Dynamic Frequency Selection (DFS) Test Report

C1101-4PLTEPW
with ISR-AP1101AC-x
(x=A,B)

Cisco 802.11ac Dual Band Access Points

FCC ID: LDKC11011757
IC: 2461N-11011757

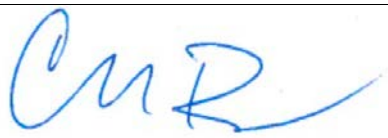
5250-5350, 5470-5725 MHz

Against the following Specifications:

CFR47 Part 15.407

RSS247

Cisco Systems
170 West Tasman Drive
San Jose, CA 95134

	
Author: Chris Blair **Tested By:** Chris Blair	**Approved By:** Gerard Thorpe **Title:** Manager, Engineering **Revision:** see Doc Central

This report replaces any previously entered test report under EDCS – **12179722**.This test report has been electronically authorized and archived using the CISCO Engineering Document Control system.

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Section 1: Overview

The samples were assessed against the tests detailed in section 3 under the requirements of the following specifications:

Specifications:
CFR47 Part 15.407 RSS-247

RSS-247 section A9.3a allows the use of applicable FCC KDBs
Applicable measurement guidance:

- KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

Section 2: Assessment Information

2.1 General

This report contains an assessment of an apparatus against Electromagnetic Compatibility Standards based upon tests carried out on the samples submitted. The testing was performed by and for the use of Cisco systems Inc:

With regard to this assessment, the following points should be noted:

a) The results contained in this report relate only to the items tested and were obtained in the period between the date of the initial assessment and the date of issue of the report. Manufactured products will not necessarily give identical results due to production and measurement tolerances.

b) The apparatus was set up and exercised using the configuration and modes of operation defined in this report only.

c) Where relevant, the apparatus was only assessed using the susceptibility criteria defined in this report and the Test Assessment Plan (TAP).

d) All testing was performed under the following environmental conditions:

Temperature	15°C to 35°C (54°F to 95°F)
Atmospheric Pressure	860mbar to 1060mbar (25.4" to 31.3")
Humidity	10% to 75*%

e) All AC testing was performed at one or more of the following supply voltages:
110V 60 Hz (+/-20%)

Units of Measurement

The units of measurements defined in the appendices are reported in specific terms, which are test dependent. Where radiated measurements are concerned these are defined at a particular distance. Basic voltage measurements are defined in units of [dBuV]

As an example, the basic calculation for all measurements is as follows:

Emission level [dBuV] = Indicated voltage level [dBuV] + Cable Loss [dB] + Other correction factors [dB]

The combinations of correction factors are dependent upon the exact test configurations [see test equipment lists for further details] and may include:-

Antenna Factors, Pre Amplifier Gain, LISN Loss, Pulse Limiter Loss and Filter Insertion Loss..

Note: to convert the results from dBuV/m to uV/m use the following formula:-

Level in uV/m = Common Antilogarithm [(X dBuV/m)/20] = Y uV/m

Measurement Uncertainty Values

voltage and power measurements	± 2 dB
conducted EIRP measurements	± 1.4 dB
radiated measurements	± 3.2 dB
frequency measurements	± 2.4 10-7
temperature measurements	± 0.54º
humidity measurements	± 2.3%
DC and low frequency measurements	± 2.5%

Where relevant measurement uncertainty levels have been estimated for tests performed on the apparatus. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Radiated emissions (expanded uncertainty, confidence interval 95%)

30 MHz - 300 MHz	+/- 3.8 dB
300 MHz - 1000 MHz	+/- 4.3 dB
1 GHz - 10 GHz	+/- 4.0 dB
10 GHz - 18GHz	+/- 5.2 dB
18GHz - 26.5GHz	+/- 4.1 dB
26.5GHz - 40GHz	+/- 3.9 dB

Conducted emissions (expanded uncertainty, confidence interval 95%)

30 MHz – 40GHz	+/- 0.38 dB

A product is considered to comply with a requirement if the nominal measured value is below the limit line. The product is considered to not be in compliance in case the nominal measured value is above the limit line.

2.2 Date of testing

29-Jan-18 - 2-Feb-18

2.3 Report Issue Date

7-Feb-18

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2.4 Testing facilities

This assessment was performed by:

Testing Laboratory

Cisco Systems, Inc.,
125 West Tasman Drive
San Jose, CA 95134, USA

Registration Numbers for Industry Canada

Cisco System Site	Address	Site Identifier
Building P, 10m Chamber	125 West Tasman Dr San Jose, CA 95134	Company #: 2461N-2
Building P, 5m Chamber	125 West Tasman Dr San Jose, CA 95134	Company #: 2461N-1
Building I, 5m Chamber	285 W. Tasman Drive San Jose, California 95134	Company #: 2461M-1

Test Engineers

Chris Blair

2.5 Equipment Assessed (EUT)

C1101-4PLTEPW with embedded WiFi modem: ISR-AP1101AC-x.

Section 3: Result Summary

3.1 Results Summary Table

Conducted emissions

Basic Standard	Technical Requirements / Details	Result
FCC 15.407 RSS-247	Dynamic Frequency Selection (DFS) Detection Threshold	Pass
FCC 15.407 RSS-247	Channel Availability Check Time	Pass
FCC 15.407 RSS-247	Channel Move Time	Pass
FCC 15.407 RSS-247	Channel Closing Time	Pass
FCC 15.407 RSS-247	Non-Occupancy Period	Pass
FCC 15.407 RSS-247	U-NII Detection Bandwidth	Pass

Section 4: Sample Details

Note: Each sample was evaluated to ensure that its condition was suitable to be used as a test sample prior to the commencement of testing.

4.1 Sample Details

Sample No.	Equipment Details	Manufacturer	Hardware Rev.	Firmware Rev.	Software Rev.	Serial Number
S01	C1101-4PLTEPW with ISR-AP1101AC-x wifi adapter	Cisco Systems	P1B (WiFi adapter = P2)	e1c63a0bb171f78c5800c1478007abc1	8.4.1.10	FOC2131026Q
S02	ADP-66CR B	Delta	01	NA	NA	DAB2110G3CH
S03	AIR-CAP3702E-A-K9	Cisco Systems	02	-	15.3(3)JD	RFDP1EBR050
S04	Laptop PC (traffic server)	HP	NA	NA	Windows 10Pro	CNU431C1BZ

4.2 System Details

System Number	Description	Samples	System under test	Support equipment
1	C1101-4PLTEPW with ISR-AP1101AC-x wifi adapter	S01	☑	☐
	Support Power Supply	S02	☐	☑
	Support Client Equipment	S03	☐	☑
	Laptop PC (traffic server)	S04	☐	☑

4.3 Mode of Operation Details

Mode#	Description	Comments
1	UUT continuously transmitting	Continuous Transmitting ~17% traffic load for statistics tests (iperf).
2	UUT associated with client, on channel, no traffic	No traffic for detection bandwidth and timing plot tests. (D0 tests)
3	Powered UUT off & on	Boot up for CAC tests.

Applicable measurement guidance:

- KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

Appendix A: Dynamic Frequency Selection (DFS)

15.407: U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

U-NII devices operating in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems.

A.1 UNII Device Description

1. The C1101-4P-LTEP-Wx operates in the following bands:
    a. 5150-5250 MHz
    b. 5250-5350 MHz
    c. 5470-5725 MHz
    d. 5725-5850 MHz

2. The maximum EIRP of the 5GHz equipment is 27.7 dBm, and the minimum possible EIRP is 15.3 dBm.

   Below are the available 50 ohm antenna assemblies and their corresponding gains. 0dBi gain was used to set the -63 dBm threshold level (-64dBm +1 dB) during calibration of the test setup.

Frequency	Part Number	Antenna Type	Antenna Gain (dBi)
5GHz	ANTS2M1-CCF34-EH	Internal PIFA	4

3. System testing was performed with IP generation software that streams from the Master to the Client IP based system.

4. The Master requires 202.5 seconds to complete its power-on cycle.

5. Information regarding the parameters of the detected Radar Waveforms is not available to the end user.

6. For the 5250-5350 MHz and 5470-5725 MHz bands, the Master device provides, on aggregate, uniform loading of the spectrum across all devices by using an algorithm to select an operating channel among the available channels.

A.2 DFS Detection Thresholds

1. **Interference Threshold values, Master or Client incorporating In-Service Monitoring**

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 v02r01.	

2. **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.	

A.3 Radar Test Waveforms

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.

1. Short Pulse Radar Test Waveforms

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

Note 1: Short Pulse Radar Type 0 shall only be used for the channel availability and detection bandwidth tests. It should be noted that any of the radar test waveforms 0 – 4 can be used for the channel availability and detection bandwidth tests.

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. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

For example if in Short Pulse Radar Type 1 Test B a PRI of 3066 µsec is selected, the number of pulses would be $\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot10^6}{3066}\right)\right\} = \text{Roundup}\{17.2\} = 18$

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	1355.0	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	1139.0	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

The aggregate is the average of the percentage of successful detections of Short Pulse Radar Types 1-4. For example, the following table indicates how to compute the aggregate of percentage of successful detections.

Radar Type	Number of Trials	Number of Successful Detections	Minimum Percentage of Successful Detection
1	35	29	82.9%
2	30	18	60%
3	30	27	90%
4	50	44	88%
Aggregate (82.9% + 60% + 90% + 88%)/4 = 80.2%			

2. 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 Trials
5	50-100	5-20	1000- 2000	1-3	8-20	80%	30

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

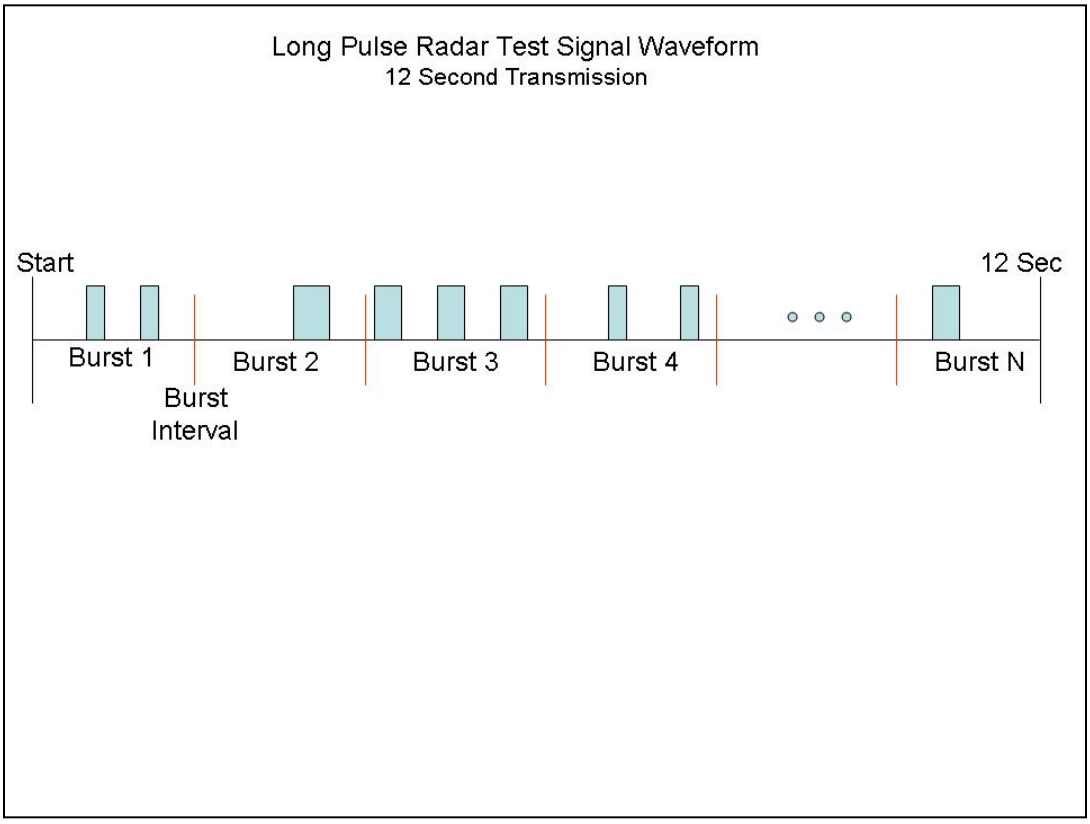
Each waveform is defined as follows:

1) The transmission period for the Long Pulse Radar test signal is 12 seconds.
2) There are a total of 8 to 20 Bursts in the 12 second period, with the number of Bursts being randomly chosen. This number is Burst Count.
3) Each Burst consists of 1 to 3 pulses, with the number of pulses being randomly chosen. Each Burst within the 12 second sequence may have a different number of pulses.
4) The pulse width is between 50 and 100 microseconds, with the pulse width being randomly chosen. Each pulse within a Burst will have the same pulse width. Pulses in different Bursts may have different pulse widths.
5) Each pulse has a linear FM chirp between 5 and 20 MHz, with the chirp width being randomly chosen. Each pulse within a Burst will have the same chirp width. Each pulse within a transmission period will have the same chirp width. The chirp is centered on the pulse. For example, with a radar frequency of 5300 MHz and a 20 MHz chirped signal, the chirp starts at 5290 MHz and ends at 5310 MHz.
6) If more than one pulse is present in a Burst, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a Burst, the time between the first and second pulses is chosen independently of the time between the second and third pulses.
7) The 12 second transmission period is divided into even intervals. The number of intervals is equal to Burst Count. Each interval is of length (12,000,000 / Burst Count) microseconds. Each interval contains one Burst. The start time for the Burst, relative to the beginning of the interval, is between 1 and [(12,000,000 / Burst Count) – (Total Burst Length) + (One Random PRI Interval)] microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The start time for each Burst is chosen randomly.

A representative example of a Long Pulse radar test waveform:

1) The total test signal length is 12 seconds.
2) 8 Bursts are randomly generated for the Burst Count.
3) Burst 1 has 2 randomly generated pulses.
4) The pulse width (for both pulses) is randomly selected to be 75 microseconds.
5) The PRI is randomly selected to be at 1213 microseconds.
6) Bursts 2 through 8 are generated using steps 3 – 5.
7) Each Burst is contained in even intervals of 1,500,000 microseconds. The starting location for Pulse 1, Burst 1 is randomly generated (1 to 1,500,000 minus the total Burst 1 length + 1 random PRI interval) at the 325,001 microsecond step. Bursts 2 through 8 randomly fall in successive 1,500,000 microsecond intervals (i.e. Burst 2 falls in the 1,500,001 – 3,000,000 microsecond range).

Graphical Representation of a Long Pulse radar Test Waveform



3. Long Pulse 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 Trials
6	1	333	9	.333	300	70%	30

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[1] 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 – 5724 MHz. 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.

Appendix B: Dynamic Frequency Selection / Test Results

Standards Reference:
FCC 15.407 / RSS-247

Test Procedure

Ref. KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

Test parameters
Span = 0 Hz RBW ≥ 3 MHz VBW ≥ 3 MHz Detector = Peak Trace = Single Sweep

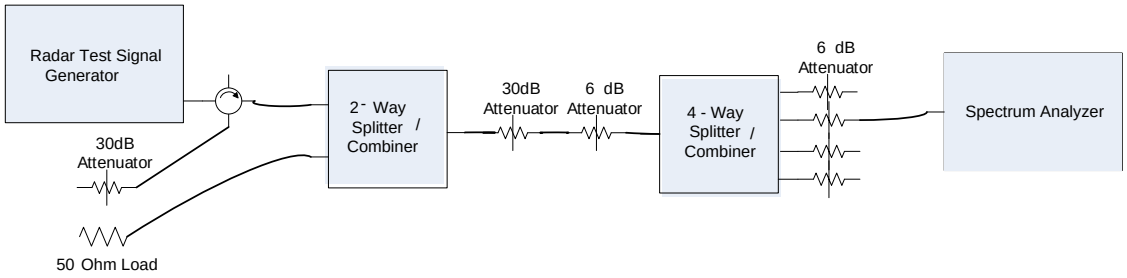
System Number	Description	Samples	System under test	Support equipment
1	C1101-4PLTEPW with ISR-AP1101AC-x wifi adapter	S01	☑	☐
	Support Power Supply	S02	☐	☑
	Support Client Equipment	S03	☐	☑

Tested By :	**Date of testing:**
Chris Blair	29-Jan-18 - 2-Feb-18
Test Result : PASS	

See Appendix C for list of test equipment

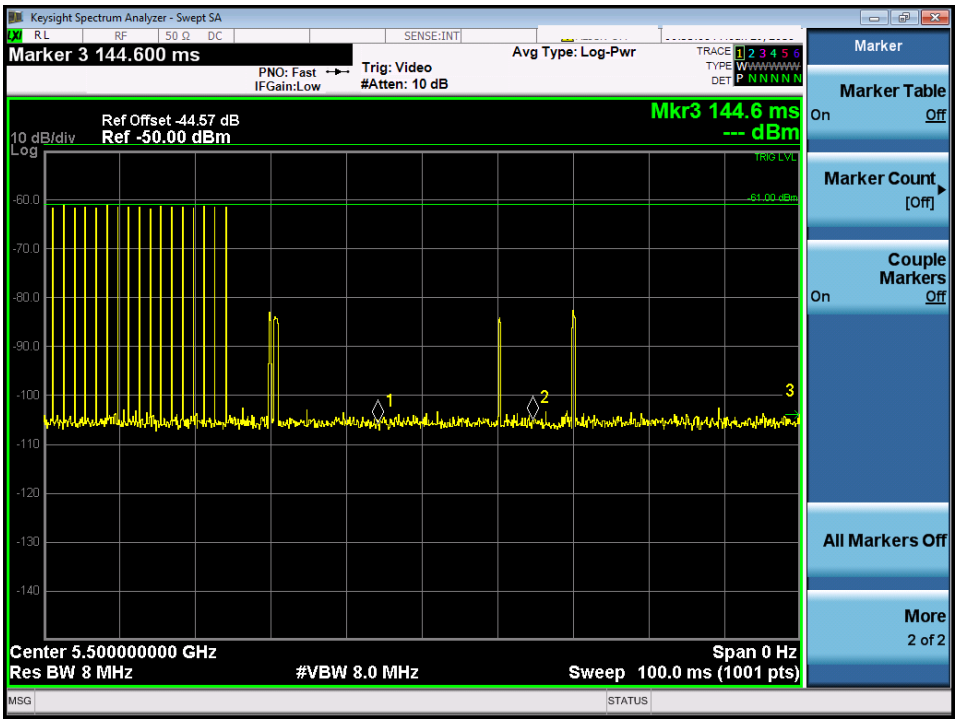
The following equipment setup was used to calibrate the conducted Radar Waveform. A spectrum analyzer was used to establish the test signal level for each radar type. During this process there were no transmissions by either the Master or Client Device. The spectrum analyzer was switched to the zero span (Time Domain) mode at the frequency of the Radar Waveform generator. Peak detection was utilized. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3 MHz.

The signal generator amplitude was set so that the power level measured at the spectrum analyzer was -63dBm.



Conducted Calibration Setup

Following are the calibration plots for each of the required radar waveforms.



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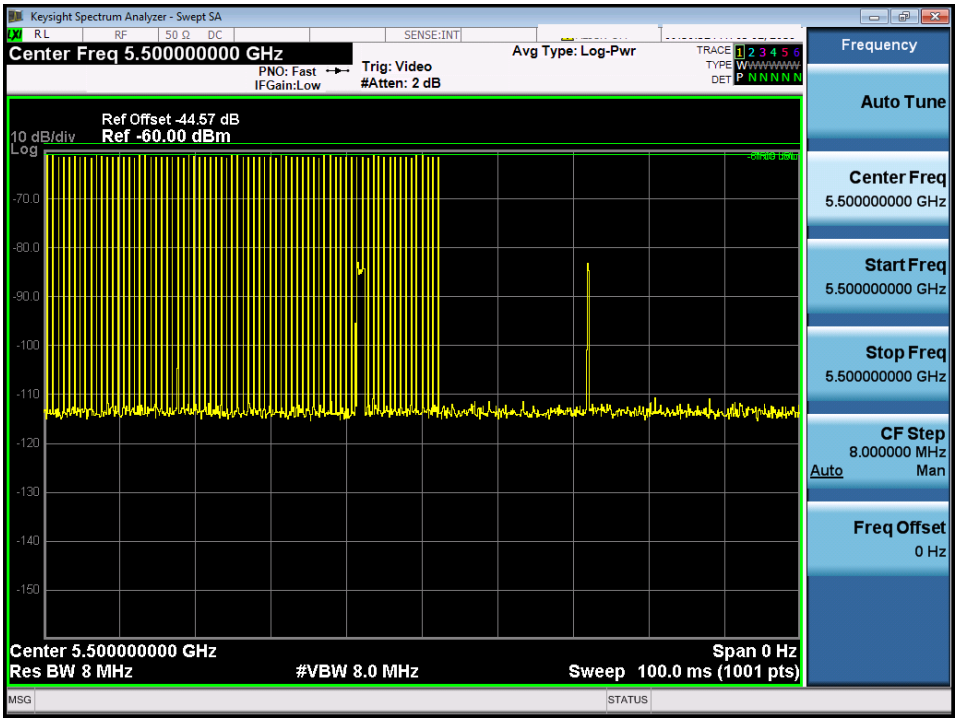

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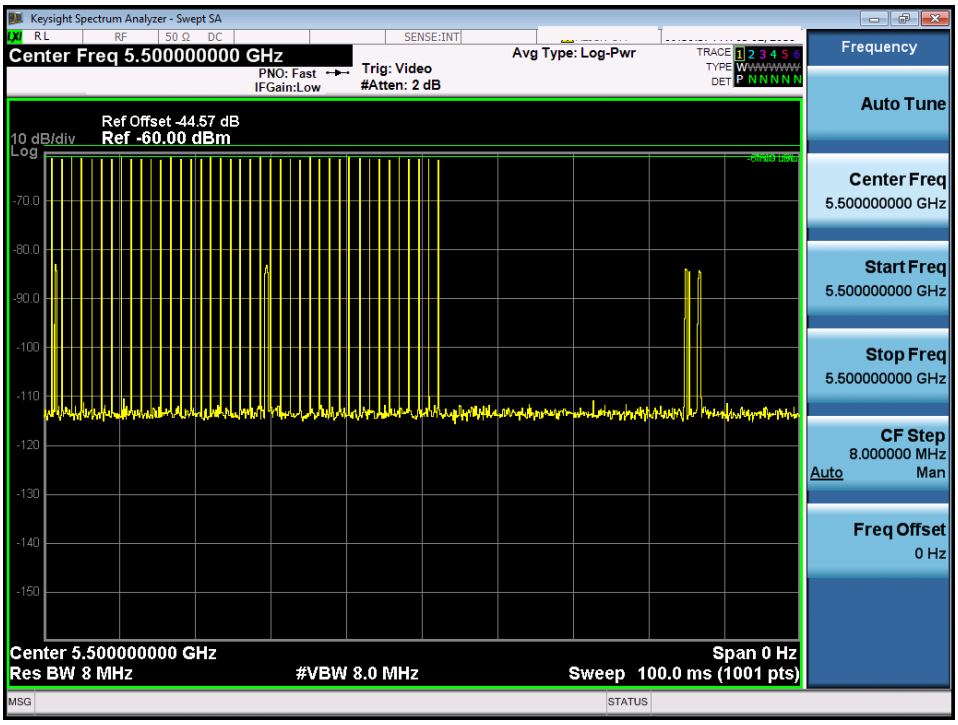

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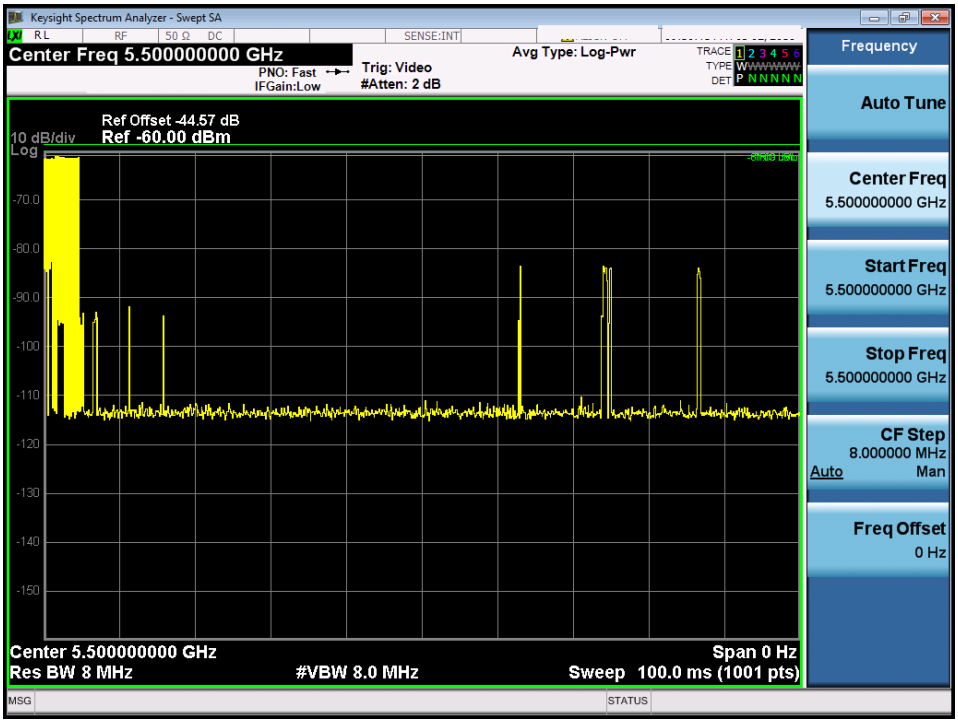

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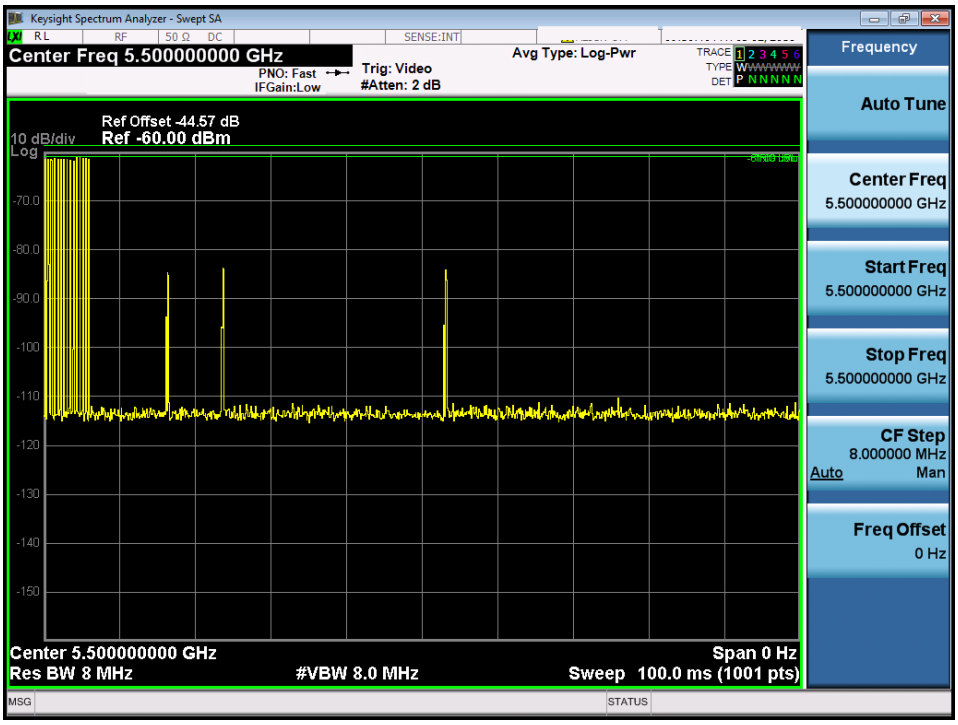

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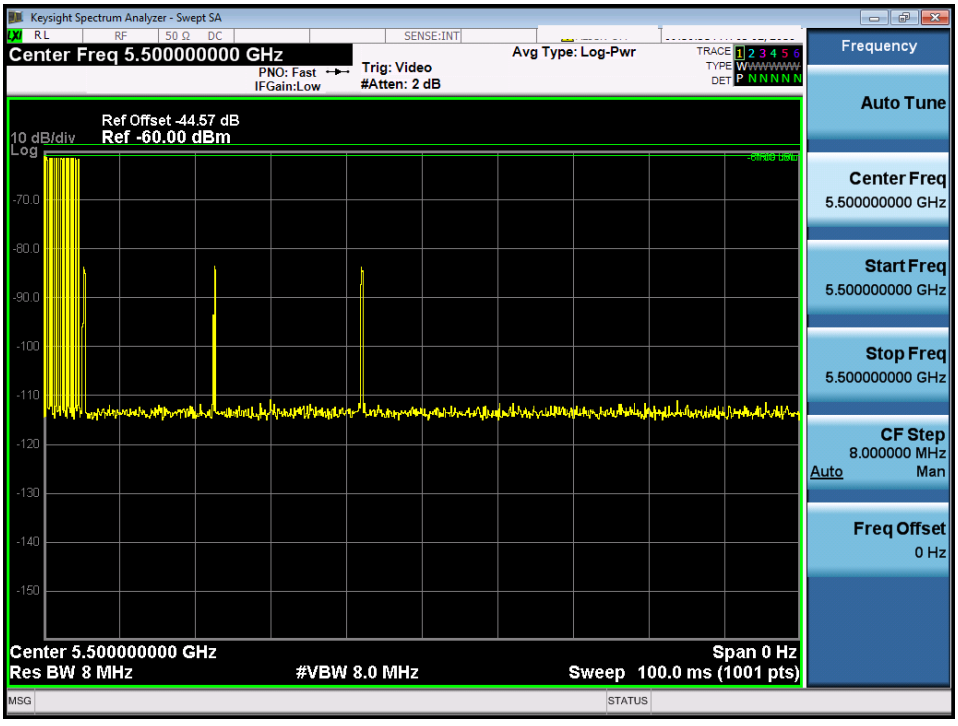

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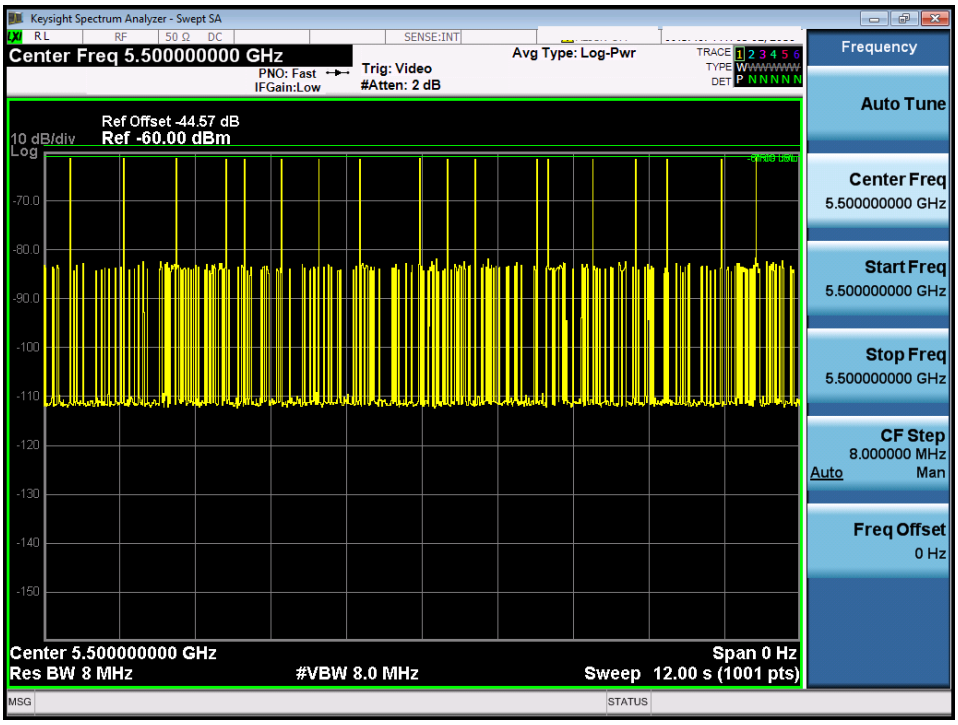

