



# DYNAMIC FREQUENCY SELECTION DFS Test Report

**APPLICANT** : Ubiquiti Networks, Inc.  
**EQUIPMENT** : UniFi AC In-Wall Pro Wi-Fi Access Point  
**BRAND NAME** : UBIQUITI  
**MODEL NAME** : UAP-AC-IW-PRO  
**FCC ID** : SWX-UAPACIWP  
**STANDARD** : FCC Part 15 Subpart E  
**CLASSIFICATION** : (NII) Unlicensed National Information Infrastructure

The product was received on Apr. 29, 2017 and completely tested on Jun. 02, 2017. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown to be compliant with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager



**SPORTON INTERNATIONAL INC.**

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FCC ID : SWX-UAPACIWP

Page Number : 1 of 47

Report Issued Date : Aug. 28, 2017

Report Version : Rev. 02



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### SUMMARY OF DYNAMIC FREQUENCY SELECTION TEST

UNII	Description	Limit	Result
U-NII Band 2-C 5470-5725MHz	Channel Availability Check Time	> 60sec	Pass
	U-NII Detection Bandwidth	> 100% of the U-NII 99% transmission power bandwidth	Pass
	Statistical Performance Check	Type 1,2,3,4 >= 60% Type 1~4 and 5 >= 80% Type 6 >= 70%	Pass
	Channel Move Time	< 10 sec	Pass
	Channel Closing Transmission Time	< 200 ms + aggregate of 60 ms over remaining 10 s period	Pass
	Non-Occupancy Period Test	> 30 minutes	Pass



# 1 General Description

## 1.1 Applicant

Ubiquiti Networks, Inc.  
685 Third Avenue, 27th Floor New York, New York 10017 USA

## 1.2 Manufacturer

Ubiquiti Networks, Inc.  
685 Third Avenue, 27th Floor New York, New York 10017 USA

## 1.3 Feature of Equipment Under Test

Wi-Fi 2.4GHz 802.11b/g/n and Wi-Fi 5GHz 802.11a/n/ac.

Product Specification subjective to this standard	
Antenna Type	WLAN: Internal Antenna

## 1.4 Modification of EUT

No modifications are made to the EUT during all test items.



### 1.5 Testing Site

<b>Test Site</b>	SPORTON INTERNATIONAL INC.
<b>Test Site Location</b>	No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978
<b>Test Site No.</b>	<b>Sporton Site No.</b>
	DFS02-HY

### 1.6 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02
- ♦ FCC KDB 905462 D04 Operational Modes for DFS Testing New Rules v01

**Remark:** All test items were verified and recorded according to the standards and without any deviation during the test.

### 1.7 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID
1.	Notebook	Lenovo	Edge E335	PPD-AR5B95
2.	WLAN Dongle	CISCO	AE6000	Q87-AE6000



## 2 Requirements and Parameters for DFS Test

### 2.1 Applicability of DFS Requirements

EUT is considered as a master device.

**Table 1: Applicability of DFS Requirements Prior to Use of a Channel**

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

**Table 2: Applicability of DFS requirements during normal operation**

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required	Yes
Client Beacon Test	N/A	Yes	Yes



Additional requirements for devices with multiple bandwidth modes	Operational Mode	
	Master or Client With Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

**Note**  
Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.





## 2.2 DFS Detection Thresholds

Table 3 below provides the DFS Detection Thresholds for Master Devices as well as Client Devices incorporating In-Service Monitoring.

**Table 3: DFS Detection Thresholds for Master Devices**

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
<p><b>Note 1:</b> This is the level at the input of the receiver assuming a 0 dBi receive antenna.</p> <p><b>Note 2:</b> 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.</p> <p><b>Note 3:</b> EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.</p>	

The radar *Detection Threshold*, lowest antenna gain is the parameter of Interference *radar DFS detection threshold*, The Interference *Detection Threshold* is the  $(-64\text{dBm}) + (6.5) [\text{dBi}] + 1 \text{ dB} = -56.5 \text{ dBm}$ .



## 2.3 DFS Response requirement values

Table 4 provides the response requirements for Master and Client Devices incorporating DFS.

**Table 4: 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 100% of the 99% 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 *Channel* 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 *U-NII Detection Bandwidth* detection test, radar type 0 is used and for each frequency step the minimum percentage of detection is 90%. Measurements are performed with no data traffic.



### 2.4 Short Pulse Radar Test Waveforms

Radar Type 0 was used in the evaluation of the Client device for the purpose of measuring the Channel Move Time and the Channel Closing Transmission Time.

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Trials
0	1	1428	18	See Note 1.	See Note 1.
1	1	Test A Test B	Roundup $\left\{ \left( \frac{1}{360} \right) \cdot \left( \frac{19 \cdot 10^6}{PRI_{\mu sec}} \right) \right\}$	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
<b>Note 1:</b> Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a  
 Test B: 15 unique PRI values randomly selected within the range of 518-3066 μ sec, with a minimum increment of 1 μ sec, excluding PRI values selected in Test A

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.

The aggregate is the average of the percentage of successful detections of short pulse radar types 1-4.



Table 5a - Pulse Repetition Intervals Values for Test A

Pulse Repetition Frequency Number (1 to 23)	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	1165.5	858
19	1139.0	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

**Remark:** the radar wave parameter has listed in the appendix A of the test report.



## 2.5 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

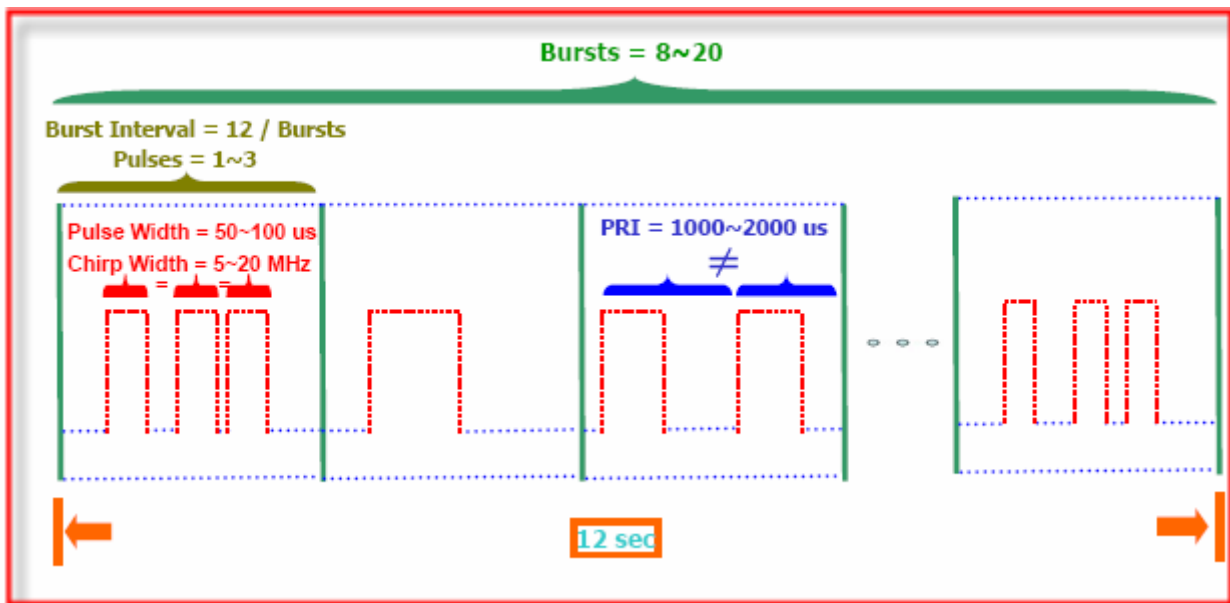
The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse radar test signal. If more than 30 waveforms are used for the Long Pulse radar test signal, then each additional waveform must also be unique and not repeated from the previous waveforms. Each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

Note: The center frequency for each of the 30 trials of the Bin 5 radar shall be randomly selected within 80% of the Occupied Bandwidth.

- (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 frequency modulated chirp between 5 and 20 MHz, with the chirp width being randomly chosen. Each pulse within a **transmission period** will have the same chirp width. The chirp is centered on the pulse. For example, with a radar frequency of 5300 MHz and a 20 MHz chirped signal, the chirp starts at 5290 MHz and ends at 5310 MHz
- (6) If more than one pulse is present in a Burst, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a Burst, the time between the first and second pulses is chosen independently of the time between the second and third pulses.
- (7) The 12 second transmission period is divided into even intervals. The number of intervals is equal to Burst\_Count. Each interval is of length  $(12,000,000 / \text{Burst\_Count})$  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).



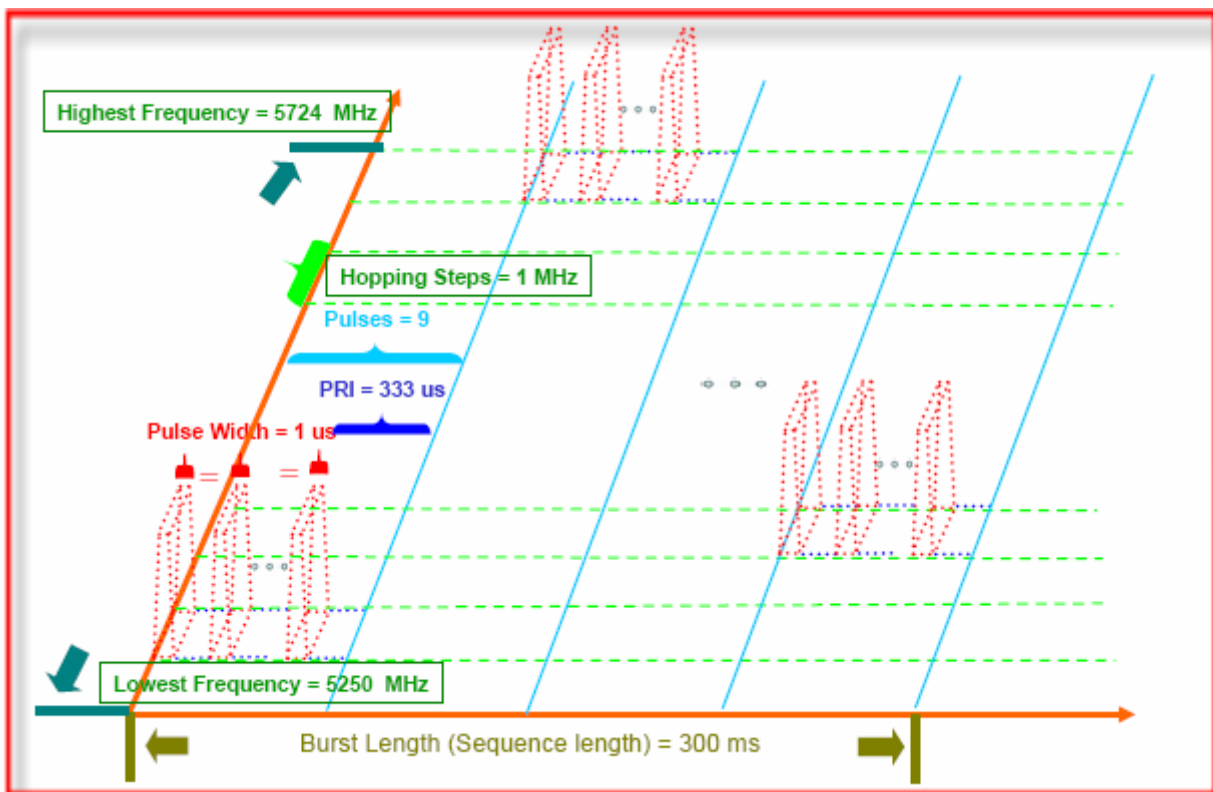
**Remark:** the radar wave parameter has listed in the appendix A of the test report.

## 2.6 Frequency Hopping 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	0.333	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 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.



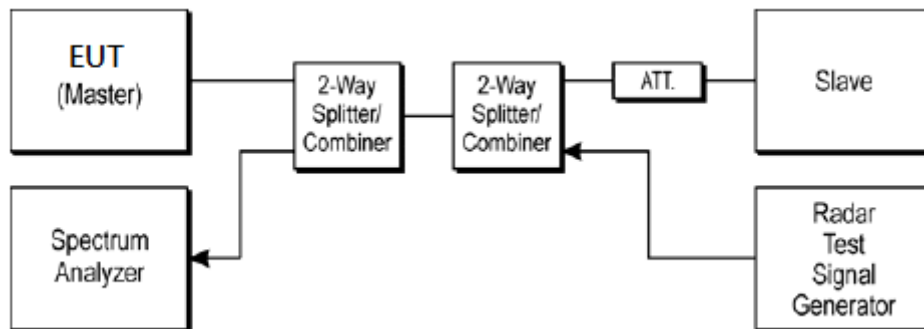
### 3 Calibration Setup and DFS Test Results

#### 3.1 Calibration of Radar Waveform

##### 3.1.1 Radar Waveform Calibration Procedure

The Interference Radar Detection Threshold Level is  $(-64) + (6.5) \text{ [dBi]} + 1 \text{ dB} = -56.5 \text{ dBm}$  that had been taken into account the output power range and antenna gain. The following equipment setup was used to calibrate the radiated Radar Waveform. A vector signal generator was utilized to establish the test signal level for radar type 0~6. 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) at the frequency of the Radar Waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3 MHz to measure the radar waveform. The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was  $(-64 \text{ dBm}) + (6.5) \text{ [dBi]} + 1 \text{ dB} = -56.5 \text{ dBm}$ . Capture the spectrum analyzer plots on radar waveform.

##### 3.1.2 Conducted Calibration Setup



##### 3.1.3 Calibration Deviation

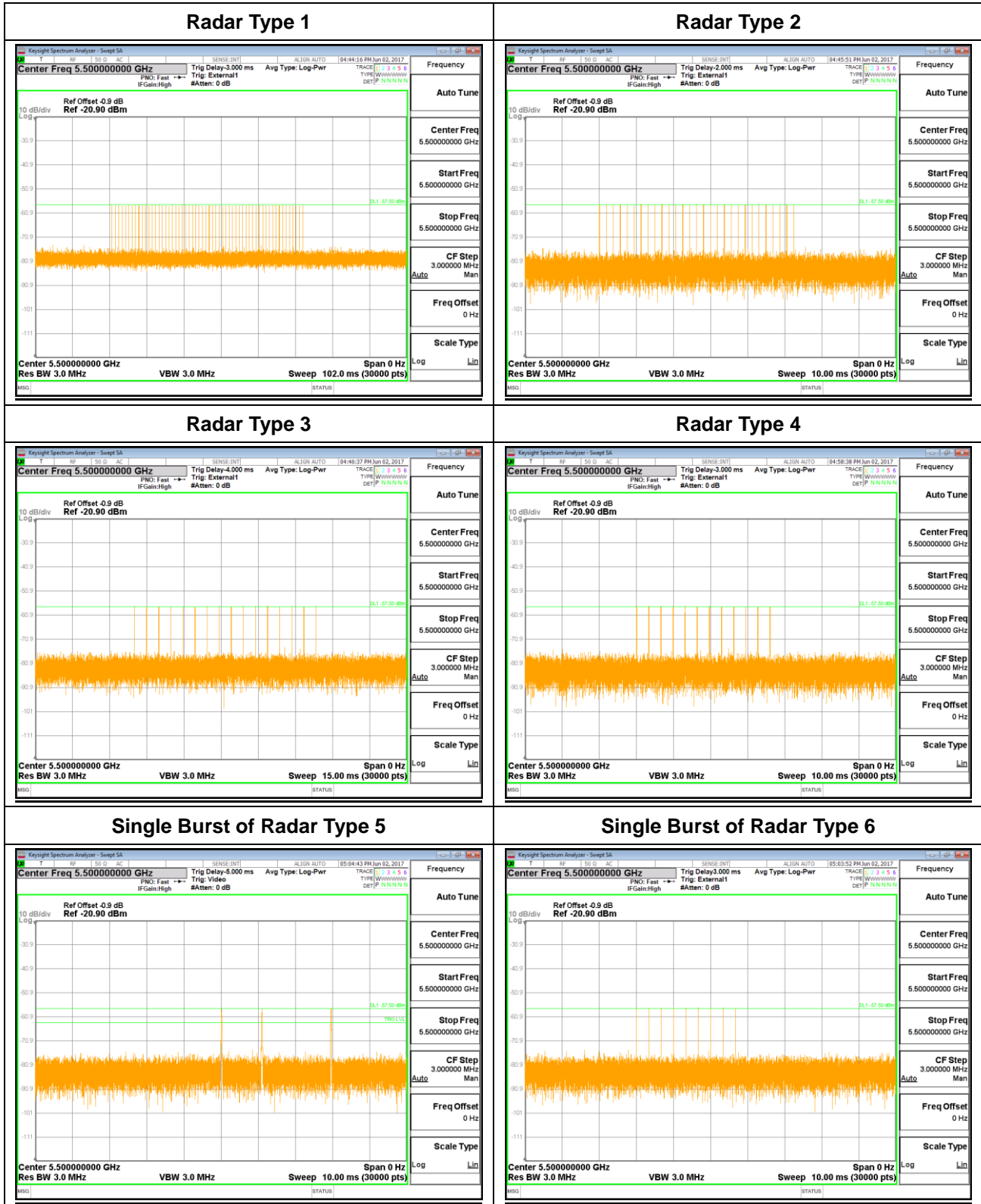
There is no deviation with the original standard.





