Dynamic Frequency Selection (DFS) Test Report

AIR-CAP1602y-B-K9
AIR-SAP1602y-B-K9
AIR-CLD1602y-B-K9
AIR-AP1602y-UXK9

Cisco Aironet 802.11n Dual Band Access Points

FCC ID: LDK102084

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 Nicholson **Title:** Technical Leader, Engineering **Revision:** 1

This report replaces any previously entered test report under EDCS – **1185191**.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

18-February-16

2.3 Report Issue Date

22-February-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-CAP1602y-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	Hardware Rev.	Firmware Rev.	Software Rev.	Serial Number
S01	AIR-CAP1602y-B-K9	Cisco Systems	P2	15.3	AP1G2-K9W7-M	FGL1850X4FA
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-CAP1602y-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-CAP1602y-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 34 dBm, and the minimum possible EIRP is 2 dBm.

    Below are the available 50 ohm antenna assemblies and their corresponding gains. 4dBi gain was used to set the -59 dBm threshold level (-64dBm +1 dB +4 dBi) during calibration of the test setup.

Frequency	Part Number	Antenna Type	Antenna Gain (dBi)
2.4/5 GHz	AIR-ANT2524DB-R	Dual-resonant black dipole	2 / 4
	AIR-ANT2524DW-R	Dual-resonant white dipole	2 / 4
	AIR-ANT2524DG-R	Dual-resonant gray dipole	2 / 4
	AIR-ANT2524V4C-R	Dual-resonant ceiling mount omni (4-pack)	2 / 4
	Internal	Omni-Directional	4 / 4
	AIR-ANT2544V4M-R	Dual-resonant omni (4-pack)	4 / 4
	AIR-ANT2566P4W-R	Dual-resonant "directional" antenna (4-pack)	6 / 6

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$\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{\mathrm{PRI}_{\mu sec}}\right)\right\}$	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.

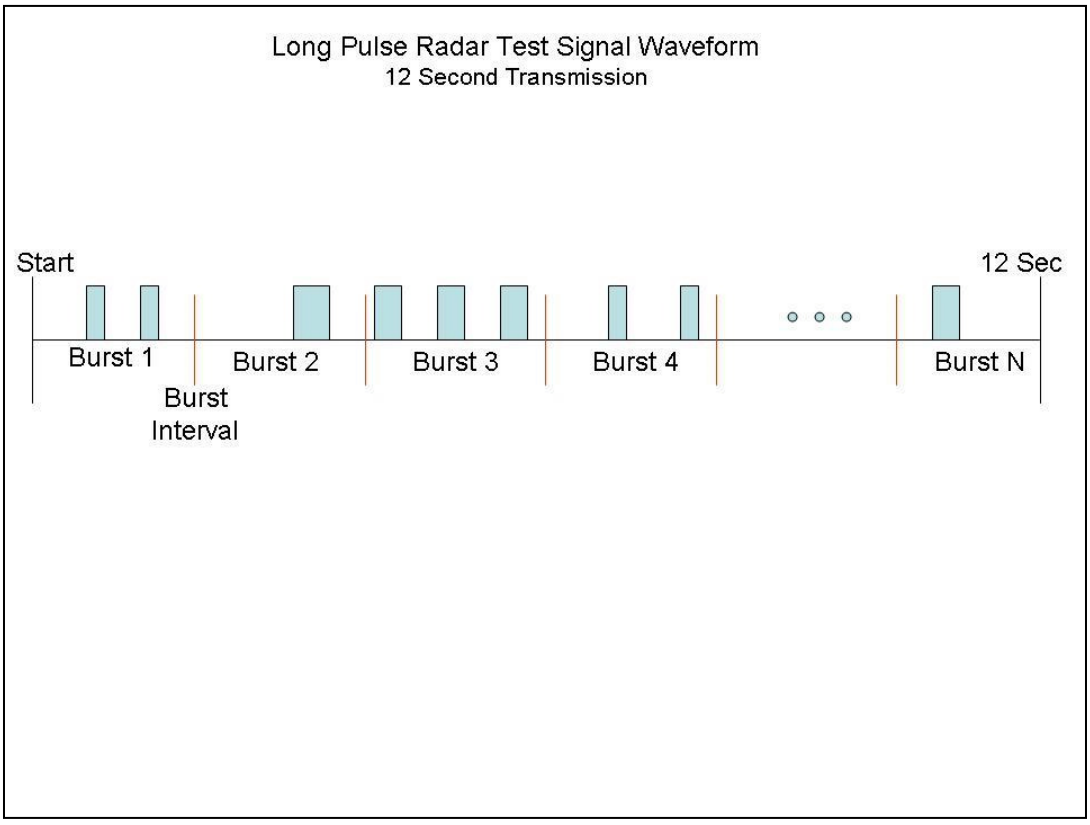
Each waveform is defined as follows:

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

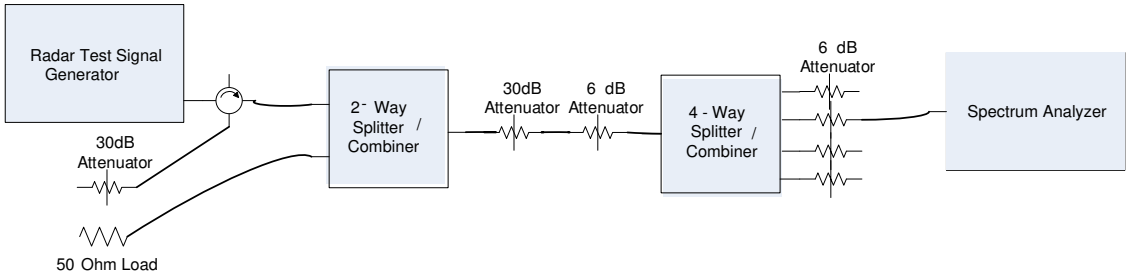
System Number	Description	Samples	System under test	Support equipment
1	AIR-CAP1602y-B-K9	S01	☑	☐
	Support Power Supply	S02	☐	☑
	Support Client Equipment	S03	☐	☑

Tested By :	**Date of testing:**
Jose Aguirre	18-February-16
Test Result : PASS	

See Appendix C for list of test equipment

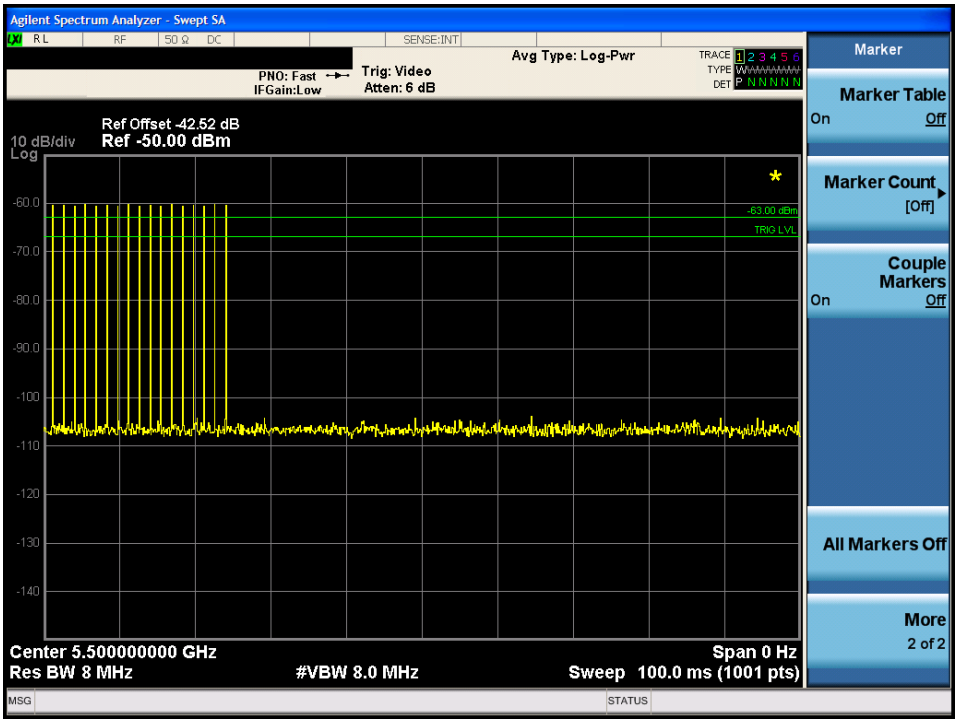
The following equipment setup was used to calibrate the conducted Radar Waveform. A spectrum analyzer was used to establish the test signal level for each radar type. During this process there were no transmissions by either the Master or Client Device. The spectrum analyzer was switched to the zero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

