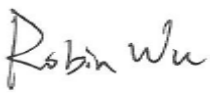
DFS MEASUREMENT REPORT

FCC 15.407 WLAN 802.11a/n/ac

FCC ID:	TE7RE230V2
APPLICANT:	TP-Link Technologies Co., Ltd.
Application Type:	Certification
Product:	AC750 Wi-Fi Range Extender AC1200 Wi-Fi Range Extender
Model No.:	RE230, RE330
Brand Name:	tp-link
FCC Classification:	Unlicensed National Information Infrastructure (NII)
FCC Rule Part(s):	Part 15 Subpart E - 15.407 Section (h)(2) KDB 905462 D02v02, KDB 905462 D04v01
Test Date:	September 22 ~December 22, 2020

Reviewed By: 
(Kevin Guo)

Approved By: 
(Robin Wu)

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.

Revision History

Report No.	Version	Description	Issue Date	Note
2008RSU036-U4	Rev. 01	Initial Report	12-30-2020	Valid

CONTENTS

Description Page

1. General Information

1.1. Applicant

TP-Link Technologies Co., Ltd.
Building 24 (floors 1,3,4,5) and 28 (floors1-4), Central Science and Technology Park, Nanshan Shenzhen, 518057 China

1.2. Manufacturer

TP-Link Technologies Co., Ltd.
Building 24 (floors 1,3,4,5) and 28 (floors1-4), Central Science and Technology Park, Nanshan Shenzhen, 518057 China

1.3. Testing Facility

☒	**Test Site – MRT Suzhou Laboratory**	
	Laboratory Location (Suzhou – Wuzhong)	
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China	
	Laboratory Location (Suzhou – SIP)	
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China	
	Laboratory Accreditations	
	A2LA: 3628.01	CNAS: L10551
	FCC: CN1166	ISED: CN0001
	VCCI: R-20025, G-20034, C-20020, T-20020	
☐	**Test Site – MRT Shenzhen Laboratory**	
	Laboratory Location (Shenzhen)	
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China	
	Laboratory Accreditations	
	A2LA: 3628.02	CNAS: L10551
	FCC: CN1284	ISED: CN0105
☐	**Test Site – MRT Taiwan Laboratory**	
	Laboratory Location (Taiwan)	
	No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)	
	Laboratory Accreditations	
	TAF: L3261-190725	
	FCC: 291082, TW3261	ISED: TW3261

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	AC750 Wi-Fi Range Extender AC1200 Wi-Fi Range Extender
Model No.:	RE230, RE330
Brand Name:	tp-link
Wi-Fi Specification:	802.11a/b/g/n/ac
EUT Identification No.:	20200821Sample#01 (Conducted)

Note: There is the same hardware design, PCB layout between the models, different models and product names for different marketing requirements. Only RE230 (Product name: AC750 Wi-Fi Range Extender) was selected for final tests.

2.2. Product Specification Subjective to this Report

Frequency Range:	For 802.11a/n-HT20/ac-VHT20: 5260~5320MHz, 5500~5700MHz For 802.11n-HT40/ac-VHT40: 5270~5310MHz, 5510~5670MHz For 802.11ac-VHT80: 5290MHz, 5530MHz, 5610MHz
Type of Modulation:	802.11a/n/ac: OFDM
Data Rate:	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.6Mbps
Power-on cycle:	Requires 26.64 seconds to complete its power-on cycle
Uniform Spreading (For DFS Frequency Band)	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. DFS Band Carrier Frequencies Operation

802.11a/n-HT20/ac-VHT20

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

802.11n-HT40/ ac-VHT40

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	--	--	--	--

802.11ac-VHT80

Channel	Frequency	Channel	Frequency	Channel	Frequency
58	5290 MHz	106	5530 MHz	122	5610 MHz

2.4. Description of Available Antennas

Antenna Type	Frequency Band (MHz)	T_X Paths	Max Antenna Gain (dBi)	Beamforming Directional Gain (dBi)	CDD Directional Gain (dBi)	
					For Power	For PSD
PCB Antenna	2412 ~ 2462	2	2.0	--	2.0	5.01
	5150 ~ 5850	2	3.0	6.01	3.0	6.01

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

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;

- For power measurements on IEEE 802.11 devices,

  Array Gain = 0 dB for $N_{ANT} \leq 4$;

Note 2: The EUT also supports Beam Forming mode, and the Beamforming support 802.11n/ac, not include 802.11a/b/g. BF Directional gain = G_{ANT} + 10 log (N_{ANT}).

Note 3: All information is provided by the manufacturer.

2.5. Test Mode

Test Mode	Mode 1: Operating under AP mode Mode 2: Operating under Mesh mode

2.6. Test Environment Condition

Ambient Temperature	15°C~35°C
Relative Humidity	20%RH ~75%RH

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 subsection 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	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{\text{PRI}_{\text{usec}}}\right)\right\}$	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. Conducted 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.

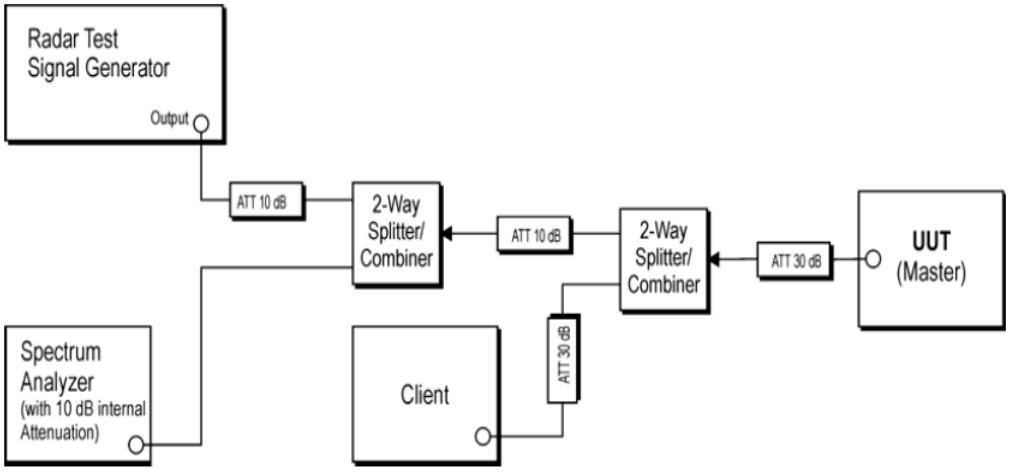


Figure 3-1: Conducted Test Setup where UUT is a Master and Radar Test Waveforms are injected into the Masters

4. TEST EQUIPMENT CALIBRATION DATE

Dynamic Frequency Selection (DFS) (WZ-SR4)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTSUE06457	1 year	2021/07/02
ESG Vector Signal Generator	Agilent	E4438C	MRTSUE06026	1 year	2021/10/22
Vector Signal Generator	R&S	SMBV100A	MRTSUE06279	1 year	2021/04/14
Thermohygrometer	Testo	608-H1	MRTSUE06402	1 year	2021/07/26

Client Information

Instrument	Manufacturer	Type No.
Wireless Network Adapter	Intel	7260HMW

Software	Version	Manufacturer	Function
Pulse Building	N/A	Agilent	Radar Signal Generation Software
DFS Tool	V 6.9.2	Agilent	DFS Test Software
R&S Pulse Sequencer DFS	V 2.0	R&S	DFS Test Software

5. TEST RESULT

5.1. Summary

Parameter	Limit	Test Result	Reference
NII 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

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.

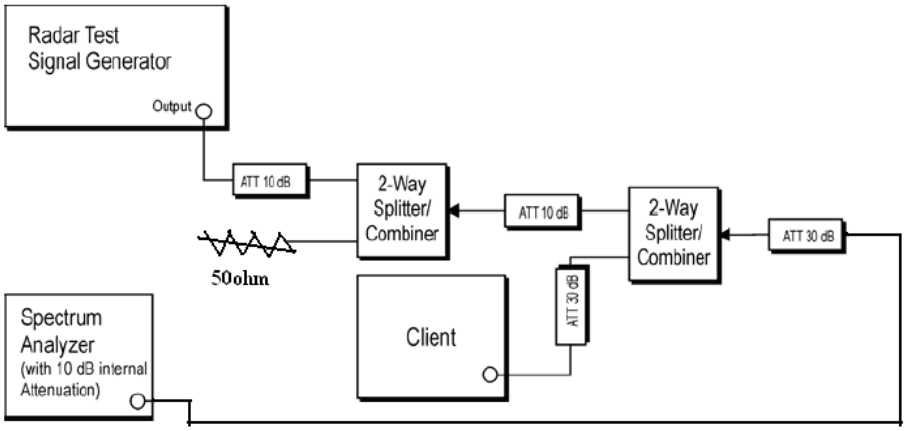


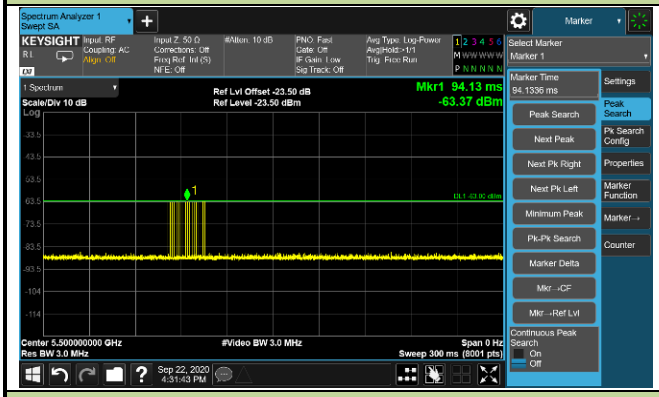
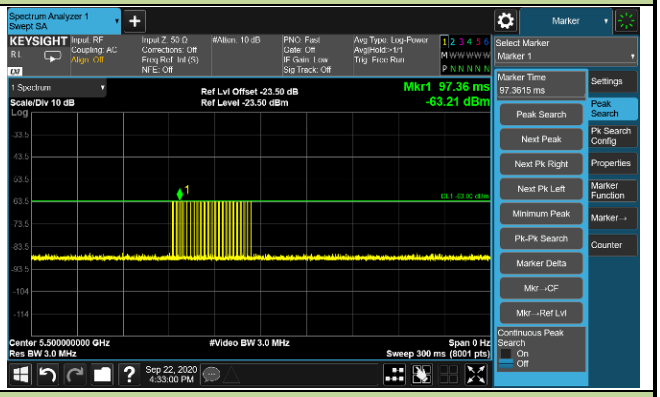
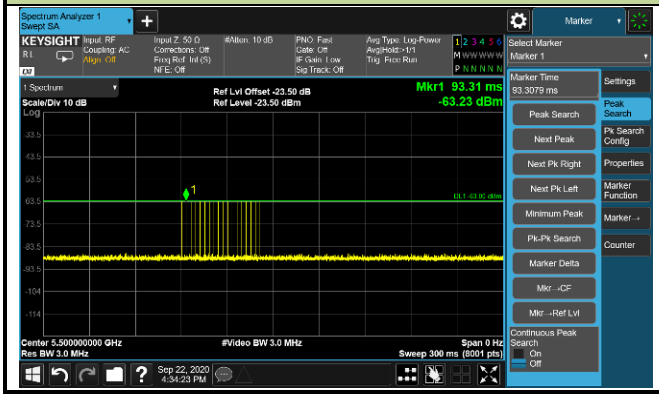
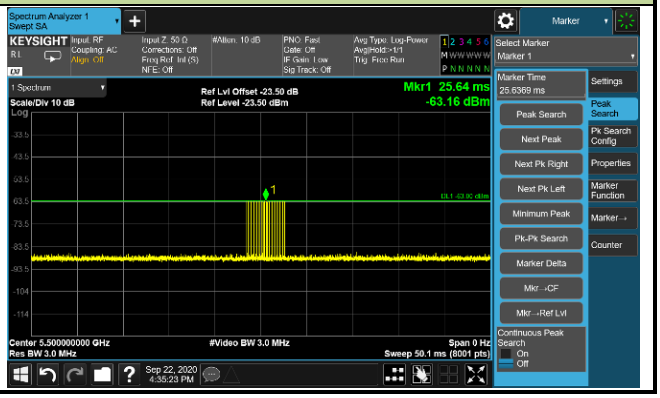
Figure 3-2: Conducted Test Setup

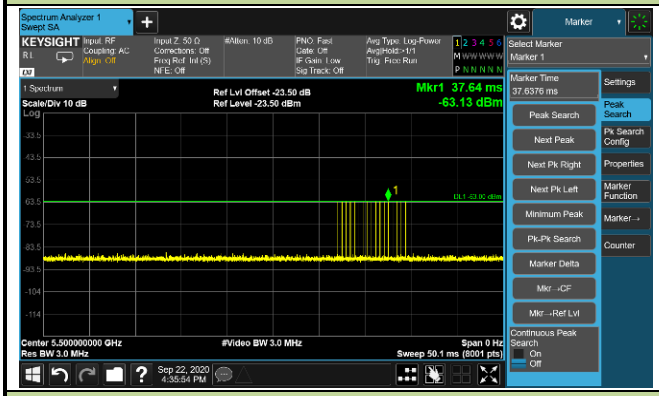
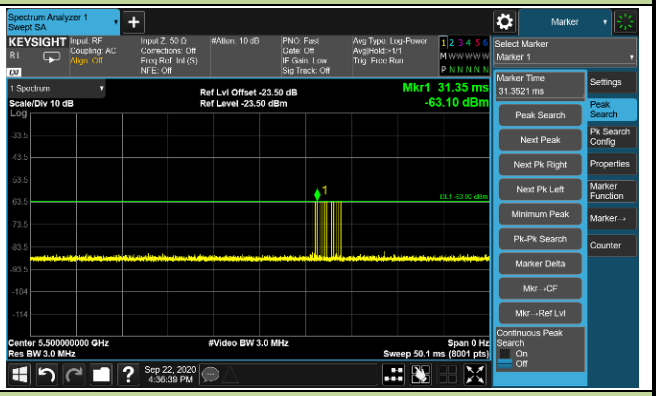
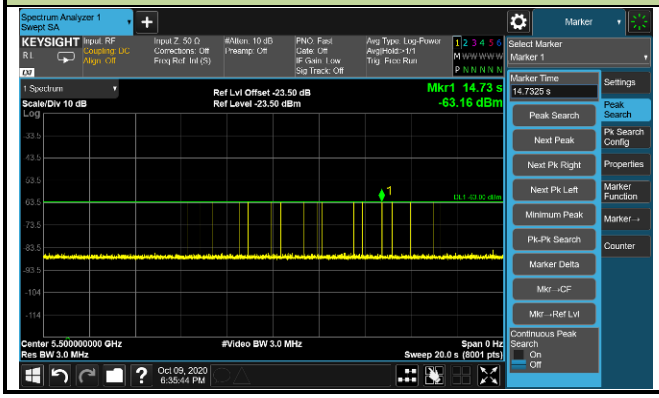
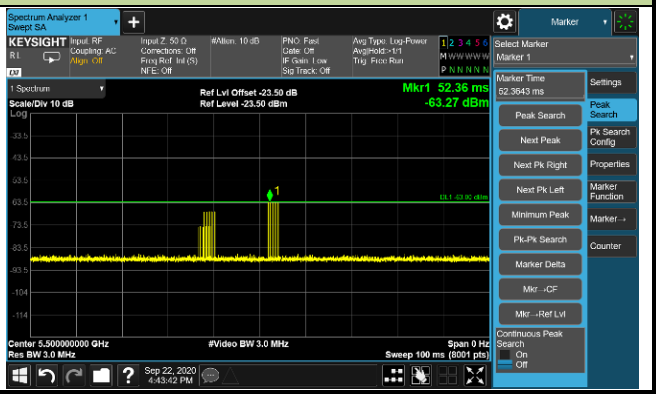
5.2.2. Calibration Procedure

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. Cablibration Result

Product	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Radar Waveform Calibration		

Radar Waveform Calibration	
Radar #0	Radar #1 (Test A) PRI = 858us and the number of pulses = 62
	
Radar #1 (Test B) PRI = 3.007ms and the number of pulses = 18	Radar #2
	

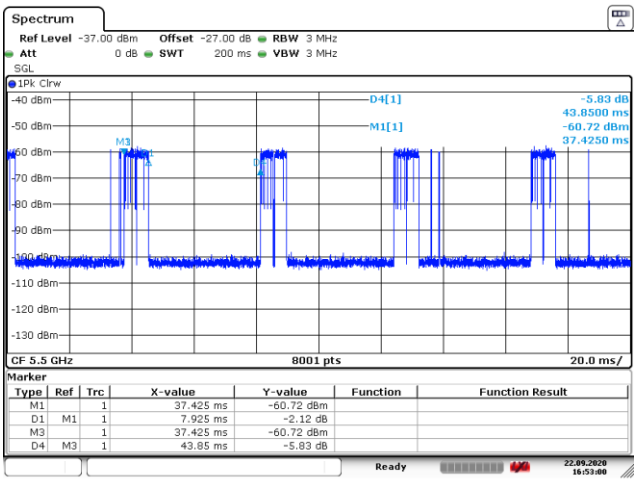
Radar #3	Radar #4
	
Radar #5	**Radar #6**
	

5.2.4. Channel Loading Test Result

Product	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Channel Loading		

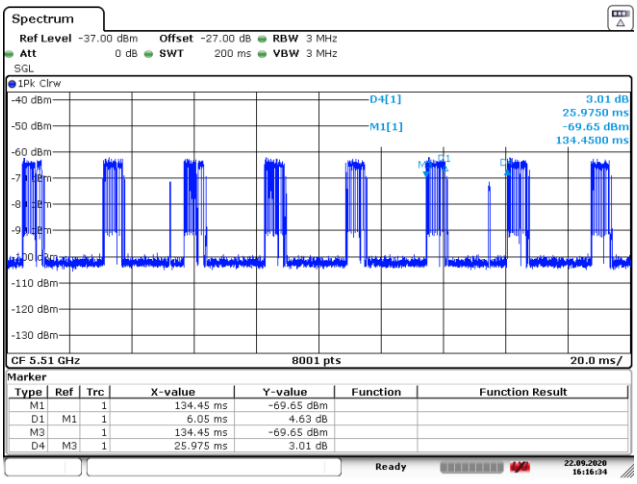
Channel Loading Plot

802.11ac-VHT20 5500MHz



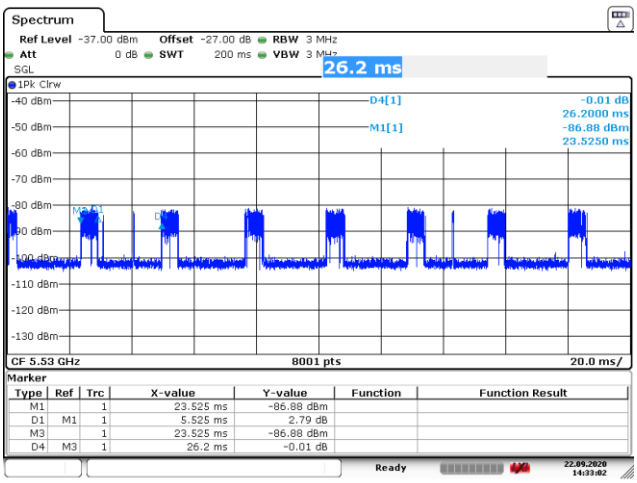
Date: 22.SEP.2020 16:53:00

802.11ac-VHT40 5510MHz



Date: 22.SEP.2020 16:16:34

802.11ac-VHT80 5530MHz



Date: 22.SEP.2020 14:33:02

Test Mode	Test Frequency	Packet ratio	Requirement ratio	Test Result
802.11ac-VHT20	5500 MHz	18.07%	≥ 17%	Pass
802.11ac-VHT40	5510 MHz	23.29%	≥ 17%	Pass
802.11ac-VHT80	5530 MHz	21.09%	≥ 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 = FH – FL

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	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Detection Bandwidth (802.11ac-VHT20 mode - 5500MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5490	0	0	0	0	0	0	0	0	0	0	0%
5491 FL	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 FH	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 17.85MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5509MHz – 5491MHz = 18MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 17.85MHz x 100% = 17.85MHz.

Product	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Detection Bandwidth (802.11ac-VHT40 mode - 5510MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5490	0	0	0	0	0	0	0	0	0	0	0%
5491 FL	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%
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%
5526	1	1	1	1	1	1	1	1	1	1	100%
5527	1	1	1	1	1	1	1	1	1	1	100%
5528	1	1	1	1	1	1	1	1	1	1	100%
5529 FH	1	1	1	1	1	1	1	1	1	1	100%
5530	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 5510MHz. The 99% channel bandwidth is 36.20MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5529MHz - 5491MHz = 38MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz):36.20MHz x 100% = 36.20MHz.

Product	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Detection Bandwidth (802.11ac-VHT80 mode - 5530MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5490	0	0	0	0	0	0	0	0	0	0	0%
5491 FL	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%
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%
5566	1	1	1	1	1	1	1	1	1	1	100%
5567	1	1	1	1	1	1	1	1	1	1	100%
5568	1	1	1	1	1	1	1	1	1	1	100%
5569 FH	1	1	1	1	1	1	1	1	1	1	100%
5570	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 5530MHz. The 99% channel bandwidth is 75.17MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5569MHz - 5491MHz = 78MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 75.17MHz x 100% = 75.17MHz.

5.4. Initial Channel Availability Check Time Measurement

5.4.1. Test Limit

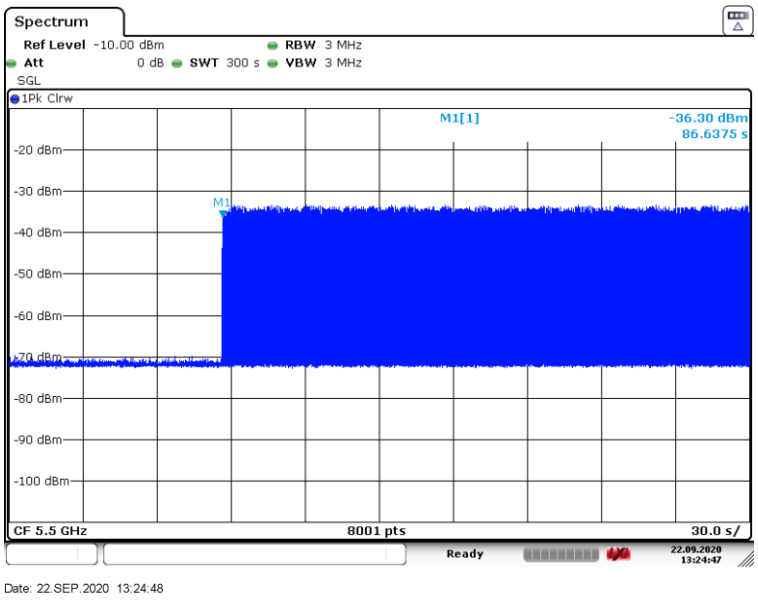
The EUT shall perform a Channel Availability Check to ensure that there is no radar operating on the channel. After power-up sequence, receive at least 1 minute on the intended operating frequency.

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 minute 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	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Initial Channel Availability Check Time (802.11ac-VHT20 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 (26.64 sec). Initial beacons/data transmissions are indicated by marker 1 (86.64sec).

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

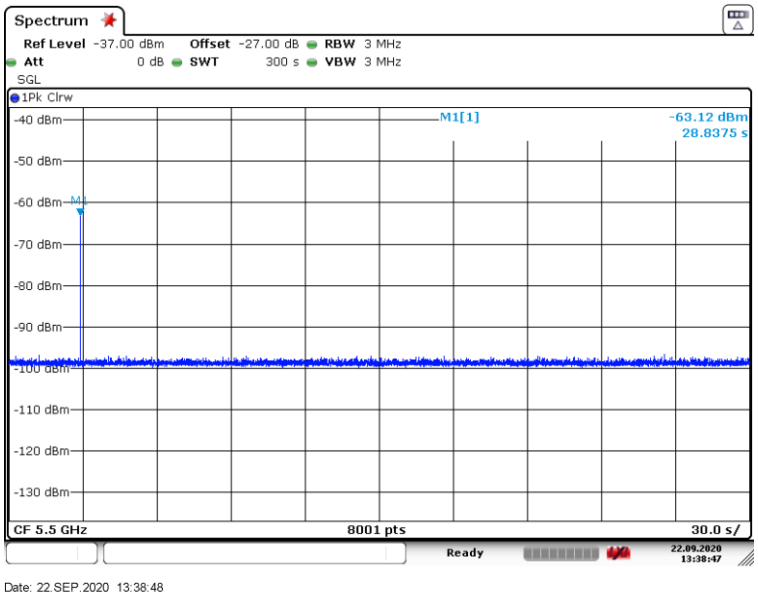
1. The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold + 1 dB occurs at the beginning 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 for 2.5 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	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Beginning of the Channel Availability Check Time (802.11ac-VHT20 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

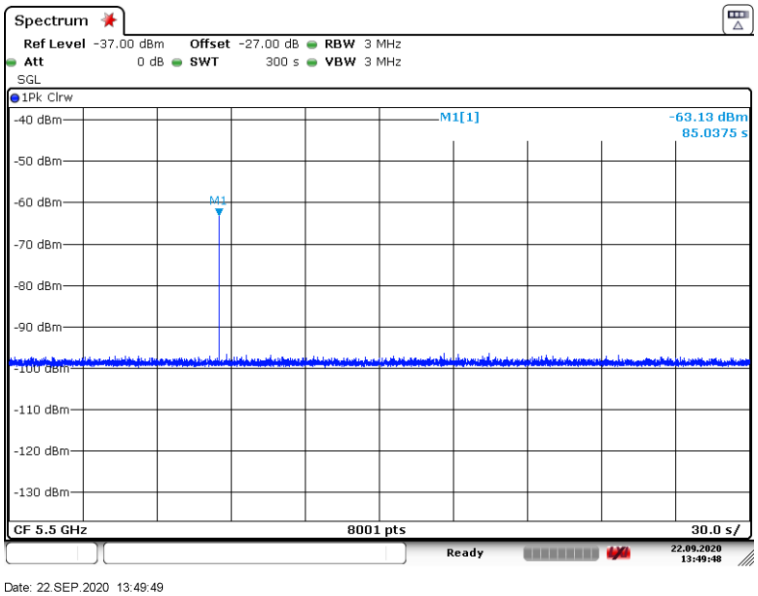
In the end of Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC on that channel.

