Reference:	Part 15.407(h)(2)
Test Method Used:	KDB 905462 D02 Section 7.8.4.2 and Notes below

Environmental Conditions:

Temperature (°C):	21 to 22
Relative Humidity (%):	43 to 60

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Statistical Performance Check test was performed on all supported channel bandwidths and frequencies selected within the radar detection bandwidth.
2. UDP test data was streamed from the Master to the Client device using iPerf2 bandwidth testing tool. This was set to 12 Mbit/s for 20 MHz, 15 Mbit/s for 40 MHz and 25 Mbit/s for 80 MHz channels respectively. The channel loading was measured as 19.4% for 20 MHz operation, 19.6% for 40 MHz, 18.8% and 80 MHz operation. This therefore met the channel loading requirement of >17% in KDB 905462 D02 Section 7.7(c).
3. Tests were performed using the radar detection threshold calculated in Section 4.2 of this test report.
4. Parameters used for the long radar type 5 can be found in Appendix 8 of this test report.
5. The radar centre frequency was set to the centre frequency of the channel for the first 10 trials, 90% chirp overlap at the bottom of the 99% OBW for trials 11-20, and 90% chirp overlap at the top of the 99% OBW for trials 21-30. See section 5.2.1 for occupied bandwidth measurements.
6. The EUT met the required detection probability, and therefore complied with the *Statistical Performance Check – Long Pulse Radar Type 5* test.

Statistical Performance Check – Long Pulse Radar Type 5 (continued)**Results: 20 MHz Master - Radar Type 5**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
5	1	5500.0	Yes
	2	5500.0	Yes
	3	5500.0	Yes
	4	5500.0	Yes
	5	5500.0	Yes
	6	5500.0	Yes
	7	5500.0	Yes
	8	5500.0	Yes
	9	5500.0	Yes
	10	5500.0	Yes
	11	5497.1	Yes
	12	5493.5	Yes
	13	5496.7	Yes
	14	5493.1	Yes
	15	5494.3	Yes
	16	5495.5	Yes
	17	5492.7	Yes
	18	5495.5	Yes
	19	5496.7	Yes
	20	5495.1	Yes
	21	5504.2	Yes
	22	5503.4	Yes
	23	5501.4	Yes
	24	5503.0	Yes
	25	5506.2	Yes
	26	5501.8	Yes
	27	5502.2	Yes
	28	5505.8	Yes
	29	5505.4	Yes
	30	5502.6	Yes
EUT Test Frequency:		5500 MHz	
Detection Probability:		100%	

Statistical Performance Check – Long Pulse Radar Type 5 (continued)**Results: 40 MHz Master - Radar Type 5**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
5	1	5510.0	Yes
	2	5510.0	Yes
	3	5510.0	Yes
	4	5510.0	Yes
	5	5510.0	Yes
	6	5510.0	Yes
	7	5510.0	Yes
	8	5510.0	Yes
	9	5510.0	Yes
	10	5510.0	Yes
	11	5494.6	Yes
	12	5498.2	No
	13	5493.0	Yes
	14	5494.6	Yes
	15	5494.6	Yes
	16	5495.8	Yes
	17	5497.8	Yes
	18	5497.4	Yes
	19	5493.8	Yes
	20	5498.2	No
	21	5522.9	Yes
	22	5524.9	Yes
	23	5526.5	No
	24	5525.7	Yes
	25	5523.3	Yes
	26	5522.1	Yes
	27	5526.9	Yes
	28	5522.1	Yes
	29	5525.3	Yes
	30	5526.5	Yes
EUT Test Frequency:		5510 MHz	
Detection Probability:		90.0%	

Statistical Performance Check – Long Pulse Radar Type 5 (continued)**Results: 80 MHz Master - Radar Type 5**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
5	1	5530.0	Yes
	2	5530.0	Yes
	3	5530.0	Yes
	4	5530.0	Yes
	5	5530.0	Yes
	6	5530.0	Yes
	7	5530.0	Yes
	8	5530.0	Yes
	9	5530.0	Yes
	10	5530.0	Yes
	11	5498.6	No
	12	5494.2	Yes
	13	5493.8	Yes
	14	5497.4	Yes
	15	5497.0	Yes
	16	5495.8	Yes
	17	5494.2	Yes
	18	5494.6	Yes
	19	5495.4	Yes
	20	5499.0	No
	21	5561.7	Yes
	22	5566.5	Yes
	23	5565.7	Yes
	24	5564.9	Yes
	25	5563.7	Yes
	26	5562.5	Yes
	27	5562.1	Yes
	28	5560.5	Yes
	29	5564.5	Yes
	30	5561.7	Yes
EUT Test Frequency:		5530 MHz	
Detection Probability:		93.3%	

Statistical Performance Check – Long Pulse Radar Type 5 (continued)**Limits:****KDB 905462 D02 Table 6 – Long Pulse Radar Test Waveform**

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per <i>Burst</i>	Number of <i>Bursts</i>	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

5.2.9. Statistical Performance Check – Frequency Hopping Radar Type 6**Test Summary:**

Test Engineer:	Matthew Botfield	Test Date:	22 August 2019
Test Sample Serial Number:	VPDO143428		

FCC Reference:	Part 15.407(h)(2)
Test Method Used:	KDB 905462 D02 Section 7.8.4.3 and Notes below

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	43

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Statistical Performance Check test was performed on all supported channel bandwidths and frequencies selected within the radar detection bandwidth.
2. UDP test data was streamed from the Master to the Client device using iPerf2 bandwidth testing tool. This was set to 12 Mbit/s for 20 MHz, 15 Mbit/s for 40 MHz and 25 Mbit/s for 80 MHz channels respectively. The channel loading was measured as 19.4% for 20 MHz operation, 19.6% for 40 MHz, 18.8% and 80 MHz operation. This therefore met the channel loading requirement of >17% in KDB 905462 D02 Section 7.7(c).
3. Tests were performed using the radar detection threshold calculated in Section 4.2 of this test report.
4. The EUT met the required detection probability, and therefore complied with the *Statistical Performance Check – Frequency Hopping Radar Type 6* test.

Statistical Performance Check – Frequency Hopping Radar Type 6 (continued)**Results: 20 MHz Master - Radar Type 6**

Radar Type	Trial #	Detection	Trial #	Detection
		Yes / No		Yes / No
6	1	Yes	16	Yes
	2	Yes	17	Yes
	3	Yes	18	Yes
	4	Yes	19	No
	5	Yes	20	Yes
	6	Yes	21	Yes
	7	Yes	22	Yes
	8	Yes	23	Yes
	9	Yes	24	Yes
	10	Yes	25	Yes
	11	Yes	26	Yes
	12	Yes	27	Yes
	13	Yes	28	Yes
	14	Yes	29	Yes
	15	Yes	30	Yes
EUT Test Frequency:		5500 MHz		
Radar Frequency:		Hopping		
Detection Probability:		96.7%		

Results: 40 MHz Master - Radar Type 6

Radar Type	Trial #	Detection	Trial #	Detection
		Yes / No		Yes / No
6	1	Yes	16	Yes
	2	Yes	17	Yes
	3	Yes	18	Yes
	4	Yes	19	Yes
	5	Yes	20	Yes
	6	Yes	21	Yes
	7	Yes	22	Yes
	8	Yes	23	Yes
	9	Yes	24	Yes
	10	Yes	25	Yes
	11	Yes	26	Yes
	12	Yes	27	Yes
	13	Yes	28	Yes
	14	No	29	Yes
	15	Yes	30	Yes
EUT Test Frequency:		5510 MHz		
Radar Frequency:		Hopping		
Detection Probability:		96.7%		

Statistical Performance Check – Frequency Hopping Radar Type 6 (continued)**Results: 80 MHz Master - Radar Type 6**

Radar Type	Trial #	Detection	Trial #	Detection
		Yes / No		Yes / No
6	1	Yes	16	Yes
	2	Yes	17	Yes
	3	Yes	18	Yes
	4	Yes	19	Yes
	5	Yes	20	Yes
	6	Yes	21	Yes
	7	Yes	22	Yes
	8	Yes	23	Yes
	9	Yes	24	Yes
	10	Yes	25	Yes
	11	Yes	26	Yes
	12	Yes	27	Yes
	13	Yes	28	Yes
	14	Yes	29	Yes
	15	Yes	30	Yes
EUT Test Frequency:		5530 MHz		
Radar Frequency:		Hopping		
Detection Probability:		100%		

Limits:**KDB 905462 D02 Table 7 – Frequency Hopping Radar Test Waveform**

Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

6. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Confidence Level (%)	Calculated Uncertainty
DFS CAC Plot Timing	95%	± 918 ms
DFS Channel Shutdown Timing	95%	± 450 µs
DFS Non-Occupancy Timing	95%	± 79.25 ms
DFS Radar Amplitude	95%	± 2.17 dB

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty the published guidance of the appropriate accreditation body is followed.

7. Report Revision History

Version Number	Revision Details		
	Page No(s)	Clause	Details
1.0	-	-	Initial Version
2.0	-	-	Addresses TCB comments.
3.0	-	-	Setup photograph removed.

Appendix 1. Test Equipment Used

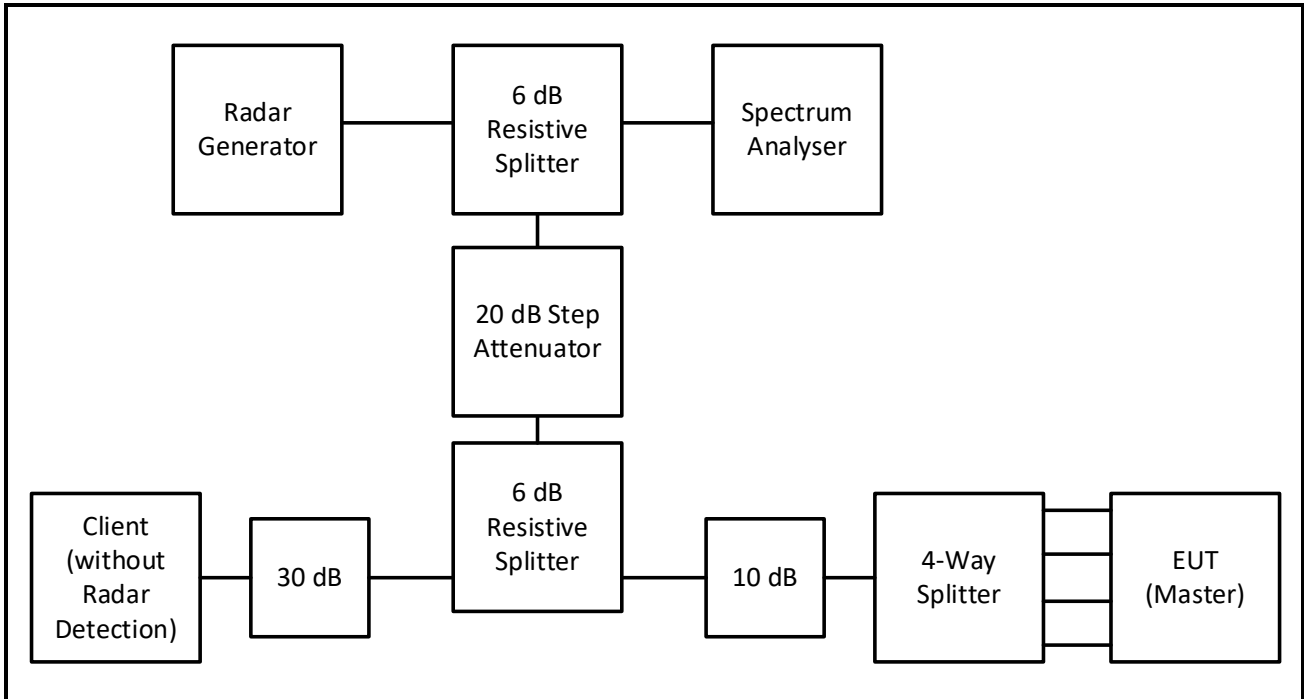
Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M2001	Thermohygrometer	Testo	608-H1	45041824	06 Jan 2020	12
M1996	Signal Analyser	Rohde & Schwarz	FSV13	100975	16 Jan 2020	12
G0615	Vector Signal Generator	Rohde & Schwarz	SMBV100A	260473	08 May 2020	36
G0626	Vector Signal Generator	Rohde & Schwarz	SMBV100A	261847	01 Sep 2020	36
A2886	Power Splitter	Mini-Circuits	ZN2PD2-63-S+	UU47401601#3	Calibrated before use	-
A3177	Power Splitter	Mini-Circuits	ZN4PD1-63HP-S+	UU40901834#1	Calibrated before use	-
A2909	Power Splitter	Mini-Circuits	ZN2PD-63-S+	UU50001612#1	Calibrated before use	-
A2909	Power Splitter	Mini-Circuits	ZN2PD-63-S+	UU12701203	Calibrated before use	-
A1536	Attenuator	Hewlett Packard	8494B & 8496B	3308A 80801 & 3308A 19649	Calibrated before use	-
A1065	Attenuator	Hewlett Packard	8494B	3308A 38165	Calibrated before use	-
A465	Attenuator	Hewlett Packard	8496B	3131P324	Calibrated before use	-
A090	Attenuator	Narda	743-60	01057	Calibrated before use	-

NB In accordance with UKAS requirements all the measurement equipment is on a calibration schedule.

Appendix 2. Test Set-Up

All tests were performed as conducted measurements using the setups as shown below. The detecting device always receives the radar via a direct (non-isolated) port of any circulator or splitter to ensure impedance variations do not affect the radar amplitude in accordance with KDB 905462 D02 Section 7.2, point (2).

Setup Diagram – EUT as Master with Radar Injection at Master



Appendix 3. Radar Calibration and Verification Data

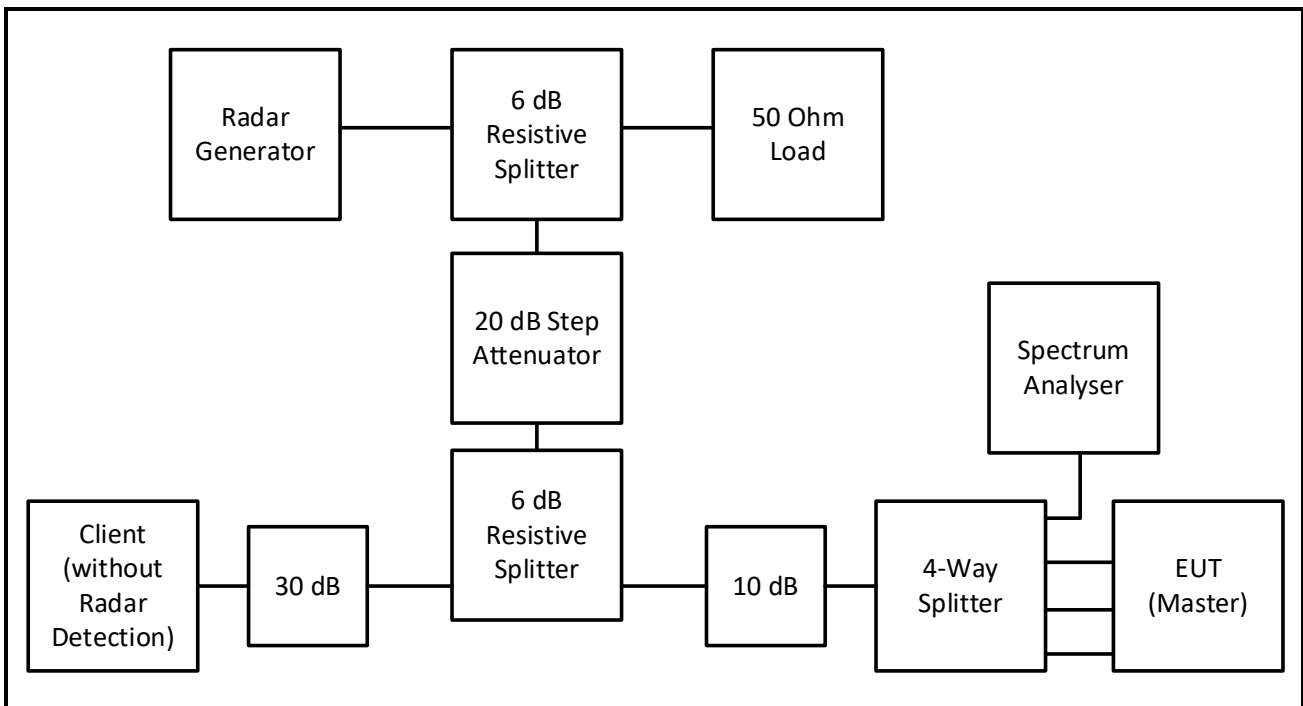
All radar types were generated and produced by an Rohde & Schwarz SMBV100A Vector Signal Generator test system, Using R&S pulse sequencer (DFS) V1.9.

