Dynamic Frequency Selection (DFS) Test Report

AIR-CAP2602y-B-K9

FCC ID: LDK102080

Also covers:
AIR-CAP2602y-S-K9

y = E (External Antenna) or I (Internal Antenna)

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: Jose Aguirre **Tested By**	**Approved By:** Jim Nicolson **Title:** Technical Leader, Engineering **Revision:** 2

This report replaces any previously entered test report under EDCS – **1134841**.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
Measurements were made in accordance with

- KDB 905462 D02 UNII DFS Compliance Procedures New Rules v01r02

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	+/- 8.2 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

08-January-16

2.3 Report Issue Date

11-January-2016

Cisco uses an electronic system to issue, store and control the revision of test reports. This system is called the Engineering Document Control System (EDCS). The actual report issue date is embedded into the original file on EDCS. Any copies of this report, either electronic or paper, that are not on EDCS must be considered uncontrolled.

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

Jose Aguirre

2.5 Equipment Assessed (EUT)

AIR-CAP2602y-B-K9

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	Hardwar Rev.	Firmware Rev.	Software Rev.	Serial Number
S01	AIR-CAP2602y-B-K9	Cisco Systems	P2	15.3	AP3G2-K9W7-M	FGL1710Z0YD
S02	AIR-PWR-C	Meanwell	A0	NA	NA	EB46E93226
S03	AIR-CAP3702I-A-K9	Cisco Systems	P2	15.3	AP3G2-K9W7-M	FCW1906NUYD

4.2 System Details

System Number	Description	Samples	System under test	Support equipment
1	AIR-CAP2602y-B-K9	S01	☑	☐
	Support Power Supply	S02	☐	☑
	Support Client Equipment	S03	☐	☑

4.3 Mode of Operation Details

Mode#	Description	Comments
1	Continuous Transmitting	Continuous Transmitting

All measurements were made in accordance with

- KDB 905462 D02 UNII DFS Compliance Procedures New Rules v01r02

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 AIR-CAP2602y-B-K9 Cisco Aironet 802.11ac Module 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 29 dBm, and the minimum possible EIRP is -1 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	Internal	omnidirectional	4

3. System testing was performed with the designated MPEG test file that streams full motion video at 30 frames per second from the Master to the Client IP based system.

4. The Master requires 106.5 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 selecting an operating channel among the available channels using a random algorithm.

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.	

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$\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot10^6}{\mathrm{PRI}_{\mu\mathrm{sec}}}\right)\right\}$	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.

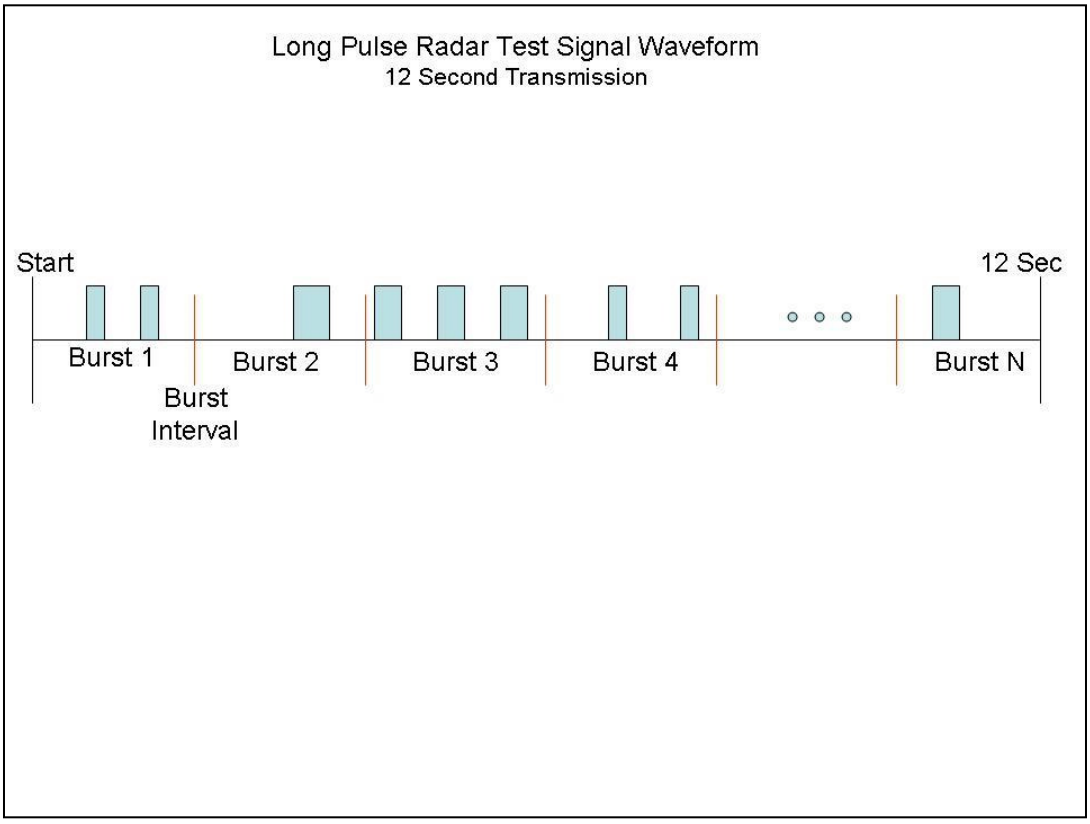
Each waveform is defined as follows:

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. Pulses in different Bursts may have different chirp widths. 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 v01r02

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

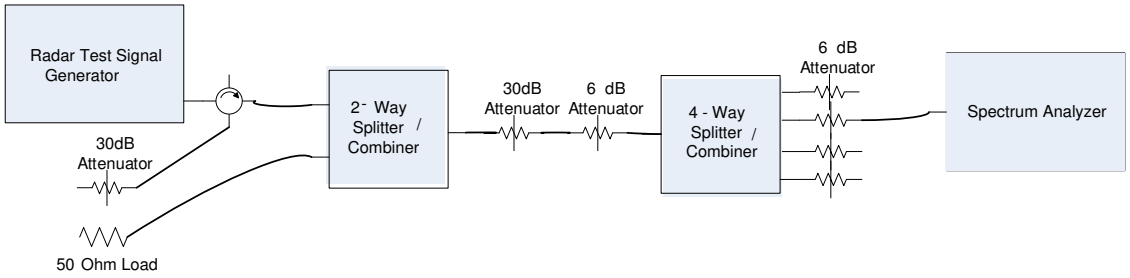
System Number	Description	Samples	System under test	Support equipment
1	AIR-CAP2602y-B-K9	S01	☑	☐
	Support Power Supply	S02	☐	☑
	Support Client Equipment	S03	☐	☑

Tested By :	**Date of testing:**
Jose Aguirre	08-January-16
Test Result : PASS	

See Appendix C for list of test equipment

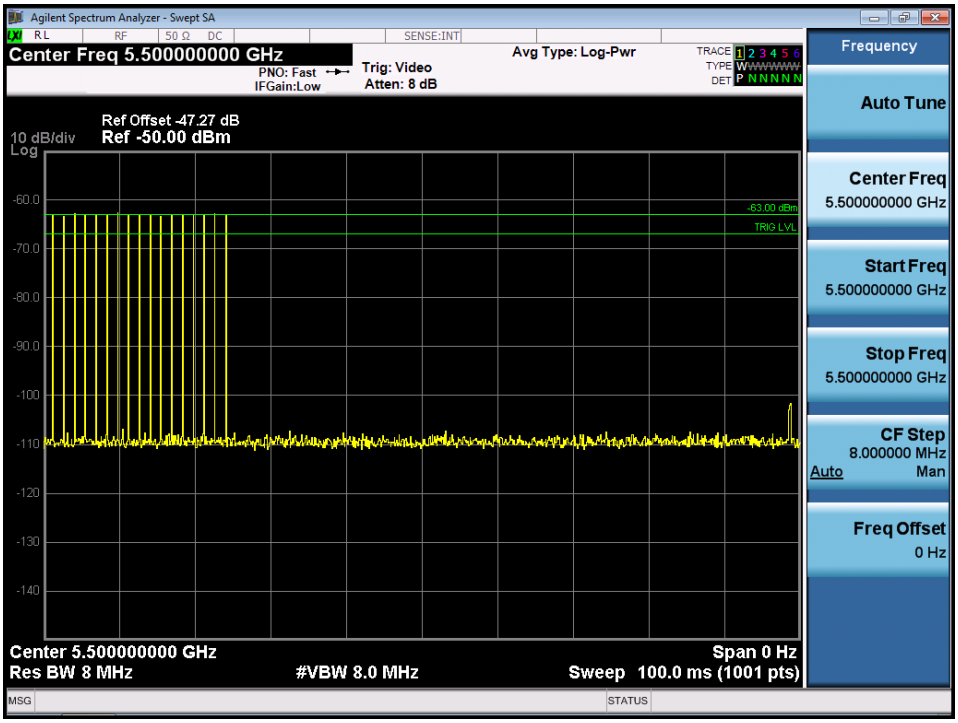
The following equipment setup was used to calibrate the conducted Radar Waveform. A spectrum analyzer was used to establish the test signal level for each radar type. During this process there were no transmissions by either the Master or Client Device. The spectrum analyzer was switched to the zero 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.