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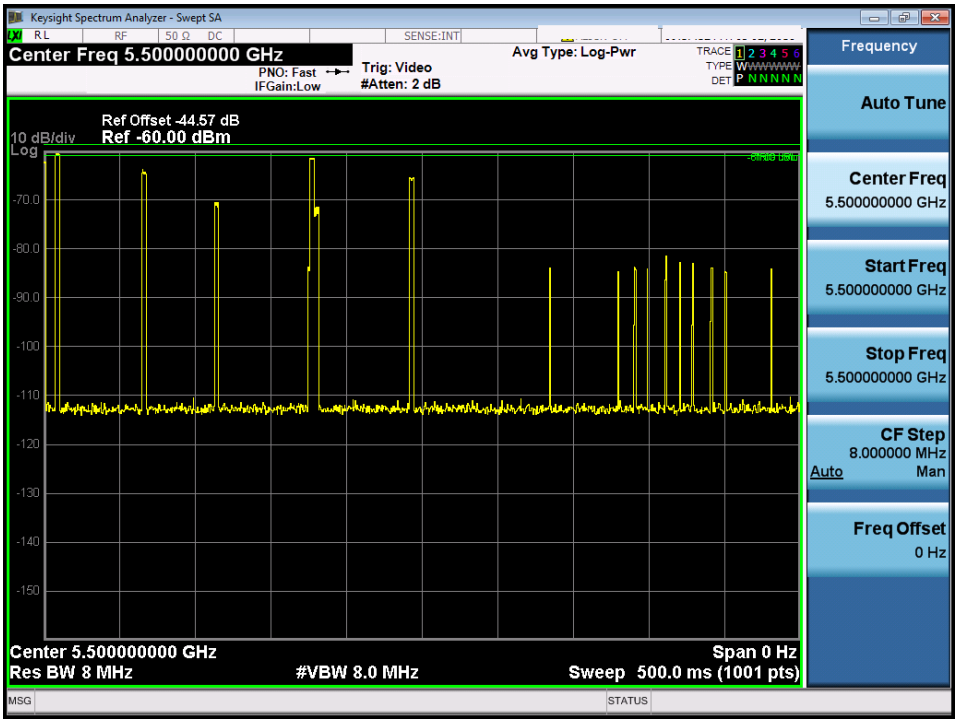

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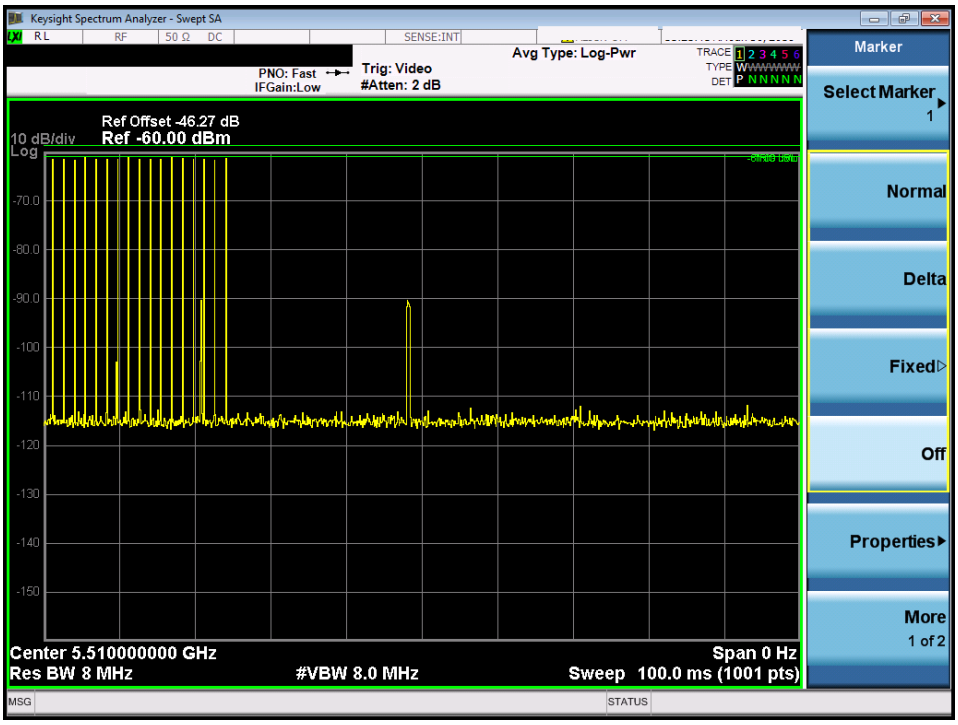

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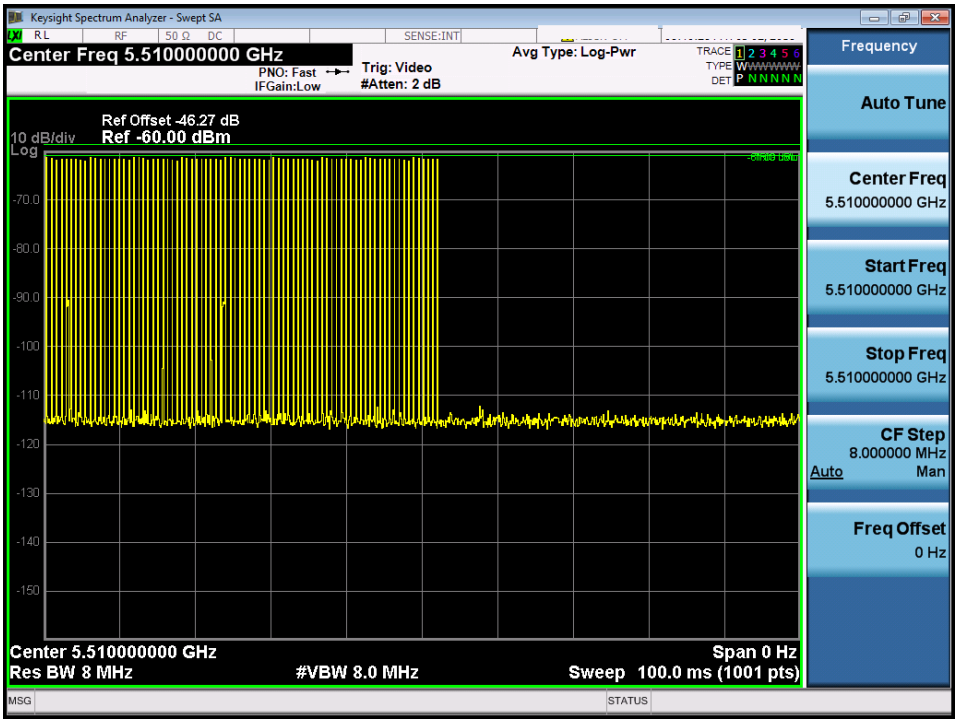

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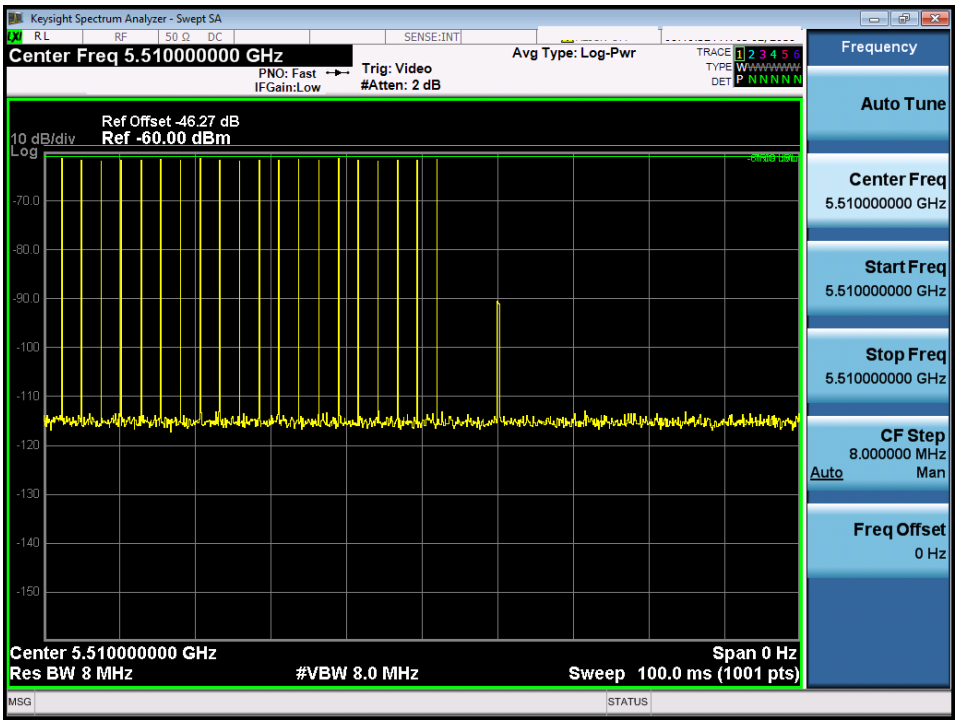

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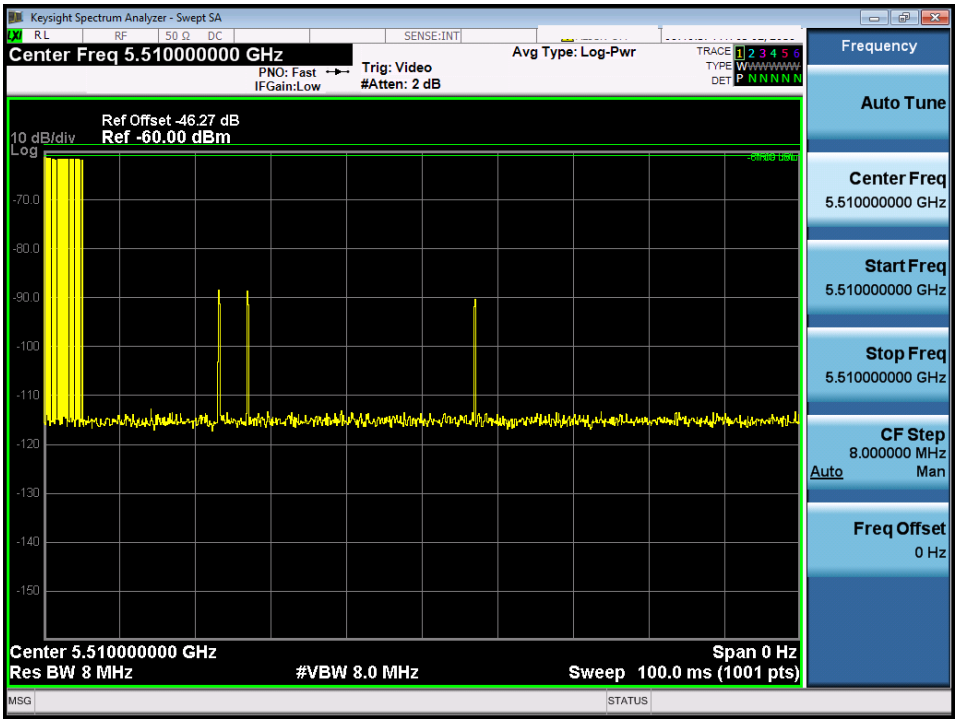

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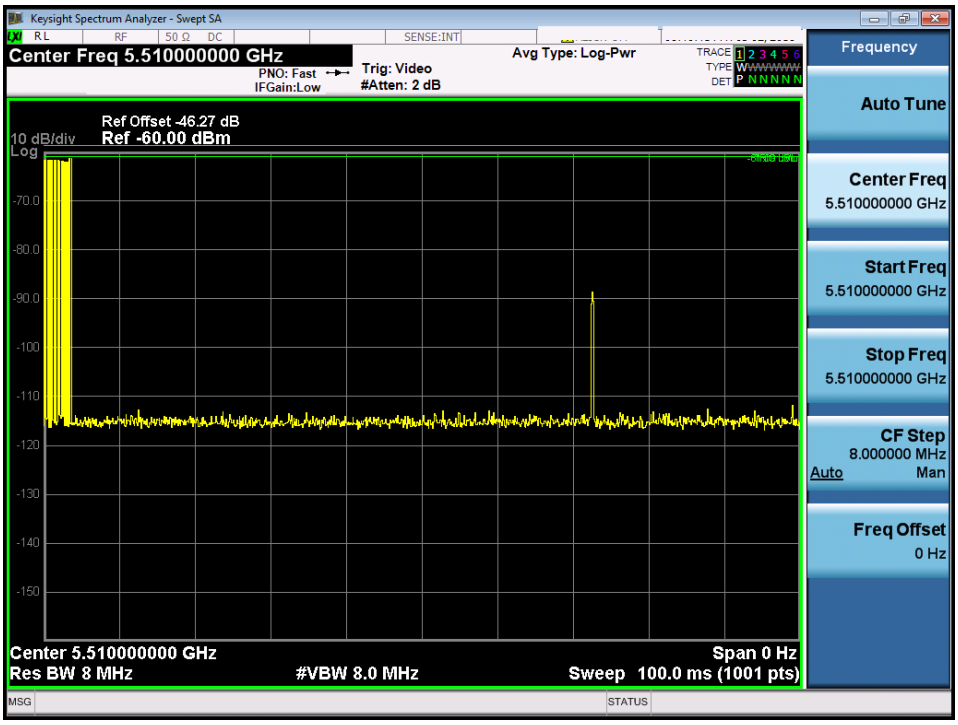

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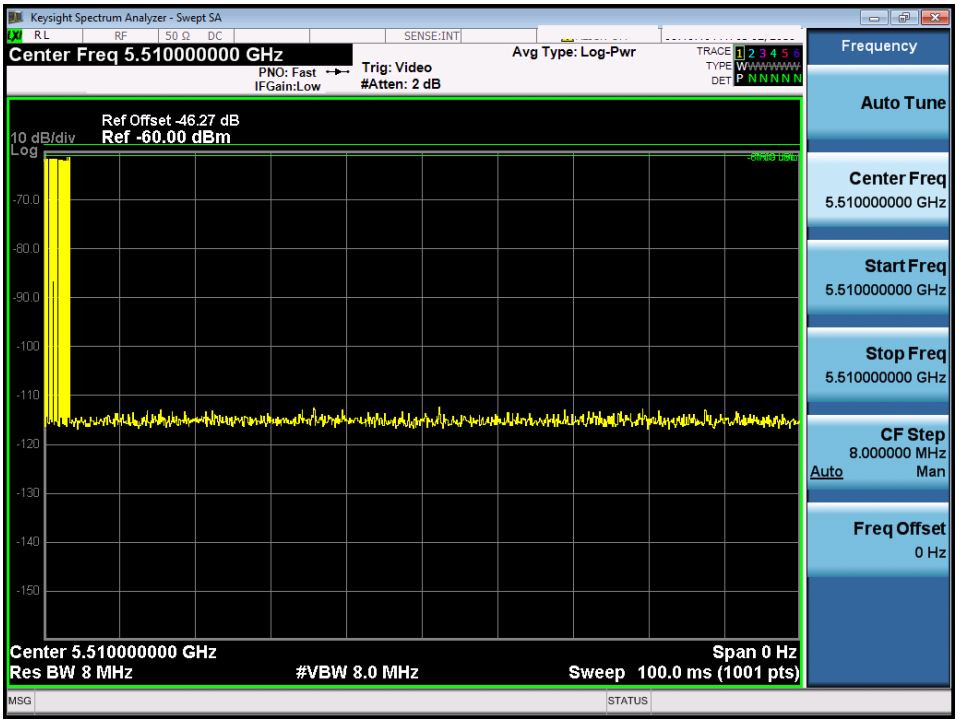

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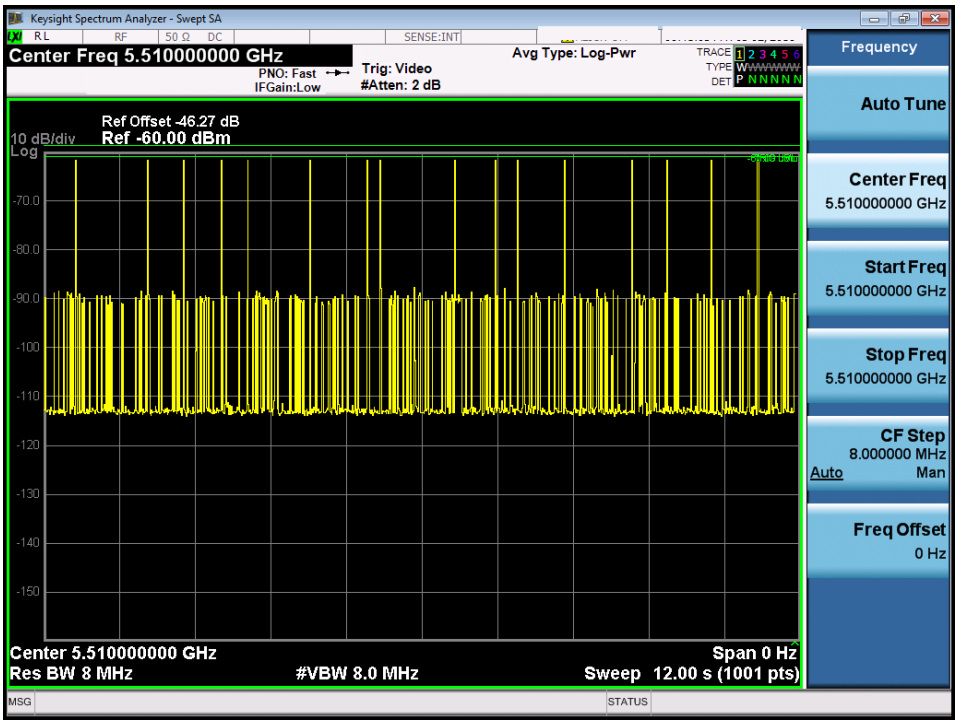

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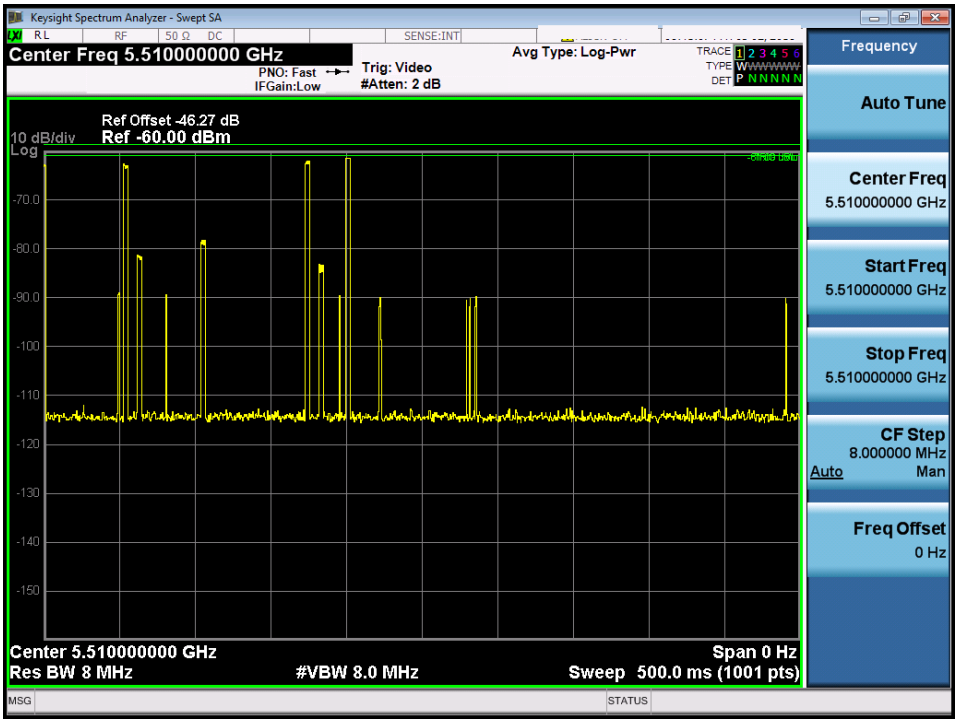
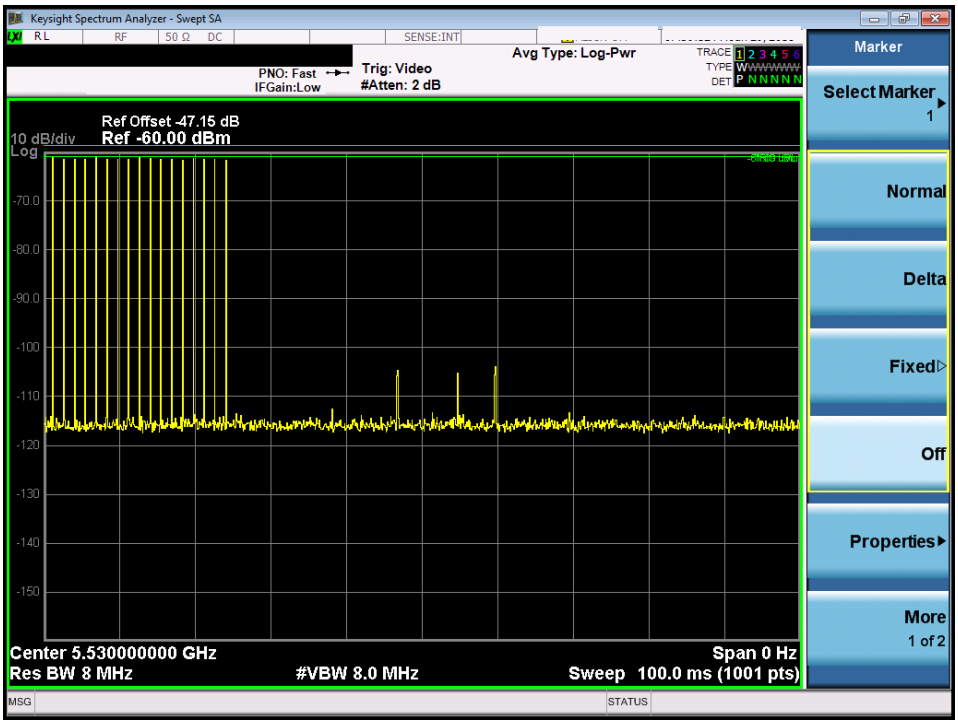
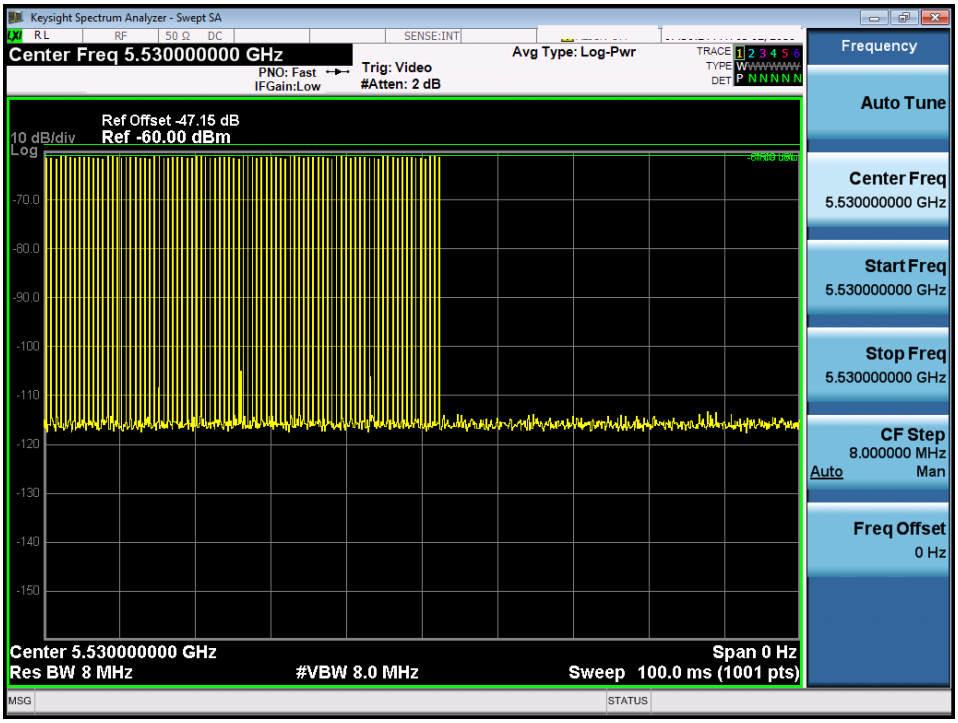


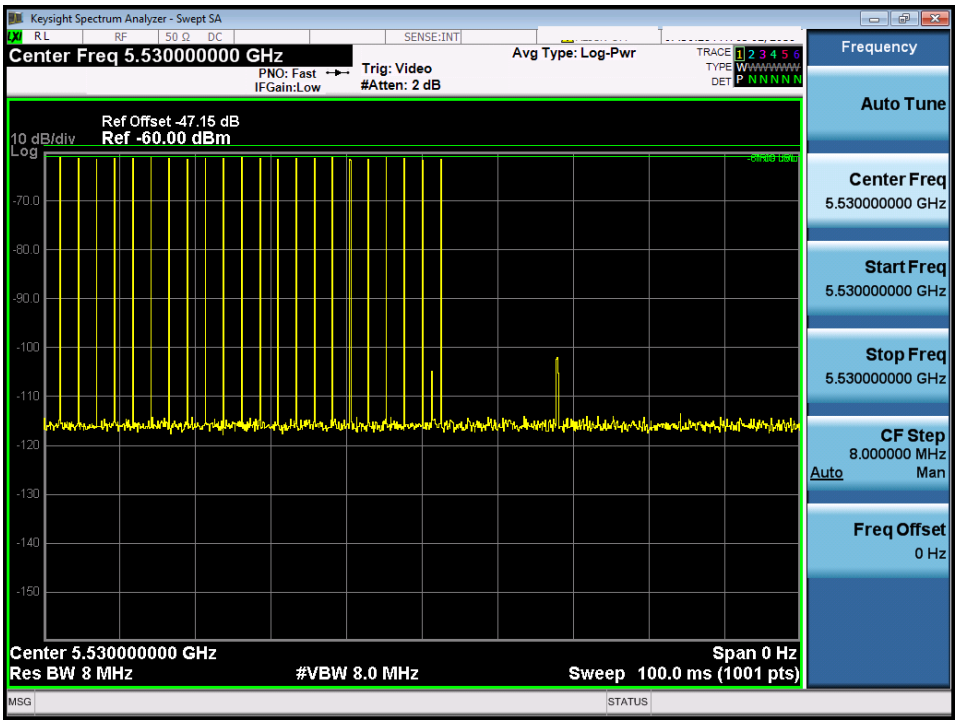
USA Frequency Hopping Radar Calibration BW40 BW40