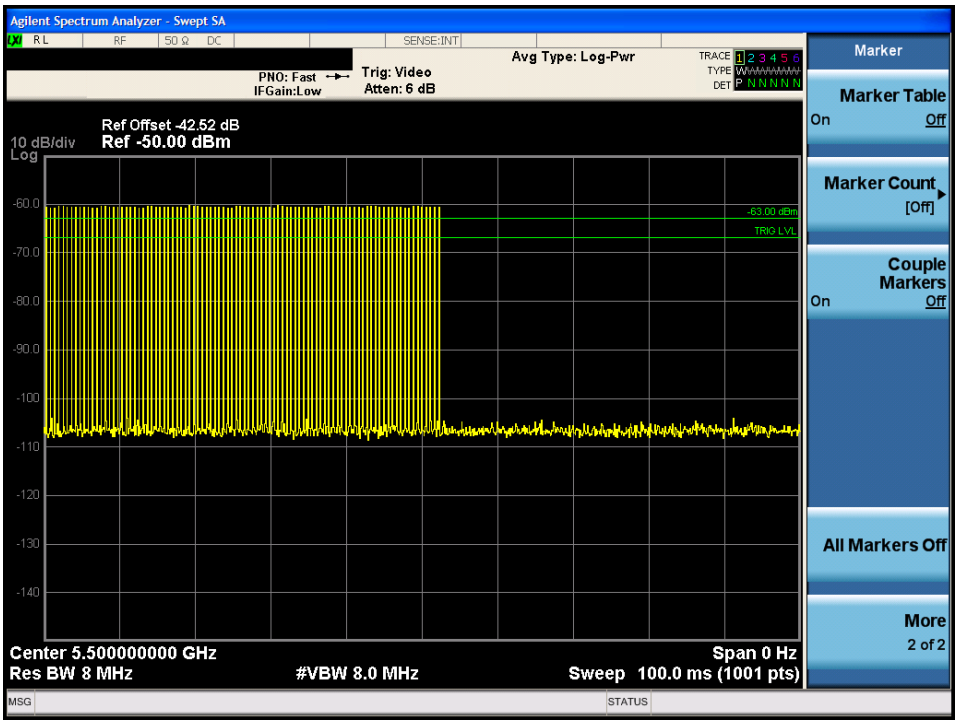


Conducted Calibration Setup

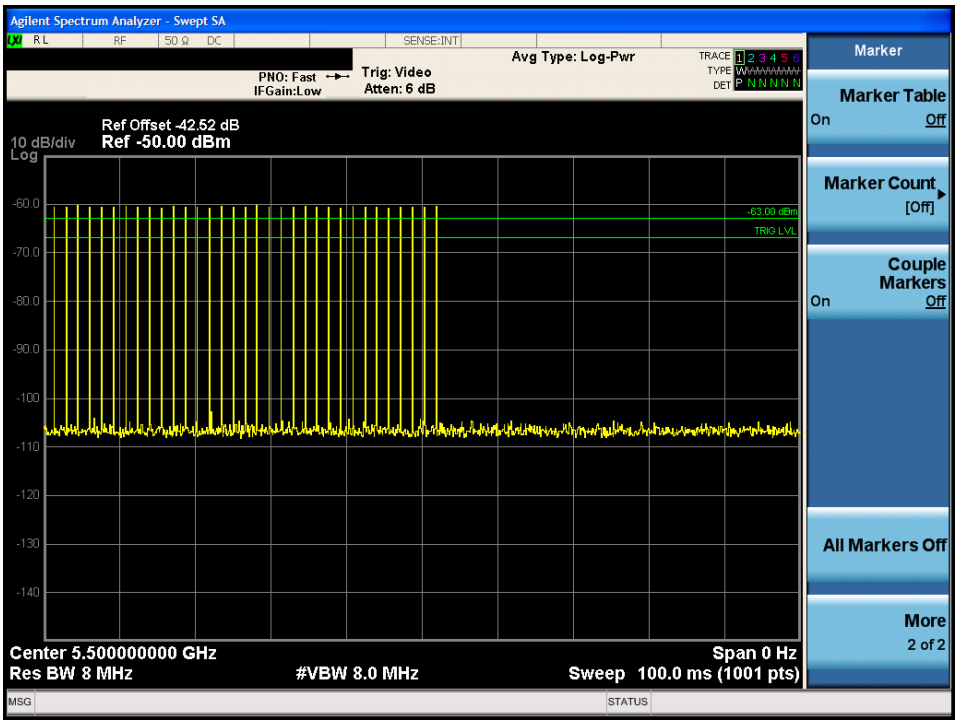
Following are the calibration plots for each of the required radar waveforms.