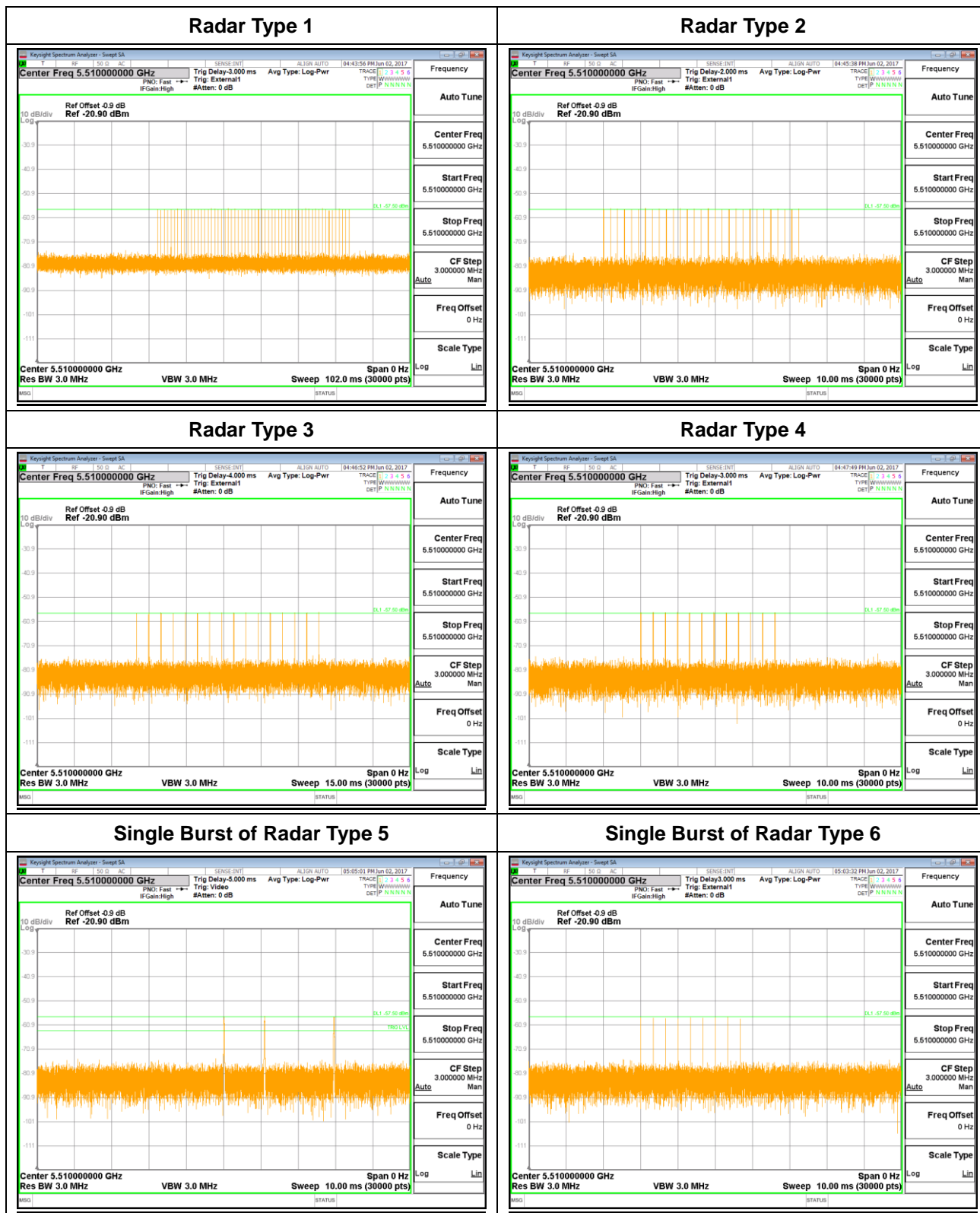
### 3.1.4 Radar Waveform Calibration Result

<20MHz / 5500MHz>





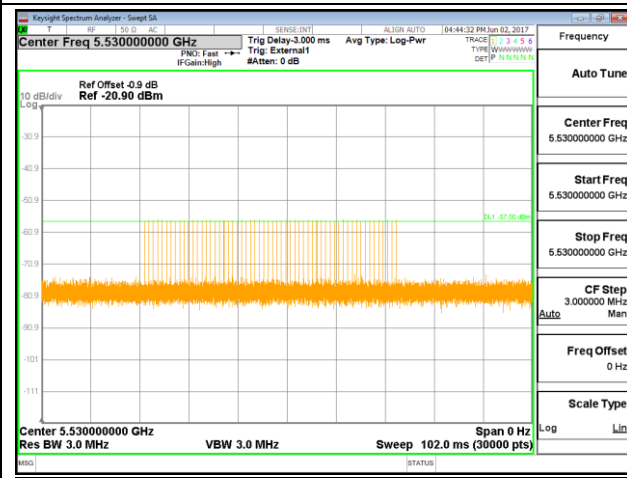
<40MHz / 5510MHz>



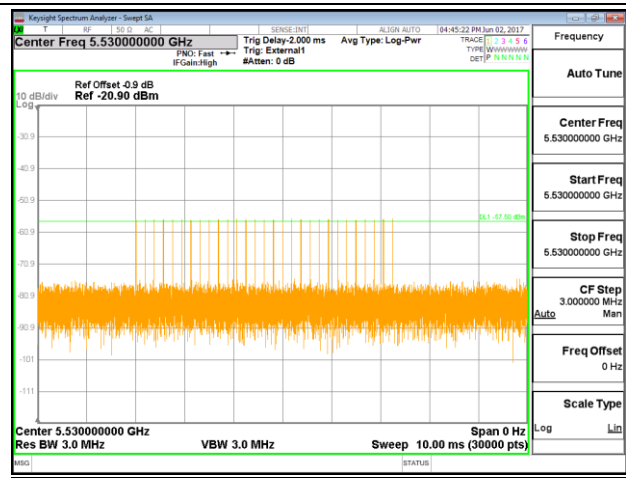


<80MHz / 5530MHz>

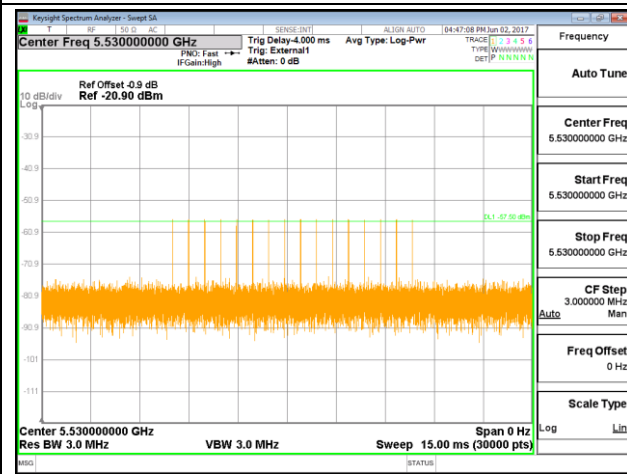
Radar Type 1



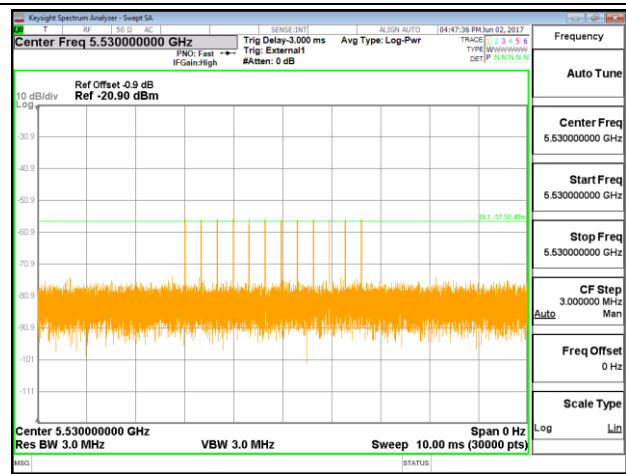
Radar Type 2



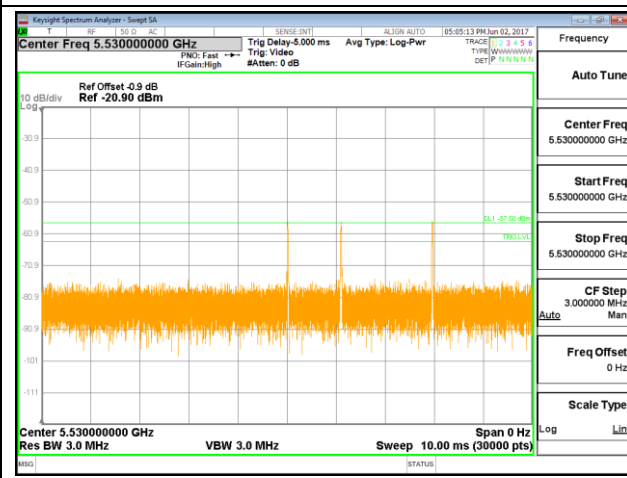
Radar Type 3



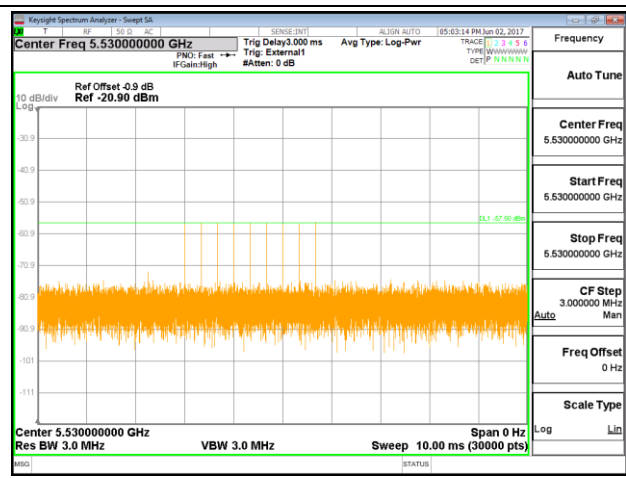
Radar Type 4



Single Burst of Radar Type 5



Single Burst of Radar Type 6



### 3.2 U-NII Detection Bandwidth (7.8.1)

#### 3.2.1 Limit of U-NII Detection Bandwidth

The U-NII Detection Bandwidth shall contain minimum 100% of the 99% power bandwidth.

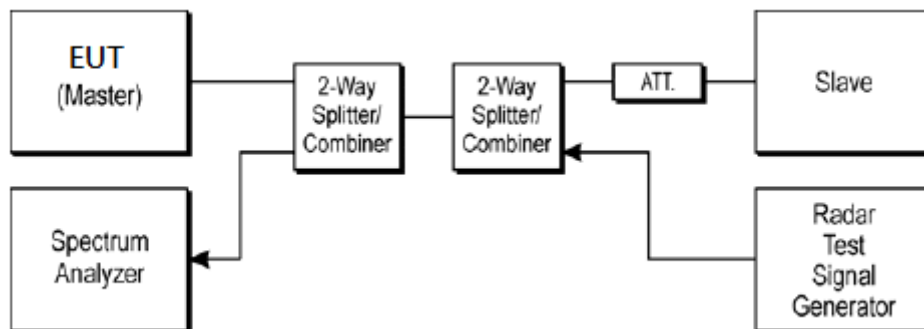
During the U-NII Detection Bandwidth detection test, radar type 0 is used and for each frequency step the minimum percentage of detection is 90%. Measurements are performed with no data traffic.

#### 3.2.2 Test Procedures

- (1) Adjust the equipment to produce a single burst of the Short Pulse Radar Type 0 at the center frequency of the EUT Operating Channel at the specified DFS Detection Threshold level.
- (2) Set the EUT up as a standalone device (no associated Client or Master, as appropriate) and no traffic. Frame based systems will be set to a talk/listen ratio of 0%/100% during this test.
- (3) Generate a single radar burst, and note the response of the EUT. Repeat for a minimum of 10 trials. The EUT must detect the Radar Waveform using the specified U-NII Detection Bandwidth criterion.
- (4) Starting at the center frequency of the EUT operating Channel, increase the radar frequency in 5 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion specified in report clause 2.3. Repeat this measurement in 1MHz steps at frequencies 5 MHz below where the detection rate begins to fall. Record the highest frequency (denote as  $F_H$ ) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies above  $F_H$  is not required to demonstrate compliance.
- (5) Starting at the center frequency of the EUT operating Channel, decrease the radar frequency in 5 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion specified in report clause 2.3. Repeat this measurement in 1MHz steps at frequencies 5 MHz above where the detection rate begins to fall. Record the lowest frequency (denote as  $F_L$ ) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies below  $F_L$  is not required to demonstrate compliance.
- (6) The U-NII Detection Bandwidth is calculated as follows:  

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

#### 3.2.3 Test Setup



#### 3.2.4 Test Deviation

There is no deviation with the original standard.



3.2.5 Result of U-NII Detection Bandwidth

<20MHz / 5500MHz>

Frequency (MHz)	Fc	Trial Number (Detection = Y, No Detection = N)										Rate (%)	F <sub>H</sub> /F <sub>L</sub>
		1	2	3	4	5	6	7	8	9	10		
5509	-11	N	N	N	N	N	N	N	N	N	N	0	
5510	-10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	F <sub>L</sub>
5511	-9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5512	-8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5513	-7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5514	-6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5515	-5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5520	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5525	+5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5526	+6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5527	+7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5528	+8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5529	+9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5530	+10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	F <sub>H</sub>
5531	+11	N	N	N	N	N	N	N	N	N	N	0	

Detection Bandwidth = F<sub>H</sub> - F<sub>L</sub> = 5530 - 5510 = 20 MHz

EUT 99% Bandwidth = 18.727 MHz (Refer to channel 100)



<40MHz / 5510MHz>

Frequency (MHz)	Fc	Trial Number (Detection = V, No Detection = N)										Rate (%)	F <sub>H</sub> /F <sub>L</sub>
		1	2	3	4	5	6	7	8	9	10		
5488	-22	N	N	N	N	N	N	N	N	N	N	0	
5489	-21	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	F <sub>L</sub>
5490	-20	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5491	-19	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5492	-18	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5493	-17	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5494	-16	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5495	-15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5500	-10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5505	-5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5510	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5515	+5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5520	+10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5525	+15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5526	+16	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5527	+17	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5528	+18	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5529	+19	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5530	+20	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5531	+21	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	F <sub>H</sub>
5532	+22	N	N	N	N	N	N	N	N	N	N	0	

Detection Bandwidth = F<sub>H</sub> – F<sub>L</sub> = 5531 – 5489 = 42 MHz

EUT 99% Bandwidth = 36.428 MHz (Refer to channel 102)



<80MHz / 5530MHz>

Frequency (MHz)	Fc	Trial Number (Detection = V, No Detection = N)										Rate (%)	F <sub>H</sub> /F <sub>L</sub>
		1	2	3	4	5	6	7	8	9	10		
5489	-41	N	N	N	N	N	N	N	N	N	N	0	
5490	-40	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	F <sub>L</sub>
5491	-39	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5492	-38	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5493	-37	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5494	-36	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5495	-35	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5500	-30	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5505	-25	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5510	-20	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5515	-15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5520	-10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5525	-5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5530	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5535	+5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5540	+10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5545	+15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5550	+20	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5555	+25	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5560	+30	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5565	+35	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5566	+36	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5567	+37	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5568	+38	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5569	+39	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
5570	+40	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	F <sub>H</sub>
5571	+41	N	N	N	N	N	N	N	N	N	N	0	

Detection Bandwidth = F<sub>H</sub> – F<sub>L</sub> = 5570 – 5490 = 80 MHz

EUT 99% Bandwidth = 76.667 MHz (Refer to channel 106)



### **3.3 Channel Availability Check (7.8.2)**

#### **3.3.1 Limit of Channel Availability Check**

The Initial Channel Availability Check Time tests that the EUT 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.

#### **3.3.2 Test Procedures**

##### **3.3.2.1 Initial Channel Availability Check Time**

This test does not use any radar waveforms and only needs to be performed one time.

- (1) The U-NII devices will be powered on and be instructed to operate on the appropriate U-NII Channel that must incorporate DFS functions. At the same time the EUT is powered on, the spectrum analyzer will be set to zero span mode with a 3 MHz RBW and 3 MHz VBW on the Channel occupied by the radar (Chr) with a 2.5 minute sweep time. The spectrum analyzer's sweep will be started at the same time power is applied to the U-NII device.
- (2) The EUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.



3.3.2.2 Radar Burst at the Beginning of the Channel Availability Check Time

The steps below define the procedure to verify successful radar detection on the test 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 occurs at the beginning of the Channel Availability Check Time. This is illustrated in Figure 15.

- (1) The Radar Waveform generator and EUT are connected using the applicable test setup and the power of the EUT is switched off.
- (2) The EUT is powered on at  $T_0$ .  $T_1$  denotes the instant when the EUT has completed its power-up sequence ( $T_{power\_up}$ ). The Channel Availability Check Time commences on Chr at instant  $T_1$  and will end no sooner than  $T_1 + T_{ch\_avail\_check}$ .
- (3) A single Burst of one of the Short Pulse Radar Types 1-4 will commence within a 6 second window starting at  $T_1$ . An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.
- (4) Visual indication or measured results on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of Chr for EUT emissions will continue for 2.5 minutes after the radar Burst has been generated.
- (5) Verify that during the 2.5 minute measurement window no EUT transmissions occurred on Chr. The Channel Availability Check results will be recorded.

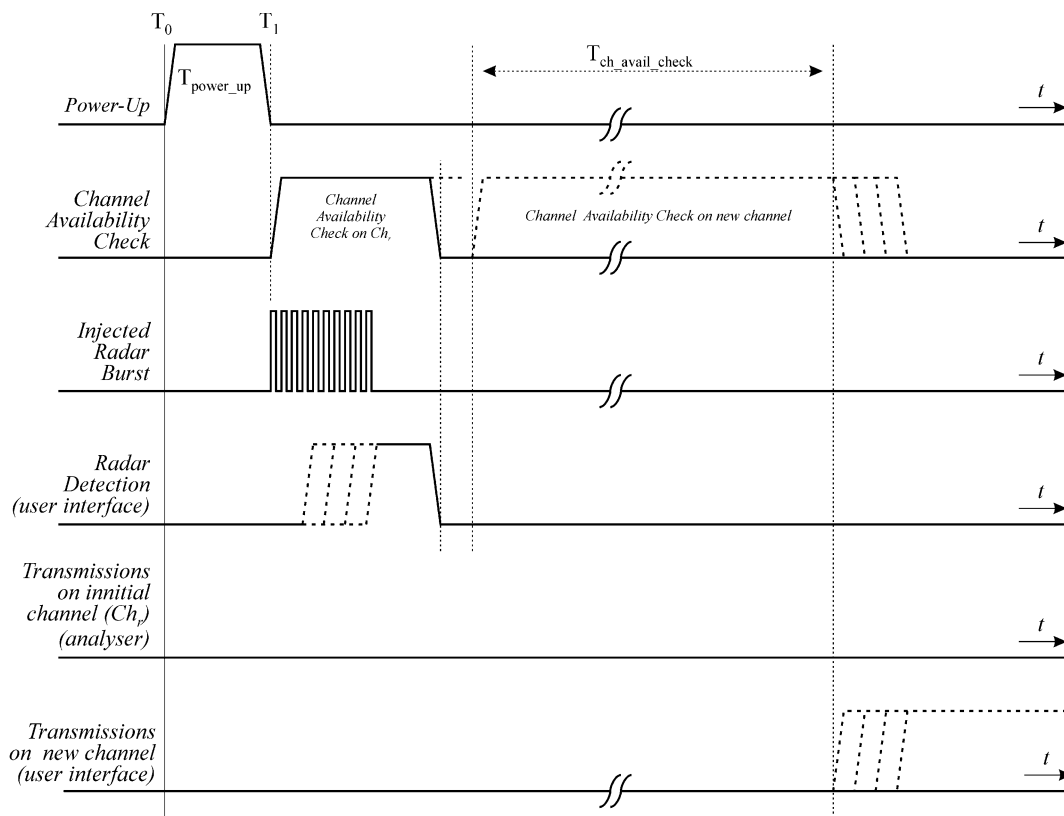


Figure 15: Example of timing for radar testing at the beginning of the Channel Availability Check Time

**3.3.2.3 Radar Burst at the End of the Channel Availability Check Time**

The steps below define the procedure to verify successful radar detection on the test 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 + 1dB occurs at the end of the Channel Availability Check Time. This is illustrated in Figure 16.

- (1) The Radar Waveform generator and EUT are connected using the applicable test setup and the power of the EUT is switched off.
- (2) The EUT is powered on at T0. T1 denotes the instant when the EUT has completed its power-up sequence (T<sub>power\_up</sub>). The Channel Availability Check Time commences on Chr at instant T1 and will end no sooner than T1 + T<sub>ch\_avail\_check</sub>.
- (3) A single Burst of one of the Short Pulse Radar Types 1-4 will commence within a 6 second window starting at T1 + 54 seconds. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.
- (4) Visual indication or measured results on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of Chr for EUT emissions will continue for 2.5 minutes after the radar Burst has been generated.
- (5) Verify that during the 2.5 minute measurement window no EUT transmissions occurred on Chr. The Channel Availability Check results will be recorded.

