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

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Test Limited

According to KDB 905462 D02 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 ≥ 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.	

According to KDB 905462 D02 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 to facilitate a *Channel* move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions. **Note 3:** During the *U-NII Detection Bandwidth* detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

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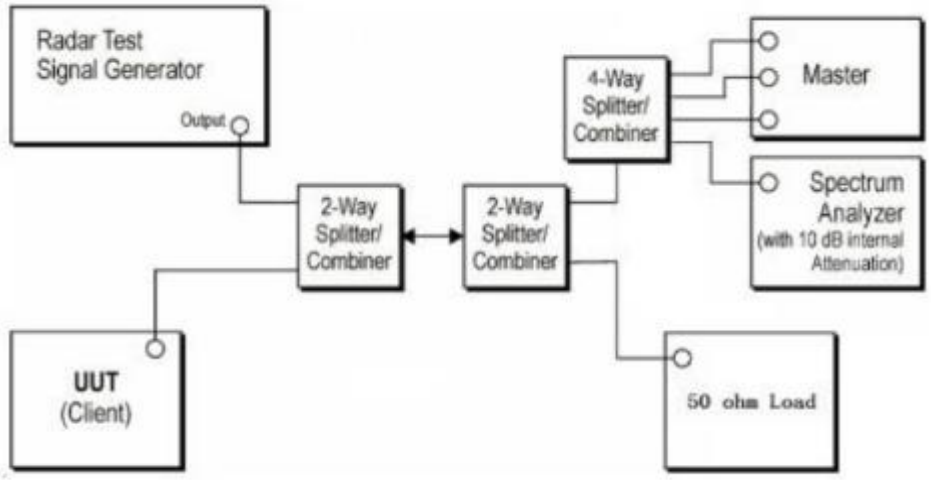
Calibration of Radar Waveform

(1) A 50ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to place of the master.
(2) The interference Radar Detection Threshold Level is -62dBm+3.7dB+1.5dB=-55.8dBm that had been taken into account the output power range and antenna gain.
(3) 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. 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 3MHz. The spectrum analyzer had offset -1.5dB to compensate RF cable loss 1.5dB.
(4) The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was -62dBm+3.7dB+1.5dB=-55.8dBm. Capture the spectrum analyzer plots on short pulse radar waveform.

Conducted Calibration Setup:



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.					

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A minimum of 30 unique waveforms are required for each of the short pulse radar types 1 through 4. If more than 30 waveforms are used for short pulse radar types 1 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. The aggregate is the average of the percentage of successful detections of short pulse radar types 1-4.

Long Pulse Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per *Burst*	Number of *Bursts*	Minimum Percentage of Successful Detection	Minimum Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Each waveform is defined as follows:

The transmission period for the Long Pulse Radar test signal is 12 seconds.

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.

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.

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.

Each pulse has a linear FM 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.

If more than one pulse is present in a Burst, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a Burst, the time between the first and second pulses is chosen independently of the time between the second and third pulses.

The 12 second transmission period is divided into even intervals. The number of intervals is equal to Burst Count. Each interval is of length (12,000,000 / Burst Count) microseconds. Each interval contains one Burst. The start time for the Burst, relative to the beginning of the interval, is between 1 and [(12,000,000 / Burst Count) – (Total Burst Length) + (One Random PRI Interval)] microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The start time for each Burst is chosen independently.

Frequency Hopping Radar Test Waveform

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

The FCC Type 6 waveform uses a static waveform with 100 bursts in the instruments ARB. In addition, the RF list mode is operated with a list containing 100 frequencies from a randomly generated list and it had be ensured that at least one of the random frequencies falls into the UNII Detection Bandwidth of the DUT. Each burst from the waveform file initiates a trigger pulse at the beginning that switches the RF list from one item to the next one.

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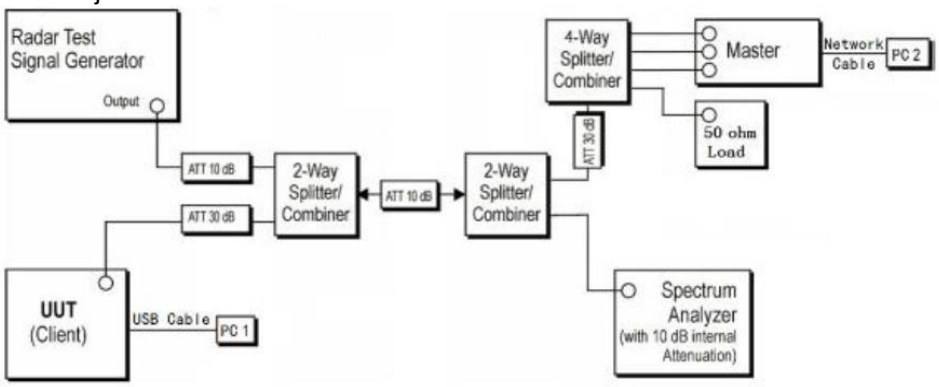
Test Setup:
Setup for client with injection at the master.



Test Result

Ref Std. Clause	Test Items	Result (PASS/FAIL)
FCC KDB 905462 7.8.1	DFS: UNII Detection Bandwidth Measurement	PASS
FCC KDB 905462 7.8.2.1	DFS: Initial Channel Availability Check Time	PASS
FCC KDB 905462 7.8.2.2	DFS: Radar Burst at the Beginning of the Channel Availability Check Time	PASS
FCC KDB 905462 7.8.2.3	DFS: Radar Burst at the End of the Channel Availability Check Time	PASS
FCC KDB 905462 7.8.3	DFS: In-Service Monitoring for Channel Move Time (CMT)	PASS
FCC KDB 905462 7.8.3	DFS: In-Service Monitoring for Channel Closing Transmission Time (CCTT)	PASS
FCC KDB 905462 7.8.3	DFS: In-Service Monitoring for Non-Occupancy Period (NOP)	PASS
FCC KDB 905462 7.8.4	DFS: Statistical Performance Check	PASS

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DFS Threshold Level

TestMode	Channel	Radar Type	Result	Limit[dbm]	Verdict
20MHz	5280	Type0	-62.39	-61.00	PASS
		Type1	-61.47	-61.00	PASS
		Type2	-61.06	-61.00	PASS
		Type3	-61.27	-61.00	PASS
		Type4	-61.14	-61.00	PASS
		Type5	-61.46	-61.00	PASS
		Type6	-61.70	-61.00	PASS
	5500	Type0	-61.97	-61.00	PASS
		Type1	-61.63	-61.00	PASS
		Type2	-61.89	-61.00	PASS
		Type3	-61.42	-61.00	PASS
		Type4	-61.70	-61.00	PASS
		Type5	-62.01	-61.00	PASS
		Type6	-62.21	-61.00	PASS
40MHz	5270	Type0	-63.54	-61.00	PASS
		Type1	-61.83	-61.00	PASS
		Type2	-61.37	-61.00	PASS
		Type3	-61.20	-61.00	PASS
		Type4	-61.20	-61.00	PASS
		Type5	-61.73	-61.00	PASS
		Type6	-62.22	-61.00	PASS
	5510	Type0	-62.65	-61.00	PASS
		Type1	-61.70	-61.00	PASS
		Type2	-61.13	-61.00	PASS
		Type3	-61.22	-61.00	PASS
		Type4	-61.07	-61.00	PASS
		Type5	-61.44	-61.00	PASS
		Type6	-61.70	-61.00	PASS
80MHz	5290	Type0	-62.83	-61.00	PASS
		Type1	-61.71	-61.00	PASS
		Type2	-61.57	-61.00	PASS
		Type3	-61.48	-61.00	PASS
		Type4	-61.56	-61.00	PASS
		Type5	-62.17	-61.00	PASS
		Type6	-61.79	-61.00	PASS
	5530	Type0	-61.66	-61.00	PASS
		Type1	-61.68	-61.00	PASS
		Type2	-61.83	-61.00	PASS
		Type3	-61.23	-61.00	PASS
		Type4	-61.31	-61.00	PASS
		Type5	-61.90	-61.00	PASS
		Type6	-61.42	-61.00	PASS

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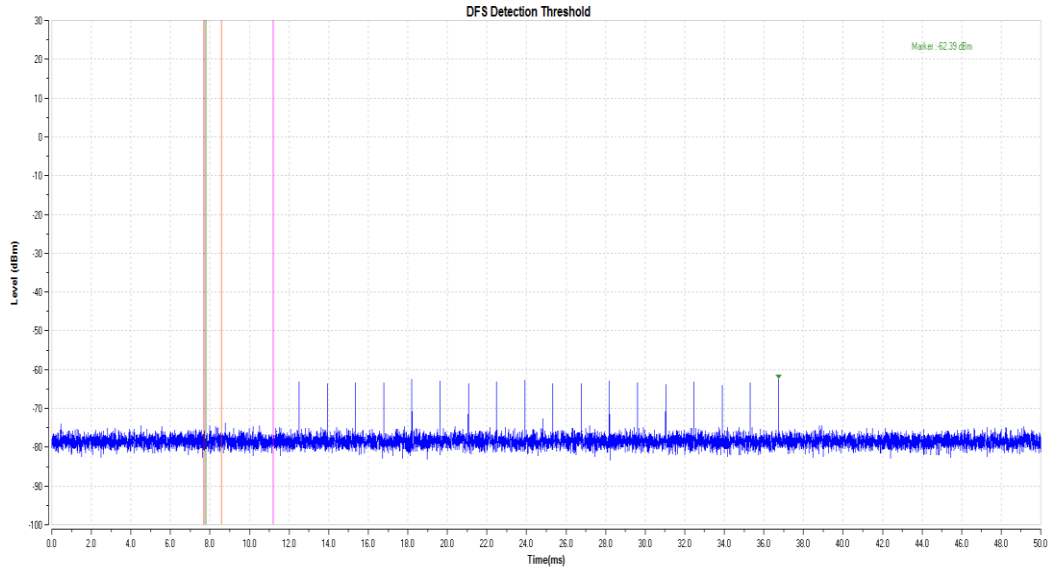

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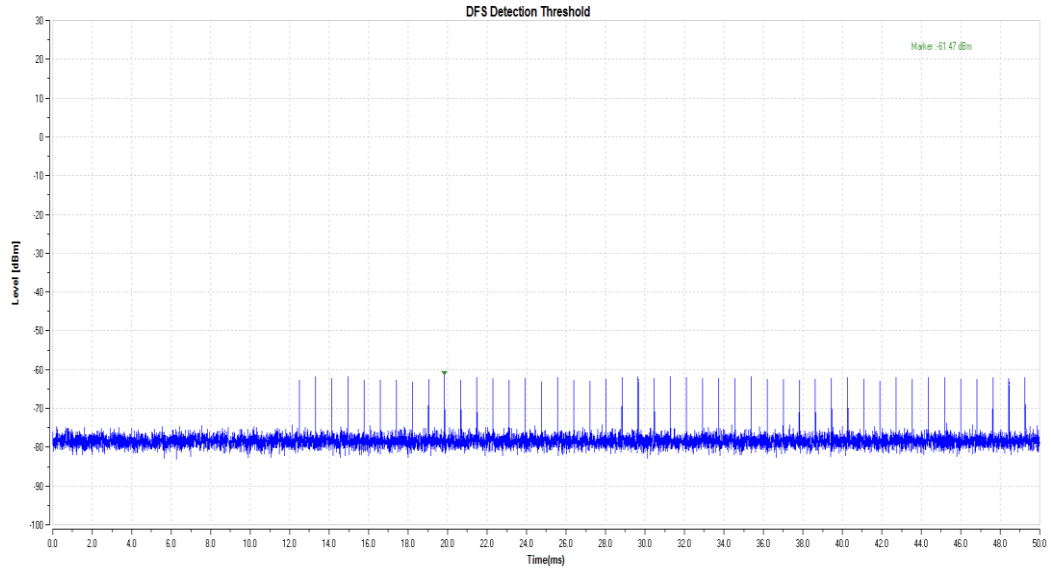

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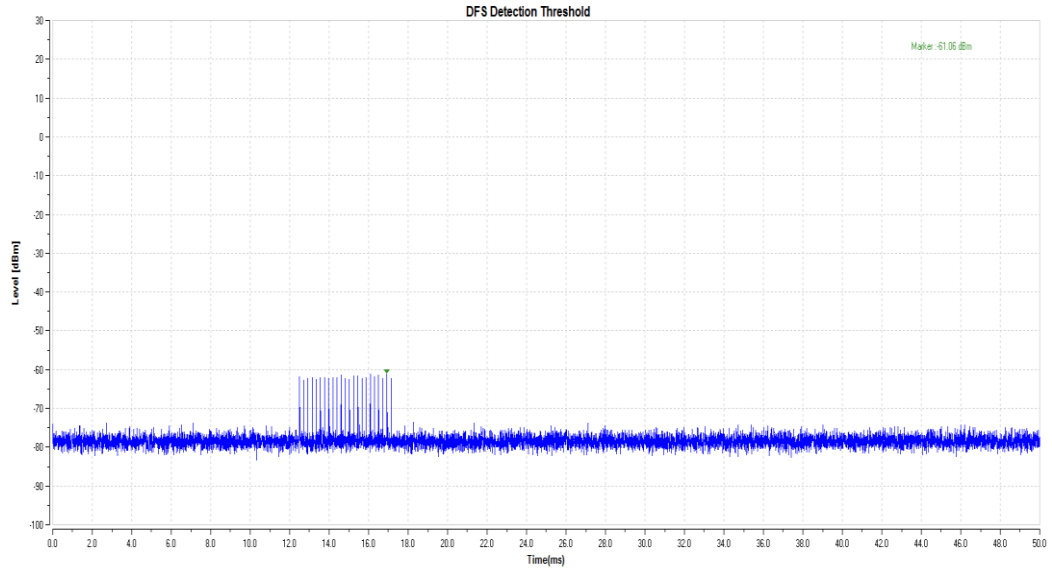

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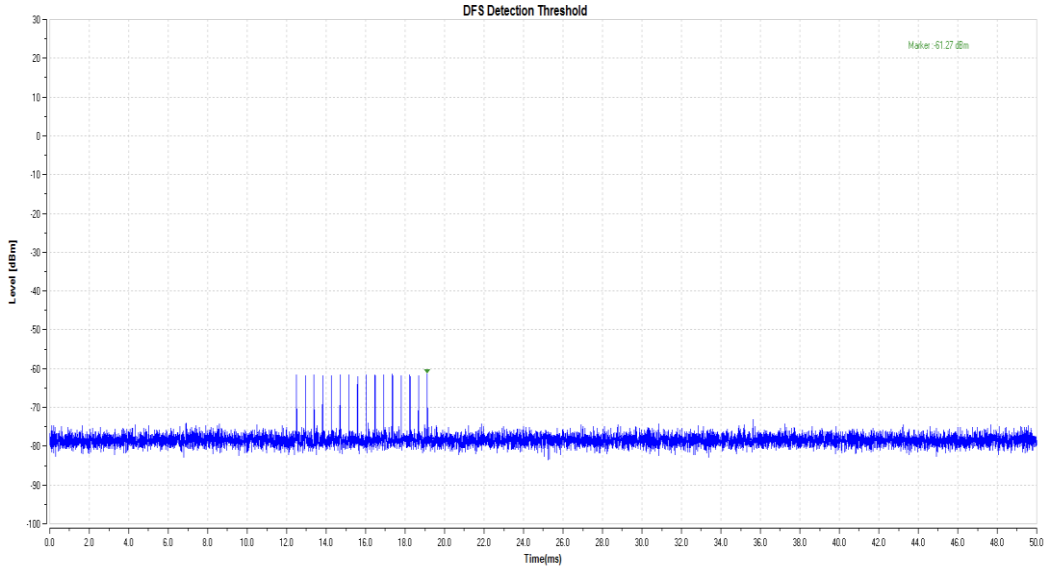