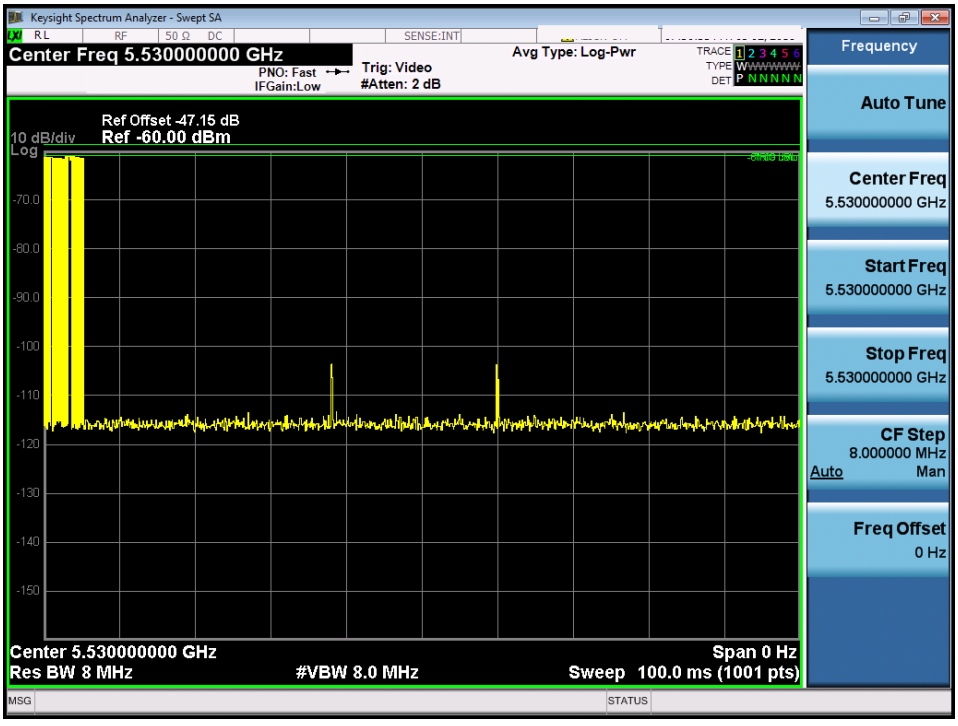
USA Bin 0 Radar Calibration BW80 BW80



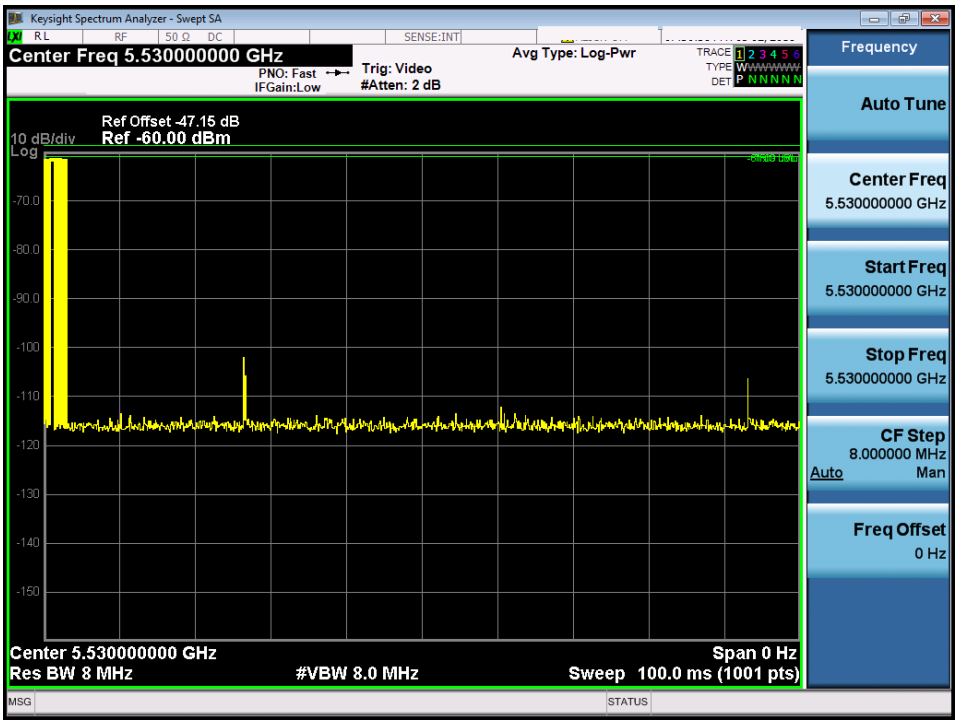
USA Bin 1A Radar Calibration BW80 BW80



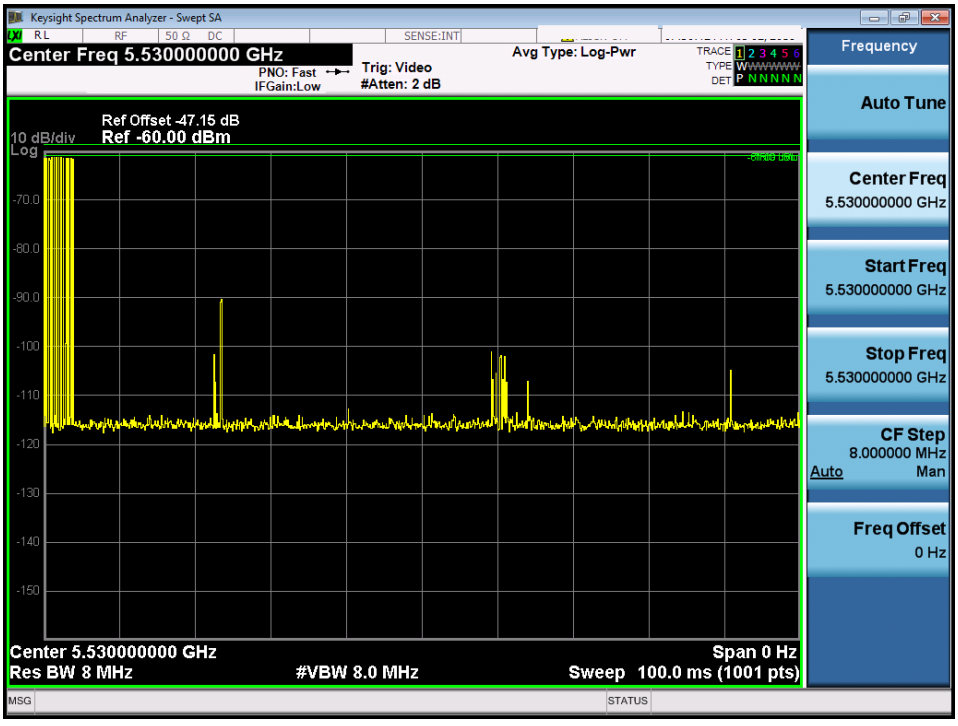
USA Bin 1B Radar Calibration BW80 BW80



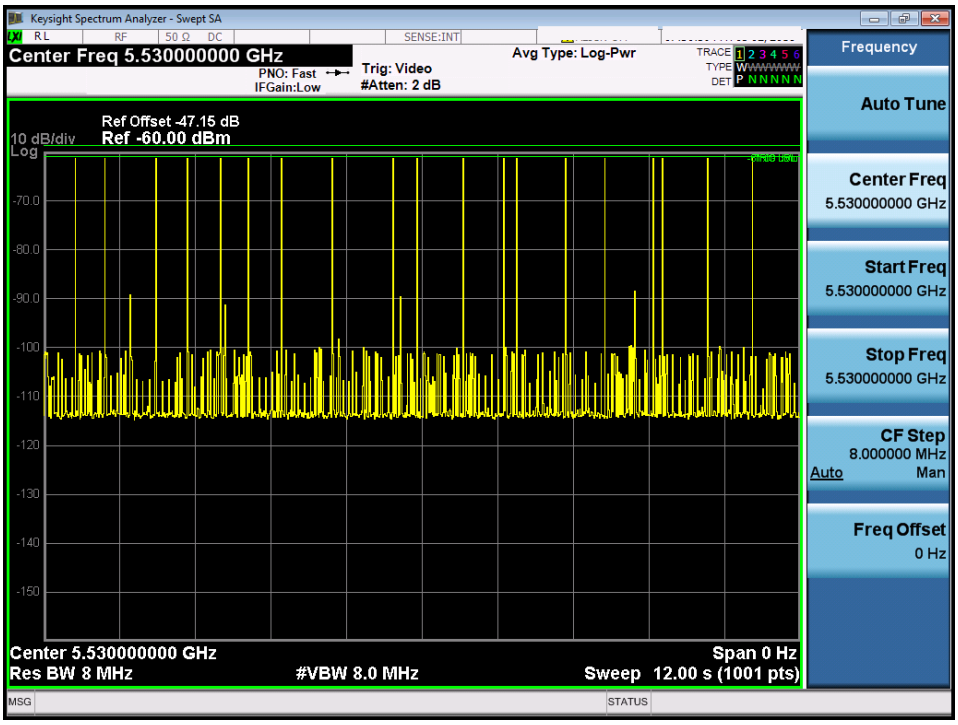
USA Bin 2 Radar Calibration BW80 BW80



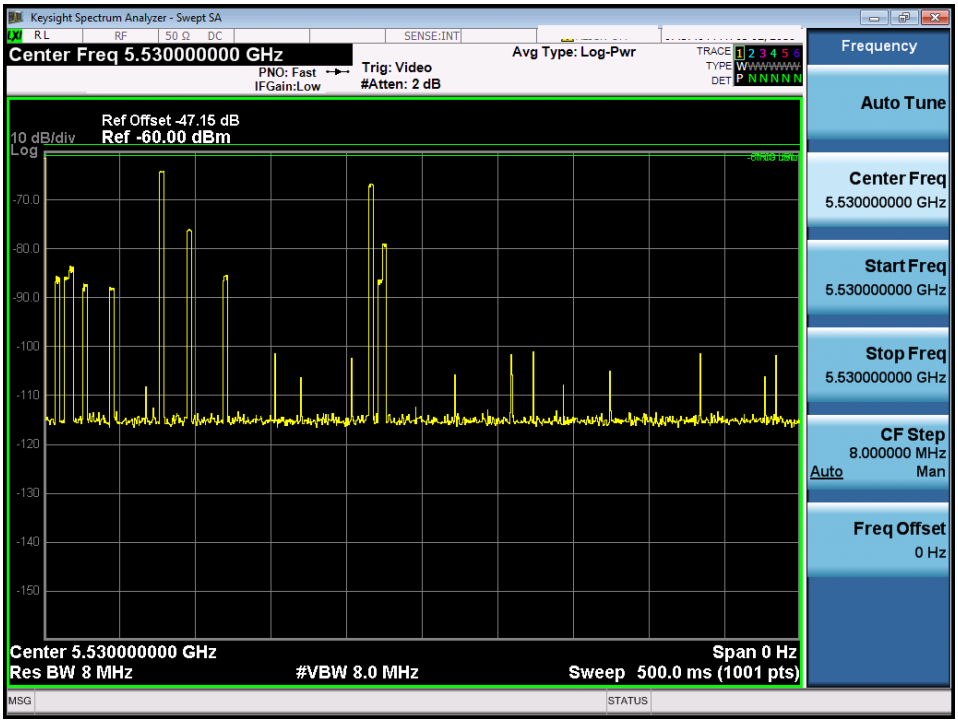
USA Bin 3 Radar Calibration BW80 BW80



USA Bin 4 Radar Calibration BW80 BW80



USA Bin 5 Radar Calibration BW80 BW80

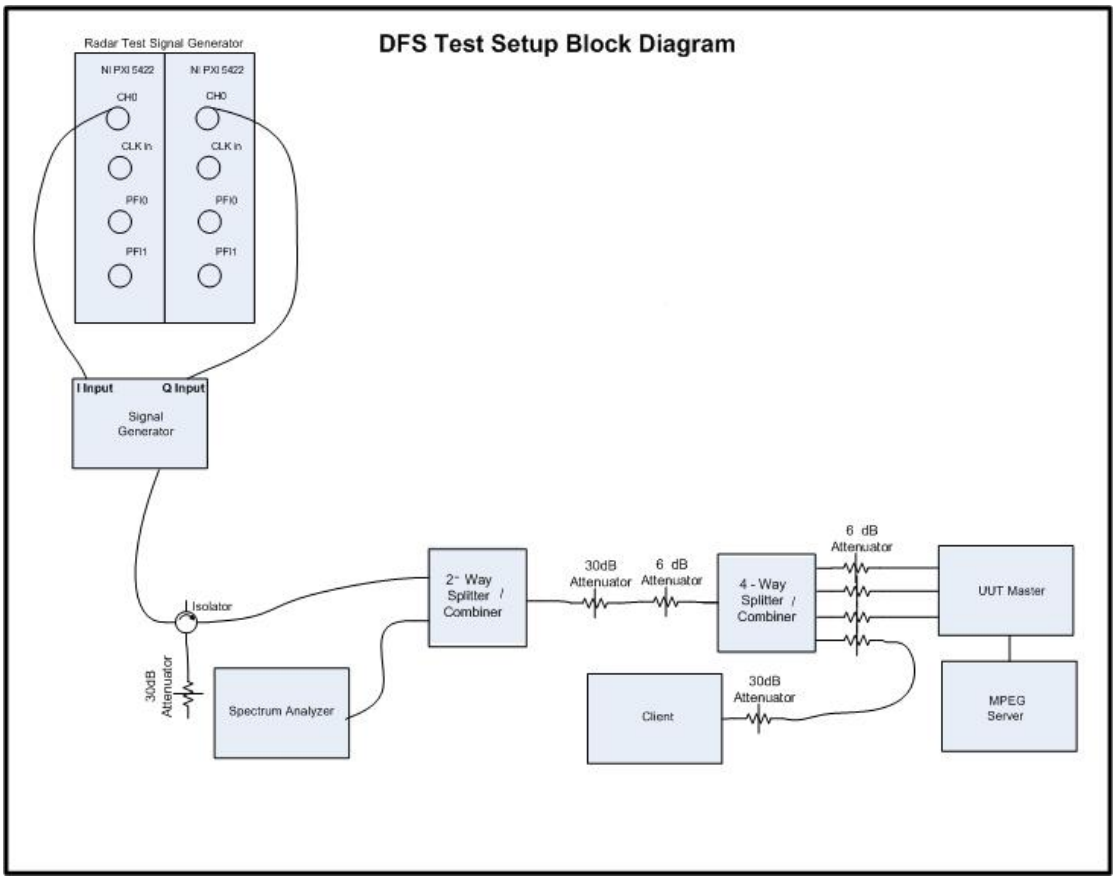


USA Frequency Hopping Radar Calibration BW80 BW80

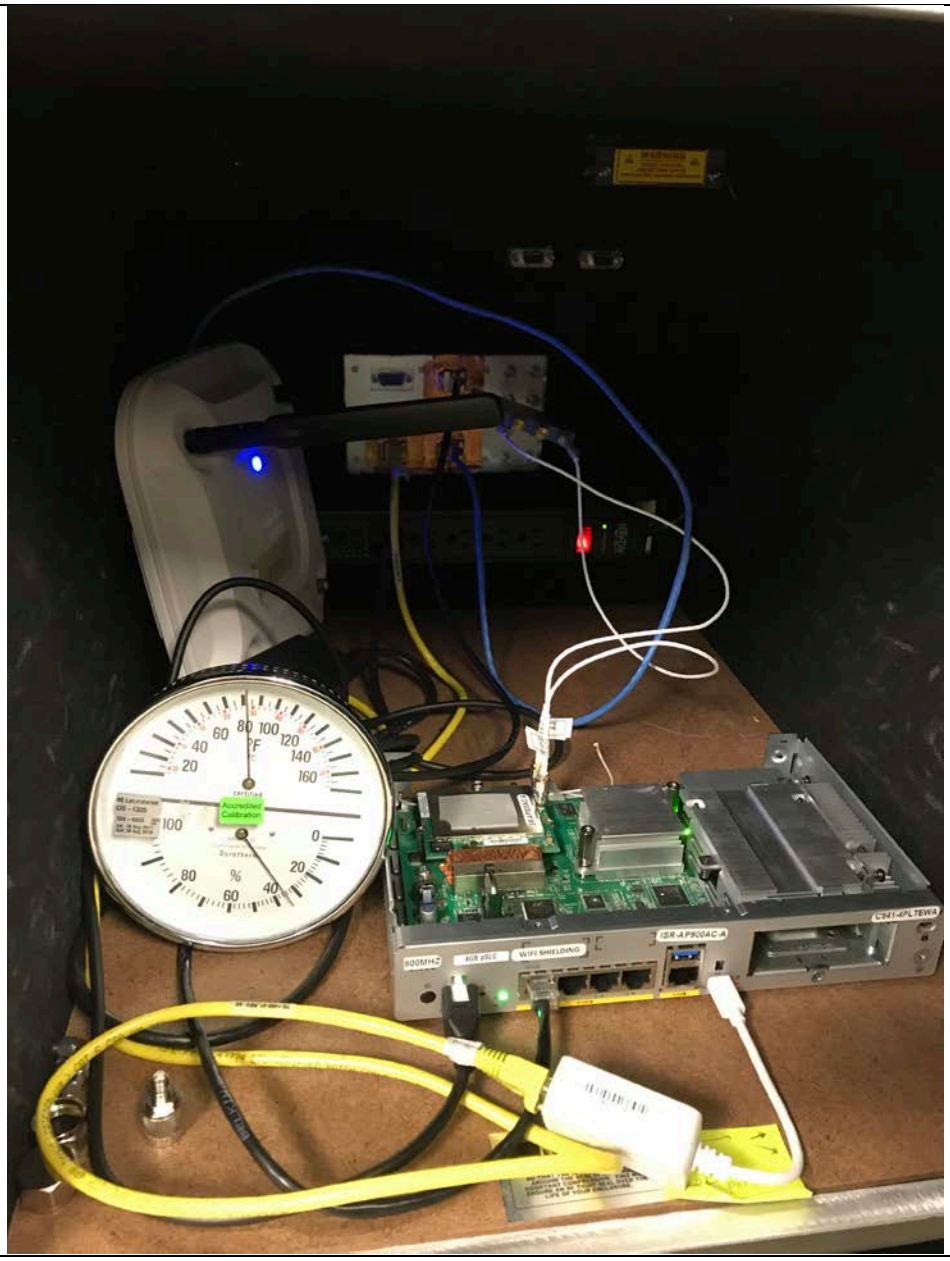
B.1 Test Procedure/Results

A spectrum analyzer is used as a monitor to verify that the UUT has vacated the Channel within the (Channel Closing Transmission Time and Channel Move Time) and does not transmit on a Channel during the Non-Occupancy Period after the detection and Channel move. It is also used to monitor UUT transmissions during the Channel Availability Check Time.

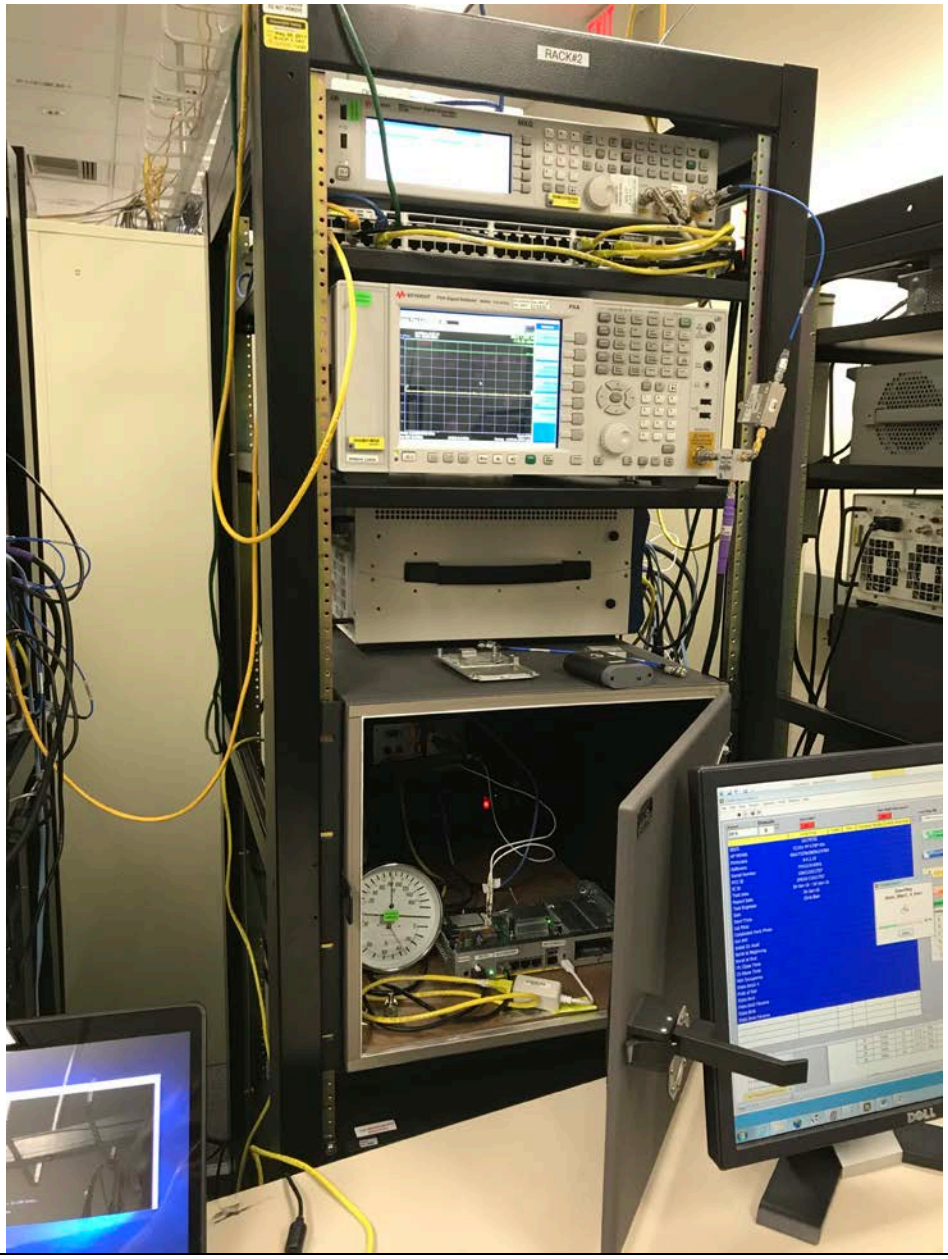
Following is the test setup used to generate the Radar Waveforms, and for all DFS tests described herein.



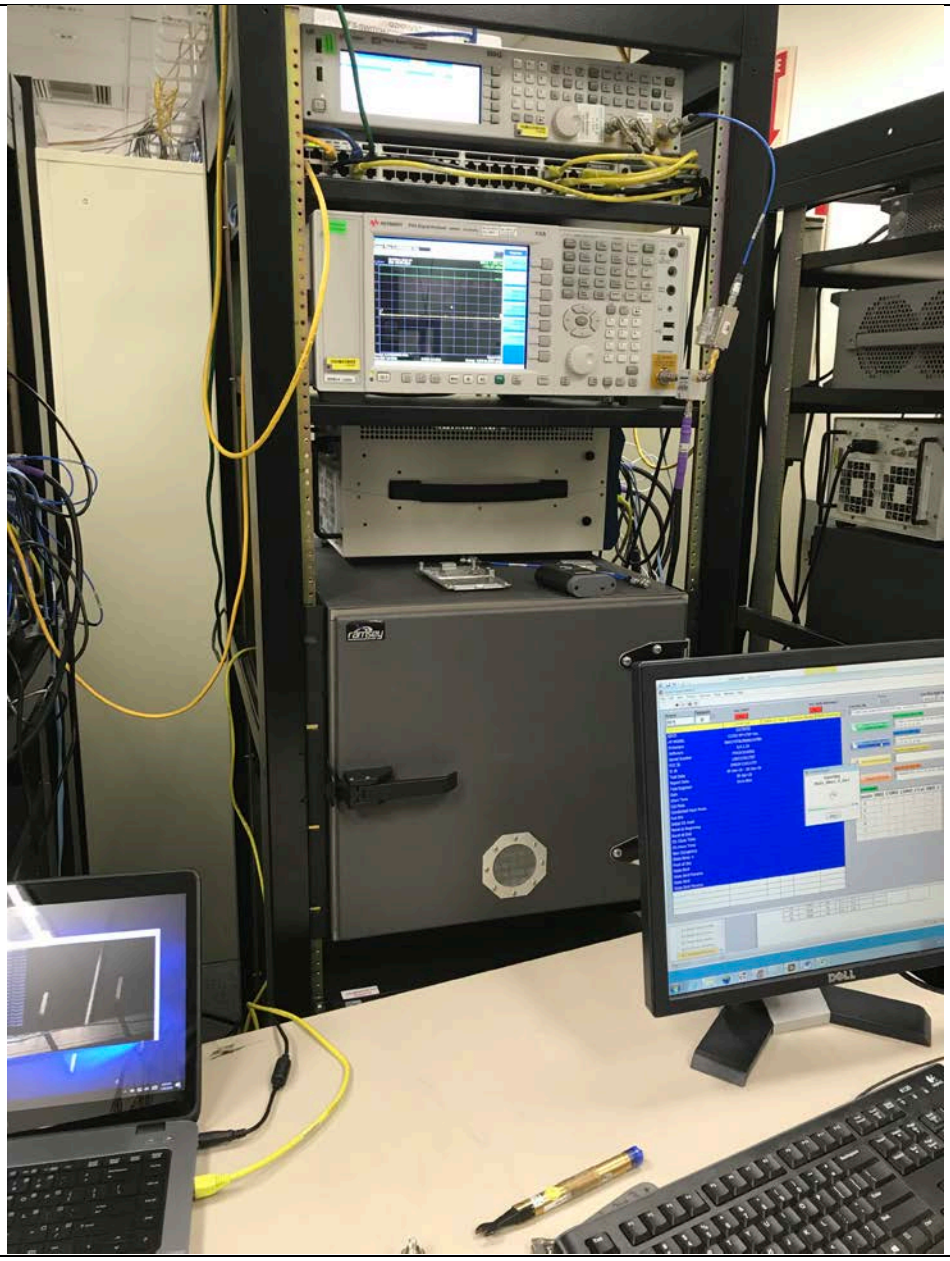
Conducted Setup: Radar Test Waveforms are injected into the Master



Title: DFS Setup: C1101-4P-LTEP-Wx connected to test system, along with companion device and environmental monitor, inside shield enclosure.



Title: DFS Setup



Title: DFS Setup

B.2 UNII Detection Bandwidth

Test Procedure

Ref. KDB 905462 D02 UNII section 7.8.1

All UNII 20 MHz channels for this device have identical Channel bandwidths, all 40 MHz channels have identical Channel bandwidths, and all 80 MHz channels have identical Channel bandwidths. Therefore, all DFS testing was done at 5500 MHz. The 99% channel bandwidth for 20MHz signals is 18 MHz, the the 99% channel bandwidth for 40MHz signals is 36 MHz, and the 99% channel bandwidth for 80MHz signals is 76. (See the 26dB BW section of the RF report for further measurement details).

The generating equipment is configured as shown in the Conducted Test Setup above. A single *Burst* of the desired radar profile is produced at 5500MHz at a -63dBm level. The UUT is set up as a standalone device (no associated Client and no traffic).

A single radar Burst is generated for a minimum of 10 trials, and the response of the UUT is noted. The UUT must detect the Radar Waveform 90% or more of the time.

The radar frequency is increased in 1 MHz steps, repeating the above test sequence, until the detection rate falls below 90%. The highest frequency at which detection is greater than or equal to 90% is denoted as Fh.

The radar frequency is decreased in 1 MHz steps, repeating the above test sequence, until the detection rate falls below 90%. The lowest frequency at which detection is greater than or equal to 90% is denoted as Fl.

The U-NII Detection Bandwidth is calculated as follows:

U-NII Detection Bandwidth = $F_H - F_L$

The U-NII Detection Bandwidth must be at least 100% of the UUT transmitter 99% power bandwidth (18 MHz for 20MHz signals, 36 MHz for 40 MHz signals, and 76 MHz for 80 MHz signals); otherwise, the UUT does not comply with DFS requirements.

For the chirped Bin 5 radar, the U-NII Detection Bandwidth must be at least 80% of the UUT transmitter 99% power bandwidth (14 MHz for 20MHz signals, 28 MHz for 40 MHz signals, and 60 MHz for 80 MHz signals); otherwise, the UUT does not comply with DFS requirements.

	DFS Detection Trials (1=Detection, Blank= No Detection)												
Radar Frequency	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Detection Rate (%)**	**Detection Bandwidth (MHz)**	**Limit (MHz)**
5490	1	1	1	1	1	1	1	1	1	1	100		
5491	1	1	1	1	1	1	1	1	1	1	100		
5492	1	1	1	1	1	1	1	1	1	1	100		
5493	1	1	1	1	1	1	1	1	1	1	100		
5494	1	1	1	1	1	1	1	1	1	1	100		
5495	1	1	1	1	1	1	1	1	1	1	100		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100	20	18
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		

USA Bin 0 Radar

	DFS Detection Trials (1=Detection, Blank= No Detection)												
Radar Frequency	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Detection Rate (%)**	**Detection Bandwidth (MHz)**	**Limit (MHz)**
5490	1	1	1	1	1	1	1	1	1	1	100	40	38
5491	1	1	1	1	1	1	1	1	1	1	100		
5492	1	1	1	1	1	1	1	1	1	1	100		
5493	1	1	1	1	1	1	1	1	1	1	100		
5494	1	1	1	1	1	1	1	1	1	1	100		
5495	1	1	1	1	1	1	1	1	1	1	100		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	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	1	1	1	1	1	1	1	1	1	1	100		

5530	1	1	1	1	1	1	1	1	1	1	100		

USA Bin 0 Radar

	DFS Detection Trials (1=Detection, Blank= No Detection)												
Radar Frequency	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Detection Rate (%)**	**Detection Bandwidth (MHz)**	**Limit (MHz)**
5490	1	1	1	1	1	1	1	1	1	1	100	80	77
5491	1	1	1	1	1	1	1	1	1	1	100		
5492	1	1	1	1	1	1	1	1	1	1	100		
5493	1	1	1	1	1	1	1	1	1	1	100		
5494	1	1	1	1	1	1	1	1	1	1	100		
5495	1	1	1	1	1	1	1	1	1	1	100		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	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	1	1	1	1	1	1	1	1	1	1	100		

USA Bin 0 Radar

	DFS Detection Trials (1=Detection, Blank= No Detection)												
Radar Frequency	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Detection Rate (%)**	**Detection Bandwidth (MHz)**	**Limit (MHz)**
5530	1	1	1	1	1	1	1	1	1	1	100	80	77
5531	1	1	1	1	1	1	1	1	1	1	100		
5532	1	1	1	1	1	1	1	1	1	1	100		
5533	1	1	1	1	1	1	1	1	1	1	100		
5534	1	1	1	1	1	1	1	1	1	1	100		
5535	1	1	1	1	1	1	1	1	1	1	100		
5536	1	1	1	1	1	1	1	1	1	1	100		
5537	1	1	1	1	1	1	1	1	1	1	100		
5538	1	1	1	1	1	1	1	1	1	1	100		
5539	1	1	1	1	1	1	1	1	1	1	100		
5540	1	1	1	1	1	1	1	1	1	1	100		
5541	1	1	1	1	1	1	1	1	1	1	100		
5542	1	1	1	1	1	1	1	1	1	1	100		
5543	1	1	1	1	1	1	1	1	1	1	100		
5544	1	1	1	1	1	1	1	1	1	1	100		
5545	1	1	1	1	1	1	1	1	1	1	100		
5546	1	1	1	1	1	1	1	1	1	1	100		
5547	1	1	1	1	1	1	1	1	1	1	100		
5548	1	1	1	1	1	1	1	1	1	1	100		
5549	1	1	1	1	1	1	1	1	1	1	100		
5550	1	1	1	1	1	1	1	1	1	1	100		
5551	1	1	1	1	1	1	1	1	1	1	100		
5552	1	1	1	1	1	1	1	1	1	1	100		
5553	1	1	1	1	1	1	1	1	1	1	100		
5554	1	1	1	1	1	1	1	1	1	1	100		
5555	1	1	1	1	1	1	1	1	1	1	100		
5556	1	1	1	1	1	1	1	1	1	1	100		
5557	1	1	1	1	1	1	1	1	1	1	100		
5558	1	1	1	1	1	1	1	1	1	1	100		
5559	1	1	1	1	1	1	1	1	1	1	100		
5560	1	1	1	1	1	1	1	1	1	1	100		
5561	1	1	1	1	1	1	1	1	1	1	100		
5562	1	1	1	1	1	1	1	1	1	1	100		
5563	1	1	1	1	1	1	1	1	1	1	100		
5564	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	1	1	1	1	1	1	1	1	1	1	100		

5570	1	1	1	1	1	1	1	1	1	1	100		

USA Bin 0 Radar (cont)

B.3 Initial Channel Availability Check Time

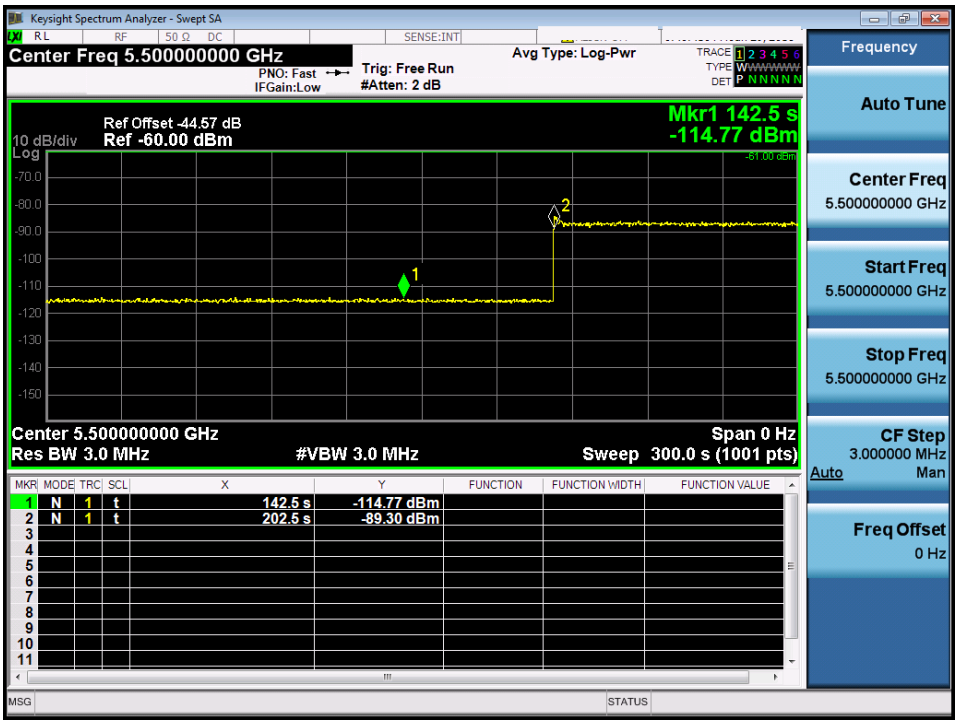
The tests that the UUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms.

The U-NII device is powered on and instructed to operate at 5500 MHz. At the same time the UUT is powered on, the spectrum analyzer is set to zero span mode with a 3 MHz resolution bandwidth at 5500MHz with a 2.5 minute sweep time. The analyzer's sweep will be started the same time power is applied to the U-NII device.