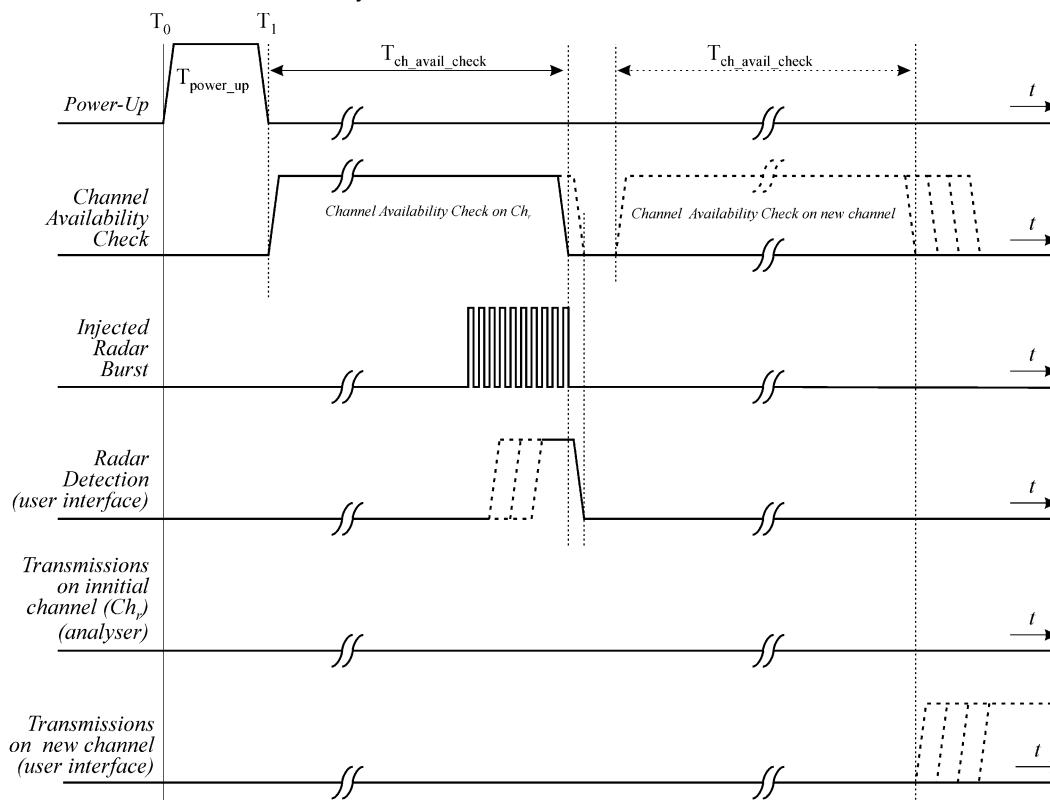
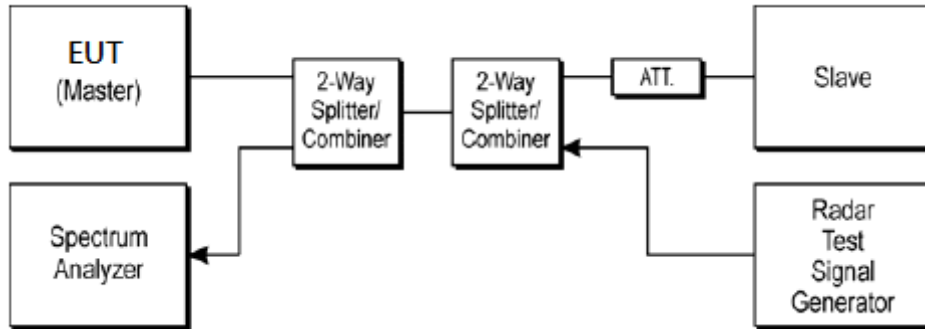


Figure 16: Example of timing for radar testing towards the end of the Channel Availability Check Time

### 3.3.3 Test Setup



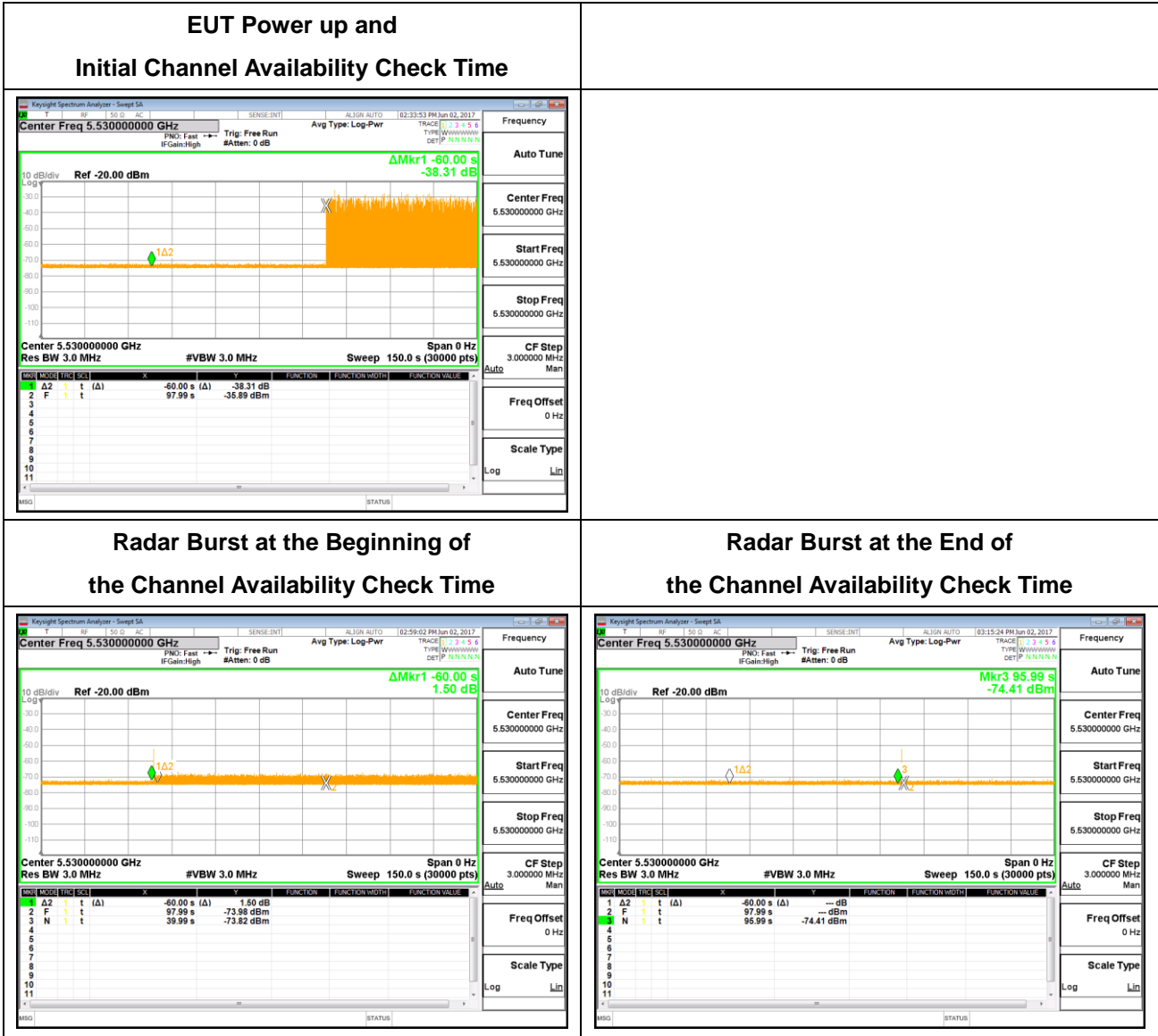
### 3.3.4 Test Deviation

There is no deviation with the original standard.



### 3.3.5 Result of Channel Availability Check Time

<80MHz / 5530MHz>





### **3.4 In-Service Monitoring: Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period (7.8.3)**

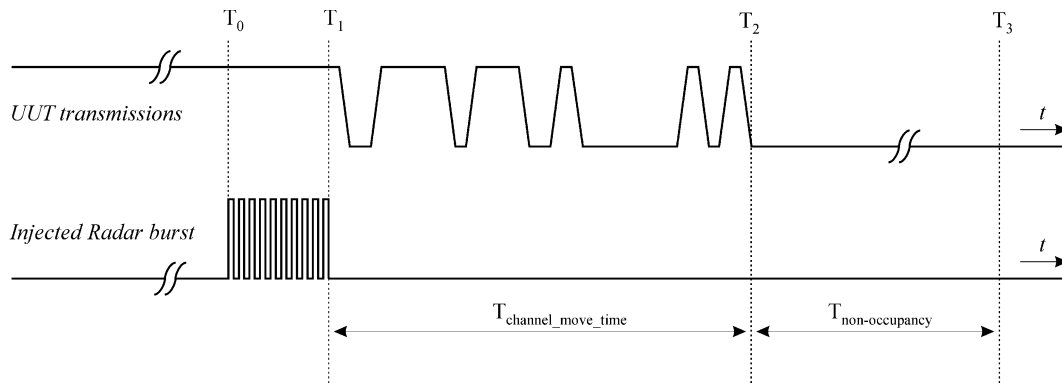
#### **3.4.1 Limit of In-Service Monitoring**

The EUT has In-Service Monitoring function to continuously monitor the radar signals, If radar is detected, it must leave the channel (Shutdown). The Channel Move Time to cease all transmissions on the current Channel upon detection of a Radar Waveform above the DFS Detection Threshold within 10 sec. The total duration of 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 Channel 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.

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

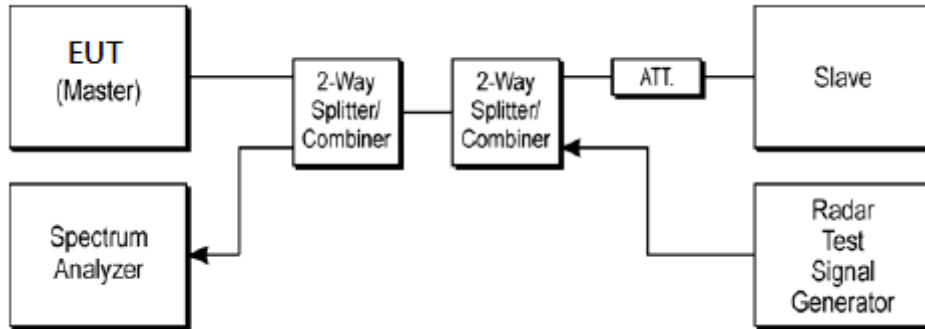
### 3.4.2 Test Procedures

- (1) One frequency will be chosen from the Operating Channels of the EUT within the 5250-5350 MHz or 5470-5725 MHz bands. For 802.11 devices, the test frequency must contain control signals. This can be verified by disabling channel loading and monitoring the spectrum analyzer. If no control signals are detected, another frequency must be selected within the emission bandwidth where control signals are detected.
- (2) In case the EUT is a Master Device, a U-NII device operating as a Client Device will be used and it is assumed that the Client will associate with the EUT (Master). For radiated tests, the emissions of the Radar Waveform generator will be directed towards the Master Device. If the Master Device has antenna gain, the main beam of the antenna will be directed toward the radar emitter. Vertical polarization is used for testing.
- (3) The TCP protocol unicast data stream was generated by the iperf software command line with at least 17% activity ratio over any 100ms period.
- (4) Timing plots are reported with calculations demonstrating a minimum channel loading of approximately 17% or greater. For example, channel loading can be estimated by setting the spectrum analyzer for zero span and approximate the Time On/ (Time On + Off Time).
- (5) At time T<sub>0</sub> the Radar Waveform generator sends a Burst of pulses for one of the Short Pulse Radar Types 1-4 at DFS Detection Threshold levels on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.
- (6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Channel Move Time). Measure and record the Channel Move Time and Channel Closing Transmission Time if radar detection occurs.
- (7) When operating as a Master Device, monitor the EUT for more than 30 minutes following instant T<sub>2</sub> to verify that the EUT does not resume any transmissions on this Channel. Perform this test once and record the measurement result.



- (8) One 12 seconds plot is reported for the Short Pulse Radar Type 0.
- (9) Measurement of the aggregate duration of the Channel Closing Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by:  $Dwell (0.4ms) = S (12000ms) / B (30000)$ ; where Dwell is the dwell time per spectrum analyzer sampling bin, S is the sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by:  $C (ms) = N \times Dwell (0.4 ms)$ ; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.

### 3.4.3 Test Setup



### 3.4.4 Test Deviation

There is no deviation with the original standard.



**3.4.5 Result of Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period for Client Beacon Test**

<b>Test Mode :</b>	Master	<b>Temperature :</b>	24.3-25.2°C
<b>Test Engineer :</b>	Rebecca Li	<b>Relative Humidity :</b>	44-47%

BW / Channel	Test Item	Test Result	Limit	Pass/Fail
80MHz / 5530MHz	Channel Move Time	0.4549 s	< 10s	Pass
	Channel Closing Transmission Time	200ms + 7.2 ms	< 260ms	Pass
	Non-Occupancy Period	≥ 30	≥ 30 min	Pass

**Note:** 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 seconds period. The aggregate duration of control signals will not count quiet periods in between transmissions.



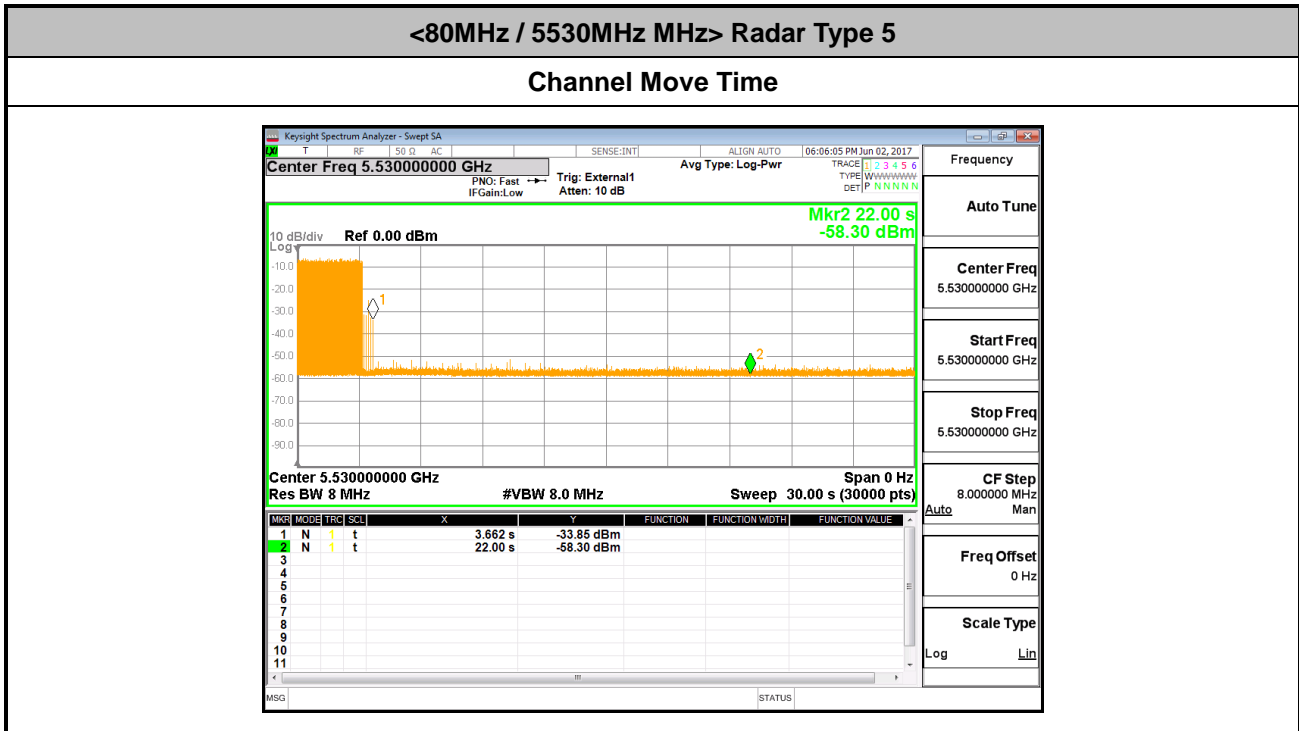


### 3.4.6 Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Test Plots





### 3.4.7 Long Pulsed Radar Type Channel Move Time Test Plots (22second)



### 3.4.8 Data Traffic Channel Loading and Noise Floor Plots

EUT data traffic (Master)	Channel Loading > 17% (Master)

Noise Floor (No transmission)



### 3.5 Statistical Performance Check (7.8.4)

#### 3.5.1 Limit of Statistical Performance Check

##### Short Pulse Radar Test

Once the performance requirements check is complete, statistical data will be gathered, to determine the ability of the device to detect the radar test waveforms (Short Pulse Radar Types 1-4) found in **Table 5**. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trials. The percentage of successful detection is calculated by:

$$\frac{\text{TotalWaveformDetections}}{\text{TotalWaveformTrials}} \times 100 = \text{Percentage of Successful Detection Radar Waveform } N = P_d N$$

In addition an aggregate minimum percentage of successful detection across all Short Pulse Radar Types 1-4 is required and is calculated as follows:

$$\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4}$$

The minimum number of trails, minimum percentage of successful detection and the aggregate minimum percentage of successful detection are found in **Table 5**.

**Table 5 – Short Pulse Radar Test Waveforms**

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
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 1 through 4. For Short Pulse Radar Type 0, the same waveform is used a minimum of 30 times. If more than 30 waveforms are used for Short Pulse Radar Types 1 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms.



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 $(82.9\% + 60\% + 90\% + 88\%)/4 = 80.2\%$			



**Long Pulse Radar Test**

Statistical data will be gathered to determine the ability of the device to detect the Long Pulse Radar Type 5 found in **Table 6**. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trials.

**Table 6 – 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 Number of 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 Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.

Three subsets of trials will be performed with a minimum of ten trials per subset.

The subset of trials differs in where the Long Pulse Type 5 Signal is tuned in frequency:

- a) The Channel center frequency (subset case 1).
- b) Tuned frequencies such that 90% of the Long Pulse Type 5 frequency modulation is within the low edge of the UUT Occupied Bandwidth (subset case 2).
- c) Tuned frequencies such that 90% of the Long Pulse Type 5 frequency modulation is within the high edge of the UUT Occupied Bandwidth (subset case 3).

For subset case 1: the center frequency of the signal generator will remain fixed at the center of the UUT Channel.

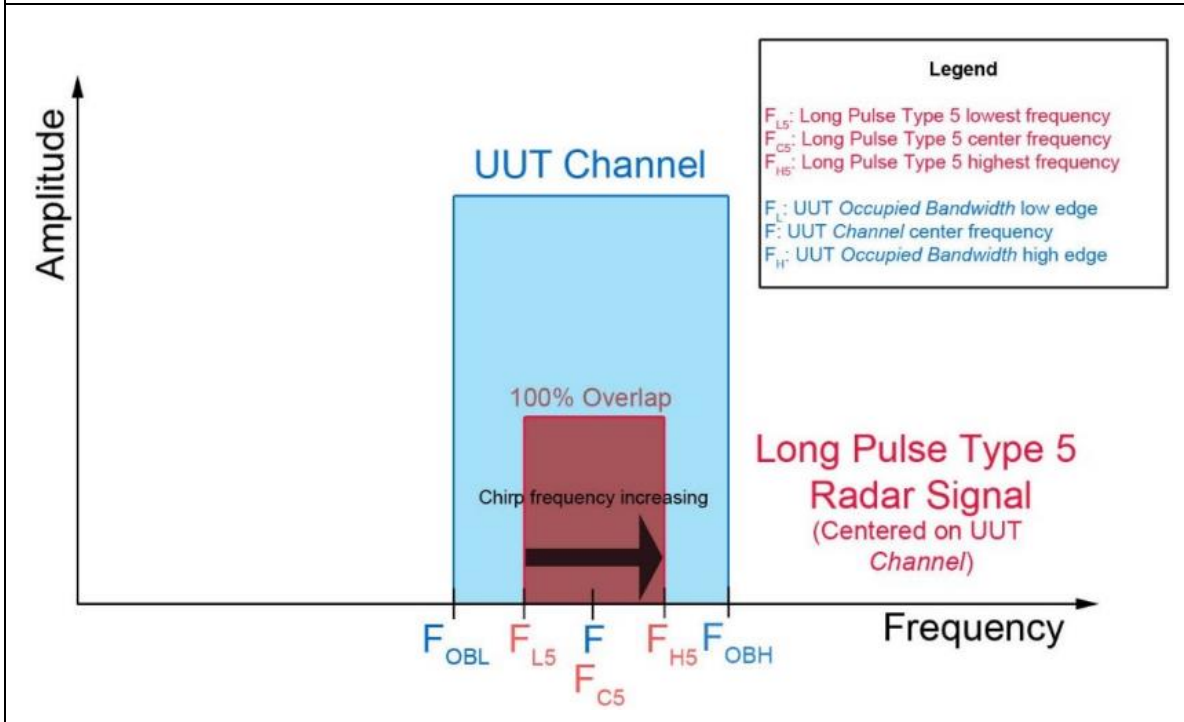
For subset case 2: to retain 90% frequency overlap between the radar signal and the UUT Occupied Bandwidth, the center frequency of the signal generator will vary for each of the ten trials in subset case 2.