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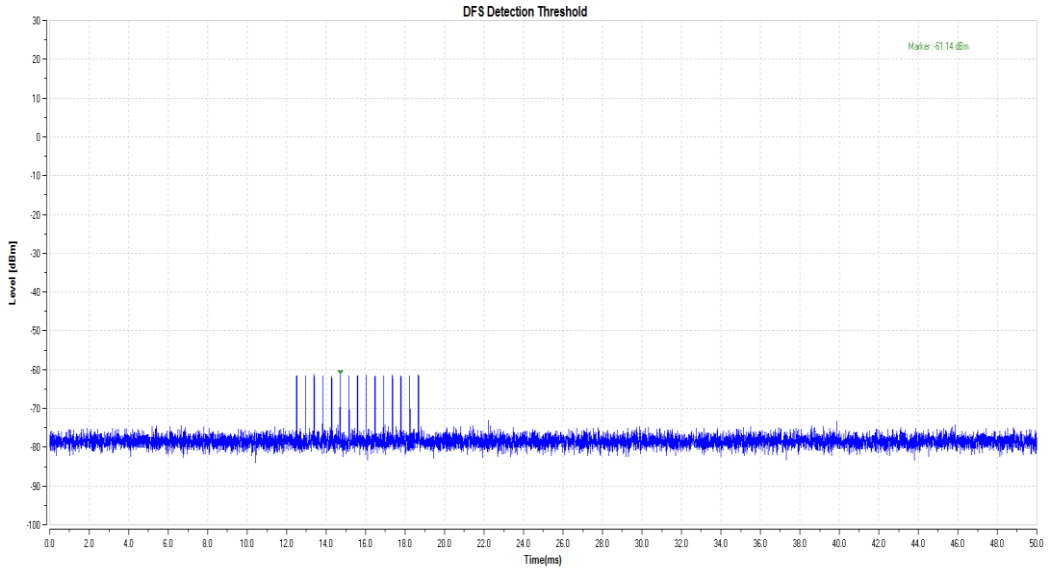

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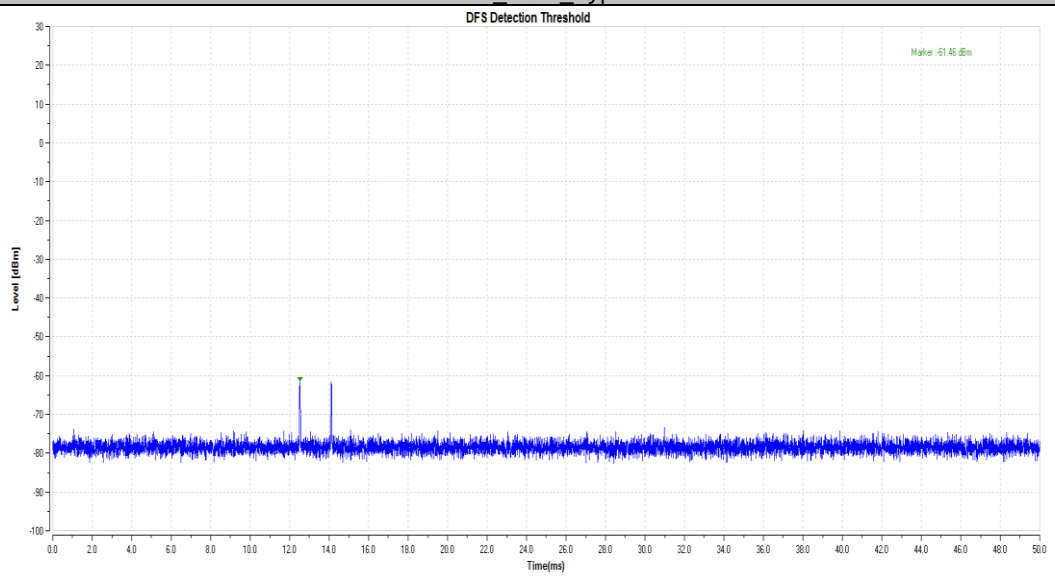

20MHz_5280_Type6

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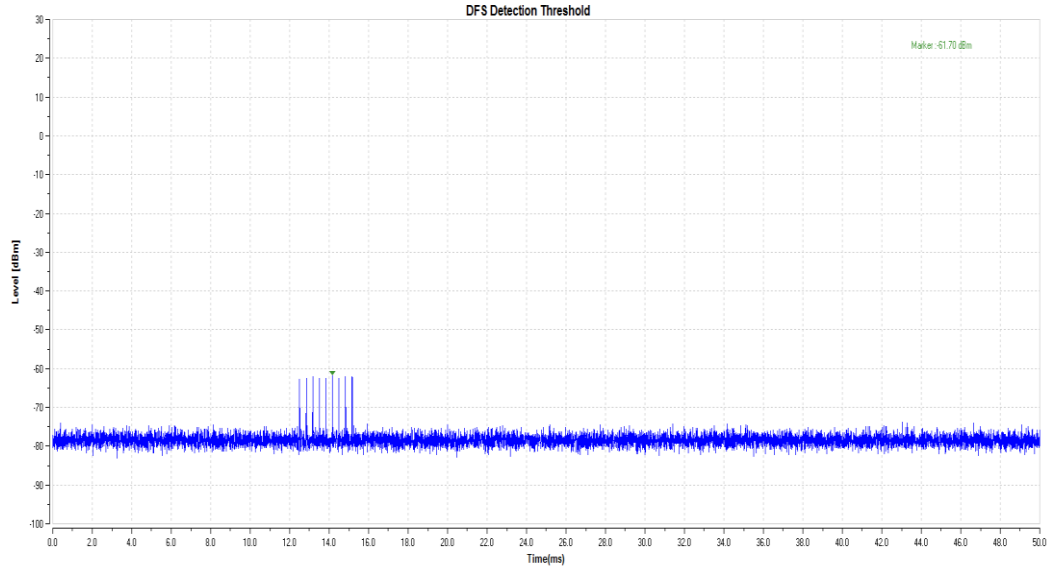

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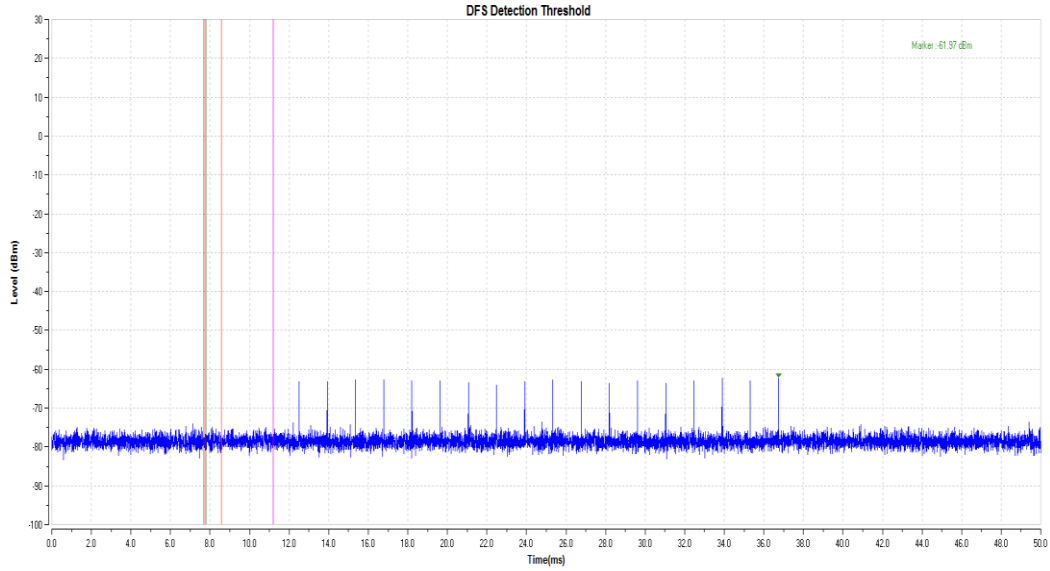

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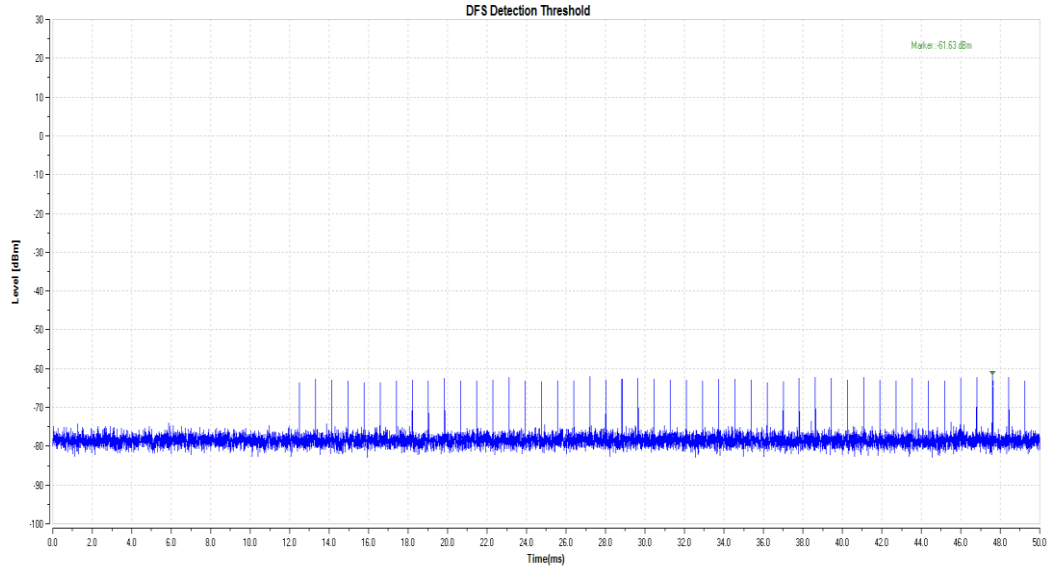

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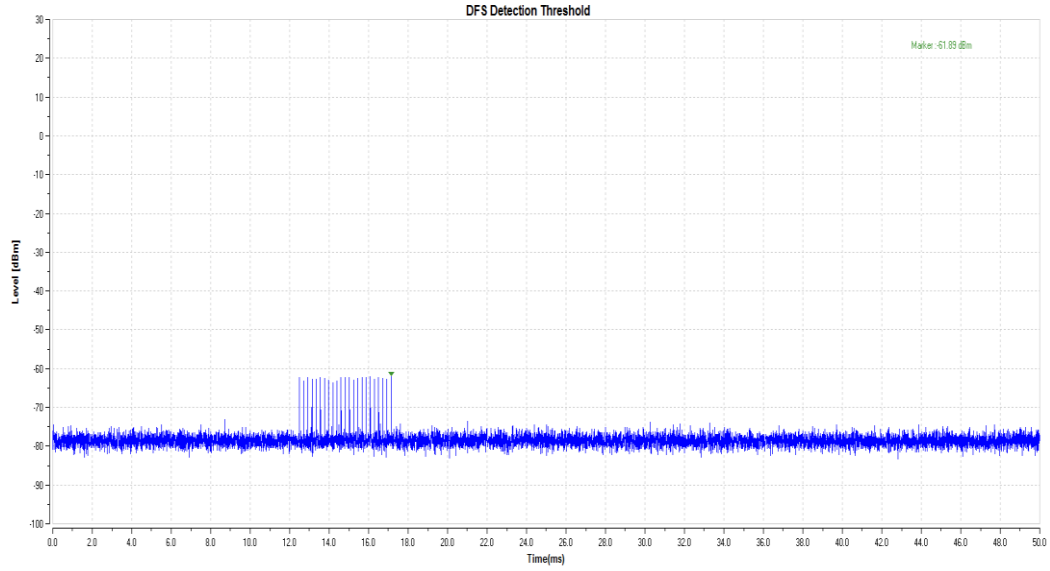

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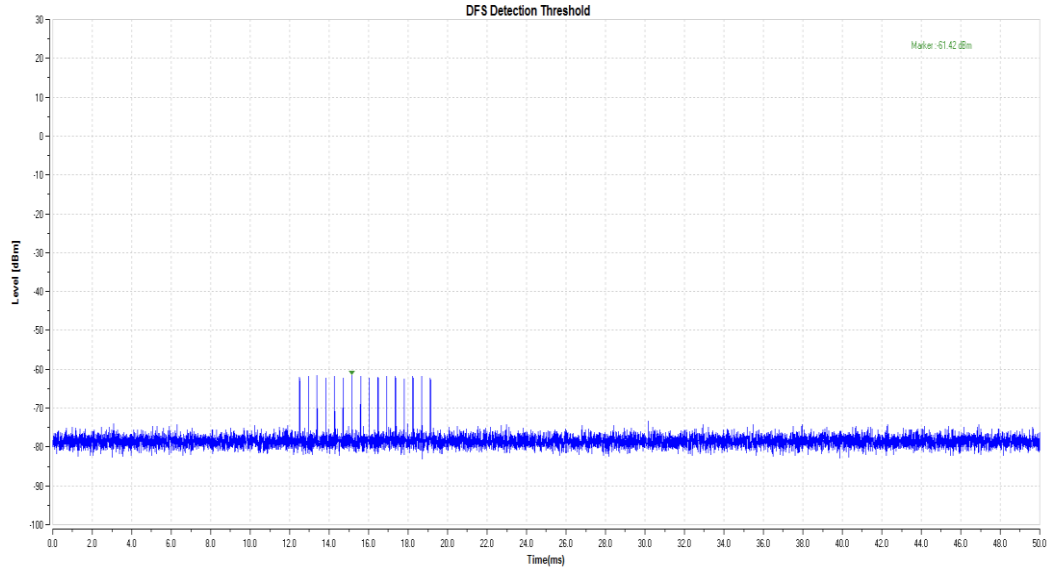

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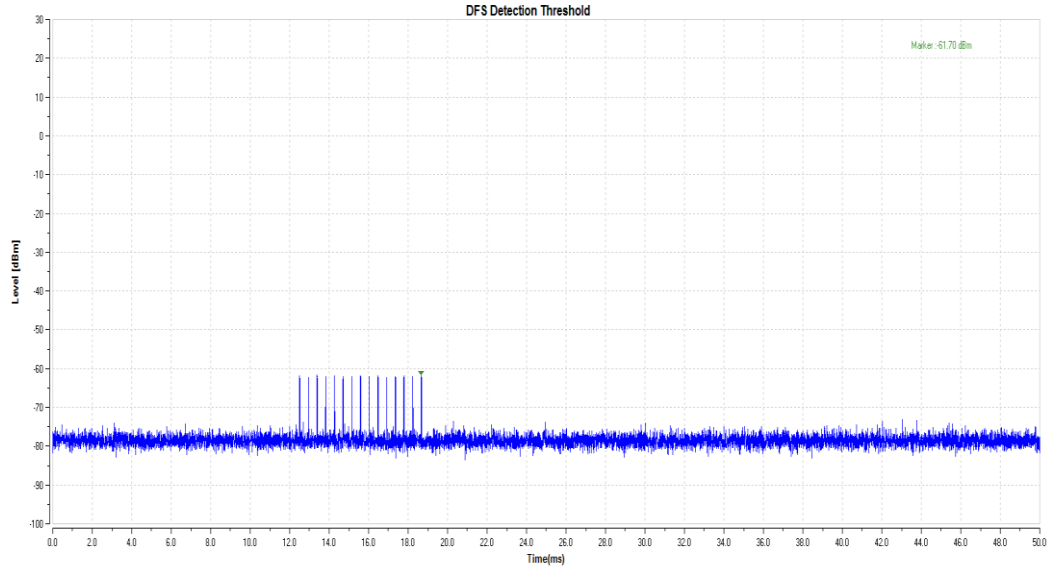

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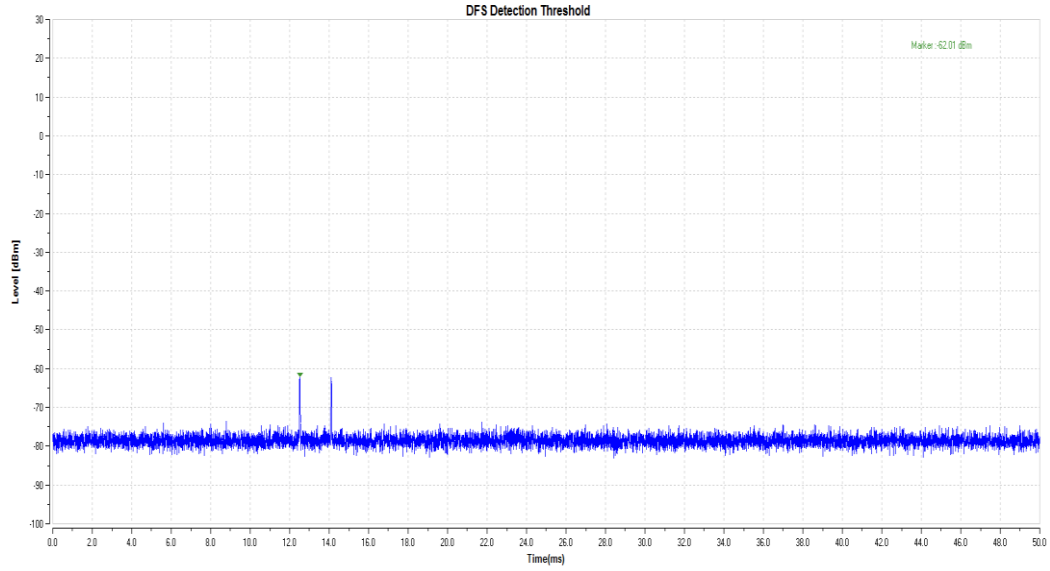

