

FCC CERTIFICATION TEST REPORT

Applicant	:	Ruijie Networks Co., Ltd.
Address	:	Building 19, Juyuanzhou Industrial Park, No. 618 Jinshan Road, Cangshan District, Fuzhou, Fujian, China
Equipment under Test	:	Wireless Bridge
Model No.	:	RG-EST450G
Trade Mark	:	Ruijie Ruijie REYEE REYEE REYEE by Ruijie
FCC ID	:	2AX5J-EST450G
Manufacturer	:	Ruijie Networks Co., Ltd.
Address	:	Building 19, Juyuanzhou Industrial Park, No. 618 Jinshan Road, Cangshan District, Fuzhou, Fujian, China
Report No.	:	DDT-B24111211-2E04
Issue Date	:	Dec. 27, 2024
Issued By	:	Tianjin Dongdian Testing Service Co., Ltd.
Address	:	Building D-11, No. 19, Weisi Road, Microelectronics Industrial Park Development Area, Tianjin, China. Tel: +86 22-58038033 E-mail: ddt@dgdtd.com, http://www.dgdtd.com



REPORT

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Test Report Declare

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Standard: FCC Rules and Regulations Part 15.407.

Test procedure: ANSI C63.10:2020, 905462 D02 UNII DFS Compliance Procedures New Rules v02

We Declare:

The equipment described above is tested by Tianjin Dongdian Testing Service Co., Ltd and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Tianjin Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above standards.

Report No:	DDT-B24111211-2E04		
Date of Receipt:	Nov. 25, 2024	Date of Test:	Nov. 25, 2024 Dec. 27, 2024



Prepared By:

Sunny Zhang

Sunny Zhang/Engineer

Approved By:

Aaron Zhang

Aaron Zhang/Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Tianjin Dongdian Testing Service Co., Ltd.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Dec. 27, 2024	

1. Summary of test results

The EUT have been tested according to the applicable standards as referenced below.

Description of Test Item	Description of Test	Standard	Verdict	Remark
Detection Bandwidth	U-NII Detection Bandwidth	KDB 905462 7.8.1	Pass	100% of the 99% BW
Performance Requirements Check	Initial Channel Availability Check Time CAC)	KDB 905462 7.8.2.1	Pass	CAC ≥60 sec
	Radar Burst at the Beginning of the CAC	KDB 905462 7.8.2.2	Pass	Detection Threshold: -63 dBm
	Radar Burst at the End of the CAC	KDB 905462 7.8.2.3	Pass	Detection Threshold: -63 dBm
In-Service Monitoring	Channel Move Time	KDB 905462 7.8.3	Pass	CMT ≤ 10sec
	Channel Closing Transmission Time	KDB 905462 7.8.3	Pass	CCTT ≤60 ms starting at CMT 200ms
	Non-Occupancy Period	KDB 905462 7.8.3	Pass	NOP≥30 Min
Radar Detection	Statistical Performance Check	KDB 905462 7.8.4	Pass	Table 5- 7 (KDB 905462)

2. General Test Information

2.1. Description of EUT

EUT* Name	: Wireless Bridge
Model Number	: RG-EST450G
EUT function description	: Please reference user manual of this device
Power supply	: 24 V passive PoE power supply (A passive PoE adapter is delivered with the wireless bridge.) 12 V DC (solar panel)
Radio Technology	: IEEE 802.11a/n/ac
Operation frequency	: U-NI-2A: 5250 MHz ~ 5350 MHz U-NI-2C: 5470 MHz ~ 5725 MHz
Modulation	: 256QAM, 64QAM, 16QAM, QPSK, BPSK
Transmitter rate	: IEEE802.11A mode: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE802.11N mode: MCS0~MCS15 IEEE802.11AC mode: MCS0~MCS9
Antenna Type	: Directional Antenna: U-NII-2A: Antenna1:13.54dBi, Antenna2: 13.76dBi U-NII-2C: Antenna1:13.32dBi, Antenna2: 14.11dBi
Operating mode	: ☒ Master ☐ Client Without Radar Detection ☐ Client with Radar Detection
Communication mode	: ☒ Load Based: ☐ Frame Based
TPC function	: ☒ With TPC ☐ Without TPC
Pathloss	: The antenna connector impedance 50 Ohms and external cable pathloss:0dB (pathloss was calculated with antenna gain)
Maximum EIRP	: 5250 MHz to 5350 MHz: 24.84 dBm 5470 MHz to 5725 MHz: 26.43 dBm
Minimum EIRP	: 5250 MHz to 5350 MHz: 17.17 dBm 5470 MHz to 5725 MHz: 18.29 dBm

Note 1: EUT is the ab. of equipment under test.

2.2. User Access Restrictions

DFS controls (hardware or software) related to radar detection are NOT accessible to the user. Manufacturer statement confirming that information regarding the parameters of the detected Radar Waveforms is not available to the end user.

2.3. Channel Loading/ Data Streaming

Software to ping the client is permitted to simulate data transfer with random ping intervals. Minimum channel loading of approximately 17%

2.4. Accessories of EUT

Description of Accessories	Manufacturer	Model number	Other
SWITCHING POWER ADAPTOR	DONGGUAN SHILONG FUHUA ELECTRONIC CO., LTD.	UES15LCP-240060 SPA	Input:100-240V~50/60Hz 0.5A, Output:24.0V=0.6A 14.4W

2.5. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
Notebook	Lenovo Beijing Co. Ltd.	ThinkPad	FCC/CE	TP00067A

Test Condition

The Worst case Mode for following Tests

Test Condition	Conducted measurement The EUT configured to operate at the highest transmitter output power setting and antenna port 1 were tested.
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2.6. DFS Band Carrier Frequencies

Channel information					
20M Bandwidth		40M Bandwidth		80M Bandwidth	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
U-NII-2A					
52	5260	54	5270	58	5290
53	5265	55	5275	/	/
56	5280	62	5310	/	/
60	5300	/	/	/	/
U-NII-2C					
100	5500	102	5510	106	5530
104	5520	110	5550	122	5610
108	5540	118	5590	/	/
112	5560	126	5630	/	/
116	5580	134	5670	/	/
120	5600	/	/	/	/
124	5620	/	/	/	/
128	5640	/	/	/	/
132	5660	/	/	/	/
136	5680	/	/	/	/
140	5700	/	/	/	/

2.7. Deviations of test standard

No Deviation.

2.8. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	21-25℃
Humidity range:	40-75%
Pressure range:	86-106 kPa

2.9. Test laboratory

Tianjin Dongdian Testing Service Co., Ltd.

Address: Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park Development Area,
Tianjin, China.

Tel: +86-22-58038033, <http://www.ddttest.com>, Email: ddt@dgddt.com

NVLAP (National Voluntary Laboratory Accreditation Program) CODE: 500036-0

CNAS (China National Accreditation Service for Conformity Assessment) CODE: L13402

FCC Designation Number: CN5004; FCC Test Firm Registration Number: 368676

ISED (Innovation, Science and Economic Development Canada) Company Number: 27768

Conformity Assessment Body Identifier: CN0125

VCCI Facility Registration Number: C-20089, T-20093, R-20125, G-20122

2.10. Measurement uncertainty

Test Item	Uncertainty
Bandwidth	0.14%
Peak Output Power (Conducted) (Spectrum Analyzer)	0.12 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 0.32 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Peak Output Power (Conducted) (Power Sensor)	0.51 dB
Power Spectral Density	0.12 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 0.32 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Frequencies Stability	6.7×10^{-8} (Antenna couple method) 3.4×10^{-8} (Conducted method)
Conducted Spurious Emissions	0.12 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 0.32 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$) 0.52 dB ($8 \text{ GHz} \leq f < 22 \text{ GHz}$)
Uncertainty for Radio Frequency (RBW < 20 kHz)	3×10^{-7}
Temperature	$\pm 2^{\circ}\text{C}$
Humidity	$\pm 1\%$
Uncertainty for Radiation Emission Test (30 MHz - 1 GHz)	2.72 dB (Antenna Polarize: V) 2.72 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission Test (1 GHz - 40 GHz)	2.74 dB (1 - 6 GHz) 2.72 dB (6 GHz - 18 GHz) 3.54 dB (18 GHz - 26 GHz) 4.30 dB (26 GHz - 40 GHz)
Uncertainty for Power Line Conduction Emission Test	3.40 dB (150 kHz - 30 MHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. Equipment Used During Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
RF Connected Test (MWRFTest system)					
EXG Analog Signal Generator	Keysight	N5173B	MY53270968	2024/03/22	1 Year
MXG Vector Signal Generator	Keysight	N5182A	MY50143288	2024/02/21	1 Year
PXA Signal Analyzer	Keysight	N9030B	MY56320639	2024/04/01	1 Year
Wideband Radio Communication Tester	R&S	CMW500	158800	2024/02/21	1 Year
Power Sensor	KEYSIGHT	U2021XA	MY59150007	2024/02/21	1 Year
DC Power Supply	inSTEK	PSP-2010	EN122317	2024/02/03	1 Year
Test Software	MWRFTest	MTS8310	V03	N/A	N/A

4. General DFS requirements

4.1. Applicability of DFS requirements

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 Device or Client with Radar Detection	☐ Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	☒ Master Device 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 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.

4.2. Limit

(1) DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

(2) DFS Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.
Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions. Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

4.3. Parameters of radar test waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

(1) Short Pulse Radar Test Waveforms

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
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	Roundup $\left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{PRI_{\mu sec}} \right) \right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B. For example if in Short Pulse Radar Type 1 Test B a PRI of 3066 μsec is selected, the number of pulses would be Roundup $\{ (1/360) \times (19 \times 10^6 / 3066) \} = \text{Round up } \{17.2\} = 18$.

(2) Long Pulse Radar Test Waveform

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.

Each waveform is defined as follows:

- 1) The transmission period for the Long Pulse Radar test signal is 12 seconds.
- 2) There are a total of 8 to 20 Bursts in the 12 second period, with the number of Bursts being randomly chosen. This number is Burst Count.
- 3) Each Burst consists of 1 to 3 pulses, with the number of pulses being randomly chosen. Each Burst within the 12 second sequence may have a different number of pulses.
- 4) The pulse width is between 50 and 100 microseconds, with the pulse width being randomly chosen. Each pulse within a Burst will have the same pulse width. Pulses in different Bursts may have different pulse widths.
- 5) Each pulse has a linear 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 random time interval between the first and second pulses is chosen independently of the random time interval 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 randomly.

(3) Frequency Hopping Radar Test Waveform

Table 7 – 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 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 that If a segment does not contain at least 1 frequency within the U-NII Detection Bandwidth of the UUT, then that segment is not used.

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.

5. Calibration of radar waveform

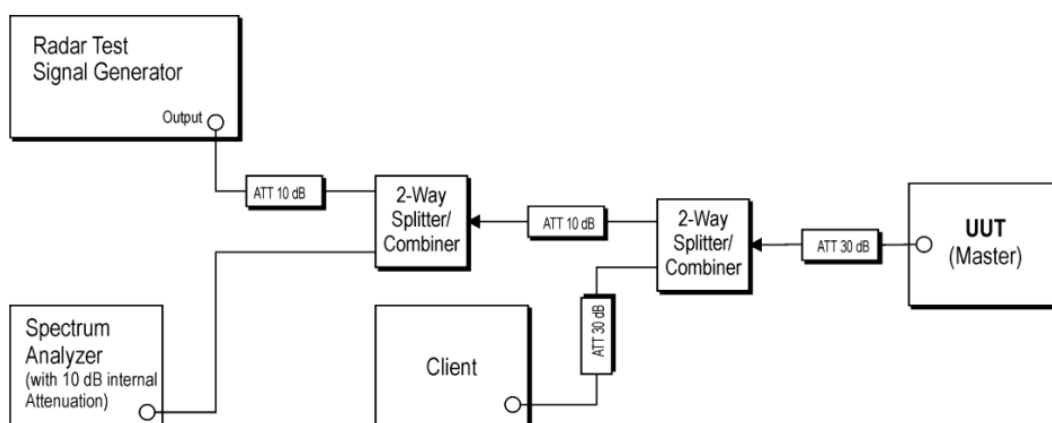
5.1. DFS Threshold Level

DFS Threshold Level	
DFS Theshold Level: -64 dBm	At the antenna connector
	In front of the antenna
The Interference Radar Detection Threshold Level is $-64 \text{ dBm} + 1 + 12.59 \text{ [dBi]} = -50.41 \text{ dBm}$. The Minimum antenna gain was used.	

5.2. Radar Waveform Calibration Procedure:

- (1) A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to place of the master
- (2) The following equipment setup was used to calibrate the conducted 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 spans (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. The spectrum analyzer had offset -9.0 dB to compensate RF cable loss 9.0 dB.
- (3) The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was $-64 \text{ dBm} + 12.59 \text{ dBi} = -51.41 \text{ dBm}$. Capture the spectrum analyzer plots on radar waveform. 12.59 dBi is minimum antenna gain.

5.3. Conducted Calibration Setup



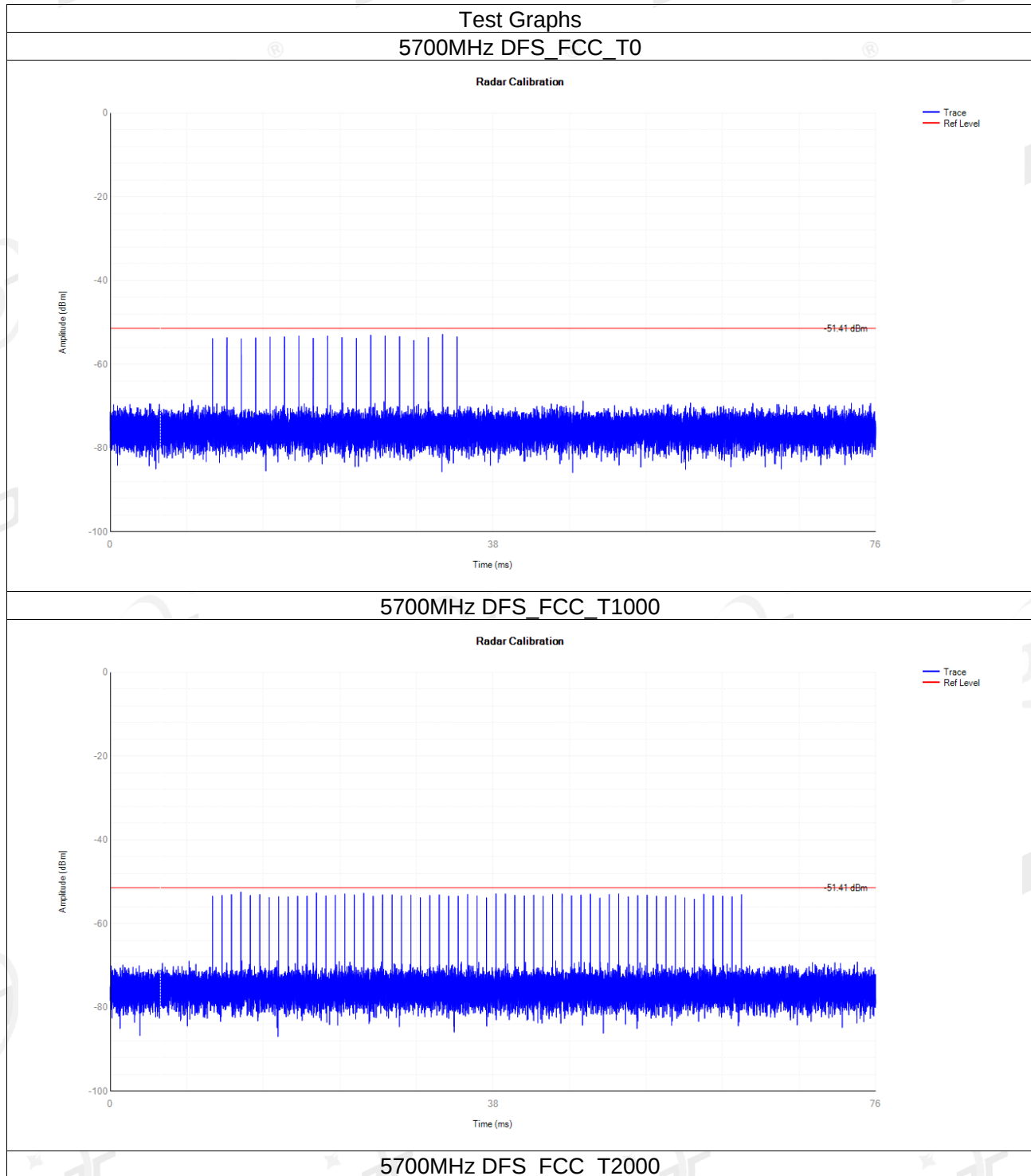
Note: 1. Use the software "Web" to set the frequency channel.

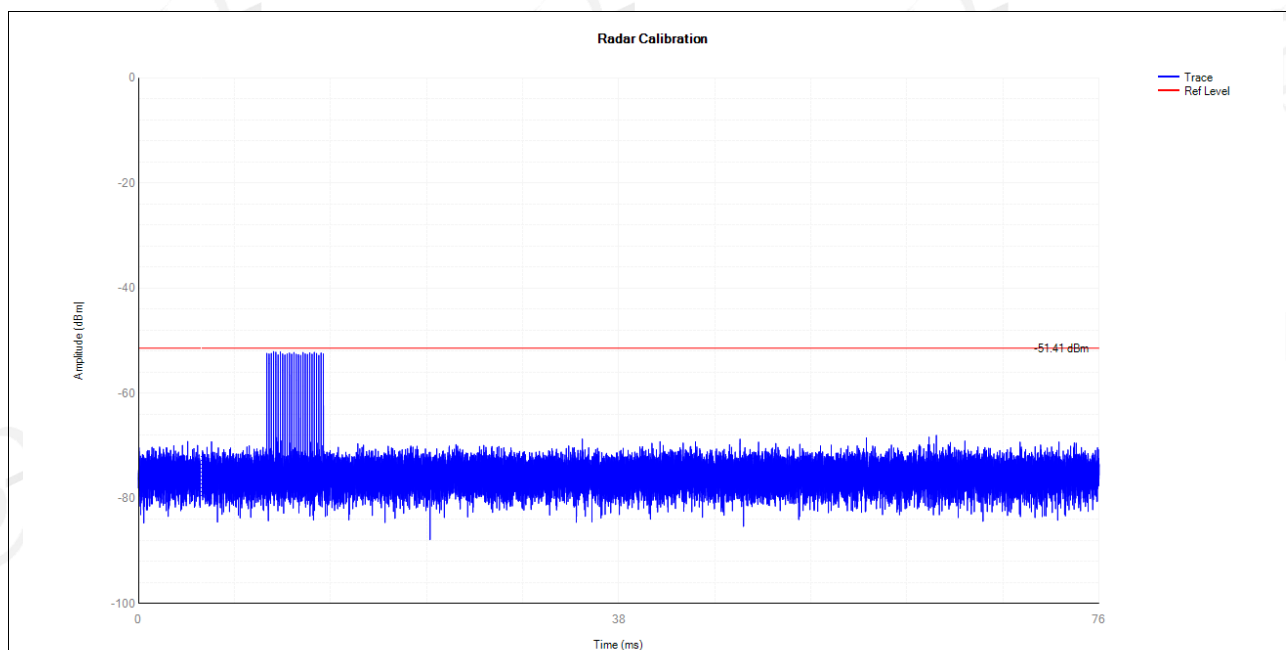
2. EUT is not support TPC and not with Radar detection.