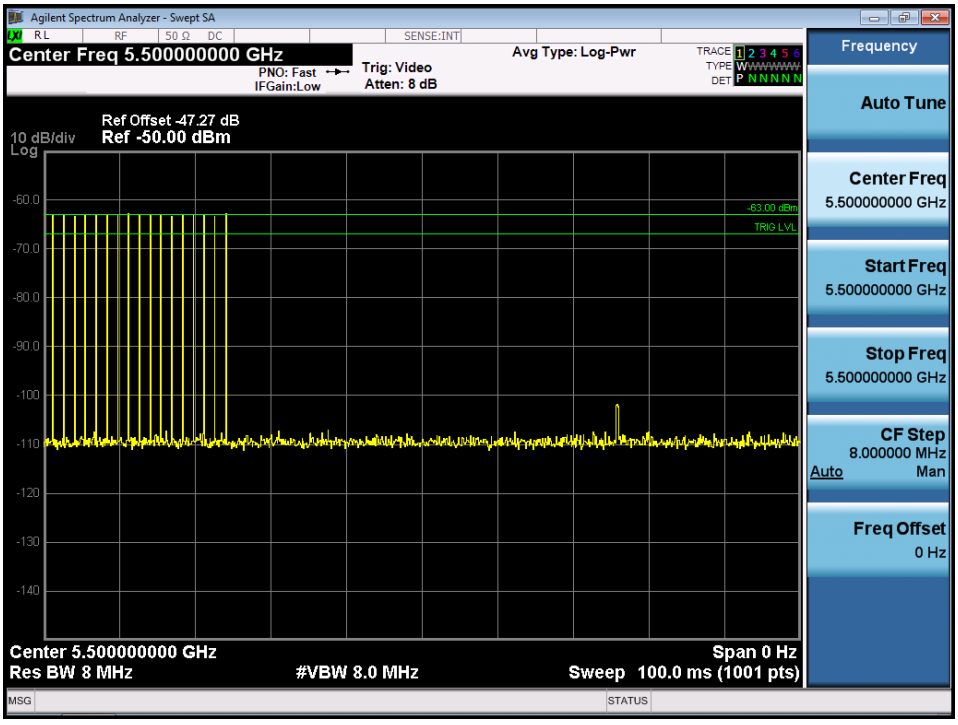


Conducted Calibration Setup

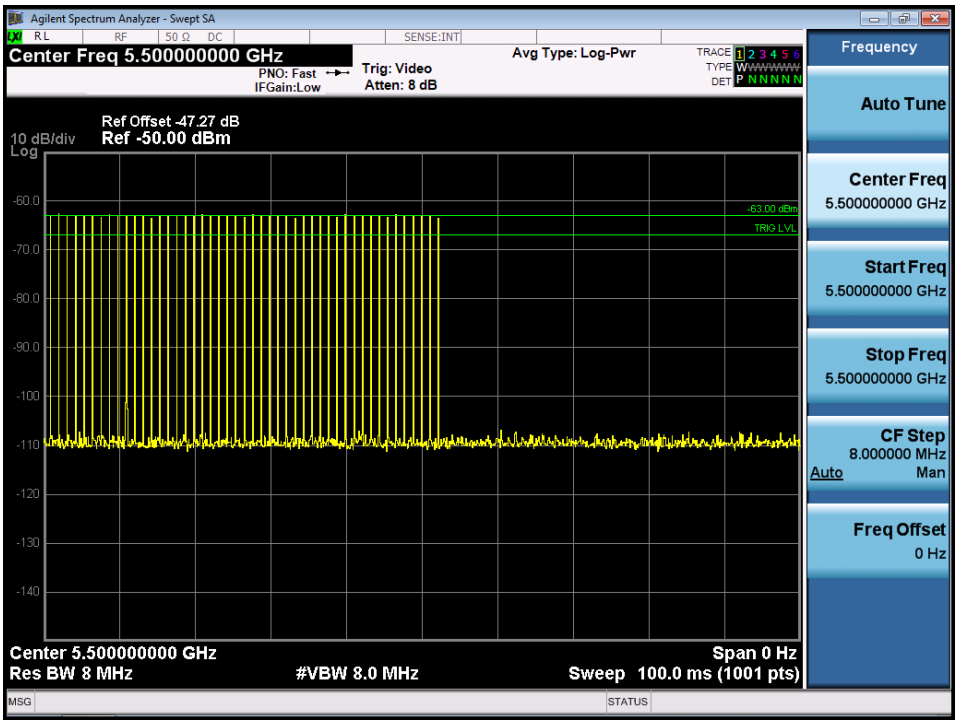
Following are the calibration plots for each of the required radar waveforms.