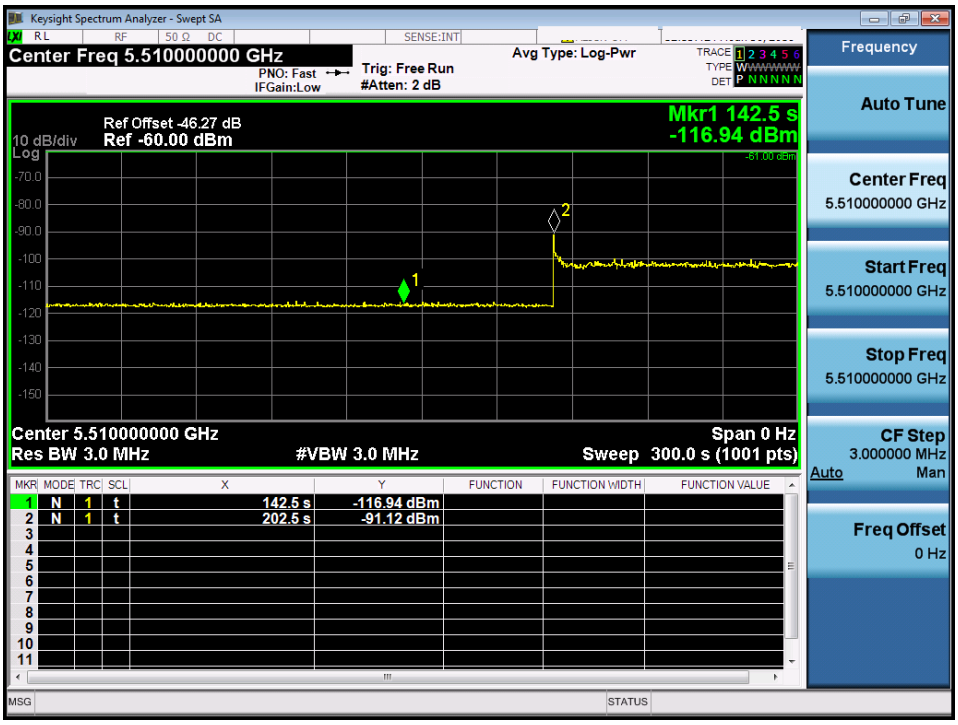
The UUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.

The initial power up time of the UUT is indicated by marker 1 in the plot. Initial beacons/data transmissions are indicated by marker 2.

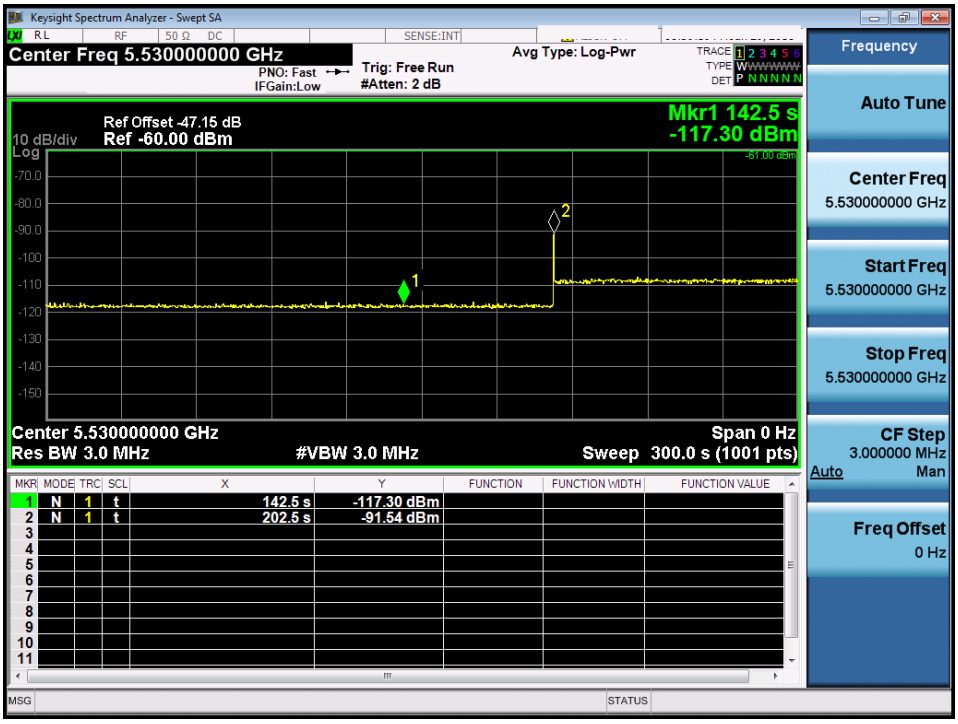
Initial Channel Availability Check Time



BW20



BW40



BW80

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 (-63dBm) occurs at the beginning of the Channel Availability Check Time.

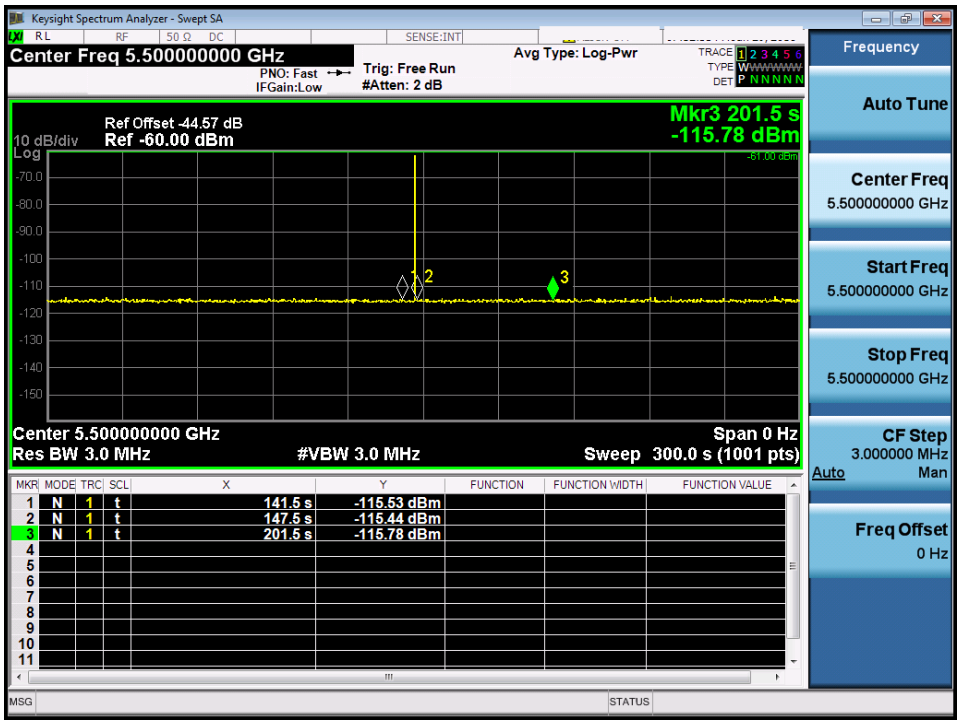
The UUT is powered on at T_0. T_1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T_1 and will end no sooner than T_1 + 60 seconds.

A single Burst of short pulse of radar type 0 at -63 dBm will commence within a 6 second window starting at T_1.

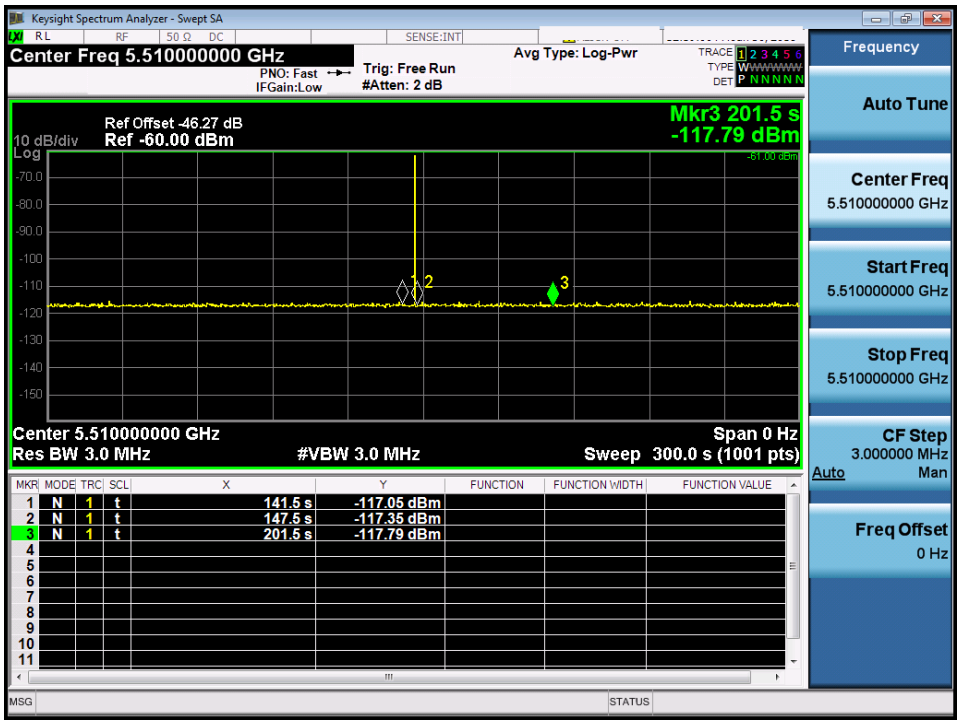
Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions at 5500MHz will continue for 2.5 minutes after the radar Burst has been generated.

Verify that during the 2.5 minute measurement window no UUT transmissions occurred at 5500MHz.

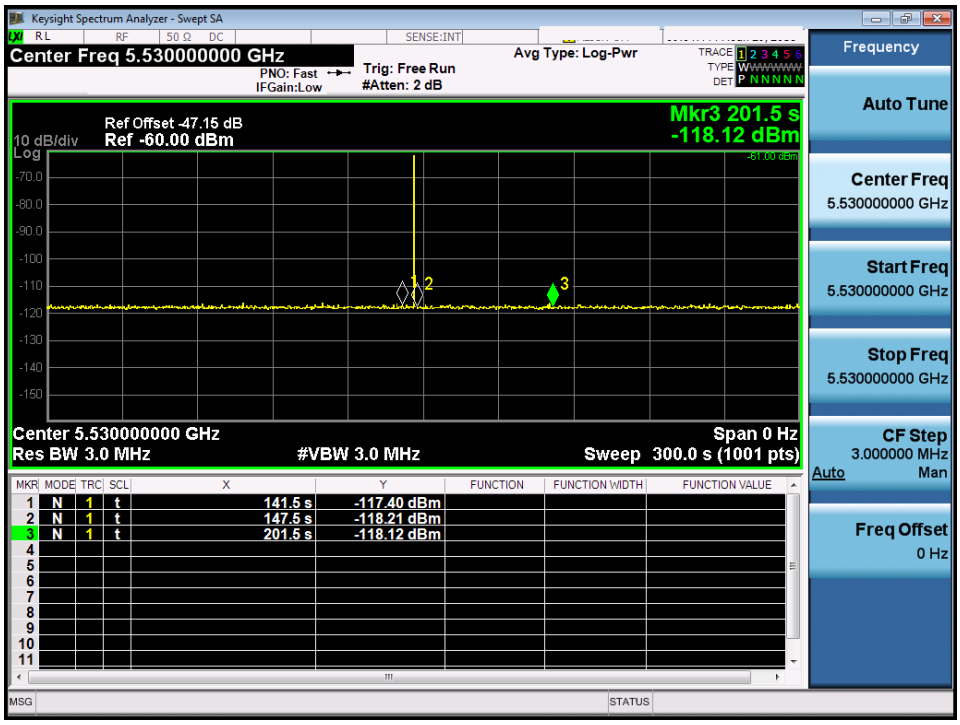
Radar Burst at the Beginning of the Channel Availability Check Time



BW20



BW40



BW80

B.5 Radar Burst at the End of the Channel Availability Check Time

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 (-63dBm) occurs at the end of the Channel Availability Check Time.

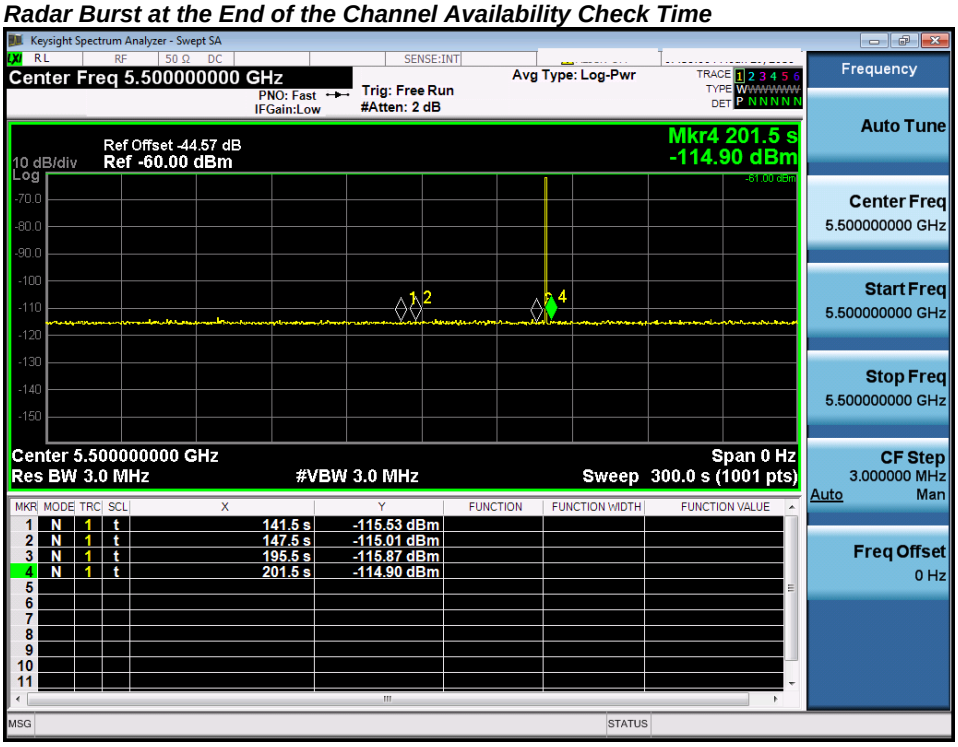
The UUT is powered on at T_0. T_1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T_1 and will end no sooner than T_1 + 60 seconds.

A single Burst of short pulse of radar type 0 at -63 dBm will commence within a 6 second window starting at T_1+ 54 seconds.

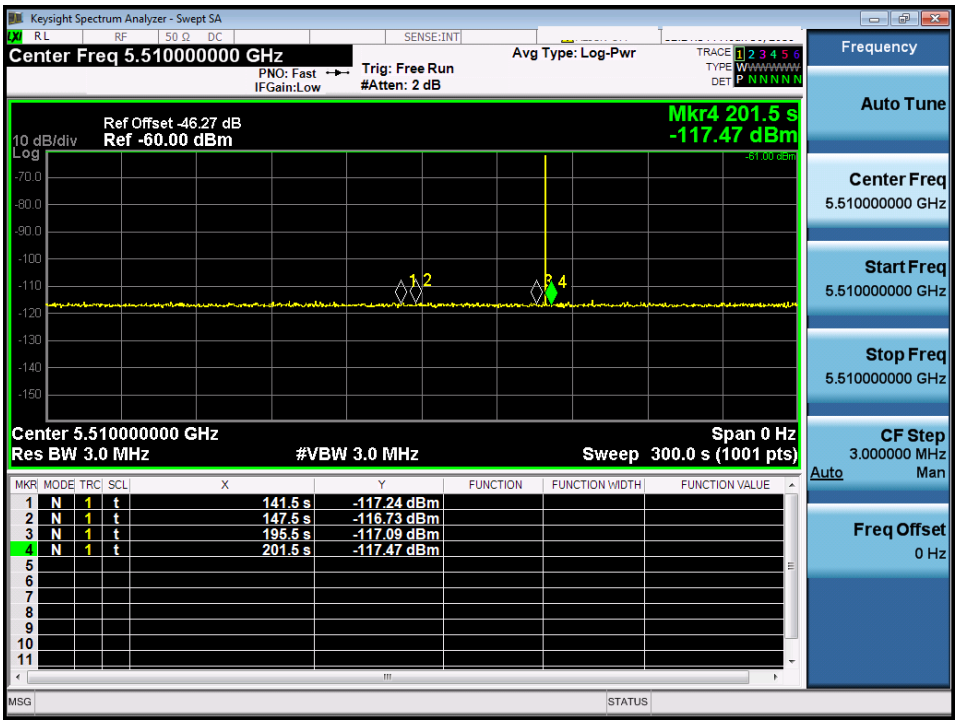
Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions at 5500MHz will continue for 2.5 minutes after the radar Burst has been generated.

Verify that during the 2.5 minute measurement window no UUT transmissions occurred at 5500MHz.

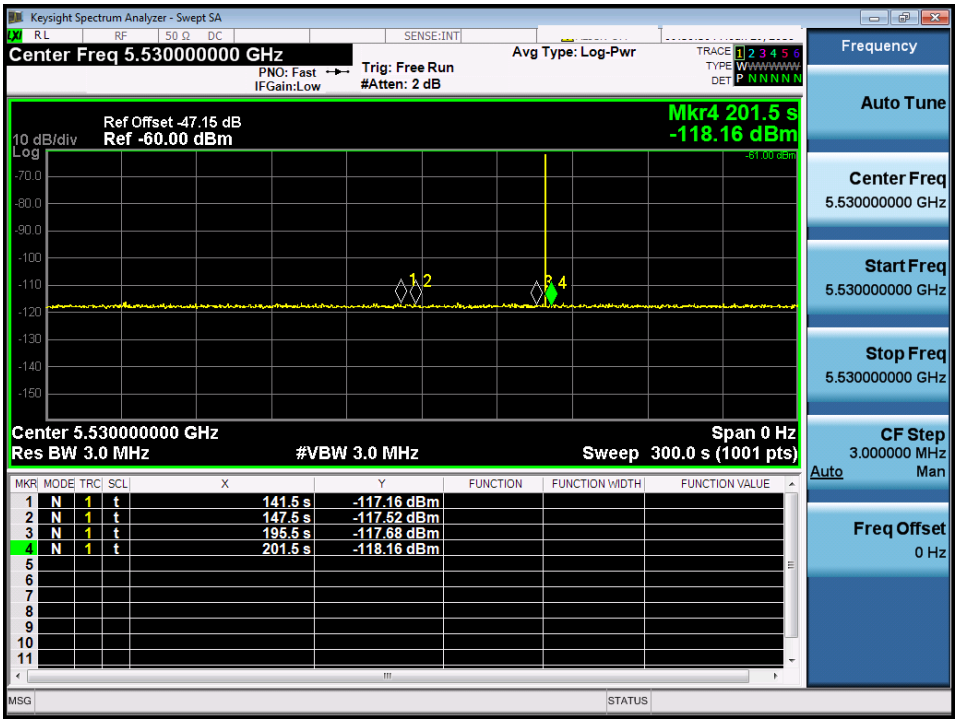
Radar Burst at the End of the Channel Availability Check Time



BW20



BW40



BW80

B.6 In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period

These tests define how the following DFS parameters are verified during In-Service Monitoring; Channel Closing Transmission Time, Channel Move Time, and Non-Occupancy Period.

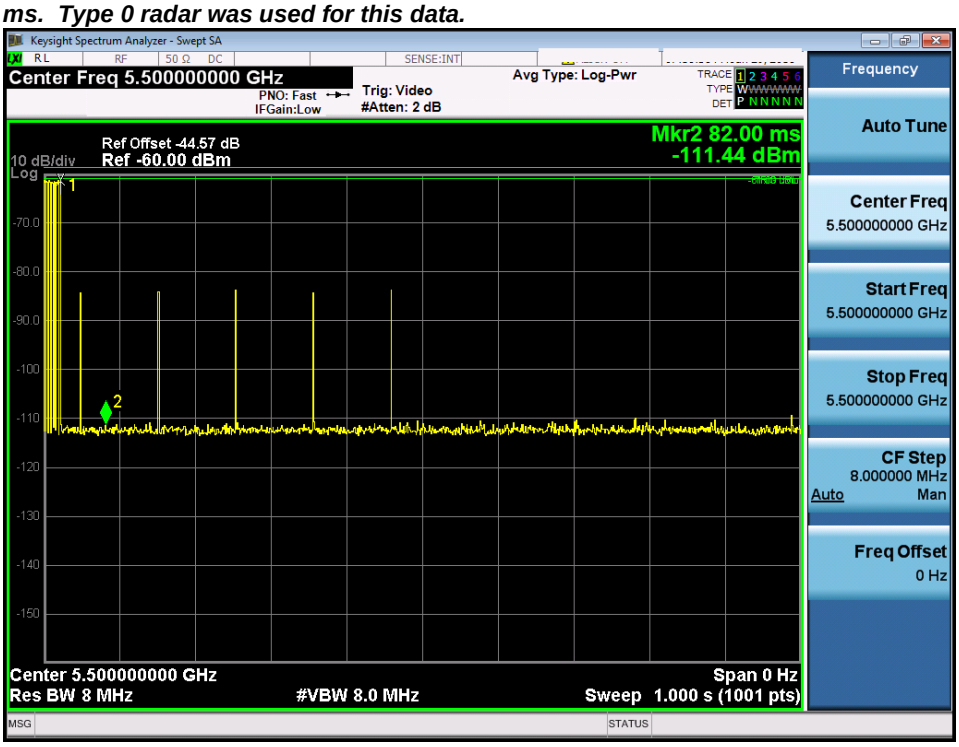
The steps below define the procedure to determine the above mentioned parameters when a radar Burst with a level equal to the DFS Detection Threshold + 1dB (-63dBm) is generated on the Operating Channel of the U-NII device.

A U-NII device operating as a Client Device will associate with the UUT (Master) at 5500 MHz. Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test.

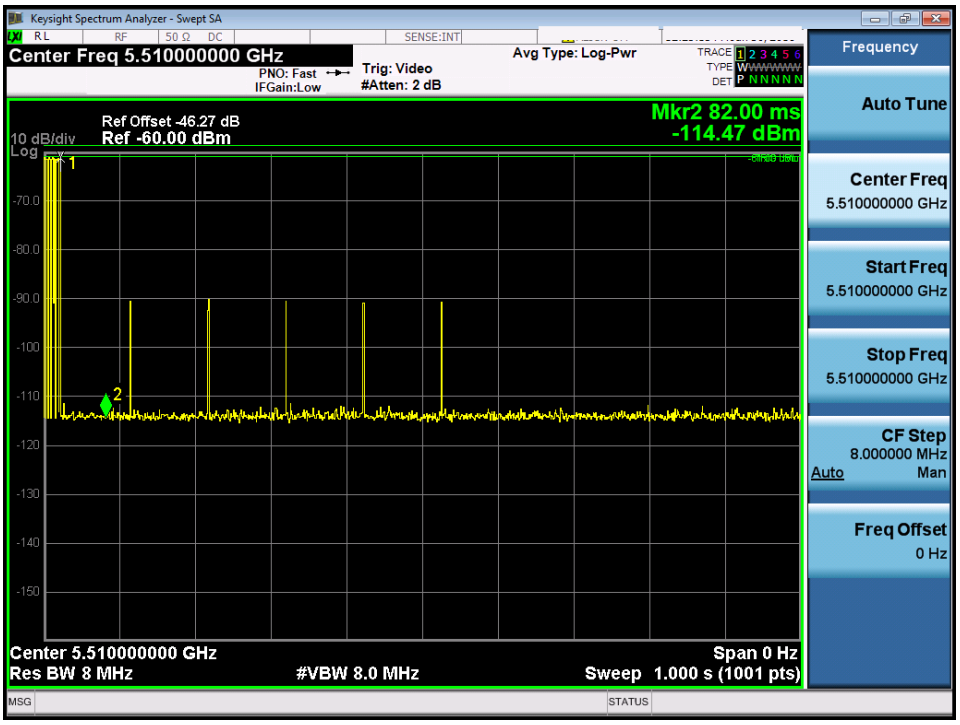
At time T_0 the Radar Waveform generator sends a Burst of pulses for radar type 0 at -63dBm.

Observe the transmissions of the UUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). Compare the Channel Move Time and Channel Closing Transmission Time results to the limits defined in the *DFS Response requirement values table***.**

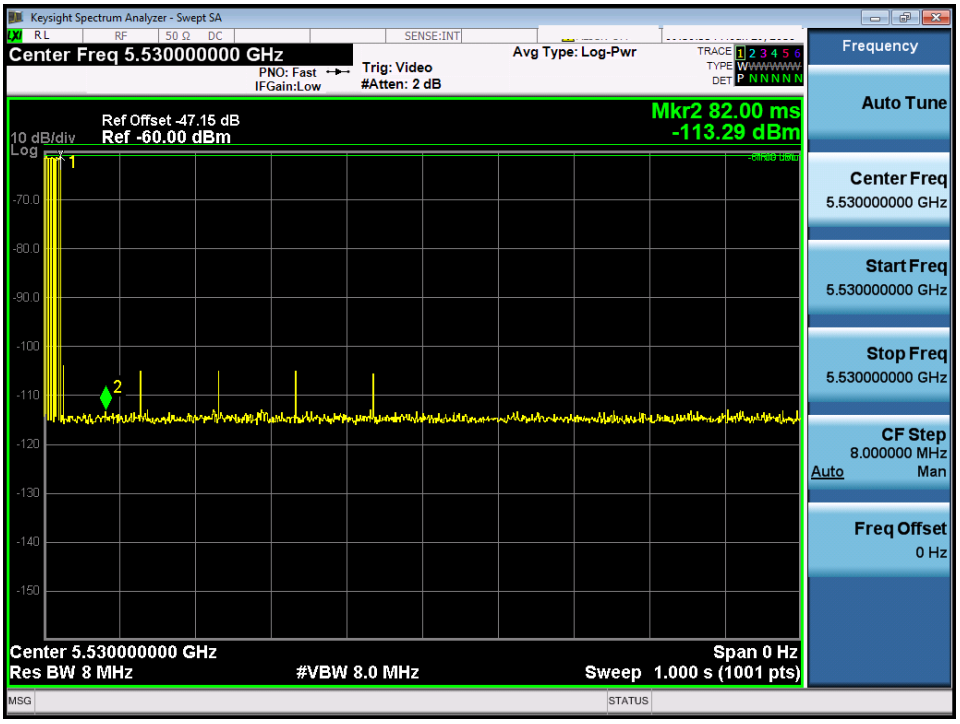
The following plot demonstrates a channel close time of 50ms, with an aggregate of no more than 60 ms. Type 0 radar was used for this data.



BW20

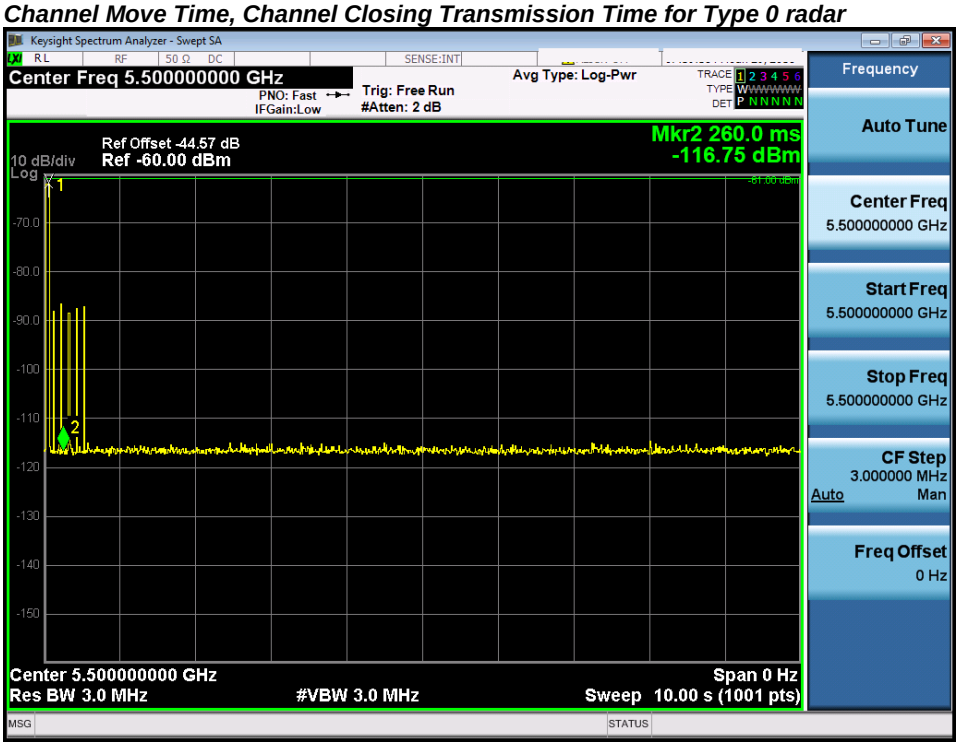


BW40

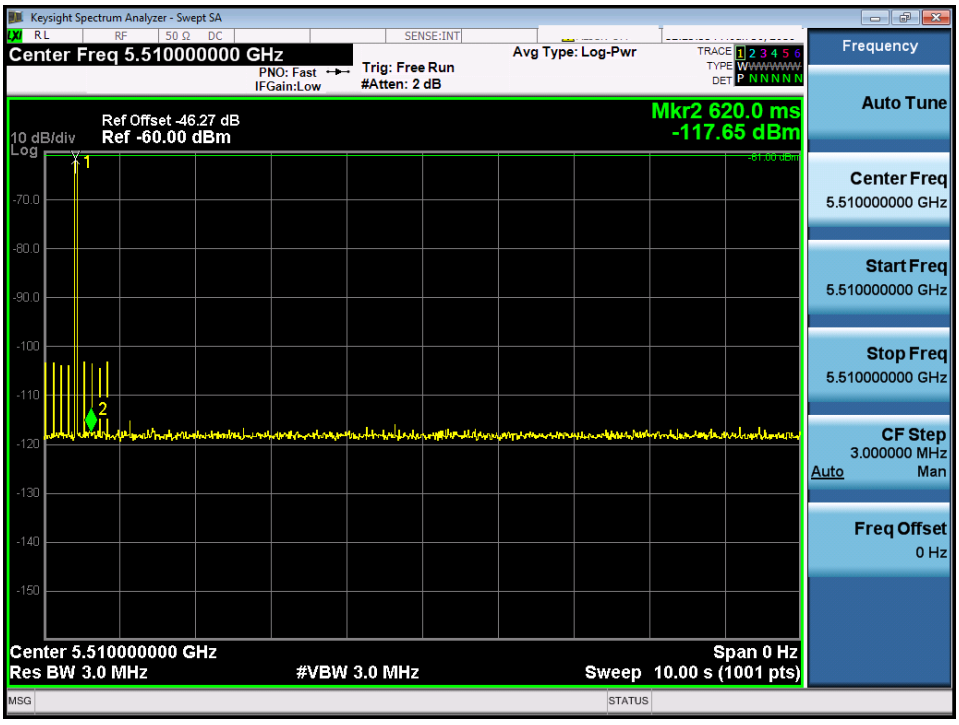


BW80

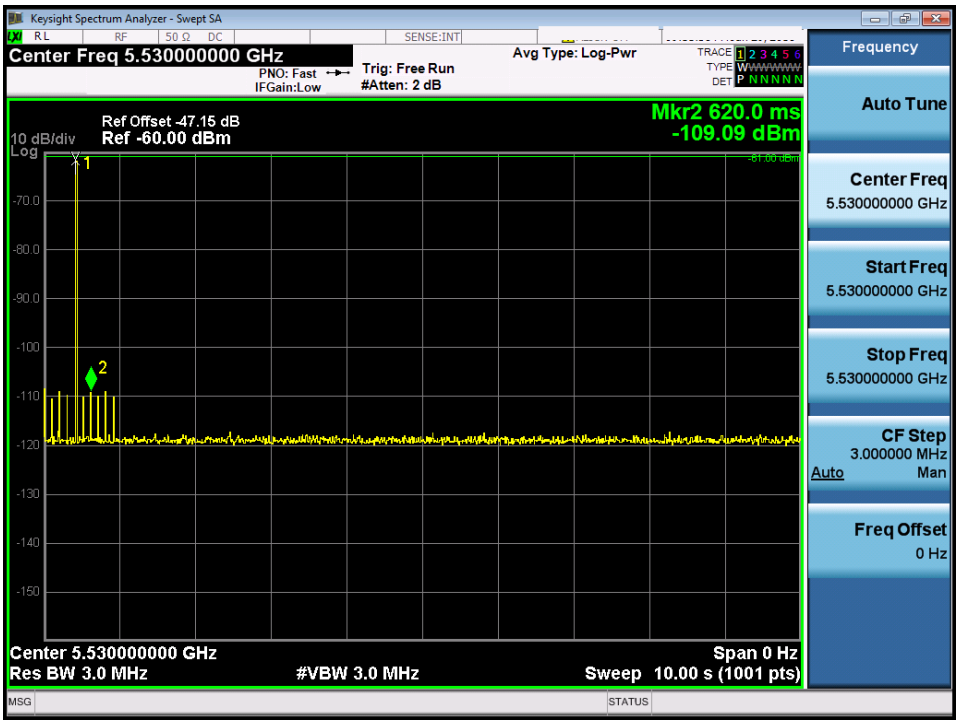
Channel Move Time, Channel Closing Transmission Time for Type 0 radar



