



## **Dynamic Frequency Selection (DFS) Test Report**

# **AIR-AP1572xxx-B-K9**

**(Where x = model options not effecting the radio module)**

**FCC ID: LDK102093P**

**5250-5350, 5470-5725 MHz**

**Against the following Specifications:**

**CFR47 Part 15.407**

**Cisco Systems**

170 West Tasman Drive

San Jose, CA 95134

Test Engineer: \_\_\_\_\_

Date: \_\_\_\_\_



This test report has been electronically authorized and archived using the CISCO Engineering Document Control system.

<b>1.0 UNII DEVICE DESCRIPTION .....</b>	<b>3</b>
<b>2.0 DFS DETECTION THRESHOLDS .....</b>	<b>5</b>
<b>3.0 RADAR TEST WAVEFORMS .....</b>	<b>6</b>
<b>4.0 RADAR WAVEFORM CALIBRATION.....</b>	<b>9</b>
<b>5.0 TEST PROCEDURE/RESULTS .....</b>	<b>13</b>
<i>UNII DETECTION BANDWIDTH RESULTS, 20MHZ SIGNAL BANDWIDTH .....</i>	<i>16</i>
<i>INITIAL CHANNEL AVAILABILITY CHECK TIME.....</i>	<i>40</i>
<i>RADAR BURST AT THE BEGINNING OF THE CHANNEL AVAILABILITY CHECK TIME.....</i>	<i>41</i>
<i>RADAR BURST AT THE END OF THE CHANNEL AVAILABILITY CHECK TIME.....</i>	<i>42</i>
<i>CHANNEL MOVE TIME, CHANNEL CLOSING TRANSMISSION TIME FOR USA BIN 1 .....</i>	<i>44</i>
<i>30 MINUTE NON-OCCUPANCY PERIOD (USING TYPE 1 RADAR) .....</i>	<i>47</i>
<i>USA BIN 1 RADAR STATISTICAL PERFORMANCE.....</i>	<i>49</i>
<i>USA BIN 2 RADAR STATISTICAL PERFORMANCE.....</i>	<i>50</i>
<i>USA BIN 3 RADAR STATISTICAL PERFORMANCE.....</i>	<i>51</i>
<i>USA BIN 4 RADAR STATISTICAL PERFORMANCE.....</i>	<i>52</i>

## Dynamic Frequency Selection (DFS) Test Results

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.

### 1.0 UNII Device Description

1. The AIR-AP1572 Series Cisco Aironet 802.11ac Module operates in the following bands:
  - a. 5250-5350 MHz
  - b. 5470-5725 MHz (excluding 5600-5650 MHz)
  - c. 5725-5850 MHz
2. The maximum EIRP of the 5GHz equipment is 43 dBm, and the minimum possible EIRP is 21 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 (2GHz/5GHz) (dBi)	>30 degree 5 GHz Antenna Gain (dBi)
<b>5 GHz</b>	AIR-ANT5140V-N	5GHZ Omni	4	-2
	AIR-ANT5180V-N	5GHZ Omni	8	-3
	AIR-ANT5114P-N	5GHz Patch	14	-4
	AIR-ANT5114P2M-N	Patch, dual polarized	14	5
<b>Dual Band</b>	AIR-ANT2547V(G)-N	Dual Band Omni	4/7	-6
	AIR-ANT2568V(G)-N	Dual Band Omni	6/8	3
	AIR-ANT2513P4M-N	Dual-Band Polarization Diverse Patch Array	13/13	-5
	AIR-ANT2588P3M-N	Dual Band 3 element DIRECTIONAL	8/8	1
	Internal	Omni	4/6	-1

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.

## 2.0 DFS Detection Thresholds

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

Maximum Transmit Power	Value (see note)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 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.	

### 2. DFS Response requirement values

Parameter	Value
<i>Non-occupancy period</i>	Minimum 30 minutes
<i>Channel Availability Check Time</i>	60 seconds
<i>Channel Move Time</i>	10 seconds See Note 1.
<i>Channel Closing Transmission Time</i>	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
<i>U-NII Detection Bandwidth</i>	Minimum 80% of the 99% power bandwidth See Note 3.
Note 1: The instant that the <i>Channel Move Time</i> and the <i>Channel Closing Transmission Time</i> begins is as follows: <ul style="list-style-type: none"> <li>For the Short pulse radar Test Signals this instant is the end of the <i>Burst</i>.</li> <li>For the Frequency Hopping radar Test Signal, this instant is the end of the last radar <i>Burst</i> generated.</li> <li>For the Long Pulse radar Test Signal this instant is the end of the 12 second period defining the radar transmission.</li> </ul> Note 2: The <i>Channel Closing Transmission Time</i> is comprised of 200 milliseconds starting at the beginning of the <i>Channel Move Time</i> plus any additional intermittent control signals required to facilitate <i>Channel</i> changes (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 <i>U-NII Detection Bandwidth</i> detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90%. Measurements are performed with no data traffic.	

### 3.0 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 Trials
1	1	1428	18	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

A minimum of 30 unique waveforms are required for each of the short pulse radar types 2 through 4. For short pulse radar type 1, the same waveform is used a minimum of 30 times. 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. The aggregate is the average of the percentage of successful detections of short pulse radar types 1-4.

#### 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

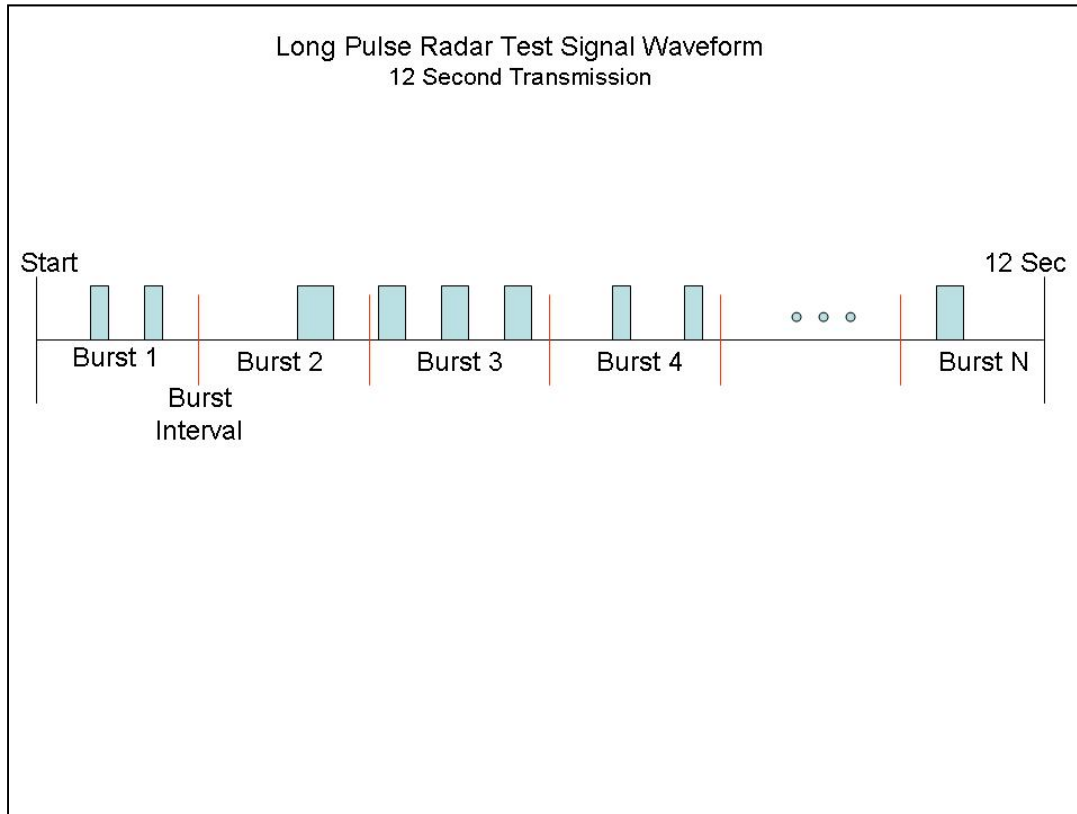
have different chirp widths. The chirp is centered on the pulse. For example, with a radar frequency of 5300 MHz and a 20 MHz chirped signal, the chirp starts at 5290 MHz and ends at 5310 MHz.

- 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  $(12,000,000 / \text{Burst\_Count})$  microseconds. Each interval contains one Burst. The start time for the Burst, relative to the beginning of the interval, is between 1 and  $[(12,000,000 / \text{Burst\_Count}) - (\text{Total Burst Length}) + (\text{One Random PRI Interval})]$  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 independently.

**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**



**Frequency Hopping Radar Test Waveform**

Radars 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<sup>1</sup> from the hopping sequence defined by the following algorithm:

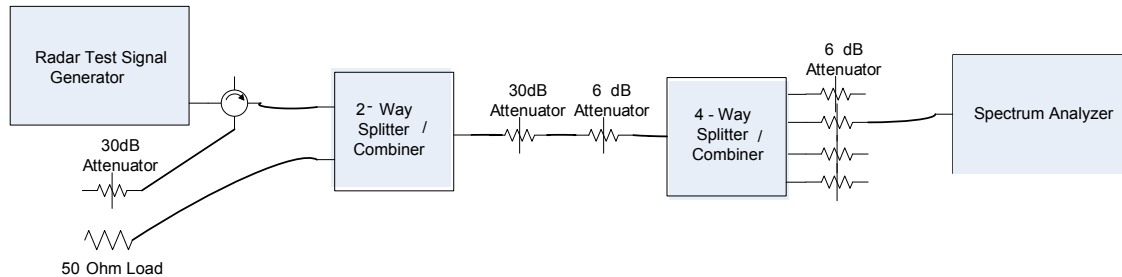
The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724 MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues 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.



#### 4.0 Radar Waveform Calibration

1. 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.

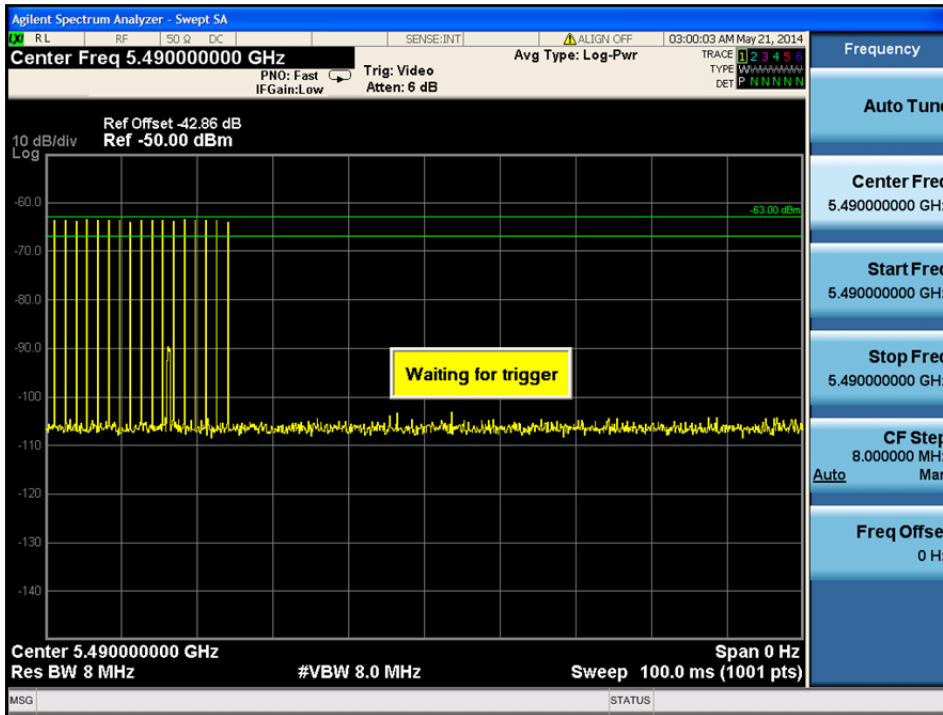
The signal generator amplitude was set so that the power level measured at the spectrum analyzer was -63dBm.