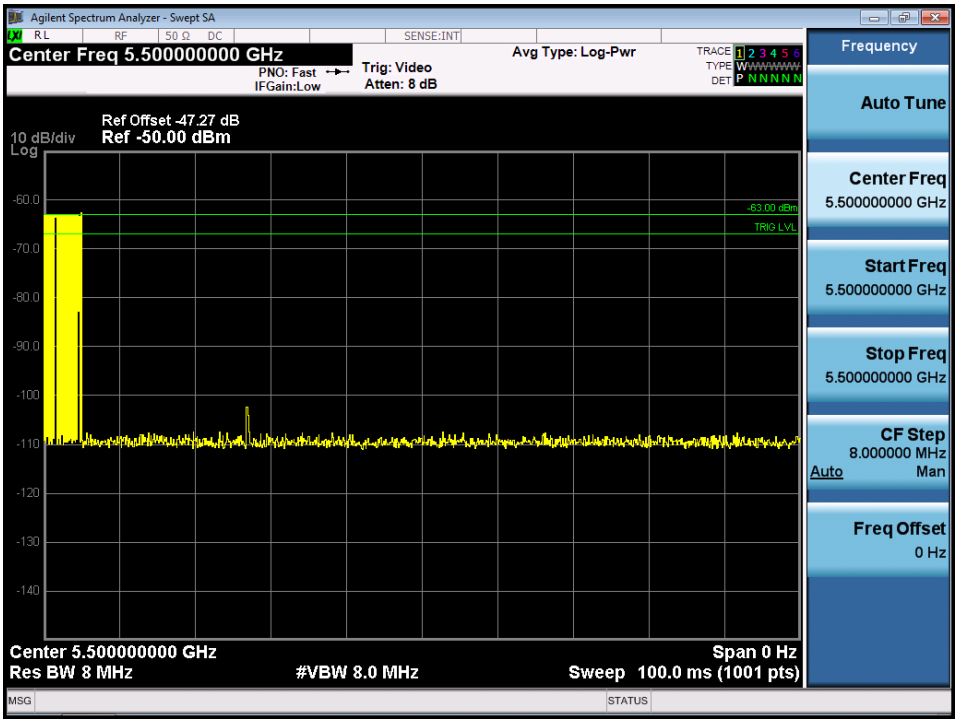
USA Bin 0 Radar Calibration



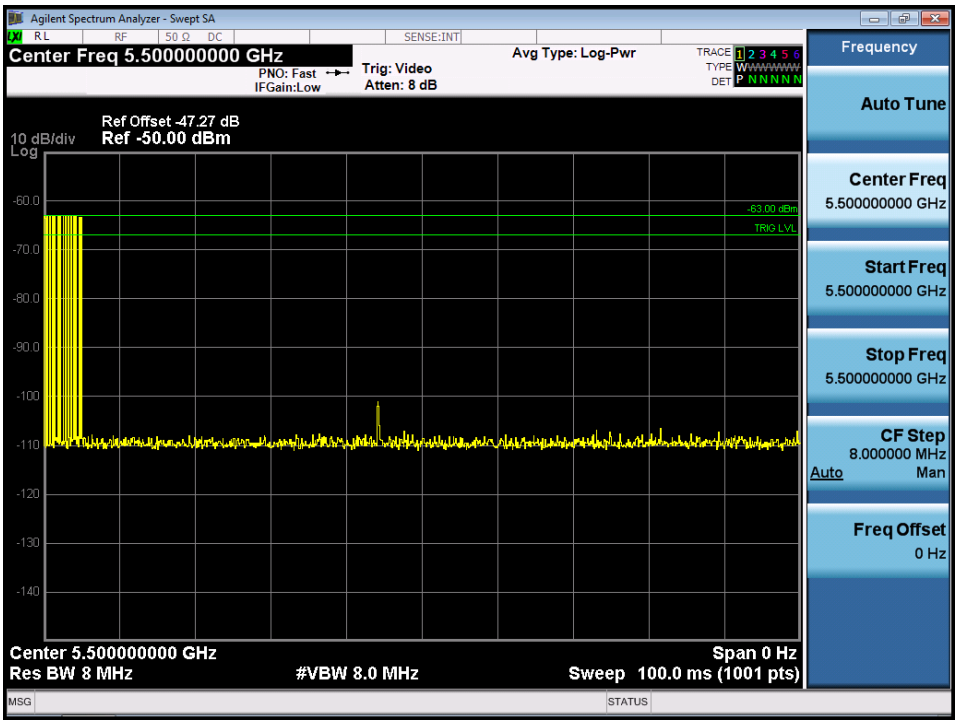
USA Bin 1A Radar Calibration



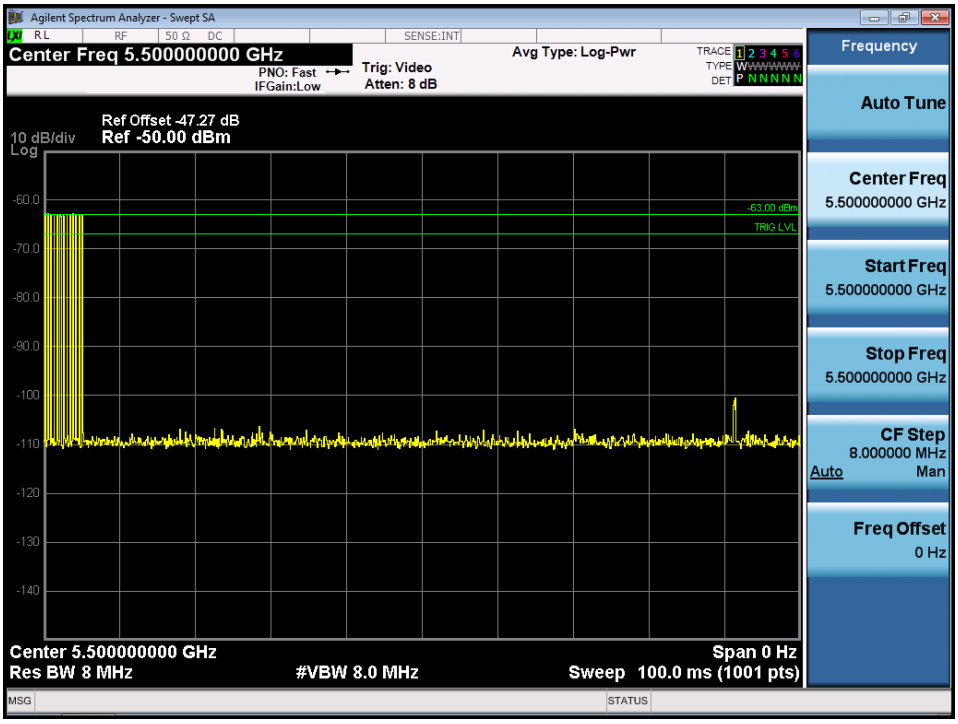
USA Bin 1B Radar Calibration



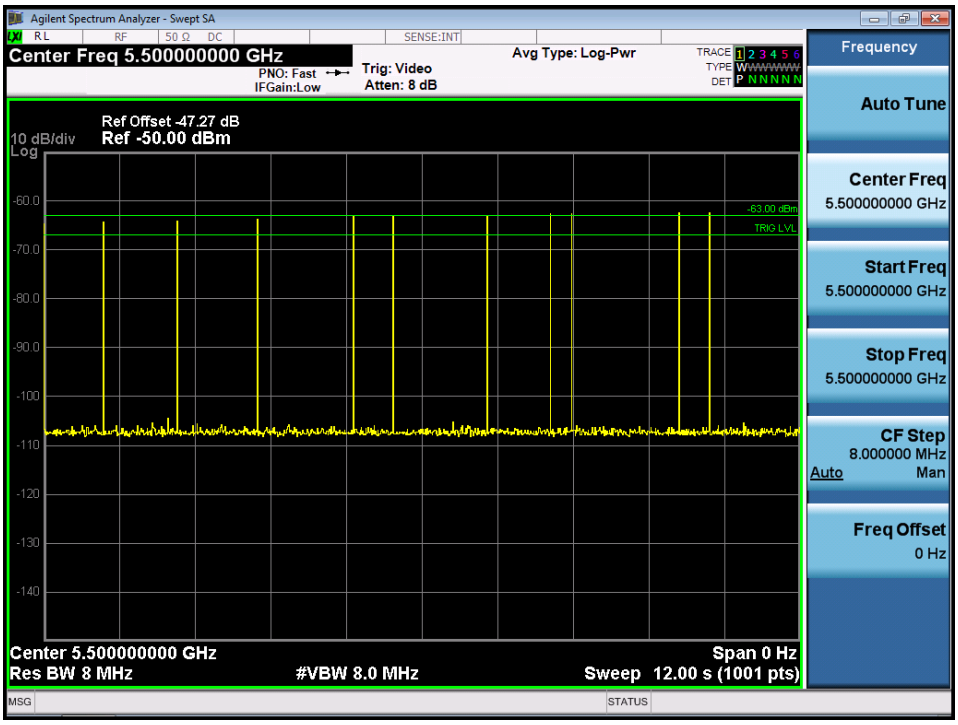
USA Bin 2 Radar Calibration



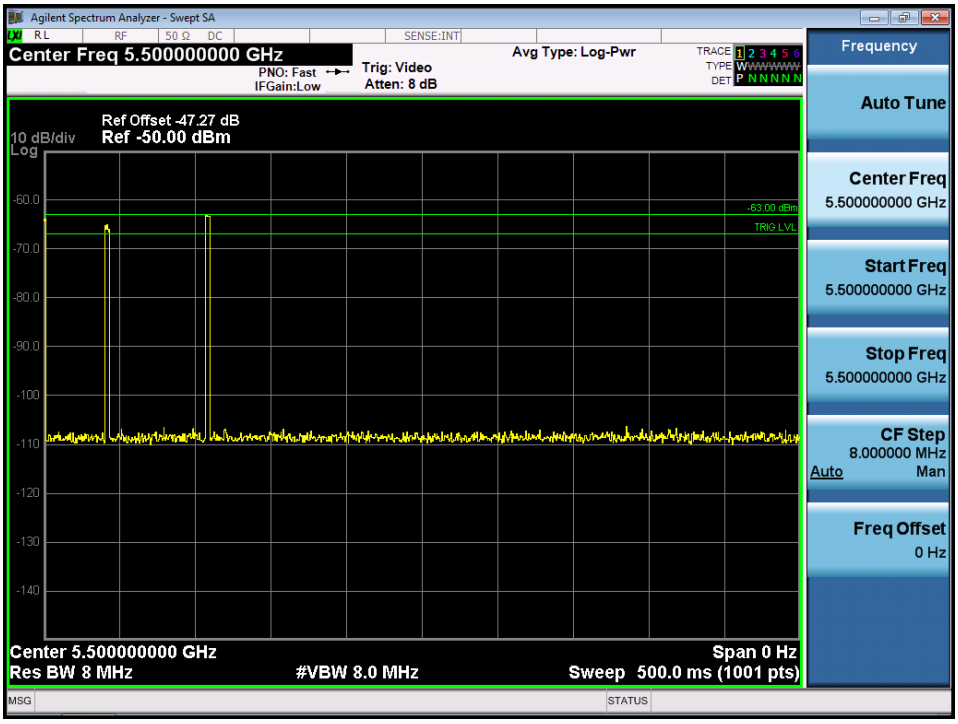
USA Bin 3 Radar Calibration



USA Bin 4 Radar Calibration



USA Bin 5 Radar Calibration



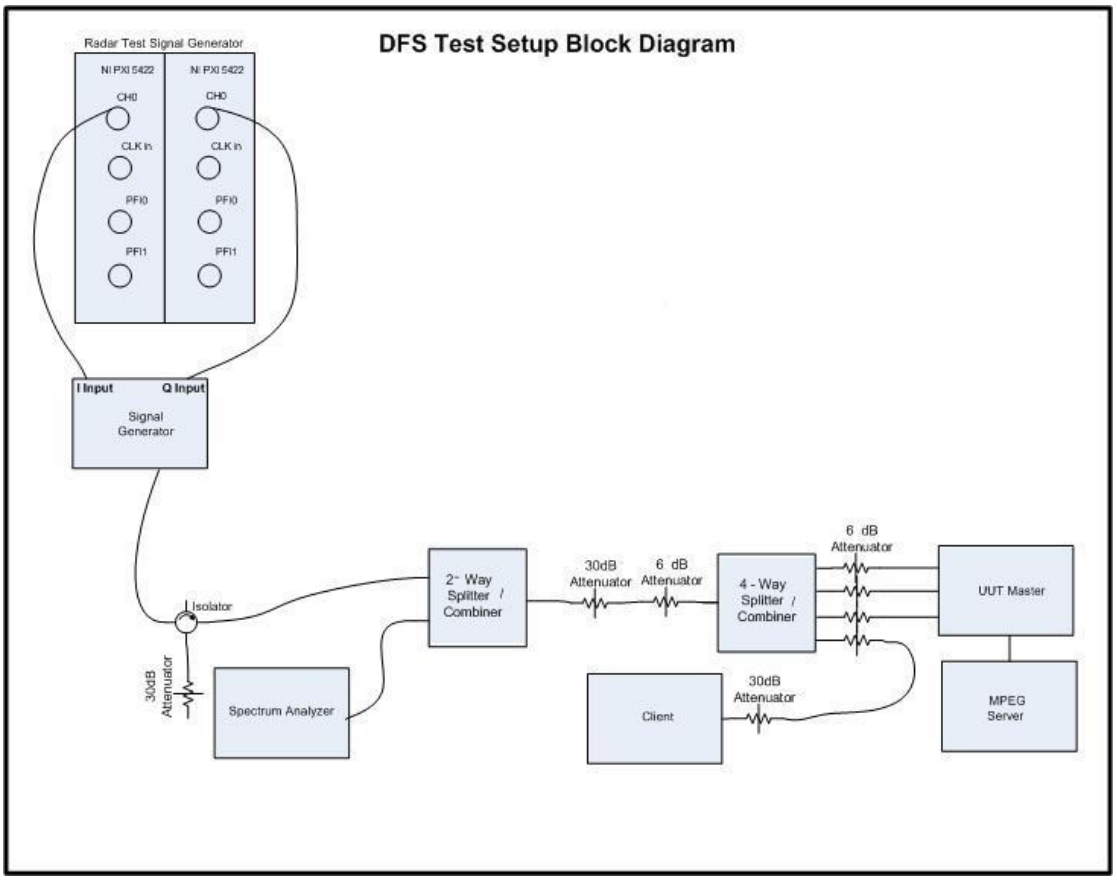
USA Frequency Hopping Radar Calibration

B.1 Test Procedure/Results

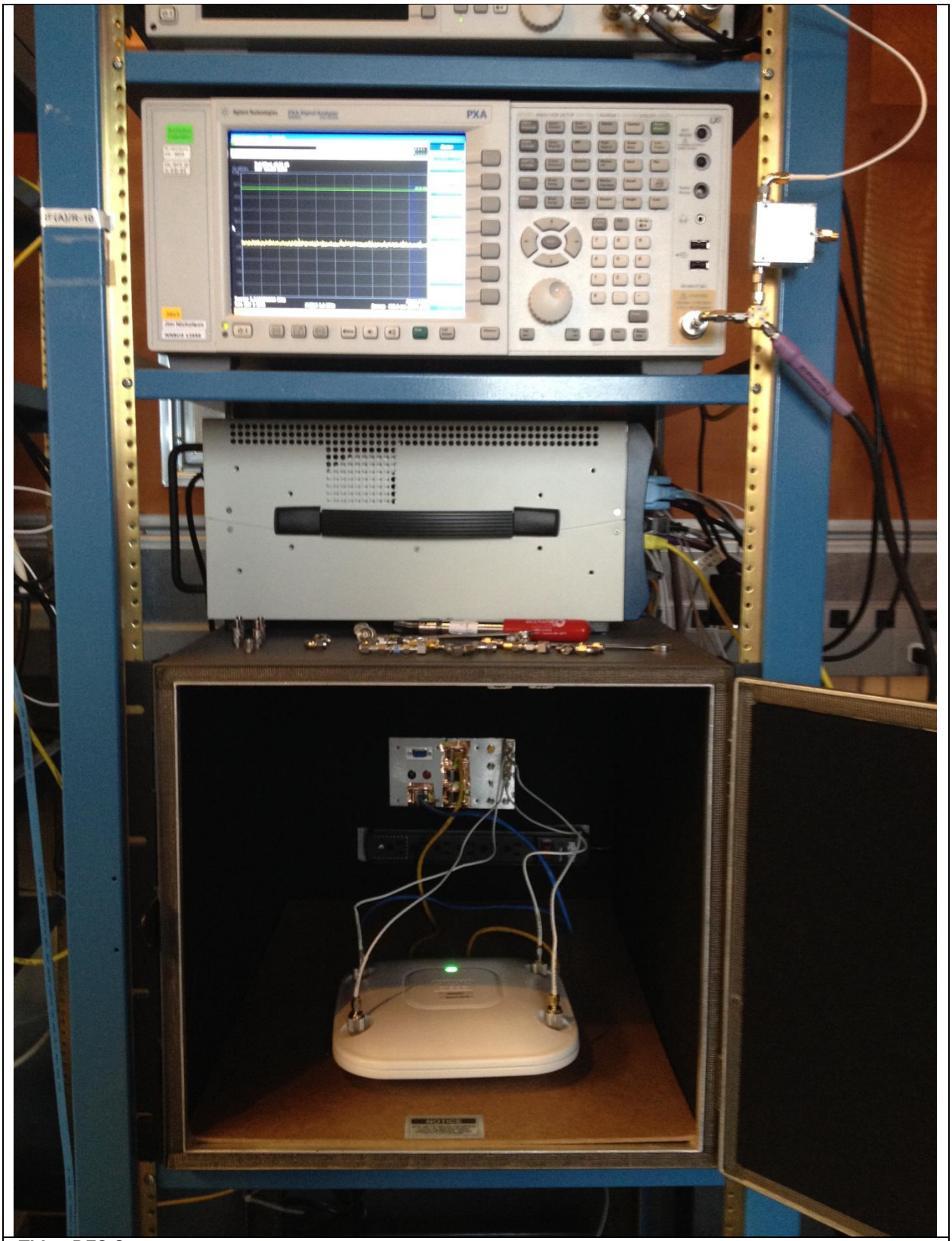
A spectrum analyzer is used as a monitor to verify that the UUT has vacated the Channel within the (Channel Closing Transmission Time and Channel Move Time) and does not transmit on a Channel during the