Channel Move Time, Channel Closing Transmission Time for BW20



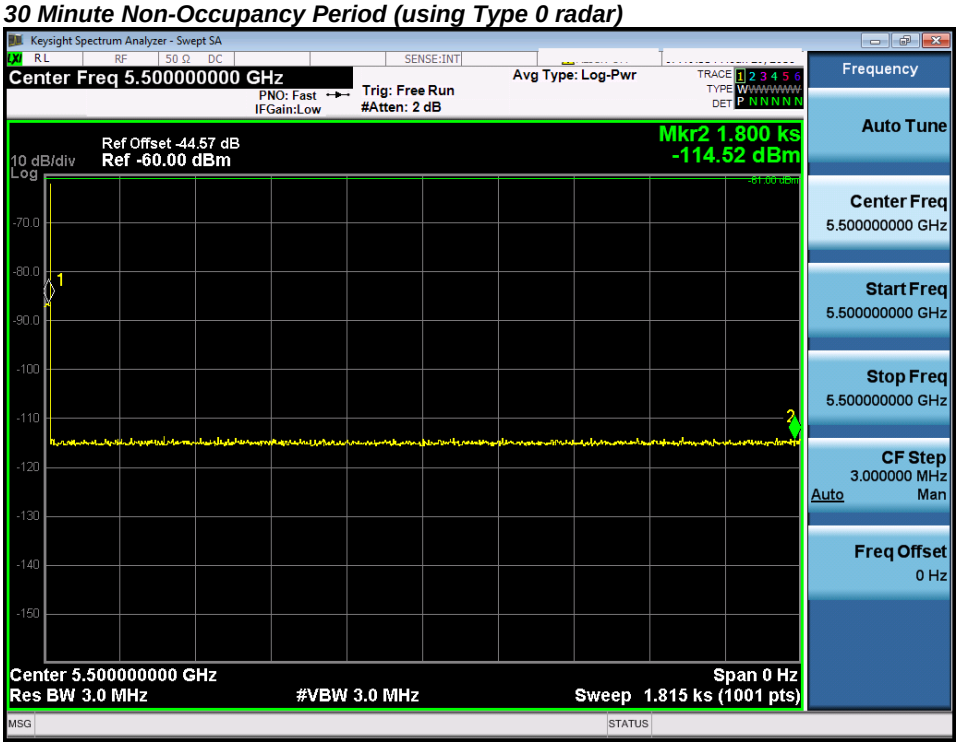
Channel Move Time, Channel Closing Transmission Time for BW40



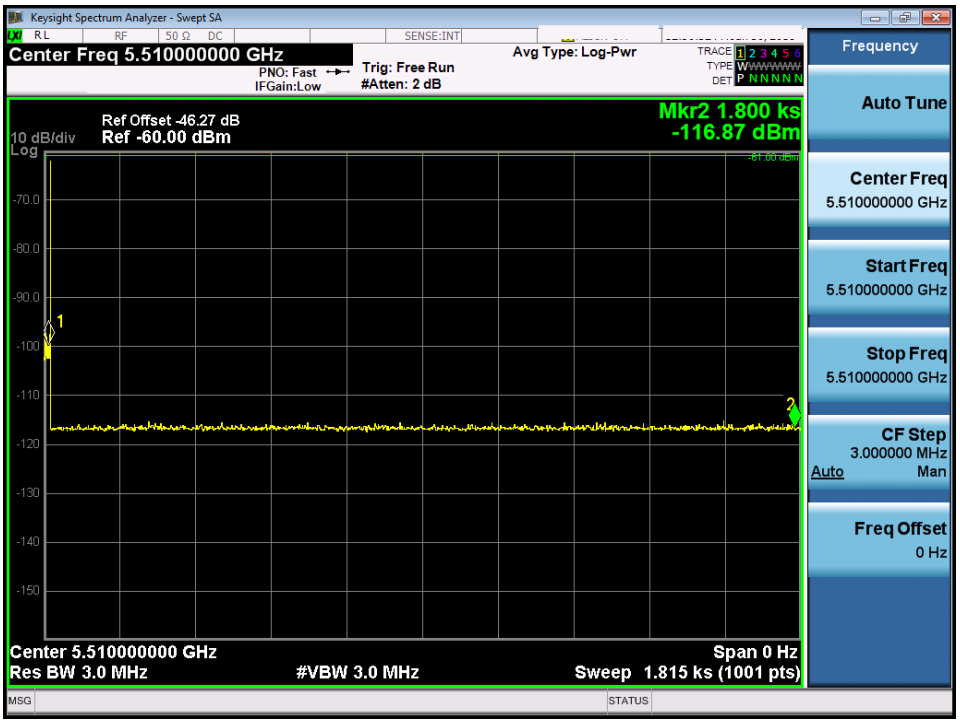
Channel Move Time, Channel Closing Transmission Time for BW80

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

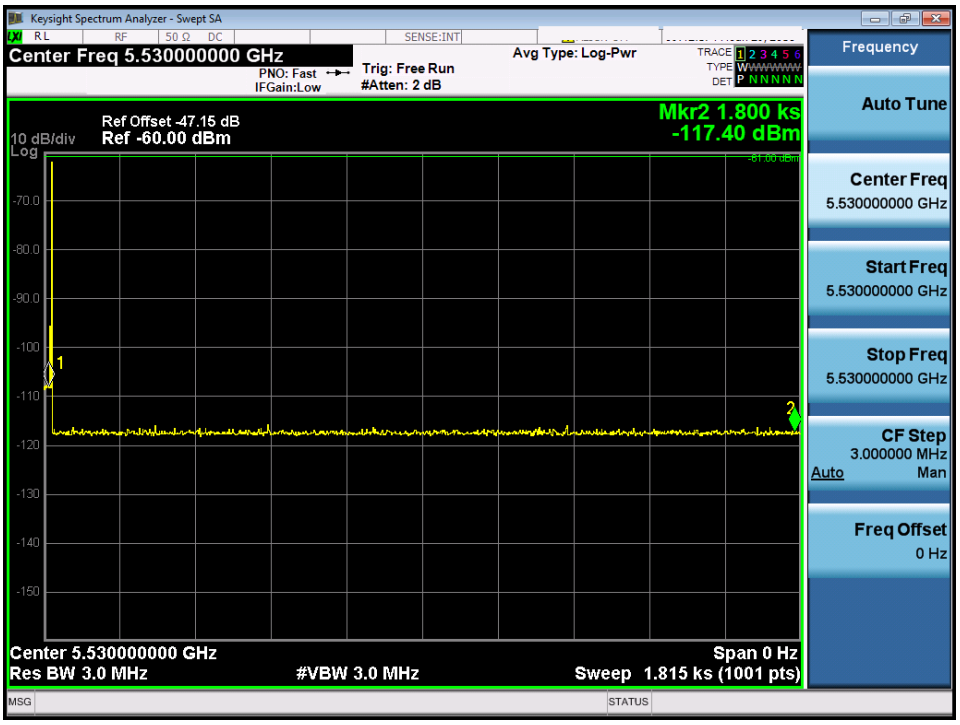
30 Minute Non-Occupancy Period (using Type 0 radar)



BW20



BW40



BW80

B.7 Statistical Performance Check

The steps below define the procedure to determine the minimum percentage of detection when a radar burst with a level equal to the DFS Detection Threshold + 1dB (-63dBm) is generated on the Operating Channel of the U-NII device.

A U-NII device operating as a Client Device will associate with the UUT (Master) at 5500 MHz. Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test.

The Radar Waveform generator sends the individual waveform for each of the radar types 1-6 at -63dbm. Statistical data will be gathered to determine the ability of the device to detect the radar test waveforms. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs. The percentage of successful detection is calculated by:

$$\frac{TotalWaveformDetections}{TotalWaveformTrials} \times 100$$ = Probability of Detection Radar Waveform

The Minimum number of trails, minimum percentage of successful detection and the average minimum percentage of successful detection are found in the *Radar Test Waveforms* section. The data represents the worst case detection for 20 MHz, 40 MHz, and 80 MHz signal bandwidths.

Channel 5500 MHz, 20MHz BW, USA Bin 1A/1B Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	67	1	798	0	93.3%	60.0%
2	5494	86	1	618	1		
3	5494	61	1	878	1		
4	5494	62	1	858	1		
5	5494	89	1	598	1		
6	5494	74	1	718	1		
7	5495	57	1	938	1		
8	5495	67	1	798	1		
9	5495	18	1	3066	1		
10	5495	76	1	698	1		
11	5495	63	1	838	1		
12	5495	67	1	798	1		
13	5500	76	1	698	1		
14	5500	92	1	578	1		
15	5500	68	1	778	1		
16	5500	91	1	580	1		
17	5500	37	1	1458	1		
18	5500	22	1	2497	1		
19	5505	21	1	2531	0		
20	5505	32	1	1654	1		
21	5505	34	1	1567	1		
22	5505	45	1	1180	1		
23	5505	33	1	1614	1		
24	5505	41	1	1292	1		
25	5506	75	1	706	1		
26	5506	19	1	2910	1		
27	5506	33	1	1620	1		
28	5506	21	1	2592	1		
29	5506	59	1	900	1		
30	5506	81	1	659	1		

Channel 5500 MHz, 20MHz BW, USA Bin 2 Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	25	3.6	163	1	86.7%	60.0%
2	5494	23	1.5	214	1		
3	5494	27	2.4	179	1		
4	5494	28	4.1	212	1		
5	5494	23	4	222	1		
6	5494	28	1.4	227	1		
7	5495	23	4.8	211	1		
8	5495	26	1.9	214	1		
9	5495	24	3.1	200	1		
10	5495	28	1.7	186	1		
11	5495	28	3.2	177	1		
12	5495	23	2.6	172	1		
13	5500	29	2.8	230	1		
14	5500	25	4.6	192	1		
15	5500	24	4.4	225	1		
16	5500	28	1.3	152	1		
17	5500	24	3.5	206	1		
18	5500	23	3	178	0		
19	5505	23	3.2	194	0		
20	5505	26	3.6	188	0		
21	5505	28	4.8	165	0		
22	5505	26	4.1	157	1		
23	5505	24	1.3	198	1		
24	5505	23	3.2	199	1		
25	5506	23	5	176	1		
26	5506	24	3.9	227	1		
27	5506	25	5	169	1		
28	5506	28	5	210	1		
29	5506	27	4.7	194	1		
30	5506	23	3.1	230	1		

Channel 5500 MHz, 20MHz BW, USA Bin 3 Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	17	6.4	233	1	96.7%	60.0%
2	5494	16	8.1	337	1		
3	5494	18	9.6	254	1		
4	5494	17	8.8	232	1		
5	5494	17	7.6	352	1		
6	5494	17	9.9	467	1		
7	5495	17	8.5	439	1		
8	5495	18	6.2	291	1		
9	5495	16	8.6	255	1		
10	5495	18	7.5	459	1		
11	5495	17	6.5	453	1		
12	5495	18	7.2	335	1		
13	5500	18	8.2	475	1		
14	5500	17	9.5	288	1		
15	5500	18	8.8	204	1		
16	5500	16	7.3	437	1		
17	5500	16	7.1	235	1		
18	5500	17	8	223	1		
19	5505	18	8.9	276	1		
20	5505	18	10	405	1		
21	5505	17	9.8	265	1		
22	5505	18	8.3	285	1		
23	5505	18	8.9	276	1		
24	5505	17	9.4	272	1		
25	5506	17	9.9	267	1		
26	5506	16	9.7	451	1		
27	5506	18	7.8	425	1		
28	5506	16	8.8	257	0		
29	5506	17	6.3	465	1		
30	5506	16	7.4	294	1		

Channel 5500 MHz, 20MHz BW, USA Bin 4 Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	16	11.9	305	1	80.0%	60.0%
2	5494	14	16.4	464	1		
3	5494	12	18.9	286	1		
4	5494	16	16.6	490	1		
5	5494	15	12.5	459	1		
6	5494	12	11.1	408	1		
7	5495	12	12.9	447	1		
8	5495	14	14.4	414	0		
9	5495	14	11.5	340	1		
10	5495	12	11.2	483	0		
11	5495	13	18	311	0		
12	5495	13	19.8	363	1		
13	5500	16	12.8	210	1		
14	5500	14	14.9	379	1		
15	5500	13	14.8	355	1		
16	5500	13	11.3	355	1		
17	5500	16	16.7	219	1		
18	5500	16	13.5	472	1		
19	5505	12	18.6	381	1		
20	5505	16	15.5	207	1		
21	5505	13	17.1	358	1		
22	5505	14	17.5	379	1		
23	5505	13	13.3	265	0		
24	5505	14	18.4	329	1		
25	5506	16	17.6	205	1		
26	5506	14	15.7	375	0		
27	5506	13	11.4	491	1		
28	5506	16	12	458	1		
29	5506	13	13	446	1		
30	5506	14	15.1	397	0		

In addition an average minimum percentage of successful detection across all four Short pulse radar test waveforms is required and is calculated as follows:

$$\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4}$$ = (93.3%+86.7%+96.7%+80.0)/4 = 89.2% (>80%)

*See the Bin5 Radar Characteristics at the end of this report.

Channel 5500 MHz, 20MHz BW, USA Bin 5 Radar Statistical Performance

Trial #	Name	1=Detection 0=No Detection	Detection Percentage	Limit
1	USA Bin 5 Radar Test 1	1	80.0%	80.0%
2	USA Bin 5 Radar Test 2	0		
3	USA Bin 5 Radar Test 3	0		
4	USA Bin 5 Radar Test 4	0		
5	USA Bin 5 Radar Test 5	0		
6	USA Bin 5 Radar Test 6	0		
7	USA Bin 5 Radar Test 7	0		
8	USA Bin 5 Radar Test 8	1		
9	USA Bin 5 Radar Test 9	1		
10	USA Bin 5 Radar Test 10	1		
11	USA Bin 5 Radar Test 11	1		
12	USA Bin 5 Radar Test 12	1		
13	USA Bin 5 Radar Test 13	1		
14	USA Bin 5 Radar Test 14	1		
15	USA Bin 5 Radar Test 15	1		
16	USA Bin 5 Radar Test 16	1		
17	USA Bin 5 Radar Test 17	1		
18	USA Bin 5 Radar Test 18	1		
19	USA Bin 5 Radar Test 19	1		
20	USA Bin 5 Radar Test 20	1		
21	USA Bin 5 Radar Test 21	1		
22	USA Bin 5 Radar Test 22	1		
23	USA Bin 5 Radar Test 23	1		
24	USA Bin 5 Radar Test 24	1		
25	USA Bin 5 Radar Test 25	1		
26	USA Bin 5 Radar Test 26	1		
27	USA Bin 5 Radar Test 27	1		
28	USA Bin 5 Radar Test 28	1		
29	USA Bin 5 Radar Test 29	1		
30	USA Bin 5 Radar Test 30	1		

USA Bin 5 Trial #1

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5496	5	100	1691		1.182093
2	2	5496	5	60	1889		1.492879
3	1	5496	5	50			2.492976
4	3	5496	5	65	1930	1717	3.705907
5	1	5496	5	90			5.020488
6	1	5496	5	100			7.09976
7	1	5496	5	100			7.706865
8	3	5496	5	95	1850	1714	9.089898
9	2	5496	5	100	1763		10.289802
10	1	5496	5	85			11.229485

USA Bin 5 Trial #2

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5496	16	95	1940	1954	0.023586
2	2	5496	16	90	1755		1.245329
3	2	5496	16	90	1142		1.556776
4	3	5496	16	75	1254	1989	2.417137
5	3	5496	16	80	1964	1301	2.858326
6	1	5496	16	80			3.953368
7	2	5496	16	65	1586		4.849251
8	1	5496	16	95			4.998865
9	2	5496	16	70	1205		6.311461
10	1	5496	16	55			6.391635
11	2	5496	16	90	1689		7.393542
12	1	5496	16	90			8.123106
13	1	5496	16	60			9.1523
14	3	5496	16	60	1753	1969	9.379268
15	2	5496	16	95	1339		10.583091
16	2	5496	16	75	1577		10.624922
17	1	5496	16	50			11.837416

USA Bin 5 Trial #3

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5496	17	55	1335		0.5861
2	1	5496	17	65			0.654749
3	1	5496	17	85			1.777862
4	3	5496	17	100	1131	1047	2.272803
5	1	5496	17	75			2.483245
6	3	5496	17	70	1045	1910	3.154444
7	3	5496	17	100	1472	1997	3.635019
8	2	5496	17	55	1372		4.272806
9	3	5496	17	60	1668	1477	4.825534
10	3	5496	17	95	1865	1337	5.56797
11	2	5496	17	75	1843		6.461567
12	1	5496	17	55			6.738848
13	2	5496	17	85	1348		7.673122
14	1	5496	17	70			7.816839
15	2	5496	17	60	1358		8.930584
16	1	5496	17	65			9.423925
17	1	5496	17	100			9.721301
18	2	5496	17	75	1900		10.554024
19	1	5496	17	80			11.115276
20	2	5496	17	60	1703		11.549697

USA Bin 5 Trial #4

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5496	19	95	1789	1263	0.387757
2	1	5496	19	95			1.059696
3	2	5496	19	80	1586		1.997099

4	3	5496	19	75	1914	1596	2.244269
5	3	5496	19	60	1043	1970	3.309661
6	2	5496	19	55	1600		3.548526
7	3	5496	19	95	1533	1461	4.675575
8	2	5496	19	70	1226		5.504256
9	3	5496	19	70	1486	1945	5.932311
10	2	5496	19	65	1265		6.871864
11	3	5496	19	95	1576	1980	7.378594
12	3	5496	19	55	1512	1343	8.167341
13	3	5496	19	75	1461	1149	8.9258
14	2	5496	19	100	1577		9.416792
15	2	5496	19	75	1967		10.022383
16	3	5496	19	80	1696	1785	11.283813
17	2	5496	19	65	1198		11.923597

USA Bin 5 Trial #5

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5496	17	95	1181	1967	0.457048
2	3	5496	17	75	1781	1707	0.879441
3	1	5496	17	50			1.486319
4	3	5496	17	100	1380	1178	2.261228
5	2	5496	17	95	1359		2.553804
6	1	5496	17	50			3.155262
7	3	5496	17	50	1573	1313	3.977318
8	1	5496	17	55			4.434374
9	3	5496	17	85	1350	1278	4.877347
10	3	5496	17	55	1584	1926	5.751492
11	1	5496	17	90			6.323612
12	3	5496	17	75	1117	1769	6.817021
13	2	5496	17	50	1778		7.584723
14	2	5496	17	60	1640		7.952991
15	2	5496	17	95	1509		8.449134
16	1	5496	17	95			9.571163
17	3	5496	17	50	1798	1866	10.141986
18	2	5496	17	75	1258		10.320271
19	2	5496	17	80	1480		10.848289
20	1	5496	17	60			11.633609

USA Bin 5 Trial #6

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5496	19	65			1.268685
2	3	5496	19	60	1462	1234	2.122908
3	1	5496	19	55			3.083288
4	2	5496	19	100	1394		5.048103
5	3	5496	19	100	1234	1941	5.995886
6	1	5496	19	50			6.957593
7	2	5496	19	55	1245		8.632893
8	3	5496	19	100	1151	1827	9.517087
9	3	5496	19	100	1710	1367	11.465768

USA Bin 5 Trial #7

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5496	19	70			0.558456
2	3	5496	19	75	1115	1866	1.968269
3	1	5496	19	90			2.249301
4	1	5496	19	85			3.411158
5	1	5496	19	55			4.014595
6	3	5496	19	60	1644	1198	5.385658
7	1	5496	19	65			6.325995
8	1	5496	19	80			7.822699
9	3	5496	19	90	1213	1979	8.554953
10	2	5496	19	95	1380		9.658259

11	1	5496	19	90			10.849056
12	1	5496	19	60			11.617989

USA Bin 5 Trial #8

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5496	10	85			0.542039
2	1	5496	10	65			0.804575
3	1	5496	10	70			1.421705
4	3	5496	10	100	1641	1927	2.02601
5	2	5496	10	60	1941		2.832744
6	2	5496	10	90	1629		3.405679
7	3	5496	10	50	1056	1598	3.866738
8	1	5496	10	100			4.459953
9	3	5496	10	90	1633	1557	5.425154
10	1	5496	10	85			5.985769
11	2	5496	10	85	1036		6.761256
12	3	5496	10	50	1342	1656	7.341613
13	2	5496	10	85	1897		7.987653
14	1	5496	10	50			8.367063
15	2	5496	10	100	1217		8.936332
16	1	5496	10	60			9.925851
17	3	5496	10	90	1418	1681	10.263766
18	1	5496	10	50			11.361067
19	3	5496	10	75	1026	1925	11.88622

USA Bin 5 Trial #9

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5496	16	70			0.711399
2	1	5496	16	55			1.378842
3	1	5496	16	65			3.489784
4	2	5496	16	100	1674		3.848236
5	2	5496	16	55	1438		5.487026
6	2	5496	16	50	1985		7.076546
7	2	5496	16	50	1688		7.707663
8	3	5496	16	85	1288	1273	9.423909
9	1	5496	16	65			10.242679
10	1	5496	16	55			11.607569

USA Bin 5 Trial #10

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5496	12	100	1696		0.348062
2	3	5496	12	100	1792	1752	1.950525
3	1	5496	12	95			2.051331
4	1	5496	12	50			3.969445
5	3	5496	12	65	1278	1186	4.423601
6	1	5496	12	85			5.751636
7	2	5496	12	75	1711		6.954347
8	1	5496	12	85			7.042552
9	1	5496	12	90			8.258874
10	3	5496	12	80	1127	1294	9.285492
11	1	5496	12	65			10.806721
12	1	5496	12	85			11.39928

USA Bin 5 Trial #11

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5500	12	75			0.358244
2	1	5500	12	65			1.084316
3	3	5500	12	70	1708	1671	1.876383
4	3	5500	12	55	1849	1005	2.804108
5	2	5500	12	85	1239		3.257007
6	1	5500	12	90			3.773267
7	3	5500	12	75	1483	1929	4.784122

8	1	5500	12	60			5.832391
9	2	5500	12	100	1245		6.652004
10	2	5500	12	60	1453		6.764074
11	2	5500	12	50	1408		7.769815
12	1	5500	12	65			8.393196
13	1	5500	12	55			9.484949
14	2	5500	12	90	1445		9.754864
15	2	5500	12	85	1916		10.959068
16	2	5500	12	100	1666		11.868243

USA Bin 5 Trial #12

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5500	11	55	1730		0.157385
2	3	5500	11	65	1576	1387	0.945146
3	3	5500	11	75	1591	1973	1.39723
4	1	5500	11	55			1.945237
5	1	5500	11	65			2.975427
6	1	5500	11	70			3.509646
7	2	5500	11	90	1617		3.754962
8	3	5500	11	50	1452	1848	4.546508
9	2	5500	11	80	1060		5.313094
10	2	5500	11	60	1281		5.555659
11	3	5500	11	70	1450	1223	6.216055
12	1	5500	11	55			7.049829
13	3	5500	11	90	1278	1176	7.698997
14	2	5500	11	60	1272		8.144
15	2	5500	11	85	1967		8.987774
16	3	5500	11	95	1342	1678	9.291328
17	2	5500	11	75	1591		9.865468
18	1	5500	11	80			10.747159
19	2	5500	11	80	1342		10.980452
20	1	5500	11	85			11.934783

USA Bin 5 Trial #13

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5500	18	85	1266		0.403942
2	2	5500	18	90	1392		1.300912
3	2	5500	18	65	1199		3.229836
4	3	5500	18	85	1250	1178	3.31564
5	1	5500	18	60			4.736563
6	1	5500	18	80			5.584999
7	2	5500	18	75	1016		7.130112
8	1	5500	18	95			8.309804
9	1	5500	18	55			9.055153
10	1	5500	18	80			10.753597
11	2	5500	18	80	1850		11.856011

USA Bin 5 Trial #14

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5500	11	65			0.120493
2	1	5500	11	90			1.012839
3	1	5500	11	65			1.409393
4	3	5500	11	85	1920	1755	2.225425
5	1	5500	11	80			2.685886
6	3	5500	11	90	1396	1949	3.465964
7	2	5500	11	100	1754		4.089756
8	3	5500	11	80	1760	1803	4.342621
9	1	5500	11	50			4.956487
10	1	5500	11	80			5.478412
11	3	5500	11	90	1324	1431	6.473553
12	1	5500	11	100			7.008556
13	1	5500	11	90			7.54933

14	1	5500	11	90			8.122208
15	1	5500	11	65			8.682331
16	3	5500	11	55	1971	1727	9.234475
17	1	5500	11	85			9.776241
18	2	5500	11	75	1503		10.298867
19	3	5500	11	65	1637	1017	11.148713
20	3	5500	11	100	1903	1402	11.570363

USA Bin 5 Trial #15

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5500	5	95			0.113435
2	2	5500	5	65	1520		1.668025
3	2	5500	5	85	1275		3.161815
4	3	5500	5	70	1119	1603	3.680689
5	2	5500	5	55	1896		5.997184
6	1	5500	5	60			6.225619
7	3	5500	5	85	1313	1062	7.751829
8	2	5500	5	55	1290		9.539425
9	3	5500	5	100	1150	1644	10.786043
10	3	5500	5	70	1308	1014	10.930884

USA Bin 5 Trial #16

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5500	7	65			0.693013
2	1	5500	7	100			1.637034
3	2	5500	7	70	1873		2.512483
4	1	5500	7	80			2.575048
5	1	5500	7	95			3.758419
6	3	5500	7	85	1182	1290	5.066222
7	3	5500	7	70	1317	1205	5.602396
8	2	5500	7	100	1641		6.481779
9	1	5500	7	55			7.671041
10	3	5500	7	50	1914	1155	7.765322
11	3	5500	7	100	1640	1024	9.396123
12	2	5500	7	100	1997		9.617313
13	2	5500	7	75	1029		10.734145
14	3	5500	7	50	1972	1745	11.956208

USA Bin 5 Trial #17

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5500	9	85	1460		0.099228
2	2	5500	9	65	1000		0.875103
3	1	5500	9	60			1.643037
4	2	5500	9	90	1804		1.922356
5	3	5500	9	65	1032	1348	2.643973
6	2	5500	9	60	1776		3.643337
7	1	5500	9	100			4.043641
8	3	5500	9	90	1605	1726	4.862579
9	3	5500	9	90	1565	1018	5.638227
10	3	5500	9	65	1016	1053	6.230401
11	1	5500	9	75			6.364154
12	1	5500	9	100			7.337488
13	2	5500	9	55	1286		8.052633
14	1	5500	9	65			8.795599
15	3	5500	9	70	1558	1016	9.33108
16	2	5500	9	85	1654		9.83516
17	2	5500	9	70	1565		10.312038
18	3	5500	9	95	1933	1644	11.0041
19	1	5500	9	55			11.989981

USA Bin 5 Trial #18

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						

1	1	5500	10	60			0.15338
2	2	5500	10	55	1160		1.427239
3	1	5500	10	80			2.677426
4	2	5500	10	90	1330		3.712293
5	3	5500	10	55	1436	1914	4.533946
6	1	5500	10	60			5.105812
7	2	5500	10	65	1150		6.962668
8	2	5500	10	70	1652		7.509934
9	3	5500	10	75	1400	1628	8.99293
10	2	5500	10	85	1372		9.18919
11	2	5500	10	90	1347		10.782108
12	3	5500	10	65	1818	1517	11.399675

USA Bin 5 Trial #19

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5500	8	50	1590		0.443073
2	2	5500	8	55	1738		1.243338
3	2	5500	8	75	1221		1.684844
4	1	5500	8	55			1.912617
5	1	5500	8	50			2.592322
6	2	5500	8	70	1012		3.687548
7	1	5500	8	65			4.385141
8	1	5500	8	85			4.609997
9	3	5500	8	50	1264	1813	5.433758
10	2	5500	8	70	1481		5.912736
11	3	5500	8	90	1011	1184	6.856201
12	1	5500	8	100			7.140165
13	3	5500	8	70	1818	1020	7.64244
14	1	5500	8	100			8.483385
15	2	5500	8	65	1227		9.31411
16	2	5500	8	50	1196		10.101562
17	1	5500	8	85			10.687265
18	1	5500	8	75			10.77767
19	3	5500	8	90	1149	1628	11.371465

USA Bin 5 Trial #20

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5500	10	60			0.000631
2	3	5500	10	65	1173	1430	1.550011
3	2	5500	10	100	1202		3.540624
4	3	5500	10	90	1753	1183	3.843721
5	3	5500	10	90	1678	1487	5.653779
6	2	5500	10	80	1388		6.533127
7	1	5500	10	100			7.988894
8	3	5500	10	55	1830	1065	9.115984
9	1	5500	10	60			9.927456
10	3	5500	10	90	1648	1005	10.937505

USA Bin 5 Trial #21

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5504	13	100	1593	1067	0.416175
2	2	5504	13	85	1740		1.546001
3	1	5504	13	100			3.121579
4	2	5504	13	80	1732		4.469659
5	3	5504	13	80	1357	1426	5.643711
6	1	5504	13	55			6.512247
7	3	5504	13	80	1720	1841	7.628144
8	1	5504	13	65			9.214509
9	1	5504	13	60			10.139544
10	1	5504	13	50			11.274896