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 for 2.5 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	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	End of the Channel Availability Check Time (802.11ac-VHT20 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 30 minute during which a Channel will not be utilized after a Radar Waveform is detected on that Channel.

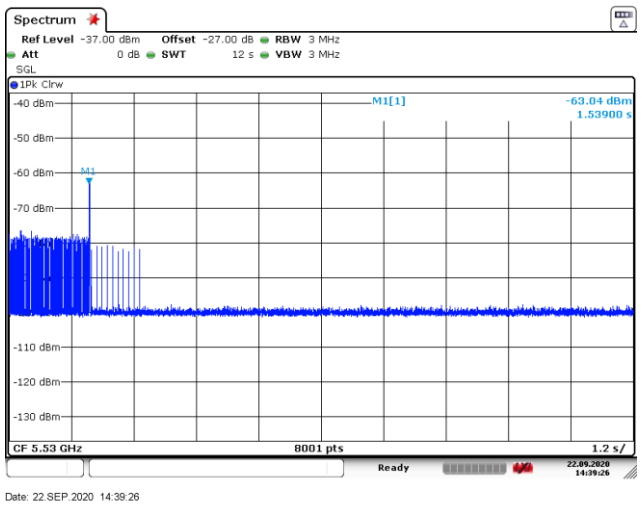
5.7.2. Test Procedure Used

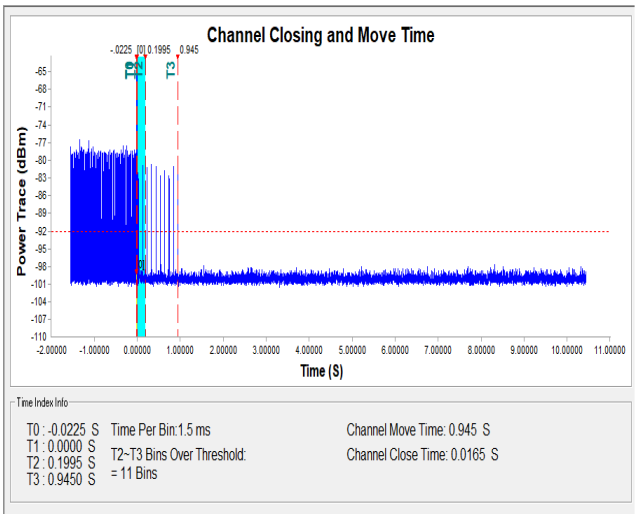
1. The test should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0.
2. When the radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device. A U-NII device operating as a Master Device will 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 time per 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

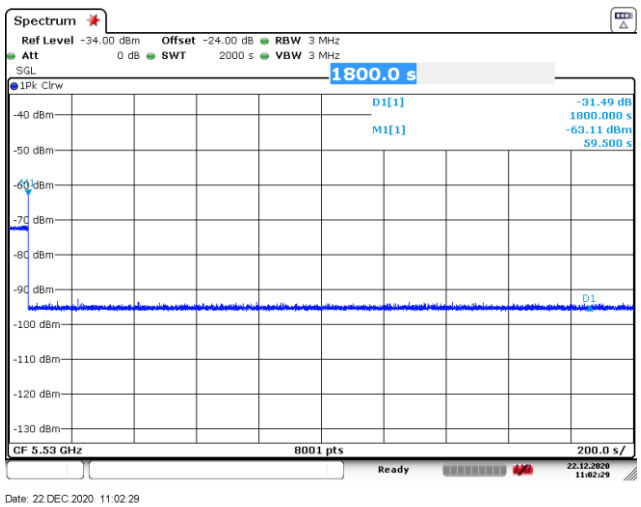
Product	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Channel Move Time and Channel Closing Transmission Time (802.11ac-VHT80 mode - 5530MHz)		

Channel Move Time and Channel Closing Transmission Time





Non-Occupancy Period



Parameter	Test Result	Limit
Channel Move Time (s)	0.945s	<10s
Channel Closing Transmission Time (ms) (Note)	16.5ms	< 60ms
Non-Occupancy Period (min)	≥ 30min	≥ 30 min
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.		

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	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Radar Statistical Performance Check (802.11ac-VHT20 mode - 5500MHz)		
Test Mode	AP mode		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5496.2	1	918	58	1
2	5499.7	1	538	98	1
3	5495.0	1	758	70	1
4	5501.3	1	718	74	1
5	5503.7	1	798	67	0
6	5497.9	1	638	83	1
7	5502.4	1	658	81	1
8	5496.3	1	618	86	1
9	5500.3	1	538	98	1
10	5508.7	1	538	98	1
11	5491.8	1	718	74	1
12	5506.3	1	698	76	1
13	5496.8	1	918	58	1
14	5491.0	1	718	74	1
15	5501.9	1	618	86	1
16	5495.0	1	898	59	1
17	5499.0	1	698	76	0
18	5507.7	1	738	72	1
19	5502.6	1	878	61	1
20	5492.7	1	538	98	1
21	5508.2	1	778	68	1
22	5505.6	1	598	89	1
23	5504.4	1	698	76	1
24	5491.3	1	638	83	1
25	5507.2	1	578	92	1
26	5509.0	1	718	74	1
27	5502.1	1	578	92	1
28	5505.4	1	878	61	1

29	5501.6	1	538	98	1
30	5493.6	1	838	63	1
Detection Percentage (%)					93.3%

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	3.4	206	26	1
2	5499.7	3.7	219	25	1
3	5495.0	4.0	169	28	1
4	5501.3	4.8	160	25	1
5	5503.7	1.1	180	26	1
6	5497.9	4.6	175	26	0
7	5502.4	2.1	188	28	1
8	5496.3	4.2	208	27	1
9	5500.3	2.0	202	27	1
10	5508.7	3.2	199	26	1
11	5491.8	4.7	176	27	1
12	5506.3	2.7	169	23	1
13	5496.8	4.3	177	25	1
14	5491.0	1.2	150	26	1
15	5501.9	1.2	173	26	1
16	5495.0	3.5	155	28	1
17	5499.0	1.9	228	25	1
18	5507.7	4.4	212	24	1
19	5502.6	2.9	189	24	1
20	5492.7	3.5	157	26	1
21	5508.2	2.8	174	25	1
22	5505.6	3.6	189	29	1
23	5504.4	4.1	185	28	1
24	5491.3	4.3	179	28	1
25	5507.2	5.0	225	26	1
26	5509.0	4.3	182	27	1
27	5502.1	4.1	164	26	0
28	5505.4	2.1	225	24	1
29	5501.6	2.3	153	26	1
30	5493.6	4.9	192	26	0
Detection Percentage (%)					90%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5496.2	6.5	429	16	0
2	5499.7	9.2	480	18	1
3	5495.0	7.1	224	17	1
4	5501.3	7.1	491	16	1
5	5503.7	8.4	213	18	1
6	5497.9	8.8	262	16	1
7	5502.4	6.5	436	17	1
8	5496.3	9.9	273	18	1
9	5500.3	7.1	369	18	1
10	5508.7	7.8	254	17	1
11	5491.8	6.7	393	16	1
12	5506.3	8.4	305	18	1
13	5496.8	6.5	349	16	1
14	5491.0	9.7	454	18	1
15	5501.9	10.0	487	16	1
16	5495.0	9.4	247	17	0
17	5499.0	8.6	457	17	0
18	5507.7	8.9	255	16	1
19	5502.6	8.6	250	18	1
20	5492.7	6.4	444	17	1
21	5508.2	9.2	211	16	1
22	5505.6	8.6	304	16	1
23	5504.4	8.3	203	17	1
24	5491.3	6.3	230	17	1
25	5507.2	7.9	240	17	1
26	5509.0	6.7	245	18	1
27	5502.1	9.8	483	18	1
28	5505.4	9.1	411	16	0
29	5501.6	8.3	273	18	1
30	5493.6	7.8	241	16	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	5496.2	12.4	492	12	0
2	5499.7	15.4	401	16	1
3	5495.0	11.1	389	13	0
4	5501.3	17.2	440	15	1
5	5503.7	11.6	392	16	1
6	5497.9	19.7	389	14	1
7	5502.4	17.3	308	16	0
8	5496.3	12.3	479	14	1
9	5500.3	15.0	433	13	1
10	5508.7	16.1	432	14	1
11	5491.8	18.3	387	16	1
12	5506.3	17.0	365	15	1
13	5496.8	15.4	437	15	1
14	5491.0	19.7	203	13	1
15	5501.9	19.6	382	14	1
16	5495.0	17.0	411	14	1
17	5499.0	19.7	497	15	1
18	5507.7	15.9	284	12	1
19	5502.6	11.5	301	15	1
20	5492.7	11.1	432	15	1
21	5508.2	15.7	339	14	1
22	5505.6	13.1	341	15	1
23	5504.4	13.0	453	14	1
24	5491.3	11.6	474	13	1
25	5507.2	16.5	334	16	0
26	5509.0	12.3	370	13	1
27	5502.1	13.7	411	13	1
28	5505.4	11.2	306	15	0
29	5501.6	14.9	315	15	1
30	5493.6	13.8	210	16	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: $\frac{P_d1+P_d2+P_d3+P_d4}{4}$ = (93.3%+90%+86.7%+83.3%)/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	5500.0	1	16	5494.2	1
2	5500.0	0	17	5497.0	0
3	5500.0	1	18	5497.4	1
4	5500.0	1	19	5498.6	1
5	5500.0	1	20	5493.4	1
6	5500.0	1	21	5506.2	1
7	5500.0	1	22	5503.8	1
8	5500.0	1	23	5504.2	1
9	5500.0	1	24	5506.6	1
10	5500.0	1	25	5504.2	1
11	5493.4	1	26	5505.4	1
12	5494.6	1	27	5505.0	1
13	5493.8	1	28	5502.2	1
14	5498.2	1	29	5501.4	1
15	5497.0	1	30	5506.2	1
Detection Percentage (%)					93.3%

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	86.3	9	1962		417.835
2	2	63.4	9	1932		774.983
3	2	96.4	9	1911		648.726
4	2	78.8	9	1919		583.799
5	3	59.8	9	1355	1341	108.982
6	3	67.2	9	1279	1138	325.445
7	2	73.1	9	1901		397.148
8	1	74.3	9			121.302
9	1	63.6	9			558.105
10	2	52.5	9	1532		794.958
11	2	59	9	1168		363.021
12	1	90.5	9			22.254
13	2	77.9	9	1218		212.577

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	65.7	10			303.336
2	2	71.4	10	1017		111.429
3	3	62.7	10	1622	1674	635.967
4	1	63.6	10			37.72
5	2	79.4	10	1018		653.283
6	2	56.3	10	1556		210.807
7	1	51.8	10			275.51
8	1	57.6	10			407.593
9	2	89.1	10	1263		645.207
10	3	91.6	10	1830	1088	389.08
11	1	52.3	10			0.653
12	1	78.8	10			19.687
13	2	97.4	10	1433		154.77
14	2	53.7	10	1293		333.333
15	1	52.3	10			135.617
16	3	92.7	10	1555	1425	61.5
17	2	54.7	10	1230		98.333
18	1	92.9	10			378.067

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	72.3	18			331.06
2	2	68.6	18	1555		526.61
3	1	53.8	18			0.05
4	2	97.3	18	1112		729.99
5	2	60	18	1605		168.71
6	3	56.1	18	1740	1510	73.26
7	2	62.4	18	1393		530.26
8	2	64.8	18	1099		568
9	2	98	18	1874		283.53
10	2	59.1	18	1604		419.34
11	2	72.5	18	1768		356.97
12	1	68.6	18			252.87
13	3	90.2	18	1290	1690	183.81
14	3	56	18	1115	1750	532.6
15	3	92.5	18	1233	1851	544.1
16	2	51.2	18	1658		108.9

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	70.2	5	1387		107.808
2	2	56.2	5	1597		243.52
3	2	72.5	5	1367		788.47
4	2	74.2	5	1561		774.94
5	2	70.8	5	1046		451.86
6	2	79.2	5	1866		708.42
7	3	55.1	5	1494	1902	46.67
8	3	79.7	5	1776	1045	785.64
9	2	72.6	5	1040		655.43
10	2	96.9	5	1127		117.18
11	2	87.5	5	1944		172.05
12	2	51	5	1866		465.62
13	2	69.9	5	1823		2.48
14	1	87.8	5			110.7
15	2	68.3	5	1525		82.8

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	3	78.5	20	1905	1134	108.998
2	3	74.5	20	1015	1016	422.913
3	1	76.5	20			417.126
4	2	76.4	20	1842		752.559
5	2	78.2	20	1717		507.652
6	2	78.2	20	1727		563.525
7	3	70	20	1523	1253	400.818
8	2	98.8	20	1715		809.932
9	2	70.9	20	1364		509.125
10	1	76	20			731.478
11	3	90.5	20	1858	1923	512.941
12	2	62.1	20	1156		124.054
13	1	76	20			130.377

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	67.8	16	1353		785.446
2	1	77.1	16			130.43
3	2	95.1	16	1050		700.02
4	1	75.6	16			11.71
5	3	64.6	16	1809	1440	607.82
6	2	57.5	16	1764		183.59
7	2	89.3	16	1514		237.48
8	3	91.4	16	1144	1275	113.41
9	1	63.6	16			804.3
10	2	99.6	16	1220		251.55
11	3	54.8	16	1155	1643	729.5
12	1	61.4	16			31.8

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	83.4	12			586.754
2	3	74.8	12	1338	1459	74.141
3	2	83.2	12	1991		109.337
4	1	78.5	12			145.7
5	2	75.4	12	1486		612.283
6	3	52.6	12	1028	1096	575.337
7	2	67.2	12	1311		235.6
8	3	90.1	12	1532	1464	332.213
9	3	91.9	12	1962	1118	217.467
10	1	53.5	12			587.7
11	3	58.9	12	1722	1044	542.743
12	2	95	12	1163		659.157
13	2	94.1	12	1623		181.52
14	2	55.1	12	1091		635.653
15	2	98.8	12	1680		505.757
16	3	57.9	12	1928	1620	204.3
17	2	66.1	12	1768		644.533
18	2	67.4	12	1178		304.967

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	3	90.5	15	1336	1156	236.138
2	3	74	15	1221	1416	762.487
3	1	82.4	15			634.224
4	2	62.5	15	1689		508.181
5	2	53.9	15	1207		173.199
6	1	51.1	15			554.636
7	3	66.9	15	1636	1610	175.843
8	2	76.1	15	1304		408.16
9	3	81.4	15	1830	1840	466.647
10	2	92.3	15	1297		717.294
11	2	76.7	15	1201		755.901
12	2	71.1	15	1456		116.439
13	3	81.5	15	1476	1681	671.086
14	2	85.8	15	1806		350.843

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	71.3	13	1684		372.603
2	3	72.7	13	1535	1398	314.03
3	2	60	13	1245		404.31
4	1	80.2	13			672.38
5	1	58.2	13			83.61
6	1	56.1	13			1088.81
7	1	65.3	13			746.05
8	2	88.4	13	1340		126.28
9	3	58.5	13	1634	1361	535.7
10	3	83.7	13	1239	1548	515.7

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	67.6	9	1905		27.006
2	2	94.9	9	1160		916.02
3	2	51.4	9	1696		789.12
4	2	76.5	9	1366		225.15
5	3	58.7	9	1555	1946	597.83
6	3	59.6	9	1955	1718	916.52
7	3	100	9	1923	1005	751.45
8	1	91.9	9			578.77
9	2	59.2	9	1088		48.84
10	2	69.5	9	1248		696.5

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	66.8	6	1261	1927	192.539
2	1	87.9	6			397.057
3	2	51.6	6	1190		964.223
4	3	99.9	6	1368	1159	834.75
5	2	70.1	6	1042		244.157
6	2	80.4	6	1779		535.203
7	2	99.4	6	1299		376.54
8	1	98.9	6			1015.167
9	1	80.7	6			137.133

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	60.4	9			630.767
2	3	85.8	9	1597	1636	330.93
3	2	63.6	9	1898		502.87
4	2	85.2	9	1500		321.01
5	3	81.6	9	1467	1619	635.38
6	3	50.2	9	1342	1043	549.55
7	2	81.3	9	1310		349.08
8	3	56.8	9	1234	1865	345.71
9	2	71.3	9	1265		82.74
10	3	59.5	9	1248	1606	159.1
11	2	79.1	9	1439		607.88
12	3	63.3	9	1241	1877	288.06
13	2	54.6	9	1197		598.08
14	3	82.2	9	1607	1891	169.96
15	3	55.5	9	1477	1182	105.5
16	1	58.4	9			91.6

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	91.8	7			599.494
2	2	77.7	7	1012		736.303
3	2	96.2	7	1528		859.056
4	3	56.8	7	1228	1828	891.779
5	3	71.7	7	1151	1736	740.082
6	1	73.8	7			47.025
7	2	99	7	1624		529.398
8	2	91.6	7	1978		686.062
9	2	93.1	7	1950		362.375
10	1	87.2	7			281.588
11	3	93.3	7	1637	1126	334.871
12	3	73.3	7	1851	1239	221.654
13	1	88.7	7			502.977

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	57.2	18			893.63
2	3	73.9	18	1107	1079	809.863
3	2	84.2	18	1005		916.366
4	2	96.5	18	1390		470.179
5	2	62.1	18	1518		369.882
6	2	88.6	18	1981		779.765
7	3	82	18	1401	1601	11.938
8	1	57.4	18			604.162
9	3	92.9	18	1231	1529	162.565
10	2	89.5	18	1433		363.688
11	2	52.4	18	1011		71.671
12	2	65.1	18	1473		337.654
13	1	62.3	18			330.377

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	54.8	15	1343		625.463
2	3	57.9	15	1447	1671	152.537
3	3	65.8	15	1452	1732	464.704
4	2	61.2	15	1271		216.861
5	2	52.1	15	1642		282.349
6	3	88.5	15	1529	1346	110.556
7	1	74.8	15			321.143
8	3	69	15	1306	1957	368.9
9	1	95.9	15			547.837
10	1	83.9	15			97.414
11	2	79.5	15	1982		565.041
12	1	52.8	15			219.729
13	1	63.3	15			342.086
14	3	81.9	15	1594	1760	211.043

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	93.8	8	1782		679.91
2	3	54.5	8	1914	1077	618.13
3	2	99.9	8	1123		720.11
4	1	71.9	8			66.68
5	2	81.7	8	1548		94.06
6	1	86	8			823.74
7	2	79.7	8	1047		985.35
8	3	92.9	8	1345	1319	522.35
9	3	82.3	8	1736	1337	33.34
10	3	50.7	8	1903	1073	106.52
11	3	85.6	8	1021	1474	893.1
12	2	82.5	8	1220		18.1

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	65.3	15	1956		327.822
2	2	88.3	15	1455		299.1
3	3	93.6	15	1674	1744	340.83
4	1	96.9	15			506.28
5	1	94.6	15			331.02
6	1	76.6	15			737.18
7	2	90.1	15	1603		585.47
8	3	67.5	15	1479	1686	552.68
9	1	85.7	15			273.6
10	2	95.4	15	1663		539.27
11	1	89.3	15			612.81
12	2	96.4	15	1357		439.59
13	1	97.6	15			321.4
14	2	69	15	1875		533.2
15	1	54	15			289

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	88.1	16	1223		30.674
2	2	84.9	16	1237		259.397
3	2	61.4	16	1807		255.512
4	2	93.1	16	1350		385.483
5	2	64.8	16	1061		411.064
6	1	76.3	16			471.615
7	1	63.7	16			460.336
8	3	84.5	16	1433	1561	614.777
9	3	96.6	16	1151	1092	263.608
10	3	73.7	16	1247	1928	576.119
11	2	90.2	16	1461		59.391
12	3	84	16	1417	1983	556.472
13	3	95.2	16	1700	1994	412.813
14	2	86.4	16	1194		567.104
15	1	83.8	16			67.235
16	1	60.9	16			58.826
17	2	84.5	16	1014		284.337
18	2	99.1	16	1637		58.458
19	3	95.8	16	1596	1860	124.679

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	99.8	19			579.745
2	3	86.6	19	1756	1667	494.927
3	3	86.7	19	1023	1873	438.104
4	3	84.9	19	1881	1434	307.791
5	2	89.3	19	1848		172.159
6	1	92.4	19			46.926
7	2	78.9	19	1733		557.043
8	2	50	19	1245		213.5
9	2	52.3	19	1736		813.037
10	1	74.6	19			792.414
11	3	96.8	19	1610	1013	646.281
12	3	58.1	19	1355	1294	222.689
13	1	96	19			245.086
14	1	95.7	19			637.743

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	73.5	6	1128	1534	225.286
2	2	51.3	6	1081		304.72
3	1	81.6	6			272.2
4	1	93.5	6			446.41
5	3	51.1	6	1608	1642	234.98
6	2	95	6	1764		544.97
7	1	89.4	6			117.49
8	2	73.9	6	1384		328.34
9	1	78.5	6			473.95
10	3	91.1	6	1105	1141	358.65
11	2	60.4	6	1342		187.82
12	2	74.6	6	1107		341.95
13	1	85.6	6			44.71
14	3	71.4	6	1880	1392	134.49
15	2	87.5	6	1165		543.99
16	2	74.5	6	1832		444.06
17	2	95.2	6	1702		375.04
18	2	93.6	6	1440		56.4
19	3	52.1	6	1231	1753	214.3
20	1	64.1	6			561.3

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	3	60.1	7	1024	1488	468.285
2	2	88.6	7	1974		442.01
3	3	95.7	7	1408	1175	347.74
4	1	72.5	7			314.18
5	1	98.2	7			283.48
6	2	50.3	7	1630		72.71
7	3	68.5	7	1783	1070	305.82
8	3	99.3	7	1439	1910	136.76
9	3	50.3	7	1685	1895	88.69
10	2	97	7	1950		504.6
11	1	75.6	7			568.42
12	2	81.7	7	1564		634.58
13	2	51.5	7	1947		404.5
14	2	55.2	7	1747		390.4
15	2	81.9	7	1944		168.2

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	1	88	13			1431.77
2	3	53.5	13	1226	1889	856.18
3	1	66.2	13			1430.42
4	3	56.2	13	1256	1427	775.05
5	2	73.3	13	1664		980.84
6	2	55.7	13	1517		1384.4
7	1	98.8	13			1335.4
8	3	95.1	13	1699	1656	1189.6

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	94.1	12	1328	1466	254.879
2	2	83.1	12	1359		738.31
3	2	88.5	12	1967		849.32
4	1	57.2	12			1006.22
5	1	78.4	12			454.96
6	3	83.8	12	1040	1844	2.52
7	2	72.9	12	1019		938.45
8	3	64.5	12	1069	1076	445
9	3	88.1	12	1270	1550	389.39
10	2	67.6	12	1211		811.8

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	73.8	6	1221	1348	388.035
2	1	93.6	6			677.19
3	1	94	6			729.01
4	2	78	6	1273		465.85
5	1	73.5	6			718.52
6	2	70.2	6	1558		622.61
7	2	70.8	6	1242		470.21
8	2	92.4	6	1806		107.46
9	2	65.8	6	1972		699.79
10	2	87	6	1502		697.31
11	1	52.7	6			80.15
12	1	69	6			566.94
13	3	56.5	6	1879	1742	377.18
14	2	95.5	6	1781		215.8
15	3	99.6	6	1219	1054	469.6

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	1	83.3	12			460.49
2	2	66	12	1992		712.29
3	2	83	12	1859		848.1
4	2	92.2	12	1614		270.02
5	1	89.2	12			252.26
6	2	64.3	12	1450		452.73
7	1	98.8	12			783.48
8	2	69.4	12	1258		659.05
9	3	90.9	12	1236	1228	331.5
10	2	58.6	12	1881		24.71
11	2	60.7	12	1257		99.2
12	2	72.7	12	1776		344.3

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	86.4	9			219.426
2	1	69.4	9			264.397
3	2	51.2	9	1249		1291.693
4	1	83.5	9			27.3
5	1	67.3	9			589.047
6	2	88.8	9	1132		474.903
7	3	72	9	1934	1662	622.18
8	1	80.4	9			956.167
9	2	65.2	9	1426		968.933

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	96.8	10			150.15
2	3	79.6	10	1636	1331	1349.28
3	1	88	10			592.32
4	3	97.3	10	1659	1181	1292.49
5	2	79.9	10	1485		613.14
6	3	72.3	10	1219	1014	374.16
7	3	83.8	10	1139	1085	1155.7
8	3	88.2	10	1427	1221	926.2