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

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	17
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		
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	17
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 1A 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		
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	17
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 1B 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		
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	17
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 2 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	0	1	1	1	1	1	1	90		
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	17
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	0	1	90		

USA Bin 3 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	0	0	0	0	0	0	0	0	0	0	0		
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	18	17
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	0	0	0	0	0	0	0	0	0	0	0		

USA Bin 4 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		
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	17
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 5 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		
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	17
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 Frequency Hopping 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	0	0	0	0	1	0	1	0	0	0	20		
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	36	36
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	0	1	1	0	1	1	1	0	0	0	50		
5530	0	0	1	0	0	0	1	0	1	1	40		

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	0	0	0	1	1	1	0	1	1	0	50		
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	38	36
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	0	1	0	0	0	1	0	0	1	40		

USA Bin 1A 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	0	0	0	1	0	0	0	1	1	0	30		
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	38	36
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	0	0	1	0	0	0	0	1	0	0	20		

USA Bin 1B 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	0	0	0	0	0	0	0	0	0	1	10		
5491	0	0	1	0	1	1	1	0	0	1	50		
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	36	36
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	0	1	1	1	1	0	1	1	1	80		
5530	0	0	0	1	0	0	0	0	0	0	10		

USA Bin 2 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	0	1	0	0	0	0	0	0	0	0	10		
5491	1	1	1	0	1	1	1	1	1	1	90		
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	38	36
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	0	1	1	1	1	1	1	1	1	90		
5530	0	0	0	0	0	0	0	0	0	0	0		

USA Bin 3 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	0	0	0	0	0	0	0	0	0	0	0		
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	38	36
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	0	0	0	0	0	0	0	0	0	0	0		

USA Bin 4 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		
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	0	1	1	1	1	1	1	1	1	1	90		
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	0	1	1	1	1	1	90		
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	0	1	90		
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	40	36
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	0	1	1	1	1	1	90		
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	0	1	1	1	1	1	1	1	90		
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 5 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		
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	40	36
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 Frequency Hopping Radar

B.3 Initial Channel Availability Check Time

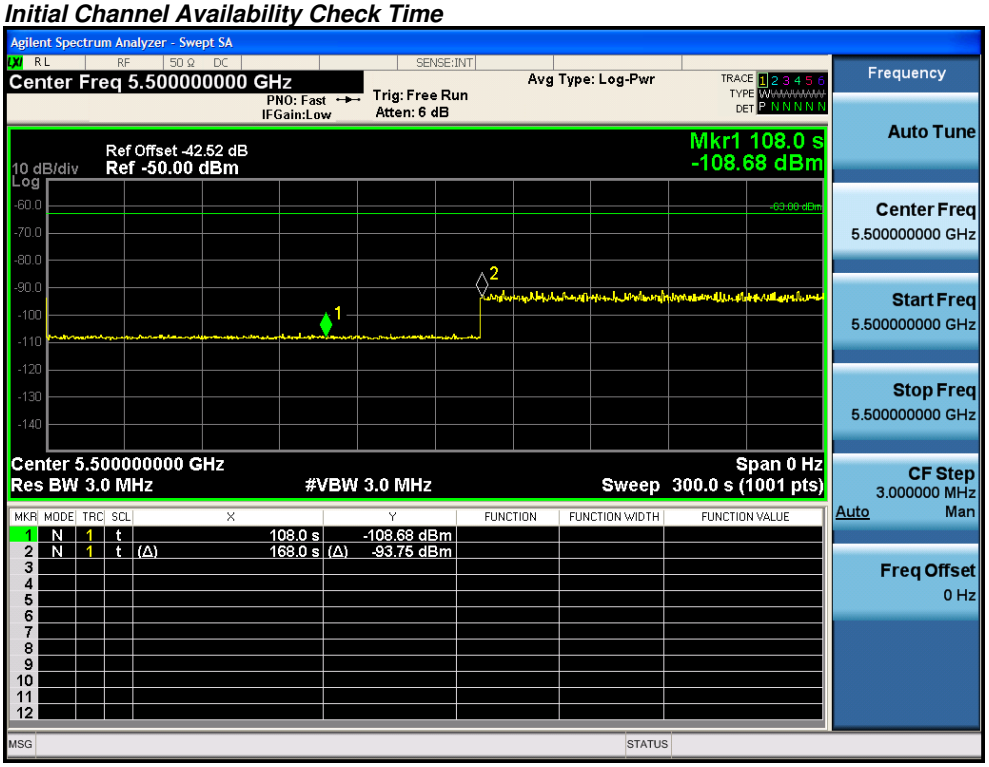
The tests that the UUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms.

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



B.4 Radar Burst at the Beginning 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 beginning of the Channel Availability Check Time.

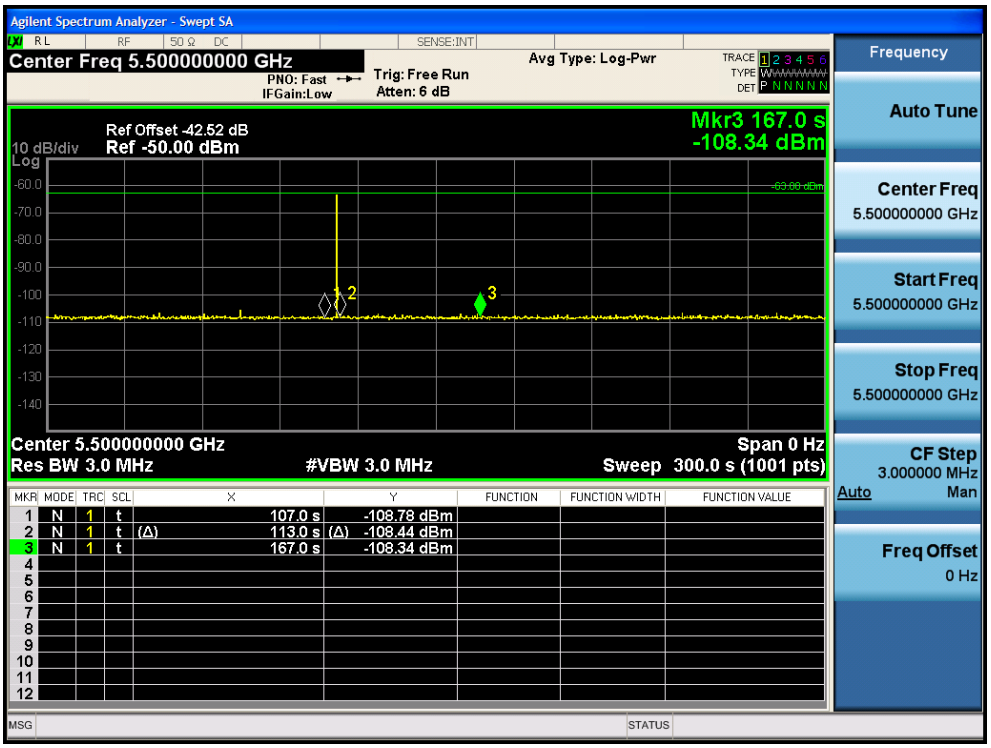
The UUT is powered on at T_0. T_1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T_1 and will end no sooner than T_1 + 60 seconds.

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



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.

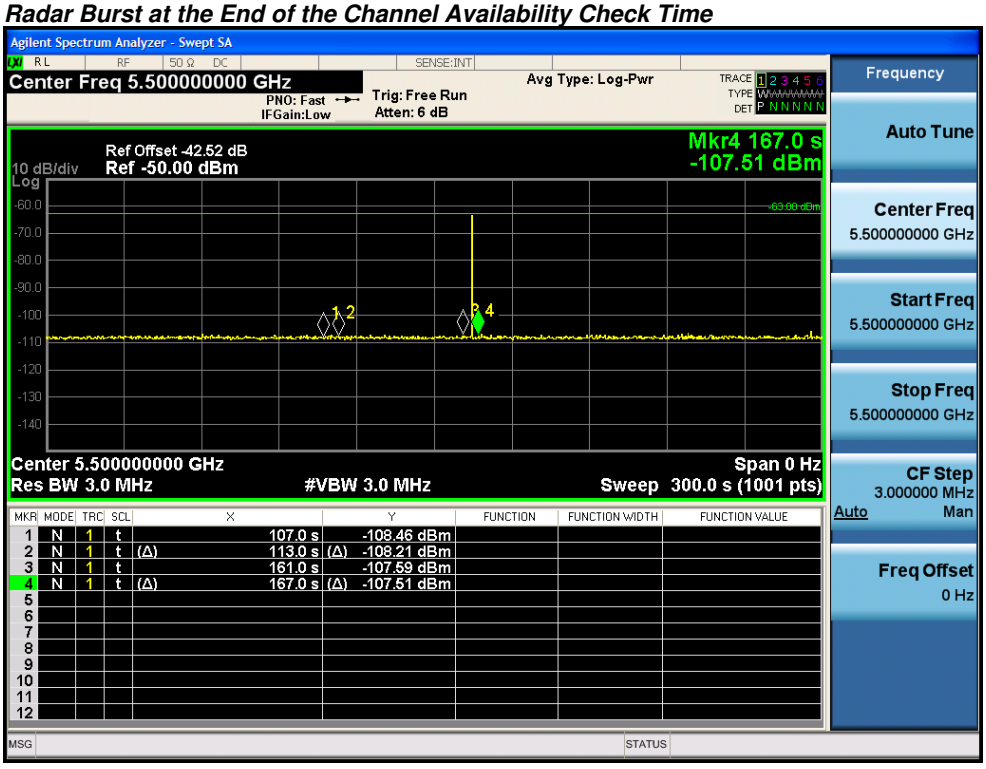
The UUT is powered on at T_0. T_1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T_1 and will end no sooner than T_1 + 60 seconds.

