



FCC/ IC DFS TEST REPORT

Issued Date : Jul. 05, 2012
Project No. : 1204C046A
Equipment : Wireless LAN Access Point
Model Name : AP6010DN-AGN
Applicant : Huawei Technologies Co.,Ltd.
Address : Bantian, Longgang District, Shenzhen China

Tested by:

Neutron Engineering Inc. EMC Laboratory

Date of Receipt: Apr. 17, 2012

Date of Test: Apr. 17, 2012 ~ Jul. 04, 2012

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Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C.**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.



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1. CERTIFICATION

Equipment: Wireless LAN Access Point
Trade Name: HUAWEI
Model Name: AP6010DN-AGN
Applicant: Huawei Technologies Co.,Ltd.
Date of Test: Apr. 17, 2012 ~ Jul. 04, 2012
Test Item: ENGINEERING SAMPLE
Standards: FCC Part 15, Subpart E (Section 15.407) FCC 06-96
Canada RSS-210:2010

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FICP-1-1204C046A) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).



2. EUT INFORMATION

2.1 EUT SPECIFICATION TABLE

Table 1: Specification of EUT

Product name	Wireless LAN Access Point
Brand Name	HUAWEI
Model	AP6010DN-AGN
FCC ID	QISAP6010DN-AGN
IC ID	6369A-AP6010DN
Software Version	V200R001C00B012
Firmware Version	VER.C
Operational Mode	Master
Operating Frequency Range	5260~5320MHz&5500~5560MHz
Modulation	OFDM

Note: This device was functioned as a Master Slave device during the DF



2.2 DESCRIPTION OF AVAILABLE ANTENNAS TO THE EUT

Table 2: Antenna list.
Group 1

No.	ANTENNA	OPERATION FREQUENCY BAND	MAX. GAIN(dBi)
1 Short Cable	Amphenol-SAA	4900~5900	5.3
2 Long Cable	Amphenol-SAA	4900~5900	5.5

Group 2

No.	ANTENNA	OPERATION FREQUENCY BAND	MAX. GAIN(dBi)
1 Short Cable	Nippon Antenna (Shanghai)	4900~5900	5.79
2 Long Cable	Nippon Antenna (Shanghai)	4900~5900	5.51

**Note: The product has 2 group antenna: Amphenol-SAA and Nippon Antenna(Shanghai)
Group 1 was used for DFS test.**



2.3 CONDUCTED OUTPUT POWER AND EIRP POWER

TABLE 3: THE CONDUCTED OUTPUT POWER LIST

TX (11a)

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 1	5180~5240	14.75	29.854
Group 1	5260~5320	21.41	138.357
Group 1	5500~5700	21.74	149.279

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 2	5180~5240	14.75	29.854
Group 2	5260~5320	21.41	138.357
Group 2	5500~5700	21.74	149.279



TX (20MHz)

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 1	5180~5240	13.64	23.12
Group 1	5260~5320	18.13	65.013
Group 1	5500~5700	20.25	105.93

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 2	5180~5240	13.64	23.12
Group 2	5260~5320	18.13	65.013
Group 2	5500~5700	20.25	105.93

TX (40MHz)

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 1	5180~5240	13.83	24.16
Group 1	5260~5320	20.28	106.66
Group 1	5500~5700	21.11	129.12

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 2	5180~5240	13.83	24.16
Group 2	5260~5320	20.28	106.66
Group 2	5500~5700	21.11	129.12



2.4 EUT MAXIMUM AND MINIMUM E.I.R.P. POWER

TABLE 4: THE CONDUCTED OUTPUT POWER LIST

TX (11a)

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 1	5180~5240	23.15	206.54
Group 1	5260~5320	29.81	957.194
Group 1	5500~5700	30.14	1032.77

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 2	5180~5240	23.41	219.28
Group 2	5260~5320	30.07	1016.25
Group 2	5500~5700	30.40	1096.48



TX (20MHz)

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 1	5180~5240	22.04	159.96
Group 1	5260~5320	26.53	449.78
Group 1	5500~5700	28.65	732.82

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 2	5180~5240	22.30	169.82
Group 2	5260~5320	26.79	447.53
Group 2	5500~5700	28.91	778.04

TX (40MHz)

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 1	5180~5240	22.33	171.00
Group 1	5260~5320	28.68	737.90
Group 1	5500~5700	29.51	893.31

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)
Group 2	5180~5240	22.49	177.42
Group 2	5260~5320	28.94	783.43
Group 2	5500~5700	29.77	948.42



3. U-NII DFS RULE REQUIREMENTS

3.1 WORKING MODES AND REQUIRED TEST ITEMS

The manufacturer shall state whether the UUT is capable of operating as a Master and/or a Client. If the UUT is capable of operating in more than one operating mode then each operating mode shall be tested separately. See tables 1 and 2 for the applicability of DFS requirements for each of the operational modes.

Table 5: Applicability of DFS requirements prior to use a channel

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
Non-Occupancy Period	✓	Not required	✓
DFS Detection Threshold	✓	Not required	✓
Channel Availability Check Time	✓	Not required	Not required
Uniform Spreading	✓	Not required	Not required
U-NII Detection Bandwidth	✓	Not required	✓

Table 6: Applicability of DFS requirements during normal operation.

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
DFS Detection Threshold	✓	Not required	✓
Channel Closing Transmission Time	✓	✓	✓
Channel Move Time	✓	✓	✓
U-NII Detection Bandwidth	✓	Not required	✓



3.2 TEST LIMITS AND RADAR SIGNAL PARAMETERS

DETECTION THRESHOLD VALUES

Table 7: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection.

Maximum Transmit Power	Value (See Notes 1 and 2)
\geq 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Table 8: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 80% of the UNII 99% transmission power bandwidth. See Note 3.

Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:

- For the Short Pulse Radar Test Signals this instant is the end of the Burst.
- For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated.
- For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the Radar Waveform.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.



PARAMETERS OF DFS TEST SIGNALS

Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Table 9: 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

Table 10: 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

Table 11: Frequency Hopping 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
6	1	333	9	0.333	300	70%	30



4. TEST INSTRUMENTS

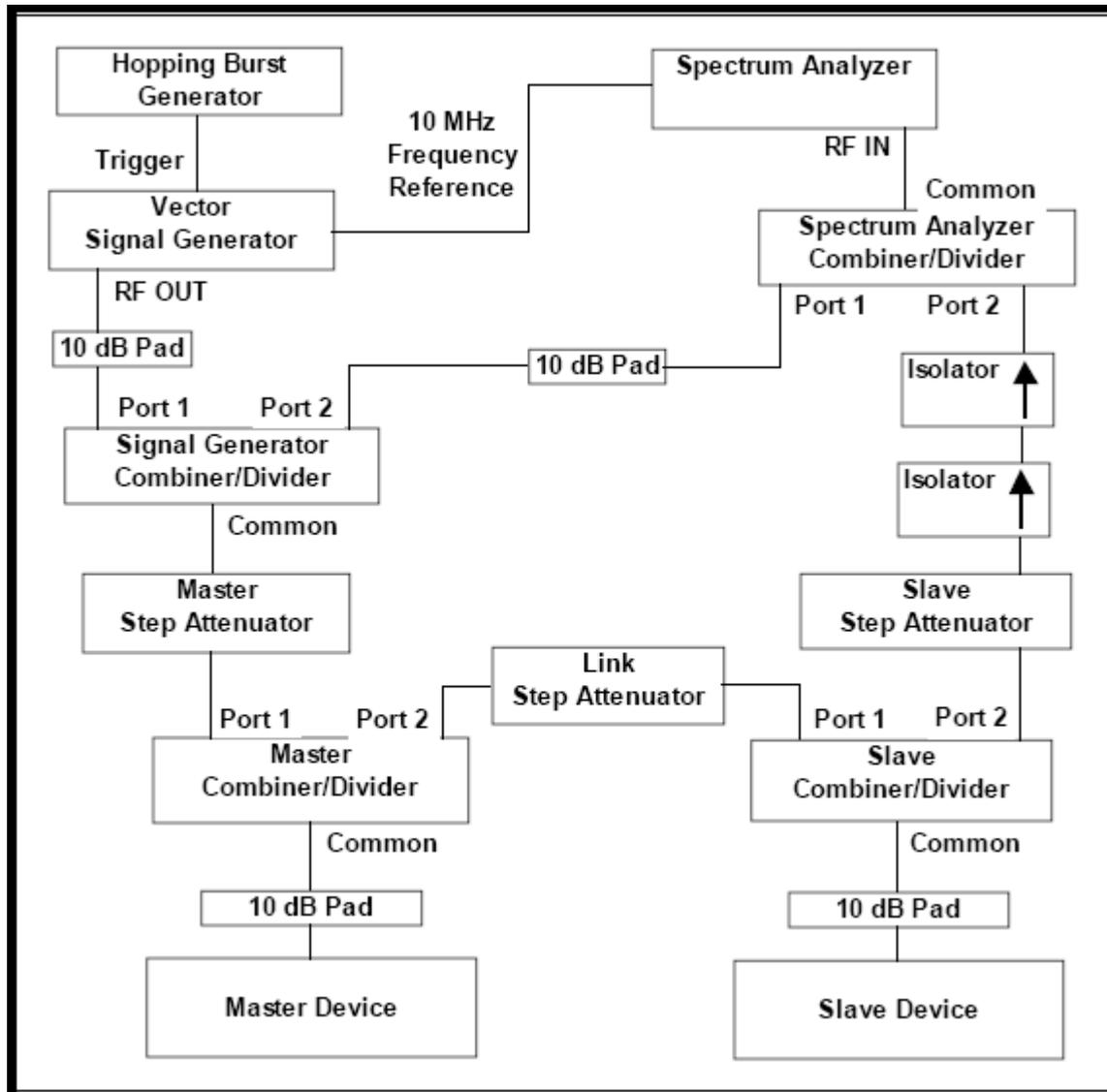
Table 1: Test instruments list.

