DFS Test Report

Applicant	:	Kpnetworks Ltd.
Product Type	:	Wireless Lan Access Point
Trade Name	:	Kpnetworks
Model Number	:	KPWL-0300
Applicable Standard	:	FCC 47 CFR PART 15 SUBPART E ANSI C63.10:2013
Receive Date	:	Dec. 01, 2016
Test Period	:	Feb. 08, 2017 ~ Apr. 05, 2017
Issue Date	:	Apr. 21, 2017

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade District,
Taoyuan City 33465, Taiwan (R.O.C)
Tel：+886-3-2710188 / Fax：+886-3-2710190

Taiwan Accreditation Foundation accreditation number: 1330

Revision History

Rev.	Issue Date	Revisions	Revised By
00	Apr. 10, 2017	Initial Issue	Nina Lin
01	Apr. 21, 2017	Revised report information.	Nina Lin

Verification of Compliance

Issued Date: Apr. 21, 2017

Applicant	:	Kpnetworks Ltd.
Product Type	:	Wireless Lan Access Point
Trade Name	:	Kpnetworks
Model Number	:	KPWL-0300
FCC ID	:	2AGR9KPWL0300
EUT Rated Voltage	:	DC 48V, 1A
Test Voltage	:	120 Vac / 60 Hz
Applicable Standard	:	FCC 47 CFR PART 15 SUBPART E ANSI C63.10:2013
Test Result	:	Complied
Application Purpose	:	Class II permissive change
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade District, Taoyuan City 33465, Taiwan (R.O.C) Tel：+886-3-2710188 / Fax：+886-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 http://www.atl-lab.com.tw/e-index.htm

A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By	:	Fly Lu	Reviewed By	: Eric Ou Yang
(Manager)		(Fly Lu)	(Testing Engineer)	(Eric Ou Yang)

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1 EUT Description

<table>
<tr><td>Applicant</td><td colspan="4">Kpnetworks Ltd.
4-5-11-10F Shiba, Minato-ku, Tokyo, 108-0014, Japan</td></tr>
<tr><td>Manufacturer</td><td colspan="4">Edimax Technology Co., Ltd.
No. 3, Wu-Chun 3rd Road., Wuku District, New Taipei City 24891, Taiwan, R.O.C.</td></tr>
<tr><td>Product Type</td><td colspan="4">Wireless Lan Access Point</td></tr>
<tr><td>Trade Name</td><td colspan="4">Kpnetworks</td></tr>
<tr><td>Model No.</td><td colspan="4">KPWL-0300</td></tr>
<tr><td>FCC ID</td><td colspan="4">2AGR9KPWL0300</td></tr>
<tr><td>Class II Permissive Change</td><td colspan="4">Add U-NII Band II function by software control.</td></tr>
<tr><td rowspan="9">Operate Frequency</td><td colspan="2">Frequency Band</td><td>Frequency Range (MHz)</td><td>Number of Channels</td></tr>
<tr><td rowspan="2">IEEE 802.11a</td><td>U-NII Band II-A</td><td>5260 – 5320</td><td>3</td></tr>
<tr><td>U-NII Band II-C</td><td>5500 – 5700</td><td>3</td></tr>
<tr><td rowspan="2">IEEE 802.11n 20 MHz / IEEE 802.11ac 20 MHz</td><td>U-NII Band II-A</td><td>5260 – 5320</td><td>3</td></tr>
<tr><td>U-NII Band II-C</td><td>5500 – 5700</td><td>3</td></tr>
<tr><td rowspan="2">IEEE 802.11n 40 MHz / IEEE 802.11ac 40 MHz</td><td>U-NII Band II-A</td><td>5270 – 5310</td><td>2</td></tr>
<tr><td>U-NII Band II-C</td><td>5510 – 5670</td><td>3</td></tr>
<tr><td rowspan="2">IEEE 802.11ac 80 MHz</td><td>U-NII Band II-A</td><td>5290</td><td>1</td></tr>
<tr><td>U-NII Band II-C</td><td>5530</td><td>1</td></tr>
<tr><td>Modulation Type</td><td colspan="4">OFDM</td></tr>
<tr><td>Equipment Type</td><td colspan="4">Indoor access point have (master / client) function</td></tr>
<tr><td>Module use</td><td colspan="4">QUALCOMM_QCA9984 (EW-7955MAC)
QUALCOMM_QCA9990 (EW-7944MAC)</td></tr>
<tr><td rowspan="8">Antenna information</td><td colspan="4">Module : QCA9984 (EW-7955MAC)</td></tr>
<tr><td>Model</td><td>Type</td><td>Max. Gain (dBi)</td><td>Note</td></tr>
<tr><td>C059-510348-A</td><td>External antenna (Reversed-SMA Connector)</td><td>6.0</td><td>For AP port_4TX</td></tr>
<tr><td>M6060060P1D43602M</td><td>External antenna (Reversed-SMA Connector)</td><td>6.0</td><td>Quad Patct Antenna</td></tr>
<tr><td>M6060060P23602NB</td><td>External antenna (Reversed-SMA Connector)</td><td>6.0</td><td>MIMO Patct Antenna</td></tr>
<tr><td>SAA04-22008A</td><td>External antenna (Reversed-SMA Connector)</td><td>7.0</td><td>Omni Directional Antenna</td></tr>
<tr><td colspan="4">Module : QCA9990 (EW-7944MAC)</td></tr>
<tr><td>Model</td><td>Type</td><td>Max. Gain (dBi)</td><td>Note</td></tr>
<tr><td>CO59-510347-A</td><td>External antenna (Reversed-SMA Connector)</td><td>6.0</td><td>For P-t-P Port_4TX</td></tr>
<tr><td>Antenna Delivery</td><td colspan="4">IEEE 802.11a : 4TX + 4RX (CDD)
IEEE 802.11ac 20 MHz / 40 MHz / 80 MHz : 4TX + 4RX (MIMO)</td></tr>
<tr><td>Frequency stability specification</td><td colspan="4">± 20 ppm</td></tr>
</table>

Items	Description	
Communication Mode	■IP Based (Load Based)	□Frame Based
TPC Function	■With TPC	□Without TPC
Weather Band (5600 ~ 5650 MHz)	□With 5600 ~ 5650 MHz	■Without 5600 ~ 5650 MHz
Beamforming Function	□With Beamforming	■Without Beamforming
Equipment Type	□Outdoor access point	
	■Indoor access point	
	■Fixed point-to-point access points	
	■Client devices	
Operating mode	■Master	
	□Client with DFS	
	■Client without DFS	
	□Ad-Hoc	
	■Bridge	
	■MESH	

2 Test Methodology

The tests documented in this report were performed in accordance with ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15.

The tests documented in this report were performed in accordance with FCC KDB request:

- FCC KDB 443999 D01 Approval of DFS UNII Devices v01r04
- FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

3 Dynamic Frequency Selection

3.1. Limits

§15.407 (h) and FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 Compliance measurement procedures for unlicensed-national information infrastructure devcies operating in the 5250-5350 MHZ and 5470-5725 MHZ bands incorporating dynamic frequency selection.

Table 1: Applicability of DFS Requirements Prior to Use of a Channel			
Requirement	Operational Mode		
	Master	Client (without DFS)	Client (with DFS)
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 2: Applicability of DFS requirements during normal operation		
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 (Section 7.8.4) 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 all 20 MHz channel blocks and a null frequencies between the bonded 20 MHz channel blocks		

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

Table 4: DFS Response Requirement Values	
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 5: Short Pulse Radar Test Waveforms					
Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
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 5a 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	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{\text{PRI}_{\mu\text{sec}}}\right)\right\}$	60%	30
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 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

Table 5a: Pulse Repetition Intervals Values for Test A		
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

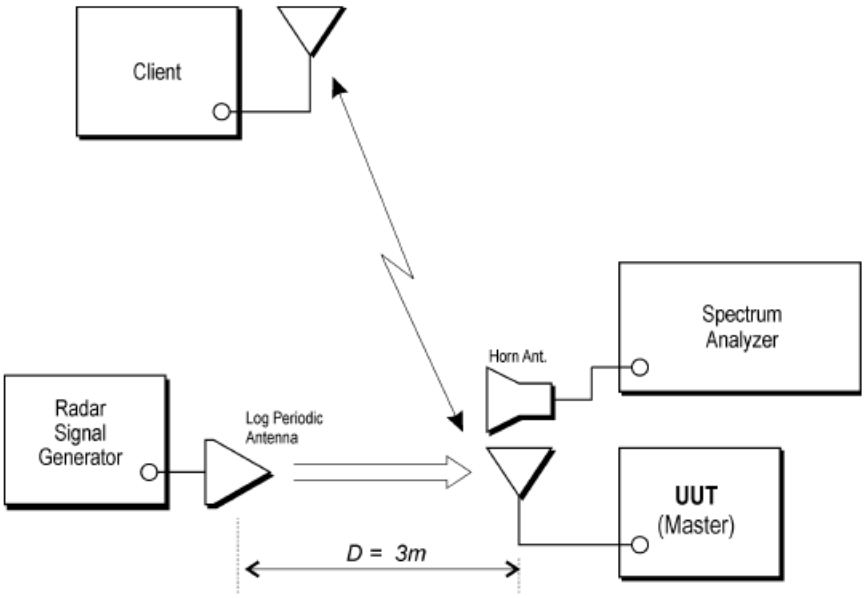
Table 6 – Long Pulse Radar Test Signal							
Radar Waveform	Bursts	Pulses per Burst	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Minimum Percentage of Successful Detection	Minimum Trials
5	8-20	1-3	50-100	5-20	1000-2000	80%	30

Table 7 – Frequency Hopping Radar Test Signal							
Radar Waveform	Pulse Width (µsec)	PRI (µsec)	Burst Length (ms)	Pulses per Hop	Hopping Rate (kHz)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	300	9	0.333	70%	30

3.2. Test and Measurement System

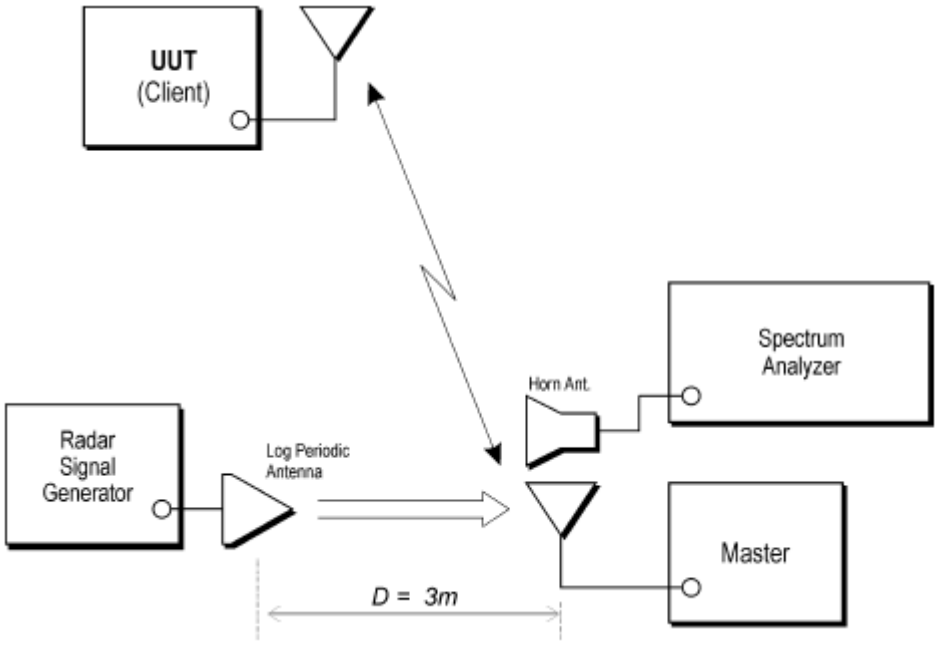
3.2.1. Setup for Master with injection at the Master

Example Radiated Setup where UUT is a Master and Radar Test Waveforms are injected into the Master



3.2.2. Setup for Client with injection at the Master

Example Radiated Setup where UUT is a Client and Radar Test Waveforms are injected into the Master



3.2.3. System Calibration

The short pulse types 0,1,2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time. The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the May 2014 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 The frequency of the signal generator is incremented in 1 MHz steps from FL to FH for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.
The signal monitoring equipment consists of a spectrum analyzer. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

3.2.4. System Calibration

The Interference Radar Detection Threshold Level is (-63dBm), The above equipment setup was used to calibrate the radiated 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 3 MHz.
The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was (-63dBm). Capture the spectrum analyzer plots on short pulse radar types, long pulse radar type and hopping radar waveform.

3.2.5. Adjustment of Displayed Traffic Level

A link is established between the Master and Slave and the distance between the units is adjusted as needed to provide a suitable received level at the Master and Slave devices. Software to ping the client is permitted to simulate data transfer but must have random ping intervals. The monitoring antenna is adjusted so that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold.

3.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
EXA Spectrum Amalyzer	Agilent	N9010A	MY48030518	11/04/2016	1 year
Signal Generator	Agilent	N5182B	MY53050382	05/20/2016	1 year
Double-Ridged Waveguide Horm	ETS-Lindgren	3117	00128055	08/29/2016	1 year
Double Ridged Horn Antenna	ETS	3117	00152321	08/23/2016	1 year
DFS Cable	ATL	DFS	009	10/12/2016	1 year
Microwave Cable	EMCI	EMC104-SM-SM-10000	150401	12/28/2016	1 year
Test Site	ATL	TE02	TE02	N.C.R.	-----

Note N.C.R. = No Calibration Request.

4 Test Methodology

4.1. Mode of Operation

Decision of Test ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: IEEE 802.11ac 20MHz link mode
Mode 2: IEEE 802.11ac 40MHz link mode
Mode 3: IEEE 802.11ac 80MHz link mode

IEEE 802.11ac 20MHz link mode:
Unless otherwise noted, all tests were performed with the radar burst at the channel center frequency of 5560 MHz.

IEEE 802.11ac 40MHz link mode:
Unless otherwise noted, all tests were performed with the radar burst at the channel center frequency of 5550 MHz.

IEEE 802.11ac 80MHz link mode:
Unless otherwise noted, all tests were performed with the radar burst at the channel center frequency of 5530 MHz.

4.2. EUT Exercise Software

1.	Setup the EUT shown on 3.2.
2.	Turn on the power of all equipment.
3.	Turn on Wi-Fi function link to Notebook.
4.	The EUT is operated in the engineering mode to fix the TX frequency for the purposes of measurement.

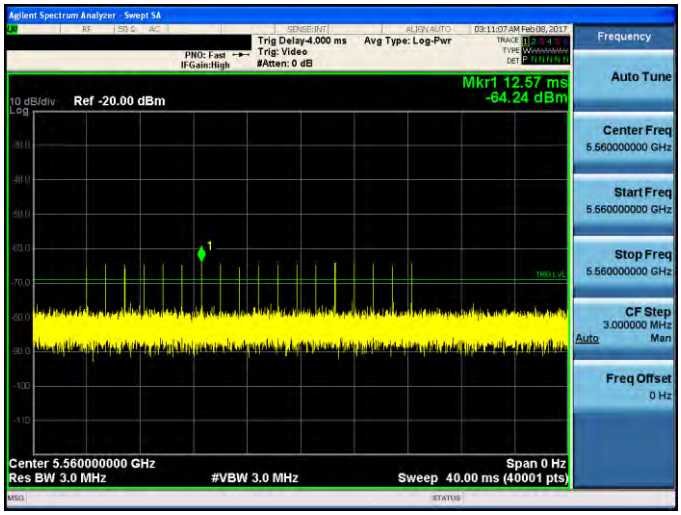
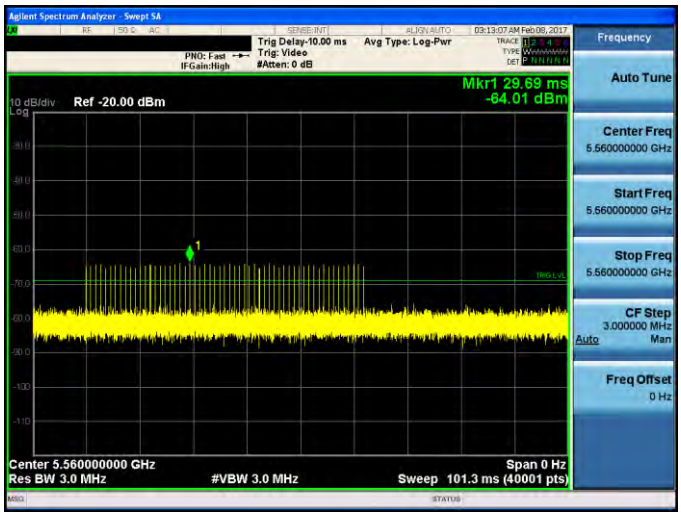
4.3. Test Site Environment

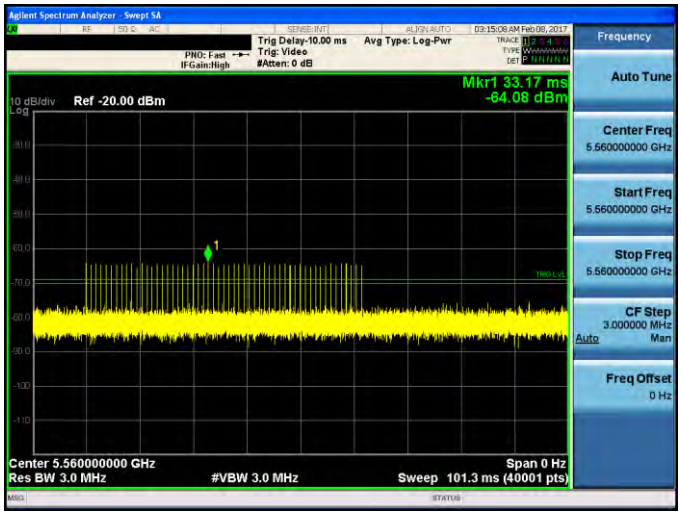
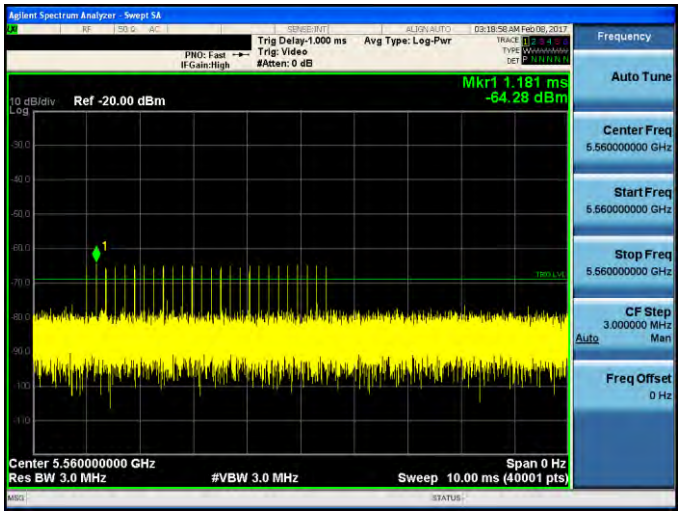
Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

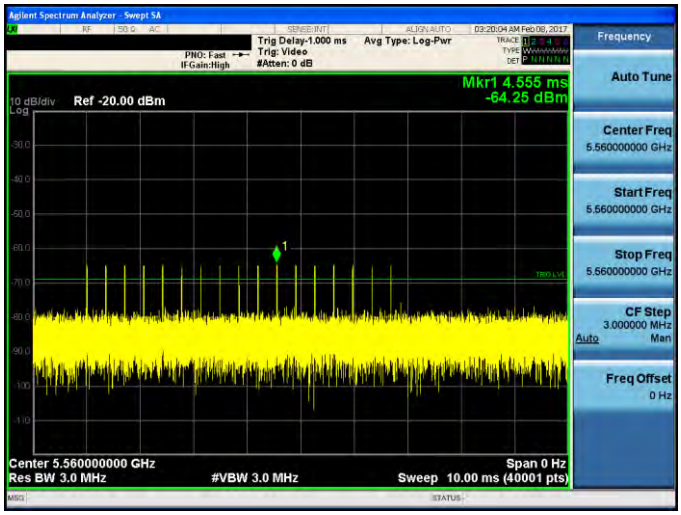
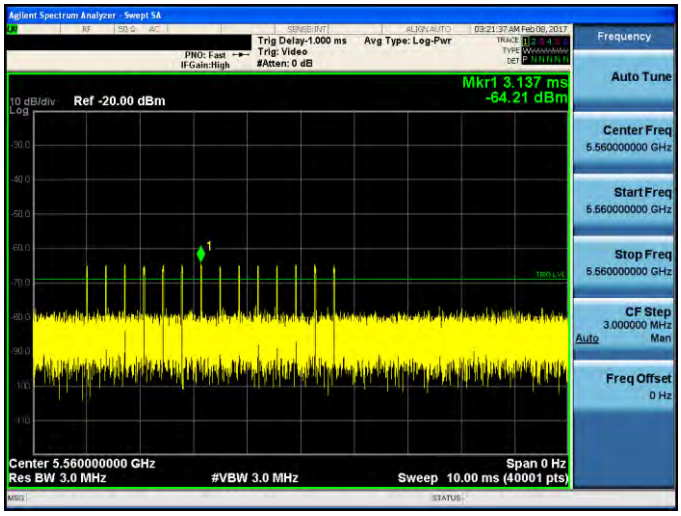
5 Test Results