The center frequency of the signal generator for each trial is calculated by:  $FL + (0.4 * Chirp\ Width\ [in\ MHz])$

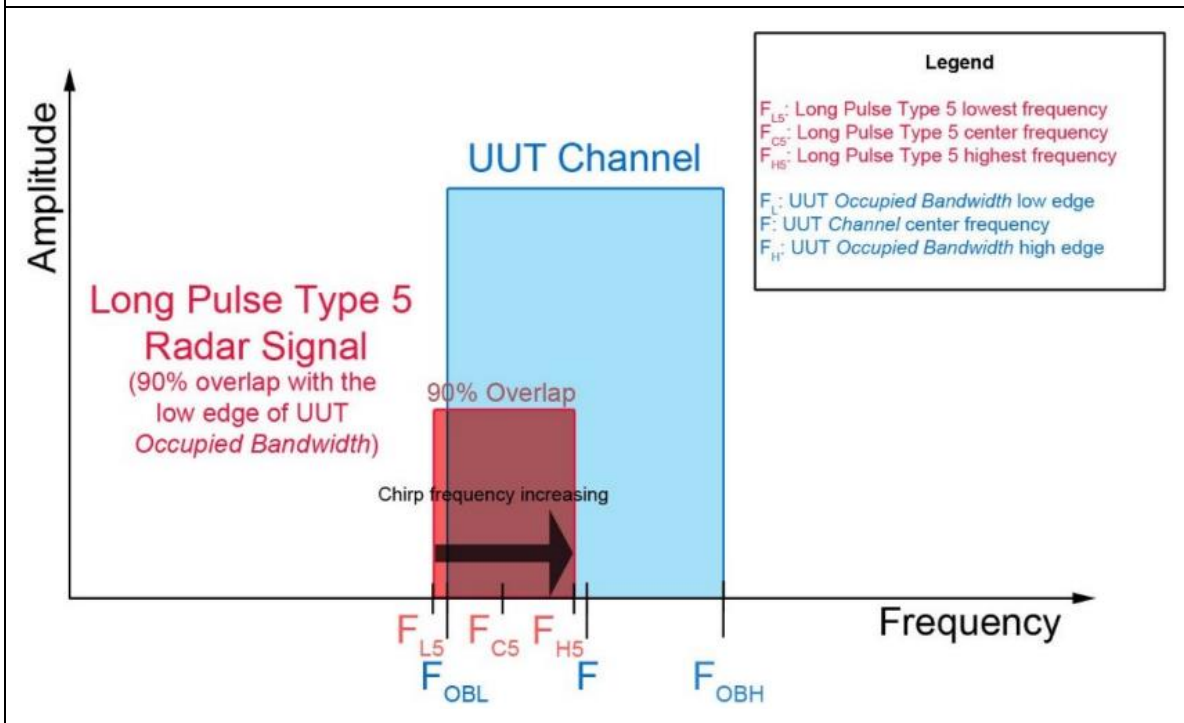
For subset case 3: to retain 90% frequency overlap between the radar signal and the UUT Occupied Bandwidth, the center frequency of the signal generator will vary for each of the ten trials in subset case 3.

The center frequency of the signal generator for each trial is calculated by:  $FH - (0.4 * Chirp\ Width\ [in\ MHz])$

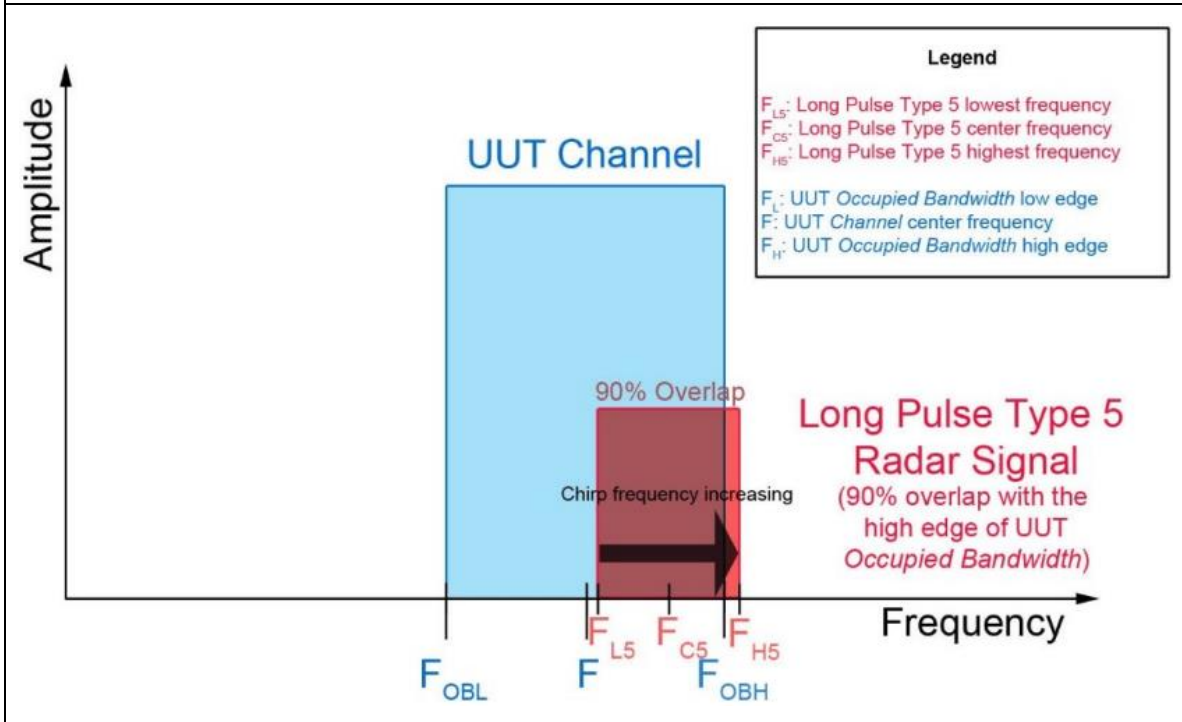
a) Channel center frequency (subset case 1)



b) Tuned frequencies such that 90% of the Long Pulse Type 5 frequency modulation is within the low edge of the UUT Occupied Bandwidth. (subset case 2)



c) Tuned frequencies such that 90% of the Long Pulse Type 5 frequency modulation is within the high edge of the UUT Occupied Bandwidth. (subset case 3)



The percentage of successful detection is calculated by:

$$\frac{\text{TotalWaveformDetections}}{\text{TotalWaveformTrials}} \times 100$$





**Frequency Hopping Radar Test**

Statistical data will be gathered to determine the ability of the device to detect the Frequency Hopping radar test signal (radar type 6) found in **Table 7**. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs. The probability of successful detection is calculated by:

$$\frac{TotalWaveformDetections}{TotalWaveformTrials} \times 100$$

**Table 7 – Frequency Hopping Radar Test Waveform**

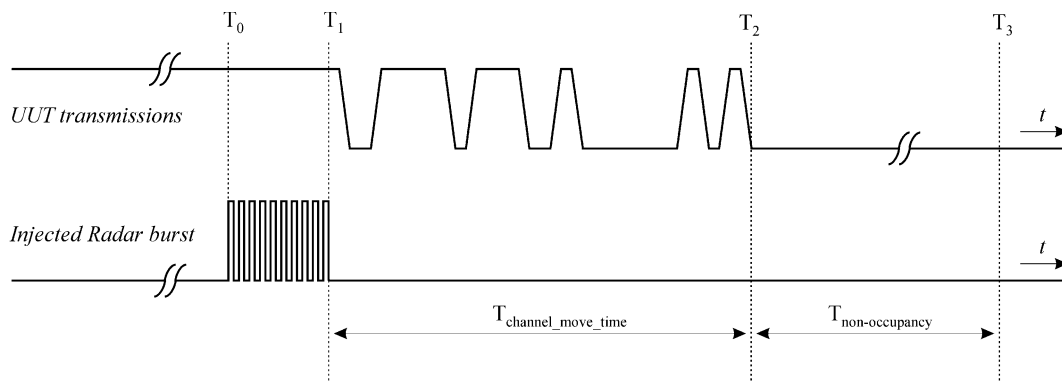
Radars Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

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 from the hopping sequence defined by the following algorithm:

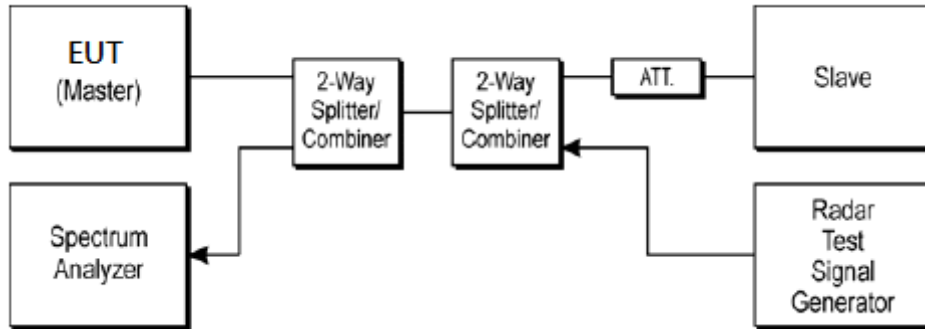
The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724 MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues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

### 3.5.2 Test Procedures

- (1) One frequency will be chosen from the Operating Channels of the EUT within the 5250-5350 MHz or 5470-5725 MHz bands.
- (2) In case the EUT is a Master Device, a U-NII device operating as a Client Device will be used and it is assumed that the Client will associate with the EUT (Master). If the Master Device has antenna gain, the main beam of the antenna will be directed toward the radar emitter. Vertical polarization is used for testing.
- (3) The TCP protocol unicast data stream was generated by the iperf software command line with at least 17% activity ratio over any 100ms period.
- (4) At time  $T_0$  the Radar Waveform generator sends a Burst of pulses for each of the Radar Types 1-6 at DFS Detection Threshold levels on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.
- (5) Observe the transmissions of the EUT at the end of the Burst on the Operating Channel for duration greater than 10 seconds for Short Pulse Radar Types 1-4 and 6 to ensure detection occurs.
- (6) Observe the transmissions of the EUT at the end of the Burst on the Operating Channel for duration greater than 22 seconds for Long Pulse Radar Type 5 to ensure detection occurs.



### 3.5.3 Test Setup



### 3.5.4 Test Deviation

There is no deviation with the original standard.



3.5.5 Result of Statistical Performance Check

<20MHz / 5500MHz>

(Detection = Y, No Detection = N)						
Trial Number	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Y	Y	Y	N	Y	Y
2	Y	Y	Y	N	Y	Y
3	Y	Y	Y	Y	Y	Y
4	Y	Y	Y	N	Y	Y
5	Y	Y	Y	Y	Y	Y
6	Y	N	Y	Y	Y	Y
7	Y	Y	Y	Y	Y	Y
8	Y	Y	Y	Y	Y	Y
9	Y	Y	Y	Y	Y	Y
10	Y	Y	Y	Y	Y	Y
11	Y	N	Y	N	Y	N
12	Y	Y	Y	Y	Y	Y
13	Y	Y	Y	Y	Y	Y
14	Y	Y	Y	Y	Y	Y
15	Y	Y	Y	Y	Y	N
16	Y	Y	Y	Y	Y	Y
17	Y	Y	Y	Y	N	Y
18	Y	Y	Y	Y	Y	Y
19	Y	Y	Y	Y	N	Y
20	Y	Y	Y	Y	Y	Y
21	Y	Y	Y	N	Y	Y
22	Y	Y	Y	Y	Y	Y
23	Y	Y	Y	Y	Y	Y
24	Y	Y	Y	Y	Y	Y
25	Y	Y	Y	N	Y	Y
26	Y	Y	Y	Y	Y	Y
27	Y	Y	Y	Y	Y	Y
28	Y	Y	Y	Y	Y	Y
29	Y	Y	Y	Y	Y	Y
30	Y	Y	Y	N	Y	Y
<b>Trial of Detection</b>	<b>30/30</b>	<b>28/30</b>	<b>30/30</b>	<b>23/30</b>	<b>28/30</b>	<b>28/30</b>
<b>Probability (%)</b>	<b>100%</b>	<b>93.33%</b>	<b>100%</b>	<b>76.67%</b>	<b>93.33%</b>	<b>93.33%</b>
<b>Limit (%)</b>	<b>&gt;= 60%</b>	<b>&gt;= 60%</b>	<b>&gt;= 60%</b>	<b>&gt;= 60%</b>	<b>&gt;= 80%</b>	<b>&gt;= 70%</b>
<b>Average Probability of Radar Type 1~4 (%)</b>	<b>92.5% ( &gt;=80% )</b>					



<40MHz / 5510MHz>

(Detection = Y, No Detection = N)						
Trial Number	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Y	Y	Y	Y	Y	Y
2	Y	Y	Y	Y	Y	Y
3	Y	Y	Y	Y	Y	Y
4	Y	Y	Y	Y	Y	Y
5	Y	Y	Y	Y	Y	Y
6	Y	Y	Y	Y	Y	Y
7	Y	Y	Y	Y	Y	Y
8	Y	Y	Y	Y	Y	Y
9	Y	Y	Y	Y	Y	Y
10	Y	Y	Y	Y	Y	Y
11	Y	Y	Y	Y	Y	Y
12	Y	Y	Y	Y	Y	Y
13	Y	Y	Y	Y	Y	Y
14	Y	Y	Y	Y	Y	Y
15	Y	Y	Y	Y	Y	Y
16	Y	Y	Y	Y	Y	Y
17	Y	Y	Y	Y	Y	Y
18	Y	Y	N	Y	Y	Y
19	Y	Y	N	Y	Y	Y
20	Y	N	Y	Y	Y	Y
21	Y	Y	Y	Y	Y	Y
22	Y	Y	N	Y	Y	Y
23	Y	N	Y	Y	Y	Y
24	Y	Y	Y	Y	Y	Y
25	Y	Y	Y	Y	Y	Y
26	Y	Y	Y	Y	Y	Y
27	Y	Y	Y	Y	Y	Y
28	Y	Y	Y	Y	Y	Y
29	Y	Y	Y	Y	Y	Y
30	Y	Y	Y	Y	Y	Y
<b>Trial of Detection</b>	<b>30/30</b>	<b>28/30</b>	<b>27/30</b>	<b>30/30</b>	<b>30/30</b>	<b>30/30</b>
<b>Probability (%)</b>	<b>100%</b>	<b>93.33%</b>	<b>90%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Limit (%)</b>	<b>&gt;= 60%</b>	<b>&gt;= 60%</b>	<b>&gt;= 60%</b>	<b>&gt;= 60%</b>	<b>&gt;= 80%</b>	<b>&gt;= 70%</b>
<b>Average Probability of Radar Type 1~4 (%)</b>	<b>95.83% ( &gt;=80% )</b>					



<80MHz / 5530MHz>

(Detection = Y, No Detection = N)						
Trial Number	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Y	Y	Y	Y	Y	Y
2	Y	Y	Y	Y	Y	Y
3	Y	Y	Y	Y	Y	Y
4	Y	Y	Y	Y	Y	Y
5	Y	Y	Y	Y	Y	Y
6	Y	Y	Y	Y	Y	Y
7	Y	Y	Y	Y	Y	Y
8	Y	Y	Y	Y	Y	Y
9	Y	Y	Y	Y	Y	Y
10	Y	Y	Y	Y	Y	Y
11	Y	Y	Y	Y	Y	Y
12	Y	Y	Y	Y	Y	Y
13	Y	Y	Y	Y	Y	Y
14	Y	Y	N	Y	Y	Y
15	Y	Y	Y	Y	Y	Y
16	Y	Y	Y	Y	Y	Y
17	Y	Y	Y	Y	Y	Y
18	Y	Y	Y	Y	Y	Y
19	Y	Y	Y	Y	Y	Y
20	Y	Y	Y	Y	Y	Y
21	N	Y	Y	Y	Y	Y
22	Y	Y	N	Y	Y	Y
23	Y	Y	Y	Y	Y	Y
24	Y	Y	Y	Y	Y	Y
25	Y	Y	Y	Y	Y	Y
26	Y	Y	Y	Y	Y	Y
27	Y	Y	Y	Y	Y	Y
28	Y	Y	Y	N	Y	Y
29	Y	Y	Y	Y	Y	Y
30	Y	Y	Y	Y	Y	Y
<b>Trial of Detection</b>	<b>29/30</b>	<b>30/30</b>	<b>28/30</b>	<b>29/30</b>	<b>30/30</b>	<b>30/30</b>
<b>Probability (%)</b>	<b>96.67%</b>	<b>100%</b>	<b>93.33%</b>	<b>96.67%</b>	<b>100%</b>	<b>100%</b>
<b>Limit (%)</b>	<b>&gt;= 60%</b>	<b>&gt;= 60%</b>	<b>&gt;= 60%</b>	<b>&gt;= 60%</b>	<b>&gt;= 80%</b>	<b>&gt;= 70%</b>
<b>Average Probability of Radar Type 1~4 (%)</b>	<b>96.67% ( &gt;=80% )</b>					



## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Keysight	N9010A	MY56070412	10Hz~7GHz	Aug. 05, 2016	Jun. 01, 2017 ~ Jun. 02, 2017	Aug. 04, 2017	DFS (DFS02-HY)
Signal Generator	Keysight	N5182B	MY56200377	9kHz~6GHz	Mar. 17, 2017	Jun. 01, 2017 ~ Jun. 02, 2017	Mar. 16, 2018	DFS (DFS02-HY)



## **Appendix A. Radar Parameter Report**



**Channel 100 Bandwidth 20MHz**

**DFS Radar Parameters**  
**FCC Radar Type 1**  
**Channel 100 Bandwidth 20MHz**

Trial #	Pulse Repetition Frequency Number (1 to 23)	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	21	1089.32	918	Y
2	18	1165.50	858	Y
3	9	1474.93	678	Y
4	8	1519.76	658	Y
5	3	1792.11	558	Y
6	5	1672.24	598	Y
7	12	326.16	3066	Y
8	4	1730.10	578	Y
9	16	1222.49	818	Y
10	19	1138.95	878	Y
11	2	1858.74	538	Y
12	14	1285.35	778	Y
13	11	1392.76	718	Y
14	17	1193.32	838	Y
15	15	1253.13	798	Y
16		680.74	1469	Y
17		1036.27	965	Y
18		787.40	1270	Y
19		1639.34	610	Y
20		628.54	1591	Y
21		391.24	2556	Y
22		331.35	3018	Y
23		461.04	2169	Y
24		1212.12	825	Y
25		351.12	2848	Y
26		944.29	1059	Y
27		506.33	1975	Y
28		707.71	1413	Y
29		358.17	2792	Y
30		477.33	2095	Y

**DFS Radar Parameters**  
**FCC Radar Type 2**  
**Channel 100 Bandwidth 20MHz**

Trial #	Number Pulses per Burst	Pulse Width (Microseconds)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	29	5.00	150	Y
2	29	4.90	151	Y
3	25	2.30	190	Y
4	23	1.00	202	Y
5	29	4.60	187	Y
6	26	2.90	213	N
7	23	1.30	227	Y
8	28	4.30	200	Y
9	28	4.40	173	Y
10	27	3.30	218	Y
11	27	3.40	209	N
12	25	2.60	221	Y
13	24	1.60	194	Y
14	26	3.20	212	Y
15	26	2.90	184	Y
16	25	2.40	198	Y
17	29	4.50	191	Y
18	23	1.50	156	Y
19	29	4.50	181	Y
20	25	2.30	177	Y
21	24	2.00	162	Y
22	29	4.60	163	Y
23	26	3.10	203	Y
24	28	4.10	220	Y
25	25	2.20	164	Y
26	25	2.30	188	Y
27	24	1.90	155	Y
28	23	1.20	211	Y
29	24	2.00	153	Y
30	26	2.70	152	Y