DESCRIPTION	MANUFACTURER	MODEL NO.	Serial No	CALIBRATED UNTIL
EXA Spectrum Analyzer	Agilent	N9010A	MY50520044	2012-05-04
Signal Generator	Agilent	E4438C	My49071316	2012-05-04
POWER SPLITTER	Mini-Circuits	ZFRSC-123-S+	331000910	2012-05-04
POWER SPLITTER	Mini-Circuits	ZN4PD1-63-S+	SF933501045	2012-05-04
POWER SPLITTER	Mini-Circuits	ZN2PD-9G-S+	SF012700714	2011-05-04
attenuator	Mini-Circuits	VAT-30+	30912	2012-05-04
attenuator	Mini-Circuits	VAT-10+	30909	2012-05-04
Spectrum Analyzer	R&S	FSL6	1004423	2011-11-25
PC	Dell 745	DCSM	G7K832X	--
Netbook	Hp	HSTNN-I69C-3	CNU02203XG	--

Note: Calibration interval of instruments listed above is one year.

5. EMC EMISSION TEST

5.1 DFS MEASUREMENT SYSTEM: CONDUCTED METHOD SYSTEM BLOCK DIAGRAM



SYSTEM OVERVIEW

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

The short pulse types 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.



The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of FCC 06-96. The frequency of the signal generator is incremented in 1 MHz steps from FL to FH for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer set to display 8001 bins on the horizontal axis. The time-domain resolution is 2 msec / bin with a 16 second sweep time, meeting the 10 second short pulse reporting criteria. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

Should multiple RF ports be utilized for the Master and/or Slave devices (for example, for diversity or MIMO implementations), additional combiner/dividers are inserted between the Master Combiner/Divider and the pad connected to the Master Device (and/or between the Slave Combiner/Divider and the pad connected to the Slave Device). Additional pads are utilized such that there is one pad at each RF port on each EUT.

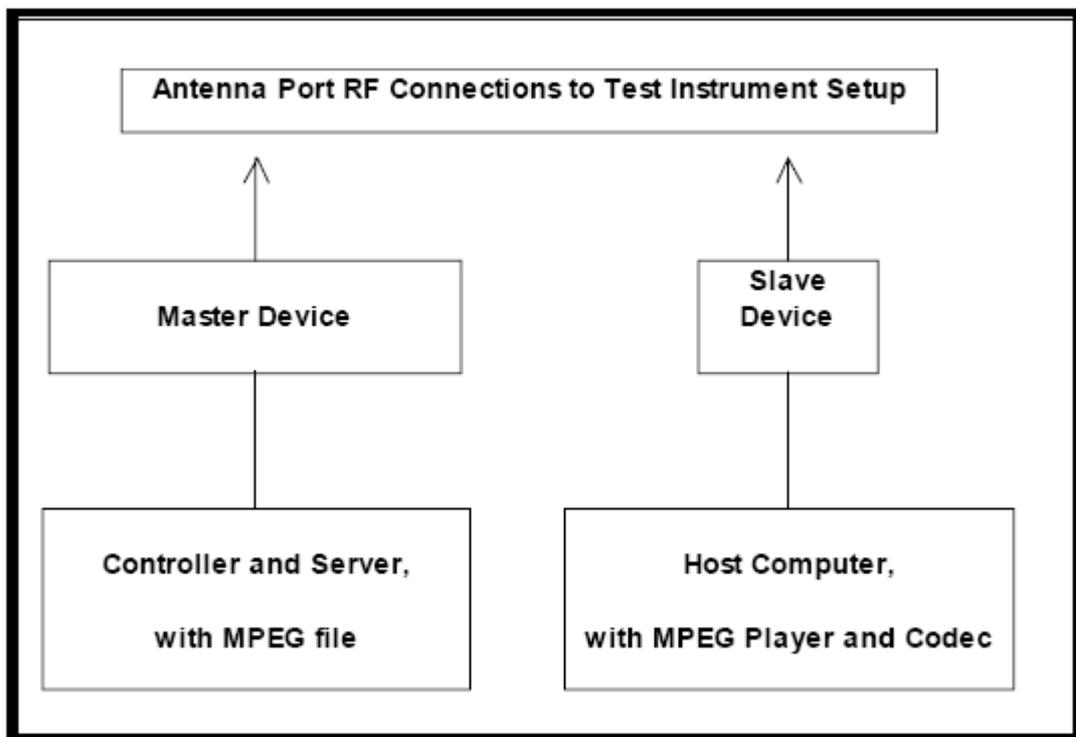
5.2 CALIBRATION OF DFS DETECTION THRESHOLD LEVEL:

A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected in place of the master device and the signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of -62 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. Measure the amplitude and calculate the difference from -62 dBm. Adjust the Reference Level Offset of the spectrum analyzer to this difference.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of -62 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

Set the signal generator to produce a radar waveform, trigger a burst manually and measure the level on the spectrum analyzer. Readjust the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection threshold. Separate signal generator amplitude settings are determined as required for each radar type.



5.3 DEVIATION FROM TEST STANDARD

No deviation.



6. TEST RESULTS

6.1 SUMMARY OF TEST RESULT

Clause	Test Parameter	Remarks	Pass/Fail
15.407	DFS Detection Threshold	Applicable	Pass
15.407	Channel Availability Check Time	Applicable	Pass
15.407	Channel Move Time	Applicable	Pass
15.407	Channel Closing Transmission Time	Applicable	Pass
15.407	Non- Occupancy Period	Applicable	Pass
15.407	Uniform Spreading	Applicable	Pass
15.407	U-NII Detection Bandwidth	Applicable	Pass



6.2 DETELED TEST RESULTS

Clause	Test Parameter	Remarks	Pass/Fail
15.407	DFS Detection Threshold	Applicable	Pass
15.407	Channel Availability Check Time	Applicable	Pass
15.407	Channel Move Time	Applicable	Pass
15.407	Channel Closing Transmission Time	Applicable	Pass
15.407	Non- Occupancy Period	Applicable	Pass
15.407	Uniform Spreading	Applicable	Pass
15.407	U-NII Detection Bandwidth	Applicable	Pass

6.2.1 TEST MODE: DEVICE OPERATING IN MASTER MODE.

Master with injection at the Master. (Radar Test Waveforms are injected into the Master)

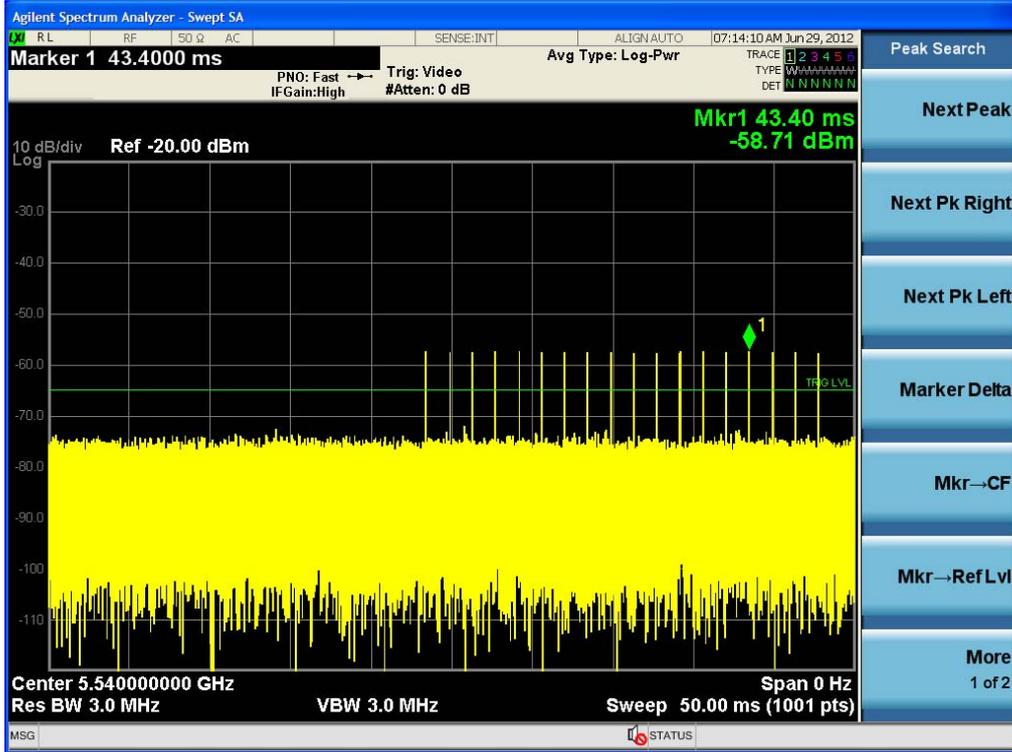
6.2.2 DFS DETECTION THRESHOLD

Calibration:

