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Report No.: 2105TW0005-U5
Report Version:　　　V1.0
Issue Date:　　12-31-2021

DFS MEASUREMENT REPORT

FCC 15.407 WLAN 802.11a/n/ac/ax

FCC ID:　　　　Q9DAPEX058457

Applicant:　　　Hewlett Packard Enterprise Company

Application Type:　　Certification

Product:　　　ACCESS POINT

Model No.:　　　APEX0587, APEX0584, APEX0585

Trademark:　　　aruba a Hewlett Packard Enterprise company , Hewlett Packard Enterprise

FCC Classification:　　Unlicensed National Information Infrastructure (NII)

Type of Device:　　Master Device

FCC Rule Part(s):　　Part 15 Subpart E - 15.407 Section (h)(2)

Test Date:　　　October 29 ~ November 18, 2021

Reviewed By:　　　(Paddy Chen)

Approved By:　　　(Chenz Ker)

ilac-MRA

TAF Testing Laboratory 3261

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 905462 D02v02. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2105TW0005-U5	V1.0	Initial Report	12-31-2021	Valid

CONTENTS

General Information

Applicant	Hewlett Packard Enterprise Company
Applicant Address	3333 Scott Blvd, Santa Clara, CA 95054, USA
Manufacturer	Hewlett Packard Enterprise Company
Manufacturer Address	3333 Scott Blvd, Santa Clara, CA 95054, USA
Test Site	MRT Technology (Taiwan) Co., Ltd
Test Site Address	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
MRT FCC Registration No.	291082
FCC Rule Part(s)	Part 15.407
Test Device Serial No.	CNM4L1M01M

Test Facility / Accreditations

1. MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Firm.
2. MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada.
3. MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Taiwan, EU and TELEC Rules.
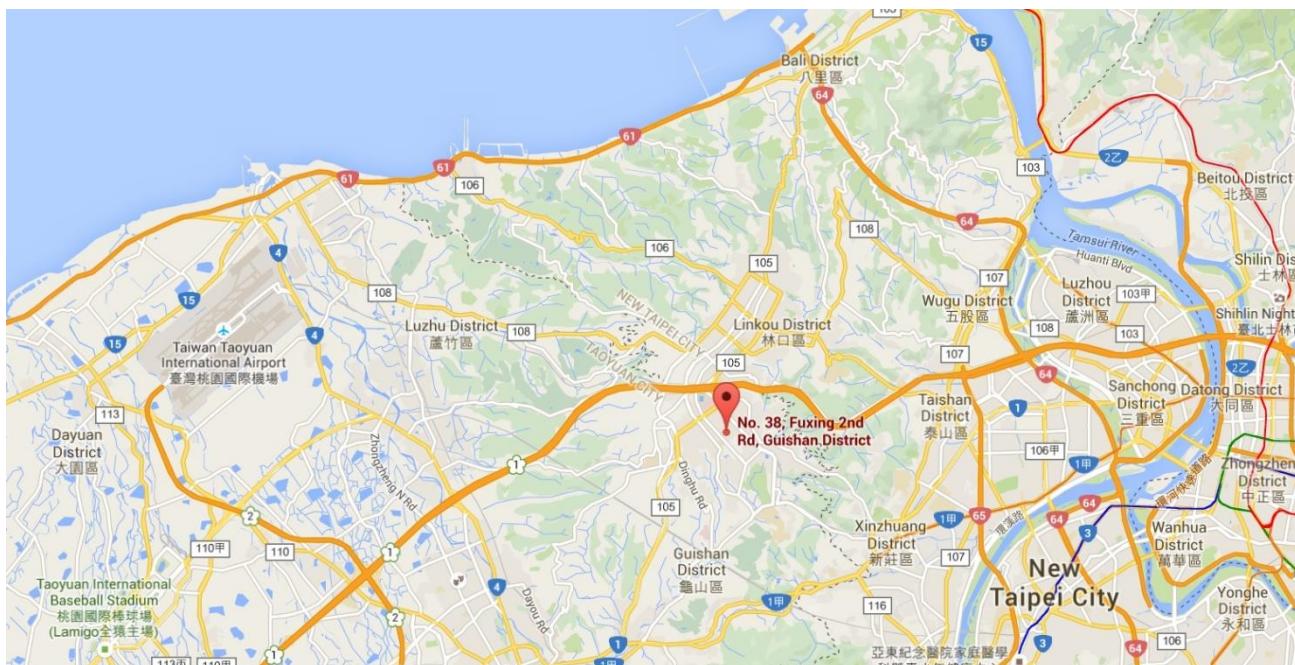
1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taoyuan City. These measurement tests were conducted at the MRT Technology (Taiwan) Co., Ltd. Facility located at No.38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C).

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name	ACCESS POINT
Model No.	APEX0587, APEX0584, APEX0585
Software Version	Aruba OS 8.10.0.0_81986
Wi-Fi Specification	802.11a/b/g/n/ac/ax
Bluetooth Specification	v5.0 single mode, BLE only
Zigbee Specification	802.15.4
Operating Temperature	-40 ~ 65 °C
Power Type	AC Cable or PoE input
Operating Environment	Outdoor Use
Antenna Information	Refer to Section 2.3
Remark: 1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer. 2. The difference between three models is that the EUT use different antenna and appearance, other hardware and software are the same. Each model has its own power parameter value.	

2.2. Product Specification Subjective to this Report

Frequency Range	For 802.11a/n-HT20/ac-VHT20/ax-HE20: 5260~5320MHz, 5500~5720MHz For 802.11n-HT40/ac-VHT40/ax-HE40: 5270~5310MHz, 5510~5710MHz For 802.11ac-VHT80/ax-HE80: 5290MHz, 5530MHz, 5610MHz, 5690MHz For 802.11ac-VHT80+80/ax-HE80+80: 5210+5290MHz, 5530+5610MHz
Type of Modulation	802.11a/n/ac: OFDM 802.11ax: OFDMA
Data Rate	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.2Mbps 802.11ax: up to 4804Mbps
Power-on cycle	Requires 174.9 seconds to complete its power-on cycle
Uniform Spreading	For the 5250-5350MHz, 5470-5725 MHz bands, the Master device provides, on aggregate, uniform loading of the spectrum across all devices by selecting an operating channel among the available channels using a random algorithm.

Note: For other features of this EUT, test report will be issued separately.

2.3. Description of Available Antennas

APEX0585

Polarization	Frequency Band (GHz)	Max Peak Gain (dBi)	30 Degree ANT Gain (dBi)	CDD Directional Gain (dBi)		BF Gain (dBi)
				For Power	For PSD	
Wi-Fi Internal Antenna (4*4 MIMO)						
Omni (Note 2)	2.4 ~ 2.5	3.0	N/A	3.00	6.01	6.01
	5.15 ~ 5.85	4.5	-5.00	4.50	7.51	7.51
Bluetooth / ZigBee Internal Antenna						
Omni	2.4 ~ 2.5	4.8				

APEX0584

Polarization	Frequency Band (GHz)	Model No.	Max Peak Gain (dBi)	30 Degree ANT Gain (dBi)	BF Gain (dBi)	CDD Directional Gain (dBi)	
						For Power	For PSD
Wi-Fi External Antenna List (4*4 MIMO)							
Omni (Note 2)	2.4 ~ 2.5	ANT-2x2-2005	5.0	N/A	8.01	5.0	8.01
Omni (Note 2)	5.15 ~ 5.85	ANT-2x2-5005	5.0	0	8.01	5.0	8.01
Omni (Note 2)	5.15 ~ 5.85	ANT-2x2-5010	10.0	0	13.01	10.0	13.01
Directional (Note 2)	2.4 ~ 2.5	ANT-2x2-2714	14.0	N/A	17.01	14.0	17.01
Directional (Note 2)	2.4 ~ 2.5	ANT-2x2-2314	14.0	N/A	14.00	14.0	14.00
Directional (Note 2)	5.15 ~ 5.85	ANT-3x3-5712	11.5	1.5	14.51	11.5	14.51
Directional (Note 2)	5.15 ~ 5.85	ANT-4x4-5314	14.0	6.0	17.01	14.0	17.01
Directional (Note 2)	2.4 ~ 2.5	ANT-4x4-D608	7.5	N/A	10.51	7.5	10.51
	5.15 ~ 5.85		7.5	4.5	10.51	7.5	10.51
Directional (Note 2)	2.4 ~ 2.5	ANT-4x4-D100	5.0	N/A	8.01	5.0	8.01
	5.15 ~ 5.85		5.0	4.0	8.01	5.0	8.01
Bluetooth / ZigBee Internal Antenna							
Omni	2.4 ~ 2.5	5.0					

APEX0587

Polarization	Frequency Band (GHz)	Max Peak Gain (dBi)	30 Degree ANT Gain (dBi)	CDD Directional Gain (dBi)		BF Gain (dBi)
				For Power	For PSD	
Wi-Fi Internal Antenna (4*4 MIMO)						
Omni (Note 2)	2.4 ~ 2.5	5.7	N/A	5.70	8.71	8.71
	5.15 ~ 5.85	5.2	5.2	5.20	8.21	8.21
Bluetooth / ZigBee Internal Antenna						
Omni	2.4 ~ 2.5	6.3				

Note:

1. The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.

For CDD transmissions, directional gain is calculated as follows, N_{ANT} = 2, N_{SS} = 1.

If all antennas have the same gain, G_{ANT}, Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

· For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(N_{ANT}/ N_{SS}) dB = 3.01;

· For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB for N_{ANT} ≤ 4;

The EUT also supports Beam Forming mode, and the Beam Forming support 802.11n/ac/ax, not include 802.11a/b/g.

2. These antennas are cross polarized design, the detail refer to antenna specification. Directional gain calculation refer to KDB 662911 section F)2)c).

3. For APEX0584, low gain antenna (ANT-2x2-2005 & ANT-2x2-5005) was selected to perform all RF testing that can got maximum power setting, high gain different type antenna (ANT-2x2-2314 & ANT-4x4-5314) was selected to perform radiated spurious emission and band edge testing. High gain antenna power setting will be reduced according to difference value of antenna gain declared by applicant.

2.4. Working Frequencies for this report

802.11a/n-HT20/ac-VHT20/ax-HE20

Channel	Frequency	Channel	Frequency	Channel	Frequency
52	5260 MHz	56	5280 MHz	60	5300 MHz
64	5320 MHz	100	5500 MHz	104	5520 MHz
108	5540 MHz	112	5560 MHz	116	5580 MHz
120	5600 MHz	124	5620 MHz	128	5640 MHz
132	5660 MHz	136	5680 MHz	140	5700 MHz
144	5720 MHz	--	--	--	--

802.11n-HT40/ac-VHT40/ax-HE40

Channel	Frequency	Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz	102	5510 MHz
110	5550 MHz	118	5590 MHz	126	5630 MHz
134	5670 MHz	142	5710 MHz	--	--

802.11ac-VHT80/ax-HE80

Channel	Frequency	Channel	Frequency	Channel	Frequency
58	5290 MHz	106	5530 MHz	122	5610 MHz
138	5690 MHz	--	--	--	--

802.11ac-VHT80+80/ax-HE80+80

Channel	Frequency	Channel	Frequency	Channel	Frequency
42 + 58	5210 + 5290 MHz	122 + 106	5610 + 5530 MHz	--	--

2.5. Test Channel for this Report

Test Mode	Test Channel	Test Frequency
802.11ax-HE20	100	5500 MHz
802.11ax-HE40	102	5510 MHz
802.11ax-HE80	106	5530 MHz
802.11ax-HE80 + 80	42 + 58	5210 + 5290 MHz
802.11ax-HE80 + 80	106 + 122	5530 + 5610 MHz

2.6. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- Part 15 Subpart E - 15.407 Section (h)(2)
- KDB 905462 D02v02
- KDB 905462 D04v01

3. DFS DETECTION THRESHOLDS AND RADAR TEST WAVEFORMS

3.1. Applicability

The following table from FCC KDB 905462 D02 NII DFS Compliance Procedures New Rules v02

lists the applicable requirements for the DFS testing.

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 3-1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode	
	Master Device or Client With Radar Detection	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

Table 3-2: Applicability of DFS Requirements during normal operation

3.2. DFS Devices Requirements

Per FCC KDB 905462 D02 NII DFS Compliance Procedures New Rules v02 the following are the requirements for Master Devices:

(a) The Master Device will use DFS in order to detect Radar Waveforms with received signal strength above the DFS Detection Threshold in the 5250 ~ 5350 MHz and 5470 ~ 5725 MHz bands. DFS is not required in the 5150 ~ 5250 MHz or 5725 ~ 5825 MHz bands.

(b) Before initiating a network on a Channel, the Master Device will perform a Channel Availability Check for a specified time duration (Channel Availability Check Time) to ensure that there is no radar system operating on the Channel, using DFS described under sub section a) above.

(c) The Master Device initiates a U-NII network by transmitting control signals that will enable other U-NII devices to Associate with the Master Device.

(d) During normal operation, the Master Device will monitor the Channel (In-Service Monitoring) to ensure that there is no radar system operating on the Channel, using DFS described under a).

(e) If the Master Device has detected a Radar Waveform during In-Service Monitoring as described under d), the Operating Channel of the U-NII network is no longer an Available Channel. The Master Device will instruct all associated Client Device(s) to stop transmitting on this Channel within the Channel Move Time. The transmissions during the Channel Move Time will be limited to the Channel Closing Transmission Time.

(f) Once the Master Device has detected a Radar Waveform it will not utilize the Channel for the duration of the Non-Occupancy Period.

(g) If the Master Device delegates the In-Service Monitoring to a Client Device, then the combination will be tested to the requirements described under d) through f) above.

Channel Move Time and Channel Closing Transmission Time requirements are listed in the following table.

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel 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.

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.

Table 3-3: DFS Response Requirements

3.3. DFS Detection Threshold Values

The DFS detection thresholds are defined for Master devices and Client Devices with In-service monitoring. These detection thresholds are listed in the following table.

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. Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

Table 3-4: Detection Thresholds for Master Devices and Client Devices with Radar Detection

3.4. Parameters of DFS Test Signals

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 3-6	$\text{Roundup}\left\{\dfrac{\left(\frac{1}{360}\right)\cdot}{\left(\frac{19\cdot10^{6}}{\text{PRI}_{\text{usec}}}\right)}\right\}$	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
Note: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

Table 3-5: Parameters for Short Pulse Radar Waveforms

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms.

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678
10	1432.7	698
11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

Table 3-6: Pulse Repetition Intervals Values for Test A

Long Pulse Radar Test Waveform

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

Table 3-7: Parameters for Long Pulse Radar Waveforms

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.

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

Table 3-8: Parameters for Frequency Hopping Radar Waveforms

For the Frequency Hopping Radar Type, the same Burst parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm:

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

3.5. Test Setup

The FCC KDB 905462 D02 NII DFS Compliance Procedures New Rules v02 describes a radiated test setup and a conducted test setup. The conducted test setup was used for this testing. Figure 3-1 shows the typical test setup.
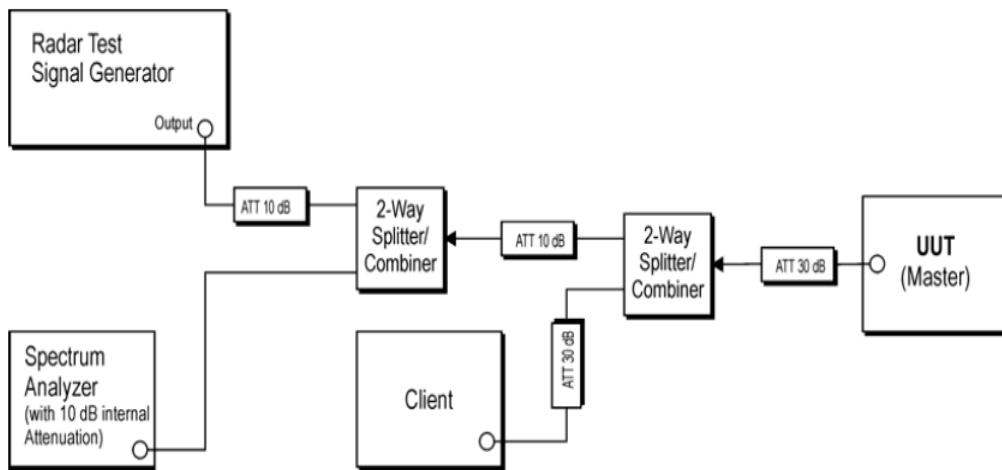
Figure 3-1: Conducted Test Setup where UUT is a Master and Radar Test Waveforms are injected into the Master
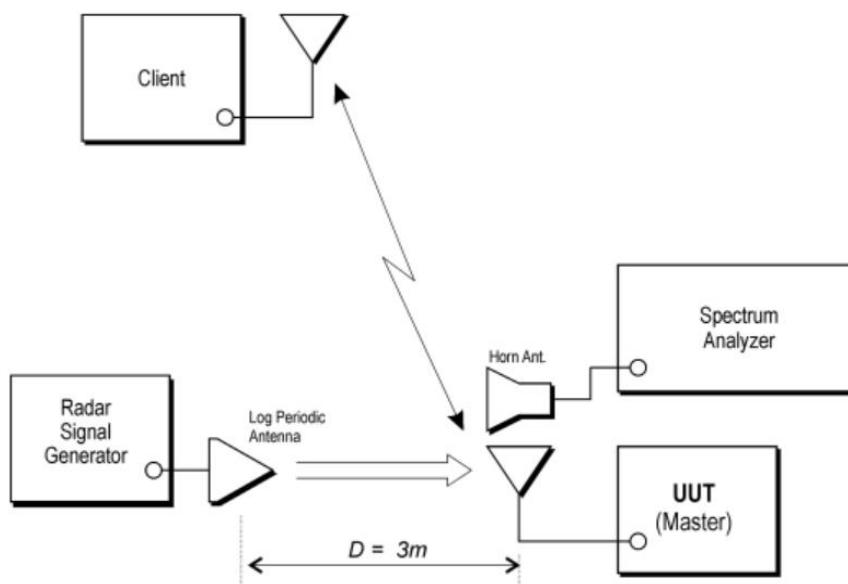
Figure 3-2: Radiated Test Setup where UUT is a master mode and Radar Test Waveforms are injected into the UUT

4. TEST EQUIPMENT CALIBRATION DATE

Dynamic Frequency Selection - SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2022/6/20
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2022/7/19
Vector Signal Generator	Keysight	N5182B	MRTTWA00010	1 year	2022/4/19
Signal Analyzer	R&S	FSV40	MRTTWA00007	1 year	2022/3/23
Combiner	WOKEN	0120A04208001S	MRTTWE00008	1 year	2022/6/17

Software	Version	Manufacturer	Function
Pulse Building(N7607B)	V 3.0.0	Keysight	Radar Signal Generation Software
DFS Tool	V 6.7	Keysight	DFS Test Software

5. TEST RESULT

5.1. Summary

Parameter	Limit	Test Result	Reference
UNII Detection Bandwidth Measurement	Refer Table 3-3	Pass	Section 5.4
Initial Channel Availability Check Time	Refer Table 3-3	Pass	Section 5.5
Radar Burst at the Beginning of the Channel Availability Check Time	Refer Table 3-3	Pass	Section 5.6
Radar Burst at the End of the Channel Availability Check Time	Refer Table 3-3	Pass	Section 5.7
In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time	Refer Table 3-3	Pass	Section 5.8
Non-Occupancy Period	Refer Table 3-3	Pass	Section 5.8
Statistical Performance Check	Refer Table 3-3	Pass	Section 5.9

Note 1: We used the worst case level -64dBm as DFS detection thresholds for all DFS testing of APEX0585.

Note 2: In addition to the Statistical Performance Check test using radiated method, other test using conducted method.

5.2. Radar Waveform Calibration

5.2.1. Calibration Setup

The conducted test setup was used for this calibration testing. Figure 3-2 shows the typical test setup.
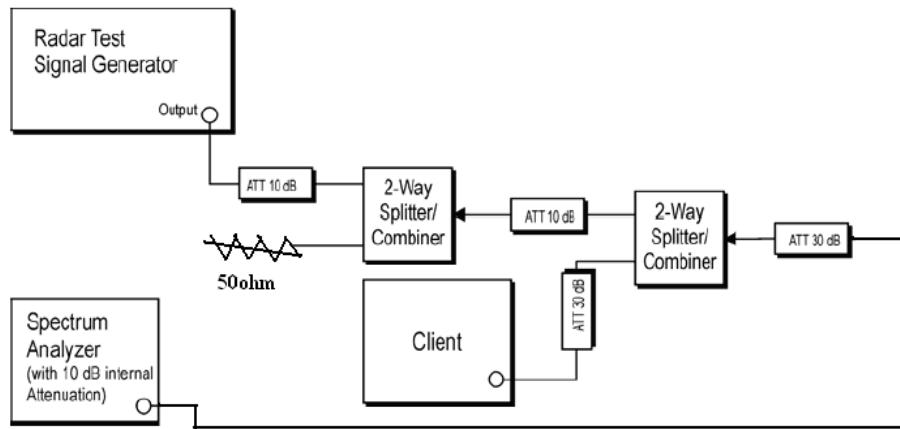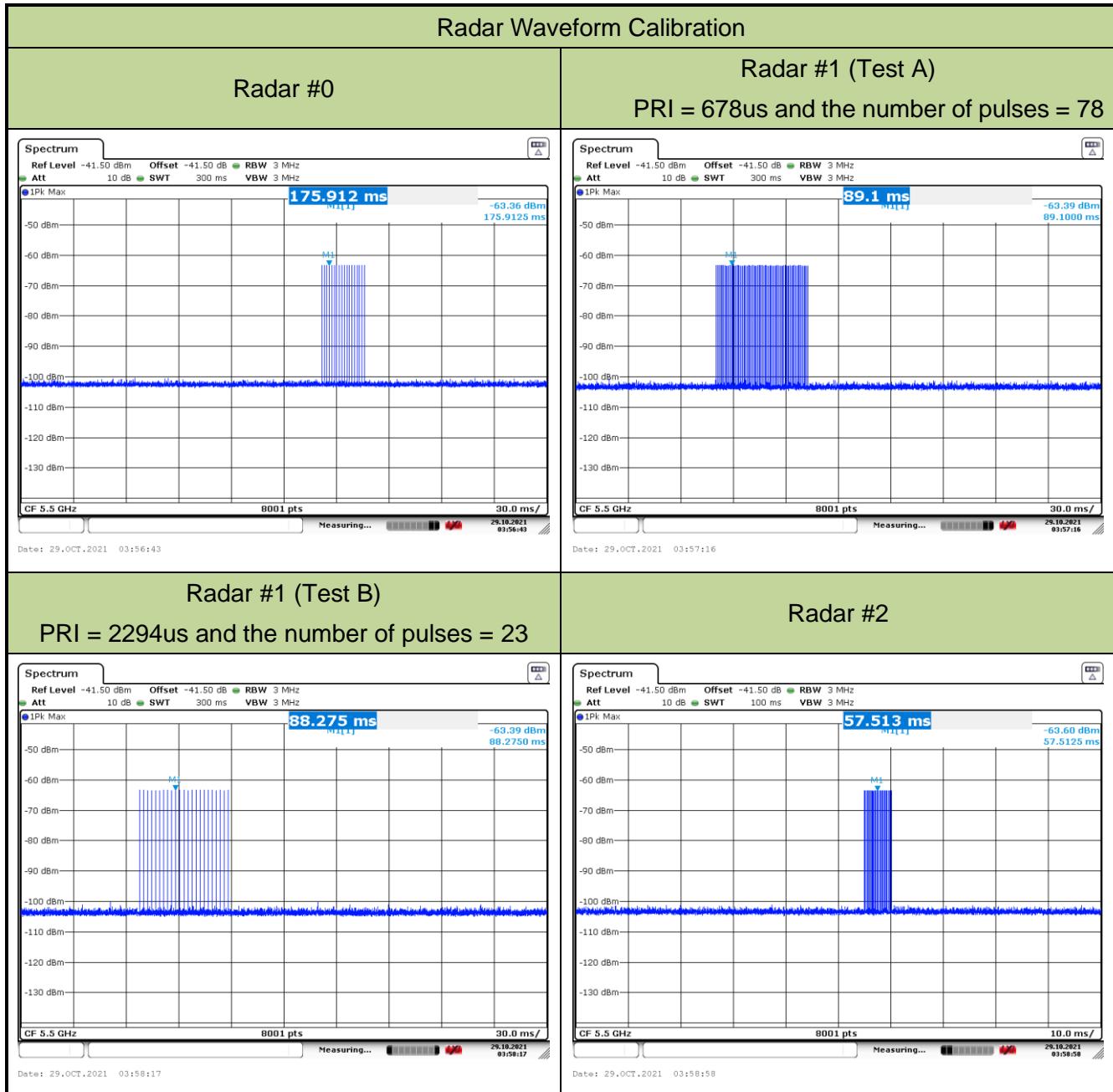
Figure 3-2: Conducted Test Setup
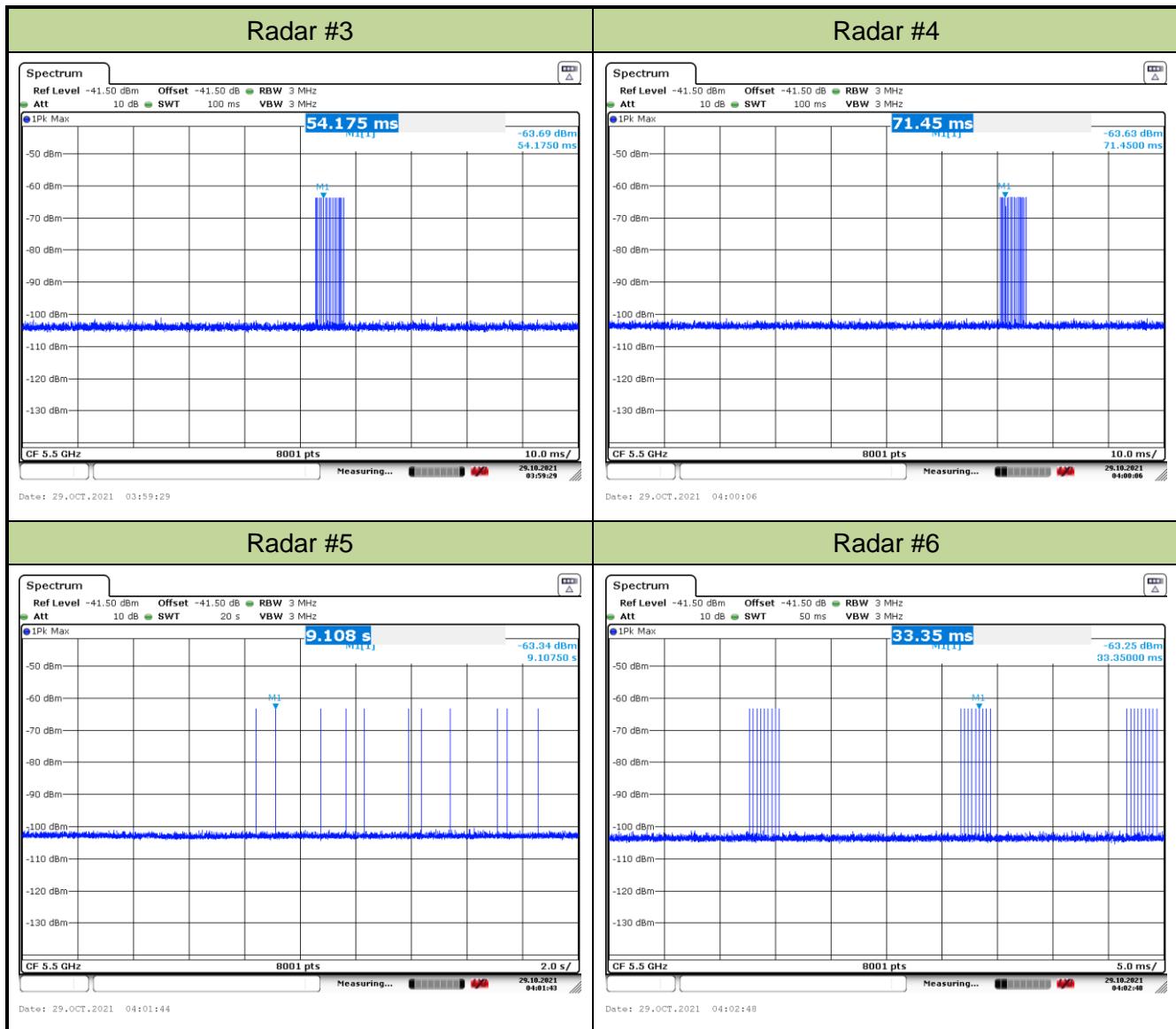
5.2.2. Calibration Procedure

The Interference Radar Detection Threshold Level is (-64dBm) + (0) [dBi]+ 1 dB= -63 dBm that had been taken into account the output power range and antenna gain. The above equipment setup was used to calibrate the conducted Radar Waveform. A vector signal generator was utilized to establish the test signal level for each radar type. During this process there were replace 50ohm terminal form Master and Client device and no transmissions by either the Master or Client Device. The spectrum analyzer was switched to the zero span (Time Domain) at the frequency of the Radar Waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to at least 3MHz. The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was(-64dBm) + (0) [dBi]+ 1 dB= -63dBm. Capture the spectrum analyzer plots on short pulse radar types, long pulse radar type and hopping radar waveform.