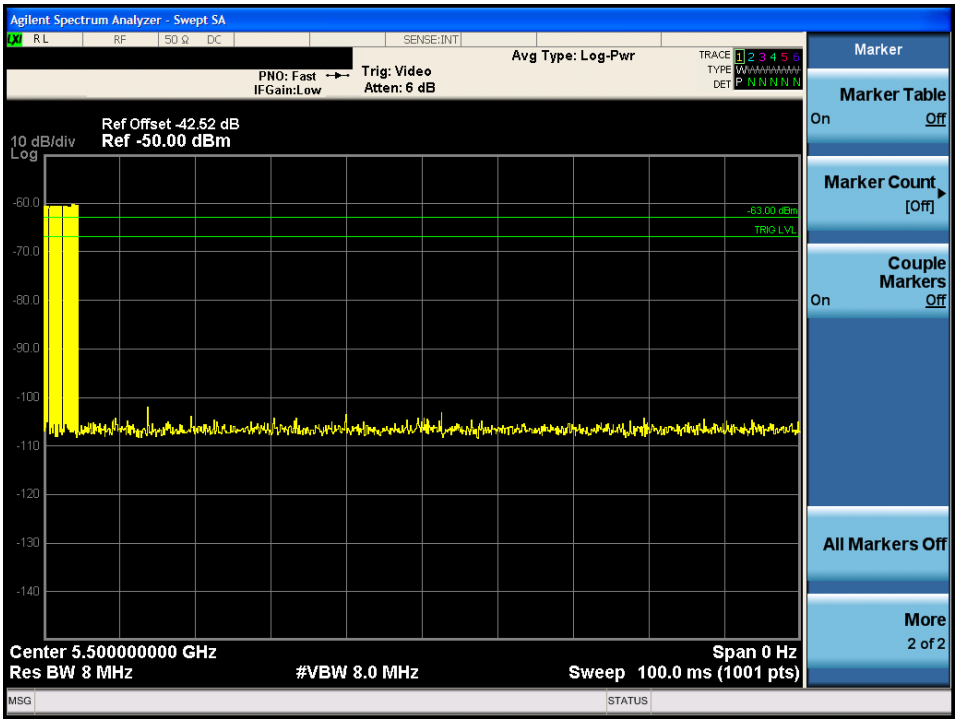
USA Bin 0 Radar Calibration



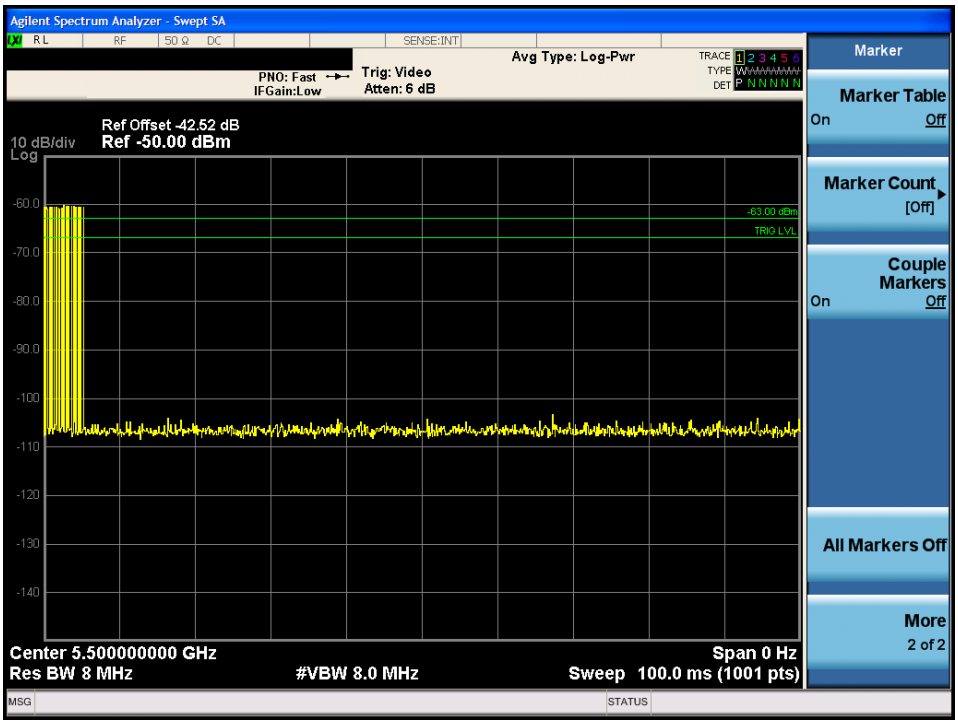
USA Bin 1A Radar Calibration



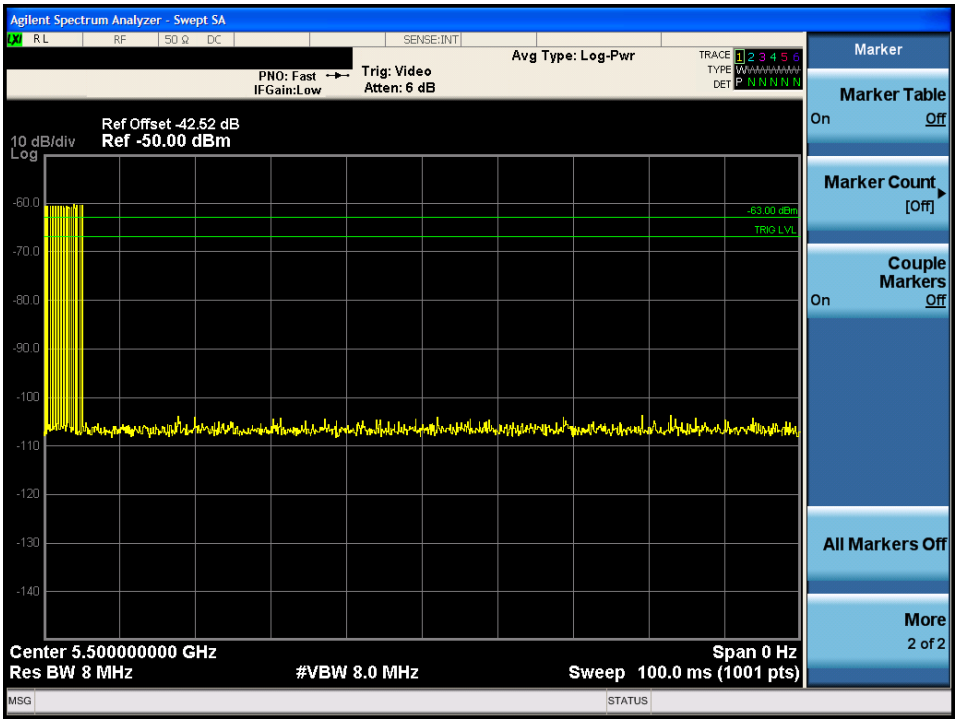
USA Bin 1B Radar Calibration



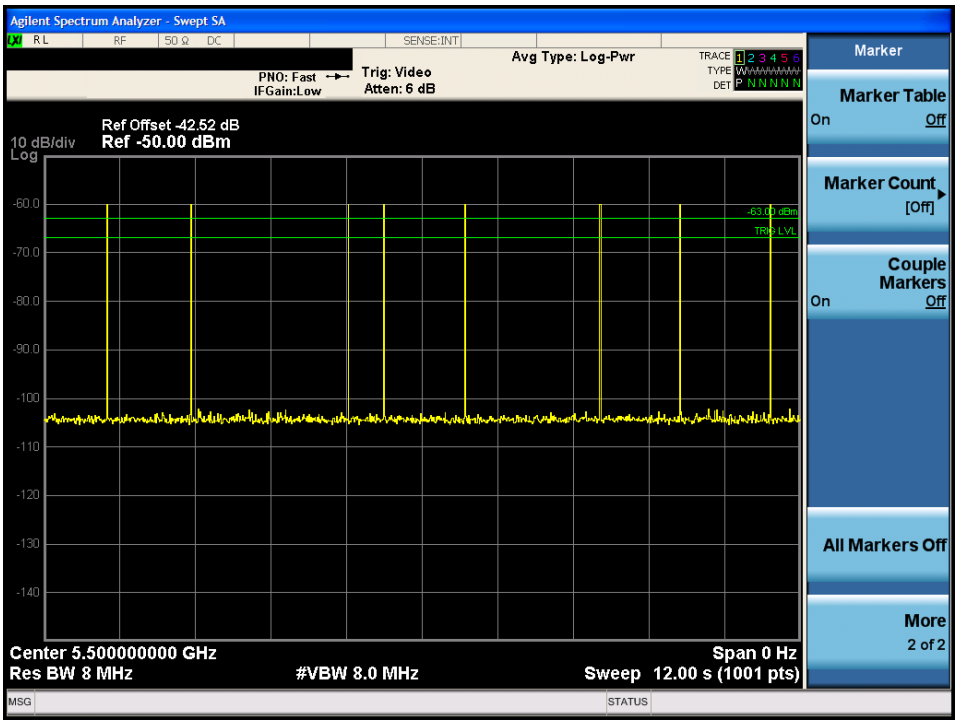
USA Bin 2 Radar Calibration



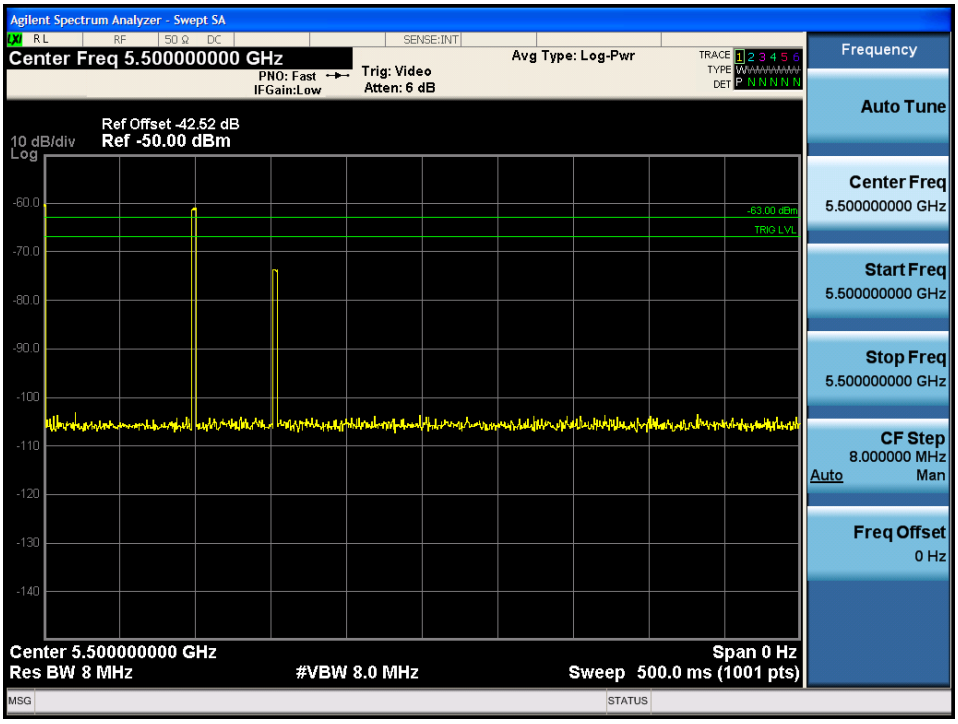
USA Bin 3 Radar Calibration



USA Bin 4 Radar Calibration



USA Bin 5 Radar Calibration

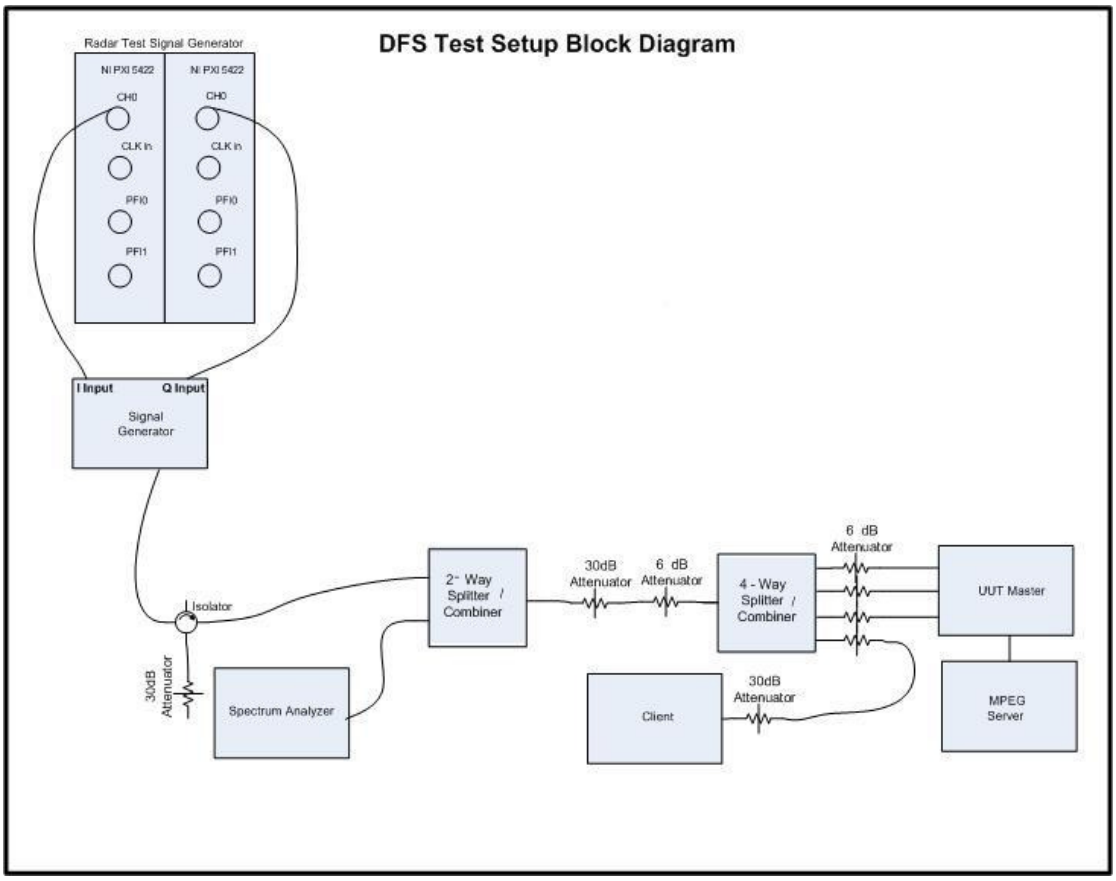


USA Frequency Hopping Radar Calibration

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	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	1	1	0	0	1	1	1	1	1	1	80		

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	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 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	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 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	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	0	1	1	1	90		
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	0	1	1	90	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	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	0	1	1	1	1	1	90		
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	0	1	1	1	1	1	1	1	1	1	90		
5526	1	1	1	1	1	0	1	1	1	1	90		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	1	1	1	1	1	1	0	1	1	1	90		
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		
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	0	1	1	1	90		
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	0	1	1	90	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	0	1	90		
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	0	1	1	1	1	1	1	90		
5529	1	1	1	1	0	1	1	1	1	1	90		
5530	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		
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	0	1	1	1	1	1	1	1	1	90		
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	0	1	1	1	1	1	1	1	1	1	90		
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	0	1	1	1	90		
5528	1	1	1	1	1	0	1	1	1	1	90		
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 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	0	1	1	90		
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	0	1	1	1	1	1	90		
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	0	1	90		
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	0	1	1	0	1	1	1	93		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	0	1	0	1	1	1	1	90		
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	0	1	1	1	1	1	1	1	90		
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	0	1	1	1	1	1	90		
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 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	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 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	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	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	0	90		
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 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		
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 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	0	1	1	1	1	1	0	90		
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	0	1	1	1	1	1	1	1	90		
5505	1	1	1	1	0	1	1	1	1	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	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	0	1	1	1	90		
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	0	1	1	1	1	1	90		
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	0	1	1	1	1	1	1	90		
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