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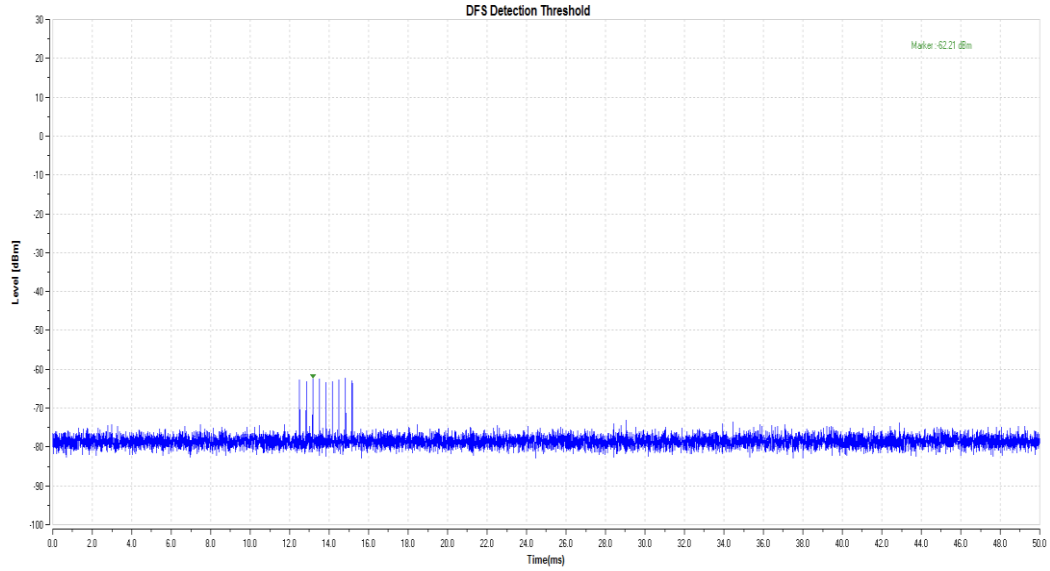

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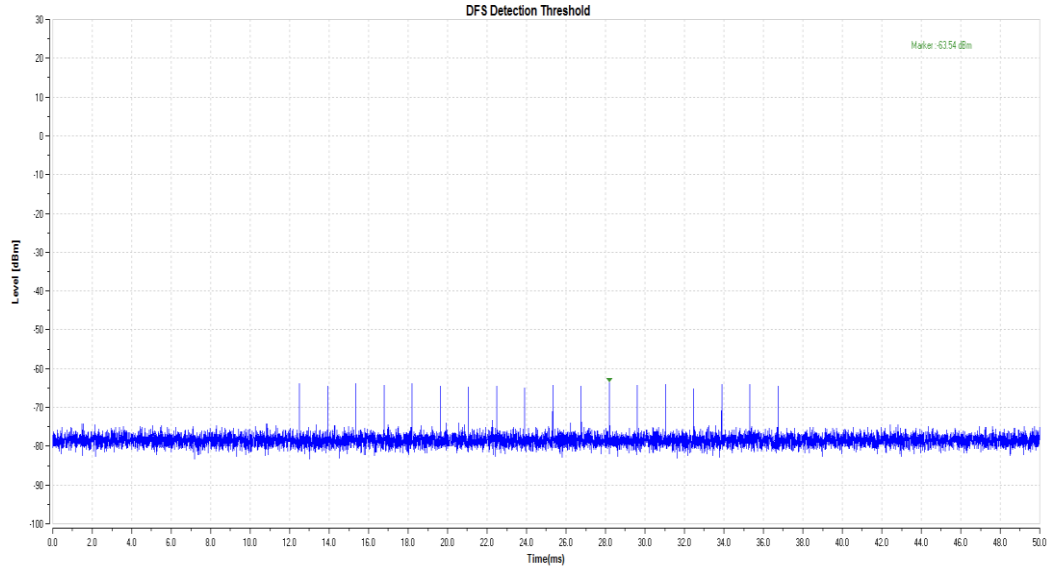

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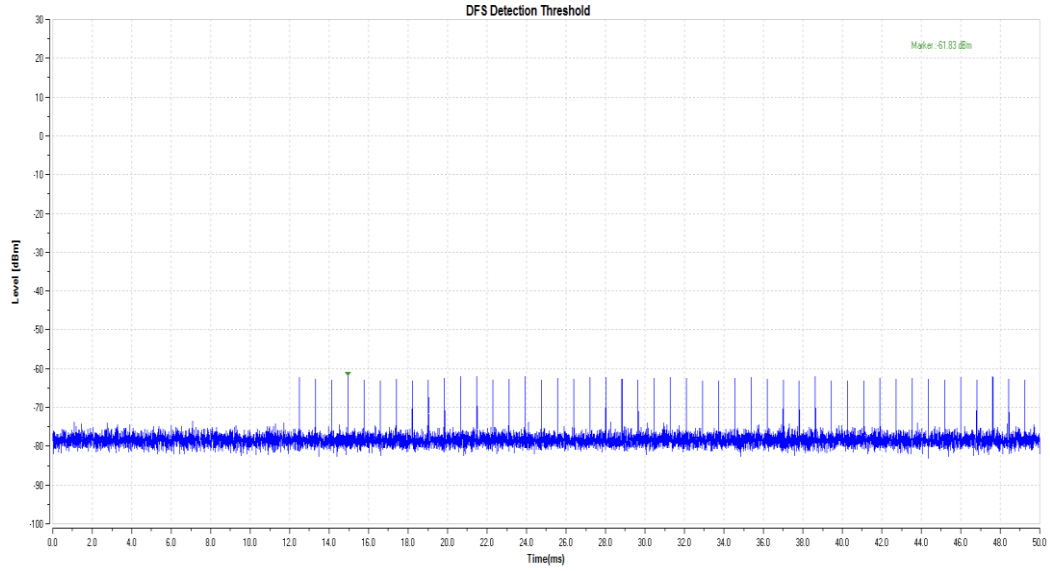

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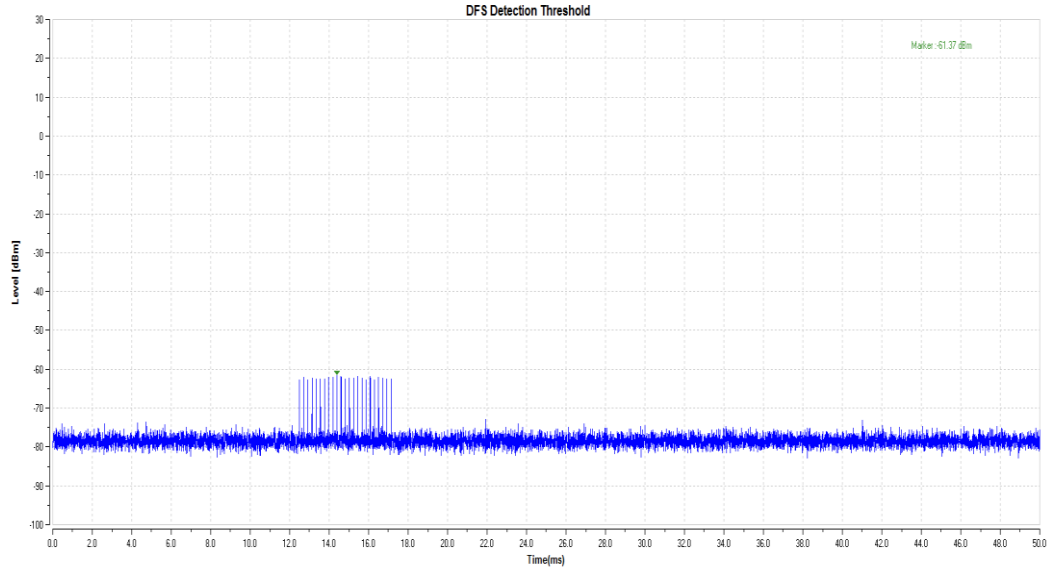

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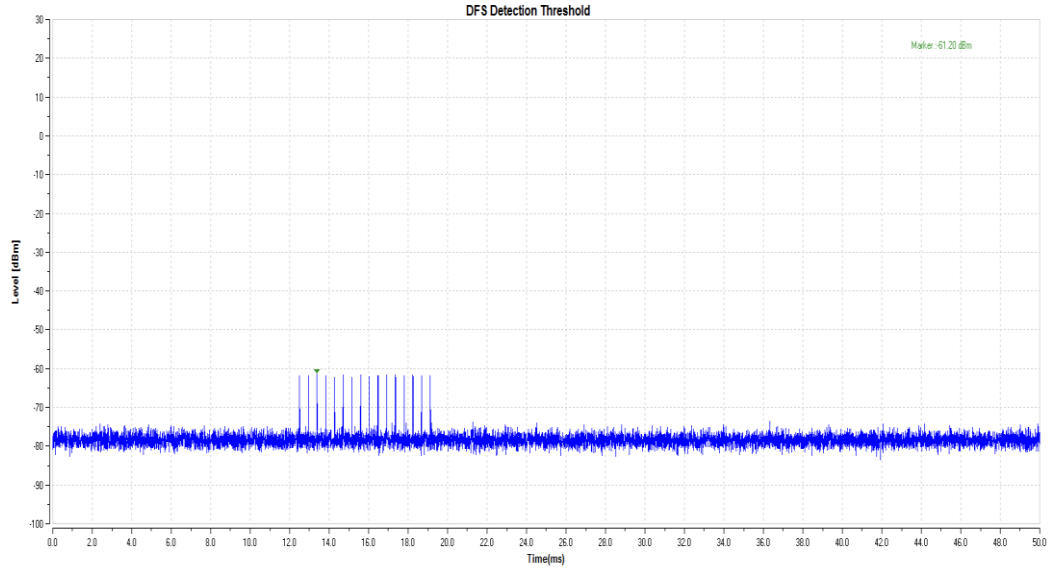

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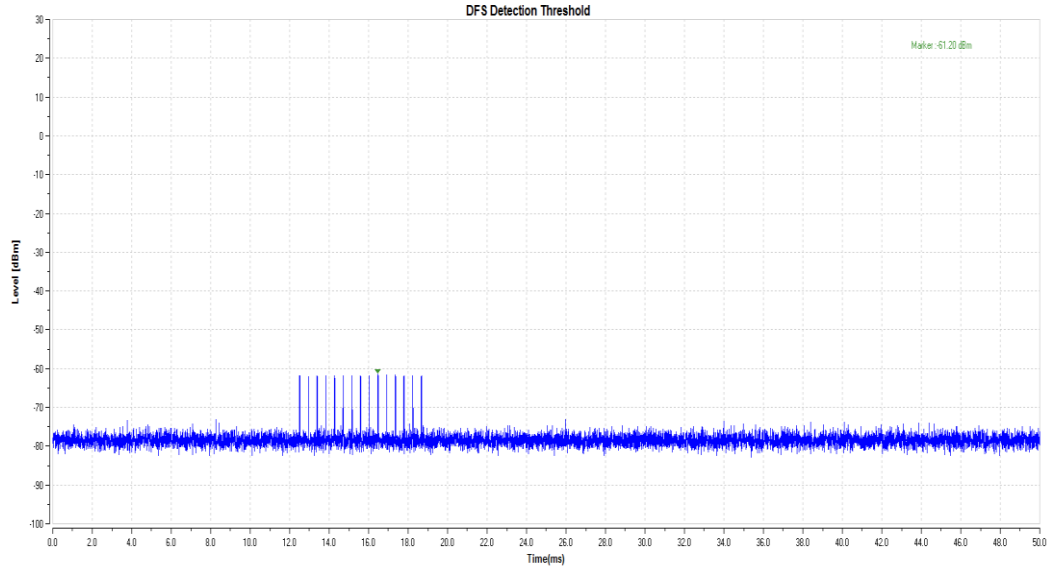

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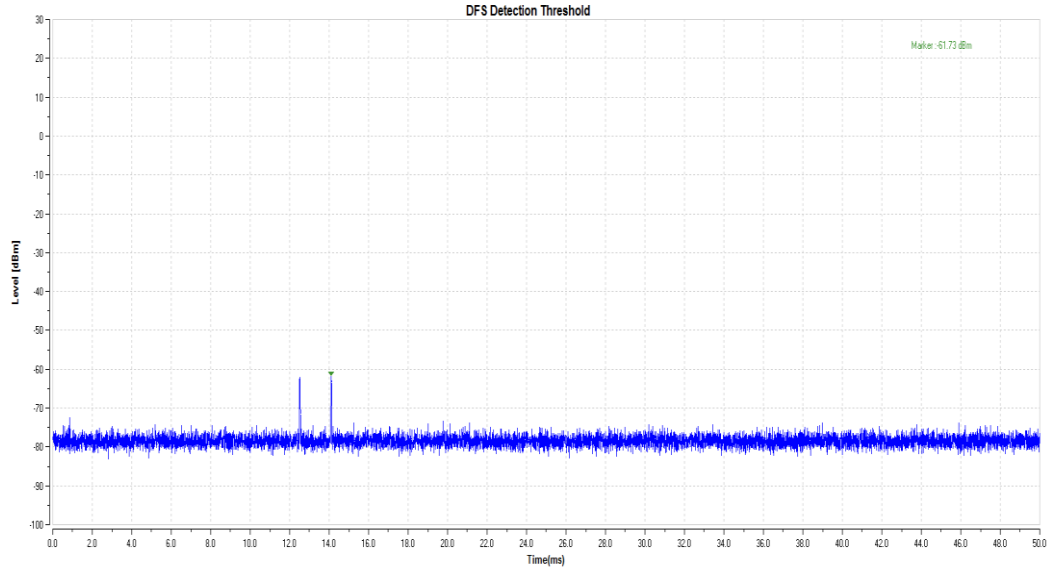

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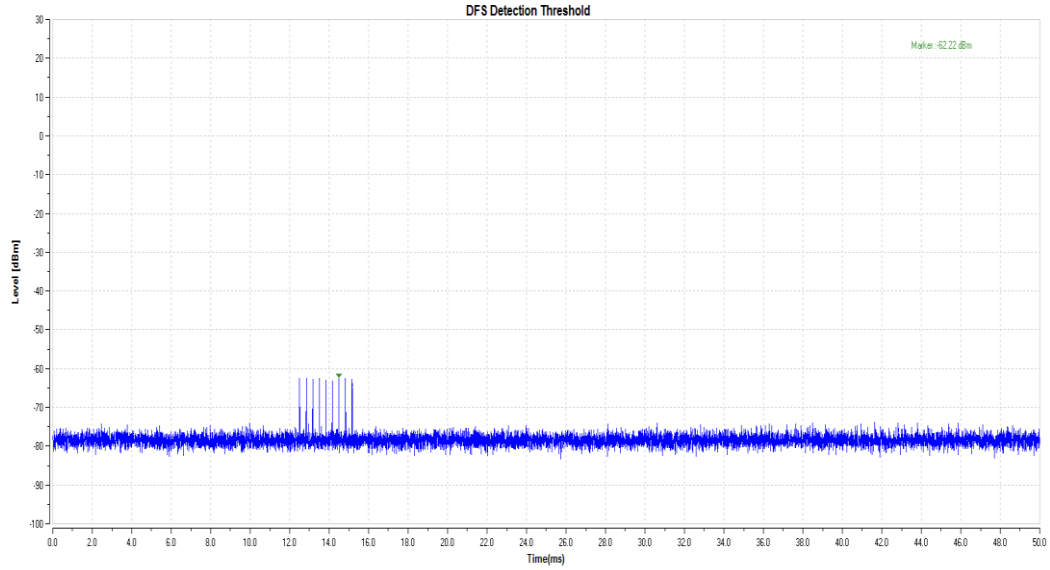