5.2.3. Test Result of Calibration

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/10/29
Test Item	Radar Waveform Calibration		

Radar Waveform Calibration	
Radar #0	Radar #1 (Test A) PRI = 678us and the number of pulses = 78
Radar #1 (Test B) PRI = 2294us and the number of pulses = 23	Radar #2

Radar #3

Date: 29.OCT.2021 03:59:29

Radar #4

Date: 29.OCT.2021 04:00:06

Radar #5

Date: 29.OCT.2021 04:01:44

Radar #6

Date: 29.OCT.2021 04:02:48
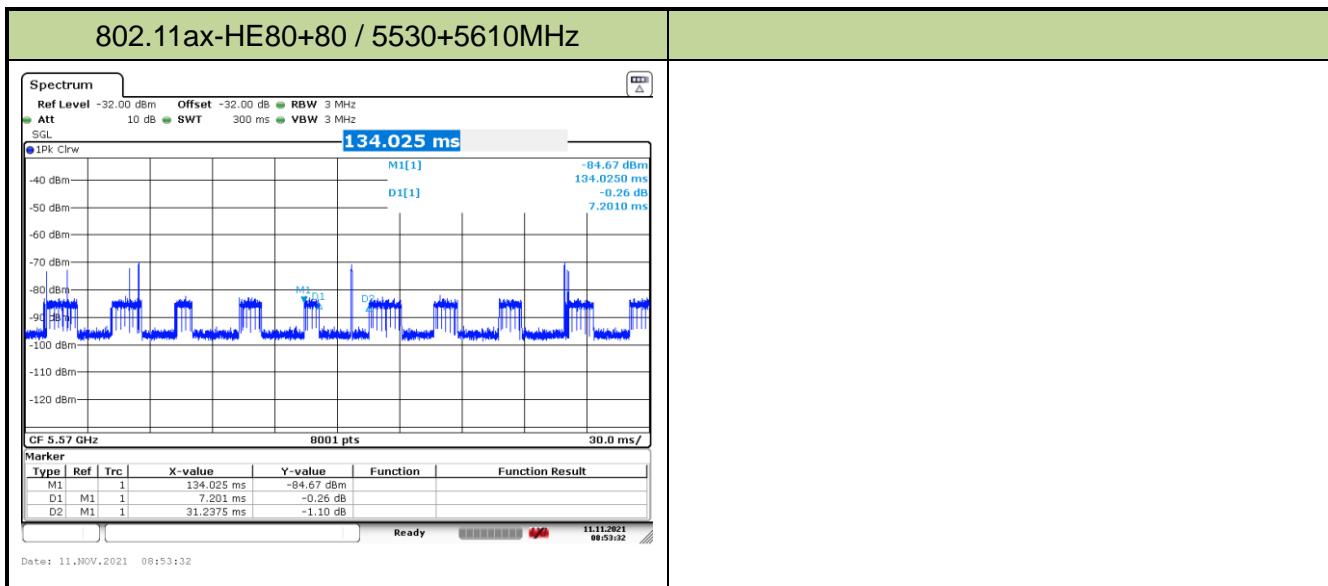
5.2.4. Test Result of Channel Loading

Test Engineer	Eric Lin	Test Site	SR2
Test Item	Channel Loading	Test Date	2021/10/29 ~ 11/11

Channel Loading Plot	
802.11ax-HE20 / 5500MHz	802.11ax-HE40 / 5510MHz
802.11ax-HE80 / 5530MHz	802.11ax-HE80+80 / 5210+5290MHz

802.11ax-HE80+80 / 5530+5610MHz	

Date: 11.NOV.2021 08:53:32

Test Mode	Test Frequency	Packet Ratio	Requirement Ratio	Test Result
802.11ax-HE20	5500 MHz	21.91%	≥ 17%	Pass
802.11ax-HE40	5510 MHz	21.76%	≥ 17%	Pass
802.11ax-HE80	5530 MHz	19.83%	≥ 17%	Pass
802.11ax-HE80+80	5210+5290 MHz	20.22%	≥ 17%	Pass
802.11ax-HE80+80	5530+5610 MHz	23.05%	≥ 17%	Pass

Note: System testing was performed with the designated iperf test file. This file is used by IP and Frame based systems for loading the test channel during the In-service compliance testing of the U-NII device. Packet ratio = Time On/ (Time On + Off Time).

5.3. NII Detection Bandwidth Measurement

5.3.1. Test Limit

Minimum 100% of the NII 99% transmission power bandwidth. During the U-NII Detection Bandwidth detection test, each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

5.3.2. Test Procedure

1.   Adjust the equipment to produce a single Burst of any one of the Short Pulse Radar Types 0-4 in Table 3-5 at the center frequency of the EUT Operating Channel at the specified DFS Detection Threshold level.

2.   The generating equipment is configured as shown in the Conducted Test Setup above section 3.5.

3.   The EUT is set up as a stand-alone device (no associated Client or Master, as appropriate) and no traffic. Frame based systems will be set to a talk/listen ratio reflecting the worst case (maximum) that is user configurable during this test.

4.   Generate a single radar Burst, and note the response of the EUT. Repeat for a minimum of 10 trials. The EUT must detect the Radar Waveform using the specified U-NII Detection Bandwidth criterion shown in Table 3-5. In cases where the channel bandwidth may exceed past the DFS band edge on specific channels (i.e., 802.11ac or wideband frame based systems) select a channel that has the entire emission bandwidth within the DFS band. If this is not possible, test the detection BW to the DFS band edge.

5.   Starting at the center frequency of the UUT operating Channel, increase the radar frequency in 5 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion specified in Table 3-3. Repeat this measurement in 1MHz steps at frequencies 5 MHz below where the detection rate begins to fall. Record the highest frequency (denote as FH) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies above FH is not required to demonstrate compliance.

6.   Starting at the center frequency of the EUT operating Channel, decrease the radar frequency in 1 MHz steps, repeating the above item 4 test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion. Record the lowest frequency (denote as FL) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies below FL is not required to demonstrate compliance.

7. The U-NII Detection Bandwidth is calculated as follows: U-NII Detection Bandwidth = $F_H - F_L$

8. The U-NII Detection Bandwidth must be at least 100% of the EUT transmitter 99% power,

otherwise, the EUT does not comply with DFS requirements.

5.3.3. Test Result

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/18
Test Item	Detection Bandwidth (802.11ax-HE20 mode - 5500MHz)		

Radar Frequency	DFS Detection Trials (1 = Detection, 0 = No Detection)										
(MHz)	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5490	0	0	0	0	0	0	0	0	0	0	0
5490.4 F_L	1	1	1	1	1	1	1	1	1	1	100
5491	1	1	1	1	1	1	1	1	1	1	100
5492	1	1	1	1	1	1	1	1	1	1	100
5493	1	1	1	1	1	1	1	1	1	1	100
5494	1	1	1	1	1	1	1	1	1	1	100
5495	1	1	1	1	1	1	1	1	1	1	100
5500	1	1	1	1	1	1	1	1	1	1	100
5505	1	1	1	1	1	1	1	1	1	1	100
5506	1	1	1	1	1	1	1	1	1	1	100
5507	1	1	1	1	1	1	1	1	1	1	100
5508	1	1	1	1	1	1	1	1	1	1	100
5509	1	1	1	1	1	1	1	1	1	1	100
5509.6 F_H	1	1	1	1	1	1	1	1	1	1	100
5510	0	0	0	0	0	0	0	0	0	0	0

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5500MHz. The 99% channel bandwidth is 18.96MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = F_H - F_L = 5509.6MHz – 5490.4MHz = 19.2MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 18.96MHz x 100% = 18.96MHz.

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/18
Test Item	Detection Bandwidth (802.11ax-HE40 mode - 5510MHz)		

Radar Frequency	DFS Detection Trials (1 = Detection, 0 = No Detection)										
(MHz)	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5490 F_L	1	1	1	1	1	1	1	1	0	1	90
5495	1	1	1	1	1	1	1	1	1	1	100
5500	1	1	1	1	1	1	1	1	1	1	100
5505	1	1	1	1	1	1	1	1	1	1	100
5510	1	1	1	1	1	1	1	1	1	1	100
5515	1	1	1	1	1	1	1	1	1	1	100
5520	1	1	1	1	1	1	1	1	1	1	100
5525	1	1	1	1	1	1	1	1	1	1	100
5530 F_H	1	1	1	1	1	1	1	1	1	1	100

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5510MHz. The 99% channel bandwidth is 37.68MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = F_H - F_L = 5530MHz - 5490MHz = 40MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 37.68MHz x 100% = 37.68MHz.

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/18
Test Item	Detection Bandwidth (802.11ax-HE80 mode - 5530MHz)		

Radar Frequency	DFS Detection Trials (1 = Detection, 0 = No Detection)										
(MHz)	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5490 F_L	1	1	1	1	1	1	1	1	1	1	100
5495	1	1	1	1	1	1	1	1	1	1	100
5500	1	1	1	1	1	1	1	1	1	1	100
5505	1	1	1	1	1	1	1	1	1	1	100
5510	1	1	1	1	1	1	1	1	1	1	100
5515	1	1	1	1	1	1	1	1	1	1	100
5520	1	1	1	1	1	1	1	1	1	1	100
5525	1	1	1	1	1	1	1	1	1	1	100
5530	1	1	1	1	1	1	1	1	1	1	100
5535	1	1	1	1	1	1	1	1	1	1	100
5540	1	1	1	1	1	1	1	1	1	1	100
5545	1	1	1	1	1	1	1	1	1	1	100
5550	1	1	1	1	1	1	1	1	1	1	100
5555	1	1	1	1	1	1	1	1	1	1	100
5560	1	1	1	1	1	1	1	1	1	1	100
5565	1	1	1	1	1	1	1	1	1	1	100
5570 F_H	1	1	1	1	1	1	1	1	1	1	100

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5530MHz. The 99% channel bandwidth is 77.20MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = F_H - F_L = 5570MHz - 5490MHz = 80MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 77.20MHz x 100% = 77.20MHz.

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/18
Test Item	Detection Bandwidth (802.11ax-HE80+80 mode - 5210+5290MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1 = Detection, 0 = No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5250 F_L	1	1	1	1	1	1	1	1	1	1	100
5255	1	1	1	1	1	1	1	1	1	1	100
5260	1	1	1	1	1	1	1	1	1	1	100
5265	1	1	1	1	1	1	1	1	1	1	100
5270	1	1	1	1	1	1	1	1	1	1	100
5275	1	1	1	1	1	1	1	1	1	1	100
5280	1	1	1	1	1	1	1	1	1	1	100
5285	1	1	1	1	1	1	1	1	1	1	100
5290	1	1	1	1	1	1	1	1	1	1	100
5295	1	1	1	1	1	1	1	1	1	1	100
5300	1	1	1	1	1	1	1	1	1	1	100
5305	1	1	1	1	1	1	1	1	1	1	100
5310	1	1	1	1	1	1	1	1	1	1	100
5315	1	1	1	1	1	1	1	1	1	1	100
5320	1	1	1	1	1	1	1	1	1	1	100
5325	1	1	1	1	1	1	1	1	1	1	100
5326	1	1	1	1	1	1	1	1	1	1	100
5327	1	1	1	1	1	1	1	1	1	1	100
5328 F_H	1	1	1	1	1	1	1	1	1	1	100
5329	0	0	0	0	0	0	0	0	0	0	0

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5250MHz. The 99% channel bandwidth is 77.94MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = F_H - F_L = 5328MHz - 5250MHz = 78MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 77.94MHz x 100% = 77.94MHz.

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/18
Test Item	Detection Bandwidth (802.11ax-HE80+80 mode – 5530+5610MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5491	0	0	0	0	0	0	0	0	0	0	0%
5492 F_L	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5525	1	1	1	1	1	1	1	1	1	1	100%
5530	1	1	1	1	1	1	1	1	1	1	100%
5535	1	1	1	1	1	1	1	1	1	1	100%
5540	1	1	1	1	1	1	1	1	1	1	100%
5545	1	1	1	1	1	1	1	1	1	1	100%
5550	1	1	1	1	1	1	1	1	1	1	100%
5555	1	1	1	1	1	1	1	1	1	1	100%
5560	1	1	1	1	1	1	1	1	1	1	100%
5565	1	1	1	1	1	1	1	1	1	1	100%
5570	1	1	1	1	1	1	1	1	1	1	100%
5575	1	1	1	1	1	1	1	1	1	1	100%
5580	1	1	1	1	1	1	1	1	1	1	100%
5585	1	1	1	1	1	1	1	1	1	1	100%
5590	1	1	1	1	1	1	1	1	1	1	100%
5595	1	1	1	1	1	1	1	1	1	1	100%
5600	1	1	1	1	1	1	1	1	1	1	100%
5605	1	1	1	1	1	1	1	1	1	1	100%
5610	1	1	1	1	1	1	1	1	1	1	100%
5615	1	1	1	1	1	1	1	1	1	1	100%
5620	1	1	1	1	1	1	1	1	1	1	100%
5625	1	1	1	1	1	1	1	1	1	1	100%
5630	1	1	1	1	1	1	1	1	1	1	100%

5635	1	1	1	1	1	1	1	1	1	1	100%
5640	1	1	1	1	1	1	1	1	1	1	100%
5645	1	1	1	1	1	1	1	1	1	1	100%
5646	1	1	1	1	1	1	1	1	1	1	100%
5647	1	1	1	1	1	1	1	1	1	1	100%
5648 F_H	1	1	1	1	1	1	1	1	1	1	100%
5649	0	0	0	0	0	0	0	0	0	0	0%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5570MHz. The 99% channel bandwidth is 155.89MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = F_H - F_L = 5648MHz - 5492MHz = 156MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 155.89MHz x 100% = 155.89MHz.

5.4. Initial Channel Availability Check Time Measurement

5.4.1. Test Limit
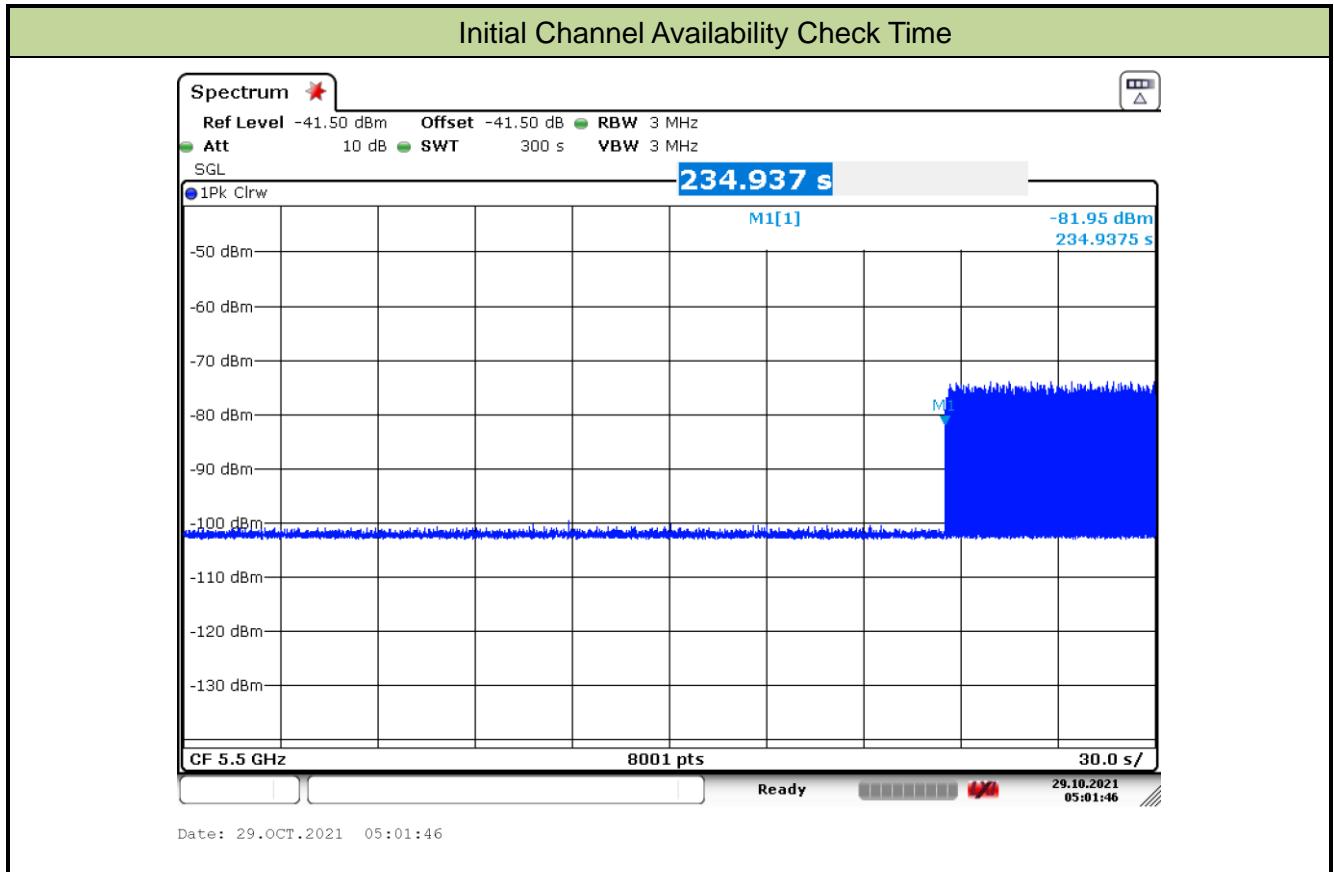
The EUT shall perform a Channel Availability Check to ensure that there is no radar operating on the channel. After power-up sequence, receive at least 1 minute on the intended operating frequency.

5.4.2. Test Procedure

1.   The U-NII devices will be powered on and be instructed to operate on the appropriate U-NII Channel that must incorporate DFS functions. At the same time the EUT is powered on, the spectrum analyzer will be set to zero span mode with a 3 MHz RBW and 3 MHz VBW on the Channel occupied by the radar (Chr) with a 2.5 minutes sweep time. The spectrum analyzer's sweep will be started at the same time power is applied to the U-NII device.

2.   The EUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.

3.   Confirm that the EUT initiates transmission on the channel. Measurement system showing its nominal noise floor is marker1.

5.4.3. Test Result

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/10/29
Test Item	Initial Channel Availability Check Time (802.11ax-HE20 mode - 5500MHz)		

Initial Channel Availability Check Time
Note: The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle (174.9sec). Initial beacons/data transmissions are indicated by marker 1 (234.9 sec).

5.5. Radar Burst at the Beginning of the Channel Availability Check Time Measurement

5.5.1. Test Limit
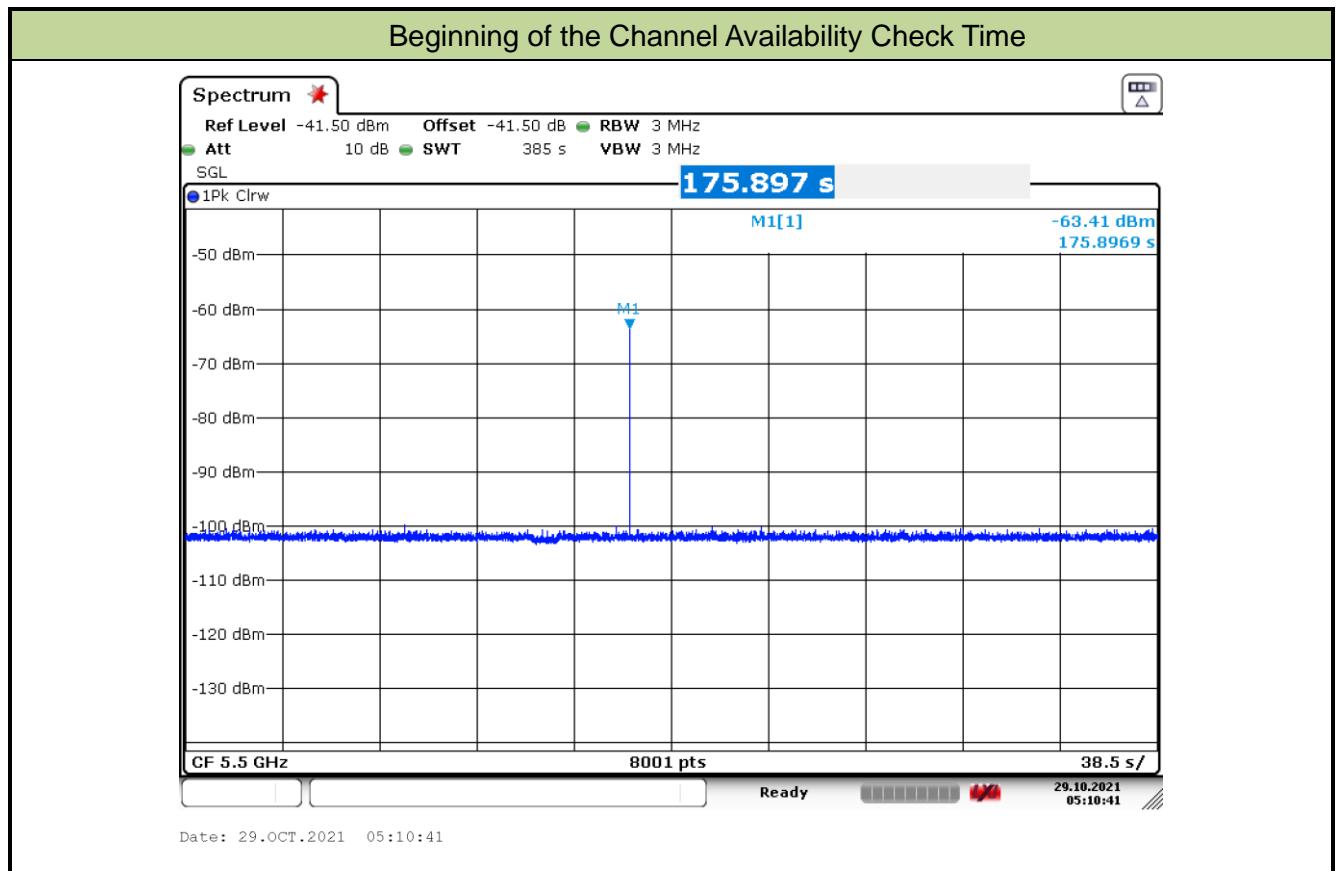
In beginning of the Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC on that channel.

5.5.2. Test Procedure

1.   The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold + 1 dB occurs at the beginning of the Channel Availability Check Time.

2.   The EUT is in completion power-up cycle (from T0 to T1). T1 denotes the instant when the EUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds. A single Burst of one of Short Pulse Radar Types 0-4 at DFS Detection Threshold + 1 dB will commence within a 6 second window starting at T1.

3.   Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions will continue for2.5 minutes after the radar Burst has been generated. Verify that during the 2.5 minutes measurement window no EUT transmissions occurred.

5.5.3. Test Result

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/10/29
Test Item	Beginning of the Channel Availability Check Time (802.11ax-HE20 mode - 5500MHz)		

Beginning of the Channel Availability Check Time

5.6. Radar Burst at the End of the Channel Availability Check Time Measurement

5.6.1. Test Limit
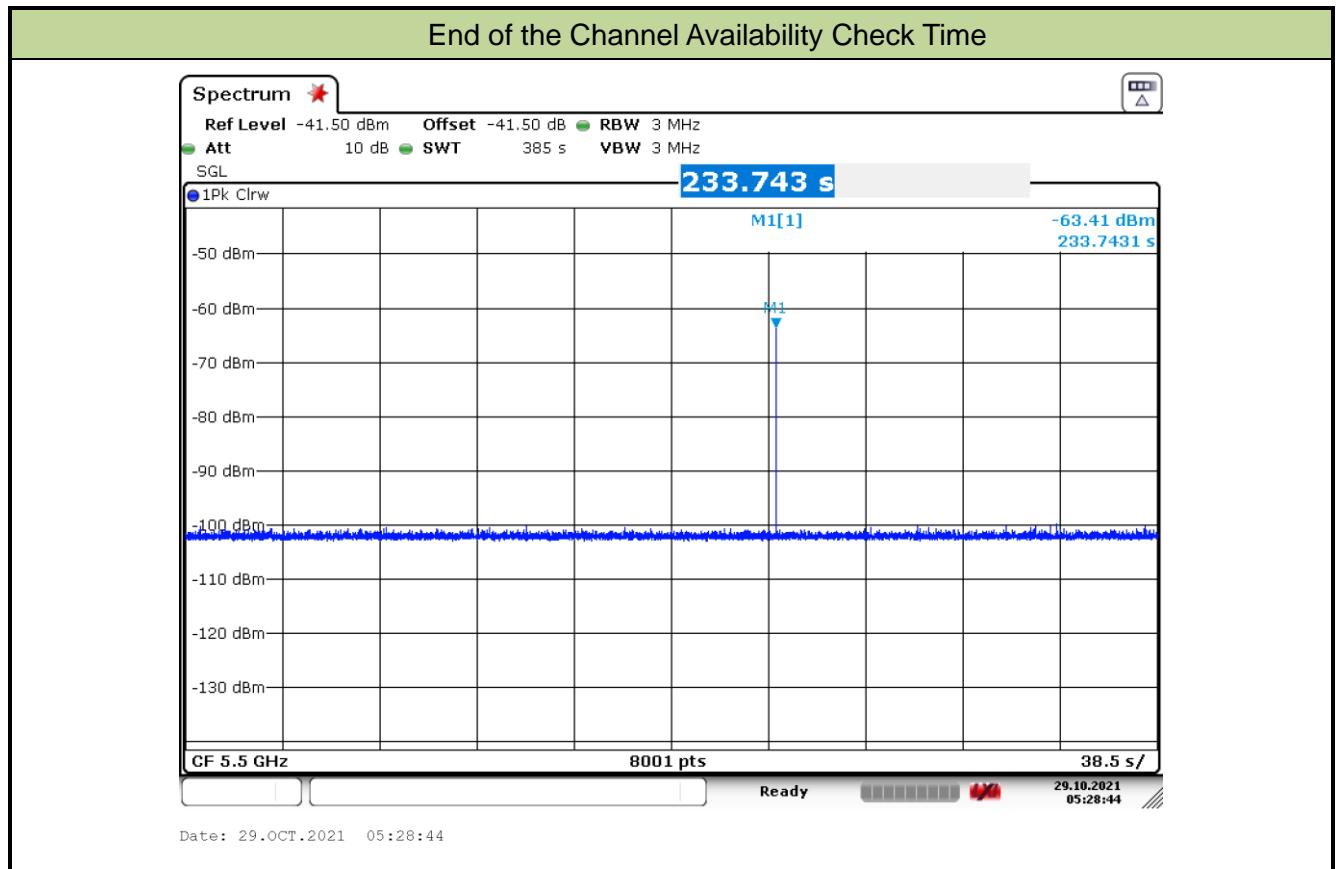
In the end of Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC on that channel.