The radar amplitude was calibrated using the setup diagram shown below. The output level was adjusted to give the correct level into the EUT, as calculated in Section 4.2 of this report, before the tests were performed.

Equipment Setup for Calibration Block Diagram – Conducted Method

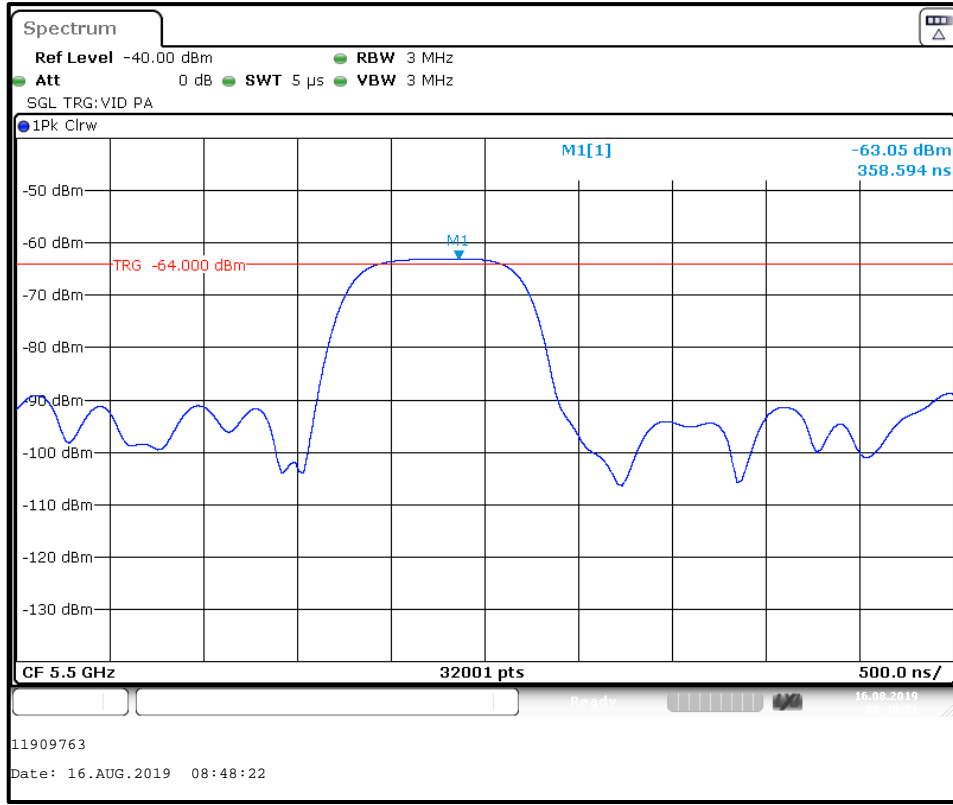
Calibration was performed using the setups as shown below.

EUT as Master with Radar Injection at Master

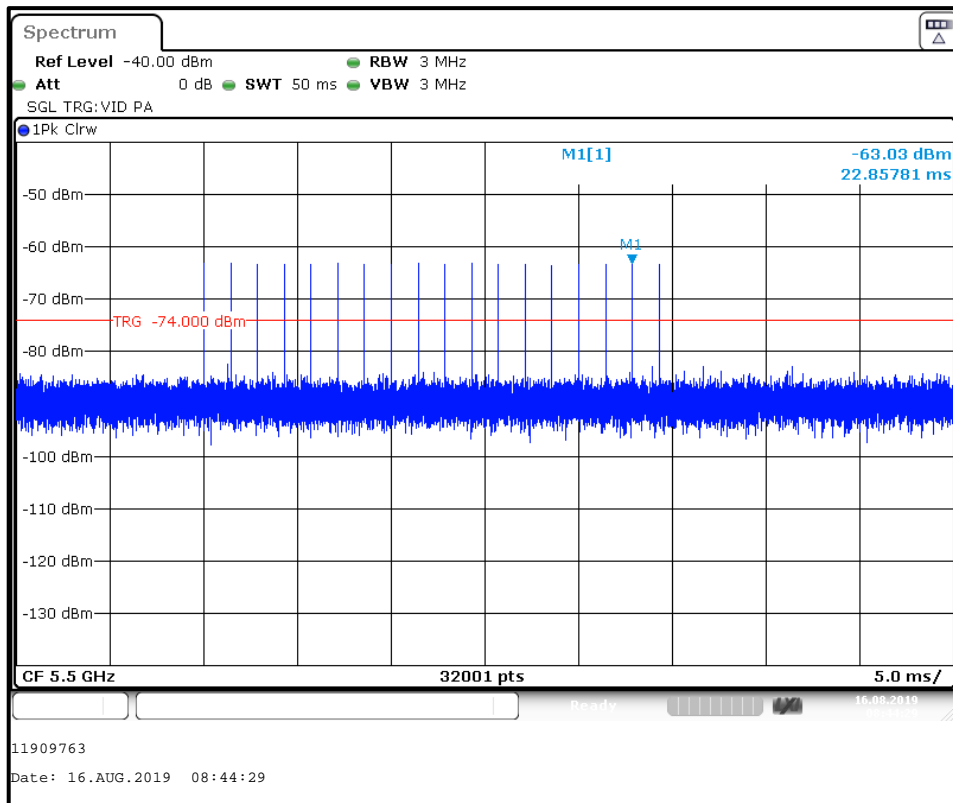


Radar Calibration and Verification Data (continued)

Radar Type 0



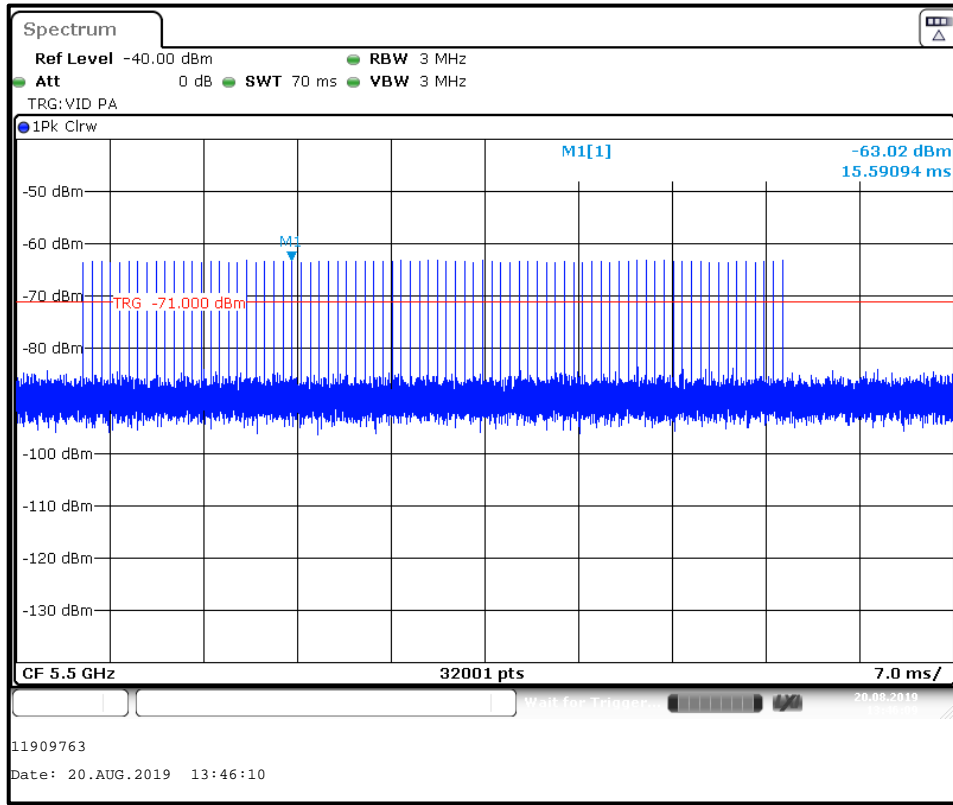
Radar Type 0 – single 1 µsec pulse



Radar Type 0 – full 18 pulse waveform

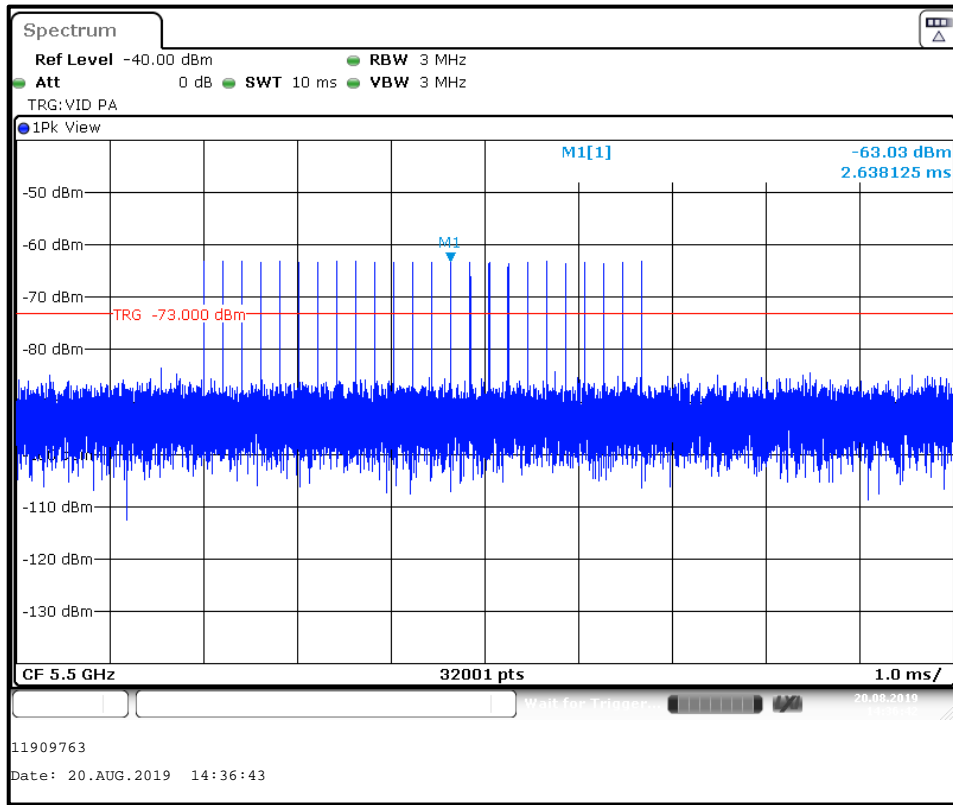
Radar Calibration and Verification Data (continued)

Radar Type 1



Radar Type 1 – 1 μ sec pulse width, 678 μ sec PRI, 78 pulses

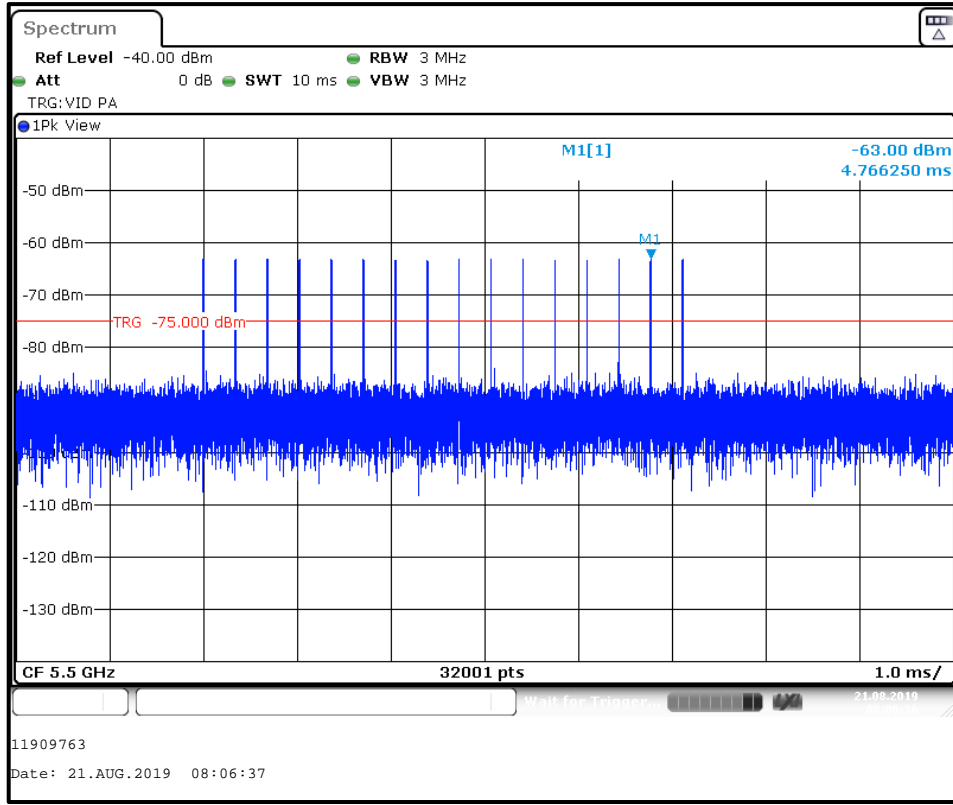
Radar Type 2



Radar Type 2 – 1.3 μ sec pulse width, 203 μ sec PRI, 24 pulses

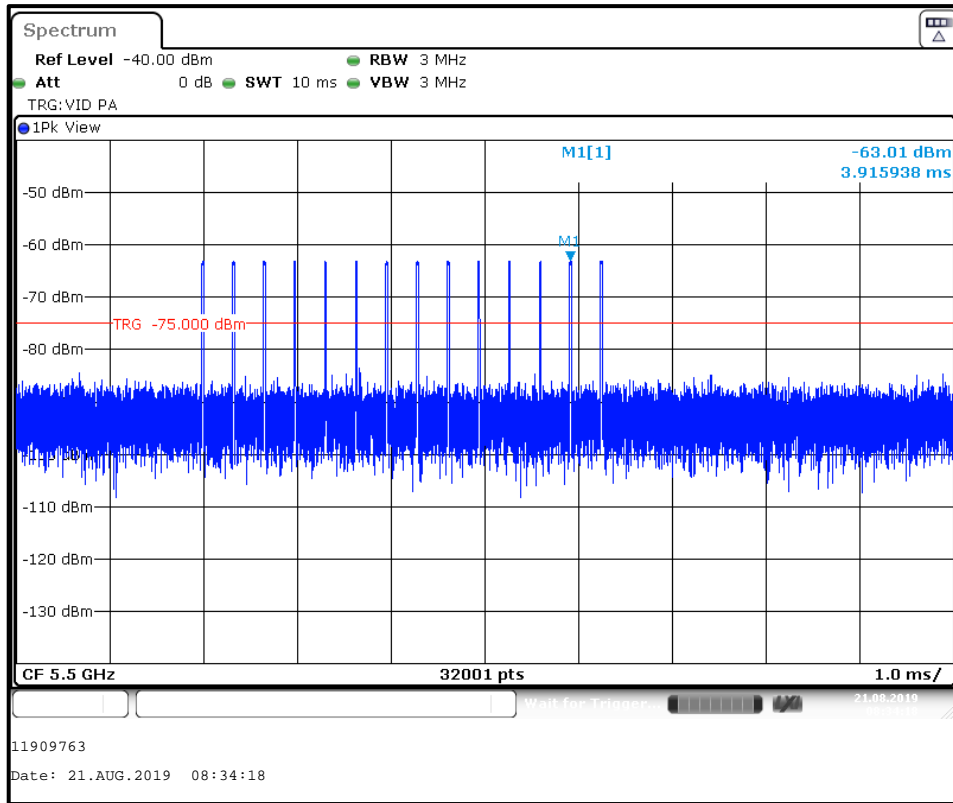
Radar Calibration and Verification Data (continued)