40MHz_5510_Type0

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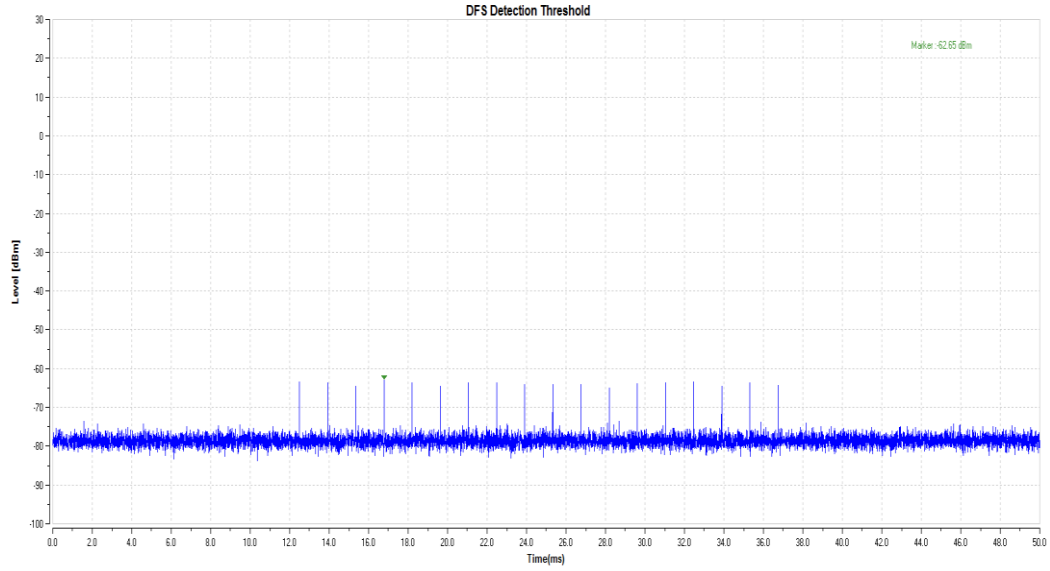

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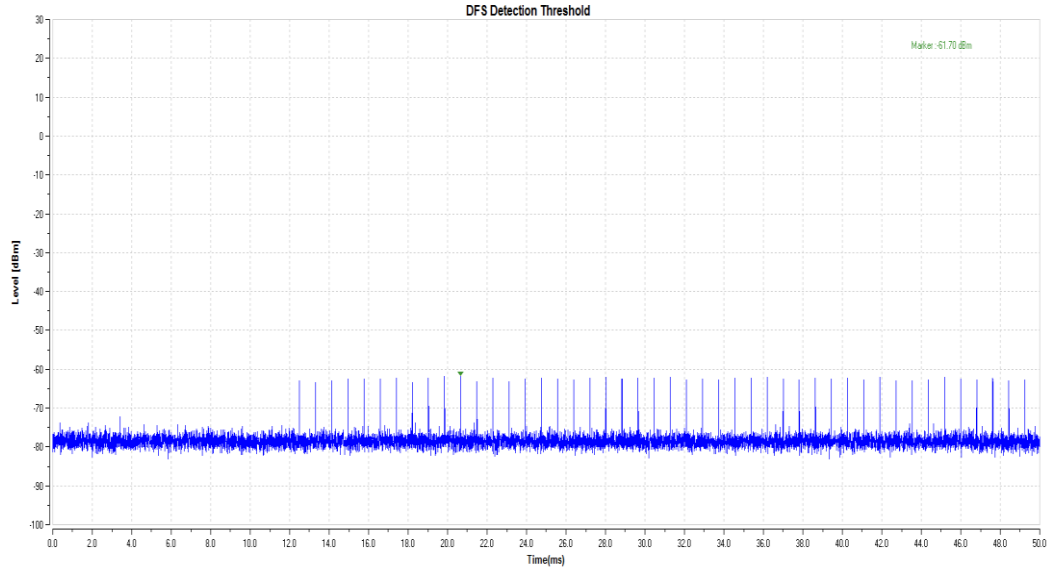

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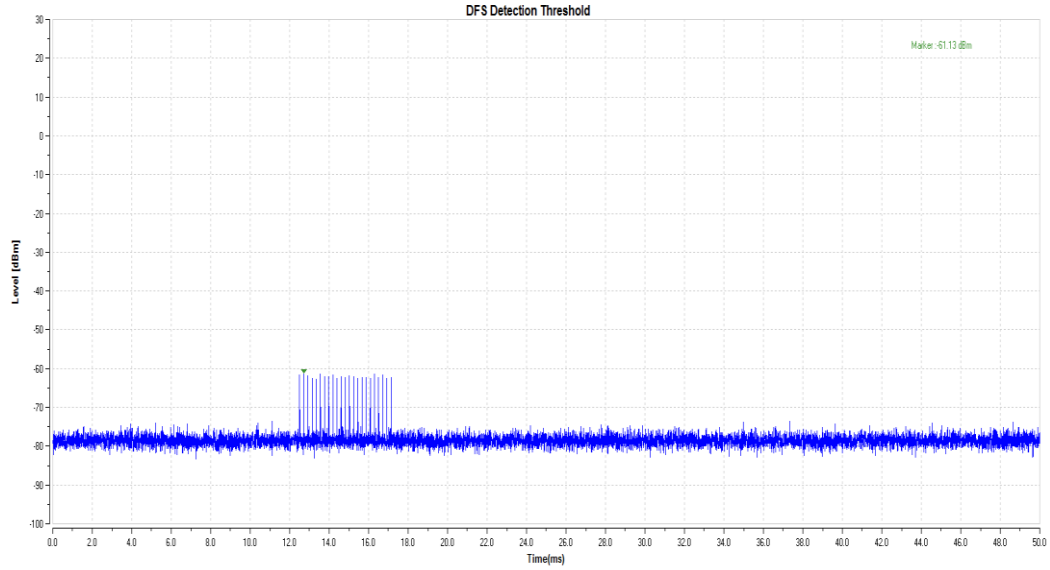

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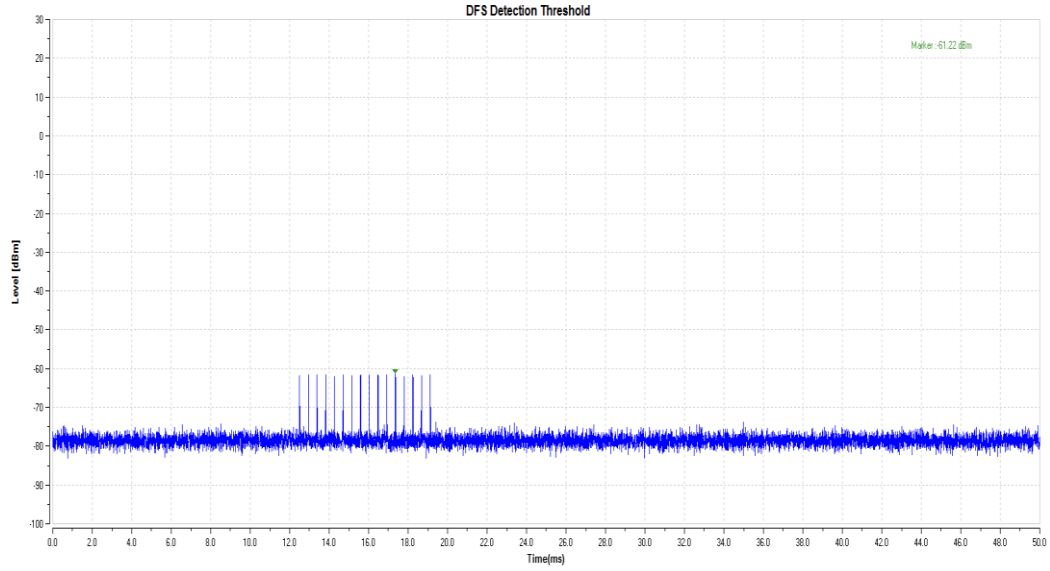
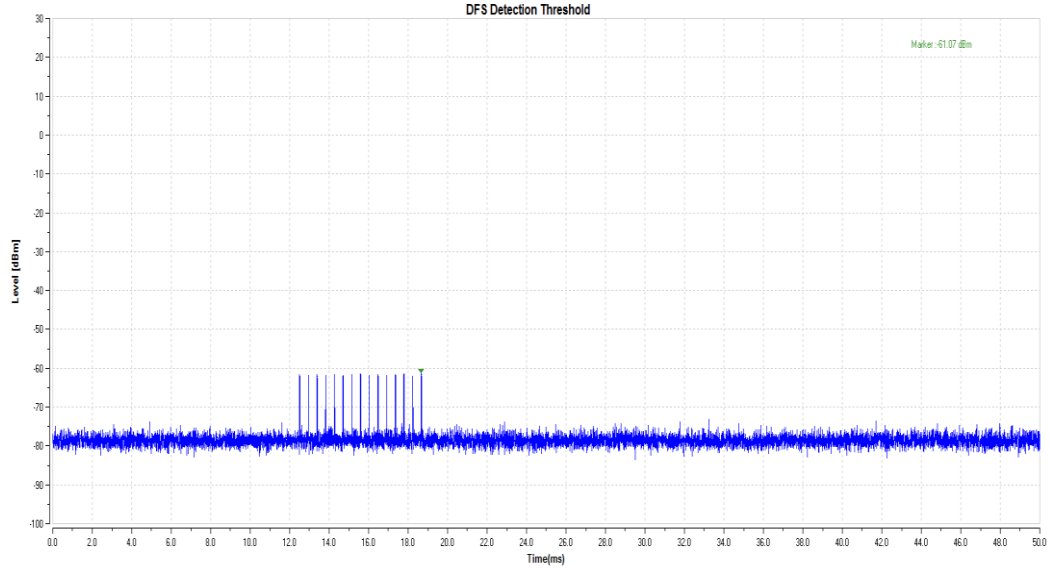


40MHz_5510_Type4



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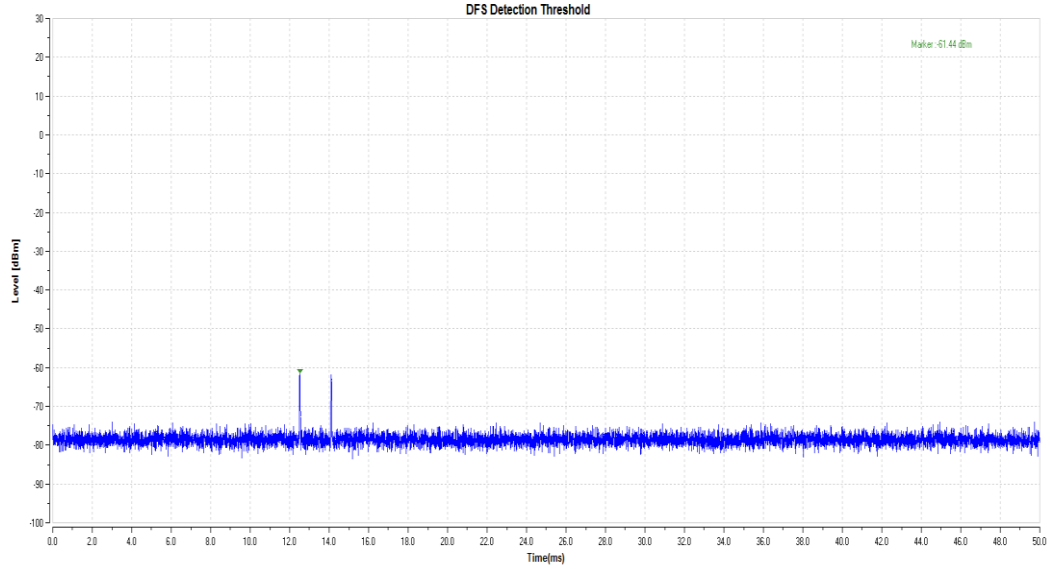

40MHz_5510_Type6

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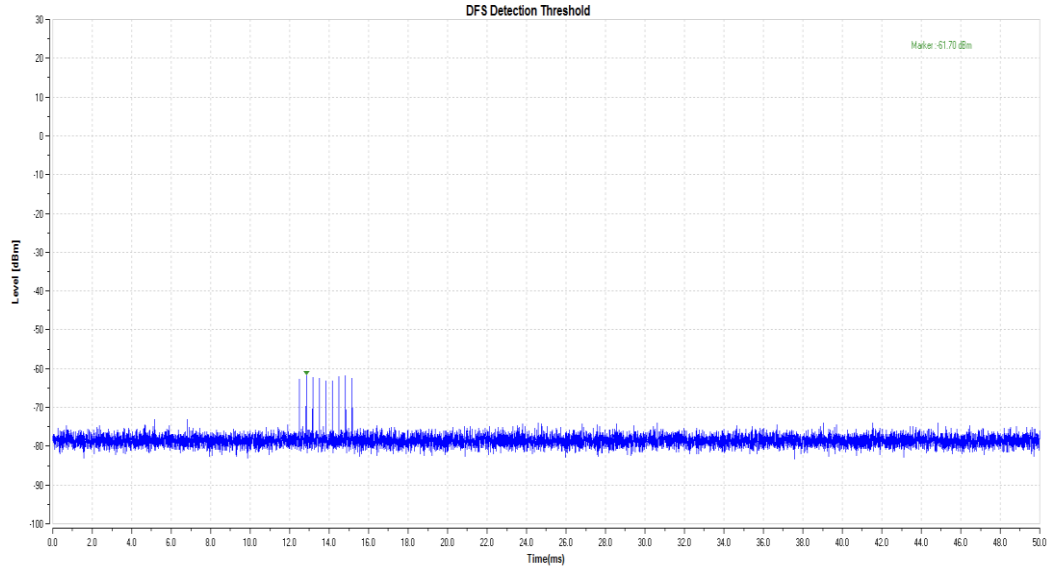
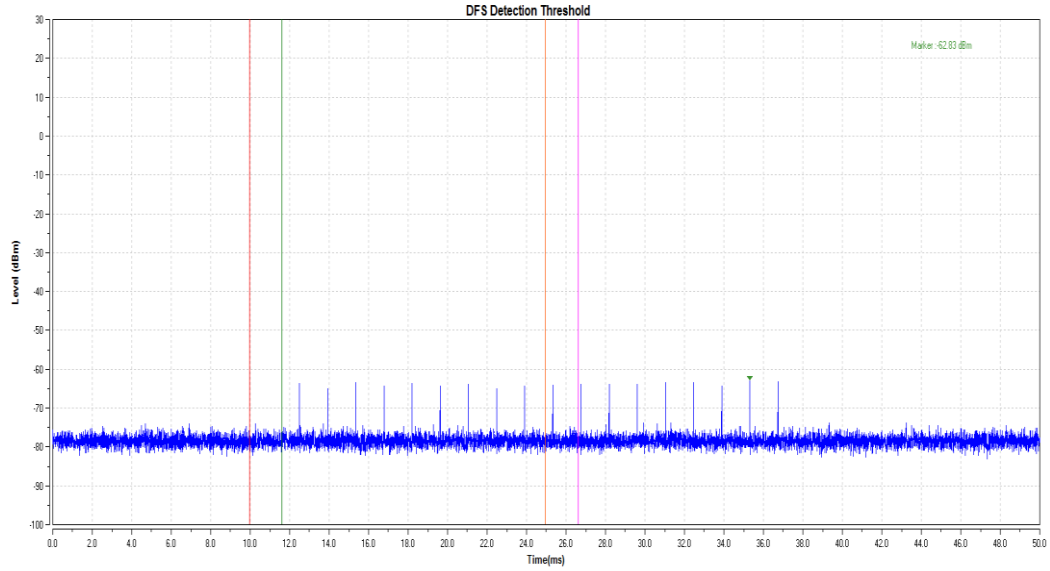
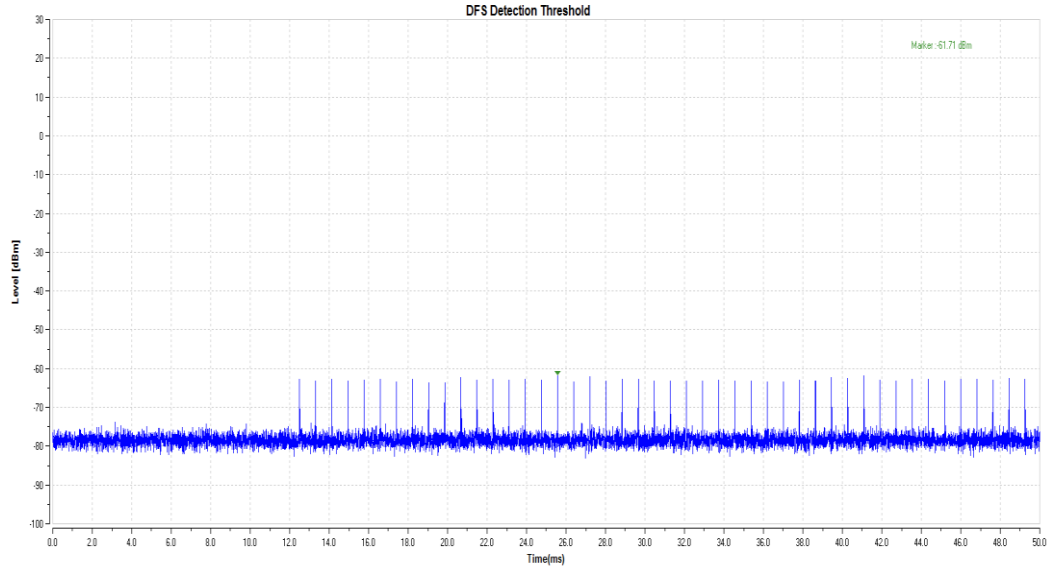