5.4. Radar Waveform Calibration Result

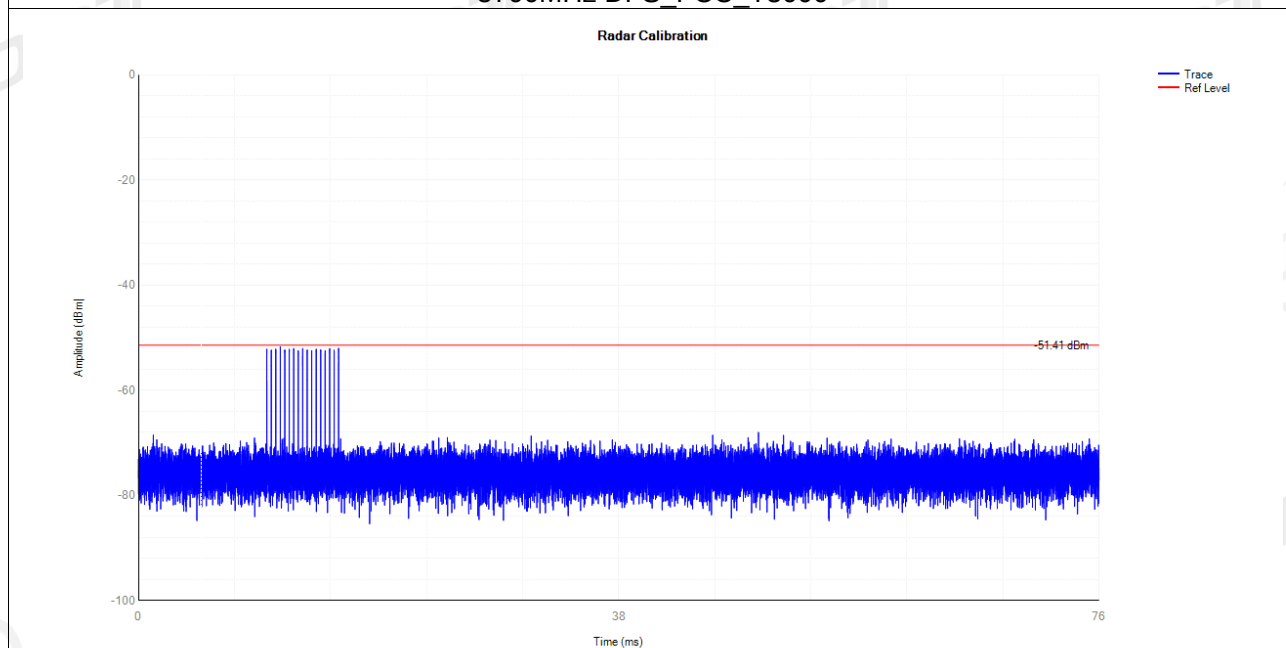
Mode	Frequency (MHz)	Type	Result	Verdict
20MHz	5700	DFS_FCC_T0	See test Graph	Pass
20MHz	5700	DFS_FCC_T1000	See test Graph	Pass
20MHz	5700	DFS_FCC_T2000	See test Graph	Pass
20MHz	5700	DFS_FCC_T3000	See test Graph	Pass
20MHz	5700	DFS_FCC_T4000	See test Graph	Pass
20MHz	5700	DFS_FCC_T5000	See test Graph	Pass
20MHz	5700	DFS_FCC_T6000	See test Graph	Pass
40MHz	5310	DFS_FCC_T0	See test Graph	Pass
40MHz	5310	DFS_FCC_T2000	See test Graph	Pass
40MHz	5310	DFS_FCC_T3000	See test Graph	Pass
40MHz	5310	DFS_FCC_T4000	See test Graph	Pass
40MHz	5310	DFS_FCC_T5000	See test Graph	Pass
40MHz	5310	DFS_FCC_T6000	See test Graph	Pass
40MHz	5310	DFS_FCC_T6001	See test Graph	Pass
80MHz	5530	DFS_FCC_T0	See test Graph	Pass
80MHz	5530	DFS_FCC_T2000	See test Graph	Pass
80MHz	5530	DFS_FCC_T3000	See test Graph	Pass
80MHz	5530	DFS_FCC_T4000	See test Graph	Pass
80MHz	5530	DFS_FCC_T5000	See test Graph	Pass
80MHz	5530	DFS_FCC_T6000	See test Graph	Pass

5.5. Test Graphs

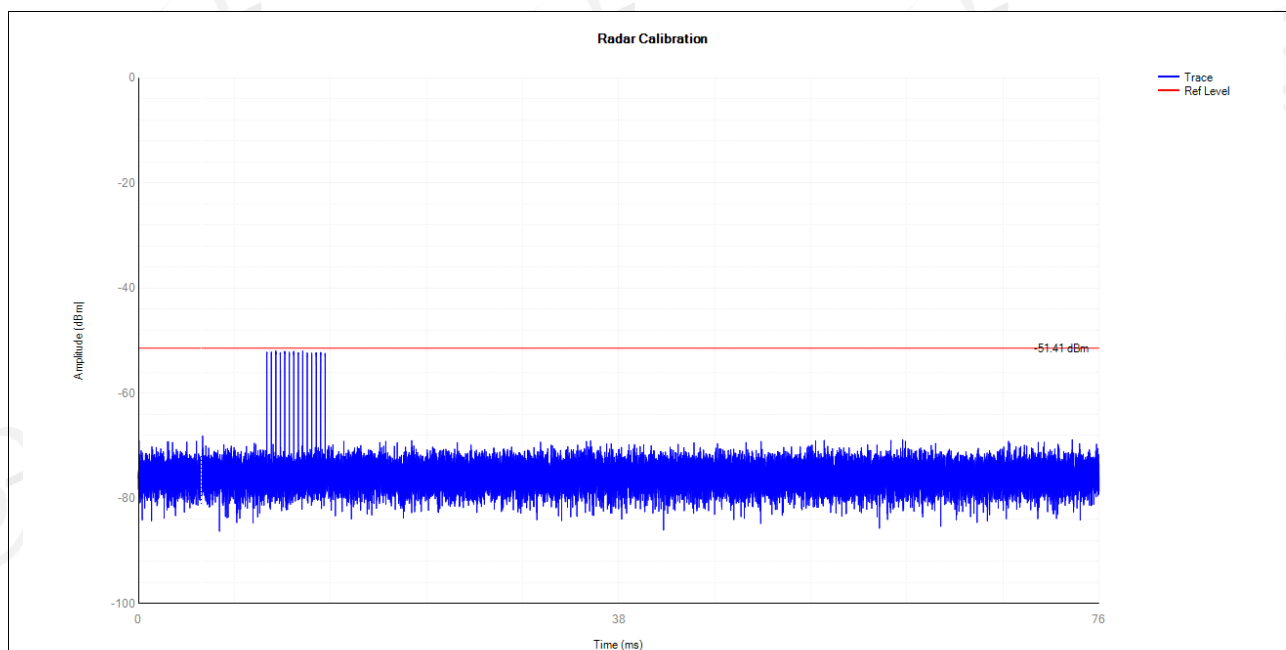




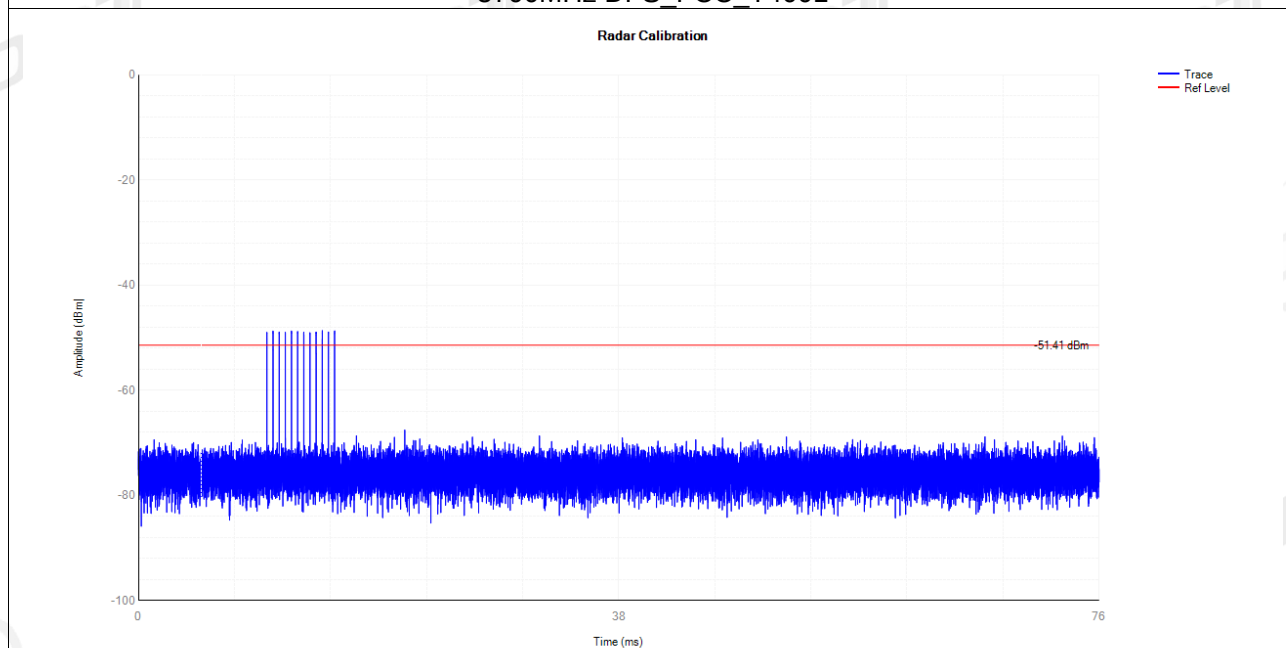
5700MHz DFS_FCC_T3000



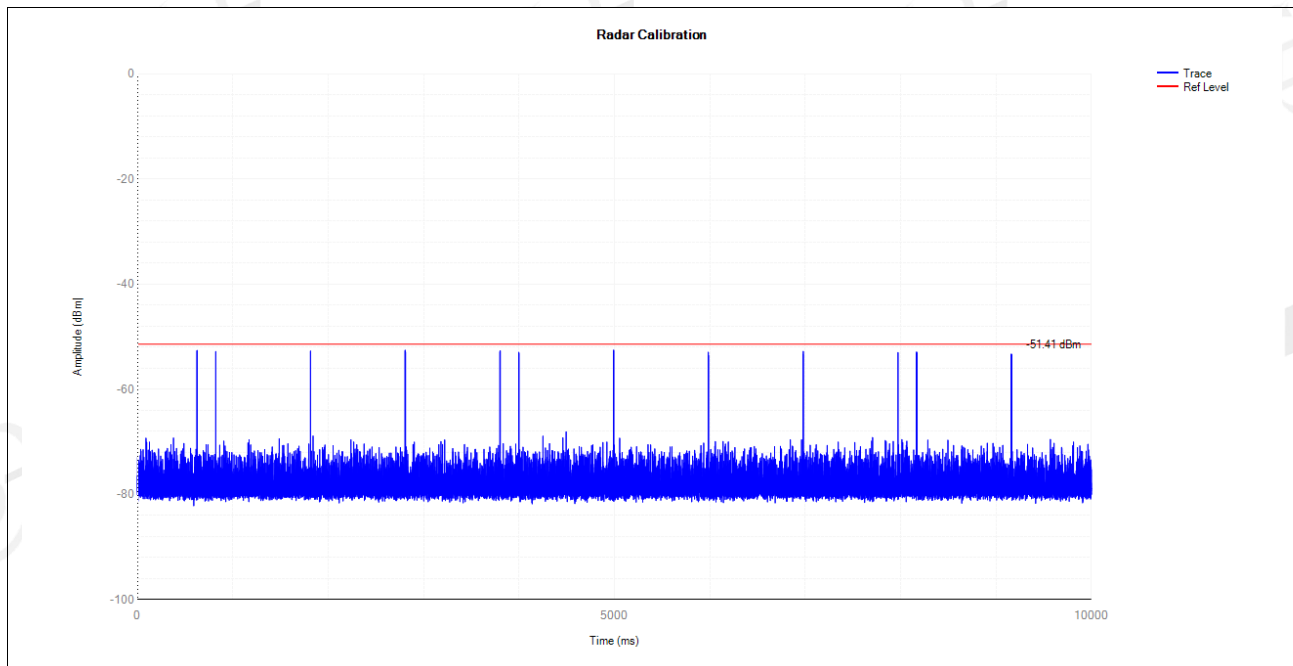
5700MHz DFS_FCC_T4000



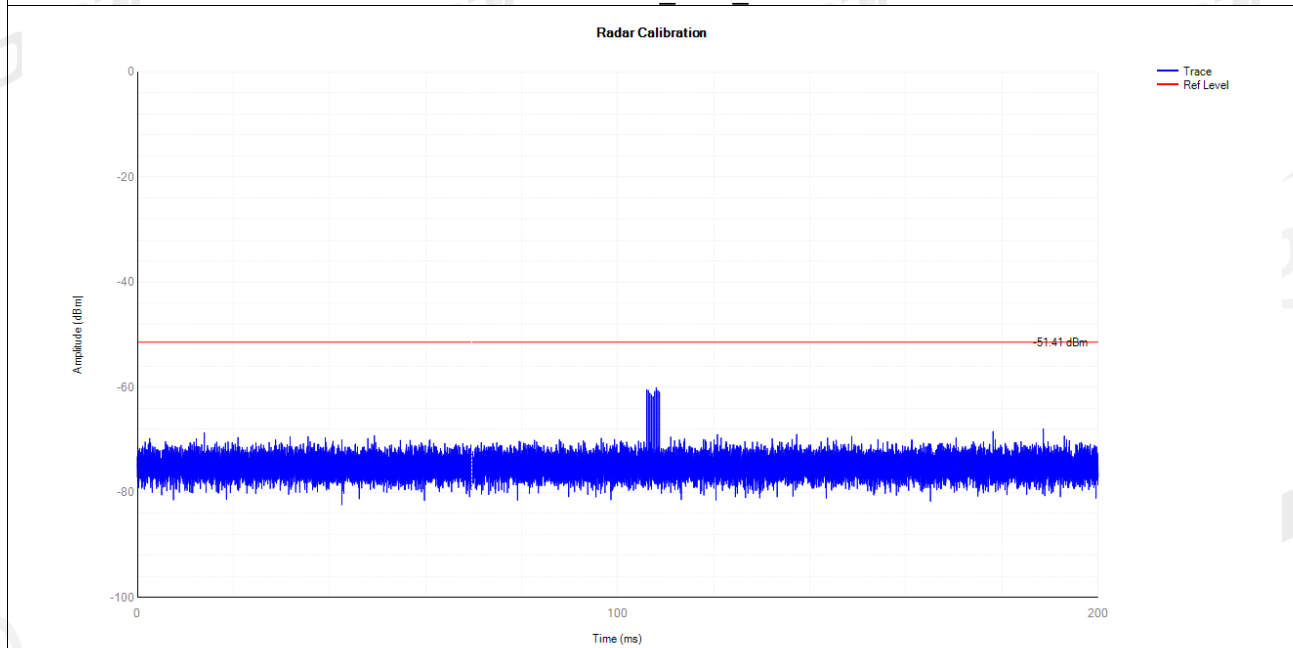
5700MHz DFS_FCC_T4001



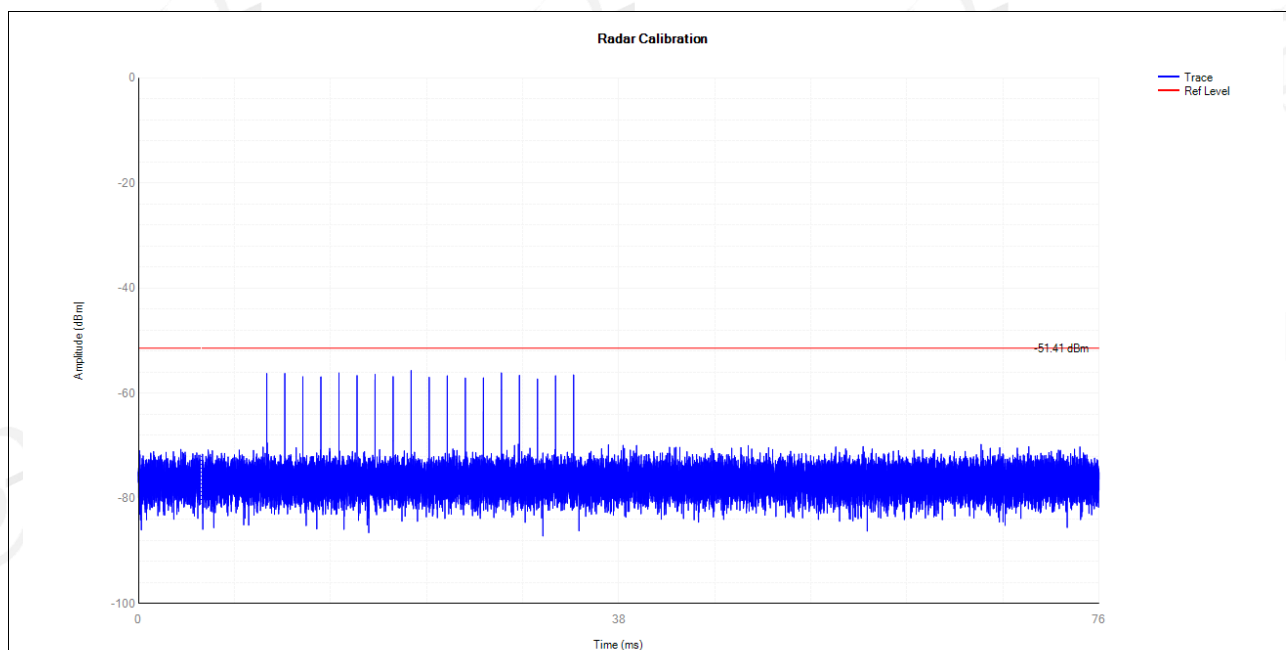
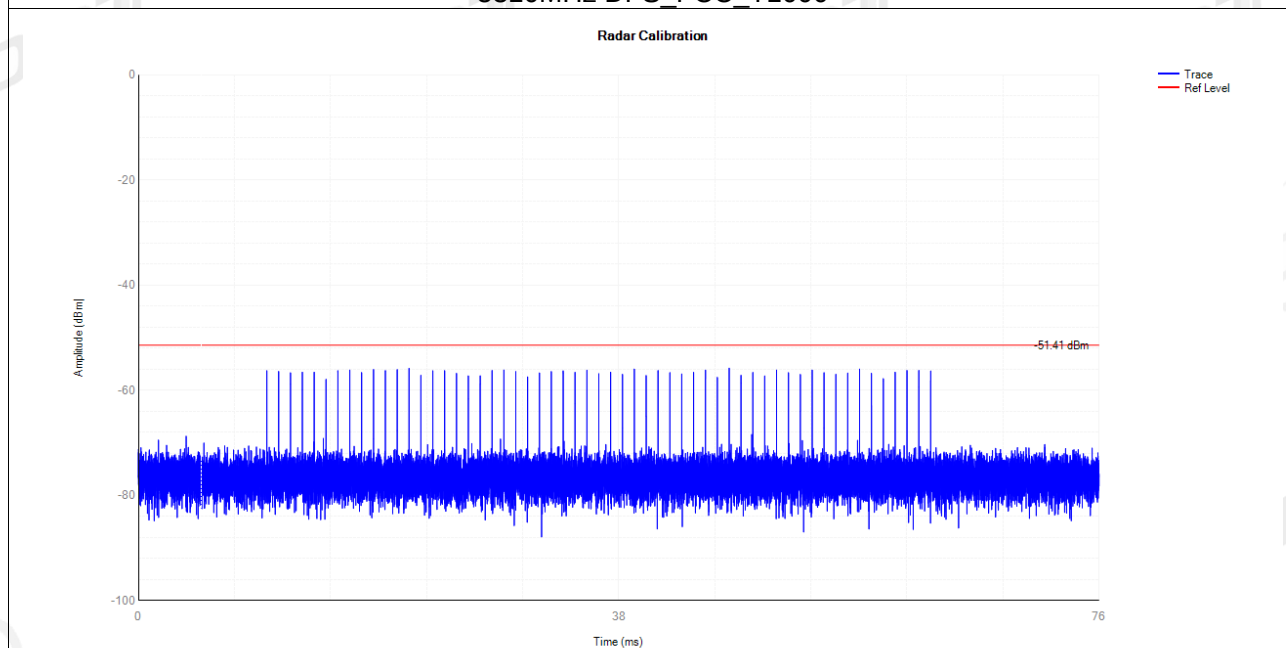
5700MHz DFS_FCC_T5000