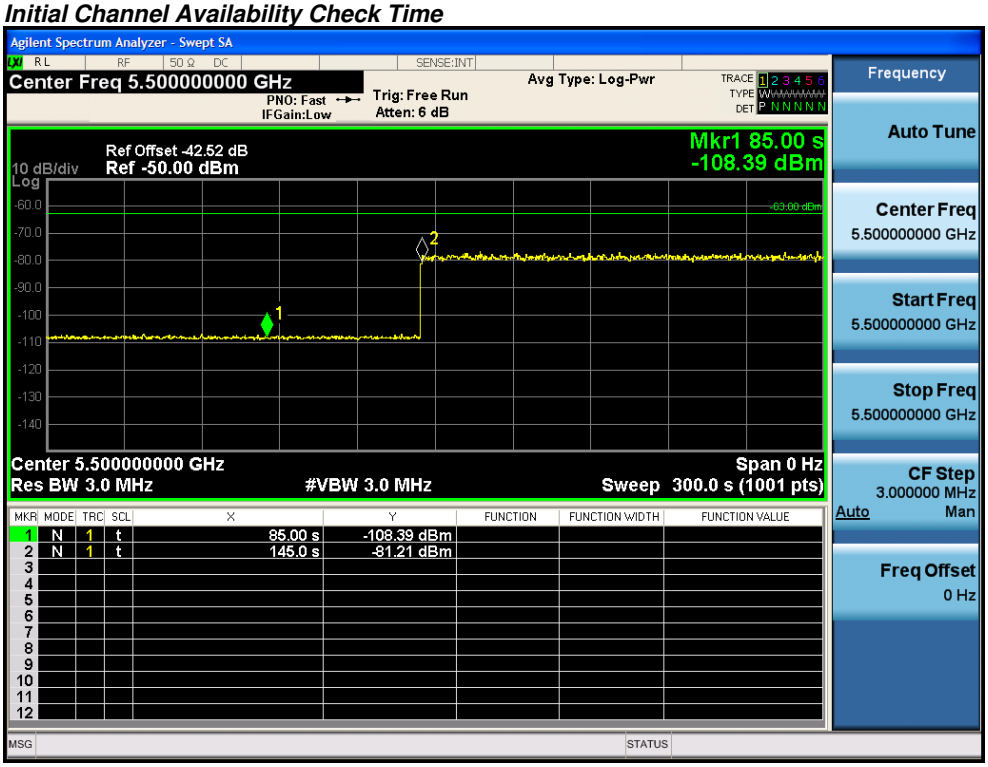
The tests that the UUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms.

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.

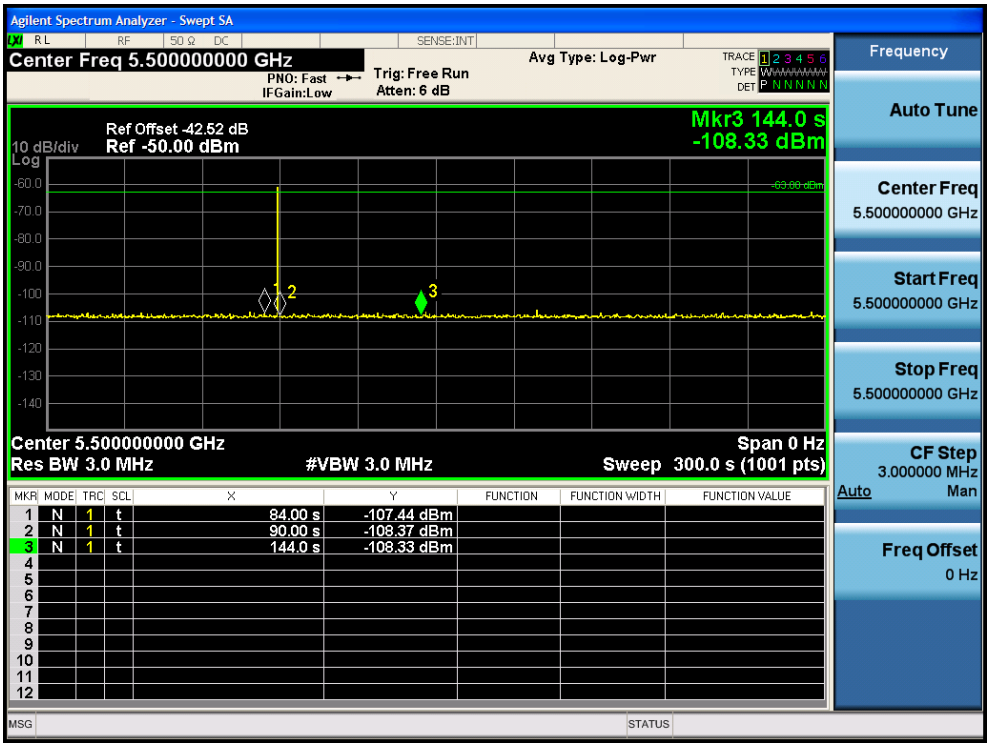
The UUT is powered on at T_0. T_1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T_1 and will end no sooner than T_1 + 60 seconds.

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.

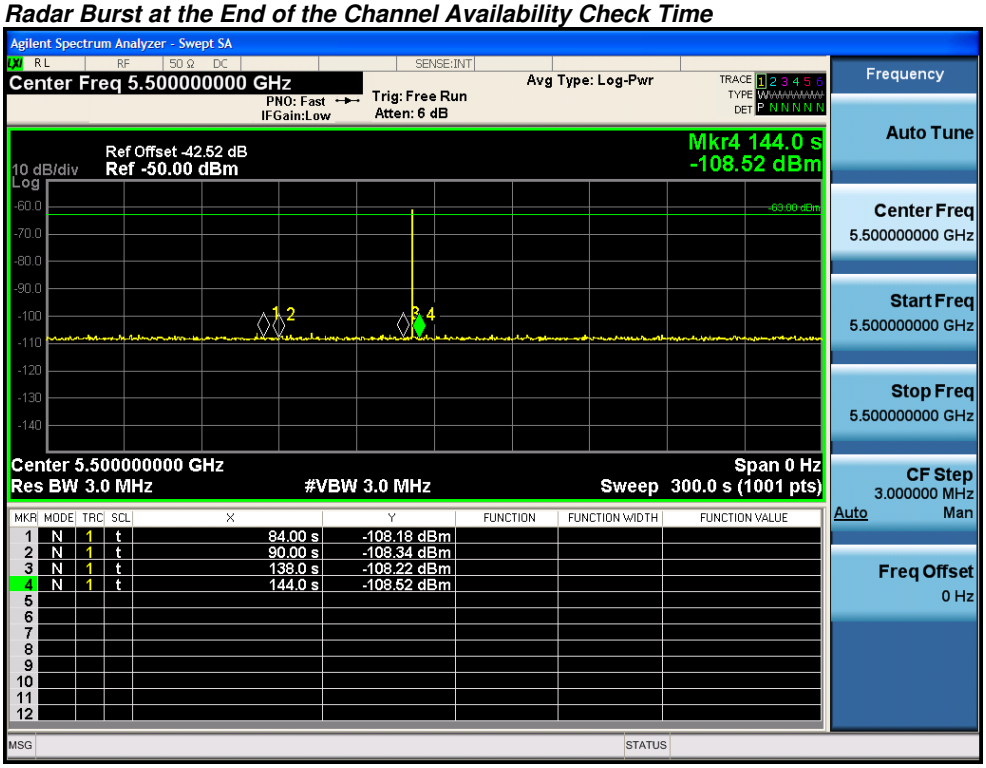
The UUT is powered on at T_0. T_1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T_1 and will end no sooner than T_1 + 60 seconds.

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.

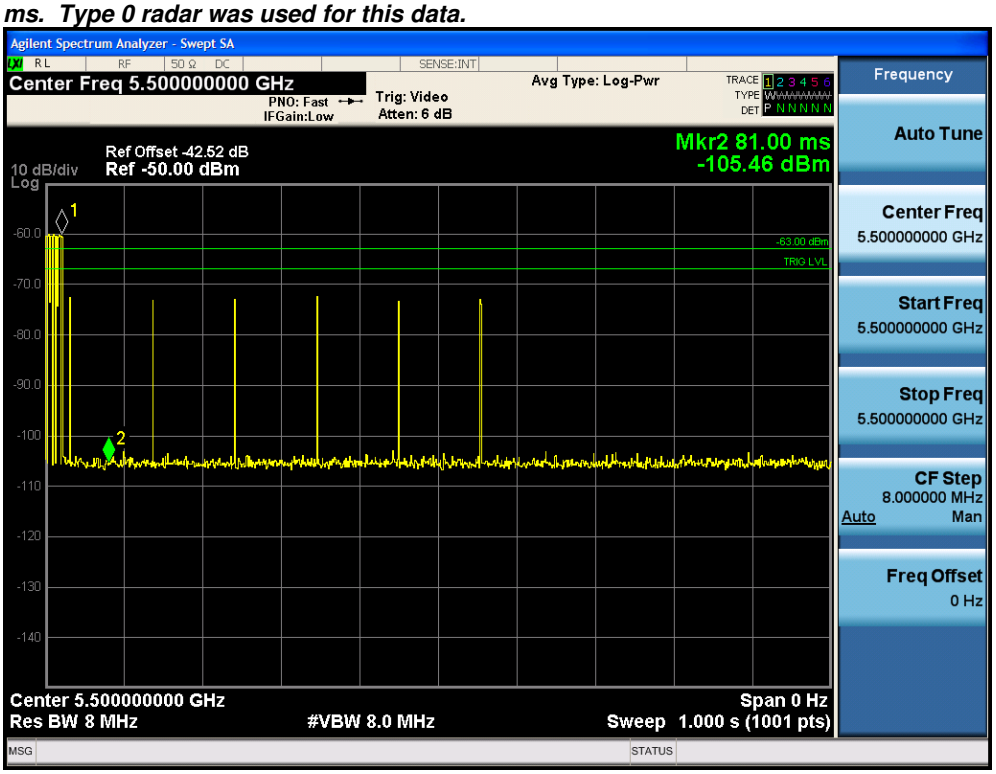
The steps below define the procedure to determine the above mentioned parameters when a radar Burst with a level equal to the DFS Detection Threshold + 1dB (-63dBm) is generated on the Operating Channel of the U-NII device.