Radar Type 3



Radar Type 3 – 8.8 μsec pulse width, 341 μsec PRI, 16 pulses

Radar Type 4



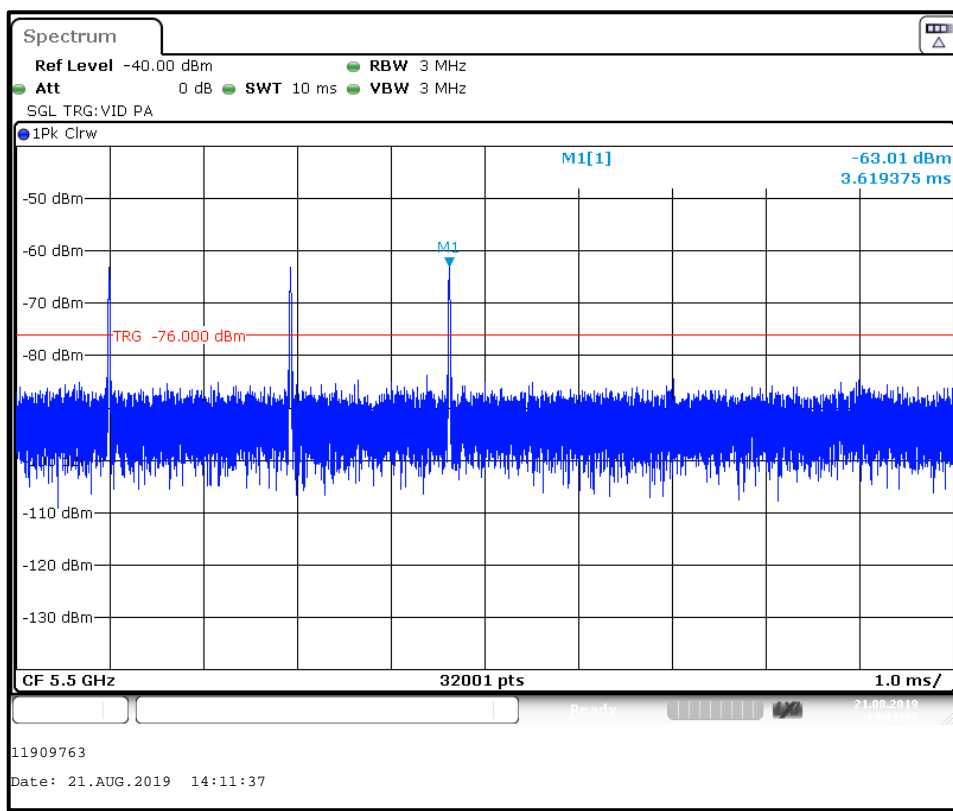
Radar Type 4 – 19.7 μsec pulse width, 327 μsec PRI, 14 pulses

Radar Calibration and Verification Data (continued)

Radar Type 5 (Long)

The plot below shows the first burst of Trial 1 of the 20 MHz channel testing in accordance with KDB 905462 D02 v02 section 8.2 b) 3). It is shown tuned to the frequency at which the test was performed, where 90% of the chirp overlaps the top of the EUTs 99% OBW. It is shown captured with a 20 MHz RBW to show as much of the chirp with time as possible. The parameters for the first burst are as follows:

Burst Segment	Number of Pulses	Pulse Width (usec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (usec)	Pulse 2-to-3 PRI (usec)	Starting Location Within Interval (msec)
1	3	54.6	15	1935	1695	1298.1



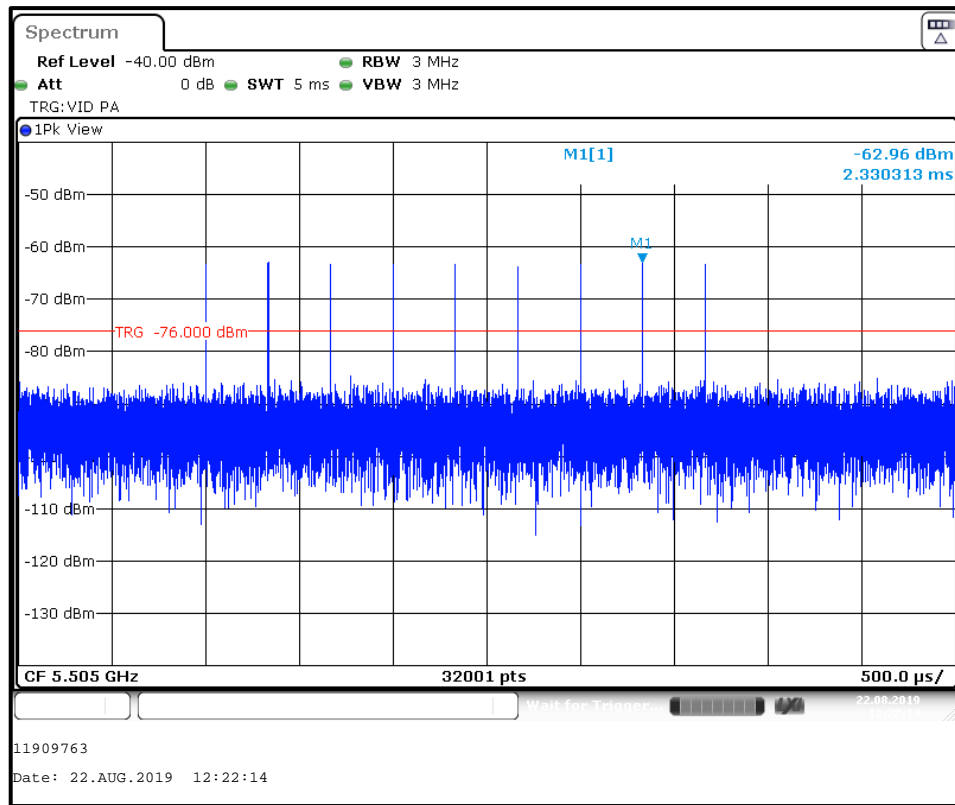
Long Radar Type 5

Radar Calibration and Verification Data (continued)

Radar Type 6 (Hopping)

The radar shown below is for Trial 1 of the 20 MHz channel BW testing. This had the following hopping sequence:

Hopping sequence (MHz):	5.717, 5.412, 5.381, 5.271, 5.410, 5.529, 5.480, 5.713, 5.459, 5.580, 5.408, 5.679, 5.577, 5.367, 5.612, 5.655, 5.696, 5.653, 5.589, 5.287, 5.301, 5.290, 5.328, 5.712, 5.521, 5.682, 5.610, 5.517, 5.426, 5.342, 5.453, 5.575, 5.431, 5.341, 5.642, 5.391, 5.636, 5.369, 5.648, 5.651, 5.664, 5.359, 5.360, 5.658, 5.284, 5.714, 5.543, 5.632, 5.656, 5.274, 5.400, 5.281, 5.506, 5.560, 5.355, 5.250, 5.690, 5.621, 5.525, 5.605, 5.386, 5.349, 5.334, 5.427, 5.703, 5.537, 5.380, 5.660, 5.524, 5.724, 5.680, 5.558, 5.587, 5.598, 5.438, 5.644, 5.344, 5.505, 5.365, 5.665, 5.264, 5.707, 5.377, 5.256, 5.698, 5.265, 5.361, 5.474, 5.345, 5.545, 5.388, 5.699, 5.255, 5.639, 5.590, 5.303, 5.313, 5.449, 5.588, 5.385
--------------------------------	--



Hopping Radar Pulse 6 Showing 9 pulses of first hop (Centre Frequency adjusted to hop frequency)

Appendix 4. Statistical Performance Check– Radar Type 1 Trial Records**20 MHz Master**

Radar Type 1			
Trial #	'Test A' Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses/s)	Pulse Repetition Interval (µsec)
1	9	1474.9	678
2	10	1432.7	698
3	19	1139.0	878
4	21	1089.3	918
5	3	1792.1	558
6	8	1519.8	658
7	12	1355.0	738
8	15	1253.1	798
9	20	1113.6	898
10	17	1193.3	838
11	11	1392.8	718
12	6	1618.1	618
13	7	1567.4	638
14	14	1285.3	778
15	4	1730.1	578
16	N/A - 'Test B' Radar	894.5	1118
17	N/A - 'Test B' Radar	1385.0	722
18	N/A - 'Test B' Radar	349.4	2862
19	N/A - 'Test B' Radar	1126.1	888
20	N/A - 'Test B' Radar	367.5	2721
21	N/A - 'Test B' Radar	372.3	2686
22	N/A - 'Test B' Radar	1112.3	899
23	N/A - 'Test B' Radar	621.1	1610
24	N/A - 'Test B' Radar	469.0	2132
25	N/A - 'Test B' Radar	450.2	2221
26	N/A - 'Test B' Radar	352.6	2836
27	N/A - 'Test B' Radar	708.7	1411
28	N/A - 'Test B' Radar	1176.5	850
29	N/A - 'Test B' Radar	551.6	1813
30	N/A - 'Test B' Radar	904.2	1106

Statistical Performance Check– Radar Type 1 Trial Records (continued)**40 MHz Master**

Radar Type 1			
Trial #	'Test A' Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses/s)	Pulse Repetition Interval (µsec)
1	21	1089.3	918
2	5	1672.2	598
3	17	1193.3	838
4	12	1355.0	738
5	8	1519.8	658
6	4	1730.1	578
7	20	1113.6	898
8	22	1066.1	938
9	14	1285.3	778
10	11	1392.8	718
11	19	1139.0	878
12	16	1222.5	818
13	1	1930.5	518
14	7	1567.4	638
15	13	1319.3	758
16	N/A - 'Test B' Radar	999.0	1001
17	N/A - 'Test B' Radar	1026.7	974
18	N/A - 'Test B' Radar	352.7	2835
19	N/A - 'Test B' Radar	1779.4	562
20	N/A - 'Test B' Radar	813.0	1230
21	N/A - 'Test B' Radar	472.8	2115
22	N/A - 'Test B' Radar	415.6	2406
23	N/A - 'Test B' Radar	1231.5	812
24	N/A - 'Test B' Radar	671.1	1490
25	N/A - 'Test B' Radar	983.3	1017
26	N/A - 'Test B' Radar	383.4	2608
27	N/A - 'Test B' Radar	461.5	2167
28	N/A - 'Test B' Radar	1183.4	845
29	N/A - 'Test B' Radar	1792.1	558
30	N/A - 'Test B' Radar	1855.3	539

Statistical Performance Check– Radar Type 1 Trial Records (continued)**80 MHz Master**

Radar Type 1			
Trial #	'Test A' Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses/s)	Pulse Repetition Interval (µsec)
1	22	1066.1	938
2	2	1858.7	538
3	1	1930.5	518
4	5	1672.2	598
5	10	1432.7	698
6	8	1519.8	658
7	18	1165.5	858
8	4	1730.1	578
9	3	1792.1	558
10	16	1222.5	818
11	13	1319.3	758
12	21	1089.3	918
13	9	1474.9	678
14	7	1567.4	638
15	12	1355.0	738
16	N/A - 'Test B' Radar	1872.7	534
17	N/A - 'Test B' Radar	521.6	1917
18	N/A - 'Test B' Radar	373.6	2677
19	N/A - 'Test B' Radar	378.6	2641
20	N/A - 'Test B' Radar	659.2	1517
21	N/A - 'Test B' Radar	331.9	3013
22	N/A - 'Test B' Radar	777.6	1286
23	N/A - 'Test B' Radar	865.8	1155
24	N/A - 'Test B' Radar	371.1	2695
25	N/A - 'Test B' Radar	506.1	1976
26	N/A - 'Test B' Radar	336.9	2968
27	N/A - 'Test B' Radar	552.5	1810
28	N/A - 'Test B' Radar	356.9	2802
29	N/A - 'Test B' Radar	528.3	1893
30	N/A - 'Test B' Radar	392.8	2546

Appendix 5. Statistical Performance Check– Radar Type 2 Trial Records**20 MHz Master**

Radar Type 2			
Trial #	Number Pulses per Burst	Pulse Width (µsec)	PRI (µsec)
1	24	1.3	203
2	23	2.1	158
3	26	3.5	166
4	23	4.4	216
5	26	2.0	162
6	29	1.3	204
7	23	2.3	208
8	26	3.2	215
9	26	3.5	222
10	24	4.1	207
11	26	3.6	202
12	25	3.7	217
13	27	3.1	159
14	24	1.0	162
15	25	1.2	177
16	26	2.4	170
17	27	3.7	227
18	29	1.5	161
19	23	1.5	175
20	26	3.3	223
21	27	5.0	224
22	25	2.8	209
23	26	4.7	215
24	24	2.4	183
25	25	5.0	218
26	24	1.4	167
27	28	4.6	216
28	29	5.0	206
29	24	4.9	157
30	28	2.3	205

Statistical Performance Check– Radar Type 2 Trial Records (continued)**40 MHz Master**

Radar Type 2			
Trial #	Number Pulses per Burst	Pulse Width (µsec)	PRI (µsec)
1	28	2.7	195
2	26	3.4	203
3	27	1.3	220
4	25	4.1	164
5	23	1.6	172
6	26	4.3	159
7	26	4.1	182
8	29	3.0	212
9	25	4.3	158
10	25	4.0	165
11	26	4.2	213
12	26	3.1	168
13	25	4.6	215
14	25	3.9	158
15	26	5.0	167
16	24	2.0	200
17	26	4.9	174
18	27	2.7	215
19	27	4.8	217
20	25	4.5	167
21	28	3.2	205
22	27	3.6	163
23	29	1.1	221
24	27	2.1	201
25	24	1.4	197
26	25	3.4	226
27	26	2.0	187
28	28	2.6	199
29	26	4.7	204
30	27	3.1	166