5.6.2. Test Procedure

1.   The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold + 1 dB occurs at the beginning of the Channel Availability Check Time.

2.   The EUT is powered on at T0. T1 denotes the instant when the EUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner thanT1 + 60 seconds. A single Burst of one of Short Pulse Radar Types 0-4 at DFS Detection Threshold + 1 dB will commence within a 6 second window starting at T1+ 54 seconds.

3.   Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions will continue for2.5 minutes after the radar Burst has been generated. Verify that during the 2.5 minutes measurement window no EUT transmissions occurred.

5.6.3. Test Result

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/10/29
Test Item	End of the Channel Availability Check Time (802.11ax-HE20 mode - 5500MHz)		

End of the Channel Availability Check Time

5.7. In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Measurement

5.7.1. Test Limit
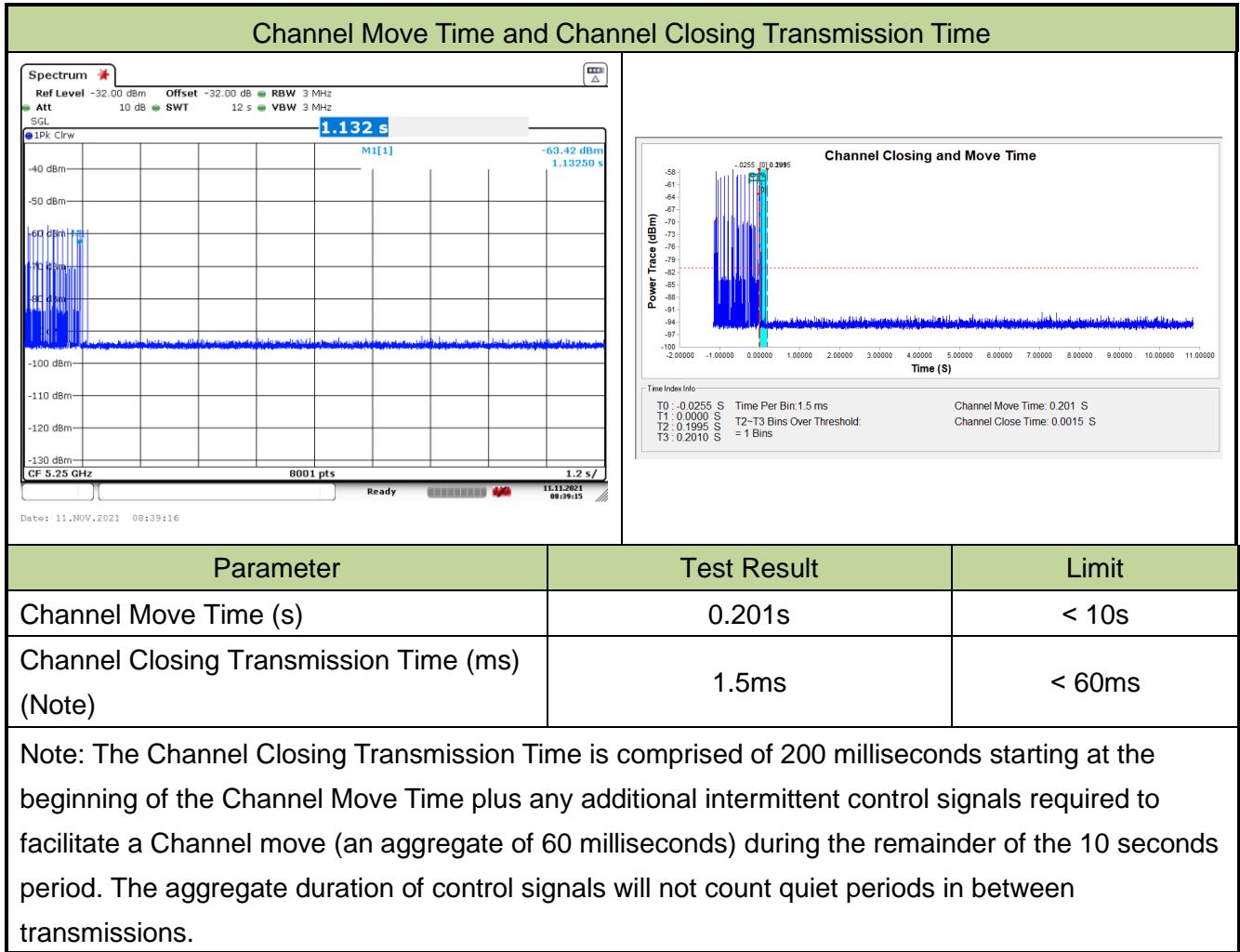
The EUT has In-Service Monitoring function to continuously monitor the radar signals. If the radar is detected, must leave the channel (Shutdown). The Channel Move Time to cease all transmissions on the current channel upon detection of a Radar Waveform above the DFS Detection Threshold within 10 sec. The total duration of Channel Closing Transmission Time is 260ms, consisting of data signals and the aggregate of control signals, by a U-NII device during the Channel Move Time. The Non-Occupancy Period time is 30minute during which a Channel will not be utilized after a Radar Waveform is detected on that Channel.

5.7.2. Test Procedure Used
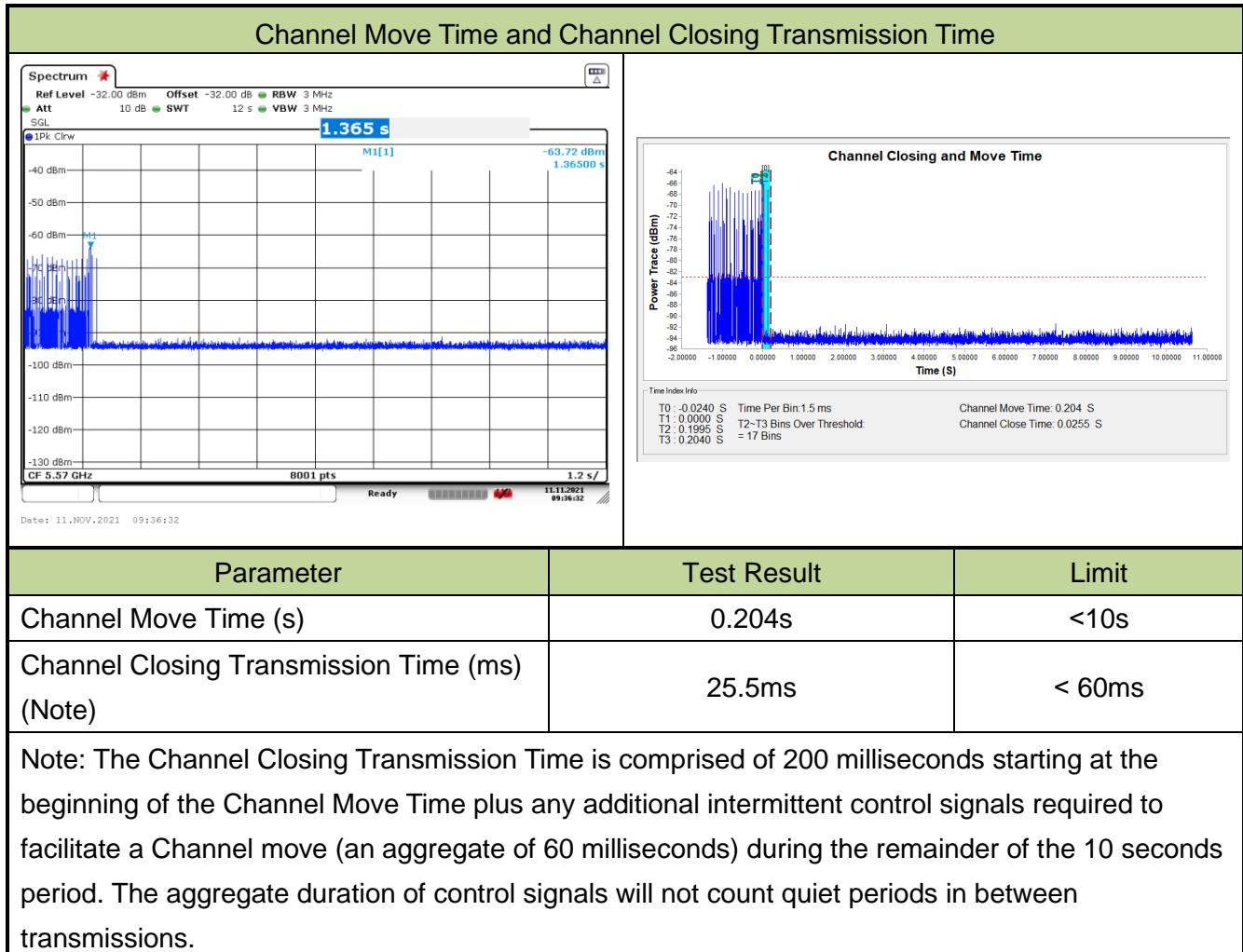
1.   The test should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0.

2.   When the radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device. A U-NII device operating as a Master Device will associate with the Client Device at Channel. Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test. At time T0 the Radar Waveform generator sends a Burst of pulses for each of the radar types at Detection Threshold + 1dB.

3.   Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the EUT during the observation time (Channel Move Time).

4.   Measurement of the aggregate duration of the Channel Closing Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (1.5ms) = S (12 sec) / B (8000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is the sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C = N X Dwell; where C is the Closing Time, N is the number of spectrum analyzer sampling bins showing a U-NII transmission and Dwell is the dwell timeper bin.

5.   Measure the EUT for more than 30 minutes following the channel close/move time to verify that the EUT does not resume any transmissions on this Channel.

5.7.3. Test Result

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/11
Test Item	Channel Move Time and Channel Closing Transmission Time		
Test Mode	802.11ax-HE80+80 mode - 5210+5290MHz		

Channel Move Time and Channel Closing Transmission Time

Parameter	Test Result	Limit
Channel Move Time (s)	0.201s	< 10s
Channel Closing Transmission Time (ms) (Note)	1.5ms	< 60ms
Note: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 seconds period. The aggregate duration of control signals will not count quiet periods in between transmissions.		

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/11
Test Item	Channel Move Time and Channel Closing Transmission Time		
Test Mode	802.11ax-HE80+80 mode - 5530+5610MHz		

Channel Move Time and Channel Closing Transmission Time

Parameter	Test Result	Limit
Channel Move Time (s)	0.204s	<10s
Channel Closing Transmission Time (ms) (Note)	25.5ms	< 60ms

Note: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 seconds period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/11
Test Item	Non-Occupancy Period		
Test Mode	802.11ax-HE80+80 mode - 5210+5290MHz		

Non-Occupancy Period

Date: 11.NOV.2021 08:36:51

Test Result	Test Limit
≥ 30min	≥ 30 min

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/11
Test Item	Non-Occupancy Period		
Test Mode	802.11ax-HE80+80 mode - 5530+5610MHz		

Non-Occupancy Period

Spectrum

Ref Level -32.00 dBm   Offset -32.00 dB   RBW 3 MHz
Att   10 dB   SWT   2000 s   VBW 3 MHz
SGL
1Pk Clrw

1800.0 s

D1[1]   -29.54 dB
                        1800.000 s
M1[1]   -62.36 dBm
                        61.000 s

-40 dBm
-50 dBm
-60 dBm   M1
-70 dBm
-80 dBm
-90 dBm   D1
-100 dBm
-110 dBm
-120 dBm
-130 dBm

CF 5.57 GHz   8001 pts   200.0 s/

Ready   11.11.2021 10:15:45

Date: 11.NOV.2021 10:15:45

Test Result	Test Limit
≥ 30min	≥ 30 min

5.8. Statistical Performance Check Measurement

5.8.1. Test Limit

The minimum percentage of successful detection requirements found in below table when a radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device (In- Service Monitoring).

Radar Type	Minimum Number of Trails	Detection Probability
0	30	Pd > 60%
1	30(15 of test A and 15 of test B)	Pd > 60%
2	30	Pd > 60%
3	30	Pd > 60%
4	30	Pd > 60%
Aggregate (Radar Types 1-4)	120	Pd > 80%
5	30	Pd > 80%
6	30	Pd > 70%
Note: The percentage of successful detection is calculated by: (Total Waveform Detections/ Total Waveform Trails) * 100 = Probability of Detection Radar Waveform In addition an aggregate minimum percentage of successful detection across all Short Pulse Radar Types 1-4 is required and is calculated as follows:(Pd1 + Pd2 + Pd3 + Pd4) / 4.		

5.8.2. Test Procedure

1. Stream the MPEG test file from the Master Device to the Client Device on the test Channel for the entire period of the test.

2. At time T0 the Radar Waveform generator sends the individual waveform for each of the Radar Types 1-6, at levels equal to the DFS Detection Threshold + 1dB, on the Operating Channel.

3. Observe the transmissions of the EUT at the end of the Burst on the Operating Channel for duration greater than 10 seconds for Short Pulse Radar Types 0 to ensure detection occurs.

4. Observe the transmissions of the EUT at the end of the Burst on the Operating Channel for duration greater than 22 seconds for Long Pulse Radar Type 5 to ensure detection occurs.

5. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs.

6. The Minimum number of trails, minimum percentage of successful detection and the average minimum percentage of successful detection are found in below table.

5.8.3. Test Result

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/18
Test Item	Radar Statistical Performance Check (802.11ax-HE20 – 5500MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5509	1	758	70	1
2	5498	1	538	98	1
3	5510	1	838	63	1
4	5500	1	678	78	1
5	5504	1	938	57	1
6	5500	1	3066	18	1
7	5506	1	918	58	1
8	5490	1	818	65	1
9	5499	1	618	86	1
10	5500	1	858	62	1
11	5504	1	578	92	1
12	5501	1	658	81	1
13	5503	1	898	59	1
14	5498	1	518	102	1
15	5502	1	598	89	1
16	5510	1	1221	44	1
17	5499	1	724	73	1
18	5494	1	2203	24	1
19	5506	1	1138	47	1
20	5502	1	1951	28	1
21	5497	1	936	57	1
22	5506	1	1079	49	1
23	5508	1	719	74	0
24	5508	1	2557	21	1
25	5496	1	617	86	1
26	5510	1	633	84	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5491	1	2446	22	1
28	5503	1	1511	35	1
29	5494	1	2385	23	1
30	5492	1	3039	18	1
Detection Percentage (%)					96.7%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5496	2.3	163	28	1
2	5496	4.3	217	24	1
3	5509	2.4	181	28	1
4	5503	1.8	153	26	1
5	5496	4.8	164	29	1
6	5493	2	224	24	0
7	5506	3	177	25	1
8	5490	2.8	153	24	1
9	5495	4.2	219	27	1
10	5498	5	181	26	1
11	5506	3	154	25	1
12	5498	4.1	172	24	1
13	5498	3.7	193	24	1
14	5496	2.7	220	25	1
15	5510	3.2	185	23	1
16	5507	4.1	156	28	1
17	5498	2.6	169	27	1
18	5509	3.7	174	25	1
19	5498	3.1	210	26	1
20	5492	1.2	218	24	1
21	5500	2	181	24	1
22	5490	4.8	203	25	1
23	5497	1.9	207	25	1
24	5501	1.6	213	28	1
25	5508	5	185	23	1
26	5503	3.3	229	25	1
27	5499	1.5	156	28	1
28	5496	1.4	172	29	1
29	5493	3.1	204	28	1
30	5508	4.7	222	24	1
Detection Percentage (%)					96.7%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5502	6	465	16	1
2	5510	6.5	410	16	1
3	5501	9	446	17	1
4	5490	8.5	461	17	1
5	5507	7.3	438	18	0
6	5499	6.2	328	16	0
7	5505	7.8	450	18	1
8	5492	7.1	495	17	1
9	5500	7.2	385	16	1
10	5504	7.6	474	17	1
11	5505	6.2	214	18	1
12	5508	9.9	376	18	1
13	5510	8.7	441	16	1
14	5506	7.9	341	18	1
15	5504	9.4	238	18	1
16	5506	6.7	277	17	1
17	5492	7.9	362	16	1
18	5498	6	251	18	1
19	5495	6.7	365	16	0
20	5496	7.5	470	17	1
21	5509	6.2	291	17	1
22	5496	8.2	482	17	0
23	5504	8.8	213	18	1
24	5508	8.4	396	17	1
25	5494	6.1	322	18	1
26	5495	6	436	16	1
27	5505	6.2	345	17	1
28	5507	7.6	438	18	1
29	5502	9.7	243	18	1
30	5491	7.5	203	17	1
Detection Percentage (%)					86.7%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5500	17.1	376	13	0
2	5498	15.3	383	14	1
3	5492	18.7	358	13	1
4	5503	16.9	344	14	1
5	5492	18.5	289	13	1
6	5500	18.9	366	13	1
7	5508	14.2	362	13	1
8	5508	19.6	394	15	1
9	5503	15.5	431	13	1
10	5502	15.3	277	15	0
11	5493	19.3	226	13	0
12	5503	12.9	391	15	1
13	5508	16	321	14	1
14	5510	12.1	334	14	1
15	5503	13.9	333	15	1
16	5505	11.2	370	12	1
17	5504	12.3	261	15	1
18	5500	18.4	324	15	1
19	5508	16	308	14	1
20	5493	15	381	12	0
21	5504	19	471	13	1
22	5490	19.7	339	13	1
23	5493	19.7	409	13	1
24	5506	14.7	364	15	1
25	5491	15.5	434	13	1
26	5498	15.1	278	13	1
27	5496	18.4	499	15	1
28	5493	16.3	433	15	0
29	5506	11.6	284	16	1
30	5494	12.9	377	15	1
Detection Percentage (%)					83.3%

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test waveforms is as follows: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4}$ = (96.7%+96.7%+86.7%+83.3%)/4 = 90.8% (>80%)

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5500	1	16	5493.6	1
2	5500	1	17	5497.6	1
3	5500	1	18	5492.8	1
4	5500	1	19	5492	1
5	5500	1	20	5496.8	1
6	5500	1	21	5504.8	1
7	5500	1	22	5506.8	1
8	5500	1	23	5505.6	1
9	5500	1	24	5506	1
10	5500	1	25	5507.2	1
11	5492	1	26	5506	1
12	5494.4	1	27	5507.6	1
13	5497.6	1	28	5506	1
14	5494	1	29	5503.2	1
15	5497.6	1	30	5506.8	1
Detection Percentage (%)					100%

Type 5 Radar Waveform_1						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	56.3	6	1815	1967	100.164
2	1	75.3	6			410.561
3	1	79.9	6			343.222
4	1	86.4	6			301.423
5	2	61.6	6	1736		3.754
6	3	89.6	6	1073	1852	611.855
7	2	70.7	6	1377		421.446
8	2	65.1	6	1185		329.427
9	2	51	6	1366		590.128
10	1	79.1	6			204.029
11	3	64.6	6	1666	1315	559.451
12	2	66	6	1413		417.962
13	3	60.6	6	1595	1611	616.503
14	3	91.9	6	1083	1523	27.064
15	3	88.6	6	1196	1017	472.215
16	2	67.4	6	1161		28.076
17	3	69.9	6	1937	1138	614.437
18	2	65	6	1207		89.558
19	2	73.7	6	1031		311.779

| | | | | | | **Type 5 Radar Waveform_2** |
| | | | | | | |

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	59.6	8			287.091
2	2	87.4	8	1520		665.6
3	3	90.5	8	1649	1647	734.6
4	3	95	8	1820	1945	308.7
5	1	83.1	8			414.69
6	2	64.3	8	1311		432.62
7	2	74.8	8	1097		413.03
8	2	60.7	8	1401		720.05
9	1	77.1	8			21.2
10	3	86.2	8	1023	1867	527.72
11	2	59.7	8	1832		366.27
12	1	85.6	8			31.96
13	1	76.6	8			290.27
14	1	70.4	8			580.3
15	1	81.8	8			411.3
16	3	80.3	8	1898	1336	254

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	89.2	14	1515	1236	1021.07
2	3	86.2	14	1489	1098	1173.297
3	3	86.2	14	1934	1463	797.913
4	3	71.5	14	1843	1291	380.92
5	1	58	14			431.357
6	2	68.7	14	1609		885.323
7	2	80.1	14	1840		792.15
8	2	78	14	1438		345.667
9	2	97.6	14	1928		1151.833

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	97.6	7	1395		891.503
2	1	97.7	7			169.923
3	2	96.7	7	1612		563.916
4	3	55.4	7	1521	1639	491.889
5	2	95.5	7	1619		797.722
6	3	65.2	7	1870	1558	797.385
7	2	90.2	7	1320		489.358
8	2	66.6	7	1633		203.762
9	2	76.3	7	1340		883.625
10	1	93.3	7			450.848
11	2	54.8	7	1582		763.651
12	2	58.4	7	1960		79.554
13	3	63.2	7	1529	1133	916.277

Type 5 Radar Waveform_5						
Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	2	82.1	7	1799		729.741
2	3	91.4	7	1213	1414	254.697
3	1	66.4	7			10.353
4	2	87	7	1263		137.22
5	3	63.9	7	1165	1535	486.057
6	2	99.6	7	1637		622.533
7	2	67.8	7	1003		971.69
8	3	98.9	7	1993	1975	1284.067
9	3	95.9	7	1998	1639	839.233

Type 5 Radar Waveform_6						
Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	1	58.3	20			1037.69
2	1	73.1	20			33.67
3	2	60.9	20	1356		112.14
4	1	71.3	20			692.41
5	2	71.7	20	1863		325.77
6	1	81.2	20			36.68
7	2	67.2	20	1872		1132.12
8	1	69.4	20			724.86
9	2	98.5	20	1782		316.07
10	3	71.9	20	1062	1897	205.7

Type 5 Radar Waveform_7						
Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	3	73.7	6	1278	1572	830.996
2	1	84.9	6			137.971
3	3	96.9	6	1943	1408	703.952
4	2	83.1	6	1802		18.453
5	2	72.4	6	1001		843.904
6	1	64.2	6			300.005
7	1	97.2	6			415.085
8	3	84.8	6	1132	1986	993.636
9	2	74.9	6	1720		649.867
10	1	80.2	6			459.118
11	2	84.7	6	1202		882.309

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μ sec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	91.8	14			285.595
2	1	72.3	14			114.681
3	2	64.9	14	1605		130.612
4	2	54.3	14	1274		437.743
5	2	69.8	14	1475		216.854
6	3	71.9	14	1595	1744	622.385
7	3	68.6	14	1009	1735	370.266
8	2	73.7	14	1621		2.537
9	2	71.3	14	1322		312.598
10	3	55.1	14	1593	1181	179.689
11	3	76.4	14	1262	1696	399.661
12	3	76.8	14	1342	1133	521.482
13	3	63.3	14	1191	1383	165.383
14	1	69.9	14			44.744
15	1	56.2	14			546.315
16	3	92.1	14	1772	1799	21.716
17	2	71.7	14	1518		338.737
18	2	76.1	14	1291		60.558
19	2	88.9	14	1129		45.579

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	71.2	11	1141	1722	579.419
2	3	72.3	11	1974	1922	303.29
3	3	50.4	11	1290	1596	522.05
4	2	85.1	11	1211		799.29
5	1	71	11			282.99
6	2	77.4	11	1927		16.78
7	2	55.1	11	1665		569.54
8	1	96.6	11			324.8
9	2	84.8	11	1742		773.81
10	3	83.6	11	1293	1069	678.54
11	2	71	11	1495		679.2
12	2	78.8	11	1250		254.8

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	95.5	17	1883	1805	70.144
2	3	84.9	17	1411	1634	513.803
3	2	55.8	17	1188		86.207
4	2	62.4	17	1235		522.23
5	2	72.7	17	1651		233.133
6	2	86.4	17	1117		145.127
7	1	70	17			30.55
8	3	87.5	17	1121	1419	34.263
9	2	68.8	17	1476		13.577
10	2	67.9	17	1694		191.43
11	3	78	17	1574	1797	502.653
12	1	85.5	17			139.377
13	2	56.2	17	1482		12.7
14	3	65.3	17	1285	1855	567.943
15	3	76.1	17	1459	1783	55.347
16	2	61.3	17	1021		420.2
17	2	86.9	17	1068		607.333
18	2	78.9	17	1249		514.167

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	72.6	5			199.589
2	2	51.8	5	1316		1015.9
3	2	53.5	5	1192		633.9
4	2	57.7	5	1242		501.33
5	1	53.2	5			1027.68
6	2	56.5	5	1643		769.1
7	2	55.5	5	1793		338.52
8	2	61	5	1095		1081.65
9	2	50.4	5	1843		43.7
10	2	81	5	1595		1135.8

Type 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	54.7	11			199.294
2	3	68.5	11	1406	1516	35.981
3	2	69.7	11	1027		326.082
4	1	80.6	11			706.083
5	2	72.8	11	1472		908.414
6	2	91.3	11	1938		998.625
7	2	100	11	1507		433.595
8	3	66.7	11	1048	1517	936.506
9	3	51	11	1863	1094	940.367
10	2	97.3	11	1578		1044.418
11	3	78.1	11	1784	1107	492.109

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	92	19	1521		634.852
2	2	91.3	19	1849		476.163
3	1	85.5	19			624.587
4	1	66.9	19			90.78
5	1	93	19			510.143
6	3	99.6	19	1411	1802	68.007
7	2	78.7	19	1320		595.6
8	1	78.2	19			434.963
9	2	53.9	19	1572		263.277
10	3	61	19	1854	1415	232.36
11	2	98	19	1564		600.493
12	1	77.5	19			520.847
13	1	65.3	19			193.93
14	2	50.1	19	1367		137.993
15	1	98.6	19			5.567
16	2	61.5	19	1771		99.2
17	2	89	19	1086		291.633
18	2	91.1	19	1459		6.367

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	72.1	10			422.372
2	3	60.2	10	1395	1252	205.202
3	2	72.4	10	1252		427.737
4	3	66.1	10	1543	1246	327.12
5	3	64.3	10	1217	1384	302.313
6	3	89.5	10	1950	1245	269.917
7	3	66.8	10	1909	1359	197.47
8	2	68.7	10	1412		258.293
9	2	56	10	1217		503.917
10	1	73.8	10			243.88
11	2	89.1	10	1014		301.103
12	3	82.3	10	1704	1496	157.557
13	1	66.5	10			109.54
14	2	72.4	10	1550		13.493
15	1	64.2	10			215.277
16	3	75.4	10	1648	1703	130.3
17	2	61.9	10	1779		646.833
18	2	81.1	10	1649		403.367