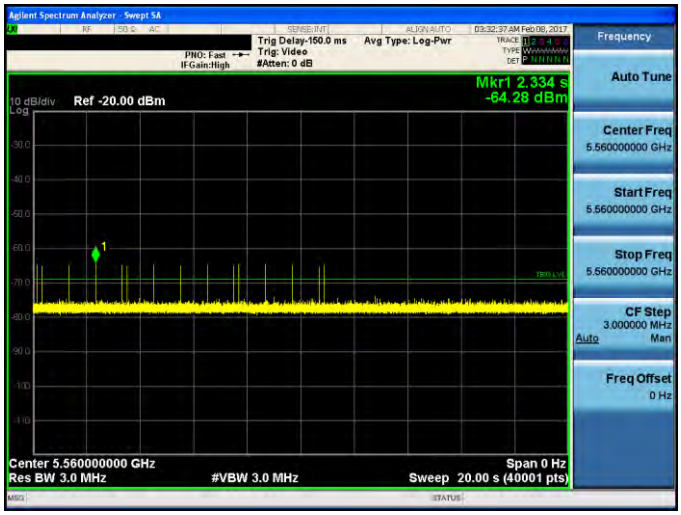
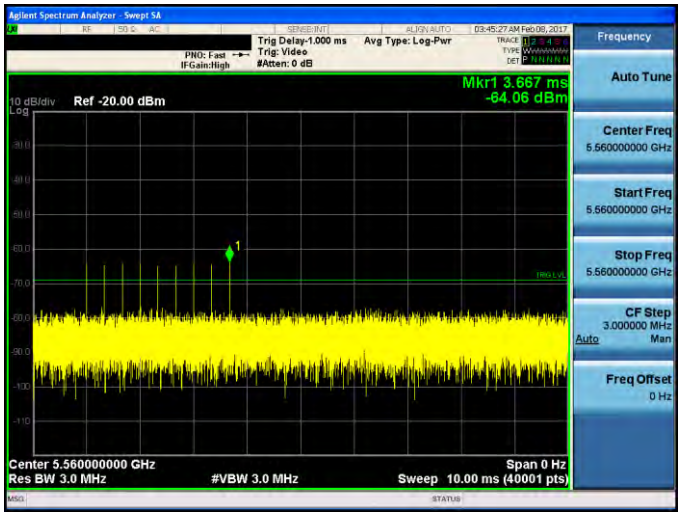
5.1. Radar Waveforms and Traffic

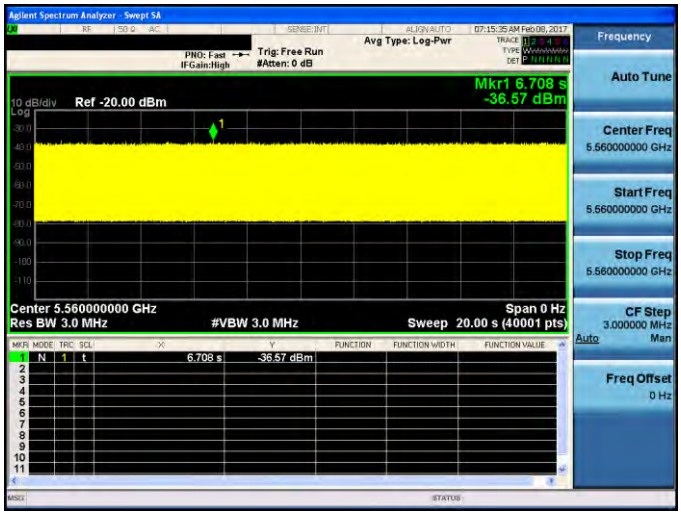
Module : QCA9984 (EW-7955MAC)

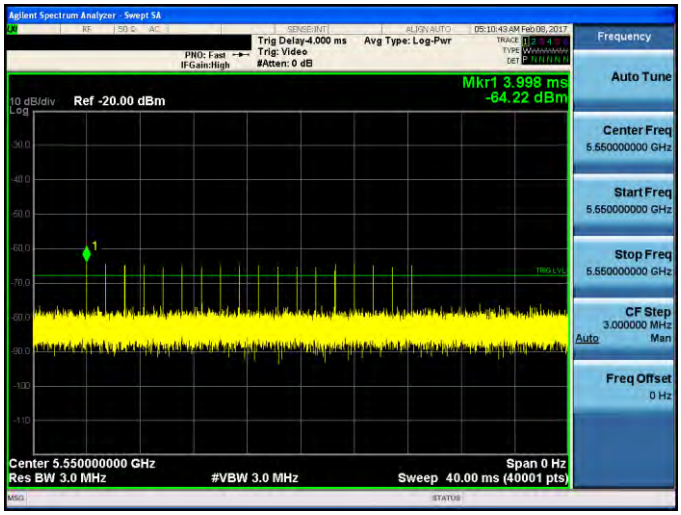
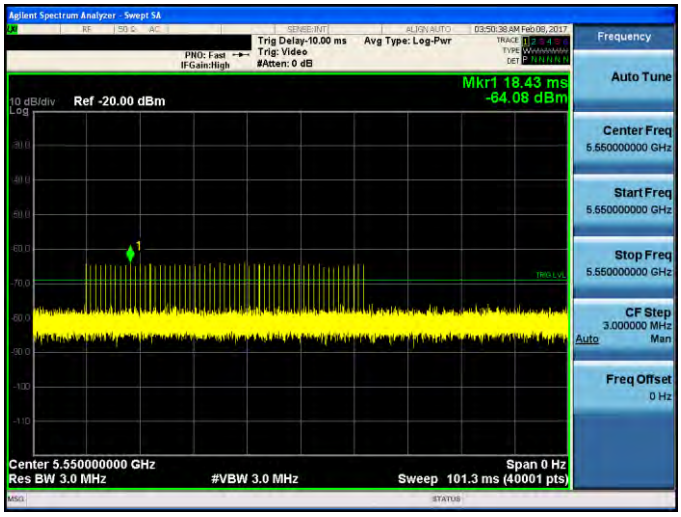
Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Short Pulse Radar Type 0	
Short Pulse Radar Type 1A	

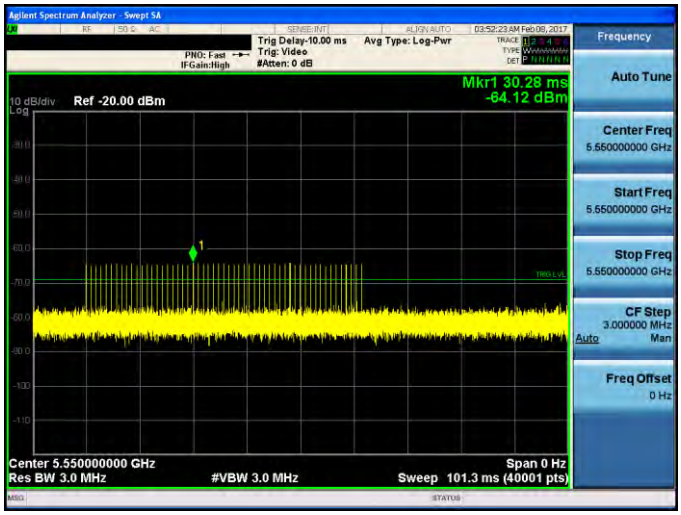
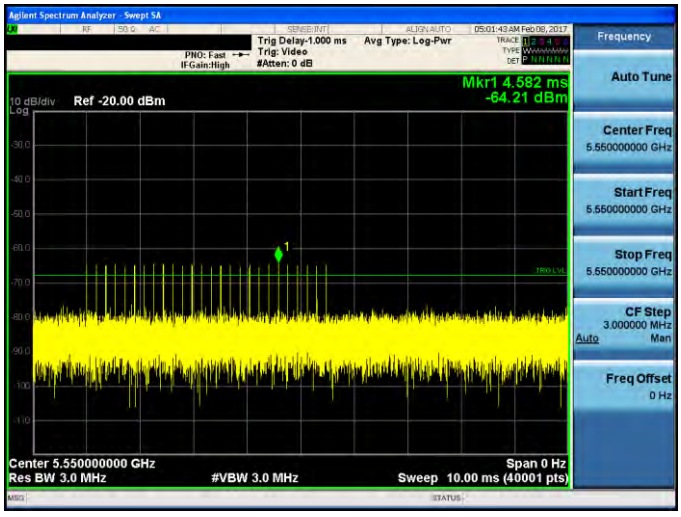
Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Short Pulse Radar Type 1B	
Short Pulse Radar Type 2	

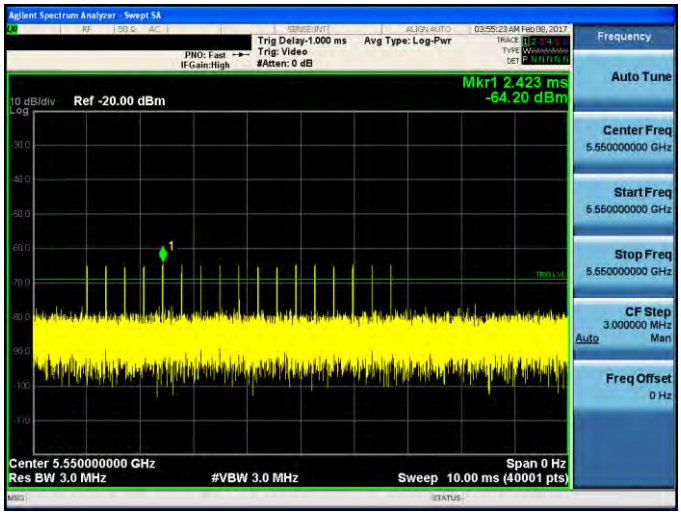
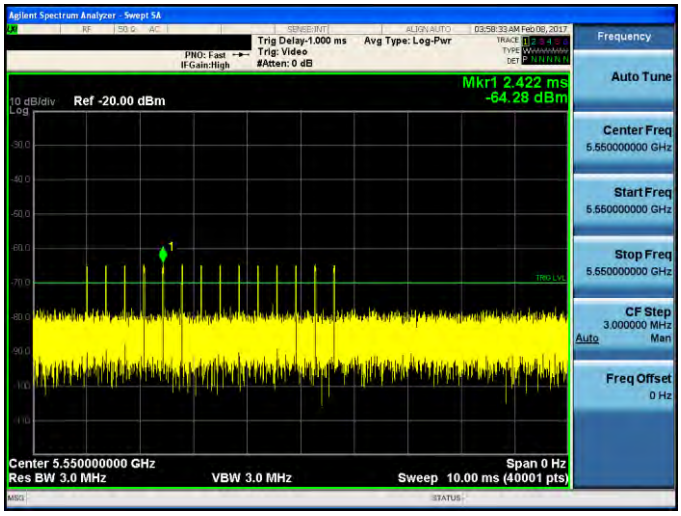
Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Short Pulse Radar Type 3	
Short Pulse Radar Type 4	

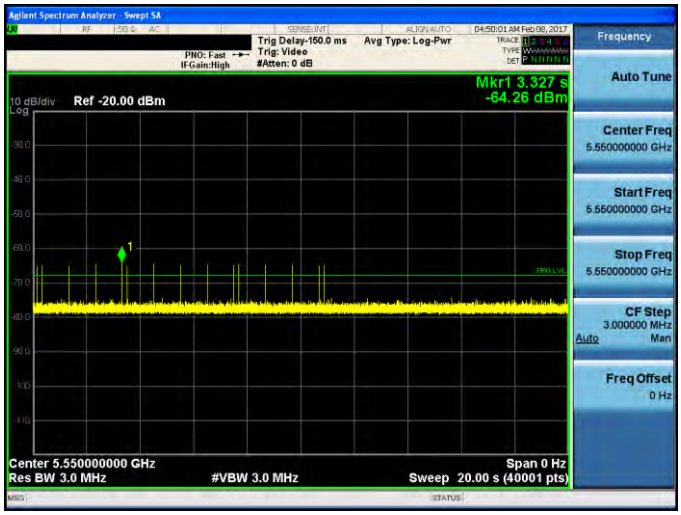
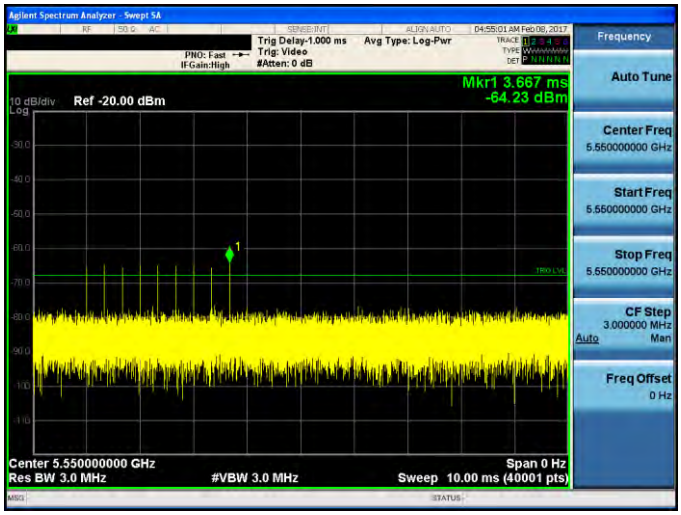
Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Long Pulse Radar Type 5	
Frequency Hopping Radar Type 6	

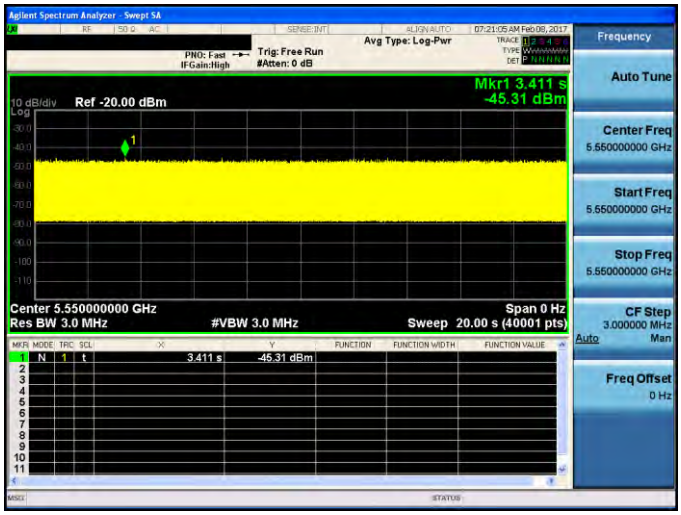
Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Traffic	

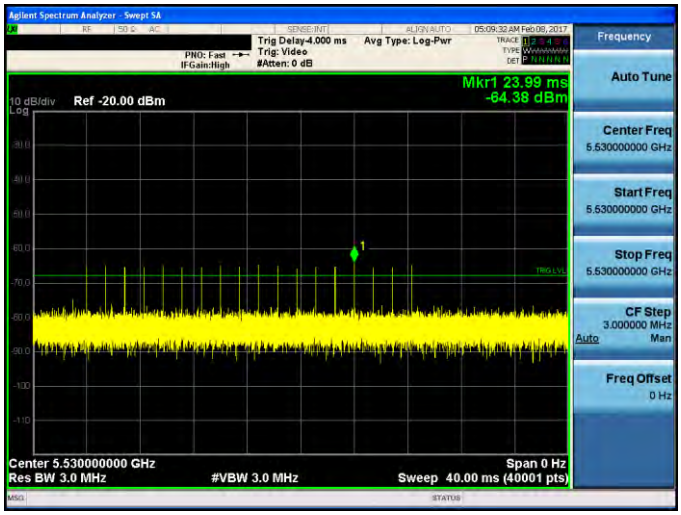
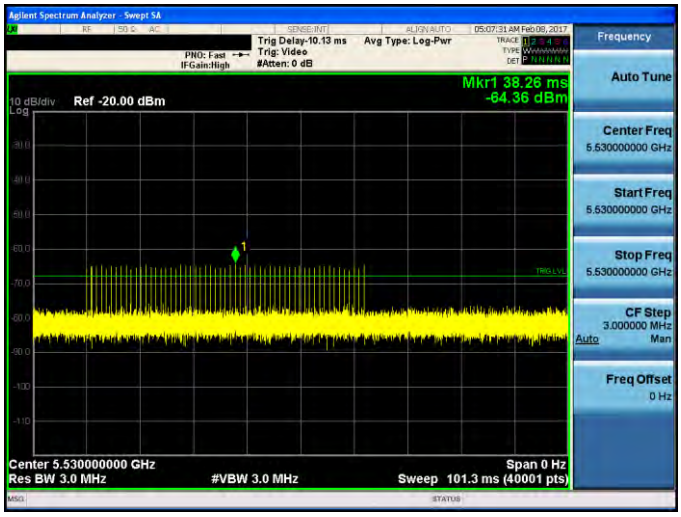
Mode 2: IEEE 802.11ac 40MHz link mode_ 5550MHz	
Short Pulse Radar Type 0	
Short Pulse Radar Type 1A	

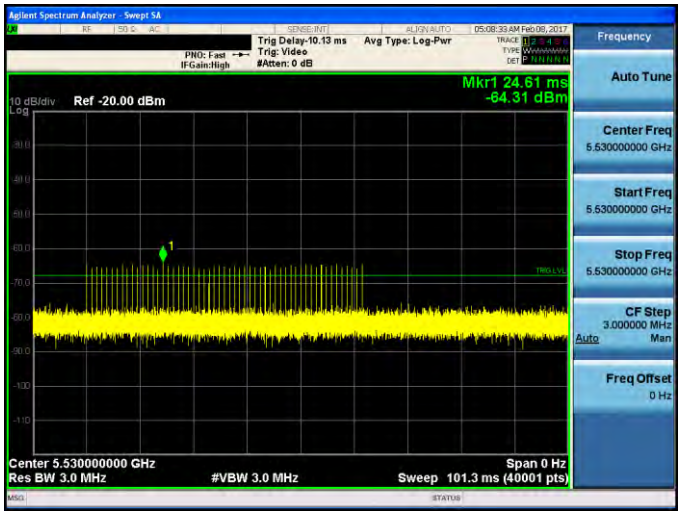
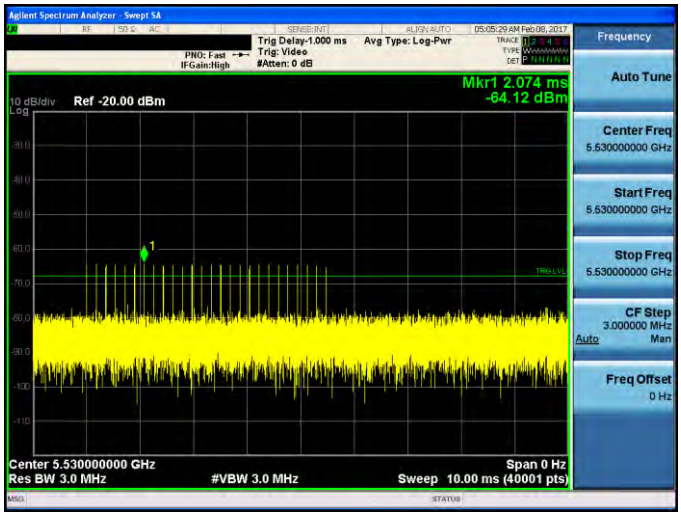
Mode 2: IEEE 802.11ac 40MHz link mode_ 5550MHz	
Short Pulse Radar Type 1B	
Short Pulse Radar Type 2	