Statistical Performance Check– Radar Type 2 Trial Records (continued)**80 MHz Master**

Radar Type 2			
Trial #	Number Pulses per Burst	Pulse Width (µsec)	PRI (µsec)
1	26	2	158
2	26	3.1	192
3	24	2.5	186
4	28	4.0	199
5	25	1.1	219
6	28	1.4	203
7	23	3.5	188
8	24	3.2	199
9	27	3.7	228
10	27	1.2	180
11	25	4.0	190
12	25	4.6	166
13	27	2.7	197
14	24	3.2	187
15	25	2.5	198
16	27	1.5	165
17	24	4.7	161
18	25	1.0	191
19	27	2.5	212
20	27	4.5	187
21	25	3.6	212
22	24	2.5	171
23	24	1.3	197
24	25	2.6	210
25	28	3.1	181
26	27	1.7	200
27	26	1.1	159
28	27	1.7	177
29	25	3.0	201
30	27	4.6	217

Appendix 6. Statistical Performance Check– Radar Type 3 Trial Records**20 MHz Master**

Radar Type 3			
Trial #	Number Pulses per Burst	Pulse Width (μsec)	PRI (μsec)
1	16	8.8	341
2	17	9.2	477
3	17	6.3	216
4	17	9.4	259
5	18	7.9	323
6	17	8.1	325
7	17	9.9	465
8	17	9.1	267
9	16	7.2	408
10	18	8.2	348
11	17	7.4	426
12	17	7.9	471
13	18	6.0	275
14	16	8.4	220
15	17	6.3	211
16	17	6.6	225
17	18	9.2	228
18	17	10	480
19	17	8.3	234
20	16	8.6	406
21	17	7.6	417
22	16	7.5	292
23	16	9.9	454
24	17	9.0	245
25	16	7.1	240
26	18	7.3	347
27	17	6.4	270
28	17	10	420
29	17	7.2	440
30	17	8.9	311

Statistical Performance Check– Radar Type 3 Trial Records (continued)**40 MHz Master**

Radar Type 3			
Trial #	Number Pulses per Burst	Pulse Width (µsec)	PRI (µsec)
1	18	6.5	299
2	18	7.1	231
3	17	7.8	354
4	16	6.2	335
5	16	10.0	493
6	16	9.6	264
7	17	7.5	463
8	16	8.1	485
9	17	6.8	283
10	17	9.4	298
11	17	9.2	412
12	17	9.1	384
13	17	6.9	439
14	16	9.7	352
15	16	8.8	260
16	16	8.2	393
17	17	7.7	402
18	16	6.7	319
19	18	7.1	432
20	17	7.9	481
21	16	7.1	271
22	17	6.5	249
23	17	9.3	360
24	17	8.1	427
25	17	8.9	223
26	17	9.7	423
27	18	8.3	442
28	18	7.7	235
29	16	7.2	345
30	17	7.5	459

Statistical Performance Check– Radar Type 3 Trial Records (continued)**80 MHz Master**

Radar Type 3			
Trial #	Number Pulses per Burst	Pulse Width (µsec)	PRI (µsec)
1	18	9.9	439
2	17	7.8	498
3	17	7.1	398
4	16	9.0	300
5	17	8.5	392
6	18	10	395
7	18	9.5	459
8	18	8.3	475
9	17	6.6	320
10	17	8.2	220
11	17	9.2	451
12	18	6.5	280
13	17	6.8	341
14	17	9.3	363
15	16	9.9	422
16	17	9.9	484
17	16	8.1	449
18	17	6.6	249
19	17	7.1	415
20	17	6.8	485
21	16	8.0	433
22	17	6.5	227
23	18	8.5	399
24	18	6.7	356
25	16	7.0	302
26	16	6.5	215
27	16	9.5	247
28	17	8.9	454
29	16	7.3	461
30	17	9.6	361

Appendix 7. Statistical Performance Check– Radar Type 4 Trial Records**20 MHz Master**

Radar Type 4			
Trial #	Number Pulses per Burst	Pulse Width (µsec)	PRI (µsec)
1	14	19.7	327
2	13	17.6	263
3	13	15.5	489
4	13	11.5	462
5	12	11.5	222
6	14	11.7	209
7	13	11.7	219
8	13	15.2	216
9	15	19.6	253
10	16	16.8	239
11	14	16.8	257
12	16	19.5	313
13	14	18.2	403
14	12	17.7	278
15	13	17.4	202
16	15	12.8	246
17	14	11.8	352
18	12	15.3	425
19	12	17.5	317
20	16	11.6	485
21	14	16.1	402
22	14	13.7	488
23	14	18.9	374
24	16	19.6	482
25	14	17.0	374
26	13	11.5	357
27	14	17.7	467
28	15	14.6	472
29	14	15.1	341
30	13	17.9	416

Statistical Performance Check– Radar Type 4 Trial Records (continued)**40 MHz Master**

Radar Type 4			
Trial #	Number Pulses per Burst	Pulse Width (µsec)	PRI (µsec)
1	14	14.4	445
2	15	12.6	280
3	15	16.4	377
4	14	14.4	430
5	16	19.3	491
6	15	18.8	445
7	13	19.5	217
8	16	17.7	465
9	14	14.6	245
10	13	11.2	363
11	15	13.1	299
12	14	19.7	497
13	15	14.2	233
14	15	15.4	359
15	15	17.8	325
16	12	12.7	253
17	15	11.9	264
18	16	15.1	381
19	13	19.8	250
20	14	19.1	380
21	13	16.2	352
22	15	19.5	329
23	14	13.5	345
24	16	19.1	368
25	15	11.8	322
26	12	19.4	208
27	16	13.3	334
28	12	11.4	228
29	15	17.4	447
30	13	12.2	464

Statistical Performance Check– Radar Type 4 Trial Records (continued)**80 MHz Master**

Radar Type 3			
Trial #	Number Pulses per Burst	Pulse Width (μsec)	PRI (μsec)
1	13	17.2	424
2	15	19.0	368
3	14	18.5	442
4	14	19.7	255
5	13	14.5	261
6	13	18.1	295
7	16	19.0	269
8	14	14.3	345
9	14	18.5	204
10	14	18.0	336
11	16	16.8	426
12	12	18.1	437
13	14	13.0	206
14	16	16.8	320
15	15	19.5	406
16	13	14.8	208
17	12	12.9	276
18	14	11.2	440
19	15	15.0	425
20	12	18.4	402
21	14	17.6	498
22	14	18.0	355
23	13	17.2	315
24	16	19.8	437
25	15	13.6	354
26	12	13.5	396
27	12	14.0	446
28	12	14.8	419
29	12	16.3	396
30	16	11.0	429

Appendix 8. Statistical Performance Check– Radar Type 5 Trial Records

20 MHz Master - Trial 1

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	54.6	15	1935	1695	1298.1
2	2	68.9	15	1268	-	1106.08
3	2	72.1	15	1464	-	326.53
4	2	90.2	15	1613	-	208.99
5	2	93.8	15	1062	-	1116.82
6	3	62.9	15	1898	1050	959.19
7	3	74.3	15	1817	1920	905.77
8	2	95.9	15	1908	-	490.5

20 MHz Master - Trial 2

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	64.7	10	1037	-	1089.23
2	2	94.6	10	1082	-	325.94
3	2	80.8	10	1224	-	138.23
4	3	67.4	10	1611	1793	79.17
5	3	75.3	10	1913	1342	1013.3
6	2	52.1	10	1001	-	955.54
7	3	64.2	10	1292	1063	872.58
8	2	87.7	10	1470	-	1354.5

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 3**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	93	18	1944	-	476.348
2	3	98.1	18	1783	1690	203.8
3	1	67.2	18	-	-	255.84
4	1	87.7	18	-	-	276.7
5	1	96.6	18	-	-	388.25
6	2	77.3	18	1492	-	315.32
7	3	80	18	1238	1745	181.63
8	2	93.9	18	1820	-	70.07
9	2	70.4	18	1643	-	659.85
10	1	90.3	18	-	-	143.75
11	2	84.8	18	1711	-	429.1
12	2	72.7	18	1054	-	964.9

20 MHz Master - Trial 4

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	97.8	7	1692	-	376.396
2	2	81.8	7	1537	-	421.268
3	2	57.3	7	1955	-	207.785
4	2	59.7	7	1335	-	77.473
5	2	90.8	7	1985	-	346.581
6	2	50.1	7	1624	-	215.598
7	1	58.2	7	-	-	327.116
8	1	59.3	7	-	-	470.884
9	1	89	7	-	-	431.601
10	2	73.9	7	1567	-	527.119
11	2	71.3	7	1792	-	27.736
12	2	77.9	7	1579	-	482.854
13	2	71.2	7	1037	-	38.422
14	3	82.6	7	1192	1369	475.469
15	2	77.4	7	1730	-	131.247
16	1	89.6	7	-	-	572.765
17	2	92.1	7	1804	-	255.382

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 5**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	50.5	15	1725	-	690.382
2	1	69.6	15	-	-	843.613
3	1	75.7	15	-	-	601.746
4	1	65.9	15	-	-	259.809
5	2	87.2	15	1956	-	746.992
6	2	73.6	15	1559	-	585.635
7	3	59.3	15	1132	1964	590.548
8	1	64	15	-	-	871.952
9	2	91.6	15	1654	-	821.045
10	2	95.6	15	1627	-	626.308
11	1	73.5	15	-	-	458.381
12	1	87.1	15	-	-	27.554
13	1	78.2	15	-	-	222.677

20 MHz Master - Trial 6

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	84.7	7	1819	-	357.754
2	1	79.5	7	-	-	760.137
3	3	70.1	7	1359	1737	524.324
4	1	60.9	7	-	-	61.241
5	2	93.9	7	1129	-	221.629
6	2	68.1	7	1725	-	235.826
7	3	75.5	7	1898	1200	420.043
8	1	50.2	7	-	-	777.48
9	3	62.3	7	1095	1163	349.947
10	2	68.9	7	1164	-	570.294
11	2	87.2	7	1437	-	555.811
12	2	96.7	7	1627	-	201.499
13	2	88.4	7	1755	-	173.686
14	2	77.5	7	1443	-	342.943

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 7**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	62.5	17	1943	-	226.698
2	2	92.9	17	1580	-	227.282
3	3	55.5	17	1603	1339	259.552
4	2	98.4	17	1787	-	506.913
5	2	77.6	17	1936	-	398.204
6	1	98.5	17	-	-	395.315
7	2	87.9	17	1776	-	216.606
8	3	75.8	17	1482	1706	340.117
9	2	94.3	17	1880	-	336.678
10	3	72.3	17	1350	1816	439.999
11	2	68.8	17	1471	-	34.121
12	2	92.8	17	1627	-	276.112
13	2	90.6	17	1556	-	195.713
14	2	86.8	17	1712	-	521.084
15	1	73	17	-	-	504.015
16	1	52.6	17	-	-	385.966
17	1	91.9	17	-	-	399.337
18	2	59.4	17	1671	-	203.658
19	3	92.2	17	1248	1344	303.079

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 8**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	68.1	9	1032	-	223.628
2	3	63.9	9	1343	1145	2.323
3	2	90	9	1069	-	612.885
4	1	52.9	9	-	-	369.463
5	1	74.2	9	-	-	309.361
6	3	62.1	9	1502	1528	526.698
7	2	57.7	9	1573	-	329.336
8	1	62.9	9	-	-	566.194
9	1	81.1	9	-	-	151.081
10	2	91	9	1742	-	418.569
11	3	94.2	9	1993	1092	274.106
12	2	74.9	9	1586	-	629.034
13	2	76	9	1177	-	435.212
14	2	96.9	9	1938	-	598.229
15	3	92.3	9	1834	1061	2.317
16	1	95.1	9	-	-	465.065
17	3	58.9	9	1086	1587	64.482

20 MHz Master - Trial 9

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	50.8	19	1005	-	461.626
2	2	96.4	19	1602	-	761.273
3	3	85.9	19	1125	1426	857.376
4	2	99.1	19	1553	-	911.289
5	2	70.5	19	1881	-	417.802
6	3	98.8	19	1662	1124	661.865
7	3	94.9	19	1524	1117	891.378
8	1	95.5	19	-	-	335.252
9	3	99.5	19	1409	1049	626.785
10	3	62.8	19	1108	1324	849.188
11	2	61.1	19	1487	-	873.631
12	3	89.1	19	1252	1250	38.854
13	1	74.2	19	-	-	213.677

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 10**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	98.4	10	1457	-	55.942
2	1	72.3	10	-	-	297.771
3	2	78.8	10	1436	-	210.912
4	2	68.7	10	1372	-	143.213
5	1	99.8	10	-	-	176.224
6	2	72.7	10	1509	-	532.135
7	3	76.2	10	1955	1008	313.696
8	2	68.9	10	1371	-	318.607
9	2	52.1	10	1747	-	308.168
10	2	86.5	10	1645	-	457.609
11	2	67.2	10	1776	-	69.391
12	1	56.1	10	-	-	517.312
13	1	88.4	10	-	-	28.823
14	2	75.6	10	1442	-	459.184
15	1	60.3	10	-	-	50.885
16	3	63.3	10	1237	1783	588.816
17	1	99.9	10	-	-	6.837
18	1	69	10	-	-	156.658
19	1	52.9	10	-	-	144.079
1	2	98.4	10	1457	-	55.942

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 11**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	69.7	16	1833	-	354.053
2	2	75.5	16	1094	-	437.017
3	1	81.7	16	-	-	352.244
4	1	98.3	16	-	-	735.601
5	2	99.2	16	1904	-	522.469
6	1	65.9	16	-	-	816.616
7	2	97.6	16	1488	-	603.213
8	3	81.2	16	1605	1700	748.11
9	1	83.6	16	-	-	829.547
10	2	83.5	16	1358	-	326.714
11	3	61.8	16	1071	1234	106.091
12	2	96.3	16	1809	-	620.929
13	2	69.7	16	1103	-	680.186
14	2	88.4	16	1495	-	41.043

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 12**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	71.9	7	1603	1732	659.452
2	2	91	7	1608	-	522.588
3	2	76.7	7	1811	-	9.975
4	2	55.8	7	1862	-	595.023
5	2	85.2	7	1204	-	498.291
6	2	55.8	7	1887	-	453.378
7	3	63.7	7	1504	1636	624.266
8	1	66.2	7	-	-	553.044
9	2	53.9	7	1354	-	10.641
10	2	53.9	7	2000	-	430.489
11	3	77.5	7	1583	1767	557.866
12	2	77.2	7	1170	-	625.364
13	2	63	7	1251	-	684.392
14	1	77.4	7	-	-	244.489
15	2	95.8	7	1487	-	521.847
16	3	98.8	7	1314	1859	331.865
17	2	63.6	7	1013	-	551.382