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.

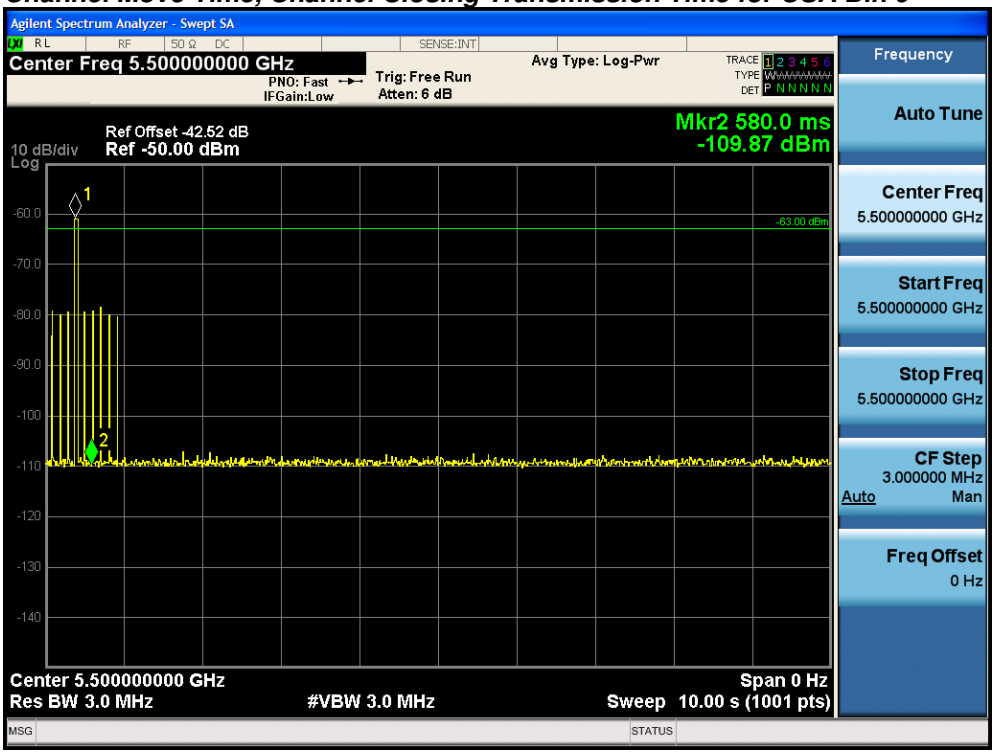
At time T_0 the Radar Waveform generator sends a Burst of pulses for radar type 0 at -63dBm.

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.

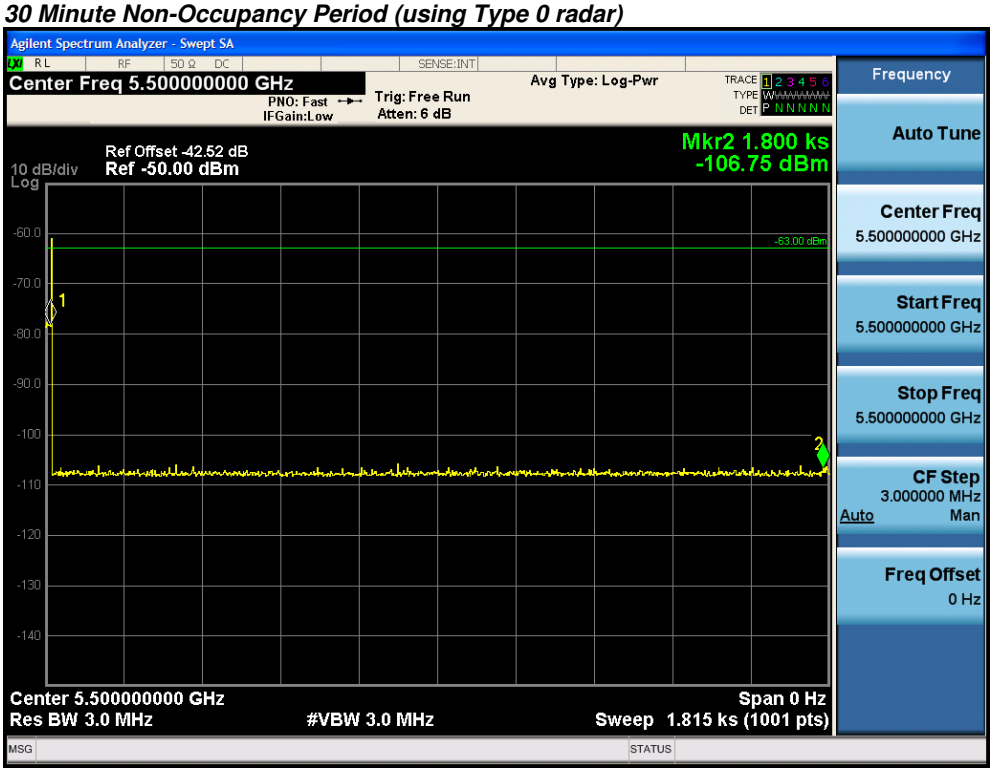


Channel Move Time, Channel Closing Transmission Time for USA Bin 0



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	72	1	738	1		
2	89	1	598	1		
3	99	1	538	1		
4	65	1	818	0		
5	86	1	618	1		
6	86	1	618	1		
7	74	1	718	1		
8	67	1	798	0		
9	89	1	598	1		
10	72	1	738	1		
11	65	1	818	1		
12	70	1	758	1		
13	81	1	658	1		
14	72	1	738	0		
15	89	1	598	1		
16	39	1	1355	1	83.3%	60.0%
17	69	1	765	1		
18	89	1	597	1		
19	23	1	2374	0		
20	18	1	3040	1		
21	31	1	1718	0		
22	34	1	1554	1		
23	18	1	3010	1		
24	73	1	731	1		
25	35	1	1519	1		
26	21	1	2591	1		
27	43	1	1248	1		
28	19	1	2824	1		
29	41	1	1308	1		
30	27	1	1974	1		

USA Bin 2 Radar Statistical Performance

Trial #	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	23	2.6	172	1	93.3%	60.0%
2	24	3.7	156	1		
3	29	1.7	199	1		
4	26	3	155	1		
5	26	1.5	170	0		
6	28	4.9	213	1		
7	29	3.6	164	1		
8	26	1.6	221	1		
9	23	4.1	207	1		
10	25	2	193	1		
11	23	3	198	1		
12	26	3.8	228	1		
13	24	2.1	211	1		
14	28	3.4	180	1		
15	28	2	213	1		
16	27	3.4	179	1		
17	25	2.8	209	1		
18	26	2.6	160	1		
19	28	2.5	172	1		
20	26	2.6	160	1		
21	24	3.6	175	1		
22	29	3.1	213	1		
23	23	4	218	1		
24	29	4.5	197	1		
25	28	4	165	1		
26	29	2.7	192	1		
27	29	4.3	221	1		
28	27	1.6	176	1		
29	26	3.9	225	0		
30	23	3.9	173	1		

USA Bin 3 Radar Statistical Performance

Trial #	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	17	9.6	286	1	86.7%	60.0%
2	18	6.7	288	1		
3	17	9.7	293	1		
4	18	9.7	321	0		
5	16	6.8	252	1		
6	16	8.1	498	1		
7	18	8.9	242	1		
8	16	8.5	310	1		
9	17	6.4	449	1		
10	18	7.7	297	1		
11	17	10	345	1		
12	16	9.3	265	1		
13	17	6.8	318	1		
14	18	8.1	413	0		
15	16	9.9	365	0		
16	17	8.3	235	1		
17	17	7.7	293	1		
18	18	9.5	368	1		
19	18	9.6	427	1		
20	18	6.8	251	1		
21	18	8.7	300	1		
22	17	9	281	1		
23	18	8.4	248	1		
24	18	7.3	207	0		
25	16	9.6	448	1		
26	18	7.1	304	1		
27	18	6.4	359	1		
28	17	7	351	1		
29	16	8.2	326	1		
30	17	8	496	1		