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	78.5	19	1185		400.78
2	1	68.9	19			590.277
3	1	53.3	19			749.994
4	2	74.7	19	1800		612.471
5	3	76.2	19	1513	1912	199.299
6	2	59.5	19	1045		273.136
7	1	52.8	19			635.093
8	2	85.4	19	1367		15.69
9	2	57.5	19	1973		227.747
10	2	80.4	19	1341		603.774
11	3	54.8	19	1805	1130	192.511
12	1	72.5	19			485.909
13	2	80.8	19	1429		741.986
14	3	77.1	19	1546	1088	644.543

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	51.4	9			218.391
2	3	98.4	9	1118	1441	608.543
3	3	89.7	9	1359	1910	94.546
4	2	73.3	9	1170		500.239
5	2	56.6	9	1392		310.372
6	2	91.1	9	1770		227.905
7	2	95.5	9	1415		551.448
8	2	60	9	1011		521.312
9	1	85	9			244.285
10	3	59.7	9	1331	1758	261.548
11	1	52.6	9			573.701
12	2	93.7	9	1763		497.854
13	2	57.5	9	1114		69.277

Type 5 Radar Waveform_17

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	95.2	19			482.879
2	2	89.4	19	1765		108.8
3	2	94.5	19	1679		300.14
4	2	67.1	19	1420		739.24
5	2	55.9	19	1114		443.42
6	3	63.4	19	1164	1555	605.64
7	2	54.9	19	1569		192.77
8	3	74.2	19	1687	1206	495.89
9	2	64.3	19	1974		444.83
10	3	90.1	19	1324	1016	738.26
11	2	99.7	19	1988		351.7
12	2	66.9	19	1214		717.7

Type 5 Radar Waveform_18

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	78.2	7	1078		496.551
2	1	75.7	7			640.898
3	2	55	7	1047		183.015
4	2	51	7	1961		685.013
5	2	89.9	7	1722		88.251
6	1	59.7	7			294.258
7	1	98.8	7			650.336
8	1	70.6	7			130.384
9	2	59	7	1432		326.481
10	1	85.2	7			33.649
11	1	65.3	7			154.606
12	1	95.7	7			630.684
13	2	59.2	7	1084		391.292
14	2	51.5	7	1336		618.969
15	3	73.5	7	1415	1421	697.647
16	2	69.6	7	1051		76.265
17	2	56.2	7	1113		402.482

Type 5 Radar Waveform_19

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	68.8	5	1899		357.5
2	2	56.5	5	1219		798.011
3	3	74.2	5	1121	1656	653.142
4	2	99.1	5	1714		65.583
5	2	85.4	5	1644		697.244
6	3	67.5	5	1668	1017	773.075
7	2	96.5	5	1082		673.415
8	2	81.7	5	1924		985.506
9	3	74.8	5	1018	1419	694.937
10	2	65.7	5	1349		689.218
11	3	68.5	5	1422	1499	195.209

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	79.7	17			559.592
2	3	77.8	17	1535	1066	911.861
3	1	81.7	17			84.242
4	1	64.3	17			1010.613
5	3	65.9	17	1878	1196	650.024
6	2	55.6	17	1986		130.055
7	2	90.2	17	1961		812.865
8	2	65.8	17	1388		678.836
9	1	79	17			449.567
10	2	75.1	17	1045		627.618
11	2	86.7	17	1714		485.809

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	80.3	13			424.071
2	2	86.1	13	1212		212.376
3	1	91.6	13			636.487
4	1	68.3	13			636.45
5	2	98.6	13	1670		561.993
6	2	73.6	13	1100		179.527
7	2	77.6	13	1515		660.62
8	3	98.8	13	1163	1838	103.213
9	1	63.2	13			86.427
10	3	83.7	13	1563	1068	175.46
11	2	98.5	13	1962		554.153
12	2	92.9	13	1125		131.987
13	2	61.6	13	1371		548.07
14	2	88.5	13	1652		437.163
15	2	81.7	13	1166		634.917
16	1	52	13			619.7
17	1	57	13			660.233
18	3	73.9	13	1710	1884	455.967

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	58.4	8			997.102
2	2	67.9	8	1478		189.367
3	2	83.3	8	1169		352.123
4	2	97.8	8	1117		1035.42
5	3	69.1	8	1315	1350	884.317
6	3	83.9	8	1462	1522	407.573
7	2	82.1	8	1239		977.89
8	2	99.2	8	1076		760.967
9	2	68.1	8	1780		1045.133

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	97.2	11	1097		706.826
2	3	59.7	11	1808	1462	244.461
3	2	68.5	11	1534		131.212
4	2	81.4	11	1392		228.323
5	3	93.8	11	1298	1908	1007.844
6	2	59.7	11	1039		180.355
7	2	76.8	11	1663		1069.755
8	2	79.6	11	1908		565.606
9	2	84.6	11	1566		849.137
10	1	69.7	11			468.918
11	3	63	11	1348	1647	182.409

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	80.6	10			878.197
2	3	84.9	10	1999	1024	438.12
3	2	92.6	10	1275		832.08
4	2	80.2	10	1415		710.52
5	2	59.2	10	1325		513
6	3	99.1	10	1586	1230	607.75
7	3	51.5	10	1288	1320	506.39
8	3	77.2	10	1599	1434	251.79
9	2	90.9	10	1644		401.01
10	2	59.7	10	1049		629.87
11	1	52.7	10			951.1
12	2	54.1	10	1678		481.4

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	99.7	7	1520		435.149
2	2	93.8	7	1289		352.858
3	1	59.2	7			124.305
4	2	61	7	1789		117.873
5	2	93.7	7	1367		473.451
6	3	73.2	7	1504	1482	419.618
7	3	57	7	1761	1614	268.686
8	1	99.5	7			521.034
9	1	73.4	7			270.701
10	2	96.8	7	1619		160.139
11	2	68	7	1967		503.516
12	1	81	7			454.624
13	1	51	7			314.662
14	2	62	7	1020		303.479
15	3	64.7	7	1793	1189	449.547
16	1	92.8	7			29.365
17	3	90.1	7	1047	1567	597.082

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	86.3	10	1514		293.388
2	1	91.8	10			634.468
3	3	58.8	10	1242	1416	488.975
4	2	60	10	1431		355.203
5	1	88.4	10			596.131
6	2	56.9	10	1737		249.448
7	2	78.7	10	1702		305.646
8	3	75.4	10	1748	1423	337.984
9	2	60.9	10	1807		565.281
10	2	58.3	10	1870		473.519
11	2	96.2	10	1937		630.386
12	3	57.9	10	1772	1278	557.764
13	2	85	10	1608		270.422
14	2	62.1	10	1075		111.529
15	1	83.1	10			247.047
16	1	98.4	10			367.165
17	2	76.8	10	1393		205.082

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	59.5	6	1849		118.793
2	2	63.3	6	1779		349.91
3	1	82.9	6			1043.62
4	3	92.3	6	1753	1429	1002.42
5	2	59.2	6	1844		570.34
6	2	91.5	6	1793		96
7	1	88.9	6			10.82
8	1	75.9	6			863.98
9	3	65.4	6	1692	1654	898.2
10	2	96.5	6	1056		486.3

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	74	10	1009		572.892
2	2	93	10	1444		243.942
3	2	57.5	10	1171		590.05
4	1	79.5	10			504.98
5	1	71.3	10			485.17
6	1	90.3	10			405.53
7	2	77.8	10	1463		570.69
8	2	98.1	10	1774		218.98
9	1	65.6	10			106.91
10	2	68.2	10	1266		148.06
11	2	88.1	10	1813		74.08
12	3	59.4	10	1494	1201	292.2
13	1	52.9	10			102.19
14	1	97.2	10			77.73
15	3	99.2	10	1259	1898	580.13
16	1	62	10			253.33
17	2	91.7	10	1622		328.57
18	3	75.5	10	1358	1592	531.8
19	1	65.6	10			121.6
20	3	78.5	10	1209	1997	156.5

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	93.8	17			241.034
2	3	90.2	17	1839	1536	863.71
3	3	53.1	17	1336	1395	722.9
4	2	73	17	1852		300.51
5	1	75.7	17			71.04
6	3	78.7	17	1760	1570	603.1
7	2	72.1	17	1883		318.33
8	2	94	17	1455		776.93
9	2	64.9	17	1740		735.88
10	2	54.7	17	1651		290.84
11	1	93.7	17			11.4
12	2	51.1	17	1051		795.4

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	87	8	1917		346.11
2	2	89.1	8	1159		729.477
3	2	78	8	1860		13.934
4	2	90.6	8	1065		417.231
5	2	68.7	8	1978		75.839
6	3	65.6	8	1185	1740	372.446
7	1	63.7	8			278.153
8	3	90.3	8	1925	1234	13.74
9	2	95.8	8	1462		310.007
10	2	82	8	1245		490.224
11	2	64.5	8	1231		165.501
12	2	85.9	8	1985		803.029
13	3	86.5	8	1511	1786	305.286
14	2	59.1	8	1832		47.443

Radar Type 6 - Radar Statistical Performance

Trail #	1=Detection 0=No Detection	Trail #	1=Detection 0=No Detection
1	1	16	1
2	1	17	1
3	1	18	1
4	1	19	1
5	1	20	1
6	1	21	1
7	1	22	1
8	1	23	1
9	1	24	1
10	1	25	1
11	1	26	1
12	1	27	1
13	1	28	1
14	1	29	1
15	1	30	1
Detection Percentage (%)		100%	

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
14	5501	42	5	5502	15
24	5503	72	46	5498	138
79	5498	237	55	5497	165
--	--	--	67	5509	201
--	--	--	97	5508	291

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
54	5510	162	40	5496	120
80	5496	240	49	5494	147
96	5495	288	100	5503	300

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5497	6	46	5500	138
16	5495	48	54	5503	162
25	5490	75	55	5493	165
62	5505	186	57	5497	171
79	5500	237	--	--	--

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
24	5505	72	18	5509	54
31	5496	93	54	5490	162
35	5494	105	82	5507	246
95	5492	285	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
39	5503	117	33	5509	99
69	5494	207	60	5499	180
80	5507	240	64	5491	192
85	5493	255	69	5497	207
--	--	--	96	5496	288

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Frequency (MHz)	Hopping Number	Pulse Start (ms)
18	5508	54	20	5507	60
26	5497	78	28	5490	84
51	5505	153	38	5509	114
81	5492	243	--	--	--

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
19	5499	57	2	5508	6
31	5502	93	10	5499	30
35	5490	105	54	5497	162
54	5497	162	71	5510	213
67	5495	201	85	5492	255
77	5509	231	--	--	--

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
16	5494	48	7	5508	21
34	5493	102	21	5493	63
51	5499	153	50	5495	150
--	--	--	53	5490	159
--	--	--	58	5504	174
--	--	--	66	5491	198
--	--	--	72	5507	216
--	--	--	96	5501	288

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
55	5491	165	2	5504	6
99	5494	297	35	5505	105
--	--	--	65	5491	195
--	--	--	81	5496	243

--	--	--	83	5501	249

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
18	5497	54	56	5508	168
40	5505	120	82	5490	246
73	5496	219	--	--	--

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5502	24	19	5498	57
12	5498	36	51	5491	153
23	5500	69	56	5508	168
58	5501	174	58	5504	174
84	5509	252	66	5496	198
89	5496	267	--	--	--
92	5495	276	--	--	--
96	5491	288	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
40	5500	120	19	5498	57
64	5493	192	23	5509	69
77	5495	231	71	5501	213
83	5509	249	83	5507	249

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5502	12	22	5496	66
18	5490	54	27	5497	81
23	5506	69	42	5498	126
52	5498	156	46	5502	138
78	5493	234	73	5501	219
--	--	--	90	5505	270

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
37	5509	111	48	5498	144
40	5496	120	--	--	--
55	5502	165	--	--	--
57	5506	171	--	--	--
91	5495	273	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
26	5492	78	43	5500	129
29	5508	87	55	5497	165
43	5490	129	90	5506	270

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/18
Test Item	Radar Statistical Performance Check (802.11ax-HE40 mode – 5510MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5502	1	658	81	1
2	5527	1	778	68	1
3	5523	1	898	59	1
4	5507	1	758	70	1
5	5498	1	718	74	0
6	5530	1	738	72	1
7	5526	1	678	78	1
8	5496	1	798	67	1
9	5508	1	878	61	1
10	5511	1	638	83	1
11	5524	1	818	65	1
12	5525	1	858	62	1
13	5508	1	618	86	1
14	5507	1	578	92	1
15	5509	1	838	63	1
16	5502	1	823	65	1
17	5502	1	1952	27	1
18	5501	1	1574	34	1
19	5490	1	1180	45	1
20	5497	1	606	87	1
21	5524	1	2278	24	1
22	5520	1	744	71	1
23	5523	1	1909	28	1
24	5499	1	2461	22	1
25	5530	1	2373	23	1
26	5497	1	1874	29	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5502	1	2508	22	1
28	5505	1	1101	48	1
29	5493	1	1336	40	1
30	5518	1	2320	23	1
Detection Percentage (%)					96.7%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5521	4.4	196	27	1
2	5509	4.4	183	27	1
3	5504	3.8	223	28	1
4	5499	1.3	194	29	1
5	5507	3.6	205	25	1
6	5512	2.8	194	28	1
7	5508	3.8	167	27	1
8	5530	4.7	208	27	1
9	5510	5	182	26	1
10	5506	3.1	229	24	1
11	5502	3.6	195	25	1
12	5508	2.9	193	27	1
13	5503	3.6	152	26	1
14	5512	2.7	190	27	1
15	5505	1.6	219	24	1
16	5512	3.2	164	28	1
17	5507	1.7	172	24	1
18	5503	2.1	214	26	0
19	5506	4.7	182	26	1
20	5493	2.4	203	26	1
21	5502	3.7	165	26	1
22	5520	1.6	213	25	1
23	5527	3.5	175	27	1
24	5515	1.8	187	27	1
25	5519	2	210	27	1
26	5490	4.1	217	25	1
27	5502	4.5	151	26	1
28	5494	2.4	217	27	0
29	5493	4.6	186	27	1
30	5529	3.1	209	28	1
Detection Percentage (%)					93.3%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5508	7.9	477	17	1
2	5524	6.9	261	18	1
3	5493	6.4	388	18	0
4	5507	6.3	305	17	1
5	5527	9.6	399	17	1
6	5522	9.9	368	17	1
7	5513	9	309	16	1
8	5507	6.5	201	17	1
9	5530	6.6	279	17	1
10	5524	7.5	497	18	1
11	5517	7.5	210	17	1
12	5494	9	309	17	1
13	5514	10	254	16	1
14	5507	8.3	410	17	0
15	5522	9.9	393	16	1
16	5518	8.9	492	18	1
17	5504	6.9	361	18	1
18	5513	6.4	368	16	1
19	5507	7	368	16	1
20	5490	7.8	221	16	1
21	5522	6.8	298	18	0
22	5528	9.5	482	17	1
23	5496	8.2	382	17	1
24	5524	8.6	435	17	1
25	5520	6.4	318	17	1
26	5496	7.9	251	18	1
27	5510	8.7	395	17	1
28	5510	9.9	474	17	1
29	5500	7.5	326	17	1
30	5526	6.6	348	17	1
Detection Percentage (%)					90.0%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5490	14.5	218	13	1
2	5518	19.2	270	14	1
3	5526	19.3	334	15	1
4	5505	18.5	377	16	1
5	5515	16.9	224	14	1
6	5496	11.9	432	13	1
7	5511	16.5	375	15	1
8	5512	16	428	12	1
9	5508	18.4	361	12	1
10	5519	18.5	380	13	1
11	5498	12	336	15	1
12	5527	16.8	308	15	1
13	5493	13.9	317	14	1
14	5499	16.6	367	15	1
15	5511	14.7	377	13	1
16	5530	15.1	213	13	1
17	5503	11.4	286	13	1
18	5512	14.4	207	13	1
19	5491	13.1	339	12	1
20	5520	12.1	391	14	1
21	5520	18.9	458	13	1
22	5506	19.6	315	14	1
23	5497	18.6	242	15	1
24	5504	15.1	485	14	1
25	5530	15.5	234	13	1
26	5494	20	268	12	1
27	5519	19.6	419	12	1
28	5495	16.7	378	13	1
29	5528	16.3	482	15	1
30	5522	11.4	428	14	1
Detection Percentage (%)					100%

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test

waveforms is as follows: $\dfrac{P_d1 + P_d2 + P_d3 + P_d4}{4}$ = (96.7%+93.3%+90%+100%)/4 = 95% (>80%)

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5510	1	16	5495.6	1
2	5510	1	17	5493.6	1
3	5510	1	18	5492.4	1
4	5510	1	19	5495.6	1
5	5510	1	20	5496.4	1
6	5510	1	21	5525.6	1
7	5510	1	22	5524.4	1
8	5510	1	23	5522.8	1
9	5510	1	24	5522.8	1
10	5510	1	25	5523.6	1
11	5497.2	1	26	5522.4	1
12	5493.2	1	27	5524.4	1
13	5492.8	1	28	5528.0	1
14	5496.8	1	29	5522.0	0
15	5497.6	1	30	5527.6	1
Detection Percentage (%)					96.7%

Type 5 Radar Waveform_1						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	78.5	14			387.465
2	3	92.4	14	1816	1641	522.59
3	2	60	14	1106		481.42
4	2	66.3	14	1480		1371.16
5	1	94.9	14			1397.21
6	3	61.5	14	1306	1884	1118.6
7	1	76	14			1265.9
8	3	94.3	14	1033	1446	1257.5

Type 5 Radar Waveform_2

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	88.5	16	1366	1071	175.93
2	2	96.9	16	1152		56.299
3	2	82.8	16	1867		362.642
4	2	83.4	16	1115		82.203
5	2	84.1	16	1829		466.854
6	2	60.4	16	1978		518.085
7	2	60.9	16	1891		466.716
8	1	99.6	16			425.387
9	2	71.4	16	1669		537.178
10	2	56.6	16	1117		393.519
11	2	89.9	16	1064		188.171
12	3	60.1	16	1160	1436	259.002
13	1	99.7	16			8.993
14	2	64.5	16	1846		456.474
15	2	58.6	16	1124		357.555
16	2	69.3	16	1907		391.306
17	1	91.3	16			559.937
18	3	81.4	16	1782	1930	384.558
19	3	77.4	16	1949	1924	285.779

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	89.9	15			35.761
2	2	95.6	15	1690		158.635
3	3	60.6	15	1597	1886	63.4
4	3	50.2	15	1093	1043	555.07
5	2	59	15	1462		547.96
6	3	50.1	15	1172	1974	246.82
7	2	90.4	15	1067		368.92
8	3	81.6	15	1022	1917	273.91
9	2	75	15	1629		427.17
10	1	78.8	15			591.08
11	3	96.8	15	1675	1939	81.49
12	3	75.6	15	1612	1680	357.06
13	2	98	15	1777		471.9
14	2	80	15	1968		350.5
15	2	84.9	15	1272		320.72
16	2	87	15	1294		37.21
17	3	63.1	15	1740	1578	459.8
18	3	62.5	15	1183	1688	10.6
19	3	61.4	15	1994	1104	103.9
20	2	87.4	15	1316		44.3

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	94.7	6	1577	1899	4.33
2	3	75.1	6	1903	1927	730.09
3	2	71.8	6	1126		52.28
4	2	88.3	6	1023		746.1
5	2	61.7	6	1990		412.31
6	2	84	6	1928		740.08
7	2	53.1	6	1407		185.14
8	1	80.5	6			86.76
9	2	91.8	6	1584		555.58
10	3	71.6	6	1601	1488	55.1
11	3	99.8	6	1995	1005	474.57
12	3	52.7	6	1733	1877	212.82
13	2	91.3	6	1649		515.8
14	2	90.2	6	1522		236
15	2	67.6	6	1669		154.3

Type 5 Radar Waveform_5

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	83.6	18	1963		2.51
2	2	81.6	18	1145		340.868
3	1	75	18			4.695
4	2	51.1	18	1994		580.703
5	1	66.3	18			473.731
6	3	75.4	18	1835	1202	487.388
7	1	60.6	18			264.646
8	2	96.4	18	1054		509.044
9	2	94.5	18	1222		77.001
10	2	55.6	18	1949		342.449
11	1	83.6	18			363.366
12	2	98.5	18	1265		464.824
13	3	87.6	18	1731	1983	131.142
14	1	91.7	18			38.639
15	1	65.5	18			636.047
16	2	87.6	18	1901		328.665
17	2	58.7	18	1681		44.682

Type 5 Radar Waveform_6

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	83.6	8	1610		52.063
2	3	68.4	8	1540	1868	594.691
3	3	85.9	8	1596	1754	137.042
4	3	97.5	8	1093	1343	796.293
5	2	99	8	1569		583.464
6	2	87.9	8	1860		124.035
7	3	64.9	8	1875	1944	1066.215
8	3	86.6	8	1368	1392	226.886
9	2	88.6	8	1511		723.727
10	3	64.1	8	1015	1489	178.838
11	3	54.9	8	1013	1775	126.009

Type 5 Radar Waveform_7

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	94.1	20	1296		8.462
2	3	57	20	1882	1463	688.39
3	2	79.6	20	1393		445.22
4	2	70.9	20	1512		615.43
5	2	54.2	20	1968		3.92
6	3	81.3	20	1222	1774	588.76
7	2	71.1	20	1619		173.04
8	3	87.8	20	1105	1502	478.24
9	3	69.2	20	1858	1156	109.95
10	2	64.7	20	1923		670.7
11	1	54.2	20			460.56
12	2	71	20	1392		695.91
13	2	92	20	1442		589.44
14	2	95.9	20	1132		540.3
15	1	89.6	20			51.2
16	2	78.3	20	1029		142.3

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μ sec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	93.1	8	1794		541.937
2	2	54.2	8	1983		61.853
3	1	55.2	8			225.652
4	3	86.4	8	1978	1075	219.093
5	1	89.3	8			3.594
6	3	92.2	8	1221	1153	450.815
7	1	85.4	8			46.476
8	2	78.1	8	1068		455.977
9	1	96.1	8			256.378
10	2	61.2	8	1135		205.269
11	1	85.5	8			485.891
12	2	64.3	8	1908		573.922
13	2	81.5	8	1414		227.723
14	2	59.4	8	1341		569.964
15	1	96.3	8			45.275
16	2	65.9	8	1002		76.506
17	2	90.6	8	1065		485.337
18	3	56.5	8	1340	1918	357.558
19	1	70.9	8			12.779

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	76.5	12	1529		197.008
2	3	68.2	12	1997	1338	211.077
3	3	84.1	12	1960	1100	256.45
4	3	50.4	12	1001	1018	574.56
5	3	52.7	12	1022	1162	522.19
6	2	70.9	12	1694		82.3
7	3	75.6	12	1460	1789	535.83
8	2	95.3	12	1657		370.88
9	2	88.3	12	1837		514.57
10	1	71.1	12			52.64
11	3	52.6	12	1903	1440	725.97
12	3	60.8	12	1559	1427	137.76
13	2	75.9	12	1528		595.77
14	1	60.2	12			490.7
15	2	61	12	1898		677.5
16	2	55.2	12	1840		642.7

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	95.7	11	1725		656.506
2	3	72.5	11	1374	1898	630.22
3	2	57.2	11	1329		186.78
4	3	73.7	11	1322	1950	82.01
5	3	79	11	1930	1034	453.48
6	3	94.1	11	1734	1263	542.43
7	1	54.8	11			386.47
8	3	68.7	11	1921	1144	376.26
9	2	68.8	11	1710		213.36
10	2	96.9	11	1315		72.64
11	2	70.4	11	1388		62.47
12	1	53.3	11			756.91
13	3	55.2	11	1029	1276	259.51
14	3	89.2	11	1683	1445	246.5
15	3	64.1	11	1488	1040	786

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	51	18	1501	1742	463.29
2	1	98	18			650.008
3	2	78.2	18	1077		375.125
4	2	64.8	18	1890		349.363
5	2	63	18	1755		426.601
6	1	74.2	18			508.378
7	2	79.2	18	1866		429.456
8	1	87.6	18			338.974
9	2	99.8	18	1127		569.711
10	1	78.5	18			247.139
11	2	89.7	18	1024		174.126
12	2	69.7	18	1393		364.364
13	2	93.5	18	1225		144.462
14	2	77.7	18	1476		393.079
15	2	99.6	18	1335		182.547
16	2	75.5	18	1454		434.765
17	2	79.8	18	1296		545.182

Type 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	79.8	8	1026	1122	437.808
2	2	52.6	8	1901		753.997
3	1	72.9	8			754.964
4	1	70.1	8			565.401
5	2	85.2	8	1016		13.689
6	2	52.2	8	1085		28.226
7	3	77.2	8	1233	1874	388.593
8	2	71	8	1647		182.42
9	2	74.5	8	1926		199.417
10	3	74.5	8	1100	1128	804.684
11	1	81.4	8			653.191
12	3	51.6	8	1057	1908	416.829
13	3	97.6	8	1535	1793	101.986
14	2	55.4	8	1279		451.643

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	87.9	7	1341		258.399
2	1	83.3	7			525.54
3	2	93.7	7	1608		1117.64
4	2	74.8	7	1643		849.9
5	3	81.8	7	1980	1898	473.37
6	2	76.2	7	1131		192.43
7	1	65.7	7			1096.25
8	1	77.4	7			1063.16
9	3	65.4	7	1382	1930	548.4
10	2	77	7	1753		826

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	59.8	17	1554	1616	624.197
2	2	68.2	17	1007		466.163
3	1	69.9	17			153.927
4	2	73.5	17	1461		69.37
5	2	95.5	17	1375		15.613
6	3	86.3	17	1389	1180	165.947
7	3	75.5	17	1675	1227	41.66
8	2	54.6	17	1688		566.793
9	1	61.4	17			236.547
10	1	57.4	17			397.75
11	3	91.5	17	1182	1093	127.393
12	3	81.7	17	1425	1816	463.177
13	1	99	17			116.29
14	3	69	17	1086	1602	238.343
15	2	91.7	17	1723		12.047
16	1	97	17			624.9
17	3	76.8	17	1619	1275	633.733
18	1	73.7	17			45.067

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	66.6	19			603.384
2	3	54.3	19	1428	1197	341.258
3	2	96.7	19	1299		138.225
4	3	83	19	1884	1174	52.313
5	2	76.3	19	1030		404.351
6	2	83.2	19	1057		457.648
7	1	86.4	19			313.006
8	3	64.8	19	1437	1967	544.264
9	1	57.7	19			469.361
10	3	71.5	19	1108	1921	695.579
11	1	64.1	19			134.036
12	1	54	19			578.014
13	2	53.9	19	1060		407.362
14	2	62.2	19	1513		170.719
15	2	65.3	19	1585		499.447
16	2	74.1	19	1229		428.365
17	1	71.9	19			579.282

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	60	14	1091		484.697
2	3	79.2	14	1158	1496	698.317
3	1	78.5	14			4.563
4	2	66.9	14	1522		535.55
5	1	63.1	14			287.597
6	3	59.2	14	1104	1993	56.483
7	3	70.6	14	1542	1756	1151.64
8	2	68.5	14	1772		1249.667
9	3	67.1	14	1147	1217	1251.633

Type 5 Radar Waveform_17

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	3	63.5	9	1472	1052	108.329
2	3	63.4	9	1255	1059	1164.36
3	1	56.5	9			284.62
4	1	98.3	9			75.17
5	2	55.4	9	1935		667.19
6	1	91	9			878.51
7	2	58.2	9	1319		324.91
8	2	93.1	9	1660		242.11
9	1	88.8	9			703.2
10	2	96.1	9	1919		433.2