**DFS Radar Parameters**  
**FCC Radar Type 3**  
**Channel 100 Bandwidth 20MHz**

Trial #	Number Pulses per Burst	Pulse Width (Microseconds)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	18	10.00	387	Y
2	18	9.90	223	Y
3	16	7.30	488	Y
4	16	6.00	327	Y
5	18	9.60	337	Y
6	17	7.90	395	Y
7	16	6.30	420	Y
8	18	9.30	414	Y
9	18	9.40	289	Y
10	17	8.30	490	Y
11	17	8.40	382	Y
12	17	7.60	341	Y
13	16	6.60	362	Y
14	17	8.20	444	Y
15	17	7.90	496	Y
16	17	7.40	216	Y
17	18	9.50	347	Y
18	16	6.50	332	Y
19	18	9.50	417	Y
20	17	7.30	276	Y
21	16	7.00	374	Y
22	18	9.60	260	Y
23	17	8.10	495	Y
24	18	9.10	386	Y
25	16	7.20	449	Y
26	17	7.30	465	Y
27	16	6.90	287	Y
28	16	6.20	410	Y
29	16	7.00	474	Y
30	17	7.70	225	Y

**DFS Radar Parameters**  
**FCC Radar Type 4**  
**Channel 100 Bandwidth 20MHz**

Trial #	Number Pulses per Burst	Pulse Width (Microseconds)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	16	19.90	387	N
2	16	19.70	223	N
3	13	13.90	488	Y
4	12	11.00	327	N
5	16	19.10	337	Y
6	14	15.20	395	Y
7	12	11.70	420	Y
8	16	18.40	414	Y
9	16	18.60	289	Y
10	14	16.20	490	Y
11	15	16.50	382	N
12	14	14.60	341	Y
13	12	12.30	362	Y
14	14	16.00	444	Y
15	14	15.30	496	Y
16	13	14.10	216	Y
17	16	18.80	347	Y
18	12	12.20	332	Y
19	16	18.80	417	Y
20	13	14.00	276	Y
21	13	13.30	374	N
22	16	18.90	260	Y
23	14	15.80	495	Y
24	15	18.00	386	Y
25	13	13.70	449	N
26	13	14.00	465	Y
27	13	13.10	287	Y
28	12	11.60	410	Y
29	13	13.30	474	Y
30	14	14.90	225	N

**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:			1			Detection (Yes/No)
Number of Bursts in Trial:			20			
Chirp Center Frequency:			5500			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	99.3	20	1859	1087	135723
2	3	98.2	20	1001	1949	280284
3	1	66.2	20	-	1824	426563
4	1	50.3	20	-	1326	572116
5	3	94.8	20	1178	1287	118025
6	2	73.3	20	1224	1665	263147
7	1	54.2	20	-	1992	408578
8	3	91.1	20	1730	1104	551434
9	3	91.8	20	1015	1788	100262
10	2	78.8	20	1894	1126	245255
11	2	80.5	20	1338	1745	390000
12	2	70.2	20	1563	1697	534613
13	1	57.4	20	-	1415	82856
14	2	77.7	20	1116	1959	227400
15	2	74	20	1553	1374	372265
16	2	67.2	20	1017	1654	517296
17	3	93.2	20	1304	1564	64613
18	1	56.7	20	-	1159	210240
19	3	93.2	20	1611	1042	353746
20	2	67	20	1436	1222	499462

Trial Number:			2			Detection (Yes/No)
Number of Bursts in Trial:			20			
Chirp Center Frequency:			5500			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	63.1	20	-	1666	47072
2	3	93.9	20	1936	1907	190930
3	2	76.6	20	1311	1803	336485
4	3	88.6	20	1897	1699	479801
5	1	65	20	-	1978	29182
6	2	66.7	20	1470	1396	173962
7	1	62	20	-	1063	319749
8	1	53.6	20	-	1195	464907
9	1	62.9	20	-	1114	11333
10	2	71.9	20	1505	1807	156007
11	2	72.7	20	1014	1440	301155
12	1	58.8	20	-	1867	446517
13	1	51.9	20	-	1210	592233
14	2	75.3	20	1627	1915	138128
15	1	56.2	20	-	1302	283850
16	2	76.5	20	1688	1648	427595
17	3	97.7	20	1471	1481	571302
18	3	92.3	20	1479	1594	120062
19	1	57.7	20	-	1228	265997
20	2	67.8	20	1404	1840	409833

**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:			3			Detection (Yes/No) Yes
Number of Bursts in Trial:			12			
Chirp Center Frequency:			5500			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	85.6	10	1762	1215	925273
2	1	57.8	10	-	1474	171578
3	2	74.4	10	1577	1313	413166
4	1	64.9	10	-	1511	655902
5	1	55.7	10	-	1802	897805
6	2	78.9	10	1109	1501	141587
7	1	62.5	10	-	1764	383810
8	3	99.8	10	1539	1354	624313
9	3	97.7	10	1753	1409	865690
10	3	87.8	10	1141	1887	111561
11	2	80.9	10	1073	1218	353802
12	1	50	10	-	1845	596044
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Trial Number:			4			Detection (Yes/No) Yes
Number of Bursts in Trial:			12			
Chirp Center Frequency:			5500			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	88.9	5	1804	1801	1254816
2	3	84.7	5	1220	1373	122994
3	1	60.8	5	-	1656	486572
4	1	55.3	5	-	1543	850031
5	2	71.6	5	1912	1680	1211795
6	2	77.6	5	1738	1607	78326
7	3	85.3	5	1303	1855	440838
8	2	78	5	1414	1848	804342
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		5				Detection (Yes/No)
Number of Bursts in Trial:		19				Yes
Chirp Center Frequency:		5500				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	1	61.2	19	-	1579	491355
2	1	50.5	19	-	1719	14147
3	2	78.2	19	1185	1723	166592
4	2	69.8	19	1375	1006	319332
5	1	56.1	19	-	1466	472619
6	2	71.6	19	1560	1477	623882
7	2	68.3	19	1128	1772	147813
8	2	82.1	19	1987	1874	299829
9	2	71.5	19	1401	1295	452909
10	3	97.6	19	1709	1778	602928
11	2	69.5	19	1741	1142	129035
12	1	50.8	19	-	1953	281930
13	3	99.1	19	1746	1249	432706
14	2	75.3	19	1743	1003	586599
15	2	81.4	19	1230	1151	110342
16	1	55.3	19	-	1094	263480
17	2	69.5	19	1729	1241	415153
18	1	61.6	19	-	1046	569348
19	2	82.9	19	1605	1754	91402
20						

Trial Number:		6				Detection (Yes/No)
Number of Bursts in Trial:		14				Yes
Chirp Center Frequency:		5500				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	3	86.2	12	1872	1913	330399
2	1	54.1	12	-	1160	539746
3	1	62.2	12	-	1718	746861
4	1	55.9	12	-	1137	98971
5	2	75.2	12	1927	1808	305649
6	3	91.1	12	1590	1312	512296
7	2	72.6	12	1337	1527	720340
8	2	70	12	1286	1290	73275
9	2	67.3	12	1231	1437	280504
10	1	64.5	12	-	1938	488158
11	1	50.8	12	-	1262	696122
12	1	54.8	12	-	1435	47809
13	2	70.1	12	1583	1372	254892
14	1	56.9	12	-	1678	462750
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:			7			Detection (Yes/No)
Number of Bursts in Trial:			9			
Chirp Center Frequency:			5500			Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	78.2	18	1768	1406	641099
2	1	50	18	-	1705	138831
3	2	68.2	18	1204	1010	299875
4	2	80	18	1776	1443	460328
5	1	51	18	-	1086	623233
6	1	63.5	18	-	1786	118951
7	1	53.2	18	-	1499	280326
8	1	55.5	18	-	1419	441703
9	3	85.9	18	1461	1388	600366
10	1	59.9	18	-	1916	99068
11	3	94.7	18	1771	1239	259260
12	3	99.2	18	1797	1828	419640
13	2	73.8	18	1318	1350	582078
14	3	99	18	1208	1038	78937
15	3	94.6	18	1324	1851	239395
16	1	53	18	-	1681	401797
17	2	78.8	18	1813	1572	561635
18	3	83.6	18	1921	1880	59030
19						
20						

Trial Number:			8			Detection (Yes/No)
Number of Bursts in Trial:			18			
Chirp Center Frequency:			5500			Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	78.2	18	1768	1406	641099
2	1	50	18	-	1705	138831
3	2	68.2	18	1204	1010	299875
4	2	80	18	1776	1443	460328
5	1	51	18	-	1086	623233
6	1	63.5	18	-	1786	118951
7	1	53.2	18	-	1499	280326
8	1	55.5	18	-	1419	441703
9	3	85.9	18	1461	1388	600366
10	1	59.9	18	-	1916	99068
11	3	94.7	18	1771	1239	259260
12	3	99.2	18	1797	1828	419640
13	2	73.8	18	1318	1350	582078
14	3	99	18	1208	1038	78937
15	3	94.6	18	1324	1851	239395
16	1	53	18	-	1681	401797
17	2	78.8	18	1813	1572	561635
18	3	83.6	18	1921	1880	59030
19						
20						

**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		9				Detection (Yes/No)
Number of Bursts in Trial:		18				
Chirp Center Frequency:		5500				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	51.6	18	-	1330	220768
2	1	51	18	-	1020	382311
3	2	67.6	18	1837	1216	542091
4	2	70.7	18	1908	1199	39421
5	3	92.7	18	1233	1037	200113
6	3	99.5	18	1561	1608	360560
7	3	93.9	18	1175	1841	521356
8	2	69.4	18	1765	1161	19603
9	2	68.7	18	1378	1107	180701
10	3	96.4	18	1821	1826	340606
11	2	75.6	18	1462	1379	502601
12	1	64.9	18	-	1829	664612
13	1	52.8	18	-	1071	161201
14	3	98.9	18	1542	1510	321081
15	2	75.6	18	1751	1911	482173
16	2	73.7	18	1598	1578	643444
17	3	84.1	18	1909	1341	140529
18	1	55.9	18	-	1058	302751
19						
20						

Trial Number:		10				Detection (Yes/No)
Number of Bursts in Trial:		15				
Chirp Center Frequency:		5500				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	56.9	14	-	1573	556806
2	1	61.1	14	-	1300	750708
3	2	71.6	14	1960	1759	145275
4	1	56.5	14	-	1620	339291
5	1	64	14	-	1972	532688
6	1	58.9	14	-	1156	726977
7	1	64.9	14	-	1831	121775
8	3	95	14	1711	1454	314142
9	2	75.4	14	1172	1079	508669
10	1	57.8	14	-	1380	702915
11	1	55.8	14	-	1319	97993
12	1	57.6	14	-	1183	291748
13	3	90.5	14	1289	1426	483671
14	2	76.6	14	1677	1565	677474
15	2	75.8	14	1097	1200	74042
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		11				Detection (Yes/No)
Number of Bursts in Trial:		15				
Chirp Center Frequency:		5496.2365				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	75.2	14	1248	1019	267520
2	2	82.4	14	1838	1033	460647
3	1	59.5	14	-	1639	654987
4	1	62.8	14	-	1635	50253
5	1	57.5	14	-	1405	243952
6	1	57.3	14	-	1550	437557
7	2	68.8	14	1112	1535	630339
8	3	86.1	14	1284	1515	26310
9	2	81.6	14	1446	1433	219688
10	3	94.8	14	1984	1827	411841
11	1	56.9	14	-	1671	607261
12	2	79.9	14	1660	1418	2547
13	2	71	14	1884	1734	195693
14	1	57	14	-	1459	389895
15	3	95.9	14	1875	1053	581747
16						
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Trial Number:		12				Detection (Yes/No)
Number of Bursts in Trial:		13				
Chirp Center Frequency:		5495.0365				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	73.6	11	1589	1012	895919
2	1	50.1	11	-	1682	198886
3	1	64.9	11	-	1957	422227
4	3	88.7	11	1780	1685	643779
5	3	96.1	11	1922	1799	865993
6	2	67.7	11	1918	1162	171100
7	1	62	11	-	1737	394804
8	3	95.2	11	1002	1588	617007
9	3	87	11	1234	1472	839233
10	1	58.6	11	-	1825	143811
11	1	55.7	11	-	1133	367520
12	3	97.8	11	1153	1158	589296
13	2	74	11	1945	1344	812815
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		13				Detection (Yes/No)
Number of Bursts in Trial:		9				
Chirp Center Frequency:		5493.4365				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	86.1	7	1790	1662	167682
2	1	63.5	7	-	1975	490954
3	1	61.1	7	-	1603	814077
4	1	55.9	7	-	1604	1137063
5	3	99	7	1552	1123	128114
6	3	89.1	7	1498	1457	450439
7	2	77.7	7	1251	1968	773353
8	1	66.4	7	-	1657	1097235
9	1	66	7	-	1051	88572
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Trial Number:		14				Detection (Yes/No)
Number of Bursts in Trial:		15				
Chirp Center Frequency:		5495.8365				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	60.8	13	-	1115	246866
2	2	76.5	13	1523	1144	439765
3	3	98.6	13	1777	1816	631191
4	3	88.1	13	1787	1366	29102
5	2	75	13	1196	1923	222441
6	3	90	13	1045	1134	415184
7	1	61.7	13	-	1653	610098
8	1	57.1	13	-	1411	5377
9	2	79	13	1327	1030	198824
10	3	94	13	1155	1179	391458
11	3	87.9	13	1646	1800	583537
12	2	79.5	13	1403	1982	778181
13	3	84.2	13	1806	1080	174451
14	1	55.7	13	-	1672	368765
15	3	92.7	13	1238	1271	560885
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		15				Detection (Yes/No)
Number of Bursts in Trial:		14				Yes
Chirp Center Frequency:		5495.4365				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	51.7	12	-	1904	809898
2	2	80.6	12	1360	1117	161973
3	1	58.1	12	-	1965	369477
4	1	63.2	12	-	1227	577382
5	3	87.3	12	1393	1263	782293
6	2	72.6	12	1442	1530	136361
7	1	54.2	12	-	1377	344166
8	1	51.7	12	-	1098	551896
9	1	59.6	12	-	1525	759135
10	3	94.8	12	1065	1054	110753
11	3	100	12	1854	1716	317284
12	2	68.1	12	1939	1890	524643
13	3	83.6	12	1726	1649	730585
14	1	50.9	12	-	1493	85473
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Trial Number:		16				Detection (Yes/No)
Number of Bursts in Trial:		12				Yes
Chirp Center Frequency:		5494.6365				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	80.9	10	1645	1893	341212
2	2	81.9	10	1056	1574	583417
3	2	79.4	10	1673	1272	825050
4	2	79.5	10	1316	1725	69805
5	1	57.6	10	-	1548	312066
6	3	89.3	10	1149	1674	552442
7	3	88.5	10	1400	1052	794347
8	3	90.1	10	1202	1339	39986
9	1	57.9	10	-	1891	282141
10	3	92.7	10	1798	1935	522684
11	2	72	10	1266	1122	765906
12	3	83.4	10	1977	1926	10213
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		17				Detection (Yes/No)
Number of Bursts in Trial:		19				
Chirp Center Frequency:		5497.8365				No
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	79.9	18	1187	1305	159034
2	2	79.6	18	1883	1487	311172
3	1	61.8	18	-	1346	465026
4	1	59.8	18	-	1486	617740
5	3	94.5	18	1559	1147	139937
6	1	51.9	18	-	1994	293046
7	1	57.8	18	-	1944	445775
8	2	68.5	18	1933	1955	596634
9	1	54.1	18	-	1060	121723
10	2	68.4	18	1773	1256	273786
11	2	81	18	1835	1492	426027
12	1	64.4	18	-	1617	579973
13	2	79.1	18	1322	1595	102584
14	3	93.4	18	1059	1309	254694
15	1	56.6	18	-	1043	408739
16	2	74.7	18	1463	1165	560252
17	3	89	18	1555	1274	83574
18	3	93.4	18	2000	1815	235459
19	2	75	18	1131	1715	388788
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Trial Number:		18				Detection (Yes/No)
Number of Bursts in Trial:		9				
Chirp Center Frequency:		5493.4365				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	71.9	7	1924	1279	1145107
2	2	78.2	7	1186	1981	137578
3	1	56.1	7	-	1198	460867
4	3	98.2	7	1567	2000	781763
5	1	62	7	-	1325	1106931
6	1	58.5	7	-	1781	97942
7	1	50	7	-	1331	421028
8	2	76.6	7	1769	1962	742740
9	1	66.4	7	-	1791	1066765
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		19				Detection (Yes/No)
Number of Bursts in Trial:		19				
Chirp Center Frequency:		5497.8365				No
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	54.2	18	-	1850.000	27507
2	1	61.6	18	-	1119.000	180445
3	2	72.6	18	1422.000	1223.000	332545
4	1	65.4	18	-	1184.000	486208
5	3	91.2	18	1687.000	1524.000	8661
6	1	53.9	18	-	1990.000	161388
7	3	92.8	18	1928.000	1041.000	312679
8	2	74.6	18	1866.000	1132.000	466031
9	3	90	18	1919.000	1364.000	616890
10	3	99.8	18	1095.000	1040.000	142161
11	1	50.2	18	-	1181.000	295654
12	3	98.1	18	1864.000	1870.000	445399
13	1	60.3	18	-	1245.000	601375
14	1	65.1	18	-	1496.000	123868
15	3	96.9	18	1367.000	1032.000	275450
16	1	62.4	18	-	1022.000	429821
17	1	50.8	18	-	1540.000	582272
18	1	65	18	-	1347.000	105069
19	1	50.3	18	-	1612.000	257812
20						