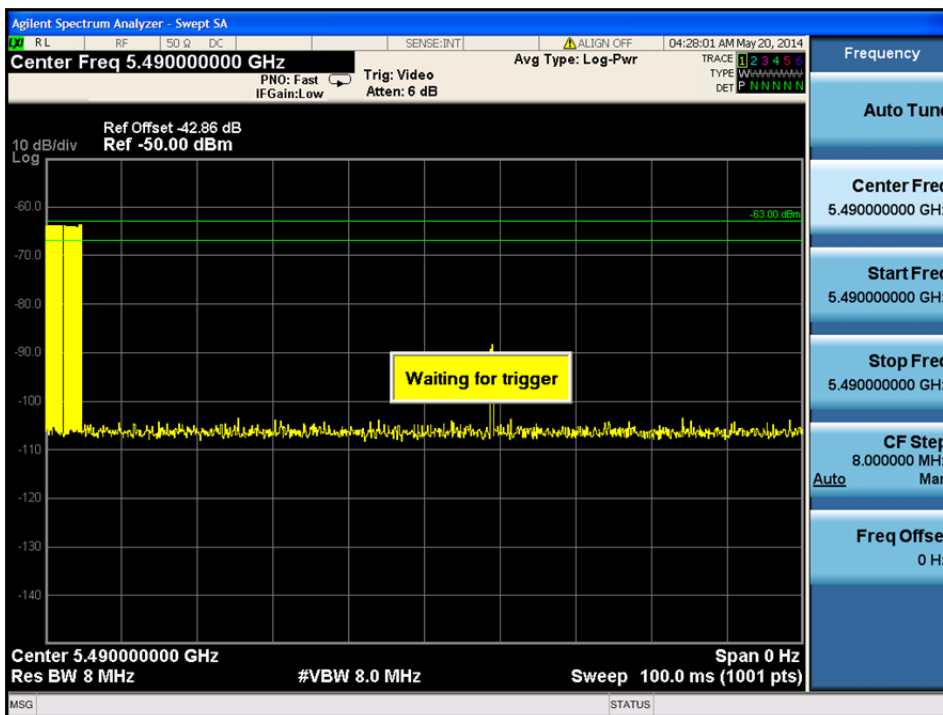
**Conducted Calibration Setup**



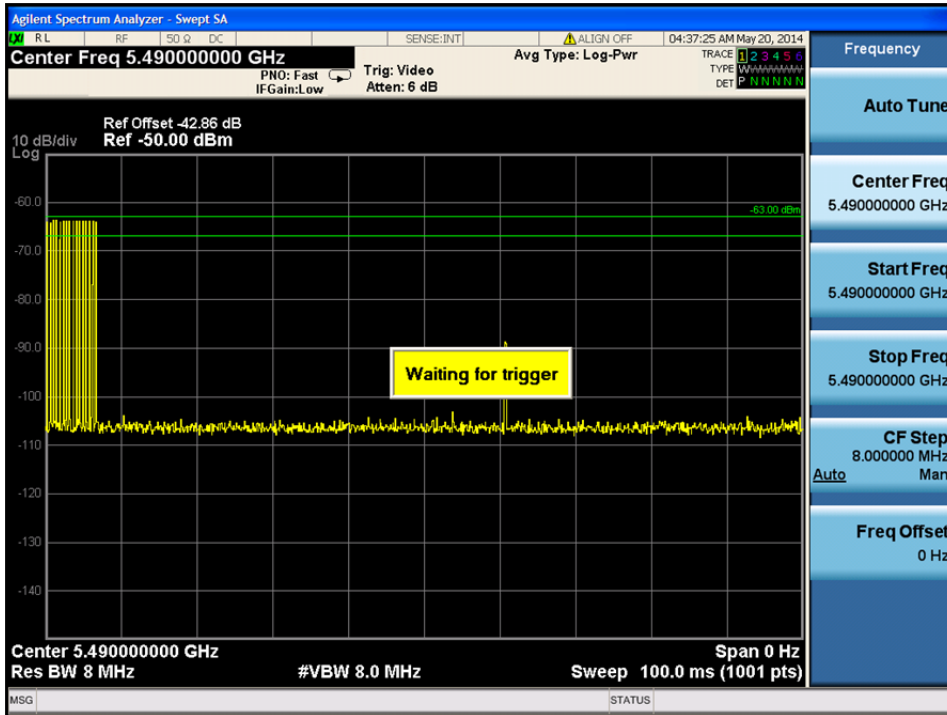
2. Following are the calibration plots for each of the required radar waveforms.



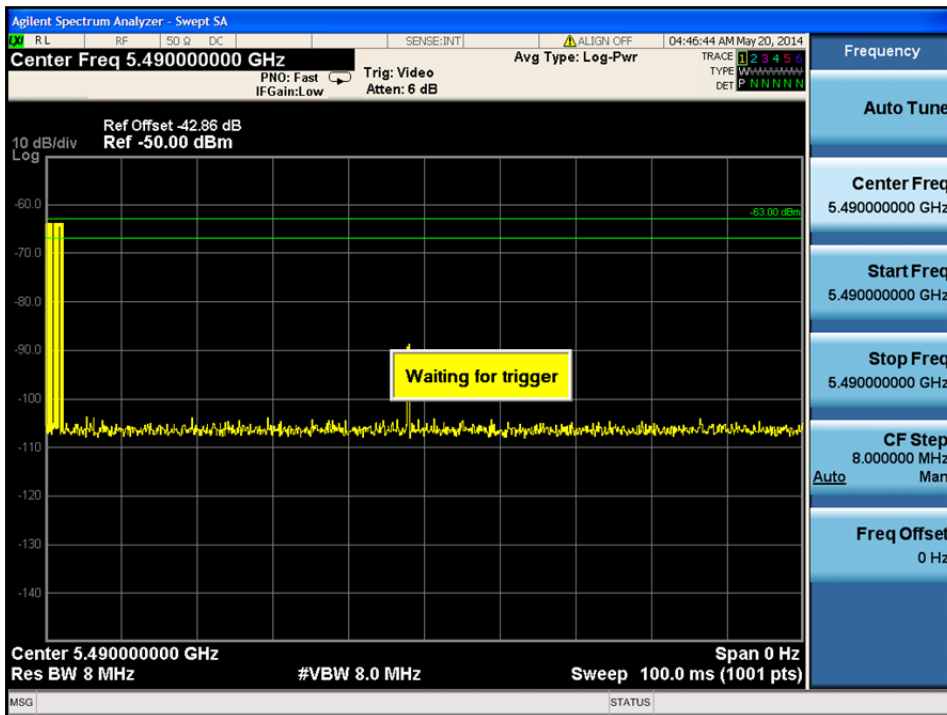
**USA Bin 1 Radar Calibration**



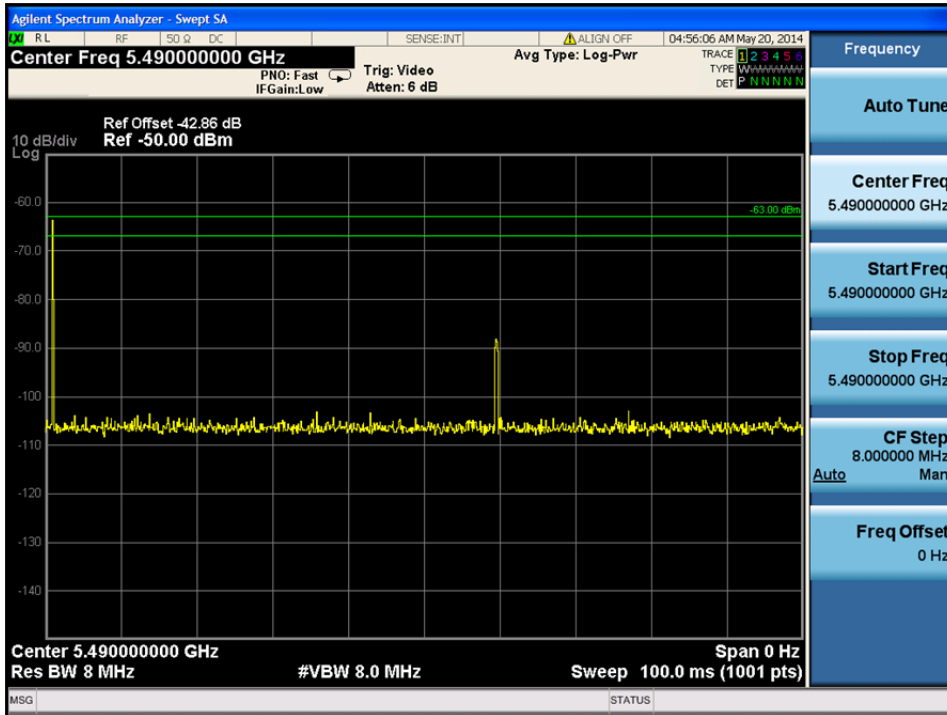
**USA Bin 2 Radar Calibration**



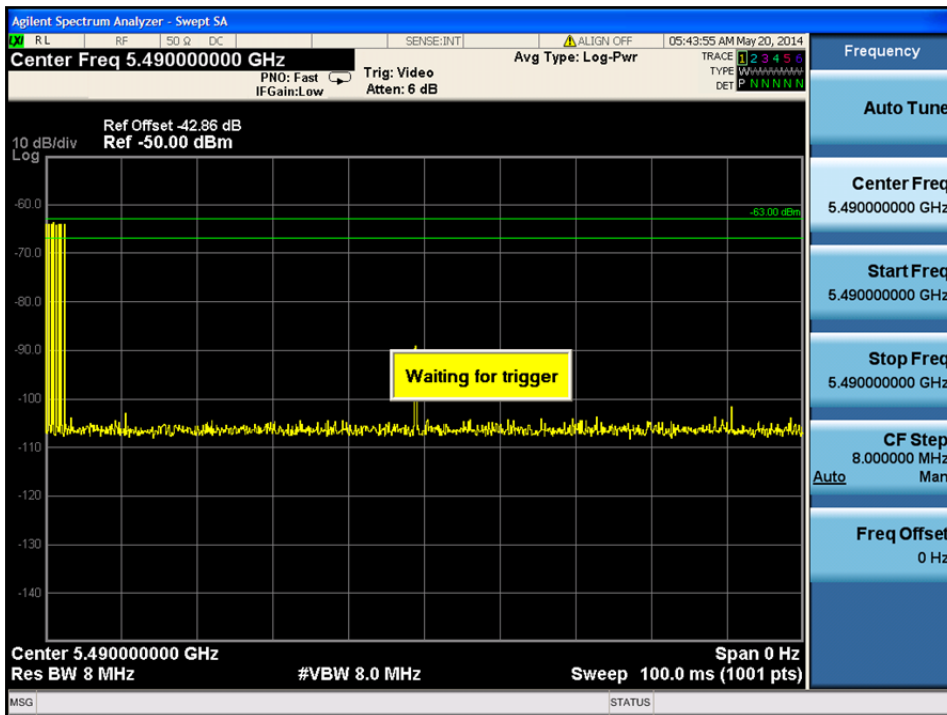
USA Bin 3 Radar Calibration



USA Bin 4 Radar Calibration



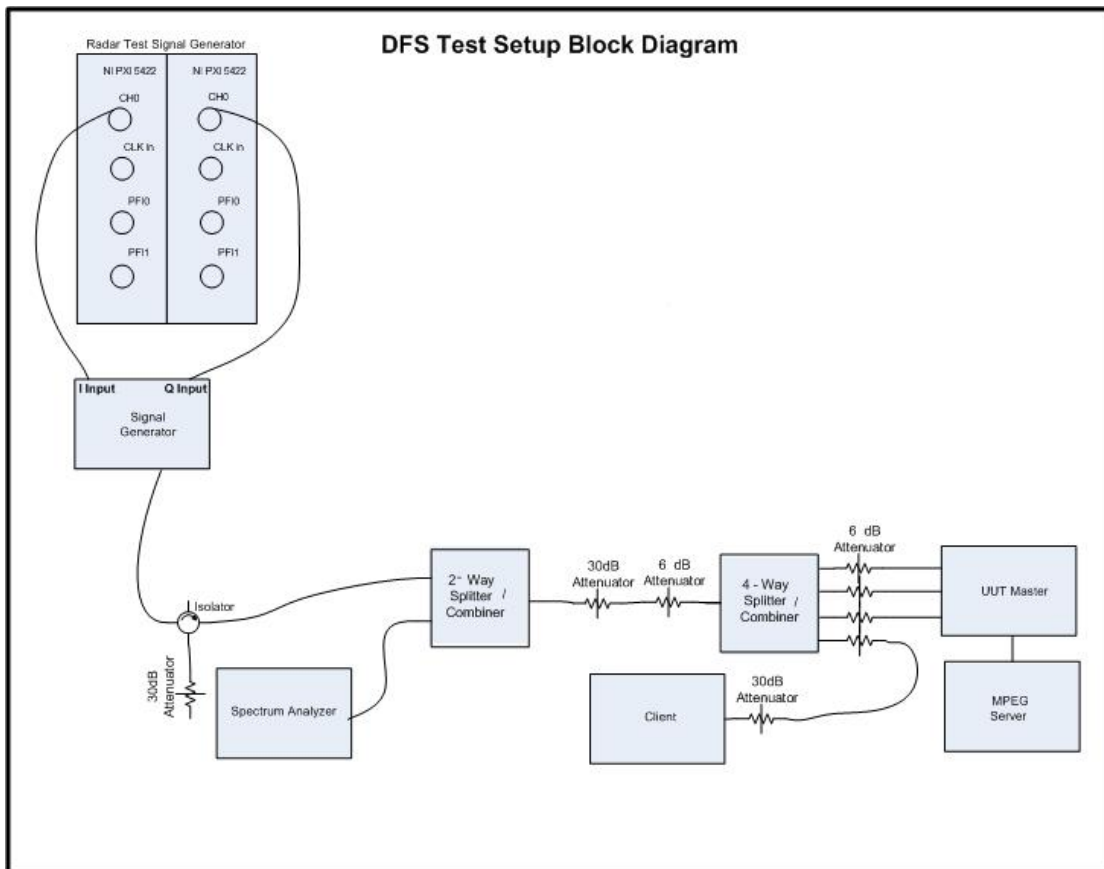
**USA Bin 5 Radar Calibration**



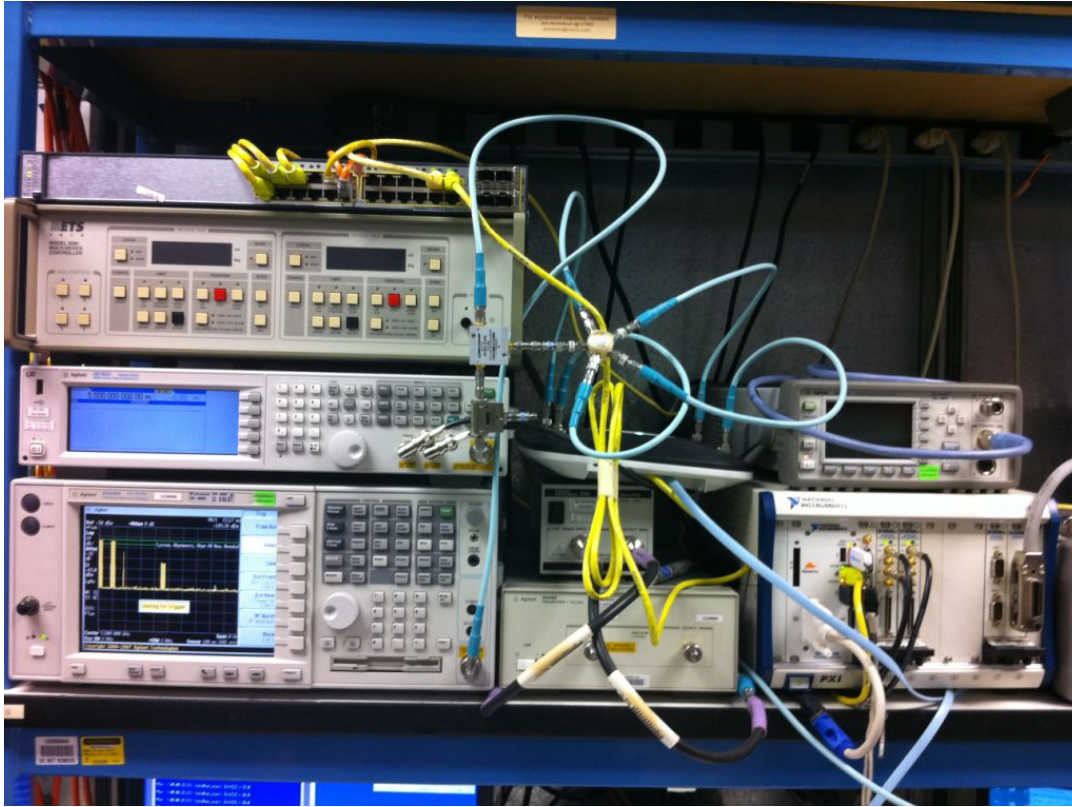
**USA Frequency Hopping Radar Calibration**