USA Bin 5 Trial #22

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5504	7	70	1944		0.326367
2	2	5504	7	95	1604		1.092962
3	2	5504	7	50	1680		1.770919
4	3	5504	7	50	1123	1718	2.118422
5	2	5504	7	100	1364		2.735453
6	2	5504	7	75	1257		3.418548
7	1	5504	7	60			4.022582
8	2	5504	7	95	1518		5.283838
9	3	5504	7	85	1021	1560	5.531741
10	3	5504	7	65	1910	1691	6.084727
11	3	5504	7	65	1469	1024	6.8232
12	3	5504	7	75	1658	1355	7.481699
13	2	5504	7	55	1249		8.52398
14	3	5504	7	70	1134	1338	9.29857
15	3	5504	7	100	1927	1227	9.729485
16	1	5504	7	70			10.040328
17	1	5504	7	90			10.923387
18	1	5504	7	50			11.821427

USA Bin 5 Trial #23

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5504	11	90			0.32892
2	2	5504	11	90	1446		0.707917
3	2	5504	11	70	1903		1.778938
4	3	5504	11	95	1670	1993	2.000281
5	3	5504	11	65	1763	1175	2.646526
6	2	5504	11	95	1872		3.570217
7	2	5504	11	55	1031		4.17602
8	2	5504	11	65	1876		4.85619
9	2	5504	11	85	1140		5.112195
10	1	5504	11	85			6.112165
11	3	5504	11	80	1484	1450	6.621315
12	1	5504	11	95			7.194106
13	1	5504	11	80			8.186619
14	3	5504	11	85	1752	1777	8.678927
15	2	5504	11	65	1843		9.083405
16	1	5504	11	95			9.858203
17	2	5504	11	55	1456		10.201355
18	2	5504	11	75	1900		11.109255
19	3	5504	11	95	1713	1105	11.480487

USA Bin 5 Trial #24

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5504	18	75	1419		1.168873
2	1	5504	18	100			2.18844
3	3	5504	18	70	1184	1681	4.168594
4	1	5504	18	50			5.276189
5	3	5504	18	55	1558	1727	7.372304
6	1	5504	18	75			7.673874
7	1	5504	18	80			10.405155
8	3	5504	18	55	1313	1695	10.500039

USA Bin 5 Trial #25

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5504	12	65			0.543034
2	1	5504	12	75			1.134009
3	3	5504	12	75	1361	1745	1.993288
4	3	5504	12	65	1333	1151	3.219558
5	1	5504	12	65			3.970123
6	3	5504	12	65	1257	1726	5.079063

7	1	5504	12	75			5.206722
8	2	5504	12	55	1237		6.664018
9	1	5504	12	100			7.172038
10	2	5504	12	80	1433		7.832077
11	3	5504	12	85	1695	1139	9.280954
12	1	5504	12	55			10.052696
13	2	5504	12	85	1592		10.477191
14	2	5504	12	50	1178		11.646644

USA Bin 5 Trial #26

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5504	19	50	1699	1938	0.234919
2	1	5504	19	80			0.735949
3	1	5504	19	60			1.813929
4	3	5504	19	60	1538	1891	1.965063
5	3	5504	19	95	1992	1067	2.700771
6	2	5504	19	65	1766		3.366485
7	3	5504	19	100	1397	1158	4.330206
8	2	5504	19	70	1281		4.962875
9	2	5504	19	100	1606		5.417716
10	3	5504	19	50	1801	1177	5.704089
11	2	5504	19	100	1359		6.90515
12	3	5504	19	75	1268	1531	7.413722
13	1	5504	19	75			7.833062
14	2	5504	19	85	1308		8.79006
15	2	5504	19	75	1122		9.297398
16	2	5504	19	50	1790		9.69025
17	3	5504	19	95	1165	1914	10.444701
18	3	5504	19	85	1903	1942	11.265549
19	3	5504	19	75	1168	1830	11.755675

USA Bin 5 Trial #27

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5504	11	90	1247	1589	0.341611
2	2	5504	11	55	1882		1.378404
3	2	5504	11	80	1950		2.274725
4	2	5504	11	85	1546		3.124621
5	3	5504	11	85	1367	1442	3.452086
6	2	5504	11	90	1979		4.637327
7	1	5504	11	100			5.004354
8	3	5504	11	65	1247	1044	5.851547
9	2	5504	11	90	1499		6.670365
10	1	5504	11	55			7.870735
11	3	5504	11	65	1564	1080	8.523226
12	3	5504	11	60	1376	1354	9.168437
13	1	5504	11	65			9.698178
14	3	5504	11	60	1602	1745	10.757336
15	3	5504	11	80	1432	1225	11.984832

USA Bin 5 Trial #28

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5504	6	50	1738	1453	0.745395
2	2	5504	6	85	1734		1.074092
3	3	5504	6	65	1027	1439	2.201675
4	1	5504	6	80			3.244071
5	2	5504	6	90	1890		3.907872
6	1	5504	6	80			4.486231
7	3	5504	6	80	1211	1255	5.351644
8	2	5504	6	75	1665		6.080616
9	2	5504	6	65	1107		6.96874
10	1	5504	6	50			8.323816
11	1	5504	6	50			9.395581

12	2	5504	6	95	1673		9.857445
13	3	5504	6	85	1029	1832	10.414361
14	3	5504	6	90	1089	1795	11.146338

USA Bin 5 Trial #29

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5504	9	75	1319	1117	0.266942
2	3	5504	9	55	1552	1259	1.805025
3	2	5504	9	90	1206		2.969476
4	1	5504	9	95			3.909401
5	1	5504	9	75			5.026845
6	2	5504	9	50	1003		7.193826
7	3	5504	9	50	1238	1343	7.605314
8	2	5504	9	85	1754		9.002691
9	1	5504	9	100			10.771918
10	1	5504	9	50			11.494489

USA Bin 5 Trial #30

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5504	6	70	1480		0.308692
2	3	5504	6	65	1890	1544	0.773781
3	2	5504	6	90	1020		1.733105
4	2	5504	6	85	1963		2.342041
5	3	5504	6	50	1783	1288	2.713805
6	1	5504	6	75			3.665772
7	1	5504	6	75			3.970582
8	3	5504	6	100	1000	1564	4.737392
9	1	5504	6	85			5.379009
10	2	5504	6	65	1387		6.140005
11	1	5504	6	95			6.876833
12	3	5504	6	70	1926	1567	7.134912
13	1	5504	6	95			7.835946
14	1	5504	6	85			8.466945
15	3	5504	6	60	1120	1897	9.183276
16	3	5504	6	50	1501	1105	9.557423
17	2	5504	6	90	1173		10.490593
18	1	5504	6	90			11.270944
19	2	5504	6	95	1994		11.435963

*See the Bin6 Radar Characteristics at the end of this report.

Channel 5500 MHz, 20MHz BW, USA Frequency Hopping Radar Statistical Performance

Trial #	Name	1=Detection 0=No Detection	Detection Percentage	Limit
1	USA Bin 6 Radar Test 1	1	100.0%	70.0%
2	USA Bin 6 Radar Test 2	1		
3	USA Bin 6 Radar Test 3	1		
4	USA Bin 6 Radar Test 4	1		
5	USA Bin 6 Radar Test 5	1		
6	USA Bin 6 Radar Test 6	1		
7	USA Bin 6 Radar Test 7	1		
8	USA Bin 6 Radar Test 8	1		
9	USA Bin 6 Radar Test 9	1		
10	USA Bin 6 Radar Test 10	1		
11	USA Bin 6 Radar Test 11	1		
12	USA Bin 6 Radar Test 12	1		
13	USA Bin 6 Radar Test 13	1		
14	USA Bin 6 Radar Test 14	1		
15	USA Bin 6 Radar Test 15	1		
16	USA Bin 6 Radar Test 16	1		
17	USA Bin 6 Radar Test 17	1		
18	USA Bin 6 Radar Test 18	1		
19	USA Bin 6 Radar Test 19	1		
20	USA Bin 6 Radar Test 20	1		
21	USA Bin 6 Radar Test 21	1		
22	USA Bin 6 Radar Test 22	1		
23	USA Bin 6 Radar Test 23	1		
24	USA Bin 6 Radar Test 24	1		
25	USA Bin 6 Radar Test 25	1		
26	USA Bin 6 Radar Test 26	1		
27	USA Bin 6 Radar Test 27	1		
28	USA Bin 6 Radar Test 28	1		
29	USA Bin 6 Radar Test 29	1		
30	USA Bin 6 Radar Test 30	1		

USA Frequency Hopping Trial #1

Hop #	Freq (GHz)	Pulse Start (mS)
20	5493	60
25	5498	75

USA Frequency Hopping Trial #2

Hop #	Freq (GHz)	Pulse Start (mS)
7	5491	21
17	5493	51
57	5505	171

USA Frequency Hopping Trial #3

Hop #	Freq (GHz)	Pulse Start (mS)
36	5500	108
65	5504	195
93	5501	279

USA Frequency Hopping Trial #4

Hop #	Freq (GHz)	Pulse Start (mS)
35	5507	105

USA Frequency Hopping Trial #5

Hop #	Freq (GHz)	Pulse Start (mS)
7	5504	21
10	5509	30
21	5496	63
31	5502	93
70	5508	210
92	5498	276

USA Frequency Hopping Trial #6

Hop #	Freq (GHz)	Pulse Start (mS)
19	5495	57
29	5496	87
39	5503	117
71	5499	213
79	5500	237

USA Frequency Hopping Trial #7

Hop #	Freq (GHz)	Pulse Start (mS)
16	5493	48
35	5494	105
37	5508	111
60	5496	180
64	5491	192

USA Frequency Hopping Trial #8

Hop #	Freq (GHz)	Pulse Start (mS)
36	5509	108
43	5507	129
48	5491	144
79	5501	237

USA Frequency Hopping Trial #9

Hop #	Freq (GHz)	Pulse Start (mS)
3	5503	9
4	5502	12
14	5491	42
38	5498	114
52	5497	156
53	5500	159

USA Frequency Hopping Trial #10

Hop #	Freq (GHz)	Pulse Start (mS)
59	5496	177
75	5493	225
97	5505	291

USA Frequency Hopping Trial #11

Hop #	Freq (GHz)	Pulse Start (mS)
24	5506	72
30	5504	90
55	5505	165
95	5496	285
99	5509	297

USA Frequency Hopping Trial #12

Hop #	Freq (GHz)	Pulse Start (mS)
24	5504	72

29	5502	87
30	5492	90
85	5505	255

USA Frequency Hopping Trial #13

Hop #	Freq (GHz)	Pulse Start (mS)
35	5505	105
59	5498	177
92	5508	276
99	5491	297

USA Frequency Hopping Trial #14

Hop #	Freq (GHz)	Pulse Start (mS)
35	5495	105
47	5501	141
63	5504	189
76	5502	228

USA Frequency Hopping Trial #15

Hop #	Freq (GHz)	Pulse Start (mS)
21	5506	63
38	5492	114

USA Frequency Hopping Trial #16

Hop #	Freq (GHz)	Pulse Start (mS)
9	5499	27
29	5492	87
43	5509	129
64	5500	192
76	5494	228
77	5498	231

USA Frequency Hopping Trial #17

Hop #	Freq (GHz)	Pulse Start (mS)
13	5494	39
32	5500	96
42	5504	126
63	5491	189
76	5496	228
98	5508	294

USA Frequency Hopping Trial #18

Hop #	Freq (GHz)	Pulse Start (mS)
15	5496	45
37	5509	111
53	5493	159
76	5508	228

USA Frequency Hopping Trial #19

Hop #	Freq (GHz)	Pulse Start (mS)
34	5504	102
46	5496	138
70	5492	210
86	5508	258

USA Frequency Hopping Trial #20

Hop #	Freq (GHz)	Pulse Start (mS)
0	5508	0
8	5509	24
20	5507	60
77	5502	231
87	5493	261

USA Frequency Hopping Trial #21

Hop #	Freq (GHz)	Pulse Start (mS)
0	5501	0
38	5500	114
59	5502	177
72	5504	216
76	5491	228
94	5493	282

USA Frequency Hopping Trial #22

Hop #	Freq (GHz)	Pulse Start (mS)
33	5507	99
46	5495	138
53	5499	159
63	5506	189
91	5505	273

USA Frequency Hopping Trial #23

Hop #	Freq (GHz)	Pulse Start (mS)
6	5495	18
30	5497	90
39	5508	117
43	5491	129
69	5493	207
90	5496	270

USA Frequency Hopping Trial #24

Hop #	Freq (GHz)	Pulse Start (mS)
6	5507	18
36	5493	108
54	5505	162
55	5497	165

USA Frequency Hopping Trial #25

Hop #	Freq (GHz)	Pulse Start (mS)
0	5500	0
20	5493	60
28	5509	84
29	5497	87
53	5504	159
89	5502	267
90	5501	270
96	5494	288

USA Frequency Hopping Trial #26

Hop #	Freq (GHz)	Pulse Start (mS)
20	5496	60
30	5494	90
34	5509	102
39	5495	117
58	5506	174
93	5492	279

USA Frequency Hopping Trial #27

Hop #	Freq (GHz)	Pulse Start (mS)
3	5507	9
6	5499	18
32	5501	96
89	5495	267
90	5494	270

USA Frequency Hopping Trial #28

Hop #	Freq (GHz)	Pulse Start (mS)
3	5495	9
5	5500	15
18	5504	54
50	5497	150
54	5509	162
87	5502	261

USA Frequency Hopping Trial #29

Hop #	Freq (GHz)	Pulse Start (mS)
45	5492	135
54	5503	162
98	5494	294

USA Frequency Hopping Trial #30

Hop #	Freq (GHz)	Pulse Start (mS)
35	5504	105
41	5492	123
68	5509	204
77	5500	231
91	5494	273

Channel 5510 MHz, 40MHz BW, USA Bin 1A/1B Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	92	1	578	1	83.3%	60.0%
2	5494	81	1	658	1		
3	5494	72	1	738	1		
4	5494	89	1	598	1		
5	5494	67	1	798	1		
6	5494	18	1	3066	1		
7	5500	89	1	598	1		
8	5500	74	1	718	1		
9	5500	92	1	578	1		
10	5500	59	1	898	1		
11	5500	102	1	518	1		
12	5500	99	1	538	1		
13	5510	81	1	658	0		
14	5510	102	1	518	1		
15	5510	61	1	878	1		
16	5510	45	1	1178	1		
17	5510	61	1	866	1		
18	5510	23	1	2352	1		
19	5520	20	1	2653	1		
20	5520	27	1	2002	1		
21	5520	18	1	3016	1		
22	5520	19	1	2915	1		
23	5520	24	1	2236	1		
24	5520	47	1	1135	1		
25	5526	20	1	2662	0		
26	5526	25	1	2119	0		
27	5526	38	1	1390	0		
28	5526	20	1	2750	0		
29	5526	25	1	2145	1		
30	5526	39	1	1373	1		

Channel 5510 MHz, 40MHz BW, USA Bin 2 Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	28	1.5	218	1	96.7%	60.0%
2	5494	24	1.9	183	1		
3	5494	28	3.6	229	1		
4	5494	29	3.5	202	1		
5	5494	26	1.1	228	1		
6	5494	27	3.2	159	1		
7	5500	23	4.1	179	1		
8	5500	27	4.7	216	1		
9	5500	25	4.6	217	1		
10	5500	24	4.3	212	1		
11	5500	29	3.5	189	1		
12	5500	28	4.6	199	1		
13	5510	28	1.4	222	1		
14	5510	25	1.7	208	1		
15	5510	27	4.2	196	1		
16	5510	26	1.7	181	1		
17	5510	25	1.2	222	1		
18	5510	26	2.1	189	1		
19	5520	24	2.7	157	1		
20	5520	25	1.9	170	1		
21	5520	29	3.8	179	1		
22	5520	24	2.2	209	1		
23	5520	24	1.6	190	1		
24	5520	23	3.9	181	1		
25	5526	23	4.3	205	1		
26	5526	28	3.7	198	0		
27	5526	24	2.9	185	1		
28	5526	27	2.9	208	1		
29	5526	29	1.3	224	1		
30	5526	28	4.4	153	1		

Channel 5510 MHz, 40MHz BW, USA Bin 3 Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	17	7.9	279	1	93.3%	60.0%
2	5494	18	8.9	473	1		
3	5494	17	7.3	323	1		
4	5494	16	7.6	231	1		
5	5494	17	7.8	498	1		
6	5494	16	8	273	1		
7	5500	18	7.9	485	1		
8	5500	18	8.8	306	1		
9	5500	17	7.3	399	1		
10	5500	16	6.1	469	1		
11	5500	16	7.7	204	1		
12	5500	16	8.1	389	1		
13	5510	17	9.8	405	1		
14	5510	17	6.4	208	1		
15	5510	18	7.8	378	0		
16	5510	17	8.8	498	1		
17	5510	17	7.6	204	1		
18	5510	16	7.6	330	1		
19	5520	18	6.8	355	1		
20	5520	16	6	256	1		
21	5520	18	8	459	1		
22	5520	17	8.2	293	1		
23	5520	18	8.1	495	1		
24	5520	16	8.7	437	1		
25	5526	17	7.8	384	1		
26	5526	17	6.1	346	1		
27	5526	16	8.9	346	1		
28	5526	17	7.2	489	0		
29	5526	17	8.5	282	1		
30	5526	16	8.9	473	1		

Channel 5510 MHz, 40MHz BW, USA Bin 4 Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	12	16.2	424	1	100.0%	60.0%
2	5494	16	15.8	360	1		
3	5494	16	14.5	418	1		
4	5494	16	16.4	480	1		
5	5494	12	12.9	335	1		
6	5494	12	15.2	425	1		
7	5500	16	17.6	429	1		
8	5500	15	11.3	430	1		
9	5500	13	18.1	384	1		
10	5500	13	14.4	258	1		
11	5500	13	14.5	244	1		
12	5500	14	11.2	390	1		
13	5510	12	12.5	221	1		
14	5510	13	13.9	264	1		
15	5510	13	11.1	331	1		
16	5510	15	19.6	380	1		
17	5510	14	14.1	247	1		
18	5510	16	16.6	395	1		
19	5520	13	19.7	411	1		
20	5520	16	19.6	390	1		
21	5520	14	19.8	319	1		
22	5520	15	14.9	331	1		
23	5520	13	17.3	417	1		
24	5520	12	19.6	384	1		
25	5526	14	15.4	312	1		
26	5526	13	11.5	328	1		
27	5526	15	18.7	386	1		
28	5526	13	11.5	317	1		
29	5526	14	17.9	350	1		
30	5526	12	19.7	472	1		

In addition an average minimum percentage of successful detection across all four Short pulse radar test waveforms is required and is calculated as follows:

$$\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4}$$ = (83.3%+96.7%+93.3%+100.0)/4 = 93.3% (>80%)

*See the Bin5 Radar Characteristics at the end of this report.

Channel 5510 MHz, 40MHz BW, USA Bin 5 Radar Statistical Performance

Trial #	Name	1=Detection 0=No Detection	Detection Percentage	Limit
1	USA Bin 5 Radar Test 1	1	90.0%	80.0%
2	USA Bin 5 Radar Test 2	0		
3	USA Bin 5 Radar Test 3	1		
4	USA Bin 5 Radar Test 4	1		
5	USA Bin 5 Radar Test 5	0		
6	USA Bin 5 Radar Test 6	0		
7	USA Bin 5 Radar Test 7	1		
8	USA Bin 5 Radar Test 8	1		
9	USA Bin 5 Radar Test 9	1		
10	USA Bin 5 Radar Test 10	1		
11	USA Bin 5 Radar Test 11	1		
12	USA Bin 5 Radar Test 12	1		
13	USA Bin 5 Radar Test 13	1		
14	USA Bin 5 Radar Test 14	1		
15	USA Bin 5 Radar Test 15	1		
16	USA Bin 5 Radar Test 16	1		
17	USA Bin 5 Radar Test 17	1		
18	USA Bin 5 Radar Test 18	1		
19	USA Bin 5 Radar Test 19	1		
20	USA Bin 5 Radar Test 20	1		
21	USA Bin 5 Radar Test 21	1		
22	USA Bin 5 Radar Test 22	1		
23	USA Bin 5 Radar Test 23	1		
24	USA Bin 5 Radar Test 24	1		
25	USA Bin 5 Radar Test 25	1		
26	USA Bin 5 Radar Test 26	1		
27	USA Bin 5 Radar Test 27	1		
28	USA Bin 5 Radar Test 28	1		
29	USA Bin 5 Radar Test 29	1		
30	USA Bin 5 Radar Test 30	1		

USA Bin 5 Trial #1

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5496	13	80			1.031771
2	1	5496	13	50			2.369364
3	3	5496	13	50	1951	1481	3.451038
4	2	5496	13	95	1853		4.495871
5	1	5496	13	80			4.929396
6	2	5496	13	100	1916		6.830211
7	1	5496	13	85			7.59553
8	2	5496	13	95	1680		9.477677
9	1	5496	13	95			9.896356
10	3	5496	13	70	1403	1098	10.959913

USA Bin 5 Trial #2

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5496	15	70			0.041982
2	2	5496	15	85	1545		1.054198
3	2	5496	15	80	1935		2.094835
4	2	5496	15	60	1089		2.713352
5	3	5496	15	60	1213	1595	3.264589
6	3	5496	15	70	1870	1379	4.157744
7	1	5496	15	60			4.905818
8	3	5496	15	70	1609	1254	5.534056
9	3	5496	15	100	1419	1015	6.668725
10	3	5496	15	75	1895	1401	6.82014
11	1	5496	15	55			7.789268
12	1	5496	15	75			8.323582
13	2	5496	15	60	1043		9.625596
14	1	5496	15	70			9.911395
15	1	5496	15	55			11.214669
16	2	5496	15	50	1577		11.377919

USA Bin 5 Trial #3

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5496	14	80			0.647369
2	2	5496	14	80	1819		2.054841
3	3	5496	14	50	1195	1305	2.591866
4	2	5496	14	75	1840		3.594945
5	3	5496	14	65	1419	1380	4.440909
6	2	5496	14	60	1483		6.115218
7	1	5496	14	65			7.151297
8	3	5496	14	80	1699	1540	8.321278
9	3	5496	14	95	1572	1458	8.748794
10	3	5496	14	75	1431	1071	10.31483
11	2	5496	14	100	1645		11.45104

USA Bin 5 Trial #4

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5496	9	55	1072		0.232316
2	1	5496	9	55			1.339852
3	3	5496	9	100	1764	1090	2.348748
4	1	5496	9	60			2.429341
5	3	5496	9	100	1593	1223	3.950316
6	1	5496	9	80			4.557083
7	1	5496	9	55			5.397522
8	2	5496	9	70	1282		6.210627
9	2	5496	9	50	1052		7.046283
10	3	5496	9	90	1841	1040	7.72859
11	1	5496	9	90			8.165298
12	1	5496	9	80			8.955378
13	3	5496	9	90	1409	1550	10.048816

14	1	5496	9	90			10.880596
15	2	5496	9	90	1408		11.77367

USA Bin 5 Trial #5

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5496	16	65	1412		0.547047
2	3	5496	16	55	1523	1028	1.161682
3	1	5496	16	50			1.419962
4	2	5496	16	95	1723		1.935818
5	3	5496	16	85	1467	1464	2.966941
6	3	5496	16	80	1563	1305	3.647454
7	3	5496	16	100	1037	1172	4.029759
8	2	5496	16	85	1269		4.872061
9	3	5496	16	80	1337	1164	5.127759
10	1	5496	16	65			6.19339
11	1	5496	16	65			6.339261
12	1	5496	16	55			7.191271
13	3	5496	16	100	1282	1575	8.045877
14	1	5496	16	85			8.47197
15	1	5496	16	50			8.899148
16	3	5496	16	70	1700	1864	9.551821
17	3	5496	16	60	1283	1681	10.682995
18	1	5496	16	80			10.988498
19	2	5496	16	70	1770		11.754769

USA Bin 5 Trial #6

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5496	17	75	1594		0.509475
2	1	5496	17	55			2.135035
3	3	5496	17	95	1186	1859	2.764507
4	1	5496	17	50			3.574695
5	3	5496	17	90	1704	1100	4.779806
6	3	5496	17	50	1976	1068	5.76952
7	3	5496	17	80	1211	1408	7.149968
8	1	5496	17	65			8.648588
9	3	5496	17	80	1300	1241	8.856229
10	3	5496	17	80	1102	1098	10.536492
11	1	5496	17	95			11.914371

USA Bin 5 Trial #7

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5496	11	65	1858		0.367933
2	3	5496	11	60	1804	1559	1.120604
3	3	5496	11	85	1884	1435	1.761304
4	2	5496	11	80	1319		2.143911
5	3	5496	11	65	1559	1563	2.897393
6	2	5496	11	60	1773		3.734949
7	2	5496	11	90	1513		4.510884
8	3	5496	11	80	1469	1631	5.552789
9	2	5496	11	50	1773		6.104065
10	1	5496	11	60			6.841314
11	3	5496	11	55	1766	1570	7.061562
12	1	5496	11	85			8.130023
13	3	5496	11	85	1263	1268	8.745775
14	2	5496	11	65	1946		9.832239
15	2	5496	11	55	1658		9.957323
16	1	5496	11	60			11.253244
17	2	5496	11	50	1435		11.827175

USA Bin 5 Trial #8

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5496	18	85			0.353185

2	2	5496	18	90	1051		0.829158
3	1	5496	18	50			1.539845
4	2	5496	18	85	1721		1.905586
5	2	5496	18	80	1036		2.626164
6	3	5496	18	70	1035	1100	3.175129
7	1	5496	18	65			4.027107
8	3	5496	18	70	1778	1263	4.654191
9	3	5496	18	60	1116	1792	5.047938
10	3	5496	18	75	1085	1375	5.891462
11	2	5496	18	50	1855		6.079809
12	3	5496	18	90	1403	1010	6.610224
13	1	5496	18	75			7.453426
14	3	5496	18	55	1349	1581	8.248314
15	1	5496	18	75			8.944024
16	1	5496	18	100			9.409484
17	2	5496	18	50	1130		10.046636
18	3	5496	18	95	1296	1703	10.550782
19	1	5496	18	85			11.284433
20	1	5496	18	50			11.958835

USA Bin 5 Trial #9

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5496	13	75	1082		0.187254
2	2	5496	13	65	1308		1.172488
3	2	5496	13	55	1605		1.906802
4	3	5496	13	100	1618	1135	2.628207
5	1	5496	13	65			3.408685
6	3	5496	13	60	1638	1297	3.930708
7	1	5496	13	50			4.865954
8	1	5496	13	85			5.37107
9	2	5496	13	90	1408		6.012082
10	2	5496	13	65	1700		6.536708
11	1	5496	13	65			7.707135
12	1	5496	13	80			8.334385
13	1	5496	13	85			8.625784
14	1	5496	13	100			9.647434
15	3	5496	13	70	1542	1401	10.184121
16	1	5496	13	50			11.225158
17	3	5496	13	85	1228	1525	11.67639

USA Bin 5 Trial #10

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5496	7	85			0.152988
2	2	5496	7	65	1934		0.705102
3	1	5496	7	55			1.373793
4	1	5496	7	95			1.870998
5	2	5496	7	95	1649		2.632839
6	2	5496	7	65	1612		3.15672
7	2	5496	7	95	1520		4.006328
8	1	5496	7	65			4.486752
9	2	5496	7	60	1107		5.232163
10	2	5496	7	100	1445		5.477334
11	2	5496	7	70	1893		6.519871
12	2	5496	7	100	1206		6.624395
13	2	5496	7	85	1224		7.787018
14	1	5496	7	50			7.807331
15	3	5496	7	70	1478	1632	8.851523
16	1	5496	7	95			9.136712
17	2	5496	7	55	1881		10.091873
18	1	5496	7	80			10.266449
19	1	5496	7	65			10.930211
20	3	5496	7	90	1537	1669	11.723399

USA Bin 5 Trial #11

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5510	11	100	1629		0.573404
2	2	5510	11	70	1938		1.923389
3	2	5510	11	75	1223		2.779823
4	3	5510	11	75	1711	1325	3.914973
5	2	5510	11	55	1096		5.390211
6	2	5510	11	80	1499		5.46679
7	1	5510	11	100			7.482977
8	3	5510	11	75	1963	1078	8.196346
9	2	5510	11	70	1841		9.105509
10	2	5510	11	90	1794		10.494339
11	3	5510	11	80	1822	1503	11.301419

USA Bin 5 Trial #12

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5510	7	65	1255	1435	0.348154
2	1	5510	7	95			0.752988
3	3	5510	7	65	1006	1042	1.737475
4	3	5510	7	95	1591	1468	2.013399
5	1	5510	7	80			2.987189
6	3	5510	7	50	1215	1800	3.069288
7	1	5510	7	90			4.092627
8	3	5510	7	50	1011	1941	4.307654
9	2	5510	7	90	1794		5.076381
10	2	5510	7	90	1125		5.50036
11	2	5510	7	60	1314		6.323299
12	2	5510	7	95	1574		7.169808
13	2	5510	7	70	1771		7.478244
14	2	5510	7	85	1001		8.124493
15	3	5510	7	85	1493	1099	8.47624
16	2	5510	7	80	1329		9.083652
17	2	5510	7	90	1334		10.173645
18	1	5510	7	90			10.496208
19	3	5510	7	55	1014	1927	11.324579
20	2	5510	7	100	1724		11.726899

USA Bin 5 Trial #13

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5510	12	100			0.193185
2	2	5510	12	90	1584		0.834734
3	1	5510	12	75			1.478058
4	1	5510	12	70			2.398221
5	3	5510	12	65	1643	1784	3.300012
6	2	5510	12	65	1321		3.848897
7	1	5510	12	65			4.109224
8	2	5510	12	65	1369		5.075491
9	2	5510	12	70	1300		5.744122
10	2	5510	12	100	1895		6.397901
11	2	5510	12	70	1133		7.193391
12	2	5510	12	85	1471		7.749906
13	1	5510	12	50			8.293412
14	3	5510	12	70	1909	1986	8.929372
15	2	5510	12	80	1868		9.900826
16	1	5510	12	90			10.233266
17	1	5510	12	80			11.176306
18	3	5510	12	80	1929	1420	11.480437

USA Bin 5 Trial #14

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5510	11	65			0.420469

2	2	5510	11	90	1722		1.229359
3	1	5510	11	75			1.71271
4	2	5510	11	80	1782		2.582396
5	1	5510	11	60			3.615786
6	3	5510	11	85	1026	1255	3.88902
7	3	5510	11	80	1358	1400	4.574956
8	3	5510	11	80	1694	1881	5.772777
9	2	5510	11	85	1731		6.615534
10	1	5510	11	60			7.241547
11	2	5510	11	65	1794		7.541198
12	1	5510	11	75			8.732959
13	2	5510	11	75	1326		9.067466
14	2	5510	11	100	1696		10.318698
15	2	5510	11	55	1235		10.894454
16	3	5510	11	60	1852	1491	11.580545

USA Bin 5 Trial #15

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5510	17	55	1239	1024	0.099964
2	3	5510	17	75	1448	1669	1.223808
3	3	5510	17	90	1520	1396	1.672878
4	1	5510	17	80			2.64533
5	1	5510	17	55			2.98206
6	3	5510	17	60	1668	1873	3.536837
7	1	5510	17	85			4.614747
8	2	5510	17	75	1666		5.036557
9	3	5510	17	85	1728	1864	5.956597
10	1	5510	17	60			6.213216
11	3	5510	17	75	1232	1006	6.775519
12	1	5510	17	70			7.483293
13	3	5510	17	80	1378	1289	8.03528
14	2	5510	17	85	1048		9.064668
15	3	5510	17	65	1650	1772	9.775776
16	1	5510	17	100			10.575292
17	1	5510	17	80			10.839386
18	2	5510	17	100	1468		11.655224