Trial Number:		20				Detection (Yes/No)
Number of Bursts in Trial:		12				
Chirp Center Frequency:		5494.6365				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	64.2	10	-	1093	651065
2	2	82.7	10	1849	1009	891753
3	1	63.7	10	-	1146	136684
4	1	51.1	10	-	1979	378622
5	1	64.6	10	-	1814	620775
6	2	67.7	10	1392	1421	862004
7	1	50.1	10	-	1370	106820
8	1	55.2	10	-	1585	348944
9	2	73.7	10	1171	1376	590521
10	2	81.5	10	1476	1794	831831
11	3	99.8	10	1439	1836	76755
12	1	51.3	10	-	1292	319210
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		21				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5505.7635				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	94.5	9	1731	1633	610391
2	2	75.3	9	1139	1732	875530
3	3	91.4	9	1509	1643	51311
4	1	64.2	9	-	1074	315779
5	3	92.5	9	1623	1823	578213
6	3	95.9	9	1763	1242	841539
7	1	65.6	9	-	1064	18901
8	2	73.2	9	1236	1483	282793
9	2	75.2	9	1140	1217	546896
10	1	50.6	9	-	1503	811540
11	2	82.1	9	1298	1283	1074691
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Trial Number:		22				Detection (Yes/No)
Number of Bursts in Trial:		19				Yes
Chirp Center Frequency:		5501.7635				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	84.8	19	1885	1168	144104
2	3	89.2	19	1713	1710	295892
3	3	93.1	19	1197	1881	448323
4	2	77	19	1569	1267	602081
5	1	61.6	19	-	1044	126187
6	1	63.1	19	-	1842	278758
7	1	59.3	19	-	1582	431667
8	3	85.7	19	1995	1334	581161
9	1	61.1	19	-	1026	107353
10	3	93.5	19	1410	1996	258807
11	3	99.8	19	1946	1016	410810
12	1	62.4	19	-	1929	565329
13	3	83.8	19	1701	1362	88039
14	3	90.6	19	1203	1092	240471
15	1	60.5	19	-	1770	393908
16	1	57.9	19	-	1761	546664
17	3	97.8	19	1102	1475	69395
18	3	91.1	19	1581	1028	221657
19	3	98.7	19	1250	1113	373633
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		23				Detection (Yes/No)
Number of Bursts in Trial:		14				Yes
Chirp Center Frequency:		5504.1635				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	69.1	13	1307	1690	715857
2	3	93.1	13	1464	1844	68756
3	3	90.2	13	1232	1120	275655
4	3	98.5	13	1629	1584	481981
5	1	55.8	13	-	1914	691216
6	2	72.8	13	1651	1482	43345
7	2	68.9	13	1254	1069	250707
8	1	50.8	13	-	1865	458273
9	1	54.3	13	-	1756	665789
10	1	66.6	13	-	1686	17862
11	3	85.3	13	1473	1192	224637
12	3	91.8	13	1703	1031	431577
13	2	75.1	13	1484	1698	639168
14	1	63.6	13	-	1413	848033
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Trial Number:		24				Detection (Yes/No)
Number of Bursts in Trial:		18				Yes
Chirp Center Frequency:		5502.5635				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	50.5	17	-	1668	155302
2	2	78.9	17	1121	1591	316088
3	1	61.9	17	-	1150	478241
4	2	71.6	17	1702	1721	637465
5	3	90.8	17	1696	1135	134851
6	3	88.6	17	1352	1526	295514
7	3	92.2	17	1176	1556	456354
8	1	64.3	17	-	1931	619040
9	3	95.9	17	1328	1310	115080
10	3	88.7	17	1626	1742	275613
11	1	57.8	17	-	1211	438437
12	3	94.7	17	1961	1641	596383
13	1	62.9	17	-	1601	95713
14	1	57.5	17	-	1125	257196
15	2	73.7	17	1397	1857	417272
16	2	82	17	1368	1683	578347
17	3	88	17	1062	1382	75564
18	2	67.9	17	1943	1118	236623
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		25				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5505.7635				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	2	82.2	9	1180	1351	652051
2	2	76.6	9	1177	1900	915557
3	2	81.6	9	1320	1163	91608
4	3	89	9	1035	1758	354934
5	3	94.7	9	1188	1969	618137
6	3	90.8	9	1390	1458	881884
7	3	87.2	9	1707	1675	58975
8	1	54.1	9	-	1460	323373
9	3	92.7	9	1317	1219	586216
10	1	62.2	9	-	1136	852078
11	1	55	9	-	1441	26601
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Trial Number:		26				Detection (Yes/No)
Number of Bursts in Trial:		12				Yes
Chirp Center Frequency:		5505.3635				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	2	69.1	10	1096	1345	266297
2	2	75.9	10	1343	1529	508016
3	1	51.7	10	-	1983	750521
4	2	74.6	10	1767	1081	991710
5	3	98.9	10	1519	1551	235960
6	2	83.2	10	1301	1882	478079
7	1	61.6	10	-	1335	721173
8	3	98.6	10	1288	1876	960086
9	3	86.3	10	1398	1520	206284
10	1	56.9	10	-	1599	449012
11	1	52.5	10	-	1920	690933
12	1	56.5	10	-	1833	933080
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		27				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5506.1635				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	54.7	8	-	1297	193216
2	3	97.3	8	1632	1695	455878
3	1	51.5	8	-	1008	721938
4	3	90.7	8	1822	1521	982878
5	1	61.1	8	-	1597	160620
6	1	59.9	8	-	1516	424844
7	1	61.4	8	-	1270	689212
8	2	77.1	8	1749	1846	951450
9	2	72.3	8	1478	1166	127955
10	2	78.6	8	1658	1213	391812
11	2	67.3	8	1243	1902	655530
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Trial Number:		28				Detection (Yes/No)
Number of Bursts in Trial:		8				Yes
Chirp Center Frequency:		5506.9635				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	59.6	6	-	1323	1266639
2	3	98.6	6	1407	1570	131124
3	2	82	6	1275	1606	494399
4	1	61.5	6	-	1296	858406
5	3	84.2	6	1860	1669	1219023
6	2	71.2	6	1259	1091	86606
7	3	84.5	6	1980	1308	449037
8	3	86.6	6	1795	1614	811754
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 100 Bandwidth 20MHz**

Trial Number:		29				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5505.7635				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	95.9	9	1750	1853	853112
2	2	79.9	9	1371	1057	30427
3	1	59.3	9	-	1214	294746
4	2	76.8	9	1779	1963	557735
5	1	62.7	9	-	1549	823064
6	1	56	9	-	1554	1087264
7	2	70	9	1586	1518	261738
8	1	64.1	9	-	1964	526116
9	2	74.3	9	1948	1387	789224
10	1	62	9	-	1101	1055159
11	3	83.5	9	1465	1260	228937
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Trial Number:		30				Detection (Yes/No)
Number of Bursts in Trial:		13				Yes
Chirp Center Frequency:		5504.5635				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	51.6	12	-	1694	417633
2	1	60.9	12	-	1600	641163
3	2	79.6	12	1127	1508	863679
4	2	70	12	1879	1670	166308
5	2	76.9	12	1976	1863	389199
6	3	91.8	12	1024	1066	612516
7	3	93.2	12	1974	1630	833611
8	1	50.1	12	-	1174	139196
9	2	76	12	1621	1036	362203
10	3	94.3	12	1018	1467	584510
11	2	81.3	12	1592	1072	808658
12	3	85.2	12	1299	1167	111311
13	2	82.8	12	1447	1991	334422
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**Channel 102 Bandwidth 40MHz**

**DFS Radar Parameters**  
**FCC Radar Type 1**  
**Channel 102 Bandwidth 40MHz**

Trial #	Pulse Repetition Frequency Number (1 to 23)	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	21	1089.32	918	Y
2	18	1165.50	858	Y
3	9	1474.93	678	Y
4	8	1519.76	658	Y
5	3	1792.11	558	Y
6	5	1672.24	598	Y
7	12	326.16	3066	Y
8	4	1730.10	578	Y
9	16	1222.49	818	Y
10	19	1138.95	878	Y
11	2	1858.74	538	Y
12	14	1285.35	778	Y
13	11	1392.76	718	Y
14	17	1193.32	838	Y
15	15	1253.13	798	Y
16		680.74	1469	Y
17		1036.27	965	Y
18		787.40	1270	Y
19		1639.34	610	Y
20		628.54	1591	Y
21		391.24	2556	Y
22		331.35	3018	Y
23		461.04	2169	Y
24		1212.12	825	Y
25		351.12	2848	Y
26		944.29	1059	Y
27		506.33	1975	Y
28		707.71	1413	Y
29		358.17	2792	Y
30		477.33	2095	Y

**DFS Radar Parameters**  
**FCC Radar Type 2**  
**Channel 102 Bandwidth 40MHz**

Trial #	Number Pulses per Burst	Pulse Width (Microseconds)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	29	5.00	150	Y
2	29	4.90	151	Y
3	25	2.30	190	Y
4	23	1.00	202	Y
5	29	4.60	187	Y
6	26	2.90	213	Y
7	23	1.30	227	Y
8	28	4.30	200	Y
9	28	4.40	173	Y
10	27	3.30	218	Y
11	27	3.40	209	Y
12	25	2.60	221	Y
13	24	1.60	194	Y
14	26	3.20	212	Y
15	26	2.90	184	Y
16	25	2.40	198	Y
17	29	4.50	191	Y
18	23	1.50	156	Y
19	29	4.50	181	Y
20	25	2.30	177	N
21	24	2.00	162	Y
22	29	4.60	163	Y
23	26	3.10	203	N
24	28	4.10	220	Y
25	25	2.20	164	Y
26	25	2.30	188	Y
27	24	1.90	155	Y
28	23	1.20	211	Y
29	24	2.00	153	Y
30	26	2.70	152	Y

**DFS Radar Parameters**  
**FCC Radar Type 3**  
**Channel 102 Bandwidth 40MHz**

Trial #	Number Pulses per Burst	Pulse Width (Microseconds)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	18	10.00	387	Y
2	18	9.90	223	Y
3	16	7.30	488	Y
4	16	6.00	327	Y
5	18	9.60	337	Y
6	17	7.90	395	Y
7	16	6.30	420	Y
8	18	9.30	414	Y
9	18	9.40	289	Y
10	17	8.30	490	Y
11	17	8.40	382	Y
12	17	7.60	341	Y
13	16	6.60	362	Y
14	17	8.20	444	Y
15	17	7.90	496	Y
16	17	7.40	216	Y
17	18	9.50	347	Y
18	16	6.50	332	N
19	18	9.50	417	N
20	17	7.30	276	Y
21	16	7.00	374	Y
22	18	9.60	260	N
23	17	8.10	495	Y
24	18	9.10	386	Y
25	16	7.20	449	Y
26	17	7.30	465	Y
27	16	6.90	287	Y
28	16	6.20	410	Y
29	16	7.00	474	Y
30	17	7.70	225	Y



**DFS Radar Parameters**  
**FCC Radar Type 4**  
**Channel 102 Bandwidth 40MHz**

Trial #	Number Pulses per Burst	Pulse Width (Microseconds)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	16	19.90	387	Y
2	16	19.70	223	Y
3	13	13.90	488	Y
4	12	11.00	327	Y
5	16	19.10	337	Y
6	14	15.20	395	Y
7	12	11.70	420	Y
8	16	18.40	414	Y
9	16	18.60	289	Y
10	14	16.20	490	Y
11	15	16.50	382	Y
12	14	14.60	341	Y
13	12	12.30	362	Y
14	14	16.00	444	Y
15	14	15.30	496	Y
16	13	14.10	216	Y
17	16	18.80	347	Y
18	12	12.20	332	Y
19	16	18.80	417	Y
20	13	14.00	276	Y
21	13	13.30	374	Y
22	16	18.90	260	Y
23	14	15.80	495	Y
24	15	18.00	386	Y
25	13	13.70	449	Y
26	13	14.00	465	Y
27	13	13.10	287	Y
28	12	11.60	410	Y
29	13	13.30	474	Y
30	14	14.90	225	Y

**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:			1			Detection (Yes/No)
Number of Bursts in Trial:			20			
Chirp Center Frequency:			5510			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	99.3	20	1859	1087	135723
2	3	98.2	20	1001	1949	280284
3	1	66.2	20	-	1824	426563
4	1	50.3	20	-	1326	572116
5	3	94.8	20	1178	1287	118025
6	2	73.3	20	1224	1665	263147
7	1	54.2	20	-	1992	408578
8	3	91.1	20	1730	1104	551434
9	3	91.8	20	1015	1788	100262
10	2	78.8	20	1894	1126	245255
11	2	80.5	20	1338	1745	390000
12	2	70.2	20	1563	1697	534613
13	1	57.4	20	-	1415	82856
14	2	77.7	20	1116	1959	227400
15	2	74	20	1553	1374	372265
16	2	67.2	20	1017	1654	517296
17	3	93.2	20	1304	1564	64613
18	1	56.7	20	-	1159	210240
19	3	93.2	20	1611	1042	353746
20	2	67	20	1436	1222	499462

Trial Number:			2			Detection (Yes/No)
Number of Bursts in Trial:			20			
Chirp Center Frequency:			5510			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	63.1	20	-	1666	47072
2	3	93.9	20	1936	1907	190930
3	2	76.6	20	1311	1803	336485
4	3	88.6	20	1897	1699	479801
5	1	65	20	-	1978	29182
6	2	66.7	20	1470	1396	173962
7	1	62	20	-	1063	319749
8	1	53.6	20	-	1195	464907
9	1	62.9	20	-	1114	11333
10	2	71.9	20	1505	1807	156007
11	2	72.7	20	1014	1440	301155
12	1	58.8	20	-	1867	446517
13	1	51.9	20	-	1210	592233
14	2	75.3	20	1627	1915	138128
15	1	56.2	20	-	1302	283850
16	2	76.5	20	1688	1648	427595
17	3	97.7	20	1471	1481	571302
18	3	92.3	20	1479	1594	120062
19	1	57.7	20	-	1228	265997
20	2	67.8	20	1404	1840	409833

**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:			3			Detection (Yes/No) Yes
Number of Bursts in Trial:			12			
Chirp Center Frequency:			5510			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	85.6	10	1762	1215	925273
2	1	57.8	10	-	1474	171578
3	2	74.4	10	1577	1313	413166
4	1	64.9	10	-	1511	655902
5	1	55.7	10	-	1802	897805
6	2	78.9	10	1109	1501	141587
7	1	62.5	10	-	1764	383810
8	3	99.8	10	1539	1354	624313
9	3	97.7	10	1753	1409	865690
10	3	87.8	10	1141	1887	111561
11	2	80.9	10	1073	1218	353802
12	1	50	10	-	1845	596044
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Trial Number:			4			Detection (Yes/No) Yes
Number of Bursts in Trial:			12			
Chirp Center Frequency:			5510			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	88.9	5	1804	1801	1254816
2	3	84.7	5	1220	1373	122994
3	1	60.8	5	-	1656	486572
4	1	55.3	5	-	1543	850031
5	2	71.6	5	1912	1680	1211795
6	2	77.6	5	1738	1607	78326
7	3	85.3	5	1303	1855	440838
8	2	78	5	1414	1848	804342
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		5				Detection (Yes/No)
Number of Bursts in Trial:		19				Yes
Chirp Center Frequency:		5510				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	1	61.2	19	-	1579	491355
2	1	50.5	19	-	1719	14147
3	2	78.2	19	1185	1723	166592
4	2	69.8	19	1375	1006	319332
5	1	56.1	19	-	1466	472619
6	2	71.6	19	1560	1477	623882
7	2	68.3	19	1128	1772	147813
8	2	82.1	19	1987	1874	299829
9	2	71.5	19	1401	1295	452909
10	3	97.6	19	1709	1778	602928
11	2	69.5	19	1741	1142	129035
12	1	50.8	19	-	1953	281930
13	3	99.1	19	1746	1249	432706
14	2	75.3	19	1743	1003	586599
15	2	81.4	19	1230	1151	110342
16	1	55.3	19	-	1094	263480
17	2	69.5	19	1729	1241	415153
18	1	61.6	19	-	1046	569348
19	2	82.9	19	1605	1754	91402
20						