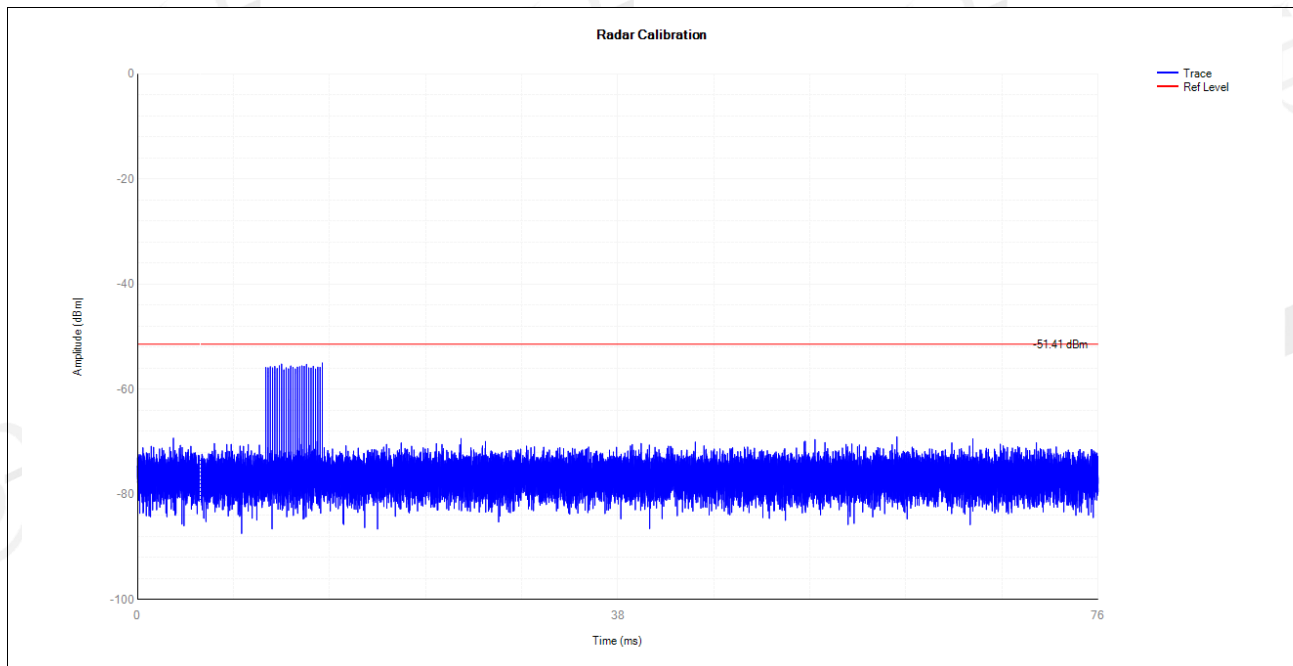


5700MHz DFS_FCC_T6000

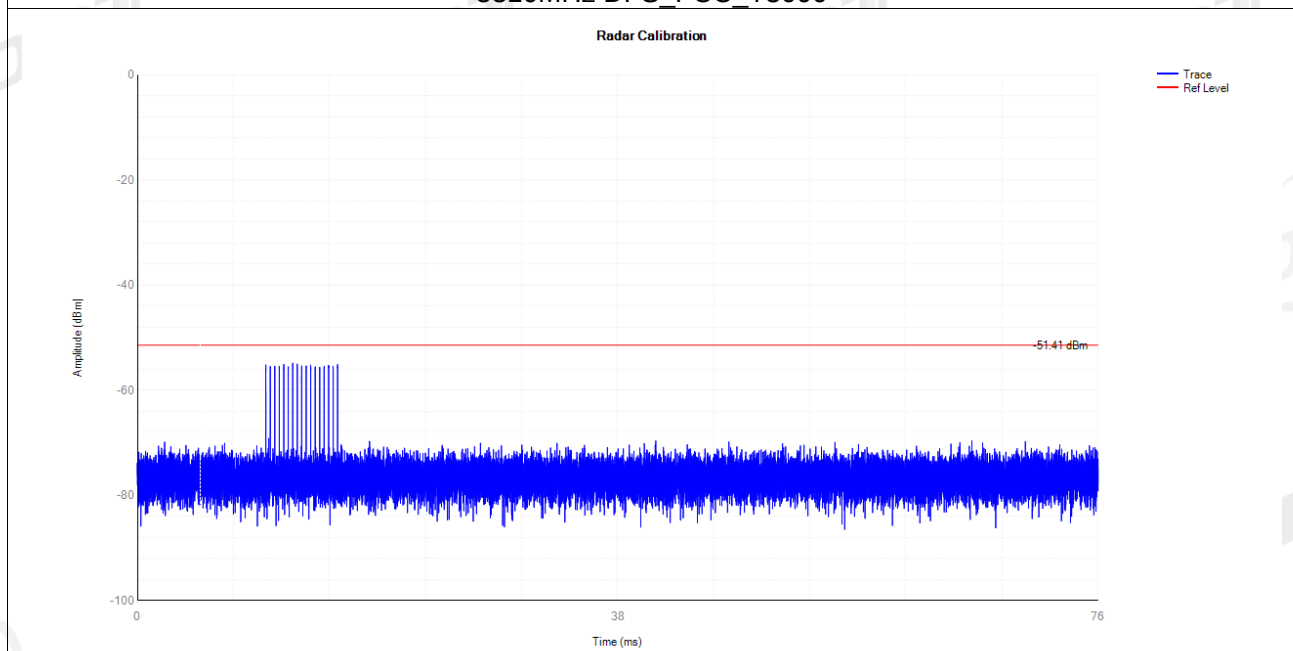


5310MHz DFS_FCC_T0

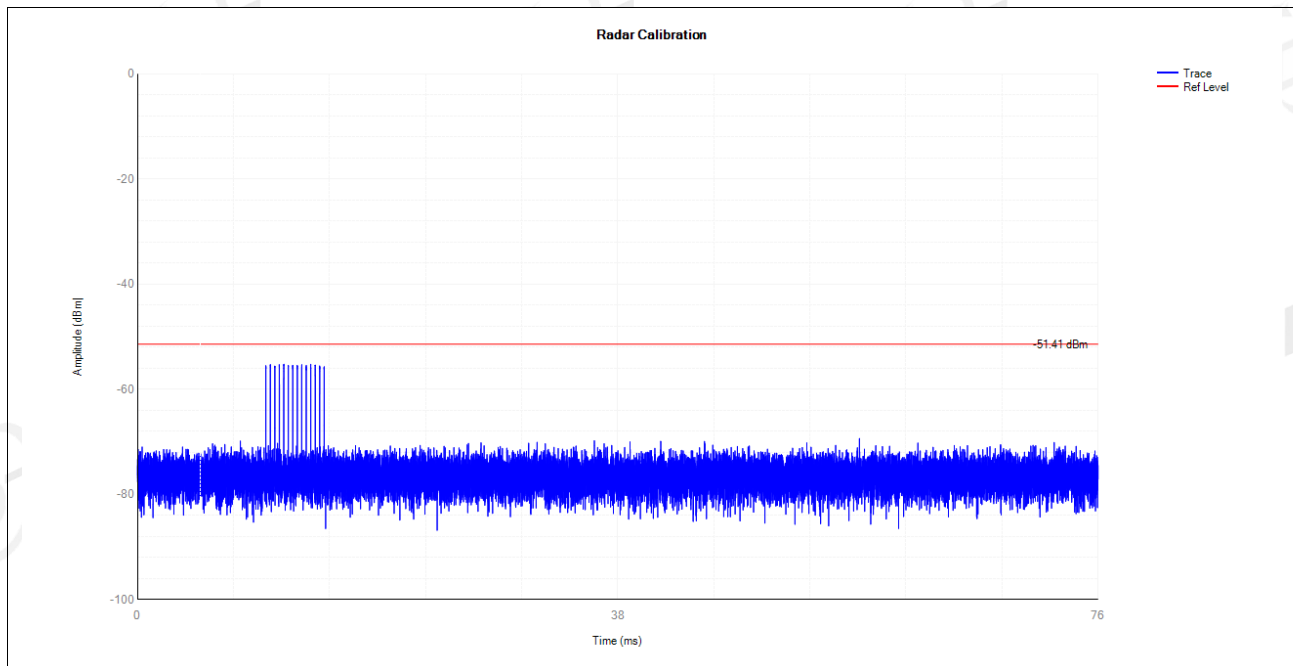
**5310MHz DFS_FCC_T1000****5310MHz DFS_FCC_T2000**



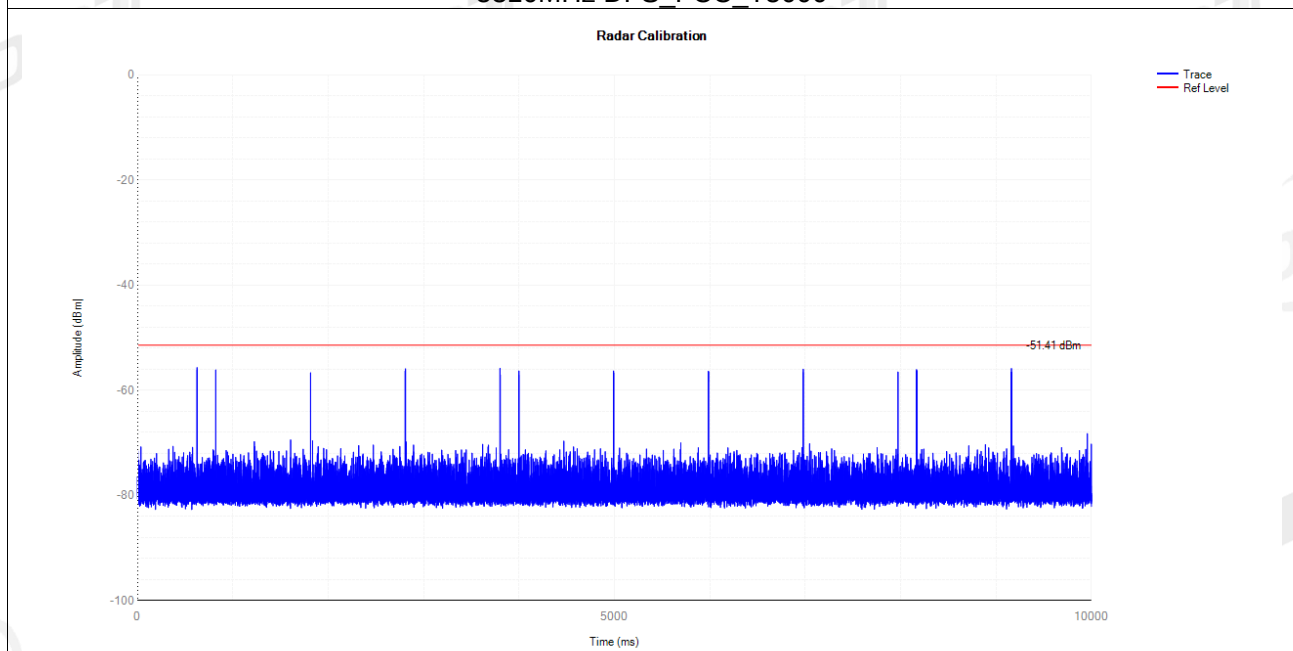
5310MHz DFS_FCC_T3000



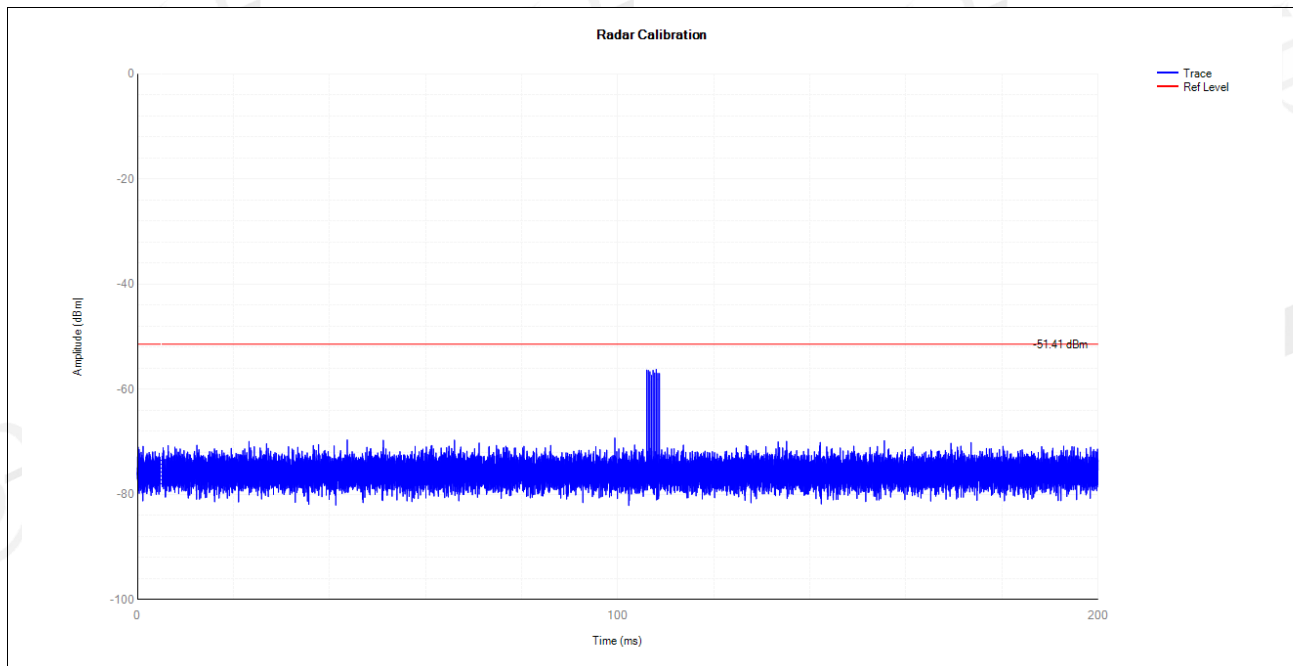
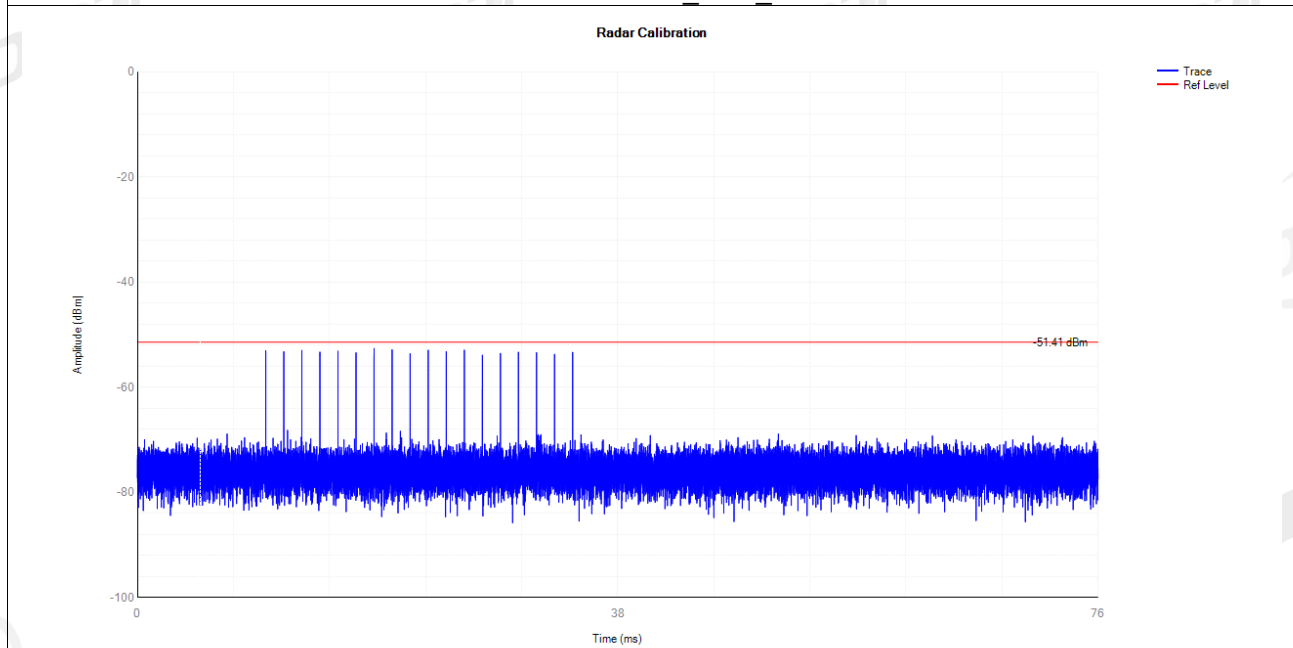
5310MHz DFS_FCC_T4000