USA Bin 4 Radar Statistical Performance

Trial #	Pulses	PW	PRI	1=Detection 0=No Detection	Detection Percentage	Limit
1	12	18.6	381	1	70.0%	60.0%
2	12	13.4	354	1		
3	16	12.4	203	1		
4	12	11.6	209	0		
5	16	17.9	288	0		
6	14	19.5	215	0		
7	13	12.4	460	1		
8	15	18.2	312	1		
9	15	14.2	409	1		
10	14	14.3	232	1		
11	14	19.1	348	0		
12	16	19.1	395	0		
13	15	18.4	464	1		
14	14	14.7	458	0		
15	16	12.4	453	1		
16	13	12.3	381	1		
17	14	16.1	406	1		
18	16	17.7	255	1		
19	13	14.1	226	1		
20	12	19	383	1		
21	14	18	414	1		
22	12	14.2	358	0		
23	16	15.4	390	1		
24	14	12.3	397	1		
25	15	16.1	413	1		
26	15	11.4	337	1		
27	13	19	263	1		
28	12	16.6	466	0		
29	13	19	324	1		
30	16	11.1	212	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:

$$\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4}$$ = (83.3%+93.3%+86.7%+70.0)/4 = 83.3% (>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	2	5497.1	14	95	1486		0.314279
2	1	5497.1	14	80			1.050752
3	2	5497.1	14	90	1965		1.492847
4	3	5497.1	14	50	1504	1426	1.948066
5	2	5497.1	14	95	1155		2.702429
6	2	5497.1	14	80	1950		3.602421
7	2	5497.1	14	100	1174		4.104652
8	2	5497.1	14	90	1763		4.887358
9	2	5497.1	14	60	1963		5.423962
10	1	5497.1	14	100			5.756968
11	2	5497.1	14	95	1806		6.315905
12	2	5497.1	14	70	1735		7.129297
13	3	5497.1	14	100	1170	1267	7.630165
14	3	5497.1	14	55	1402	1721	8.28677
15	3	5497.1	14	65	1500	1846	9.275059
16	1	5497.1	14	85			10.02255
17	3	5497.1	14	80	1174	1865	10.454434
18	2	5497.1	14	85	1143		10.828339
19	1	5497.1	14	65			11.949766

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	5496.7	13	55			1.009434
2	3	5496.7	13	85	1397	1005	2.234759
3	1	5496.7	13	70			3.519417
4	3	5496.7	13	50	1514	1243	4.238845
5	3	5496.7	13	80	1389	1092	5.957287
6	3	5496.7	13	75	1466	1176	6.697636
7	1	5496.7	13	65			7.295384
8	3	5496.7	13	100	1186	1311	8.712731
9	1	5496.7	13	55			10.768098
10	2	5496.7	13	85	1514		11.254875

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	5498.3	17	75	1830		0.094011
2	3	5498.3	17	55	1286	1370	1.044835
3	1	5498.3	17	90			1.913034
4	1	5498.3	17	85			2.901154
5	1	5498.3	17	65			3.987799
6	1	5498.3	17	50			4.307874
7	2	5498.3	17	60	1591		5.148591
8	2	5498.3	17	100	1899		6.592431
9	1	5498.3	17	70			7.685398
10	3	5498.3	17	95	1630	1948	8.466536
11	3	5498.3	17	80	1699	1404	8.580086
12	3	5498.3	17	75	1121	1823	9.881123
13	2	5498.3	17	65	1231		10.495417
14	3	5498.3	17	100	1291	1939	11.209922

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	5493.9	6	85	1328		0.418387
2	1	5493.9	6	50			0.812486
3	3	5493.9	6	75	1862	1996	1.473308
4	1	5493.9	6	70			2.576062
5	2	5493.9	6	55	1716		3.258092
6	3	5493.9	6	55	1333	1781	3.462062
7	1	5493.9	6	80			4.201428
8	1	5493.9	6	85			4.838918
9	1	5493.9	6	70			5.76971
10	1	5493.9	6	90			6.432809
11	1	5493.9	6	85			6.740327
12	1	5493.9	6	80			7.729703
13	1	5493.9	6	90			8.444139
14	1	5493.9	6	50			8.700662
15	3	5493.9	6	90	1935	1301	9.808948
16	3	5493.9	6	85	1643	1218	10.00919
17	1	5493.9	6	55			11.064315
18	2	5493.9	6	85	1679		11.941279

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	5498.7	18	65	1189	1254	0.096916
2	3	5498.7	18	70	1533	1711	1.163573
3	1	5498.7	18	60			1.641942
4	1	5498.7	18	75			2.593776
5	3	5498.7	18	80	1080	1621	3.213415
6	1	5498.7	18	60			4.642175

7	1	5498.7	18	75			5.2057
8	3	5498.7	18	90	1173	1901	5.878854
9	2	5498.7	18	100	1092		6.575722
10	3	5498.7	18	85	1232	1821	7.548322
11	3	5498.7	18	85	1608	1280	8.668763
12	3	5498.7	18	100	1152	1142	9.411753
13	2	5498.7	18	50	1478		10.389612
14	2	5498.7	18	90	1282		10.426523
15	1	5498.7	18	90			11.300381

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	3	5495.1	9	85	1336	1215	0.004298
2	1	5495.1	9	95			1.147848
3	3	5495.1	9	90	1327	1233	1.522027
4	2	5495.1	9	85	1710		2.259693
5	1	5495.1	9	80			3.361346
6	3	5495.1	9	55	1923	1698	4.137625
7	3	5495.1	9	90	1779	1996	5.216548
8	3	5495.1	9	60	1972	1426	5.77212
9	1	5495.1	9	65			6.589384
10	2	5495.1	9	85	1899		7.030268
11	2	5495.1	9	50	1895		8.058534
12	1	5495.1	9	80			8.985816
13	3	5495.1	9	60	1071	1607	9.100106
14	1	5495.1	9	75			10.234391
15	3	5495.1	9	85	1665	1527	11.22755
16	1	5495.1	9	100			11.343014

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	5495.1	9	65			0.147175
2	1	5495.1	9	70			0.78144
3	3	5495.1	9	80	1761	1706	1.905008
4	2	5495.1	9	55	1826		2.771429
5	3	5495.1	9	90	1428	1321	3.107939
6	2	5495.1	9	60	1715		4.411447
7	2	5495.1	9	70	1231		4.900732
8	2	5495.1	9	100	1174		5.586706
9	3	5495.1	9	60	1288	1703	6.205911
10	3	5495.1	9	70	1463	1579	7.071968
11	2	5495.1	9	80	1286		7.676384
12	3	5495.1	9	50	1855	1785	8.666091
13	2	5495.1	9	50	1990		9.566863
14	1	5495.1	9	55			10.147749
15	1	5495.1	9	80			11.043964
16	2	5495.1	9	50	1468		11.851215

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	3	5497.9	16	95	1700	1471	0.004423
2	2	5497.9	16	60	1378		1.177688
3	2	5497.9	16	85	1760		2.037299
4	1	5497.9	16	95			2.500811
5	1	5497.9	16	65			3.355178
6	1	5497.9	16	90			4.134213
7	1	5497.9	16	75			4.591974
8	3	5497.9	16	60	1682	1964	5.456429
9	2	5497.9	16	100	1369		6.081918
10	1	5497.9	16	85			6.448503
11	3	5497.9	16	90	1554	1209	7.107312
12	2	5497.9	16	85	1556		8.03099
13	2	5497.9	16	80	1863		8.694704
14	2	5497.9	16	65	1318		9.323798
15	3	5497.9	16	85	1977	1831	10.267309
16	3	5497.9	16	70	1387	1544	10.935126
17	1	5497.9	16	70			11.812044

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	5499.1	19	85	1217		0.908373
2	1	5499.1	19	50			1.699653
3	1	5499.1	19	65			2.699225
4	2	5499.1	19	65	1761		3.18333
5	1	5499.1	19	50			4.613971
6	1	5499.1	19	85			5.3977
7	1	5499.1	19	100			6.429956
8	3	5499.1	19	95	1515	1967	7.253611
9	3	5499.1	19	55	1014	1278	8.85048
10	1	5499.1	19	70			9.186193
11	3	5499.1	19	65	1143	1817	10.462293
12	2	5499.1	19	90	1149		11.239973

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	19	70	1238		0.011625
2	1	5500	19	80			1.148377
3	3	5500	19	60	1596	1095	2.346427
4	1	5500	19	80			3.418111
5	3	5500	19	80	1213	1831	4.942132
6	3	5500	19	100	1372	1007	5.006362
7	2	5500	19	75	1075		6.407442
8	2	5500	19	60	1338		7.210634
9	1	5500	19	60			8.853665
10	3	5500	19	100	1816	1017	9.643058
11	1	5500	19	90			10.956596
12	3	5500	19	55	1252	1099	11.508131

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	5500	19	70	1688		0.30179
2	3	5500	19	70	1650	1549	1.035191
3	2	5500	19	95	1811		1.952259
4	3	5500	19	70	1376	1400	3.146823
5	3	5500	19	55	1882	1258	3.869558
6	1	5500	19	70			4.053936
7	2	5500	19	75	1947		5.364413
8	1	5500	19	80			6.384528
9	2	5500	19	80	1870		7.12938
10	2	5500	19	85	1287		7.97036
11	3	5500	19	85	1479	1874	8.779976
12	3	5500	19	55	1485	1461	9.072178
13	1	5500	19	80			9.851987
14	1	5500	19	55			10.54872
15	1	5500	19	70			11.461469

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	9	80	1680		0.153673
2	1	5500	9	85			1.690343
3	1	5500	9	75			2.180037
4	1	5500	9	85			2.576831
5	3	5500	9	50	1382	1682	3.896179
6	1	5500	9	60			4.426209
7	1	5500	9	55			5.290423
8	1	5500	9	75			6.651229
9	2	5500	9	75	1166		7.126217
10	1	5500	9	65			8.384667
11	1	5500	9	50			9.188054
12	1	5500	9	50			9.538252
13	2	5500	9	75	1223		10.413078
14	2	5500	9	100	1804		11.233775