**5.0 Test Procedure/Results**

1. 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.
2. 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**



### ***DFS Setup***

The test setup is constructed of the following equipment:

#### Radar Test Signal Generator

National Instruments NI PXI-1042 8-Slot 3U Chassis

National Instruments NI PXI-5422 16-Bit 200MS/s Arbitrary Waveform Generator (Qty. 2)

Agilent N5182A MXG Signal Generator

#### Agilent E4448A Spectrum Analyzer

Mini-Circuits ZFSC-2-9G Splitter/Combiner (Qty. 1)

Weinschel 1594 4 to 1 power Splitter/Combiner (Qty. 1)

Ditom Microwave D3C-4080-11 Circulator/Isolator (Qty. 1)

Mini-Circuits BW-S30W2 30dB Attenuator (Qty. 4)

Mini-Circuits BW-S6W2 30dB Attenuator (Qty. 5)

Megaphase SF26 S1S1 36" Coaxial Cable (Qty. 2)

MicroCoax 18" Coaxial Cable (Qty. 3)

Dell 600M Laptop (Qty. 2: 1 for wireless client, 1 for MPEG server)

Cisco-Linksys WPC600N 802.11n NIC card (wireless client)

The waveform parameters from within the bounds of the signal type are selected randomly using uniform distribution.

### 3. **UNII Detection Bandwidth**

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 72. (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  $F_H$ .

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  $F_L$ .

The U-NII Detection Bandwidth is calculated as follows:

$$\text{U-NII Detection Bandwidth} = F_H - F_L$$

The U-NII Detection Bandwidth must be at least 80% of the UUT transmitter 99% power bandwidth (14.4 MHz for 20MHz signals, 28.8 MHz for 40 MHz signals, and 57.6 MHz for 80 MHz signals), otherwise, the UUT does not comply with DFS requirements.





**UNII Detection Bandwidth Results, 20MHz Signal Bandwidth**

Radar Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	14	16
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	1	1	1	1	1	1	1	0	1	0	80		
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	0	1	0	1	0	1	1	0	1	60		
5509	0	0	1	0	0	0	0	0	0	0	10		
5510	0	0	0	0	0	0	0	0	0	0	0		

**USA Bin 1 Radar**





Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	14	16
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	1	1	1	1	1	1	0	0	0	0	60		
5493	1	1	1	1	1	1	1	1	0	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	0	0	0	0	0	0	0	0	0	0	0		
5510	0	0	0	0	0	0	0	0	0	0	0		

**USA Bin 2 Radar**



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	14	16
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
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	0	0	0	0	0	0	40		
5509	0	0	0	0	0	0	0	0	0	0	0		
5510	0	0	0	0	0	0	0	0	0	0	0		

**USA Bin 3 Radar**



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	16	16
5491	0	0	0	0	0	0	0	0	0	0	0		
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	0	0	0	0	0	0	0	0	0	0	0		
5510	0	0	0	0	0	0	0	0	0	0	0		

**USA Bin 4 Radar**



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	1	1	1	1	1	1	1	1	1	1	100	20	16
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	0	1	1	1	1	1	1	1	1	1	90		
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		

**USA Bin 5 Radar**



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	16	16
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	1	1	1	1	1	1	1	1	1	1	100		
5493	0	1	1	1	1	1	1	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	0	0	0	0	0	0	0	0	0	0	0		
5510	0	0	0	0	0	0	0	0	0	0	0		

**USA Frequency Hopping Radar**



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	34	32
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
5493	1	1	1	1	1	1	1	1	1	1	100		
5494	1	1	1	1	1	1	1	1	1	1	100		
5495	1	1	1	1	1	1	1	1	1	1	100		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	1	1	1	1	1	1	1	1	1	1	100		
5525	1	1	1	1	1	1	1	1	1	1	100		
5526	1	1	1	1	1	1	1	1	1	1	100		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	0	0	0	0	0	0	0	0	0	0	0		
5529	0	0	0	0	0	0	0	0	0	0	0		
5530	0	0	0	0	0	0	0	0	0	0	0		

USA Bin 1 Radar



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	34	32
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
5493	1	1	1	1	1	1	1	1	1	1	100		
5494	1	1	1	1	1	1	1	1	1	1	100		
5495	1	1	1	1	1	1	1	1	1	1	100		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	1	1	1	1	1	1	1	1	1	1	100		
5525	1	1	1	1	1	1	1	1	1	1	100		
5526	1	1	1	1	1	1	1	1	1	1	100		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	0	0	0	0	0	0	0	0	0	0	0		
5529	0	0	0	0	0	0	0	0	0	0	0		
5530	0	0	0	0	0	0	0	0	0	0	0		

USA Bin 2 Radar



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	34	32
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
5493	1	1	1	1	1	1	1	1	1	1	100		
5494	1	1	1	1	1	1	1	1	1	1	100		
5495	1	1	1	1	1	1	1	1	1	1	100		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	1	1	1	1	1	1	1	1	1	1	100		
5525	1	1	1	1	1	1	1	1	1	1	100		
5526	1	1	1	1	1	1	1	1	1	1	100		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	0	0	0	0	0	0	0	0	0	0	0		
5529	0	0	0	0	0	0	0	0	0	0	0		
5530	0	0	0	0	0	0	0	0	0	0	0		

USA Bin 3 Radar





Radar Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	34	32
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
5493	1	1	1	1	1	1	1	1	1	1	100		
5494	1	1	1	1	1	1	1	1	1	1	100		
5495	1	1	1	1	1	1	1	1	1	1	100		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	1	1	1	1	1	1	1	1	1	1	100		
5525	1	1	1	1	1	1	1	1	1	1	100		
5526	1	1	1	1	1	1	1	1	1	1	100		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	0	0	0	0	0	0	0	0	0	0	0		
5529	0	0	0	0	0	0	0	0	0	0	0		
5530	0	0	0	0	0	0	0	0	0	0	0		

USA Bin 4 Radar



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	1	1	1	1	1	1	1	1	1	1	100	40	32
5491	1	1	1	1	1	1	0	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		
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



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	34	32
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
5493	1	1	1	1	1	1	1	1	1	1	100		
5494	1	1	1	1	1	1	1	1	1	1	100		
5495	1	1	1	1	1	1	1	1	1	1	100		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	1	1	1	1	1	1	1	1	1	1	100		
5525	1	1	1	1	1	1	1	1	1	1	100		
5526	1	1	1	1	1	1	1	1	1	1	100		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	0	0	0	0	0	0	0	0	0	0	0		
5529	0	0	0	0	0	0	0	0	0	0	0		
5530	0	0	0	0	0	0	0	0	0	0	0		

**USA Frequency Hopping Radar**



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	68	64
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
5493	0	0	0	0	0	0	0	0	0	0	0		
5494	0	0	0	0	0	0	0	0	0	0	0		
5495	1	1	1	1	0	1	1	1	0	1	80		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	0	1	1	1	1	1	1	1	90		
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		
5531	1	1	1	1	1	1	1	1	1	1	100		



5532	1	1	1	1	1	1	1	1	1	1	100
5533	1	1	1	1	1	1	1	1	1	1	100
5534	1	1	1	1	1	1	1	1	1	1	100
5535	1	1	1	1	1	1	1	1	1	1	100
5536	1	1	1	1	1	1	1	1	1	1	100
5537	1	1	1	1	1	1	1	1	1	1	100
5538	1	1	1	1	1	1	1	1	1	1	100
5539	1	1	1	1	1	1	1	1	1	1	100
5540	1	1	1	1	1	1	1	1	1	1	100
5541	1	1	1	1	1	1	1	1	1	1	100
5542	1	1	1	1	1	1	1	1	1	1	100
5543	1	1	1	1	1	1	1	1	1	1	100
5544	1	1	1	1	1	1	1	1	1	1	100
5545	1	1	1	1	1	1	1	1	1	1	100
5546	1	1	1	1	1	1	1	1	1	1	100
5547	1	1	1	1	1	1	1	1	1	1	100
5548	1	1	1	1	1	1	1	1	1	1	100
5549	1	1	1	1	1	1	1	1	1	1	100
5550	1	1	1	1	1	1	1	1	1	1	100
5551	1	1	1	1	1	1	1	1	1	1	100
5552	1	1	1	1	1	1	1	1	1	1	100
5553	1	1	1	1	1	1	1	1	1	1	100
5554	1	1	1	1	1	1	1	1	1	1	100
5555	1	1	1	1	1	1	1	1	1	1	100
5556	1	1	1	1	1	1	1	1	1	1	100
5557	1	1	1	1	1	1	1	1	1	1	100
5558	1	1	1	1	1	1	1	1	1	1	100
5559	1	1	1	1	1	1	1	1	1	1	100
5560	1	1	1	1	1	1	1	1	1	1	100
5561	1	1	1	1	1	1	1	1	1	1	100
5562	1	1	1	1	1	1	1	1	1	1	100
5563	1	1	1	1	1	1	1	1	1	1	100
5564	1	1	1	1	1	1	1	1	1	1	100
5565	0	1	1	0	1	1	1	1	0	0	60
5566	0	0	0	0	0	0	0	0	0	0	0
5567	0	0	0	0	0	0	0	0	0	0	0
5568	0	0	0	0	0	0	0	0	0	0	0
5569	0	0	0	0	0	0	0	0	0	0	0
5570	0	0	0	0	0	0	0	0	0	0	0

**USA Bin 0 Radar**



Radar Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	68	64
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
5493	0	0	0	0	0	0	0	0	0	0	0		
5494	0	0	0	0	0	0	0	0	0	0	0		
5495	1	0	0	0	0	0	0	0	0	0	10		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	1	1	1	1	1	1	1	1	1	1	100		
5525	1	1	1	1	1	1	1	1	1	1	100		
5526	1	1	1	1	1	1	1	1	1	1	100		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	1	1	1	1	1	1	1	1	1	1	100		
5529	1	1	1	1	1	1	1	1	1	1	100		
5530	1	1	1	1	1	1	1	1	1	1	100		
5531	1	1	1	1	1	1	1	1	1	1	100		



5532	1	1	1	1	1	1	1	1	1	1	100
5533	1	1	1	1	1	1	1	1	1	1	100
5534	1	1	1	1	1	1	1	1	1	1	100
5535	1	1	1	1	1	1	1	1	1	1	100
5536	1	1	1	1	1	1	1	1	1	1	100
5537	1	1	1	1	1	1	1	1	1	1	100
5538	1	1	1	1	1	1	1	1	1	1	100
5539	1	1	1	1	1	1	1	1	1	1	100
5540	1	1	1	1	1	1	1	1	1	1	100
5541	1	1	1	1	1	1	1	1	1	1	100
5542	1	1	1	1	1	1	1	1	1	1	100
5543	1	1	1	1	1	1	1	1	1	1	100
5544	1	1	1	1	1	1	1	1	1	1	100
5545	1	1	1	1	1	1	1	1	1	1	100
5546	1	1	1	1	1	1	1	1	1	1	100
5547	1	1	1	1	1	1	1	1	1	1	100
5548	1	1	1	1	1	1	1	1	1	1	100
5549	1	1	1	1	1	1	1	1	1	1	100
5550	1	1	1	1	1	1	1	1	1	1	100
5551	1	1	1	1	1	1	1	1	1	1	100
5552	1	1	1	1	1	1	1	1	1	1	100
5553	1	1	1	1	1	1	1	1	1	1	100
5554	1	1	1	1	1	1	1	1	1	1	100
5555	1	1	1	1	1	1	1	1	1	1	100
5556	1	1	1	1	1	1	1	1	1	1	100
5557	1	1	1	1	1	1	1	1	1	1	100
5558	1	1	1	1	1	1	1	1	1	1	100
5559	1	1	1	1	1	1	1	1	1	1	100
5560	1	1	1	1	1	1	1	1	1	1	100
5561	1	1	1	1	1	1	1	1	1	1	100
5562	1	1	1	1	1	1	1	1	1	1	100
5563	1	1	1	1	1	1	1	1	1	1	100
5564	1	1	1	1	1	1	1	1	1	1	100
5565	1	1	1	1	1	1	1	1	1	1	100
5566	0	0	0	0	0	0	0	0	0	0	0
5567	0	0	0	0	0	0	0	0	0	0	0
5568	0	0	0	0	0	0	0	0	0	0	0
5569	0	0	0	0	0	0	0	0	0	0	0
5570	0	0	0	0	0	0	0	0	0	0	0

**USA Bin 2 Radar**



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	68	64
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
5493	0	0	0	0	0	0	0	0	0	0	0		
5494	0	0	0	0	0	0	0	0	0	0	0		
5495	0	0	0	0	0	0	0	0	0	0	0		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	1	1	1	1	1	1	1	1	1	1	100		
5525	1	1	1	1	1	1	1	1	1	1	100		
5526	1	1	1	1	1	1	1	1	1	1	100		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	1	1	1	1	1	1	1	1	1	1	100		
5529	1	1	1	1	1	1	1	1	1	1	100		
5530	1	1	1	1	1	1	1	1	1	1	100		
5531	1	1	1	1	1	1	1	1	1	1	100		