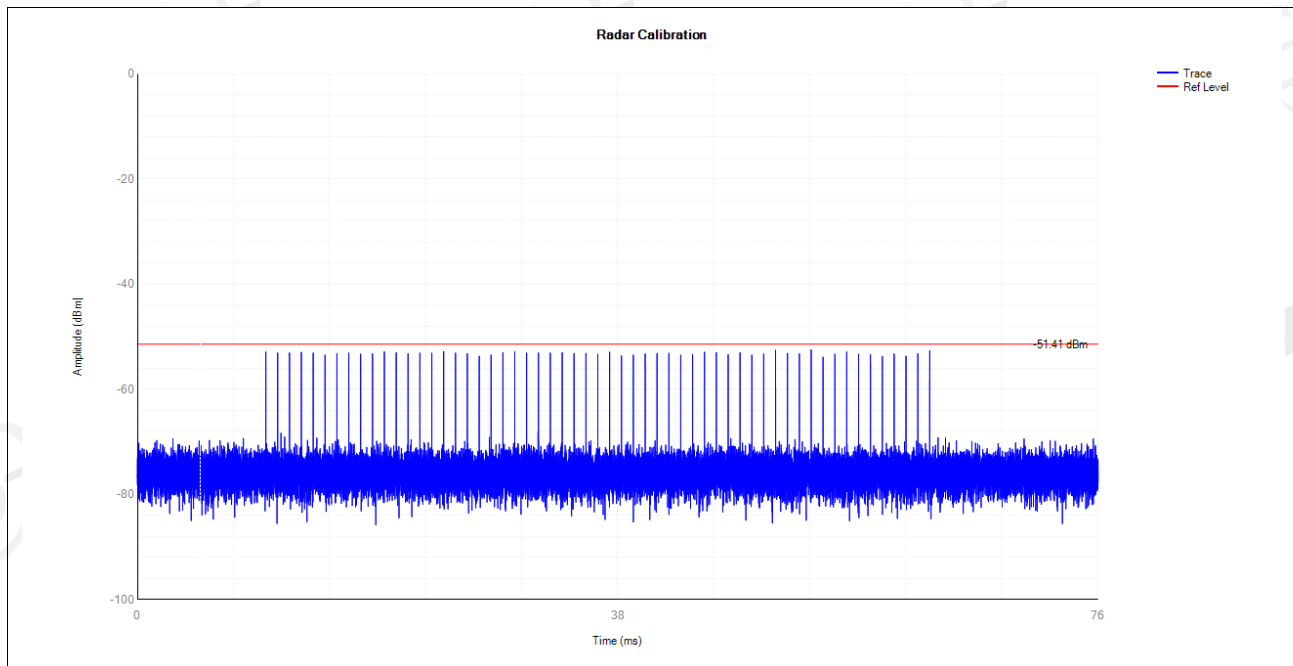


5310MHz DFS_FCC_T5000

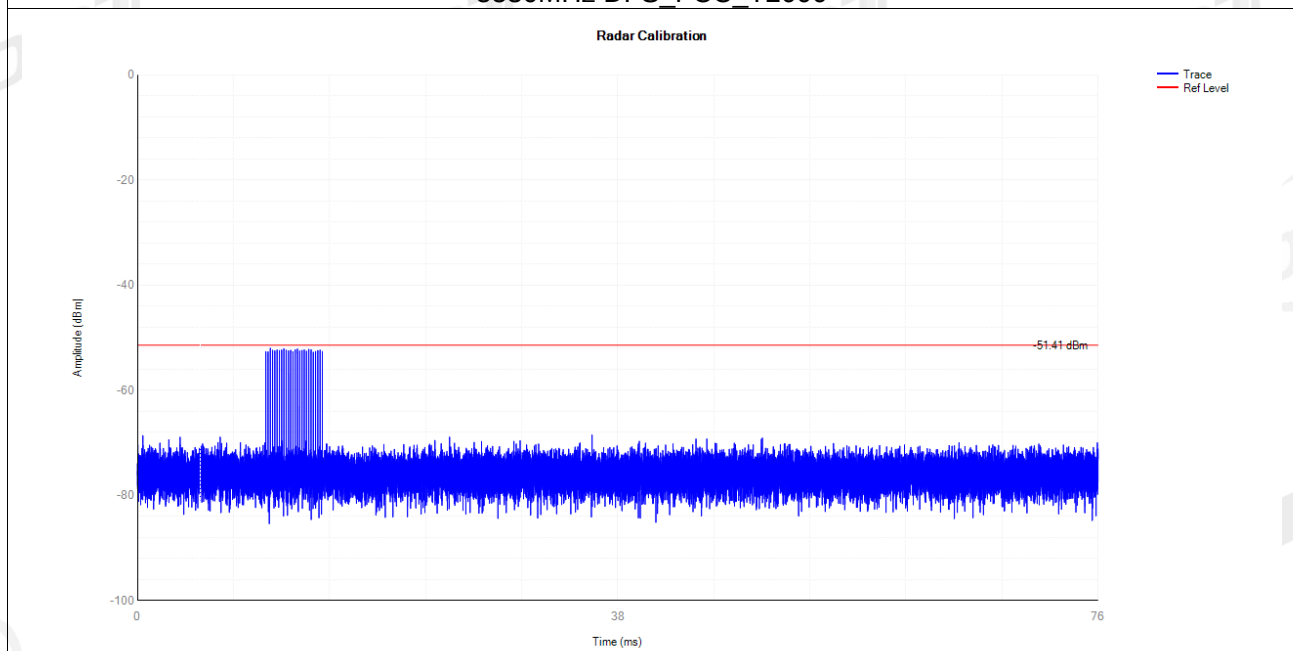


5310MHz DFS_FCC_T6000

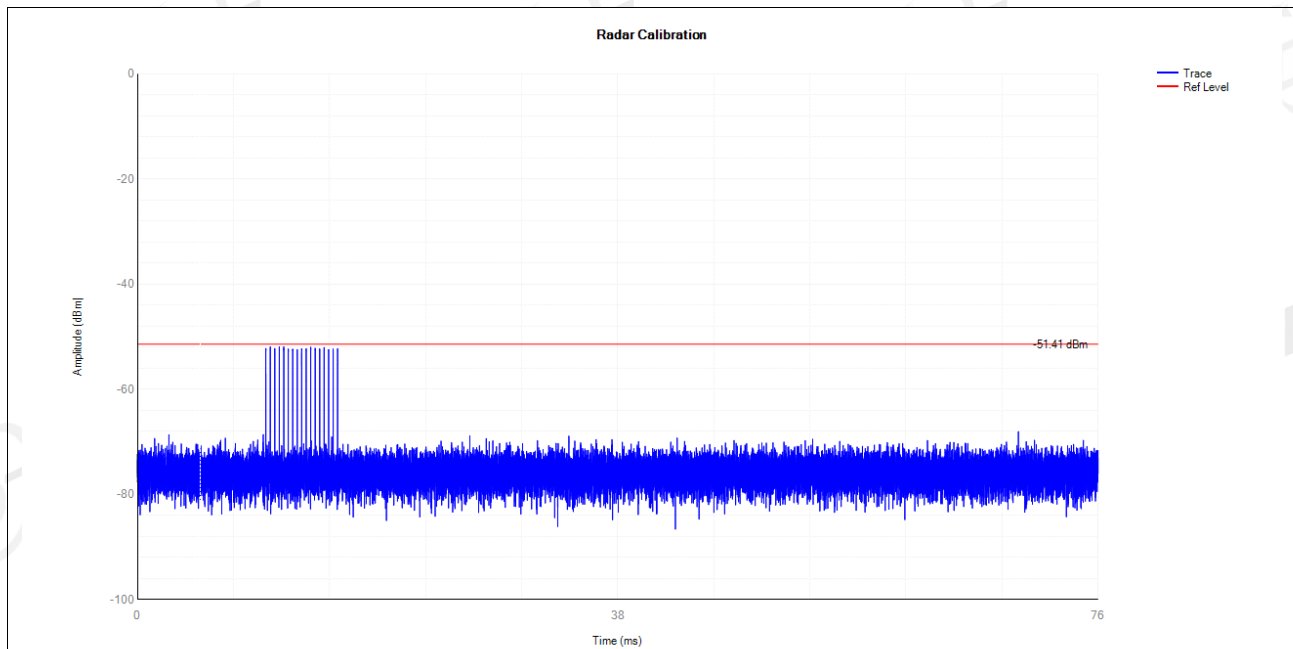
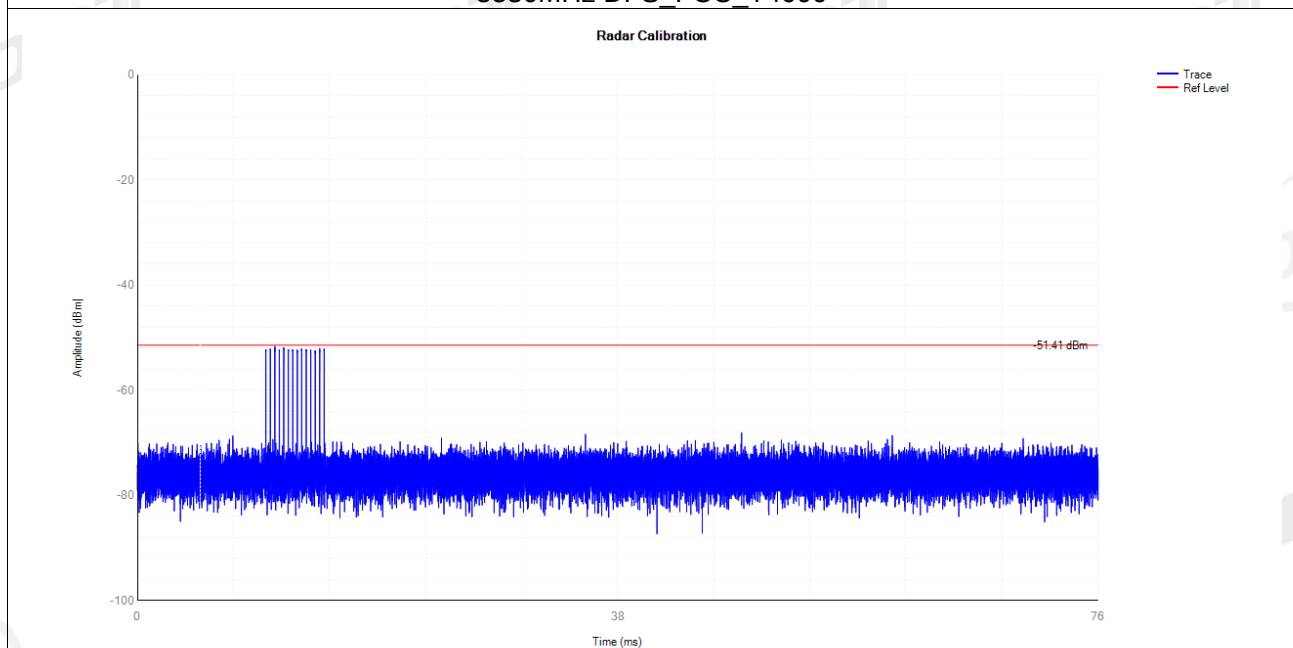
**5530MHz DFS_FCC_T0****5530MHz DFS_FCC_T1000**

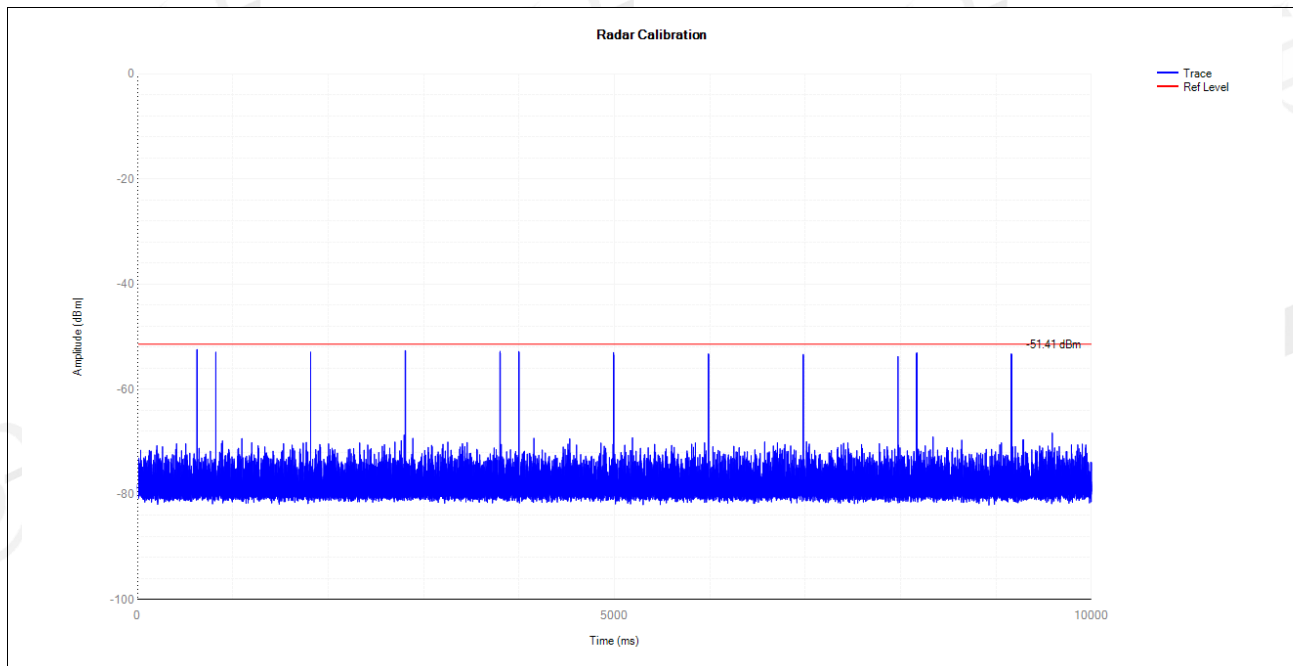


5530MHz DFS_FCC_T2000

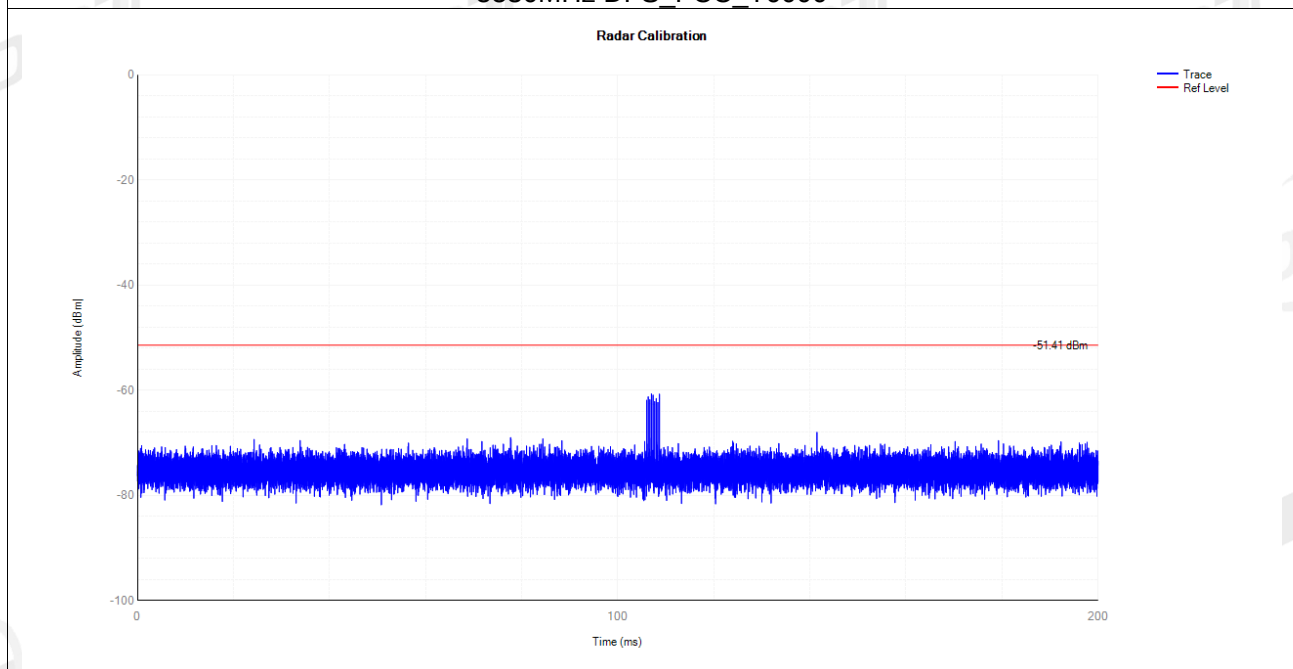


5530MHz DFS_FCC_T3000

**5530MHz DFS_FCC_T4000****5530MHz DFS_FCC_T5000**



5530MHz DFS_FCC_T6000



6. Channel Availability Check Time (CAC)

6.1. Channel Availability Check Limit

Channel Availability Check Limit
The UUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.

6.2. Test Procedure

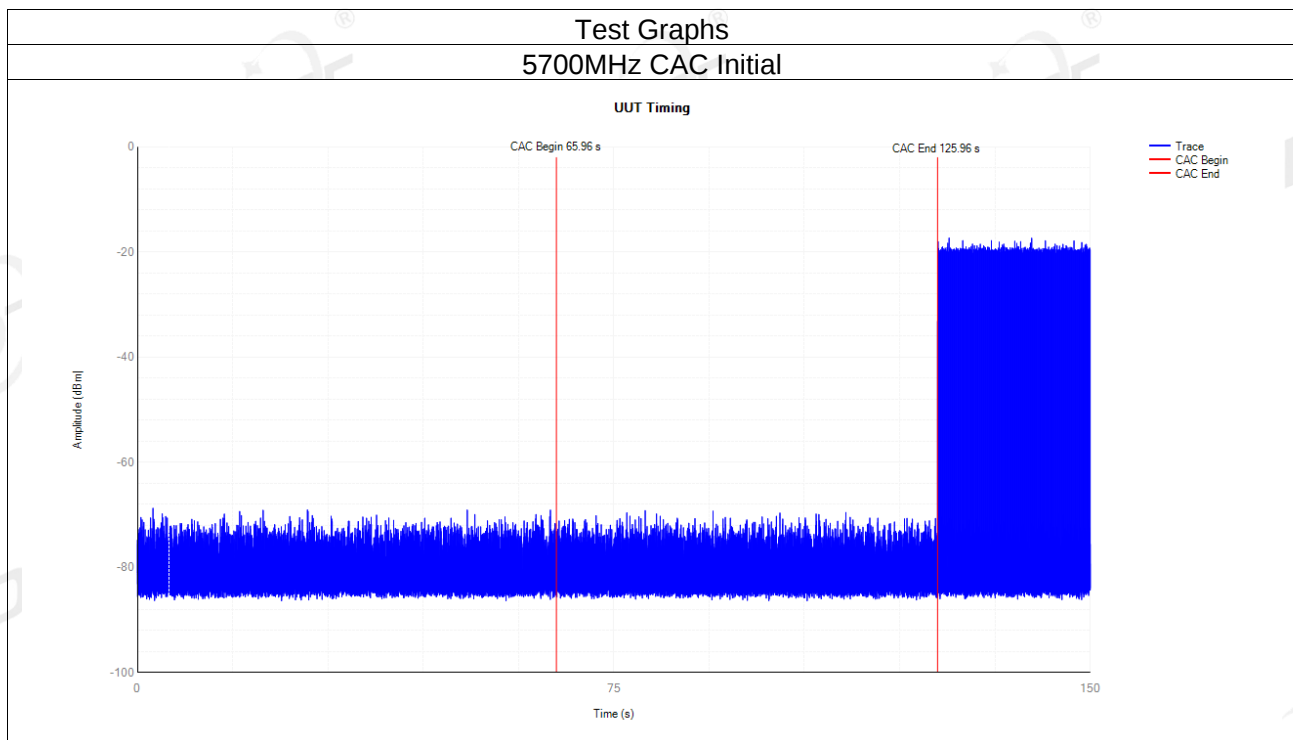
- (1) Channel Availability Check Time (CAC)
- (2) With link established on channel, apply a radar signal within 0~6 seconds after the initial power-up period; monitor the transmissions on channel from the spectrum analyzer.
- (3) Reboot EUT, with a link established on channel, apply a radar signal within 54~60 seconds after the initial power-up period, and monitor the transmission on channel from the spectrum analyzer.