80MHz_5290_Type0



80MHz_5290_Type1



80MHz_5290_Type2

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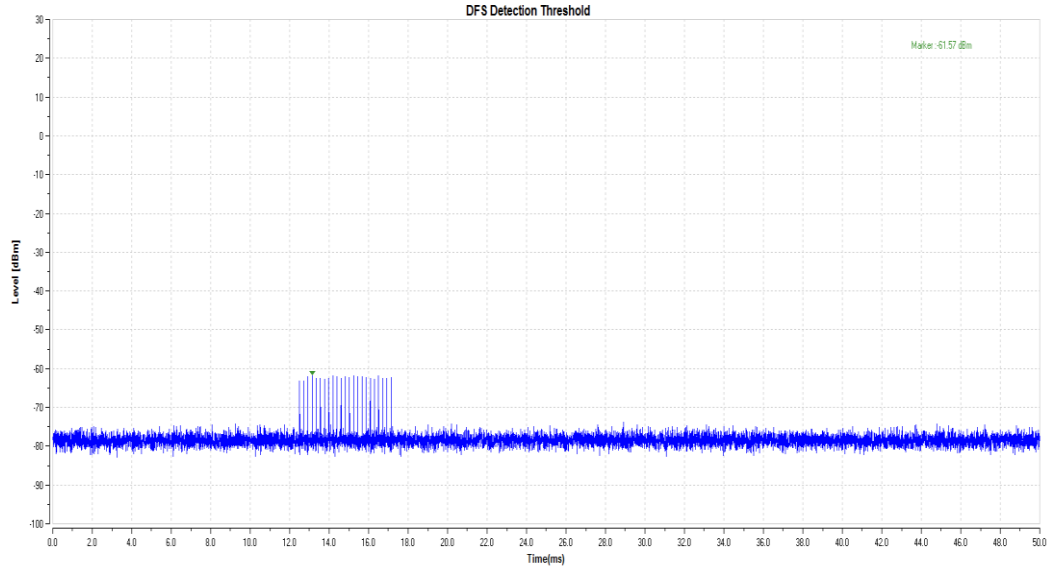
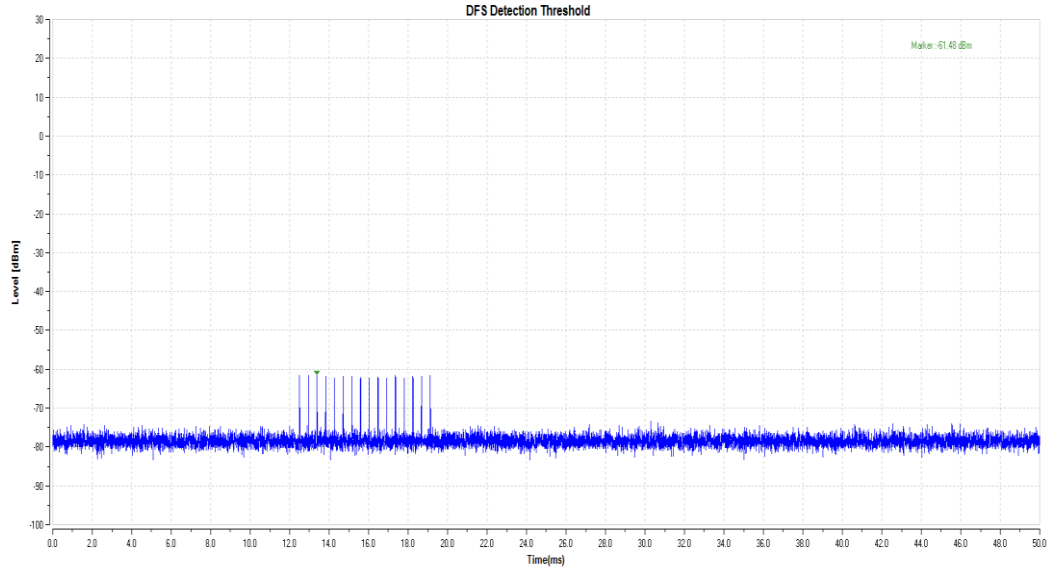


80MHz_5290_Type3



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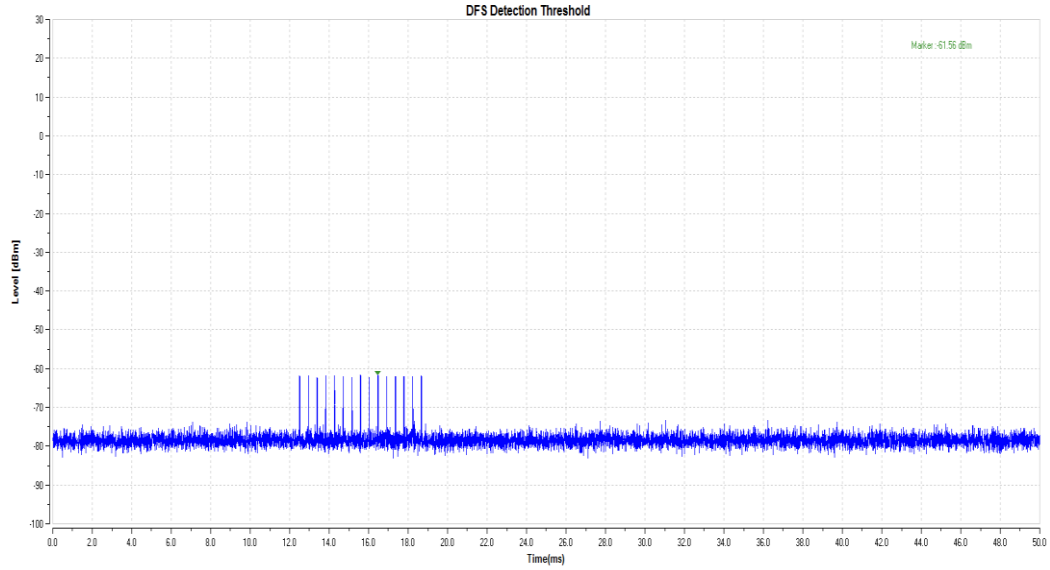

80MHz_5290_Type5

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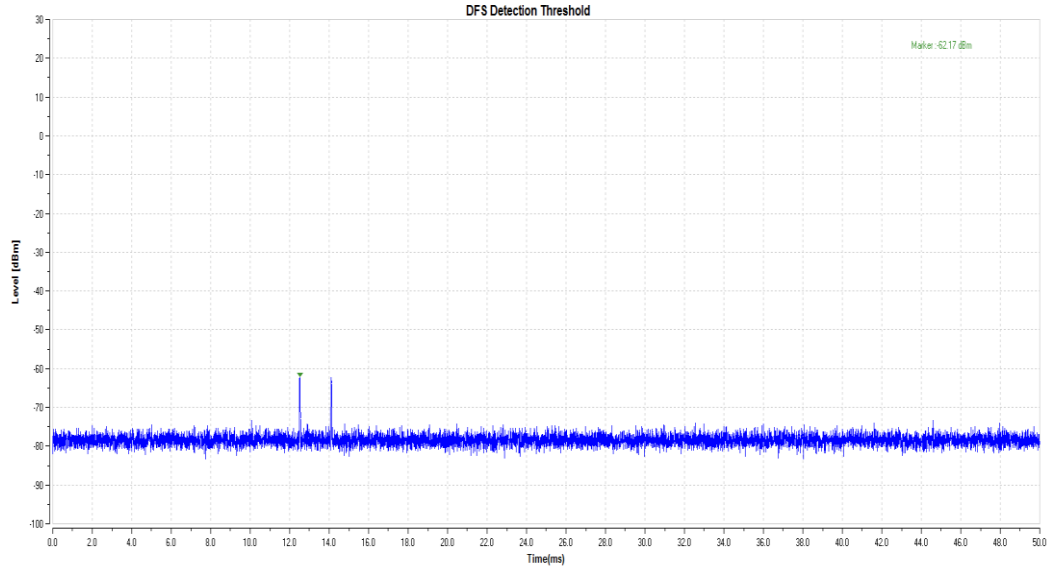
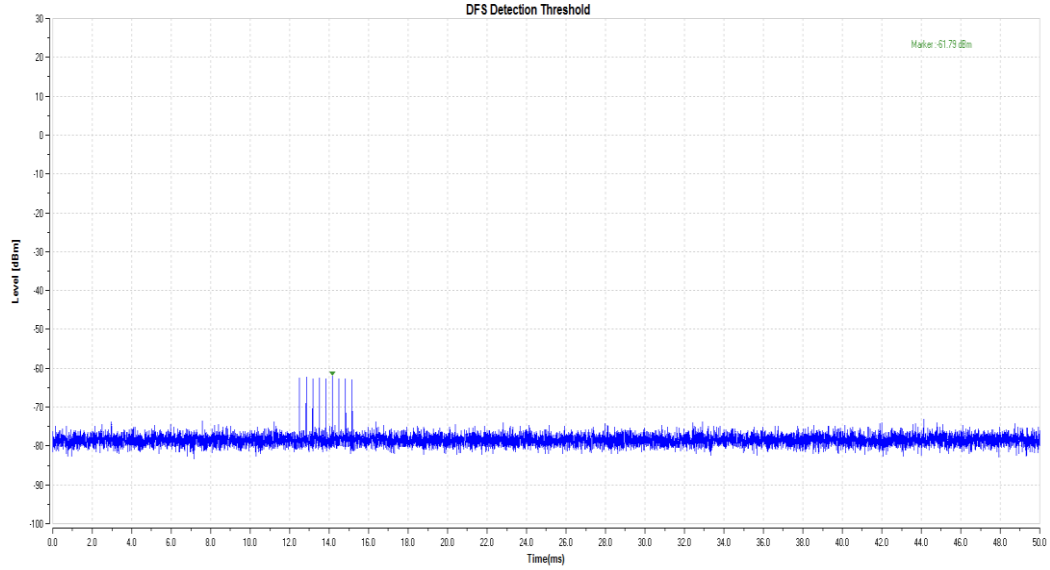
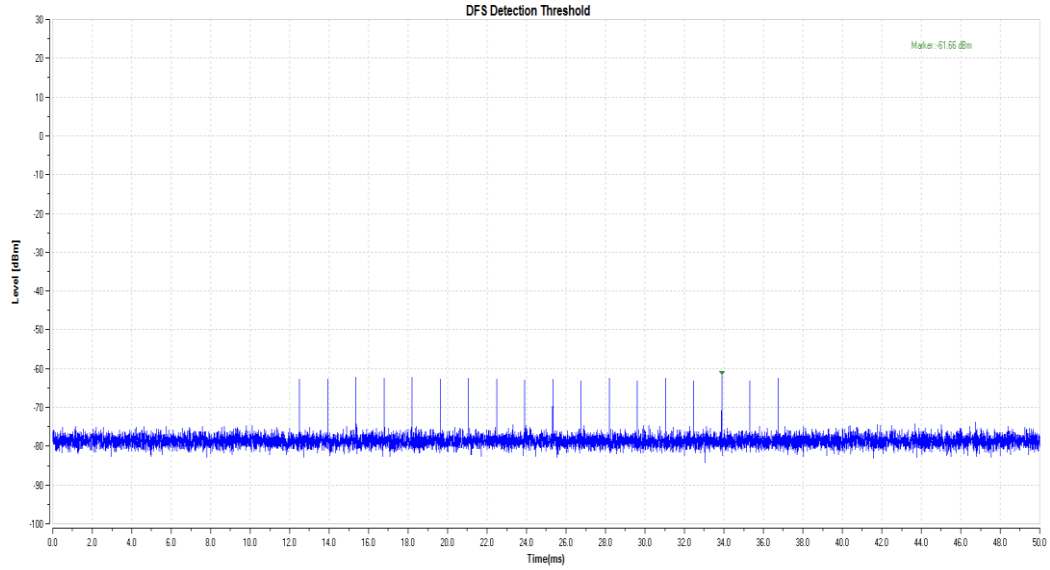


80MHz_5290_Type6



80MHz_5530_Type0



80MHz_5530_Type1

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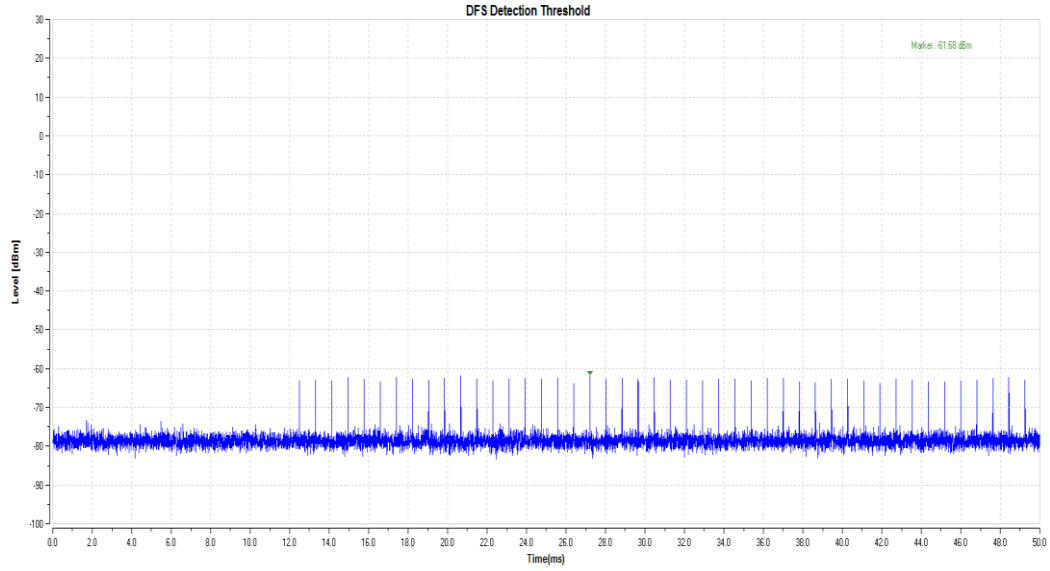
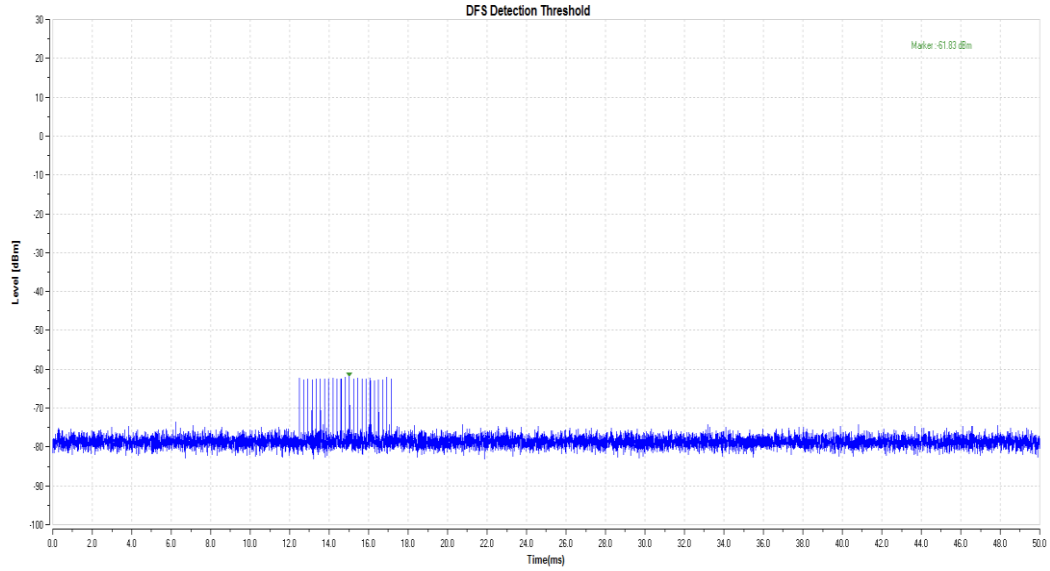
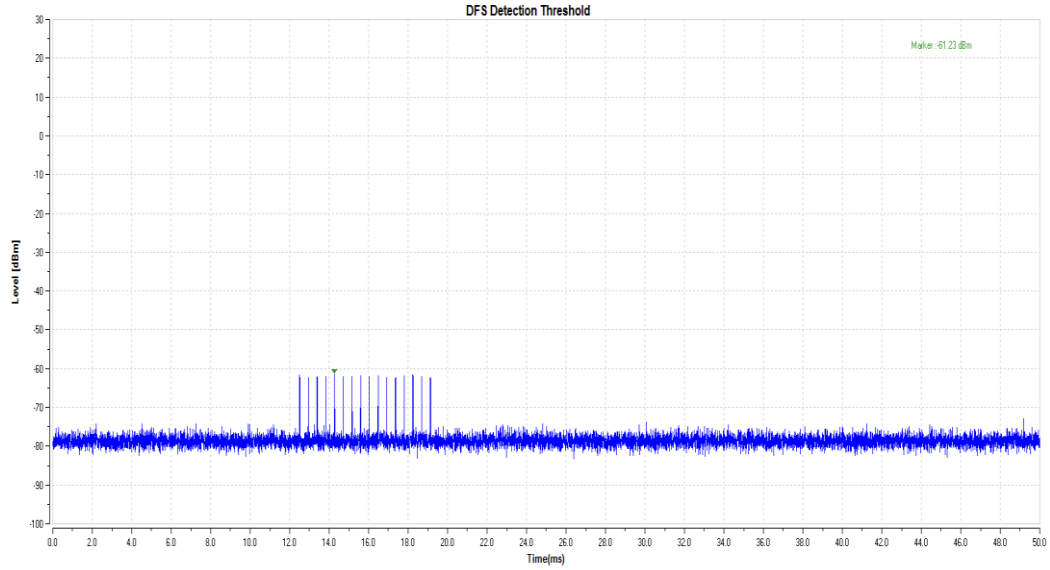