5532	1	1	1	1	1	1	1	1	1	1	100
5533	1	1	1	1	1	1	1	1	1	1	100
5534	1	1	1	1	1	1	1	1	1	1	100
5535	1	1	1	1	1	1	1	1	1	1	100
5536	1	1	1	1	1	1	1	1	1	1	100
5537	1	1	1	1	1	1	1	1	1	1	100
5538	1	1	1	1	1	1	1	1	1	1	100
5539	1	1	1	1	1	1	1	1	1	1	100
5540	1	1	1	1	1	1	1	1	1	1	100
5541	1	1	1	1	1	1	1	1	1	1	100
5542	1	1	1	1	1	1	1	1	1	1	100
5543	1	1	1	1	1	1	1	1	1	1	100
5544	1	1	1	1	1	1	1	1	1	1	100
5545	1	1	1	1	1	1	1	1	1	1	100
5546	1	1	1	1	1	1	1	1	1	1	100
5547	1	1	1	1	1	1	1	1	1	1	100
5548	1	1	1	1	1	1	1	1	1	1	100
5549	1	1	1	1	1	1	1	1	1	1	100
5550	1	1	1	1	1	1	1	1	1	1	100
5551	1	1	1	1	1	1	1	1	1	1	100
5552	1	1	1	1	1	1	1	1	1	1	100
5553	1	1	1	1	1	1	1	1	1	1	100
5554	1	1	1	1	1	1	1	1	1	1	100
5555	1	1	1	1	1	1	1	1	1	1	100
5556	1	1	1	1	1	1	1	1	1	1	100
5557	1	1	1	1	1	1	1	1	1	1	100
5558	1	1	1	1	1	1	1	1	1	1	100
5559	1	1	1	1	1	1	1	1	1	1	100
5560	1	1	1	1	1	1	1	1	1	1	100
5561	1	1	1	1	1	1	1	1	1	1	100
5562	1	1	1	1	1	1	1	1	1	1	100
5563	1	1	1	1	1	1	1	1	1	1	100
5564	1	1	1	1	1	1	1	1	1	1	100
5565	0	0	0	0	0	0	0	0	0	0	0
5566	0	0	0	0	0	0	0	0	0	0	0
5567	0	0	0	0	0	0	0	0	0	0	0
5568	0	0	0	0	0	0	0	0	0	0	0
5569	0	0	0	0	0	0	0	0	0	0	0
5570	0	0	0	0	0	0	0	0	0	0	0

**USA Bin 3 Radar**



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	68	64
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
5493	0	0	0	0	0	0	0	0	0	0	0		
5494	0	0	0	0	0	0	0	0	0	0	0		
5495	0	0	0	0	0	0	0	0	0	0	0		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	1	1	1	1	1	1	1	1	1	1	100		
5525	1	1	1	1	1	1	1	1	1	1	100		
5526	1	1	1	1	1	1	1	1	1	1	100		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	1	1	1	1	1	1	1	1	1	1	100		
5529	1	1	1	1	1	1	1	1	1	1	100		
5530	1	1	1	1	1	1	1	1	1	1	100		
5531	1	1	1	1	1	1	1	1	1	1	100		



5532	1	1	1	1	1	1	1	1	1	1	100
5533	1	1	1	1	1	1	1	1	1	1	100
5534	1	1	1	1	1	1	1	1	1	1	100
5535	1	1	1	1	1	1	1	1	1	1	100
5536	1	1	1	1	1	1	1	1	1	1	100
5537	1	1	1	1	1	1	1	1	1	1	100
5538	1	1	1	1	1	1	1	1	1	1	100
5539	1	1	1	1	1	1	1	1	1	1	100
5540	1	1	1	1	1	1	1	1	1	1	100
5541	1	1	1	1	1	1	1	1	1	1	100
5542	1	1	1	1	1	1	1	1	1	1	100
5543	1	1	1	1	1	1	1	1	1	1	100
5544	1	1	1	1	1	1	1	1	1	1	100
5545	1	1	1	1	1	1	1	1	1	1	100
5546	1	1	1	1	1	1	1	1	1	1	100
5547	1	1	1	1	1	1	1	1	1	1	100
5548	1	1	1	1	1	1	1	1	1	1	100
5549	1	1	1	1	1	1	1	1	1	1	100
5550	1	1	1	1	1	1	1	1	1	1	100
5551	1	1	1	1	1	1	1	1	1	1	100
5552	1	1	1	1	1	1	1	1	1	1	100
5553	1	1	1	1	1	1	1	1	1	1	100
5554	1	1	1	1	1	1	1	1	1	1	100
5555	1	1	1	1	1	1	1	1	1	1	100
5556	1	1	1	1	1	1	1	1	1	1	100
5557	1	1	1	1	1	1	1	1	1	1	100
5558	1	1	1	1	1	1	1	1	1	1	100
5559	1	1	1	1	1	1	1	1	1	1	100
5560	1	1	1	1	1	1	1	1	1	1	100
5561	1	1	1	1	1	1	1	1	1	1	100
5562	1	1	1	1	1	1	1	1	1	1	100
5563	1	1	1	1	1	1	1	1	1	1	100
5564	1	1	1	1	1	1	1	1	1	1	100
5565	0	0	0	0	0	0	0	0	0	0	0
5566	0	0	0	0	0	0	0	0	0	0	0
5567	0	0	0	0	0	0	0	0	0	0	0
5568	0	0	0	0	0	0	0	0	0	0	0
5569	0	0	0	0	0	0	0	0	0	0	0
5570	0	0	0	0	0	0	0	0	0	0	0

**USA Bin 4 Radar**



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	1	1	0	1	1	1	1	1	1	1	90	80	64
5491	1	1	1	1	1	1	1	1	1	1	100		
5492	1	1	1	1	1	1	1	1	1	1	100		
5493	1	1	1	1	1	1	1	1	1	1	100		
5494	1	1	1	1	1	1	1	1	1	1	100		
5495	1	1	1	1	1	1	1	1	1	1	100		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	1	1	1	1	1	1	1	1	1	1	100		
5525	1	1	1	1	1	1	1	1	1	1	100		
5526	1	1	1	1	1	1	1	1	1	1	100		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	1	1	1	1	1	1	1	1	1	1	100		
5529	1	1	1	1	1	1	1	1	1	1	100		
5530	1	1	1	1	1	1	1	1	1	1	100		
5531	1	1	1	1	1	1	1	1	1	1	100		



5532	1	1	1	1	1	1	1	1	1	1	100
5533	1	1	1	1	1	1	1	1	1	1	100
5534	1	1	1	1	1	1	1	1	1	1	100
5535	1	1	1	1	1	1	1	1	1	1	100
5536	1	1	1	1	1	1	1	1	1	1	100
5537	1	1	1	1	1	1	1	1	1	1	100
5538	1	1	1	1	1	1	1	1	1	1	100
5539	1	1	1	1	1	1	1	1	1	1	100
5540	1	1	1	1	1	1	1	1	1	1	100
5541	1	1	1	1	1	1	1	1	1	1	100
5542	1	1	1	1	1	1	1	1	1	1	100
5543	1	1	1	1	1	1	1	1	1	1	100
5544	1	1	1	1	1	1	1	1	1	1	100
5545	1	1	1	1	1	1	1	1	1	1	100
5546	1	1	1	1	1	1	1	1	1	1	100
5547	1	1	1	1	1	1	1	1	1	1	100
5548	1	1	1	1	1	1	1	1	1	1	100
5549	1	1	1	1	1	1	1	1	1	1	100
5550	1	1	1	1	1	1	1	1	1	1	100
5551	1	1	1	1	1	1	1	1	1	1	100
5552	1	1	1	1	1	1	1	1	1	1	100
5553	1	1	1	1	1	1	1	1	1	1	100
5554	1	1	1	1	1	1	1	1	1	1	100
5555	1	1	1	1	1	1	1	1	1	1	100
5556	1	1	1	1	1	1	1	1	1	1	100
5557	1	1	1	1	1	1	1	1	1	1	100
5558	1	1	1	1	1	1	1	1	1	1	100
5559	1	1	1	1	1	1	1	1	1	1	100
5560	1	1	1	1	1	1	1	1	1	1	100
5561	1	1	1	1	1	1	1	1	1	1	100
5562	1	1	1	1	1	1	1	1	1	1	100
5563	1	1	1	1	1	1	1	1	1	1	100
5564	1	1	1	1	1	1	1	1	1	1	100
5565	1	1	1	1	1	1	1	1	1	1	100
5566	1	1	1	1	1	1	1	1	1	1	100
5567	1	1	1	1	1	1	1	1	1	1	100
5568	1	1	1	1	1	1	1	1	1	1	100
5569	1	1	1	1	1	1	1	1	1	1	100
5570	1	1	1	1	1	1	1	1	1	1	100

**USA Bin 5 Radar**



Radars Frequency	DFS Detection Trials (1=Detection, Blank= No Detection)										Detection Rate (%)	Detection Bandwidth (MHz)	Limit (MHz)
	1	2	3	4	5	6	7	8	9	10			
5490	0	0	0	0	0	0	0	0	0	0	0	68	64
5491	0	0	0	0	0	0	0	0	0	0	0		
5492	0	0	0	0	0	0	0	0	0	0	0		
5493	0	0	0	0	0	0	0	0	0	0	0		
5494	0	0	0	0	0	0	0	0	0	0	0		
5495	1	1	1	1	0	0	0	1	1	0	60		
5496	1	1	1	1	1	1	1	1	1	1	100		
5497	1	1	1	1	1	1	1	1	1	1	100		
5498	1	1	1	1	1	1	1	1	1	1	100		
5499	1	1	1	1	1	1	1	1	1	1	100		
5500	1	1	1	1	1	1	1	1	1	1	100		
5501	1	1	1	1	1	1	1	1	1	1	100		
5502	1	1	1	1	1	1	1	1	1	1	100		
5503	1	1	1	1	1	1	1	1	1	1	100		
5504	1	1	1	1	1	1	1	1	1	1	100		
5505	1	1	1	1	1	1	1	1	1	1	100		
5506	1	1	1	1	1	1	1	1	1	1	100		
5507	1	1	1	1	1	1	1	1	1	1	100		
5508	1	1	1	1	1	1	1	1	1	1	100		
5509	1	1	1	1	1	1	1	1	1	1	100		
5510	1	1	1	1	1	1	1	1	1	1	100		
5511	1	1	1	1	1	1	1	1	1	1	100		
5512	1	1	1	1	1	1	1	1	1	1	100		
5513	1	1	1	1	1	1	1	1	1	1	100		
5514	1	1	1	1	1	1	1	1	1	1	100		
5515	1	1	1	1	1	1	1	1	1	1	100		
5516	1	1	1	1	1	1	1	1	1	1	100		
5517	1	1	1	1	1	1	1	1	1	1	100		
5518	1	1	1	1	1	1	1	1	1	1	100		
5519	1	1	1	1	1	1	1	1	1	1	100		
5520	1	1	1	1	1	1	1	1	1	1	100		
5521	1	1	1	1	1	1	1	1	1	1	100		
5522	1	1	1	1	1	1	1	1	1	1	100		
5523	1	1	1	1	1	1	1	1	1	1	100		
5524	1	1	1	1	1	1	1	1	1	1	100		
5525	1	1	1	1	1	1	1	1	1	1	100		
5526	1	1	1	1	1	1	1	1	1	1	100		
5527	1	1	1	1	1	1	1	1	1	1	100		
5528	1	1	1	1	1	1	1	1	1	1	100		
5529	1	1	1	1	1	1	1	1	1	1	100		
5530	1	1	1	1	1	1	1	1	1	1	100		
5531	1	1	1	1	1	1	1	1	1	1	100		



5532	1	1	1	1	1	1	1	1	1	1	100
5533	1	1	1	1	1	1	1	1	1	1	100
5534	1	1	1	1	1	1	1	1	1	1	100
5535	1	1	1	1	1	1	1	1	1	1	100
5536	1	1	1	1	1	1	1	1	1	1	100
5537	1	1	1	1	1	1	1	1	1	1	100
5538	1	1	1	1	1	1	1	1	1	1	100
5539	1	1	1	1	1	1	1	1	1	1	100
5540	1	1	1	1	1	1	1	1	1	1	100
5541	1	1	1	1	1	1	1	1	1	1	100
5542	1	1	1	1	1	1	1	1	1	1	100
5543	1	1	1	1	1	1	1	1	1	1	100
5544	1	1	1	1	1	1	1	1	1	1	100
5545	1	1	1	1	1	1	1	1	1	1	100
5546	1	1	1	1	1	1	1	1	1	1	100
5547	1	1	1	1	1	1	1	1	1	1	100
5548	1	1	1	1	1	1	1	1	1	1	100
5549	1	1	1	1	1	1	1	1	1	1	100
5550	1	1	1	1	1	1	1	1	1	1	100
5551	1	1	1	1	1	1	1	1	1	1	100
5552	1	1	1	1	1	1	1	1	1	1	100
5553	1	1	1	1	1	1	1	1	1	1	100
5554	1	1	1	1	1	1	1	1	1	1	100
5555	1	1	1	1	1	1	1	1	1	1	100
5556	1	1	1	1	1	1	1	1	1	1	100
5557	1	1	1	1	1	1	1	1	1	1	100
5558	1	1	1	1	1	1	1	1	1	1	100
5559	1	1	1	1	1	1	1	1	1	1	100
5560	1	1	1	1	1	1	1	1	1	1	100
5561	1	1	1	1	1	1	1	1	1	1	100
5562	1	1	1	1	1	1	1	1	1	1	100
5563	1	1	1	1	1	1	1	1	1	1	100
5564	1	1	1	1	1	1	1	1	1	1	100
5565	1	1	0	1	0	0	0	1	0	0	40
5566	0	0	0	0	0	0	0	0	0	0	0
5567	0	0	0	0	0	0	0	0	0	0	0
5568	0	0	0	0	0	0	0	0	0	0	0
5569	0	0	0	0	0	0	0	0	0	0	0
5570	0	0	0	0	0	0	0	0	0	0	0