6.3. Test Result

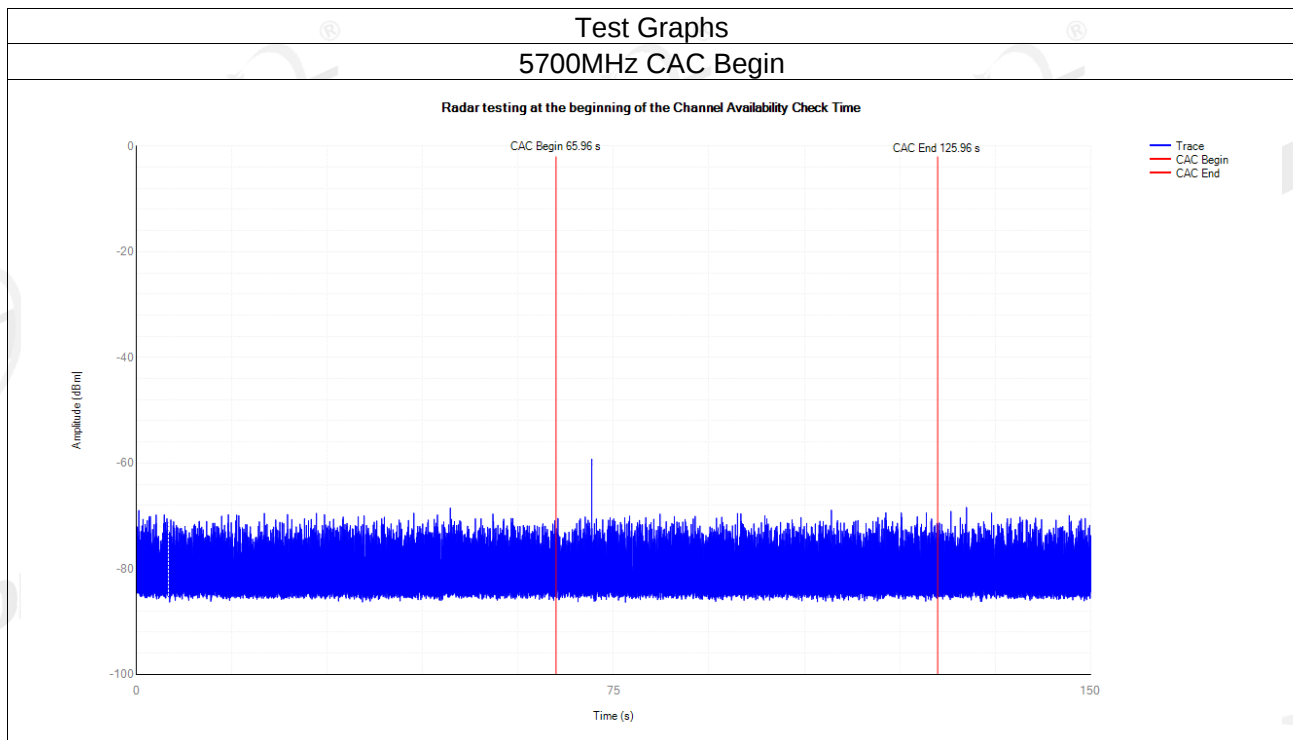
Item	Result	Verdict
Initial Channel Availability Check Time	See test Graph	PASS
Beginning of Channel Availability Check Time	See test Graph	PASS
End of Channel Availability Check Time	See test Graph	PASS

6.4. Test Graphs

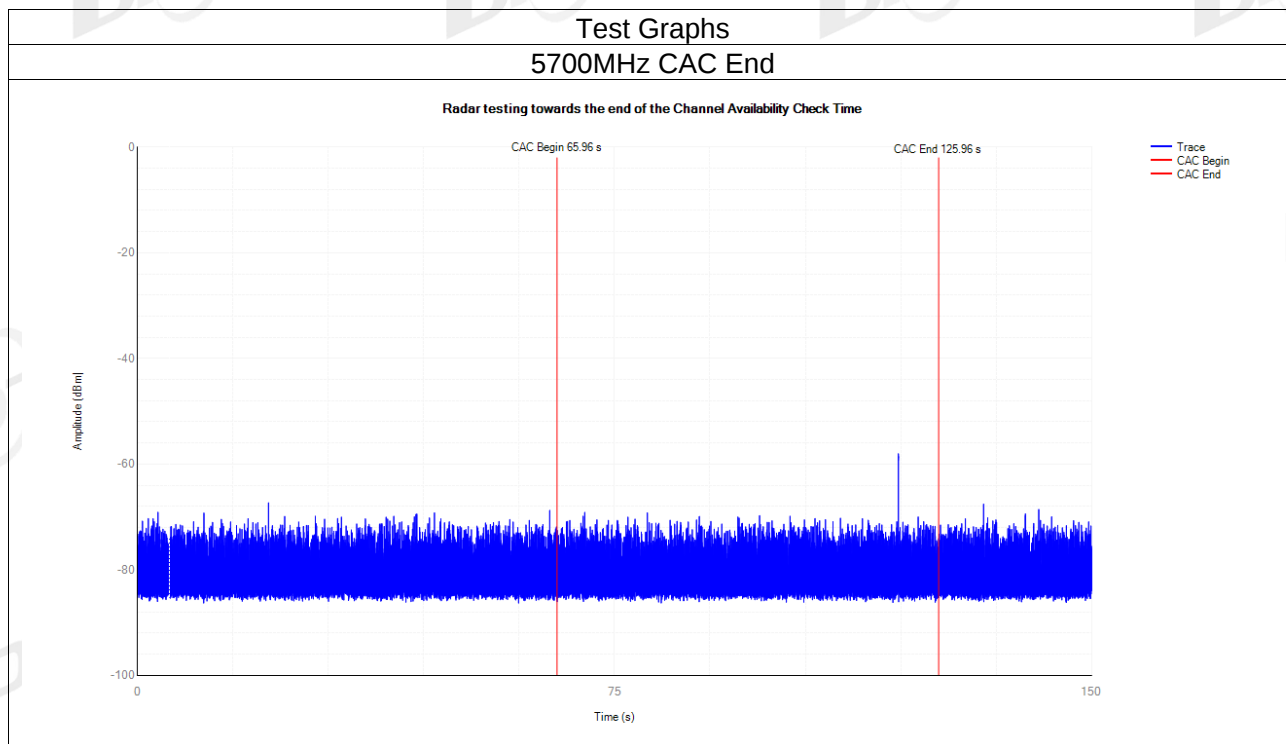
Initial Channel Availability Check Time



Beginning of Channel Availability Check Time



End of Channel Availability Check Time



7. Channel Closing Transmission Time, Channel Move Time and Non-Occupancy Period

7.1. In-service Monitoring Limit

In-service Monitoring Limit	
Channel Move Time	10 sec
Channel Closing Transmission Time	200 ms + an aggregate of 60 ms over remaining 10 sec periods.
Non-Occupancy Period	Minimum 30 minutes

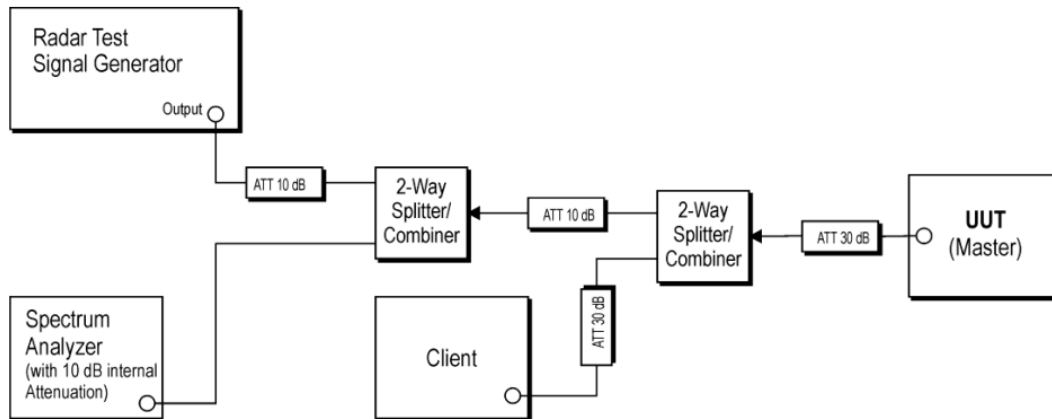
7.2. Test Procedure

- (1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- (2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- (3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- (4) Stream the channel loading test file from the Master Device to the Client Device on the test Channel
- (5) for the entire period of the test. When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- (6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- (7) Measurement of the aggregate duration of the Channel Closed 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: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is 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: $C (ms) = N \times Dwell (0.3ms)$; 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.

Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

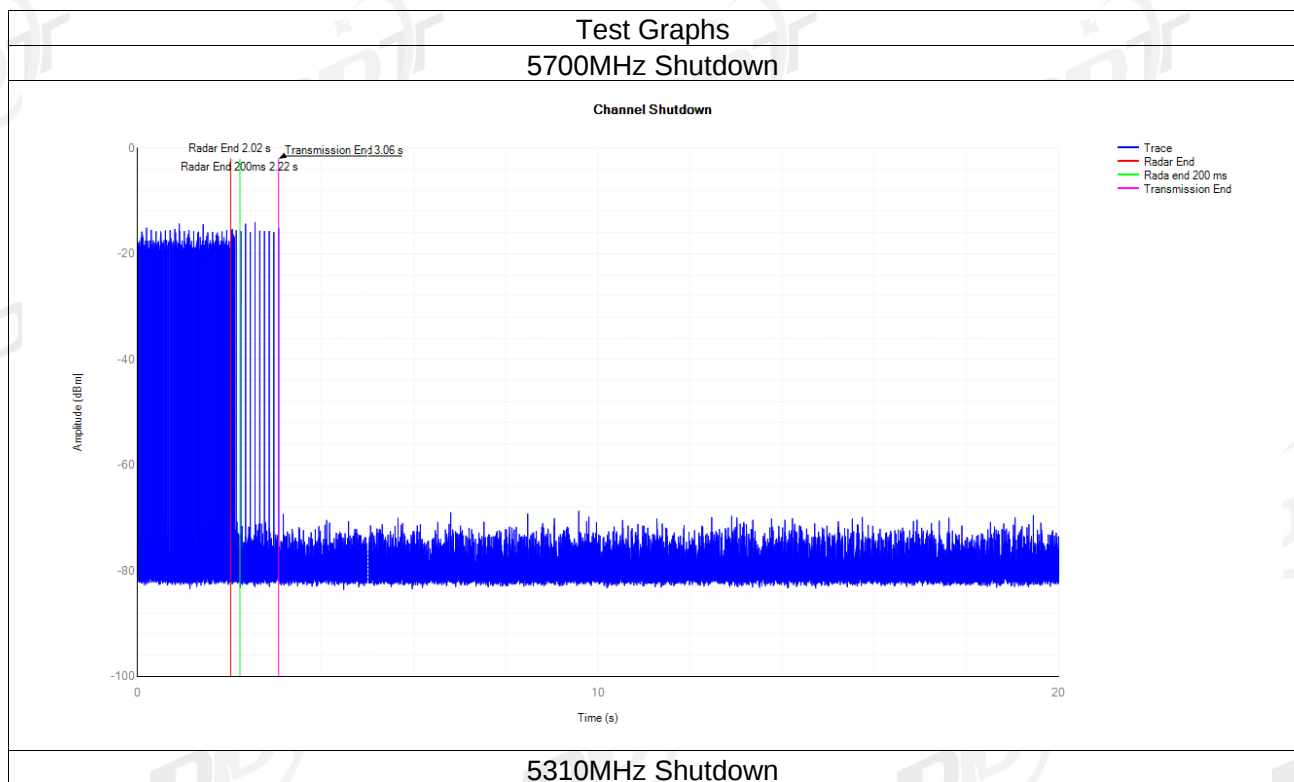
7.3. Test setup

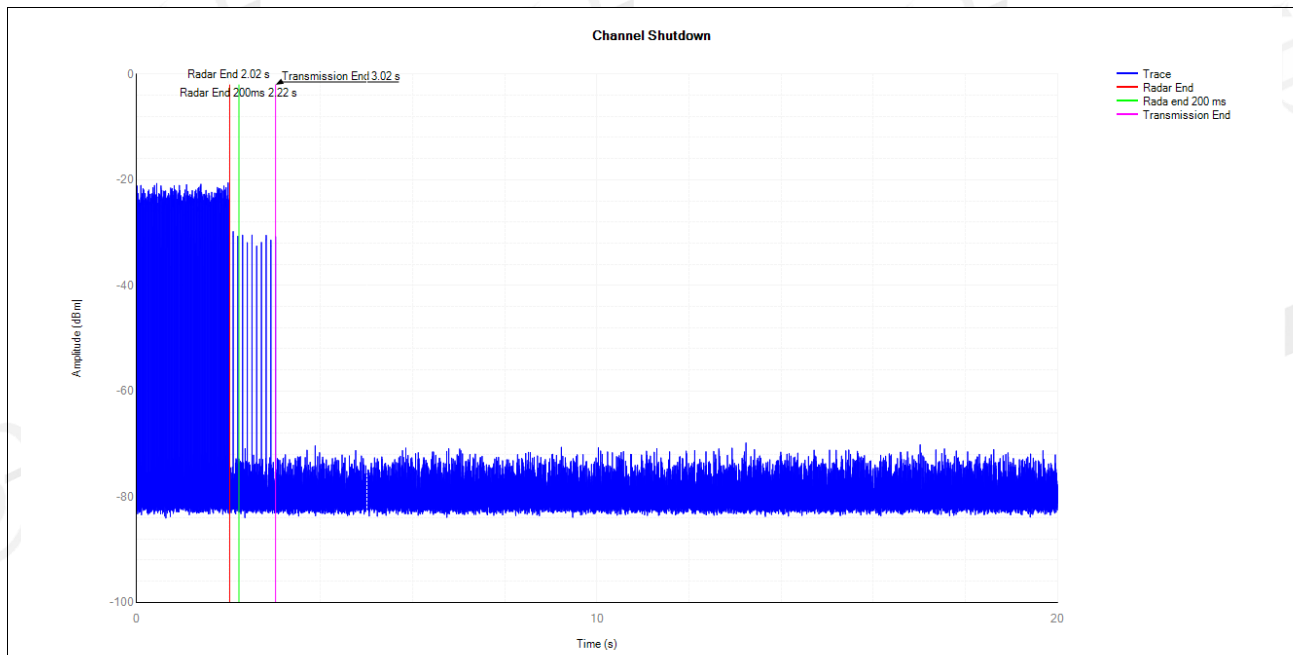


7.4. Test result

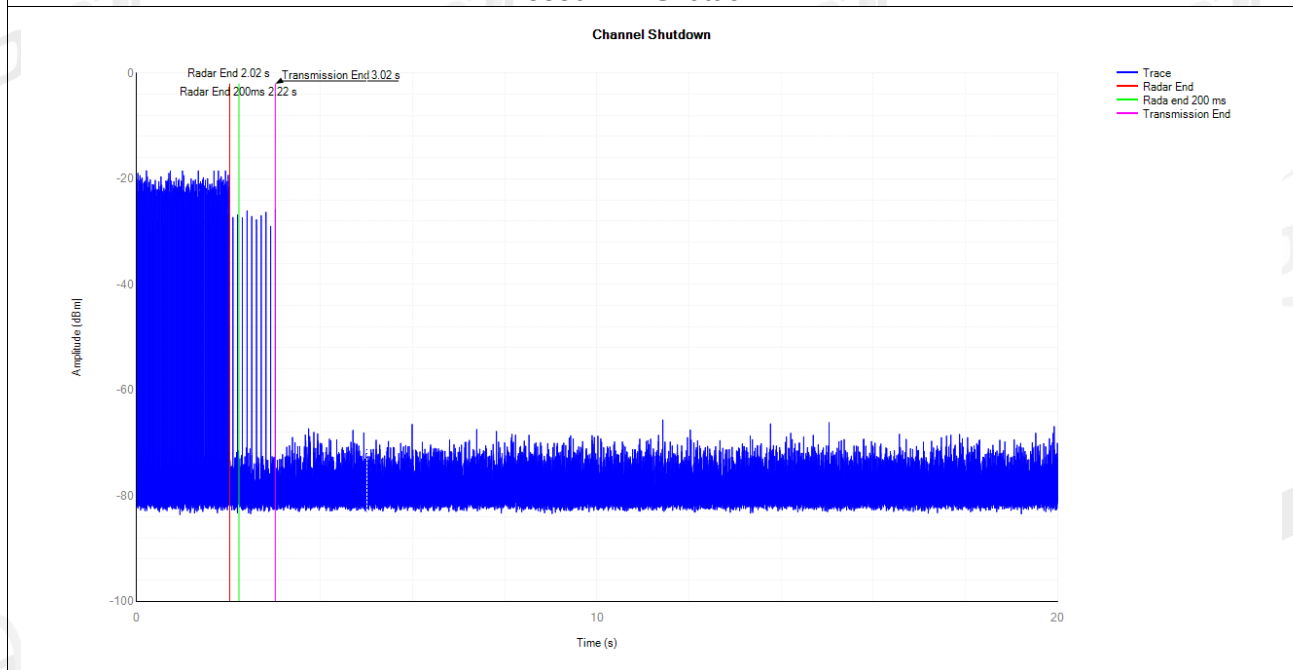
Channel Move Time and Channel Closing Transmission Time:

Mode	Frequency (MHz)	Channel Move Time (s)	Limit Channel Move Time (s)	Close Transmission Time (s)	Limit Close Transmission Time (s)	Close Transmission Time after 200ms(s)	Limit Close Transmission Time after 200ms (s)	Verdict
20MHz	5700	1.040	10	0.032	0.26	0.011	0.06	Pass
40MHz	5310	0.996	10	0.011	0.26	0.009	0.06	Pass
80MHz	5530	0.992	10	0.012	0.26	0.009	0.06	Pass