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	2	77.1	17	1327		256.494
2	2	74.1	17	1742		458.011
3	3	90.9	17	1464	1847	165.522
4	3	84.2	17	1527	1569	488.363
5	3	57.2	17	1156	1378	107.924
6	3	66.6	17	1826	1834	447.895
7	3	85.7	17	1786	1155	430.496
8	2	93.1	17	1586		380.747
9	2	86.5	17	1139		371.088
10	1	95.9	17			576.989
11	2	50.4	17	1502		607.021
12	3	81.1	17	1217	1196	505.942
13	2	91.3	17	1815		116.583
14	2	53	17	1765		176.574
15	1	86.3	17			108.085
16	1	52.6	17			220.786
17	2	61.5	17	1424		479.937
18	1	70.2	17			499.858
19	1	50.6	17			316.179

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	93.9	19			200.012
2	2	66.5	19	1898		565.521
3	1	76.2	19			987.842
4	2	89.1	19	1916		9.893
5	2	67.6	19	1041		791.844
6	1	70.8	19			278.095
7	2	56.5	19	1103		295.065
8	2	85.5	19	1430		132.146
9	2	68.2	19	1963		687.287
10	2	58	19	1415		862.918
11	2	95.1	19	1749		506.509

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	91.9	7	1508	1169	1049.03
2	2	94.4	7	1177		959.527
3	2	59.2	7	1736		1306.883
4	3	51.7	7	1076	1715	989.78
5	2	68.6	7	1305		971.037
6	1	55	7			498.643
7	2	97.3	7	1115		624.56
8	1	85.6	7			1026.467
9	2	88.6	7	1046		459.133

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	0	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	0
13	1	28	1
14	1	29	1
15	1	30	1
Detection Percentage (%)			93.3%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5500	21	14	5505	42
56	5509	168	47	5503	141
69	5501	207	56	5502	168
88	5504	264	57	5492	171
--	--	--	78	5510	234

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5491	36	21	5499	63
17	5509	51	33	5508	99
27	5499	81	46	5495	138
51	5500	153	50	5497	150
61	5496	183	88	5493	264
--	--	--	98	5509	294

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
23	5491	69	58	5491	174
28	5499	84	60	5490	180
96	5503	288	73	5497	219

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5492	9	14	5490	42
59	5506	177	51	5503	153
73	5505	219	80	5496	240
76	5496	228	--	--	--
84	5510	252	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
14	5507	42	3	5490	9
40	5504	120	8	5500	24
67	5502	201	47	5509	141
76	5498	228	55	5493	165
--	--	--	61	5496	183
--	--	--	63	5498	189

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5500	27	1	5504	3
29	5491	87	15	5510	45
31	5502	93	17	5490	51
36	5503	108	27	5495	81
43	5509	129	35	5497	105
52	5501	156	36	5506	108
67	5507	201	37	5502	111
97	5508	291	39	5494	117
--	--	--	47	5501	141
--	--	--	48	5491	144
--	--	--	60	5493	180

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5505	27	6	5505	18
28	5492	84	14	5496	42
57	5510	171	15	5500	45
60	5496	180	30	5503	90
82	5500	246	44	5494	132
--	--	--	50	5508	150

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5506	12	26	5500	78
45	5491	135	43	5509	129
76	5507	228	49	5502	147
85	5509	255	84	5503	252

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5499	15	17	5493	51
19	5496	57	30	5510	90
23	5491	69	95	5507	285
94	5504	282	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
24	5504	72	6	5498	18
72	5500	216	27	5501	81
--	--	--	42	5490	126
--	--	--	50	5508	150
--	--	--	59	5506	177
--	--	--	69	5503	207
--	--	--	100	5495	300

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5508	9	14	5499	42
--	--	--	87	5507	261
--	--	--	95	5503	285

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
74	5499	222	13	5509	39
98	5490	294	53	5499	159
--	--	--	57	5502	171
--	--	--	71	5498	213
--	--	--	82	5491	246
--	--	--	84	5505	252

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
21	5498	63	3	5492	9
24	5510	72	9	5506	27
48	5508	144	14	5501	42
50	5495	150	39	5494	117
76	5497	228	54	5502	162
78	5502	234	58	5497	174
--	--	--	91	5498	273

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
19	5494	57	40	5496	120
83	5493	249	44	5493	132
--	--	--	64	5509	192
--	--	--	95	5510	285

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5504	36	45	5501	135
24	5497	72	71	5496	213
88	5507	264	83	5495	249
91	5490	273	84	5490	252
--	--	--	92	5500	276

Product	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Radar Statistical Performance Check (802.11ac-VHT40 mode - 5510MHz)		
Test Mode	AP mode		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5511.0	1.0	618	86	1
2	5501.3	1.0	538	98	0
3	5525.4	1.0	858	62	1
4	5501.1	1.0	518	102	1
5	5514.9	1.0	818	65	1
6	5512.8	1.0	918	58	1
7	5509.1	1.0	638	83	1
8	5513.9	1.0	618	86	1
9	5521.8	1.0	918	58	1
10	5498.9	1.0	878	61	1
11	5495.2	1.0	858	62	1
12	5501.2	1.0	918	58	1
13	5495.9	1.0	698	76	1
14	5518.6	1.0	838	63	1
15	5498.9	1.0	718	74	1
16	5499.7	1.0	558	95	1
17	5527.3	1.0	738	72	1
18	5505.0	1.0	938	57	1
19	5522.3	1.0	598	89	1
20	5519.8	1.0	698	76	1
21	5512.7	1.0	578	92	1
22	5528.6	1.0	938	57	1
23	5525.0	1.0	558	95	1
24	5526.1	1.0	678	78	1
25	5503.8	1.0	558	95	1
26	5526.7	1.0	538	98	1
27	5492.6	1.0	598	89	1
28	5517.0	1.0	718	74	1
29	5504.5	1.0	678	78	1

30	5518.5	1.0	838	63	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	5511.0	4.4	155	26	1
2	5501.3	2.8	208	24	1
3	5525.4	2.0	185	24	1
4	5501.1	4.4	168	28	1
5	5514.9	4.9	169	28	1
6	5512.8	4.2	183	27	1
7	5509.1	4.0	160	24	1
8	5513.9	3.2	188	26	0
9	5521.8	4.5	212	28	0
10	5498.9	1.2	207	27	1
11	5495.2	2.6	184	29	1
12	5501.2	2.4	171	24	1
13	5495.9	1.8	214	27	1
14	5518.6	4.0	207	29	1
15	5498.9	4.1	200	26	1
16	5499.7	2.6	201	25	1
17	5527.3	3.0	212	25	1
18	5505.0	3.3	194	27	1
19	5522.3	4.1	207	27	1
20	5519.8	2.3	194	25	1
21	5512.7	1.3	203	24	1
22	5528.6	2.1	227	26	1
23	5525.0	4.9	221	28	1
24	5526.1	4.8	180	25	1
25	5503.8	2.4	219	27	1
26	5526.7	4.3	225	28	1
27	5492.6	3.3	175	27	1
28	5517.0	3.8	182	28	1
29	5504.5	3.4	172	26	1
30	5518.5	2.6	161	26	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	5511.0	6.1	325	17	1
2	5501.3	8.3	358	17	1
3	5525.4	9.8	235	17	0
4	5501.1	8.5	434	18	1
5	5514.9	6.9	266	17	1
6	5512.8	7.2	380	17	1
7	5509.1	6.8	392	17	1
8	5513.9	7.2	455	18	1
9	5521.8	8.1	372	18	1
10	5498.9	6.8	420	17	1
11	5495.2	6.9	256	17	1
12	5501.2	6.7	204	17	1
13	5495.9	7.1	443	17	1
14	5518.6	7.8	318	18	1
15	5498.9	8.6	219	18	1
16	5499.7	8.0	500	16	1
17	5527.3	8.6	247	17	1
18	5505.0	7.5	285	18	1
19	5522.3	8.3	260	18	1
20	5519.8	9.9	261	16	1
21	5512.7	7.8	200	16	1
22	5528.6	6.1	297	17	1
23	5525.0	7.4	397	17	0
24	5526.1	8.2	289	16	1
25	5503.8	7.2	204	17	1
26	5526.7	6.7	262	17	1
27	5492.6	7.2	425	18	1
28	5517.0	8.6	280	17	1
29	5504.5	9.3	251	17	0
30	5518.5	8.0	423	16	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	5511.0	13.3	297	15	1
2	5501.3	18.9	499	13	1
3	5525.4	12.8	488	13	1
4	5501.1	15.9	217	12	1
5	5514.9	18.4	265	13	1
6	5512.8	13.1	331	13	0
7	5509.1	14.6	481	16	1
8	5513.9	17.3	273	14	1
9	5521.8	16.7	209	12	1
10	5498.9	15.4	419	14	1
11	5495.2	11.7	441	13	1
12	5501.2	13.3	487	13	1
13	5495.9	18.4	349	14	1
14	5518.6	19.8	276	15	1
15	5498.9	11.8	289	16	1
16	5499.7	16.9	397	15	0
17	5527.3	15.4	241	15	0
18	5505.0	11.6	256	16	1
19	5522.3	14.4	294	12	1
20	5519.8	19.1	441	13	1
21	5512.7	14.9	408	14	1
22	5528.6	12.4	479	15	1
23	5525.0	19.1	279	14	1
24	5526.1	11.9	282	15	1
25	5503.8	11.0	275	13	1
26	5526.7	19.0	372	15	1
27	5492.6	12.7	362	15	1
28	5517.0	16.3	451	13	1
29	5504.5	15.0	484	14	1
30	5518.5	15.3	329	15	1
Detection Percentage (%)					90%

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%+93.3%+90%+90%)/4 = 92.5% (>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	5510.0	1	16	5497.0	1
2	5510.0	1	17	5498.2	1
3	5510.0	1	18	5495.8	1
4	5510.0	1	19	5496.2	1
5	5510.0	1	20	5499.0	1
6	5510.0	1	21	5525.8	1
7	5510.0	1	22	5523.0	1
8	5510.0	1	23	5526.2	1
9	5510.0	1	24	5524.2	1
10	5510.0	1	25	5526.2	1
11	5496.6	1	26	5526.2	1
12	5496.2	1	27	5525.0	1
13	5498.6	1	28	5523.4	1
14	5497.0	1	29	5526.2	1
15	5495.8	1	30	5521.8	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	2	89.6	17	1860		347.994
2	2	74.9	17	1045		442.531
3	2	95.5	17	1539		640.642
4	2	53.5	17	1113		474.843
5	2	57	17	1277		564.364
6	2	91.7	17	1270		767.645
7	2	52.6	17	1613		746.535
8	1	87.8	17			891.786
9	2	79.1	17	1251		155.627
10	2	52	17	1863		521.918
11	2	53.1	17	1086		1019.309

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	61.3	9	1351		247.191
2	2	78.8	9	1178		107.733
3	3	51.3	9	1470	1866	235.926
4	3	96.5	9	1776	1160	715.609
5	1	92.7	9			449.262
6	1	77.1	9			688.635
7	2	71.9	9	1566		92.128
8	3	64.2	9	1161	1243	579.472
9	2	81.7	9	1209		653.655
10	2	51.4	9	1145		611.848
11	1	57.8	9			734.971
12	1	60.7	9			103.754
13	2	59.6	9	1272		490.477

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	2	74.2	7	1129		21.399
2	2	77.1	7	1356		616.871
3	3	81.5	7	1006	1345	27.502
4	2	53.1	7	1634		60.573
5	2	61.1	7	1687		366.354
6	2	68.2	7	1535		608.245
7	2	76.5	7	1591		516.186
8	3	54.8	7	1495	1623	581.267
9	2	98.6	7	1852		167.618
10	1	92.8	7			166.069
11	2	80.1	7	1946		521.101
12	2	83.6	7	1321		368.182
13	3	83.6	7	1453	1759	140.633
14	2	93.6	7	1943		97.064
15	2	94.1	7	1839		239.115
16	2	77.4	7	1979		241.276
17	2	65.8	7	1303		14.937
18	2	74.8	7	1099		537.158
19	2	57.5	7	1071		107.079

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	65.3	5	1494		45.014
2	2	79.5	5	1574		260.594
3	1	50.3	5			403.222
4	3	89.6	5	1042	1164	139.493
5	3	59.2	5	1992	1236	509.254
6	2	85.3	5	1710		32.305
7	2	50.3	5	1041		62.426
8	2	64.2	5	1130		204.777
9	3	67.8	5	1269	1384	474.428
10	2	90.9	5	1823		21.879
11	2	52.6	5	1556		571.271
12	3	64.1	5	1921	1954	209.482
13	3	63.3	5	1675	1864	101.193
14	1	99	5			438.274
15	2	90.2	5	1743		564.905
16	3	97	5	1929	1541	464.156
17	1	69.1	5			6.937
18	1	67.7	5			398.258
19	2	78.4	5	1022		246.379

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	84.6	14	1237	1177	228.295
2	2	64.6	14	1822		69.083
3	2	67.5	14	1322		303.485
4	1	53.6	14			237.423
5	2	96.8	14	1073		69.571
6	2	51.2	14	1009		40.598
7	2	61.4	14	1064		471.506
8	2	77.7	14	1336		421.124
9	2	63.4	14	1930		435.661
10	2	98.1	14	1671		584.479
11	2	75	14	1150		62.656
12	1	53.6	14			361.644
13	3	54	14	1677	1967	159.662
14	2	78.4	14	1484		119.969
15	3	50.6	14	1916	1826	487.047
16	1	81.9	14			375.065
17	3	82	14	1162	1157	400.282

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	56.1	6	1482	1935	23.754
2	2	69.8	6	1910		177.57
3	2	67.2	6	1013		487.19
4	2	65.6	6	1447		215.32
5	2	97.2	6	1449		190.88
6	2	70.4	6	1830		726.34
7	2	83.9	6	1062		50.46
8	1	89.8	6			52.67
9	1	70.2	6			1143.8
10	2	77.2	6	1785		549.4

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	88.2	17	1870		561.581
2	2	68.2	17	1399		513.81
3	2	62.1	17	1772		300.25
4	2	86.1	17	1724		419.95
5	2	68.8	17	1235		172.9
6	2	78.9	17	1512		445.41
7	1	71.8	17			691.34
8	2	76.5	17	1909		199.64
9	2	87	17	1763		185.33
10	1	71.4	17			545.81
11	1	75.4	17			45.74
12	2	87.5	17	1839		615.62
13	3	50.2	17	1857	1577	302.5
14	1	69.8	17			364
15	1	71.3	17			373.7

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	3	52.4	14	1962	1737	78.857
2	2	86	14	1860		675.447
3	1	82	14			545.493
4	3	85.1	14	1840	1574	1108.17
5	3	82.3	14	1433	1140	419.727
6	1	74.1	14			454.503
7	3	67.1	14	1955	1803	297.72
8	2	53.6	14	1332		219.327
9	3	55	14	1828	1302	314.933

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	77.4	8	1337		303.744
2	2	60.5	8	1592		424.457
3	2	93.7	8	1998		139.694
4	2	68.6	8	1912		36.851
5	2	51.3	8	1148		381.269
6	1	90.9	8			530.976
7	3	65.9	8	1298	1703	651.653
8	1	88.8	8			833.23
9	2	61.7	8	1402		75.537
10	1	73.6	8			28.204
11	1	52	8			234.651
12	3	83.7	8	1152	1557	737.029
13	2	60.5	8	1095		243.486
14	2	82.2	8	1517		352.343

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	60.5	19	1817		623.082
2	2	82.4	19	1802		375.398
3	2	56.4	19	1585		543.365
4	2	55.4	19	1999		150.073
5	1	83.5	19			285.271
6	2	98.5	19	1759		10.878
7	2	87.7	19	1144		48.466
8	1	62.5	19			78.774
9	2	92.9	19	1548		310.641
10	3	79	19	1941	1104	332.069
11	2	67.7	19	1491		80.636
12	1	69.6	19			365.644
13	2	63.7	19	1597		349.262
14	3	82.7	19	1570	1333	396.909
15	1	94.3	19			636.547
16	2	62.5	19	1879		30.065
17	2	82	19	1909		401.182

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	75.5	14			507.105
2	2	76.3	14	1631		605.973
3	3	70.7	14	1316	1555	562.627
4	2	60.6	14	1259		306.39
5	2	96.6	14	1344		178.723
6	1	54.6	14			174.897
7	2	58.3	14	1591		28.74
8	2	71.7	14	1882		198.393
9	2	71.7	14	1611		161.957
10	2	50.2	14	1261		242.6
11	2	98.1	14	1523		498.173
12	2	68	14	1792		395.717
13	2	77.9	14	1240		79.36
14	1	59.6	14			232.123
15	1	89.7	14			543.247
16	1	95.5	14			316.2
17	3	82.5	14	1785	1708	572.633
18	2	61.9	14	1105		46.167

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	2	64.5	13	1994		641.453
2	2	59.6	13	1503		342.297
3	2	60.6	13	1353		613.364
4	2	61.7	13	1706		540.741
5	3	65.8	13	1691	1108	572.419
6	3	62.5	13	1939	1583	757.156
7	3	65.3	13	1381	1452	539.143
8	3	81.2	13	1454	1984	357.5
9	2	78.9	13	1065		811.047
10	2	96.1	13	1789		322.924
11	2	82.8	13	1956		28.261
12	2	83.1	13	1318		843.229
13	1	92.8	13			805.586
14	3	68	13	1708	1175	708.943

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	89.4	19			502.518
2	2	93.4	19	1567		820.833
3	3	54.8	19	1331	1144	800.046
4	2	77.7	19	1885		909.119
5	2	58.6	19	1697		305.242
6	1	66.2	19			55.695
7	3	68	19	1316	1578	733.728
8	3	99.5	19	1866	1405	70.652
9	2	68.1	19	1375		466.995
10	3	69.9	19	1159	1699	579.838
11	2	91.9	19	1143		175.481
12	2	57.8	19	1717		292.554
13	1	51.9	19			469.277

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	91.5	15	1966		599.399
2	2	75.5	15	1831		253.43
3	2	65	15	1051		70.95
4	2	95.6	15	1071		173.53
5	3	73.9	15	1785	1210	687.87
6	3	59.2	15	1582	1681	348.73
7	1	74.1	15			431.22
8	2	92.7	15	1088		662.62
9	3	82.1	15	1363	1059	333.98
10	3	72.7	15	1486	1548	263.39
11	2	63.2	15	1382		563.45
12	2	55	15	1515		297.83
13	2	94	15	1163		311.58
14	1	65.4	15			359.9
15	2	54.4	15	1731		668.1

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	98.7	12	1492	1930	412.494
2	2	83.6	12	1324		347.42
3	2	83.3	12	1263		77.23
4	1	63.3	12			507.87
5	1	88.7	12			359.87
6	3	52.9	12	1892	1829	334.97
7	3	96.4	12	1479	1030	614.17
8	3	90.3	12	1396	1196	102.78
9	1	54.8	12			648.69
10	2	72.1	12	1392		651.77
11	2	88.1	12	1107		380.99
12	3	91.8	12	1880	1575	400.19
13	2	58.8	12	1562		35.77
14	2	83.1	12	1876		231.54
15	2	70.3	12	1416		508.2
16	2	73.9	12	1190		247.6

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	90.2	15	1553	1157	817.034
2	1	98.4	15			387.24
3	3	69.9	15	1717	1656	444.63
4	2	93.3	15	1608		211.59
5	2	97.3	15	1474		1117.16
6	2	71.5	15	1136		1019.79
7	2	59.8	15	1855		101.44
8	2	54.2	15	1158		108.22
9	2	65.3	15	1685		898.4
10	1	95.3	15			179.7

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	91	18	1077	1159	150.662
2	2	84.4	18	1519		369.633
3	2	73.2	18	1862		515.837
4	2	79.1	18	1252		624.64
5	2	88.5	18	1541		59.593
6	3	67.6	18	1595	1258	343.457
7	1	97.9	18			117.26
8	3	67.3	18	1669	1865	626.883
9	2	56.1	18	1737		348.777
10	2	64.2	18	1268		404.35
11	3	65.1	18	1337	1966	295.193
12	2	82.1	18	1775		347.477
13	1	58.7	18			369.3
14	2	75.7	18	1235		617.733
15	1	52.6	18			537.367
16	3	94.6	18	1514	1051	562.5
17	2	66.1	18	1896		578.033
18	3	86.8	18	1689	1569	176.767

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	3	77.5	12	1487	1774	699.053
2	1	84.1	12			257.257
3	2	58.6	12	1646		1190.453
4	1	70	12			962.47
5	2	51.9	12	1176		633.667
6	1	92.2	12			950.763
7	1	99.9	12			640.68
8	2	85.9	12	1795		1236.567
9	1	74.5	12			988.833

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	64.1	13	1821		578.236
2	3	75.6	13	1139	1186	14.331
3	2	89.4	13	1764		738.806
4	1	56.9	13			617.249
5	3	57.5	13	1663	1934	155.882
6	2	86.8	13	1951		384.435
7	2	91.7	13	1197		376.208
8	3	55.3	13	1650	1019	142.332
9	1	63.2	13			507.345
10	2	58.4	13	1624		138.528
11	2	69.9	13	1877		805.931
12	1	89.4	13			852.454
13	2	70.6	13	1861		201.577

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	87.7	20			661.415
2	2	94.3	20	1371		654.591
3	1	86.6	20			594.072
4	2	59.7	20	1274		756.413
5	2	71.9	20	1219		273.244
6	2	73.7	20	1554		761.195
7	2	71.8	20	1758		1021.995
8	2	59.8	20	1690		803.666
9	2	66.9	20	1206		83.077
10	1	93.9	20			100.838
11	1	59.8	20			334.509

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	63	8	1604		351.163
2	2	59.3	8	1649		303.778
3	3	61.4	8	1565	1699	110.335
4	1	73	8			24.553
5	2	89.6	8	1223		32.471
6	1	58.9	8			615.648
7	2	50.2	8	1734		102.366
8	1	83.7	8			609.764
9	2	99.9	8	1144		550.851
10	1	60	8			42.599
11	2	82.6	8	1737		13.506
12	2	81.2	8	1737		448.024
13	1	80.7	8			231.012
14	3	81.8	8	1603	1097	474.669
15	1	88.5	8			104.637
16	1	87.9	8			618.765
17	2	58.3	8	1203		94.582

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	66.5	15			143.523
2	2	86.8	15	1457		284.611
3	2	96.3	15	1933		717.732
4	2	68	15	1924		27.423
5	2	77.5	15	1101		550.534
6	2	94.2	15	1077		1005.105
7	1	63	15			30.325
8	3	90.8	15	1482	1578	437.556
9	3	59	15	1720	1567	90.667
10	2	76	15	1174		940.218
11	2	97.7	15	1001		76.309

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	98.2	7	1147		157.504
2	2	78.8	7	1315		6.541
3	1	97.3	7			511.347
4	3	61.6	7	1150	1768	300.21
5	2	69.2	7	1946		40.593
6	1	75.4	7			348.727
7	2	50.2	7	1492		272.88
8	3	79.2	7	1927	1170	4.323
9	2	63.1	7	1134		194.607
10	3	50.7	7	1758	1182	248.17
11	2	58.6	7	1264		542.323
12	3	86.3	7	1394	1838	17.787
13	1	84.7	7			519.01
14	1	82.7	7			450.383
15	3	81.4	7	1144	1676	568.537
16	2	83.6	7	1141		272.8
17	2	97.6	7	1361		581.633
18	3	56.4	7	1705	1201	159.467

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	94.6	12	1382		290.409
2	2	86.7	12	1902		662.39
3	1	63.4	12			652.96
4	1	93.5	12			299.69
5	2	84.2	12	1057		253.79
6	2	80.4	12	1885		597.59
7	1	55.7	12			593.14
8	2	95.7	12	1101		734.23
9	1	56.8	12			777.17
10	2	80.5	12	1226		67.08
11	1	74.7	12			334.24
12	1	94.7	12			532.36
13	2	60.7	12	1085		203.25
14	3	89.4	12	1831	1392	474.7
15	3	62.7	12	1082	1572	161.2

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	52.2	7	1249		84.855
2	2	97.8	7	1383		698.65
3	2	71.5	7	1375		176.54
4	2	60.9	7	1532		603.2
5	2	79.5	7	1612		342.57
6	2	73.1	7	1769		203.17
7	1	71.1	7			425.13
8	1	69.2	7			297.6
9	1	96	7			92.65
10	3	58.9	7	1042	1130	14.17
11	3	66.7	7	1682	1416	639.97
12	2	57.1	7	1466		618.27
13	2	56.2	7	1359		143.12
14	2	75.2	7	1060		312.3
15	2	75.6	7	1493		518.7
16	2	52.4	7	1832		621.4

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	67.5	7	1132		313.869
2	2	90.9	7	1407		543.96
3	2	72.9	7	1405		1095.17
4	3	77.7	7	1401	1087	701.02
5	3	77.3	7	1069	1740	480.45
6	2	69.3	7	1828		279.02
7	3	75	7	1074	1568	456.26
8	2	86.6	7	1258		912.28
9	2	94.1	7	1534		75.58
10	2	54.6	7	1137		46.3

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	3	63.1	10	1496	1455	696.733
2	3	63.1	10	1057	1722	368.96
3	2	95.3	10	1971		76.09
4	1	67.3	10			608.23
5	2	77.6	10	1963		669.44
6	2	75.7	10	1192		353.25
7	1	70.8	10			769.76
8	1	96.3	10			694.35
9	1	52.7	10			389.38
10	2	72	10	1702		510.66
11	3	83.4	10	1623	1261	10.73
12	1	94.9	10			428.94
13	2	52.2	10	1219		94.3
14	2	77.3	10	1326		153.1
15	2	88.1	10	1923		734.3