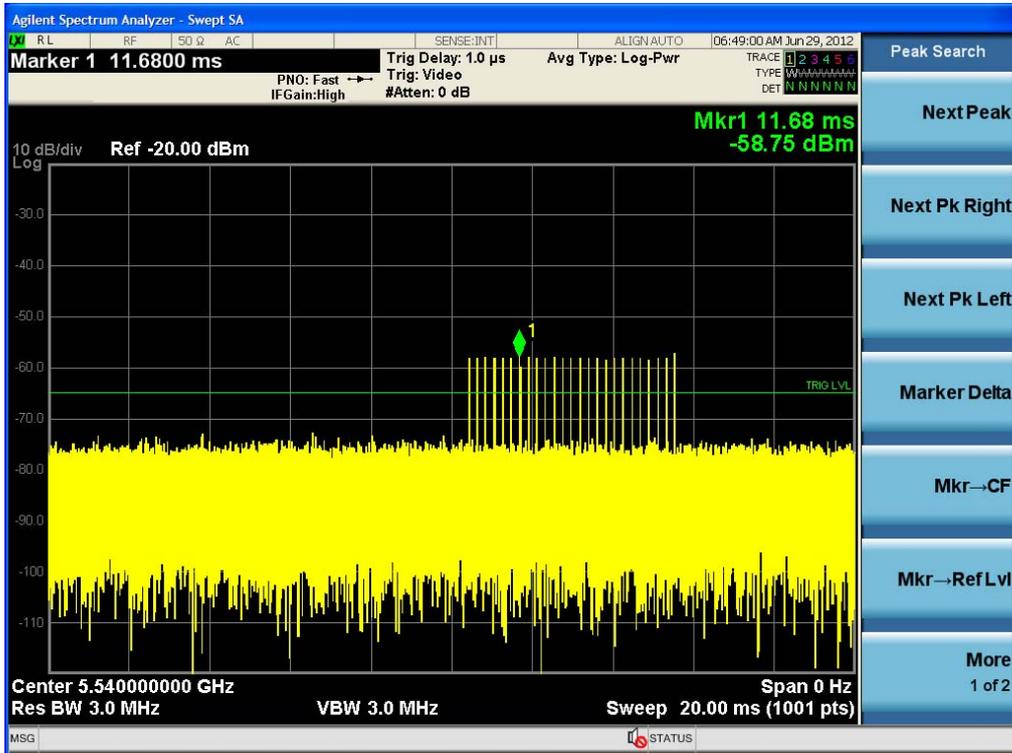
For a detection threshold level of -64dBm and the EUT antenna gain is 5.3dBi , required detection threshold is -56.7dBm ($= -64+5.3$).