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 13**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	73.5	15	1547	-	429.189
2	2	96.4	15	1736	-	375.615
3	1	75	15	-	-	125.82
4	2	53.2	15	1155	-	423.98
5	3	52.4	15	1353	1665	451.48
6	1	93.4	15	-	-	84.76
7	2	61.8	15	1337	-	152.95
8	3	73.9	15	1880	1484	317.18
9	1	65.8	15	-	-	538.52
10	2	64.4	15	1967	-	203.61
11	2	55.9	15	1835	-	579.13
12	2	73.8	15	1902	-	59.42
13	3	97.9	15	1866	1690	411.65
14	1	88.7	15	-	-	159.55
15	1	54	15	-	-	209.95
16	2	61.7	15	1935	-	482.02
17	2	80.2	15	1383	-	531
18	3	52.2	15	1920	1201	395.2
19	2	61.6	15	1523	-	346.7
20	3	55.9	15	1981	1264	103.4

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 14**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	95.2	6	-	-	394.64
2	1	94	6	-	-	671.498
3	2	61.7	6	1499	-	37.085
4	2	76.5	6	1703	-	311.313
5	1	95.3	6	-	-	663.681
6	1	62.4	6	-	-	484.058
7	3	92.3	6	1405	1997	106.806
8	1	79.6	6	-	-	42.154
9	1	52.1	6	-	-	579.041
10	1	50.4	6	-	-	16.599
11	1	98.1	6	-	-	423.536
12	2	76.5	6	1297	-	20.784
13	2	78.7	6	1727	-	489.492
14	2	50.9	6	1915	-	270.429
15	2	94.1	6	1128	-	508.147
16	2	72.9	6	1423	-	443.865
17	2	79	6	1371	-	189.282

20 MHz Master - Trial 15

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	95.3	9	1789	-	1463.41
2	1	91.9	9	-	-	125.8
3	3	53.9	9	1383	1815	12.22
4	2	71.1	9	1124	-	1068.72
5	2	90.1	9	1825	-	1149.46
6	1	85.8	9	-	-	113.53
7	2	92.3	9	1432	-	143.88
8	1	80.7	9	-	-	522.3

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 16**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	62.9	12	1148	-	740.945
2	2	70.4	12	1582	-	416.14
3	2	91.5	12	1735	-	269.19
4	2	62	12	1390	-	659.93
5	2	56.1	12	1958	-	412.36
6	1	75	12	-	-	1072.25
7	3	68.9	12	1137	1866	1068.04
8	1	86.3	12	-	-	1084.81
9	1	51.6	12	-	-	1028
10	3	88.5	12	1657	1697	673.1

20 MHz Master - Trial 17

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	96.1	5	1718	1965	1086.76
2	2	76.9	5	1760	-	265.85
3	2	88.4	5	1426	-	9.97
4	1	80.8	5	-	-	841.45
5	3	68.3	5	1385	1053	635.05
6	2	98.2	5	1392	-	574.51
7	2	72.3	5	1023	-	610.84
8	3	58.1	5	1622	1967	740.51
9	2	83.6	5	1946	-	234.48
10	2	71.9	5	1136	-	1124.8

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 18**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	83	12	1557	-	488.897
2	1	83.1	12	-	-	247.671
3	2	86.6	12	1182	-	595.062
4	2	51.7	12	1907	-	106.273
5	1	60.4	12	-	-	544.104
6	2	83.4	12	1570	-	315.505
7	1	67.8	12	-	-	525.685
8	2	82.1	12	1528	-	430.046
9	3	99.9	12	1694	1211	835.097
10	2	54.1	12	1291	-	1030.518
11	2	63.7	12	1299	-	160.209

20 MHz Master - Trial 19

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	94.6	15	1907	-	600.632
2	3	86.7	15	1310	1409	180.283
3	1	63.9	15	-	-	610.742
4	3	79.7	15	1426	1867	298.323
5	2	65.5	15	1856	-	520.074
6	1	60.1	15	-	-	165.675
7	2	75	15	1586	-	172.346
8	2	87.5	15	1656	-	462.077
9	3	98.1	15	1140	1184	460.738
10	2	55.8	15	1824	-	545.259
11	2	94.5	15	1607	-	147.191
12	3	62.9	15	1240	1495	282.782
13	3	72.2	15	1654	1881	211.083
14	2	72.1	15	1418	-	207.454
15	2	73.8	15	1397	-	617.945
16	3	82.6	15	1035	1962	205.006
17	3	80.6	15	1850	1488	55.037
18	1	77.9	15	-	-	424.958
19	2	53.1	15	1712	-	148.179

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 20**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	73	11	1197	1096	1104.3
2	2	78.1	11	1924	-	996.767
3	2	81.5	11	1661	-	270.033
4	2	52.4	11	1291	-	41.92
5	2	67	11	1805	-	1294.677
6	3	55.9	11	1650	1333	65.713
7	1	80.5	11	-	-	861.78
8	2	98	11	1904	-	151.777
9	2	70.1	11	1675	-	374.233

20 MHz Master - Trial 21

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	64.3	12	-	-	643.931
2	1	95.2	12	-	-	798.463
3	2	69.8	12	1084	-	399.396
4	1	95	12	-	-	57.369
5	1	66	12	-	-	700.222
6	2	73.4	12	1882	-	147.005
7	2	64.3	12	1129	-	529.268
8	2	75.5	12	1710	-	879.672
9	2	81.3	12	1351	-	671.065
10	1	88.7	12	-	-	310.088
11	3	64.2	12	1124	1503	489.061
12	1	86.3	12	-	-	662.954
13	2	62.9	12	1042	-	349.077

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 22**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	52.1	14	-	-	377.808
2	2	79.3	14	1197	-	519.743
3	3	50.1	14	1464	1838	283.037
4	2	98.1	14	1175	-	254.86
5	2	72.7	14	1889	-	425.653
6	2	74.4	14	1786	-	382.207
7	2	50.7	14	1477	-	83.96
8	3	91.8	14	1403	1949	115.643
9	2	56	14	1244	-	146.107
10	3	84.1	14	1170	1608	245.91
11	2	52.9	14	1616	-	320.913
12	2	100	14	1755	-	524.697
13	2	92.1	14	1174	-	169.62
14	1	92.4	14	-	-	110.813
15	2	89.2	14	1155	-	149.467
16	3	89	14	1498	1418	267.9
17	3	98	14	1010	1071	636.833
18	2	74.5	14	1353	-	364.767

20 MHz Master - Trial 23

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	84.8	19	-	-	1240.97
2	2	75.9	19	1089	-	1013.337
3	1	71.9	19	-	-	34.543
4	1	60.4	19	-	-	1069.04
5	2	67.4	19	1384	-	225.507
6	2	88.6	19	1467	-	933.403
7	2	98.6	19	1645	-	314.14
8	2	79.7	19	1752	-	277.687
9	3	94.8	19	1326	1494	1213.333

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 24**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	54.3	15	1687	-	672.979
2	2	69.5	15	1842	-	414.6
3	3	79	15	1289	1603	16.2
4	2	72.3	15	1130	-	129.12
5	3	65.5	15	1648	1522	644.87
6	1	74.8	15	-	-	647.21
7	2	80.8	15	1393	-	140.55
8	3	81.8	15	1118	1798	436.19
9	1	93.9	15	-	-	607.92
10	2	61.2	15	1040	-	319.01
11	3	99.9	15	1262	1706	693.35
12	2	56.1	15	1300	-	393.8
13	2	69.6	15	1539	-	648.1
14	1	86.4	15	-	-	601.1
15	3	58.6	15	1075	1250	385.7

20 MHz Master - Trial 25

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	70.7	7	1618	-	371.33
2	3	96.7	7	1345	1233	179.777
3	2	91.8	7	1045	-	350.524
4	2	79.3	7	1656	-	334.541
5	2	90.5	7	1513	-	596.939
6	1	50.8	7	-	-	218.436
7	1	66.7	7	-	-	672.083
8	2	97.8	7	1103	-	313.4
9	2	73.4	7	1736	-	528.307
10	2	88.1	7	1546	-	37.394
11	2	83.3	7	1060	-	385.021
12	1	89.5	7	-	-	79.469
13	3	82.8	7	1336	1491	588.586
14	2	52.3	7	1424	-	375.043

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 26**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	57.5	18	-	-	688.704
2	3	61.2	18	1320	1416	421.16
3	3	71.9	18	1134	1609	403.6
4	2	69.9	18	1872	-	593.64
5	2	92.3	18	1411	-	165.01
6	2	64.3	18	1404	-	200.09
7	3	91.1	18	1594	1548	408.07
8	2	67.7	18	1599	-	226.09
9	2	92.8	18	1961	-	374.4
10	2	75.6	18	1004	-	488.16
11	3	93.3	18	1215	1435	138.76
12	2	53.8	18	1093	-	113.29
13	2	87.1	18	1703	-	716.13
14	1	77.4	18	-	-	547
15	2	62.4	18	1984	-	228.7
16	2	87.7	18	1748	-	334.6

20 MHz Master - Trial 27

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	81.8	17	1864	1716	235.814
2	1	55	17	-	-	77.35
3	1	55.1	17	-	-	228.77
4	2	62.8	17	1412	-	1305.93
5	1	61.1	17	-	-	1272.89
6	2	96.7	17	1223	-	1136.3
7	3	55.6	17	1622	1323	548.35
8	2	67.4	17	1144	-	262.6

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 28**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	55.8	8	-	-	547.919
2	1	61.2	8	-	-	538.297
3	2	72	8	1901		1048.643
4	3	60.2	8	1575	1436	1256.17
5	3	97.1	8	1959	1437	1158.827
6	3	82.5	8	1333	1955	364.423
7	2	61	8	1433	-	681.56
8	1	97.5	8	-	-	829.867
9	2	95.5	8	1551	-	1297.133

20 MHz Master - Trial 29

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	90.2	9	1558	1939	909.012
2	2	78.6	9	1647	-	825.961
3	1	78.9	9	-	-	682.092
4	1	61.9	9	-	-	44.603
5	3	95.4	9	1462	1094	797.564
6	3	72.7	9	1693	1881	673.785
7	3	55.8	9	1215	1652	496.985
8	3	52	9	1793	1655	814.486
9	2	79.3	9	1237	-	7.437
10	1	73.4	9	-	-	179.648
11	2	98	9	1895	-	276.409

Statistical Performance Check– Radar Type 5 Trial Records (continued)**20 MHz Master - Trial 30**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	96.9	16	1762	1838	342.517
2	1	96.5	16	-	-	871.54
3	3	58.8	16	1163	1897	169.14
4	2	59.1	16	1330	-	736.47
5	1	90.7	16	-	-	107.28
6	3	96.7	16	1879	1919	343.9
7	3	88.7	16	1590	1177	877.34
8	3	92.3	16	1139	1114	295.54
9	3	52.5	16	1029	1497	438.95
10	1	92.9	16	-	-	905.07
11	1	59.3	16	-	-	669.2
12	3	77.9	16	1409	1131	787.6

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 1**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	93.2	5			120.869
2	3	77.4	5	1714	1815	156.887
3	3	74.6	5	1015	1153	991.393
4	2	81.7	5	1627		523.4
5	1	97.8	5			648.627
6	2	91.8	5	1980		645.453
7	1	53.6	5			403.95
8	2	73.7	5	1944		125.647
9	2	59.1	5	1336		1262.533

40 MHz Master - Trial 2

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	82	12	1869	-	664.917
2	2	79.3	12	1543	-	17.302
3	2	64.2	12	1236	-	805.536
4	1	88.9	12	-	-	709.209
5	2	94.1	12	1666	-	554.542
6	1	58.3	12	-	-	509.515
7	1	88.9	12	-	-	692.198
8	2	88.2	12	1196	-	799.952
9	3	72.1	12	1693	1729	259.435
10	2	99.9	12	1326	-	449.348
11	2	83.3	12	1970	-	430.771
12	2	78.8	12	1074	-	279.254
13	1	90.7	12	-	-	433.377

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 3**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	94.6	6	1246	-	602.953
2	1	58.7	6	-	-	221.216
3	2	97.1	6	1988	-	550.957
4	2	93.3	6	1005	-	525.76
5	2	83	6	1472	-	274.883
6	1	96.5	6	-	-	494.037
7	2	83.1	6	1343	-	628.28
8	1	70.9	6	-	-	69.823
9	1	62.1	6	-	-	513.537
10	2	72.3	6	1022	-	561.2
11	2	80.8	6	1593	-	446.293
12	2	97.6	6	1031	-	159.397
13	2	52	6	1573	-	372.02
14	2	74.5	6	1271	-	166.553
15	2	96.8	6	1271	-	545.967
16	1	99.4	6	-	-	246
17	2	81.2	6	1649	-	569.233
18	2	97.7	6	1763	-	120.767

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 4**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	75.2	12	1704	-	454.04
2	3	50.9	12	1014	1224	497.183
3	1	95.5	12	-	-	295.787
4	2	79.6	12	1527	-	61.27
5	3	99.4	12	1266	1209	355.093
6	1	61.1	12	-	-	298.537
7	2	55	12	1402		157.03
8	3	73.1	12	1080	1961	591.773
9	2	98.5	12	1777	-	127.697
10	3	94.3	12	1763	1071	397.22
11	2	71.8	12	1717	-	242.733
12	1	73	12	-	-	265.167
13	2	77.7	12	1200	-	30.59
14	2	69	12	1254	-	529.183
15	2	71.6	12	1793	-	43.407
16	2	63	12	1580	-	162.2
17	3	86.8	12	1189	1248	307.733
18	2	79.6	12	1287	-	418.367

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 5**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	84.7	11	1053	-	533.496
2	1	51	11	-	-	538.85
3	2	88.5	11	1725	-	726.05
4	2	78.6	11	1013	-	525.58
5	3	99.8	11	1232	1284	74.1
6	2	72.1	11	1452	-	445.83
7	2	93.7	11	1391	-	556.05
8	3	57.9	11	1107	1347	69.08
9	3	72.1	11	1449	1056	588.89
10	1	85.4	11	-	-	613.65
11	1	68	11	-	-	433.98
12	2	96.8	11	1851	-	371.17
13	3	76.4	11	1893	1249	96.23
14	2	69.1	11	1278	-	671.1
15	3	88.6	11	1134	1953	97.2

40 MHz Master - Trial 6

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	84.8	5	1687	-	983.913
2	1	78	5	-	-	691.171
3	2	95.9	5	1981	-	741.682
4	3	94.8	5	1847	1690	712.783
5	2	67	5	1563	-	385.684
6	2	84.9	5	1402	-	1024.225
7	1	57	5	-	-	357.475
8	1	76.8	5	-	-	58.156
9	2	81	5	1997	-	908.967
10	2	54.8	5	1400	-	949.918
11	2	62.7	5	1712	-	509.109

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 7**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	50.7	18	1553	1897	680.125
2	2	96.4	18	1194	-	765.543
3	2	66	18	1595	-	809.116
4	3	50.4	18	1284	1943	321.649
5	2	67.5	18	1752	-	229.922
6	2	72.9	18	1968	-	11.155
7	3	82	18	1051	1203	458.728
8	3	77.4	18	1813	1839	412.142
9	1	59.3	18	-	-	821.855
10	3	94.4	18	1159	1625	273.068
11	2	73.6	18	1950	-	554.331
12	1	73.2	18	-	-	642.154
13	3	52.6	18	1341	1904	852.077