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	69.4	14			582.96
2	2	65.8	14	1289		633.6
3	3	93.4	14	1082	1630	632.28
4	1	95.1	14			122.99
5	2	73.3	14	1971		276.24
6	1	92.1	14			460.78
7	1	86.9	14			536.81
8	2	73.6	14	1740		271.3
9	1	85.3	14			233.61
10	2	70.9	14	1271		445.23
11	2	60	14	1230		604.8
12	2	89.3	14	1668		720.53
13	3	50.8	14	1714	1195	302.08
14	1	61.3	14			230.33
15	2	95.3	14	1169		582.8
16	3	56.8	14	1590	1307	42.2

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	68.2	7	1746		482.016
2	3	76.2	7	1206	1455	169.288
3	2	94.1	7	1400		119.717
4	1	76.6	7			510.81
5	1	52	7			352.523
6	3	61	7	1759	1519	460.797
7	2	60.6	7	1315		507.09
8	1	58.2	7			211.663
9	1	77.8	7			439.267
10	2	98.1	7	1701		358.17
11	2	70.2	7	1263		192.793
12	2	50.6	7	1850		618.917
13	1	53.6	7			145.16
14	2	58.9	7	1921		163.873
15	2	58.8	7	1494		99.467
16	2	97.5	7	1846		309.3
17	3	72.2	7	1774	1006	554.333
18	2	67.7	7	1288		588.967

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	93.3	18			163.423
2	2	99.9	18	1820		451.823
3	2	70.7	18	1470		851.606
4	1	84.6	18			378.299
5	2	81.2	18	1806		856.492
6	3	84.2	18	1256	1988	174.595
7	2	54.8	18	1584		687.008
8	2	78.2	18	1334		822.142
9	1	64	18			35.915
10	1	66.5	18			841.028
11	3	81.2	18	1662	1620	359.731
12	2	68.9	18	1094		179.054
13	2	82	18	1512		205.477

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	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	0
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)
5	5493	15	14	5496	42
39	5506	117	15	5519	45
48	5502	144	36	5524	108
64	5498	192	48	5517	144
91	5523	273	75	5518	225
92	5491	276	93	5492	279
99	5496	297	95	5504	285

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
24	5514	72	21	5526	63
26	5504	78	29	5523	87
27	5521	81	42	5514	126
33	5492	99	50	5511	150
46	5528	138	53	5498	159
65	5503	195	55	5495	165
70	5509	210	56	5491	168
73	5498	219	95	5502	285
84	5523	252	--	--	--

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
29	5515	87	23	5504	69
57	5511	171	30	5507	90
60	5514	180	31	5490	93
67	5520	201	36	5513	108
74	5522	222	42	5527	126
76	5490	228	46	5521	138
85	5525	255	51	5522	153
--	--	--	63	5496	189
--	--	--	67	5497	201
--	--	--	70	5528	210
--	--	--	90	5520	270

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
20	5516	60	11	5502	33
23	5517	69	17	5492	51
49	5508	147	32	5520	96
51	5490	153	42	5525	126
59	5526	177	54	5513	162
69	5494	207	97	5490	291
86	5499	258	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
16	5496	48	23	5527	69
21	5522	63	30	5524	90
30	5500	90	33	5509	99
34	5494	102	40	5521	120
53	5497	159	54	5528	162
60	5525	180	58	5511	174
--	--	--	65	5517	195
--	--	--	67	5508	201
--	--	--	73	5503	219
--	--	--	91	5496	273
--	--	--	95	5502	285
--	--	--	96	5490	288

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5497	24	6	5529	18
27	5499	81	25	5514	75
49	5496	147	37	5515	111
53	5516	159	40	5526	120
75	5524	225	63	5520	189
76	5508	228	69	5493	207
89	5527	267	71	5519	213
--	--	--	82	5512	246
--	--	--	83	5516	249

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5496	24	5	5494	15
11	5518	33	7	5491	21
14	5511	42	10	5530	30
16	5513	48	34	5500	102
39	5506	117	47	5498	141
63	5503	189	58	5504	174
68	5490	204	63	5526	189
78	5517	234	66	5497	198
--	--	--	92	5496	276

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5500	30	1	5501	3
14	5495	42	31	5509	93
27	5516	81	34	5512	102
47	5522	141	41	5496	123
57	5515	171	44	5524	132
66	5499	198	51	5520	153
79	5511	237	62	5521	186
96	5529	288	67	5502	201
--	--	--	70	5504	210

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
16	5530	48	7	5498	21
19	5522	57	18	5493	54
29	5527	87	19	5509	57
33	5523	99	28	5503	84
50	5512	150	29	5513	87
52	5516	156	37	5506	111
82	5500	246	40	5519	120
93	5496	279	47	5526	141
94	5528	282	60	5514	180
--	--	--	84	5500	252
--	--	--	91	5522	273
--	--	--	97	5502	291

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5529	36	7	5521	21
39	5506	117	12	5496	36
43	5496	129	44	5516	132
60	5498	180	45	5526	135
63	5514	189	60	5492	180
70	5502	210	62	5505	186
80	5517	240	94	5515	282
--	--	--	95	5524	285

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
27	5522	81	9	5505	27
50	5496	150	19	5511	57
57	5492	171	25	5518	75
67	5523	201	56	5522	168
94	5499	282	81	5510	243
--	--	--	92	5528	276
--	--	--	93	5493	279

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
11	5491	33	58	5518	174
38	5503	114	79	5493	237
39	5496	117	83	5527	249
43	5494	129	--	--	--
47	5517	141	--	--	--
49	5490	147	--	--	--
57	5523	171	--	--	--
60	5514	180	--	--	--
92	5497	276	--	--	--
98	5499	294	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
27	5517	81	22	5521	66
36	5515	108	33	5529	99
40	5513	120	41	5492	123
71	5520	213	47	5496	141
72	5499	216	52	5525	156
74	5494	222	62	5512	186
77	5507	231	65	5500	195
89	5503	267	72	5491	216
91	5527	273	78	5517	234
92	5525	276	99	5528	297
94	5508	282	--	--	--

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5500	6	16	5502	48
4	5517	12	18	5496	54
29	5499	87	25	5523	75
31	5515	93	30	5503	90
54	5518	162	33	5491	99
62	5493	186	61	5513	183
--	--	--	70	5512	210
--	--	--	75	5520	225
--	--	--	79	5514	237
--	--	--	86	5505	258
--	--	--	89	5511	267
--	--	--	94	5506	282
--	--	--	98	5515	294

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5527	15	11	5500	33
11	5509	33	22	5514	66
13	5501	39	25	5511	75
16	5528	48	28	5518	84
23	5523	69	42	5507	126
26	5498	78	46	5523	138
27	5518	81	55	5498	165
48	5511	144	63	5503	189
51	5491	153	66	5490	198
58	5500	174	98	5512	294
62	5520	186	--	--	--
67	5513	201	--	--	--
69	5499	207	--	--	--
80	5521	240	--	--	--
83	5506	249	--	--	--

Product	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/09/22
Test Item	Radar Statistical Performance Check (802.11ac-VHT80 mode – 5530MHz)		
Test Mode	AP mode		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5531.8	1.0	518	102	1
2	5541.3	1.0	698	76	1
3	5526.3	1.0	898	59	1
4	5497.5	1.0	778	68	1
5	5492.0	1.0	718	74	1
6	5513.0	1.0	918	58	0
7	5501.5	1.0	818	65	1
8	5519.1	1.0	918	58	1
9	5526.3	1.0	918	58	1
10	5550.5	1.0	638	83	1
11	5494.1	1.0	618	86	1
12	5531.9	1.0	938	57	1
13	5534.7	1.0	638	83	1
14	5534.6	1.0	858	62	1
15	5537.6	1.0	678	78	1
16	5550.7	1.0	858	62	1
17	5511.8	1.0	518	102	1
18	5566.6	1.0	738	72	1
19	5508.4	1.0	938	57	1
20	5530.2	1.0	618	86	1
21	5517.8	1.0	598	89	1
22	5540.5	1.0	738	72	1
23	5506.5	1.0	758	70	1
24	5551.8	1.0	578	92	1
25	5506.6	1.0	638	83	0
26	5551.8	1.0	3066	18	1
27	5552.8	1.0	678	78	1
28	5534.1	1.0	778	68	1
29	5536.8	1.0	638	83	1

30	5541.3	1.0	538	98	1
Detection Percentage (%)					93.3%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5531.8	1.1	224	24	1
2	5541.3	2.0	160	27	1
3	5526.3	4.3	202	25	1
4	5497.5	1.2	190	27	1
5	5492.0	1.9	189	27	1
6	5513.0	2.9	160	26	1
7	5501.5	1.8	180	27	0
8	5519.1	3.9	188	28	1
9	5526.3	3.9	229	23	1
10	5550.5	4.9	207	24	1
11	5494.1	4.4	178	23	1
12	5531.9	1.6	163	27	1
13	5534.7	3.1	195	24	1
14	5534.6	3.8	219	23	1
15	5537.6	2.4	178	27	1
16	5550.7	3.3	181	26	1
17	5511.8	1.6	230	26	1
18	5566.6	4.1	212	24	1
19	5508.4	2.3	166	28	0
20	5530.2	3.2	229	27	0
21	5517.8	3.7	190	27	1
22	5540.5	3.7	156	25	1
23	5506.5	3.1	155	24	1
24	5551.8	5.0	196	24	1
25	5506.6	1.3	228	27	1
26	5551.8	2.2	152	25	1
27	5552.8	4.6	156	25	1
28	5534.1	4.4	218	25	1
29	5536.8	2.4	183	23	1
30	5541.3	3.1	220	27	1
Detection Percentage (%)					90%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5531.8	9.6	412	18	1
2	5541.3	9.8	426	18	1
3	5526.3	9.7	429	16	1
4	5497.5	6.9	450	17	1
5	5492.0	7.4	475	16	1
6	5513.0	7.5	492	17	1
7	5501.5	7.6	280	16	1
8	5519.1	9.1	388	18	1
9	5526.3	8.4	434	17	0
10	5550.5	9.2	259	17	1
11	5494.1	7.6	479	17	1
12	5531.9	6.0	452	16	1
13	5534.7	7.8	312	18	1
14	5534.6	6.6	313	17	0
15	5537.6	9.0	424	18	1
16	5550.7	6.2	442	16	1
17	5511.8	8.5	434	18	0
18	5566.6	6.1	415	17	1
19	5508.4	9.0	349	17	1
20	5530.2	9.4	412	17	1
21	5517.8	9.5	353	17	1
22	5540.5	7.6	493	18	1
23	5506.5	6.8	404	17	1
24	5551.8	6.6	329	17	1
25	5506.6	7.9	370	16	1
26	5551.8	8.4	422	17	1
27	5552.8	6.3	489	17	1
28	5534.1	8.1	323	17	1
29	5536.8	7.8	201	17	1
30	5541.3	9.3	206	17	0
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	5531.8	14.5	451	12	1
2	5541.3	13.9	425	14	0
3	5526.3	17.9	227	12	1
4	5497.5	14.3	273	13	1
5	5492.0	18.1	470	14	1
6	5513.0	17.8	344	13	1
7	5501.5	13.0	453	12	1
8	5519.1	16.0	482	14	1
9	5526.3	18.2	281	15	1
10	5550.5	16.3	331	13	1
11	5494.1	13.8	286	14	1
12	5531.9	14.8	359	12	1
13	5534.7	11.5	348	16	1
14	5534.6	11.1	443	14	0
15	5537.6	11.5	403	13	1
16	5550.7	13.4	238	15	1
17	5511.8	16.2	478	13	1
18	5566.6	14.1	299	14	1
19	5508.4	15.0	436	13	0
20	5530.2	11.9	399	14	1
21	5517.8	12.0	479	13	1
22	5540.5	15.6	348	13	1
23	5506.5	15.0	421	13	1
24	5551.8	16.0	337	15	1
25	5506.6	11.3	265	14	1
26	5551.8	19.5	383	14	0
27	5552.8	15.2	383	14	0
28	5534.1	17.0	365	14	1
29	5536.8	19.2	239	14	1
30	5541.3	16.7	391	14	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: $\frac{P_d1+P_d2+P_d3+P_d4}{4}$ = (93.3%+90%+86.7%+83.3%)/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	5530.0	1	16	5497.4	1
2	5530.0	1	17	5498.2	1
3	5530.0	1	18	5497.4	1
4	5530.0	1	19	5495.8	1
5	5530.0	1	20	5499.0	1
6	5530.0	1	21	5564.6	1
7	5530.0	0	22	5564.6	0
8	5530.0	1	23	5562.2	1
9	5530.0	1	24	5565.4	1
10	5530.0	1	25	5562.2	1
11	5494.2	1	26	5565.8	1
12	5498.6	1	27	5564.6	1
13	5499.0	1	28	5562.2	1
14	5496.6	1	29	5561.8	1
15	5493.0	1	30	5561.0	1
Detection Percentage (%)					93.3%

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	76.8	12			297.166
2	3	58.2	12	1946	1741	896.663
3	3	67.6	12	1760	1077	574.786
4	1	94.6	12			783.489
5	2	94.1	12	1299		879.292
6	2	80.2	12	1393		151.685
7	2	75.7	12	1475		633.178
8	1	63.2	12			237.182
9	2	84	12	1027		692.605
10	2	88.1	12	1591		59.208
11	2	56	12	1459		879.431
12	2	74.7	12	1087		865.654
13	2	71.7	12	1603		145.477

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	76.3	13	1733		459.653
2	1	69.2	13			262.82
3	1	68.5	13			589.25
4	2	70.6	13	1482		266.45
5	1	88.9	13			169.36
6	2	94.1	13	1210		497.55
7	3	91.4	13	1913	1459	607.33
8	2	81.7	13	1864		492.89
9	2	84.1	13	1020		283.92
10	2	80.4	13	1742		628.29
11	1	78.9	13			32.27
12	3	54.1	13	1930	1539	107.22
13	1	59.4	13			691.1
14	1	83.1	13			61.5
15	3	58.5	13	1998	1776	776.3

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	2	70.1	10	1477		92.875
2	2	98	10	1716		572.411
3	2	58.3	10	1163		229.642
4	1	60.3	10			204.553
5	3	68.2	10	1300	1874	394.784
6	3	60.1	10	1377	1214	233.145
7	2	88.3	10	1115		616.926
8	2	81.8	10	1088		54.447
9	2	50.1	10	1792		375.688
10	2	99.6	10	1591		241.709
11	2	89.6	10	1955		449.451
12	1	62.2	10			185.142
13	1	84	10			218.233
14	3	94.2	10	1827	1945	445.164
15	2	70.4	10	1690		51.905
16	2	54.9	10	1097		450.966
17	3	76.8	10	1564	1092	247.937
18	2	88.7	10	1469		562.858
19	3	96.7	10	1993	1001	118.179

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	68.7	16	1392		620.275
2	1	83.7	16			217.03
3	1	88.5	16			619.84
4	2	99.9	16	1805		479.9
5	2	80.2	16	1282		698.48
6	3	57.2	16	1934	1556	285.78
7	2	84.8	16	1013		402.31
8	1	84.5	16			917.91
9	3	58.3	16	1769	1926	983.51
10	3	97.5	16	1176	1706	579.3
11	2	84.9	16	1713		502.9
12	2	64.8	16	1359		144.4

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	1	52.3	12			355.92
2	2	55.3	12	1447		1060.48
3	3	92.3	12	1736	1716	328.07
4	2	51.9	12	1386		445.94
5	1	86.1	12			807
6	2	94.1	12	1323		832.15
7	3	81.5	12	1412	1638	93.77
8	1	72.6	12			644.67
9	3	70	12	1266	1970	608.6
10	2	71.1	12	1481		477.4

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	63	8	1002		823.811
2	3	72.2	8	1674	1483	247.757
3	1	92.7	8			200.403
4	3	58.8	8	1626	1110	295.68
5	2	67.1	8	1764		402.747
6	2	70.4	8	1717		531.773
7	1	84.6	8			310.35
8	3	69.4	8	1855	1933	628.227
9	1	79.7	8			896.833

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	86.6	12	1955	1102	777.337
2	2	90.7	12	1821		513.511
3	2	98.1	12	1312		850.182
4	2	74.4	12	1456		722.223
5	2	87.4	12	1130		749.924
6	1	68.4	12			264.475
7	2	67.8	12	1811		1072.095
8	3	92.8	12	1483	1745	195.856
9	3	97.8	12	1536	1465	1044.777
10	2	96.4	12	1582		296.518
11	1	57.8	12			138.609

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	67.1	6			1058.26
2	2	89.3	6	1035		235.191
3	2	60.5	6	1935		565.192
4	1	50.3	6			879.453
5	3	53.2	6	1932	1101	22.724
6	2	72.1	6	1862		653.355
7	1	54.2	6			296.775
8	1	83.9	6			427.326
9	2	53.2	6	1374		83.367
10	2	75.9	6	1859		468.018
11	3	91.9	6	1590	1708	618.209

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	83.6	11	1887		112.114
2	1	98	11			212.169
3	2	96.8	11	1697		74.25
4	2	89.3	11	1872		527.81
5	1	78.8	11			25.39
6	3	70.2	11	1144	1359	132.64
7	2	73.4	11	1197		30.61
8	1	71.8	11			585.45
9	2	56.1	11	1130		351.37
10	3	58.4	11	1515	1701	496.56
11	3	74.6	11	1704	1085	313.47
12	2	73.4	11	1795		397.13
13	3	84.3	11	1360	1102	529.49
14	2	54.1	11	1696		481.83
15	2	56.3	11	1551		178.05
16	2	61.4	11	1255		368.07
17	3	62.5	11	1517	1078	292.27
18	2	51.7	11	1719		224
19	3	52.8	11	1540	1019	413.2
20	2	99.4	11	1813		220.4

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	50	19	1650		387.286
2	2	88.4	19	1370		414.367
3	3	66.8	19	1519	1449	697.384
4	2	80.9	19	1784		566.691
5	2	76.8	19	1415		332.499
6	2	73	19	1682		579.236
7	3	93.7	19	1283	1293	150.973
8	3	51.5	19	1760	1554	443.36
9	2	77.7	19	1514		654.167
10	2	84.6	19	1724		331.594
11	1	80.5	19			293.921
12	2	58.8	19	1835		621.029
13	3	87	19	1584	1773	645.086
14	3	85.2	19	1780	1309	438.343

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	76.4	8	1953		81.949
2	2	69.3	8	1835		467.948
3	1	98.6	8			51.095
4	1	91.7	8			592.943
5	2	57.4	8	1132		120.451
6	2	67.4	8	1077		547.128
7	2	70.2	8	1318		391.246
8	2	60.9	8	1069		221.144
9	2	82.4	8	1145		620.451
10	2	68.5	8	1180		552.989
11	1	75.2	8			169.096
12	2	85.5	8	1574		197.714
13	2	82.3	8	1008		365.792
14	2	84.6	8	1117		204.579
15	3	52.6	8	1683	1052	192.647
16	3	66.9	8	1764	1486	136.965
17	2	94.7	8	1748		610.282

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	2	71.4	19	1034		146.538
2	2	85.9	19	1421		918
3	2	80.7	19	1028		605.02
4	2	92.1	19	1832		481.26
5	3	84.4	19	1928	1886	987.36
6	2	84.3	19	1149		763.64
7	2	57.9	19	1500		846.12
8	2	73.4	19	1138		562.19
9	2	67.3	19	1702		348.59
10	2	69.5	19	1736		784.51
11	2	50.2	19	1446		511.6
12	3	67	19	1342	1343	110.9

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	98.5	20			231.874
2	2	78.5	20	1168		360.16
3	2	97.1	20	1446		1260.7
4	3	76.8	20	1687	1447	187.47
5	2	76.8	20	1363		925.57
6	2	58.6	20	1256		972.67
7	2	96.1	20	1626		1118.1
8	1	71.1	20			433.8

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	99.6	14	1784		82.342
2	3	93.1	14	1297	1211	615.817
3	2	63.4	14	1954		996.053
4	3	97.5	14	1119	1581	6.08
5	2	61.5	14	1644		1015.307
6	1	80.5	14			1061.143
7	3	99.4	14	1594	1217	586.93
8	1	97.4	14			1253.867
9	2	93.4	14	1966		381.233

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	59.2	5			610.469
2	2	54.3	5	1882		79.828
3	2	80.2	5	1422		449.817
4	1	75.6	5			466.56
5	2	91.1	5	1405		482.823
6	2	96.8	5	1679		230.527
7	1	78.2	5			608.32
8	1	84.8	5			575.983
9	2	94.2	5	1208		523.317
10	3	81.3	5	1029	1450	431.83
11	2	72.2	5	1176		425.533
12	1	52.4	5			121.747
13	1	70.7	5			293.59
14	2	63	5	1166		311.843
15	3	90.3	5	1253	1622	603.307
16	3	76.7	5	1429	1197	579.8
17	2	61.1	5	1111		588.533
18	3	94.7	5	1262	1918	612.267

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	66.7	16	1720	1424	454.159
2	2	97.2	16	1515		114.901
3	2	72.8	16	1352		299.432
4	3	62.8	16	1228	1258	466.683
5	1	52.1	16			587.164
6	3	83.4	16	1542	1094	124.805
7	2	66.2	16	1393		359.336
8	1	72.9	16			608.957
9	2	97.1	16	1269		192.398
10	2	50.4	16	1220		14.889
11	1	99.6	16			173.201
12	2	76.9	16	1471		97.972
13	1	97.1	16			292.793
14	2	50.7	16	1614		600.894
15	1	54.1	16			78.415
16	3	69.8	16	1216	1424	99.766
17	1	76.9	16			534.037
18	2	58.3	16	1086		545.758
19	2	95.4	16	1896		481.179

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	70.7	18	1933		391.041
2	2	60.8	18	1026		397.571
3	2	94.8	18	1697		369.782
4	2	90.8	18	1208		134.863
5	3	58.3	18	1750	1664	107.284
6	3	86.9	18	1461	1981	341.305
7	2	88.8	18	1777		519.976
8	3	73.8	18	1816	1950	52.707
9	1	59.5	18			104.598
10	1	61.9	18			542.599
11	3	61.9	18	1047	1058	417.601
12	3	77.1	18	1282	1130	322.912
13	3	83.7	18	1335	1679	257.303
14	2	94.4	18	1962		547.924
15	3	51.4	18	1833	1345	569.335
16	2	56.3	18	1319		492.856
17	1	50.2	18			166.537
18	2	59	18	1991		544.858
19	3	74.4	18	1291	1072	211.879

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	81.7	16			868.106
2	2	87	16	1185		135.327
3	2	68.8	16	1883		802.013
4	2	94.9	16	1336		799.05
5	2	51.1	16	1112		75.337
6	3	79	16	1156	1145	1310.543
7	1	73.6	16			628.13
8	3	73.3	16	1658	1258	214.277
9	2	69.7	16	1239		528.433

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	80.2	12	1282		327.734
2	1	75.3	12			314.86
3	3	94.4	12	1915	1444	593.66
4	1	63.7	12			559.77
5	2	84.1	12	1903		746.61
6	2	69.1	12	1014		95.15
7	2	61.7	12	1125		648.72
8	3	53.3	12	1991	1785	495.21
9	3	82.2	12	1961	1376	538.53
10	2	67.8	12	1700		709.33
11	2	80	12	1903		565.44
12	2	89.1	12	1884		119.16
13	2	96.1	12	1446		565.9
14	2	51	12	1770		508.8
15	1	70.8	12			725

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	59.4	20	1665	1609	785.891
2	2	98.4	20	1915		798.191
3	2	73.9	20	1725		448.582
4	1	56.7	20			607.303
5	2	75.7	20	1692		907.004
6	2	90.1	20	1245		1037.415
7	2	54.6	20	1680		705.615
8	1	98.2	20			1068.096
9	2	56.7	20	1255		669.447
10	2	76.5	20	1417		992.518
11	3	60.5	20	1406	1221	971.409

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	96.9	11			240.267
2	3	68.6	11	1781	1423	654.103
3	2	84.9	11	1030		203.737
4	2	84.2	11	1422		269.87
5	2	54.3	11	1918		533.743
6	3	53.3	11	1723	1861	409.977
7	2	83.7	11	1758		8.07
8	2	80.6	11	1043		311.793
9	2	96.8	11	1812		560.437
10	2	60.4	11	1882		358.77
11	2	77.4	11	1315		619.523
12	3	60.5	11	1284	1489	439.477
13	2	53.2	11	1734		537.61
14	1	97	11			557.253
15	2	91.6	11	1439		406.217
16	3	60.7	11	1012	1665	252.3
17	2	72.7	11	1473		324.633
18	1	88.4	11			150.567

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	88.7	11			63.014
2	1	50.4	11			220.639
3	2	98.2	11	1149		93.37
4	2	77.2	11	1869		316.15
5	2	67.9	11	1396		129.35
6	2	87.9	11	1704		70.72
7	1	79.9	11			42.21
8	2	69	11	1508		529.65
9	2	71.9	11	1905		581.65
10	1	92.2	11			610.55
11	2	76	11	1095		661.1
12	1	73.6	11			363.01
13	3	94.7	11	1427	1415	400.74
14	3	72.4	11	1685	1714	696.2
15	2	59.9	11	1174		145.2
16	3	73.3	11	1550	1776	471

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	75.6	17			754.939
2	1	52	17			1292.73
3	3	91.5	17	1054	1697	1297.45
4	3	62.6	17	1671	1043	1476.02
5	2	60.8	17	1427		211.76
6	3	50.5	17	1585	1379	1382.75
7	1	56.8	17			1148.8
8	1	68.8	17			1470.3