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



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.

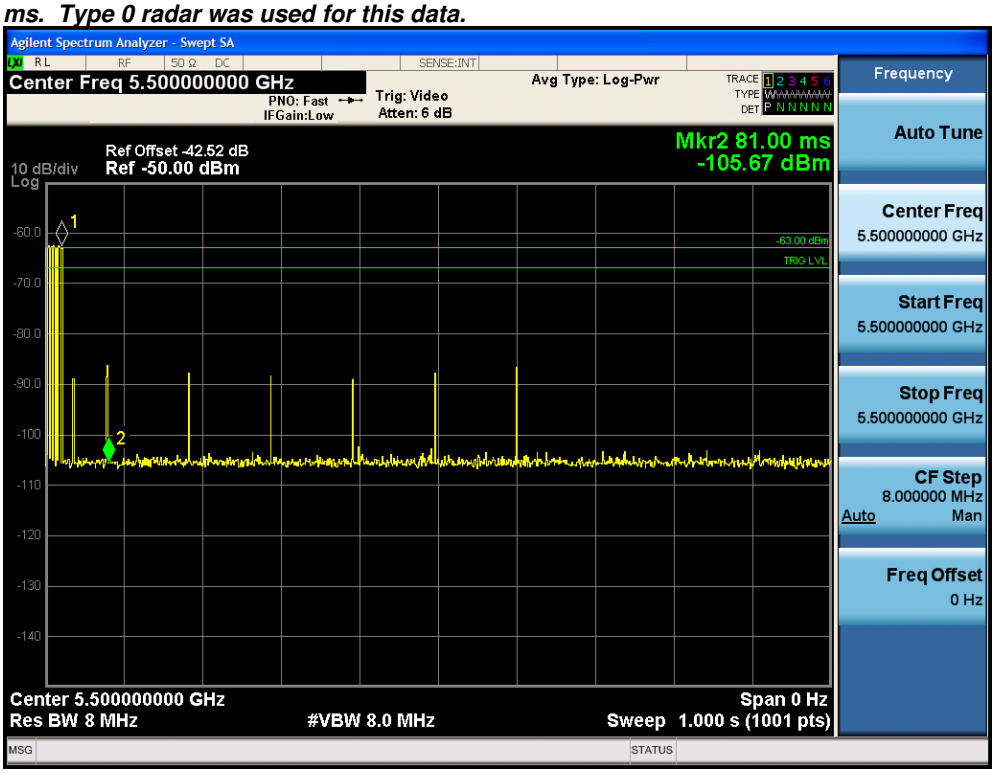
The steps below define the procedure to determine the above mentioned parameters when a radar Burst with a level equal to the DFS Detection Threshold + 1dB (-63dBm) is generated on the Operating Channel of the U-NII device.

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.

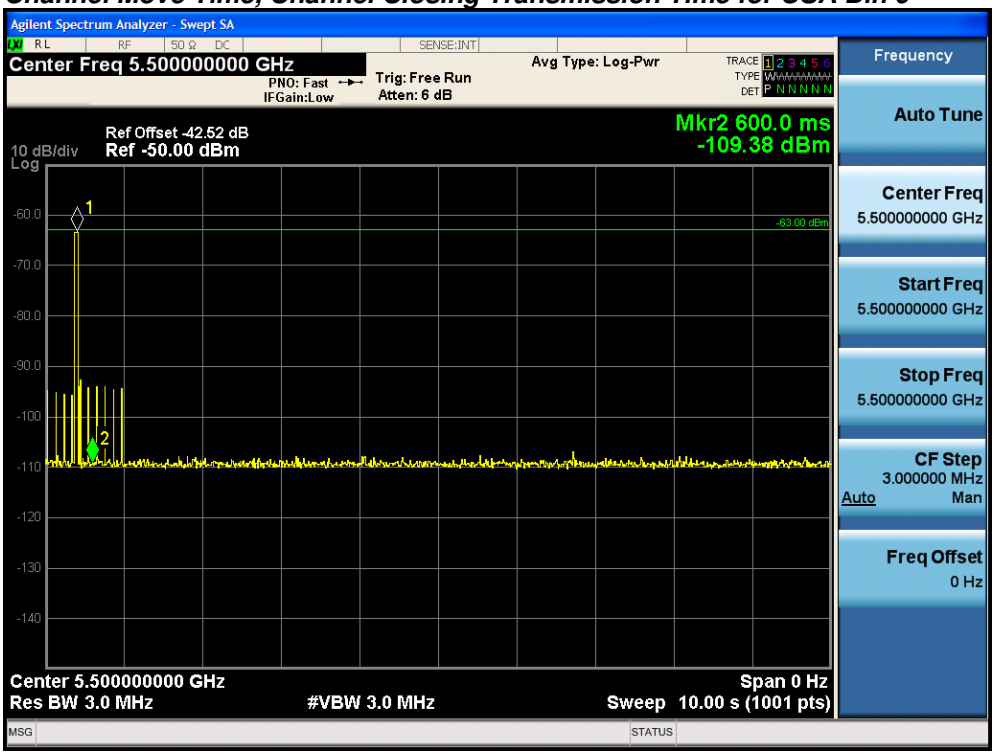
At time T_0 the Radar Waveform generator sends a Burst of pulses for radar type 0 at -63dBm.

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.

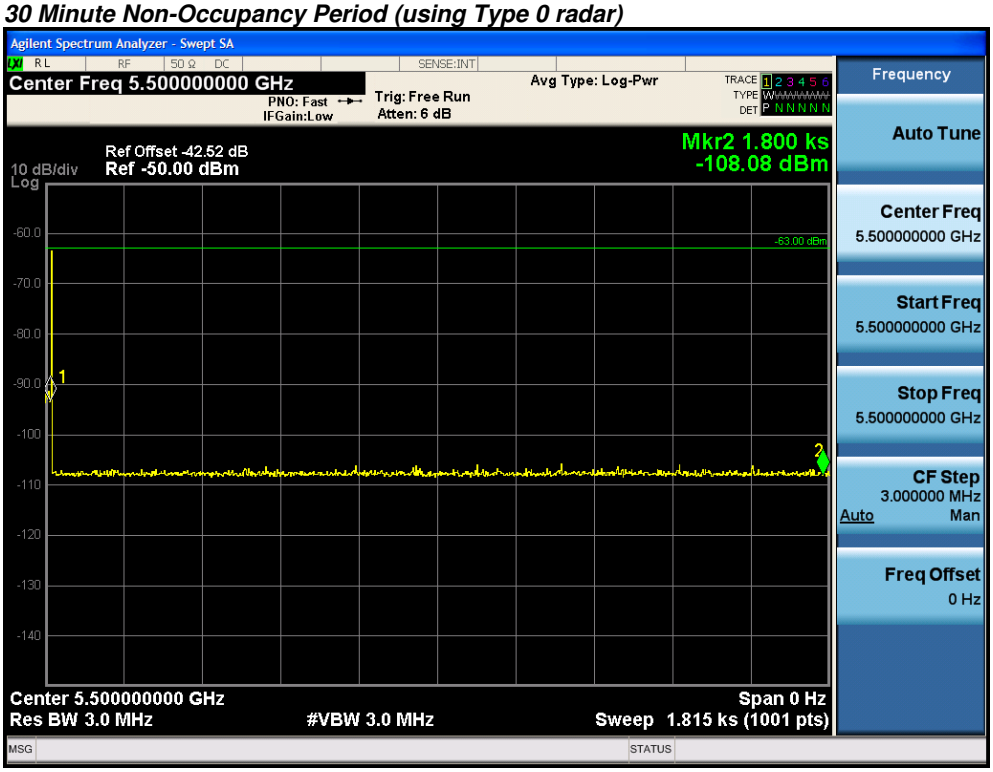


Channel Move Time, Channel Closing Transmission Time for USA Bin 0



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)



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.