Trial Number:		6				Detection (Yes/No)
Number of Bursts in Trial:		14				Yes
Chirp Center Frequency:		5510				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	3	86.2	12	1872	1913	330399
2	1	54.1	12	-	1160	539746
3	1	62.2	12	-	1718	746861
4	1	55.9	12	-	1137	98971
5	2	75.2	12	1927	1808	305649
6	3	91.1	12	1590	1312	512296
7	2	72.6	12	1337	1527	720340
8	2	70	12	1286	1290	73275
9	2	67.3	12	1231	1437	280504
10	1	64.5	12	-	1938	488158
11	1	50.8	12	-	1262	696122
12	1	54.8	12	-	1435	47809
13	2	70.1	12	1583	1372	254892
14	1	56.9	12	-	1678	462750
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:			7			Detection (Yes/No)
Number of Bursts in Trial:			9			
Chirp Center Frequency:			5510			Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	78.2	18	1768	1406	641099
2	1	50	18	-	1705	138831
3	2	68.2	18	1204	1010	299875
4	2	80	18	1776	1443	460328
5	1	51	18	-	1086	623233
6	1	63.5	18	-	1786	118951
7	1	53.2	18	-	1499	280326
8	1	55.5	18	-	1419	441703
9	3	85.9	18	1461	1388	600366
10	1	59.9	18	-	1916	99068
11	3	94.7	18	1771	1239	259260
12	3	99.2	18	1797	1828	419640
13	2	73.8	18	1318	1350	582078
14	3	99	18	1208	1038	78937
15	3	94.6	18	1324	1851	239395
16	1	53	18	-	1681	401797
17	2	78.8	18	1813	1572	561635
18	3	83.6	18	1921	1880	59030
19						
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Trial Number:			8			Detection (Yes/No)
Number of Bursts in Trial:			18			
Chirp Center Frequency:			5510			Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	78.2	18	1768	1406	641099
2	1	50	18	-	1705	138831
3	2	68.2	18	1204	1010	299875
4	2	80	18	1776	1443	460328
5	1	51	18	-	1086	623233
6	1	63.5	18	-	1786	118951
7	1	53.2	18	-	1499	280326
8	1	55.5	18	-	1419	441703
9	3	85.9	18	1461	1388	600366
10	1	59.9	18	-	1916	99068
11	3	94.7	18	1771	1239	259260
12	3	99.2	18	1797	1828	419640
13	2	73.8	18	1318	1350	582078
14	3	99	18	1208	1038	78937
15	3	94.6	18	1324	1851	239395
16	1	53	18	-	1681	401797
17	2	78.8	18	1813	1572	561635
18	3	83.6	18	1921	1880	59030
19						
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		9				Detection (Yes/No)
Number of Bursts in Trial:		18				
Chirp Center Frequency:		5510				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	51.6	18	-	1330	220768
2	1	51	18	-	1020	382311
3	2	67.6	18	1837	1216	542091
4	2	70.7	18	1908	1199	39421
5	3	92.7	18	1233	1037	200113
6	3	99.5	18	1561	1608	360560
7	3	93.9	18	1175	1841	521356
8	2	69.4	18	1765	1161	19603
9	2	68.7	18	1378	1107	180701
10	3	96.4	18	1821	1826	340606
11	2	75.6	18	1462	1379	502601
12	1	64.9	18	-	1829	664612
13	1	52.8	18	-	1071	161201
14	3	98.9	18	1542	1510	321081
15	2	75.6	18	1751	1911	482173
16	2	73.7	18	1598	1578	643444
17	3	84.1	18	1909	1341	140529
18	1	55.9	18	-	1058	302751
19						
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Trial Number:		10				Detection (Yes/No)
Number of Bursts in Trial:		15				
Chirp Center Frequency:		5510				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	56.9	14	-	1573	556806
2	1	61.1	14	-	1300	750708
3	2	71.6	14	1960	1759	145275
4	1	56.5	14	-	1620	339291
5	1	64	14	-	1972	532688
6	1	58.9	14	-	1156	726977
7	1	64.9	14	-	1831	121775
8	3	95	14	1711	1454	314142
9	2	75.4	14	1172	1079	508669
10	1	57.8	14	-	1380	702915
11	1	55.8	14	-	1319	97993
12	1	57.6	14	-	1183	291748
13	3	90.5	14	1289	1426	483671
14	2	76.6	14	1677	1565	677474
15	2	75.8	14	1097	1200	74042
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		11				Detection (Yes/No)
Number of Bursts in Trial:		15				Yes
Chirp Center Frequency:		5497.386				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	75.2	14	1248	1019	267520
2	2	82.4	14	1838	1033	460647
3	1	59.5	14	-	1639	654987
4	1	62.8	14	-	1635	50253
5	1	57.5	14	-	1405	243952
6	1	57.3	14	-	1550	437557
7	2	68.8	14	1112	1535	630339
8	3	86.1	14	1284	1515	26310
9	2	81.6	14	1446	1433	219688
10	3	94.8	14	1984	1827	411841
11	1	56.9	14	-	1671	607261
12	2	79.9	14	1660	1418	2547
13	2	71	14	1884	1734	195693
14	1	57	14	-	1459	389895
15	3	95.9	14	1875	1053	581747
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Trial Number:		12				Detection (Yes/No)
Number of Bursts in Trial:		13				Yes
Chirp Center Frequency:		5496.186				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	73.6	11	1589	1012	895919
2	1	50.1	11	-	1682	198886
3	1	64.9	11	-	1957	422227
4	3	88.7	11	1780	1685	643779
5	3	96.1	11	1922	1799	865993
6	2	67.7	11	1918	1162	171100
7	1	62	11	-	1737	394804
8	3	95.2	11	1002	1588	617007
9	3	87	11	1234	1472	839233
10	1	58.6	11	-	1825	143811
11	1	55.7	11	-	1133	367520
12	3	97.8	11	1153	1158	589296
13	2	74	11	1945	1344	812815
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:			13			Detection (Yes/No) Yes
Number of Bursts in Trial:			9			
Chirp Center Frequency:			5494.586			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	86.1	7	1790	1662	167682
2	1	63.5	7	-	1975	490954
3	1	61.1	7	-	1603	814077
4	1	55.9	7	-	1604	1137063
5	3	99	7	1552	1123	128114
6	3	89.1	7	1498	1457	450439
7	2	77.7	7	1251	1968	773353
8	1	66.4	7	-	1657	1097235
9	1	66	7	-	1051	88572
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Trial Number:			14			Detection (Yes/No) Yes
Number of Bursts in Trial:			15			
Chirp Center Frequency:			5496.986			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	60.8	13	-	1115	246866
2	2	76.5	13	1523	1144	439765
3	3	98.6	13	1777	1816	631191
4	3	88.1	13	1787	1366	29102
5	2	75	13	1196	1923	222441
6	3	90	13	1045	1134	415184
7	1	61.7	13	-	1653	610098
8	1	57.1	13	-	1411	5377
9	2	79	13	1327	1030	198824
10	3	94	13	1155	1179	391458
11	3	87.9	13	1646	1800	583537
12	2	79.5	13	1403	1982	778181
13	3	84.2	13	1806	1080	174451
14	1	55.7	13	-	1672	368765
15	3	92.7	13	1238	1271	560885
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		15				Detection (Yes/No)
Number of Bursts in Trial:		14				Yes
Chirp Center Frequency:		5496.586				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	51.7	12	-	1904	809898
2	2	80.6	12	1360	1117	161973
3	1	58.1	12	-	1965	369477
4	1	63.2	12	-	1227	577382
5	3	87.3	12	1393	1263	782293
6	2	72.6	12	1442	1530	136361
7	1	54.2	12	-	1377	344166
8	1	51.7	12	-	1098	551896
9	1	59.6	12	-	1525	759135
10	3	94.8	12	1065	1054	110753
11	3	100	12	1854	1716	317284
12	2	68.1	12	1939	1890	524643
13	3	83.6	12	1726	1649	730585
14	1	50.9	12	-	1493	85473
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Trial Number:		16				Detection (Yes/No)
Number of Bursts in Trial:		12				Yes
Chirp Center Frequency:		5495.786				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	80.9	10	1645	1893	341212
2	2	81.9	10	1056	1574	583417
3	2	79.4	10	1673	1272	825050
4	2	79.5	10	1316	1725	69805
5	1	57.6	10	-	1548	312066
6	3	89.3	10	1149	1674	552442
7	3	88.5	10	1400	1052	794347
8	3	90.1	10	1202	1339	39986
9	1	57.9	10	-	1891	282141
10	3	92.7	10	1798	1935	522684
11	2	72	10	1266	1122	765906
12	3	83.4	10	1977	1926	10213
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		17				Detection (Yes/No)
Number of Bursts in Trial:		19				Yes
Chirp Center Frequency:		5498.986				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	79.9	18	1187	1305	159034
2	2	79.6	18	1883	1487	311172
3	1	61.8	18	-	1346	465026
4	1	59.8	18	-	1486	617740
5	3	94.5	18	1559	1147	139937
6	1	51.9	18	-	1994	293046
7	1	57.8	18	-	1944	445775
8	2	68.5	18	1933	1955	596634
9	1	54.1	18	-	1060	121723
10	2	68.4	18	1773	1256	273786
11	2	81	18	1835	1492	426027
12	1	64.4	18	-	1617	579973
13	2	79.1	18	1322	1595	102584
14	3	93.4	18	1059	1309	254694
15	1	56.6	18	-	1043	408739
16	2	74.7	18	1463	1165	560252
17	3	89	18	1555	1274	83574
18	3	93.4	18	2000	1815	235459
19	2	75	18	1131	1715	388788
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Trial Number:		18				Detection (Yes/No)
Number of Bursts in Trial:		9				Yes
Chirp Center Frequency:		5494.586				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	71.9	7	1924	1279	1145107
2	2	78.2	7	1186	1981	137578
3	1	56.1	7	-	1198	460867
4	3	98.2	7	1567	2000	781763
5	1	62	7	-	1325	1106931
6	1	58.5	7	-	1781	97942
7	1	50	7	-	1331	421028
8	2	76.6	7	1769	1962	742740
9	1	66.4	7	-	1791	1066765
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		19				Detection (Yes/No)
Number of Bursts in Trial:		19				Yes
Chirp Center Frequency:		5498.986				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	54.2	18	-	1850.000	27507
2	1	61.6	18	-	1119.000	180445
3	2	72.6	18	1422.000	1223.000	332545
4	1	65.4	18	-	1184.000	486208
5	3	91.2	18	1687.000	1524.000	8661
6	1	53.9	18	-	1990.000	161388
7	3	92.8	18	1928.000	1041.000	312679
8	2	74.6	18	1866.000	1132.000	466031
9	3	90	18	1919.000	1364.000	616890
10	3	99.8	18	1095.000	1040.000	142161
11	1	50.2	18	-	1181.000	295654
12	3	98.1	18	1864.000	1870.000	445399
13	1	60.3	18	-	1245.000	601375
14	1	65.1	18	-	1496.000	123868
15	3	96.9	18	1367.000	1032.000	275450
16	1	62.4	18	-	1022.000	429821
17	1	50.8	18	-	1540.000	582272
18	1	65	18	-	1347.000	105069
19	1	50.3	18	-	1612.000	257812
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Trial Number:		20				Detection (Yes/No)
Number of Bursts in Trial:		12				Yes
Chirp Center Frequency:		5495.786				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	64.2	10	-	1093	651065
2	2	82.7	10	1849	1009	891753
3	1	63.7	10	-	1146	136684
4	1	51.1	10	-	1979	378622
5	1	64.6	10	-	1814	620775
6	2	67.7	10	1392	1421	862004
7	1	50.1	10	-	1370	106820
8	1	55.2	10	-	1585	348944
9	2	73.7	10	1171	1376	590521
10	2	81.5	10	1476	1794	831831
11	3	99.8	10	1439	1836	76755
12	1	51.3	10	-	1292	319210
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		21				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5524.614				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	94.5	9	1731	1633	610391
2	2	75.3	9	1139	1732	875530
3	3	91.4	9	1509	1643	51311
4	1	64.2	9	-	1074	315779
5	3	92.5	9	1623	1823	578213
6	3	95.9	9	1763	1242	841539
7	1	65.6	9	-	1064	18901
8	2	73.2	9	1236	1483	282793
9	2	75.2	9	1140	1217	546896
10	1	50.6	9	-	1503	811540
11	2	82.1	9	1298	1283	1074691
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Trial Number:		22				Detection (Yes/No)
Number of Bursts in Trial:		19				Yes
Chirp Center Frequency:		5520.614				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	84.8	19	1885	1168	144104
2	3	89.2	19	1713	1710	295892
3	3	93.1	19	1197	1881	448323
4	2	77	19	1569	1267	602081
5	1	61.6	19	-	1044	126187
6	1	63.1	19	-	1842	278758
7	1	59.3	19	-	1582	431667
8	3	85.7	19	1995	1334	581161
9	1	61.1	19	-	1026	107353
10	3	93.5	19	1410	1996	258807
11	3	99.8	19	1946	1016	410810
12	1	62.4	19	-	1929	565329
13	3	83.8	19	1701	1362	88039
14	3	90.6	19	1203	1092	240471
15	1	60.5	19	-	1770	393908
16	1	57.9	19	-	1761	546664
17	3	97.8	19	1102	1475	69395
18	3	91.1	19	1581	1028	221657
19	3	98.7	19	1250	1113	373633
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		23				Detection (Yes/No)
Number of Bursts in Trial:		14				Yes
Chirp Center Frequency:		5523.014				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	69.1	13	1307	1690	715857
2	3	93.1	13	1464	1844	68756
3	3	90.2	13	1232	1120	275655
4	3	98.5	13	1629	1584	481981
5	1	55.8	13	-	1914	691216
6	2	72.8	13	1651	1482	43345
7	2	68.9	13	1254	1069	250707
8	1	50.8	13	-	1865	458273
9	1	54.3	13	-	1756	665789
10	1	66.6	13	-	1686	17862
11	3	85.3	13	1473	1192	224637
12	3	91.8	13	1703	1031	431577
13	2	75.1	13	1484	1698	639168
14	1	63.6	13	-	1413	848033
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Trial Number:		24				Detection (Yes/No)
Number of Bursts in Trial:		18				Yes
Chirp Center Frequency:		5521.414				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	50.5	17	-	1668	155302
2	2	78.9	17	1121	1591	316088
3	1	61.9	17	-	1150	478241
4	2	71.6	17	1702	1721	637465
5	3	90.8	17	1696	1135	134851
6	3	88.6	17	1352	1526	295514
7	3	92.2	17	1176	1556	456354
8	1	64.3	17	-	1931	619040
9	3	95.9	17	1328	1310	115080
10	3	88.7	17	1626	1742	275613
11	1	57.8	17	-	1211	438437
12	3	94.7	17	1961	1641	596383
13	1	62.9	17	-	1601	95713
14	1	57.5	17	-	1125	257196
15	2	73.7	17	1397	1857	417272
16	2	82	17	1368	1683	578347
17	3	88	17	1062	1382	75564
18	2	67.9	17	1943	1118	236623
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		25				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5524.614				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	2	82.2	9	1180	1351	652051
2	2	76.6	9	1177	1900	915557
3	2	81.6	9	1320	1163	91608
4	3	89	9	1035	1758	354934
5	3	94.7	9	1188	1969	618137
6	3	90.8	9	1390	1458	881884
7	3	87.2	9	1707	1675	58975
8	1	54.1	9	-	1460	323373
9	3	92.7	9	1317	1219	586216
10	1	62.2	9	-	1136	852078
11	1	55	9	-	1441	26601
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Trial Number:		26				Detection (Yes/No)
Number of Bursts in Trial:		12				Yes
Chirp Center Frequency:		5524.214				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	2	69.1	10	1096	1345	266297
2	2	75.9	10	1343	1529	508016
3	1	51.7	10	-	1983	750521
4	2	74.6	10	1767	1081	991710
5	3	98.9	10	1519	1551	235960
6	2	83.2	10	1301	1882	478079
7	1	61.6	10	-	1335	721173
8	3	98.6	10	1288	1876	960086
9	3	86.3	10	1398	1520	206284
10	1	56.9	10	-	1599	449012
11	1	52.5	10	-	1920	690933
12	1	56.5	10	-	1833	933080
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		27				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5525.014				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	54.7	8	-	1297	193216
2	3	97.3	8	1632	1695	455878
3	1	51.5	8	-	1008	721938
4	3	90.7	8	1822	1521	982878
5	1	61.1	8	-	1597	160620
6	1	59.9	8	-	1516	424844
7	1	61.4	8	-	1270	689212
8	2	77.1	8	1749	1846	951450
9	2	72.3	8	1478	1166	127955
10	2	78.6	8	1658	1213	391812
11	2	67.3	8	1243	1902	655530
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Trial Number:		28				Detection (Yes/No)
Number of Bursts in Trial:		8				Yes
Chirp Center Frequency:		5525.814				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	59.6	6	-	1323	1266639
2	3	98.6	6	1407	1570	131124
3	2	82	6	1275	1606	494399
4	1	61.5	6	-	1296	858406
5	3	84.2	6	1860	1669	1219023
6	2	71.2	6	1259	1091	86606
7	3	84.5	6	1980	1308	449037
8	3	86.6	6	1795	1614	811754
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 102 Bandwidth 40MHz**

Trial Number:		29				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5524.614				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	95.9	9	1750	1853	853112
2	2	79.9	9	1371	1057	30427
3	1	59.3	9	-	1214	294746
4	2	76.8	9	1779	1963	557735
5	1	62.7	9	-	1549	823064
6	1	56	9	-	1554	1087264
7	2	70	9	1586	1518	261738
8	1	64.1	9	-	1964	526116
9	2	74.3	9	1948	1387	789224
10	1	62	9	-	1101	1055159
11	3	83.5	9	1465	1260	228937
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Trial Number:		30				Detection (Yes/No)
Number of Bursts in Trial:		13				Yes
Chirp Center Frequency:		5523.414				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	51.6	12	-	1694	417633
2	1	60.9	12	-	1600	641163
3	2	79.6	12	1127	1508	863679
4	2	70	12	1879	1670	166308
5	2	76.9	12	1976	1863	389199
6	3	91.8	12	1024	1066	612516
7	3	93.2	12	1974	1630	833611
8	1	50.1	12	-	1174	139196
9	2	76	12	1621	1036	362203
10	3	94.3	12	1018	1467	584510
11	2	81.3	12	1592	1072	808658
12	3	85.2	12	1299	1167	111311
13	2	82.8	12	1447	1991	334422
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**Channel 106 Bandwidth 80MHz**

**DFS Radar Parameters**  
**FCC Radar Type 1**  
**Channel 106 Bandwidth 80MHz**

Trial #	Pulse Repetition Frequency Number (1 to 23)	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	21	1089.32	918	Y
2	18	1165.50	858	Y
3	9	1474.93	678	Y
4	8	1519.76	658	Y
5	3	1792.11	558	Y
6	5	1672.24	598	Y
7	12	326.16	3066	Y
8	4	1730.10	578	Y
9	16	1222.49	818	Y
10	19	1138.95	878	Y
11	2	1858.74	538	Y
12	14	1285.35	778	Y
13	11	1392.76	718	Y
14	17	1193.32	838	Y
15	15	1253.13	798	Y
16		680.74	1469	Y
17		1036.27	965	Y
18		787.40	1270	Y
19		1639.34	610	Y
20		628.54	1591	Y
21		391.24	2556	N
22		331.35	3018	Y
23		461.04	2169	Y
24		1212.12	825	Y
25		351.12	2848	Y
26		944.29	1059	Y
27		506.33	1975	Y
28		707.71	1413	Y
29		358.17	2792	Y
30		477.33	2095	Y

**DFS Radar Parameters**  
**FCC Radar Type 2**  
**Channel 106 Bandwidth 80MHz**

Trial #	Number Pulses per Burst	Pulse Width (Microseconds)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	29	5.00	150	Y
2	29	4.90	151	Y
3	25	2.30	190	Y
4	23	1.00	202	Y
5	29	4.60	187	Y
6	26	2.90	213	Y
7	23	1.30	227	Y
8	28	4.30	200	Y
9	28	4.40	173	Y
10	27	3.30	218	Y
11	27	3.40	209	Y
12	25	2.60	221	Y
13	24	1.60	194	Y
14	26	3.20	212	Y
15	26	2.90	184	Y
16	25	2.40	198	Y
17	29	4.50	191	Y
18	23	1.50	156	Y
19	29	4.50	181	Y
20	25	2.30	177	Y
21	24	2.00	162	Y
22	29	4.60	163	Y
23	26	3.10	203	Y
24	28	4.10	220	Y
25	25	2.20	164	Y
26	25	2.30	188	Y
27	24	1.90	155	Y
28	23	1.20	211	Y
29	24	2.00	153	Y
30	26	2.70	152	Y

**DFS Radar Parameters**  
**FCC Radar Type 3**  
**Channel 106 Bandwidth 80MHz**

Trial #	Number Pulses per Burst	Pulse Width (Microseconds)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	18	10.00	387	Y
2	18	9.90	223	Y
3	16	7.30	488	Y
4	16	6.00	327	Y
5	18	9.60	337	Y
6	17	7.90	395	Y
7	16	6.30	420	Y
8	18	9.30	414	Y
9	18	9.40	289	Y
10	17	8.30	490	Y
11	17	8.40	382	Y
12	17	7.60	341	Y
13	16	6.60	362	Y
14	17	8.20	444	N
15	17	7.90	496	Y
16	17	7.40	216	Y
17	18	9.50	347	Y
18	16	6.50	332	Y
19	18	9.50	417	Y
20	17	7.30	276	Y
21	16	7.00	374	Y
22	18	9.60	260	N
23	17	8.10	495	Y
24	18	9.10	386	Y
25	16	7.20	449	Y
26	17	7.30	465	Y
27	16	6.90	287	Y
28	16	6.20	410	Y
29	16	7.00	474	Y
30	17	7.70	225	Y

**DFS Radar Parameters**  
**FCC Radar Type 4**  
**Channel 106 Bandwidth 80MHz**

Trial #	Number Pulses per Burst	Pulse Width (Microseconds)	Pulse Repetition Interval (Microseconds)	Detection (Yes / No)
1	16	19.90	387	Y
2	16	19.70	223	Y
3	13	13.90	488	Y
4	12	11.00	327	Y
5	16	19.10	337	Y
6	14	15.20	395	Y
7	12	11.70	420	Y
8	16	18.40	414	Y
9	16	18.60	289	Y
10	14	16.20	490	Y
11	15	16.50	382	Y
12	14	14.60	341	Y
13	12	12.30	362	Y
14	14	16.00	444	Y
15	14	15.30	496	Y
16	13	14.10	216	Y
17	16	18.80	347	Y
18	12	12.20	332	Y
19	16	18.80	417	Y
20	13	14.00	276	Y
21	13	13.30	374	Y
22	16	18.90	260	Y
23	14	15.80	495	Y
24	15	18.00	386	Y
25	13	13.70	449	Y
26	13	14.00	465	Y
27	13	13.10	287	Y
28	12	11.60	410	N
29	13	13.30	474	Y
30	14	14.90	225	Y

**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:			1			Detection (Yes/No)
Number of Bursts in Trial:			20			
Chirp Center Frequency:			5530			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	99.3	20	1859	1087	135723
2	3	98.2	20	1001	1949	280284
3	1	66.2	20	-	1824	426563
4	1	50.3	20	-	1326	572116
5	3	94.8	20	1178	1287	118025
6	2	73.3	20	1224	1665	263147
7	1	54.2	20	-	1992	408578
8	3	91.1	20	1730	1104	551434
9	3	91.8	20	1015	1788	100262
10	2	78.8	20	1894	1126	245255
11	2	80.5	20	1338	1745	390000
12	2	70.2	20	1563	1697	534613
13	1	57.4	20	-	1415	82856
14	2	77.7	20	1116	1959	227400
15	2	74	20	1553	1374	372265
16	2	67.2	20	1017	1654	517296
17	3	93.2	20	1304	1564	64613
18	1	56.7	20	-	1159	210240
19	3	93.2	20	1611	1042	353746
20	2	67	20	1436	1222	499462

Trial Number:			2			Detection (Yes/No)
Number of Bursts in Trial:			20			
Chirp Center Frequency:			5530			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	63.1	20	-	1666	47072
2	3	93.9	20	1936	1907	190930
3	2	76.6	20	1311	1803	336485
4	3	88.6	20	1897	1699	479801
5	1	65	20	-	1978	29182
6	2	66.7	20	1470	1396	173962
7	1	62	20	-	1063	319749
8	1	53.6	20	-	1195	464907
9	1	62.9	20	-	1114	11333
10	2	71.9	20	1505	1807	156007
11	2	72.7	20	1014	1440	301155
12	1	58.8	20	-	1867	446517
13	1	51.9	20	-	1210	592233
14	2	75.3	20	1627	1915	138128
15	1	56.2	20	-	1302	283850
16	2	76.5	20	1688	1648	427595
17	3	97.7	20	1471	1481	571302
18	3	92.3	20	1479	1594	120062
19	1	57.7	20	-	1228	265997
20	2	67.8	20	1404	1840	409833