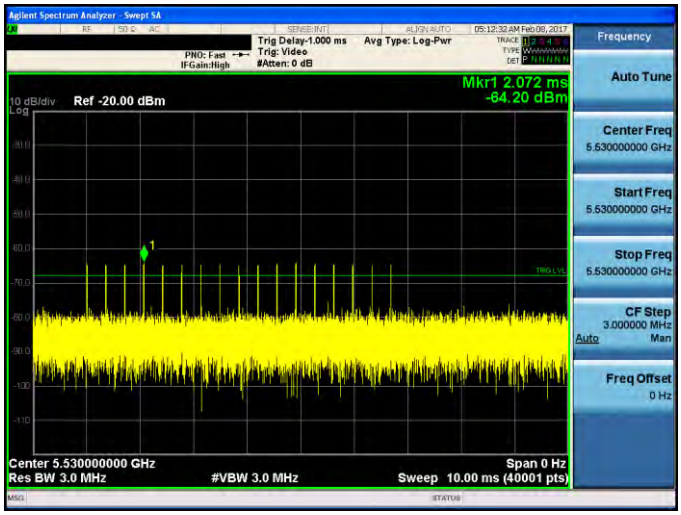
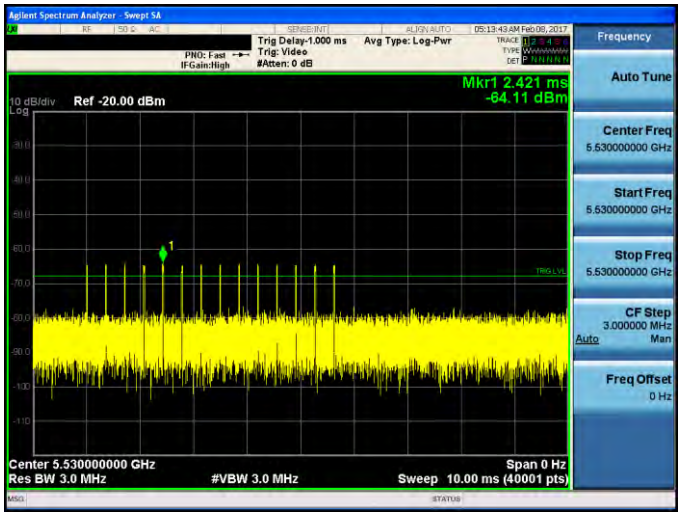
Mode 2: IEEE 802.11ac 40MHz link mode_ 5550MHz	
Short Pulse Radar Type 3	
Short Pulse Radar Type 4	

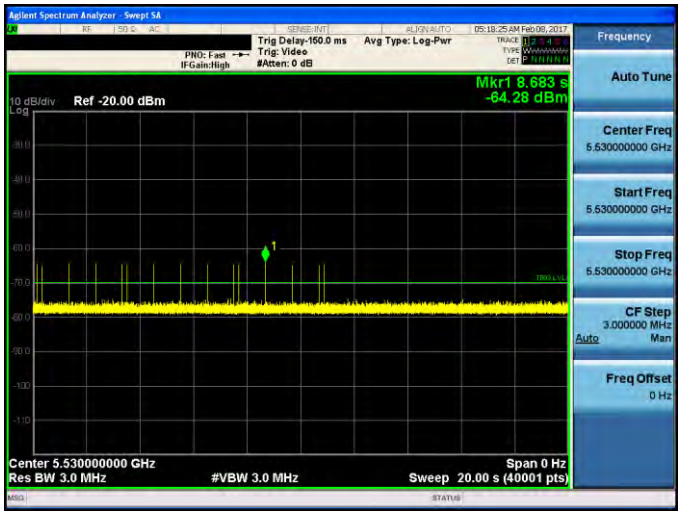
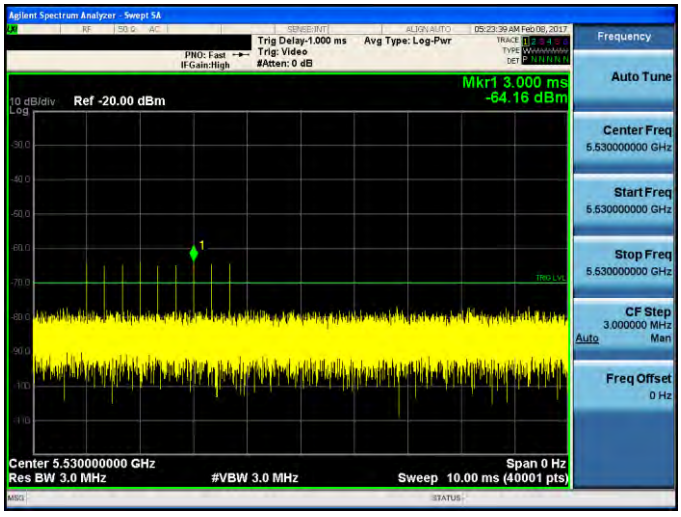
Mode 2: IEEE 802.11ac 40MHz link mode_ 5550MHz	
Long Pulse Radar Type 5	
Frequency Hopping Radar Type 6	

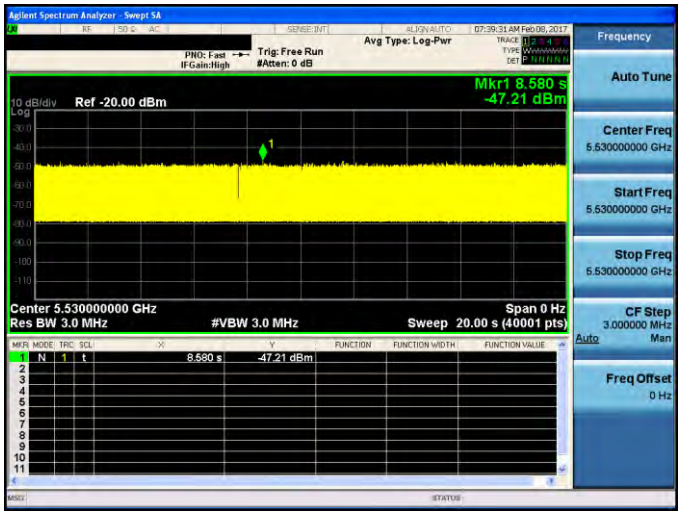
Mode 2: IEEE 802.11ac 40MHz link mode_ 5550MHz	
Traffic	

Mode 3: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Short Pulse Radar Type 0	
Short Pulse Radar Type 1A	

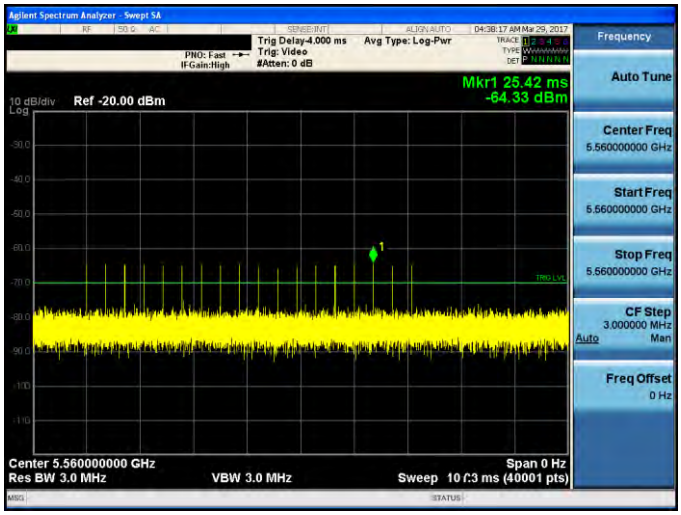
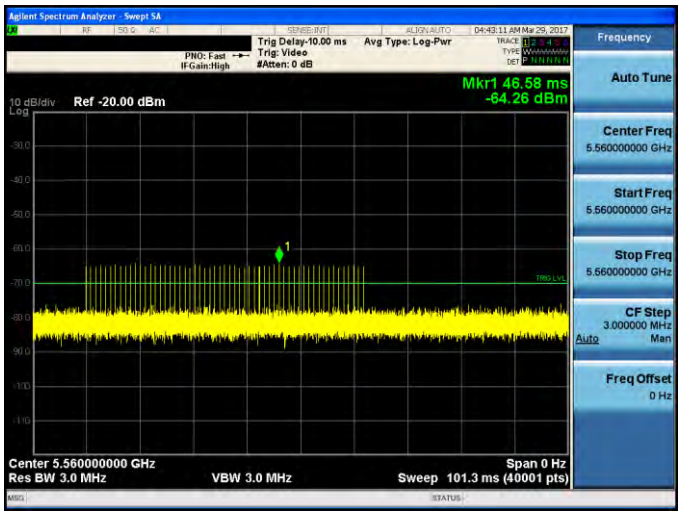
Mode 3: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Short Pulse Radar Type 1B	
Short Pulse Radar Type 2	

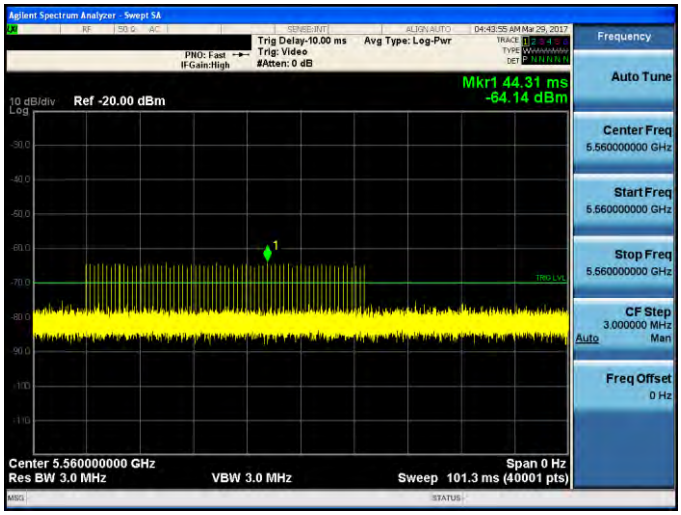
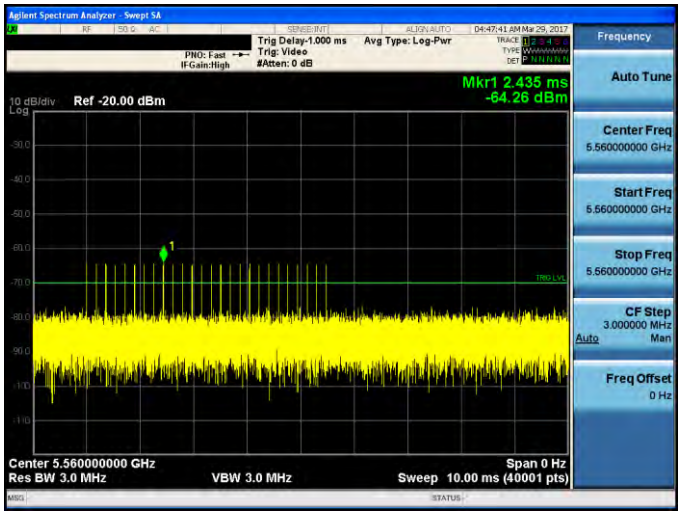
Mode 3: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Short Pulse Radar Type 3	
Short Pulse Radar Type 4	

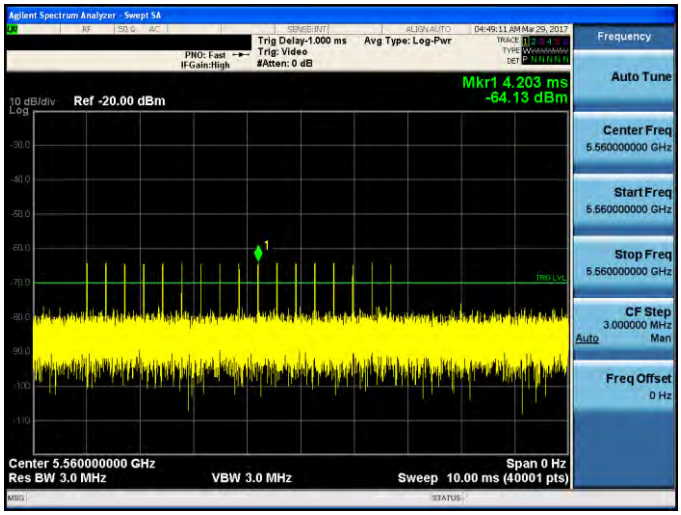
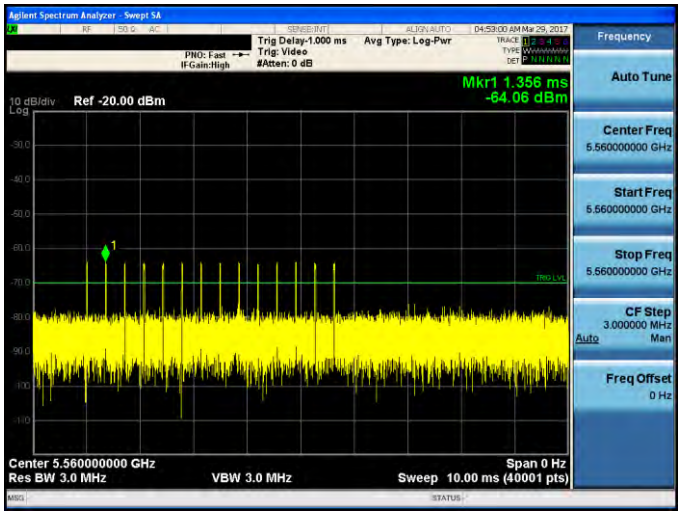
Mode 3: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Long Pulse Radar Type 5	
Frequency Hopping Radar Type 6	

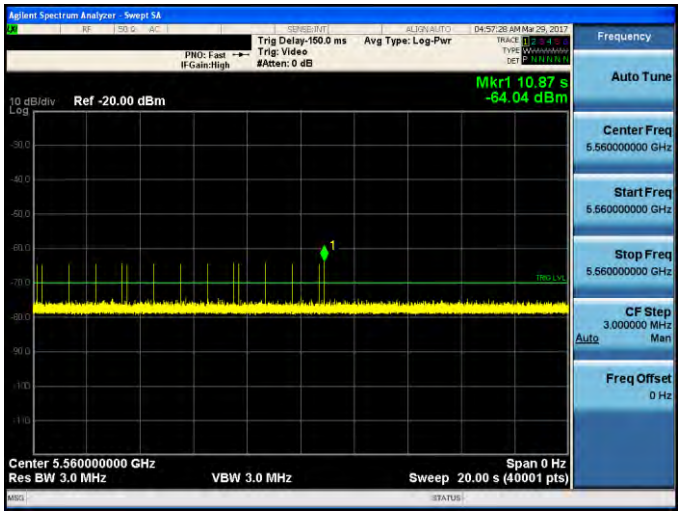
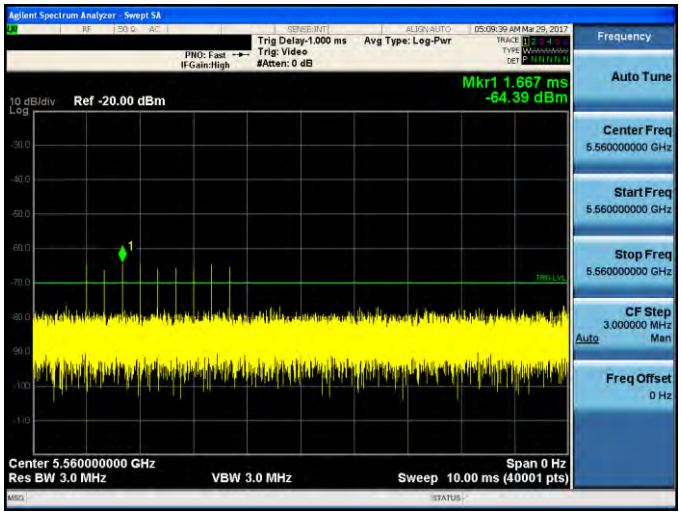
Mode 3: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Traffic	

Module : QCA9990 (EW-7944MAC)_Master

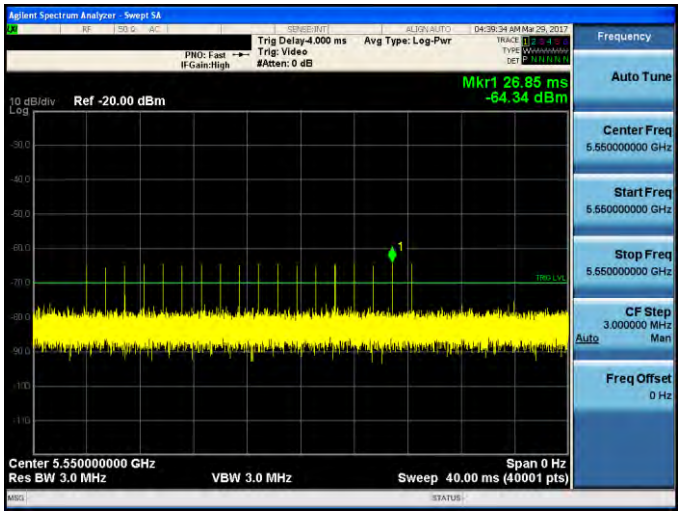
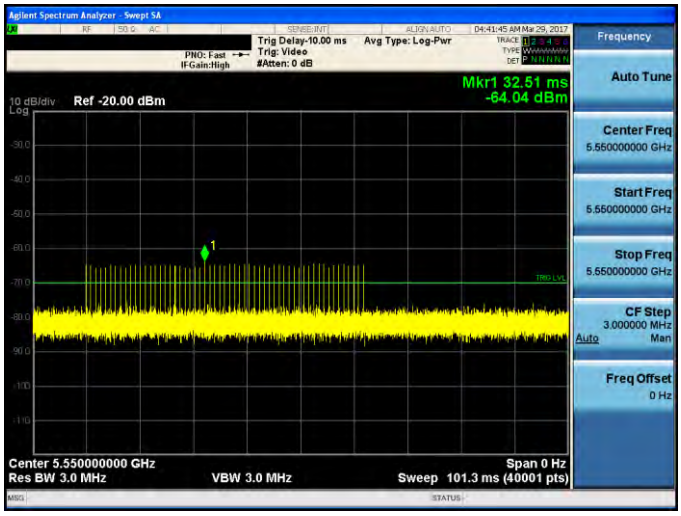
Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Short Pulse Radar Type 0	
Short Pulse Radar Type 1A	

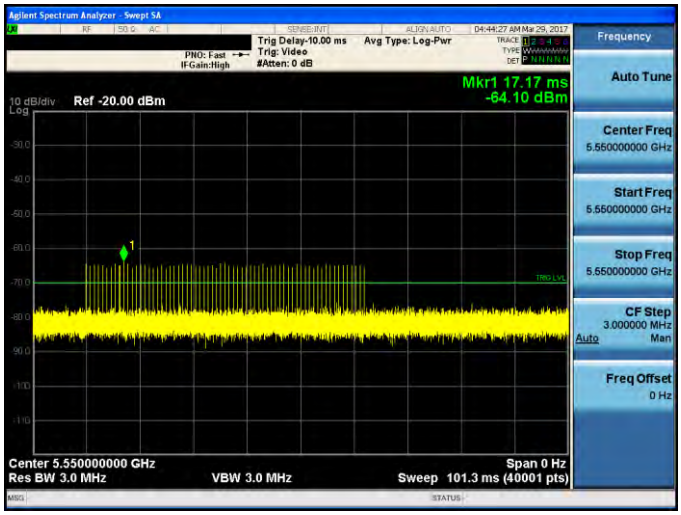
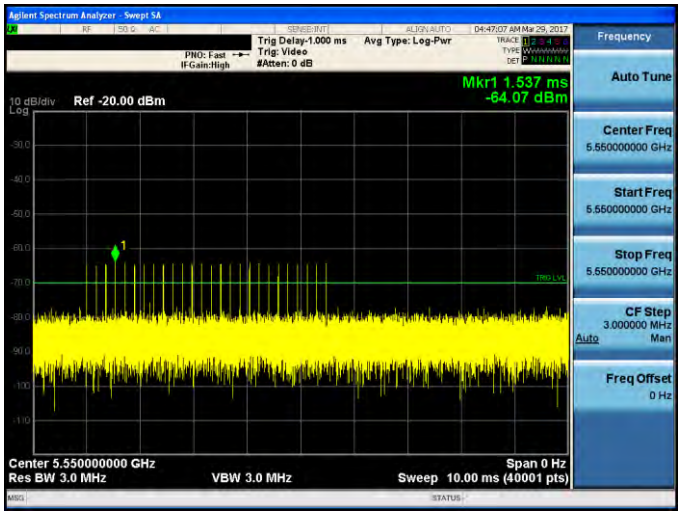
Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Short Pulse Radar Type 1B	
Short Pulse Radar Type 2	