USA Bin 1A/1B Radar Statistical Performance

Trial #	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	18	1	3066	1	100.0%	60.0%
2	65	1	818	1		
3	18	1	3066	1		
4	67	1	798	1		
5	58	1	918	1		
6	99	1	538	1		
7	70	1	758	1		
8	89	1	598	1		
9	58	1	918	1		
10	89	1	598	1		
11	70	1	758	1		
12	95	1	558	1		
13	62	1	858	1		
14	86	1	618	1		
15	65	1	818	1		
16	59	1	900	1		
17	25	1	2192	1		
18	31	1	1745	1		
19	27	1	2011	1		
20	41	1	1305	1		
21	36	1	1489	1		
22	21	1	2559	1		
23	22	1	2446	1		
24	41	1	1304	1		
25	22	1	2491	1		
26	90	1	591	1		
27	24	1	2214	1		
28	18	1	3029	1		
29	26	1	2083	1		
30	56	1	954	1		

USA Bin 2 Radar Statistical Performance

Trial #	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	24	2.2	227	1	76.7%	60.0%
2	29	4.9	199	1		
3	27	2	151	1		
4	23	1	216	0		
5	25	4	167	1		
6	23	2.4	183	0		
7	27	2.8	153	1		
8	25	3.8	195	1		
9	25	2.6	163	1		
10	26	4.8	176	0		
11	25	4.7	191	1		
12	25	2.8	172	1		
13	24	3.8	205	1		
14	28	4.4	196	1		
15	26	2.8	196	1		
16	25	2.3	224	1		
17	28	1.7	159	0		
18	27	4.4	165	1		
19	28	2.1	156	0		
20	23	3.1	187	1		
21	25	2	187	1		
22	26	1.7	166	1		
23	23	4.5	178	1		
24	25	3.5	158	0		
25	28	3.1	222	1		
26	24	4.1	194	1		
27	27	3.1	170	0		
28	24	4.2	205	1		
29	23	2.6	211	1		
30	26	4	224	1		

USA Bin 3 Radar Statistical Performance

Trial #	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	17	6.4	219	1	73.3%	60.0%
2	17	8.7	380	1		
3	17	9.5	312	0		
4	16	7	407	1		
5	16	6.1	339	0		
6	16	7.3	238	1		
7	17	9.7	417	1		
8	16	8.7	364	0		
9	18	7.2	295	1		
10	17	8.2	454	1		
11	17	8.2	357	1		
12	17	7.9	344	1		
13	16	8.9	367	0		
14	17	7.3	420	1		
15	17	9.7	243	1		
16	17	7.8	317	0		
17	18	6.8	235	1		
18	18	9.5	392	1		
19	18	7	244	1		
20	18	6.8	200	1		
21	17	8.7	233	0		
22	17	8.6	440	1		
23	17	6.8	498	1		
24	18	6.2	417	0		
25	18	9.4	220	1		
26	18	9.4	457	1		
27	18	6.3	466	1		
28	16	9.4	373	0		
29	18	9.4	478	1		
30	17	6	235	1		

USA Bin 4 Radar Statistical Performance

Trial #	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	13	19.3	233	1	73.3%	60.0%
2	13	11.8	354	1		
3	12	16.6	279	0		
4	14	18.5	393	0		
5	14	19	401	0		
6	15	16.8	312	1		
7	14	19.2	376	1		
8	14	17.7	313	1		
9	14	19.3	241	1		
10	14	17.2	289	1		
11	13	18.7	351	1		
12	16	19.7	227	1		
13	16	17.1	450	1		
14	13	17.9	404	0		
15	13	17.9	230	1		
16	15	19.5	242	1		
17	15	19.4	403	1		
18	16	17.1	382	1		
19	15	19.9	363	1		
20	14	13.4	303	0		
21	13	19.8	487	0		
22	12	14.7	393	1		
23	13	11.5	289	1		
24	14	14.5	352	1		
25	13	18.5	446	1		
26	13	12	289	1		
27	14	17	430	0		
28	12	18.8	202	1		
29	14	11.9	497	0		
30	15	14.2	308	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:

$$\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4}$$ = (100.0%+76.7%+73.3%+73.3)/4 = 80.8% (>80%)

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

USA Bin 5 Radar Statistical Performance

Trial #	Name	1=Detection 0=No Detection	Detection Percentage	Limit
1	USA Bin 5 Radar Test 1	1	100.0%	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	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	3	5498.3	17	70	1731	1154	0.884788
2	1	5498.3	17	80			1.574114
3	1	5498.3	17	80			3.214388
4	2	5498.3	17	60	1737		5.179145
5	3	5498.3	17	95	1240	1649	6.874799
6	2	5498.3	17	70	1381		8.239636
7	2	5498.3	17	70	1257		9.661731
8	1	5498.3	17	65			10.7836

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	5495.1	9	100	1949	1075	0.926366
2	1	5495.1	9	95			1.234581
3	1	5495.1	9	95			2.854887
4	2	5495.1	9	80	1793		4.283837
5	1	5495.1	9	50			4.435104
6	2	5495.1	9	95	1711		6.351707
7	2	5495.1	9	55	1534		7.572517
8	1	5495.1	9	75			8.194822
9	3	5495.1	9	75	1292	1942	9.621615
10	2	5495.1	9	90	1404		10.307448
11	1	5495.1	9	70			11.321082

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	3	5494.7	8	55	1980	1423	0.152599
2	3	5494.7	8	60	1660	1490	0.84894
3	3	5494.7	8	55	1639	1512	1.51325
4	2	5494.7	8	60	1995		2.146953
5	1	5494.7	8	70			2.576054
6	3	5494.7	8	60	1409	1781	3.180486
7	1	5494.7	8	100			3.977817
8	3	5494.7	8	60	1046	1486	4.305609
9	3	5494.7	8	50	1019	1752	5.114613
10	1	5494.7	8	85			5.596912
11	1	5494.7	8	70			6.42552
12	3	5494.7	8	85	1913	1153	6.940932
13	2	5494.7	8	75	1702		7.749424
14	1	5494.7	8	70			8.127764
15	1	5494.7	8	60			8.41215
16	3	5494.7	8	55	1146	1865	9.073924
17	1	5494.7	8	60			9.968493
18	3	5494.7	8	70	1678	1181	10.652487
19	1	5494.7	8	70			11.113319
20	2	5494.7	8	70	1539		11.654753

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	5493.5	5	60			0.455076
2	2	5493.5	5	90	1352		0.92034
3	1	5493.5	5	55			1.358396
4	1	5493.5	5	80			2.360373
5	1	5493.5	5	70			2.724698
6	3	5493.5	5	100	1252	1240	3.347394
7	1	5493.5	5	55			4.16576
8	1	5493.5	5	65			5.027443
9	3	5493.5	5	80	1832	1467	5.307456
10	2	5493.5	5	60	1567		6.046223
11	2	5493.5	5	85	1704		6.507819
12	1	5493.5	5	70			7.185075
13	3	5493.5	5	100	1989	1229	8.113755
14	1	5493.5	5	70			8.660557
15	1	5493.5	5	75			8.95322
16	3	5493.5	5	85	1096	1806	10.078159
17	2	5493.5	5	95	1180		10.318104
18	2	5493.5	5	65	1591		11.154185
19	2	5493.5	5	50	1528		11.895489

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	1	5498.7	18	65			0.549522
2	2	5498.7	18	60	1159		1.72253
3	2	5498.7	18	75	1592		2.613262
4	2	5498.7	18	75	1890		3.355069
5	3	5498.7	18	85	1875	1369	4.027827

6	3	5498.7	18	100	1809	1093	5.747926
7	3	5498.7	18	90	1269	1662	6.393503
8	2	5498.7	18	90	1283		7.696004
9	2	5498.7	18	55	1315		8.49094
10	3	5498.7	18	75	1833	1757	9.384007
11	1	5498.7	18	95			10.968261
12	1	5498.7	18	50			11.300399

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	5496.3	12	90	1443		1.078314
2	2	5496.3	12	95	1058		1.886191
3	1	5496.3	12	60			3.502171
4	2	5496.3	12	50	1779		5.110815
5	1	5496.3	12	85			6.354998
6	3	5496.3	12	65	1795	1353	7.026336
7	3	5496.3	12	50	1010	1023	8.977686
8	2	5496.3	12	85	1566		10.170621
9	2	5496.3	12	75	1283		11.435119

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	5495.5	10	90	1328		0.596839
2	2	5495.5	10	70	1977		1.204059
3	2	5495.5	10	85	1226		2.710259
4	2	5495.5	10	100	1319		3.760852
5	3	5495.5	10	60	1582	1475	4.278533
6	1	5495.5	10	70			5.662164
7	2	5495.5	10	50	1117		6.760892
8	2	5495.5	10	55	1419		7.387824
9	2	5495.5	10	50	1258		8.171978
10	3	5495.5	10	85	1896	1419	9.834695
11	2	5495.5	10	60	1212		10.16554
12	1	5495.5	10	85			11.939896

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	5495.9	11	60			0.494587
2	3	5495.9	11	70	1063	1849	0.950881
3	2	5495.9	11	55	1935		1.943759
4	3	5495.9	11	55	1293	1264	2.041273
5	1	5495.9	11	65			3.020735
6	2	5495.9	11	85	1776		3.653812
7	2	5495.9	11	75	1908		4.254341
8	3	5495.9	11	85	1581	1951	4.853336
9	1	5495.9	11	100			5.783342
10	1	5495.9	11	65			6.34998
11	1	5495.9	11	65			7.090388
12	1	5495.9	11	100			7.926616
13	3	5495.9	11	100	1359	1657	8.359659
14	2	5495.9	11	95	1719		8.884296
15	2	5495.9	11	50	1176		9.554662
16	1	5495.9	11	55			10.615946
17	1	5495.9	11	65			11.261521
18	2	5495.9	11	100	1790		11.867054

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	3	5499.5	20	80	1237	1012	0.457939
2	1	5499.5	20	60			1.317387
3	3	5499.5	20	50	1365	1163	2.438024
4	1	5499.5	20	80			3.06264
5	1	5499.5	20	80			3.852763
6	1	5499.5	20	65			4.390517
7	3	5499.5	20	75	1346	1898	5.855573
8	2	5499.5	20	65	1524		6.369699
9	2	5499.5	20	65	1631		7.212635
10	3	5499.5	20	75	1443	1174	8.294747
11	2	5499.5	20	95	1347		8.946661
12	3	5499.5	20	60	1864	1647	10.199393
13	1	5499.5	20	75			10.708026
14	2	5499.5	20	70	1835		11.582807

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	5500	20	90	1463		0.0696
2	1	5500	20	90			1.398114
3	2	5500	20	85	1523		1.77661
4	2	5500	20	100	1110		3.080238

5	3	5500	20	70	1149	1491	3.533147
6	2	5500	20	95	1261		4.441629
7	2	5500	20	60	1961		5.361206
8	3	5500	20	90	1805	1943	5.695099
9	1	5500	20	65			6.975451
10	3	5500	20	80	1699	1096	7.787193
11	3	5500	20	50	1662	1588	8.521072
12	3	5500	20	55	1643	1297	9.36559
13	1	5500	20	90			10.35753
14	1	5500	20	55			11.16632
15	3	5500	20	55	1081	1033	11.511062