5530MHz Shutdown

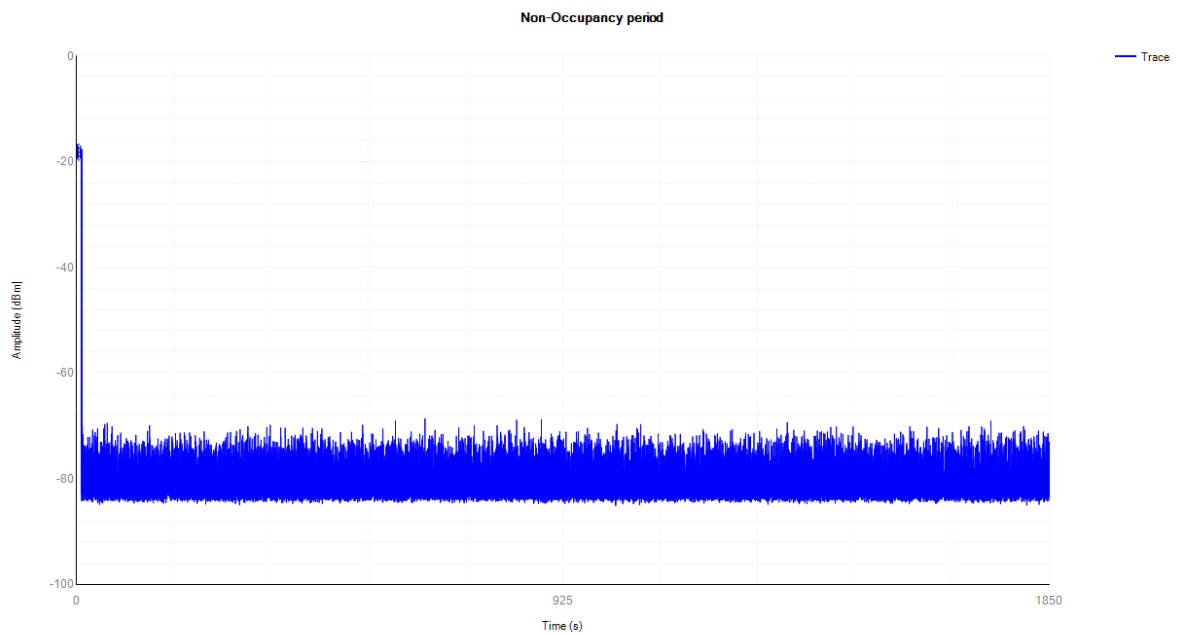


Non-Occupancy Period:

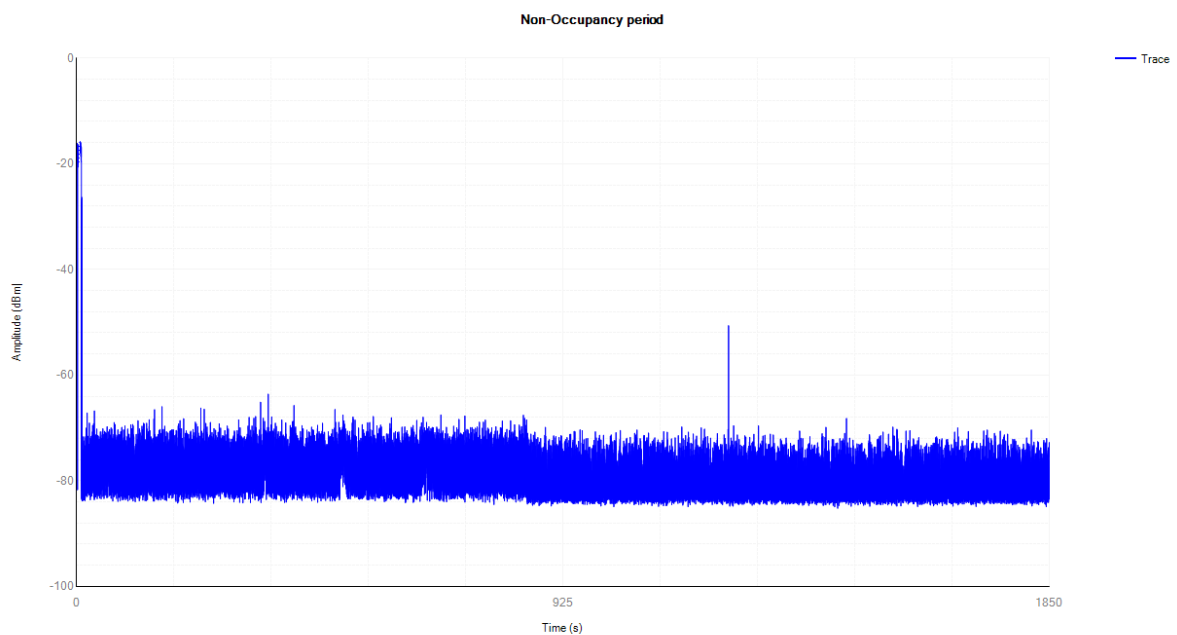
Frequency [MHz]	Result	Limit[s]	Verdict
5700	see test graph	≥1800	PASS
5530	see test graph	≥1800	PASS

Test Graphs

5700MHz Non-Occupancy



5530MHz Non-Occupancy



7.5. Detection Bandwidth

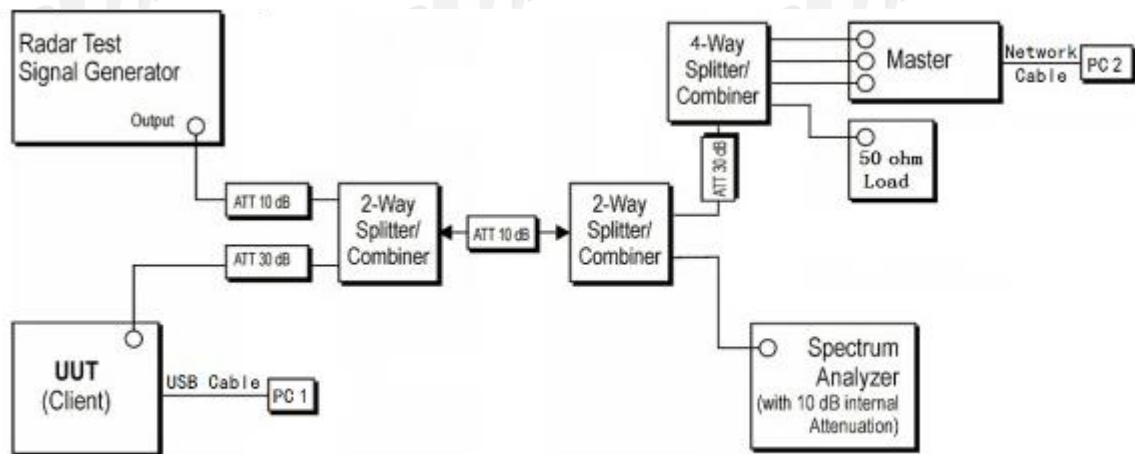
7.6. Detection Bandwidth Limit

Frequency (MHz)	Channel Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	UNII Detection Bandwidth (MHz)
5700	20	17.563	40
5310	40	35.974	80
5530	80	75.262	158
U-NII Detection Bandwidth is Minimum 100% of the U-NII 99% transmission power bandwidth. radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.			

7.7. Test Procedure

- (1) Starting at the center frequency of the UUT 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 Table 4. Repeat this measurement in 1MHz steps at frequencies 5 MHz below where the detection rate begins to fall. Record the highest frequency (denote as FH) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies above FH is not required to demonstrate compliance. Starting at the center frequency of the UUT 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 Table 4. Repeat this measurement in 1MHz steps at frequencies 5 MHz above where the detection rate begins to fall. Record the lowest frequency (denote as FL) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies below FL is not required to demonstrate compliance.
- (2) The U-NII Detection Bandwidth is calculated as follows: $\text{U-NII Detection Bandwidth} = \text{FH} - \text{FL}$
- (3) The U-NII Detection Bandwidth must meet the U-NII Detection Bandwidth criterion specified in Table 4. Otherwise, the UUT does not comply with DFS requirements. This is essential to ensure that the UUT is capable of detecting Radar Waveforms across the same frequency spectrum that contains the significant energy from the system. In the case that the U-NII Detection Bandwidth is greater than or equal to the 99 percent power bandwidth for the measured FH and FL, the test can be truncated and the U-NII Detection Bandwidth can be reported as the measured FH and FL.

7.8. Test setup



7.9. Test Result

Mode	Frequency (MHz)	Offset (MHz)	Detection Threshold (dBm)	Total No.	Detected No.	Detection Rate (%)	Limit (%)	Verdict
20MHz	5700	-11	-44.2	10	10	100.00	90	Pass
20MHz	5700	-10	-44.2	10	10	100.00	90	Pass
20MHz	5700	-5	-44.2	10	10	100.00	90	Pass
20MHz	5700	0	-44.2	10	10	100.00	90	Pass
20MHz	5700	5	-44.2	10	10	100.00	90	Pass
20MHz	5700	10	-44.2	10	10	100.00	90	Pass
20MHz	5700	11	-44.2	10	10	100.00	90	Pass
40MHz	5310	-19	-44.2	10	10	100.00	90	Pass
40MHz	5310	-18	-44.2	10	10	100.00	90	Pass
40MHz	5310	-15	-44.2	10	10	100.00	90	Pass
40MHz	5310	-10	-44.2	10	10	100.00	90	Pass
40MHz	5310	-5	-44.2	10	10	100.00	90	Pass
40MHz	5310	0	-44.2	10	10	100.00	90	Pass
40MHz	5310	5	-44.2	10	10	100.00	90	Pass
40MHz	5310	10	-44.2	10	10	100.00	90	Pass
40MHz	5310	15	-44.2	10	10	100.00	90	Pass
40MHz	5310	18	-44.2	10	10	100.00	90	Pass
40MHz	5310	19	-44.2	10	10	100.00	90	Pass
80MHz	5530	-39	-44.2	10	10	100.00	90	Pass
80MHz	5530	-38	-44.2	10	10	100.00	90	Pass
80MHz	5530	-35	-44.2	10	10	100.00	90	Pass
80MHz	5530	-30	-44.2	10	10	100.00	90	Pass
80MHz	5530	-25	-44.2	10	10	100.00	90	Pass
80MHz	5530	-20	-44.2	10	10	100.00	90	Pass
80MHz	5530	-15	-44.2	10	10	100.00	90	Pass
80MHz	5530	-10	-44.2	10	10	100.00	90	Pass
80MHz	5530	-5	-44.2	10	10	100.00	90	Pass
80MHz	5530	0	-44.2	10	10	100.00	90	Pass
80MHz	5530	5	-44.2	10	10	100.00	90	Pass
80MHz	5530	10	-44.2	10	10	100.00	90	Pass
80MHz	5530	15	-44.2	10	10	100.00	90	Pass

80MHz	5530	20	-44.2	10	10	100.00	90	Pass
80MHz	5530	25	-44.2	10	10	100.00	90	Pass
80MHz	5530	30	-44.2	10	10	100.00	90	Pass
80MHz	5530	35	-44.2	10	10	100.00	90	Pass
80MHz	5530	38	-44.2	10	10	100.00	90	Pass
80MHz	5530	39	-44.2	10	10	100.00	90	Pass

8. Statistical Performance Check

8.1. Statistical Performance Check Limit

Radar Type	Minimum Percentage of Successful Detection	Minimum Trials
1	60%	30
2	60%	30
3	60%	30
4	60%	30
Aggregate (Type1 to 4)	80%	120
5	80%	30
6	70%	30

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

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

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

8.2. Test Procedure

The steps below define the procedure to determine the minimum percentage of successful detection requirements found in Tables 5-7 when a radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device (In-Service Monitoring).

- One frequency will be chosen from the Operating Channels of the UUT within the 5250-5350 MHz or 5470-5725 MHz bands.
- In case the UUT is a U-NII device operating as a Client Device (with or without Radar Detection), a U-NII device operating as a Master Device will be used to allow the UUT (Client device) to Associate with the Master Device. In case the UUT 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 UUT (Master). In both cases for conducted tests, the Radar Waveform generator will be connected to the Master Device. 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.
- Stream the channel loading test file from the Master Device to the Client Device on the test Channel for the entire period of the test.

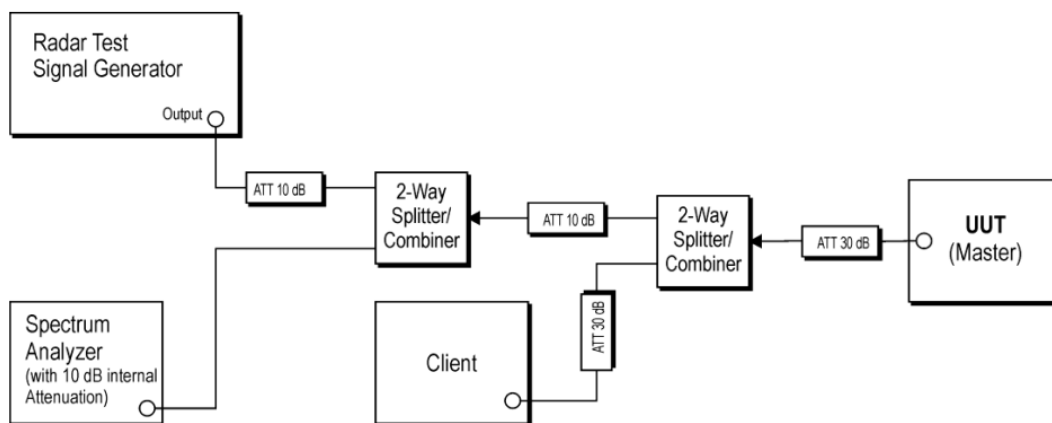
d) At time T0 the Radar Waveform generator sends the individual waveform for each of the Radar Types 1- 6 in Tables 5-7, at levels defined in Table 3, on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

e) Observe the transmissions of the UUT at the end of the Burst on the Operating Channel for duration greater than 10 seconds for Radar Type 0 to ensure detection occurs.

f) Observe the transmissions of the UUT 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.

g) In case the UUT is a U-NII device operating as a Client Device with In-Service Monitoring, perform steps a) to f).

8.3. Test setup



8.4. Test Result

Bandwidth [MHz]	Frequency [MHz]	Radar Type	Total Times	Detected Times	Probability (%)	Limit (%)	Verdict
20	5700	Type1	30	27	90.00	60	PASS
		Type2	30	23	76.67	60	PASS
		Type3	30	23	76.67	60	PASS
		Type4	30	25	83.33	60	PASS
		Type 1-4	---	---	81.67	80	PASS
		Type5	30	30	100.00	80	PASS
		Type6	30	29	96.67	70	PASS
40	5310	Type1	30	30	100.00	60	PASS
		Type2	30	28	93.33	60	PASS
		Type3	30	28	93.33	60	PASS
		Type4	30	26	86.67	60	PASS
		Type 1-4	---	---	93.33	80	PASS
		Type5	30	29	96.67	80	PASS
		Type6	30	21	70.00	70	PASS
80	5530	Type1	30	28	93.33	60	PASS
		Type2	30	28	93.33	60	PASS
		Type3	30	29	96.67	60	PASS
		Type4	30	27	90.00	60	PASS
		Type 1-4	---	---	93.33	80	PASS
		Type5	30	30	100.00	80	PASS
		Type6	30	30	100.00	70	PASS

Frequency (MHz)	20M Bandwidth	Radar Signal Type					
	Trial No.	1	2	3	4	5	6
5700MHz	0	1	0	1	1	1	1
	1	1	1	1	1	1	1
	2	1	1	1	1	1	1
	3	1	0	1	1	1	1
	4	1	1	4	1	1	1
	5	0	0	1	1	1	1
	6	1	1	1	1	1	1
	7	1	1	7	1	1	1
	8	1	1	1	1	1	0
	9	1	1	1	1	1	1
	10	1	1	1	1	1	1
	11	1	1	1	1	1	1
	12	1	1	1	0	1	1
	13	1	1	1	1	1	1
	14	1	0	1	1	1	1
	15	1	1	1	0	1	1
	16	1	1	1	0	1	1
	17	1	1	1	0	1	1
	18	0	0	1	1	1	1
	19	1	1	1	1	1	1
	20	1	1	1	1	1	1

21	1	1	1	1	1	1
22	1	1	0	1	1	1
23	1	1	0	1	1	1
24	1	1	1	1	1	1
25	1	1	0	1	1	1
26	1	0	1	1	1	1
27	0	0	1	1	1	1
28	1	1	0	1	1	1
29	1	1	0	1	1	1
Detection Probability(%)	90.00%	76.67%	76.67%	86.67%	100.00%	96.67%
Limit(%)	60%	60%	60%	60%	80%	70%
Note: Detection (1: Yes; 0: No)						

Frequency (MHz)	40M Bandwidth	Radar Signal Type					
	Trial No.	1	2	3	4	5	6
5310MHz	0	1	1	1	1	1	1
	1	1	0	1	1	1	1
	2	1	1	1	1	1	1
	3	1	1	1	0	1	1
	4	1	1	1	0	1	1
	5	1	1	1	1	1	0
	6	1	1	1	1	1	0
	7	1	1	1	1	1	0
	8	1	1	1	1	1	0
	9	1	1	1	1	1	0
	10	1	1	1	1	1	1
	11	1	1	1	1	1	1
	12	1	1	1	1	1	1
	13	1	1	1	1	1	1
	14	1	1	1	1	1	0
	15	1	1	0	1	1	1
	16	1	1	1	1	1	1
	17	1	1	1	1	1	1
	18	1	1	1	0	1	1
	19	1	1	1	1	1	1
	20	1	1	1	1	1	1
	21	1	1	1	1	1	1
	22	1	0	1	0	1	1
	23	1	1	1	1	1	1
	24	1	1	1	1	0	1
	25	1	1	1	1	1	0
	26	1	1	1	1	1	0
	27	1	1	1	1	1	0
	28	1	1	1	1	1	1
	29	1	1	0	1	1	1

Detection Probability(%)	100.00%	93.33%	93.33%	86.67%	96.67%	70.00%
Limit(%)	60%	60%	60%	60%	80%	70%
Note: Detection (1: Yes; 0: No)						

Frequency (MHz)	80M Bandwidth	Radar Signal Type					
	Trial No.	1	2	3	4	5	6
5530MHz	0	1	1	1	1	1	1
	1	1	1	1	1	1	1
	2	1	1	1	0	1	1
	3	1	1	1	1	1	1
	4	1	1	1	1	1	1
	5	1	1	1	1	1	1
	6	1	1	1	1	1	1
	7	1	1	1	1	1	1
	8	1	1	1	1	1	1
	9	1	0	1	1	1	1
	10	1	1	1	1	1	1
	11	1	1	1	1	1	1
	12	1	1	1	1	1	1
	13	1	1	1	1	1	1
	14	1	1	1	1	1	1
	15	1	1	0	1	1	1
	16	1	1	1	0	1	1
	17	1	1	1	0	1	1
	18	0	1	1	1	1	1
	19	1	1	1	1	1	1
	20	1	1	1	1	1	1
	21	1	1	1	1	1	1
	22	1	1	1	1	1	1
	23	1	1	1	1	1	1
	24	1	1	1	1	1	1
	25	1	0	1	1	1	1
	26	0	1	1	1	1	1
	27	1	1	1	1	1	1
	28	1	1	1	1	1	1
	29	1	1	1	1	1	1
	Detection Probability(%)	93.33%	93.33%	96.67%	90.00%	100.00%	100.00%
	Limit(%)	60%	60%	60%	60%	80%	70%
	Note: Detection (1: Yes; 0: No)						