Radar Signal 1

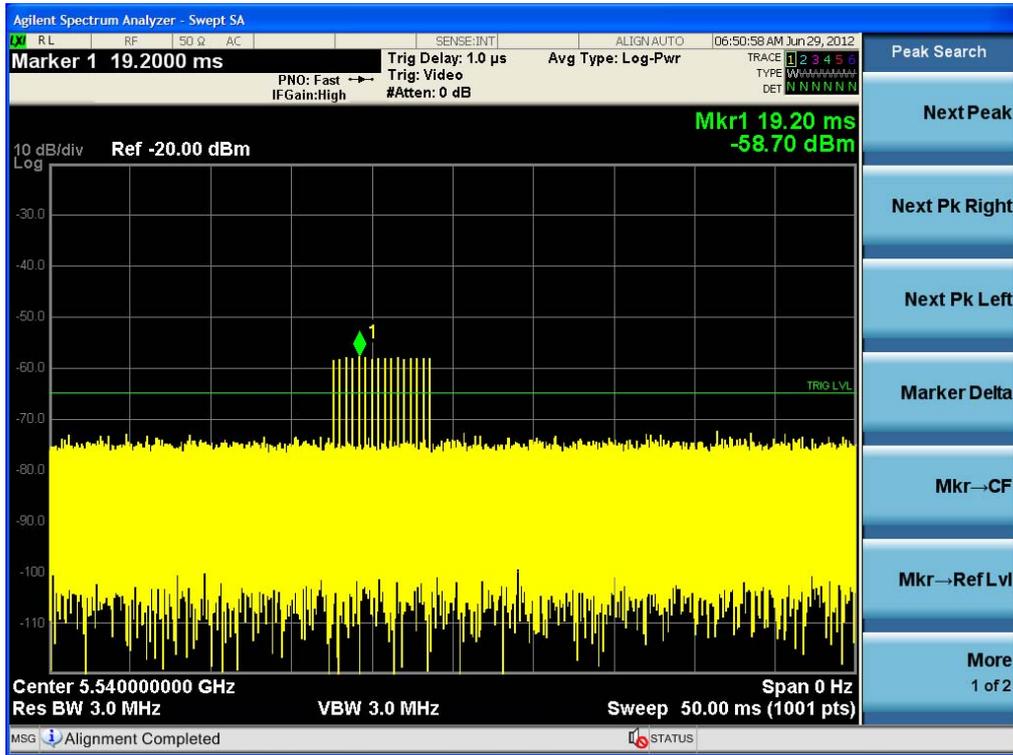


Radar Signal 2

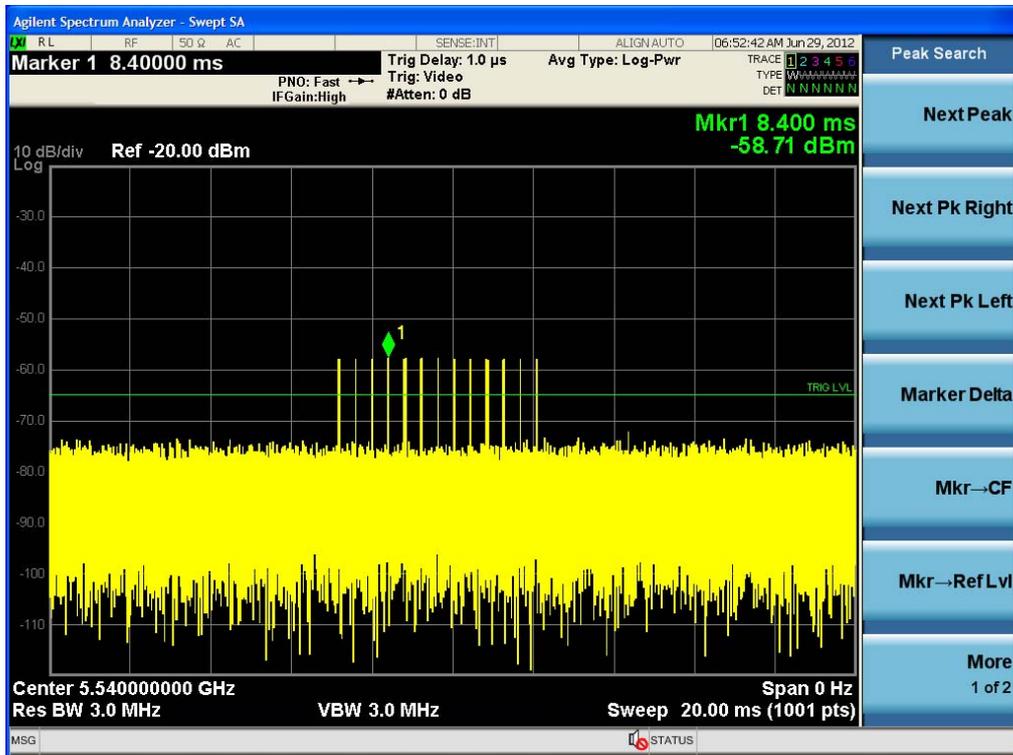




Radar Signal 3

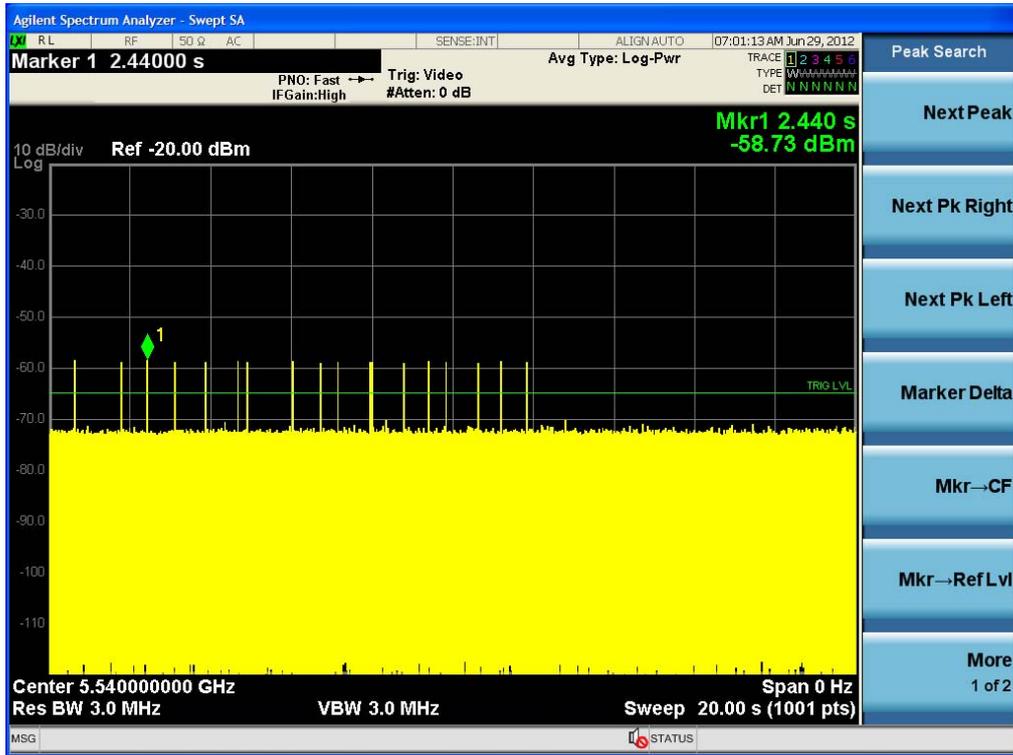


Radar Signal 4

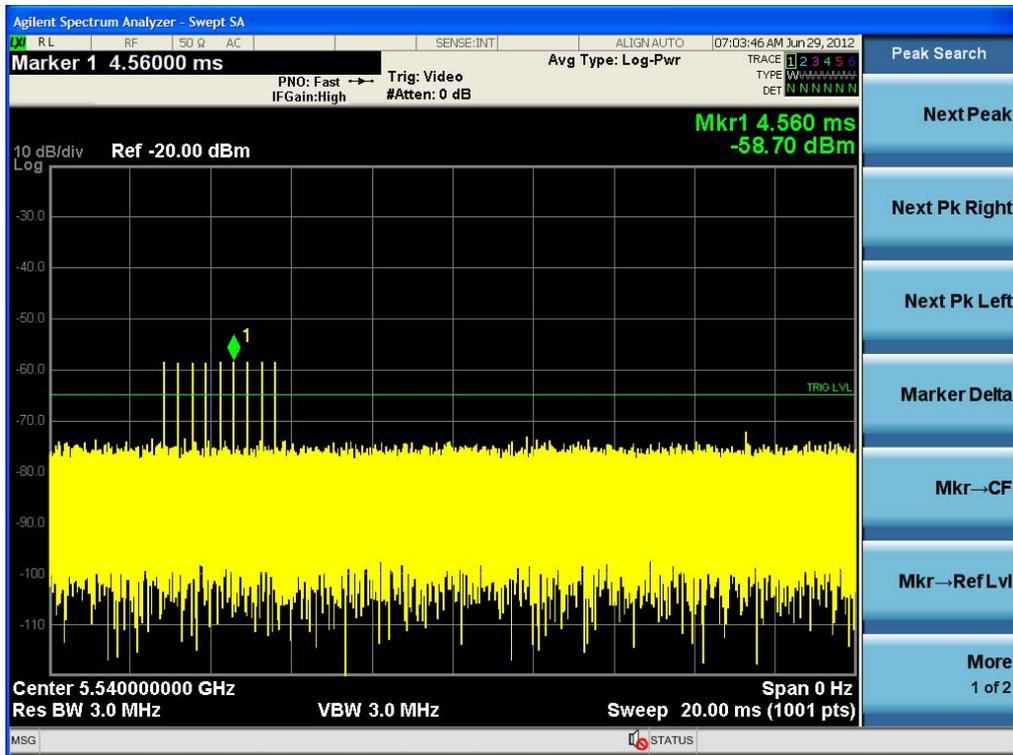




Radar Signal 5



Radar Signal 6





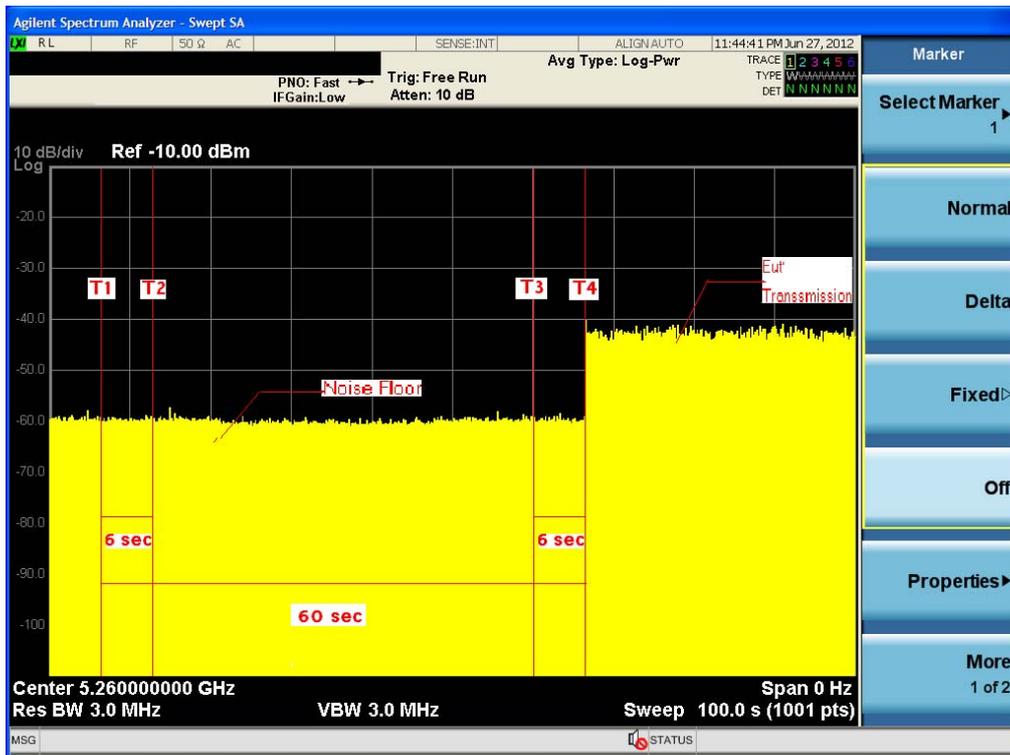
6.2.3 CHANNEL AVAILABILITY CHECK TIME

If the UUT successfully detected the radar burst, it should be observed as the UUT has no transmissions occurred until the UUT starts transmitting on another channel.