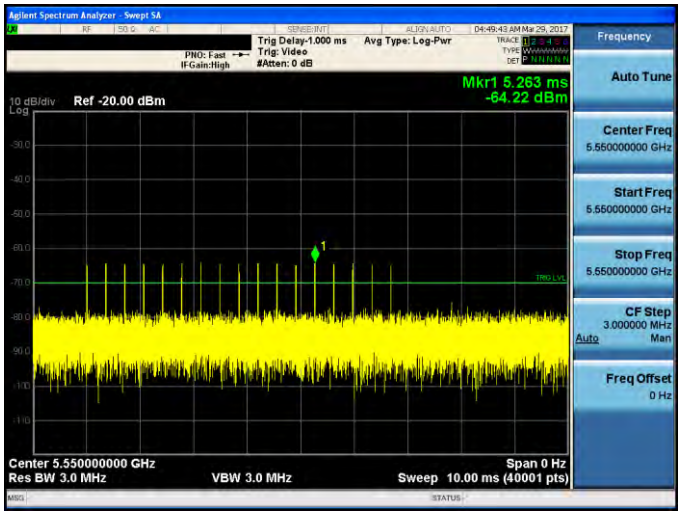
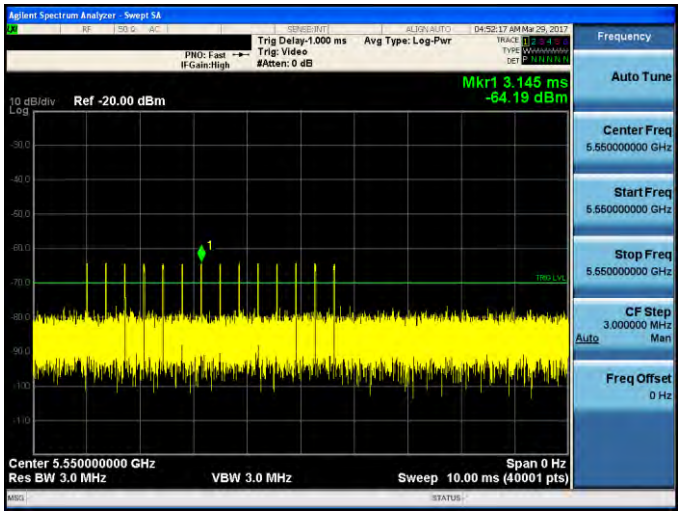
Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Short Pulse Radar Type 3	
Short Pulse Radar Type 4	

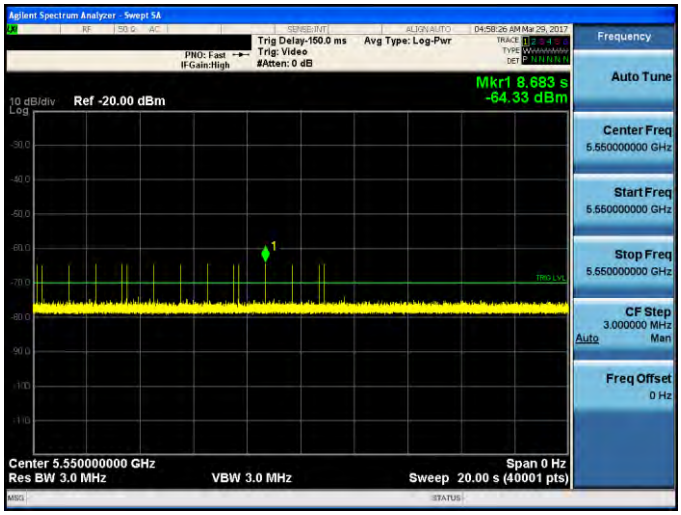
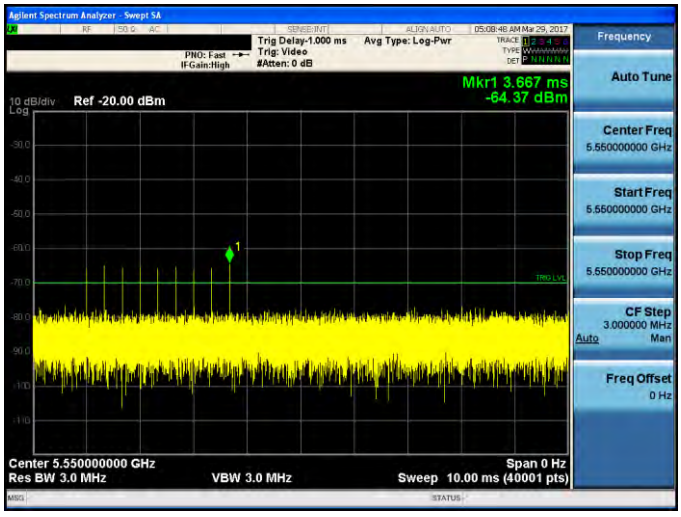
Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Long Pulse Radar Type 5	
Frequency Hopping Radar Type 6	

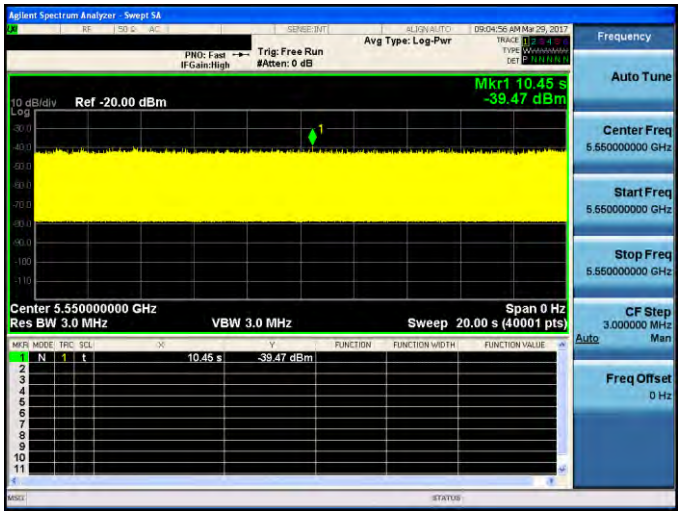
Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Traffic	

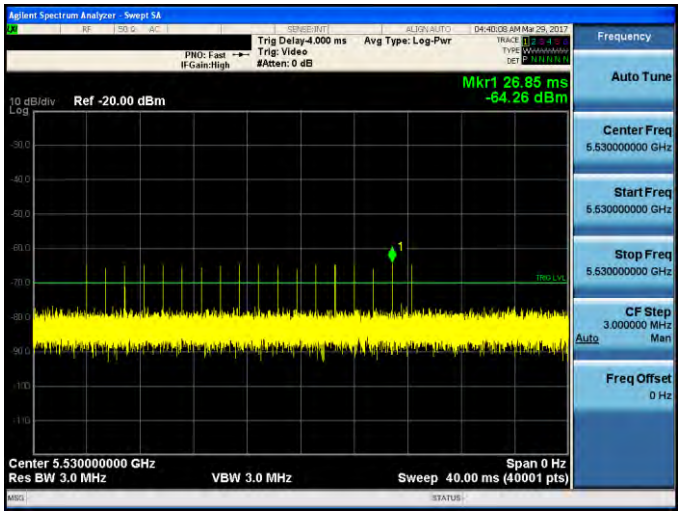
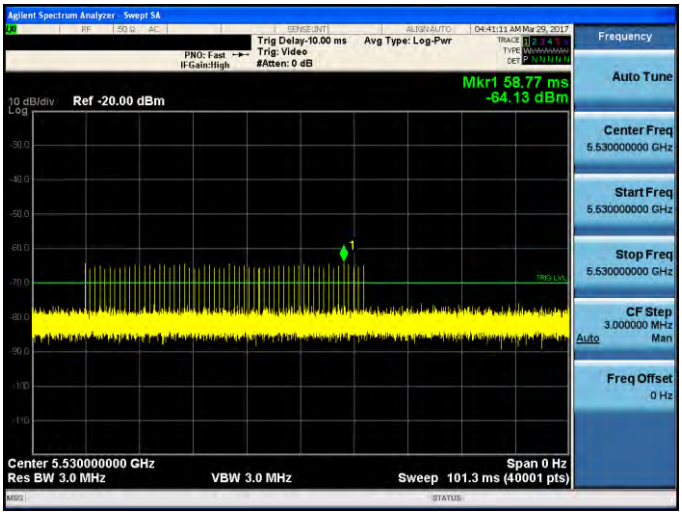
Mode 2: IEEE 802.11ac 40MHz link mode_ 5550MHz	
Short Pulse Radar Type 0	
Short Pulse Radar Type 1A	

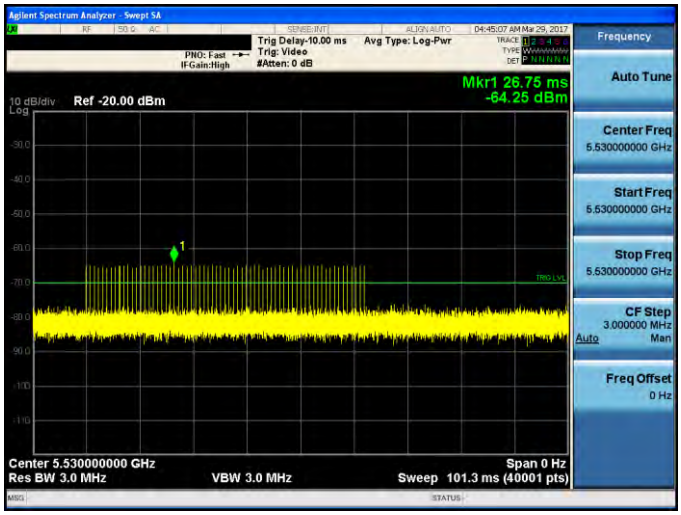
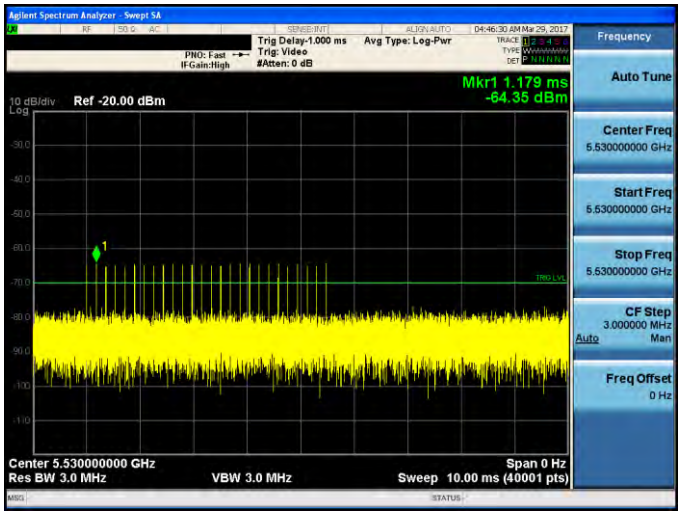
Mode 2: IEEE 802.11ac 40MHz link mode_ 5550MHz	
Short Pulse Radar Type 1B	
Short Pulse Radar Type 2	

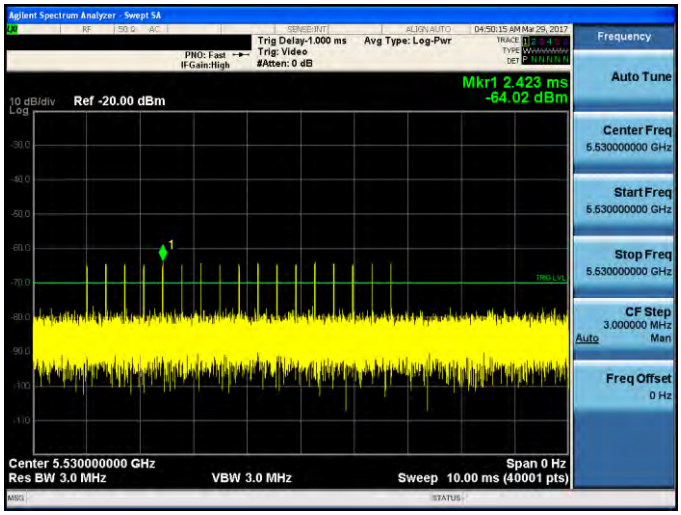
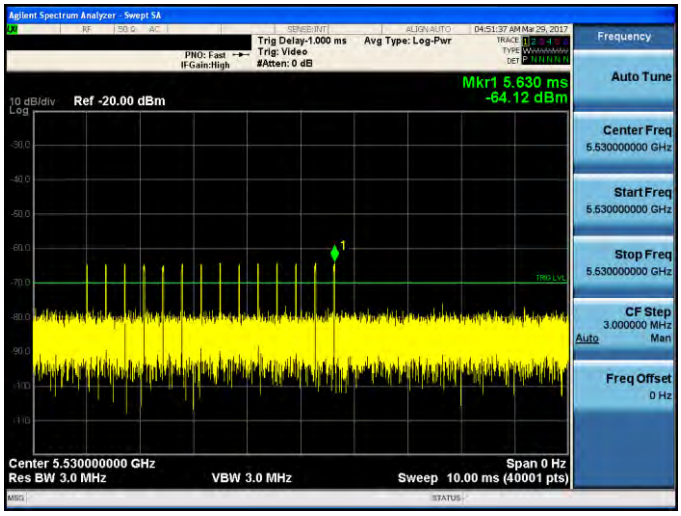
Mode 2: IEEE 802.11ac 40MHz link mode_ 5550MHz	
Short Pulse Radar Type 3	
Short Pulse Radar Type 4	

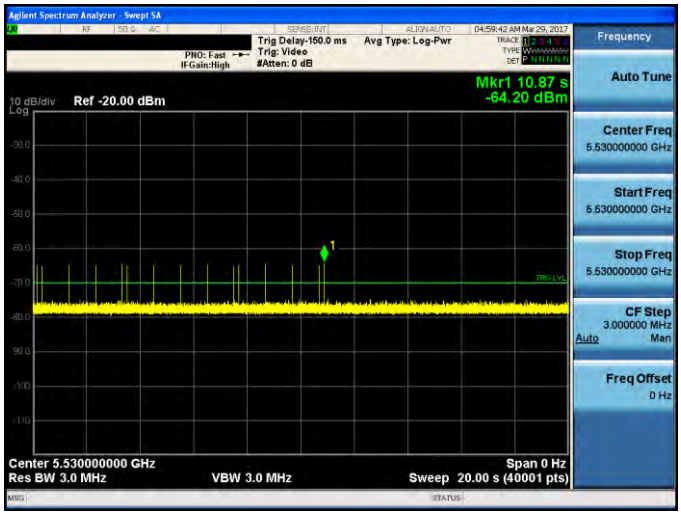
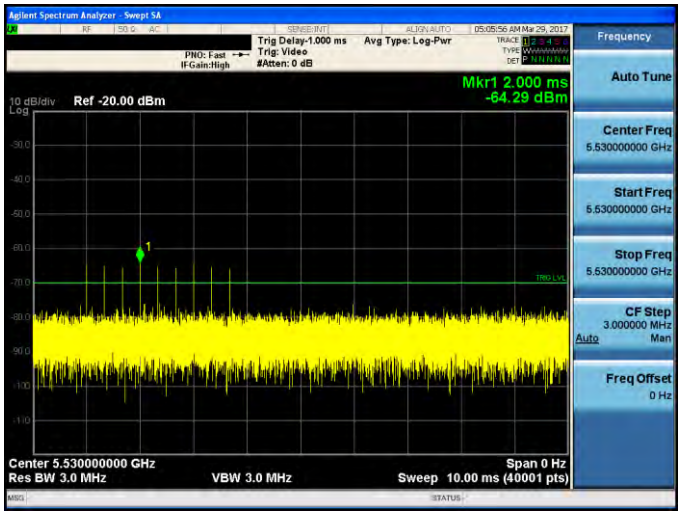
Mode 2: IEEE 802.11ac 40MHz link mode_ 5550MHz	
Long Pulse Radar Type 5	
Frequency Hopping Radar Type 6	

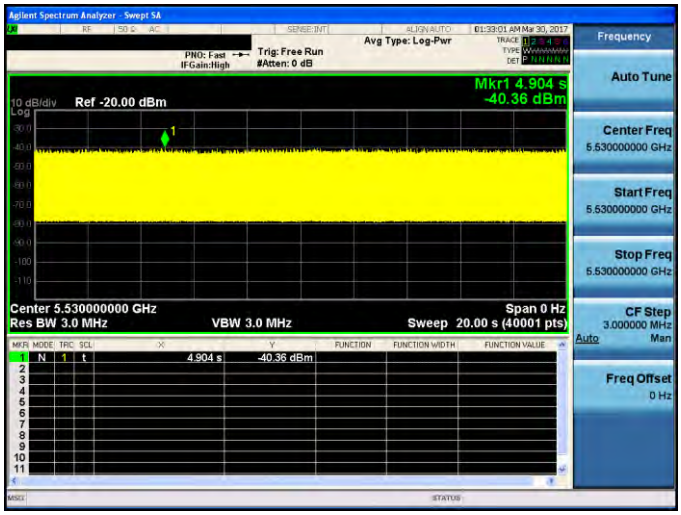
Mode 2: IEEE 802.11ac 40MHz link mode_ 5550MHz	
Traffic	

Mode 3: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Short Pulse Radar Type 0	
Short Pulse Radar Type 1A	

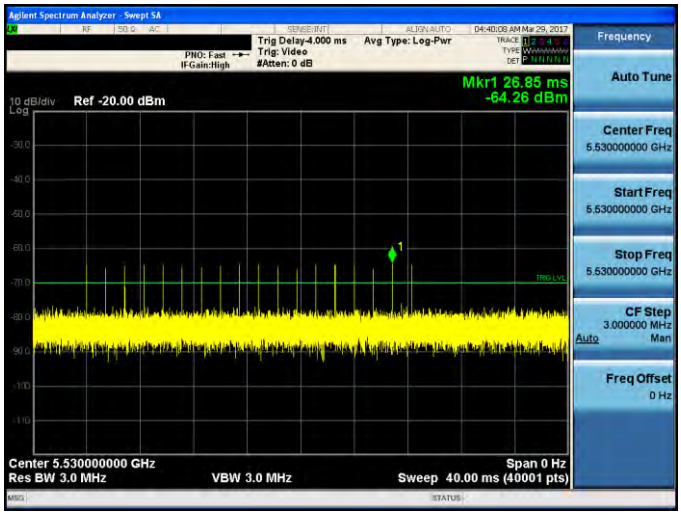
Mode 3: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Short Pulse Radar Type 1B	
Short Pulse Radar Type 2	

Mode 3: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Short Pulse Radar Type 3	
Short Pulse Radar Type 4	

Mode 3: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Long Pulse Radar Type 5	
Frequency Hopping Radar Type 6	

Mode 3: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Traffic	

Module : QCA9990 (EW-7944MAC)_Client

Mode 2: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Short Pulse Radar Type 0	

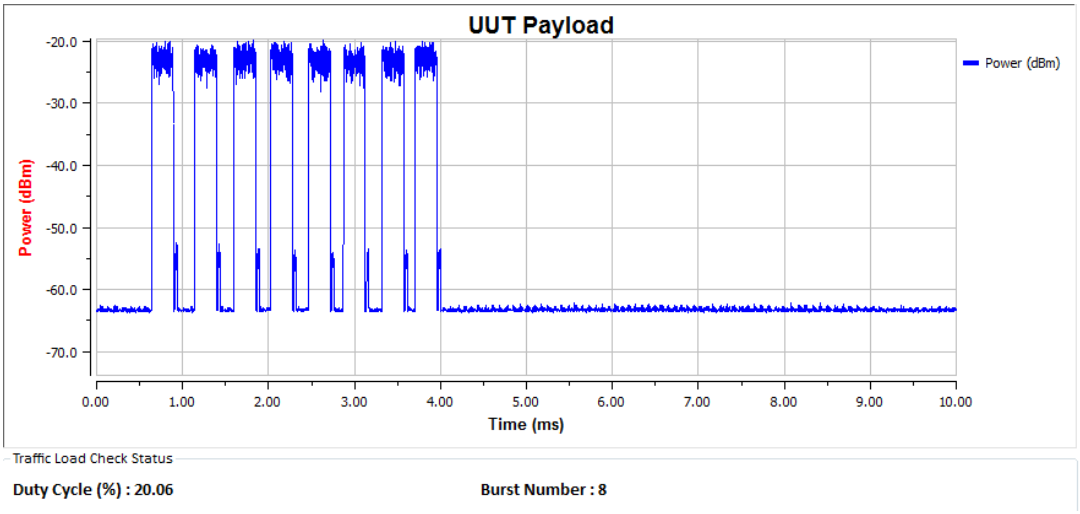
Mode 2: IEEE 802.11ac 80MHz link mode_ 5530MHz	
Traffic	