**USA Frequency Hopping Radar**



**4. Initial Channel Availability Check Time**

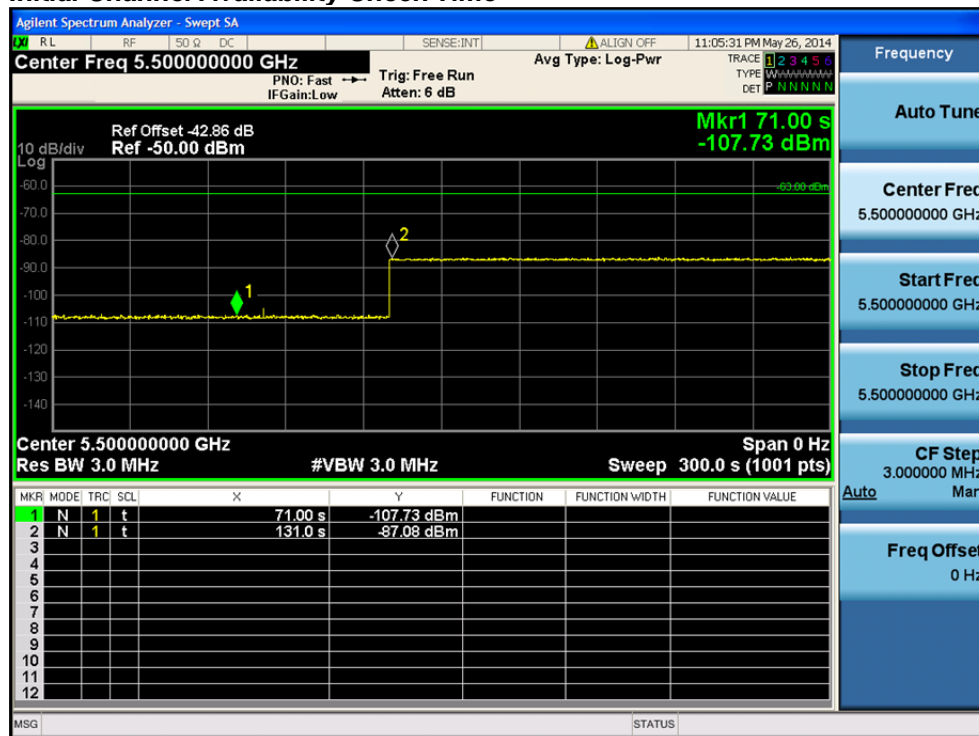
The tests that the UUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms.

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 1R.

**Initial Channel Availability Check Time**







**5. 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.

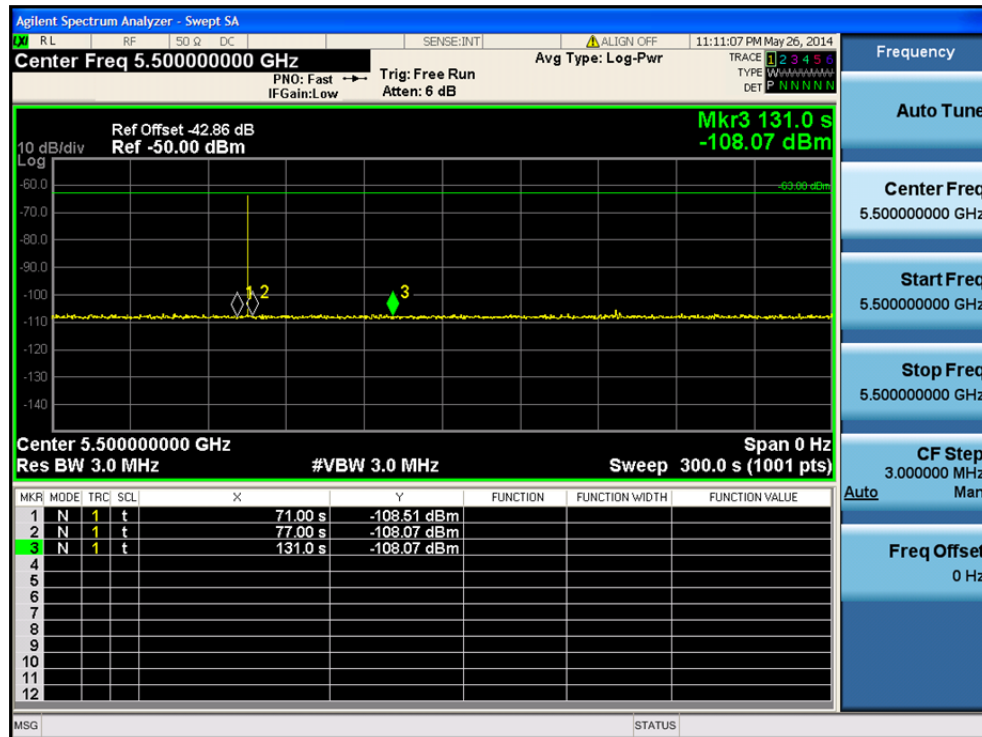
The UUT is powered on at  $T_0$ .  $T_1$  denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant  $T_1$  and will end no sooner than  $T_1 + 60$  seconds.

A single Burst of short pulse of radar type 1 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**





**6. 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 1 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**





**7. 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.

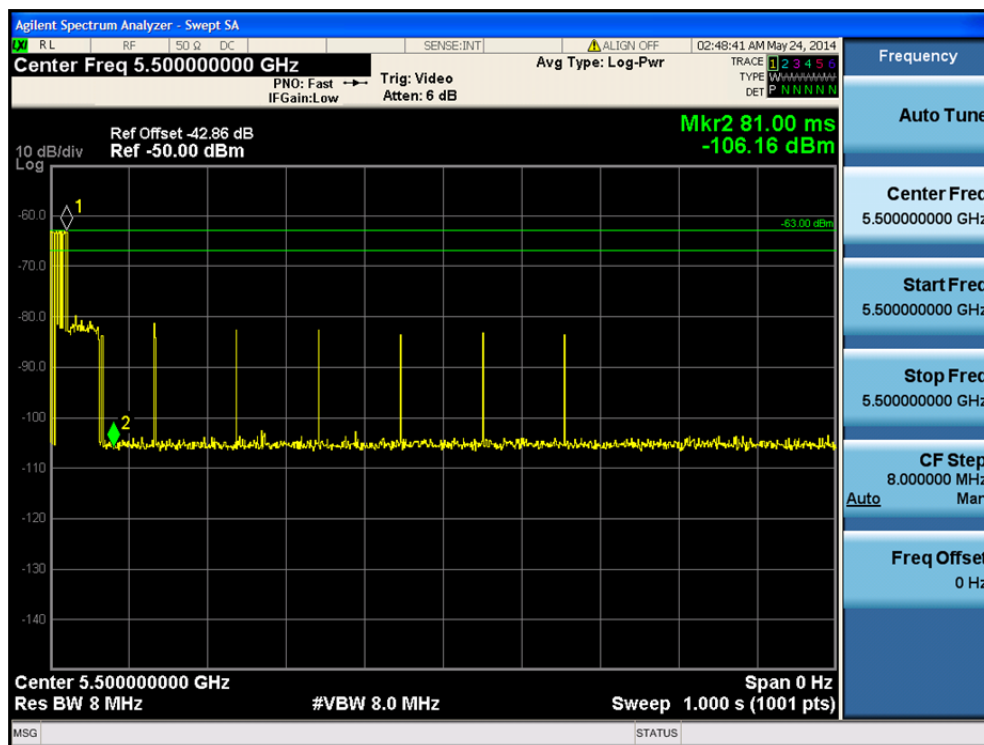
The steps below define the procedure to determine the above mentioned parameters when a radar Burst with a level equal to the DFS Detection Threshold + 1dB (-63dBm) is generated on the Operating Channel of the U-NII device.

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 each of the radar types at -63dBm.

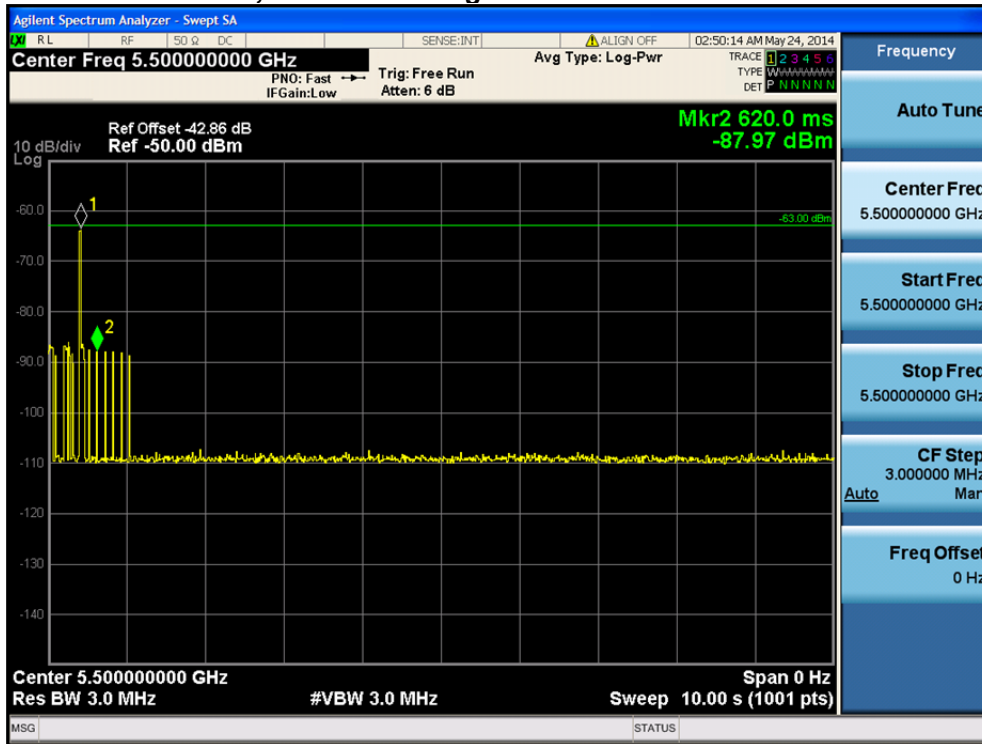
Observe the transmissions of the UUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). Compare the Channel Move Time and Channel Closing Transmission Time results 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 1 radar was used for this data.**