Type 5 Radar Waveform_18

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	1	52.8	6			117.924
2	2	54.2	6	1281		250.501
3	2	56.7	6	1894		227.077
4	3	93.8	6	1748	1826	394.42
5	3	55.4	6	1296	1789	277.943
6	3	78.1	6	1232	1277	500.097
7	2	66.6	6	1311		283.45
8	2	68.9	6	1811		400.593
9	1	90.8	6			330.777
10	2	96.2	6	1730		57.25
11	2	77.1	6	1671		256.723
12	1	52.1	6			12.347
13	3	84	6	1616	1503	511.24
14	2	59.5	6	1396		153.593
15	2	89.2	6	1115		161.577
16	2	65.3	6	1358		383
17	3	76.1	6	1658	1612	385.833
18	2	75.2	6	1518		654.767

Type 5 Radar Waveform_19

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	1	79.6	14			576.433
2	1	80.7	14			234.157
3	2	57	14	1851		131.58
4	2	76.6	14	1043		3.3
5	1	95.2	14			73.57
6	2	87.7	14	1465		50.65
7	3	87.1	14	1038	1674	414.9
8	2	81.9	14	1228		507.18
9	3	81.3	14	1468	1339	256.08
10	3	78.9	14	1167	1303	416.29
11	1	94	14			276.37
12	1	99.7	14			330.81
13	2	94.3	14	1093		56.69
14	2	79.6	14	1402		375.88
15	2	59.2	14	1865		535.48
16	1	91.6	14			47.79
17	2	65.6	14	1535		190.12
18	1	59.4	14			562.9
19	1	85.8	14			534.6
20	3	73.9	14	1536	1219	3.3

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	96.4	16	1006		123.359
2	2	70.3	16	1132		79.334
3	1	91.9	16			51.817
4	1	99.1	16			543.05
5	2	54.2	16	1561		27.083
6	2	90.4	16	1375		541.547
7	3	57.2	16	1443	1464	427.86
8	2	86.5	16	1883		96.133
9	3	71.3	16	1718	1641	206.827
10	3	55.5	16	1885	1705	513.85
11	1	63.2	16			121.573
12	2	70.7	16	1809		126.837
13	2	98.9	16	1449		7.47
14	2	64.6	16	1479		246.433
15	2	55.9	16	1684		101.257
16	1	95.9	16			149.8
17	1	96.1	16			492.333
18	3	75.3	16	1240	1319	214.567

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	98.4	11	1827		256.209
2	3	65.7	11	1728	1345	262.471
3	3	67	11	1673	1128	443.302
4	2	78.4	11	1041		182.213
5	1	97.5	11			434.414
6	2	57.5	11	1435		197.425
7	1	87.5	11			254.425
8	2	72.5	11	1304		221.116
9	2	96.5	11	1486		41.447
10	2	77	11	1224		446.218
11	2	66.3	11	1556		1023.709

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	69.7	14	1889		746.589
2	3	80.7	14	1115	1614	115.74
3	2	98.8	14	1695		823.93
4	2	51.7	14	1250		379.35
5	1	61.4	14			905.61
6	3	78.4	14	1717	1362	320.28
7	1	77.6	14			563.13
8	1	97.4	14			8.24
9	2	69.6	14	1893		32.16
10	2	77.2	14	1644		342.62
11	3	82.4	14	1213	1668	643.9
12	3	96.9	14	1294	1390	176.4

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	99.6	18			167.72
2	2	54.8	18	1855		532.91
3	2	59.7	18	1957		231.26
4	1	62.5	18			417.71
5	3	51.6	18	1667	1941	221.34
6	1	62.8	18			402.9
7	2	87.1	18	1131		350.98
8	3	66.4	18	1482	1700	511.33
9	3	61.7	18	1276	1969	612.45
10	2	81.7	18	1374		544.78
11	2	65.2	18	1222		343.5
12	1	87.5	18			693.39
13	2	60.9	18	1732		71.69
14	2	82	18	1458		687.2
15	2	65.3	18	1432		280.4
16	2	92.3	18	1487		411

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	98	18			343.477
2	2	88.9	18	1615		545.13
3	3	57.5	18	1113	1620	537.8
4	1	96.1	18			316.15
5	1	83.3	18			351.48
6	3	89.2	18	1341	1806	591.62
7	3	88.6	18	1525	1576	373.21
8	1	57.6	18			351.44
9	1	51.8	18			336.68
10	2	86.4	18	1257		354.91
11	3	75.6	18	1905	1790	104.45
12	2	79.5	18	1201		419.29
13	1	57.3	18			84.02
14	2	94.6	18	1991		86.11
15	2	83.8	18	1871		119.43
16	1	85.4	18			328.12
17	1	59	18			346.99
18	2	95.7	18	1303		264.9
19	2	76.5	18	1591		30.4
20	3	61.1	18	1315	1674	242.6

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	68.9	16	1540		8.9
2	1	61.4	16			526.26
3	2	89.9	16	1637		664.57
4	1	98.2	16			173.6
5	2	53.4	16	1356		781.72
6	1	57.5	16			713.77
7	2	83	16	1736		526.7
8	3	51.8	16	1180	1650	709.47
9	2	73.9	16	1314		592.15
10	2	72.9	16	1634		228.18
11	3	92.5	16	1591	1639	450.7
12	1	96.5	16			897.3

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	68.5	19	1182		154.05
2	3	67.4	19	1847	1165	490.691
3	2	56	19	1266		242.812
4	1	75.6	19			484.213
5	2	95.8	19	1612		326.574
6	3	86.6	19	1300	1633	526.455
7	1	95.3	19			621.346
8	2	74.7	19	1129		45.917
9	1	52	19			498.708
10	3	83.6	19	1787	1703	462.359
11	3	94	19	1253	1331	597.611
12	2	59	19	1033		414.122
13	1	99	19			467.643
14	1	55.6	19			571.514
15	3	56.1	19	1531	1436	204.275
16	3	86.8	19	1049	1104	11.546
17	3	52.3	19	1413	1467	534.737
18	3	84.7	19	1364	1895	236.958
19	3	62.3	19	1949	1748	533.179

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	95.3	14	1261		784.828
2	3	87.7	14	1707	1867	1060.73
3	2	64.6	14	1167		439.25
4	3	82.2	14	1259	1794	884.8
5	2	99.3	14	1272		725.14
6	3	66.1	14	1762	1251	1179.31
7	1	85.2	14			134.25
8	3	89.8	14	1550	1886	263.53
9	2	93.6	14	1189		1044
10	3	64.6	14	1282	1517	466.2

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	54.9	5			594.269
2	3	55.3	5	1665	1175	245.902
3	1	98.6	5			290.36
4	1	59.6	5			731.49
5	2	59.4	5	1259		259.51
6	2	80.8	5	1234		42.06
7	2	54.6	5	1414		59.12
8	1	87.8	5			374.29
9	1	90.6	5			377.39
10	2	67.5	5	1266		212.83
11	2	58.1	5	1243		608.15
12	2	65	5	1047		734.7
13	2	53.8	5	1375		214.05
14	3	97.9	5	1698	1790	31.02
15	2	53.2	5	1874		576
16	2	59.4	5	1254		478.9

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	94.4	20	1878		121.98
2	2	54.2	20	1579		320.553
3	2	71.1	20	1544		90.086
4	2	88	20	1851		351.259
5	3	64.5	20	1881	1307	243.632
6	1	63	20			714.655
7	2	68.2	20	1884		866.378
8	3	72.8	20	1081	1232	292.442
9	3	58.1	20	1676	1327	888.515
10	3	83.6	20	1704	1665	433.238
11	2	87.1	20	1092		585.271
12	1	62	20			787.754
13	1	97.1	20			338.177

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	59	6	1141	1808	129.875
2	1	67.9	6			121.823
3	1	69.1	6			441.96
4	1	97.5	6			455.91
5	2	85.6	6	1820		398
6	2	61.9	6	1454		140.38
7	3	85.6	6	1368	1413	439.32
8	2	50.5	6	1663		106.2
9	3	66.9	6	1319	1736	274.54
10	3	97	6	1340	1810	503.03
11	3	61.4	6	1786	1633	169.99
12	2	78.8	6	1463		455.13
13	2	95.5	6	1925		484.11
14	2	79.2	6	1342		169.01
15	1	97.5	6			497.23
16	2	82.7	6	1313		562.73
17	2	54.6	6	1144		577.9
18	2	83.8	6	1920		251.4
19	2	63.5	6	1335		418.3
20	2	58.7	6	1687		564.6

Radar Type 6 - Radar Statistical Performance

Trail #	1=Detection 0=No Detection	Trail #	1=Detection 0=No Detection
1	1	15	1
2	1	16	1
3	1	17	1
4	1	18	1
5	1	19	1
6	1	20	1
7	1	21	1
8	1	22	1
9	1	23	1
10	1	24	1
11	1	25	1
12	1	26	1
13	1	27	1
14	1	28	1
15	1	29	1
Detection Percentage (%)		100%	

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5516	30	35	5508	105
12	5515	36	64	5520	192
36	5502	108	--	--	--
81	5503	243	--	--	--
86	5519	258	--	--	--

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
39	5513	117	14	5509	42
41	5500	123	16	5520	48
81	5517	243	83	5518	249
--	--	--	88	5513	264
--	--	--	93	5500	279

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
29	5508	87	5	5514	15
33	5520	99	9	5505	27
41	5500	123	25	5508	75
53	5515	159	49	5517	147
69	5505	207	59	5502	177
89	5519	267	--	--	--

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
42	5513	126	38	5511	114
49	5509	147	40	5509	120
58	5508	174	49	5516	147
--	--	--	63	5500	189
--	--	--	83	5504	249

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5514	12	44	5510	132
8	5511	24	48	5506	144
47	5507	141	65	5502	195
55	5510	165	78	5501	234
95	5513	285	82	5504	246

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5509	18	7	5507	21
35	5519	105	39	5514	117
47	5512	141	45	5516	135
63	5508	189	63	5518	189
95	5511	285	87	5513	261
96	5500	288	--	--	--

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
13	5500	39	10	5517	30
34	5513	102	21	5516	63
46	5519	138	32	5506	96
97	5512	291	65	5512	195

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5504	36	27	5505	81
22	5516	66	36	5518	108
48	5517	144	51	5515	153
--	--	--	52	5500	156
--	--	--	56	5506	168
--	--	--	66	5504	198
--	--	--	81	5520	243
--	--	--	85	5512	255
--	--	--	98	5507	294

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5518	3	18	5501	54
3	5500	9	37	5511	111
20	5502	60	92	5517	276
26	5517	78	--	--	--
56	5519	168	--	--	--
80	5504	240	--	--	--
88	5516	264	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
19	5513	57	28	5512	84
45	5502	135	30	5503	90
87	5503	261	43	5507	129
--	--	--	49	5506	147
--	--	--	57	5520	171

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
23	5518	69	26	5511	78
62	5516	186	93	5520	279
83	5512	249	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
48	5518	144	1	5506	3
68	5511	204	8	5518	24
90	5505	270	61	5510	183
--	--	--	84	5507	252
--	--	--	97	5503	291

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5516	36	7	5500	21
34	5502	102	54	5501	162
46	5504	138	--	--	--
85	5507	255	--	--	--
88	5512	264	--	--	--
99	5509	297	--	--	--

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
15	5502	45	10	5510	30
60	5520	180	16	5511	48
72	5501	216	17	5505	51
77	5509	231	48	5517	144
--	--	--	73	5516	219
--	--	--	88	5512	264
--	--	--	98	5506	294

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
26	5500	78	16	5507	48
43	5514	129	21	5518	63
51	5503	153	44	5503	132
59	5510	177	61	5506	183
68	5511	204	63	5504	189
70	5504	210	--	--	--
97	5512	291	--	--	--

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/18
Test Item	Radar Statistical Performance Check (802.11ax-HE80 mode – 5530MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5499	1	678	78	1
2	5553	1	638	83	1
3	5535	1	798	67	1
4	5569	1	518	102	1
5	5524	1	3066	18	1
6	5505	1	938	57	1
7	5498	1	618	86	1
8	5534	1	918	58	1
9	5496	1	778	68	1
10	5570	1	898	59	1
11	5490	1	758	70	1
12	5551	1	558	95	1
13	5565	1	738	72	1
14	5570	1	658	81	1
15	5570	1	598	89	1
16	5494	1	2253	24	1
17	5550	1	1510	35	1
18	5546	1	2294	23	1
19	5499	1	1915	28	1
20	5565	1	1704	31	0
21	5504	1	1118	48	1
22	5523	1	968	55	1
23	5539	1	682	78	1
24	5537	1	2906	19	1
25	5501	1	2824	19	1
26	5562	1	1269	42	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5533	1	1742	31	1
28	5532	1	1722	31	1
29	5491	1	2693	20	1
30	5554	1	2593	21	1
Detection Percentage (%)					96.7%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5522	1.2	150	28	1
2	5529	3.5	155	26	1
3	5555	4.6	169	26	1
4	5510	1.1	182	24	1
5	5501	1.4	157	25	1
6	5533	4.9	199	27	0
7	5507	3	194	29	1
8	5525	2.1	165	29	1
9	5549	3.7	194	27	1
10	5533	4.7	204	26	1
11	5527	4.1	171	29	1
12	5529	2.1	227	27	1
13	5540	3.2	153	23	1
14	5498	2.9	207	25	1
15	5550	4.2	200	26	1
16	5564	3	212	29	1
17	5490	2.8	180	27	1
18	5560	3.3	175	27	1
19	5521	4.2	207	24	1
20	5527	2.4	223	27	1
21	5536	4.5	171	27	1
22	5501	4.9	188	25	1
23	5570	2.3	155	25	1
24	5540	3	203	26	1
25	5531	4.5	191	28	1
26	5511	4.8	211	23	1
27	5546	1.5	176	27	1
28	5494	1.4	194	24	1
29	5519	4	201	24	1
30	5504	2.2	217	26	1
Detection Percentage (%)					96.7%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5531	9.6	332	16	1
2	5562	9.6	254	17	1
3	5501	6.8	437	17	1
4	5513	6	211	18	1
5	5570	8.2	484	17	1
6	5494	8.3	452	16	1
7	5523	7.9	334	17	1
8	5558	8.1	254	17	1
9	5518	7	430	16	1
10	5547	9.6	284	18	1
11	5490	9.2	309	17	1
12	5560	8.6	403	16	1
13	5545	9.3	237	17	1
14	5552	9	261	18	1
15	5537	6.5	380	16	1
16	5495	8.8	357	16	1
17	5566	8	253	17	1
18	5515	7.9	463	18	1
19	5563	9.1	318	18	1
20	5523	7.1	486	17	1
21	5490	7.3	282	16	0
22	5504	7.8	239	16	1
23	5522	8.5	391	17	1
24	5518	7.6	326	17	1
25	5533	6.7	311	18	1
26	5507	8.5	232	18	1
27	5557	9.6	362	16	1
28	5495	6.3	310	17	1
29	5517	7	209	16	0
30	5539	7.4	348	18	1
Detection Percentage (%)					93.3%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5533	11.1	225	16	1
2	5529	14.1	351	14	1
3	5561	18.4	389	16	1
4	5528	11.7	268	13	1
5	5546	13.5	277	13	1
6	5540	13.8	402	12	1
7	5544	14.8	306	13	1
8	5570	17.7	480	13	1
9	5557	13.8	431	13	1
10	5501	15.9	442	14	1
11	5552	12.5	286	14	1
12	5470	13.2	403	13	0
13	5504	19.6	361	15	1
14	5503	12.4	484	14	1
15	5508	15.7	430	13	0
16	5517	18.5	401	15	0
17	5566	18.4	320	14	1
18	5540	14.8	495	13	1
19	5552	19.3	310	16	1
20	5522	15.4	436	15	1
21	5504	15.9	285	13	1
22	5556	13.6	366	16	1
23	5516	17.1	438	15	1
24	5500	12.1	461	14	1
25	5552	13.1	418	14	1
26	5505	18.8	289	13	1
27	5562	15.9	257	14	1
28	5520	18.9	399	16	1
29	5562	16.8	386	15	1
30	5500	16.5	342	15	1
Detection Percentage (%)					90.0%

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test

waveforms is as follows: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4}$ = (96.7%+96.7%+93.3%+90.0%)/4 = 94.2% (>80%)

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5530	1	16	5496.4	1
2	5530	1	17	5494.8	1
3	5530	1	18	5498	1
4	5530	1	19	5492	1
5	5530	1	20	5495.2	1
6	5530	1	21	5567.6	1
7	5530	1	22	5562.4	1
8	5530	1	23	5562	1
9	5530	1	24	5564.8	1
10	5530	1	25	5565.6	1
11	5495.6	1	26	5564.4	1
12	5493.2	1	27	5567.2	1
13	5494.4	1	28	5562.8	1
14	5495.6	1	29	5565.2	1
15	5494.8	1	30	5563.6	1
Detection Percentage (%)					100%

Type 5 Radar Waveform_1						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	89.9	5	1347		517.072
2	1	67.5	5			53.471
3	2	70.6	5	1989		68.19
4	2	90.9	5	1087		585.46
5	2	57	5	1220		430.03
6	2	88.4	5	1884		171.28
7	1	75.7	5			424.05
8	2	55.2	5	1469		427.41
9	2	84	5	1166		430.71
10	3	66.5	5	1631	1704	139.16
11	2	95.2	5	1412		368.02
12	2	85.7	5	1308		533.88
13	2	64	5	1325		436.25
14	2	83.3	5	1022		140.57
15	2	80.9	5	1753		520.65
16	1	60.9	5			241.42
17	1	90.8	5			76.49
18	1	75.1	5			97.1
19	1	71.2	5			199.7
20	2	66.7	5	1469		111.9

Type 5 Radar Waveform_2

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	61.6	17	1327		526.504
2	2	98.7	17	1771		96.763
3	3	88.5	17	1050	1575	313.226
4	3	90.1	17	1177	1442	547.889
5	1	72.4	17			744.122
6	2	50.3	17	1047		63.125
7	1	52.2	17			504.068
8	2	67.5	17	1907		665.512
9	1	98.1	17			904.835
10	2	76.1	17	1823		589.638
11	2	94.6	17	1819		823.531
12	2	87.1	17	1353		1.454
13	3	84.5	17	1914	1179	306.777

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	53	7	1959	1915	532.645
2	1	70.8	7			113.4
3	2	67.9	7	1637		579.83
4	1	77.2	7			481.13
5	1	89	7			429.74
6	3	95.1	7	1670	1287	356.27
7	1	76.6	7			305.25
8	2	64.5	7	1402		471.11
9	1	50.9	7			381.79
10	3	99.4	7	1437	1252	593.72
11	1	78.7	7			284.03
12	2	62.3	7	1373		202.94
13	2	51.1	7	1472		407.2
14	3	53.8	7	1745	1599	174.4
15	3	84.2	7	1650	1030	676.6

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	97.1	7	1890		1081.73
2	2	76.1	7	1548		27.007
3	1	68.3	7			234.083
4	2	87.9	7	1259		674.95
5	3	56.3	7	1134	1015	23.887
6	1	55.7	7			910.393
7	2	78.3	7	1133		177.62
8	2	96.5	7	1040		559.437
9	1	76.7	7			721.533

Type 5 Radar Waveform_5						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	52.8	18	1159		1114.6
2	3	56.4	18	1626	1973	1295.857
3	2	94.4	18	1184		1305.593
4	3	61.4	18	1305	1518	1022.3
5	2	81.3	18	1956		815.527
6	2	97.9	18	1520		354.733
7	2	89.4	18	1296		623.97
8	2	54.8	18	1765		767.067
9	1	79.8	18			1223.933

Type 5 Radar Waveform_6						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	87.5	9	1613		419.319
2	3	92.4	9	1821	1796	18.844
3	1	70.7	9			476.07
4	3	57.8	9	1885	1983	730.87
5	3	86.1	9	1558	1648	681.26
6	1	66.8	9			415.41
7	2	81.6	9	1104		737.22
8	1	93	9			595.84
9	3	59.6	9	1093	1064	95.95
10	2	61	9	1841		40.54
11	2	50.2	9	1585		645.86
12	2	75.8	9	1166		428.34
13	1	51.3	9			479.3
14	2	82.8	9	1113		21.4
15	1	86.6	9			406.2

Type 5 Radar Waveform_7						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	55.5	6	1170		1111.82
2	2	57	6	1837		575.57
3	2	90.1	6	1674		848.99
4	3	59.4	6	1273	1786	1088.34
5	2	64.8	6	1619		296.39
6	2	51.3	6	1241		1411.75
7	2	92.1	6	1564		296.36
8	2	54.9	6	1799		548.9

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μ sec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	60.1	9	1053		516.641
2	1	86.3	9			344.953
3	1	64.2	9			500.467
4	2	96.7	9	1681		135.28
5	1	89.1	9			653.333
6	1	97.8	9			516.047
7	2	72.3	9	1069		548.44
8	1	83.7	9			630.873
9	3	71.7	9	1446	1456	580.517
10	2	77.6	9	1219		392.58
11	1	85	9			222.493
12	1	90.1	9			205.277
13	1	86	9			495.86
14	1	97.2	9			345.903
15	1	74.6	9			623.677
16	2	76.3	9	1801		331.2
17	1	93.8	9			200.233
18	2	94.7	9	1625		571.967

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	87.5	11	1989		164.105
2	2	65.1	11	1666		82.8
3	1	70.5	11			249.73
4	1	74.5	11			1109.71
5	2	54.7	11	1867		553.69
6	3	68.9	11	1335	1055	747.67
7	3	75.7	11	1862	1573	698.17
8	3	76.4	11	1298	1941	512
9	1	88.3	11			711
10	3	75.5	11	1115	1881	781.6

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	69.9	20			117.847
2	3	76.9	20	1582	1987	566.733
3	2	92.3	20	1568		240.587
4	3	88	20	1734	1300	321.82
5	2	63.9	20	1834		585.553
6	1	86.3	20			397.557
7	2	89.3	20	1107		174.08
8	1	73.6	20			487.243
9	3	53.5	20	1229	1585	3.847
10	1	64.6	20			577.21
11	1	54.3	20			180.053
12	1	75	20			477.697
13	1	86.2	20			647.85
14	2	80.4	20	1222		228.203
15	2	64.3	20	1487		28.497
16	2	52.2	20	1667		505.3
17	3	86.2	20	1466	1930	575.333
18	2	64	20	1319		18.067

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	76.9	14			1029.19
2	2	98.9	14	1526		1397.84
3	1	58.1	14			294.69
4	2	74.1	14	1386		1479.97
5	2	80.4	14	1974		31.62
6	3	93.6	14	1298	1675	1017.76
7	1	80.4	14			370.7
8	2	86.8	14	1687		1313.6

ype 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	82.7	8	1876	1949	907.576
2	1	80.7	8			474.271
3	3	79.9	8	1103	1420	579.892
4	2	81.5	8	1513		1082.713
5	3	76.7	8	1639	1086	716.204
6	1	95.1	8			506.865
7	3	68	8	1282	1532	334.445
8	3	86.9	8	1077	1807	876.076
9	3	83.8	8	1881	1654	791.837
10	1	77.9	8			194.918
11	2	97.7	8	1260		200.709

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	70.6	11	1348		597.097
2	2	72.9	11	1557		655.89
3	1	70.1	11			130.32
4	3	82.1	11	1398	1915	669.45
5	1	73	11			124.07
6	3	60.3	11	1988	1993	196.33
7	1	78.3	11			645.49
8	2	94.2	11	1925		317.92
9	1	59.4	11			697.02
10	2	66.2	11	1807		626.01
11	1	75.5	11			243.29
12	1	68.8	11			589.68
13	2	56.6	11	1694		729.1
14	2	74.6	11	1948		148.8
15	3	57.4	11	1042	1993	82

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	56.1	14			9.658
2	1	87.7	14			174.23
3	3	56.3	14	1776	1870	537.772
4	2	57.7	14	1279		465.303
5	2	99.4	14	1696		63.154
6	3	68.2	14	1657	1219	355.915
7	1	51.7	14			491.506
8	3	58.5	14	1308	1270	96.237
9	3	99	14	1152	1032	223.868
10	3	68.7	14	1717	1167	62.799
11	3	99.4	14	1577	1105	466.431
12	3	71.5	14	1789	1202	138.992
13	2	85.2	14	1683		58.603
14	2	84.8	14	1298		238.844
15	1	69.8	14			207.855
16	2	64.3	14	1016		65.436
17	1	81.3	14			181.037
18	2	68	14	1518		395.958
19	1	50.1	14			600.679

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	51.1	12	1078		911.882
2	3	71.2	12	1362	1233	513.061
3	2	82.8	12	1922		1047.832
4	2	74.1	12	1752		878.533
5	1	95.4	12			424.064
6	1	98.9	12			934.755
7	1	58.3	12			308.085
8	1	70.6	12			250.126
9	3	99.3	12	1861	1055	853.757
10	2	60.8	12	1615		114.548
11	1	84.3	12			147.909

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	58.2	16	1911	1909	46.707
2	2	60.3	16	1443		553.633
3	2	69.7	16	1746		558.597
4	3	87.2	16	1740	1118	624.97
5	2	60.3	16	1304		413.913
6	1	82.7	16			149.607
7	1	70.7	16			237.94
8	2	80.6	16	1841		388.053
9	2	60.7	16	1030		58.057
10	1	91.1	16			430.38
11	2	76.6	16	1386		212.033
12	2	63.3	16	1755		209.857
13	2	84.6	16	1803		517.31
14	2	85.6	16	1161		542.213
15	2	53.5	16	1036		577.837
16	2	50.7	16	1977		56.9
17	1	55.5	16			301.033
18	3	53.2	16	1165	1498	364.567

Type 5 Radar Waveform_17

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	2	94.8	12	1404		76.44
2	2	68.2	12	1097		69.301
3	3	91.4	12	1614	1664	877.312
4	2	58	12	1009		861.013
5	2	70.1	12	1630		226.264
6	1	53.6	12			957.305
7	1	74.6	12			398.375
8	2	98	12	1257		595.636
9	1	64.2	12			655.037
10	1	80.6	12			107.538
11	1	66.8	12			772.009

Type 5 Radar Waveform_18

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	2	89.9	20	1779		726.596
2	1	66.6	20			748.383
3	3	71.4	20	1127	1109	461.516
4	2	64.3	20	1170		105.729
5	1	60.5	20			203.092
6	2	60.4	20	1604		219.205
7	3	75.4	20	1261	1610	209.308
8	2	95.6	20	1364		682.222
9	1	57.1	20			381.645
10	3	64.5	20	1319	1844	272.548
11	2	63.8	20	1840		559.831
12	2	63.8	20	1470		883.254
13	1	65	20			84.777

Type 5 Radar Waveform_19

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	2	50.6	5	1542		325.239
2	2	58.1	5	1616		140.865
3	3	89.8	5	1362	1105	228.607
4	2	93.4	5	1380		435.21
5	1	66	5			594.363
6	3	54.8	5	1185	1132	99.417
7	3	84.5	5	1001	1207	350.3
8	1	66.5	5			605.033
9	2	68.5	5	1471		250.037
10	2	81.1	5	1195		466.1
11	1	61	5			515.753
12	2	95.2	5	1975		517.927
13	3	80.1	5	1714	1408	440.22
14	3	57.8	5	1544	1885	75.803
15	1	53.5	5			341.377
16	1	95.2	5			159.9
17	3	90	5	1379	1680	628.933
18	2	83.2	5	1153		148.967