80MHz_5530_Type2



80MHz_5530_Type3



80MHz_5530_Type4

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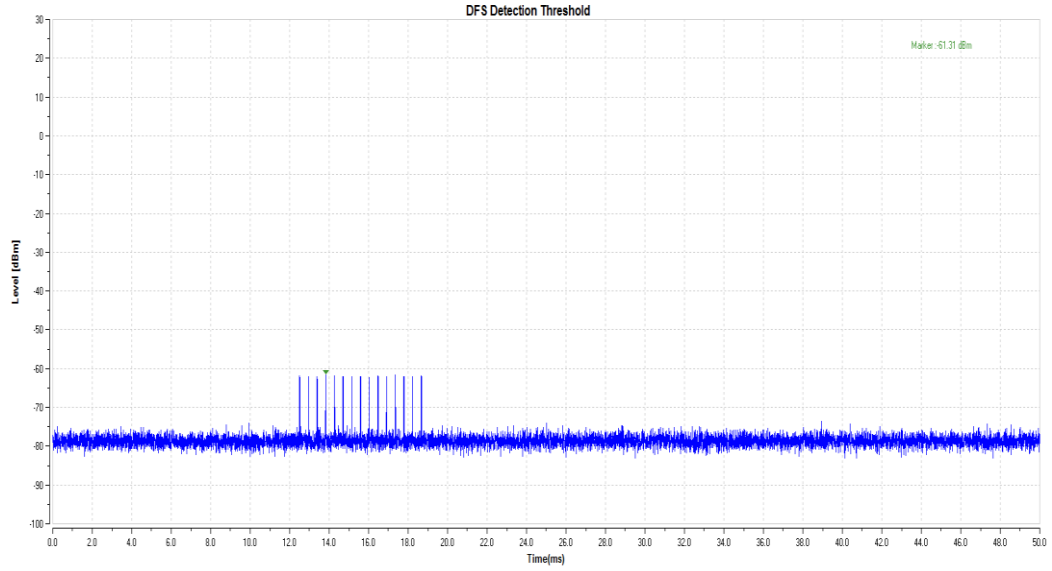
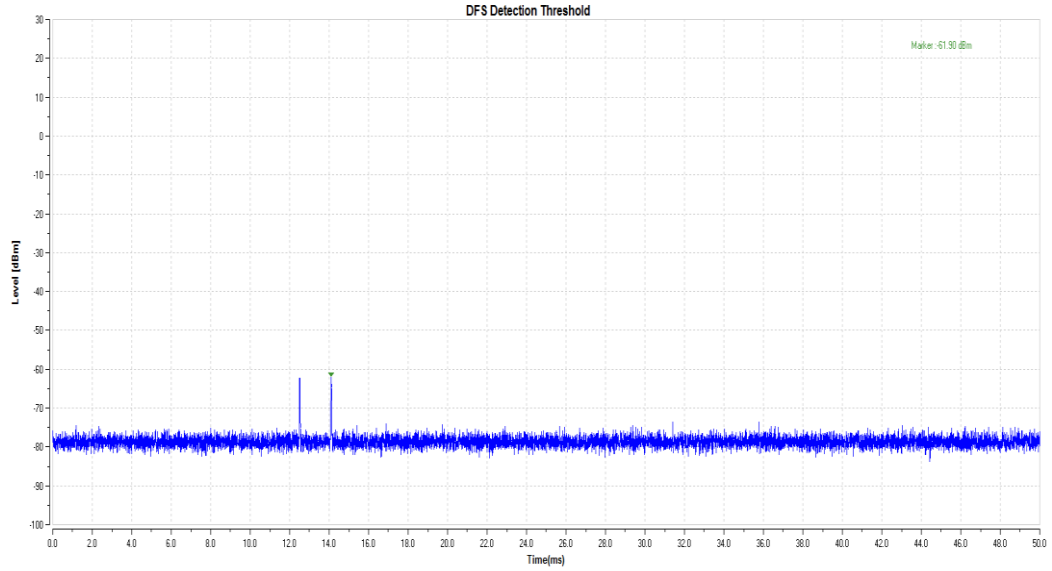
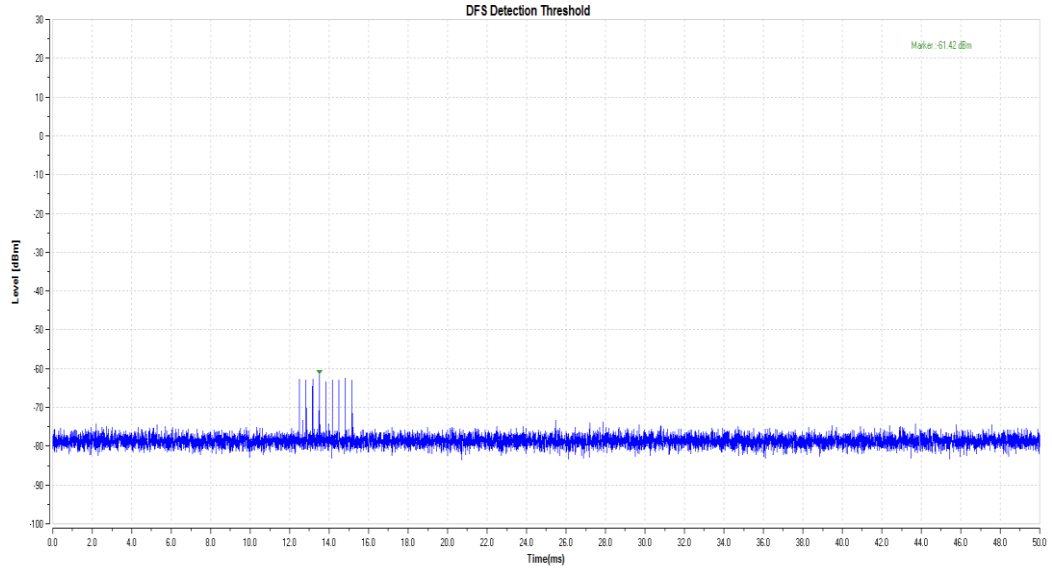


80MHz_5530_Type5



80MHz_5530_Type6



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UNII Detection Bandwidth

UNII Detection Bandwidth Limit

Channel Bandwidth (MHz)	Channel (MHz)	99% Occupied Bandwidth (MHz)	UNII Detection Bandwidth Min. Limit (MHz)	Result
20	5280	17.504	20	PASS
	5500	17.988	20	PASS
40	5270	36.685	40	PASS
	5510	36.98	40	PASS
80	5290	74.97	78	PASS
	5530	75.726	80	PASS
UNII Detection Bandwidth is minimum 100% of the 99% power bandwidth. A single radar Burst is generated for a minimum of 10 trials, and the response of the UUT is noted. The UUT must detect the Radar Waveform 90% or more of the time.				

Test Procedures

During the U-NII Detection Bandwidth detection test, radar type 0 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic. The EUT is set up as a standalone device (no associated Client and no traffic). The radar frequency is increased in 1 MHz steps, repeating the above test sequence, until the detection rate falls below 90%. The highest frequency at which detection is greater than or equal to 90% is denoted as FH. The radar frequency is decreased in 1 MHz steps, repeating the above test sequence, until the detection rate falls below 90%. The lowest frequency at which detection is greater than or equal to 90% is denoted as FL. UNII Detection Bandwidth = FH - FL.

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Test Result of UNII Detection Bandwidth

Remark: 1=Detection, 0= No Detection

Test Mode	Channel	Radar Freq.	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8	Trial 9	Trial 10	Ratio (%)
20MHz	5280	5269	1	1	0	0	0	0	0	0	0	0	20
		5270	1	1	1	1	1	1	1	1	1	1	100
		5271	1	1	1	1	1	1	1	0	1	1	90
		5272	1	1	1	1	1	1	1	1	1	0	90
		5273	0	1	1	1	1	1	1	1	1	1	90
		5274	1	0	1	1	1	1	1	1	1	1	90
		5275	1	1	1	1	1	1	1	1	0	1	90
		5280	1	1	1	1	1	1	1	1	1	1	100
		5285	1	1	1	1	1	1	1	1	1	1	100
		5290	1	1	1	1	1	1	1	1	1	1	100
		5291	0	0	0	0	0	0	0	0	0	0	0
		Detection Bandwidth (MHz) = (FH-FL) = (5290MHz-5720MHz)=											20MHz
	5500	5489	0	0	0	0	0	0	0	0	0	0	0
		5490	1	1	1	1	1	1	1	1	1	1	100
		5495	1	1	1	1	1	1	1	1	1	1	100
		5500	1	1	1	1	1	1	1	1	1	1	100
		5505	1	1	1	1	1	1	1	1	1	1	100
		5510	1	1	1	1	1	1	1	1	1	1	100
		5511	0	0	0	0	0	0	0	0	0	0	0
		Detection Bandwidth (MHz) = (FH-FL) = (5510MHz-5490MHz)=											20MHz
40MHz	5270	5249	0	0	0	0	0	0	0	0	0	0	0
		5250	1	1	1	1	1	1	1	1	1	1	100
		5255	1	1	1	1	1	1	1	1	1	1	100
		5260	1	1	1	1	1	1	1	1	1	1	100
		5265	1	1	1	1	1	1	1	1	1	1	100
		5270	1	1	1	1	1	1	1	1	1	1	100
		5275	1	1	1	1	1	1	1	1	1	1	100
		5280	1	1	1	1	1	1	1	1	1	1	100
		5285	1	1	1	1	1	1	1	1	1	0	90
		5286	1	1	1	1	1	1	1	1	1	1	100
		5287	1	1	1	1	1	1	1	1	1	1	100
		5288	1	1	1	1	1	1	1	1	1	1	100
		5289	1	1	1	1	1	1	1	1	1	1	100
		5290	1	1	1	1	1	1	1	1	1	1	100
		5291	1	0	0	0	0	0	0	0	0	0	10
		Detection Bandwidth (MHz) = (FH-FL) = (5290MHz-5250MHz)=											40MHz
	5510	5489	1	1	1	0	0	0	0	0	0	0	30
		5490	1	1	1	1	1	0	1	1	1	1	90
		5495	1	1	1	1	1	1	1	1	1	1	100
		5500	1	1	1	1	1	1	1	1	1	1	100
		5505	1	1	1	1	1	1	1	1	1	1	100
		5510	1	1	1	1	1	1	1	1	1	1	100
		5515	0	1	1	1	1	1	1	1	1	1	90
		5516	1	1	1	1	1	1	1	1	1	1	100
		5517	1	1	1	1	1	1	1	1	1	1	100
		5518	1	1	1	1	1	1	1	1	1	1	100
		5519	1	1	1	1	1	1	1	1	1	1	100
		5520	1	1	1	1	1	1	1	1	1	1	100
		5521	1	1	1	1	1	1	1	1	1	1	100
		5522	1	1	1	1	1	1	1	1	1	1	100
		5523	1	1	1	1	1	1	1	1	1	1	100
		5524	1	1	1	1	1	1	1	1	1	1	100
		5525	1	1	1	1	1	1	1	1	1	1	100
		5526	1	1	1	1	1	1	1	1	1	1	100
		5527	1	1	1	1	1	1	1	1	1	1	100

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		5528	1	1	1	1	1	1	1	1	1	1	100
		5529	1	1	1	1	1	1	1	1	1	1	100
		5530	1	1	1	1	1	1	1	1	1	1	100
		5531	1	1	0	0	0	0	0	0	0	0	20
		Detection Bandwidth (MHz) = (FH-FL) = (5530MHz-5490MHz)=											40MHz
80MHz	5290	5250	0	0	0	0	0	0	0	0	0	0	0
		5251	1	1	1	1	1	1	1	1	1	1	100
		5252	1	1	1	1	1	1	1	1	1	1	100
		5253	1	1	1	1	1	1	1	1	1	1	100
		5254	0	1	1	1	1	1	1	1	1	1	90
		5255	1	1	1	1	1	1	1	1	1	1	100
		5260	1	1	1	1	1	1	1	1	1	1	100
		5265	1	1	1	1	1	1	1	1	1	1	100
		5270	1	1	1	1	1	1	1	1	1	1	100
		5275	1	1	1	1	1	1	1	1	1	1	100
		5280	1	1	1	1	1	1	1	1	1	1	100
		5285	1	1	1	1	1	1	1	1	1	1	100
		5290	1	1	1	1	1	1	1	1	1	1	100
		5295	1	1	1	1	1	1	1	1	1	1	100
		5300	1	1	1	1	1	1	1	1	1	1	100
		5305	1	1	1	1	1	1	1	1	1	1	100
		5310	1	1	1	1	1	1	1	1	1	1	100
		5315	1	1	1	1	1	1	1	1	1	1	100
		5320	1	1	1	1	1	1	1	1	1	1	100
		5325	1	1	1	1	1	1	0	1	1	1	90
		5326	1	1	1	1	1	1	1	1	1	1	100
		5327	1	1	1	1	1	1	1	1	1	1	100
		5328	1	1	1	1	1	1	1	1	1	1	100
		5329	1	1	1	1	1	1	1	1	1	1	100
		5330	0	0	0	0	0	0	0	0	0	0	0
		Detection Bandwidth (MHz) = (FH-FL) = (5329MHz-5251MHz)=											78MHz
	5530	5489	0	0	0	0	0	0	0	0	0	0	0
		5490	1	1	1	1	1	1	1	1	1	1	100
		5495	1	1	1	1	1	1	1	1	1	1	100
		5500	1	1	1	1	1	1	1	1	1	1	100
		5505	1	1	1	1	1	1	1	1	1	1	100
		5510	1	1	1	1	1	1	1	1	1	1	100
		5515	1	1	1	1	1	1	1	1	1	1	100
		5520	1	1	1	1	1	1	1	1	1	1	100
		5525	1	1	1	1	1	1	1	1	1	1	100
		5530	1	1	1	1	1	1	1	1	1	1	100
		5535	1	1	1	1	1	1	1	1	1	1	100
		5540	1	1	1	1	1	1	1	1	1	1	100
		5545	1	1	1	1	1	1	1	1	1	1	100
		5550	1	1	1	1	1	1	1	1	1	1	100
		5555	1	1	1	1	1	1	1	1	1	1	100
		5560	1	1	1	1	1	1	1	1	1	1	100
		5565	1	1	1	1	1	1	1	1	1	1	100
		5570	1	1	1	1	1	1	1	1	1	1	100
		5571	0	0	0	0	0	0	0	0	0	0	0
		Detection Bandwidth (MHz) = (FH-FL) = (5570MHz-5490MHz)=											80MHz

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Channel Availability Check (CAC)

Channel Availability Check Limit

The EUT shall perform a Channel Availability Check to ensure that there is no radar operating on the channel. After power-up sequence, receive at least 1 minute (60 sec) on the intended operating frequency.

Test Procedures

Test Method	
☒	For Initial Channel Availability Check Time. The EUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the UNII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms.
☒	For Radar Burst at the Beginning of the Channel Availability Check Time. To verify successful radar detection on the selected Channel during a period equal to the Beginning of the Channel Availability Check Time.
☒	For Radar Burst at the End of the Channel Availability Check Time. To verify successful radar detection on the selected Channel during a period equal to the End of the Channel Availability Check Time.