USA Bin 5 Trial #16

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5510	8	70	1221		0.870491
2	3	5510	8	75	1559	1906	2.285389
3	2	5510	8	85	1254		4.335518
4	3	5510	8	75	1424	1979	5.950061
5	1	5510	8	55			6.78173
6	2	5510	8	50	1999		7.88878
7	1	5510	8	50			10.376356
8	1	5510	8	60			11.925991

USA Bin 5 Trial #17

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5510	15	75			0.48058
2	3	5510	15	55	1867	1016	1.571325
3	2	5510	15	55	1977		1.672894
4	3	5510	15	65	1715	1140	2.756756
5	2	5510	15	90	1025		3.406757
6	3	5510	15	95	1709	1339	4.605618
7	3	5510	15	55	1652	1523	5.129652
8	2	5510	15	65	1197		5.665769
9	1	5510	15	80			7.077944
10	3	5510	15	95	1643	1487	7.838437
11	3	5510	15	80	1206	1801	8.70862
12	2	5510	15	65	1172		9.397843

13	3	5510	15	60	1410	1076	9.941824
14	2	5510	15	65	1215		11.049499
15	1	5510	15	50			11.74533

USA Bin 5 Trial #18

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5510	19	85	1416	1042	0.23442
2	1	5510	19	100			1.601989
3	3	5510	19	90	1557	1989	3.092946
4	3	5510	19	100	1365	1466	3.633224
5	3	5510	19	55	1847	1183	4.900767
6	2	5510	19	95	1245		6.613744
7	3	5510	19	95	1855	1439	7.680645
8	2	5510	19	75	1646		9.123933
9	2	5510	19	95	1694		10.450119
10	1	5510	19	90			11.748285

USA Bin 5 Trial #19

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5510	20	95			0.087243
2	2	5510	20	95	1653		1.488082
3	1	5510	20	50			1.681137
4	2	5510	20	60	1025		2.444192
5	2	5510	20	100	1909		3.27804
6	3	5510	20	55	1854	1541	4.415358
7	3	5510	20	65	1961	1067	5.566372
8	2	5510	20	95	1768		6.117281
9	3	5510	20	80	1874	1595	7.146111
10	1	5510	20	60			7.309979
11	2	5510	20	95	1619		8.128801
12	2	5510	20	80	1714		9.22078
13	1	5510	20	55			9.739958
14	1	5510	20	50			10.896073
15	3	5510	20	50	1354	1711	11.233085

USA Bin 5 Trial #20

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5510	16	75	1626	1996	0.636814
2	1	5510	16	75			1.361938
3	1	5510	16	70			1.81768
4	1	5510	16	55			3.249137
5	3	5510	16	100	1308	1385	4.180177
6	3	5510	16	55	1371	1170	4.549974
7	1	5510	16	60			5.392725
8	2	5510	16	80	1570		6.839255
9	1	5510	16	55			7.12608
10	1	5510	16	90			8.024357
11	3	5510	16	70	1744	1176	8.627919
12	3	5510	16	55	1865	1731	10.082747
13	2	5510	16	100	1828		10.99506
14	3	5510	16	100	1671	1139	11.899324

USA Bin 5 Trial #21

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5524	10	65			0.272286
2	3	5524	10	65	1794	1159	1.17593
3	2	5524	10	100	1466		1.805037
4	1	5524	10	55			2.693467
5	1	5524	10	100			3.900765
6	1	5524	10	80			4.319201
7	1	5524	10	95			5.379761
8	3	5524	10	75	1257	1997	6.043581

9	2	5524	10	70	1389		6.454046
10	2	5524	10	65	1445		7.685773
11	3	5524	10	95	1437	1342	8.289814
12	2	5524	10	55	1730		8.95433
13	2	5524	10	85	1989		10.393381
14	1	5524	10	60			10.965227
15	2	5524	10	90	1917		11.355634

USA Bin 5 Trial #22

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5524	13	95	1406		0.769188
2	3	5524	13	75	1941	1224	1.6682
3	3	5524	13	50	1946	1387	2.180714
4	1	5524	13	50			3.312628
5	2	5524	13	95	1596		4.4653
6	3	5524	13	50	1512	1681	5.670029
7	1	5524	13	80			6.833183
8	3	5524	13	50	1124	1377	7.479402
9	2	5524	13	65	1585		8.167505
10	2	5524	13	90	1094		9.226517
11	1	5524	13	70			10.489042
12	1	5524	13	65			11.783914

USA Bin 5 Trial #23

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5524	13	60	1237	1777	0.583123
2	2	5524	13	55	1474		0.85708
3	1	5524	13	95			1.828581
4	1	5524	13	95			2.397591
5	2	5524	13	65	1636		3.037169
6	2	5524	13	80	1252		3.965534
7	3	5524	13	50	1724	1413	4.907315
8	1	5524	13	85			5.531464
9	1	5524	13	90			6.573647
10	2	5524	13	65	1691		7.227225
11	2	5524	13	50	1213		7.829773
12	1	5524	13	80			8.409061
13	1	5524	13	80			9.629858
14	3	5524	13	65	1943	1854	10.301429
15	1	5524	13	75			11.247057
16	2	5524	13	90	1758		11.424149

USA Bin 5 Trial #24

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5524	5	50			0.044725
2	2	5524	5	60	1628		1.06226
3	3	5524	5	85	1086	1800	1.312781
4	1	5524	5	65			1.903531
5	1	5524	5	50			2.605472
6	1	5524	5	65			3.018138
7	3	5524	5	85	1394	1550	3.728598
8	3	5524	5	70	1949	1218	4.37635
9	1	5524	5	100			5.274359
10	2	5524	5	50	1369		5.434837
11	2	5524	5	75	1203		6.548213
12	1	5524	5	55			6.808966
13	3	5524	5	100	1176	1477	7.504831
14	2	5524	5	50	1944		7.857851
15	3	5524	5	80	1797	1497	8.831396
16	2	5524	5	85	1028		9.212251
17	3	5524	5	85	1094	1619	9.853758
18	3	5524	5	75	1093	1970	10.78277

19	3	5524	5	100	1614	1458	11.066102
20	3	5524	5	100	1625	1024	11.67487

USA Bin 5 Trial #25

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5524	10	85	1196	1549	0.260668
2	3	5524	10	65	1877	1680	1.114791
3	2	5524	10	50	1434		1.474842
4	3	5524	10	65	1066	1394	2.30621
5	2	5524	10	70	1409		2.987698
6	1	5524	10	95			3.231507
7	2	5524	10	60	1893		3.880338
8	2	5524	10	90	1634		4.773041
9	1	5524	10	70			5.192198
10	2	5524	10	55	1586		5.783357
11	2	5524	10	50	1675		6.593927
12	3	5524	10	80	1806	1819	6.609359
13	1	5524	10	65			7.712431
14	3	5524	10	80	1487	1584	8.015743
15	3	5524	10	100	1737	1680	8.830183
16	2	5524	10	85	1593		9.07905
17	3	5524	10	80	1295	1511	10.167029
18	1	5524	10	50			10.518952
19	1	5524	10	55			11.096038
20	3	5524	10	75	1759	1620	11.453038

USA Bin 5 Trial #26

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5524	5	85	1941	1422	0.682422
2	2	5524	5	55	1999		0.866155
3	2	5524	5	70	1657		1.825077
4	3	5524	5	80	1216	1965	2.832375
5	2	5524	5	60	1346		3.500567
6	2	5524	5	75	1668		4.722152
7	1	5524	5	50			5.298844
8	3	5524	5	55	1579	1832	5.681938
9	2	5524	5	90	1057		7.02491
10	2	5524	5	65	1856		7.961845
11	1	5524	5	55			8.21973
12	2	5524	5	55	1945		8.868433
13	3	5524	5	70	1655	1529	9.88742
14	3	5524	5	75	1727	1461	10.793591
15	2	5524	5	100	1760		11.587436

USA Bin 5 Trial #27

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5524	17	90			1.009735
2	2	5524	17	65	1947		1.592892
3	3	5524	17	95	1595	1430	3.025113
4	2	5524	17	100	1871		3.854587
5	2	5524	17	100	1699		5.054332
6	3	5524	17	65	1388	1655	5.898676
7	1	5524	17	80			7.073379
8	1	5524	17	80			8.47
9	3	5524	17	75	1384	1582	8.834152
10	3	5524	17	55	1391	1424	10.795203
11	3	5524	17	65	1413	1084	11.88459

USA Bin 5 Trial #28

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5524	19	70	1909		0.620823
2	1	5524	19	80			1.152966

3	3	5524	19	85	1803	1019	1.832815
4	3	5524	19	70	1939	1381	1.967507
5	2	5524	19	65	1576		2.958659
6	2	5524	19	70	1851		3.385185
7	1	5524	19	50			4.016518
8	1	5524	19	50			4.588436
9	3	5524	19	60	1864	1835	5.181836
10	1	5524	19	90			5.913953
11	2	5524	19	70	1888		6.935763
12	1	5524	19	55			6.996474
13	3	5524	19	55	1627	1513	8.01136
14	3	5524	19	100	1769	1633	8.500094
15	3	5524	19	55	1686	1062	8.991333
16	3	5524	19	95	1310	1227	9.591311
17	2	5524	19	85	1486		10.617859
18	1	5524	19	75			10.825964
19	1	5524	19	50			11.422807

USA Bin 5 Trial #29

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5524	17	90			0.116576
2	2	5524	17	95	1221		1.396027
3	3	5524	17	65	1693	1490	1.461477
4	2	5524	17	65	1104		2.460496
5	3	5524	17	100	1631	1892	2.854109
6	3	5524	17	100	1886	1475	3.891797
7	1	5524	17	55			4.673206
8	3	5524	17	100	1597	1035	4.946323
9	1	5524	17	95			6.109382
10	2	5524	17	65	1156		6.604642
11	3	5524	17	85	1522	1554	7.411976
12	2	5524	17	50	1040		8.381846
13	2	5524	17	95	1854		8.765058
14	3	5524	17	95	1863	1324	9.313995
15	2	5524	17	65	1754		9.923367
16	1	5524	17	65			10.752509
17	3	5524	17	85	1006	1283	11.615989

USA Bin 5 Trial #30

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5524	19	70	1075		0.211429
2	1	5524	19	60			1.560131
3	3	5524	19	90	1816	1726	3.587868
4	2	5524	19	90	1917		4.420356
5	3	5524	19	85	1412	1375	6.613015
6	3	5524	19	80	1391	1002	7.48066
7	3	5524	19	80	1338	1527	8.172101
8	1	5524	19	80			9.586332
9	3	5524	19	70	1256	1324	11.194544

*See the Bin6 Radar Characteristics at the end of this report.

Channel 5510 MHz, 40MHz BW, USA Frequency Hopping Radar Statistical Performance

Trial #	Name	1=Detection 0=No Detection	Detection Percentage	Limit
1	USA Bin 6 Radar Test 1	1	100.0%	70.0%
2	USA Bin 6 Radar Test 2	1		
3	USA Bin 6 Radar Test 3	1		
4	USA Bin 6 Radar Test 4	1		
5	USA Bin 6 Radar Test 5	1		
6	USA Bin 6 Radar Test 6	1		
7	USA Bin 6 Radar Test 7	1		
8	USA Bin 6 Radar Test 8	1		
9	USA Bin 6 Radar Test 9	1		
10	USA Bin 6 Radar Test 10	1		
11	USA Bin 6 Radar Test 11	1		
12	USA Bin 6 Radar Test 12	1		
13	USA Bin 6 Radar Test 13	1		
14	USA Bin 6 Radar Test 14	1		
15	USA Bin 6 Radar Test 15	1		
16	USA Bin 6 Radar Test 16	1		
17	USA Bin 6 Radar Test 17	1		
18	USA Bin 6 Radar Test 18	1		
19	USA Bin 6 Radar Test 19	1		
20	USA Bin 6 Radar Test 20	1		
21	USA Bin 6 Radar Test 21	1		
22	USA Bin 6 Radar Test 22	1		
23	USA Bin 6 Radar Test 23	1		
24	USA Bin 6 Radar Test 24	1		
25	USA Bin 6 Radar Test 25	1		
26	USA Bin 6 Radar Test 26	1		
27	USA Bin 6 Radar Test 27	1		
28	USA Bin 6 Radar Test 28	1		
29	USA Bin 6 Radar Test 29	1		
30	USA Bin 6 Radar Test 30	1		

USA Frequency Hopping Trial #1

Hop #	Freq (GHz)	Pulse Start (mS)
9	5511	27
24	5528	72
36	5508	108
39	5504	117
43	5505	129
54	5499	162
66	5525	198
81	5514	243
87	5513	261

USA Frequency Hopping Trial #2

Hop #	Freq (GHz)	Pulse Start (mS)
20	5506	60
45	5516	135
86	5496	258
92	5495	276
99	5521	297

USA Frequency Hopping Trial #3

Hop #	Freq (GHz)	Pulse Start (mS)
9	5528	27
33	5491	99
47	5524	141
61	5520	183
70	5517	210
73	5492	219
79	5510	237
86	5527	258

USA Frequency Hopping Trial #4

Hop #	Freq (GHz)	Pulse Start (mS)
4	5497	12
14	5507	42
19	5504	57
56	5502	168
76	5491	228
85	5524	255
93	5518	279

USA Frequency Hopping Trial #5

Hop #	Freq (GHz)	Pulse Start (mS)
3	5525	9
7	5510	21
32	5515	96
45	5522	135
56	5504	168
60	5501	180
69	5500	207
80	5524	240
81	5518	243

USA Frequency Hopping Trial #6

Hop #	Freq (GHz)	Pulse Start (mS)
42	5525	126
52	5499	156
53	5515	159
58	5526	174
75	5504	225
80	5512	240
81	5498	243
82	5524	246
86	5518	258

USA Frequency Hopping Trial #7

Hop #	Freq (GHz)	Pulse Start (mS)
13	5520	39
23	5529	69
51	5519	153
62	5502	186

USA Frequency Hopping Trial #8

Hop #	Freq (GHz)	Pulse Start (mS)
25	5528	75
33	5512	99
39	5516	117
58	5497	174
65	5526	195
73	5514	219
79	5496	237
99	5505	297

USA Frequency Hopping Trial #9

Hop #	Freq (GHz)	Pulse Start (mS)
3	5521	9
20	5515	60
37	5513	111
43	5528	129
77	5499	231
79	5529	237
80	5495	240
99	5510	297

USA Frequency Hopping Trial #10

Hop #	Freq (GHz)	Pulse Start (mS)
11	5516	33
32	5524	96
46	5527	138
47	5497	141
67	5514	201
79	5518	237
80	5495	240
95	5504	285
98	5494	294

USA Frequency Hopping Trial #11

Hop #	Freq (GHz)	Pulse Start (mS)

4	5496	12
55	5511	165
61	5501	183
70	5499	210
92	5504	276

USA Frequency Hopping Trial #12

Hop #	Freq (GHz)	Pulse Start (mS)
10	5495	30
32	5497	96
49	5516	147
54	5494	162
55	5517	165
62	5515	186
72	5510	216

USA Frequency Hopping Trial #13

Hop #	Freq (GHz)	Pulse Start (mS)
7	5516	21
9	5499	27
36	5507	108
83	5527	249

USA Frequency Hopping Trial #14

Hop #	Freq (GHz)	Pulse Start (mS)
29	5517	87
39	5515	117
42	5520	126
44	5522	132
64	5498	192
76	5529	228
80	5521	240
96	5510	288
98	5508	294

USA Frequency Hopping Trial #15

Hop #	Freq (GHz)	Pulse Start (mS)
0	5495	0
5	5519	15
15	5522	45
32	5504	96
59	5521	177
75	5502	225
77	5517	231
92	5520	276
96	5501	288
97	5513	291

USA Frequency Hopping Trial #16

Hop #	Freq (GHz)	Pulse Start (mS)
8	5495	24
9	5497	27
25	5529	75
38	5511	114

68	5522	204
81	5517	243

USA Frequency Hopping Trial #17

Hop #	Freq (GHz)	Pulse Start (mS)
20	5528	60
54	5524	162
85	5495	255
90	5517	270
93	5511	279
95	5512	285

USA Frequency Hopping Trial #18

Hop #	Freq (GHz)	Pulse Start (mS)
8	5510	24
51	5515	153
56	5518	168
63	5507	189
67	5529	201
79	5505	237
83	5492	249
86	5523	258
90	5522	270
93	5504	279

USA Frequency Hopping Trial #19

Hop #	Freq (GHz)	Pulse Start (mS)
11	5518	33
22	5527	66
25	5514	75
37	5509	111
42	5502	126
51	5521	153
67	5516	201
79	5505	237
81	5492	243
99	5523	297

USA Frequency Hopping Trial #20

Hop #	Freq (GHz)	Pulse Start (mS)
22	5514	66
31	5525	93
40	5517	120
41	5508	123
50	5505	150
72	5519	216
74	5496	222
83	5527	249
90	5510	270

USA Frequency Hopping Trial #21

Hop #	Freq (GHz)	Pulse Start (mS)
31	5517	93
34	5514	102

39	5498	117
46	5516	138
56	5505	168
70	5495	210
87	5524	261
93	5528	279

USA Frequency Hopping Trial #22

Hop #	Freq (GHz)	Pulse Start (mS)
13	5491	39
14	5524	42
44	5499	132
70	5511	210
87	5515	261
88	5508	264

USA Frequency Hopping Trial #23

Hop #	Freq (GHz)	Pulse Start (mS)
0	5504	0
5	5525	15
10	5513	30
14	5526	42
34	5502	102
41	5491	123
56	5507	168
60	5505	180
72	5496	216
76	5499	228

USA Frequency Hopping Trial #24

Hop #	Freq (GHz)	Pulse Start (mS)
12	5492	36
13	5493	39
21	5500	63
35	5495	105
47	5508	141
51	5502	153
77	5510	231
95	5526	285

USA Frequency Hopping Trial #25

Hop #	Freq (GHz)	Pulse Start (mS)
10	5516	30
24	5512	72
30	5497	90
34	5522	102
36	5525	108
46	5492	138
52	5496	156

USA Frequency Hopping Trial #26

Hop #	Freq (GHz)	Pulse Start (mS)
13	5516	39
28	5520	84

38	5505	114
39	5499	117
50	5498	150
74	5507	222
75	5492	225

USA Frequency Hopping Trial #27

Hop #	Freq (GHz)	Pulse Start (mS)
4	5492	12
18	5513	54
22	5522	66
25	5491	75
30	5510	90
33	5519	99
36	5496	108
55	5520	165
82	5501	246

USA Frequency Hopping Trial #28

Hop #	Freq (GHz)	Pulse Start (mS)
1	5514	3
6	5525	18
23	5512	69
33	5492	99
57	5516	171
64	5510	192
80	5528	240
91	5513	273
94	5506	282

USA Frequency Hopping Trial #29

Hop #	Freq (GHz)	Pulse Start (mS)
9	5507	27
12	5514	36
29	5511	87
36	5498	108
43	5528	129
44	5493	132
65	5495	195
87	5509	261
97	5521	291

USA Frequency Hopping Trial #30

Hop #	Freq (GHz)	Pulse Start (mS)
32	5505	96
39	5528	117
60	5501	180
63	5499	189
64	5492	192
66	5525	198
95	5510	285

Channel 5530 MHz, 80MHz BW, USA Bin 1A/1B Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	61	1	878	1	66.7%	60.0%
2	5494	61	1	878	1		
3	5494	58	1	918	1		
4	5494	65	1	818	1		
5	5494	61	1	878	1		
6	5500	57	1	938	0		
7	5500	89	1	598	1		
8	5500	57	1	938	1		
9	5500	65	1	818	1		
10	5520	92	1	578	1		
11	5520	92	1	578	1		
12	5520	83	1	638	1		
13	5520	65	1	818	1		
14	5530	59	1	898	0		
15	5530	58	1	918	1		
16	5530	51	1	1038	1		
17	5530	91	1	584	1		
18	5530	34	1	1569	1		
19	5540	21	1	2613	0		
20	5540	93	1	572	1		
21	5540	42	1	1284	1		
22	5540	21	1	2518	1		
23	5560	18	1	3018	0		
24	5560	46	1	1148	0		
25	5560	18	1	3024	0		
26	5560	44	1	1204	1		
27	5566	28	1	1947	0		
28	5566	28	1	1895	0		
29	5566	30	1	1794	0		
30	5566	20	1	2730	0		

Channel 5530 MHz, 80MHz BW, USA Bin 2 Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	24	4.6	155	1	100.0%	60.0%
2	5494	28	2.8	161	1		
3	5494	24	4.2	230	1		
4	5494	27	3.9	164	1		
5	5494	27	1.7	201	1		
6	5500	28	4.3	167	1		
7	5500	23	3.1	180	1		
8	5500	28	4.1	163	1		
9	5500	23	4.3	175	1		
10	5520	25	1.2	172	1		
11	5520	25	3	219	1		
12	5520	28	4.6	161	1		
13	5520	28	3.2	178	1		
14	5530	26	2.8	227	1		
15	5530	25	1.8	193	1		
16	5530	27	2.3	159	1		
17	5530	24	1.7	216	1		
18	5530	25	1.4	187	1		
19	5540	23	3.6	227	1		
20	5540	23	1.4	192	1		
21	5540	23	4.1	168	1		
22	5540	28	3.1	230	1		
23	5560	23	5	151	1		
24	5560	29	1	162	1		
25	5560	25	3.7	183	1		
26	5560	27	3	174	1		
27	5566	26	1.2	230	1		
28	5566	28	3.9	227	1		
29	5566	25	2.1	161	1		
30	5566	24	4.9	181	1		

Channel 5530 MHz, 80MHz BW, USA Bin 3 Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	17	8.9	280	1	93.3%	60.0%
2	5494	17	9.2	322	1		
3	5494	16	8.9	366	1		
4	5494	18	6.4	462	1		
5	5494	18	6.8	272	1		
6	5500	18	8.7	232	1		
7	5500	17	6.3	395	1		
8	5500	16	9.9	326	0		
9	5500	16	6.1	342	1		
10	5520	17	6.1	248	1		
11	5520	18	6.3	332	1		
12	5520	16	8.7	390	1		
13	5520	16	6.6	467	1		
14	5530	17	6.6	214	1		
15	5530	17	7.9	405	1		
16	5530	18	6.8	217	1		
17	5530	18	8.8	383	1		
18	5530	17	8.6	244	1		
19	5540	17	8.7	383	1		
20	5540	17	6.7	242	1		
21	5540	18	8.5	294	1		
22	5540	17	9.3	348	1		
23	5560	16	9.7	230	1		
24	5560	18	7.9	354	1		
25	5560	18	8.9	351	0		
26	5560	18	8.3	330	1		
27	5566	16	6.2	440	1		
28	5566	16	7.6	428	1		
29	5566	17	9	385	1		
30	5566	16	7.9	245	1		

Channel 5530 MHz, 80MHz BW, USA Bin 4 Radar Statistical Performance

Trial #	Frequency	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	5494	15	15.1	385	0	66.7%	60.0%
2	5494	15	17.6	220	1		
3	5494	12	19.6	227	1		
4	5494	15	11.6	484	1		
5	5494	14	18	357	1		
6	5500	15	14.2	354	1		
7	5500	14	17.3	253	1		
8	5500	13	12.9	480	1		
9	5500	13	11.7	377	1		
10	5520	12	11.4	369	0		
11	5520	13	14.5	270	1		
12	5520	15	15.8	414	1		
13	5520	15	13.2	257	0		
14	5530	13	11.7	233	0		
15	5530	15	17.4	286	0		
16	5530	14	17.8	210	0		
17	5530	12	11.8	348	0		
18	5530	12	19	445	0		
19	5540	13	11.9	271	0		
20	5540	13	14.9	393	0		
21	5540	15	18.3	228	1		
22	5540	13	12.8	337	1		
23	5560	16	19.2	201	1		
24	5560	13	13.6	445	1		
25	5560	14	11.1	279	1		
26	5560	14	19.5	492	1		
27	5566	13	16.2	280	1		
28	5566	12	12.8	464	1		
29	5566	16	14.1	265	1		
30	5566	13	15.6	289	1		

In addition an average minimum percentage of successful detection across all four Short pulse radar test waveforms is required and is calculated as follows:

$$\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4}$$ = (66.7%100.0%+93.3%+66.7%)/4 = 81.7% (>80%)

*See the Bin5 Radar Characteristics at the end of this report.

Channel 5530 MHz, 80MHz BW, USA Bin 5 Radar Statistical Performance

Trial #	Name	1=Detection 0=No Detection	Detection Percentage	Limit
1	USA Bin 5 Radar Test 1	0	93.3%	80.0%
2	USA Bin 5 Radar Test 2	1		
3	USA Bin 5 Radar Test 3	1		
4	USA Bin 5 Radar Test 4	1		
5	USA Bin 5 Radar Test 5	1		
6	USA Bin 5 Radar Test 6	1		
7	USA Bin 5 Radar Test 7	0		
8	USA Bin 5 Radar Test 8	1		
9	USA Bin 5 Radar Test 9	1		
10	USA Bin 5 Radar Test 10	1		
11	USA Bin 5 Radar Test 11	1		
12	USA Bin 5 Radar Test 12	1		
13	USA Bin 5 Radar Test 13	1		
14	USA Bin 5 Radar Test 14	1		
15	USA Bin 5 Radar Test 15	1		
16	USA Bin 5 Radar Test 16	1		
17	USA Bin 5 Radar Test 17	1		
18	USA Bin 5 Radar Test 18	1		
19	USA Bin 5 Radar Test 19	1		
20	USA Bin 5 Radar Test 20	1		
21	USA Bin 5 Radar Test 21	1		
22	USA Bin 5 Radar Test 22	1		
23	USA Bin 5 Radar Test 23	1		
24	USA Bin 5 Radar Test 24	1		
25	USA Bin 5 Radar Test 25	1		
26	USA Bin 5 Radar Test 26	1		
27	USA Bin 5 Radar Test 27	1		
28	USA Bin 5 Radar Test 28	1		
29	USA Bin 5 Radar Test 29	1		
30	USA Bin 5 Radar Test 30	1		

USA Bin 5 Trial #1

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5496.5	18	70	1679	1111	0.192676
2	1	5496.5	18	50			1.469401
3	1	5496.5	18	90			2.07699
4	2	5496.5	18	55	1864		3.271983
5	3	5496.5	18	80	1573	1975	4.244312
6	3	5496.5	18	70	1884	1422	4.947087
7	1	5496.5	18	70			6.371831
8	2	5496.5	18	55	1652		7.180689
9	1	5496.5	18	75			7.958075
10	2	5496.5	18	65	1643		8.688934
11	2	5496.5	18	70	1472		9.434867
12	3	5496.5	18	75	1922	1755	10.956695
13	2	5496.5	18	60	1264		11.209592

USA Bin 5 Trial #2

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5496.5	10	60	1838		0.410023
2	2	5496.5	10	95	1952		1.203137
3	2	5496.5	10	75	1390		1.741137
4	2	5496.5	10	90	1172		2.16863
5	1	5496.5	10	90			2.767866
6	3	5496.5	10	80	1810	1755	3.344025
7	3	5496.5	10	60	1625	1818	3.938355
8	2	5496.5	10	80	1051		4.816211
9	3	5496.5	10	55	1470	1415	5.393504
10	3	5496.5	10	90	1763	1089	6.165981
11	3	5496.5	10	90	1027	1157	6.672063
12	2	5496.5	10	50	1554		7.082047
13	2	5496.5	10	85	1970		7.679034
14	1	5496.5	10	85			8.469615
15	1	5496.5	10	95			9.045521
16	3	5496.5	10	70	1871	1238	9.547843
17	2	5496.5	10	55	1281		10.531929
18	3	5496.5	10	70	1296	1766	11.074638
19	2	5496.5	10	65	1518		11.501445

USA Bin 5 Trial #3

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5496.5	8	75			0.001033
2	2	5496.5	8	70	1470		1.289368
3	3	5496.5	8	85	1635	1518	2.607173
4	3	5496.5	8	55	1498	1844	3.303994
5	1	5496.5	8	95			4.896199
6	1	5496.5	8	70			6.004496
7	1	5496.5	8	80			7.272317
8	1	5496.5	8	80			8.650511
9	3	5496.5	8	85	1178	1714	9.55164
10	3	5496.5	8	50	1905	1372	9.98031
11	3	5496.5	8	90	1427	1136	11.951383

USA Bin 5 Trial #4

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5496.5	5	60			0.50589
2	2	5496.5	5	55	1360		1.062797
3	1	5496.5	5	55			1.432287
4	3	5496.5	5	60	1692	1296	2.030259
5	1	5496.5	5	90			2.693002
6	2	5496.5	5	50	1393		3.838312
7	2	5496.5	5	60	1993		4.239751

8	1	5496.5	5	65			5.218137
9	1	5496.5	5	65			5.782376
10	2	5496.5	5	80	1358		6.474899
11	3	5496.5	5	60	1602	1472	7.155292
12	1	5496.5	5	90			7.931282
13	2	5496.5	5	85	1595		8.44877
14	2	5496.5	5	55	1081		8.836453
15	3	5496.5	5	90	1693	1313	9.596178
16	3	5496.5	5	90	1078	1479	10.459864
17	3	5496.5	5	85	1988	1655	11.310169
18	1	5496.5	5	75			11.618398

USA Bin 5 Trial #5

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5496.5	16	85	1677	1215	0.445609
2	3	5496.5	16	75	1702	1201	1.053274
3	2	5496.5	16	100	1584		1.479212
4	3	5496.5	16	95	1288	1232	2.605075
5	1	5496.5	16	95			2.972708
6	2	5496.5	16	70	1955		3.619648
7	1	5496.5	16	65			4.201163
8	1	5496.5	16	75			5.022554
9	2	5496.5	16	50	1192		5.398159
10	1	5496.5	16	70			6.145366
11	2	5496.5	16	55	1836		6.676879
12	1	5496.5	16	50			7.892076
13	2	5496.5	16	85	1449		8.562025
14	1	5496.5	16	70			8.872956
15	2	5496.5	16	90	1024		9.630825
16	2	5496.5	16	90	1507		10.355404
17	2	5496.5	16	65	1451		10.68191
18	2	5496.5	16	60	1508		11.890938

USA Bin 5 Trial #6

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5496.5	5	80			0.092064
2	3	5496.5	5	80	1928	1817	1.595408
3	1	5496.5	5	75			2.090583
4	1	5496.5	5	55			3.517795
5	2	5496.5	5	55	1227		3.810885
6	1	5496.5	5	70			4.698817
7	3	5496.5	5	65	1865	1970	5.61705
8	3	5496.5	5	95	1451	1018	7.2557
9	1	5496.5	5	60			8.066187
10	1	5496.5	5	100			8.338927
11	2	5496.5	5	55	1765		10.018346
12	2	5496.5	5	70	1869		10.580658
13	2	5496.5	5	60	1708		11.221043

USA Bin 5 Trial #7

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5496.5	18	65			0.36136
2	2	5496.5	18	60	1310		1.584813
3	3	5496.5	18	55	1681	1991	3.048578
4	1	5496.5	18	60			4.565825
5	1	5496.5	18	75			4.823198
6	2	5496.5	18	65	1259		6.007544
7	2	5496.5	18	90	1297		7.602158
8	2	5496.5	18	70	1545		8.479778
9	2	5496.5	18	90	1509		10.527372
10	3	5496.5	18	90	1318	1615	11.066298