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	3	79.9	13	1201	1925	207.438
2	1	85.3	13			469.36
3	2	89.5	13	1080		318.67
4	3	96.4	13	1899	1352	622.32
5	1	91.9	13			343.41
6	1	60.9	13			581.94
7	2	78.5	13	1943		97.33
8	2	84.7	13	1881		400.08
9	2	95.5	13	1039		663.12
10	2	80.6	13	1192		438.26
11	2	66.3	13	1022		573.26
12	3	83.7	13	1943	1620	254.3
13	1	66.2	13			247.74
14	3	85	13	1655	1918	325.8
15	2	64	13	1505		519.9

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	2	72.6	6	1233		309.17
2	3	50.3	6	1955	1387	258.04
3	1	82	6			603.35
4	3	93.8	6	1947	1851	636.51
5	2	69.8	6	1254		41.74
6	2	83.8	6	1125		634.73
7	2	87.6	6	1416		192.04
8	2	74.3	6	1088		110.28
9	2	64	6	1427		410.99
10	1	70.2	6			662.24
11	3	51	6	1820	1581	128.07
12	3	98.3	6	1139	1212	509.4
13	1	55.1	6			619.4
14	2	54.7	6	1658		354.6
15	2	93.8	6	1595		612.2
16	2	86.5	6	1807		304.2

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	3	70.4	19	1835	1921	568.404
2	2	87.3	19	1883		107.126
3	1	73.2	19			515.69
4	3	59.9	19	1605	1550	32.81
5	2	84.9	19	1204		723.99
6	3	83.2	19	1905	1128	704.63
7	1	60.6	19			723.83
8	1	61.4	19			706.78
9	3	96.5	19	1144	1125	268.01
10	2	70.4	19	1677		515.98
11	2	96.6	19	1450		323.87
12	2	97.4	19	1591		620.23
13	3	97.9	19	1807	1150	566.7
14	2	78.2	19	1946		544.2
15	2	73	19	1429		372.7

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	82.1	20	1374		622.949
2	1	51	20			518.567
3	3	62.8	20	1056	1449	374.874
4	2	60.7	20	1656		140.561
5	1	98.7	20			248.319
6	2	69.1	20	1974		0.926
7	1	83.6	20			167.703
8	1	91	20			263.69
9	1	73.5	20			414.657
10	2	80.5	20	1469		194.054
11	2	84.1	20	1697		544.981
12	2	79.6	20	1386		395.709
13	3	77.2	20	1185	1526	657.786
14	3	70.1	20	1341	1368	767.043

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	72.7	13	1069		275.824
2	3	75.1	13	1373	1242	416.973
3	1	63.1	13			360.457
4	2	75	13	1071		456.18
5	2	99.9	13	1492		422.943
6	2	74.3	13	1262		48.507
7	3	80.7	13	1175	1141	50.05
8	2	57.8	13	1799		515.523
9	2	96.1	13	1081		77.367
10	2	63.6	13	1667		274.2
11	2	94.7	13	1232		513.163
12	3	58.6	13	1035	1920	181.297
13	2	55.5	13	1692		289.79
14	2	92.3	13	1282		395.763
15	1	77.6	13			59.217
16	2	53	13	1711		548.5
17	2	90.2	13	1979		191.233
18	2	64.5	13	1877		484.067

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	89.1	11	1533		715.112
2	1	62.2	11			414.68
3	3	54.6	11	1298	1408	72.01
4	3	61.5	11	1144	1146	5.88
5	1	70.9	11			932.79
6	3	73	11	1987	1903	392.85
7	2	93.9	11	1960		240.71
8	3	95.7	11	1306	1723	634.25
9	3	69.2	11	1735	1091	201.88
10	1	72.4	11			680.22
11	3	65.3	11	1752	1767	363.4
12	2	65.9	11	1253		334.3

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	94	14			639.667
2	2	90.2	14	1478		488.52
3	3	81.3	14	1934	1506	547.41
4	3	50.2	14	1835	1015	560.64
5	3	65.4	14	1994	1322	432.29
6	2	84.3	14	1611		273.09
7	2	90.5	14	1742		98.22
8	1	71.2	14			723.33
9	3	93.1	14	1559	1561	542.7
10	1	89.8	14			681.34
11	2	70.1	14	1985		32.54
12	2	89.8	14	1167		781.23
13	1	95.1	14			450.6
14	2	62	14	1282		4.2
15	3	55.4	14	1705	1004	367

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	84.3	7	1828		854.702
2	1	70.3	7			624.03
3	2	98.2	7	1006		509.2
4	2	92.3	7	1799		947.65
5	2	85.1	7	1386		424.6
6	2	77.3	7	1391		984.51
7	1	97.9	7			471.58
8	2	95.1	7	1629		258.02
9	2	98.6	7	1147		719.16
10	3	72.8	7	1260	1773	202.2
11	3	54.4	7	1351	1530	971.3
12	3	92.6	7	1244	1518	90.3

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	51.5	18			646.532
2	2	91.7	18	1270		673.897
3	1	86.8	18			347.294
4	2	55.6	18	1865		136.981
5	2	64.2	18	1314		159.319
6	2	94	18	1757		377.066
7	2	91.8	18	1131		425.833
8	2	91.3	18	2000		398.7
9	2	89.4	18	1350		845.087
10	3	83.6	18	1869	1710	483.214
11	2	53.4	18	1375		478.581
12	3	70.2	18	1204	1878	519.839
13	3	89.3	18	1522	1866	2.886
14	1	90.8	18			333.043

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	63.2	12			484.846
2	3	72.8	12	1169	1838	367.337
3	1	64.2	12			294.602
4	2	67.6	12	1801		312.533
5	2	85	12	1658		239.644
6	1	78.7	12			274.785
7	3	91.5	12	1269	1095	190.506
8	2	89.6	12	1318		25.127
9	2	70	12	1429		187.168
10	1	80.8	12			515.289
11	1	68.7	12			193.711
12	2	95.2	12	1591		469.812
13	1	77.4	12			87.323
14	1	69.6	12			141.654
15	2	89.1	12	1273		257.475
16	3	51.5	12	1054	1816	109.756
17	2	61.5	12	1536		497.237
18	1	58.5	12			538.658
19	2	91	12	1298		450.979

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	70.9	16	1799	1720	221.064
2	3	79.3	16	1861	1181	397.673
3	3	69	16	1619	1979	318.486
4	1	81.7	16			307.249
5	2	56.2	16	1642		769.882
6	2	58.7	16	1743		697.895
7	3	61.8	16	1406	1590	688.558
8	3	68.1	16	1324	1163	607.892
9	3	87.2	16	1197	1071	876.415
10	2	84.9	16	2000		802.938
11	2	55.9	16	1420		436.981
12	2	62.9	16	1582		823.754
13	2	97.1	16	1521		381.477

Radar Type 6 - Radar Statistical Performance

Trail #	1=Detection 0=No Detection	Trail #	1=Detection 0=No Detection
1	1	16	1
2	1	17	1
3	0	18	1
4	1	19	1
5	1	20	1
6	1	21	1
7	1	22	1
8	1	23	1
9	1	24	1
10	1	25	1
11	1	26	1
12	1	27	1
13	1	28	1
14	1	29	1
15	1	30	1
Detection Percentage (%)		96.7%	

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5506	30	6	5500	18
21	5504	63	14	5509	42
25	5495	75	28	5490	84
39	5509	117	46	5506	138
46	5507	138	59	5497	177
49	5505	147	60	5502	180
85	5494	255	94	5504	282

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
19	5490	57	33	5506	99
43	5498	129	36	5508	108
--	--	--	41	5495	123
--	--	--	87	5491	261

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5503	3	7	5506	21
2	5504	6	11	5508	33
3	5508	9	26	5509	78
7	5510	21	30	5503	90
13	5509	39	32	5510	96
16	5492	48	52	5492	156
24	5491	72	68	5490	204
38	5500	114	69	5494	207
77	5496	231	82	5499	246

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
68	5496	204	3	5494	9
86	5493	258	26	5503	78
--	--	--	41	5496	123
--	--	--	91	5499	273

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
16	5504	48	23	5501	69
46	5493	138	36	5500	108
79	5498	237	52	5509	156
84	5495	252	73	5502	219
88	5491	264	94	5497	282

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
21	5504	63	16	5491	48
23	5494	69	17	5508	51
27	5497	81	19	5498	57
72	5506	216	74	5507	222
100	5509	300	94	5500	282
--	--	--	100	5493	300

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
20	5498	60	1	5504	3
22	5490	66	19	5501	57
51	5500	153	31	5500	93
97	5506	291	67	5502	201
--	--	--	75	5490	225
--	--	--	82	5492	246

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Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
52	5499	156	9	5510	27
63	5503	189	58	5506	174
73	5492	219	68	5497	204
91	5509	273	74	5499	222
--	--	--	89	5493	267

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Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
23	5494	69	4	5509	12
71	5501	213	36	5510	108
--	--	--	55	5498	165
--	--	--	83	5506	249

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5510	6	91	5491	273
8	5497	24	--	--	--
14	5500	42	--	--	--
27	5506	81	--	--	--
37	5491	111	--	--	--
57	5501	171	--	--	--
59	5496	177	--	--	--
86	5499	258	--	--	--
87	5502	261	--	--	--

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
38	5493	114	9	5496	27
60	5497	180	43	5493	129
71	5494	213	44	5498	132
87	5495	261	57	5501	171
--	--	--	59	5506	177
--	--	--	67	5508	201
--	--	--	77	5499	231
--	--	--	94	5504	282
--	--	--	98	5509	294

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5498	3	87	5498	261
3	5493	9	--	--	--
67	5495	201	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
16	5498	48	4	5497	12
22	5501	66	27	5506	81
49	5502	147	--	--	--
85	5492	255	--	--	--

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5494	36	30	5497	90
17	5499	51	38	5494	114
20	5496	60	43	5504	129
34	5497	102	74	5505	222
47	5500	141	86	5506	258
53	5493	159	--	--	--
58	5508	174	--	--	--
100	5492	300	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
41	5495	123	27	5500	81
60	5509	180	32	5502	96
76	5500	228	90	5494	270
90	5504	270	--	--	--

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/18
Test Item	Radar Statistical Performance Check (802.11ax-HE80+80 mode - 5210+5290MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5314	1	618	86	1
2	5272	1	718	74	0
3	5309	1	738	72	1
4	5292	1	938	57	1
5	5267	1	698	76	1
6	5264	1	758	70	1
7	5274	1	598	89	1
8	5281	1	858	62	1
9	5300	1	898	59	1
10	5307	1	778	68	1
11	5293	1	918	58	1
12	5260	1	798	67	1
13	5280	1	678	78	1
14	5302	1	578	92	1
15	5269	1	818	65	1
16	5319	1	2468	22	0
17	5317	1	2794	19	1
18	5250	1	1132	47	1
19	5315	1	737	72	1
20	5290	1	1056	50	1
21	5299	1	1173	45	1
22	5293	1	628	84	1
23	5266	1	760	70	1
24	5309	1	679	78	1
25	5299	1	2421	22	1
26	5329	1	821	65	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5294	1	1597	33	1
28	5322	1	2608	21	0
29	5288	1	1961	27	1
30	5251	1	2623	21	1
Detection Percentage (%)					90%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5279	4.4	220	25	1
2	5306	3	191	28	0
3	5252	4.2	170	29	1
4	5266	2.1	153	25	1
5	5295	2.6	172	27	1
6	5309	2.2	224	26	1
7	5258	4.5	205	24	1
8	5276	2.1	153	26	1
9	5257	1.1	178	23	0
10	5263	1.5	155	26	1
11	5315	4.8	189	24	1
12	5318	1.6	193	24	1
13	5310	4.1	185	24	1
14	5253	1.3	222	24	0
15	5250	3.2	200	23	0
16	5252	3.5	153	27	0
17	5315	1.4	189	27	1
18	5250	2	155	24	1
19	5278	1.4	173	25	1
20	5278	1.6	150	23	1
21	5258	3.4	157	28	1
22	5329	1	158	24	1
23	5314	2.1	183	26	1
24	5285	3.1	198	23	1
25	5263	3.2	229	29	1
26	5254	1.4	221	24	0
27	5275	2.2	192	28	1
28	5318	3.4	228	24	1
29	5309	3.4	168	28	1
30	5303	2	176	23	1
Detection Percentage (%)					80%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5257	6.4	234	18	1
2	5300	9.3	431	17	0
3	5302	6.4	335	17	0
4	5277	7.7	371	16	1
5	5313	6.6	420	17	1
6	5288	9.2	308	17	1
7	5265	6.8	342	17	1
8	5268	10	344	18	1
9	5250	9.4	326	17	1
10	5326	6.2	350	17	1
11	5317	8.1	306	18	1
12	5303	6.9	351	17	0
13	5298	6.1	258	16	1
14	5287	9.8	252	16	1
15	5315	6.6	355	16	1
16	5278	6.2	491	18	1
17	5314	6.8	420	17	1
18	5325	10	358	16	1
19	5282	6.8	229	17	1
20	5327	7.3	351	17	1
21	5294	6.4	374	17	1
22	5305	6.2	364	17	1
23	5310	8.2	277	17	1
24	5302	9	287	17	1
25	5326	10	469	17	1
26	5251	8.8	235	18	1
27	5318	6.4	282	17	0
28	5291	8.7	363	17	1
29	5329	6.3	357	18	1
30	5311	9.4	200	17	1
Detection Percentage (%)					86.7%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5312	14.4	474	14	1
2	5306	18.7	253	13	1
3	5253	19.9	410	15	0
4	5296	14.9	267	12	1
5	5263	13.3	210	14	1
6	5287	11.4	314	14	1
7	5276	12.3	245	15	1
8	5315	13.7	218	15	1
9	5265	19.5	356	15	1
10	5250	11.1	318	15	1
11	5272	17	225	14	1
12	5302	15	385	14	1
13	5276	18.1	320	13	1
14	5312	13.7	238	13	0
15	5294	13.6	286	15	1
16	5280	20	284	14	0
17	5261	11.4	316	14	1
18	5291	14.1	383	15	0
19	5317	17.7	217	14	1
20	5326	15.9	356	12	1
21	5252	19.6	416	13	0
22	5263	11.2	317	16	1
23	5319	12.8	384	14	0
24	5282	18.5	266	14	1
25	5269	11.8	357	13	1
26	5271	14.8	279	14	1
27	5266	13.1	335	12	1
28	5329	16.2	354	15	1
29	5270	19.8	221	16	1
30	5329	11.9	245	15	1
Detection Percentage (%)					80%

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test

waveforms is as follows: $\frac{P_d1+P_d2+P_d3+P_d4}{4}$ = (90%+80%+86.7%+80%)/4 = 84.2% (>80%)

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5290	1	16	5256	1
2	5290	1	17	5253.2	1
3	5290	1	18	5255.2	1
4	5290	1	19	5253.6	0
5	5290	0	20	5252	1
6	5290	1	21	5324.6	1
7	5290	1	22	5324.6	0
8	5290	1	23	5327	1
9	5290	1	24	5322.6	1
10	5290	1	25	5326.6	1
11	5257.6	1	26	5321.4	1
12	5254.4	1	27	5321	0
13	5255.2	0	28	5322.6	1
14	5254	0	29	5326.2	1
15	5258	1	30	5327	1
Detection Percentage (%)					80%

Type 5 Radar Waveform_1						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	67.4	20	1688	1769	320.921
2	2	67.4	20	1417		472.141
3	1	74.8	20			1031.132
4	2	73.7	20	1195		687.843
5	2	73.6	20	1352		555.754
6	2	68.6	20	1608		178.485
7	1	81.7	20			785.815
8	2	76.8	20	1166		191.056
9	2	78.2	20	1140		361.117
10	1	96.1	20			891.818
11	1	91.7	20			1003.409

Type 5 Radar Waveform_2

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	54.1	15	1869		573.536
2	3	52.2	15	1280	1239	560.817
3	2	69.1	15	1515		737.733
4	2	98.3	15	1528		722.28
5	2	57.1	15	1163		841.987
6	2	96.7	15	1087		844.583
7	3	65.9	15	1862	1339	819.45
8	2	83.7	15	1552		506.897
9	1	94.5	15			1255.133

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	67.6	13	1389	1005	386.735
2	3	71.5	13	1948	1295	297.228
3	3	94	13	1852	1323	462.752
4	3	68.9	13	1627	1524	398.103
5	1	81.6	13			443.964
6	2	94.6	13	1800		344.955
7	3	96.5	13	1185	1196	451.516
8	3	58.6	13	1635	1856	117.207
9	3	98.6	13	1218	1013	133.008
10	2	70.6	13	1091		492.749
11	1	58.9	13			486.121
12	3	59.1	13	1054	1655	142.752
13	2	70.5	13	1595		447.743
14	1	81.1	13			158.214
15	2	72.1	13	1697		231.685
16	2	95.6	13	1030		84.086
17	3	59.3	13	1376	1592	70.937
18	1	98.7	13			161.358
19	2	91.9	13	1552		617.079

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	63	12	1219		842.75
2	2	77.9	12	1285		997.16
3	2	83	12	1826		897.01
4	2	68.7	12	1344		581.27
5	3	97.7	12	1818	1090	1135.44
6	2	77.1	12	1790		350.92
7	3	88.5	12	1877	1540	882.87
8	3	64.4	12	1661	1517	150.73
9	2	93.8	12	1126		846.8
10	1	79.6	12			1048.8

Type 5 Radar Waveform_5

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	56.2	16	1159		618.371
2	2	60.9	16	1128		1137.41
3	2	61.6	16	1142		576.68
4	3	78.2	16	1334	1902	1091.23
5	2	88.1	16	1172		1480.83
6	1	54.8	16			638.34
7	1	88.9	16			1464.4
8	1	60.7	16			1329.9

Type 5 Radar Waveform_6

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	72.1	13	1639	1724	235.285
2	2	69.3	13	1926		465.66
3	2	78.2	13	1455		367.25
4	3	77.8	13	1872	1238	481.45
5	3	79.5	13	1163	1821	238.97
6	2	63.4	13	1163		10.85
7	3	95	13	1576	1269	664.27
8	2	98.8	13	1687		13.74
9	2	74.8	13	1806		221.04
10	2	55.1	13	1413		30.15
11	2	76.3	13	1643		563.7
12	2	96.4	13	1164		707.62
13	2	86.3	13	1758		698.36
14	2	69.7	13	1727		19.49
15	2	82	13	1369		473.3
16	1	63.2	13			335.8

Type 5 Radar Waveform_7

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	96.6	5			457.055
2	1	71.9	5			693.69
3	2	59.5	5	1306		154.83
4	1	57.2	5			99.72
5	2	86	5	1415		103.15
6	2	86.7	5	1073		724.06
7	1	65.5	5			456.83
8	2	51.9	5	1828		20.02
9	2	74.4	5	1321		694.7
10	1	54.5	5			53.09
11	3	88.4	5	1010	1502	207.56
12	2	70.8	5	1654		564.99
13	2	95.5	5	1454		24.18
14	2	57.7	5	1466		50.21
15	1	89.4	5			331.8
16	3	82.7	5	1357	1994	440.8

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μ sec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	77.8	7	1871		834.617
2	3	81.8	7	1162	1092	464.92
3	1	52.8	7			306.01
4	3	85.6	7	1987	1806	785.43
5	2	60.2	7	1021		1151.55
6	2	91.9	7	1421		280.83
7	2	59	7	1087		107.4
8	2	88.1	7	1147		360.2
9	1	80.6	7			890.1
10	1	51.4	7			26.2

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	53.6	12			436.438
2	1	68.2	12			491.481
3	1	65.1	12			398.152
4	3	75.5	12	1930	1480	213.793
5	3	65.2	12	1294	1626	1.674
6	3	68.1	12	1184	1071	486.815
7	2	62.2	12	1519		312.616
8	1	75.4	12			8.717
9	1	87.1	12			79.768
10	2	69.9	12	1525		149.049
11	1	69.3	12			281.131
12	2	94.5	12	1890		307.712
13	1	61.8	12			339.573
14	3	57.9	12	1440	1427	371.694
15	2	56.8	12	1108		439.865
16	2	51.9	12	1942		358.116
17	3	77.9	12	1788	1187	611.137
18	2	82.1	12	1894		531.558
19	2	84.9	12	1663		501.879

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	77.9	19	1650	1288	1044.4
2	2	73	19	1917		322.93
3	3	89.2	19	1194	1456	653.49
4	3	98.5	19	1607	1655	965.88
5	3	56.4	19	1709	1079	486.5
6	3	68.2	19	1109	1009	1150.12
7	2	97.3	19	1007		416.17
8	1	70	19			560.11
9	1	63.8	19			436.4
10	2	89.6	19	1691		108.1

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	90.9	16	1779		755.969
2	2	59.7	16	1467		751.5
3	1	86.6	16			582.24
4	1	63.9	16			141.48
5	2	78.9	16	1674		526.85
6	1	78.1	16			728.11
7	2	89.1	16	1877		670.1
8	2	60.9	16	1661		172.93
9	1	62.4	16			121.29
10	1	58.2	16			549.48
11	1	73.8	16			405.77
12	2	79.5	16	1684		240.69
13	2	65.8	16	1549		47.27
14	1	61.9	16			474.6
15	2	82.2	16	1593		106.4

ype 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	99.9	18	1216		550.65
2	2	69.4	18	1520		34.532
3	2	89.2	18	1449		277.45
4	2	95.2	18	1258		734.81
5	1	68.3	18			236.35
6	1	78.1	18			6.16
7	2	71.9	18	1696		31.84
8	2	93.8	18	1615		50.17
9	3	81	18	1996	1767	610.2
10	1	79.6	18			276.68
11	2	99.9	18	1366		516.09
12	3	74.6	18	1971	1003	392.33
13	2	81.9	18	1905		288.72
14	1	89.1	18			699
15	3	86.4	18	1526	1730	684.7
16	3	88.7	18	1450	1242	380.4

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	85	16			1094.15
2	1	61.9	16			437.75
3	2	87.7	16	1798		192.97
4	2	51.2	16	1905		541.92
5	1	91.9	16			943.12
6	2	99.5	16	1822		544.27
7	1	74.5	16			507.6
8	2	53.9	16	1525		824.17
9	1	64.8	16			56.44
10	1	57.7	16			395.2

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	2	63.8	14	1310		881.869
2	2	93.1	14	1612		712.76
3	1	51	14			813.28
4	3	66	14	1414	1959	72.74
5	1	64.8	14			312.25
6	1	76.8	14			168.39
7	3	83.1	14	1055	1473	890.22
8	2	89.5	14	1977		186.99
9	2	97.2	14	1201		363.78
10	3	56.8	14	1960	1105	64.28
11	1	97.3	14			337.4
12	2	77.5	14	1854		829.4

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	3	95.7	14	1897	1931	588.77
2	2	65.2	14	1301		498.733
3	1	85.6	14			641.187
4	3	83.3	14	1741	1977	41.24
5	2	93.2	14	1606		607.623
6	2	82.2	14	1255		18.357
7	2	87.9	14	1603		218.27
8	2	99.9	14	1323		531.223
9	2	87.4	14	1552		143.687
10	2	72.8	14	1342		231.48
11	1	92.3	14			339.783
12	2	50.7	14	1169		542.937
13	2	87.7	14	1052		200.77
14	2	78.3	14	1969		244.393
15	2	90.9	14	1556		72.757
16	2	57.2	14	1673		660.3
17	2	96.9	14	1583		483.233
18	1	80.6	14			267.167

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	3	50	17	1387	1095	429.903
2	2	54.3	17	1198		220.853
3	2	55	17	1557		570.55
4	3	50.2	17	1036	1555	477.34
5	2	88.5	17	1201		76.45
6	1	69.3	17			472.94
7	3	96.3	17	1458	1477	469.59
8	3	52.8	17	1820	1082	738.99
9	3	77.1	17	1384	1925	545.04
10	3	81.1	17	1657	1249	129.22
11	2	54.9	17	1123		53.41
12	3	69.7	17	1838	1583	293.2
13	1	68.7	17			656.06
14	2	82.7	17	1953		718.5
15	2	95.8	17	1655		625.8
16	3	66.3	17	1751	1368	397

Type 5 Radar Waveform_17

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	76.3	13	1158		923.884
2	2	98.4	13	1028		601.27
3	2	96.8	13	1201		860.97
4	2	59.7	13	1184		34.9
5	1	68.2	13			507.78
6	2	90.1	13	1437		991.49
7	1	95.7	13			526.06
8	3	93.4	13	1769	1385	374.88
9	2	81.7	13	1487		467.51
10	2	82.9	13	1745		254.6
11	3	65.4	13	1495	1154	426.8
12	2	84.4	13	1697		676.2

Type 5 Radar Waveform_18

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	96.4	9	1038		404.859
2	2	96.4	9	1724		816.777
3	2	57.6	9	1297		415.034
4	2	67.6	9	1851		651.431
5	2	99.3	9	1755		26.939
6	3	83.9	9	1869	1162	723.606
7	1	99.1	9			267.623
8	3	72.8	9	1162	1404	838.68
9	2	74.2	9	1410		844.437
10	3	90.8	9	1880	1584	774.184
11	2	82.1	9	1827		140.801
12	2	91.2	9	1826		250.719
13	1	73.9	9			129.486
14	1	79.4	9			799.043

Type 5 Radar Waveform_19

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	54.9	9	1071		105.337
2	2	81.8	9	1076		14.084
3	2	69.3	9	1950		439.752
4	2	99.3	9	1883		274.783
5	2	86.3	9	1202		418.794
6	1	65.8	9			590.375
7	3	54.1	9	1319	1154	274.366
8	3	67	9	1974	1604	101.297
9	2	87.6	9	1027		113.928
10	2	61.7	9	1985		590.849
11	2	80.2	9	1574		300.401
12	3	94.6	9	1458	1723	265.212
13	1	77.4	9			578.673
14	2	85.2	9	1853		482.904
15	2	50.9	9	1769		148.695
16	2	76.2	9	1469		218.576
17	2	84.8	9	1661		45.237
18	2	75	9	1595		120.558
19	2	66.2	9	1058		354.079

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	84.1	14			839.89
2	1	80.1	14			457.443
3	3	72.9	14	1139	1790	81.466
4	1	65.1	14			553.839
5	2	96.6	14	1242		486.022
6	2	53.2	14	1310		2.045
7	3	95.8	14	1752	1235	406.018
8	2	52	14	1168		913.732
9	2	65.7	14	1855		240.475
10	3	75.6	14	1016	1566	380.838
11	2	89.2	14	1362		391.521
12	3	74.3	14	1978	1598	779.554
13	1	60.6	14			385.677

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	97.6	19			695.818
2	1	66.9	19			116.511
3	2	69.4	19	1935		747.18
4	2	84.9	19	1404		729.24
5	3	99.8	19	1884	1487	405.34
6	2	88.6	19	1908		786.58
7	3	58.9	19	1053	1328	223.64
8	3	99.9	19	1687	1489	555.23
9	3	88.5	19	1359	1172	783.38
10	2	74.9	19	1347		261.73
11	3	78.9	19	1293	1545	169.46
12	2	83.4	19	1173		61.18
13	2	66.3	19	1260		155.38
14	1	79.5	19			160
15	2	83.6	19	1177		551