Timing of Radar Signal	Observation	
	UUT	Spectrum Analyzer
Spectrum Analyzer	Spectrum Analyzer	Spectrum Analyzer
Spectrum Analyzer	Spectrum Analyzer	Spectrum Analyzer

A Mode

Initial Channel Availability Check Time

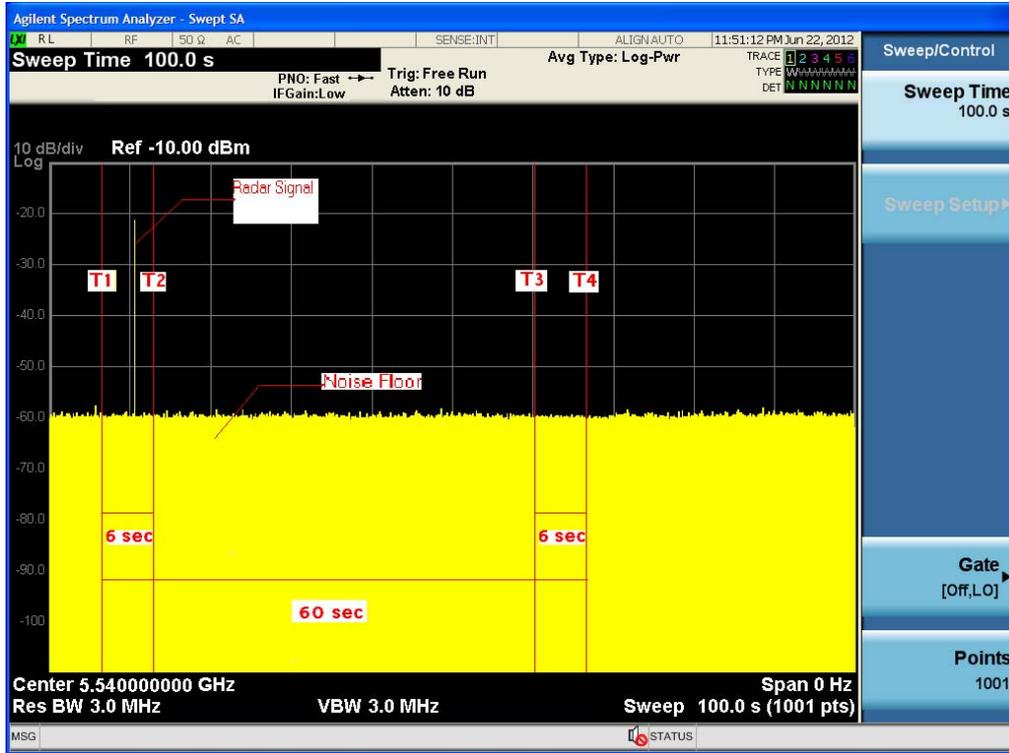


Note: T1 denotes the end of power-up time period is 7 second. T4 denotes the end of Channel Availability Check time is 67 second. Channel Availability Check time is equal to (T4 – T1) 60 seconds.



A Mode

Radar Burst at the Beginning of the Channel Availability Check Time

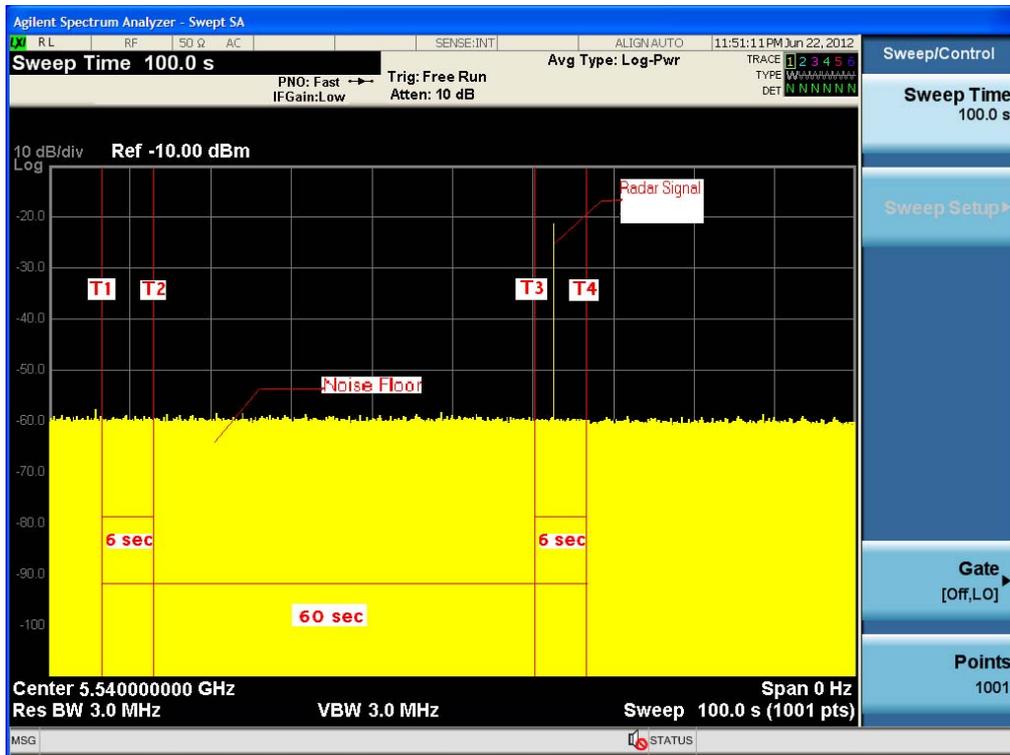


Note: T1 denotes the end of power up time period is 7 second.
T2 denotes 13 second. the radar burst was commenced within a 6 second window starting from the end of power-up sequence.
T4 denotes the 67 second.



A Mode

Radar Burst at the End of the Channel Availability Check Time



Note: T1 denotes the end of power up time period is 7 second.
T3 denotes 63 second and radar burst was commenced within 54th second to 60th second window starting from the end of power-up sequence.
T4 denotes the 67 second.



6.2.4 CHANNEL CLOSING TRANSMISSION AND CHANNEL MOVE TIME WLAN TRAFFIC

TX (A Mode)

Table 1: Short Pulse Radar Test Waveforms.

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Number of Trials(Times)	Percentage of Successful Detection (%)
1	1	1428	26	30	87%
2	1-5	150-230	28	30	93%
3	6-10	200-500	25	30	83%
4	11-20	200-500	29	30	97%
Aggregate (Radar Types 1-4)			108	120	90%

Table 2: Long Pulse Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses Per Burst	Number of Bursts	Number of Trials (Times)	Percentage of Successful Detection (%)
5	50-100	5-20	1000-2000	1-3	25	30	83%

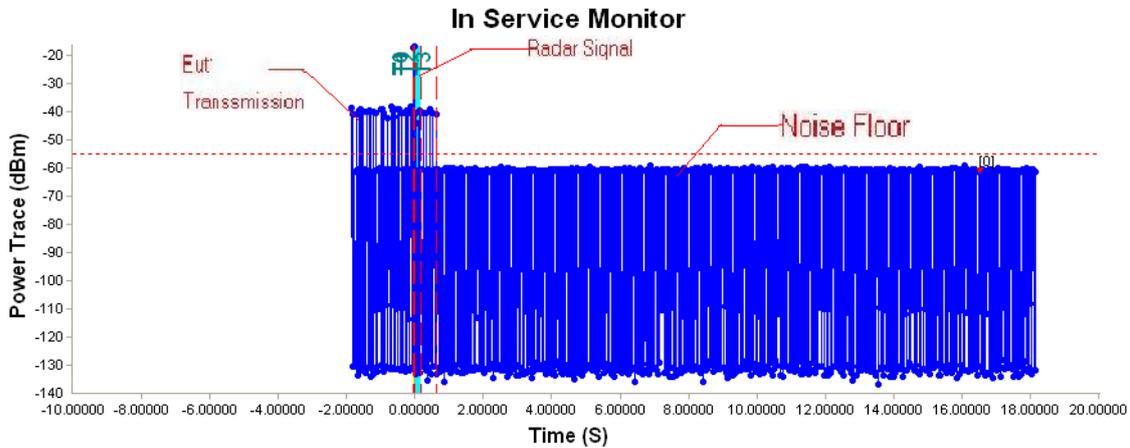
Table 3: Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Number of Trials(Times)	Percentage of Successful Detection (%)
6	1	333	9	0.333	300	30	83%



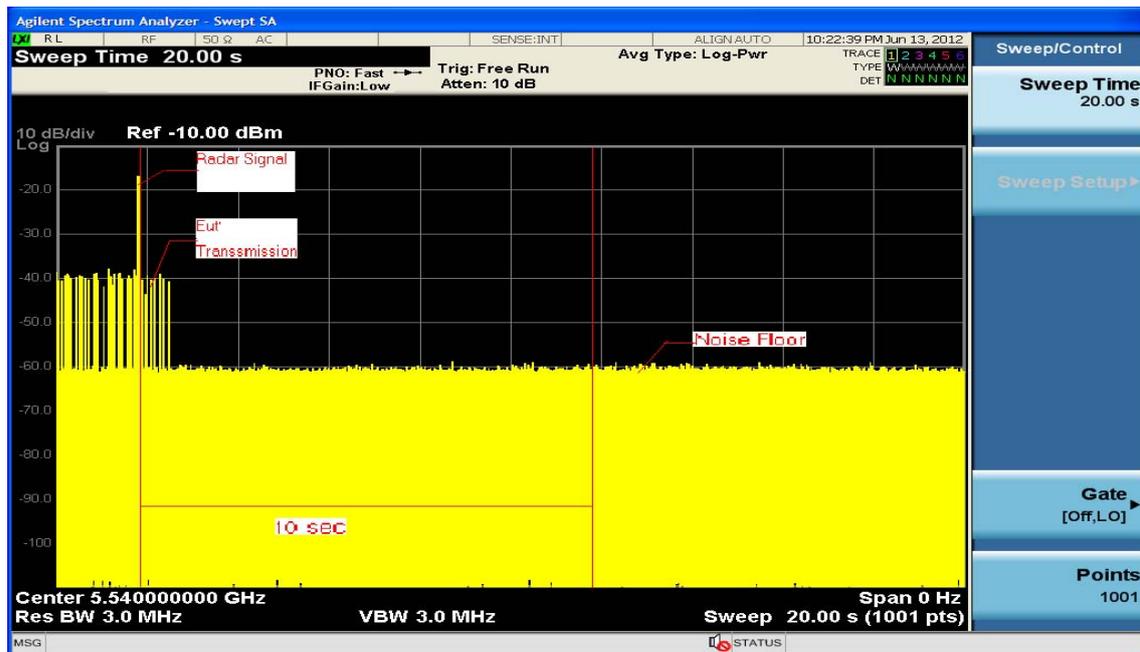
TX (A Mode)