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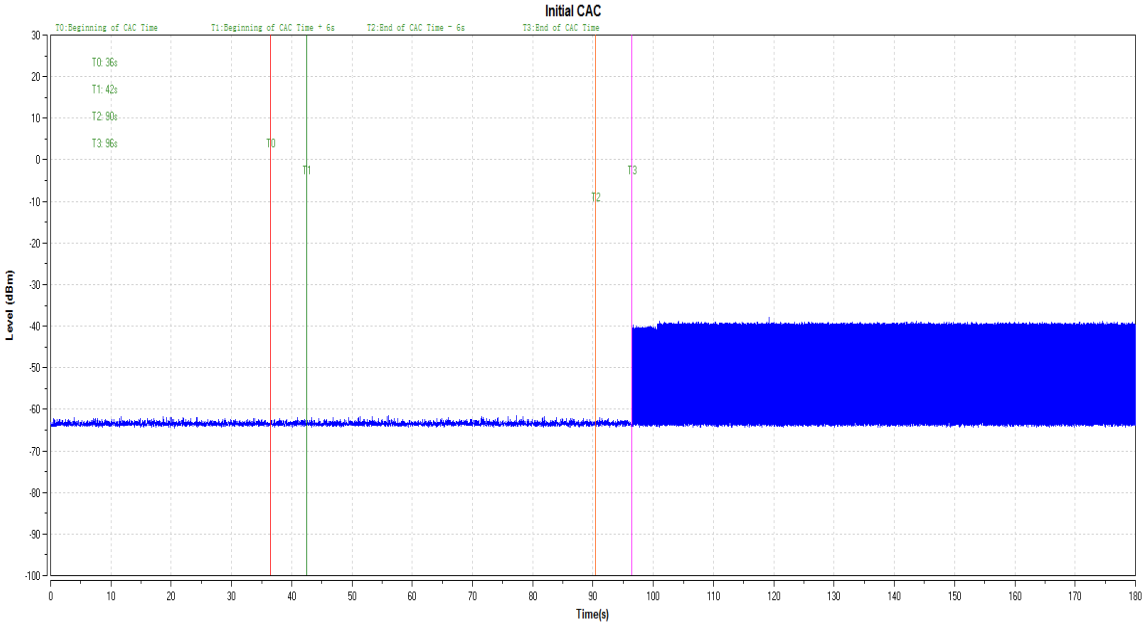
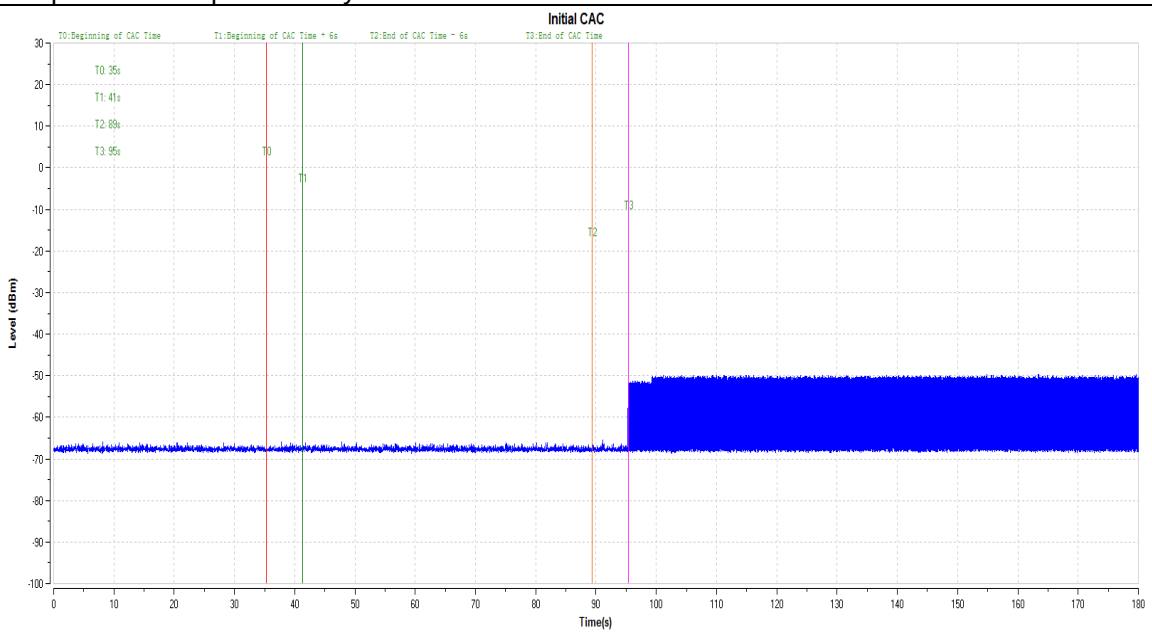
Test Result of Initial Channel Availability Check Time

Modulation Mode	Freq.	Radar Test Signal
802.11ac80	5290MHz	N/A
The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.		



Test Result	Complied

Modulation Mode	Freq.	Radar Test Signal
802.11ac80	5530MHz	N/A
The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.		



Test Result	Complied

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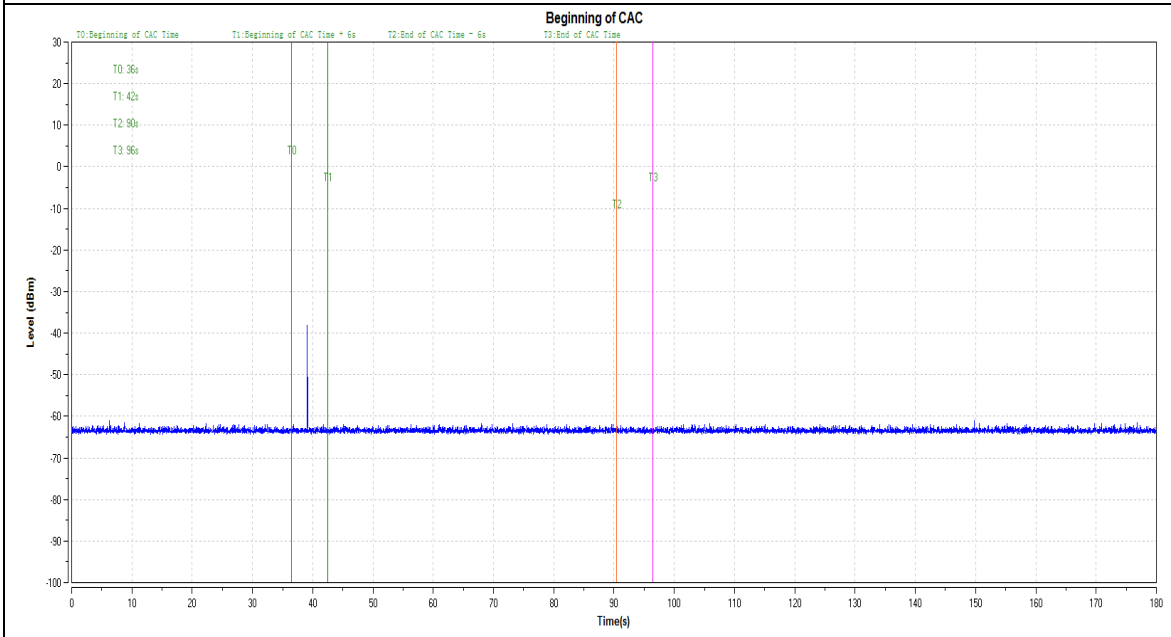
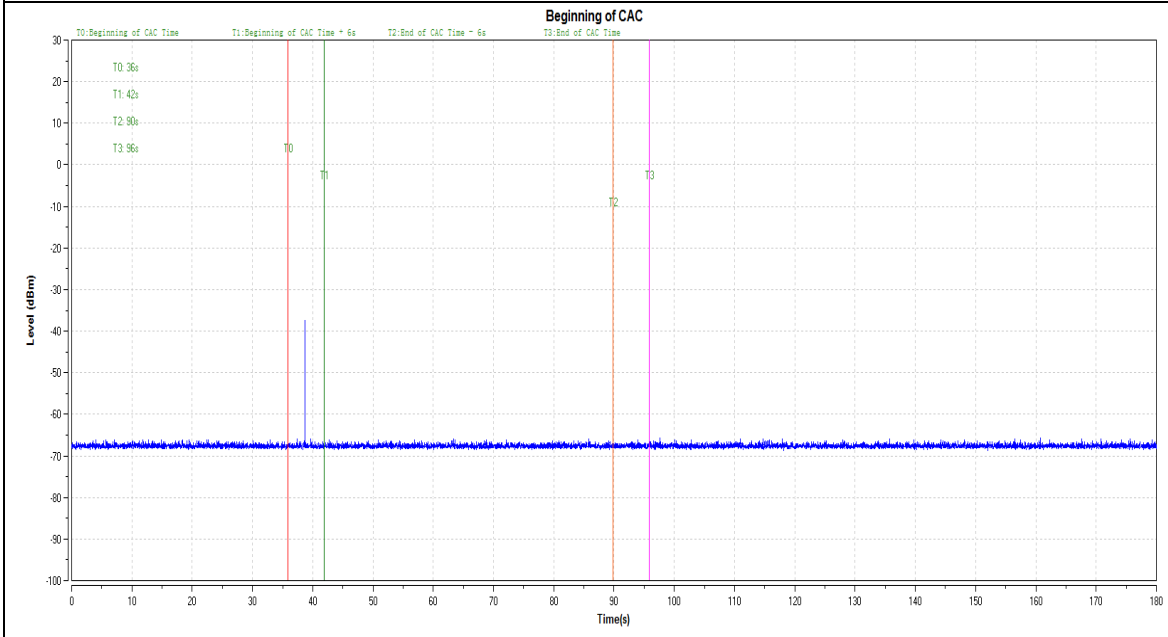
Test Result of Radar Burst at the Beginning of the Channel Availability Check Time

Modulation Mode	Freq.	Radar Test Signal
802.11ac80	5290MHz	N/A
Verify that during the measurement window no EUT transmissions occurred.		



Test Result	Complied

Modulation Mode	Freq.	Radar Test Signal
802.11ac80	5530MHz	N/A
Verify that during the measurement window no EUT transmissions occurred.		



Test Result	Complied

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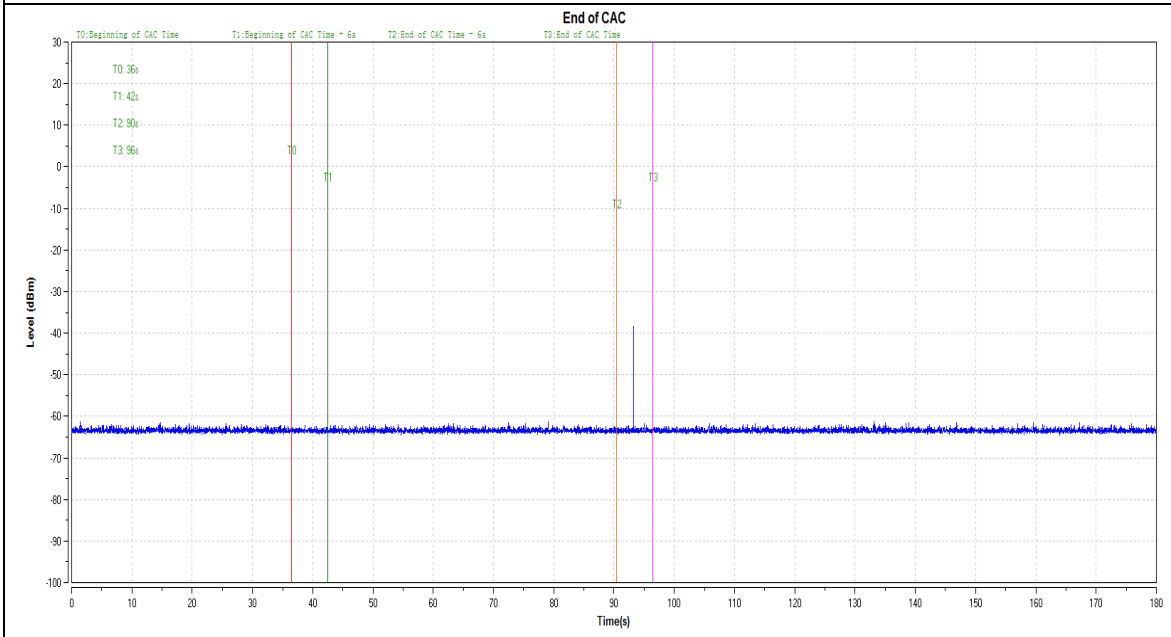
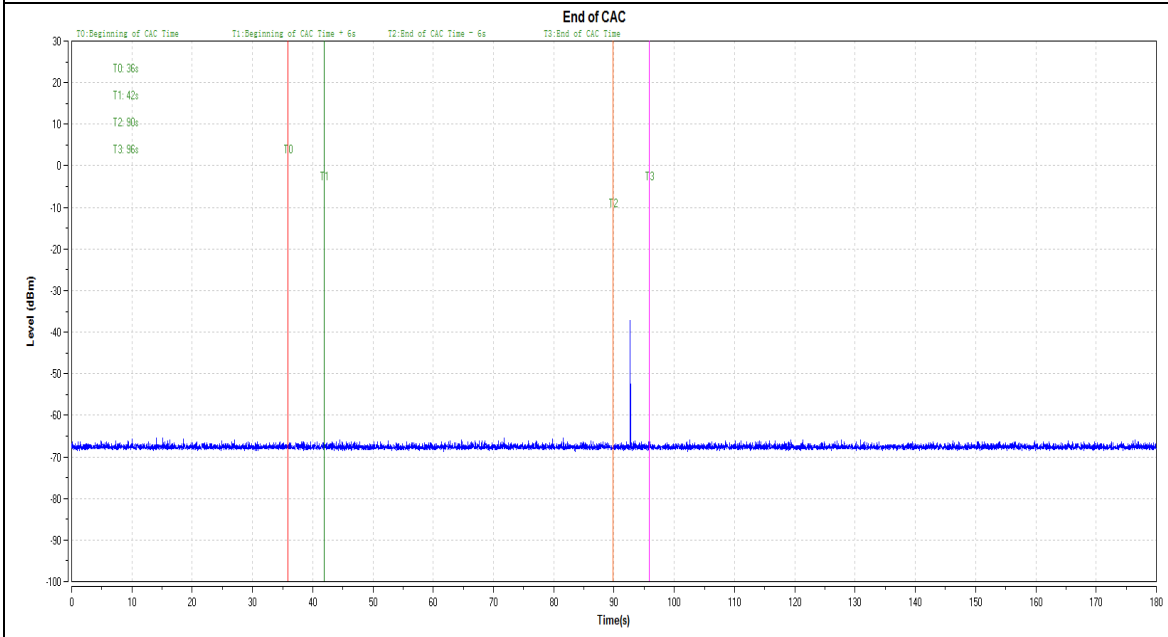
Test Result of Radar Burst at the End of the Channel Availability Check Time

Modulation Mode	Freq.	Radar Test Signal
802.11ac80	5290MHz	N/A
Verify that during the measurement window no EUT transmissions occurred.		



Test Result	Complied

Modulation Mode	Freq.	Radar Test Signal
802.11ac80	5530MHz	N/A
Verify that during the measurement window no EUT transmissions occurred..		



Test Result	Complied

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In-service Monitoring

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

Test Procedures

Test Method
Verified during In-Service Monitoring; Channel Closing Transmission Time, Channel Move Time. Client Device will associate with the EUT. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Channel Move Time). Compare the Channel Move Time and Channel Closing Transmission Time limits.
Verified during In-Service Monitoring; Channel Closing Transmission Time, Channel Move Time. One 12 sec plot needs to be reported for the Short Pulse Radar Types 0. And zoom-in a 60 ms plot verified channel closing time for the aggregate transmission time starting from 200ms after the end of the radar signal to the completion of the channel move.
Verified during In-Service Monitoring; Non-Occupancy Period. Client Device will associate with the EUT. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Non-Occupancy Period). Compare the Non-Occupancy Period limits.