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	5500	20	75	1444	1353	0.432083
2	1	5500	20	60			1.30551
3	3	5500	20	80	1739	1996	1.882264
4	2	5500	20	85	1295		3.160944
5	3	5500	20	85	1477	1677	3.736423
6	3	5500	20	95	1648	1570	4.264629
7	2	5500	20	95	1127		5.462501
8	2	5500	20	55	1034		6.13587
9	3	5500	20	65	1362	1602	6.839865
10	1	5500	20	50			7.884841
11	3	5500	20	60	1539	1660	8.313514
12	3	5500	20	75	1897	1192	8.932211
13	2	5500	20	60	1538		10.3315
14	2	5500	20	95	1478		10.413221
15	1	5500	20	65			11.534482

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	5500	19	55			1.021506
2	1	5500	19	55			2.106332
3	3	5500	19	90	1583	1439	3.309328
4	3	5500	19	95	1541	1723	4.503286
5	1	5500	19	55			7.265599
6	2	5500	19	65	1504		8.211895
7	1	5500	19	65			10.051033
8	2	5500	19	95	1944		11.472526

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	3	5500	5	60	1460	1368	0.629559
2	1	5500	5	70			1.741926
3	3	5500	5	75	1944	1731	2.169979
4	2	5500	5	90	1244		3.575566
5	1	5500	5	85			3.943764
6	2	5500	5	70	1216		4.916499
7	1	5500	5	100			5.592698
8	3	5500	5	65	1182	1310	6.837103
9	1	5500	5	60			7.820947
10	3	5500	5	95	1887	1412	8.520916
11	3	5500	5	60	1871	1003	9.586875
12	2	5500	5	75	1688		10.309952
13	3	5500	5	85	1650	1812	11.933661

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	17	70			0.111607
2	2	5500	17	50	1283		1.907081
3	2	5500	17	55	1026		3.29985
4	1	5500	17	60			4.334629
5	1	5500	17	100			5.063023
6	2	5500	17	90	1455		7.170171
7	1	5500	17	60			7.793995
8	1	5500	17	95			9.149689
9	2	5500	17	60	1601		10.03758
10	2	5500	17	100	1082		11.698175

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	19	90			0.505853
2	3	5500	19	50	1715	1564	1.279543
3	3	5500	19	65	1517	1718	2.571065
4	2	5500	19	55	1252		2.8978
5	2	5500	19	80	1945		4.11997
6	1	5500	19	80			4.970695
7	1	5500	19	55			6.119995

8	3	5500	19	55	1276	1979	6.803028
9	2	5500	19	90	1712		8.05231
10	2	5500	19	65	1600		8.450997
11	3	5500	19	90	1236	1395	9.611301
12	3	5500	19	90	1157	1223	10.343919
13	3	5500	19	55	1604	1082	11.742565

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	3	5500	13	50	1046	1067	1.396079
2	1	5500	13	85			2.676078
3	1	5500	13	90			4.311919
4	3	5500	13	50	1954	1190	4.615033
5	1	5500	13	50			6.433808
6	2	5500	13	60	1969		7.886556
7	2	5500	13	90	1122		10.300643
8	2	5500	13	50	1126		11.649781

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	5500	18	55			0.117616
2	2	5500	18	75	1489		0.936973
3	3	5500	18	80	1811	1246	1.713593
4	3	5500	18	75	1535	1017	2.209279
5	1	5500	18	60			3.461523
6	2	5500	18	80	1329		3.864819
7	2	5500	18	50	1840		4.533263
8	1	5500	18	80			5.592423
9	1	5500	18	75			5.879356
10	1	5500	18	50			6.804249
11	1	5500	18	100			7.090514
12	2	5500	18	75	1463		8.445375
13	2	5500	18	100	1867		9.002793
14	3	5500	18	75	1334	1154	9.198385
15	2	5500	18	80	1218		10.03655
16	1	5500	18	95			10.955082
17	1	5500	18	65			11.846166

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	5500	20	50	1765	1566	0.691927
2	1	5500	20	85			1.110949
3	2	5500	20	80	1930		2.423318
4	2	5500	20	85	1769		3.211819
5	1	5500	20	75			4.133269
6	2	5500	20	100	1728		4.689935
7	3	5500	20	65	1439	1578	6.248661
8	3	5500	20	50	1938	1025	6.46689
9	3	5500	20	75	1876	1551	7.607034
10	3	5500	20	70	1390	1660	9.116285
11	3	5500	20	85	1734	1184	9.859635
12	3	5500	20	60	1997	1033	10.841965
13	3	5500	20	90	1861	1056	11.738162

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	75	1255		0.375008
2	1	5500	8	90			1.979822
3	2	5500	8	65	1638		2.99404
4	2	5500	8	70	1165		4.349817
5	2	5500	8	80	1275		5.337987
6	1	5500	8	95			6.649483
7	1	5500	8	90			7.245316
8	3	5500	8	100	1640	1220	8.65006
9	3	5500	8	90	1788	1263	10.577035
10	1	5500	8	70			10.842813

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	5500.9	19	50			0.550526
2	2	5500.9	19	85	1288		1.653382
3	1	5500.9	19	80			2.50542
4	1	5500.9	19	80			4.087039
5	3	5500.9	19	70	1592	1088	4.958091
6	2	5500.9	19	90	1106		6.120429
7	2	5500.9	19	85	1349		7.331281
8	2	5500.9	19	50	1135		7.927061
9	3	5500.9	19	65	1062	1101	9.57098
10	1	5500.9	19	50			10.856881

11	1	5500.9	19	80			11.5166

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	5504.1	11	85	1193	1215	0.110742
2	3	5504.1	11	100	1443	1113	0.8774
3	3	5504.1	11	100	1398	1583	1.341056
4	2	5504.1	11	100	1656		2.658002
5	3	5504.1	11	85	1007	1812	3.183456
6	3	5504.1	11	100	1444	1183	3.627697
7	1	5504.1	11	95			4.632913
8	3	5504.1	11	50	1030	1043	4.774408
9	3	5504.1	11	75	1544	1613	5.370697
10	1	5504.1	11	70			6.340861
11	1	5504.1	11	90			6.679977
12	3	5504.1	11	70	1810	1516	7.444307
13	1	5504.1	11	100			8.360847
14	2	5504.1	11	95	1317		8.966757
15	3	5504.1	11	60	1217	1477	9.617452
16	2	5504.1	11	85	1558		10.543412
17	3	5504.1	11	80	1224	1487	10.964073
18	2	5504.1	11	95	1932		11.484344

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	5502.9	14	85	1530		0.620473
2	3	5502.9	14	100	1202	1019	1.096055
3	3	5502.9	14	85	1752	1819	1.96938
4	1	5502.9	14	100			2.97267
5	2	5502.9	14	85	1322		3.239976
6	1	5502.9	14	50			4.385775
7	3	5502.9	14	100	1696	1024	4.582407
8	2	5502.9	14	70	1444		5.843699
9	2	5502.9	14	50	1416		6.541383
10	1	5502.9	14	60			6.912543
11	1	5502.9	14	60			7.672802
12	1	5502.9	14	80			8.487937
13	2	5502.9	14	65	1451		9.625618
14	3	5502.9	14	85	1948	1002	9.804492
15	3	5502.9	14	95	1036	1044	10.698929
16	3	5502.9	14	95	1983	1196	11.257946

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	5502.5	15	55	1564	1963	0.083593
2	1	5502.5	15	90			0.672948
3	1	5502.5	15	85			1.538055
4	1	5502.5	15	95			1.852675
5	1	5502.5	15	60			2.761301
6	2	5502.5	15	95	1203		3.572585
7	1	5502.5	15	95			3.814632
8	3	5502.5	15	95	1674	1300	4.47159
9	1	5502.5	15	65			5.288378
10	3	5502.5	15	70	1898	1339	5.915413
11	3	5502.5	15	65	1094	1686	6.417912
12	3	5502.5	15	100	1117	1766	6.616158
13	3	5502.5	15	60	1871	1326	7.630291
14	3	5502.5	15	65	1452	1269	7.943768
15	1	5502.5	15	90			8.744238
16	3	5502.5	15	95	1483	1466	9.111564
17	2	5502.5	15	85	1259		10.010627
18	1	5502.5	15	75			10.266775
19	3	5502.5	15	75	1206	1117	11.072714
20	2	5502.5	15	100	1104		11.845878

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	5504.5	10	70			0.526348
2	2	5504.5	10	100	1375		1.152756
3	3	5504.5	10	90	1637	1242	1.713415
4	3	5504.5	10	75	1371	1141	2.4152
5	3	5504.5	10	55	1964	1480	2.996315
6	3	5504.5	10	70	1521	1532	3.738823
7	3	5504.5	10	50	1439	1464	4.399908
8	1	5504.5	10	85			4.898871
9	2	5504.5	10	70	1060		5.994235
10	2	5504.5	10	70	1433		6.18247
11	1	5504.5	10	50			6.81764
12	3	5504.5	10	75	1624	1879	7.383869

13	3	5504.5	10	90	1297	1505	8.621723
14	2	5504.5	10	55	1205		8.782456
15	1	5504.5	10	80			9.846322
16	3	5504.5	10	50	1182	1182	10.507345
17	1	5504.5	10	50			10.706923
18	2	5504.5	10	75	1361		11.971208

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	5502.9	14	75	1019		0.378212
2	2	5502.9	14	65	1538		1.226612
3	1	5502.9	14	100			2.074857
4	3	5502.9	14	55	1369	1601	2.591149
5	1	5502.9	14	70			3.700186
6	3	5502.9	14	75	1214	1695	4.057669
7	1	5502.9	14	50			5.169228
8	2	5502.9	14	70	1244		5.867814
9	2	5502.9	14	50	1305		6.707159
10	2	5502.9	14	55	1135		7.754312
11	2	5502.9	14	70	1964		8.403331
12	2	5502.9	14	55	1736		9.210715
13	3	5502.9	14	85	1121	1534	9.815373
14	3	5502.9	14	100	1230	1836	10.573629
15	1	5502.9	14	70			11.753231

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	1	5506.5	5	80			1.283004
2	3	5506.5	5	100	1233	1387	2.064165
3	2	5506.5	5	75	1591		3.069477
4	2	5506.5	5	100	1128		5.101485
5	3	5506.5	5	60	1482	1321	6.672261
6	3	5506.5	5	55	1280	1330	7.979901
7	1	5506.5	5	100			10.239374
8	2	5506.5	5	85	1880		11.505067