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	79.2	9	1183	1175	448.833
2	3	69.8	9	1141	1888	1148.97
3	1	54.1	9			1124.75
4	2	52.5	9	1986		944.94
5	3	67	9	1391	1817	630.84
6	2	90.2	9	1405		39.94
7	2	92.6	9	1093		745.72
8	2	82.3	9	1567		93.47
9	2	57.6	9	1337		982.9
10	2	74.3	9	1135		1138.4

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	3	67.1	17	1456	1322	1024.31
2	1	83.3	17			583.32
3	2	93.2	17	1387		327.82
4	1	65.7	17			796.12
5	2	98	17	1495		88.89
6	2	84.5	17	1475		151.18
7	1	83	17			642.85
8	2	86.8	17	1896		473.19
9	2	65	17	1981		795.4
10	1	92.8	17			1109.3

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	68.8	8	1838		323.276
2	3	65.2	8	1037	1743	1431.95
3	2	84.2	8	1350		450.44
4	3	52.9	8	1523	1439	620.49
5	2	54.8	8	1792		1278.63
6	2	77.9	8	1339		370.04
7	3	79.6	8	1620	1795	125.39
8	2	99.5	8	1773		871.8

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	97.7	11			6.61
2	2	56.4	11	1290		398.951
3	2	97.9	11	1961		290.332
4	2	81.6	11	1540		295.373
5	1	82.8	11			295.534
6	1	51	11			66.225
7	2	95.3	11	1060		48.916
8	3	60.4	11	1540	1793	532.277
9	3	71.1	11	1038	1347	575.938
10	2	73.6	11	1486		101.309
11	2	60.2	11	1767		38.961
12	2	69.3	11	1688		340.612
13	2	76.1	11	1614		539.213
14	1	79.7	11			151.464
15	2	83.9	11	1695		152.375
16	2	63.4	11	1708		15.306
17	2	70	11	1243		548.337
18	3	80.8	11	1268	1444	388.658
19	2	67.3	11	1131		292.979

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	61.8	17	1079		522.465
2	1	85.3	17			282.56
3	3	75.9	17	1361	1764	711.11
4	2	57.2	17	1920		669.14
5	3	94.4	17	1858	1602	196.85
6	2	52.1	17	1292		8.27
7	1	53.1	17			436.37
8	2	72.9	17	1342		288.92
9	2	51.1	17	1477		643.29
10	1	89.1	17			41.58
11	2	82.6	17	1940		39.91
12	2	77.3	17	1175		523.68
13	2	84.6	17	1961		471.9
14	2	55.8	17	1868		410.8
15	2	72.4	17	1125		43.3

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	94.3	18	1162		839.905
2	1	55	18			792.353
3	3	84.1	18	1589	1372	32.776
4	2	55.5	18	1641		540.159
5	2	88.1	18	1267		247.922
6	2	72.2	18	1157		533.095
7	3	55.9	18	1464	1770	652.598
8	2	58.9	18	1269		339.052
9	1	87.9	18			237.245
10	1	80.2	18			696.268
11	1	79.9	18			478.371
12	2	68.5	18	1808		777.054
13	2	77.1	18	1775		757.377

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	56.2	20	1091	1701	843.018
2	1	53.8	20			239.843
3	1	99.2	20			165.396
4	1	68.7	20			324.309
5	1	81.1	20			659.082
6	2	70.9	20	1315		841.085
7	2	91.4	20	1210		218.608
8	1	85.4	20			43.692
9	2	98.1	20	1312		771.165
10	3	67.3	20	1599	1020	681.628
11	1	77.5	20			368.381
12	2	74	20	1687		900.854
13	2	82.7	20	1955		172.677

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	0	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 (%)			93.3%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5511	24	8	5558	24
10	5562	30	11	5562	33
15	5518	45	17	5549	51
16	5520	48	20	5509	60
25	5502	75	28	5534	84
34	5560	102	33	5512	99
48	5551	144	34	5497	102
49	5544	147	39	5569	117
50	5498	150	48	5504	144
54	5513	162	51	5490	153
55	5524	165	57	5513	171
68	5564	204	72	5508	216
76	5534	228	75	5514	225
79	5554	237	79	5547	237
90	5561	270	85	5530	255
94	5517	282	90	5551	270
99	5495	297	91	5570	273
--	--	--	93	5545	279

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5511	21	15	5505	45
10	5543	30	26	5550	78
11	5506	33	29	5509	87
17	5515	51	32	5518	96
24	5503	72	35	5565	105
36	5508	108	37	5555	111
38	5551	114	39	5504	117
42	5558	126	48	5539	144
56	5527	168	53	5506	159
57	5540	171	60	5526	180
60	5494	180	65	5500	195
78	5521	234	70	5533	210
86	5546	258	71	5538	213
90	5534	270	76	5495	228
94	5560	282	79	5536	237
--	--	--	82	5517	246
--	--	--	90	5491	270
--	--	--	94	5541	282
--	--	--	99	5535	297
--	--	--	100	5520	300

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5530	9	4	5560	12
10	5554	30	13	5499	39
22	5515	66	21	5537	63
28	5544	84	24	5570	72
37	5523	111	29	5566	87
38	5548	114	32	5501	96
45	5536	135	48	5518	144
47	5491	141	55	5563	165
48	5498	144	58	5550	174
49	5555	147	71	5509	213
50	5567	150	73	5545	219
61	5545	183	84	5520	252
71	5507	213	--	--	--
77	5550	231	--	--	--
89	5538	267	--	--	--
90	5492	270	--	--	--
91	5518	273	--	--	--
92	5559	276	--	--	--
95	5531	285	--	--	--

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5508	21	2	5500	6
9	5518	27	6	5556	18
17	5525	51	8	5548	24
19	5549	57	18	5564	54
23	5492	69	24	5560	72
26	5544	78	26	5551	78
29	5512	87	28	5557	84
31	5548	93	30	5492	90
33	5537	99	39	5562	117
38	5507	114	48	5505	144
59	5495	177	53	5544	159
60	5523	180	66	5565	198
67	5569	201	68	5550	204
73	5515	219	71	5501	213
76	5566	228	77	5518	231
78	5534	234	78	5504	234
81	5568	243	79	5534	237
83	5553	249	80	5495	240
88	5564	264	82	5568	246
95	5540	285	88	5558	264
97	5567	291	--	--	--
99	5500	297	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5507	6	2	5549	6
8	5532	24	3	5563	9
13	5542	39	9	5501	27
16	5551	48	16	5525	48
21	5556	63	22	5491	66
22	5518	66	49	5515	147
29	5508	87	64	5510	192
31	5499	93	66	5521	198
36	5554	108	72	5518	216
46	5540	138	77	5528	231
74	5534	222	81	5564	243
--	--	--	85	5503	255

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5501	24	16	5522	48
9	5567	27	29	5496	87
13	5555	39	33	5550	99
18	5532	54	37	5557	111
20	5546	60	42	5501	126
27	5537	81	53	5558	159
32	5536	96	57	5543	171
47	5550	141	58	5533	174
54	5551	162	61	5564	183
66	5569	198	63	5561	189
81	5538	243	67	5503	201
83	5524	249	72	5566	216
88	5533	264	75	5520	225
97	5500	291	79	5563	237
--	--	--	81	5498	243
--	--	--	84	5545	252
--	--	--	85	5515	255
--	--	--	99	5512	297

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5516	12	11	5512	33
10	5517	30	26	5539	78
11	5528	33	39	5503	117
15	5561	45	47	5505	141
18	5537	54	59	5537	177
19	5525	57	74	5533	222
25	5491	75	76	5552	228
45	5523	135	88	5556	264
56	5510	168	91	5569	273
61	5508	183	92	5530	276
64	5532	192	95	5554	285
67	5492	201	97	5568	291
77	5556	231	--	--	--
82	5509	246	--	--	--
95	5527	285	--	--	--

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
14	5525	42	3	5524	9
23	5543	69	11	5557	33
25	5521	75	30	5503	90
30	5491	90	34	5548	102
32	5506	96	36	5544	108
34	5509	102	38	5562	114
37	5570	111	65	5490	195
39	5542	117	67	5535	201
45	5512	135	72	5560	216
50	5545	150	76	5558	228
53	5531	159	80	5515	240
54	5546	162	88	5552	264
55	5556	165	89	5499	267
57	5497	171	93	5550	279
67	5519	201	94	5546	282
70	5563	210	100	5538	300
75	5508	225	--	--	--
76	5547	228	--	--	--
81	5493	243	--	--	--
89	5541	267	--	--	--
90	5560	270	--	--	--
95	5522	285	--	--	--

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5524	9	3	5557	9
5	5521	15	12	5527	36
6	5513	18	14	5540	42
15	5548	45	24	5569	72
22	5491	66	26	5510	78
24	5501	72	34	5550	102
28	5558	84	49	5516	147
30	5508	90	51	5562	153
37	5503	111	59	5526	177
49	5535	147	61	5549	183
50	5559	150	81	5514	243
54	5564	162	85	5558	255
57	5565	171	87	5495	261
59	5529	177	89	5565	267
62	5545	186	92	5542	276
72	5510	216	96	5523	288
75	5528	225	97	5545	291
81	5553	243	--	--	--
87	5527	261	--	--	--
93	5561	279	--	--	--
98	5536	294	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5534	3	3	5530	9
8	5555	24	4	5565	12
13	5526	39	9	5502	27
18	5512	54	36	5516	108
20	5496	60	48	5525	144
21	5530	63	49	5544	147
24	5544	72	51	5517	153
26	5562	78	56	5547	168
32	5528	96	63	5536	189
35	5505	105	66	5564	198
36	5524	108	70	5529	210
39	5549	117	73	5556	219
54	5540	162	75	5546	225
60	5543	180	77	5549	231
82	5561	246	78	5511	234
93	5497	279	89	5496	267
--	--	--	93	5563	279
--	--	--	96	5504	288
--	--	--	98	5540	294

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5544	6	1	5564	3
3	5514	9	4	5558	12
5	5505	15	11	5510	33
12	5559	36	12	5503	36
17	5521	51	17	5500	51
25	5543	75	21	5565	63
31	5547	93	26	5490	78
32	5507	96	37	5540	111
33	5566	99	48	5555	144
36	5497	108	59	5501	177
37	5562	111	62	5519	186
38	5524	114	71	5502	213
64	5527	192	77	5530	231
66	5546	198	89	5532	267
68	5496	204	94	5508	282
71	5539	213	96	5545	288
75	5516	225	--	--	--
79	5504	237	--	--	--
80	5569	240	--	--	--
85	5568	255	--	--	--
89	5511	267	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5566	6	10	5520	30
6	5532	18	23	5541	69
10	5510	30	25	5550	75
17	5539	51	40	5555	120
22	5507	66	41	5540	123
24	5548	72	49	5508	147
31	5562	93	52	5527	156
37	5521	111	55	5509	165
50	5503	150	58	5546	174
52	5553	156	61	5492	183
53	5509	159	63	5522	189
75	5543	225	78	5526	234
85	5568	255	81	5500	243
93	5554	279	85	5559	255
96	5556	288	97	5504	291

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5500	3	4	5527	12
2	5525	6	5	5565	15
25	5547	75	9	5569	27
32	5549	96	20	5508	60
33	5570	99	22	5541	66
35	5555	105	24	5533	72
36	5508	108	35	5532	105
38	5515	114	44	5490	132
44	5562	132	47	5498	141
47	5543	141	54	5503	162
49	5568	147	57	5542	171
51	5566	153	69	5505	207
52	5565	156	71	5537	213
54	5494	162	72	5507	216
55	5548	165	81	5501	243
58	5514	174	83	5491	249
62	5541	186	86	5536	258
63	5521	189	92	5555	276
64	5530	192	98	5522	294
70	5532	210	--	--	--
82	5506	246	--	--	--
86	5502	258	--	--	--
87	5545	261	--	--	--
88	5499	264	--	--	--
91	5516	273	--	--	--
93	5509	279	--	--	--
95	5535	285	--	--	--
99	5511	297	--	--	--

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5525	3	3	5562	9
9	5561	27	4	5525	12
12	5499	36	8	5540	24
13	5537	39	10	5503	30
14	5490	42	13	5551	39
19	5554	57	16	5492	48
27	5542	81	20	5526	60
31	5553	93	29	5566	87
34	5491	102	32	5499	96
35	5558	105	47	5514	141
38	5530	114	51	5530	153
46	5498	138	55	5565	165
59	5563	177	56	5500	168
77	5555	231	58	5490	174
85	5548	255	70	5545	210
86	5534	258	73	5550	219
88	5512	264	80	5513	240
90	5501	270	83	5506	249
--	--	--	88	5527	264
--	--	--	94	5518	282

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5548	6	8	5563	24
7	5566	21	10	5505	30
8	5560	24	12	5529	36
13	5535	39	17	5546	51
17	5541	51	20	5564	60
23	5508	69	40	5545	120
33	5522	99	42	5525	126
46	5559	138	45	5511	135
52	5491	156	48	5549	144
55	5502	165	65	5543	195
62	5521	186	78	5533	234
64	5545	192	80	5523	240
68	5531	204	88	5558	264
76	5530	228	92	5535	276
79	5507	237	94	5521	282
80	5520	240	96	5527	288

Product	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/12/22
Test Item	Radar Statistical Performance Check (802.11ac-VHT20 mode - 5500MHz)		
Test Mode	Mesh mode		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5496.2	1.0	818	65	1
2	5499.7	1.0	858	62	1
3	5495.0	1.0	618	86	1
4	5501.3	1.0	778	68	1
5	5503.7	1.0	658	81	1
6	5497.9	1.0	558	95	1
7	5502.4	1.0	838	63	1
8	5496.3	1.0	898	59	1
9	5500.3	1.0	618	86	1
10	5508.7	1.0	798	67	1
11	5491.8	1.0	618	86	0
12	5506.3	1.0	898	59	1
13	5496.8	1.0	638	83	1
14	5491.0	1.0	698	76	1
15	5501.9	1.0	618	86	1
16	5495.0	1.0	678	78	1
17	5499.0	1.0	718	74	1
18	5507.7	1.0	638	83	1
19	5502.6	1.0	878	61	1
20	5492.7	1.0	618	86	1
21	5508.2	1.0	3066	18	1
22	5505.6	1.0	758	70	1
23	5504.4	1.0	798	67	1
24	5491.3	1.0	698	76	1
25	5507.2	1.0	538	98	1
26	5509.0	1.0	758	70	1
27	5502.1	1.0	758	70	1
28	5505.4	1.0	798	67	1

29	5501.6	1.0	738	72	1
30	5493.6	1.0	758	70	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	3.4	203	25	0
2	5499.7	4.2	195	24	1
3	5495.0	4.7	202	27	1
4	5501.3	3.9	203	26	1
5	5503.7	4.9	188	25	1
6	5497.9	3.0	171	26	1
7	5502.4	3.8	210	25	1
8	5496.3	2.9	169	28	1
9	5500.3	4.0	171	26	0
10	5508.7	4.3	150	24	1
11	5491.8	2.3	194	24	1
12	5506.3	1.3	151	26	1
13	5496.8	2.0	166	25	0
14	5491.0	2.7	229	26	1
15	5501.9	1.0	202	26	1
16	5495.0	3.8	216	28	1
17	5499.0	1.8	151	27	1
18	5507.7	4.7	200	23	1
19	5502.6	4.3	178	23	1
20	5492.7	1.3	207	26	1
21	5508.2	2.3	214	26	1
22	5505.6	3.5	218	28	1
23	5504.4	1.8	217	23	1
24	5491.3	3.8	204	23	1
25	5507.2	3.4	208	29	1
26	5509.0	3.3	160	26	1
27	5502.1	2.7	158	25	1
28	5505.4	1.4	173	27	0
29	5501.6	5.0	157	28	1
30	5493.6	2.6	155	27	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	5496.2	7.7	441	18	1
2	5499.7	6.8	309	16	1
3	5495.0	9.1	207	16	1
4	5501.3	9.2	349	17	1
5	5503.7	8.9	269	17	1
6	5497.9	6.3	473	17	1
7	5502.4	6.3	227	18	0
8	5496.3	9.8	226	16	0
9	5500.3	7.0	249	16	1
10	5508.7	7.4	238	17	1
11	5491.8	8.7	499	17	1
12	5506.3	7.4	424	18	1
13	5496.8	8.5	216	18	1
14	5491.0	8.0	396	17	1
15	5501.9	8.2	328	16	1
16	5495.0	7.5	469	17	1
17	5499.0	7.7	231	17	1
18	5507.7	7.2	257	17	1
19	5502.6	8.4	319	17	1
20	5492.7	9.7	280	17	1
21	5508.2	7.1	353	17	1
22	5505.6	7.3	274	16	1
23	5504.4	6.2	498	18	1
24	5491.3	8.9	367	18	1
25	5507.2	6.1	260	16	0
26	5509.0	7.1	389	17	1
27	5502.1	6.9	260	18	1
28	5505.4	6.5	391	17	1
29	5501.6	6.2	220	16	1
30	5493.6	10.0	464	17	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	5496.2	11.9	452	14	1
2	5499.7	16.9	333	14	1
3	5495.0	14.8	447	14	1
4	5501.3	16.4	340	15	1
5	5503.7	17.5	345	15	1
6	5497.9	11.9	425	13	0
7	5502.4	11.4	425	13	1
8	5496.3	16.8	460	13	1
9	5500.3	15.9	222	15	1
10	5508.7	14.8	461	16	0
11	5491.8	15.1	473	14	1
12	5506.3	12.9	341	15	1
13	5496.8	19.2	452	15	1
14	5491.0	19.4	500	13	1
15	5501.9	15.1	389	16	1
16	5495.0	12.2	249	13	1
17	5499.0	17.6	285	15	1
18	5507.7	12.8	399	14	1
19	5502.6	19.7	491	13	0
20	5492.7	12.7	394	16	1
21	5508.2	11.2	271	13	1
22	5505.6	15.8	361	14	1
23	5504.4	14.6	350	13	0
24	5491.3	16.3	371	13	1
25	5507.2	18.2	485	15	1
26	5509.0	15.4	497	13	1
27	5502.1	16.6	416	15	1
28	5505.4	18.9	466	14	1
29	5501.6	17.9	210	16	1
30	5493.6	18.8	337	13	1
Detection Percentage (%)					86.7%

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%+86.7%+90%+86.7%)/4 = 90% (>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	5500.0	1	16	5497.0	1
2	5500.0	1	17	5496.6	1
3	5500.0	0	18	5497.8	1
4	5500.0	1	19	5496.6	1
5	5500.0	1	20	5498.6	1
6	5500.0	1	21	5501.8	1
7	5500.0	1	22	5503.0	1
8	5500.0	1	23	5505.8	1
9	5500.0	1	24	5504.6	1
10	5500.0	1	25	5501.8	1
11	5496.2	1	26	5504.6	1
12	5496.6	1	27	5501.4	1
13	5495.8	1	28	5506.6	1
14	5496.2	1	29	5505.8	1
15	5495.0	1	30	5501.4	0
Detection Percentage (%)					93.3%

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	97.6	13			110.438
2	2	87.6	13	1479		533.2
3	1	79	13			219.53
4	1	55.9	13			988.72
5	3	88.5	13	1612	1220	904.17
6	1	86.5	13			987.6
7	2	83.9	13	1391		1032.02
8	1	81.1	13			1123.71
9	1	62.4	13			429.7
10	2	65	13	1680		865.6

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	55.7	11	1616	1130	92.387
2	3	76.7	11	1236	1405	78.481
3	2	91	11	1498		282.972
4	2	71.8	11	1983		676.893
5	2	57.2	11	1272		926.934
6	1	76.4	11			783.825
7	1	62.5	11			776.275
8	1	57.2	11			967.686
9	1	88.1	11			920.117
10	3	93.3	11	1765	1288	32.308
11	3	78.6	11	1555	1080	328.909

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	2	80.1	19	1605		1011.34
2	1	79.6	19			432.33
3	2	74.1	19	1995		1119.06
4	3	57.9	19	1919	1877	743.53
5	2	78	19	1900		65.44
6	1	64.2	19			841.96
7	3	70.6	19	1230	1727	817.87
8	3	55.4	19	1325	1829	653.55
9	2	54.2	19	1443		600.7
10	2	92.6	19	1612		228

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	52.7	14	1651		127.851
2	3	65.8	14	1133	1048	63.617
3	2	70.5	14	1913		154.857
4	3	67.7	14	1177	1533	102.36
5	1	80	14			590.753
6	1	98.6	14			524.527
7	3	86	14	1252	1497	248.44
8	2	72.9	14	1717		490.123
9	3	50.3	14	1534	1441	175.107
10	3	90.4	14	1847	1901	195.02
11	1	62.1	14			514.753
12	2	74.2	14	1699		94.767
13	2	57.3	14	1857		615.52
14	1	62.5	14			643.733
15	3	92.4	14	1230	1464	207.667
16	2	51.7	14	1139		352.9
17	1	81.4	14			25.433
18	3	60.5	14	1286	1480	647.567

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	96.6	11	1980	1203	60.789
2	1	84.3	11			210.657
3	3	91.4	11	1725	1047	649.62
4	2	69.3	11	1722		163.67
5	3	59.8	11	1938	1674	88.52
6	1	59.1	11			17.1
7	3	56.3	11	1063	1394	395.45
8	2	94.5	11	1028		20.14
9	3	75.2	11	1953	1059	237.46
10	2	70.2	11	1414		182.56
11	2	53.4	11	1047		170.18
12	2	56.4	11	1507		225.15
13	2	92.9	11	1481		368.5
14	1	55.5	11			533.1
15	2	76.8	11	1102		311.6
16	2	75.8	11	1742		542.2

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	3	86.5	5	1434	1577	253.322
2	2	98.7	5	1892		156.26
3	3	64.4	5	1303	1563	513.06
4	1	53.3	5			470.57
5	1	68.5	5			493.05
6	1	65.1	5			511.94
7	1	58.3	5			298.07
8	2	79.4	5	1859		55.11
9	2	57.3	5	1636		572
10	1	68.4	5			235.99
11	2	52.9	5	1283		34.52
12	2	53.3	5	1236		213.16
13	3	82.4	5	1324	1955	242.15
14	1	82	5			421.64
15	1	81.5	5			52.79
16	3	85	5	1065	1460	131.3
17	2	51.8	5	1685		293.58
18	3	55.1	5	1004	1438	247.9
19	2	61.7	5	1953		592.9
20	3	55.7	5	1108	1807	45.8

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	3	66.9	15	1264	1541	63.086
2	2	78.5	15	1739		874.171
3	1	90.7	15			229.642
4	2	81.7	15	1213		633.683
5	2	92	15	1818		737.004
6	2	94.2	15	1964		696.465
7	3	60.6	15	1138	1803	154.725
8	3	88.4	15	1218	1511	949.376
9	1	71.3	15			204.377
10	3	81.9	15	1270	1564	1004.618
11	2	98.7	15	1662		981.209

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	83.1	20			113.345
2	2	90.5	20	1332		457.68
3	3	74.3	20	1212	1592	239.42
4	2	70.9	20	1996		195.05
5	3	84.3	20	1456	1624	289
6	2	70.1	20	1661		884.32
7	3	87.4	20	1111	1334	705.25
8	3	85.7	20	1921	1874	127.86
9	2	96.1	20	1316		137.26
10	2	61.1	20	1289		439.39
11	1	87.4	20			328.2
12	3	86	20	1792	1198	947.7

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	52.9	20	1836		690.163
2	2	56.2	20	1718		469.301
3	2	83.1	20	1190		58.212
4	1	73.4	20			429.733
5	3	53.9	20	1923	1048	506.784
6	1	96.3	20			615.795
7	2	55.5	20	1298		512.315
8	1	66.4	20			685.116
9	2	60.5	20	1316		556.897
10	2	83.7	20	1355		202.518
11	2	72.8	20	1883		1063.709

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	70.7	12	1054	1127	964.258
2	3	78.8	12	1107	1469	841.55
3	2	88.2	12	1130		826.17
4	2	100	12	1036		852.51
5	2	75.2	12	1721		45.01
6	2	83.3	12	1086		253.88
7	2	71.4	12	1184		76.55
8	2	76.8	12	1008		518.09
9	1	72.3	12			131.17
10	2	61.2	12	1506		232.91
11	2	80.7	12	1754		868.7
12	1	72.2	12			702.2

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	61.8	13			78.43
2	1	74.1	13			690.751
3	3	75.3	13	1350	1613	881.872
4	2	74.6	13	1616		749.393
5	3	99.5	13	1265	1881	613.424
6	2	87.3	13	1080		423.885
7	1	50.9	13			886.775
8	1	75.9	13			96.516
9	2	74.8	13	1526		73.877
10	3	76.9	13	1822	1786	456.618
11	1	94.3	13			227.109

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	2	92.3	14	1498		1045.72
2	3	71.8	14	1002	1084	644.601
3	2	65.8	14	1102		447.472
4	2	70.2	14	1681		925.693
5	2	57.2	14	1014		91.884
6	2	60.1	14	1092		976.665
7	1	81.4	14			1005.495
8	3	65.4	14	1055	1055	277.096
9	2	89.5	14	1704		181.817
10	2	67.7	14	1652		925.318
11	2	64.9	14	1202		965.509

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	62.7	12			15.669
2	2	86.1	12	1348		59.883
3	2	79.7	12	1465		99.835
4	2	86.1	12	1845		20.233
5	3	57.6	12	1046	1169	307.201
6	1	67.4	12			461.808
7	1	52.9	12			426.026
8	2	92.9	12	1784		447.054
9	3	52.1	12	1522	1018	353.901
10	3	85.1	12	1249	1763	356.849
11	3	80.2	12	1382	1256	561.056
12	3	68.6	12	1998	1709	473.314
13	3	75.3	12	1046	1348	6.642
14	1	96.5	12			397.409
15	2	76.6	12	1520		219.047
16	1	96.2	12			378.765
17	1	91	12			336.282