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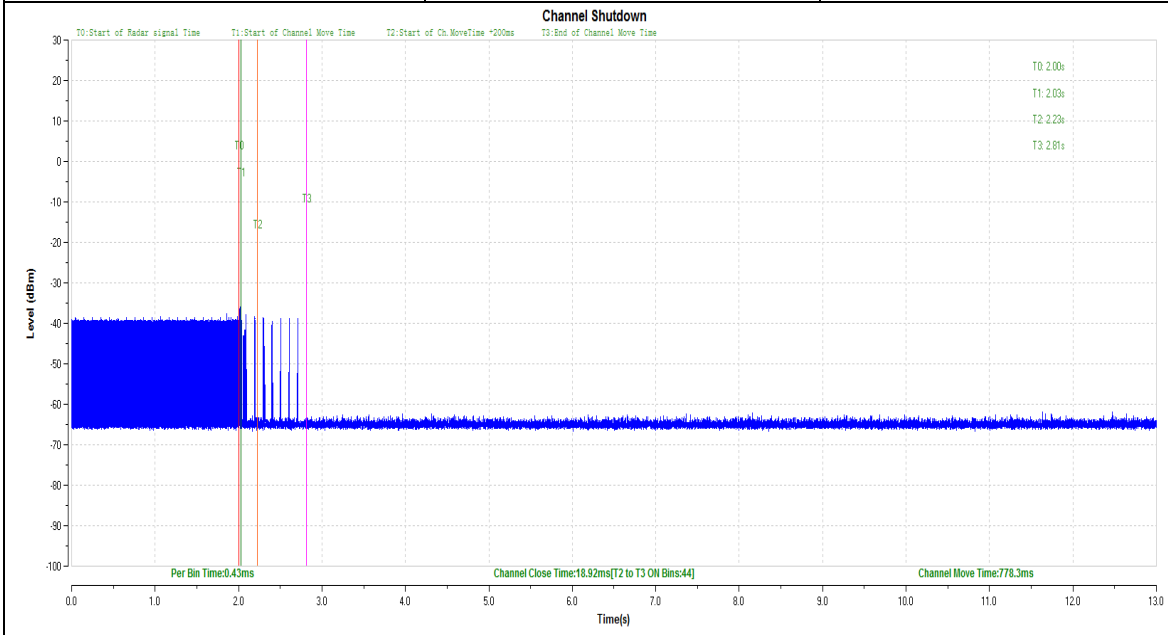
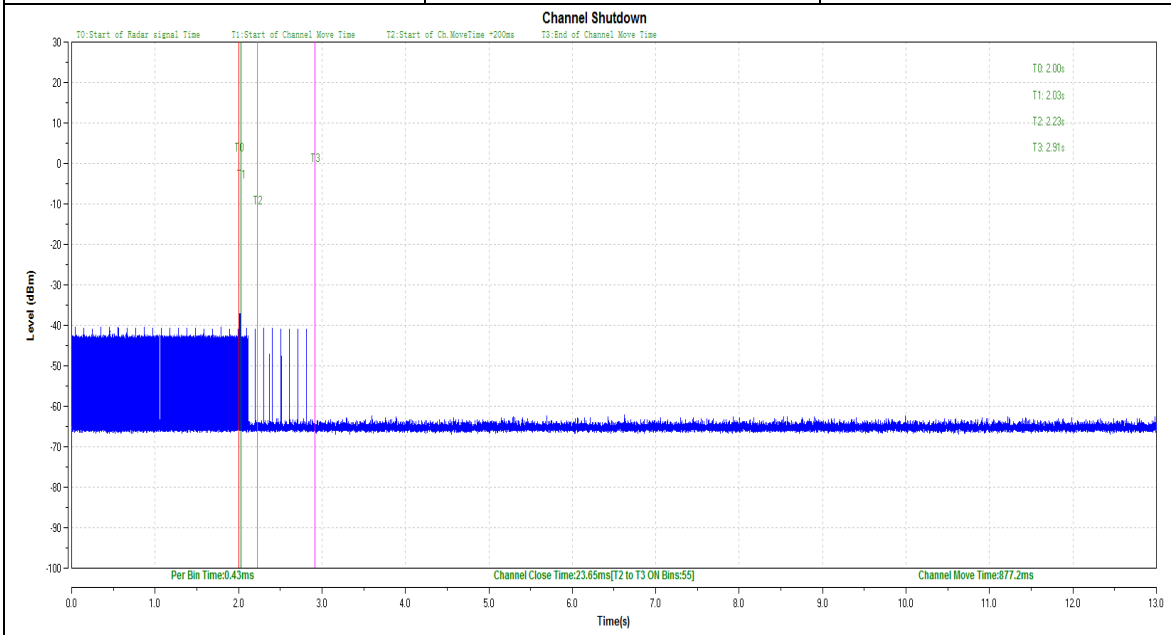
Test Result of Channel Move Time and Channel Closing Transmission Time

Modulation Mode	Freq.	Radar Test Signal
802.11ac80	5290MHz	0



CCT [ms]	CCT [ms]	CMT [ms]	CMT Limit [ms]	Verdict
17.63	60	772.71	10000	PASS

Modulation Mode	Freq.	Radar Test Signal
802.11ac80	5530MHz	0



CCT [ms]	CCT [ms]	CMT [ms]	CMT Limit [ms]	Verdict
23.65	60	877.2	10000	23.65

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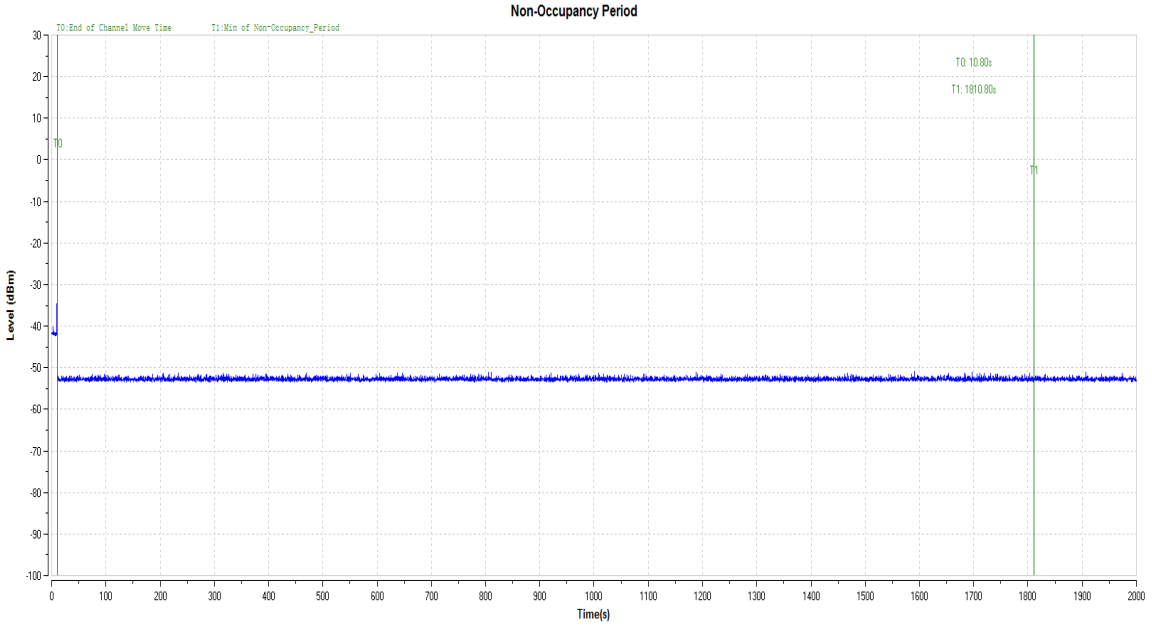
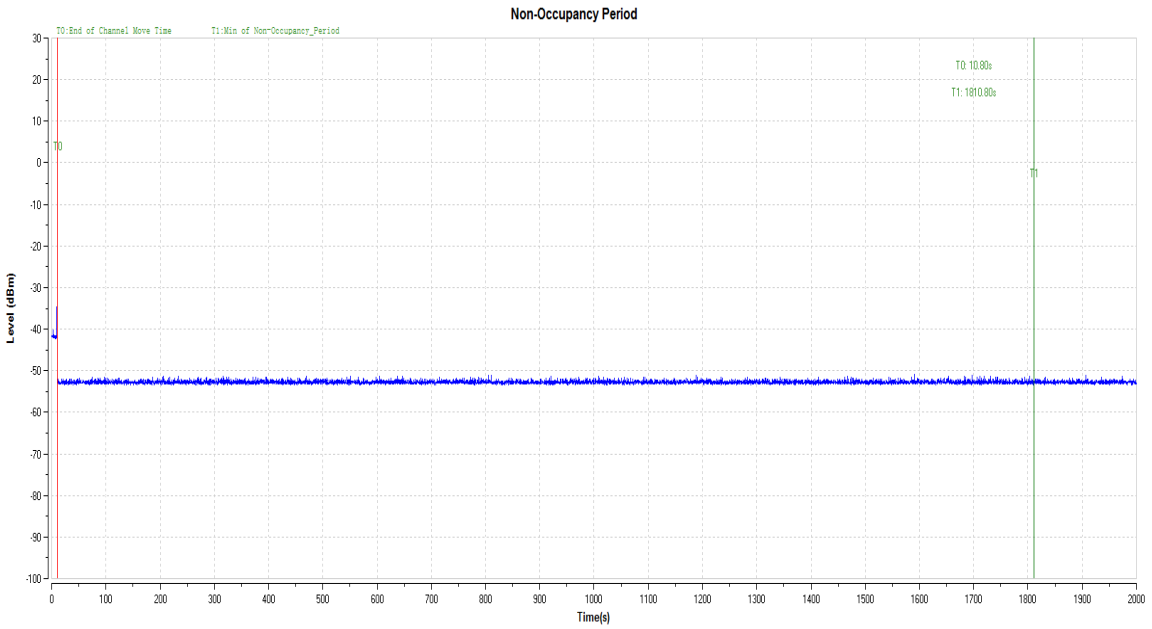
Test Result of Non-Occupancy Period

Modulation Mode	Freq.	Radar Test Signal
802.11ac80	5290MHz	0
During the 30 minutes observation time, UUT did not make any transmissions on a channel after a radar signal was detected on that channel by either the Channel Availability Check or the In-Service Monitoring.		
		
Test Result	**Complied**	

Modulation Mode	Freq.	Radar Test Signal
802.11ac80	5530MHz	0
		
Test Result	**Complied**	

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Statistical Performance Check

Statistical Performance Check Limit

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

The percentage of successful detection is calculated by:

$$\frac{TotalWaveformDetections}{TotalWaveformTrails} \times 100 = \text{Probability of Detection Radar Waveform}$$

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

$$\frac{Pd1 + Pd2 + Pd3 + Pd4}{4}$$

Test Procedures

Test Method
For Statistical Performance Check test. Demonstrating a minimum channel loading of approximately 17% or greater of the test. Observe the transmissions of the UUT at the end of the Burst on the Operating Channel for duration greater than 10 seconds for Short Pulse Radar Types 1-4 and 6 to ensure detection occurs. Then 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. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs.

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Test Result of Statistical Performance Check

Test Mode	Channel	Radar Type	Pass Times	Fail Times	Probability (%)	Limit (%)	Verdict
11A	5280	Type1	28	2	93.33	60	PASS
		Type2	26	4	86.67	60	PASS
		Type3	26	4	86.67	60	PASS
		Type4	25	5	83.33	60	PASS
		Aggregate (Radar Types 1-4)	--	--	87.50	80	PASS
		Type5	25	5	83.33	60	PASS
		Type6	30	30	100.00	60	PASS
	5500	Type1	30	0	100.00	60	PASS
		Type2	26	4	86.67	60	PASS
		Type3	25	5	83.33	60	PASS
		Type4	30	0	100.00	60	PASS
		Aggregate (Radar Types 1-4)	--	--	92.50	80	PASS
		Type5	26	4	86.67	60	PASS
		Type6	24	6	80.00	60	PASS
11N40	5270	Type1	28	2	93.33	60	PASS
		Type2	25	5	83.33	60	PASS
		Type3	25	5	83.33	60	PASS
		Type4	26	4	86.67	60	PASS
		Aggregate (Radar Types 1-4)	--	--	86.67	80	PASS
		Type5	24	6	80.00	60	PASS
		Type6	30	30	100.00	60	PASS
	5510	Type1	30	0	100.00	60	PASS
		Type2	24	6	80.00	60	PASS
		Type3	26	4	86.67	60	PASS
		Type4	26	4	86.67	60	PASS
		Aggregate (Radar Types 1-4)	--	--	88.34	80	PASS
		Type5	25	5	83.33	60	PASS
		Type6	25	5	83.33	60	PASS
11AC80	5290	Type1	26	4	86.67	60	PASS
		Type2	25	5	83.33	60	PASS
		Type3	29	1	96.67	60	PASS
		Type4	25	5	83.33	60	PASS
		Aggregate (Radar Types 1-4)	--	--	87.50	80	PASS
		Type5	25	5	83.33	60	PASS
		Type6	25	5	83.33	60	PASS
	5530	Type1	29	1	96.67	60	PASS
		Type2	26	4	86.67	60	PASS
		Type3	29	1	96.67	60	PASS
		Type4	25	5	83.33	60	PASS
		Aggregate (Radar Types 1-4)	--	--	90.84	80	PASS
		Type5	26	4	86.67	60	PASS
		Type6	25	5	83.33	60	PASS

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10 Test Equipment List

Conducted Emission Test

Description	Manufacturer	Model no.	Equipment ID	Serial no.	cal interval (year)	cal. due date
EMI Test Receiver	Rohde & Schwarz	ESR 3	68-4-74-19-002	102590	1	2022-6-4
LISN	Rohde & Schwarz	ENV216	68-4-87-19-001	102472	1	2022-6-5
Attenuator	Shanghai Huaxiang	TS2-26-3	68-4-81-16-003	080928189	1	2022-6-3
Test software	Rohde & Schwarz	EMC32	68-4-90-19-005-A01	Version10.35.02	N/A	N/A
Shielding Room	TDK	CSR #2	68-4-90-19-005	----	1	2022-11-07

Radiated Emission Test

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
Signal Analyzer	Rohde & Schwarz	FSV40	68-4-74-14-003	101031	1	2022-6-3
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	68-4-80-14-003	708	1	2022-6-27
Horn Antenna	Rohde & Schwarz	HF907	68-4-80-14-004	102295	1	2022-7-21
Wideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	68-4-80-14-008	12827	1	2022-7-21
Loop Antenna	Rohde & Schwarz	HFH2-Z2	68-4-80-14-006	100398	1	2022-8-25
Pre-amplifier	Rohde & Schwarz	SCU 18	68-4-29-14-001	102230	1	2022-6-6
Pre-amplifier	Rohde & Schwarz	SCU 40A	68-4-29-14-002	100432	1	2022-7-27
Fully Anechoic Chamber	TDK	8X4X4	68-4-90-14-002	--	2	2023-9-2
Test software	Rohde & Schwarz	EMC32	68-4-90-14-002-A10	Version 9.15.00	N/A	N/A

RF Conducted Test

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
Signal Generator	Rohde & Schwarz	SMB100A	68-4-48-14-001	108272	1	2022-6-3
Vector Signal Generator	Rohde & Schwarz	SMBV100A	68-4-48-18-001	262825	1	2022-6-3
Communication Synthetical Test Instrument	Rohde & Schwarz	CMW 270	68-4-48-18-003	101251	1	2022-6-3
Signal Analyzer	Rohde & Schwarz	FSV40	68-4-74-14-004	101030	1	2022-6-3
Vector Signal Generator	Rohde & Schwarz	SMU 200A	68-4-48-14-003	105324	1	2022-6-3
RF Switch Module	Rohde & Schwarz	OSP120/OSP-B157	68-4-93-14-003	101226/100851	1	2022-6-3
Power Splitter	Weinschel	1580	68-4-85-14-001	SC319	1	2022-6-3
10dB Attenuator	Weinschel	4M-10	68-4-81-14-003	43152	1	2022-6-3
10dB Attenuator	R&S	DNF	68-4-81-14-004	DNF-001	1	2022-6-3
10dB Attenuator	R&S	DNF	68-4-81-14-005	DNF-002	1	2022-6-3
10dB Attenuator	R&S	DNF	68-4-81-14-006	DNF-003	1	2022-6-3
10dB Attenuator	R&S	DNF	68-4-81-14-007	DNF-004	1	2022-6-3
Test software	Rohde & Schwarz	EMC32	68-4-48-14-003-A10	Version 10.60.10	N/A	N/A
Test software	Tonscend	System for BT/WIFI	68-4-74-14-006-A13	Version 2.6.77.0518	N/A	N/A
Shielding Room	TDK	TS8997	68-4-90-19-003	----	3	2022-11-07

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11 System Measurement Uncertainly

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Uncertainty for Conducted Emission 150kHz-30MHz (for test using AMN ENV432 or ENV4200)	3.62dB
Uncertainty for Radiated Spurious Emission 25MHz-3000MHz	Horizontal: 4.81dB; Vertical: 4.89dB;
Uncertainty for Radiated Spurious Emission 3000MHz-18000MHz	Horizontal: 4.69dB; Vertical: 4.68dB;
Uncertainty for Radiated Spurious Emission 18000MHz-40000MHz	Horizontal: 4.89dB; Vertical: 4.87dB;
Uncertainty for Conducted RF test	RF Power Conducted: 1.16dB Frequency test involved: 0.6×10^{-7} or 1%

---THE END OF REPORT---

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