5.2. Channel Loading

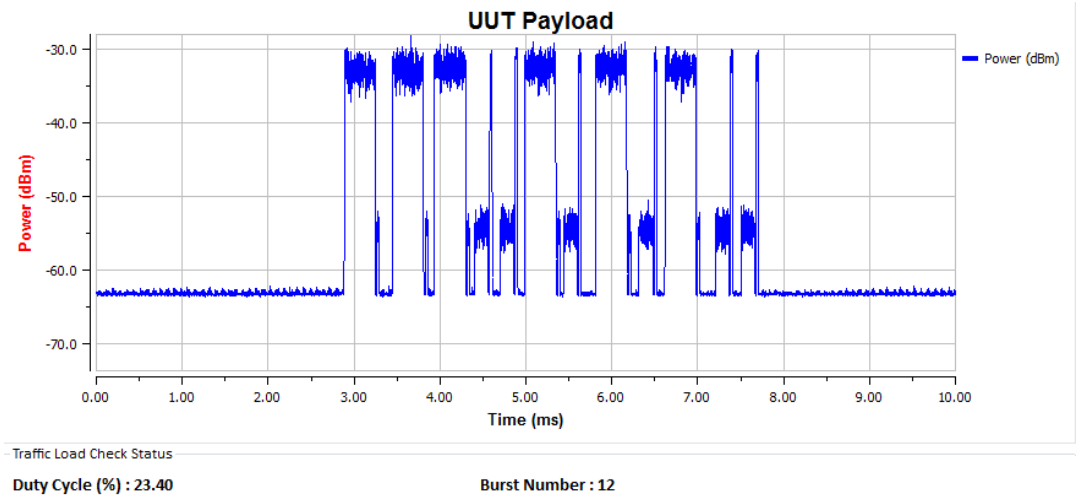
■ **Duty cycle≧17%**

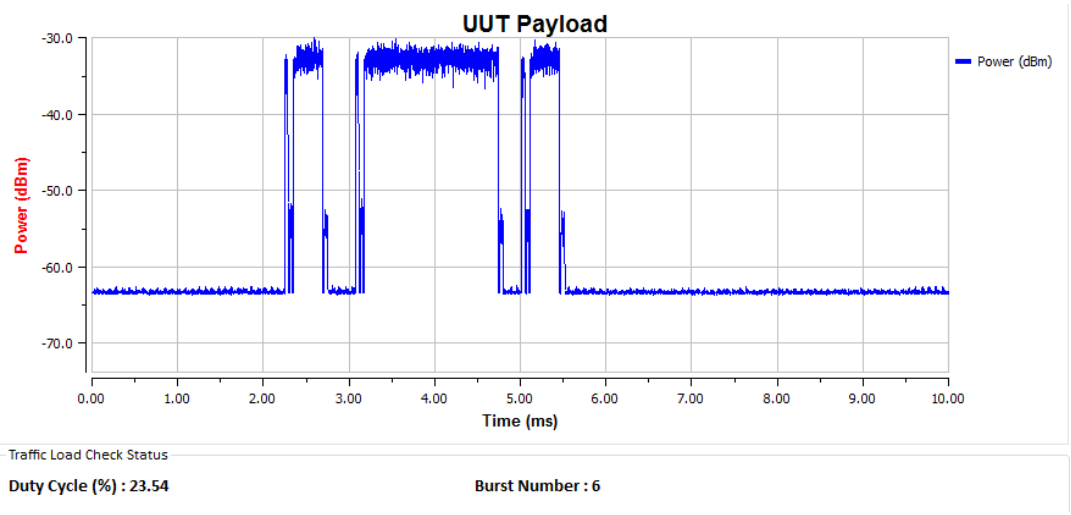
Module : QCA9984 (EW-7955MAC)

Mode 1: IEEE 802.11ac 20MHz link mode



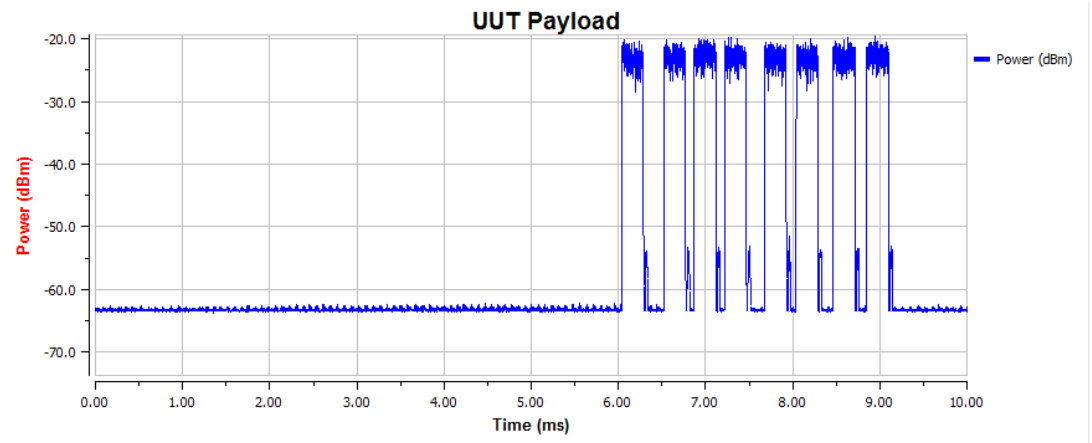
Mode 2: IEEE 802.11ac 40MHz link mode



Mode 3: IEEE 802.11ac 80MHz link mode


Module : QCA9990 (EW-7944MAC)_Master

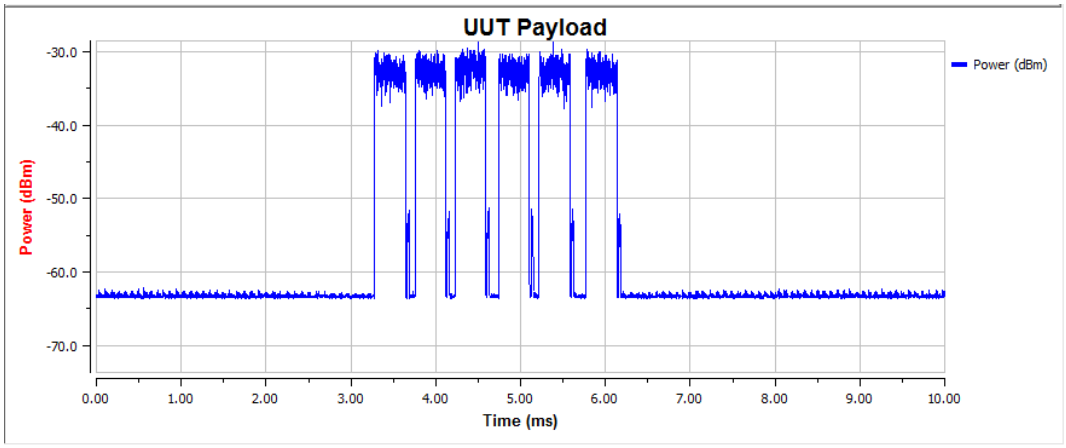
Mode 1: IEEE 802.11ac 20MHz link mode



Traffic Load Check Status

Duty Cycle (%) : 20.07 **Burst Number : 8**

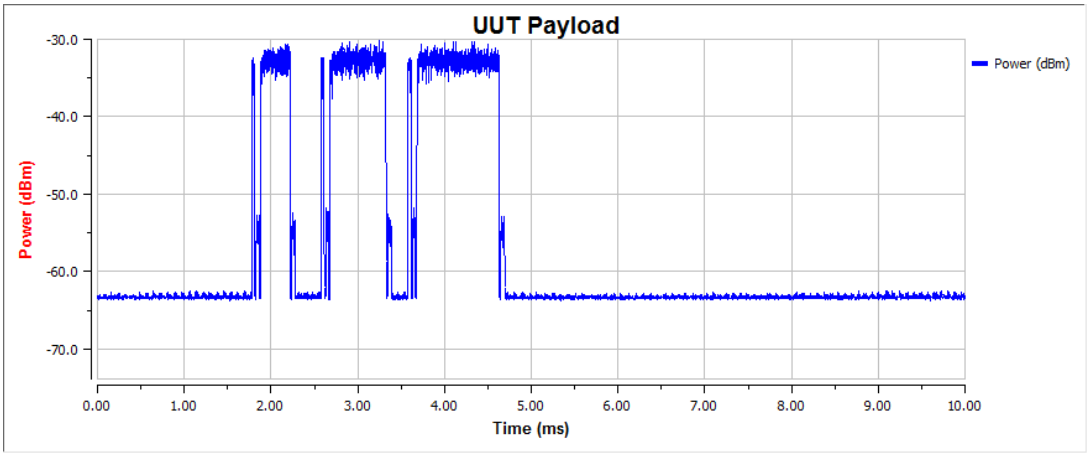
Mode 2: IEEE 802.11ac 40MHz link mode



Traffic Load Check Status

Duty Cycle (%) : 21.77 **Burst Number : 6**

Mode 3: IEEE 802.11ac 80MHz link mode

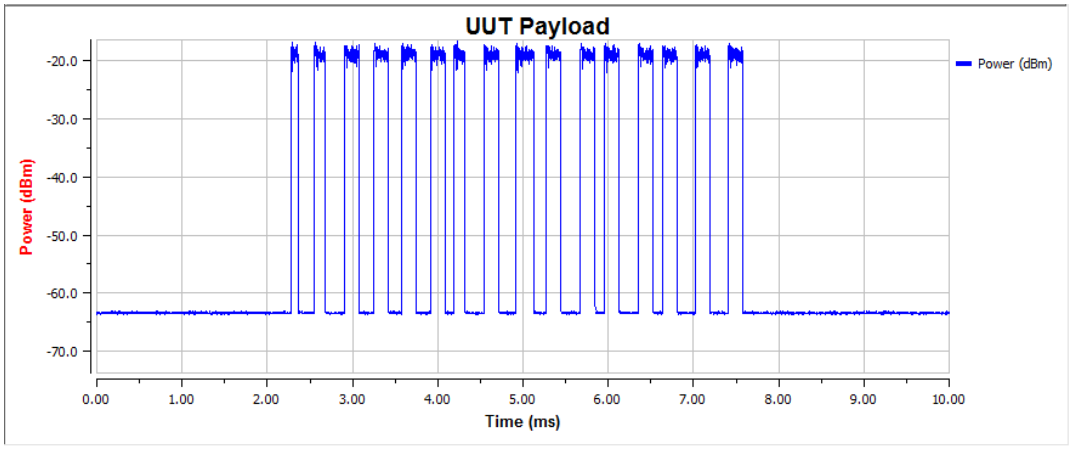


Traffic Load Check Status

Duty Cycle (%) : 20.43 **Burst Number : 6**

Module : QCA9990 (EW-7944MAC)_Client

Mode 3: IEEE 802.11ac 80MHz link mode



5.3. Channel Availability Check Time

5.3.1. Procedure to Determine Initial Power-Up Cycle Time

A link was established on channel then the EUT was rebooted. The time from the cessation of traffic to the re-initialization of traffic was measured as the time required for the EUT to complete the total power-up cycle. The time to complete the initial power-up period is 60 seconds less than this total power-up time.

5.3.2. Procedure for Timing Of Radar Burst

With a link established on channel, the EUT was rebooted. A radar signal was triggered within 0 to 6 seconds after the initial power-up period, and transmissions on the channel were monitored on the spectrum analyzer.
The Non-Occupancy list was cleared. With a link established on channel, the EUT was rebooted. A radar signal was triggered within 54 to 60 seconds after the initial power-up period, and transmissions on the channel were monitored on the spectrum analyzer.

5.3.3. Quantitative Results

Module : QCA9984 (EW-7955MAC)

No Radar Triggered					
Frequency (MHz)	Timing of Reboot (sec)	Delta (sec)	Timing of Start of Traffic (sec)	Total Power-up Cycle Time (sec)	Initial Power-up Cycle Time (sec)
5560	1.839	103.700	105.539	103.700	43.700

Radar Near Beginning of CAC				
Frequency (MHz)	Timing of Reboot (sec)	Timing of Radar Burst (sec)	Radar Relative to Reboot (sec)	Radar Relative to Start of CAC (sec)
5560	1.839	46.130	44.291	0.591

Radar Near End of CAC				
Frequency (MHz)	Timing of Radar Burst (sec)	Radar Relative to Reboot (sec)	Radar Relative to Start of CAC (sec)	Radar Relative to Start of CAC (sec)
5560	1.839	99.950	98.111	54.411

Module : QCA9990 (EW-7944MAC)_Master

No Radar Triggered					
Frequency (MHz)	Timing of Reboot (sec)	Delta (sec)	Timing of Start of Traffic (sec)	Total Power-up Cycle Time (sec)	Initial Power-up Cycle Time (sec)
5560	4.166	109.500	113.666	109.500	49.500

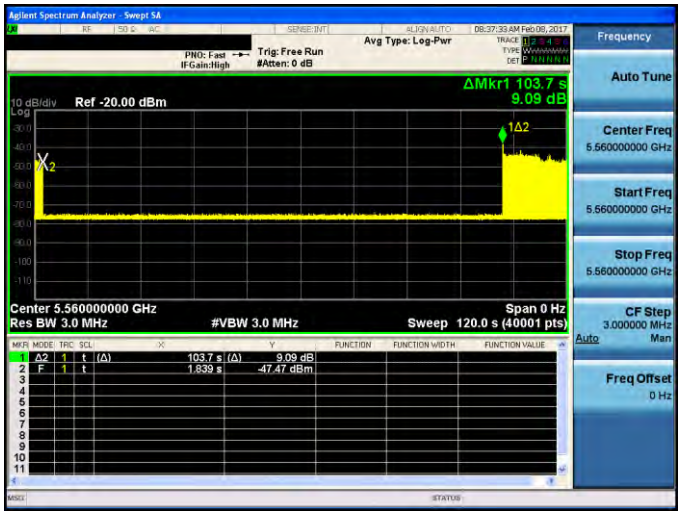
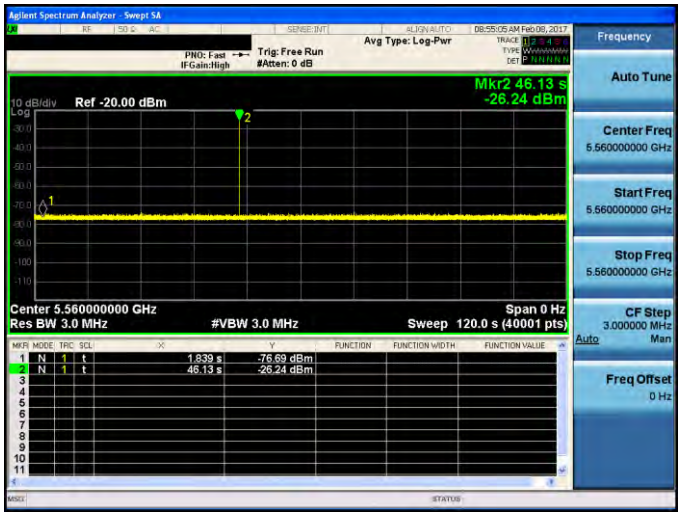
Radar Near Beginning of CAC				
Frequency (MHz)	Timing of Reboot (sec)	Timing of Radar Burst (sec)	Radar Relative to Reboot (sec)	Radar Relative to Start of CAC (sec)
5560	4.166	54.700	50.534	1.034

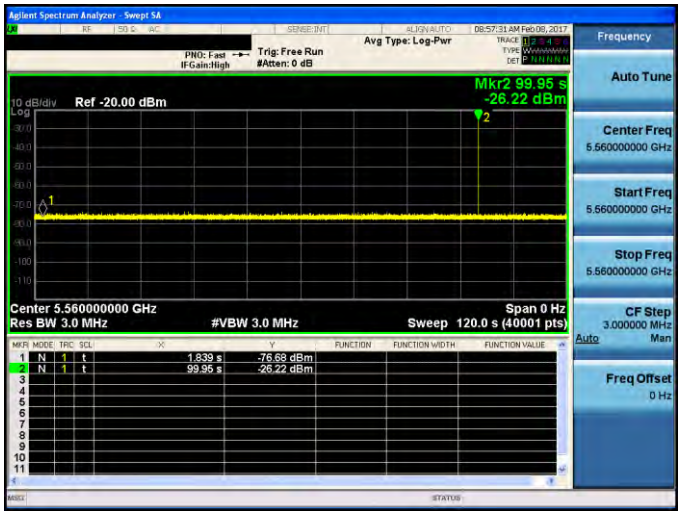
Radar Near End of CAC				
Frequency (MHz)	Timing of Radar Burst (sec)	Radar Relative to Reboot (sec)	Radar Relative to Start of CAC (sec)	Radar Relative to Start of CAC (sec)
5560	4.166	108.600	104.434	54.934

5.3.4. Qualitative Results

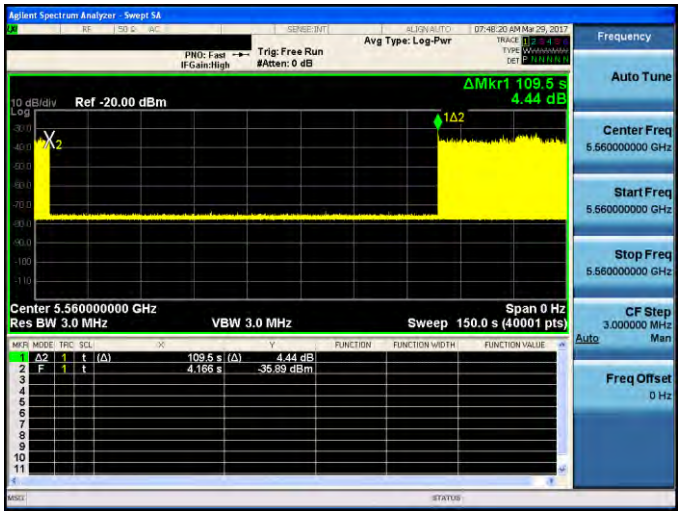
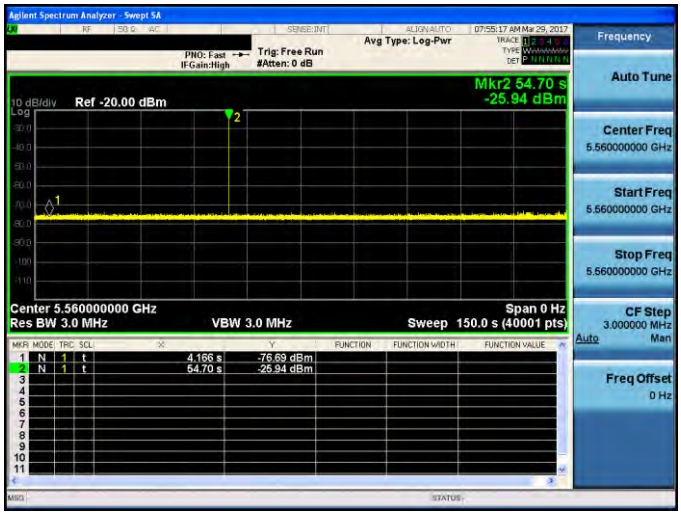
Timing of Radar Burst	Display on Control Computer	Spectrum Analyzer Display
No Radar Triggered	EUT marks Channel as active	Transmissions begin on channel after completion of the initial power-up cycle and the CAC
Within 0 to 6 second window	EUT indicates radar detected	No transmissions on channel
Within 54 to 60 second window	EUT indicates radar detected	No transmissions on channel

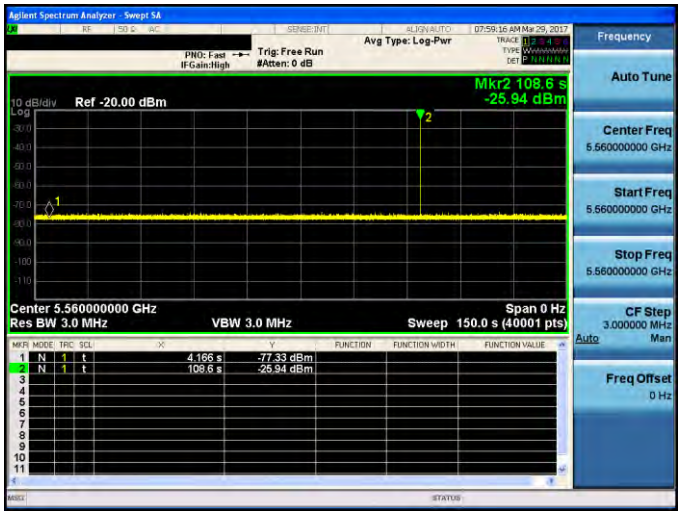
Module : QCA9984 (EW-7955MAC)

Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Initial Channel Availability Check	
Initial Channel Availability Check Begin	

Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Initial Channel Availability Check End	

Module : QCA9984 (EW-7955MAC)

Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Initial Channel Availability Check	
Initial Channel Availability Check Begin	

Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz	
Initial Channel Availability Check End	

5.4. Channel Move Time and Channel Closing Transmission Time

5.4.1. Reporting Notes

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse.
This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:
Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)

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.