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	11	90	1699	1894	0.592841
2	2	5500	11	55	1617		1.006238
3	3	5500	11	60	1066	1317	1.594109
4	1	5500	11	100			2.376237
5	2	5500	11	95	1785		2.801897
6	2	5500	11	55	1699		3.118235
7	2	5500	11	75	1821		4.002356
8	3	5500	11	75	1677	1212	4.286856
9	3	5500	11	70	1367	1715	5.224157
10	3	5500	11	55	1389	1201	5.966268
11	2	5500	11	95	1819		6.572561
12	2	5500	11	100	1517		6.972794
13	2	5500	11	70	1587		7.506808
14	3	5500	11	100	1008	1857	8.119047
15	1	5500	11	50			8.589731
16	2	5500	11	70	1653		9.061093
17	2	5500	11	55	1107		9.966146
18	3	5500	11	55	1408	1417	10.442121
19	3	5500	11	60	1224	1165	11.044105
20	3	5500	11	70	1298	1574	11.599101

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	5500	20	55	1461	1597	0.610292
2	2	5500	20	100	1757		0.924572
3	1	5500	20	55			1.510691
4	3	5500	20	85	1331	1309	2.866816
5	1	5500	20	75			3.631416
6	1	5500	20	85			3.86488
7	2	5500	20	70	1852		5.176404
8	2	5500	20	100	1826		5.530344

9	1	5500	20	100			6.087944
10	1	5500	20	75			7.200561
11	2	5500	20	75	1201		7.995338
12	2	5500	20	90	1646		8.733859
13	3	5500	20	65	1157	1607	9.188769
14	1	5500	20	85			10.371299
15	3	5500	20	60	1546	1878	10.52418
16	3	5500	20	75	1008	1776	11.947155

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	5500	13	50	1800	1749	0.763383
2	3	5500	13	70	1615	1699	1.661355
3	1	5500	13	75			4.233558
4	3	5500	13	80	1705	1390	4.657913
5	1	5500	13	90			6.938521
6	1	5500	13	60			7.796468
7	1	5500	13	90			9.953591
8	3	5500	13	60	1881	1646	10.722267

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	5500	8	60	1589		0.306518
2	1	5500	8	85			0.988913
3	1	5500	8	85			1.59571
4	2	5500	8	75	1100		2.049874
5	2	5500	8	90	1139		2.668004
6	1	5500	8	95			3.186366
7	3	5500	8	100	1666	1204	4.115561
8	1	5500	8	65			4.670279
9	2	5500	8	65	1988		4.899593
10	1	5500	8	65			5.563556
11	2	5500	8	100	1666		6.024667
12	2	5500	8	65	1624		7.129798
13	2	5500	8	65	1995		7.653128
14	1	5500	8	75			8.05476
15	2	5500	8	65	1933		8.760143
16	3	5500	8	55	1401	1381	9.306418
17	3	5500	8	70	1799	1736	9.697303
18	3	5500	8	85	1506	1589	10.256359
19	2	5500	8	80	1560		11.392481
20	1	5500	8	55			11.930481

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	3	5500	18	50	1267	1772	0.062649
2	1	5500	18	60			0.62466
3	1	5500	18	65			1.535329
4	2	5500	18	80	1969		1.81057
5	2	5500	18	90	1282		2.554258
6	3	5500	18	85	1356	1585	3.594487
7	1	5500	18	55			3.601337
8	2	5500	18	90	1902		4.214986
9	3	5500	18	50	1313	1186	4.885713
10	3	5500	18	60	1044	1742	5.767318
11	2	5500	18	60	1311		6.537918
12	1	5500	18	75			7.031904
13	3	5500	18	95	1083	1945	7.747171
14	1	5500	18	90			8.221052
15	1	5500	18	90			8.607886
16	2	5500	18	65	1518		9.411797
17	2	5500	18	85	1811		10.149291
18	3	5500	18	85	1572	1723	10.294251
19	1	5500	18	65			11.136876
20	2	5500	18	60	1898		11.509112

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	2	5500	20	85	1976		0.812644
2	1	5500	20	70			1.22237
3	1	5500	20	95			1.831236
4	3	5500	20	70	1404	1684	3.086438
5	3	5500	20	55	1510	1031	4.142812
6	1	5500	20	50			4.645281
7	3	5500	20	65	1940	1256	5.430229
8	1	5500	20	65			6.184954
9	1	5500	20	85			7.637557
10	3	5500	20	70	1291	1992	8.178239
11	1	5500	20	55			8.842895
12	3	5500	20	80	1568	1364	10.226022
13	1	5500	20	60			10.356037
14	3	5500	20	55	1335	1498	11.886162

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	5500	9	55			0.30251
2	1	5500	9	50			1.357237
3	3	5500	9	55	1454	1722	3.049258
4	1	5500	9	95			3.985491
5	3	5500	9	55	1676	1138	5.529098
6	2	5500	9	50	1532		6.745875
7	2	5500	9	95	1761		7.838271
8	3	5500	9	65	1110	1715	9.579999
9	2	5500	9	90	1002		10.337574
10	1	5500	9	50			11.56658

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	5505.3	8	75	1108		0.160291
2	1	5505.3	8	85			0.782457
3	2	5505.3	8	95	1224		1.634166
4	2	5505.3	8	100	1746		2.780456
5	2	5505.3	8	75	1716		3.152986
6	2	5505.3	8	70	1696		4.011578
7	2	5505.3	8	90	1847		4.906966
8	3	5505.3	8	95	1519	1358	5.580919
9	3	5505.3	8	65	1872	1045	6.330642
10	2	5505.3	8	95	1390		7.071453
11	1	5505.3	8	100			8.022286
12	2	5505.3	8	75	1671		8.944221
13	3	5505.3	8	70	1595	1083	9.713878
14	2	5505.3	8	60	1067		10.23402
15	1	5505.3	8	95			10.749752
16	1	5505.3	8	65			11.885775

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	5502.5	15	100	1523	1589	0.085879
2	3	5502.5	15	65	1486	1946	0.890121
3	3	5502.5	15	70	1118	1531	1.214297
4	2	5502.5	15	60	1616		2.272356
5	2	5502.5	15	50	1101		2.798414
6	2	5502.5	15	90	1163		3.240581
7	2	5502.5	15	85	1176		3.747954
8	3	5502.5	15	55	1768	1486	4.695133
9	2	5502.5	15	75	1901		5.10792
10	2	5502.5	15	100	1659		5.510258
11	2	5502.5	15	70	1550		6.212297
12	1	5502.5	15	55			7.119952
13	2	5502.5	15	55	1006		7.426288
14	1	5502.5	15	70			7.97691
15	1	5502.5	15	65			8.811213
16	1	5502.5	15	60			9.09885
17	3	5502.5	15	75	1178	1259	10.178789
18	3	5502.5	15	95	1515	1778	10.299687
19	1	5502.5	15	60			11.112571
20	3	5502.5	15	65	1878	1585	11.826278

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	5506.1	6	90	1894		0.368783
2	2	5506.1	6	100	1858		1.750307
3	2	5506.1	6	90	1481		2.672643
4	2	5506.1	6	65	1443		3.516052
5	1	5506.1	6	60			4.495919
6	2	5506.1	6	70	1877		5.990449
7	1	5506.1	6	85			7.608939
8	2	5506.1	6	50	1126		8.356393
9	2	5506.1	6	70	1489		8.777615
10	3	5506.1	6	100	1890	1486	10.527281
11	2	5506.1	6	50	1590		11.291894

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	5501.3	18	95	1540	1754	0.511713
2	1	5501.3	18	80			0.861062
3	3	5501.3	18	70	1563	1328	1.352046
4	1	5501.3	18	75			2.341409
5	1	5501.3	18	90			2.965569
6	1	5501.3	18	90			3.471742
7	2	5501.3	18	55	1755		3.68554
8	3	5501.3	18	85	1274	1176	4.360692
9	3	5501.3	18	60	1626	1081	5.003069
10	2	5501.3	18	80	1793		5.510508
11	1	5501.3	18	80			6.342834
12	1	5501.3	18	85			6.664642

13	1	5501.3	18	50			7.751498
14	2	5501.3	18	65	1391		7.907243
15	3	5501.3	18	55	1735	1627	8.460399
16	1	5501.3	18	90			9.381389
17	2	5501.3	18	60	1811		10.101492
18	2	5501.3	18	75	1956		10.398367
19	2	5501.3	18	65	1633		10.904129
20	3	5501.3	18	65	1803	1091	11.720289

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	5502.1	16	70			0.527068
2	3	5502.1	16	50	1259	1555	2.282937
3	1	5502.1	16	100			2.737787
4	1	5502.1	16	100			3.96656
5	3	5502.1	16	95	1441	1881	5.071815
6	3	5502.1	16	85	1925	1744	6.996258
7	2	5502.1	16	50	1274		7.656262
8	1	5502.1	16	100			9.259943
9	3	5502.1	16	95	1998	1844	9.790453
10	2	5502.1	16	95	1510		11.704516