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	57	5	1113	1251	444.586
2	1	81.2	5			245.278
3	3	68	5	1625	1538	551.002
4	2	50.8	5	1971		363.553
5	2	80.3	5	1791		61.124
6	1	75.6	5			470.555
7	3	77	5	1226	1907	376.776
8	2	75.7	5	1420		522.937
9	2	77.6	5	1277		621.128
10	2	62.5	5	1474		124.079
11	2	76.5	5	1670		66.481
12	2	73	5	1787		465.332
13	3	93.3	5	1351	1223	426.583
14	3	82.7	5	1291	1811	517.864
15	3	85.5	5	1286	1839	285.745
16	2	70.9	5	1092		388.326
17	2	90.6	5	1349		507.337
18	3	94.9	5	1161	1173	45.558
19	1	50.9	5			593.279

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	78.2	15	1093	1216	123.352
2	2	94.3	15	1309		514.59
3	1	62.7	15			670.66
4	1	74.7	15			691.62
5	2	77.4	15	1951		340.8
6	2	70.1	15	1259		1435.78
7	3	82.2	15	1103	1191	1303.4
8	2	87.3	15	1767		659.7

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	72.3	16	1822	1683	413.309
2	1	98.9	16			245.596
3	2	61.4	16	1702		334.41
4	2	84.2	16	1923		691.13
5	3	57.4	16	1473	1935	490.4
6	3	67	16	1700	1427	227.58
7	1	90.6	16			266.36
8	2	96.9	16	1739		364.25
9	2	60.6	16	1253		397.31
10	2	99	16	1564		279.12
11	2	91.5	16	1655		216.63
12	2	97.3	16	1609		288.93
13	3	83	16	1479	1701	101.82
14	2	54.7	16	1401		433.3
15	2	73.5	16	1784		474.1
16	3	84	16	1678	1938	624.9

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	83	11	1259	1637	532.946
2	2	94	11	1957		1269.317
3	3	55.2	11	1054	1365	863.903
4	3	85.9	11	1820	1675	665.32
5	2	66.5	11	1510		908.567
6	3	57.6	11	1921	1926	871.443
7	3	73.2	11	1253	1132	1271.99
8	1	74.2	11			14.137
9	2	94.7	11	1715		812.933

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	88.1	10	1587	1023	386.135
2	2	61	10	1518		82.487
3	1	70.8	10			831.663
4	2	95.5	10	1189		126.09
5	1	73.2	10			48.417
6	2	77.4	10	1269		33.013
7	1	81.6	10			1193.89
8	2	95.5	10	1025		374.617
9	2	71.6	10	1430		324.733

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	55	11			421.103
2	1	90.1	11			926.09
3	2	98	11	1326		1395.46
4	1	60.8	11			1357.54
5	2	98	11	1504		889.82
6	1	52.1	11			1401.29
7	2	89.7	11	1681		851.6
8	3	50.3	11	1812	1174	1332.9

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	65.6	9	1098		480.63
2	2	64.7	9	1920		241.22
3	3	56.4	9	1962	1287	908.13
4	2	74.6	9	1335		494.05
5	3	71.8	9	1526	1440	189.33
6	2	71.5	9	1152		989.61
7	1	68.3	9			245.03
8	2	79.2	9	1179		642.12
9	2	63.4	9	1909		814.4
10	2	57.1	9	1852		400.8

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	98.9	17	1647		346.313
2	1	86.8	17			403.131
3	2	56.1	17	1949		181.742
4	2	58	17	1852		234.913
5	2	54.2	17	1459		598.474
6	3	51.1	17	1730	1968	217.005
7	2	84.3	17	1629		126.206
8	1	54.9	17			534.487
9	2	90	17	1181		199.718
10	2	76.4	17	1324		437.529
11	2	74.4	17	1000		339.021
12	2	75.8	17	1949		63.942
13	2	60.6	17	1380		128.963
14	1	85.6	17			15.744
15	1	98.5	17			219.685
16	2	78.5	17	1464		355.926
17	2	59.8	17	1141		166.437
18	2	54.6	17	1486		272.058
19	1	57.9	17			155.279

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	76	12	1993	1902	373.491
2	2	90.4	12	1466		236.857
3	3	68	12	1132	1698	181.6
4	2	54.2	12	1421		88.28
5	2	67.4	12	1267		291.11
6	2	56.9	12	1554		718.16
7	3	81.6	12	1471	1522	502.68
8	1	66.2	12			617.68
9	2	72	12	1280		532.75
10	2	82	12	1754		483.45
11	2	64.8	12	1431		247.94
12	2	69.7	12	1117		669.01
13	3	91.7	12	1125	1719	295.79
14	2	56.7	12	1253		181.84
15	3	57	12	1447	1700	376.4
16	1	76.3	12			729.2

Radar Type 6 - Radar Statistical Performance

Trail #	1=Detection 0=No Detection	Trail #	1=Detection 0=No Detection
1	1	16	1
2	1	17	1
3	1	18	1
4	1	19	1
5	1	20	1
6	1	21	1
7	1	22	1
8	1	23	1
9	1	24	1
10	1	25	1
11	1	26	1
12	1	27	1
13	1	28	1
14	1	29	1
15	1	30	1
Detection Percentage (%)		100%	

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5289	12	33	5258	99
9	5313	27	35	5314	105
16	5275	48	37	5257	111
20	5311	60	40	5276	120
30	5297	90	52	5297	156
31	5263	93	53	5317	159
58	5272	174	57	5261	171
65	5322	195	63	5322	189
71	5310	213	66	5288	198
75	5253	225	77	5291	231
80	5328	240	78	5263	234
87	5261	261	85	5264	255
97	5308	291	87	5329	261
--	--	--	88	5293	264
--	--	--	89	5267	267

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5264	30	16	5314	48
24	5265	72	18	5278	54
31	5313	93	21	5279	63
33	5308	99	24	5320	72
38	5276	114	26	5295	78
43	5300	129	33	5271	99
45	5287	135	35	5300	105
62	5250	186	49	5304	147
63	5324	189	50	5291	150
65	5286	195	56	5308	168
71	5296	213	58	5284	174
75	5261	225	59	5276	177
86	5279	258	63	5264	189
96	5316	288	75	5281	225
--	--	--	82	5315	246
--	--	--	83	5250	249
--	--	--	99	5273	297

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5306	15	4	5273	12
6	5303	18	16	5252	48
7	5264	21	18	5272	54
20	5272	60	23	5280	69
21	5319	63	31	5291	93
31	5278	93	33	5258	99
33	5281	99	35	5257	105
38	5292	114	42	5265	126
39	5269	117	50	5279	150
42	5250	126	52	5323	156
43	5282	129	59	5321	177
45	5257	135	66	5270	198
63	5298	189	74	5325	222
90	5254	270	77	5251	231
91	5295	273	86	5313	258
95	5328	285	89	5254	267
100	5320	300	92	5303	276
--	--	--	94	5328	282
--	--	--	100	5311	300

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5292	3	10	5289	30
2	5320	6	11	5309	33
8	5281	24	17	5251	51
9	5315	27	18	5279	54
20	5259	60	21	5259	63
35	5308	105	30	5299	90
36	5310	108	45	5302	135
47	5273	141	47	5298	141
49	5290	147	57	5323	171
50	5304	150	58	5312	174
55	5277	165	74	5303	222
95	5302	285	87	5287	261
--	--	--	90	5288	270
--	--	--	96	5283	288

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5297	18	3	5253	9
16	5296	48	12	5263	36
18	5265	54	18	5312	54
19	5275	57	19	5287	57
29	5268	87	25	5265	75
30	5289	90	35	5273	105
33	5254	99	37	5256	111
34	5273	102	38	5290	114
35	5288	105	42	5264	126
36	5270	108	53	5322	159
40	5263	120	61	5298	183
56	5293	168	65	5300	195
62	5290	186	72	5316	216
82	5284	246	73	5296	219
90	5262	270	79	5251	237
93	5322	279	93	5321	279
96	5291	288	100	5294	300
99	5276	297	--	--	--

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5284	21	4	5329	12
24	5260	72	14	5295	42
28	5255	84	22	5313	66
35	5302	105	36	5297	108
36	5324	108	37	5307	111
57	5303	171	48	5320	144
58	5258	174	49	5322	147
60	5273	180	54	5292	162
68	5280	204	56	5254	168
71	5304	213	59	5289	177
78	5252	234	66	5302	198
85	5282	255	68	5300	204
88	5318	264	71	5266	213
89	5313	267	77	5318	231
91	5316	273	87	5326	261
98	5269	294	90	5280	270
100	5268	300	99	5273	297

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5265	15	7	5310	21
10	5262	30	9	5287	27
17	5300	51	10	5330	30
20	5329	60	11	5295	33
27	5305	81	15	5285	45
30	5264	90	17	5264	51
31	5255	93	21	5291	63
37	5281	111	26	5318	78
38	5324	114	37	5311	111
44	5270	132	44	5274	132
45	5307	135	45	5299	135
52	5266	156	52	5316	156
53	5292	159	55	5296	165
60	5261	180	56	5275	168
62	5294	186	64	5260	192
64	5296	192	65	5250	195
67	5295	201	67	5320	201
68	5254	204	69	5297	207
73	5287	219	79	5273	237
80	5286	240	90	5277	270
86	5318	258	100	5327	300
93	5282	279	--	--	--
94	5273	282	--	--	--
95	5309	285	--	--	--

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5312	3	5	5310	15
2	5327	6	17	5289	51
4	5284	12	19	5251	57
5	5255	15	26	5306	78
9	5302	27	29	5328	87
10	5271	30	36	5301	108
15	5329	45	43	5269	129
18	5307	54	51	5266	153
27	5320	81	53	5327	159
28	5301	84	54	5255	162
34	5268	102	59	5320	177
39	5303	117	62	5261	186
41	5279	123	72	5268	216
42	5293	126	75	5300	225
44	5311	132	78	5307	234
46	5289	138	82	5265	246
65	5257	195	89	5297	267
71	5318	213	96	5330	288
80	5254	240	99	5280	297
84	5258	252	--	--	--
86	5315	258	--	--	--

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5287	30	12	5258	36
24	5311	72	17	5264	51
25	5319	75	21	5326	63
27	5312	81	27	5252	81
38	5292	114	39	5254	117
42	5310	126	40	5286	120
55	5320	165	43	5330	129
68	5265	204	46	5256	138
84	5304	252	63	5263	189
85	5324	255	69	5296	207
96	5330	288	74	5268	222
--	--	--	81	5329	243
--	--	--	87	5260	261
--	--	--	90	5265	270
--	--	--	96	5323	288

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
11	5266	33	4	5258	12
13	5281	39	8	5323	24
21	5327	63	12	5256	36
33	5316	99	14	5255	42
35	5302	105	20	5289	60
36	5299	108	21	5269	63
39	5324	117	50	5290	150
41	5288	123	51	5280	153
47	5296	141	55	5310	165
49	5297	147	59	5283	177
52	5329	156	65	5257	195
54	5259	162	92	5275	276
56	5295	168	--	--	--
59	5257	177	--	--	--
66	5264	198	--	--	--
72	5293	216	--	--	--
84	5314	252	--	--	--
85	5294	255	--	--	--

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5262	18	3	5263	9
13	5253	39	6	5257	18
40	5288	120	13	5273	39
47	5320	141	14	5250	42
55	5292	165	18	5306	54
56	5294	168	33	5261	99
59	5295	177	37	5270	111
60	5311	180	48	5290	144
65	5328	195	53	5280	159
69	5258	207	56	5287	168
72	5302	216	63	5254	189
80	5279	240	73	5282	219
83	5322	249	94	5323	282
85	5284	255	95	5262	285
88	5290	264	96	5276	288
92	5297	276	--	--	--
95	5274	285	--	--	--
96	5318	288	--	--	--
97	5324	291	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5304	36	1	5317	3
28	5255	84	10	5321	30
43	5330	129	13	5269	39
46	5323	138	23	5254	69
49	5314	147	24	5324	72
54	5310	162	25	5307	75
64	5267	192	29	5263	87
68	5289	204	39	5275	117
69	5274	207	46	5260	138
82	5260	246	59	5309	177
--	--	--	61	5290	183

--	--	--	66	5284	198
--	--	--	68	5299	204
--	--	--	70	5312	210
--	--	--	81	5281	243
--	--	--	92	5298	276
--	--	--	93	5315	279
--	--	--	96	5259	288

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5329	12	14	5260	42
18	5288	54	26	5287	78
32	5291	96	33	5312	99
37	5271	111	36	5328	108
39	5306	117	61	5315	183
40	5298	120	68	5269	204
46	5270	138	78	5253	234
48	5295	144	85	5285	255
51	5307	153	86	5289	258
58	5285	174	88	5281	264
63	5286	189	92	5300	276
71	5251	213	97	5325	291
86	5264	258	--	--	--
100	5302	300	--	--	--

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5292	15	3	5316	9
12	5320	36	4	5251	12
17	5329	51	7	5263	21
21	5258	63	11	5304	33
23	5251	69	21	5315	63
25	5315	75	27	5252	81
35	5305	105	30	5321	90
37	5309	111	31	5312	93
44	5285	132	33	5306	99
53	5318	159	37	5261	111
60	5276	180	40	5319	120
62	5311	186	50	5326	150
73	5326	219	51	5307	153
83	5312	249	52	5266	156
85	5252	255	61	5292	183
86	5295	258	63	5298	189
--	--	--	70	5324	210
--	--	--	88	5299	264
--	--	--	91	5311	273
--	--	--	97	5289	291
--	--	--	98	5254	294

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5298	3	1	5259	3
4	5287	12	13	5283	39
6	5312	18	21	5252	63
8	5300	24	23	5256	69
17	5277	51	24	5264	72
18	5326	54	25	5301	75
25	5273	75	33	5269	99
30	5320	90	36	5250	108
35	5324	105	37	5274	111
38	5257	114	38	5309	114
43	5281	129	41	5317	123
47	5317	141	47	5254	141
49	5301	147	75	5276	225
66	5318	198	87	5277	261
67	5270	201	88	5307	264
72	5261	216	--	--	--
80	5271	240	--	--	--
81	5322	243	--	--	--
92	5278	276	--	--	--
100	5296	300	--	--	--

Product	ACCESS POINT	Test Site	SR2
Test Engineer	Eric Lin	Test Date	2021/11/18
Test Item	Radar Statistical Performance Check (802.11ax-HE80+80 mode - 5530+5610MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5561	1	618	86	1
2	5649	1	678	78	1
3	5543	1	878	61	1
4	5572	1	658	81	1
5	5579	1	718	74	1
6	5527	1	578	92	1
7	5599	1	518	102	1
8	5583	1	838	63	1
9	5614	1	798	67	1
10	5532	1	818	65	1
11	5582	1	758	70	1
12	5575	1	598	89	1
13	5540	1	738	72	1
14	5578	1	858	62	1
15	5564	1	938	57	1
16	5605	1	1739	31	1
17	5622	1	1503	36	1
18	5521	1	1569	34	1
19	5561	1	3011	18	1
20	5584	1	1179	45	1
21	5570	1	1132	47	1
22	5636	1	1362	39	1
23	5591	1	2179	25	1
24	5546	1	2967	18	1
25	5491	1	1482	36	1
26	5596	1	1146	46	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5631	1	2491	22	1
28	5527	1	1089	49	1
29	5553	1	2922	19	1
30	5569	1	1481	36	1
Detection Percentage (%)					100%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5539	3	227	28	1
2	5644	3.6	200	23	0
3	5548	4.6	173	24	1
4	5577	4.7	225	28	1
5	5568	4.4	206	26	1
6	5646	4.7	217	26	1
7	5506	3.7	155	25	1
8	5570	1.6	205	23	1
9	5584	4.6	196	25	0
10	5580	1.4	206	24	1
11	5533	2.1	217	29	1
12	5610	4.5	153	26	1
13	5613	2.8	173	25	1
14	5521	1.1	173	28	1
15	5635	2.7	177	25	1
16	5637	3.2	204	25	1
17	5491	3.8	189	25	1
18	5649	4.3	168	26	1
19	5557	1.5	178	23	1
20	5491	2.2	162	26	1
21	5638	1.6	199	23	1
22	5494	1.3	193	23	1
23	5505	4.1	207	26	1
24	5545	4.6	222	28	0
25	5626	1.6	212	28	1
26	5622	4.2	224	28	1
27	5611	2.9	191	24	1
28	5511	4.8	182	27	0
29	5626	2.2	156	25	1
30	5596	4.9	173	28	1
Detection Percentage (%)					86.7%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5609	9.2	288	17	1
2	5538	8.7	304	17	0
3	5605	9.9	305	17	1
4	5570	8.5	436	17	1
5	5536	6.2	471	17	1
6	5647	6.2	461	16	0
7	5649	9.3	312	16	1
8	5557	9.7	415	16	1
9	5612	9.4	321	17	1
10	5542	9.6	414	16	1
11	5500	6.7	362	17	1
12	5562	6	320	17	1
13	5535	8.8	307	16	1
14	5585	7.3	394	16	1
15	5491	9.1	459	17	1
16	5546	6.8	326	18	1
17	5540	9.2	477	18	1
18	5623	6.1	396	17	1
19	5583	9.6	405	17	0
20	5522	6	465	17	1
21	5546	6.1	270	17	1
22	5559	9.6	346	18	1
23	5577	7.4	346	17	1
24	5568	8.2	500	18	1
25	5622	8.1	276	17	1
26	5544	7.8	336	18	1
27	5618	6.8	461	17	1
28	5561	8.4	286	17	1
29	5607	9.9	404	17	1
30	5633	9.2	408	18	1
Detection Percentage (%)					90%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5503	19.4	351	12	1
2	5557	17.4	391	12	1
3	5549	17.4	262	13	1
4	5615	14	274	12	1
5	5497	15.8	422	13	0
6	5604	17.6	258	14	1
7	5636	16.3	392	15	1
8	5535	15.2	380	16	1
9	5585	14.2	329	16	1
10	5647	15.3	315	14	0
11	5549	15.3	340	14	1
12	5618	17.2	462	14	1
13	5611	18.5	248	15	1
14	5546	15.5	201	14	1
15	5550	13.6	299	13	0
16	5538	18	349	16	1
17	5543	14.4	306	13	1
18	5631	13.8	385	14	0
19	5555	12.3	489	13	0
20	5616	15.5	333	12	1
21	5502	16.4	430	15	1
22	5491	11.3	409	15	1
23	5614	17.2	408	14	1
24	5601	18	446	14	1
25	5647	11.6	343	12	0
26	5558	14.3	354	15	1
27	5525	11.4	386	15	0
28	5581	11.2	234	13	1
29	5595	13.5	498	14	1
30	5494	11.4	245	14	1
Detection Percentage (%)					76.7%

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test

waveforms is as follows: $\dfrac{P_d1 + P_d2 + P_d3 + P_d4}{4}$ = (100%+86.7%+90%+76.7%)/4 = 88.3% (>80%)

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5570	1	16	5497.8	1
2	5570	1	17	5497	0
3	5570	1	18	5493.4	1
4	5570	1	19	5498.2	0
5	5570	1	20	5496.2	1
6	5570	1	21	5645	1
7	5570	1	22	5644.6	1
8	5570	1	23	5642.6	0
9	5570	1	24	5642.6	1
10	5570	1	25	5645.4	1
11	5496.2	1	26	5645	0
12	5494.2	1	27	5642.2	1
13	5496.2	1	28	5643.4	1
14	5497.4	0	29	5645.4	0
15	5494.2	1	30	5645.8	1
Detection Percentage (%)					80.0%

Type 5 Radar Waveform_1					
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	68.8	10	1795		428.196
2	1	69.4	10			139.708
3	1	57.1	10			426.435
4	1	79.6	10			51.423
5	2	70.1	10	1362		350.501
6	1	74	10			502.618
7	2	54.8	10	1334		205.216
8	1	90	10			463.324
9	2	59.9	10	1435		224.241
10	2	92.9	10	1655		543.649
11	2	86.6	10	1334		82.386
12	2	89.4	10	1335		343.364
13	3	70.5	10	1009	1207	378.772
14	1	91.2	10			526.219
15	2	51.9	10	1911		403.047
16	1	80	10			221.765
17	3	66.1	10	1812	1201	696.482

Type 5 Radar Waveform_2

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	92.5	20	1641		1071.59
2	1	93	20			181.391
3	1	67.7	20			527.702
4	2	89.7	20	1589		787.433
5	1	84	20			1005.344
6	2	73	20	1480		124.015
7	2	73.2	20	1667		543.895
8	3	82.3	20	1995	1318	384.476
9	3	99.3	20	1562	1364	801.027
10	2	98.8	20	1424		881.518
11	1	55.9	20			904.209

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	80.9	7	1355	1591	326.948
2	3	53.7	7	1283	1487	512.573
3	3	53	7	1540	1960	283.877
4	1	92.2	7			540.57
5	3	78.7	7	1159	1659	371.753
6	3	66.6	7	1650	1951	11.337
7	1	59.1	7			406.27
8	3	51.3	7	1131	1692	422.313
9	2	57.8	7	1905		596.377
10	3	66	7	1540	1860	150.78
11	3	89	7	1659	1776	22.043
12	2	76.4	7	1840		320.137
13	2	54.1	7	1438		283.19
14	1	90.9	7			113.433
15	2	81.6	7	1456		570.807
16	1	53.6	7			489.9
17	2	53	7	1862		142.233
18	3	88.3	7	1474	1756	465.367

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	77.5	11	1196	1543	488.796
2	2	93.5	11	1431		654.438
3	2	90.2	11	1969		401.045
4	2	56.2	11	1958		358.803
5	3	67.7	11	1627	1690	118.051
6	2	51.9	11	1292		119.508
7	3	81.6	11	1908	1751	291.986
8	2	70.3	11	1667		664.034
9	2	84.6	11	1438		387.721
10	3	91.9	11	1637	1589	462.229
11	1	64.5	11			109.926
12	3	73.8	11	1157	1495	198.804
13	2	86.9	11	1437		258.302
14	2	61.8	11	1078		341.739
15	2	83.7	11	1041		683.747
16	1	85.6	11			270.965
17	3	66	11	1881	1128	276.782

Type 5 Radar Waveform_5

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	94.6	6	1994	1590	371.769
2	3	55.3	6	1778	1759	164.99
3	3	86.6	6	1705	1559	522.29
4	2	53.8	6	1828		396.77
5	2	62.7	6	1046		220.98
6	3	98.3	6	1180	1870	215.61
7	1	75.3	6			860.92
8	2	61.1	6	1418		800.49
9	3	95.3	6	1848	1656	162.48
10	3	71.4	6	1334	1386	717.93
11	2	74.8	6	1234		849.2
12	2	94	6	1359		403.2

Type 5 Radar Waveform_6

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	50.9	6	1975		53.264
2	3	50	6	1524	1820	486.353
3	2	86.2	6	1377		654.417
4	2	81.8	6	1732		619.25
5	3	66	6	1800	1019	302.323
6	2	55.1	6	1423		278.517
7	2	63.8	6	1829		567.04
8	2	71.4	6	1682		601.773
9	1	98.4	6			12.857
10	3	56.7	6	1127	1006	68.07
11	2	53.2	6	1278		132.583
12	3	88.2	6	1009	1035	246.007
13	3	97.7	6	1953	1332	256.96
14	1	58.3	6			7.023
15	2	86.2	6	1793		619.977
16	2	83.6	6	1450		437.4
17	1	83.3	6			521.233
18	1	50	6			659.967

Type 5 Radar Waveform_7

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	83.7	8	1735	1801	344.185
2	1	58	8			148.02
3	3	56	8	1433	1254	44.32
4	1	72.1	8			164.58
5	3	55.3	8	1179	1077	36.17
6	2	81.2	8	1069		527.22
7	3	56.3	8	1064	1129	573.26
8	3	67.1	8	1059	1784	140.88
9	2	91.5	8	1060		685.32
10	2	89.9	8	1850		730.69
11	2	54.2	8	1761		486.4
12	3	53.2	8	1945	1883	51.6

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µ sec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	2	99.2	20	1015		570.415
2	2	54.4	20	1311		233.92
3	3	83.6	20	1358	1019	340.66
4	2	98.9	20	1368		202.94
5	2	50.3	20	1474		466.46
6	2	73.1	20	1414		500.85
7	3	77.5	20	1943	1735	576.3
8	3	55.2	20	1158	1982	373.81
9	3	54.2	20	1211	1376	220.88
10	3	90.8	20	1728	1188	469.52
11	2	82.8	20	1486		641.63
12	2	86.9	20	1835		174.11
13	2	85.9	20	1435		530.9
14	1	52.2	20			509.6
15	2	56.1	20	1941		149.3

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	2	99.8	12	1543		331.902
2	2	98.1	12	1192		207.217
3	1	77.1	12			474.664
4	2	80	12	1031		169.531
5	2	78.6	12	1309		111.969
6	3	94.8	12	1268	1794	455.036
7	2	68	12	1267		639.893
8	2	52.9	12	1881		185.65
9	3	73.4	12	1010	1858	804.287
10	2	69.7	12	1487		808.234
11	2	77.5	12	1377		694.491
12	2	62.9	12	1144		694.529
13	1	78	12			749.586
14	2	90.4	12	1286		429.543

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (µ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Start Location Within Interval (msec)
1	2	66.4	16	1907		330.434
2	1	95.4	16			159.846
3	2	86.2	16	1665		406.21
4	1	65.1	16			621.13
5	2	56.8	16	1010		489.94
6	2	55.2	16	1050		589.25
7	3	91.4	16	1430	1516	573.56
8	2	99.2	16	1324		699.95
9	2	97.4	16	1920		656.16
10	2	81.6	16	1633		249.09
11	1	94.8	16			419.45
12	2	84.5	16	1747		204.91
13	3	91.1	16	1075	1858	577.91
14	2	92.7	16	1102		311.5
15	1	81.9	16			398.9
16	2	79.8	16	1946		145.7

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	61.8	13	1688	1194	290.04
2	1	79.5	13			285.903
3	2	97.7	13	1266		89.606
4	2	72.1	13	1002		271.149
5	2	92.4	13	1311		343.032
6	2	82.9	13	1273		748.425
7	3	58.3	13	1299	1609	576.358
8	3	79.6	13	1873	1633	326.452
9	2	70.6	13	1924		237.015
10	3	61	13	1946	1929	881.518
11	2	91.8	13	1127		261.831
12	3	60.5	13	1171	1928	465.754
13	2	64.3	13	1814		909.477

Type 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	70.5	8			187.182
2	2	82.2	8	1692		915.78
3	1	76.9	8			675.69
4	1	50.2	8			616.08
5	3	64.9	8	1295	1406	764.74
6	2	82.2	8	1618		850.99
7	1	84.2	8			697.15
8	2	97	8	1311		578.76
9	2	84.3	8	1569		410.07
10	2	76.5	8	1218		452.6
11	3	51.1	8	1698	1468	432.3
12	2	63.6	8	1101		526.3

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	84.9	13	1985	1742	545.386
2	1	90.3	13			653.81
3	3	60.1	13	1957	1081	278.32
4	1	55.7	13			377.91
5	1	59.2	13			475.09
6	2	56	13	1919		54.58
7	1	54.6	13			645.08
8	1	56.7	13			281.8
9	3	64.5	13	1187	1130	103.72
10	1	80.5	13			370.26
11	1	74.5	13			207.01
12	1	98.6	13			92.73
13	1	66.9	13			661.3
14	2	81.3	13	1255		48.42
15	3	60.7	13	1054	1534	566.7
16	1	61.6	13			338.7

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	55.5	16			37.492
2	2	60.8	16	1087		95.267
3	2	90.5	16	1501		15.847
4	3	57.3	16	1260	2000	229.96
5	2	55.7	16	1463		325.513
6	2	80.5	16	1650		536.397
7	3	88.1	16	1173	1090	189.13
8	1	73	16			628.943
9	2	90	16	1634		86.757
10	2	95.8	16	1600		377.09
11	3	80.6	16	1762	1504	362.893
12	2	71.7	16	1095		220.707
13	2	95.4	16	1712		397.54
14	1	86.2	16			148.873
15	3	56.3	16	1019	1213	396.557
16	1	55.1	16			310.9
17	3	85.8	16	1696	1778	252.633
18	3	65.7	16	1520	1762	637.367