Results

Module : QCA9984 (EW-7955MAC)

Frequency (MHz)	Radar Type	Channel Move Time (msec)	Limit (sec)
		Master	
5530	Type 0	0.5065	10

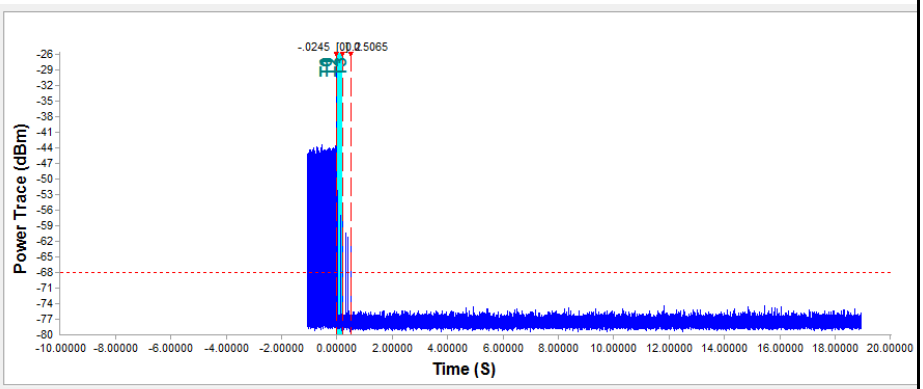
Frequency (MHz)	Radar Type	Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
		Master	
5530	Type 0	1.5000	60

Module : QCA9990 (EW-7944MAC)

Frequency (MHz)	Radar Type	Channel Move Time (msec)		Limit (sec)
		Master	Client	
5530	Type 0	0.4870	514.9871	10

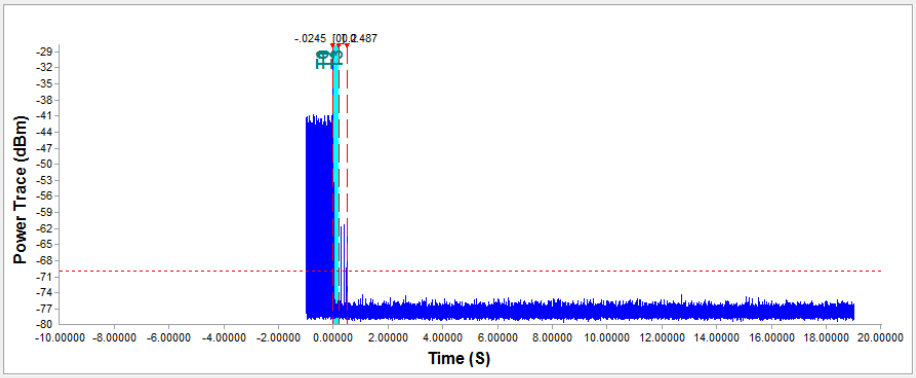
Frequency (MHz)	Radar Type	Aggregate Channel Closing Transmission Time (msec)		Limit (msec)
		Master	Client	
5530	Type 0	2.4999	3.4999	60

Module : QCA9984 (EW-7955MAC)

Mode 3: IEEE 802.11ac 80MHz link mode _ 5530MHz	
Channel Move and Closing Time	

Module : QCA9990 (EW-7944MAC)	

Mode 3: IEEE 802.11ac 80MHz link mode _ 5530MHz	
Channel Move and Closing Time	Master



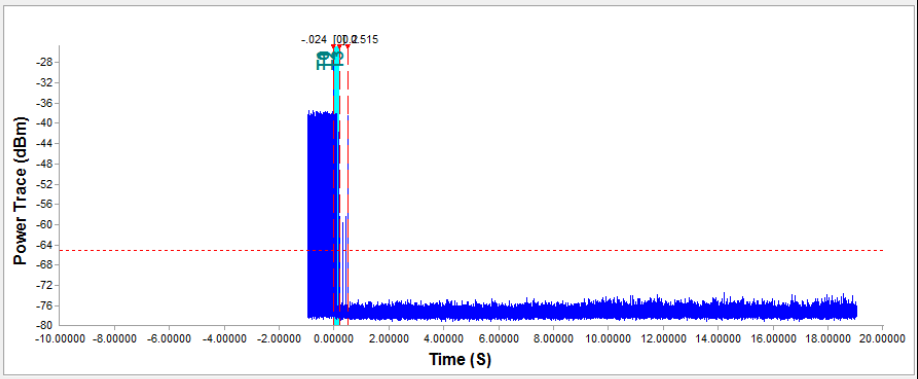
Time Index Info

T0 : -0.0245 S
T1 : 0.0000 S
T2 : 0.2000 S
T3 : 0.4870 S

Time Per Bin:0.4999875 ms
T2~T3 Bins Over Threshold: = 5 Bins

Channel Move Time: 0.4869878 S
Channel Close Time: 0.0024999 S

	Client



Time Index Info

T0 : -0.0240 S
T1 : 0.0000 S
T2 : 0.2000 S
T3 : 0.5150 S

Time Per Bin:0.4999875 ms
T2~T3 Bins Over Threshold: = 7 Bins

Channel Move Time: 0.5149871 S
Channel Close Time: 0.0034999 S

5.5. Non-Occupancy Period

Mode 3: IEEE 802.11n 80MHz Link Mode _ 5530MHz

Note: Non-Occupancy Period time is 30 minute during which a Channel will not be utilized after a Radar Waveform is detected on that Channel.

5.6. Non-Associated Test

Mode 3: IEEE 802.11n 80MHz Link Mode _ 5530MHz


Note: The non-associated Client Beacon Test is during the 30 minutes observation time. The EUT should not make any transmissions in the DFS band after EUT power up.

5.7. U-NII Detection Bandwidth

■ **Test Results**

Module : QCA9984 (EW-7955MAC)

Model Number	KPWL-0300					
Test Item	Detection Bandwidth					
Test Mode	Mode 1: IEEE 802.11ac 20MHz link mode					
Date of Test	02/09/2017					
Frequency (MHz)	FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5560	5551	5570	19	17.637	107.73	≧100

Model Number	KPWL-0300					
Test Item	Detection Bandwidth					
Test Mode	Mode 2: IEEE 802.11ac 40MHz link mode					
Date of Test	02/09/2017					
Frequency (MHz)	FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5550	5530	5570	40	36.504	109.58	≧100

Model Number	KPWL-0300					
Test Item	Detection Bandwidth					
Test Mode	Mode 3: IEEE 802.11ac 80MHz link mode					
Date of Test	02/09/2017					
Frequency (MHz)	FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5530	5490	5570	80	75.593	105.83	≧100

Module : QCA9990 (EW-7944MAC)_Master

Model Number	KPWL-0300					
Test Item	Detection Bandwidth					
Test Mode	Mode 1: IEEE 802.11ac 20MHz link mode					
Date of Test	03/30/2017					
Frequency (MHz)	FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5560	5550	5570	20	18.113	110.42	≧100

Model Number	KPWL-0300					
Test Item	Detection Bandwidth					
Test Mode	Mode 2: IEEE 802.11ac 40MHz link mode					
Date of Test	03/30/2017					
Frequency (MHz)	FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5550	5530	5570	40	36.227	110.41	≧100

Model Number	KPWL-0300					
Test Item	Detection Bandwidth					
Test Mode	Mode 3: IEEE 802.11ac 80MHz link mode					
Date of Test	03/30/2017					
Frequency (MHz)	FL (MHz)	FH (MHz)	Detection Bandwidth (MHz)	99% Power Bandwidth (MHz)	Ratio of Detection BW to 99% Power BW (%)	Minimum Limit (%)
5530	5490	5570	80	75.759	105.60	≧100

■ Test Graphs

Module : QCA9984 (EW-7955MAC)

Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz

Mode 2: IEEE 802.11ac 40MHz link mode _ 5550MHz

Mode 3: IEEE 802.11ac 80MHz link mode _ 5530MHz

Module : QCA9990 (EW-7944MAC)_ Master

Mode 1: IEEE 802.11ac 20MHz link mode _ 5560MHz

Mode 2: IEEE 802.11ac 40MHz link mode _ 5550MHz

Mode 3: IEEE 802.11ac 80MHz link mode _ 5530MHz


5.8. Statistical Performance check

■ **Test Results**

Module : QCA9984 (EW-7955MAC)

Model Number	KPWL-0300
Test Item	In-Service Monitoring
Test Mode	Mode 1: IEEE 802.11ac 20MHz link mode
Date of Test	04/05/2017

Frequency (MHz)	Radar Signal	PRI (Msec)	Pulse width W (μs)	Pass Times	Fail Times	Probability	Limit
5560	Type1	Table 5a	1	28	2	93.33%	≧60%
	Type2	Random	Random	30	0	100.00%	≧60%
	Type3	Random	Random	27	3	90.00%	≧60%
	Type4	Random	Random	25	5	83.33%	≧60%
	Type1~4					91.67%	≧80%
	Type5	Random	Random	30	0	100.00%	≧80%
	Type6	Hopping	1	29	1	96.67%	≧70%

Model Number	KPWL-0300
Test Item	In-Service Monitoring
Test Mode	Mode 2: IEEE 802.11ac 40MHz link mode
Date of Test	04/05/2017

Frequency (MHz)	Radar Signal	PRI (Msec)	Pulse width W (μs)	Pass Times	Fail Times	Probability	Limit
5550	Type1	Table 5a	1	29	1	96.67%	≧60%
	Type2	Random	Random	28	2	93.33%	≧60%
	Type3	Random	Random	25	5	83.33%	≧60%
	Type4	Random	Random	26	4	86.67%	≧60%
	Type1~4					90.00%	≧80%
	Type5	Random	Random	25	5	83.33%	≧80%
	Type6	Hopping	1	30	0	100.00%	≧70%

Model Number	KPWL-0300
Test Item	In-Service Monitoring
Test Mode	Mode 3: IEEE 802.11ac 80MHz link mode
Date of Test	04/05/2017

Frequency (MHz)	Radar Signal	PRI (Msec)	Pulse width W (μs)	Pass Times	Fail Times	Probability	Limit
5530	Type1	Table 5a	1	28	2	93.33%	≧60%
	Type2	Random	Random	30	0	100.00%	≧60%
	Type3	Random	Random	28	2	93.33%	≧60%
	Type4	Random	Random	29	1	96.67%	≧60%
	Type1~4					95.83%	≧80%
	Type5	Random	Random	24	6	80.00%	≧80%
	Type6	Hopping	1	30	0	100.00%	≧70%

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 1

Trial #	Test Frequency (MHz)	Pulse Width (us)	PRI (us)	Number of Pluse	PRF (Hz)	1=Detection ; 0=No Detection
1	5560	1	538	99	1859	1
2	5560	1	798	67	1253	1
3	5560	1	718	74	1393	0
4	5560	1	878	61	1139	1
5	5560	1	578	92	1730	1
6	5560	1	878	61	1139	1
7	5560	1	618	86	1618	1
8	5560	1	898	59	1114	1
9	5560	1	678	78	1475	1
10	5560	1	3066	18	326	1
11	5560	1	838	63	1193	1
12	5560	1	738	72	1355	1
13	5560	1	818	65	1222	1
14	5560	1	598	89	1672	1
15	5560	1	618	86	1618	1
16	5560	1	2938	18	340	1
17	5560	1	1376	39	727	1
18	5560	1	1764	30	567	1
19	5560	1	1232	43	812	1
20	5560	1	1215	44	823	1
21	5560	1	2725	20	367	1
22	5560	1	1732	31	577	1
23	5560	1	801	66	1248	1
24	5560	1	992	54	1008	1
25	5560	1	2446	22	409	1
26	5560	1	1025	52	976	1
27	5560	1	1939	28	516	0
28	5560	1	1772	30	564	1
29	5560	1	793	67	1261	1
30	5560	1	1073	50	932	1
Detection Percentage (%)						93.33

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 2

Trial #	Test Frequency (MHz)	Pulse Width (us)	PRI (us)	Number of Pluse	PRF (Hz)	1=Detection ; 0=No Detection
1	5560	1.40	202.30	25	4943	1
2	5560	3.50	152.10	26	6575	1
3	5560	3.80	226.50	23	4415	1
4	5560	4.90	151.50	25	6601	1
5	5560	2.20	196.90	26	5079	1
6	5560	2.70	176.00	29	5682	1
7	5560	1.10	228.30	23	4380	1
8	5560	3.30	179.40	27	5574	1
9	5560	4.50	206.80	28	4836	1
10	5560	4.10	152.80	27	6545	1
11	5560	1.10	152.00	24	6579	1
12	5560	3.10	195.90	27	5105	1
13	5560	4.90	226.90	27	4407	1
14	5560	2.30	176.90	24	5653	1
15	5560	4.70	185.30	26	5397	1
16	5560	3.70	211.90	26	4719	1
17	5560	4.20	165.60	28	6039	1
18	5560	2.40	195.10	27	5126	1
19	5560	1.70	224.60	25	4452	1
20	5560	2.50	181.40	29	5513	1
21	5560	1.20	161.10	29	6207	1
22	5560	4.90	200.70	29	4983	1
23	5560	3.20	202.10	28	4948	1
24	5560	4.00	189.00	26	5291	1
25	5560	2.70	188.20	25	5313	1
26	5560	4.90	171.00	26	5848	1
27	5560	2.30	202.60	28	4936	1
28	5560	3.90	229.40	29	4359	1
29	5560	3.10	160.20	29	6242	1
30	5560	3.20	178.10	26	5615	1
Detection Percentage (%)						100.00

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 3

Trial #	Test Frequency (MHz)	Pulse Width (us)	PRI (us)	Number of Pluse	PRF (Hz)	1=Detection ; 0=No Detection
1	5560	7.30	225.50	18	4434.59	1
2	5560	6.80	419.40	17	2384.36	1
3	5560	7.20	404.50	16	2472.19	1
4	5560	7.10	384.30	18	2602.13	1
5	5560	8.10	455.80	16	2193.94	1
6	5560	7.70	354.70	17	2819.28	1
7	5560	9.40	297.10	17	3365.87	1
8	5560	6.40	413.90	18	2416.04	1
9	5560	9.10	246.30	17	4060.09	0
10	5560	6.70	478.90	17	2088.12	1
11	5560	9.80	495.90	18	2016.54	1
12	5560	7.60	445.10	18	2246.69	1
13	5560	8.00	255.10	18	3920.03	1
14	5560	9.40	274.60	16	3641.66	0
15	5560	8.70	289.50	18	3454.23	1
16	5560	7.10	221.40	18	4516.71	1
17	5560	6.20	323.20	17	3094.06	1
18	5560	7.50	442.10	18	2261.93	1
19	5560	7.70	356.80	16	2802.69	1
20	5560	7.50	284.90	18	3510.00	1
21	5560	7.40	454.20	16	2201.67	1
22	5560	6.90	214.30	16	4666.36	1
23	5560	7.00	380.10	18	2630.89	1
24	5560	7.50	473.40	16	2112.38	0
25	5560	8.70	249.00	18	4016.06	1
26	5560	6.30	457.50	18	2185.79	1
27	5560	7.30	375.90	17	2660.28	1
28	5560	9.90	309.90	18	3226.85	1
29	5560	8.70	491.50	16	2034.59	1
30	5560	9.20	433.70	18	2305.74	1
Detection Percentage (%)						90.00

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 4

Trial #	Test Frequency (MHz)	Pulse Width (us)	PRI (us)	Number of Pluse	PRF (Hz)	1=Detection ; 0=No Detection
1	5560	19.70	456.70	12	2190	1
2	5560	18.00	315.80	12	3167	1
3	5560	18.40	328.10	13	3048	1
4	5560	18.30	342.70	12	2918	1
5	5560	13.40	233.50	16	4283	1
6	5560	11.50	293.40	15	3408	1
7	5560	14.60	252.00	13	3968	1
8	5560	19.90	281.00	15	3559	1
9	5560	14.00	288.30	14	3469	0
10	5560	16.50	268.00	12	3731	1
11	5560	18.90	328.00	15	3049	1
12	5560	11.30	329.80	14	3032	1
13	5560	19.70	335.20	12	2983	1
14	5560	13.50	285.20	13	3506	1
15	5560	16.10	425.30	15	2351	1
16	5560	11.20	329.00	15	3040	0
17	5560	12.80	486.70	13	2055	0
18	5560	16.00	245.20	14	4078	1
19	5560	14.60	416.00	15	2404	1
20	5560	12.90	295.60	15	3383	0
21	5560	11.70	203.30	13	4919	1
22	5560	13.30	481.70	16	2076	1
23	5560	13.00	343.50	14	2911	1
24	5560	12.70	345.20	12	2897	1
25	5560	13.80	484.60	16	2064	1
26	5560	15.20	348.20	15	2872	1
27	5560	12.60	457.70	15	2185	1
28	5560	18.60	203.30	16	4919	0
29	5560	13.30	491.20	15	2036	1
30	5560	13.60	254.90	13	3923	1
Detection Percentage (%)						83.33