Radar signal 1



Time Index Info		
T0: -0.0400 S	Time Per Bin: 19.98002 ms	Channel Move Time: 0.6393606 S
T1: 0.0000 S	T2~T3 Bins Over Threshold: = 5 Bins	Channel Close Time: 0.0999001 S
T2: 0.1998 S		
T3: 0.6394 S		

Note: T1 denotes the start of Channel Move Time upon the end of the last Radar burst.
 T2 denotes the data transmission time of 200ms from T1.
 T3 denotes the end of Channel Move Time.
 T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

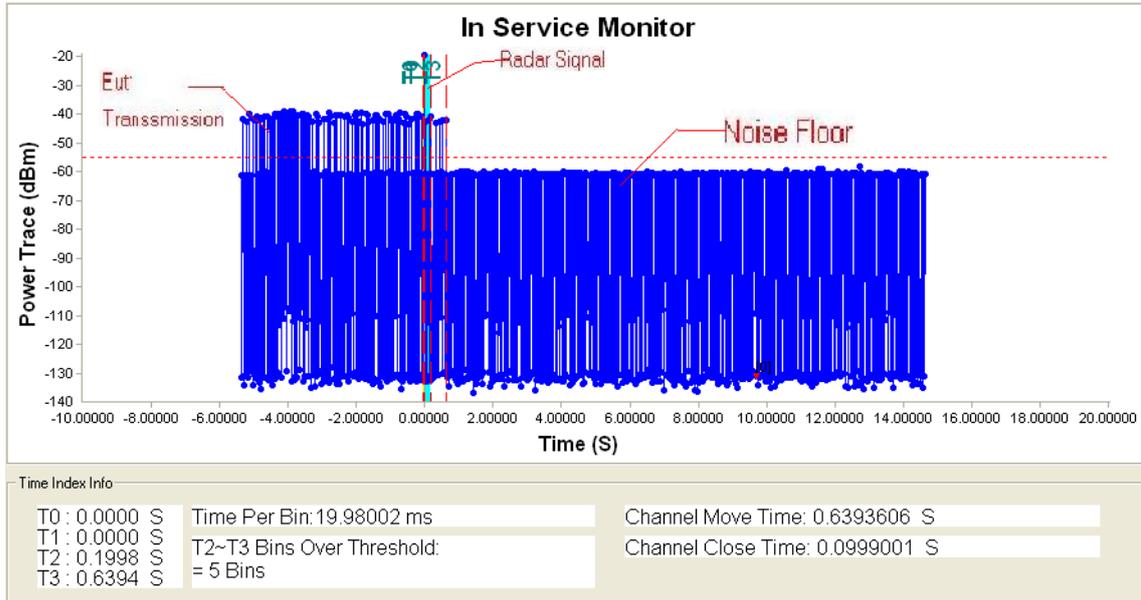


Note: An expanded plot for the device vacates the channel in the required 500ms

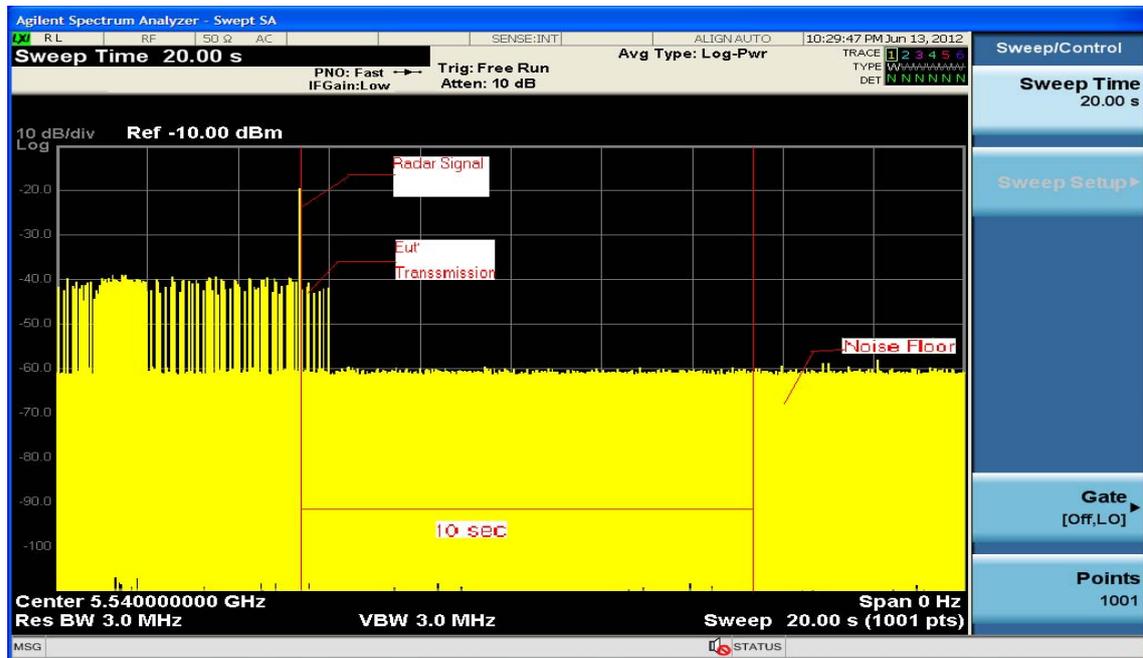


TX (A Mode)

Radar signal 2



Note: T1 denotes the start of Channel Move Time upon the end of the last Radar burst.
 T2 denotes the data transmission time of 200ms from T1.
 T3 denotes the end of Channel Move Time.
 T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