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	61	8	1743		550.339
2	2	67.7	8	1143		254.317
3	2	79.1	8	1911		178.154
4	2	60.4	8	1852		410.871
5	1	67.4	8			107.519
6	3	82.3	8	1202	1835	334.686
7	2	94.2	8	1991		659.853
8	2	72	8	1951		481.34
9	2	73.8	8	1705		545.527
10	1	53.4	8			594.534
11	2	86.1	8	1178		398.021
12	3	97	8	1838	1978	528.039
13	3	99.5	8	1110	1167	209.586
14	3	69.1	8	1467	1868	725.343

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	100	17			36.478
2	3	77.1	17	1305	1826	510.15
3	2	76.9	17	1885		537.63
4	2	56.2	17	1111		428.01
5	2	51.2	17	1808		194.31
6	2	93.9	17	1429		601.55
7	2	88.5	17	1435		725.71
8	1	58	17			719.75
9	3	61.1	17	1571	1343	667.6
10	3	81.1	17	1974	1208	550.62
11	1	92.4	17			368.62
12	2	88.8	17	1635		545.46
13	1	72.1	17			430.4
14	3	82.9	17	1921	1697	108.9
15	3	60.1	17	1855	1681	383.6

			Type 5 Radar Waveform_17			
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	69.4	15	1934		1163.06
2	1	50.6	15			203.237
3	3	62.4	15	1696	1517	720.573
4	2	74.5	15	1088		1303.78
5	3	73.6	15	1169	1414	1169.197
6	3	95.9	15	1770	1840	525.233
7	3	56.1	15	1204	1307	1275.88
8	2	63.8	15	1350		906.967
9	3	54.9	15	1597	1864	247.933

			Type 5 Radar Waveform_18			
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	88.2	6			799.055
2	1	93.3	6			18.74
3	2	62.3	6	1426		487.8
4	2	63.4	6	1562		201.47
5	3	62.6	6	1210	1629	278.51
6	3	96.2	6	1263	1065	380.14
7	2	60.1	6	1418		617.48
8	3	77.7	6	1683	1234	571.24
9	2	66.3	6	1510		842.94
10	2	81.9	6	1656		540.59
11	3	64.6	6	1377	1079	438.8
12	3	82.2	6	1429	1291	113.7

			Type 5 Radar Waveform_19			
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	92.2	18	1244	1001	969.36
2	2	72.9	18	1572		1015.261
3	2	78.2	18	1892		451.992
4	2	98.7	18	1480		259.083
5	1	88.4	18			56.234
6	2	58.5	18	1100		82.195
7	1	61	18			533.955
8	2	81.6	18	1961		117.666
9	2	90.2	18	1806		708.847
10	3	88.6	18	1912	1872	1001.218
11	1	52.9	18			766.909

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	99.6	13	1277		410.195
2	1	95.9	13			165.081
3	2	78.5	13	1353		394.222
4	3	72.9	13	1325	1310	585.623
5	3	93.3	13	1021	1600	361.304
6	2	74.9	13	1827		1060.255
7	2	91.2	13	1294		549.315
8	2	76.8	13	1479		237.796
9	3	98.1	13	1989	1052	649.217
10	1	96.1	13			624.918
11	2	63	13	1886		634.009

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	87.9	10			364.232
2	1	78.5	10			409.367
3	2	77.7	10	1386		124.104
4	1	73.8	10			605.391
5	3	69.1	10	1501	1249	764.219
6	2	87.7	10	1199		49.666
7	3	78.9	10	1157	1419	700.983
8	1	96.9	10			621.44
9	2	98.5	10	1457		531.847
10	1	75.7	10			735.214
11	1	87.9	10			356.501
12	2	51.4	10	1369		422.869
13	1	69.4	10			463.986
14	3	62.4	10	1563	1042	194.943

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	68	11			331.952
2	2	72.4	11	1908		585.98
3	1	93.4	11			229.85
4	3	83.4	11	1895	1603	198.83
5	1	55.8	11			22.7
6	3	62.6	11	1795	1329	704.79
7	2	87.2	11	1947		82.29
8	3	64.3	11	1145	1778	352.56
9	2	76.9	11	1613		429.58
10	1	51	11			551.5
11	2	74.4	11	1357		426.23
12	2	79.3	11	1156		466.78
13	3	75.3	11	1540	1084	81.25
14	1	80.4	11			248.97
15	1	86.8	11			49.5
16	2	93	11	1627		627

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	93.2	16			1323.31
2	2	96.9	16	1682		1126.297
3	2	96.2	16	1415		155.703
4	1	82.2	16			781.2
5	2	75.2	16	1497		85.067
6	2	79.9	16	1916		429.783
7	2	66	16	1700		228.4
8	1	79.5	16			1045.667
9	3	77.2	16	1069	1127	993.733

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	51.5	16	1979		914.542
2	3	86.6	16	1950	1364	428.31
3	2	90.3	16	1478		87.01
4	3	59	16	1860	1528	702.48
5	3	69.8	16	1200	1983	519.79
6	2	50	16	1280		55.43
7	2	91.7	16	1656		113.06
8	2	52.1	16	1843		453.56
9	2	63	16	1109		275.67
10	2	72.9	16	1025		949.7

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	66.3	9	1491	1239	674.96
2	3	58.7	9	1779	1925	791.081
3	2	70.7	9	1438		490.022
4	2	59	9	1146		565.563
5	2	98.7	9	1350		391.164
6	2	73.7	9	1883		957.775
7	2	96.6	9	1679		682.355
8	2	99.6	9	1776		838.666
9	1	85.5	9			124.737
10	1	57.4	9			60.978
11	3	91.1	9	1488	1124	79.009

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	2	84.9	10	1493		78.346
2	3	84	10	1331	1372	1199.42
3	1	52.1	10			793.82
4	2	62	10	1440		472.23
5	1	68.4	10			821.39
6	2	95.4	10	1156		85.84
7	2	71.5	10	1298		183.56
8	2	96.1	10	1988		887.8

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	82.7	17			788.356
2	2	59.1	17	1273		9.64
3	3	50.2	17	1153	1753	717.63
4	3	61.3	17	1881	1101	598.84
5	2	65.8	17	1501		802.98
6	3	62.8	17	1735	1545	975.38
7	2	66.9	17	1971		128.37
8	3	90	17	1156	1133	825.41
9	2	98.2	17	1214		376.07
10	2	81.9	17	1228		640.65
11	2	79.4	17	1792		225.8
12	2	65.3	17	1409		79.5

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	61.6	14			542.504
2	2	61.8	14	1168		404.58
3	2	99.2	14	1027		399.83
4	2	90.1	14	1731		479.86
5	1	53.8	14			1.11
6	3	88.3	14	1424	1245	130.82
7	2	84.3	14	1301		20.43
8	3	50	14	1786	1667	180.34
9	3	71.8	14	1866	1179	648.42
10	3	75.9	14	1749	1614	182.55
11	2	84.6	14	1732		494.74
12	2	94.3	14	1094		420.7
13	3	68.3	14	1051	1428	25.28
14	2	90.3	14	1460		116.32
15	1	58.4	14			47.3
16	2	95.4	14	1384		616.9

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	3	54	9	1031	1746	715.859
2	3	93.4	9	1367	1110	704.48
3	2	65.3	9	1440		558.15
4	2	99.2	9	1838		69.84
5	2	77.2	9	1160		253.35
6	3	88.7	9	1005	1006	322.69
7	2	64.8	9	1951		318.9
8	1	93.3	9			175.52
9	2	55.1	9	1262		681.9
10	2	62.4	9	1941		401.41
11	1	72.5	9			283.45
12	3	81.3	9	1217	1032	63.97
13	1	78.5	9			0.99
14	3	60.5	9	1784	1257	234.52
15	3	67	9	1196	1507	733.7
16	3	53.7	9	1679	1652	172.5

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	71.4	8			570.323
2	2	84.9	8	1680		468.873
3	2	62.5	8	1379		653.777
4	3	79.7	8	1491	1883	417.53
5	2	59.2	8	1731		78.613
6	2	59.4	8	1640		408.997
7	1	53.4	8			273.26
8	2	79.5	8	1970		446.423
9	3	65.6	8	1311	1666	609.977
10	2	65.6	8	1992		253.23
11	1	68.4	8			443.053
12	1	57.3	8			316.427
13	3	80.6	8	1170	1845	388.33
14	2	52.1	8	1636		179.333
15	2	60.9	8	1898		568.077
16	1	98.3	8			402.8
17	1	58.7	8			85.033
18	2	59.9	8	1465		272.267

Radar Type 6 - Radar Statistical Performance

Trail #	1=Detection 0=No Detection	Trail #	1=Detection 0=No Detection
1	1	16	1
2	1	17	1
3	1	18	1
4	1	19	1
5	1	20	1
6	1	21	1
7	1	22	1
8	1	23	1
9	1	24	1
10	1	25	1
11	1	26	1
12	1	27	1
13	1	28	1
14	1	29	1
15	1	30	1
Detection Percentage (%)		100%	

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5630	3	10	5507	30
2	5602	6	11	5525	33
3	5529	9	13	5587	39
5	5569	15	14	5549	42
8	5519	24	22	5500	66
11	5507	33	24	5590	72
13	5609	39	25	5638	75
19	5525	57	26	5619	78
23	5584	69	27	5649	81
24	5632	72	28	5560	84
29	5502	87	30	5494	90
33	5550	99	32	5620	96
34	5639	102	34	5592	102
44	5610	132	35	5559	105
45	5582	135	43	5523	129
51	5561	153	44	5517	132
59	5537	177	47	5612	141
61	5570	183	49	5608	147
68	5553	204	51	5574	153
71	5521	213	52	5522	156
75	5574	225	53	5618	159
77	5514	231	57	5490	171
78	5509	234	58	5624	174
79	5588	237	62	5575	186
92	5585	276	65	5515	195
95	5641	285	66	5572	198
97	5560	291	67	5535	201
98	5532	294	68	5566	204
--	--	--	72	5596	216
--	--	--	73	5538	219
--	--	--	77	5600	231
--	--	--	85	5493	255
--	--	--	87	5555	261
--	--	--	91	5526	273

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5570	30	8	5608	24
13	5559	39	9	5527	27
14	5496	42	16	5617	48
15	5614	45	19	5528	57
17	5551	51	20	5552	60
18	5532	54	21	5609	63
21	5516	63	22	5627	66
24	5602	72	23	5500	69
25	5504	75	25	5496	75
26	5624	78	27	5639	81
27	5580	81	31	5559	93
28	5622	84	44	5508	132
31	5637	93	50	5510	150
32	5630	96	52	5561	156
34	5541	102	55	5601	165
35	5509	105	57	5596	171
40	5533	120	64	5618	192
45	5623	135	67	5586	201
52	5560	156	70	5545	210
54	5555	162	72	5614	216
57	5518	171	76	5636	228
58	5635	174	78	5502	234
61	5528	183	79	5553	237
68	5583	204	82	5565	246
69	5619	207	83	5612	249
71	5510	213	86	5491	258
72	5514	216	88	5519	264
75	5632	225	90	5567	270
77	5547	231	94	5503	282
84	5629	252	96	5630	288
86	5641	258	100	5643	300
91	5521	273	--	--	--
92	5645	276	--	--	--
93	5566	279	--	--	--

| 95 | 5587 | 285 | -- | -- | -- |

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5560	9	1	5608	3
11	5538	33	2	5617	6
16	5494	48	6	5614	18
26	5555	78	10	5559	30
28	5648	84	13	5636	39
35	5610	105	14	5635	42
36	5597	108	15	5633	45
39	5518	117	18	5604	54
45	5622	135	19	5503	57
47	5628	141	20	5620	60
48	5609	144	25	5639	75
49	5585	147	27	5577	81
53	5547	159	36	5580	108
56	5527	168	44	5569	132
64	5603	192	48	5521	144
71	5641	213	49	5623	147
74	5644	222	50	5541	150
77	5515	231	51	5584	153
79	5511	237	56	5506	168
87	5637	261	59	5505	177
90	5592	270	62	5573	186
92	5540	276	66	5514	198
--	--	--	69	5591	207
--	--	--	73	5540	219
--	--	--	76	5641	228
--	--	--	81	5592	243
--	--	--	86	5494	258
--	--	--	89	5570	267
--	--	--	91	5513	273
--	--	--	94	5536	282
--	--	--	95	5522	285
--	--	--	96	5582	288
--	--	--	97	5524	291
--	--	--	99	5596	297

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5507	3	4	5615	12
4	5621	12	7	5554	21
5	5648	15	13	5521	39
8	5582	24	14	5507	42
11	5536	33	23	5641	69
23	5626	69	25	5517	75
25	5612	75	26	5589	78
27	5579	81	29	5526	87
28	5520	84	34	5585	102
31	5551	93	35	5564	105
34	5502	102	39	5549	117
35	5637	105	40	5522	120
37	5517	111	41	5530	123
39	5547	117	42	5601	126
41	5492	123	45	5608	135
43	5561	129	47	5619	141
47	5535	141	53	5509	159
52	5527	156	55	5565	165
54	5515	162	61	5612	183
56	5557	168	65	5604	195
58	5498	174	66	5490	198
59	5605	177	68	5632	204
63	5575	189	71	5620	213
66	5511	198	75	5508	225
67	5544	201	81	5498	243
74	5552	222	83	5606	249
80	5526	240	85	5501	255
81	5513	243	87	5510	261
83	5636	249	88	5639	264
85	5497	255	89	5514	267
92	5619	276	90	5571	270
94	5617	282	91	5640	273
98	5569	294	92	5500	276
--	--	--	95	5560	285

--	--	--	97	5588	291
--	--	--	98	5583	294
--	--	--	99	5534	297
--	--	--	100	5520	300

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5547	6	2	5554	6
4	5510	12	7	5645	21
7	5587	21	8	5602	24
8	5534	24	12	5542	36
19	5649	57	14	5565	42
21	5579	63	17	5599	51
23	5527	69	20	5525	60
24	5525	72	25	5535	75
26	5598	78	26	5495	78
30	5546	90	27	5626	81
33	5580	99	30	5508	90
36	5578	108	31	5516	93
44	5498	132	34	5575	102
48	5638	144	35	5624	105
49	5500	147	37	5572	111
56	5645	168	38	5571	114
60	5503	180	40	5579	120
63	5614	189	46	5614	138
64	5607	192	48	5491	144
65	5577	195	50	5558	150
68	5517	204	53	5494	159
69	5604	207	55	5500	165
75	5628	225	62	5637	186
76	5568	228	64	5563	192
79	5585	237	66	5573	198
81	5494	243	69	5510	207
89	5570	267	74	5603	222
92	5609	276	79	5639	237
94	5549	282	81	5492	243
--	--	--	82	5606	246
--	--	--	83	5597	249
--	--	--	94	5609	282
--	--	--	99	5569	297

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5562	27	13	5555	39
11	5599	33	14	5609	42
12	5491	36	17	5606	51
16	5555	48	23	5495	69
18	5633	54	26	5586	78
23	5526	69	28	5502	84
24	5645	72	29	5524	87
26	5495	78	32	5549	96
30	5537	90	33	5517	99
31	5501	93	37	5628	111
37	5579	111	38	5522	114
40	5505	120	39	5576	117
42	5618	126	44	5624	132
48	5622	144	49	5607	147
52	5606	156	51	5557	153
53	5558	159	52	5591	156
54	5503	162	53	5536	159
57	5644	171	58	5521	174
58	5585	174	59	5646	177
60	5613	180	61	5647	183
61	5574	183	64	5525	192
64	5584	192	66	5614	198
69	5590	207	70	5556	210
71	5646	213	74	5515	222
73	5556	219	75	5567	225
78	5578	234	77	5572	231
79	5640	237	84	5500	252
85	5594	255	90	5593	270
88	5624	264	95	5523	285
89	5598	267	96	5590	288
90	5563	270	--	--	--
91	5502	273	--	--	--
92	5559	276	--	--	--
97	5547	291	--	--	--

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5533	3	1	5504	3
5	5567	15	11	5505	33
9	5612	27	13	5570	39
10	5495	30	14	5604	42
11	5539	33	16	5576	48
13	5501	39	17	5492	51
14	5602	42	31	5491	93
16	5650	48	34	5528	102
23	5583	69	39	5639	117
25	5497	75	42	5589	126
26	5534	78	45	5650	135
28	5619	84	49	5497	147
31	5577	93	50	5607	150
35	5585	105	56	5542	168
38	5620	114	60	5614	180
41	5565	123	66	5565	198
46	5508	138	70	5572	210
50	5560	150	73	5592	219
58	5623	174	74	5585	222
59	5605	177	75	5521	225
62	5500	186	77	5545	231
65	5526	195	80	5522	240
69	5513	207	83	5642	249
70	5573	210	86	5603	258
75	5531	225	88	5551	264
79	5590	237	89	5499	267
80	5578	240	93	5606	279
82	5587	246	95	5520	285
85	5597	255	97	5536	291
86	5507	258	98	5648	294
87	5493	261	--	--	--
90	5522	270	--	--	--
91	5644	273	--	--	--
95	5609	285	--	--	--

96	5559	288	--	--	--
99	5632	297	--	--	--

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5575	6	1	5492	3
6	5553	18	2	5647	6
7	5643	21	4	5608	12
9	5563	27	6	5626	18
10	5637	30	9	5627	27
15	5497	45	12	5575	36
16	5545	48	14	5513	42
18	5631	54	16	5634	48
19	5578	57	21	5641	63
20	5607	60	23	5537	69
21	5522	63	27	5568	81
32	5616	96	30	5494	90
36	5517	108	31	5613	93
37	5594	111	32	5525	96
40	5523	120	40	5501	120
42	5541	126	42	5619	126
44	5559	132	49	5642	147
46	5509	138	50	5555	150
47	5632	141	55	5598	165
49	5529	147	57	5499	171
50	5506	150	59	5599	177
53	5623	159	60	5495	180
60	5601	180	64	5534	192
62	5525	186	67	5620	201
64	5621	192	70	5549	210
73	5646	219	72	5636	216
76	5538	228	73	5617	219
78	5636	234	75	5633	225
79	5527	237	78	5585	234
80	5615	240	82	5548	246
82	5650	246	85	5618	255
86	5494	258	86	5648	258
88	5573	264	88	5531	264
92	5587	276	90	5629	270

94	5568	282	91	5600	273
95	5544	285	92	5605	276
99	5558	297	--	--	--

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5538	3	2	5600	6
2	5511	6	3	5561	9
9	5609	27	9	5647	27
11	5606	33	12	5510	36
12	5636	36	14	5540	42
13	5620	39	22	5612	66
16	5641	48	36	5584	108
25	5569	75	42	5532	126
26	5518	78	44	5490	132
29	5585	87	45	5623	135
33	5572	99	47	5507	141
35	5504	105	54	5549	162
42	5525	126	56	5597	168
44	5613	132	57	5632	171
48	5514	144	59	5537	177
51	5630	153	67	5641	201
52	5523	156	69	5637	207
54	5516	162	70	5520	210
55	5643	165	71	5497	213
58	5608	174	78	5636	234
60	5508	180	79	5547	237
68	5605	204	80	5503	240
71	5615	213	86	5630	258
78	5542	234	87	5602	261
82	5535	246	88	5594	264
84	5561	252	91	5571	273
85	5640	255	92	5607	276
86	5495	258	94	5527	282
88	5497	264	95	5564	285
89	5519	267	98	5530	294
93	5515	279	99	5535	297

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5566	6	1	5522	3
3	5642	9	3	5534	9
14	5552	42	5	5576	15
15	5557	45	7	5631	21
19	5564	57	8	5502	24
21	5511	63	10	5640	30
24	5610	72	12	5516	36
25	5505	75	16	5641	48
26	5493	78	17	5490	51
27	5520	81	18	5636	54
39	5639	117	22	5585	66
41	5536	123	23	5590	69
46	5635	138	29	5566	87
48	5507	144	34	5549	102
49	5539	147	35	5615	105
56	5513	168	36	5523	108
59	5562	177	41	5492	123
61	5588	183	43	5646	129
68	5574	204	45	5567	135
70	5641	210	47	5552	141
83	5618	249	56	5619	168
86	5577	258	58	5517	174
89	5598	267	60	5545	180
92	5645	276	61	5539	183
95	5634	285	63	5527	189
98	5553	294	64	5573	192
99	5631	297	66	5604	198
--	--	--	68	5633	204
--	--	--	71	5587	213
--	--	--	73	5584	219
--	--	--	74	5505	222
--	--	--	76	5624	228
--	--	--	80	5605	240
--	--	--	86	5536	258

--	--	--	89	5579	267
--	--	--	90	5506	270
--	--	--	96	5650	288

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5561	6	1	5559	3
6	5560	18	3	5508	9
7	5501	21	9	5601	27
8	5496	24	12	5608	36
10	5575	30	24	5634	72
11	5532	33	26	5517	78
13	5536	39	30	5638	90
15	5577	45	35	5552	105
16	5598	48	36	5620	108
18	5556	54	38	5646	114
20	5494	60	40	5611	120
24	5635	72	41	5497	123
25	5574	75	42	5524	126
28	5636	84	43	5506	129
34	5573	102	45	5495	135
38	5559	114	46	5525	138
39	5546	117	54	5624	162
40	5504	120	56	5616	168
42	5524	126	61	5556	183
45	5649	135	64	5639	192
47	5510	141	66	5604	198
48	5634	144	69	5520	207
54	5599	162	72	5511	216
56	5622	168	74	5584	222
57	5566	171	88	5613	264
60	5507	180	91	5619	273
61	5565	183	92	5628	276
62	5543	186	97	5503	291
63	5539	189	--	--	--
64	5568	192	--	--	--
66	5537	198	--	--	--
67	5626	201	--	--	--
70	5571	210	--	--	--
74	5554	222	--	--	--

76	5620	228	--	--	--
78	5544	234	--	--	--
83	5534	249	--	--	--
84	5610	252	--	--	--
85	5541	255	--	--	--
86	5508	258	--	--	--
90	5549	270	--	--	--
99	5578	297	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5495	9	1	5636	3
5	5609	15	4	5534	12
6	5546	18	8	5541	24
7	5512	21	11	5493	33
9	5505	27	13	5642	39
10	5531	30	14	5609	42
11	5613	33	15	5578	45
14	5548	42	17	5491	51
19	5591	57	19	5631	57
20	5539	60	20	5589	60
21	5556	63	24	5542	72
22	5522	66	27	5564	81
24	5650	72	28	5588	84
25	5550	75	31	5538	93
27	5638	81	33	5611	99
29	5510	87	34	5565	102
34	5619	102	38	5637	114
39	5630	117	41	5552	123
41	5527	123	42	5585	126
45	5570	135	47	5554	141
47	5623	141	49	5625	147
50	5594	150	50	5633	150
51	5516	153	56	5635	168
53	5574	159	58	5599	174
57	5639	171	61	5563	183

60	5607	180	64	5616	192
64	5543	192	67	5557	201
67	5606	201	71	5638	213
68	5632	204	74	5501	222
70	5525	210	75	5632	225
76	5587	228	76	5602	228
84	5595	252	77	5507	231
86	5532	258	83	5607	249
90	5529	270	88	5543	264
91	5597	273	93	5630	279
93	5568	279	94	5524	282
95	5602	285	95	5647	285
96	5542	288	96	5569	288
97	5503	291	98	5568	294
100	5504	300	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5558	3	1	5536	3
5	5515	15	2	5496	6
6	5499	18	3	5554	9
7	5608	21	5	5498	15
8	5612	24	9	5570	27
11	5597	33	10	5522	30
14	5557	42	16	5607	48
16	5562	48	17	5608	51
18	5589	54	20	5506	60
31	5646	93	24	5617	72
32	5637	96	25	5628	75
33	5648	99	27	5515	81
36	5527	108	29	5633	87
39	5526	117	31	5650	93
40	5563	120	38	5602	114
42	5576	126	42	5558	126
43	5523	129	43	5519	129
49	5617	147	46	5627	138
53	5615	159	49	5555	147
54	5609	162	52	5640	156
63	5548	189	54	5626	162
64	5559	192	55	5589	165
65	5628	195	56	5524	168
70	5645	210	59	5528	177
72	5616	216	69	5609	207
73	5649	219	70	5514	210
76	5551	228	76	5631	228
81	5627	243	77	5584	231
84	5496	252	79	5530	237
85	5540	255	80	5512	240
91	5554	273	81	5620	243
94	5633	282	83	5637	249
95	5534	285	89	5504	267
--	--	--	93	5551	279

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5525	9	1	5540	3
4	5507	12	2	5508	6
5	5498	15	7	5527	21
13	5617	39	8	5587	24
15	5648	45	9	5591	27
17	5570	51	11	5614	33
19	5505	57	12	5602	36
22	5519	66	14	5630	42
24	5590	72	16	5613	48
38	5553	114	17	5554	51
42	5601	126	25	5551	75
44	5636	132	27	5597	81
49	5534	147	28	5501	84
50	5595	150	29	5516	87
51	5564	153	30	5599	90
54	5586	162	33	5566	99
57	5542	171	35	5590	105
61	5578	183	39	5565	117
62	5610	186	42	5585	126
72	5529	216	47	5564	141
73	5563	219	49	5607	147
78	5569	234	50	5578	150
81	5592	243	53	5533	159
82	5647	246	54	5543	162
86	5639	258	56	5517	168
89	5492	267	58	5586	174
90	5621	270	59	5567	177
92	5522	276	79	5522	237
93	5575	279	81	5495	243
94	5615	282	86	5500	258
96	5611	288	87	5556	261
98	5628	294	89	5518	267
99	5609	297	93	5604	279
100	5559	300	95	5546	285

| -- | -- | -- | 97 | 5649 | 291 |

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5608	12	5	5537	15
6	5515	18	6	5508	18
12	5603	36	8	5577	24
18	5526	54	10	5510	30
19	5545	57	12	5600	36
21	5543	63	13	5599	39
24	5491	72	14	5525	42
26	5631	78	17	5528	51
29	5635	87	19	5622	57
32	5555	96	24	5543	72
36	5558	108	26	5582	78
37	5521	111	33	5559	99
40	5602	120	37	5592	111
44	5534	132	38	5624	114
52	5535	156	40	5596	120
57	5650	171	43	5567	129
58	5630	174	44	5608	132
59	5595	177	45	5588	135
61	5548	183	48	5616	144
66	5495	198	54	5625	162
75	5504	225	55	5564	165
80	5501	240	57	5546	171
81	5574	243	62	5512	186
85	5641	255	63	5586	189
86	5643	258	66	5552	198
87	5618	261	69	5568	207
88	5648	264	72	5623	216
89	5627	267	74	5541	222
99	5624	297	76	5566	228
100	5531	300	78	5496	234
--	--	--	80	5563	240
--	--	--	81	5538	243
--	--	--	82	5628	246
--	--	--	85	5626	255

--	--	--	87	5614	261
--	--	--	91	5644	273
--	--	--	92	5646	276
--	--	--	100	5562	300

6. CONCLUSION

The data collected relate only the item(s) tested and show that the device is in compliance with FCC

Rules.

———————————————— The End ————————————————

Appendix A - Test Setup Photograph

Refer to "2105TW0005-UT" file.

Appendix B-EUT Photograph

Refer to "2105TW0005-UE" file.