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	99.4	13	1296		195.187
2	2	79.6	13	1689		722.35
3	3	57.2	13	1055	1485	545.39
4	3	99.9	13	1659	1325	437.41
5	2	74.4	13	1755		582.26
6	2	74.1	13	1207		147.35
7	2	57.4	13	1517		512.66
8	3	66.1	13	1806	1343	620.47
9	2	66.5	13	1338		667.32
10	1	70.2	13			719.59
11	3	90.6	13	1533	1719	590.63
12	3	67	13	1633	1385	550.09
13	2	50.4	13	1024		367.11
14	3	96.3	13	1948	1342	597.8
15	3	52.1	13	1432	1461	439.7
16	2	62.1	13	1731		255.4

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	2	71.9	10	1835		407.164
2	2	65.4	10	1975		217.387
3	2	63.6	10	1652		446.145
4	3	77.8	10	1976	1270	380.603
5	1	82	10			368.001
6	3	53	10	1436	1118	492.508
7	2	87.4	10	1979		100.396
8	2	81.4	10	1537		360.104
9	3	64.8	10	1114	1974	136.281
10	1	61.6	10			434.909
11	3	97.9	10	1407	1123	320.136
12	2	68.4	10	1890		276.414
13	2	88.2	10	1824		697.302
14	2	55.9	10	1716		235.079
15	3	93	10	1703	1735	675.947
16	1	83.5	10			391.565
17	1	94.6	10			667.482

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	87	15	1299	1736	524.694
2	1	56.5	15			182.973
3	2	88.4	15	1432		414.94
4	2	69.4	15	1080		170.32
5	3	97.4	15	1089	1562	375.21
6	2	81.6	15	1481		160.34
7	1	57.4	15			117.08
8	2	58.2	15	1406		334.22
9	3	55.1	15	1700	1697	330.04
10	1	89.6	15			458.81
11	1	55.3	15			318.24
12	2	74.7	15	1351		428
13	3	50.3	15	1001	1034	236.41
14	2	83.2	15	1327		57.7
15	1	80.1	15			208.58
16	3	66.1	15	1934	1106	327.68
17	2	88.8	15	1586		560.9
18	1	79.1	15			251.8
19	1	59.8	15			244.1
20	1	71.6	15			55.6

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	80.8	14	1854		595.903
2	2	59.7	14	1782		426.34
3	2	53.2	14	1233		522.19
4	3	75.8	14	1826	1079	302.17
5	2	86.7	14	1247		630.85
6	1	62.5	14			21.72
7	2	90.5	14	1669		793.51
8	2	84.4	14	1312		145.44
9	1	65.4	14			569.17
10	2	51.8	14	1406		486.48
11	3	56.4	14	1386	1804	739.27
12	2	89.1	14	1048		625.04
13	3	66.8	14	1441	1519	292.27
14	2	97	14	1924		445.1
15	2	90.4	14	1798		329.5

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	77	17			379.138
2	2	98.1	17	1633		602.831
3	1	67.4	17			145.682
4	2	67.7	17	1004		424.353
5	3	50.2	17	1747	1556	457.214
6	1	65.6	17			582.925
7	3	90.9	17	1080	1597	308.746
8	2	71.5	17	1586		587.947
9	2	96.4	17	1940		290.978
10	3	91.5	17	1162	1443	444.779
11	1	62.2	17			458.171
12	3	59.8	17	1237	1348	73.492
13	1	70.6	17			21.463
14	2	95.5	17	1499		466.464
15	3	70.8	17	1943	1170	226.635
16	1	74.5	17			537.616
17	2	61.3	17	1187		28.837
18	2	73.7	17	1883		425.658
19	2	66.2	17	1656		199.079

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	65.3	14	1417		117.806
2	3	67.8	14	1947	1153	562.818
3	2	51.4	14	1599		320.345
4	2	58.9	14	1821		115.363
5	1	50.2	14			278.041
6	3	73	14	1690	1283	309.108
7	2	70.1	14	1639		28.626
8	3	75.8	14	1812	1360	681.644
9	2	78.5	14	1960		578.351
10	2	54.3	14	1126		280.149
11	2	71.8	14	1874		309.586
12	3	69.8	14	1725	1146	123.334
13	1	52.6	14			676.082
14	2	63.7	14	1943		342.719
15	1	89.9	14			353.147
16	1	93.2	14			120.965
17	1	64	14			643.582

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	95.6	19	1352		595.46
2	2	51.3	19	1281		172.22
3	1	93.7	19			242.72
4	2	63	19	1776		136.43
5	2	52.2	19	1234		337.88
6	2	64.8	19	1688		463.62
7	1	90.1	19			756.43
8	2	83.6	19	1485		151.83
9	2	50.2	19	1451		967.6
10	3	83.2	19	1839	1896	927.8

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	83.7	18			210.251
2	3	64.3	18	1438	1603	392.33
3	2	79.4	18	1968		90.84
4	2	95.3	18	1398		799.42
5	1	50.2	18			547.45
6	2	72.8	18	1304		990.94
7	3	75.3	18	1023	1238	623.47
8	3	70.9	18	1693	1809	256.42
9	3	94	18	1807	1687	396.68
10	1	89	18			908.01
11	3	85.1	18	1923	1237	808.2
12	2	95.5	18	1847		490.6

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	94.5	15			1.567
2	1	98.3	15			534.68
3	2	73.4	15	1768		217.16
4	1	60	15			130.93
5	2	67.2	15	1579		139.86
6	1	59.2	15			687.18
7	2	99.5	15	1103		281.01
8	2	64.6	15	1318		362.75
9	2	87.6	15	1378		11.51
10	2	68.3	15	1692		310.41
11	3	63.6	15	1159	1585	583.61
12	1	53.7	15			100.98
13	3	60.7	15	1598	1432	380.53
14	3	75.2	15	1200	1435	311.6
15	2	67.2	15	1127		298.8
16	3	90.2	15	1503	1338	382.8

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	95.7	8	1123		313.364
2	3	53.3	8	1548	1731	152.541
3	1	65.5	8			362.907
4	2	70.5	8	1604		107.23
5	2	55.8	8	1035		253.973
6	3	71.1	8	1780	1594	508.717
7	1	62.3	8			329.17
8	2	86.1	8	1343		332.313
9	2	51.2	8	1712		20.527
10	1	76.8	8			606.91
11	2	78.8	8	1178		48.673
12	1	93.8	8			309.247
13	2	56.5	8	1317		332.52
14	1	69.7	8			446.593
15	3	93.4	8	1084	1703	123.947
16	3	66.4	8	1733	1691	312.9
17	2	50.6	8	1106		615.733
18	2	78.5	8	1174		456.267

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	58	11	1827	1939	1213.36
2	1	59.2	11			615.027
3	1	67.7	11			1157.223
4	1	75.3	11			76.23
5	3	98.9	11	1008	1702	939.417
6	2	93	11	1706		495.123
7	3	50.1	11	1493	1729	327.49
8	1	78.2	11			1148.667
9	2	96.3	11	1348		1137.733

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	1	54.5	18			1236.48
2	2	74.3	18	1889		1214.88
3	1	76.1	18			1477.58
4	2	87.7	18	1271		1245.01
5	2	56.1	18	1975		22.36
6	1	56.6	18			1097.43
7	2	59.9	18	1604		614.89
8	3	87.2	18	1651	1655	843.7

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	77.2	11	1356		377.091
2	2	62.1	11	1764		410.55
3	3	72	11	1714	1526	28.87
4	3	75.8	11	1861	1035	360.91
5	2	55.7	11	1488		544.04
6	3	55	11	1159	1053	549.43
7	3	65.2	11	1187	1610	211.14
8	1	66.1	11			589.44
9	1	72.5	11			557.25
10	2	71.1	11	1751		359.18
11	1	60.4	11			561.6
12	2	55.6	11	1104		588.92
13	1	53.8	11			561.24
14	2	59.4	11	1623		184.76
15	1	70.3	11			0.85
16	1	99.6	11			439.08
17	1	54.9	11			542.5
18	3	58.4	11	1123	1274	126.3
19	2	90	11	1932		414.3
20	1	82.7	11			51.5

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	66.7	19			116.1
2	2	67.7	19	1152		153.771
3	2	76.1	19	1698		208.512
4	1	57.8	19			108.413
5	1	70.2	19			68.784
6	2	51.7	19	1558		92.815
7	2	77.5	19	1825		851.205
8	2	75.2	19	1434		463.686
9	1	66.2	19			696.857
10	3	78.7	19	1199	1672	438.218
11	3	51.8	19	1957	1378	322.809

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	73.4	6			131.97
2	1	69.8	6			839.723
3	1	51.9	6			572.596
4	3	96.5	6	1892	1075	680.539
5	2	51.2	6	1269		795.242
6	2	89.4	6	1282		831.335
7	1	98.8	6			228.248
8	3	68.4	6	1652	1046	526.822
9	3	51.8	6	1806	1029	781.255
10	2	86.8	6	1984		198.308
11	1	86	6			351.421
12	3	50.3	6	1774	1073	883.354
13	3	74.6	6	1311	1394	683.177

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	88.4	8	1433		535.681
2	3	83.6	8	1247	1236	5.216
3	2	53.7	8	1361		610.5
4	1	96.9	8			500.3
5	2	58.8	8	1087		512.72
6	1	65.9	8			727.02
7	2	99.6	8	1238		369.87
8	2	64.8	8	1562		305.51
9	1	66	8			438.9
10	2	74.1	8	1329		556.53
11	3	66.8	8	1379	1239	122.62
12	2	93.2	8	1529		739.68
13	2	56.2	8	1885		203.46
14	1	91.2	8			200.22
15	3	56.5	8	1344	1146	41.9
16	2	79.3	8	1076		660.3

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	19	1162		771.758
2	2	89	19	1394		281.997
3	1	57.2	19			103.874
4	2	58.9	19	1517		437.861
5	2	65.4	19	1046		651.569
6	3	72.7	19	1736	1657	677.386
7	2	57.4	19	1159		213.373
8	2	87.1	19	1600		62.98
9	3	74.2	19	1558	1304	606.337
10	3	63.8	19	1223	1217	489.624
11	3	75	19	1133	1555	151.791
12	2	52.4	19	1338		655.629
13	3	77.4	19	1503	1253	796.086
14	3	61.9	19	1454	1518	686.443

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)
27	5497	81	20	5500	60
29	5504	87	90	5508	270
37	5503	111	99	5509	297
95	5498	285	--	--	--

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
77	5510	231	16	5508	48
--	--	--	25	5505	75
--	--	--	43	5494	129
--	--	--	44	5490	132
--	--	--	47	5498	141
--	--	--	53	5503	159

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5509	24	20	5497	60
42	5496	126	22	5504	66
44	5508	132	29	5498	87
78	5501	234	45	5503	135
--	--	--	47	5505	141

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
31	5501	93	9	5501	27
77	5498	231	44	5507	132
79	5494	237	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
46	5497	138	1	5496	3
49	5503	147	49	5508	147
66	5493	198	50	5504	150
80	5510	240	68	5505	204
--	--	--	81	5503	243
--	--	--	92	5500	276

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
45	5490	135	5	5510	15
51	5504	153	39	5492	117
64	5506	192	51	5508	153
79	5501	237	99	5497	297

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
27	5494	81	7	5493	21
67	5491	201	54	5492	162
94	5505	282	62	5509	186
96	5490	288	79	5496	237

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5492	6	8	5502	24
4	5499	12	49	5505	147
7	5503	21	78	5510	234
16	5501	48	--	--	--
26	5502	78	--	--	--
41	5493	123	--	--	--
48	5491	144	--	--	--
51	5506	153	--	--	--

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
50	5490	150	15	5497	45
67	5499	201	50	5494	150
68	5491	204	53	5499	159
--	--	--	55	5498	165
--	--	--	76	5500	228

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
55	5494	165	76	5493	228
72	5500	216	84	5508	252
74	5507	222	--	--	--
75	5509	225	--	--	--
82	5508	246	--	--	--

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
57	5496	171	55	5501	165
76	5508	228	61	5502	183
85	5499	255	67	5504	201
--	--	--	84	5494	252

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
19	5496	57	21	5506	63
41	5507	123	31	5492	93
59	5498	177	37	5490	111
66	5494	198	50	5497	150
--	--	--	55	5493	165

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5490	6	4	5508	12
25	5496	75	15	5505	45
41	5510	123	29	5510	87
49	5491	147	39	5500	117

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
14	5499	42	6	5491	18
15	5503	45	23	5498	69
29	5509	87	42	5508	126
64	5506	192	53	5502	159
85	5508	255	66	5506	198
--	--	--	68	5496	204
--	--	--	75	5499	225
--	--	--	86	5492	258

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5497	6	1	5492	3
41	5502	123	31	5494	93
65	5510	195	66	5498	198

Product	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/12/22
Test Item	Radar Statistical Performance Check (802.11ac-VHT40 mode - 5510MHz)		
Test Mode	Mesh mode		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5511.0	1.0	878	61	1
2	5501.3	1.0	938	57	1
3	5525.4	1.0	798	67	1
4	5501.1	1.0	518	102	1
5	5514.9	1.0	638	83	1
6	5512.8	1.0	818	65	1
7	5509.1	1.0	838	63	1
8	5513.9	1.0	918	58	1
9	5521.8	1.0	738	72	1
10	5498.9	1.0	598	89	1
11	5495.2	1.0	3066	18	1
12	5501.2	1.0	818	65	1
13	5495.9	1.0	598	89	1
14	5518.6	1.0	598	89	1
15	5498.9	1.0	938	57	1
16	5499.7	1.0	938	57	1
17	5527.3	1.0	538	98	1
18	5505.0	1.0	858	62	1
19	5522.3	1.0	938	57	1
20	5519.8	1.0	598	89	1
21	5512.7	1.0	818	65	1
22	5528.6	1.0	778	68	1
23	5525.0	1.0	538	98	1
24	5526.1	1.0	538	98	1
25	5503.8	1.0	678	78	1
26	5526.7	1.0	598	89	1
27	5492.6	1.0	838	63	1
28	5517.0	1.0	538	98	1
29	5504.5	1.0	878	61	1

30	5518.5	1.0	638	83	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	5511.0	3.1	214	25	1
2	5501.3	1.9	221	23	1
3	5525.4	3.1	212	25	1
4	5501.1	1.1	224	29	1
5	5514.9	4.6	161	27	1
6	5512.8	3.3	187	29	1
7	5509.1	4.5	169	24	1
8	5513.9	4.3	168	27	1
9	5521.8	3.7	179	28	1
10	5498.9	2.7	195	29	1
11	5495.2	2.9	217	26	0
12	5501.2	1.7	164	27	1
13	5495.9	4.6	160	27	1
14	5518.6	2.0	201	24	1
15	5498.9	4.5	217	29	1
16	5499.7	1.3	190	26	1
17	5527.3	2.8	152	29	1
18	5505.0	1.0	205	27	0
19	5522.3	3.2	201	27	1
20	5519.8	2.2	163	29	0
21	5512.7	1.7	197	29	0
22	5528.6	4.2	204	24	1
23	5525.0	1.7	225	23	1
24	5526.1	4.4	223	24	1
25	5503.8	2.8	171	29	1
26	5526.7	3.8	170	26	0
27	5492.6	4.6	211	24	1
28	5517.0	2.7	161	23	1
29	5504.5	1.4	179	25	1
30	5518.5	5.0	199	25	1
Detection Percentage (%)					83.3%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5511.0	6.7	439	17	1
2	5501.3	8.1	233	17	0
3	5525.4	6.5	383	17	1
4	5501.1	7.4	239	17	1
5	5514.9	9.7	227	18	1
6	5512.8	6.9	284	17	1
7	5509.1	6.3	411	17	1
8	5513.9	6.5	231	17	1
9	5521.8	8.9	225	17	1
10	5498.9	7.4	393	18	1
11	5495.2	7.6	358	16	1
12	5501.2	8.1	366	17	1
13	5495.9	8.3	328	18	1
14	5518.6	9.8	243	16	1
15	5498.9	8.8	320	18	1
16	5499.7	8.0	434	18	1
17	5527.3	7.3	471	17	1
18	5505.0	7.5	419	16	1
19	5522.3	8.8	229	17	0
20	5519.8	6.5	475	18	1
21	5512.7	8.2	425	17	1
22	5528.6	9.6	468	16	1
23	5525.0	9.0	379	18	1
24	5526.1	7.7	357	17	1
25	5503.8	10.0	434	17	1
26	5526.7	8.2	463	16	1
27	5492.6	7.1	244	17	1
28	5517.0	7.8	347	17	1
29	5504.5	7.5	302	18	0
30	5518.5	7.3	293	17	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	5511.0	16.3	313	15	1
2	5501.3	16.7	294	15	1
3	5525.4	16.4	427	12	1
4	5501.1	17.8	287	16	1
5	5514.9	11.8	421	15	1
6	5512.8	19.5	219	15	0
7	5509.1	20.0	413	12	1
8	5513.9	14.1	225	15	0
9	5521.8	17.7	203	15	1
10	5498.9	14.4	491	12	1
11	5495.2	11.4	309	12	1
12	5501.2	11.4	419	14	1
13	5495.9	13.1	403	13	1
14	5518.6	15.7	263	13	0
15	5498.9	16.4	418	13	1
16	5499.7	19.9	357	16	1
17	5527.3	12.7	443	14	1
18	5505.0	13.5	418	14	1
19	5522.3	12.4	438	14	0
20	5519.8	18.1	347	14	1
21	5512.7	17.0	411	16	1
22	5528.6	18.5	262	16	1
23	5525.0	13.9	460	13	0
24	5526.1	13.0	295	13	1
25	5503.8	17.1	335	14	1
26	5526.7	11.0	422	15	1
27	5492.6	19.9	387	13	1
28	5517.0	14.9	302	13	1
29	5504.5	12.5	327	13	1
30	5518.5	12.2	478	14	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: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4}$ = (100%+83.3%+90%+83.3%)/4 = 89.2% (>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	5510.0	1	16	5495.4	1
2	5510.0	1	17	5496.6	1
3	5510.0	0	18	5493.4	1
4	5510.0	1	19	5495.0	1
5	5510.0	1	20	5494.2	1
6	5510.0	1	21	5523.0	0
7	5510.0	1	22	5526.2	0
8	5510.0	1	23	5521.8	1
9	5510.0	1	24	5523.8	1
10	5510.0	1	25	5524.2	1
11	5499.0	1	26	5525.8	1
12	5497.0	1	27	5524.2	1
13	5495.0	1	28	5526.6	1
14	5495.4	1	29	5526.2	1
15	5493.0	1	30	5525.8	1
Detection Percentage (%)					90%

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	54.2	18	1119		142.967
2	2	75	18	1925		430.741
3	2	51.7	18	1224		237.482
4	2	72.9	18	1449		329.523
5	2	55.9	18	1750		272.194
6	2	68.5	18	1739		20.565
7	2	94	18	1447		227.626
8	2	74.5	18	1110		4.737
9	3	60.7	18	1615	1198	377.508
10	1	52.4	18			446.929
11	2	80.7	18	1897		20.941
12	3	88.4	18	1411	1409	504.552
13	3	91.9	18	1822	1995	78.873
14	1	93.6	18			552.014
15	2	65.3	18	1630		328.225
16	3	79.5	18	1747	1402	238.246
17	2	58.8	18	1697		140.537
18	1	81.3	18			294.758
19	2	82	18	1052		478.279

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	79.7	13	1362	1758	56.49
2	1	69.7	13			13.84
3	1	96.1	13			542.6
4	3	72	13	1214	1158	282.79
5	2	78.9	13	1969		583.99
6	2	85.4	13	1716		436.05
7	2	55.9	13	1071		415.47
8	2	74.6	13	1995		486.54
9	3	84.9	13	1172	1818	238.96
10	2	71.6	13	1587		110.41
11	2	84.2	13	1155		430.57
12	2	85.2	13	1494		554.89
13	2	79.3	13	1743		320.64
14	3	61.8	13	1275	1456	241.52
15	2	50.8	13	1150		179.41
16	2	65.1	13	1425		55.19
17	2	64.4	13	1013		419
18	2	98.1	13	1388		107.4
19	2	60.2	13	1988		509.3
20	2	72.1	13	1679		309.7

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	86.1	10	1143	1816	409.523
2	3	80.9	10	1282	1814	1040.36
3	2	53.1	10	1079		711.04
4	2	51.7	10	1716		413.97
5	3	77.5	10	1774	1400	1133.54
6	2	60	10	1680		559.29
7	1	76.7	10			923.48
8	3	97.2	10	1555	1087	356.67
9	3	53.5	10	1808	1525	516.2
10	1	58.1	10			886.4

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	84.8	5	1988	1803	1022.25
2	2	89.6	5	1666		929.157
3	2	62.8	5	1968		159.723
4	2	92.6	5	1941		877.45
5	2	69.7	5	1606		1160.157
6	1	69.7	5			1241.673
7	1	63.7	5			313.82
8	2	79.7	5	1324		1023.767
9	2	69.5	5	1175		585.033

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	85.5	6	1387	1801	693.35
2	1	60.2	6			658.401
3	3	59.6	6	1716	1158	631.262
4	2	57.5	6	1466		476.163
5	2	62.8	6	1985		275.064
6	2	58.3	6	1455		637.945
7	1	53.2	6			899.475
8	1	81	6			53.866
9	1	62	6			234.327
10	1	97.3	6			918.518
11	2	53.9	6	1139		1024.209

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	85.3	18	1449	1122	688.718
2	2	85	18	1787		257.033
3	2	69.6	18	1041		320.145
4	2	87.9	18	1353		311.613
5	3	57	18	1429	1912	507.191
6	1	83.5	18			291.728
7	3	65.7	18	1504	1162	548.966
8	2	87.8	18	1510		602.204
9	1	68.9	18			275.751
10	2	86.9	18	1479		1.789
11	3	80.4	18	1200	1450	687.456
12	3	62	18	1602	1241	440.594
13	2	86.3	18	1787		596.952
14	1	88.9	18			672.739
15	2	79.7	18	1671		112.687
16	2	70.4	18	1637		304.265
17	1	50.7	18			269.082

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	89.7	15	1426	1148	716.384
2	3	59.1	15	1440	1304	793.897
3	2	53.2	15	1581		513.253
4	2	64.3	15	1358		884.9
5	1	87.7	15			217.287
6	1	81.7	15			478.973
7	3	60.2	15	1651	1535	296.5
8	2	85.9	15	1230		73.417
9	2	90.7	15	1373		436.933

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	95.7	18	1413		504.066
2	2	58.7	18	1704		305.187
3	2	80.4	18	1264		531.274
4	2	82.2	18	1035		494.831
5	2	74.3	18	1585		801.799
6	2	76.4	18	1881		680.456
7	2	50	18	1416		213.553
8	3	55	18	1147	1232	577.36
9	1	97.1	18			17.187
10	2	89.3	18	1983		352.064
11	2	70.8	18	1109		542.091
12	3	83.9	18	1382	1659	192.759
13	2	72.7	18	1173		494.586
14	1	96.5	18			45.843

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	69.6	8	1245	1939	763.433
2	2	69.1	8	1383		29.212
3	1	96	8			461.134
4	1	65	8			617.811
5	2	54.3	8	1083		683.779
6	2	52.9	8	1838		63.236
7	2	70.7	8	1478		758.373
8	3	91.4	8	1817	1425	784.62
9	3	72.8	8	1999	1319	319.197
10	3	56.7	8	1650	1772	34.724
11	1	84.6	8			819.721
12	1	92.7	8			650.529
13	2	58.9	8	1117		496.286
14	2	86.9	8	1347		160.143

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	88.3	14	1742	1641	355.368
2	1	82.4	14			444.918
3	2	89.8	14	1202		463.945
4	2	85.6	14	1003		642.233
5	2	75	14	1321		397.771
6	3	95.6	14	1028	1261	79.928
7	3	90.8	14	1732	1859	507.046
8	3	60.9	14	1651	1561	620.334
9	2	91.6	14	1868		81.041
10	2	79.7	14	1913		330.299
11	1	90.3	14			59.026
12	2	63.7	14	1111		489.184
13	2	92.3	14	1691		109.692
14	3	64	14	1351	1028	550.749
15	2	75.4	14	1136		282.747
16	1	56.8	14			567.765
17	2	82.8	14	1730		323.782

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	83.3	20	1822		774.259
2	3	98.6	20	1757	1224	536.38
3	2	58.8	20	1370		904.58
4	2	66.9	20	1227		575.25
5	3	87.9	20	1665	1698	456.57
6	2	71	20	1578		464.8
7	2	82.6	20	1163		862.73
8	2	76.2	20	1683		87.95
9	3	87.4	20	1868	1501	618.92
10	3	51.9	20	1587	1964	833.73
11	1	87.2	20			695.8
12	2	86	20	1399		246.9

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	50.7	15			1005.81
2	2	54.8	15	1635		1149.34
3	2	51.5	15	1472		726.81
4	3	92.2	15	1385	1402	482.98
5	2	50.5	15	1264		12.03
6	1	94.6	15			676.94
7	1	89.1	15			862.74
8	3	65.6	15	1556	1900	993.34
9	3	81.8	15	1267	1978	1033.5
10	3	98.5	15	1494	1520	963