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 8**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	80.9	8	-	-	632.298
2	3	58.8	8	1612	1566	395.673
3	2	50.3	8	1348	-	7.337
4	3	79.4	8	1875	1108	362.32
5	1	91.7	8	-	-	255.123
6	2	52.2	8	1319	-	272.467
7	2	82	8	1431	-	476.51
8	2	70.4	8	1785	-	115.533
9	3	77.6	8	1286	1002	646.767
10	1	90.8	8	-	-	360.87
11	1	94.3	8	-	-	274.773
12	1	55.2	8	-	-	31.787
13	2	94	8	1539	-	137.32
14	1	99.3	8	-	-	326.113
15	2	95.6	8	1311	-	582.237
16	2	67.8	8	1180	-	194
17	2	91.9	8	1241	-	170.133
18	2	69.8	8	1349	-	243.767

40 MHz Master - Trial 9

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	86	19	1341	-	692.418
2	3	79.1	19	1442	1705	483.93
3	2	75.2	19	1513	-	225.93
4	2	52.9	19	1771	-	967.71
5	3	92.9	19	1967	1984	447.13
6	3	84	19	1319	1846	855.12
7	2	93.2	19	1917	-	296.67
8	3	53.3	19	1372	1708	781.11
9	2	60.4	19	1810	-	949.1
10	1	96.3	19	-	-	191.8

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 10**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	65.1	7	-	-	298.958
2	1	50.2	7	-	-	146.161
3	1	81.2	7	-	-	875.702
4	1	88.6	7	-	-	774.833
5	1	50.6	7	-	-	479.734
6	3	80	7	1446	1627	256.365
7	2	75.6	7	1507	-	553.625
8	2	73.4	7	1335	-	647.826
9	1	89	7	-	-	317.807
10	3	70.6	7	1399	1917	310.918
11	2	89.9	7	1465	-	330.709

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 11**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	91.5	9	1699	1460	360.572
2	1	52.2	9	-	-	189.292
3	1	75.9	9	-	-	79.847
4	1	58.3	9	-	-	243.45
5	3	59	9	1295	1061	578.423
6	3	75.5	9	1945	1919	578.247
7	2	61.7	9	1819	-	390.44
8	2	84.4	9	1175	-	419.653
9	2	59.9	9	1885	-	371.467
10	3	54.7	9	1132	1285	300.32
11	1	73	9	-	-	383.403
12	3	92	9	1337	1624	177.597
13	2	62.6	9	1002	-	537.42
14	2	88.9	9	1415	-	604.013
15	2	67.9	9	1312	-	620.167
16	2	53.2	9	1141	-	27.3
17	2	60.2	9	1952	-	201.133
18	2	80.1	9	1290	-	433.867

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 12**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	81.9	18	1264	-	197.149
2	1	70.7	18	-	-	38.645
3	2	89.9	18	1749	-	75.287
4	1	85	18	-	-	115.42
5	3	74.5	18	1954	1142	74.593
6	2	62.3	18	1116	-	219.607
7	2	74.1	18	1552	-	419.49
8	2	51.3	18	1672	-	389.603
9	2	70.1	18	1118	-	216.307
10	2	96.1	18	1709	-	508.08
11	2	95.9	18	1965	-	368.333
12	2	85.4	18	1875	-	167.717
13	2	68.2	18	1153	-	282.11
14	3	70.9	18	1631	1368	146.823
15	1	76.5	18	-	-	209.127
16	2	67.4	18	1290	-	107.9
17	2	69.5	18	1349	-	171.133
18	2	55.7	18	1322	-	218.267

40 MHz Master - Trial 13

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	93.6	5	1275	-	335.25
2	2	66.6	5	1802	-	708.931
3	2	73.8	5	1040	-	650.372
4	2	69.1	5	1748	-	554.353
5	2	54	5	1943	-	877.314
6	1	95.7	5	-	-	248.695
7	1	85.6	5	-	-	958.635
8	1	96.7	5	-	-	588.626
9	2	56.7	5	1425	-	474.817
10	2	78.6	5	1817	-	367.318
11	2	86.2	5	1802	-	675.609

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 14**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	98.4	9	1402	-	1084.69
2	1	93.6	9	-	-	997.49
3	1	95.2	9	-	-	1139.22
4	1	84.1	9	-	-	306.74
5	2	85	9	1695	-	252.34
6	2	66.6	9	1963	-	184.27
7	2	50.1	9	1976	-	834.38
8	3	80.3	9	1862	1306	743.9

40 MHz Master - Trial 15

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	97.4	9	1533	-	340.636
2	2	70.5	9	1731	-	498.54
3	2	60.7	9	1363	-	209.14
4	2	76.4	9	1224	-	713.87
5	2	79.7	9	1217	-	76.54
6	2	59.6	9	1712	-	265.36
7	2	99.2	9	1437	-	708.18
8	2	69.4	9	1426	-	717.77
9	2	74.1	9	1621	-	398.4
10	3	82.1	9	1645	1728	236.68
11	1	93.2	9	-	-	182.58
12	2	65.5	9	1445	-	624.58
13	2	92.3	9	1714	-	439.7
14	2	92.9	9	1074	-	537.9
15	3	61.6	9	1575	1747	31.8
16	3	86.3	9	1292	1159	85.2

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 16**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	57.9	12	1151	1372	59.343
2	1	66.3	12	-	-	327.2
3	1	87.3	12	-	-	264.8
4	2	67.1	12	1646	-	87.9
5	2	59.1	12	1431	-	330.84
6	3	68.9	12	1328	1323	219.85
7	2	64.7	12	1102	-	570.34
8	2	77.2	12	1870	-	338.16
9	2	70.8	12	1946	-	484.01
10	2	98	12	1781	-	574.29
11	2	60.6	12	1582	-	423.64
12	2	87.6	12	1568	-	274.91
13	3	61.3	12	1482	1659	263.07
14	1	61.6	12	-	-	428.2
15	2	54	12	1413	-	654.5
16	2	93.5	12	1652	-	655.7

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 17**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	89.8	17	1063	-	128.654
2	2	90.9	17	1372	-	555.631
3	2	91.2	17	1356	-	92.952
4	2	52	17	1173	-	104.003
5	2	93.1	17	1755	-	514.084
6	2	51.5	17	1311	-	120.085
7	1	72.1	17	-	-	219.586
8	2	57.3	17	1783	-	201.867
9	2	90.2	17	1300	-	271.668
10	2	66.2	17	1391	-	470.459
11	2	84.4	17	1174	-	590.921
12	2	68.8	17	1093	-	34.212
13	2	86.7	17	1331	-	528.493
14	2	74.2	17	1142	-	601.914
15	2	94.8	17	1672	-	155.515
16	3	52.9	17	1891	1251	108.616
17	1	72	17	-	-	463.037
18	1	64.7	17	-	-	222.358
19	3	61.4	17	1608	1341	71.879

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 18**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	64.1	16	1294	1901	15.82
2	1	89.2	16	-	-	408.91
3	1	65.2	16	-	-	618.13
4	1	81.9	16	-	-	565.75
5	1	98.1	16	-	-	456.93
6	3	74.9	16	1020	1137	493.32
7	2	86.1	16	1631	-	690.8
8	2	67.1	16	1719	-	168
9	2	66.5	16	1046	-	561.74
10	2	92.7	16	1789	-	731.35
11	2	94.2	16	1857	-	136.19
12	2	86.4	16	1819	-	658.02
13	2	55.8	16	1893	-	423.34
14	2	99.3	16	1817	-	461.4
15	3	52.2	16	1371	1388	527.6
16	3	80.1	16	1498	1039	223

40 MHz Master - Trial 19

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	94.3	7	1533	-	479.071
2	1	63.8	7	-	-	766.61
3	2	84.5	7	1132	-	154.12
4	3	84	7	1800	1069	1479.71
5	2	97.6	7	1355	-	1380.72
6	1	76.8	7	-	-	1078.61
7	1	75.1	7	-	-	653.04
8	1	89.5	7	-	-	778

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 20**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	63	18	1868	1912	491.82
2	2	69	18	1837	-	596.587
3	2	74.9	18	1097	-	1119.403
4	1	92.3	18	-	-	387.5
5	2	74.8	18	1659	-	23.577
6	3	76.4	18	1121	1304	1210.653
7	1	65	18	-	-	852.84
8	3	83	18	1751	1718	83.417
9	1	83.6	18	-	-	851.133

40 MHz Master - Trial 21

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	90.2	15	1119	1949	952.681
2	2	84.5	15	1630	-	472.6
3	2	51.1	15	1774	-	1159.27
4	3	90.9	15	1664	1884	750.93
5	2	52.6	15	1024	-	1167.01
6	3	50.9	15	1635	1241	565.93
7	2	53	15	1767	-	1166.32
8	1	66.5	15	-	-	338.22
9	2	64	15	1348	-	1044.8
10	3	81.7	15	1902	1724	186.6

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 22**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	84.9	10	1488	1104	115.099
2	2	70.2	10	1460	-	226.807
3	1	86.1	10	-	-	848.033
4	2	96.1	10	1207	-	1024.19
5	3	70.2	10	1952	1163	241.817
6	2	94.7	10	1055	-	644.993
7	1	77.3	10	-	-	856.2
8	3	84.9	10	1001	1726	1058.867
9	3	64.8	10	1720	1040	878.633

40 MHz Master - Trial 23

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	54.5	6	1858	1864	217.212
2	3	90.2	6	1642	1113	275.893
3	2	97.8	6	1810	-	51.696
4	3	92	6	1936	1592	687.279
5	1	89.2	6	-	-	400.692
6	1	53.1	6	-	-	82.095
7	2	67.5	6	1652	-	160.038
8	2	92.1	6	1872	-	321.562
9	3	96.6	6	1731	1218	740.165
10	2	69.8	6	1976	-	176.868
11	2	51.5	6	1159	-	160.221
12	1	83.8	6	-	-	401.454
13	1	96	6	-	-	826.677

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 24**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	64.5	8	1141	-	209.947
2	1	75.1	8	-	-	287.011
3	1	80.1	8	-	-	559.872
4	1	59.3	8	-	-	383.443
5	2	55.3	8	1048	-	382.234
6	2	62.9	8	1718	-	382.145
7	1	57.6	8	-	-	308.776
8	1	61.7	8	-	-	518.417
9	1	86.8	8	-	-	464.028
10	3	61.1	8	1497	1129	103.129
11	2	58.7	8	1230	-	143.291
12	3	67.2	8	1315	1684	272.292
13	3	50.5	8	1742	1217	447.193
14	2	54.1	8	1945	-	365.274
15	1	93.1	8	-	-	483.845
16	3	58	8	1861	1800	249.996
17	3	65.8	8	1752	1537	60.437
18	1	63.2	8	-	-	308.258
19	2	95.1	8	1413	-	458.679

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 25**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	76.1	14	1347	1840	163.76
2	2	96.6	14	1822	-	419.513
3	3	81.1	14	1172	1209	520.237
4	2	94.5	14	1163	-	331.5
5	2	79.4	14	1220	-	524.963
6	1	75.2	14	-	-	93.957
7	3	68.9	14	1219	1613	592.89
8	1	71	14	-	-	650.593
9	3	64.5	14	1160	1353	474.487
10	2	57.2	14	1080	-	543.83
11	2	92.2	14	1002	-	34.753
12	3	50.8	14	1164	1631	576.737
13	1	68.1	14	-	-	231.63
14	2	55.6	14	1677	-	98.943
15	3	63.7	14	1365	1970	359.767
16	3	55.8	14	1816	1205	412.1
17	3	59.1	14	1831	1820	612.333
18	2	80.3	14	1639	-	625.767
1	3	76.1	14	1347	1840	163.76

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 26**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	60.7	17	1493	-	335.625
2	2	85.1	17	1813	-	757.477
3	2	57.8	17	1173	-	478.004
4	1	71.3	17	-	-	297.771
5	2	65.9	17	1260	-	759.139
6	3	63.3	17	1366	1557	523.996
7	2	89.5	17	1613	-	404.093
8	1	62.8	17	-	-	839.29
9	2	91.4	17	1545	-	654.917
10	1	85.5	17	-	-	431.464
11	1	51.3	17	-	-	717.641
12	3	99.6	17	1869	1601	488.369
13	1	85.2	17	-	-	106.786
14	2	98.8	17	1254	-	415.143

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 27**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	90.1	5	-	-	254.901
2	1	90.2	5	-	-	309.454
3	2	77	5	1881	-	544.17
4	2	90.8	5	1625	-	574.74
5	2	63.6	5	1916	-	551.5
6	3	90	5	1168	1532	361.88
7	1	71.3	5	-	-	167.75
8	2	80.1	5	1749	-	245.72
9	2	71	5	1207	-	378.21
10	3	72.2	5	1021	1435	285.23
11	2	85.9	5	1679	-	494.84
12	2	90.2	5	1224	-	54.86
13	2	75	5	1848	-	54.61
14	2	67.1	5	1787	-	222.19
15	2	66.6	5	1280	-	498.79
16	2	74.5	5	1607	-	315.41
17	2	81.1	5	1389	-	285.57
18	2	78.6	5	1623	-	582.5
19	2	98.1	5	1791	-	547
20	1	81.2	5	-	-	534.6

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 28**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	60.3	17	1060	-	515.169
2	1	97.3	17	-	-	495.38
3	3	71.8	17	1902	1077	245.16
4	1	79.4	17	-	-	986.57
5	2	91.6	17	1328	-	884.25
6	2	84.9	17	1602	-	992.04
7	1	94.8	17	-	-	306.5
8	1	62.8	17	-	-	534.64
9	2	98.3	17	1889	-	465.94
10	2	50.8	17	1434	-	301.62
11	1	68.6	17	-	-	980.1
12	3	96.4	17	1432	1513	357.8

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 29**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	79.9	9	1607	-	65.042
2	2	99.2	9	1552	-	61.792
3	3	68.5	9	1014	1329	470.31
4	2	81.2	9	1431	-	521.34
5	1	56	9	-	-	482.54
6	2	95.3	9	1782	-	420.38
7	2	95.8	9	1891	-	193.72
8	2	51.3	9	1297	-	126.2
9	2	74.2	9	1138	-	80.8
10	2	80.8	9	1431	-	350.68
11	2	83.8	9	1063	-	159.58
12	2	84.7	9	1111	-	430.71
13	2	60.3	9	1230	-	41.3
14	2	77.2	9	1116	-	164.77
15	2	69	9	1584	-	487.07
16	2	65.4	9	1852	-	1.32
17	2	63.6	9	1524	-	501.8
18	3	54.8	9	1197	1701	200.4
19	2	59.6	9	1697	-	105.3
20	1	71.4	9	-	-	231.3

Statistical Performance Check– Radar Type 5 Trial Records (continued)**40 MHz Master - Trial 30**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	93.3	6	-	-	882.546
2	1	80.6	6	-	-	71.538
3	2	90.6	6	1185	-	121.606
4	2	98.6	6	1582	-	207.179
5	1	96.1	6	-	-	481.732
6	1	85.3	6	-	-	247.095
7	3	77.2	6	1066	1966	910.128
8	2	81.5	6	1978	-	748.102
9	3	56.7	6	1534	1422	149.035
10	3	66.5	6	1955	1651	603.308
11	3	61.2	6	1605	1657	708.801
12	1	65.6	6	-	-	789.654
13	3	94.7	6	1895	1989	269.277