**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:			3			Detection (Yes/No) Yes
Number of Bursts in Trial:			12			
Chirp Center Frequency:			5530			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	85.6	10	1762	1215	925273
2	1	57.8	10	-	1474	171578
3	2	74.4	10	1577	1313	413166
4	1	64.9	10	-	1511	655902
5	1	55.7	10	-	1802	897805
6	2	78.9	10	1109	1501	141587
7	1	62.5	10	-	1764	383810
8	3	99.8	10	1539	1354	624313
9	3	97.7	10	1753	1409	865690
10	3	87.8	10	1141	1887	111561
11	2	80.9	10	1073	1218	353802
12	1	50	10	-	1845	596044
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Trial Number:			4			Detection (Yes/No) Yes
Number of Bursts in Trial:			12			
Chirp Center Frequency:			5530			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	88.9	5	1804	1801	1254816
2	3	84.7	5	1220	1373	122994
3	1	60.8	5	-	1656	486572
4	1	55.3	5	-	1543	850031
5	2	71.6	5	1912	1680	1211795
6	2	77.6	5	1738	1607	78326
7	3	85.3	5	1303	1855	440838
8	2	78	5	1414	1848	804342
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:		5				Detection (Yes/No)
Number of Bursts in Trial:		19				Yes
Chirp Center Frequency:		5530				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	1	61.2	19	-	1579	491355
2	1	50.5	19	-	1719	14147
3	2	78.2	19	1185	1723	166592
4	2	69.8	19	1375	1006	319332
5	1	56.1	19	-	1466	472619
6	2	71.6	19	1560	1477	623882
7	2	68.3	19	1128	1772	147813
8	2	82.1	19	1987	1874	299829
9	2	71.5	19	1401	1295	452909
10	3	97.6	19	1709	1778	602928
11	2	69.5	19	1741	1142	129035
12	1	50.8	19	-	1953	281930
13	3	99.1	19	1746	1249	432706
14	2	75.3	19	1743	1003	586599
15	2	81.4	19	1230	1151	110342
16	1	55.3	19	-	1094	263480
17	2	69.5	19	1729	1241	415153
18	1	61.6	19	-	1046	569348
19	2	82.9	19	1605	1754	91402
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Trial Number:		6				Detection (Yes/No)
Number of Bursts in Trial:		14				Yes
Chirp Center Frequency:		5530				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	3	86.2	12	1872	1913	330399
2	1	54.1	12	-	1160	539746
3	1	62.2	12	-	1718	746861
4	1	55.9	12	-	1137	98971
5	2	75.2	12	1927	1808	305649
6	3	91.1	12	1590	1312	512296
7	2	72.6	12	1337	1527	720340
8	2	70	12	1286	1290	73275
9	2	67.3	12	1231	1437	280504
10	1	64.5	12	-	1938	488158
11	1	50.8	12	-	1262	696122
12	1	54.8	12	-	1435	47809
13	2	70.1	12	1583	1372	254892
14	1	56.9	12	-	1678	462750
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:			7			Detection (Yes/No)
Number of Bursts in Trial:			9			
Chirp Center Frequency:			5530			Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	78.2	18	1768	1406	641099
2	1	50	18	-	1705	138831
3	2	68.2	18	1204	1010	299875
4	2	80	18	1776	1443	460328
5	1	51	18	-	1086	623233
6	1	63.5	18	-	1786	118951
7	1	53.2	18	-	1499	280326
8	1	55.5	18	-	1419	441703
9	3	85.9	18	1461	1388	600366
10	1	59.9	18	-	1916	99068
11	3	94.7	18	1771	1239	259260
12	3	99.2	18	1797	1828	419640
13	2	73.8	18	1318	1350	582078
14	3	99	18	1208	1038	78937
15	3	94.6	18	1324	1851	239395
16	1	53	18	-	1681	401797
17	2	78.8	18	1813	1572	561635
18	3	83.6	18	1921	1880	59030
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Trial Number:			8			Detection (Yes/No)
Number of Bursts in Trial:			18			
Chirp Center Frequency:			5530			Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	78.2	18	1768	1406	641099
2	1	50	18	-	1705	138831
3	2	68.2	18	1204	1010	299875
4	2	80	18	1776	1443	460328
5	1	51	18	-	1086	623233
6	1	63.5	18	-	1786	118951
7	1	53.2	18	-	1499	280326
8	1	55.5	18	-	1419	441703
9	3	85.9	18	1461	1388	600366
10	1	59.9	18	-	1916	99068
11	3	94.7	18	1771	1239	259260
12	3	99.2	18	1797	1828	419640
13	2	73.8	18	1318	1350	582078
14	3	99	18	1208	1038	78937
15	3	94.6	18	1324	1851	239395
16	1	53	18	-	1681	401797
17	2	78.8	18	1813	1572	561635
18	3	83.6	18	1921	1880	59030
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:		9				Detection (Yes/No)
Number of Bursts in Trial:		18				
Chirp Center Frequency:		5530				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	51.6	18	-	1330	220768
2	1	51	18	-	1020	382311
3	2	67.6	18	1837	1216	542091
4	2	70.7	18	1908	1199	39421
5	3	92.7	18	1233	1037	200113
6	3	99.5	18	1561	1608	360560
7	3	93.9	18	1175	1841	521356
8	2	69.4	18	1765	1161	19603
9	2	68.7	18	1378	1107	180701
10	3	96.4	18	1821	1826	340606
11	2	75.6	18	1462	1379	502601
12	1	64.9	18	-	1829	664612
13	1	52.8	18	-	1071	161201
14	3	98.9	18	1542	1510	321081
15	2	75.6	18	1751	1911	482173
16	2	73.7	18	1598	1578	643444
17	3	84.1	18	1909	1341	140529
18	1	55.9	18	-	1058	302751
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Trial Number:		10				Detection (Yes/No)
Number of Bursts in Trial:		15				
Chirp Center Frequency:		5530				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	56.9	14	-	1573	556806
2	1	61.1	14	-	1300	750708
3	2	71.6	14	1960	1759	145275
4	1	56.5	14	-	1620	339291
5	1	64	14	-	1972	532688
6	1	58.9	14	-	1156	726977
7	1	64.9	14	-	1831	121775
8	3	95	14	1711	1454	314142
9	2	75.4	14	1172	1079	508669
10	1	57.8	14	-	1380	702915
11	1	55.8	14	-	1319	97993
12	1	57.6	14	-	1183	291748
13	3	90.5	14	1289	1426	483671
14	2	76.6	14	1677	1565	677474
15	2	75.8	14	1097	1200	74042
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:			11			Detection (Yes/No) Yes
Number of Bursts in Trial:			15			
Chirp Center Frequency:			5497.385			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	75.2	14	1248	1019	267520
2	2	82.4	14	1838	1033	460647
3	1	59.5	14	-	1639	654987
4	1	62.8	14	-	1635	50253
5	1	57.5	14	-	1405	243952
6	1	57.3	14	-	1550	437557
7	2	68.8	14	1112	1535	630339
8	3	86.1	14	1284	1515	26310
9	2	81.6	14	1446	1433	219688
10	3	94.8	14	1984	1827	411841
11	1	56.9	14	-	1671	607261
12	2	79.9	14	1660	1418	2547
13	2	71	14	1884	1734	195693
14	1	57	14	-	1459	389895
15	3	95.9	14	1875	1053	581747
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Trial Number:			12			Detection (Yes/No) Yes
Number of Bursts in Trial:			13			
Chirp Center Frequency:			5496.185			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	73.6	11	1589	1012	895919
2	1	50.1	11	-	1682	198886
3	1	64.9	11	-	1957	422227
4	3	88.7	11	1780	1685	643779
5	3	96.1	11	1922	1799	865993
6	2	67.7	11	1918	1162	171100
7	1	62	11	-	1737	394804
8	3	95.2	11	1002	1588	617007
9	3	87	11	1234	1472	839233
10	1	58.6	11	-	1825	143811
11	1	55.7	11	-	1133	367520
12	3	97.8	11	1153	1158	589296
13	2	74	11	1945	1344	812815
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:			13			Detection (Yes/No) Yes
Number of Bursts in Trial:			9			
Chirp Center Frequency:			5494.585			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	86.1	7	1790	1662	167682
2	1	63.5	7	-	1975	490954
3	1	61.1	7	-	1603	814077
4	1	55.9	7	-	1604	1137063
5	3	99	7	1552	1123	128114
6	3	89.1	7	1498	1457	450439
7	2	77.7	7	1251	1968	773353
8	1	66.4	7	-	1657	1097235
9	1	66	7	-	1051	88572
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Trial Number:			14			Detection (Yes/No) Yes
Number of Bursts in Trial:			15			
Chirp Center Frequency:			5496.985			
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	60.8	13	-	1115	246866
2	2	76.5	13	1523	1144	439765
3	3	98.6	13	1777	1816	631191
4	3	88.1	13	1787	1366	29102
5	2	75	13	1196	1923	222441
6	3	90	13	1045	1134	415184
7	1	61.7	13	-	1653	610098
8	1	57.1	13	-	1411	5377
9	2	79	13	1327	1030	198824
10	3	94	13	1155	1179	391458
11	3	87.9	13	1646	1800	583537
12	2	79.5	13	1403	1982	778181
13	3	84.2	13	1806	1080	174451
14	1	55.7	13	-	1672	368765
15	3	92.7	13	1238	1271	560885
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:		15				Detection (Yes/No)
Number of Bursts in Trial:		14				Yes
Chirp Center Frequency:		5496.585				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	51.7	12	-	1904	809898
2	2	80.6	12	1360	1117	161973
3	1	58.1	12	-	1965	369477
4	1	63.2	12	-	1227	577382
5	3	87.3	12	1393	1263	782293
6	2	72.6	12	1442	1530	136361
7	1	54.2	12	-	1377	344166
8	1	51.7	12	-	1098	551896
9	1	59.6	12	-	1525	759135
10	3	94.8	12	1065	1054	110753
11	3	100	12	1854	1716	317284
12	2	68.1	12	1939	1890	524643
13	3	83.6	12	1726	1649	730585
14	1	50.9	12	-	1493	85473
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Trial Number:		16				Detection (Yes/No)
Number of Bursts in Trial:		12				Yes
Chirp Center Frequency:		5495.785				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	80.9	10	1645	1893	341212
2	2	81.9	10	1056	1574	583417
3	2	79.4	10	1673	1272	825050
4	2	79.5	10	1316	1725	69805
5	1	57.6	10	-	1548	312066
6	3	89.3	10	1149	1674	552442
7	3	88.5	10	1400	1052	794347
8	3	90.1	10	1202	1339	39986
9	1	57.9	10	-	1891	282141
10	3	92.7	10	1798	1935	522684
11	2	72	10	1266	1122	765906
12	3	83.4	10	1977	1926	10213
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:		17				Detection (Yes/No)
Number of Bursts in Trial:		19				Yes
Chirp Center Frequency:		5498.985				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	79.9	18	1187	1305	159034
2	2	79.6	18	1883	1487	311172
3	1	61.8	18	-	1346	465026
4	1	59.8	18	-	1486	617740
5	3	94.5	18	1559	1147	139937
6	1	51.9	18	-	1994	293046
7	1	57.8	18	-	1944	445775
8	2	68.5	18	1933	1955	596634
9	1	54.1	18	-	1060	121723
10	2	68.4	18	1773	1256	273786
11	2	81	18	1835	1492	426027
12	1	64.4	18	-	1617	579973
13	2	79.1	18	1322	1595	102584
14	3	93.4	18	1059	1309	254694
15	1	56.6	18	-	1043	408739
16	2	74.7	18	1463	1165	560252
17	3	89	18	1555	1274	83574
18	3	93.4	18	2000	1815	235459
19	2	75	18	1131	1715	388788
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Trial Number:		18				Detection (Yes/No)
Number of Bursts in Trial:		9				Yes
Chirp Center Frequency:		5494.585				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	71.9	7	1924	1279	1145107
2	2	78.2	7	1186	1981	137578
3	1	56.1	7	-	1198	460867
4	3	98.2	7	1567	2000	781763
5	1	62	7	-	1325	1106931
6	1	58.5	7	-	1781	97942
7	1	50	7	-	1331	421028
8	2	76.6	7	1769	1962	742740
9	1	66.4	7	-	1791	1066765
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:		19				Detection (Yes/No)
Number of Bursts in Trial:		19				Yes
Chirp Center Frequency:		5498.985				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	54.2	18	-	1850.000	27507
2	1	61.6	18	-	1119.000	180445
3	2	72.6	18	1422.000	1223.000	332545
4	1	65.4	18	-	1184.000	486208
5	3	91.2	18	1687.000	1524.000	8661
6	1	53.9	18	-	1990.000	161388
7	3	92.8	18	1928.000	1041.000	312679
8	2	74.6	18	1866.000	1132.000	466031
9	3	90	18	1919.000	1364.000	616890
10	3	99.8	18	1095.000	1040.000	142161
11	1	50.2	18	-	1181.000	295654
12	3	98.1	18	1864.000	1870.000	445399
13	1	60.3	18	-	1245.000	601375
14	1	65.1	18	-	1496.000	123868
15	3	96.9	18	1367.000	1032.000	275450
16	1	62.4	18	-	1022.000	429821
17	1	50.8	18	-	1540.000	582272
18	1	65	18	-	1347.000	105069
19	1	50.3	18	-	1612.000	257812
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Trial Number:		20				Detection (Yes/No)
Number of Bursts in Trial:		12				Yes
Chirp Center Frequency:		5495.785				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	64.2	10	-	1093	651065
2	2	82.7	10	1849	1009	891753
3	1	63.7	10	-	1146	136684
4	1	51.1	10	-	1979	378622
5	1	64.6	10	-	1814	620775
6	2	67.7	10	1392	1421	862004
7	1	50.1	10	-	1370	106820
8	1	55.2	10	-	1585	348944
9	2	73.7	10	1171	1376	590521
10	2	81.5	10	1476	1794	831831
11	3	99.8	10	1439	1836	76755
12	1	51.3	10	-	1292	319210
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:		21				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5564.615				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	94.5	9	1731	1633	610391
2	2	75.3	9	1139	1732	875530
3	3	91.4	9	1509	1643	51311
4	1	64.2	9	-	1074	315779
5	3	92.5	9	1623	1823	578213
6	3	95.9	9	1763	1242	841539
7	1	65.6	9	-	1064	18901
8	2	73.2	9	1236	1483	282793
9	2	75.2	9	1140	1217	546896
10	1	50.6	9	-	1503	811540
11	2	82.1	9	1298	1283	1074691
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Trial Number:		22				Detection (Yes/No)
Number of Bursts in Trial:		19				Yes
Chirp Center Frequency:		5560.615				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	84.8	19	1885	1168	144104
2	3	89.2	19	1713	1710	295892
3	3	93.1	19	1197	1881	448323
4	2	77	19	1569	1267	602081
5	1	61.6	19	-	1044	126187
6	1	63.1	19	-	1842	278758
7	1	59.3	19	-	1582	431667
8	3	85.7	19	1995	1334	581161
9	1	61.1	19	-	1026	107353
10	3	93.5	19	1410	1996	258807
11	3	99.8	19	1946	1016	410810
12	1	62.4	19	-	1929	565329
13	3	83.8	19	1701	1362	88039
14	3	90.6	19	1203	1092	240471
15	1	60.5	19	-	1770	393908
16	1	57.9	19	-	1761	546664
17	3	97.8	19	1102	1475	69395
18	3	91.1	19	1581	1028	221657
19	3	98.7	19	1250	1113	373633
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:		23				Detection (Yes/No)
Number of Bursts in Trial:		14				Yes
Chirp Center Frequency:		5563.015				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	2	69.1	13	1307	1690	715857
2	3	93.1	13	1464	1844	68756
3	3	90.2	13	1232	1120	275655
4	3	98.5	13	1629	1584	481981
5	1	55.8	13	-	1914	691216
6	2	72.8	13	1651	1482	43345
7	2	68.9	13	1254	1069	250707
8	1	50.8	13	-	1865	458273
9	1	54.3	13	-	1756	665789
10	1	66.6	13	-	1686	17862
11	3	85.3	13	1473	1192	224637
12	3	91.8	13	1703	1031	431577
13	2	75.1	13	1484	1698	639168
14	1	63.6	13	-	1413	848033
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Trial Number:		24				Detection (Yes/No)
Number of Bursts in Trial:		18				Yes
Chirp Center Frequency:		5561.415				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	50.5	17	-	1668	155302
2	2	78.9	17	1121	1591	316088
3	1	61.9	17	-	1150	478241
4	2	71.6	17	1702	1721	637465
5	3	90.8	17	1696	1135	134851
6	3	88.6	17	1352	1526	295514
7	3	92.2	17	1176	1556	456354
8	1	64.3	17	-	1931	619040
9	3	95.9	17	1328	1310	115080
10	3	88.7	17	1626	1742	275613
11	1	57.8	17	-	1211	438437
12	3	94.7	17	1961	1641	596383
13	1	62.9	17	-	1601	95713
14	1	57.5	17	-	1125	257196
15	2	73.7	17	1397	1857	417272
16	2	82	17	1368	1683	578347
17	3	88	17	1062	1382	75564
18	2	67.9	17	1943	1118	236623
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:		25				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5564.615				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	2	82.2	9	1180	1351	652051
2	2	76.6	9	1177	1900	915557
3	2	81.6	9	1320	1163	91608
4	3	89	9	1035	1758	354934
5	3	94.7	9	1188	1969	618137
6	3	90.8	9	1390	1458	881884
7	3	87.2	9	1707	1675	58975
8	1	54.1	9	-	1460	323373
9	3	92.7	9	1317	1219	586216
10	1	62.2	9	-	1136	852078
11	1	55	9	-	1441	26601
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Trial Number:		26				Detection (Yes/No)
Number of Bursts in Trial:		12				Yes
Chirp Center Frequency:		5564.215				Starting Location Within Interval (µsec)
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	
1	2	69.1	10	1096	1345	266297
2	2	75.9	10	1343	1529	508016
3	1	51.7	10	-	1983	750521
4	2	74.6	10	1767	1081	991710
5	3	98.9	10	1519	1551	235960
6	2	83.2	10	1301	1882	478079
7	1	61.6	10	-	1335	721173
8	3	98.6	10	1288	1876	960086
9	3	86.3	10	1398	1520	206284
10	1	56.9	10	-	1599	449012
11	1	52.5	10	-	1920	690933
12	1	56.5	10	-	1833	933080
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:		27				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5565.015				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	54.7	8	-	1297	193216
2	3	97.3	8	1632	1695	455878
3	1	51.5	8	-	1008	721938
4	3	90.7	8	1822	1521	982878
5	1	61.1	8	-	1597	160620
6	1	59.9	8	-	1516	424844
7	1	61.4	8	-	1270	689212
8	2	77.1	8	1749	1846	951450
9	2	72.3	8	1478	1166	127955
10	2	78.6	8	1658	1213	391812
11	2	67.3	8	1243	1902	655530
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Trial Number:		28				Detection (Yes/No)
Number of Bursts in Trial:		8				Yes
Chirp Center Frequency:		5565.815				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	59.6	6	-	1323	1266639
2	3	98.6	6	1407	1570	131124
3	2	82	6	1275	1606	494399
4	1	61.5	6	-	1296	858406
5	3	84.2	6	1860	1669	1219023
6	2	71.2	6	1259	1091	86606
7	3	84.5	6	1980	1308	449037
8	3	86.6	6	1795	1614	811754
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**DFS Radar Parameters**  
**FCC Radar Type 5**  
**Channel 106 Bandwidth 80MHz**

Trial Number:		29				Detection (Yes/No)
Number of Bursts in Trial:		11				Yes
Chirp Center Frequency:		5564.615				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	3	95.9	9	1750	1853	853112
2	2	79.9	9	1371	1057	30427
3	1	59.3	9	-	1214	294746
4	2	76.8	9	1779	1963	557735
5	1	62.7	9	-	1549	823064
6	1	56	9	-	1554	1087264
7	2	70	9	1586	1518	261738
8	1	64.1	9	-	1964	526116
9	2	74.3	9	1948	1387	789224
10	1	62	9	-	1101	1055159
11	3	83.5	9	1465	1260	228937
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Trial Number:		30				Detection (Yes/No)
Number of Bursts in Trial:		13				Yes
Chirp Center Frequency:		5563.415				Yes
Burst	Number of Pulses	Pulse Width (Microseconds)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (µsec)	Pulse 2-to-3 Spacing (µsec)	Starting Location Within Interval (µsec)
1	1	51.6	12	-	1694	417633
2	1	60.9	12	-	1600	641163
3	2	79.6	12	1127	1508	863679
4	2	70	12	1879	1670	166308
5	2	76.9	12	1976	1863	389199
6	3	91.8	12	1024	1066	612516
7	3	93.2	12	1974	1630	833611
8	1	50.1	12	-	1174	139196
9	2	76	12	1621	1036	362203
10	3	94.3	12	1018	1467	584510
11	2	81.3	12	1592	1072	808658
12	3	85.2	12	1299	1167	111311
13	2	82.8	12	1447	1991	334422
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## Appendix B. Setup Photographs

Front View



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