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	76.2	10	1132	1191	504.793
2	2	95.1	10	1150		112.318
3	2	85.7	10	1530		543.842
4	3	90.2	10	1007	1670	290.933
5	2	80.8	10	1109		298.264
6	3	55.4	10	1013	1488	491.775
7	2	59.1	10	1616		139.126
8	2	56	10	1836		443.487
9	1	55.6	10			223.018
10	3	67	10	1506	1606	420.179
11	1	52.4	10			556.111
12	1	55.6	10			624.732
13	3	96.3	10	1752	1656	589.583
14	2	59.5	10	1875		357.864
15	2	92.1	10	1250		439.825
16	1	75.7	10			321.306
17	2	97.7	10	1588		280.637
18	3	74	10	1897	1204	572.958
19	1	62.3	10			563.179

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	81.1	11	1422		783.265
2	1	72.4	11			417.691
3	2	54.9	11	1109		641.642
4	1	71	11			491.843
5	2	74.4	11	1305		794.084
6	2	74	11	1484		746.475
7	1	55.5	11			818.755
8	1	51	11			684.696
9	1	66.5	11			316.387
10	3	85.8	11	1757	1365	281.718
11	2	71.4	11	1903		860.109

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	50.7	5	1764		122.641
2	2	83.1	5	1939		665.5
3	2	88.1	5	1030		28.47
4	2	50	5	1369		485.13
5	3	54.3	5	1477	1417	607.63
6	1	81.4	5			615.98
7	3	93.6	5	1796	1183	320.55
8	1	96	5			728.14
9	1	94.7	5			252.7
10	1	77.1	5			513.96
11	2	61	5	1959		446.73
12	3	86.4	5	1036	1231	643.81
13	2	95.7	5	1568		297.28
14	2	75.1	5	1767		454.4
15	1	58.5	5			457
16	1	75.9	5			75.8

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	62.2	11			213.464
2	1	59.8	11			436.043
3	3	56.8	11	1683	1250	796.406
4	2	61.3	11	1792		85.899
5	2	84.6	11	1000		151.652
6	3	72.7	11	1538	1885	81.625
7	2	93.2	11	1085		741.238
8	1	80.6	11			447.172
9	2	90.1	11	1557		794.055
10	2	77.7	11	1207		481.928
11	1	94.4	11			155.071
12	2	71.2	11	1561		551.954
13	2	57.8	11	1526		700.277

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	2	97.1	14	1703		30.381
2	2	55.5	14	1378		1178.85
3	2	96.9	14	1078		722.66
4	3	87.4	14	1680	1994	666.48
5	3	54.5	14	1489	1195	477.06
6	2	73.5	14	1052		1024.96
7	3	65.4	14	1364	1173	45.78
8	3	79.6	14	1852	1905	180.58
9	1	77.3	14			558
10	2	55.9	14	1436		435

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	80.1	6			219.107
2	3	93	6	1531	1804	296.471
3	3	92	6	1893	1336	853.522
4	2	62.9	6	1435		271.773
5	2	97.5	6	1454		190.454
6	2	70.6	6	1800		450.635
7	3	71.2	6	1903	1958	192.775
8	3	81.4	6	1272	1217	965.606
9	1	76.3	6			343.107
10	1	89.7	6			161.528
11	3	93.1	6	1607	1524	520.009

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	66.5	10	1363		611.085
2	2	68.9	10	1525		220.153
3	2	56.6	10	1961		838.866
4	1	79.7	10			25.219
5	2	71.9	10	1314		642.412
6	2	77.9	10	1066		629.015
7	2	71.3	10	1991		668.108
8	2	93.4	10	1105		718.992
9	3	54.1	10	1691	1555	568.665
10	3	81.1	10	1045	1540	803.038
11	2	68.8	10	1626		641.781
12	1	87.9	10			586.754
13	2	85.1	10	1502		346.077

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	69.1	8	1799		191.575
2	3	76.5	8	1453	1921	488.041
3	3	93.1	8	1819	1042	530.602
4	1	55.3	8			133.083
5	1	72.4	8			214.894
6	1	82.5	8			580.845
7	2	72.4	8	1404		352.896
8	1	53.6	8			61.687
9	2	66.8	8	1316		587.928
10	1	76.6	8			323.489
11	2	51.1	8	1792		316.591
12	2	79.8	8	1753		125.152
13	1	90	8			194.113
14	3	99	8	1322	1847	542.154
15	2	85.3	8	1647		195.645
16	3	81.1	8	1832	1306	217.986
17	2	51.2	8	1118		409.337
18	2	85.2	8	1644		578.158
19	2	63.4	8	1841		536.079

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	76.9	15			347.278
2	3	88.8	15	1462	1837	95.878
3	1	50.4	15			553.91
4	1	62.5	15			38.43
5	3	75.7	15	1174	1441	243.08
6	1	59.3	15			247.15
7	1	90.9	15			254.75
8	2	97.3	15	1461		780.28
9	1	73.3	15			366.32
10	1	57.6	15			449
11	1	93.1	15			151.77
12	2	83.8	15	1614		592.24
13	3	78.1	15	1930	1645	75.9
14	1	77.3	15			770.9
15	1	91.3	15			3.3

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	74	7			900.964
2	3	83.1	7	1557	1898	1.19
3	3	62	7	1577	1380	224.21
4	2	98.3	7	1851		565.19
5	2	91.2	7	1680		727.69
6	2	57.9	7	1137		202.66
7	2	72.4	7	1666		616.68
8	1	59.3	7			504.37
9	1	67	7			285.5
10	1	80.6	7			665.46
11	1	75.5	7			60.9
12	2	76.5	7	1349		865.2

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	85.5	18	1893	1764	783.815
2	2	66.7	18	1362		116.331
3	2	98.6	18	1048		369.7
4	3	55.5	18	1982	1556	111.98
5	3	56.3	18	1074	1709	448.89
6	2	98.7	18	1998		541.3
7	3	63.3	18	1856	1660	436.02
8	1	85.3	18			44.68
9	3	75.3	18	1354	1377	474.54
10	3	81.7	18	1590	1547	109.08
11	3	65.9	18	1402	1317	493.04
12	2	85.8	18	1332		728.36
13	3	93.1	18	1313	1752	727
14	3	97.8	18	1277	1851	690.9
15	2	81	18	1535		574.6

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	57.8	13	1837	1286	526.176
2	2	55.1	13	1037		172.185
3	2	59.1	13	1427		140.502
4	3	65.6	13	1990	1634	138.903
5	1	75.6	13			123.394
6	2	87.6	13	1881		132.655
7	2	96.6	13	1314		97.426
8	2	78	13	1831		107.257
9	2	62.3	13	1950		136.478
10	2	64.7	13	1048		126.509
11	1	67.5	13			606.351
12	1	90	13			163.142
13	3	55.4	13	1795	1529	359.443
14	1	79.5	13			104.634
15	3	64.5	13	1557	1780	364.215
16	1	84.6	13			610.616
17	2	87.6	13	1208		272.137
18	2	69.5	13	1867		208.958
19	2	65	13	1098		601.279

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	66.8	12	1588		641.652
2	2	98.3	12	1401		410.408
3	3	73.5	12	1982	1587	349.925
4	2	74.7	12	1908		301.333
5	2	95.2	12	1836		469.011
6	3	78.8	12	1443	1820	123.148
7	3	79.6	12	1606	1004	149.476
8	3	69.1	12	1240	1055	248.194
9	3	52.2	12	1586	1876	315.781
10	2	76.8	12	1319		661.829
11	2	61.4	12	1241		376.696
12	2	57.1	12	1564		396.994
13	3	62	12	1250	1649	531.342
14	1	87.7	12			619.269
15	2	81.7	12	1346		174.347
16	2	60	12	1742		545.765
17	3	98.7	12	1832	1421	17.282

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	80	8			514.898
2	1	60.4	8			285.485
3	2	62.9	8	1119		146.342
4	3	89.7	8	1020	1748	569.083
5	2	70.9	8	1364		127.544
6	1	60.2	8			170.775
7	3	77	8	1797	1327	441.216
8	1	77.1	8			163.957
9	2	75.8	8	1767		395.518
10	2	84.1	8	1879		589.579
11	2	60.4	8	1964		305.501
12	3	78.6	8	1968	1909	616.702
13	3	59.3	8	1334	1827	65.993
14	1	77.8	8			45.844
15	2	93.5	8	1421		624.205
16	2	78.5	8	1292		442.456
17	2	98	8	1336		145.937
18	2	82.6	8	1052		362.758
19	2	63.7	8	1057		559.979

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	58.5	12	1863		204.952
2	2	61	12	1334		1263.14
3	2	90.7	12	1423		1299.19
4	3	96.3	12	1876	1245	1026.41
5	2	74.9	12	1494		256.63
6	2	50.4	12	1878		769.7
7	2	94.4	12	1811		372.94
8	3	85.6	12	1711	1905	1336.5

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	2	77.8	6	1286		196.592
2	3	81.7	6	1739	1958	501.06
3	3	90.6	6	1471	1071	268.63
4	1	58.9	6			414.34
5	2	65.9	6	1053		82.92
6	2	90	6	1508		424.64
7	3	72.4	6	1258	1381	240.72
8	2	97.9	6	1337		201.9
9	3	66.2	6	1933	1599	456.06
10	3	58.4	6	1380	1678	136.08
11	1	99.3	6			259.5
12	2	91.5	6	1801		88.13
13	1	85.1	6			163.03
14	1	97.5	6			201.79
15	2	94.2	6	1636		30.72
16	1	62.8	6			210.59
17	2	80.3	6	1352		210.33
18	2	98.4	6	1847		438.2
19	2	93.7	6	1718		192.7
20	3	97.1	6	1183	1744	44.9

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	1	96	7			535.766
2	3	59.8	7	1208	1476	834.44
3	2	74.2	7	1773		686.41
4	1	75.7	7			601.58
5	2	53.6	7	1522		159.06
6	2	56.6	7	1941		700.77
7	2	97.6	7	1689		924.4
8	1	76.7	7			488.77
9	1	95.7	7			79.26
10	2	65.9	7	1759		182.88
11	2	87.6	7	1840		821.3
12	3	85.5	7	1023	1257	277.5

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	55.7	8			846.683
2	1	87	8			176.23
3	1	84.9	8			430.5
4	1	73.6	8			715.67
5	2	81.5	8	1550		806.18
6	2	99.4	8	1108		880.35
7	2	76.9	8	1997		212.64
8	2	86.3	8	1737		343.94
9	3	98.5	8	1768	1336	149.78
10	3	64	8	1593	1520	480.34
11	2	83.7	8	1385		733.7
12	2	52.5	8	1080		642.7

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	0	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)
3	5516	9	3	5513	9
7	5529	21	29	5494	87
48	5499	144	52	5506	156
67	5490	201	58	5528	174
70	5505	210	63	5503	189
--	--	--	82	5501	246
--	--	--	89	5521	267
--	--	--	94	5497	282

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5504	27	21	5511	63
24	5500	72	30	5529	90
25	5511	75	55	5522	165
38	5490	114	58	5523	174
54	5510	162	63	5527	189
58	5496	174	69	5505	207
91	5494	273	74	5494	222
93	5515	279	86	5490	258
--	--	--	89	5497	267
--	--	--	91	5500	273

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5518	24	6	5491	18
16	5514	48	17	5511	51
20	5525	60	26	5529	78
23	5509	69	65	5504	195
33	5500	99	79	5499	237
50	5529	150	84	5510	252
60	5506	180	94	5506	282
75	5501	225	--	--	--
92	5520	276			
96	5515	288			

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5490	6	3	5521	9
9	5517	27	27	5494	81
14	5492	42	28	5502	84
20	5525	60	33	5495	99
33	5497	99	40	5528	120
37	5506	111	42	5514	126
43	5514	129	57	5526	171
67	5519	201	61	5513	183
73	5491	219	92	5508	276
--	--	--	97	5505	291
--	--	--	98	5522	294

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
11	5524	33	13	5516	39
13	5498	39	33	5499	99
17	5497	51	54	5523	162
45	5525	135	57	5526	171
52	5523	156	70	5517	210
58	5502	174	76	5492	228
63	5490	189	84	5513	252
65	5494	195	95	5528	285
69	5495	207	--	--	--
75	5521	225	--	--	--
76	5526	228	--	--	--
95	5496	285	--	--	--

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5503	9	21	5490	63
21	5517	63	24	5507	72
26	5498	78	32	5518	96
28	5492	84	33	5491	99
36	5502	108	43	5517	129
62	5512	186	55	5492	165
69	5491	207	62	5505	186
73	5495	219	63	5520	189
83	5520	249	67	5504	201
88	5501	264	93	5526	279

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
35	5526	105	6	5497	18
36	5520	108	12	5498	36
37	5502	111	14	5515	42
42	5525	126	15	5500	45
57	5503	171	56	5505	168
59	5501	177	64	5509	192
87	5507	261	75	5522	225
89	5499	267	79	5530	237
90	5498	270	86	5504	258
99	5497	297	92	5526	276
--	--	--	96	5529	288

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5500	9	3	5499	9
10	5503	30	8	5510	24
26	5519	78	28	5519	84
30	5499	90	31	5493	93
54	5508	162	33	5495	99
56	5507	168	36	5497	108
75	5518	225	39	5513	117
--	--	--	63	5500	189
--	--	--	64	5521	192
--	--	--	73	5502	219
--	--	--	87	5492	261
--	--	--	88	5529	264
--	--	--	93	5514	279
--	--	--	99	5506	297

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5507	30	31	5524	93
12	5501	36	38	5513	114
36	5525	108	46	5528	138
55	5493	165	48	5526	144
68	5505	204	67	5512	201
73	5490	219	70	5503	210
81	5495	243	84	5509	252
88	5494	264	86	5516	258
89	5526	267	94	5507	282
92	5506	276	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5511	6	17	5528	51
15	5529	45	20	5490	60
24	5491	72	33	5515	99
33	5528	99	34	5502	102
43	5496	129	35	5529	105
54	5515	162	39	5507	117
86	5508	258	48	5514	144
98	5519	294	52	5497	156
--	--	--	69	5492	207
--	--	--	72	5503	216
--	--	--	77	5512	231
--	--	--	79	5500	237
--	--	--	81	5519	243

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
16	5490	48	2	5528	6
27	5526	81	55	5516	165
32	5513	96	59	5519	177
33	5509	99	60	5515	180
35	5525	105	67	5527	201
77	5516	231	--	--	--
80	5520	240	--	--	--
83	5492	249	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
20	5494	60	35	5528	105
23	5506	69	37	5498	111
25	5503	75	39	5501	117
30	5493	90	46	5520	138
40	5522	120	47	5509	141
63	5497	189	53	5496	159
65	5527	195	69	5515	207
69	5517	207	77	5494	231
87	5530	261	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5491	15	12	5524	36
14	5499	42	16	5507	48
19	5524	57	20	5502	60
30	5521	90	23	5508	69
48	5490	144	35	5525	105
58	5508	174	38	5493	114
67	5509	201	43	5518	129
72	5523	216	45	5510	135
82	5507	246	69	5503	207
95	5526	285	76	5520	228
--	--	--	86	5523	258

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5497	12	10	5498	30
17	5494	51	28	5500	84
64	5506	192	30	5494	90
72	5504	216	37	5521	111
81	5507	243	47	5509	141
94	5516	282	78	5504	234
98	5515	294	80	5530	240
--	--	--	89	5510	267
--	--	--	91	5493	273

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
29	5517	87	12	5493	36
30	5522	90	20	5520	60
68	5518	204	37	5505	111
84	5502	252	38	5498	114
88	5521	264	72	5513	216
--	--	--	78	5506	234
--	--	--	79	5494	237
--	--	--	92	5504	276
--	--	--	96	5530	288
--	--	--	100	5512	300

Product	AC750 Wi-Fi Range Extender	Test Engineer	Jake Lan
Test Site	WZ-SR4	Test Date	2020/12/22
Test Item	Radar Statistical Performance Check (802.11ac-VHT80 mode – 5530MHz)		
Test Mode	Mesh mode		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5531.8	1.0	718	74	1
2	5541.3	1.0	858	62	1
3	5526.3	1.0	718	74	1
4	5497.5	1.0	538	98	1
5	5492.0	1.0	518	102	1
6	5513.0	1.0	618	86	1
7	5501.5	1.0	618	86	1
8	5519.1	1.0	658	81	1
9	5526.3	1.0	518	102	1
10	5550.5	1.0	918	58	1
11	5494.1	1.0	538	98	1
12	5531.9	1.0	578	92	1
13	5534.7	1.0	558	95	1
14	5534.6	1.0	798	67	1
15	5537.6	1.0	758	70	1
16	5550.7	1.0	938	57	1
17	5511.8	1.0	718	74	1
18	5566.6	1.0	838	63	1
19	5508.4	1.0	518	102	1
20	5530.2	1.0	658	81	1
21	5517.8	1.0	558	95	1
22	5540.5	1.0	798	67	1
23	5506.5	1.0	878	61	1
24	5551.8	1.0	638	83	1
25	5506.6	1.0	558	95	1
26	5551.8	1.0	558	95	1
27	5552.8	1.0	558	95	1
28	5534.1	1.0	838	63	1
29	5536.8	1.0	678	78	1

30	5541.3	1.0	898	59	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	5531.8	2.4	210	24	0
2	5541.3	1.8	222	29	1
3	5526.3	2.9	180	24	1
4	5497.5	2.5	164	25	1
5	5492.0	2.7	215	26	1
6	5513.0	3.4	229	26	0
7	5501.5	3.0	153	24	0
8	5519.1	1.7	195	27	1
9	5526.3	4.9	224	23	1
10	5550.5	3.9	185	27	1
11	5494.1	2.4	212	24	1
12	5531.9	1.0	222	27	1
13	5534.7	2.6	224	29	1
14	5534.6	2.8	160	25	1
15	5537.6	1.3	181	24	0
16	5550.7	4.5	224	23	1
17	5511.8	3.9	175	26	1
18	5566.6	3.2	219	24	1
19	5508.4	1.2	203	23	1
20	5530.2	4.7	178	24	1
21	5517.8	4.4	225	27	1
22	5540.5	2.7	155	29	1
23	5506.5	3.8	193	28	1
24	5551.8	4.0	168	23	1
25	5506.6	4.8	189	24	1
26	5551.8	1.8	172	26	1
27	5552.8	4.1	188	23	1
28	5534.1	1.9	190	24	1
29	5536.8	1.8	174	29	1
30	5541.3	4.8	197	26	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	5531.8	9.1	396	17	1
2	5541.3	8.8	271	16	1
3	5526.3	6.1	426	17	0
4	5497.5	6.6	365	17	1
5	5492.0	8.8	332	16	1
6	5513.0	7.1	465	16	1
7	5501.5	6.2	206	18	1
8	5519.1	7.3	441	16	1
9	5526.3	7.1	297	18	1
10	5550.5	8.9	424	17	1
11	5494.1	7.1	324	16	1
12	5531.9	9.4	299	16	1
13	5534.7	9.6	276	17	1
14	5534.6	8.4	423	17	1
15	5537.6	9.4	274	17	1
16	5550.7	9.5	338	18	1
17	5511.8	8.1	469	16	1
18	5566.6	9.6	346	16	1
19	5508.4	7.5	453	17	1
20	5530.2	8.6	343	18	1
21	5517.8	7.1	451	17	0
22	5540.5	6.9	245	18	1
23	5506.5	7.8	460	16	1
24	5551.8	7.1	458	18	1
25	5506.6	6.6	278	17	1
26	5551.8	7.4	480	17	1
27	5552.8	7.4	421	16	1
28	5534.1	9.6	460	17	1
29	5536.8	9.5	311	16	1
30	5541.3	9.6	227	16	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	5531.8	13.6	319	15	1
2	5541.3	14.4	233	15	1
3	5526.3	13.1	497	14	1
4	5497.5	11.2	263	16	1
5	5492.0	18.3	337	12	1
6	5513.0	11.6	397	15	1
7	5501.5	14.6	356	16	1
8	5519.1	15.4	254	12	1
9	5526.3	16.4	425	14	1
10	5550.5	19.9	478	14	0
11	5494.1	18.9	399	13	0
12	5531.9	15.5	337	13	1
13	5534.7	18.4	283	16	1
14	5534.6	16.5	308	12	1
15	5537.6	14.8	349	16	1
16	5550.7	15.5	365	14	0
17	5511.8	15.7	483	13	0
18	5566.6	11.2	298	14	1
19	5508.4	14.4	395	14	1
20	5530.2	19.2	310	15	1
21	5517.8	19.2	375	14	1
22	5540.5	11.9	355	14	1
23	5506.5	16.2	426	13	1
24	5551.8	18.3	214	13	1
25	5506.6	19.5	422	15	0
26	5551.8	12.5	345	13	1
27	5552.8	16.6	421	13	1
28	5534.1	19.2	392	15	1
29	5536.8	13.3	342	13	1
30	5541.3	18.9	216	14	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: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4}$ = (100%+86.7%+93.3%+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	5530.0	1	16	5496.2	1
2	5530.0	1	17	5497.8	1
3	5530.0	1	18	5493.0	1
4	5530.0	1	19	5499.0	1
5	5530.0	1	20	5493.8	0
6	5530.0	1	21	5567.0	1
7	5530.0	0	22	5565.4	1
8	5530.0	1	23	5565.4	1
9	5530.0	1	24	5565.4	1
10	5530.0	1	25	5566.6	1
11	5494.2	1	26	5565.0	1
12	5499.0	1	27	5565.0	1
13	5493.0	1	28	5562.2	0
14	5495.0	1	29	5564.6	1
15	5493.4	1	30	5565.4	1
Detection Percentage (%)					90%

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	70.4	9	1101	1767	612.72
2	1	98.9	9			15
3	2	55.9	9	1697		24.972
4	2	54.7	9	1244		288.923
5	1	98.2	9			578.864
6	2	62.3	9	1104		86.505
7	2	57.9	9	1236		606.156
8	2	79.7	9	1444		424.687
9	3	80.2	9	1333	1599	594.298
10	1	98.2	9			156.049
11	1	83.6	9			623.741
12	1	58.4	9			277.912
13	3	94.1	9	1431	1031	38.873
14	2	98.6	9	1410		603.084
15	2	86.5	9	1428		306.685
16	2	77.5	9	1157		128.856
17	3	79.1	9	1906	1444	540.837
18	2	56.4	9	1643		83.258
19	3	85.6	9	1802	1394	507.279

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	82.7	15	1789	1010	421.955
2	2	91	15	1065		84.141
3	2	87.7	15	1922		145.417
4	2	61.3	15	1197		659.65
5	1	60	15			493.083
6	2	78.8	15	1348		518.817
7	2	63.2	15	1466		193.9
8	1	68.4	15			394.603
9	3	50.9	15	1087	1835	18.597
10	1	95.1	15			77.17
11	3	67.5	15	1810	1763	268.413
12	1	82.2	15			269.467
13	1	97.3	15			268.77
14	3	68.1	15	1527	1130	204.363
15	2	52.5	15	1733		497.107
16	2	51.4	15	1441		58.8
17	2	72.6	15	1693		332.433
18	2	57.5	15	1599		52.167

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	51.3	15			331.887
2	1	84.7	15			465.703
3	2	81.1	15	1592		478.706
4	3	81.9	15	1360	1726	508.339
5	3	67.8	15	1788	1995	372.172
6	2	57.2	15	1314		127.715
7	1	56.6	15			881.388
8	3	82.9	15	1499	1687	752.112
9	1	50.5	15			533.905
10	1	82.6	15			654.598
11	2	72.7	15	1461		327.051
12	2	72.2	15	1965		370.254
13	2	87.1	15	1590		442.577

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	1	92.6	7			680.835
2	3	67.7	7	1337	1061	282.69
3	2	99.4	7	1036		155.7
4	2	57.9	7	1957		184.3
5	2	87	7	1250		165.04
6	2	82.8	7	1505		381.25
7	1	93.6	7			314.99
8	2	62.6	7	1834		53.2
9	1	61.4	7			581.6
10	2	76	7	1993		146.33
11	3	57.9	7	1558	1819	365.25
12	2	91.2	7	1371		2.97
13	2	88.8	7	1482		374.66
14	3	93.6	7	1095	1941	374.9
15	1	51.3	7			700.7
16	3	58.7	7	1598	1407	601.5

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	53.3	5	1805		391.877
2	2	80	5	1996		263.887
3	3	55.4	5	1893	1040	1324.053
4	3	78.7	5	1953	1510	93.12
5	1	52.6	5			60.137
6	1	70.8	5			1246.773
7	2	54.4	5	1535		67.45
8	1	64.6	5			125.837
9	2	78.1	5	1879		418.633

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	57.4	16	1431		811.246
2	3	70.7	16	1578	1868	287.073
3	2	60.2	16	1077		90.506
4	2	81.5	16	1921		306.309
5	3	52.7	16	1252	1272	2.162
6	2	55.3	16	1183		803.025
7	1	89.1	16			284.698
8	2	57.4	16	1994		198.952
9	2	50.9	16	1675		553.215
10	2	80.8	16	1606		196.318
11	3	72.2	16	1936	1770	139.691
12	2	83.1	16	1868		64.654
13	2	98.2	16	1301		882.777

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	87.1	7	1669		641.02
2	2	86.5	7	1809		922.66
3	2	56.6	7	1812		615.69
4	3	83.7	7	1265	1474	368.07
5	3	59	7	1881	1393	865.2
6	3	62.7	7	1572	1557	550.31
7	2	63.2	7	1495		984.87
8	2	93.8	7	1733		614.5