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
1	5559	1	70.7	19	1741.2	1	1
	5557	2	90.2	14	1110.2	2	
	5559	3	57.1	20	1270.5	2	
	5555	4	76.4	9	1329.5	2	
	5556	5	93.5	13	1644.8	1	
	5559	6	54.3	20	1557.1	2	
	5557	7	50.0	16	1233.1	1	
	5556	8	95.5	12	1586.9	2	
	5553	9	86.8	6	1338.7	1	
	5557	10	80.0	14	1585.9	1	
	5559	11	91.1	19	1830.2	3	
2	5554	1	67.1	7	1205.8	1	1
	5556	2	54.8	12	1573.2	2	
	5559	3	62.4	19	1069.2	3	
	5554	4	63.9	7	1161.0	1	
	5555	5	58.1	10	1139.5	2	
	5555	6	89.5	11	1367.4	3	
	5553	7	83.5	5	1620.0	3	
	5556	8	59.7	13	1328.5	2	
	5555	9	92.4	11	1613.7	2	
	5557	10	64.0	15	1401.6	3	
	5555	11	99.0	9	1416.9	3	
	5554	12	61.1	8	1051.4	1	
3	5559	1	84.6	19	1802.6	3	1
	5555	2	76.8	11	1531.8	2	
	5555	3	64.4	9	1803.2	1	
	5554	4	74.5	7	1582.2	3	
	5553	5	55.4	5	1829.5	2	
	5555	6	58.8	10	1426.9	3	
	5555	7	94.2	9	1920.5	3	
	5558	8	68.3	18	1533.9	2	
	5558	9	73.9	18	1069.7	3	
	5556	10	86.8	13	1147.9	3	
	5557	11	64.1	16	1029.8	3	
	5559	12	76.7	19	1322.4	3	
	5557	13	72.0	14	1176.9	2	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
4	5559	1	80.6	19	1003.0	1	1
	5555	2	85.2	9	1708.1	1	
	5558	3	84.5	18	1587.3	2	
	5555	4	84.2	10	1276.9	2	
	5558	5	77.5	18	1877.0	3	
	5554	6	63.1	8	1404.0	1	
	5556	7	62.8	13	1730.0	2	
	5559	8	54.1	19	1094.6	1	
	5555	9	75.5	11	1039.7	2	
5	5557	1	79.6	15	1910.1	3	1
	5559	2	70.7	19	1214.5	3	
	5555	3	51.5	10	1686.1	2	
	5555	4	81.7	11	1819.3	1	
	5558	5	68.1	17	1355.7	2	
	5553	6	61.5	5	1257.4	2	
	5555	7	75.9	10	1045.7	3	
	5559	8	80.1	20	1263.2	3	
	5557	9	67.6	14	1646.7	1	
	5553	10	83.4	6	1097.8	1	
	5557	11	83.9	15	1478.2	1	
	5553	12	57.3	5	1856.9	3	
	5553	13	87.5	6	1155.4	3	
	5555	14	51.3	10	1502.3	3	
	5556	15	56.6	12	1562.1	2	
6	5557	1	90.3	14	1760.3	3	1
	5554	2	50.9	8	1706.9	3	
	5556	3	52.1	12	1529.7	3	
	5556	4	64.2	12	1813.7	2	
	5553	5	87.0	5	1476.3	3	
	5557	6	81.2	15	1736.3	1	
	5557	7	83.7	15	1251.1	3	
	5557	8	62.5	15	1837.0	3	
	5555	9	54.2	11	1576.3	3	
	5558	10	69.7	17	1991.6	1	
	5555	11	57.9	9	1662.0	2	
	5557	12	81.9	16	1578.0	3	
	5557	13	57.6	15	1582.9	3	
	5556	14	92.9	12	1331.0	3	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
7	5558	1	77.9	18	1022.7	3	1
	5559	2	52.1	19	1201.2	3	
	5556	3	93.8	13	1933.1	1	
	5555	4	54.7	10	1262.7	3	
	5558	5	50.2	18	1989.6	3	
	5557	6	60.0	14	1382.8	1	
	5557	7	93.4	16	1462.6	1	
	5555	8	81.1	10	1847.2	1	
	5553	9	89.3	5	1458.3	2	
	5557	10	75.6	16	1902.9	2	
	5556	11	81.6	13	1967.2	2	
	5558	12	64.7	18	1084.0	3	
	5557	13	53.1	15	1799.5	3	
	5558	14	99.7	18	1897.7	3	
	5559	15	94.2	19	1955.1	1	
	5555	16	62.5	9	1462.0	1	
	5555	17	51.0	10	1592.7	3	
8	5559	1	78.4	19	1533.2	2	1
	5558	2	65.1	17	1729.3	2	
	5555	3	78.8	10	1133.7	2	
	5557	4	93.4	15	1994.7	3	
	5558	5	92.5	17	1266.7	2	
	5557	6	88.4	15	1577.7	2	
	5556	7	65.4	13	1070.1	2	
	5555	8	96.3	11	1209.9	1	
	5555	9	82.1	10	1140.6	3	
	5559	10	70.8	19	1559.7	3	
	5558	11	79.0	17	1328.6	1	
	5558	12	93.9	18	1908.3	3	
	5554	13	67.3	8	1162.3	3	
	5557	14	77.8	16	1922.8	2	
	5558	15	89.0	18	1355.6	1	
	5555	16	64.2	10	1165.8	1	
	5553	17	83.6	6	1853.9	3	
	5558	18	92.4	17	1432.8	1	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
9	5553	1	71.5	5	1807.1	3	1
	5558	2	63.6	18	1220.4	2	
	5557	3	90.9	15	1401.9	3	
	5559	4	62.7	19	1637.5	3	
	5554	5	61.8	8	1945.1	1	
	5554	6	53.6	8	1198.4	3	
	5553	7	77.5	6	1192.3	2	
	5555	8	76.4	10	1087.5	2	
	5555	9	98.5	11	1375.8	2	
	5554	10	72.1	7	1077.8	2	
	5555	11	94.1	11	1339.6	3	
	5557	12	83.8	16	1597.5	2	
	5557	13	96.9	14	1955.9	1	
	5558	14	96.8	18	1627.1	1	
	5556	15	88.8	13	1903.6	2	
	5554	16	93.2	7	1553.0	3	
	5555	17	88.4	11	1115.6	1	
	5554	18	62.4	8	1837.1	3	
	5554	19	52.4	7	1266.6	3	
10	5556	1	79.1	12	1492.7	3	1
	5553	2	69.8	6	1517.5	2	
	5555	3	74.1	10	1907.4	1	
	5554	4	64.5	8	1334.1	3	
	5556	5	71.2	12	1225.8	3	
	5557	6	93.2	14	1811.9	1	
	5554	7	92.8	7	1204.1	1	
	5554	8	64.5	7	1391.4	1	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
11	5560	1	73.6	6	1301.3	2	1
	5560	2	77.8	15	1263.2	3	
	5560	3	53.6	19	1436.0	2	
	5560	4	97.5	20	1701.5	3	
	5560	5	59.7	17	1105.5	1	
	5560	6	74.4	16	1822.2	1	
	5560	7	87.9	17	1531.3	3	
	5560	8	86.1	15	1725.8	2	
	5560	9	71.3	17	1990.7	3	
	5560	10	83.6	16	1564.3	3	
	5560	11	69.2	16	1994.1	3	
	5560	12	60.0	17	1154.1	1	
	5560	13	84.6	16	1255.2	3	
	5560	14	96.1	6	1586.6	1	
	5560	15	89.7	8	1802.5	3	
	5560	16	54.6	16	1101.5	2	
12	5560	1	86.9	6	1517.1	1	1
	5560	2	65.9	14	1748.9	3	
	5560	3	57.5	19	1715.8	1	
	5560	4	71.1	6	1868.1	3	
	5560	5	64.2	12	1792.8	3	
	5560	6	57.5	10	1144.6	3	
	5560	7	92.9	13	1762.5	2	
	5560	8	60.3	18	1505.3	3	
	5560	9	69.2	12	1217.9	3	
	5560	10	61.0	9	1531.3	3	
	5560	11	59.6	15	1868.7	3	
	5560	12	55.2	9	1036.1	1	
	5560	13	54.7	11	1719.9	3	
	5560	14	90.2	5	1465.7	2	
	5560	15	62.3	18	1481.5	2	
	5560	16	60.3	15	1101.3	1	
	5560	17	99.3	5	1055.6	2	
	5560	18	95.2	16	1891.6	3	
	5560	19	54.2	6	1416.7	3	
	5560	20	89.8	9	1149.8	1	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
13	5560	1	63.6	17	1935.8	1	1
	5560	2	63.2	14	1767.2	3	
	5560	3	54.4	10	1505.0	2	
	5560	4	97.4	10	1545.6	3	
	5560	5	79.6	17	1231.9	2	
	5560	6	88.8	14	1115.1	2	
	5560	7	52.2	10	1128.1	1	
	5560	8	92.8	6	1710.2	3	
	5560	9	85.1	9	1426.2	1	
	5560	10	79.4	17	1357.0	2	
14	5560	1	75.0	18	1558.7	3	1
	5560	2	97.1	9	1645.2	2	
	5560	3	52.5	17	1225.8	1	
	5560	4	77.6	18	1627.0	1	
	5560	5	55.7	7	1097.4	3	
	5560	6	94.4	8	1422.8	2	
	5560	7	52.2	14	1640.5	1	
	5560	8	94.4	18	1422.3	2	
	5560	9	78.4	17	1074.6	3	
	5560	10	60.7	17	1554.6	3	
	5560	11	66.6	8	1763.6	1	
	5560	12	61.9	7	1410.4	3	
	5560	13	52.6	13	1624.9	3	
	5560	14	69.6	10	1190.3	2	
	5560	15	66.5	9	1273.0	2	
	5560	16	94.1	20	1542.1	1	
	5560	17	92.3	10	1141.2	1	
	5560	18	60.6	20	1246.3	2	
	5560	19	66.9	9	1765.8	3	
	5560	20	63.3	13	1974.0	1	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
15	5560	1	84.4	17	1414.2	1	1
	5560	2	84.3	14	1927.9	3	
	5560	3	97.2	5	1069.0	2	
	5560	4	72.7	19	1744.3	1	
	5560	5	50.5	8	1588.2	3	
	5560	6	71.9	10	1265.8	3	
	5560	7	55.3	6	1075.5	1	
	5560	8	92.4	6	1434.3	3	
	5560	9	95.5	14	1551.3	3	
	5560	10	50.3	18	1262.4	3	
	5560	11	62.7	14	1665.7	3	
	5560	12	82.2	10	1466.2	3	
	5560	13	56.2	20	1898.8	3	
	5560	14	59.7	17	1629.1	2	
	5560	15	67.2	12	1538.0	1	
	5560	16	78.1	18	1966.9	2	
	5560	17	90.2	12	1564.1	2	
	5560	18	66.1	15	1640.7	1	
	5560	19	56.5	10	1326.0	3	
16	5560	1	68.9	16	1811.9	1	1
	5560	2	50.5	11	1248.6	2	
	5560	3	99.5	6	1881.9	3	
	5560	4	93.4	12	1178.0	2	
	5560	5	79.7	10	1298.8	3	
	5560	6	80.2	8	1370.2	3	
	5560	7	73.3	8	1000.3	1	
	5560	8	66.9	17	1859.4	2	
	5560	9	60.5	6	1338.2	3	
	5560	10	97.5	5	1469.6	3	
	5560	11	61.4	6	1098.7	1	
	5560	12	86.3	9	1934.3	3	
	5560	13	79.8	11	1002.4	3	
	5560	14	64.6	17	1944.1	3	
	5560	15	88.9	17	1919.5	2	
	5560	16	77.9	16	1777.1	3	
	5560	17	51.5	7	1709.0	1	
	5560	18	62.9	13	1544.5	3	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
17	5560	1	87.4	7	1407.0	3	1
	5560	2	55.8	13	1921.7	2	
	5560	3	52.5	11	1395.4	3	
	5560	4	83.4	8	1770.4	2	
	5560	5	52.8	20	1213.6	2	
	5560	6	51.9	6	1258.7	2	
	5560	7	61.1	9	1282.2	2	
	5560	8	54.2	18	1700.2	2	
	5560	9	64.5	13	1325.4	3	
	5560	10	73.0	8	1815.9	2	
	5560	11	94.7	11	1007.8	1	
	5560	12	54.2	7	1239.4	3	
	5560	13	98.0	7	1602.6	2	
	5560	14	56.9	16	1429.9	3	
	5560	15	86.8	14	1011.9	2	
	5560	16	68.5	15	1270.8	3	
	5560	17	87.3	8	1081.8	2	
18	5560	1	99.5	13	1720.7	3	1
	5560	2	64.5	8	1609.8	1	
	5560	3	63.7	8	1111.1	3	
	5560	4	74.1	11	1016.1	3	
	5560	5	78.5	6	1150.6	1	
	5560	6	76.7	8	1053.7	2	
	5560	7	57.5	12	1246.5	2	
	5560	8	72.4	11	1882.4	3	
	5560	9	93.6	11	1965.9	2	
	5560	10	71.2	6	1072.6	2	
	5560	11	99.1	17	1890.4	1	
	5560	12	58.4	5	1834.1	3	
	5560	13	97.6	15	1331.3	1	
	5560	14	76.7	6	1159.1	1	
	5560	15	51.6	16	1559.1	1	
	5560	1	87.4	7	1407.0	3	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
19	5560	1	53.6	13	1097.1	3	1
	5560	2	56.0	15	1735.9	1	
	5560	3	67.5	9	1356.2	1	
	5560	4	64.1	19	1848.8	2	
	5560	5	95.9	12	1165.9	1	
	5560	6	68.7	14	1810.8	2	
	5560	7	77.1	6	1931.1	3	
	5560	8	67.1	10	1721.9	3	
	5560	9	62.5	7	1567.9	1	
	5560	10	73.2	15	1019.9	1	
	5560	11	82.0	6	1392.7	3	
	5560	12	52.6	16	1465.8	2	
	5560	13	84.7	16	1817.2	3	
	5560	14	76.9	11	1691.7	2	
20	5560	1	86.4	9	1976.5	2	0
	5560	2	97.9	5	1435.7	1	
	5560	3	74.4	7	1922.2	3	
	5560	4	83.5	7	1728.7	1	
	5560	5	98.0	15	1164.4	2	
	5560	6	63.4	9	1040.4	2	
	5560	7	87.2	18	1637.7	2	
	5560	8	93.6	10	1664.2	3	
	5560	9	95.3	10	1203.3	2	
	5560	10	56.2	11	1644.5	1	
21	5563	1	63.9	14	1247.9	2	0
	5561	2	78.2	19	1605.4	2	
	5566	3	76.4	8	1501.3	3	
	5565	4	88.0	10	1123.3	2	
	5562	5	86.7	17	1367.3	2	
	5564	6	66.2	12	1049.0	2	
	5565	7	63.8	11	1953.8	2	
	5565	8	98.3	9	1513.2	1	
	5566	9	79.6	8	1347.0	2	
	5566	10	50.2	8	1117.8	2	
	5564	11	59.7	13	1165.6	1	
	5565	12	58.4	10	1003.7	1	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
22	5565	1	95.0	9	1222.4	1	0
	5563	2	53.5	15	1383.1	2	
	5561	3	73.9	19	1369.9	2	
	5564	4	83.1	13	1674.3	3	
	5563	5	93.8	15	1046.0	3	
	5566	6	50.6	8	1090.3	1	
	5561	7	65.1	19	1619.7	3	
	5561	8	82.5	19	1474.2	1	
	5563	9	55.1	15	1533.7	3	
23	5564	1	52.8	12	1319.6	3	1
	5562	2	93.8	17	1524.0	1	
	5561	3	89.6	19	1958.3	1	
	5566	4	71.4	7	1577.8	3	
	5564	5	82.6	12	1463.2	3	
	5563	6	94.7	15	1695.7	2	
	5567	7	92.1	6	1940.2	2	
	5565	8	77.7	9	1565.5	3	
	5565	9	64.9	10	1952.2	2	
	5566	10	69.8	7	1428.4	1	
	5566	11	94.8	7	1637.2	1	
	5564	12	64.3	13	1267.3	2	
	5562	13	60.3	18	1801.6	2	
	5566	14	73.2	7	1044.2	2	
	5563	15	88.9	14	1351.9	2	
24	5561	1	91.8	19	1620.9	2	1
	5565	2	93.9	10	1700.0	3	
	5561	3	99.2	20	1110.4	1	
	5561	4	74.5	20	1463.9	2	
	5562	5	52.0	17	1258.5	1	
	5563	6	59.8	14	1201.2	2	
	5565	7	88.7	10	1595.0	1	
	5562	8	99.5	18	1887.0	2	
	5566	9	93.0	7	1523.2	1	
	5566	10	94.0	8	1876.2	2	
	5567	11	68.3	6	1783.9	3	
	5567	12	51.9	6	1226.1	3	
	5563	13	75.8	16	1281.1	1	
	5564	14	92.6	13	1747.4	2	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
25	5565	1	81.1	9	1033.3	1	1
	5564	2	62.8	12	1593.1	2	
	5563	3	50.7	14	1394.6	3	
	5565	4	78.2	9	1721.0	3	
	5567	5	75.9	6	1795.5	1	
	5562	6	84.9	18	1566.0	3	
	5563	7	52.7	15	1516.1	2	
	5565	8	96.3	9	1895.8	1	
	5567	9	77.0	5	1182.2	3	
	5561	10	70.2	19	1934.0	2	
	5564	11	78.6	13	1592.4	1	
	5561	12	57.8	19	1818.1	1	
	5563	13	81.6	15	1298.1	3	
	5565	14	73.2	10	1993.4	1	
	5566	15	61.8	7	1159.9	1	
	5563	16	53.9	16	1608.4	3	
	5563	17	86.2	15	1357.0	2	
	5565	18	89.2	10	1976.5	3	
26	5561	1	81.5	20	1882.3	3	1
	5563	2	71.9	16	1654.6	3	
	5565	3	100.0	10	1027.9	1	
	5567	4	97.0	5	1173.9	2	
	5563	5	89.2	16	1189.4	1	
	5564	6	60.8	12	1502.2	1	
	5563	7	97.8	16	1109.0	3	
	5565	8	80.3	10	1838.5	3	
	5563	9	94.2	15	1693.8	3	
	5562	10	80.5	17	1612.4	3	
	5567	11	54.7	6	1033.4	2	
	5564	12	59.5	12	1599.8	3	
	5561	13	82.2	19	1454.7	3	
	5566	14	78.9	7	1010.9	2	
	5564	15	62.9	12	1481.8	3	
	5565	16	82.8	11	1689.6	1	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
27	5563	1	96.3	16	1893.5	1	1
	5563	2	84.1	16	1635.4	3	
	5562	3	79.8	18	1332.5	2	
	5563	4	79.2	14	1525.7	2	
	5561	5	50.4	19	1085.1	2	
	5566	6	90.1	7	1549.3	1	
	5563	7	77.2	15	1817.7	3	
	5564	8	80.9	13	1355.4	3	
	5563	9	52.1	16	1565.2	1	
	5561	10	69.7	19	1426.6	2	
	5562	11	54.8	17	1349.6	2	
	5564	12	89.3	12	1954.8	3	
	5563	13	89.1	14	1648.2	1	
	5561	14	84.6	20	1968.4	1	
	5562	15	83.6	17	1934.0	1	
	5562	16	54.4	17	1214.6	1	
	5565	17	74.8	11	1112.3	1	
	5563	18	93.9	16	1360.4	3	
	5561	19	58.7	19	1562.7	2	
	5563	20	89.1	15	1435.8	1	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
28	5565	1	88.1	10	1128.3	1	1
	5562	2	94.1	17	1501.6	3	
	5566	3	54.6	7	1169.4	1	
	5565	4	55.3	10	1826.5	2	
	5564	5	59.7	12	1419.7	2	
	5566	6	83.4	8	1869.3	1	
	5565	7	99.4	9	1108.7	3	
	5562	8	56.6	18	1855.6	3	
	5567	9	74.8	6	1730.7	1	
	5564	10	70.9	13	1944.5	1	
	5564	11	89.9	12	1775.9	3	
	5563	12	81.8	16	1447.4	1	
	5565	13	56.9	11	1242.1	1	
	5562	14	93.0	18	1644.2	1	
	5563	15	95.8	15	1514.3	3	
	5561	16	68.6	19	1217.6	1	
	5564	17	53.4	12	1703.7	3	
	5567	18	50.4	6	1226.5	2	
	5565	19	100.0	11	1031.7	3	
	5564	20	88.9	13	1678.4	2	

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
29	5566	1	92.3	7	1515.8	3	1
	5565	2	90.8	10	1593.2	2	
	5567	3	54.1	6	1663.4	1	
	5565	4	57.9	10	1009.2	1	
	5567	5	99.0	6	1950.2	1	
	5566	6	97.4	8	1734.4	3	
	5565	7	54.8	11	1295.3	1	
	5563	8	96.2	16	1820.9	1	
	5567	9	81.7	5	1090.2	1	
	5567	10	80.2	5	1293.7	3	
	5565	11	90.9	11	1296.0	3	
	5566	12	56.3	8	1919.3	1	
	5564	13	77.2	12	1131.5	1	
	5562	14	58.7	17	1948.4	1	
	5566	15	75.5	8	1581.9	3	
	5561	16	99.6	19	1924.1	3	
	5565	17	80.6	10	1990.1	3	
30	5563	1	54.7	16	1609.8	2	1
	5567	2	82.9	6	1118.7	2	
	5561	3	63.3	19	1466.0	3	
	5566	4	52.7	8	1086.9	1	
	5567	5	72.3	5	1875.1	2	
	5561	6	52.1	20	1471.3	2	
	5565	7	64.7	9	1363.3	2	
	5563	8	60.1	16	1639.6	2	
	5564	9	69.0	12	1078.3	1	
	5567	10	67.0	6	1415.1	2	
	5565	11	55.0	10	1686.9	1	
	5563	12	99.3	15	1465.7	2	
	5564	13	81.1	12	1757.7	3	
	5567	14	55.7	5	1057.7	1	
Detection Percentage (%)							100.00

Test Mode	Mode 1
Frequency	5560 MHz
Radar Signal	Type 6

Trial #	Pulse Width (us)	PRI (us)	Pulses / Hop	Hopping Rate (kHz)	Hopping Sequence Length (ms)	1=Detection ; 0=No Detection
1	1	333	9	0.333	300	1
2	1	333	9	0.333	300	1
3	1	333	9	0.333	300	1
4	1	333	9	0.333	300	1
5	1	333	9	0.333	300	1
6	1	333	9	0.333	300	1
7	1	333	9	0.333	300	1
8	1	333	9	0.333	300	1
9	1	333	9	0.333	300	1
10	1	333	9	0.333	300	1
11	1	333	9	0.333	300	1
12	1	333	9	0.333	300	1
13	1	333	9	0.333	300	1
14	1	333	9	0.333	300	1
15	1	333	9	0.333	300	1
16	1	333	9	0.333	300	1
17	1	333	9	0.333	300	1
18	1	333	9	0.333	300	1
19	1	333	9	0.333	300	1
20	1	333	9	0.333	300	1
21	1	333	9	0.333	300	1
22	1	333	9	0.333	300	1
23	1	333	9	0.333	300	1
24	1	333	9	0.333	300	1
25	1	333	9	0.333	300	1
26	1	333	9	0.333	300	1
27	1	333	9	0.333	300	1
28	1	333	9	0.333	300	1
29	1	333	9	0.333	300	1
30	1	333	9	0.333	300	0
Detection Percentage (%)						96.67