RADAR TEST WAVEFORMS

Radar Type	Trial ID	Pulse width(μ s)	PRI(μ s)	Pulses per Burst
Type1	0	1.0	938.0	57
Type1	1	1.0	698.0	76
Type1	2	1.0	618.0	86
Type1	3	1.0	538.0	99
Type1	4	1.0	878.0	61
Type1	5	1.0	3066.0	18
Type1	6	1.0	638.0	83
Type1	7	1.0	918.0	58
Type1	8	1.0	838.0	63
Type1	9	1.0	858.0	62
Type1	10	1.0	798.0	67
Type1	11	1.0	718.0	74
Type1	12	1.0	578.0	92
Type1	13	1.0	598.0	89
Type1	14	1.0	558.0	95
Type1	15	1.0	2536.0	21
Type1	16	1.0	966.0	55
Type1	17	1.0	827.0	64
Type1	18	1.0	2501.0	22
Type1	19	1.0	2595.0	21
Type1	20	1.0	1114.0	48
Type1	21	1.0	1302.0	41
Type1	22	1.0	3045.0	18
Type1	23	1.0	1624.0	33
Type1	24	1.0	2878.0	19
Type1	25	1.0	1027.0	52
Type1	26	1.0	2485.0	22
Type1	27	1.0	1600.0	33
Type1	28	1.0	1172.0	46
Type1	29	1.0	1177.0	45
Type2	0	3.2	179.0	26
Type2	1	1.1	207.0	23
Type2	2	2.1	230.0	24
Type2	3	4.8	200.0	29
Type2	4	3.9	214.0	28
Type2	5	2.9	222.0	26
Type2	6	3.2	204.0	26
Type2	7	2.5	192.0	25
Type2	8	3.1	164.0	26
Type2	9	1.2	156.0	23
Type2	10	3.9	210.0	27
Type2	11	4.6	201.0	29
Type2	12	3.2	162.0	26
Type2	13	2.2	197.0	25
Type2	14	4.5	163.0	29
Type2	15	3.0	203.0	26
Type2	16	5.0	168.0	29
Type2	17	2.4	217.0	25
Type2	18	2.9	191.0	26
Type2	19	2.3	166.0	25
Type2	20	3.7	150.0	27
Type2	21	2.2	176.0	25
Type2	22	4.9	195.0	29
Type2	23	2.9	202.0	26
Type2	24	2.5	178.0	25
Type2	25	1.1	206.0	23
Type2	26	3.8	155.0	27
Type2	27	4.7	157.0	29
Type2	28	2.4	224.0	25
Type2	29	4.2	159.0	28
Type3	0	8.2	355.0	17
Type3	1	6.1	487.0	16

Type3	2	7.1	344.0	16
Type3	3	9.8	288.0	18
Type3	4	8.9	230.0	18
Type3	5	7.9	432.0	17
Type3	6	8.2	207.0	17
Type3	7	7.5	443.0	17
Type3	8	8.1	439.0	17
Type3	9	6.2	223.0	16
Type3	10	8.9	208.0	18
Type3	11	9.6	463.0	18
Type3	12	8.2	441.0	17
Type3	13	7.2	323.0	16
Type3	14	9.5	297.0	18
Type3	15	8.0	412.0	17
Type3	16	10.0	324.0	18
Type3	17	7.4	271.0	17
Type3	18	7.9	349.0	17
Type3	19	7.3	409.0	16
Type3	20	8.7	373.0	18
Type3	21	7.2	254.0	16
Type3	22	9.9	274.0	18
Type3	23	7.9	278.0	17
Type3	24	7.5	317.0	17
Type3	25	6.1	260.0	16
Type3	26	8.8	211.0	18
Type3	27	9.7	272.0	18
Type3	28	7.4	264.0	17
Type3	29	9.2	284.0	18
Type4	0	16.0	355.0	14
Type4	1	11.3	487.0	12
Type4	2	13.5	344.0	13
Type4	3	19.4	288.0	16
Type4	4	17.5	230.0	15
Type4	5	15.3	432.0	14
Type4	6	15.9	207.0	14
Type4	7	14.3	443.0	13
Type4	8	15.8	439.0	14
Type4	9	11.5	223.0	12
Type4	10	17.4	208.0	15
Type4	11	19.0	463.0	16
Type4	12	16.0	441.0	14
Type4	13	13.8	323.0	13
Type4	14	18.9	297.0	16
Type4	15	15.5	412.0	14
Type4	16	19.9	324.0	16
Type4	17	14.1	271.0	13
Type4	18	15.2	349.0	14
Type4	19	13.8	409.0	13
Type4	20	17.1	373.0	15
Type4	21	13.8	254.0	13
Type4	22	19.8	274.0	16
Type4	23	15.3	278.0	14
Type4	24	14.5	317.0	13
Type4	25	11.3	260.0	12
Type4	26	17.3	211.0	15
Type4	27	19.2	272.0	16
Type4	28	14.2	264.0	13
Type4	29	18.2	284.0	15

Radar Type 5 Statistical Performance

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
0	0	636185	77.8	13	2	1665	1477	-
	1	32674	51.9	13	1	1074	-	-
	2	226294	63.8	13	1	1584	-	-
	3	417976	96.6	13	3	1682	1786	1843
	4	611152	85.9	13	3	1795	1215	1729
	5	8789	73.7	13	2	1198	1549	-
	6	201917	77.2	13	2	1837	1819	-
	7	395530	68.4	13	2	1587	1114	-
	8	588564	76.7	13	2	2000	1155	-
	9	783794	53.2	13	1	1147	-	-
	10	177933	85.7	13	3	1433	1695	1394
	11	370624	94.3	13	3	1670	1426	1935
	12	564893	77.6	13	2	1294	1671	-
	13	759583	65.7	13	1	1512	-	-
	14	154262	93.5	13	3	1444	1130	1468

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
1	0	653020	75	5	2	1880	1527	-
	1	1015643	99.4	5	3	1401	1262	1257
	2	1379398	67.4	5	2	1531	1403	-
	3	245489	73.6	5	2	1449	1041	-
	4	609113	65.9	5	1	1432	-	-
	5	970852	83.8	5	3	1356	1292	1419
	6	1335913	65.5	5	1	1543	-	-
	7	200406	98.6	5	3	1548	1796	1728

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
2	0	409565	73.8	9	2	1806	1538	-
	1	673692	69.5	9	2	1117	1649	-
	2	938562	51.9	9	1	1651	-	-
	3	113209	84.6	9	3	1976	1032	1271
	4	376726	95.4	9	3	1060	1903	1388
	5	641212	68	9	2	1368	1351	-
	6	903714	89.6	9	3	1338	1514	1573
	7	80863	81.9	9	2	1022	1689	-
	8	344067	88.3	9	3	1810	1330	1838
	9	609331	53.7	9	1	1597	-	-
	10	871542	91.3	9	3	1961	1106	1001

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
3	0	26541	68.1	19	2	1339	1355	-

1	171821	58.7	19	1	1251	-	-
2	316229	75.3	19	2	1136	1640	-
3	461864	56.4	19	1	1753	-	-
4	8677	99.7	19	3	1196	1708	1159
5	153995	57.7	19	1	1013	-	-
6	299238	59.5	19	1	1072	-	-
7	443177	80	19	2	1482	1369	-
8	587671	82	19	2	1993	1197	-
9	135674	82.8	19	2	1883	1005	-
10	279928	88	19	3	1061	1928	1101
11	424279	93.2	19	3	1207	1907	1223
12	570132	70.4	19	2	1526	1360	-
13	117439	95.3	19	3	1171	1955	1775
14	262502	81.9	19	2	1690	1545	-
15	406573	98.5	19	3	1975	1169	1062
16	553328	65	19	1	1767	-	-
17	99799	85.4	19	3	1011	1637	1425
18	244095	91.6	19	3	1878	1445	1325
19	390012	67.3	19	2	1091	1218	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
4	0	629614	67.9	16	2	1320	1133	-
	1	96856	62.3	16	1	1957	-	-
	2	267719	53.3	16	1	1592	-	-
	3	436784	90	16	3	1900	1153	1346
	4	608289	77.1	16	2	1166	1646	-
	5	75610	83.9	16	3	1278	1232	1459
	6	245638	89.1	16	3	1240	1384	1939
	7	416355	81.8	16	2	1833	1676	-
	8	588736	50.3	16	1	1075	-	-
	9	54571	87.1	16	3	1116	1996	1756
	10	225175	71.3	16	2	1225	1815	-
	11	394825	97.5	16	3	1884	1465	1132
	12	565361	90.6	16	3	1561	1040	1354
	13	33643	86.3	16	3	1596	1183	1792
	14	203957	97.6	16	3	1365	1073	1361
	15	373812	84.7	16	3	1021	1718	1854
	16	544060	99.7	16	3	1150	1244	1988

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
5	0	15438	92.9	12	3	1085	1564	1407
	1	222486	67.7	12	2	1744	1747	-
	2	430731	65.8	12	1	1092	-	-
	3	637784	56.3	12	1	1851	-	-
	4	845342	53.7	12	1	1727	-	-
	5	196720	83.5	12	3	1679	1930	1025

6	404955	65.8	12	1	1519	-	-
7	610711	85.9	12	3	1134	1034	1808
8	818057	76.3	12	2	1606	1926	-
9	171459	81.5	12	2	1891	1714	-
10	377969	89.4	12	3	1310	1594	1827
11	586875	63.4	12	1	1568	-	-
12	792834	69.6	12	2	1307	1925	-
13	146044	74.5	12	2	1264	1846	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
6	0	329022	96.6	13	3	1182	1609	1581
	1	521718	96.7	13	3	1829	1799	1154
	2	714222	86.5	13	3	1923	1396	1865
	3	112450	73.3	13	2	1908	1318	-
	4	306283	55.8	13	1	1688	-	-
	5	500239	55.4	13	1	1145	-	-
	6	690932	85.3	13	3	1336	1504	1820
	7	88645	79.4	13	2	1344	1893	-
	8	282508	65.7	13	1	1476	-	-
	9	475842	68.6	13	2	1008	1028	-
	10	667887	77.7	13	2	1972	1835	-
	11	64845	79.6	13	2	1882	1331	-
	12	257755	94.9	13	3	1830	1070	1349
	13	452335	61.4	13	1	1451	-	-
	14	643395	90.6	13	3	1233	1562	1887

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
7	0	51446	52.6	10	1	1210	-	-
	1	292696	84.1	10	3	1314	1725	1529
	2	533989	97.7	10	3	1139	1868	1805
	3	775564	97.3	10	3	1341	1446	1755
	4	21542	98.8	10	3	1544	1386	1302
	5	263385	72.2	10	2	1771	1184	-
	6	505581	67.6	10	2	1175	1027	-
	7	747058	75.7	10	2	1026	1871	-
	8	989976	60.9	10	1	1798	-	-
	9	234024	64.2	10	1	1138	-	-
	10	475207	78.8	10	2	1784	1604	-
	11	715825	87.5	10	3	1511	1712	1683

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
8	0	823112	54.1	13	1	1415	-	-
	1	174965	50.7	13	1	1221	-	-
	2	382216	52.3	13	1	1974	-	-

3	587395	99.8	13	3	1558	1696	1949
4	796897	68.4	13	2	1014	1099	-
5	149042	80.8	13	2	1736	1505	-
6	356750	62.5	13	1	1778	-	-
7	563824	74.8	13	2	1149	1204	-
8	772314	50.8	13	1	1049	-	-
9	123796	54	13	1	1417	-	-
10	331215	63	13	1	1730	-	-
11	537402	91.8	13	3	1143	1270	1347
12	744805	79.3	13	2	1274	1992	-
13	98172	64.3	13	1	1937	-	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
9	0	535615	63.4	6	1	1043	-	-
	1	898668	52	6	1	1863	-	-
	2	1259235	97.2	6	3	1973	1605	1583
	3	127106	78.7	6	2	1466	1743	-
	4	490358	74.2	6	2	1280	1219	-
	5	852409	88.7	6	3	1293	1934	1273
	6	1217152	54.3	6	1	1991	-	-
	7	82296	95.4	6	3	1580	1555	1791

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
10	0	209249	73.7	16	2	1208	1497	-
	1	378386	97.4	16	3	1942	1754	1613
	2	548411	91.7	16	3	1999	1702	1462
	3	17733	66.2	16	1	1393	-	-
	4	187952	70.8	16	2	1968	1821	-
	5	359277	52.3	16	1	1740	-	-
	6	528886	78.9	16	2	1308	1984	-
	7	700166	70.9	16	2	1050	1358	-
	8	167197	75.6	16	2	1437	1430	-
	9	338262	59.1	16	1	1697	-	-
	10	508324	77	16	2	1397	1304	-
	11	678689	67.9	16	2	1803	1083	-
	12	146031	81.2	16	2	1720	1932	-
	13	316923	78.7	16	2	1247	1121	-
	14	488056	63.3	16	1	1634	-	-
	15	657326	68.9	16	2	1849	1423	-
	16	125509	59.3	16	1	1093	-	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
11	0	263736	98.9	19	3	1381	1680	1488
	1	416459	82.3	19	2	1716	1855	-

2	567902	86.7	19	3	1211	1400	1919
3	92979	89.7	19	3	1861	1068	1282
4	245155	98.6	19	3	1507	1194	1461
5	397609	71.1	19	2	1921	1789	-
6	551431	55.9	19	1	1947	-	-
7	74413	67.9	19	2	1350	1372	-
8	226559	84.4	19	3	1203	1107	1443
9	380056	58.8	19	1	1715	-	-
10	533408	65.6	19	1	1017	-	-
11	55547	78.5	19	2	1911	1704	-
12	207876	82.3	19	2	1845	1686	-
13	359771	90.1	19	3	1938	1071	1266
14	511297	90.2	19	3	1989	1089	1950
15	36803	83.1	19	2	1943	1406	-
16	189652	58.8	19	1	1742	-	-
17	341809	77	19	2	1187	1657	-
18	495737	55	19	1	1012	-	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
12	0	22911	58.1	13	1	1929	-	-
	1	216473	52.1	13	1	1910	-	-
	2	410004	59.9	13	1	1971	-	-
	3	603671	60.2	13	1	1812	-	-
	4	794160	95.9	13	3	1399	1906	1608
	5	192251	79.9	13	2	1626	1859	-
	6	385590	78.5	13	2	1238	1917	-
	7	579862	53.8	13	1	1763	-	-
	8	773423	64.7	13	1	1800	-	-
	9	168898	61.4	13	1	1390	-	-
	10	361606	83.2	13	2	1692	1858	-
	11	553866	84.7	13	3	1533	1677	1638
	12	747241	88.7	13	3	1703	1528	1058
	13	144710	78.3	13	2	1258	1951	-
	14	337856	69.3	13	2	1731	1717	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
13	0	664275	75.3	10	2	1994	1612	-
	1	907886	56.3	10	1	1456	-	-
	2	151316	67.7	10	2	1617	1185	-
	3	393746	55.6	10	1	1337	-	-
	4	635093	75.2	10	2	1421	1267	-
	5	876993	76.3	10	2	1359	1305	-
	6	121278	85.7	10	3	1547	1362	1924
	7	362696	98.4	10	3	1873	1550	1249
	8	604342	86.4	10	3	1779	1439	1046
	9	846453	93.6	10	3	1059	1031	1452

	10	91871	63.3	10	1	1328	-	-
	11	333050	92.4	10	3	1412	1673	1322

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
14	0	361323	93.3	18	3	1983	1912	1535
	1	515261	69.1	18	2	1102	1794	-
	2	39025	86.9	18	3	1044	1152	1148
	3	190900	84.9	18	3	1894	1948	1118
	4	343941	72.3	18	2	1094	1916	-
	5	497624	51.7	18	1	1447	-	-
	6	20319	58.3	18	1	1429	-	-
	7	172999	60.8	18	1	1979	-	-
	8	325872	57.1	18	1	1641	-	-
	9	475841	88.9	18	3	1886	1964	1489
	10	1489	72	18	2	1909	1297	-
	11	153647	90.9	18	3	1261	1566	1370
	12	307096	59.8	18	1	1552	-	-
	13	458804	70	18	2	1759	1291	-
	14	610798	67.2	18	2	1625	1881	-
	15	134759	91.2	18	3	1382	1832	1661
	16	288306	56.5	18	1	1483	-	-
	17	441296	51.2	18	1	1237	-	-
	18	592780	74.1	18	2	1471	1245	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
15	0	158286	76.9	12	2	1110	1140	-
	1	366024	50.2	12	1	1316	-	-
	2	573452	62.9	12	1	1520	-	-
	3	780619	64.7	12	1	1902	-	-
	4	132455	83.8	12	3	1410	1097	1621
	5	340207	65.4	12	1	1944	-	-
	6	548208	53.2	12	1	1024	-	-
	7	755333	51.7	12	1	1603	-	-
	8	107117	78.7	12	2	1804	1168	-
	9	314500	72.4	12	2	1030	1343	-
	10	522447	53.8	12	1	1327	-	-
	11	728517	73.6	12	2	1524	1553	-
	12	81611	66.7	12	2	1722	1122	-
	13	288948	82.5	12	2	1404	1019	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
16	0	345766	87.6	20	3	1565	1055	1840
	1	490019	85.2	20	3	1735	1541	1408
	2	39073	84.8	20	3	1534	1889	1463

3	183923	77.9	20	2	1749	1460	-
4	328777	76.5	20	2	1518	1485	-
5	474728	60.9	20	1	1540	-	-
6	21394	83	20	2	1080	1010	-
7	165992	80.4	20	2	1824	1752	-
8	310973	67.5	20	2	1764	1181	-
9	456884	62.1	20	1	1495	-	-
10	3515	86.4	20	3	1773	1966	1263
11	147928	84.3	20	3	1593	1188	1788
12	293225	76.9	20	2	1226	1537	-
13	436922	95.8	20	3	1192	1298	1844
14	584015	55.2	20	1	1644	-	-
15	130832	59	20	1	1402	-	-
16	274684	94.5	20	3	1296	1700	1283
17	418579	91.9	20	3	1970	1978	1165
18	563464	85.2	20	3	1732	1551	1189
19	112787	69.5	20	2	1038	1224	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
17	0	429224	86.4	10	3	1259	1918	1455
	1	670241	92.2	10	3	1598	1719	1895
	2	912880	80.4	10	2	1816	1899	-
	3	158603	54.3	10	1	1335	-	-
	4	400824	53.1	10	1	1303	-	-
	5	641915	69.4	10	2	1503	1546	-
	6	883823	69.1	10	2	1279	1639	-
	7	128373	100	10	3	1375	1438	1595
	8	370379	79.6	10	2	1239	1705	-
	9	611194	88.4	10	3	1374	1579	1623
	10	855665	53.3	10	1	1016	-	-
	11	98897	65.3	10	1	1709	-	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
18	0	292143	55.3	12	1	1920	-	-
	1	499633	58.3	12	1	1797	-	-
	2	706377	72.3	12	2	1610	1039	-
	3	58989	84.8	12	3	1131	1761	1721
	4	266161	82.5	12	2	1875	1431	-
	5	474469	63.3	12	1	1095	-	-
	6	680544	80	12	2	1119	1913	-
	7	33519	90.3	12	3	1660	1853	1123
	8	240319	91.1	12	3	1539	1783	1172
	9	447400	96.6	12	3	1525	1036	1385
	10	654516	82.7	12	2	1710	1990	-
	11	8083	50.7	12	1	1234	-	-
	12	215435	78.4	12	2	1047	1109	-