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	5504.1	11	80	1735		0.545442
2	2	5504.1	11	70	1641		1.045681
3	1	5504.1	11	60			1.515014
4	2	5504.1	11	60	1010		1.982606
5	2	5504.1	11	70	1368		2.862787
6	1	5504.1	11	90			3.65215
7	1	5504.1	11	90			4.076231
8	2	5504.1	11	100	1191		4.710501
9	3	5504.1	11	80	1470	1193	5.628282
10	3	5504.1	11	70	1880	1378	5.990054
11	2	5504.1	11	50	1567		6.943167
12	2	5504.1	11	75	1809		7.265249
13	3	5504.1	11	100	1370	1711	8.091618
14	2	5504.1	11	80	1319		8.236039
15	1	5504.1	11	75			9.169507
16	2	5504.1	11	85	1043		9.660974
17	2	5504.1	11	50	1063		10.179957
18	3	5504.1	11	75	1830	1180	10.939051
19	2	5504.1	11	85	1413		11.563868

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	5501.7	17	60			0.219064
2	3	5501.7	17	75	1708	1081	1.949677
3	3	5501.7	17	85	1875	1320	2.990576
4	2	5501.7	17	75	1276		4.187752
5	2	5501.7	17	100	1089		5.157092
6	1	5501.7	17	80			5.684983
7	3	5501.7	17	50	1530	1017	7.356638
8	2	5501.7	17	70	1356		8.115838
9	2	5501.7	17	75	1830		9.796283
10	2	5501.7	17	65	1967		10.606839
11	3	5501.7	17	90	1051	1839	11.173219

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	5501.7	17	65	1550	2000	0.081356
2	2	5501.7	17	55	1677		1.110813
3	3	5501.7	17	55	1432	1791	1.554702
4	3	5501.7	17	55	1539	1625	2.062193
5	3	5501.7	17	90	1028	1219	2.747633
6	2	5501.7	17	50	1130		3.205194
7	2	5501.7	17	50	1413		3.941085
8	2	5501.7	17	95	1624		4.657866
9	2	5501.7	17	55	1768		5.079109
10	1	5501.7	17	55			5.966024
11	3	5501.7	17	85	1188	1924	6.236118
12	1	5501.7	17	75			6.925592
13	1	5501.7	17	75			7.222842
14	2	5501.7	17	100	1199		8.388962
15	1	5501.7	17	95			8.714587
16	1	5501.7	17	75			9.073585
17	3	5501.7	17	65	1611	1871	9.69942
18	3	5501.7	17	90	1340	1790	10.500133
19	2	5501.7	17	75	1290		11.090274
20	2	5501.7	17	65	1447		11.938807

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	5505.3	8	70	1694	1860	0.204349
2	1	5505.3	8	95			1.192532
3	3	5505.3	8	70	1264	1628	1.567478
4	2	5505.3	8	60	2000		2.096037
5	3	5505.3	8	95	1487	1895	2.651915
6	3	5505.3	8	70	1840	1253	3.513329
7	1	5505.3	8	75			3.963087
8	2	5505.3	8	50	1866		4.229357
9	1	5505.3	8	70			5.221131
10	3	5505.3	8	75	1494	1794	5.934845
11	1	5505.3	8	70			6.585566
12	3	5505.3	8	95	1763	1247	6.905122
13	3	5505.3	8	100	1598	1565	7.301874
14	3	5505.3	8	55	1532	1792	7.932076
15	2	5505.3	8	65	1531		8.920198
16	2	5505.3	8	80	1784		9.09886
17	1	5505.3	8	70			9.822728
18	1	5505.3	8	55			10.553988
19	1	5505.3	8	100			11.360713
20	1	5505.3	8	50			11.968537

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	5506.1	6	70			0.756393
2	2	5506.1	6	60	1502		1.50792
3	2	5506.1	6	65	1365		3.261647
4	2	5506.1	6	60	1900		4.231008
5	3	5506.1	6	95	1224	1470	4.921942
6	2	5506.1	6	65	1293		6.146395
7	3	5506.1	6	80	1119	1316	7.494451
8	1	5506.1	6	65			8.069827
9	1	5506.1	6	70			8.854777
10	1	5506.1	6	50			10.737583
11	1	5506.1	6	80			11.119664

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	5495.5	10	80	1930		0.63022
2	1	5495.5	10	50			1.202967
3	2	5495.5	10	50	1317		1.734977
4	1	5495.5	10	50			2.565488
5	2	5495.5	10	80	1139		3.451344
6	1	5495.5	10	95			3.685654
7	2	5495.5	10	100	1064		4.584617
8	3	5495.5	10	70	1080	1640	5.358183
9	2	5495.5	10	80	1230		6.188488
10	1	5495.5	10	60			6.542891
11	3	5495.5	10	60	1190	1534	7.411342
12	3	5495.5	10	95	1305	1216	8.450582
13	2	5495.5	10	55	1618		8.779165
14	3	5495.5	10	100	1004	1471	9.605044
15	1	5495.5	10	50			10.334301
16	2	5495.5	10	65	1695		11.144803
17	2	5495.5	10	100	1213		11.563911

*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	0		
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)
7	5502	21
13	5504	39
14	5492	42
20	5507	60
40	5509	120
74	5498	222
85	5495	255

USA Frequency Hopping Trial #2

Hop #	Freq (GHz)	Pulse Start (mS)
14	5505	42
41	5494	123
45	5492	135
51	5502	153
55	5496	165
71	5507	213
94	5499	282

USA Frequency Hopping Trial #3

Hop #	Freq (GHz)	Pulse Start (mS)
43	5501	129
51	5495	153
90	5508	270

USA Frequency Hopping Trial #4

Hop #	Freq (GHz)	Pulse Start (mS)
97	5497	291

USA Frequency Hopping Trial #5

Hop #	Freq (GHz)	Pulse Start (mS)
18	5498	54
37	5492	111
70	5493	210

USA Frequency Hopping Trial #6

Hop #	Freq (GHz)	Pulse Start (mS)
6	5505	18
22	5492	66
23	5500	69
34	5491	102
58	5493	174

USA Frequency Hopping Trial #7

Hop #	Freq (GHz)	Pulse Start (mS)
58	5504	174
79	5500	237

USA Frequency Hopping Trial #8

Hop #	Freq (GHz)	Pulse Start (mS)
2	5495	6
13	5493	39
36	5507	108
78	5509	234
92	5491	276
96	5496	288

USA Frequency Hopping Trial #9

Hop #	Freq (GHz)	Pulse Start (mS)
49	5492	147
57	5491	171

USA Frequency Hopping Trial #10

Hop #	Freq (GHz)	Pulse Start (mS)
85	5492	255

USA Frequency Hopping Trial #11

Hop #	Freq (GHz)	Pulse Start (mS)
4	5498	12
21	5495	63
25	5502	75
28	5493	84
81	5501	243
85	5500	255

USA Frequency Hopping Trial #12

Hop #	Freq (GHz)	Pulse Start (mS)
9	5494	27
31	5504	93
90	5497	270

USA Frequency Hopping Trial #13

Hop #	Freq (GHz)	Pulse Start (mS)
15	5496	45
56	5499	168

USA Frequency Hopping Trial #14

Hop #	Freq (GHz)	Pulse Start (mS)
17	5503	51
66	5491	198
70	5497	210
95	5496	285
96	5502	288

USA Frequency Hopping Trial #15

Hop #	Freq (GHz)	Pulse Start (mS)
5	5504	15
40	5509	120
54	5507	162
57	5505	171
61	5508	183
62	5496	186
64	5506	192
68	5495	204

USA Frequency Hopping Trial #16

Hop #	Freq (GHz)	Pulse Start (mS)
0	5492	0
1	5503	3
63	5491	189
85	5499	255

USA Frequency Hopping Trial #17

Hop #	Freq (GHz)	Pulse Start (mS)
76	5509	228
86	5493	258

USA Frequency Hopping Trial #18

Hop #	Freq (GHz)	Pulse Start (mS)
35	5505	105
45	5499	135
48	5498	144

USA Frequency Hopping Trial #19

Hop #	Freq (GHz)	Pulse Start (mS)
15	5499	45
20	5494	60
27	5503	81
35	5495	105
74	5497	222

USA Frequency Hopping Trial #20

Hop #	Freq (GHz)	Pulse Start (mS)
11	5495	33
42	5501	126
50	5491	150

USA Frequency Hopping Trial #21

Hop #	Freq (GHz)	Pulse Start (mS)
47	5503	141
62	5498	186
96	5502	288

USA Frequency Hopping Trial #22

Hop #	Freq (GHz)	Pulse Start (mS)
12	5508	36
21	5505	63
90	5495	270

USA Frequency Hopping Trial #23

Hop #	Freq (GHz)	Pulse Start (mS)
6	5494	18
24	5501	72
81	5500	243

USA Frequency Hopping Trial #24

Hop #	Freq (GHz)	Pulse Start (mS)
7	5502	21
48	5500	144
53	5509	159

USA Frequency Hopping Trial #25

Hop #	Freq (GHz)	Pulse Start (mS)
4	5500	12
8	5493	24
14	5508	42
23	5507	69

41	5496	123
47	5491	141
71	5495	213

USA Frequency Hopping Trial #26

Hop #	Freq (GHz)	Pulse Start (mS)
2	5493	6
6	5495	18
17	5492	51
20	5507	60
47	5509	141
59	5503	177
68	5491	204
98	5499	294

USA Frequency Hopping Trial #27

Hop #	Freq (GHz)	Pulse Start (mS)
11	5496	33
12	5500	36
57	5504	171
64	5501	192
71	5502	213

USA Frequency Hopping Trial #28

Hop #	Freq (GHz)	Pulse Start (mS)
2	5502	6
7	5500	21
31	5503	93

USA Frequency Hopping Trial #29

Hop #	Freq (GHz)	Pulse Start (mS)
21	5494	63
36	5503	108
84	5501	252

USA Frequency Hopping Trial #30

Hop #	Freq (GHz)	Pulse Start (mS)
3	5498	9
7	5493	21
25	5507	75
71	5509	213

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

END