Test Mode	Mode 2					
Frequency	5550 MHz					
Radar Signal	Type 1					
Trial #	Test Frequency (MHz)	Pulse Width (us)	PRI (us)	Number of Pluse	PRF (Hz)	1=Detection ; 0=No Detection
1	5550	1	3066	18	326	1
2	5550	1	658	81	1520	1
3	5550	1	3066	18	326	1
4	5550	1	618	86	1618	1
5	5550	1	698	76	1433	1
6	5550	1	598	89	1672	1
7	5550	1	738	72	1355	1
8	5550	1	618	86	1618	1
9	5550	1	818	65	1222	1
10	5550	1	558	95	1792	1
11	5550	1	858	62	1166	1
12	5550	1	558	95	1792	1
13	5550	1	538	99	1859	1
14	5550	1	598	89	1672	1
15	5550	1	898	59	1114	1
16	5550	1	1055	51	948	1
17	5550	1	1317	41	759	1
18	5550	1	2587	21	387	0
19	5550	1	708	75	1412	1
20	5550	1	2001	27	500	1
21	5550	1	2204	24	454	1
22	5550	1	2033	26	492	1
23	5550	1	1209	44	827	1
24	5550	1	2818	19	355	1
25	5550	1	1652	32	605	1
26	5550	1	2613	21	383	1
27	5550	1	2002	27	500	1
28	5550	1	729	73	1372	1
29	5550	1	2846	19	351	1
30	5550	1	2127	25	470	1
Detection Percentage (%)						96.67

Test Mode	Mode 2
Frequency	5550 MHz
Radar Signal	Type 2

Trial #	Test Frequency (MHz)	Pulse Width (us)	PRI (us)	Number of Pluse	PRF (Hz)	1=Detection ; 0=No Detection
1	5550	4.30	198.60	26	5035	1
2	5550	2.40	174.90	28	5718	1
3	5550	1.40	188.80	26	5297	1
4	5550	3.00	176.20	27	5675	1
5	5550	1.50	152.40	28	6562	1
6	5550	4.60	209.70	24	4769	1
7	5550	4.60	227.20	25	4401	1
8	5550	4.40	219.20	24	4562	1
9	5550	4.00	170.50	29	5865	1
10	5550	2.30	204.50	26	4890	1
11	5550	3.80	155.80	28	6418	1
12	5550	1.60	196.20	29	5097	1
13	5550	4.50	191.60	23	5219	1
14	5550	1.10	223.30	28	4478	1
15	5550	3.80	162.20	24	6165	0
16	5550	2.40	192.00	27	5208	1
17	5550	2.50	206.40	24	4845	1
18	5550	1.50	170.10	25	5879	0
19	5550	3.50	213.20	25	4690	1
20	5550	3.30	157.80	25	6337	1
21	5550	3.80	219.00	23	4566	1
22	5550	3.30	195.60	27	5112	1
23	5550	2.60	177.30	28	5640	1
24	5550	1.60	200.70	23	4983	1
25	5550	2.50	159.50	29	6270	1
26	5550	4.30	196.00	28	5102	1
27	5550	1.00	170.60	26	5862	1
28	5550	2.20	214.70	29	4658	1
29	5550	1.10	228.90	29	4369	1
30	5550	1.80	218.20	24	4583	1
Detection Percentage (%)						93.33

Test Mode	Mode 2
Frequency	5550 MHz
Radar Signal	Type 3

Trial #	Test Frequency (MHz)	Pulse Width (us)	PRI (us)	Number of Pluse	PRF (Hz)	1=Detection ; 0=No Detection
1	5550	6.90	240.90	17	4151.10	1
2	5550	8.80	486.50	17	2055.50	1
3	5550	9.10	345.10	17	2897.71	0
4	5550	6.40	342.70	17	2918.00	1
5	5550	7.50	464.30	17	2153.78	0
6	5550	9.30	452.80	18	2208.48	1
7	5550	8.10	470.60	16	2124.95	1
8	5550	9.40	424.10	18	2357.93	1
9	5550	9.00	263.90	17	3789.31	1
10	5550	7.70	477.30	17	2095.12	0
11	5550	9.00	327.80	17	3050.64	0
12	5550	7.40	483.40	18	2068.68	1
13	5550	6.30	417.00	17	2398.08	1
14	5550	6.50	335.60	16	2979.74	1
15	5550	7.40	390.20	17	2562.79	1
16	5550	9.00	379.80	17	2632.96	1
17	5550	9.70	459.80	17	2174.86	1
18	5550	8.20	476.80	18	2097.32	1
19	5550	8.00	427.50	18	2339.18	1
20	5550	9.40	238.60	18	4191.11	1
21	5550	6.30	406.60	17	2459.42	1
22	5550	9.80	443.20	16	2256.32	0
23	5550	9.70	364.90	16	2740.48	1
24	5550	8.20	450.80	17	2218.28	1
25	5550	8.10	402.60	17	2483.85	1
26	5550	7.10	429.30	18	2329.37	1
27	5550	8.60	313.10	18	3193.87	1
28	5550	9.40	456.20	17	2192.02	1
29	5550	8.00	228.50	17	4376.37	1
30	5550	8.60	206.50	18	4842.62	1
Detection Percentage (%)						93.33

Test Mode	Mode 2
Frequency	5550 MHz
Radar Signal	Type 4

Trial #	Test Frequency (MHz)	Pulse Width (us)	PRI (us)	Number of Pluse	PRF (Hz)	1=Detection ; 0=No Detection
1	5550	11.50	410.60	16	2435	1
2	5550	15.80	262.30	16	3812	1
3	5550	18.70	386.80	12	2585	0
4	5550	19.40	298.60	13	3349	0
5	5550	12.00	345.80	12	2892	1
6	5550	13.00	286.80	13	3487	1
7	5550	18.20	232.10	12	4308	1
8	5550	16.50	379.20	15	2637	1
9	5550	15.10	327.70	12	3052	1
10	5550	18.30	331.20	13	3019	1
11	5550	19.40	318.90	14	3136	1
12	5550	11.60	396.60	16	2521	1
13	5550	15.80	284.20	12	3519	1
14	5550	18.70	386.10	14	2590	1
15	5550	14.60	265.90	16	3761	1
16	5550	12.70	477.60	15	2094	1
17	5550	16.70	292.10	15	3423	1
18	5550	14.60	267.80	14	3734	1
19	5550	13.70	453.60	15	2205	1
20	5550	11.20	276.50	16	3617	1
21	5550	18.80	483.00	14	2070	1
22	5550	11.20	407.10	16	2456	0
23	5550	17.00	337.60	15	2962	1
24	5550	15.80	270.20	15	3701	1
25	5550	17.50	393.00	12	2545	1
26	5550	11.60	402.80	14	2483	0
27	5550	15.50	415.20	16	2408	1
28	5550	15.50	290.60	14	3441	1
29	5550	18.50	386.80	15	2585	1
30	5550	11.20	270.90	15	3691	1
Detection Percentage (%)						86.67

Test Mode	Mode 2
Frequency	5550 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
1	5539.5	1	51.5	20	1189.1	1	0
	5533.5	2	80.7	5	1365.8	3	
	5537.5	3	84.6	14	1731.2	3	
	5537.5	4	85.2	15	1402.0	3	
	5536.5	5	77.5	12	1547.9	3	
	5537.5	6	93.7	16	1326.3	2	
	5534.5	7	67.3	8	1196.2	2	
	5538.5	8	65.4	17	1218.7	3	
	5535.5	9	92.4	10	1353.6	1	
	5538.5	10	73.9	17	1293.7	2	
	5537.5	11	99.2	15	1991.2	3	
2	5535.5	1	83.2	10	1279.8	1	0
	5534.5	2	76.7	7	1069.5	3	
	5537.5	3	57.8	15	1603.2	3	
	5535.5	4	52.0	9	1958.8	3	
	5535.5	5	90.4	10	1553.0	1	
	5536.5	6	95.6	12	1645.0	1	
	5534.5	7	69.3	7	1494.2	2	
	5535.5	8	66.2	11	1125.7	3	
	5533.5	9	96.4	6	1028.3	3	
	5534.5	10	99.0	8	1281.1	1	
	5539.5	11	73.9	19	1372.1	2	
	5538.5	12	59.3	17	1042.8	1	
3	5534.5	1	75.7	8	1705.2	3	1
	5534.5	2	74.9	7	1753.6	2	
	5538.5	3	74.8	18	1239.9	2	
	5538.5	4	82.9	17	1291.9	1	
	5535.5	5	77.5	11	1826.1	1	
	5534.5	6	54.2	7	1062.3	1	
	5533.5	7	69.2	5	1163.9	3	
	5538.5	8	54.9	18	1006.1	3	
	5534.5	9	77.8	7	1833.5	1	
	5533.5	10	92.1	5	1186.9	2	
	5539.5	11	81.5	19	1772.1	1	
	5537.5	12	96.5	16	1076.3	1	
	5537.5	13	76.9	15	1284.0	1	

Test Mode	Mode 2
Frequency	5550 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
4	5539.5	1	50.3	19	1333.8	3	1
	5536.5	2	80.2	12	1003.1	2	
	5536.5	3	71.3	12	1405.1	2	
	5537.5	4	84.2	16	1124.7	1	
	5538.5	5	59.4	17	1816.6	2	
	5535.5	6	98.1	11	1821.1	3	
	5534.5	7	93.7	8	1966.0	2	
	5536.5	8	79.5	12	1942.6	1	
	5536.5	9	90.0	13	1946.6	1	
5	5537.5	1	58.5	16	1243.8	1	1
	5533.5	2	73.5	6	1486.4	2	
	5536.5	3	58.4	12	1483.6	3	
	5534.5	4	82.5	7	1266.0	2	
	5537.5	5	57.6	14	1421.2	2	
	5534.5	6	87.8	8	1450.7	3	
	5538.5	7	65.9	17	1736.7	2	
	5537.5	8	56.1	15	1360.2	1	
	5535.5	9	61.0	10	1694.0	2	
	5537.5	10	53.3	15	1064.8	2	
	5537.5	11	64.1	15	1691.9	2	
	5534.5	12	73.0	7	1613.4	1	
	5538.5	13	77.1	17	1523.6	2	
	5535.5	14	93.5	9	1727.1	3	
	5535.5	15	78.7	9	1410.8	3	
6	5539.5	1	99.1	20	1377.6	2	1
	5535.5	2	86.9	10	1747.4	1	
	5535.5	3	58.1	11	1994.0	1	
	5535.5	4	63.0	10	1294.4	3	
	5534.5	5	50.8	8	1876.2	2	
	5537.5	6	77.0	16	1344.0	3	
	5533.5	7	100.0	6	1504.5	3	
	5535.5	8	84.6	11	1038.9	3	
	5539.5	9	50.1	19	1546.3	3	
	5538.5	10	65.0	18	1383.7	3	
	5537.5	11	79.1	14	1821.4	2	
	5536.5	12	63.6	12	1592.2	2	
	5534.5	13	57.5	8	1599.6	2	
	5538.5	14	75.2	18	1093.9	1	

Test Mode	Mode 2
Frequency	5550 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
7	5536.5	1	93.7	13	1272.6	2	1
	5535.5	2	58.5	9	1469.3	2	
	5538.5	3	79.3	17	1893.3	1	
	5537.5	4	58.2	16	1516.8	3	
	5535.5	5	70.9	9	1836.2	3	
	5537.5	6	87.2	14	1912.2	1	
	5535.5	7	84.7	11	1492.1	3	
	5539.5	8	69.6	19	1315.2	2	
	5538.5	9	84.7	18	1942.0	3	
	5538.5	10	83.7	18	1711.0	1	
	5536.5	11	62.6	13	1167.8	1	
	5537.5	12	58.8	16	1700.1	2	
	5539.5	13	93.9	20	1501.9	3	
	5534.5	14	72.3	8	1666.7	3	
	5533.5	15	76.8	6	1020.3	3	
	5539.5	16	82.6	19	1994.6	2	
	5537.5	17	96.6	16	1654.1	2	
8	5536.5	1	57.1	13	1556.5	1	1
	5539.5	2	65.2	19	1524.7	2	
	5534.5	3	83.2	8	1327.9	3	
	5536.5	4	80.7	12	1653.3	3	
	5535.5	5	95.6	10	1644.1	3	
	5535.5	6	73.2	9	1953.8	2	
	5535.5	7	52.1	11	1791.4	3	
	5533.5	8	88.2	6	1133.8	2	
	5534.5	9	70.6	8	1839.0	3	
	5539.5	10	82.2	20	1607.2	2	
	5536.5	11	92.0	13	1688.5	1	
	5537.5	12	68.7	14	1364.1	2	
	5533.5	13	54.2	6	1967.7	2	
	5535.5	14	96.7	10	1302.7	1	
	5539.5	15	64.2	19	1865.6	3	
	5537.5	16	64.7	15	1456.8	2	
	5539.5	17	73.5	20	1165.7	2	
	5533.5	18	98.7	5	1201.3	2	

Test Mode	Mode 2
Frequency	5550 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
9	5535.5	1	50.4	9	1023.0	3	1
	5534.5	2	94.9	8	1504.0	2	
	5533.5	3	64.7	6	1820.1	3	
	5534.5	4	80.6	8	1188.4	3	
	5534.5	5	85.1	7	1515.5	1	
	5534.5	6	57.7	8	1609.6	1	
	5537.5	7	90.1	15	1641.1	2	
	5535.5	8	72.3	11	1708.2	3	
	5536.5	9	57.1	13	1393.7	3	
	5534.5	10	64.8	8	1842.5	3	
	5534.5	11	94.4	7	1875.7	3	
	5537.5	12	67.5	14	1336.2	1	
	5534.5	13	66.5	8	1413.2	2	
	5537.5	14	84.7	15	1942.8	3	
	5538.5	15	82.6	18	1467.6	3	
	5537.5	16	74.0	15	1318.3	2	
	5536.5	17	93.4	12	1883.4	3	
	5537.5	18	91.3	14	1701.8	1	
	5534.5	19	87.4	7	1441.4	2	
10	5535.5	1	68.0	10	1472.4	3	1
	5538.5	2	59.0	17	1408.3	2	
	5538.5	3	81.2	18	1874.8	2	
	5536.5	4	82.9	13	1758.3	2	
	5535.5	5	59.3	9	1753.7	2	
	5539.5	6	87.5	20	1337.3	1	
	5535.5	7	62.9	9	1139.6	3	
	5535.5	8	62.5	9	1079.7	1	

Test Mode	Mode 2
Frequency	5550 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
11	5550	1	96.9	15	1669.0	1	0
	5550	2	54.2	15	1432.5	3	
	5550	3	82.3	11	1578.0	1	
	5550	4	56.0	7	1379.6	3	
	5550	5	58.8	14	1807.5	1	
	5550	6	55.4	9	1037.0	3	
	5550	7	77.0	19	1026.7	3	
	5550	8	91.2	10	1378.2	2	
	5550	9	91.1	11	1147.7	3	
	5550	10	71.6	8	1646.1	2	
	5550	11	95.8	8	1449.0	2	
	5550	12	71.6	6	1291.5	2	
	5550	13	74.3	8	1321.5	3	
	5550	14	71.1	14	1545.4	1	
	5550	15	83.9	14	1308.9	1	
	5550	16	67.1	5	1759.4	2	
12	5550	1	84.9	15	1370.2	2	1
	5550	2	58.6	19	1855.3	2	
	5550	3	81.2	18	1474.3	1	
	5550	4	50.9	15	1945.7	1	
	5550	5	87.6	19	1369.3	3	
	5550	6	76.6	5	1162.9	1	
	5550	7	55.3	14	1596.7	1	
	5550	8	85.8	11	1745.5	1	
	5550	9	80.3	7	1155.1	3	
	5550	10	54.2	7	1305.6	2	
	5550	11	91.7	16	1990.9	3	
	5550	12	59.3	20	1364.8	2	
	5550	13	90.7	17	1919.3	2	
	5550	14	83.6	7	1022.3	2	
	5550	15	71.9	18	1023.1	3	
	5550	16	55.5	17	1333.1	3	
	5550	17	67.8	19	1292.1	3	
	5550	18	84.8	10	1879.9	3	
	5550	19	91.9	18	1175.9	2	
	5550	20	57.8	15	1698.5	2	

Test Mode	Mode 2
Frequency	5550 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
13	5550	1	71.6	18	1237.6	3	1
	5550	2	78.0	15	1976.6	1	
	5550	3	80.2	14	1991.2	1	
	5550	4	61.7	15	1786.1	2	
	5550	5	92.7	17	1853.7	1	
	5550	6	88.5	9	1262.8	3	
	5550	7	86.5	12	1909.9	2	
	5550	8	75.8	12	1074.4	1	
	5550	9	64.2	9	1479.0	1	
	5550	10	60.6	17	1419.1	3	
14	5550	1	83.6	11	1461.0	2	1
	5550	2	71.0	6	1784.0	1	
	5550	3	70.6	20	1574.2	1	
	5550	4	61.6	10	1415.1	3	
	5550	5	97.4	13	1473.0	3	
	5550	6	90.5	6	1208.0	2	
	5550	7	84.8	8	1911.6	3	
	5550	8	89.7	15	1628.1	3	
	5550	9	67.2	16	1426.1	2	
	5550	10	51.5	14	1486.0	1	
	5550	11	78.4	7	1326.2	1	
	5550	12	72.1	18	1787.8	3	
	5550	13	95.4	10	1909.0	2	
	5550	14	78.7	7	1869.9	2	
	5550	15	60.9	15	1026.2	3	
	5550	16	76.8	9	1058.8	3	
	5550	17	97.2	17	1951.4	1	
	5550	18	92.3	18	1932.0	1	
	5550	19	77.5	19	1255.3	2	
	5550	20	93.9	19	1050.0	3	

Test Mode	Mode 2
Frequency	5550 MHz
Radar Signal	Type 5

Trial #	Test Frequency (MHz)	Burst#	Pulse Width (us)	Chirp Width (MHz)	PRI (us)	Number of Pulses / Burst	1=Detection ; 0=No Detection
15	5550	1	52.1	14	1829.9	1	1
	5550	2	51.8	18	1675.7	1	
	5550	3	85.6	17	1601.6	2	
	5550	4	88.7	15	1766.7	2	
	5550	5	92.9	6	1167.1	2	
	5550	6	64.8	11	1791.4	3	
	5550	7	96.1	10	1281.6	2	
	5550	8	84.7	15	1328.5	1	
	5550	9	52.0	7	1893.7	1	
	5550	10	62.8	17	1224.0	1	
	5550	11	60.2	15	1964.3	3	
	5550	12	98.8	19	1506.7	1	
	5550	13	89.1	15	1956.4	1	
	5550	14	89.9	8	1043.3	1	
	5550	15	56.7	9	1003.7	3	
	5550	16	63.4	9	1551.8	2	
	5550	17	60.5	15	1277.8	2	
	5550	18	81.5	16	1689.2	2	
	5550	19	94.8	10	1880.5	2	
16	5550	1	69.2	13	1761.5	1	1
	5550	2	69.5	14	1345.3	3	
	5550	3	90.5	18	1923.6	2	
	5550	4	69.9	11	1144.1	1	
	5550	5	51.4	17	1630.1	3	
	5550	6	82.5	17	1963.0	3	
	5550	7	52.5	18	1828.6	1	
	5550	8	79.3	10	1508.3	1	
	5550	9	57.4	9	1215.7	1	
	5550	10	62.3	17	1405.8	2	
	5550	11	84.1	10	1990.1	2	
	5550	12	60.8	5	1519.3	2	
	5550	13	92.0	17	1513.5	1	
	5550	14	66.6	8	1589.7	1	
	5550	15	67.0	7	1238.9	3	
	5550	16	71.3	18	1374.4	3	
	5550	17	54.5	8	1281.5	1	
	5550	18	63.3	7	1666.0	1	