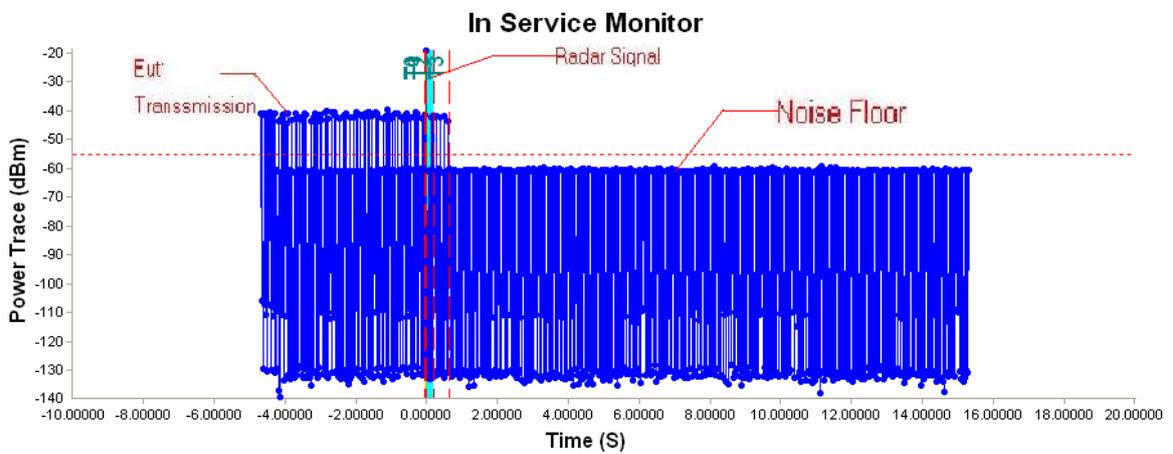


Note: An expanded plot for the device vacates the channel in the required 500ms



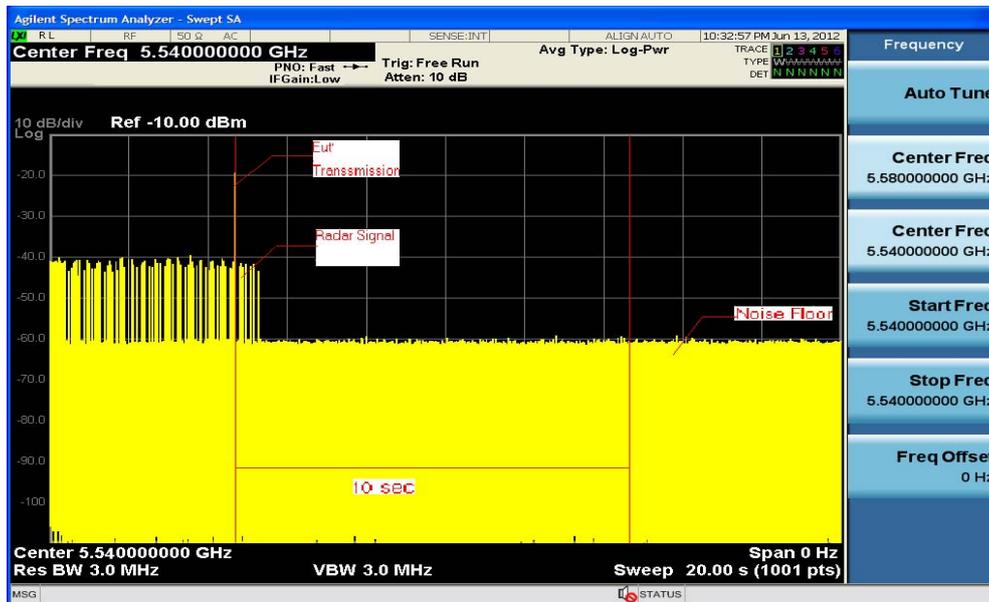
TX (A Mode)

Radar signal 3



Time Index Info		
T0 : 0.0000 S	Time Per Bin: 19.98002 ms	Channel Move Time: 0.5994006 S
T1 : 0.0000 S	T2~T3 Bins Over Threshold: = 5 Bins	Channel Close Time: 0.0999001 S
T2 : 0.1998 S		
T3 : 0.5994 S		

Note: T1 denotes the start of Channel Move Time upon the end of the last Radar burst.
 T2 denotes the data transmission time of 200ms from T1.
 T3 denotes the end of Channel Move Time.
 T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

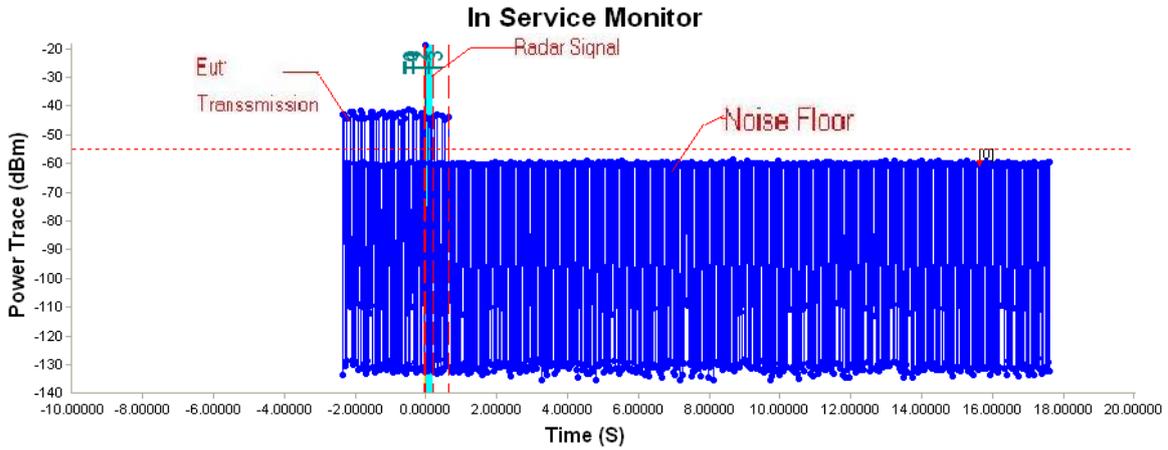


Note: An expanded plot for the device vacates the channel in the required 500ms



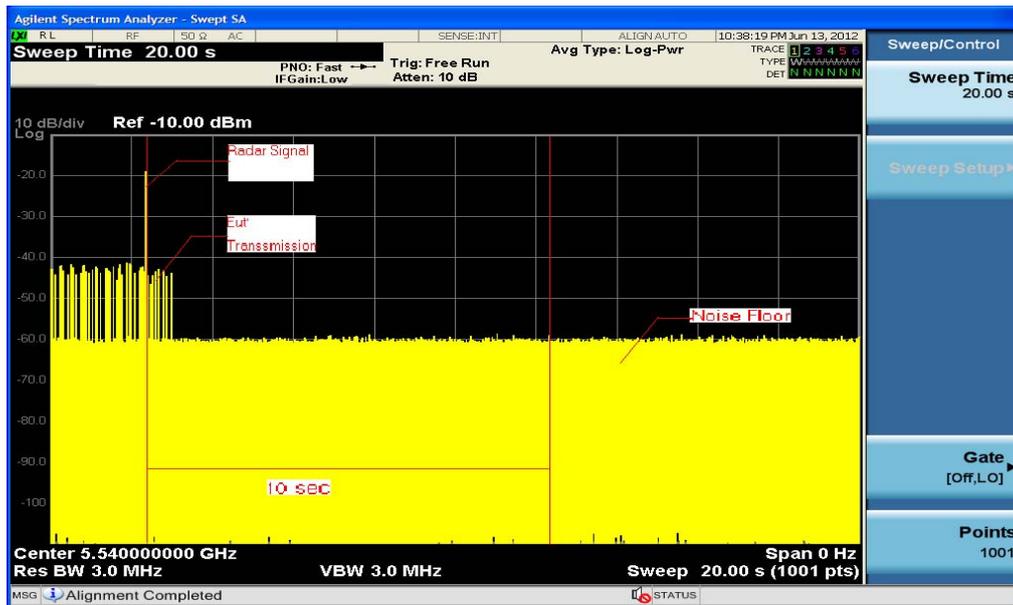
TX (A Mode)

Radar signal 4



Time Index Info		
T0 : 0.0000 S	Time Per Bin: 19.98002 ms	Channel Move Time: 0.6393606 S
T1 : 0.0000 S	T2~T3 Bins Over Threshold: = 5 Bins	Channel Close Time: 0.0999001 S
T2 : 0.1998 S		
T3 : 0.6394 S		

Note: T1 denotes the start of Channel Move Time upon the end of the last Radar burst.
 T2 denotes the data transmission time of 200ms from T1.
 T3 denotes the end of Channel Move Time.
 T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

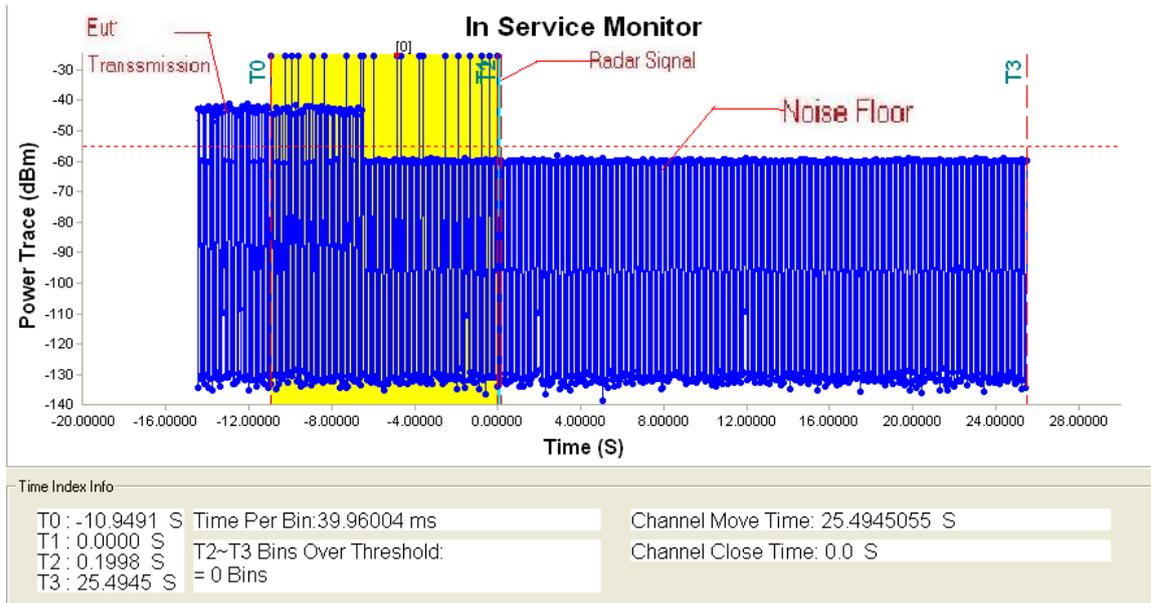


Note: An expanded plot for the device vacates the channel in the required 500ms



TX (A Mode)