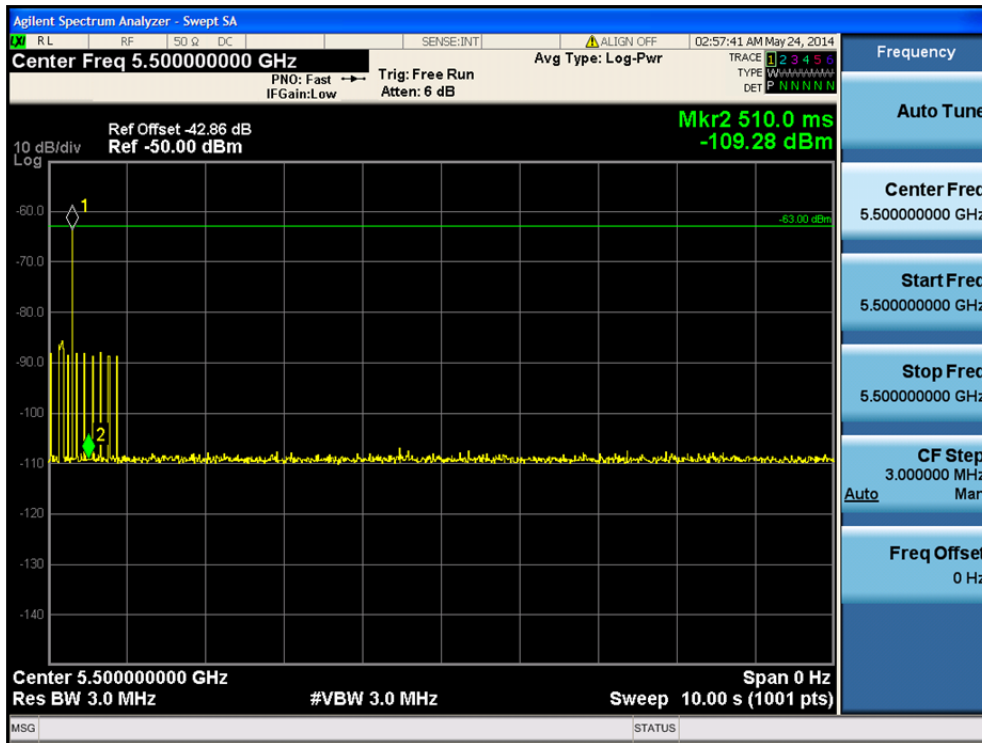




**Channel Move Time, Channel Closing Transmission Time for USA Bin 1**

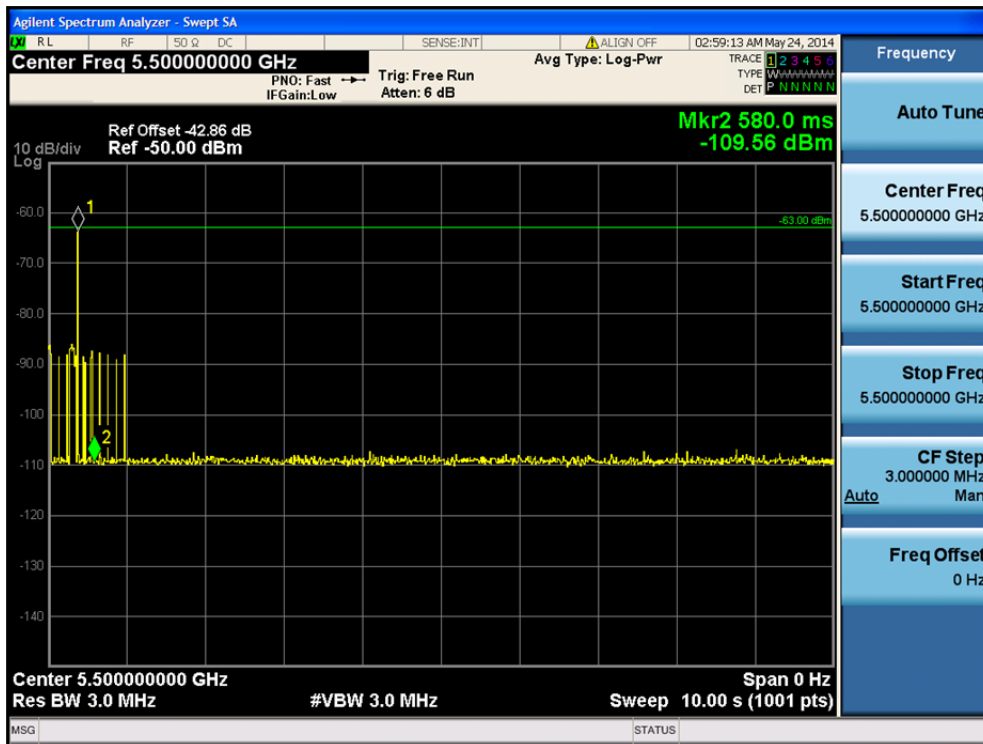


**Channel Move Time, Channel Closing Transmission Time for USA Bin 2**

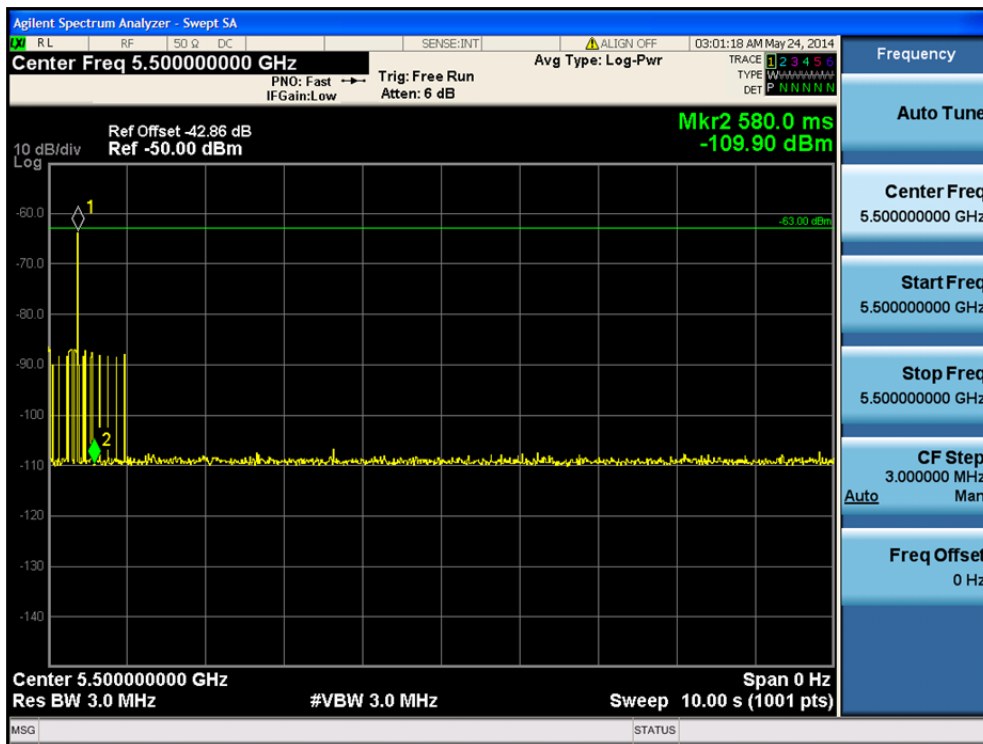




**Channel Move Time, Channel Closing Transmission Time for USA Bin 3**

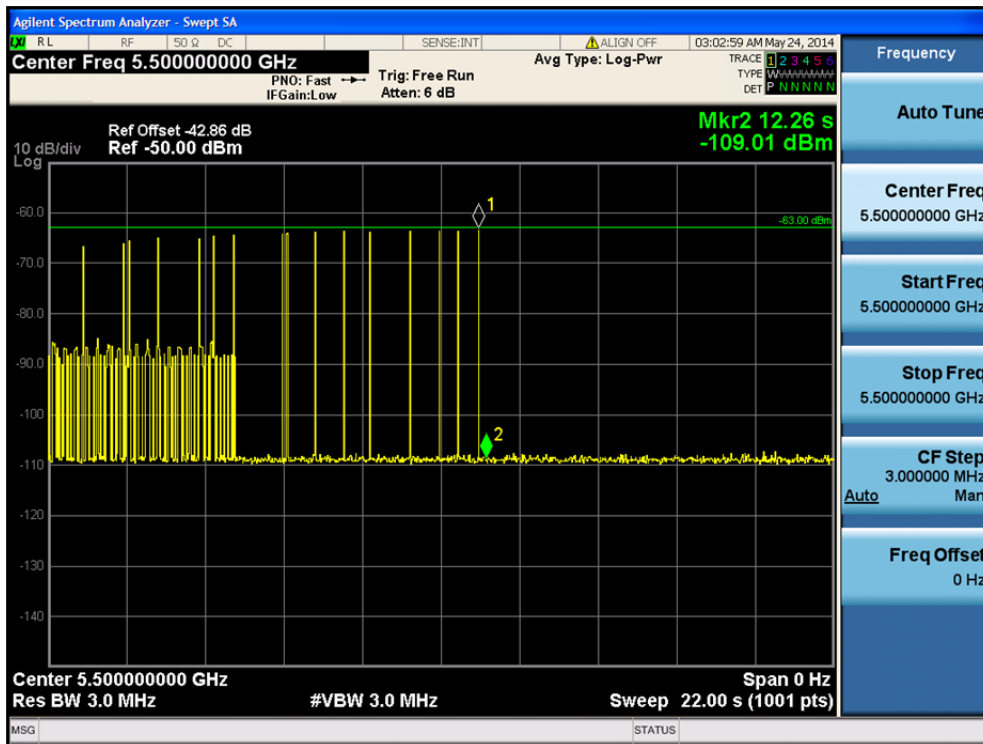


**Channel Move Time, Channel Closing Transmission Time for USA Bin 4**

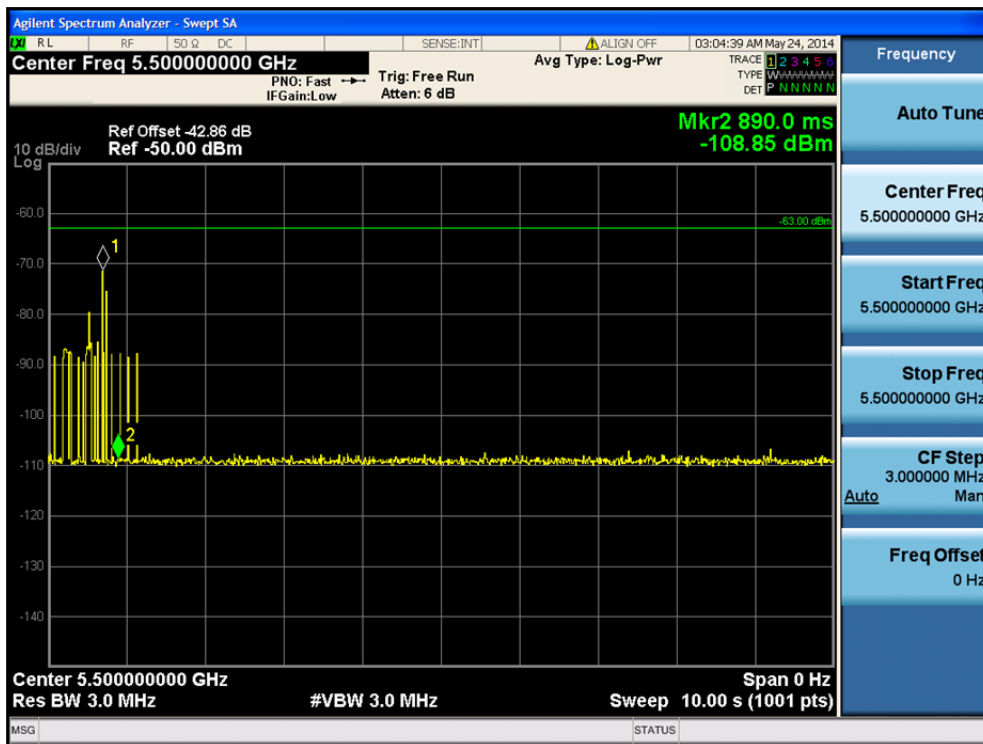




**Channel Move Time, Channel Closing Transmission Time for USA Bin 5**



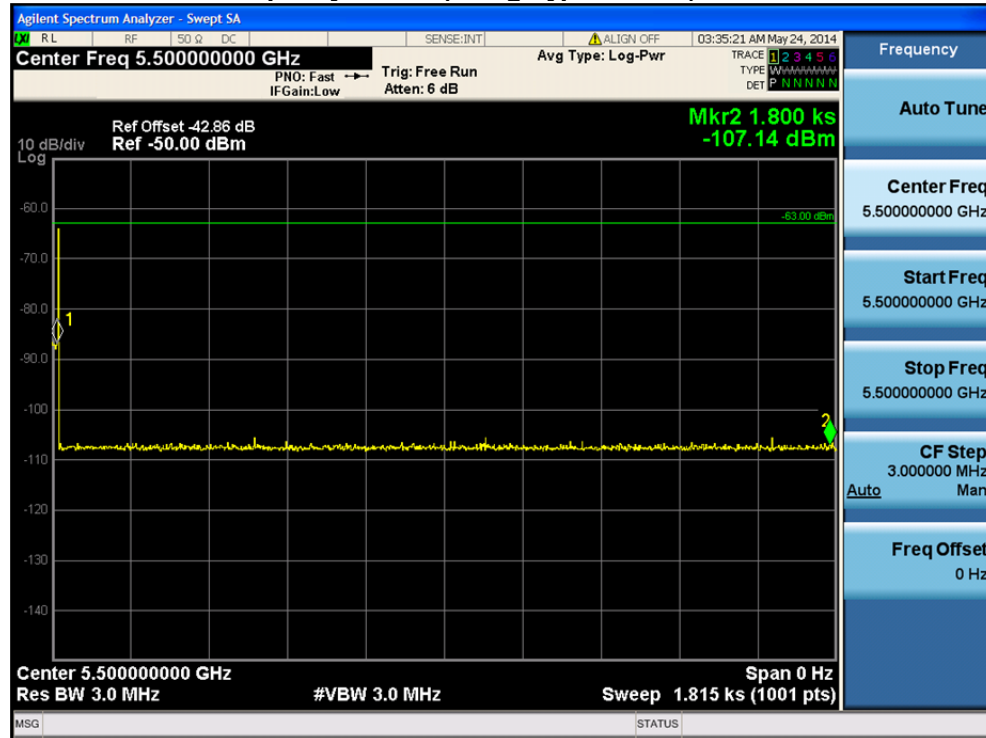
**Channel Move Time, Channel Closing Transmission Time for USA Frequency Hopping**





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 1 radar)**





## 8. **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:

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

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 and 40 MHz signal bandwidths.





**USA Bin 1 Radar Statistical Performance**

Trial #	PW	PRI	Pulses	1=Detection 0=No Detection	Detection Percentage	Limit
1	18	1	1428	1	86.7%	60.0%
2	18	1	1428	1		
3	18	1	1428	1		
4	18	1	1428	0		
5	18	1	1428	1		
6	18	1	1428	1		
7	18	1	1428	1		
8	18	1	1428	1		
9	18	1	1428	1		
10	18	1	1428	1		
11	18	1	1428	1		
12	18	1	1428	1		
13	18	1	1428	1		
14	18	1	1428	1		
15	18	1	1428	1		
16	18	1	1428	1		
17	18	1	1428	1		
18	18	1	1428	1		
19	18	1	1428	1		
20	18	1	1428	1		
21	18	1	1428	1		
22	18	1	1428	0		
23	18	1	1428	1		
24	18	1	1428	0		
25	18	1	1428	1		
26	18	1	1428	1		
27	18	1	1428	1		
28	18	1	1428	1		
29	18	1	1428	0		
30	18	1	1428	1		



**USA Bin 2 Radar Statistical Performance**

Trial #	PW	PRI	Pulses	1=Detection 0=No Detection	Detection Percentage	Limit
1	26	3.2	194	1	80.0%	60.0%
2	26	3	184	1		
3	25	3.8	156	0		
4	23	2.9	202	1		
5	27	4.8	175	1		
6	27	3.2	226	1		
7	29	3.6	160	1		
8	23	1	182	1		
9	29	3.1	152	0		
10	27	3.2	183	1		
11	24	1.7	197	1		
12	24	2.3	228	1		
13	25	2.9	229	0		
14	23	2.4	205	1		
15	23	3.9	164	0		
16	29	3.8	215	1		
17	25	4.4	207	1		
18	24	2.2	155	1		
19	27	4	194	1		
20	23	1.3	227	1		
21	23	3.1	183	1		
22	29	1.6	183	1		
23	28	1.4	163	1		
24	27	2.2	200	0		
25	25	2.8	214	1		
26	28	2.8	155	1		
27	29	1.4	154	1		
28	23	2.6	194	1		
29	29	4.6	178	0		
30	23	4.5	153	1		



**USA Bin 3 Radar Statistical Performance**

Trial #	PW	PRI	Pulses	1=Detection 0=No Detection	Detection Percentage	Limit
1	17	6.7	274	0	86.7%	60.0%
2	17	6.8	308	0		
3	16	7.6	422	1		
4	18	9.6	408	1		
5	16	9.5	381	1		
6	18	6	490	1		
7	18	9.1	320	1		
8	17	7.4	477	1		
9	17	9.2	467	0		
10	17	6.5	392	1		
11	16	9	255	1		
12	17	9.8	389	1		
13	17	8.2	323	1		
14	16	9.4	251	1		
15	16	6.9	299	1		
16	17	10	402	0		
17	18	9.4	235	1		
18	17	9.8	311	1		
19	18	9.7	215	1		
20	17	9.2	260	1		
21	17	9.5	276	1		
22	18	7.9	293	1		
23	17	9.6	361	1		
24	18	7.9	212	1		
25	18	6.7	344	1		
26	17	8.3	478	1		
27	18	9.6	445	1		
28	17	8	401	1		
29	17	7	294	1		
30	17	6.9	381	1		