	13	421325	99.5	12	3	1299	1965	1869
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Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
19	0	733725	88.6	10	3	1501	1067	1927
	1	977882	57.4	10	1	1723	-	-
	2	221197	96.6	10	3	1086	1658	1324
	3	462915	69.7	10	2	1751	1945	-
	4	705071	77.9	10	2	1642	1317	-
	5	947923	62	10	1	1866	-	-
	6	191373	88.4	10	3	1997	1077	1366
	7	432561	97.3	10	3	1790	1896	1367
	8	674004	96.2	10	3	1391	1787	1672
	9	915842	95.4	10	3	1020	1892	1414
	10	162176	54.8	10	1	1084	-	-
	11	403553	80.4	10	2	1850	1436	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
20	0	483470	74.7	15	2	1619	1611	-
	1	666072	57.1	15	1	1560	-	-
	2	98810	91.9	15	3	1392	1475	1276
	3	279914	83.1	15	2	1809	1772	-
	4	462536	50.7	15	1	1003	-	-
	5	642324	79.2	15	2	1574	1600	-
	6	76831	58.7	15	1	1186	-	-
	7	257785	71	15	2	1521	1567	-
	8	438554	79	15	2	1777	1960	-
	9	620397	68.5	15	2	1284	1428	-
	10	54310	73.5	15	2	1904	1352	-
	11	235506	70.5	15	2	1864	1115	-
	12	417036	76.6	15	2	1045	1300	-
	13	597974	81.2	15	2	1160	1675	-
	14	32086	61.8	15	1	1277	-	-
	15	212751	94.9	15	3	1450	1206	1860

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
21	0	526149	78.5	9	2	1653	1698	-
	1	767135	89.8	9	3	1174	1962	1167
	2	12955	59.4	9	1	1982	-	-
	3	254612	79.6	9	2	1633	1890	-
	4	496588	76	9	2	1112	1811	-
	5	739728	53.6	9	1	1144	-	-
	6	980872	80.9	9	2	1220	1053	-
	7	225249	61.6	9	1	1724	-	-
	8	467279	53.4	9	1	1901	-	-

	9	709720	59.9	9	1	1379	-	-
	10	951847	60.4	9	1	1453	-	-
	11	194839	91.4	9	3	1768	1726	1227

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
22	0	261858	77	20	2	1191	1363	-
	1	407646	58.1	20	1	1248	-	-
	2	552319	62.1	20	1	1836	-	-
	3	99107	76.9	20	2	1334	1236	-
	4	243514	80	20	2	1914	1852	-
	5	389464	52	20	1	1701	-	-
	6	531093	88.6	20	3	1693	1995	1905
	7	81159	72.9	20	2	1922	1387	-
	8	225245	98.5	20	3	1839	1746	1389
	9	371906	57.9	20	1	1193	-	-
	10	514197	95.9	20	3	1659	1870	1066
	11	63561	53.5	20	1	1162	-	-
	12	207510	92	20	3	1745	1654	1458
	13	353638	57.3	20	1	1834	-	-
	14	497515	70.5	20	2	1684	1586	-
	15	45553	70	20	2	1042	1664	-
	16	189821	84	20	3	1765	1630	1176
	17	335330	76.1	20	2	1557	1057	-
	18	478825	93.2	20	3	1985	1018	1340
	19	27594	96.8	20	3	1760	1614	1817

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
23	0	247117	50.1	12	1	1841	-	-
	1	453362	93.5	12	3	1590	1081	1413
	2	660875	68.8	12	2	1707	1577	-
	3	14140	56.3	12	1	1056	-	-
	4	220734	86	12	3	1953	1108	1987
	5	428367	75.2	12	2	1572	1536	-
	6	636681	54.4	12	1	1517	-	-
	7	843157	71.1	12	2	1329	1243	-
	8	195585	76.2	12	2	1940	1770	-
	9	403231	80.2	12	2	1098	1209	-
	10	610202	79.7	12	2	1588	1214	-
	11	815229	90.9	12	3	1615	1862	1601
	12	170267	68.7	12	2	1377	1441	-
	13	377306	67.4	12	2	1872	1313	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
24	0	628071	94	11	3	1643	1748	1941

1	853391	70.8	11	2	1177	1201	-
2	156223	56.3	11	1	1006	-	-
3	378734	96.7	11	3	1230	1163	1332
4	601331	90.6	11	3	1217	1582	1498
5	825462	74.5	11	2	1569	1281	-
6	128265	92.6	11	3	1065	1669	1222
7	351161	89	11	3	1493	1135	1380
8	573425	96.5	11	3	1607	1822	1602
9	798431	70.5	11	2	1141	1178	-
10	100737	94	11	3	1009	1629	1956
11	324661	55.8	11	1	1290	-	-
12	546278	87.7	11	3	1435	1963	1164

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
25	0	1253842	68.6	5	2	1306	1161	-
	1	119486	83.1	5	2	1420	1315	-
	2	482958	60.9	5	1	1687	-	-
	3	845641	77.7	5	2	1776	1158	-
	4	1208428	77.4	5	2	1793	1510	-
	5	74748	66.8	5	2	1576	1323	-
	6	438300	63.7	5	1	1333	-	-
	7	800152	91.2	5	3	1409	1681	1275

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
26	0	545865	83.6	16	3	1632	1195	1000
	1	14067	89.4	16	3	1173	1627	1656
	2	184953	55.8	16	1	1532	-	-
	3	353759	90.9	16	3	1981	1554	1998
	4	526388	54.7	16	1	1825	-	-
	5	694806	97.7	16	3	1734	1202	1250
	6	163568	67.5	16	2	1571	1434	-
	7	333410	96.7	16	3	1589	1469	1268
	8	504006	68.3	16	2	1750	1954	-
	9	675297	78.3	16	2	1591	1082	-
	10	142890	55	16	1	1427	-	-
	11	312479	84.9	16	3	1129	1936	1199
	12	482953	74.6	16	2	1959	1856	-
	13	655022	63.3	16	1	1885	-	-
	14	121457	99.8	16	3	1035	1515	1120
	15	292606	63.6	16	1	1647	-	-
	16	461322	87.3	16	3	1931	1051	1831

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
27	0	565136	85.6	19	3	1946	1078	1015

1	89970	68.6	19	2	1029	1780	-
2	243121	54.2	19	1	1111	-	-
3	396034	61.2	19	1	1104	-	-
4	546225	97.1	19	3	1157	1969	1100
5	70998	98.3	19	3	1142	1699	1622
6	224093	62.4	19	1	1655	-	-
7	376127	80.2	19	2	1126	1769	-
8	527806	87.5	19	3	1216	1448	1179
9	52247	85.8	19	3	1847	1348	1472
10	204582	88.1	19	3	1023	1124	1631
11	357941	65.3	19	1	1848	-	-
12	510977	52.5	19	1	1470	-	-
13	33698	52.3	19	1	1312	-	-
14	186023	74.1	19	2	1915	1200	-
15	339327	54.9	19	1	1479	-	-
16	491053	76.2	19	2	1376	1502	-
17	14858	60.4	19	1	1758	-	-
18	167387	81.5	19	2	1491	1103	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
28	0	507709	50.5	10	1	1857	-	-
	1	750249	55.7	10	1	1246	-	-
	2	989003	85.8	10	3	1774	1002	1967
	3	235634	76.9	10	2	1125	1474	-
	4	477675	75.1	10	2	1254	1052	-
	5	718312	92.3	10	3	1180	1486	1492
	6	960895	78.1	10	2	1301	1757	-
	7	205370	92.2	10	3	1898	1252	1713
	8	446940	89	10	3	1260	1706	1411
	9	689225	70.9	10	2	1578	1620	-
	10	932305	63.1	10	1	1782	-	-
	11	176231	55.3	10	1	1522	-	-

Statistics	Burst ID	Burst Offset (us)	Pulse Width (us)	Chirp Width (MHz)	Number of Pulses per Burst	PRI-1 (us)	PRI-2 (us)	PRI-3 (us)
29	0	277485	83.4	17	3	1454	1205	1801
	1	437880	97.3	17	3	1319	1826	1635
	2	598445	90.4	17	3	1079	1986	1674
	3	97088	91.8	17	3	1563	1151	1802
	4	257251	98.2	17	3	1876	1977	1766
	5	419893	59.5	17	1	1952	-	-
	6	580724	80	17	2	1253	1137	-
	7	77366	86.5	17	3	1054	1128	1828
	8	238032	91.1	17	3	1105	1599	1442
	9	398605	93.5	17	3	1867	1373	1087
	10	562025	60.7	17	1	1033	-	-
	11	57684	67.2	17	2	1288	1405	-

12	219083	61.8	17	1	1585	-	-
13	379234	79.4	17	2	1933	1667	-
14	540896	81.4	17	2	1096	1464	-
15	37916	65.7	17	1	1496	-	-
16	198794	76	17	2	1733	1255	-
17	359754	81	17	2	1326	1668	-

Radar Type	Trial ID	Pulse width (μ s)	PRI (μ s)	Pulses per Hop
Type6	0	1	333.3	9
Type6	1	1	333.3	9
Type6	2	1	333.3	9
Type6	3	1	333.3	9
Type6	4	1	333.3	9
Type6	5	1	333.3	9
Type6	6	1	333.3	9
Type6	7	1	333.3	9
Type6	8	1	333.3	9
Type6	9	1	333.3	9
Type6	10	1	333.3	9
Type6	11	1	333.3	9
Type6	12	1	333.3	9
Type6	13	1	333.3	9
Type6	14	1	333.3	9
Type6	15	1	333.3	9
Type6	16	1	333.3	9
Type6	17	1	333.3	9
Type6	18	1	333.3	9
Type6	19	1	333.3	9
Type6	20	1	333.3	9
Type6	21	1	333.3	9
Type6	22	1	333.3	9
Type6	23	1	333.3	9
Type6	24	1	333.3	9
Type6	25	1	333.3	9
Type6	26	1	333.3	9
Type6	27	1	333.3	9
Type6	28	1	333.3	9
Type6	29	1	333.3	9

9. Statistical Performance Check of Bridge Mode

9.1. Limit

Per KDB 905462 D02, Section 5.1 (footnote 2):

Networks Access Points with Bridge and/or MESH modes of operation are permitted to operate in the DFS bands but must employ a DFS function. The functionality of the Bridge mode as specified in §15.403(a) must be validated in the DFS test report. Devices operating as relays where they act as master and client must also employ DFS function for the master. The method used to validate the functionality must be documented and validation data must be documented. Bridge mode can be validated by performing a test statistical performance check (Section 7.8.4) on any one of the radar types. This is an abbreviated test to verify DFS functionality. MESH mode operational methodology must be submitted in the application for certification for evaluation by the FCC.

9.2. Test Procedure

The steps below define the procedure to determine the minimum percentage of successful detection requirements by any one of the radar types in Tables 5-7 when a radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device (In- Service Monitoring).

a) One frequency will be chosen from the Operating Channels of the UUT within the 5250-5350 MHz or 5470-5725 MHz bands.

b) In case the UUT is a U-NII device operating as a Client Device (with or without Radar Detection), a U-NII device operating as a Master Device will be used to allow the UUT (Client device) to Associate with the Master Device. In case the UUT 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 UUT (Master). In both cases for conducted tests, the Radar Waveform generator will be connected to the Master Device. 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.

c) Stream the channel loading test file from the Master Device to the Client Device on the test Channel for the entire period of the test.

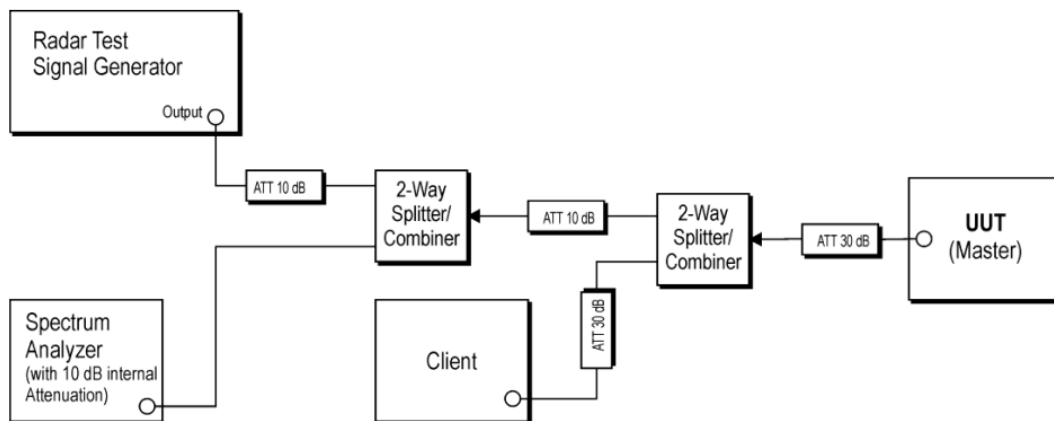
d) At time T0 the Radar Waveform generator sends the individual waveform for one type of the Radar Types in Tables 5-7, at levels defined in Table 3, on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold,

accounting for equipment variations/errors.

e) Observe the transmissions of the UUT at the end of the Burst on the Operating Channel for duration greater than 10 seconds for Radar Type 0 to ensure detection occurs.

f) Observe the transmissions of the UUT 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.

9.3. Test setup



9.4. Test Result

Bandwidth [MHz]	Frequency [MHz]	Radar Type	Pass Times	Fail Times	Probability (%)	Limit (%)	Verdict
20	5700	Type1	30	0	100.00	60	PASS
40	5510	Type1	30	0	100.00	60	PASS
80	5290	Type1	30	0	100.00	60	PASS

Test Mode	Frequency [MHz]	Radar Type	Trial ID	Pulse width(μs)	PRI(μs)	Pulses per Burst	Detection (1: Yes; 0: No)
20 MHz	5700	Type1	0	1.0	938.0	57	1
20 MHz	5700	Type1	1	1.0	698.0	76	1
20 MHz	5700	Type1	2	1.0	618.0	86	1
20 MHz	5700	Type1	3	1.0	538.0	99	1
20 MHz	5700	Type1	4	1.0	878.0	61	1
20 MHz	5700	Type1	5	1.0	3066.0	18	1
20 MHz	5700	Type1	6	1.0	638.0	83	1
20 MHz	5700	Type1	7	1.0	918.0	58	1
20 MHz	5700	Type1	8	1.0	838.0	63	1
20 MHz	5700	Type1	9	1.0	858.0	62	1
20 MHz	5700	Type1	10	1.0	798.0	67	1
20 MHz	5700	Type1	11	1.0	718.0	74	1
20 MHz	5700	Type1	12	1.0	578.0	92	1
20 MHz	5700	Type1	13	1.0	598.0	89	1
20 MHz	5700	Type1	14	1.0	558.0	95	1
20 MHz	5700	Type1	15	1.0	2536.0	21	1
20 MHz	5700	Type1	16	1.0	966.0	55	1
20 MHz	5700	Type1	17	1.0	827.0	64	1
20 MHz	5700	Type1	18	1.0	2501.0	22	1
20 MHz	5700	Type1	19	1.0	2595.0	21	1
20 MHz	5700	Type1	20	1.0	1114.0	48	1
20 MHz	5700	Type1	21	1.0	1302.0	41	1

20 MHz	5700	Type1	22	1.0	3045.0	18	1
20 MHz	5700	Type1	23	1.0	1624.0	33	1
20 MHz	5700	Type1	24	1.0	2878.0	19	1
20 MHz	5700	Type1	25	1.0	1027.0	52	1
20 MHz	5700	Type1	26	1.0	2485.0	22	1
20 MHz	5700	Type1	27	1.0	1600.0	33	1
20 MHz	5700	Type1	28	1.0	1172.0	46	1
20 MHz	5700	Type1	29	1.0	1177.0	45	1
40 MHz	5510	Type1	0	1.0	938.0	57	1
40 MHz	5510	Type1	1	1.0	698.0	76	1
40 MHz	5510	Type1	2	1.0	618.0	86	1
40 MHz	5510	Type1	3	1.0	538.0	99	1
40 MHz	5510	Type1	4	1.0	878.0	61	1
40 MHz	5510	Type1	5	1.0	3066.0	18	1
40 MHz	5510	Type1	6	1.0	638.0	83	1
40 MHz	5510	Type1	7	1.0	918.0	58	1
40 MHz	5510	Type1	8	1.0	838.0	63	1
40 MHz	5510	Type1	9	1.0	858.0	62	1
40 MHz	5510	Type1	10	1.0	798.0	67	1
40 MHz	5510	Type1	11	1.0	718.0	74	1
40 MHz	5510	Type1	12	1.0	578.0	92	1
40 MHz	5510	Type1	13	1.0	598.0	89	1
40 MHz	5510	Type1	14	1.0	558.0	95	1
40 MHz	5510	Type1	15	1.0	2536.0	21	1
40 MHz	5510	Type1	16	1.0	966.0	55	1
40 MHz	5510	Type1	17	1.0	827.0	64	1
40 MHz	5510	Type1	18	1.0	2501.0	22	1
40 MHz	5510	Type1	19	1.0	2595.0	21	1
40 MHz	5510	Type1	20	1.0	1114.0	48	1
40 MHz	5510	Type1	21	1.0	1302.0	41	1
40 MHz	5510	Type1	22	1.0	3045.0	18	1
40 MHz	5510	Type1	23	1.0	1624.0	33	1
40 MHz	5510	Type1	24	1.0	2878.0	19	1
40 MHz	5510	Type1	25	1.0	1027.0	52	1
40 MHz	5510	Type1	26	1.0	2485.0	22	1
40 MHz	5510	Type1	27	1.0	1600.0	33	1
40 MHz	5510	Type1	28	1.0	1172.0	46	1
40 MHz	5510	Type1	29	1.0	1177.0	45	1
80 MHz	5290	Type1	0	1.0	938.0	57	1
80 MHz	5290	Type1	1	1.0	698.0	76	1
80 MHz	5290	Type1	2	1.0	618.0	86	1
80 MHz	5290	Type1	3	1.0	538.0	99	1
80 MHz	5290	Type1	4	1.0	878.0	61	1
80 MHz	5290	Type1	5	1.0	3066.0	18	1
80 MHz	5290	Type1	6	1.0	638.0	83	1
80 MHz	5290	Type1	7	1.0	918.0	58	1
80 MHz	5290	Type1	8	1.0	838.0	63	1
80 MHz	5290	Type1	9	1.0	858.0	62	1
80 MHz	5290	Type1	10	1.0	798.0	67	1
80 MHz	5290	Type1	11	1.0	718.0	74	1
80 MHz	5290	Type1	12	1.0	578.0	92	1
80 MHz	5290	Type1	13	1.0	598.0	89	1
80 MHz	5290	Type1	14	1.0	558.0	95	1
80 MHz	5290	Type1	15	1.0	2536.0	21	1
80 MHz	5290	Type1	16	1.0	966.0	55	1
80 MHz	5290	Type1	17	1.0	827.0	64	1
80 MHz	5290	Type1	18	1.0	2501.0	22	1
80 MHz	5290	Type1	19	1.0	2595.0	21	1
80 MHz	5290	Type1	20	1.0	1114.0	48	1
80 MHz	5290	Type1	21	1.0	1302.0	41	1
80 MHz	5290	Type1	22	1.0	3045.0	18	1
80 MHz	5290	Type1	23	1.0	1624.0	33	1
80 MHz	5290	Type1	24	1.0	2878.0	19	1
80 MHz	5290	Type1	25	1.0	1027.0	52	1

80 MHz	5290	Type1	26	1.0	2485.0	22	1
80 MHz	5290	Type1	27	1.0	1600.0	33	1
80 MHz	5290	Type1	28	1.0	1172.0	46	1
80 MHz	5290	Type1	29	1.0	1177.0	45	1

10. Test setup photograph

Please find the detailed in APPENDIXES-Test Setup-FCC&IC.

END OF REPORT