USA Bin 5 Trial #8

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5496.5	14	50	1362		0.421794
2	3	5496.5	14	50	1846	1443	0.975392
3	3	5496.5	14	80	1309	1889	1.809468
4	1	5496.5	14	100			2.413214
5	1	5496.5	14	95			3.588311
6	3	5496.5	14	95	1323	1624	4.315024
7	1	5496.5	14	60			5.192689
8	3	5496.5	14	50	1140	1006	6.122898
9	2	5496.5	14	60	1143		6.4685
10	2	5496.5	14	100	1677		7.663446
11	1	5496.5	14	90			8.03735
12	1	5496.5	14	90			8.966863
13	3	5496.5	14	70	1226	1741	9.910492
14	1	5496.5	14	85			10.654634
15	2	5496.5	14	85	1123		11.703649

USA Bin 5 Trial #9

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5496.5	7	70			1.090993
2	2	5496.5	7	55	1271		1.76899
3	2	5496.5	7	85	1402		3.488123
4	1	5496.5	7	55			5.077351
5	2	5496.5	7	75	1208		7.346754
6	3	5496.5	7	50	1684	1320	8.853055
7	2	5496.5	7	85	1652		10.396774
8	3	5496.5	7	85	1729	1349	11.80838

USA Bin 5 Trial #10

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5496.5	7	85	1716		0.419927
2	3	5496.5	7	75	1739	1036	1.305054
3	1	5496.5	7	55			1.883472
4	2	5496.5	7	75	1054		2.935781
5	1	5496.5	7	55			4.106876
6	1	5496.5	7	75			5.027849
7	2	5496.5	7	65	1790		5.247425
8	2	5496.5	7	80	1785		6.727231
9	3	5496.5	7	65	1693	1588	7.216182
10	1	5496.5	7	55			7.961475
11	2	5496.5	7	55	1267		9.132515
12	3	5496.5	7	50	1951	1140	9.8505
13	1	5496.5	7	75			10.910231
14	3	5496.5	7	55	1344	1890	11.153092

USA Bin 5 Trial #11

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5530	12	95	1171	1501	0.027463
2	1	5530	12	50			1.297035
3	2	5530	12	65	1623		2.193152
4	3	5530	12	80	1216	1350	2.69286
5	2	5530	12	55	1205		3.592183
6	2	5530	12	80	1835		4.43374
7	1	5530	12	80			5.183932
8	2	5530	12	95	1163		5.521324
9	2	5530	12	50	1654		6.405631
10	3	5530	12	50	1554	1858	6.765255
11	2	5530	12	95	1487		7.888026
12	1	5530	12	50			8.375783
13	2	5530	12	80	1421		9.38655
14	2	5530	12	95	1221		10.04877

15	3	5530	12	65	1527	1728	11.246025
16	1	5530	12	50			11.362173

USA Bin 5 Trial #12

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5530	16	70			0.313027
2	2	5530	16	65	1318		0.800262
3	2	5530	16	70	1724		1.785544
4	2	5530	16	55	1293		2.154058
5	1	5530	16	55			2.91863
6	1	5530	16	80			4.150892
7	2	5530	16	65	1914		4.870263
8	1	5530	16	95			5.425259
9	1	5530	16	55			5.795879
10	2	5530	16	100	1861		6.925759
11	3	5530	16	65	1251	1162	7.313867
12	3	5530	16	75	1569	1462	8.026174
13	2	5530	16	80	1948		8.856681
14	1	5530	16	100			9.681653
15	2	5530	16	95	1806		10.053488
16	1	5530	16	55			10.667869
17	1	5530	16	80			11.970175

USA Bin 5 Trial #13

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5530	10	80	1152		0.027042
2	2	5530	10	80	1358		1.016648
3	1	5530	10	60			1.446949
4	1	5530	10	95			1.877264
5	2	5530	10	95	1681		2.730451
6	2	5530	10	70	1149		3.344697
7	3	5530	10	80	1844	1721	3.652632
8	2	5530	10	60	1384		4.696856
9	2	5530	10	100	1236		5.004446
10	3	5530	10	75	1968	1552	5.86098
11	2	5530	10	90	1692		6.408669
12	3	5530	10	70	1617	1723	7.110835
13	1	5530	10	80			7.200593
14	2	5530	10	70	1068		7.822643
15	3	5530	10	95	1048	1074	8.615148
16	2	5530	10	90	1632		9.059307
17	3	5530	10	65	1916	1955	9.654672
18	1	5530	10	90			10.574617
19	1	5530	10	85			10.864789
20	1	5530	10	100			11.707925

USA Bin 5 Trial #14

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5530	19	65	1278	1408	0.07937
2	3	5530	19	80	1662	1086	1.369708
3	1	5530	19	85			1.657069
4	1	5530	19	60			2.352796
5	3	5530	19	90	1364	1808	3.145432
6	2	5530	19	100	1627		4.238737
7	3	5530	19	100	1803	1586	4.539096
8	3	5530	19	95	1994	1208	5.555788
9	3	5530	19	95	1285	1463	6.319062
10	2	5530	19	75	1592		7.08625
11	3	5530	19	50	1377	1689	7.603403
12	1	5530	19	95			8.685757
13	2	5530	19	70	1993		9.319726
14	2	5530	19	50	1349		9.981125

15	3	5530	19	55	1650	1909	10.54289
16	2	5530	19	65	1183		11.941696

USA Bin 5 Trial #15

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5530	7	75	1797	1962	1.013106
2	3	5530	7	90	1846	1719	1.884914
3	3	5530	7	85	1075	1831	3.073676
4	2	5530	7	60	1252		4.519113
5	2	5530	7	95	1979		6.431243
6	1	5530	7	65			8.66148
7	2	5530	7	80	1834		10.011085
8	2	5530	7	100	1577		11.10827

USA Bin 5 Trial #16

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	1	5530	10	90			0.1189
2	3	5530	10	90	1890	1323	2.612139
3	2	5530	10	70	1949		3.572755
4	3	5530	10	65	1551	1560	5.004622
5	2	5530	10	55	1742		6.718561
6	1	5530	10	95			7.520749
7	3	5530	10	75	1134	1821	9.888859
8	3	5530	10	80	1028	1228	10.645132

USA Bin 5 Trial #17

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5530	19	85	1372		0.120567
2	3	5530	19	85	1353	1468	0.827337
3	1	5530	19	75			1.746595
4	1	5530	19	95			2.649795
5	1	5530	19	95			2.667898
6	3	5530	19	65	1655	1084	3.541327
7	2	5530	19	70	1999		4.297509
8	2	5530	19	60	1335		4.675311
9	2	5530	19	95	1160		5.612097
10	2	5530	19	50	1640		6.560631
11	2	5530	19	65	1420		7.060375
12	1	5530	19	75			7.848971
13	1	5530	19	90			8.505268
14	1	5530	19	100			9.258616
15	2	5530	19	85	1766		9.357416
16	1	5530	19	55			10.119657
17	1	5530	19	95			11.280299
18	1	5530	19	100			11.549041

USA Bin 5 Trial #18

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5530	17	65	1858	1993	0.840944
2	2	5530	17	70	1701		0.871782
3	3	5530	17	95	1253	1895	2.491463
4	1	5530	17	55			2.574749
5	2	5530	17	95	1933		3.908166
6	3	5530	17	60	1139	1228	4.938972
7	2	5530	17	60	1797		5.727446
8	1	5530	17	100			6.377044
9	3	5530	17	95	1625	1120	7.231645
10	2	5530	17	70	1626		8.164995
11	3	5530	17	65	1504	1657	8.861068
12	3	5530	17	55	1184	1788	10.068322
13	2	5530	17	65	1596		10.950933
14	2	5530	17	70	1494		11.573929

USA Bin 5 Trial #19

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5530	9	50	1338	1682	0.548129
2	2	5530	9	95	1041		0.80785
3	3	5530	9	100	1826	1793	1.655762
4	1	5530	9	55			2.616386
5	1	5530	9	75			3.807182
6	3	5530	9	100	1460	1150	4.205071
7	3	5530	9	90	1346	1334	5.453344
8	2	5530	9	60	1195		6.340313
9	3	5530	9	90	1406	1241	6.898785
10	2	5530	9	50	1541		7.53914
11	2	5530	9	100	1697		8.034131
12	1	5530	9	80			9.131818
13	3	5530	9	65	1167	1502	9.8891
14	2	5530	9	55	1771		10.870646
15	2	5530	9	60	1492		11.279072

USA Bin 5 Trial #20

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5530	12	55	1918		0.682441
2	2	5530	12	60	1440		1.286476
3	3	5530	12	95	1331	1717	2.337641
4	3	5530	12	50	1682	1110	3.303029
5	3	5530	12	100	1795	1656	4.332403
6	1	5530	12	65			5.712168
7	2	5530	12	60	1586		6.053364
8	1	5530	12	60			7.656525
9	2	5530	12	55	1428		8.778827
10	3	5530	12	65	1472	1813	9.601827
11	1	5530	12	95			10.981862
12	1	5530	12	95			11.760993

USA Bin 5 Trial #21

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5563.5	16	70			0.20495
2	2	5563.5	16	70	1550		0.664458
3	2	5563.5	16	60	1724		1.644307
4	2	5563.5	16	55	1844		2.162942
5	2	5563.5	16	50	1402		2.674251
6	2	5563.5	16	100	1059		3.636333
7	3	5563.5	16	55	1029	1689	3.807451
8	1	5563.5	16	100			4.721456
9	1	5563.5	16	100			5.278339
10	1	5563.5	16	55			6.092263
11	1	5563.5	16	70			6.577443
12	3	5563.5	16	70	1927	1709	7.29686
13	2	5563.5	16	50	1550		7.835088
14	3	5563.5	16	90	1891	1536	8.739476
15	1	5563.5	16	60			9.329847
16	2	5563.5	16	80	1379		9.573415
17	1	5563.5	16	55			10.42991
18	3	5563.5	16	50	1304	1507	10.756769
19	3	5563.5	16	50	1977	1161	11.867627

USA Bin 5 Trial #22

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5563.5	20	100			0.196097
2	2	5563.5	20	100	1158		1.998456
3	3	5563.5	20	65	1311	1680	2.87491
4	3	5563.5	20	85	1673	1824	3.428291

5	1	5563.5	20	55			4.622762
6	3	5563.5	20	75	1617	1662	5.944877
7	3	5563.5	20	80	1052	1271	6.370771
8	1	5563.5	20	60			7.991043
9	2	5563.5	20	70	1722		8.843495
10	3	5563.5	20	50	1988	1850	9.306467
11	1	5563.5	20	100			10.673028
12	1	5563.5	20	80			11.462313

USA Bin 5 Trial #23

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5563.5	18	85	1426		0.869724
2	1	5563.5	18	75			1.575551
3	1	5563.5	18	60			3.20458
4	2	5563.5	18	100	1661		3.459935
5	3	5563.5	18	95	1600	1077	4.476433
6	3	5563.5	18	95	1822	1563	5.605039
7	3	5563.5	18	50	1844	1306	7.523502
8	1	5563.5	18	60			8.446847
9	3	5563.5	18	100	1143	1522	9.195985
10	1	5563.5	18	75			10.735871
11	2	5563.5	18	60	1806		11.36389

USA Bin 5 Trial #24

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5563.5	7	55	1724	1044	0.626108
2	2	5563.5	7	85	1505		0.777163
3	1	5563.5	7	85			1.501375
4	1	5563.5	7	75			2.383414
5	2	5563.5	7	60	1011		3.307189
6	2	5563.5	7	95	1344		3.827593
7	2	5563.5	7	85	1977		4.55025
8	2	5563.5	7	60	1506		5.049375
9	3	5563.5	7	100	1918	1453	5.859638
10	3	5563.5	7	50	1950	1303	6.407329
11	2	5563.5	7	55	1378		6.679266
12	3	5563.5	7	70	1701	1124	7.58972
13	2	5563.5	7	70	1142		8.650813
14	2	5563.5	7	95	1589		9.120634
15	2	5563.5	7	55	1940		9.965149
16	2	5563.5	7	70	1107		10.295063
17	3	5563.5	7	80	1419	1208	11.025742
18	2	5563.5	7	70	1742		11.639691

USA Bin 5 Trial #25

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	2	5563.5	5	90	1990		0.915397
2	3	5563.5	5	75	1390	1343	2.542485
3	2	5563.5	5	55	1136		2.88773
4	3	5563.5	5	95	1510	1420	4.213549
5	3	5563.5	5	75	1618	1282	6.401063
6	1	5563.5	5	65			6.764522
7	2	5563.5	5	80	1812		8.558502
8	1	5563.5	5	100			10.650044
9	3	5563.5	5	50	1909	1340	10.956223

USA Bin 5 Trial #26

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS) Pulse Start (S)
1	3	5563.5	19	55	1316	1918	0.464901
2	3	5563.5	19	80	1176	1060	1.502327
3	1	5563.5	19	75			3.595707
4	3	5563.5	19	85	1532	1641	4.485133

5	2	5563.5	19	60	1883		5.568653
6	1	5563.5	19	85			6.329269
7	1	5563.5	19	85			8.349818
8	3	5563.5	19	90	1466	1732	9.164347
9	1	5563.5	19	50			9.841934
10	3	5563.5	19	55	1587	1550	11.090569

USA Bin 5 Trial #27

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	2	5563.5	15	85	1962		0.731009
2	3	5563.5	15	95	1775	1010	1.528634
3	2	5563.5	15	95	1644		2.365832
4	2	5563.5	15	50	1910		2.565883
5	2	5563.5	15	60	1407		3.585433
6	3	5563.5	15	60	1897	1498	4.09981
7	1	5563.5	15	55			5.339986
8	1	5563.5	15	65			6.323908
9	3	5563.5	15	65	1354	1921	7.043324
10	2	5563.5	15	70	1681		7.965801
11	3	5563.5	15	65	1919	1982	8.111558
12	2	5563.5	15	90	1332		8.866385
13	1	5563.5	15	75			9.823081
14	1	5563.5	15	65			11.072916
15	2	5563.5	15	90	1290		11.661601

USA Bin 5 Trial #28

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5563.5	9	75			0.213557
2	1	5563.5	9	60			1.178834
3	2	5563.5	9	80	1434		2.881581
4	2	5563.5	9	65	1730		3.952408
5	2	5563.5	9	100	1579		5.283966
6	2	5563.5	9	60	1648		5.532635
7	1	5563.5	9	85			7.111127
8	2	5563.5	9	55	1349		8.602926
9	2	5563.5	9	60	1766		9.776899
10	2	5563.5	9	60	1823		10.156887
11	3	5563.5	9	90	1368	1350	11.468844

USA Bin 5 Trial #29

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	1	5563.5	7	50			0.767183
2	3	5563.5	7	85	1067	1404	2.3671
3	3	5563.5	7	70	1670	1615	4.097398
4	2	5563.5	7	65	1088		5.234457
5	2	5563.5	7	60	1524		7.387641
6	1	5563.5	7	75			8.631646
7	1	5563.5	7	55			9.459485
8	2	5563.5	7	85	1150		11.685688

USA Bin 5 Trial #30

Burst #	Pulses	Frequency (MHz)	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)		Inter-pulse spacing (uS)
	Pulse Start (S)						
1	3	5563.5	8	70	1889	1957	0.738408
2	3	5563.5	8	65	1433	1537	2.30506
3	1	5563.5	8	55			3.476235
4	3	5563.5	8	55	1857	1731	3.685573
5	2	5563.5	8	85	1644		4.830628
6	1	5563.5	8	90			7.116915
7	3	5563.5	8	55	1016	1947	7.911598
8	3	5563.5	8	75	1798	1657	9.492395
9	1	5563.5	8	85			10.356235
10	1	5563.5	8	50			11.922925

*See the Bin6 Radar Characteristics at the end of this report.

Channel 5530 MHz, 80MHz BW, USA Frequency Hopping Radar Statistical Performance

Trial #	Name	1=Detection 0=No Detection	Detection Percentage	Limit
1	USA Bin 6 Radar Test 1	1	100.0%	70.0%
2	USA Bin 6 Radar Test 2	1		
3	USA Bin 6 Radar Test 3	1		
4	USA Bin 6 Radar Test 4	1		
5	USA Bin 6 Radar Test 5	1		
6	USA Bin 6 Radar Test 6	1		
7	USA Bin 6 Radar Test 7	1		
8	USA Bin 6 Radar Test 8	1		
9	USA Bin 6 Radar Test 9	1		
10	USA Bin 6 Radar Test 10	1		
11	USA Bin 6 Radar Test 11	1		
12	USA Bin 6 Radar Test 12	1		
13	USA Bin 6 Radar Test 13	1		
14	USA Bin 6 Radar Test 14	1		
15	USA Bin 6 Radar Test 15	1		
16	USA Bin 6 Radar Test 16	1		
17	USA Bin 6 Radar Test 17	1		
18	USA Bin 6 Radar Test 18	1		
19	USA Bin 6 Radar Test 19	1		
20	USA Bin 6 Radar Test 20	1		
21	USA Bin 6 Radar Test 21	1		
22	USA Bin 6 Radar Test 22	1		
23	USA Bin 6 Radar Test 23	1		
24	USA Bin 6 Radar Test 24	1		
25	USA Bin 6 Radar Test 25	1		
26	USA Bin 6 Radar Test 26	1		
27	USA Bin 6 Radar Test 27	1		
28	USA Bin 6 Radar Test 28	1		
29	USA Bin 6 Radar Test 29	1		
30	USA Bin 6 Radar Test 30	1		

USA Frequency Hopping Trial #1

Hop #	Freq (GHz)	Pulse Start (mS)
1	5527	3
8	5513	24
9	5495	27
11	5550	33
21	5519	63
23	5553	69
26	5548	78
31	5551	93
44	5547	132
47	5558	141
54	5492	162
56	5496	168
63	5566	189
64	5514	192
76	5505	228
78	5537	234
79	5563	237
81	5511	243
82	5516	246
91	5556	273

USA Frequency Hopping Trial #2

Hop #	Freq (GHz)	Pulse Start (mS)
0	5516	0
7	5509	21
8	5562	24
9	5557	27
15	5556	45
16	5493	48
23	5553	69
24	5554	72
30	5564	90
36	5499	108
40	5528	120
53	5565	159
65	5555	195
69	5523	207
74	5491	222
78	5534	234
89	5531	267
97	5492	291

USA Frequency Hopping Trial #3

Hop #	Freq (GHz)	Pulse Start (mS)
10	5503	30
11	5523	33
20	5530	60
25	5499	75
34	5553	102
40	5502	120
42	5533	126
45	5550	135
53	5551	159
56	5493	168
59	5565	177
69	5514	207
71	5511	213
76	5506	228
80	5546	240
90	5555	270
93	5504	279
97	5524	291

USA Frequency Hopping Trial #4

Hop #	Freq (GHz)	Pulse Start (mS)
0	5515	0
30	5502	90
38	5561	114
41	5518	123

49	5507	147
57	5510	171
65	5537	195
71	5546	213
81	5508	243
82	5523	246
85	5496	255
90	5512	270
98	5568	294

USA Frequency Hopping Trial #5

Hop #	Freq (GHz)	Pulse Start (mS)
4	5499	12
22	5501	66
25	5547	75
27	5523	81
30	5529	90
35	5536	105
38	5508	114
57	5532	171
58	5513	174
59	5498	177
73	5517	219
74	5507	222
79	5504	237

USA Frequency Hopping Trial #6

Hop #	Freq (GHz)	Pulse Start (mS)
8	5553	24
10	5517	30
13	5528	39
21	5561	63
23	5532	69
25	5538	75
29	5533	87
31	5495	93
39	5557	117
41	5549	123
43	5516	129
52	5535	156
53	5493	159
54	5550	162
57	5505	171
60	5562	180
67	5544	201
80	5507	240
90	5491	270

USA Frequency Hopping Trial #7

Hop #	Freq (GHz)	Pulse Start (mS)
0	5549	0
6	5568	18
11	5494	33
27	5493	81
29	5539	87
37	5528	111
44	5559	132
64	5517	192
65	5565	195
88	5548	264
96	5530	288
99	5513	297

USA Frequency Hopping Trial #8

Hop #	Freq (GHz)	Pulse Start (mS)
2	5528	6
8	5503	24
19	5525	57
45	5530	135
61	5558	183
66	5507	198
67	5537	201
71	5546	213

77	5567	231
82	5496	246
91	5524	273
94	5508	282
99	5560	297

USA Frequency Hopping Trial #9

Hop #	Freq (GHz)	Pulse Start (mS)
5	5514	15
12	5539	36
17	5531	51
28	5529	84
33	5500	99
47	5536	141
73	5569	219
76	5568	228
82	5559	246
83	5558	249
87	5527	261
92	5521	276
93	5508	279
94	5546	282

USA Frequency Hopping Trial #10

Hop #	Freq (GHz)	Pulse Start (mS)
5	5508	15
9	5518	27
11	5510	33
14	5566	42
31	5513	93
36	5556	108
43	5516	129
48	5550	144
57	5563	171
62	5506	186
67	5561	201
74	5492	222
76	5537	228
77	5551	231
79	5558	237
81	5549	243
83	5548	249
84	5544	252
89	5523	267
91	5517	273

USA Frequency Hopping Trial #11

Hop #	Freq (GHz)	Pulse Start (mS)
1	5552	3
3	5540	9
15	5549	45
16	5511	48
17	5527	51
20	5491	60
25	5559	75
27	5502	81
28	5525	84
36	5565	108
51	5543	153
55	5500	165
58	5497	174
59	5507	177
60	5521	180
63	5542	189
81	5537	243
87	5520	261

USA Frequency Hopping Trial #12

Hop #	Freq (GHz)	Pulse Start (mS)
7	5493	21
12	5518	36
13	5533	39
21	5539	63

26	5565	78
44	5510	132
49	5498	147
53	5496	159
54	5545	162
55	5561	165
62	5535	186
85	5556	255
87	5502	261

USA Frequency Hopping Trial #13

Hop #	Freq (GHz)	Pulse Start (mS)
2	5547	6
30	5537	90
32	5528	96
34	5511	102
35	5548	105
36	5515	108
41	5535	123
50	5493	150
51	5532	153
68	5544	204
75	5565	225
78	5516	234
94	5563	282
96	5538	288

USA Frequency Hopping Trial #14

Hop #	Freq (GHz)	Pulse Start (mS)
1	5502	3
9	5496	27
22	5556	66
28	5531	84
37	5550	111
38	5568	114
44	5510	132
46	5540	138
55	5500	165
56	5519	168
67	5543	201
78	5560	234
90	5506	270
94	5497	282

USA Frequency Hopping Trial #15

Hop #	Freq (GHz)	Pulse Start (mS)
2	5529	6
14	5521	42
19	5518	57
23	5552	69
39	5515	117
54	5536	162
56	5567	168
65	5569	195
69	5565	207
71	5514	213
74	5558	222
78	5511	234
81	5559	243
87	5545	261
89	5512	267

USA Frequency Hopping Trial #16

Hop #	Freq (GHz)	Pulse Start (mS)
3	5506	9
7	5523	21
8	5526	24
10	5535	30
21	5537	63
27	5499	81
36	5495	108
47	5507	141
48	5530	144

49	5569	147
54	5509	162
65	5544	195
72	5553	216
75	5538	225
85	5558	255
97	5531	291

USA Frequency Hopping Trial #17

Hop #	Freq (GHz)	Pulse Start (mS)
16	5552	48
19	5530	57
44	5502	132
48	5533	144
50	5491	150
56	5496	168
58	5544	174
67	5500	201
76	5555	228
78	5537	234
88	5515	264
89	5538	267
90	5508	270

USA Frequency Hopping Trial #18

Hop #	Freq (GHz)	Pulse Start (mS)
14	5566	42
16	5512	48
18	5513	54
23	5498	69
25	5522	75
28	5514	84
41	5503	123
52	5567	156
53	5497	159
60	5527	180
61	5502	183
90	5504	270

USA Frequency Hopping Trial #19

Hop #	Freq (GHz)	Pulse Start (mS)
2	5508	6
13	5541	39
17	5563	51
24	5551	72
30	5566	90
37	5522	111
47	5544	141
50	5545	150
53	5496	159
81	5519	243
85	5565	255
89	5552	267

USA Frequency Hopping Trial #20

Hop #	Freq (GHz)	Pulse Start (mS)
3	5537	9
6	5528	18
35	5541	105
38	5552	114
39	5564	117
42	5527	126
43	5516	129
46	5521	138
53	5493	159
54	5567	162
63	5563	189
64	5565	192
66	5556	198
72	5529	216
73	5526	219
75	5562	225
83	5530	249

94	5517	282

USA Frequency Hopping Trial #21

Hop #	Freq (GHz)	Pulse Start (mS)
14	5560	42
18	5494	54
24	5535	72
25	5513	75
27	5540	81
33	5530	99
43	5555	129
57	5525	171
67	5523	201
71	5565	213
79	5510	237
87	5519	261
90	5521	270
92	5536	276
95	5500	285
96	5561	288
97	5509	291

USA Frequency Hopping Trial #22

Hop #	Freq (GHz)	Pulse Start (mS)
6	5552	18
14	5501	42
19	5564	57
25	5498	75
32	5563	96
36	5524	108
38	5502	114
40	5500	120
52	5526	156
55	5528	165
58	5507	174
63	5504	189
66	5509	198
69	5495	207
70	5525	210
72	5545	216
75	5515	225
83	5508	249

USA Frequency Hopping Trial #23

Hop #	Freq (GHz)	Pulse Start (mS)
8	5555	24
10	5535	30
12	5562	36
13	5569	39
19	5546	57
23	5528	69
24	5556	72
25	5497	75
33	5564	99
50	5547	150
72	5527	216
78	5544	234
86	5553	258
90	5529	270
91	5559	273
97	5531	291

USA Frequency Hopping Trial #24

Hop #	Freq (GHz)	Pulse Start (mS)
3	5516	9
6	5525	18
7	5524	21
9	5563	27
18	5567	54
19	5527	57
20	5526	60
24	5560	72
30	5555	90

44	5536	132
50	5494	150
52	5528	156
55	5550	165
63	5565	189
68	5505	204
69	5542	207
77	5556	231
82	5513	246
93	5503	279
98	5533	294

USA Frequency Hopping Trial #25

Hop #	Freq (GHz)	Pulse Start (mS)
2	5520	6
15	5533	45
23	5562	69
25	5518	75
27	5563	81
28	5535	84
29	5516	87
33	5524	99
47	5561	141
58	5517	174
61	5552	183
71	5492	213
73	5556	219
75	5506	225
80	5544	240
82	5549	246
86	5504	258
89	5536	267
95	5497	285

USA Frequency Hopping Trial #26

Hop #	Freq (GHz)	Pulse Start (mS)
0	5511	0
5	5504	15
6	5540	18
9	5569	27
26	5548	78
27	5561	81
32	5524	96
38	5521	114
51	5529	153
69	5567	207
74	5512	222
77	5565	231
81	5497	243
84	5533	252
85	5554	255
86	5506	258
96	5520	288

USA Frequency Hopping Trial #27

Hop #	Freq (GHz)	Pulse Start (mS)
0	5539	0
2	5548	6
13	5555	39
23	5526	69
26	5557	78
33	5509	99
36	5506	108
44	5541	132
45	5536	135
50	5527	150
51	5503	153
55	5563	165
60	5529	180
61	5559	183
62	5510	186
63	5512	189

67	5533	201
81	5534	243
89	5519	267

USA Frequency Hopping Trial #28

Hop #	Freq (GHz)	Pulse Start (mS)
1	5542	3
2	5525	6
11	5550	33
14	5509	42
16	5555	48
32	5526	96
33	5563	99
40	5511	120
45	5505	135
47	5496	141
48	5536	144
55	5519	165
62	5541	186
65	5562	195
68	5561	204
87	5506	261
91	5549	273
96	5498	288

USA Frequency Hopping Trial #29

Hop #	Freq (GHz)	Pulse Start (mS)
4	5495	12
13	5504	39
25	5541	75
41	5511	123
43	5569	129
61	5518	183
68	5540	204
76	5565	228
84	5513	252
93	5512	279

USA Frequency Hopping Trial #30

Hop #	Freq (GHz)	Pulse Start (mS)
2	5518	6
4	5547	12
6	5493	18
14	5541	42
15	5540	45
16	5531	48
25	5528	75
31	5535	93
32	5503	96
33	5569	99
36	5556	108
42	5496	126
44	5559	132
50	5521	150
62	5530	186
71	5560	213
75	5558	225
95	5533	285

Appendix C: List of Test Equipment Used to perform the test

CIS055094	National Instruments /PXI-1042	DFS Automation System	Cal before use	Cal before use	B1 thru B7
	National Instruments /PXI-5422	16-Bit 200MS/s AWG	Cal before use	Cal before use	B1 thru B7
	National Instruments /PXI-5422	16-Bit 200MS/s AWG	Cal before use	Cal before use	B1 thru B7
	National Instruments /PXI-8155	Embedded controller	Cal before use	Cal before use	B1 thru B7
CIS054686	NI PXI-2796 National Instruments	Multiplexer, 40 GHz 50 Ohm	Cal before use	Cal before use	B1 thru B7
CIS053615	N9030A-550 Keysight	PXA Signal Analyzer	04 Apr 2017	04 Apr 2018	B1 thru B7
CIS056329	Pasternack PE5019-1	Torque wrench	01 Mar 2017	01 Mar 2018	B1 thru B7
CIS055562	MEGAPHASE F120-S1S1-48	SMA cable	27 Jul 2017	27 Jul 2018	B1 thru B7
CIS055565	MEGAPHASE F120-S1S1-36	SMA cable	27 Jul 2017	27 Jul 2018	B1 thru B7
CIS055580	Aeroflex BWS20-W2	20dB SMA Attenuator	27 Jul 2017	27 Jul 2018	B1 thru B7
CIS055585	Aeroflex BWS30-W2	30dB SMA Attenuator	27 Jul 2017	27 Jul 2018	B1 thru B7
CIS054611	Megaphase RA08-S1S1-12	SMA Cable	27 Jul 2017	27 Jul 2018	B1 thru B7
CIS054608	D3C2060 Ditom	Circulator	29 Jan 2018	29 Jan 2019	B1 thru B7
CIS055368	Pulsar PS4-09-452/4S	4 Way Divider	12 Apr 2017	12 Apr 2018	B1 thru B7
CIS054623	MEGAPHASE RA08-S1S1-18	SMA cable	27 Jul 2017	27 Jul 2018	B1 thru B7
CIS054624	MEGAPHASE RA08-S1S1-18	SMA cable	27 Jul 2017	27 Jul 2018	B1 thru B7
CIS-37019	Fluke 175	True RMS Multimeter	19 Oct 2017	19 Oct 2018	B1 thru B7
CIS-55863	Dynawave SMSM-A2PH-012	12 inch SMA cable	29 Jan 2018	29 Jan 2019	B1 thru B7
CIS-55106	Agilent N5182B	MXG X-Series RF Vector Signal Generator	07 Sep 2017	07 Sep 2018	B1 thru B7
CIS-55557	Mini-Circuits ZFSC-2-10G	SPLITTER, 2-10GHZ	27 Jul 2017	27 Jul 2018	B1 thru B7
CIS-1505	Omega CT485B	Chart Recorder	01 Dec	01 Dec	B1 thru B7

			2017	2018	
CIS-6335	Lufft 5063-33W	Dial Hygrometer	16 Aug 2017	16 Aug 2018	B1 thru B7
CIS-37570	Agilent 8710-1765	Torque Wrench	10 May 2017	10 May 2018	B1 thru B7

End