**USA Bin 4 Radar Statistical Performance**

Trial #	PW	PRI	Pulses	1=Detection 0=No Detection	Detection Percentage	Limit
1	15	12.1	227	1	80.0%	60.0%
2	13	13.7	394	1		
3	15	12.3	258	1		
4	15	19.1	246	1		
5	14	19.2	290	0		
6	13	13.6	451	0		
7	16	11.1	232	1		
8	15	14.7	456	0		
9	12	17.1	443	1		
10	16	13.6	243	1		
11	14	12.3	384	1		
12	14	13.3	316	1		
13	12	18	329	1		
14	12	11.2	206	0		
15	12	13.8	228	0		
16	15	13.6	277	1		
17	13	17.6	334	0		
18	16	14.8	376	1		
19	13	15.3	482	1		
20	16	19.4	453	1		
21	15	12.9	257	1		
22	12	14.2	259	1		
23	16	17.9	440	1		
24	12	16.1	420	1		
25	13	12	419	1		
26	14	13.5	383	1		
27	13	17.5	225	1		
28	14	12.4	451	1		
29	12	16.3	297	1		
30	16	15.2	204	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:

$$\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4} = (86.7\% + 80.0\% + 86.7\% + 80.0\%) / 4 = 83.4\% (>80\%)$$

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

**USA Bin 5 Radar Statistical Performance**

<b>Trial #</b>	<b>Name</b>	<b>1=Detection 0=No Detection</b>	<b>Detection Percentage</b>	<b>Limit</b>
1	USA Bin 5 Radar Test 1	1	93.3%	80.0%
2	USA Bin 5 Radar Test 2	1		
3	USA Bin 5 Radar Test 3	1		
4	USA Bin 5 Radar Test 4	1		
5	USA Bin 5 Radar Test 5	1		
6	USA Bin 5 Radar Test 6	1		
7	USA Bin 5 Radar Test 7	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	0		
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	0		
30	USA Bin 5 Radar Test 30	1		



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

**USA Frequency Hopping Radar Statistical Performance**

<b>Trial #</b>	<b>Name</b>	<b>1=Detection 0=No Detection</b>	<b>Detection Percentage</b>	<b>Limit</b>
1	USA Bin 6 Radar Test 1	1	90.0%	70.0%
2	USA Bin 6 Radar Test 2	1		
3	USA Bin 6 Radar Test 3	1		
4	USA Bin 6 Radar Test 4	1		
5	USA Bin 6 Radar Test 5	1		
6	USA Bin 6 Radar Test 6	1		
7	USA Bin 6 Radar Test 7	1		
8	USA Bin 6 Radar Test 8	1		
9	USA Bin 6 Radar Test 9	1		
10	USA Bin 6 Radar Test 10	1		
11	USA Bin 6 Radar Test 11	1		
12	USA Bin 6 Radar Test 12	0		
13	USA Bin 6 Radar Test 13	0		
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	0		
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 Bin 5 Trial #1

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	3	11	50	1600		0.270043
2	1	9	75			1.561753
3	3	15	50	1632	1009	2.877115
4	1	12	60			3.571871
5	3	17	90	1895	1505	4.422159
6	1	6	70			5.622285
7	3	20	95	1583	1107	6.87107
8	2	14	50	1525		7.118292
9	3	10	60	1132	1124	8.034402
10	3	10	50	1904	1544	9.688338
11	3	18	50	1278	1389	10.099279
12	2	16	50	1591		11.286816

## USA Bin 5 Trial #2

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	1	12	70			0.595241
2	2	19	90	1822		0.733438
3	2	7	50	1209		1.876808
4	2	16	60	1625		2.77904
5	2	8	95	1827		3.151252
6	1	7	55			3.865339
7	3	12	80	1298	1529	4.830554
8	2	11	95	1340		5.255059
9	1	8	75			5.989629
10	3	11	95	1739	1997	6.691093
11	1	6	90			7.541003
12	2	11	75	1224		7.966133
13	3	16	70	1939	1099	8.731875
14	2	18	75	1502		9.609207
15	2	16	65	1877		10.527256
16	2	18	55	1724		10.743478
17	2	20	55	1398		11.324393

## USA Bin 5 Trial #3

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	1	13	95			0.034516
2	3	5	75	1162	1093	1.102593
3	1	16	80			1.777353
4	3	10	90	1796	1179	1.851121
5	3	12	75	1161	1251	2.942061
6	2	19	90	1935		3.410218
7	3	5	60	1224	1991	4.047331
8	1	6	50			4.783268
9	1	20	55			4.992146
10	3	10	90	1995	1566	5.650887
11	3	20	60	1159	1986	6.092057
12	3	17	65	1975	1940	6.614465
13	2	10	75	1785		7.721164
14	1	20	85			8.071815



15	3	11	50	1247	1536	8.801451
16	2	13	55	1449		9.318227
17	3	7	65	1583	1912	10.035949
18	3	6	65	1198	1625	10.366307
19	2	7	70	1083		11.147499
20	1	18	50			11.713932

## USA Bin 5 Trial #4

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	3	11	80	1024	1207	0.38283
2	3	7	65	1881	1442	0.670381
3	3	11	55	1301	1360	1.478359
4	2	5	55	1452		2.448029
5	2	17	70	1610		2.967661
6	3	15	55	1666	1787	3.922728
7	3	13	95	1196	1079	4.223293
8	2	5	60	1735		4.996765
9	2	8	60	1955		5.596722
10	2	20	50	1680		6.138401
11	3	19	65	1470	1669	7.125667
12	2	19	65	1513		7.547493
13	2	14	50	1482		8.004772
14	3	10	85	1443	1002	9.178898
15	2	6	65	1864		9.347393
16	1	7	70			10.62497
17	3	15	85	1637	1373	10.701305
18	1	15	95			11.873579

## USA Bin 5 Trial #5

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	8	70	1979		0.631687
2	2	11	100	1811		0.881918
3	1	16	100			1.624641
4	2	15	70	1168		2.623697
5	3	19	85	1611	1857	3.413836
6	1	8	75			3.898175
7	1	10	50			5.123815
8	1	17	80			5.466795
9	3	9	90	1893	1397	6.145464
10	2	11	75	1689		6.914166
11	3	20	60	1385	1300	7.801673
12	3	19	50	1027	1003	8.535962
13	2	15	55	1077		9.17452
14	2	15	75	1355		10.118866
15	1	12	60			11.035551
16	3	15	85	1806	1175	11.685252

## USA Bin 5 Trial #6

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	1	10	80			0.743606
2	1	14	50			2.741436
3	2	17	85	1834		3.930845





4	3	8	70	1191	1688	4.639739
5	2	12	75	1194		6.258279
6	1	13	70			8.248931
7	2	5	90	1457		9.635573
8	2	13	80	1062		11.668191

USA Bin 5 Trial #7

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	3	16	65	1401	1664	0.559928
2	1	16	50			1.669051
3	2	8	60	1097		3.017751
4	2	8	90	1956		4.050752
5	3	17	90	1167	1216	4.909672
6	1	16	80			6.595545
7	2	17	90	1674		8.076969
8	1	14	60			9.231328
9	3	13	75	1491	1616	10.151186
10	2	19	70	1822		11.434803

USA Bin 5 Trial #8

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	19	70	1202		0.540648
2	3	15	50	1326	1941	0.998209
3	1	9	65			2.125208
4	2	5	95	1546		3.18902
5	2	10	70	1950		3.902033
6	3	18	80	1879	1472	4.352719
7	1	13	65			5.028432
8	3	16	60	1701	1420	6.26445
9	3	19	85	1700	1531	7.04192
10	1	18	60			7.30756
11	2	9	70	1850		8.671939
12	1	9	90			9.043326
13	2	7	55	1208		10.181676
14	2	7	60	1300		10.936388
15	1	20	100			11.663356

USA Bin 5 Trial #9

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	20	80	1534		0.769824
2	3	9	50	1419	1207	1.271357
3	2	19	65	1216		1.793312
4	2	7	75	1693		2.426639
5	3	20	75	1604	1121	3.763625
6	1	7	60			4.123651
7	1	12	60			5.478212
8	2	5	50	1112		5.65164
9	1	17	50			6.7719
10	2	8	100	1927		7.312759
11	2	16	100	1971		8.420445
12	2	6	100	1820		9.306665
13	2	12	70	1151		9.862416



14	1	12	80			10.612906
15	3	17	100	1855	1193	11.783125

USA Bin 5 Trial #10

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	3	9	80	1596	1227	0.44886
2	2	10	55	1162		0.710716
3	2	9	80	1540		1.394533
4	3	6	90	1795	1865	2.10639
5	1	16	85			3.12304
6	2	12	50	1061		3.297261
7	3	9	60	1509	1886	3.892229
8	3	6	95	1452	1848	4.96315
9	3	10	55	1355	1357	5.443305
10	1	18	50			6.152745
11	2	16	70	1855		6.920755
12	2	15	85	1289		7.168066
13	1	8	70			7.971705
14	1	14	70			8.55975
15	1	7	80			8.902019
16	2	9	90	1007		9.798567
17	2	19	50	1929		10.546059
18	1	20	50			10.845195
19	1	16	90			11.454991

USA Bin 5 Trial #11

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	18	85	1182		0.461561
2	2	5	85	1920		1.88039
3	2	8	75	1486		4.235213
4	3	12	75	1700	1219	5.295485
5	2	7	95	1099		7.271185
6	1	12	50			8.716432
7	3	13	90	1953	1429	10.240801
8	2	9	70	1751		10.682686

USA Bin 5 Trial #12

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	1	20	70			0.664264
2	1	12	50			2.115104
3	2	12	75	1206		2.641044
4	1	7	60			4.358845
5	3	17	90	1429	1257	5.394371
6	3	20	85	1406	1318	6.348954
7	2	16	100	1138		7.64911
8	2	10	75	1584		8.919399
9	1	6	65			10.087198
10	3	15	60	1479	1805	11.771807

USA Bin 5 Trial #13

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	10	50	1295		0.057101
2	1	7	75			1.237947



3	1	19	60			1.813007
4	2	20	50	1530		2.426768
5	1	16	50			3.31918
6	2	6	100	1345		3.963977
7	1	12	55			4.542761
8	3	9	60	1814	1185	5.750755
9	1	20	95			6.365654
10	3	12	100	1713	1803	6.946134
11	2	5	100	1791		7.785579
12	1	20	65			8.956668
13	1	8	50			9.532188
14	1	17	60			10.472511
15	1	20	95			11.053516
16	2	11	100	1503		11.622901

USA Bin 5 Trial #14

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	8	70	1419		1.056815
2	2	10	70	1725		2.620071
3	3	16	80	1028	1155	2.706017
4	3	16	65	1116	1817	5.019742
5	1	9	65			5.780336
6	2	19	50	1835		7.34045
7	3	13	60	1722	1871	8.99551
8	1	11	95			10.321983
9	3	9	50	1429	1859	11.868034

USA Bin 5 Trial #15

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	1	18	85			0.428567
2	2	9	65	1086		1.664127
3	2	15	90	1692		2.552832
4	1	17	75			2.873216
5	1	16	60			4.086955
6	2	5	65	1251		4.531052
7	2	14	85	1196		5.575659
8	3	16	85	1393	1076	6.322484
9	2	14	80	1634		7.65431
10	2	18	70	1776		8.439821
11	1	16	90			8.860405
12	3	20	95	1678	1186	9.561483
13	2	12	95	1459		10.828037
14	3	17	50	1585	1885	11.661433

USA Bin 5 Trial #16

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	3	15	90	1805	1868	0.403301
2	2	13	80	1867		0.837751
3	1	19	55			1.861342
4	2	12	50	1399		2.714445
5	1	5	55			3.494094
6	1	16	85			3.647451



7	1	10	80			4.807624
8	3	6	55	1154	1869	5.589808
9	3	17	85	1608	1884	6.071863
10	1	8	55			6.366844
11	3	13	95	1699	1703	7.691933
12	3	6	100	1700	1618	7.898316
13	3	9	55	1352	1511	9.075931
14	2	19	75	1922		9.785311
15	1	14	80			10.2535
16	1	15	65			10.694325
17	2	8	55	1746		11.989291

## USA Bin 5 Trial #17

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	1	7	55			0.119732
2	2	15	70	1592		1.606002
3	2	15	75	1624		2.126408
4	1	13	65			3.686942
5	1	11	55			4.517913
6	3	13	95	1876	1533	5.672745
7	3	20	75	1234	1045	6.924813
8	1	16	55			7.993505
9	1	7	85			8.057743
10	3	12	85	1084	1436	9.027714
11	1	7	70			10.27995
12	1	19	65			11.721417

## USA Bin 5 Trial #18

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	3	14	100	1310	1648	0.492203
2	3	14	65	1806	1341	1.824379
3	1	12	65			3.099869
4	2	18	55	1079		3.374813
5	1	16	80			4.544645
6	3	14	75	1968	1829	6.356198
7	3	12	100	1324	1799	7.084937
8	2	16	75	1579		8.623501
9	2	12	90	1660		9.055213
10	1	16	85			10.7424
11	3	8	75	1790	1610	11.973041

## USA Bin 5 Trial #19

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	12	65	1262		0.722777
2	3	20	50	1884	1035	1.292245
3	3	15	65	1058	1233	2.334522
4	3	14	90	1961	1319	3.079682
5	3	20	70	1656	1648	4.803677
6	1	6	50			5.667537
7	1	7	85			6.213487
8	3	7	85	1222	1638	7.351051
9	3	6	55	1733	1681	8.712275