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	5501.7	17	55	1396		0.564649
2	2	5501.7	17	75	1080		1.034318
3	1	5501.7	17	65			1.741551
4	1	5501.7	17	75			2.26854
5	1	5501.7	17	65			2.798853
6	2	5501.7	17	100	1823		3.714034
7	3	5501.7	17	85	1626	1510	4.029395
8	1	5501.7	17	80			4.678039
9	2	5501.7	17	80	1426		5.911747
10	2	5501.7	17	60	1007		6.156151
11	1	5501.7	17	55			6.930594
12	1	5501.7	17	60			7.740647
13	3	5501.7	17	55	1600	1407	8.525882
14	2	5501.7	17	65	1468		8.995137
15	3	5501.7	17	80	1494	1055	9.787717
16	1	5501.7	17	95			10.604359
17	2	5501.7	17	70	1870		10.836585
18	1	5501.7	17	75			11.38139

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	5504.5	10	100	1654	1981	0.615099
2	3	5504.5	10	60	1144	1060	1.272969
3	3	5504.5	10	100	1922	1920	1.701441
4	2	5504.5	10	65	1806		2.464824
5	3	5504.5	10	90	1190	1878	3.131468
6	1	5504.5	10	75			4.444825
7	2	5504.5	10	100	1303		5.124401
8	1	5504.5	10	50			5.335697
9	1	5504.5	10	95			6.492988
10	2	5504.5	10	85	1857		6.834042
11	2	5504.5	10	50	1825		8.003081
12	1	5504.5	10	95			8.727372
13	2	5504.5	10	70	1431		9.43828
14	3	5504.5	10	50	1052	1743	10.228345
15	2	5504.5	10	50	1692		10.619759
16	2	5504.5	10	75	1269		11.733272

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	5500.9	19	50	1364	1527	0.042871

2	2	5500.9	19	55	1607		1.382682
3	3	5500.9	19	85	1748	1939	2.622116
4	1	5500.9	19	85			3.693716
5	2	5500.9	19	70	1559		4.524061
6	2	5500.9	19	90	1874		5.422679
7	2	5500.9	19	85	1116		6.458101
8	2	5500.9	19	85	1395		7.079717
9	3	5500.9	19	80	1227	1671	8.585864
10	2	5500.9	19	70	1040		9.421229
11	1	5500.9	19	70			10.335928
12	3	5500.9	19	65	1547	1600	11.120215

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	5497.5	15	75	1343		0.342104
2	3	5497.5	15	80	1377	1285	1.415602
3	3	5497.5	15	60	1941	1893	2.358749
4	3	5497.5	15	90	1176	1168	4.123171
5	2	5497.5	15	50	1315		5.265535
6	2	5497.5	15	100	1426		6.07925
7	1	5497.5	15	60			7.626169
8	1	5497.5	15	95			8.275713
9	3	5497.5	15	55	1310	1416	9.765488
10	1	5497.5	15	75			10.592296
11	3	5497.5	15	85	1417	1287	11.156149

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

USA Frequency Hopping Radar Statistical Performance

Trial #	Name	1=Detection 0=No Detection	Detection Percentage	Limit
1	USA Bin 6 Radar Test 1	1	96.7%	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	0		
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)
15	5495	45
23	5492	69
40	5499	120

USA Frequency Hopping Trial #2

Hop #	Freq (GHz)	Pulse Start (mS)
45	5496	135
50	5501	150
83	5505	249
98	5494	294

USA Frequency Hopping Trial #3

Hop #	Freq (GHz)	Pulse Start (mS)
30	5502	90
50	5505	150
61	5506	183
81	5503	243

USA Frequency Hopping Trial #4

Hop #	Freq (GHz)	Pulse Start (mS)
28	5497	84
45	5496	135
90	5494	270

USA Frequency Hopping Trial #5

Hop #	Freq (GHz)	Pulse Start (mS)
94	5493	282

USA Frequency Hopping Trial #6

Hop #	Freq (GHz)	Pulse Start (mS)
31	5500	93
37	5492	111
46	5507	138
47	5499	141

USA Frequency Hopping Trial #7

Hop #	Freq (GHz)	Pulse Start (mS)
63	5500	189
73	5503	219

USA Frequency Hopping Trial #8

Hop #	Freq (GHz)	Pulse Start (mS)
22	5502	66
29	5505	87
46	5499	138
67	5500	201
77	5496	231
96	5504	288

USA Frequency Hopping Trial #9

Hop #	Freq (GHz)	Pulse Start (mS)
14	5502	42

USA Frequency Hopping Trial #10

Hop #	Freq (GHz)	Pulse Start (mS)
16	5494	48
39	5495	117
42	5492	126
54	5497	162

USA Frequency Hopping Trial #11

Hop #	Freq (GHz)	Pulse Start (mS)
5	5495	15
24	5502	72
58	5492	174
90	5508	270
99	5498	297

USA Frequency Hopping Trial #12

Hop #	Freq (GHz)	Pulse Start (mS)
24	5496	72

USA Frequency Hopping Trial #13

Hop #	Freq (GHz)	Pulse Start (mS)
45	5504	135
53	5495	159
82	5498	246
96	5500	288

USA Frequency Hopping Trial #14

Hop #	Freq (GHz)	Pulse Start (mS)
71	5506	213
83	5496	249
94	5500	282

USA Frequency Hopping Trial #15

Hop #	Freq (GHz)	Pulse Start (mS)
18	5500	54
28	5499	84
39	5507	117
68	5498	204
73	5494	219

USA Frequency Hopping Trial #16

Hop #	Freq (GHz)	Pulse Start (mS)
38	5506	114
40	5503	120
41	5496	123
44	5492	132
85	5493	255
90	5500	270

USA Frequency Hopping Trial #17

Hop #	Freq (GHz)	Pulse Start (mS)
69	5508	207
71	5501	213
74	5500	222

USA Frequency Hopping Trial #18

Hop #	Freq (GHz)	Pulse Start (mS)
38	5502	114
53	5494	159
65	5492	195

USA Frequency Hopping Trial #19

Hop #	Freq (GHz)	Pulse Start (mS)
73	5502	219
78	5505	234

USA Frequency Hopping Trial #20

Hop #	Freq (GHz)	Pulse Start (mS)
7	5493	21
13	5497	39
48	5503	144
74	5495	222

USA Frequency Hopping Trial #21

Hop #	Freq (GHz)	Pulse Start (mS)
5	5508	15
12	5493	36
73	5507	219

USA Frequency Hopping Trial #22

Hop #	Freq (GHz)	Pulse Start (mS)
8	5495	24
40	5502	120
57	5503	171
87	5498	261

USA Frequency Hopping Trial #23

Hop #	Freq (GHz)	Pulse Start (mS)
5	5503	15
20	5492	60
60	5502	180

USA Frequency Hopping Trial #24

Hop #	Freq (GHz)	Pulse Start (mS)
67	5496	201

USA Frequency Hopping Trial #25

Hop #	Freq (GHz)	Pulse Start (mS)
39	5506	117
54	5499	162

USA Frequency Hopping Trial #26

Hop #	Freq (GHz)	Pulse Start (mS)
11	5501	33
31	5496	93
47	5492	141
62	5493	186

87	5498	261
95	5506	285

USA Frequency Hopping Trial #27

Hop #	Freq (GHz)	Pulse Start (mS)
36	5492	108
49	5506	147
89	5494	267

USA Frequency Hopping Trial #28

Hop #	Freq (GHz)	Pulse Start (mS)
75	5499	225
88	5498	264

USA Frequency Hopping Trial #29

Hop #	Freq (GHz)	Pulse Start (mS)
47	5496	141
59	5493	177

USA Frequency Hopping Trial #30

Hop #	Freq (GHz)	Pulse Start (mS)
33	5506	99
39	5498	117
46	5508	138
70	5495	210
91	5503	273

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

Equip#	Manufacturer/ Model	Description	Last Cal	Next Due
CIS-54303	Keysight / N5182B	MXG Signal Generator	09-Mar-15	09-Mar-16
CIS-49514	National Instruments /PXI-1042	DFS Automation System	Cal before Use	Cal before Use
	National Instruments /PXI-5422	16-Bit 200MS/s AWG	Cal before Use	Cal before Use
	National Instruments /PXI-5422	16-Bit 200MS/s AWG	Cal before Use	Cal before Use
	National Instruments /PXI-2796	40GHz Dual 6x1 Multiplex	Cal before Use	Cal before Use
CIS050721	N9030A Keysight	PXA Signal Analyzer	13-Apr-15	13-Apr-16
CIS054662	SF18-S1S1-36 MegaPhase	SMA 36" cable	24-Jun-15	24-Jun-16
CIS054661	BWS30-W2 Aeroflex	SMA 30dB Attenuator	24-Jun-15	24-Jun-16
CIS054660	BWS20-W2 Aeroflex	SMA 20dB Attenuator	24-Jun-15	24-Jun-16
CIS054659	PS4-09-452/4S Pulsar	Splitter	24-Jun-15	24-Jun-16
CIS054657	ZFSC-2-10G Mini-Circuits	Splitter	24-Jun-15	24-Jun-16
CIS054678	RA08-S1S1-12 MegaPhase	SMA 12" Cable	24-Jun-15	24-Jun-16
CIS054668	RA08-S1S1-18 MegaPhase	SMA 18" Cable	24-Jun-15	24-Jun-16
CIS054667	RA08-S1S1-18 MegaPhase	SMA 18" Cable	24-Jun-15	24-Jun-16
CIS054665	RA08-S1S1-24 MegaPhase	SMA 24" Cable	24-Jun-15	24-Jun-16
CIS054663	F120-S1S1-48 MegaPhase	SMA 48" Cable	24-Jun-15	24-Jun-16
CIS054686	NI PXI-2796 National Instruments	Plug-in switch module	6-Oct-15	6-Oct-16
CIS-49514	National Instruments /PXI-1042	DFS Automation System	Cal before Use	Cal before Use
CIS-49514	National Instruments /PXI-5422	16-Bit 200MS/s AWG	Cal before Use	Cal before Use
CIS-49514	National Instruments /PXI-5422	16-Bit 200MS/s AWG	Cal before Use	Cal before Use
CIS054695	D3C2060 Ditom	Circulator	20-Oct-15	20-Oct-16

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