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	3	74.8	7	1456	1812	870.695
2	2	64.3	7	1825		632.657
3	2	89.7	7	1119		670.303
4	1	96.1	7			1150.62
5	2	72.9	7	1840		563.837
6	2	54.6	7	1884		371.693
7	1	64	7			992.35
8	1	82.6	7			107.397
9	1	71.5	7			529.333

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	78.8	7			477.856
2	3	93.5	7	1879	1975	169.483
3	1	92.5	7			151.726
4	1	57.1	7			712.639
5	2	86.7	7	1596		383.142
6	2	71.5	7	1813		534.755
7	3	87.8	7	1012	1930	561.438
8	2	51.4	7	1521		398.232
9	3	74.7	7	1917	1496	691.215
10	3	58.5	7	1961	1818	627.268
11	2	81.3	7	1062		333.291
12	2	51.9	7	1296		781.954
13	2	69.1	7	1889		59.477

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	71.2	9	1762		494.279
2	3	71.8	9	1663	1960	306.157
3	2	66	9	1083		745.294
4	2	59.6	9	1451		733.931
5	1	98.4	9			359.529
6	2	51.7	9	1263		302.046
7	1	89.5	9			202.793
8	1	86.7	9			454.16
9	3	58.1	9	1972	1494	490.347
10	3	86.1	9	1146	1056	45.914
11	2	56.2	9	1101		481.791
12	1	93.9	9			437.459
13	1	57.8	9			849.686
14	2	73.9	9	1917		191.343

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	65.5	8			739.587
2	3	80.6	8	1377	1224	834.323
3	1	99.3	8			24.846
4	2	64.2	8	1279		335.109
5	2	98.6	8	1562		581.662
6	2	56.8	8	1838		310.425
7	3	64.7	8	1932	1473	658.188
8	2	87.8	8	1809		188.422
9	2	92.5	8	1578		88.025
10	2	72.1	8	1830		45.428
11	2	66.9	8	1243		734.071
12	2	74.3	8	1868		420.054
13	2	88.4	8	1279		276.877

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	2	72.3	20	1649		802.47
2	1	92.3	20			0.06
3	1	83.4	20			432.95
4	2	88.5	20	1753		239.46
5	1	94.7	20			324.59
6	2	87.6	20	1493		660.5
7	3	55.9	20	1399	1911	943.83
8	2	55.5	20	1023		255.23
9	1	73.9	20			266.63
10	1	88.6	20			68.01
11	2	59.9	20	1241		16.9
12	2	56.6	20	1264		977.8

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	92	5	1824	1554	112.542
2	1	57.9	5			139.864
3	3	62.5	5	1406	1968	384.06
4	2	83.4	5	1397		414.11
5	2	85.3	5	1985		214.04
6	2	83.4	5	1692		452.47
7	2	54.2	5	1443		18.26
8	1	79.3	5			287.09
9	1	68.1	5			269.67
10	1	62	5			570.85
11	1	86.4	5			549.42
12	3	62.2	5	1275	1980	394.97
13	1	60.1	5			359.98
14	2	99.3	5	1702		419.3
15	3	83.5	5	1699	1458	443.1
16	2	54.8	5	1350		283.8

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	62.8	10			735.528
2	1	71.5	10			476.753
3	2	55.2	10	1465		763.686
4	2	57.3	10	1546		385.439
5	3	88	10	1351	1293	272.512
6	3	85.2	10	1399	1545	377.865
7	1	79.9	10			655.468
8	2	63.1	10	1442		391.912
9	2	84.3	10	1969		631.175
10	2	94.3	10	1840		48.698
11	3	76.7	10	1349	1176	230.001
12	2	91.1	10	1927		375.754
13	2	88.3	10	1215		380.977

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	52.3	6			691.569
2	1	94.7	6			452.9
3	3	98.8	6	1200	1227	680.69
4	2	66.4	6	1827		701.3
5	3	99	6	1001	1624	286.73
6	1	72.8	6			234.78
7	1	74.1	6			527.88
8	1	74	6			674.57
9	3	71.8	6	1358	1855	236.67
10	3	77.1	6	1183	1712	641.26
11	2	85.7	6	1281		445.8
12	2	67.8	6	1070		11.68
13	2	65.6	6	1163		324.58
14	3	85.7	6	1029	1982	578.2
15	1	87.8	6			134.3
16	1	92.6	6			653.8

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	61.2	13	1361	1185	560.237
2	2	77.7	13	1757		504.027
3	3	83.8	13	1433	1745	689.334
4	2	89.3	13	1945		72.541
5	2	64.5	13	1646		835.139
6	3	67.5	13	1894	1568	512.516
7	2	73.9	13	1639		260.443
8	1	85	13			358.05
9	3	84.8	13	1525	1960	460.067
10	1	71	13			433.734
11	1	59.5	13			783.771
12	2	78.5	13	1739		123.879
13	3	52	13	1762	1961	695.986
14	2	88.3	13	1179		566.543

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	50.1	17			275.362
2	2	53.5	17	1784		437.04
3	2	98.1	17	1831		476.88
4	3	77.2	17	1215	1372	50.97
5	1	56.3	17			167.14
6	3	76.8	17	1707	1538	40.16
7	2	86.9	17	1511		279.26
8	3	60	17	1668	1289	529.03
9	1	57.3	17			177.42
10	1	60.1	17			187.41
11	2	58.1	17	1391		79.46
12	1	84.3	17			572.1
13	3	72.8	17	1656	1083	423.92
14	3	99.8	17	1401	1234	252.17
15	3	76.1	17	1336	1055	168.19
16	2	79.1	17	1268		423.65
17	1	92.1	17			109.69
18	1	74.1	17			380.9
19	3	83.8	17	1811	1305	53
20	1	63	17			496.3

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	3	92.4	5	1579	1269	378.756
2	3	53	5	1924	1890	556.92
3	2	93.7	5	1004		17.55
4	3	63.7	5	1967	1411	513.06
5	1	65.2	5			211.25
6	2	93.5	5	1972		384.96
7	2	80.8	5	1000		32.26
8	3	77	5	1794	1357	51.84
9	1	96.6	5			60.35
10	2	72.5	5	1066		411.1
11	2	96.7	5	1343		337.99
12	1	53.7	5			251.21
13	2	54.1	5	1324		589.94
14	2	72	5	1860		108.07
15	1	55.6	5			132.17
16	2	72.3	5	1460		460.66
17	1	92.1	5			35.32
18	1	94.8	5			287
19	3	90.2	5	1211	1025	455.8
20	2	94.5	5	1428		525

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	60.2	20	1654		1021.43
2	3	56.5	20	1687	1845	1266.377
3	2	62.6	20	1824		373.103
4	1	97.2	20			882.51
5	2	89.5	20	1413		943.537
6	2	89.3	20	1450		1032.403
7	2	89.6	20	1120		966.84
8	1	52.8	20			661.477
9	2	58.7	20	1710		1031.133

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	97.8	7	1298		489.718
2	2	60.6	7	1743		425.38
3	3	55.9	7	1242	1693	219.4
4	2	93.8	7	1142		350.4
5	2	91.7	7	1328		103.45
6	3	76.7	7	1489	1322	534.18
7	2	74	7	1145		166.2
8	3	97.1	7	1971	1395	746.22
9	2	58.2	7	1294		387.1
10	1	97.3	7			469.91
11	2	86.4	7	1021		473.74
12	2	85.2	7	1886		377.67
13	2	61	7	1639		369.08
14	3	67.5	7	1376	1418	234.4
15	2	95.7	7	1299		297.2

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	97.9	5	1058		551.799
2	2	53	5	1447		202.74
3	1	98.3	5			650.4
4	1	96.2	5			779.84
5	2	54.8	5	1036		114.4
6	2	89.5	5	1665		134.47
7	2	57.4	5	1285		268.89
8	3	67.3	5	1171	1227	812.78
9	3	59.9	5	1146	1619	948.06
10	3	66.2	5	1591	1160	630.94
11	3	80.8	5	1755	1356	122.3
12	3	73.7	5	1098	1845	795.5

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	72.3	9	1514		77.779
2	1	53.2	9			435.917
3	2	96	9	1946		282.113
4	3	82.5	9	1077	1459	1054.57
5	2	74.7	9	1445		1031.037
6	2	79.5	9	1611		238.833
7	1	67.5	9			108.56
8	2	85.9	9	1451		1137.567
9	1	70.3	9			266.633

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	91.6	9	1293		283.174
2	2	54.1	9	1579		741.1
3	1	74.4	9			524.33
4	2	60.3	9	1970		371.47
5	2	93.8	9	1409		682.87
6	1	89.3	9			680.04
7	1	99.4	9			243.07
8	1	82.4	9			164.98
9	2	67.2	9	1071		151
10	2	74.2	9	1028		323.58
11	3	92.6	9	1024	1131	335.28
12	2	89.1	9	1194		298.82
13	3	94.2	9	1914	1913	147.07
14	1	76.9	9			491.9
15	3	57.4	9	1253	1070	218.8
16	1	66.6	9			658.9

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	83.7	9	1386	1099	886.667
2	1	53	9			302.043
3	3	86	9	1139	1681	633.226
4	2	60.5	9	1383		387.679
5	2	78.8	9	1254		122.602
6	3	60.5	9	1735	1748	370.075
7	2	54.2	9	1669		834.308
8	3	75.4	9	1504	1116	500.732
9	2	55.6	9	1936		537.815
10	2	86.4	9	1227		353.488
11	3	59.2	9	1787	1057	699.491
12	3	79.8	9	1717	1636	811.454
13	2	84.3	9	1822		442.477

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	76.1	6	1737		666.398
2	1	64.4	6			184.115
3	3	84.3	6	1641	1712	113.66
4	2	84.8	6	1778		382.13
5	1	97.8	6			409.59
6	2	81.7	6	1492		276.14
7	2	63.6	6	1034		193.84
8	3	61.9	6	1810	1415	615.96
9	1	76.3	6			400.92
10	3	52.3	6	1110	1168	149.74
11	1	65.2	6			555.06
12	2	89.8	6	1523		346.61
13	2	65.7	6	1335		711.6
14	3	58.2	6	1712	1276	767.1
15	1	78.2	6			473.9

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	60.4	10	1488		962.609
2	2	93.3	10	1959		65.117
3	2	74.9	10	1947		505.773
4	1	69.2	10			980.18
5	3	78.7	10	1254	1524	893.257
6	3	69.3	10	1683	1796	555.563
7	3	56.7	10	1648	1377	1154.75
8	1	91.4	10			65.157
9	3	87.1	10	1660	1709	596.033

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	77.4	10	1197		202.309
2	1	93.5	10			311.648
3	3	86.5	10	1558	1660	77.737
4	1	89.5	10			13.48
5	2	92.9	10	1846		183.033
6	3	56.6	10	1500	1033	494.427
7	3	87.7	10	1995	1329	571.36
8	3	89.4	10	1530	1063	141.503
9	3	89.8	10	1111	1259	529.987
10	1	97	10			169.68
11	1	59.5	10			258.773
12	2	68.5	10	1971		120.527
13	2	91.7	10	1797		329.46
14	2	84	10	1637		14.043
15	1	51.3	10			658.317
16	3	89.8	10	1106	1199	34
17	1	92.4	10			319.933
18	2	52.5	10	1889		128.167

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	51.6	17	1765		304.82
2	2	54.2	17	1157		358.573
3	2	54.2	17	1954		376.327
4	3	94.4	17	1254	1037	72.52
5	3	70.6	17	1821	1595	472.293
6	1	97	17			369.247
7	2	61.3	17	1276		296.74
8	1	93.2	17			258.413
9	1	82.8	17			378.387
10	2	81.4	17	1031		510.69
11	3	83.6	17	1650	1480	630.833
12	2	50.8	17	1894		511.647
13	2	81	17	1948		522.57
14	2	72.8	17	1254		115.863
15	2	91	17	1274		137.937
16	1	81.3	17			211.6
17	2	97.7	17	1941		582.133
18	2	84	17	1786		118.067

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	55.7	11	1869		397.923
2	1	59	11			826.327
3	1	78	11			464.034
4	3	90.3	11	1888	1797	314.251
5	1	75.7	11			676.659
6	2	97.4	11	1860		60.856
7	2	51.8	11	1882		459.303
8	2	93.6	11	1521		313.77
9	3	80	11	1079	1362	633.757
10	1	79.1	11			802.314
11	1	92.6	11			172.051
12	1	62.9	11			758.929
13	2	86.8	11	1036		157.886
14	1	98.3	11			609.243

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	68.9	9	1508		513.153
2	3	57.6	9	1153	1762	468.761
3	2	85.6	9	1195		284.142
4	2	92	9	1081		265.523
5	2	90.1	9	1459		395.204
6	2	89.3	9	1884		248.145
7	3	76.3	9	1292	1262	395.606
8	2	75.7	9	1497		381.427
9	1	72.4	9			206.428
10	2	83.4	9	1709		515.589
11	2	79.1	9	1904		346.611
12	1	81.3	9			549.072
13	1	62	9			417.843
14	3	90.5	9	1168	1890	621.344
15	2	85.4	9	1604		64.125
16	2	53.7	9	1519		552.916
17	3	69.2	9	1821	1486	526.237
18	3	87.5	9	1339	1439	572.258
19	1	52	9			489.079

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)
3	5.521	9	1	5.491	3
4	5.553	12	16	5.541	48
10	5.547	30	20	5.5	60
11	5.532	33	23	5.508	69
17	5.552	51	37	5.509	111
19	5.568	57	43	5.553	129
23	5.541	69	47	5.545	141
24	5.498	72	57	5.511	171
37	5.57	111	59	5.532	177
38	5.561	114	70	5.505	210
43	5.514	129	72	5.518	216
51	5.544	153	77	5.537	231
54	5.538	162	87	5.534	261
60	5.548	180	96	5.567	288
66	5.507	198	--	--	--
70	5.555	210	--	--	--
75	5.505	225	--	--	--
82	5.502	246	--	--	--
84	5.513	252	--	--	--
86	5.496	258	--	--	--
88	5.543	264	--	--	--
89	5.524	267	--	--	--
95	5.518	285	--	--	--
100	5.526	300	--	--	--

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5.531	6	2	5.561	6
3	5.505	9	9	5.518	27
10	5.515	30	27	5.556	81
15	5.54	45	31	5.509	93
43	5.548	129	38	5.516	114
47	5.498	141	39	5.513	117

60	5.551	180	42	5.568	126
75	5.533	225	43	5.551	129
79	5.512	237	51	5.528	153
80	5.547	240	58	5.564	174
84	5.538	252	70	5.569	210
93	5.5	279	74	5.558	222
--	--	--	77	5.52	231
--	--	--	78	5.512	234
--	--	--	86	5.532	258
--	--	--	88	5.492	264
--	--	--	89	5.554	267
--	--	--	99	5.495	297

Radar waveform #5			**Radar waveform #6**		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5.549	24	7	5.555	21
16	5.565	48	9	5.52	27
23	5.504	69	14	5.566	42
38	5.501	114	17	5.523	51
41	5.525	123	24	5.516	72
49	5.558	147	31	5.546	93
56	5.55	168	32	5.549	96
59	5.521	177	33	5.57	99
63	5.506	189	34	5.556	102
65	5.552	195	39	5.54	117
74	5.498	222	45	5.51	135
78	5.539	234	54	5.565	162
80	5.57	240	58	5.558	174
83	5.544	249	62	5.499	186
86	5.522	258	76	5.511	228
97	5.567	291	79	5.533	237
98	5.542	294	80	5.548	240
--	--	--	81	5.512	243
--	--	--	82	5.532	246
--	--	--	94	5.561	282

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5.503	21	11	5.503	33
9	5.553	27	13	5.54	39
11	5.523	33	14	5.522	42
14	5.518	42	20	5.557	60
17	5.538	51	30	5.529	90
25	5.524	75	31	5.554	93
36	5.511	108	33	5.508	99
39	5.505	117	41	5.512	123
41	5.496	123	47	5.499	141
45	5.526	135	48	5.517	144
64	5.54	192	50	5.516	150
65	5.535	195	64	5.502	192
76	5.515	228	65	5.562	195
88	5.559	264	71	5.509	213
90	5.568	270	72	5.556	216
93	5.52	279	74	5.525	222
94	5.531	282	83	5.53	249
--	--	--	86	5.544	258
--	--	--	96	5.546	288
--	--	--	98	5.495	294

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5.565	36	4	5.498	12
14	5.503	42	7	5.528	21
20	5.556	60	14	5.564	42
22	5.496	66	15	5.494	45
26	5.568	78	41	5.529	123
35	5.541	105	47	5.527	141
46	5.511	138	53	5.517	159
47	5.53	141	68	5.539	204
54	5.514	162	70	5.56	210
55	5.566	165	80	5.52	240
65	5.524	195	84	5.493	252
66	5.545	198	94	5.522	282
70	5.55	210	95	5.523	285
77	5.548	231	99	5.504	297
84	5.502	252	--	--	--
86	5.498	258	--	--	--
94	5.551	282	--	--	--

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5.517	3	3	5.546	9
9	5.562	27	14	5.525	42
10	5.529	30	22	5.496	66
11	5.56	33	25	5.516	75
14	5.534	42	28	5.513	84
20	5.496	60	33	5.545	99
23	5.522	69	42	5.542	126
25	5.548	75	48	5.567	144
34	5.521	102	49	5.498	147
35	5.54	105	50	5.499	150
37	5.541	111	56	5.521	168
40	5.497	120	76	5.56	228
44	5.502	132	77	5.497	231

52	5.516	156	80	5.527	240
59	5.531	177	83	5.505	249
60	5.545	180	93	5.561	279
68	5.557	204	95	5.568	285
72	5.52	216	96	5.541	288
75	5.561	225	100	5.518	300
81	5.564	243	--	--	--
91	5.532	273	--	--	--
94	5.527	282	--	--	--
96	5.546	288	--	--	--

Radar waveform #13			**Radar waveform #14**		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5.497	3	10	5.511	30
9	5.539	27	18	5.523	54
14	5.501	42	25	5.514	75
24	5.492	72	48	5.534	144
29	5.523	87	64	5.507	192
38	5.565	114	68	5.553	204
50	5.515	150	69	5.492	207
53	5.5	159	71	5.566	213
60	5.512	180	73	5.541	219
63	5.519	189	74	5.555	222
68	5.511	204	80	5.54	240
84	5.559	252	81	5.491	243
86	5.546	258	82	5.516	246
93	5.568	279	87	5.535	261
98	5.542	294	93	5.556	279
--	--	--	99	5.57	297

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5.534	12	2	5.512	6
16	5.546	48	12	5.516	36
24	5.536	72	20	5.548	60
28	5.561	84	21	5.493	63
31	5.55	93	27	5.51	81
37	5.54	111	30	5.553	90
45	5.514	135	32	5.541	96
48	5.553	144	34	5.505	102
50	5.516	150	39	5.524	117
51	5.511	153	42	5.565	126
58	5.545	174	43	5.56	129
63	5.526	189	44	5.502	132
72	5.565	216	48	5.558	144
73	5.493	219	53	5.538	159
79	5.49	237	66	5.534	198
81	5.552	243	72	5.543	216
82	5.494	246	77	5.537	231
94	5.549	282	79	5.568	237
--	--	--	85	5.511	255
--	--	--	95	5.557	285
--	--	--	96	5.533	288
--	--	--	99	5.554	297
--	--	--	100	5.545	300

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5.558	6	11	5.565	33
3	5.538	9	16	5.52	48
12	5.506	36	33	5.509	99
14	5.492	42	44	5.505	132
27	5.56	81	45	5.506	135
32	5.52	96	55	5.553	165
33	5.502	99	56	5.497	168

34	5.512	102	61	5.507	183
37	5.562	111	76	5.544	228
44	5.518	132	84	5.55	252
45	5.544	135	85	5.547	255
57	5.491	171	88	5.557	264
58	5.567	174	92	5.517	276
60	5.501	180	93	5.535	279
68	5.533	204	96	5.496	288
72	5.539	216	--	--	--
76	5.522	228	--	--	--
80	5.523	240	--	--	--
89	5.496	267	--	--	--
90	5.551	270	--	--	--
96	5.568	288	--	--	--
97	5.495	291	--	--	--
98	5.565	294	--	--	--

Radar waveform #19			**Radar waveform #20**		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5.514	6	2	5.51	6
4	5.491	12	5	5.554	15
8	5.556	24	13	5.534	39
10	5.568	30	32	5.552	96
17	5.527	51	33	5.56	99
24	5.509	72	35	5.525	105
31	5.547	93	41	5.492	123
46	5.566	138	54	5.504	162
49	5.497	147	55	5.515	165
50	5.519	150	59	5.5	177
55	5.495	165	61	5.559	183
58	5.523	174	64	5.511	192
63	5.554	189	65	5.563	195
78	5.532	234	70	5.562	210
79	5.501	237	74	5.541	222
87	5.548	261	86	5.531	258
89	5.53	267	87	5.529	261

90	5.496	270	95	5.522	285
91	5.516	273	99	5.561	297
92	5.535	276	--	--	--
93	5.564	279	--	--	--
98	5.559	294	--	--	--
99	5.511	297	--	--	--
100	5.557	300	--	--	--

Radar waveform #21			**Radar waveform #22**		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5.555	15	6	5.531	18
6	5.551	18	14	5.544	42
8	5.524	24	16	5.505	48
22	5.556	66	20	5.56	60
23	5.542	69	29	5.491	87
31	5.539	93	30	5.548	90
46	5.569	138	34	5.541	102
51	5.533	153	36	5.523	108
54	5.519	162	42	5.525	126
57	5.544	171	51	5.521	153
59	5.54	177	54	5.536	162
61	5.51	183	57	5.5	171
74	5.522	222	59	5.54	177
85	5.52	255	62	5.512	186
88	5.525	264	63	5.517	189
98	5.552	294	65	5.559	195
--	--	--	67	5.49	201
--	--	--	68	5.539	204
--	--	--	72	5.492	216
--	--	--	75	5.504	225
--	--	--	76	5.508	228
--	--	--	80	5.52	240
--	--	--	81	5.533	243
--	--	--	83	5.493	249
--	--	--	88	5.513	264
--	--	--	90	5.563	270

--	--	--	92	5.557	276
--	--	--	96	5.547	288

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5.519	30	6	5.569	18
11	5.492	33	11	5.553	33
14	5.559	42	14	5.549	42
15	5.491	45	18	5.562	54
16	5.57	48	21	5.513	63
17	5.511	51	22	5.494	66
19	5.49	57	30	5.533	90
23	5.501	69	34	5.543	102
28	5.532	84	35	5.548	105
29	5.563	87	40	5.567	120
34	5.51	102	43	5.515	129
38	5.5	114	57	5.517	171
39	5.543	117	64	5.55	192
41	5.562	123	70	5.516	210
50	5.529	150	72	5.544	216
54	5.53	162	79	5.5	237
58	5.526	174	81	5.496	243
61	5.565	183	85	5.555	255
63	5.549	189	96	5.564	288
66	5.521	198	99	5.506	297
71	5.516	213	--	--	--
75	5.512	225	--	--	--
77	5.534	231	--	--	--
81	5.504	243	--	--	--
86	5.517	258	--	--	--
90	5.531	270	--	--	--
100	5.528	300	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5.541	6	6	5.51	18
7	5.556	21	15	5.543	45
16	5.5	48	20	5.521	60

18	5.544	54	22	5.524	66
39	5.507	117	34	5.519	102
41	5.513	123	35	5.558	105
42	5.566	126	36	5.556	108
44	5.54	132	38	5.505	114
47	5.494	141	39	5.54	117
62	5.548	186	46	5.53	138
69	5.546	207	47	5.567	141
70	5.554	210	48	5.546	144
73	5.557	219	59	5.562	177
78	5.519	234	69	5.536	207
81	5.516	243	73	5.541	219
91	5.493	273	79	5.528	237
92	5.545	276	83	5.523	249
93	5.522	279	85	5.564	255
95	5.523	285	87	5.563	261
--	--	--	95	5.57	285

Radar waveform #27			**Radar waveform #28**		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5.529	18	3	5.528	9
18	5.526	54	9	5.568	27
21	5.553	63	20	5.508	60
24	5.509	72	42	5.545	126
31	5.502	93	51	5.533	153
37	5.565	111	71	5.499	213
50	5.535	150	73	5.494	219
52	5.531	156	74	5.549	222
53	5.559	159	75	5.536	225
60	5.523	180	80	5.559	240
72	5.512	216	92	5.551	276
79	5.546	237	--	--	--
80	5.517	240	--	--	--
87	5.541	261	--	--	--
90	5.496	270	--	--	--
94	5.55	282	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5.568	12	4	5.505	12
9	5.544	27	7	5.569	21
18	5.499	54	18	5.504	54
20	5.567	60	48	5.509	144
21	5.56	63	53	5.525	159
22	5.515	66	78	5.495	234
24	5.539	72	82	5.547	246
28	5.522	84	86	5.536	258
31	5.516	93	87	5.521	261
34	5.504	102	89	5.532	267
37	5.55	111	92	5.514	276
43	5.541	129	94	5.513	282
47	5.538	141	97	5.49	291
48	5.503	144	--	--	--
52	5.491	156	--	--	--
54	5.564	162	--	--	--
64	5.524	192	--	--	--
70	5.505	210	--	--	--
72	5.549	216	--	--	--
82	5.543	246	--	--	--
86	5.57	258	--	--	--
91	5.537	273	--	--	--
96	5.542	288	--	--	--

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 “2008RSU036-UT” file.

Appendix B - EUT Photograph

Refer to “2008RSU036-UE” file.