10	2	13	55	1843		9.327298
11	1	6	95			10.436398
12	2	19	55	1023		11.95603

USA Bin 5 Trial #20

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	3	9	60	1523	1745	0.705033
2	1	20	60			1.236179
3	2	10	90	1951		3.20692
4	2	13	100	1432		3.578956
5	3	20	80	1678	1236	5.253013
6	1	15	85			5.956183
7	2	11	70	1384		7.45689
8	2	17	95	1270		8.515111
9	3	17	80	1971	1161	9.742996
10	2	16	50	1266		10.840133
11	3	17	90	1916	1909	11.786619

USA Bin 5 Trial #21

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	3	15	55	1544	1868	1.11973
2	3	5	65	1741	1218	2.77683
3	1	19	90			3.407545
4	2	9	70	1906		5.437578
5	3	9	85	1223	1242	7.25129
6	1	13	75			8.113389
7	3	14	75	1871	1178	9.068058
8	2	18	85	1106		11.876286

USA Bin 5 Trial #22

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	10	70	1163		0.514604
2	3	15	65	1389	1039	1.266001
3	1	6	95			1.386268
4	3	11	55	1494	1049	2.209579
5	2	12	90	1687		3.252514
6	2	20	65	1926		3.813385
7	1	17	70			4.603591
8	2	8	90	1809		5.082404
9	1	12	75			5.926345
10	1	8	95			6.272772
11	2	13	80	1037		6.710652
12	2	10	80	1111		7.441106
13	3	12	65	1620	1470	8.071801
14	2	11	60	1877		9.053902
15	2	9	85	1464		9.432397
16	1	6	100			10.228398
17	3	7	85	1369	1253	10.949969
18	2	10	75	1409		11.559358

USA Bin 5 Trial #23

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	3	17	65	1000	1360	0.157622



2	2	14	100	1825		1.014316
3	3	19	100	1768	1788	1.972909
4	3	9	70	1343	1202	2.793969
5	3	18	90	1244	1928	3.317737
6	3	12	75	1973	1156	4.00128
7	3	19	50	1654	1930	4.542785
8	2	10	50	1845		5.912561
9	3	14	75	1499	1380	6.378099
10	2	13	90	1487		6.983004
11	1	20	75			7.872174
12	3	14	90	1942	1404	8.898367
13	1	5	65			9.471633
14	3	12	85	1897	1401	10.380645
15	3	7	80	1308	1994	10.854303
16	3	15	50	1514	1780	11.804784

USA Bin 5 Trial #24

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	12	65	1397		0.520355
2	3	7	55	1979	1004	2.331542
3	2	19	60	1467		3.142202
4	2	14	80	1555		4.334637
5	1	16	70			6.530612
6	2	9	90	1905		6.874296
7	2	18	80	1116		8.908522
8	1	7	70			10.058425
9	2	6	90	1169		11.325896

USA Bin 5 Trial #25

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	7	80	1958		0.372311
2	1	17	90			0.671277
3	1	19	50			1.714768
4	2	5	50	1343		2.232936
5	1	5	60			2.625935
6	2	5	85	1705		3.78423
7	3	16	85	1954	1307	4.146589
8	3	8	90	1798	1646	5.037717
9	1	15	55			5.293918
10	2	14	70	1975		5.735336
11	2	15	60	1549		6.402006
12	3	12	90	1068	1049	7.276526
13	3	13	85	1974	1040	7.701594
14	3	15	55	1686	1075	8.67396
15	1	15	70			9.284266
16	3	5	95	1810	1110	9.76209
17	2	12	55	1564		10.145522
18	2	11	65	1262		11.364145
19	3	16	95	1340	1234	11.463578

USA Bin 5 Trial #26

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



1	2	17	65	1236		0.473346
2	2	12	90	1594		1.513966
3	2	11	60	1863		2.902357
4	3	16	60	1943	1337	3.759926
5	2	14	100	1351		4.141028
6	2	8	50	1747		5.979065
7	2	15	80	1465		6.057082
8	2	5	70	1121		7.036956
9	1	11	80			8.065485
10	2	19	80	1969		9.174263
11	1	12	95			10.968221
12	3	10	95	1981	1068	11.431971

USA Bin 5 Trial #27

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	15	75	1162		0.54333
2	2	12	55	1523		0.908614
3	1	11	55			1.62303
4	2	13	70	1512		2.219584
5	3	14	65	1332	1853	2.609565
6	3	8	60	1127	1772	3.682867
7	3	9	60	1124	1893	4.294274
8	1	9	75			4.846084
9	2	9	85	1950		5.455448
10	2	8	85	1453		6.22149
11	1	10	70			6.438547
12	2	18	85	1747		7.030288
13	1	17	50			7.998063
14	1	15	55			8.812095
15	2	17	85	1675		8.864525
16	2	11	95	1799		9.932159
17	3	18	85	1377	1369	10.315783
18	2	15	100	1870		10.991844
19	2	15	50	1381		11.937158

USA Bin 5 Trial #28

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	1	11	90			0.121874
2	3	19	90	1245	1652	1.05987
3	1	14	50			1.452688
4	1	5	90			2.040989
5	1	8	70			2.958439
6	2	16	80	1595		3.750618
7	1	10	85			4.155265
8	1	15	50			4.666341
9	1	7	80			5.540462
10	2	20	90	1937		5.969553
11	2	13	75	1857		6.73687
12	3	6	80	1726	1836	7.155711
13	3	7	55	1331	1526	7.606988
14	2	15	50	1238		8.265439



15	2	12	100	1024		8.866982
16	1	10	65			9.919185
17	1	13	70			10.656051
18	2	9	100	1658		10.929005
19	2	18	60	1874		11.681999

## USA Bin 5 Trial #29

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	20	100	1347		0.199436
2	1	11	70			1.584954
3	1	6	95			3.865781
4	3	14	50	1053	1713	5.730093
5	1	20	75			7.085066
6	2	9	90	1500		8.241188
7	2	17	75	1678		9.477995
8	2	18	90	1108		10.713057

## USA Bin 5 Trial #30

Burst #	Pulses	Chirp (MHz)	PW (uS)	Inter-pulse spacing (uS)	Inter-pulse spacing (uS)	Pulse Start (S)
1	2	17	75	1768		0.041845
2	3	17	90	1973	1757	1.148549
3	1	10	60			1.790215
4	1	19	75			2.178288
5	1	20	50			3.395479
6	2	14	80	1212		3.947301
7	3	19	95	1177	1569	4.706481
8	2	16	75	1785		5.3508
9	2	11	95	1933		6.195126
10	2	16	80	1693		6.775822
11	1	20	55			7.435268
12	2	9	70	1348		8.040272
13	2	14	80	1342		8.477138
14	1	11	65			9.22776
15	3	19	100	1296	1706	9.954682
16	2	12	65	1728		11.215292
17	3	6	90	1708	1686	11.971924



## USA Frequency Hopping Trial #1

Hop #	Freq (GHz)	Pulse Start (mS)
3	5510	9
13	5491	39
25	5509	75
62	5501	186
65	5500	195
77	5493	231
89	5508	267

## USA Frequency Hopping Trial #2

Hop #	Freq (GHz)	Pulse Start (mS)
54	5518	162
58	5491	174
89	5510	267
94	5513	282
99	5514	297

## USA Frequency Hopping Trial #3

Hop #	Freq (GHz)	Pulse Start (mS)
1	5525	3
7	5494	21
10	5507	30
11	5496	33
17	5515	51
26	5493	78
38	5518	114
39	5523	117
52	5504	156
55	5510	165
82	5511	246
99	5499	297

## USA Frequency Hopping Trial #4

Hop #	Freq (GHz)	Pulse Start (mS)
3	5513	9
6	5510	18
21	5519	63
64	5498	192
78	5515	234
94	5509	282
97	5524	291

## USA Frequency Hopping Trial #5

Hop #	Freq (GHz)	Pulse Start (mS)
4	5510	12
5	5517	15
25	5528	75
38	5506	114
50	5525	150
52	5523	156
57	5491	171
64	5513	192



65	5493	195
77	5516	231
78	5529	234
83	5520	249

## USA Frequency Hopping Trial #6

Hop #	Freq (GHz)	Pulse Start (mS)
3	5503	9
21	5526	63
28	5502	84
54	5519	162
62	5508	186
91	5520	273

## USA Frequency Hopping Trial #7

Hop #	Freq (GHz)	Pulse Start (mS)
9	5505	27
45	5500	135
50	5514	150
58	5512	174
64	5499	192
75	5518	225

## USA Frequency Hopping Trial #8

Hop #	Freq (GHz)	Pulse Start (mS)
3	5493	9
7	5507	21
9	5505	27
23	5520	69
38	5528	114
51	5511	153
68	5504	204
82	5524	246
87	5510	261
96	5512	288
98	5501	294

## USA Frequency Hopping Trial #9

Hop #	Freq (GHz)	Pulse Start (mS)
28	5511	84
41	5504	123
43	5513	129
54	5512	162
93	5492	279
97	5507	291
99	5497	297

## USA Frequency Hopping Trial #10

Hop #	Freq (GHz)	Pulse Start (mS)
11	5523	33
16	5509	48
29	5495	87
41	5496	123
65	5522	195

73	5494	219
74	5529	222
81	5504	243

## USA Frequency Hopping Trial #11

Hop #	Freq (GHz)	Pulse Start (mS)
6	5491	18
49	5518	147
51	5507	153
81	5504	243

## USA Frequency Hopping Trial #12

Hop #	Freq (GHz)	Pulse Start (mS)
23	5504	69
34	5506	102
51	5496	153
57	5522	171
76	5523	228
86	5498	258

## USA Frequency Hopping Trial #13

Hop #	Freq (GHz)	Pulse Start (mS)
15	5522	45
26	5511	78
27	5507	81
58	5495	174
62	5503	186
64	5525	192
80	5527	240
84	5496	252
88	5508	264

## USA Frequency Hopping Trial #14

Hop #	Freq (GHz)	Pulse Start (mS)
18	5494	54
20	5511	60
35	5495	105
39	5526	117
44	5524	132
58	5503	174
78	5521	234
81	5499	243

## USA Frequency Hopping Trial #15

Hop #	Freq (GHz)	Pulse Start (mS)
2	5515	6
22	5493	66
58	5529	174
75	5525	225
93	5524	279
94	5497	282
96	5503	288

## USA Frequency Hopping Trial #16

Hop #	Freq (GHz)	Pulse Start (mS)
-------	------------	------------------

2	5520	6
22	5507	66
24	5517	72
29	5525	87
43	5502	129
45	5524	135
65	5497	195
70	5518	210
80	5514	240

## USA Frequency Hopping Trial #17

Hop #	Freq (GHz)	Pulse Start (mS)
2	5510	6
3	5517	9
21	5494	63
44	5496	132
50	5511	150
68	5493	204
73	5523	219
75	5526	225
86	5519	258
90	5515	270
95	5529	285

## USA Frequency Hopping Trial #18

Hop #	Freq (GHz)	Pulse Start (mS)
0	5513 0	
9	5499	27
42	5527	126
53	5521	159
78	5492	234
88	5498	264

## USA Frequency Hopping Trial #19

Hop #	Freq (GHz)	Pulse Start (mS)
13	5501	39
32	5519	96
37	5512	111
39	5529	117
41	5508	123
58	5493	174
79	5524	237
85	5525	255

## USA Frequency Hopping Trial #20

Hop #	Freq (GHz)	Pulse Start (mS)
14	5524	42
29	5514	87
56	5497	168
61	5498	183
68	5511	204
81	5526	243
84	5527	252

93	5505	279
USA Frequency Hopping Trial #21		
Hop #	Freq (GHz)	Pulse Start (mS)
1	5527	3
9	5502	27
19	5507	57
29	5492	87
38	5518	114
39	5491	117
46	5511	138
49	5510	147
63	5503	189
76	5505	228
85	5524	255
USA Frequency Hopping Trial #22		
Hop #	Freq (GHz)	Pulse Start (mS)
16	5511	48
18	5506	54
25	5495	75
41	5510	123
49	5499	147
50	5500	150
USA Frequency Hopping Trial #23		
Hop #	Freq (GHz)	Pulse Start (mS)
5	5525	15
8	5508	24
14	5521	42
16	5526	48
18	5512	54
58	5494	174
68	5516	204
80	5491	240
88	5514	264
92	5510	276
93	5501	279
USA Frequency Hopping Trial #24		
Hop #	Freq (GHz)	Pulse Start (mS)
3	5513	9
11	5514	33
35	5520	105
49	5528	147
77	5529	231
USA Frequency Hopping Trial #25		
Hop #	Freq (GHz)	Pulse Start (mS)
6	5500	18
17	5495	51
25	5498	75
44	5517	132
55	5505	165

89	5528	267
91	5526	273
USA Frequency Hopping Trial #26		
Hop #	Freq (GHz)	Pulse Start (mS)
26	5515	78
43	5505	129
55	5514	165
60	5520	180
71	5499	213
81	5508	243
89	5529	267
98	5528	294
99	5503	297
USA Frequency Hopping Trial #27		
Hop #	Freq (GHz)	Pulse Start (mS)
14	5508	42
16	5510	48
23	5500	69
25	5522	75
35	5504	105
41	5491	123
55	5523	165
62	5527	186
77	5502	231
USA Frequency Hopping Trial #28		
Hop #	Freq (GHz)	Pulse Start (mS)
7	5520	21
11	5528	33
15	5518	45
16	5493	48
44	5525	132
66	5509	198
88	5517	264
96	5508	288
USA Frequency Hopping Trial #29		
Hop #	Freq (GHz)	Pulse Start (mS)
0	5509	0
7	5513	21
12	5521	36
16	5522	48
29	5491	87
71	5511	213
83	5517	249
86	5527	258
93	5518	279
USA Frequency Hopping Trial #30		
Hop #	Freq (GHz)	Pulse Start (mS)
21	5494	63
28	5502	84



30	5496	90
34	5504	102
39	5498	117
51	5512	153
75	5527	225
78	5501	234
87	5491	261
97	5529	291