Radar signal 5



Note: T1 denotes the start of Channel Move Time upon the end of the last Radar burst.
 T2 denotes the data transmission time of 200ms from T1.
 T3 denotes the end of Channel Move Time.
 T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

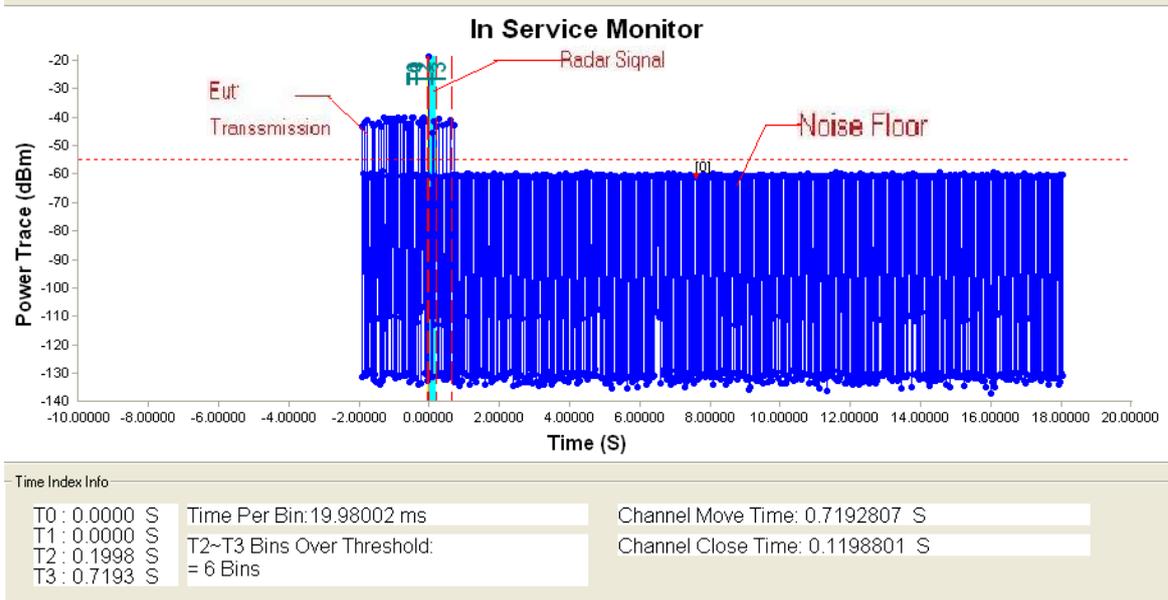


Note: An expanded plot for the device vacates the channel in the required 500ms

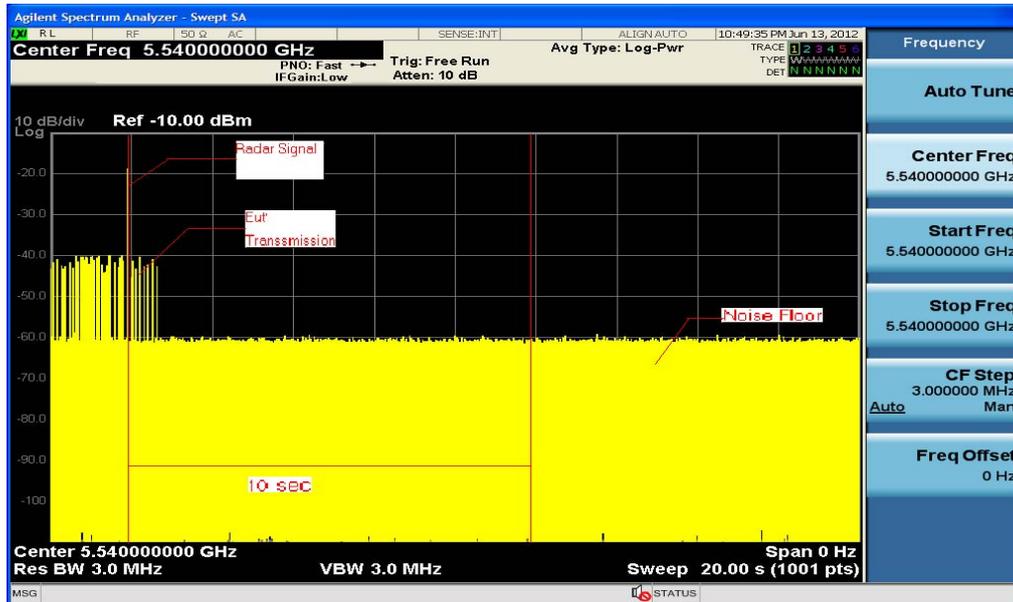


TX (A Mode)

Radar signal 6



Note: T1 denotes the start of Channel Move Time upon the end of the last Radar burst.
 T2 denotes the data transmission time of 200ms from T1.
 T3 denotes the end of Channel Move Time.
 T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



Note: An expanded plot for the device vacates the channel in the required 500ms



TX (A Mode)

Radar1 Statical Performances				
Trial #	Pluse per Burst	Pluse Width(us)	PRI(us)	Detection(Yes / No)
1	18	1.0u	1.428	YES
2	18	1.0u	1.428	YES
3	18	1.0u	1.428	YES
4	18	1.0u	1.428	NO
5	18	1.0u	1.428	YES
6	18	1.0u	1.428	YES
7	18	1.0u	1.428	NO
8	18	1.0u	1.428	YES
9	18	1.0u	1.428	YES
10	18	1.0u	1.428	YES
11	18	1.0u	1.428	YES
12	18	1.0u	1.428	YES
13	18	1.0u	1.428	YES
14	18	1.0u	1.428	YES
15	18	1.0u	1.428	YES
16	18	1.0u	1.428	NO
17	18	1.0u	1.428	YES
18	18	1.0u	1.428	NO
19	18	1.0u	1.428	YES
20	18	1.0u	1.428	YES
21	18	1.0u	1.428	YES
22	18	1.0u	1.428	YES
23	18	1.0u	1.428	YES
24	18	1.0u	1.428	YES
25	18	1.0u	1.428	YES
26	18	1.0u	1.428	YES
27	18	1.0u	1.428	NO
28	18	1.0u	1.428	YES
29	18	1.0u	1.428	YES
30	18	1.0u	1.428	YES
Detection Rate 87%				



Radar2 Statical Performances				
Trial #	Pluse per Burst	Pluse Width(us)	PRI(us)	Detection(Yes / No)
1	23	1.2u	151	YES
2	25	1.4u	168	YES
3	25	1.5u	193	YES
4	27	2.6u	228	YES
5	26	1.7u	216	YES
6	23	1.8u	225	YES
7	28	1.9u	221	YES
8	26	4.1u	227	YES
9	26	3.1u	169	YES
10	27	2.2u	208	YES
11	27	1.3u	220	NO
12	28	1.4u	168	YES
13	25	4.5u	209	YES
14	24	3.3u	204	YES
15	26	2.4u	229	YES
16	27	3.8u	224	YES
17	23	2.7u	207	YES
18	23	3.2u	158	YES
19	28	4.3u	208	YES
20	28	2.8u	160	YES
21	26	2.9u	184	YES
22	24	2.1u	186	YES
23	28	3.4u	172	YES
24	28	4.0u	170	YES
25	29	2.7u	221	YES
26	29	2.9u	203	YES
27	27	1.8u	190	NO
28	26	2.0u	198	YES
29	25	2.3u	193	YES
30	27	3.0u	159	YES
Detection Rate 93%				



Radar3 Statical Performances				
Trial #	Pluse per Burst	Pluse Width(us)	PRI(us)	Detection(Yes / No)
1	16	8.2u	300	YES
2	18	7.4u	336	YES
3	18	9.5u	328	YES
4	18	6.6u	408	YES
5	16	8.8u	492	YES
6	17	9.5u	471	YES
7	17	9.8u	216	NO
8	16	8.6u	224	YES
9	16	8.2u	477	YES
10	18	8.7u	206	YES
11	18	9.0u	213	YES
12	16	9.8u	482	YES
13	17	7.9u	436	YES
14	17	8.8u	447	YES
15	16	7.6u	410	NO
16	18	7.9u	481	YES
17	18	8.0u	492	YES
18	16	9.9u	463	YES
19	17	8.5u	445	YES
20	17	8.0u	442	YES
21	18	8.6u	405	YES
22	18	8.4u	409	YES
23	16	9.3u	398	YES
24	16	8.0u	364	NO
25	17	9.6u	366	NO
26	18	8.0u	258	YES
27	16	9.3u	269	YES
28	17	7.2u	431	YES
29	18	7.0u	330	NO
30	18	6.8u	440	YES
Detection Rate 83%				