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 1**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	83.2	10	1970	-	71.712
2	2	58.2	10	1397	-	105.185
3	3	52	10	1115	1945	568.67
4	2	73.7	10	1455	-	517.82
5	2	59.9	10	1600	-	703.29
6	1	60	10	-	-	274.4
7	3	80.9	10	1628	1711	100.97
8	3	77.5	10	1580	1930	709.75
9	3	73.7	10	1998	1831	480.65
10	2	78.8	10	1886	-	707.17
11	3	53.8	10	1734	1297	535.27
12	2	74.2	10	1567	-	646.75
13	2	77.2	10	1234	-	57.71
14	2	97.9	10	1154	-	418.7
15	1	85.1	10	-	-	327.9
16	1	63.7	10	-	-	13.4

80 MHz Master - Trial 2

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	53.8	15	1477	1186	628.641
2	2	92.1	15	1412	-	101.983
3	2	89.8	15	1581	-	695.916
4	2	52.4	15	1987	-	255.869
5	1	85.8	15	-	-	350.332
6	2	69	15	1934	-	112.255
7	2	64.1	15	1520	-	196.638
8	1	61.5	15	-	-	231.072
9	1	64.5	15	-	-	336.825
10	1	57.6	15	-	-	704.918
11	2	81.1	15	1851	-	107.431
12	2	54.5	15	1885	-	246.954
13	2	99.4	15	1583	-	588.177

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 3**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	95.7	15	1501	1994	733.047
2	2	53.4	15	1072	-	78.103
3	2	98.4	15	1060	-	265.33
4	2	52	15	1994	-	369.36
5	3	82.4	15	1912	1947	84.1
6	1	92.2	15	-	-	48.57
7	3	98.1	15	1415	1748	676.03
8	2	51.1	15	1536	-	691.08
9	3	56.3	15	1044	1177	430.12
10	2	88.2	15	1001	-	586.34
11	2	91.5	15	1155	-	646.83
12	1	85.3	15	-	-	451.8
13	2	61.3	15	1066	-	688.6
14	3	59	15	1392	1514	49.97
15	2	51.1	15	1382	-	158.1
16	1	95.3	15	-	-	254.4

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 4**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	56.5	19	1520	1716	340.215
2	3	82	19	1475	1014	45.744
3	3	79.5	19	1911	1719	117.5
4	2	87.1	19	1590	-	378.9
5	3	54.1	19	1692	1620	258.26
6	3	65.5	19	1910	1744	414.76
7	2	60.5	19	1255	-	47.48
8	2	80.4	19	1844	-	396.44
9	3	61.7	19	1118	1912	479.36
10	2	92.1	19	1480	-	635.66
11	3	96.2	19	1332	1020	205.24
12	3	96.7	19	1300	1727	86.54
13	3	50.8	19	1847	1138	364.11
14	2	63.1	19	1066	-	495.8
15	2	65.9	19	1763	-	155.4
16	1	98.2	19	-	-	262.9

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 5**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	72.6	11	1429	-	283.12
2	1	73.3	11	-	-	33.952
3	1	81.5	11	-	-	661.26
4	1	61.8	11	-	-	354.54
5	3	80.3	11	1878	1045	741.96
6	3	77.6	11	1499	1270	416.81
7	2	75.3	11	1606	-	256.63
8	1	58.1	11	-	-	408.66
9	1	56	11	-	-	418.79
10	2	64.9	11	1035	-	305.2
11	2	89.5	11	1673	-	145.94
12	2	87.7	11	1295	-	439.2
13	2	74.7	11	1371	-	345.48
14	3	75.8	11	1864	1074	679.5
15	2	61	11	1700	-	606.4
16	3	61.7	11	1700	1992	435.5

80 MHz Master - Trial 6

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	86.3	14	1696	-	109.979
2	1	78.6	14	-	-	608.06
3	3	60	14	1940	1808	231.59
4	2	52.1	14	1802	-	862.81
5	1	70.2	14	-	-	307.98
6	3	78.3	14	1366	1233	0.5
7	1	67.5	14	-	-	802.17
8	2	63.8	14	1710	-	836.01
9	1	97.1	14	-	-	475.78
10	1	94.6	14	-	-	301.82
11	2	69.8	14	1444	-	614.2
12	2	64	14	1708	-	654.2

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 7**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	77.9	17	1080	-	569.143
2	3	52.1	17	1950	1018	71.019
3	3	53.7	17	1225	1443	368.546
4	1	82.7	17	-	-	478.609
5	2	66.3	17	1835	-	805.902
6	3	52.5	17	1364	1563	132.545
7	1	67.6	17	-	-	570.668
8	2	88.4	17	1715	-	27.402
9	1	79.2	17	-	-	916.075
10	3	62	17	1764	1342	880.368
11	1	55	17	-	-	416.831
12	2	75.3	17	1199	-	150.954
13	3	88.2	17	1969	1650	96.577

80 MHz Master - Trial 8

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	76.4	18	-	-	79.73
2	1	62.2	18	-	-	704.957
3	2	78.3	18	1555	-	215.964
4	3	63.2	18	1269	1513	427.541
5	3	77.4	18	1036	1878	389.849
6	1	70.6	18	-	-	417.766
7	3	98.6	18	1478	1041	51.253
8	2	53.4	18	1348	-	105.38
9	3	87.9	18	1825	1965	310.377
10	3	72.6	18	1736	1498	71.654
11	1	68.9	18	-	-	173.631
12	1	53.2	18	-	-	689.829
13	3	51	18	1968	1731	480.686
14	1	74.9	18	-	-	136.343

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 9**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	53.3	20	1224	-	75.928
2	3	96.3	20	1533	1081	1103.26
3	1	51.9	20	-	-	380
4	2	60.9	20	1385	-	798.61
5	2	71.2	20	1398	-	545.44
6	1	73	20	-	-	169.34
7	2	92.1	20	1559	-	636.21
8	2	76.3	20	1864	-	254.43
9	1	92.5	20	-	-	906.5
10	2	70.7	20	1502	-	191.7

80 MHz Master - Trial 10

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	94.1	12	1601	-	339.664
2	1	89.6	12	-	-	128.923
3	2	86.3	12	1263	-	250.545
4	3	80.7	12	1967	1410	257.463
5	1	81.3	12	-	-	687.091
6	2	96	12	1125	-	363.118
7	2	74.4	12	1961	-	330.956
8	1	97.7	12	-	-	173.804
9	2	83.7	12	1553	-	679.661
10	2	60.2	12	1610	-	92.169
11	2	92.7	12	1191	-	531.566
12	1	72.4	12	-	-	15.744
13	2	62.3	12	1333	-	613.362
14	2	94.6	12	1642	-	220.259
15	2	95.1	12	1058	-	695.047
16	2	98.9	12	1497	-	673.565
17	2	91.8	12	1002	-	518.382

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 11**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	93.6	19	-	-	672.953
2	2	61.1	19	1442	-	257.01
3	2	79.4	19	1082	-	95.96
4	1	70.3	19	-	-	207.65
5	1	95.8	19	-	-	678.57
6	2	82.6	19	1439	-	239.85
7	2	53.2	19	1409	-	14.27
8	2	73.8	19	1528	-	562.42
9	3	59.1	19	1239	1109	53.21
10	1	99.6	19	-	-	138.54
11	3	74.3	19	1854	1421	520.88
12	2	83.4	19	1912	-	350.23
13	2	63.1	19	1788	-	473.78
14	2	72.7	19	1748	-	280.1
15	2	77.7	19	1536	-	58.6
16	2	97.5	19	1640	-	423.9

80 MHz Master - Trial 12

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	54.2	8	1148	-	825.316
2	1	87.1	8	-	-	805.783
3	1	75.2	8	-	-	472.836
4	2	69.4	8	1304	-	358.259
5	2	58.7	8	1413	-	623.672
6	2	88.7	8	1972	-	517.235
7	2	73	8	1508	-	309.118
8	2	57.2	8	1019	-	894.112
9	2	68.9	8	1596	-	867.665
10	3	88.5	8	1652	1709	881.968
11	2	50.3	8	1755	-	798.331
12	1	75.4	8	-	-	375.954
13	2	64	8	1245	-	477.277

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 13**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	91.5	7	1553	-	649.21
2	3	72.6	7	1642	1430	108.908
3	1	65.8	7	-	-	173.315
4	1	90.5	7	-	-	354.293
5	2	84	7	1410	-	686.111
6	1	94.8	7	-	-	686.448
7	2	97.9	7	1508	-	189.026
8	2	96.9	7	1157	-	666.694
9	2	56.5	7	1667	-	9.931
10	2	98	7	1065	-	181.319
11	3	72.2	7	1070	1339	210.246
12	1	78.7	7	-	-	565.404
13	3	95.2	7	1168	1166	337.992
14	3	56.5	7	1151	1608	490.459
15	1	88.4	7	-	-	615.547
16	2	58.4	7	1638	-	568.665
17	1	53.8	7	-	-	483.182

80 MHz Master - Trial 14

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	51.8	16	1590	-	622.298
2	3	73.3	16	1861	1616	1096.067
3	2	82.7	16	1248	-	1081.333
4	3	70.6	16	1979	1158	316.67
5	1	56.8	16	-	-	807.127
6	3	69.4	16	1253	1203	674.453
7	2	50.2	16	1058	-	248.92
8	2	88.6	16	1817	-	862.867
9	2	66.3	16	1418	-	675.933

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 15**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	93.1	15	1172	-	336.761
2	2	82.8	15	1280	-	835.277
3	2	75	15	1641	-	632.374
4	1	98	15	-	-	92.501
5	2	53.4	15	1934	-	256.579
6	2	66.6	15	1288	-	490.876
7	2	84.6	15	1131	-	835.003
8	1	90.5	15	-	-	846.24
9	1	72.5	15	-	-	177.597
10	3	99.2	15	1493	1021	488.984
11	2	52	15	1528	-	504.021
12	2	57.9	15	1050	-	256.519
13	2	73.7	15	1730	-	636.986
14	2	86.5	15	1411	-	421.943

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 16**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	57.2	12	1257	-	359.313
2	2	67.1	12	1274	-	96.039
3	3	90.8	12	1831	1274	278.02
4	2	65.1	12	1787	-	453.34
5	2	93.5	12	1104	-	347.08
6	2	64.1	12	1211	-	573.75
7	2	72.5	12	1454	-	425.59
8	2	86.2	12	1984	-	284.44
9	2	91.9	12	1781	-	596.65
10	2	58.5	12	1756	-	86.01
11	1	82.3	12	-	-	19.07
12	2	68.9	12	1839	-	571.79
13	2	90.4	12	1239	-	368.75
14	2	84.4	12	1876	-	208.05
15	3	50.8	12	1191	1289	245.2
16	2	86.7	12	1926	-	529.2

80 MHz Master - Trial 17

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	82.5	8	-	-	91.007
2	2	55.5	8	1085	-	742.88
3	2	90.6	8	1841	-	92.87
4	1	67.1	8	-	-	671.61
5	2	60.5	8	1194	-	48.77
6	3	67.7	8	1937	1459	496.82
7	3	69.7	8	1939	1177	805.74
8	1	50.5	8	-	-	1127.92
9	2	75.2	8	1244	-	863
10	2	82.8	8	1790	-	479.1

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 18**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	62.8	9	1621	-	169.206
2	2	100	9	1387	-	593.81
3	2	79.3	9	1528	-	440.99
4	2	71.9	9	1617	-	740.75
5	2	59.8	9	1417	-	440.99
6	3	96.2	9	1856	1159	740.06
7	2	99.8	9	1935	-	547.65
8	3	77.9	9	1571	1116	792.39
9	2	90.4	9	1312	-	136.52
10	3	59.3	9	1202	1931	816.5

80 MHz Master - Trial 19

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	73	11	-	-	529.223
2	3	55.3	11	1066	1318	164.455
3	2	95.8	11	1614	-	41.18
4	3	95.1	11	1922	1667	86.61
5	3	71.3	11	1010	1758	732.93
6	1	81.5	11	-	-	272.13
7	3	89.8	11	1034	1430	404.12
8	2	86.2	11	1371	-	485.78
9	2	86.4	11	1092	-	430.06
10	1	75.9	11	-	-	103.43
11	2	52.3	11	1763	-	450.54
12	2	78.7	11	1968	-	33.05
13	2	76.1	11	1616	-	36.61
14	2	92.2	11	1293	-	698.6
15	2	75.9	11	1055	-	630.4
16	2	95.7	11	1633	-	20.4

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 20**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	71.6	20	1602	1356	477.428
2	3	64.7	20	1428	1631	282.39
3	2	83.9	20	1946	-	291.18
4	3	81.1	20	1275	1831	757.67
5	1	96.4	20	-	-	691.79
6	2	84.1	20	1097	-	305.67
7	3	90	20	1223	1970	629.06
8	2	98.8	20	1374	-	333.06
9	2	69.2	20	1069	-	567.53
10	2	78.1	20	1902	-	766.45
11	1	74.6	20	-	-	274.4
12	2	82.2	20	1769	-	287.2

80 MHz Master - Trial 21

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	71.6	20	1602	1356	477.428
2	3	64.7	20	1428	1631	282.39
3	2	83.9	20	1946	-	291.18
4	3	81.1	20	1275	1831	757.67
5	1	96.4	20	-	-	691.79
6	2	84.1	20	1097	-	305.67
7	3	90	20	1223	1970	629.06
8	2	98.8	20	1374	-	333.06
9	2	69.2	20	1069	-	567.53
10	2	78.1	20	1902	-	766.45
11	1	74.6	20	-	-	274.4
12	2	82.2	20	1769	-	287.2
13	2	94	17	1433	-	465.992
14	2	78.5	17	1145	-	142.749
15	2	81	17	1429	-	478.047
16	1	77.2	17	-	-	395.865
17	1	57.7	17	-	-	81.082

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 22**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	83.2	5	1363	-	30.665
2	2	60.4	5	1891	-	291.68
3	2	53.7	5	1790	-	1460.05
4	1	81.3	5	-	-	1046.51
5	1	91	5	-	-	818.04
6	2	65.8	5	1141	-	170.17
7	1	91.1	5	-	-	154.51
8	2	59.4	5	1369	-	1480.9

80 MHz Master - Trial 23

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	100	7	1076	-	308.08
2	2	88.7	7	1427	-	705.15
3	2	68.3	7	1585	-	917.95
4	1	87.5	7	-	-	89.09
5	2	78.3	7	1530	-	402.76
6	2	93.8	7	1254	-	285.83
7	2	81.7	7	1986	-	262.28
8	1	61.6	7	-	-	937.7

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 24**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	53.2	9	1187	-	782.754
2	3	72.9	9	1271	1922	189.781
3	3	79.2	9	1979	1449	846.022
4	1	76.1	9	-	-	84.813
5	2	81.9	9	1394	-	183.754
6	2	69.3	9	1268	-	322.515
7	2	72.3	9	1747	-	509.895
8	2	51.2	9	1678	-	1044.036
9	2	75.9	9	1290	-	521.347
10	3	80	9	1414	1400	679.518
11	3	80.7	9	1900	1672	581.109

80 MHz Master - Trial 25

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	75.7	12	1734	-	414.049
2	2	59.4	12	1409	-	100.12
3	2	56.3	12	1633	-	257.245
4	2	81.3	12	1684	-	235.423
5	2	92	12	1524	-	507.221
6	2	58.3	12	1382	-	482.638
7	3	84.8	12	1810	1425	639.926
8	3	93.4	12	1863	1432	427.004
9	2	54.1	12	1624	-	579.741
10	2	53.6	12	1398	-	352.509
11	1	82.9	12	-	-	443.156
12	1	50.2	12	-	-	541.124
13	2	68.8	12	1791	-	486.352
14	2	94.3	12	1837	-	498.999
15	3	63.2	12	1233	1996	220.747
16	2	68.1	12	1324	-	267.965
17	2	68.4	12	1433	-	563.582

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 26**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	96.5	15	1663	1002	709.744
2	2	76.7	15	1726	-	951.47
3	2	71.4	15	1806	-	902.95
4	1	92.9	15	-	-	466.69
5	2	73.3	15	1407	-	822.08
6	1	65.2	15	-	-	691.79
7	2	69.8	15	1834	-	611.33
8	1	80.3	15	-	-	456.2
9	3	73.5	15	1902	1482	704.46
10	2	92	15	1719	-	986.33
11	1	86.2	15	-	-	196.2
12	2	91.6	15	1260	-	300.8

80 MHz Master - Trial 27

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	65.3	16	1189	-	99.919
2	2	67.7	16	1030	-	587.678
3	1	80.9	16	-	-	688.575
4	3	78.7	16	1372	1524	419.983
5	1	61.9	16	-	-	233.421
6	2	82.3	16	1383	-	594.158
7	1	93.1	16	-	-	158.456
8	1	89.7	16	-	-	318.884
9	3	68	16	1212	1599	643.121
10	2	82	16	1204	-	142.299
11	2	79.1	16	1516	-	37.296
12	3	66.5	16	1092	1535	361.074
13	1	96.3	16	-	-	261.082
14	2	91	16	1909	-	31.349
15	3	70.4	16	1587	1281	466.047
16	2	96.1	16	1455	-	375.665
17	2	88.3	16	1949	-	261.782

Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 28**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	52.9	20	1461	-	296.058
2	2	90.8	20	1308	-	91.116
3	1	66.3	20	-	-	190.394
4	2	64.1	20	1697	-	180.351
5	2	94.1	20	1062	-	541.699
6	1	57.3	20	-	-	580.046
7	1	88.4	20	-	-	456.673
8	2	98.1	20	1151	-	22.54
9	2	79.1	20	1948	-	841.037
10	1	54	20	-	-	226.004
11	2	73	20	1302	-	457.391
12	2	87.5	20	1669	-	523.329
13	1	92.5	20	-	-	408.286
14	1	59.1	20	-	-	609.343

80 MHz Master - Trial 29

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	99.3	10	1336	-	542.886
2	1	95.2	10	-	-	199.767
3	2	53.6	10	1002	-	288.374
4	3	80.1	10	1338	1196	705.741
5	3	71.6	10	1016	1684	294.779
6	1	81.8	10	-	-	694.766
7	2	72.9	10	1626	-	641.573
8	2	59.8	10	1935	-	81.57
9	2	55.5	10	1589	-	375.097
10	1	56.5	10	-	-	798.044
11	3	55.7	10	1406	1372	607.881
12	1	82.8	10	-	-	846.329
13	2	76	10	1584	-	601.086
14	2	73	10	1537	-	112.043

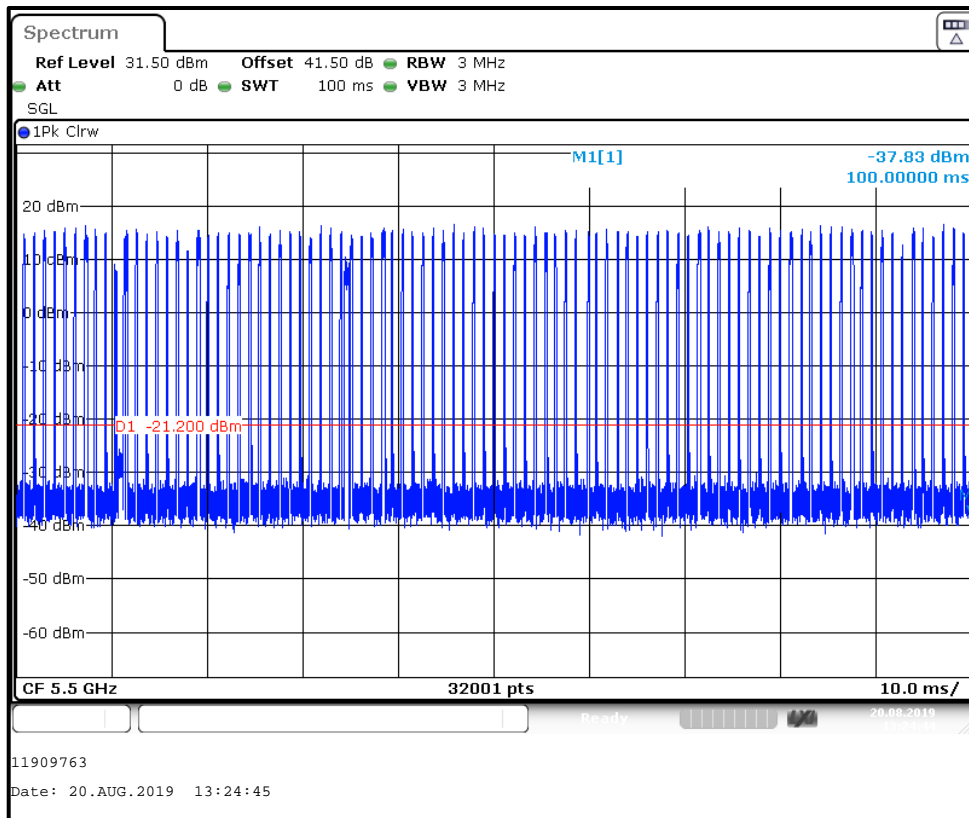
Statistical Performance Check– Radar Type 5 Trial Records (continued)**80 MHz Master - Trial 30**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	77.2	17	1356	1133	146.321
2	3	93.8	17	1271	1576	411.83
3	2	65.6	17	1909	-	201.58
4	2	99.3	17	1228	-	467.73
5	2	74.5	17	1001	-	608.56
6	2	72.9	17	1721	-	665.69
7	1	80.2	17	-	-	335.54
8	2	95.7	17	1702	-	592.89
9	3	61.4	17	1323	1764	530.41
10	2	87.7	17	1131	-	232.94
11	3	51.6	17	1143	1669	500.93
12	1	66.4	17	-	-	532.66
13	2	85.7	17	1097	-	27.21
14	3	58.1	17	1575	1364	704
15	2	93.5	17	1905	-	578.8
1	3	77.2	17	1356	1133	146.321

Appendix 9. Channel Loading

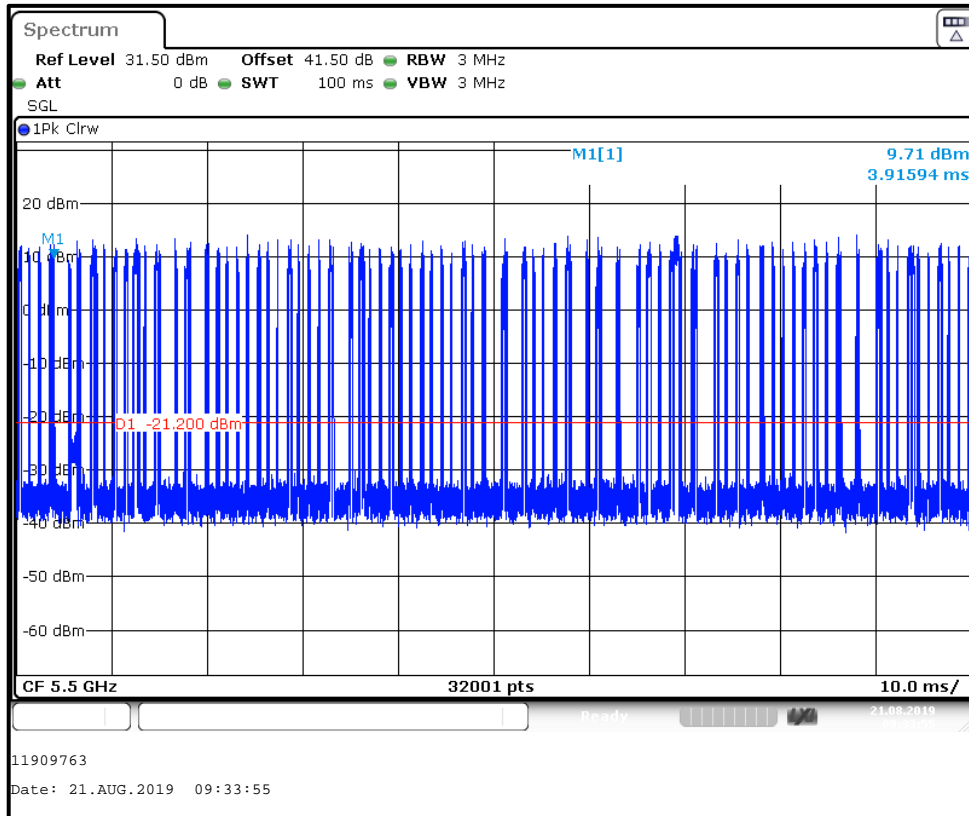
UDP data was transmitted from the EUT to the companion device. 100 ms of transmissions showing both the EUT and companion device were then captured on a spectrum analyser in the time domain. The spectrum analyser was set to 32,001 sweep points giving a sample size accuracy of 3.125 µsec. The data points were then exported as an ASCII file and each sample determined to be either transmissions from the EUT or companion device (channel loading) or idle. The duty cycle was then calculated from this ratio.

Included below are spectrum analyser plots from which the raw data was extracted to calculate the channel loading.

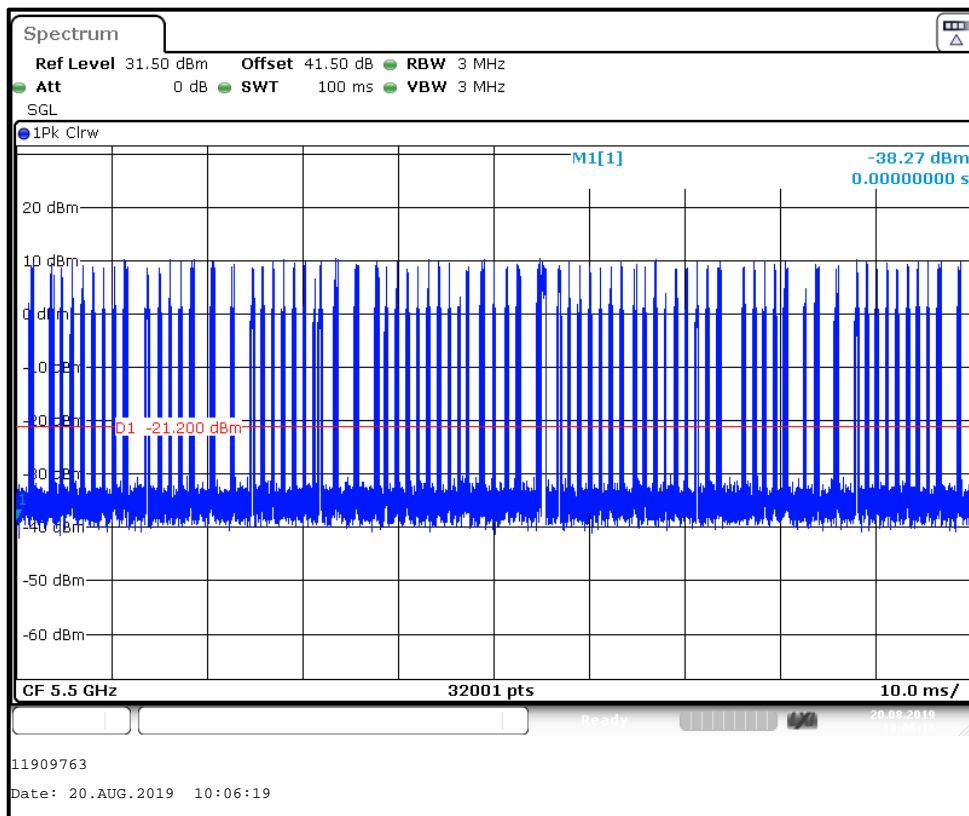


19.4% Channel Loading at 20 MHz Bandwidth

Channel Loading (continued)



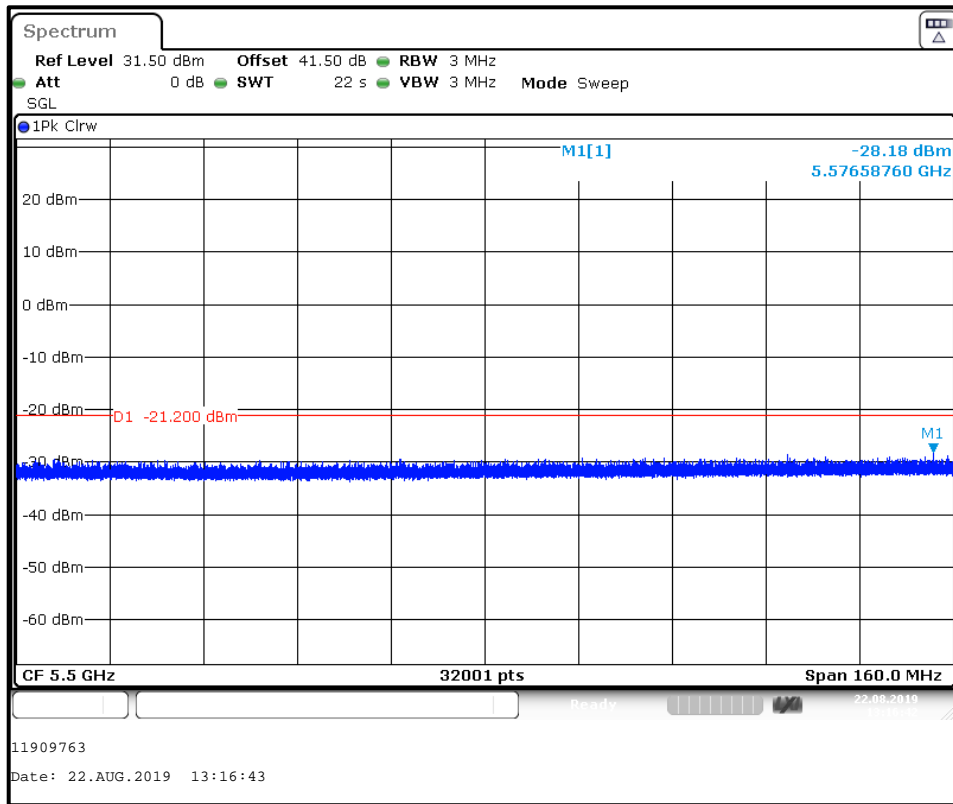
19.6% Channel Loading at 40 MHz Bandwidth



18.8% Channel Loading at 80 MHz Bandwidth

Appendix 10. Noise Floor Plots

Noise floor plots are presented below as required by 905462 D02 8.3 d) 3).



Test System Noise Floor

--- END OF REPORT ---