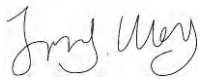
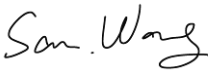
Shenzhen GUOREN Certification Technology Service Co., Ltd.
101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community, Fenghuang Street, Guangming District, Shenzhen, China

FCC PART 15 SUBPART C TEST REPORT
FCC CFR 47 PART 15E (15.407)

Report Reference No..... :	**GRCTR240301004-03**	
FCC ID..... :	**2A98H-WH02**	
Compiled by (position+printed name+signature)..:	Testing Engineer Jimmy Wang	
Supervised by (position+printed name+signature)..:	Project Engineer Kelley Zhang	
Approved by (position+printed name+signature)..:	Manager Sam Wang	
Date of issue.....:	Mar. 30, 2024	

Testing Laboratory Name.....:	**Shenzhen GUOREN Certification Technology Service Co., Ltd.**
Address..... :	101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community, Fenghuang Street, Guangming District, Shenzhen, China

Applicant's name.....:	**GearUP Portal Pte. Ltd.**
Address..... :	1 Raffles Quay, Level 49, Singapore 048583

Test specification..... **:**	
Standard.....:	**FCC CFR 47 PART 15E (15.407)**

Test item description.....:	HYPEREV
Trade Mark.....:	/
Manufacturer.....:	BUFFKITS LIMITED
Model/Type reference..... :	NIT-GU-07-HR
Listed Models ..... :	/
Modulation .....:	DSSS,OFDM
Frequency.....	From 5260MHz to 5320MHz, 5500MHz to 5700MHz
Rating.....:	DC 12V from external circuit
Result.....:	**PASS**

T E S T R E P O R T

Equipment under Test	:	HYPEREV
Model /Type	:	NIT-GU-07-HR
Listed Models	:	/
Applicant	:	**GearUP Portal Pte. Ltd.**
Address	:	1 Raffles Quay, Level 49, Singapore 048583
Manufacturer	:	**BUFFKITS LIMITED**
Address	:	101, 1 / F, Hung To Industrial Building, 80 Hung To Road, Kwun Tong, Hong Kong

Test Result:	**PASS**

The test report merely corresponds to the test sample.

Contents

1. General Information about EUT

1.1. General Remarks

Date of receipt of test sample	:	Mar. 05, 2024
Testing commenced on	:	Mar. 05, 2024
Testing concluded on	:	Mar. 30, 2024

1.2. Product Description

Product Name:	HYPEREV
Model/Type reference:	NIT-GU-07-HR
Listed Models:	/
Power supply:	DC 12V from external circuit
Adapter information:	M/N:KA12F-1201000CN Input:AC 100-240V 50-60Hz 0.4A Output:DC12V/1A
testing sample ID:	GRCTR240301004-1# (Engineer sample), GRCTR240301004-2# (Normal sample)
WIFI:	
Supported type:	Supported 802.11 a/n/ac/ax
Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac20/40/80/160: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax20/40/80/160: OFDM(64QAM, 16QAM, QPSK, BPSK)
Operation frequency:	IEEE 802.11a:5180-5240MHz,5260-5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11n HT20: 5180-5240MHz,5260-5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11n HT40: 5190-5230MHz,5270-5310MHz,5510-5670MHz,5755-5795MHz IEEE 802.11ac20:

	5180-5240MHz,5260-5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11ac40: 5190-5230MHz,5270-5310MHz,5510-5670MHz,5755-5795MHz IEEE 802.11ac80:5210MHz,5290MHz,5530MHz,5775MHz IEEE 802.11ac160:5250MHz,5570MHz IEEE 802.11ax20: 5180-5240MHz,5260-5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11ax40: 5190-5230MHz,5270-5310MHz,5510-5670MHz,5755-5795MHz IEEE 802.11ax80:5210MHz,5290MHz,5530MHz,5775MHz IEEE 802.11ax160:5250MHz,5570MHz
Channel number:	4 Channels for 20MHz bandwidth(5180-5240MHz) 4 Channels for 20MHz bandwidth(5260-5320MHz) 11 Channels for 20MHz bandwidth(5500-5700MHz) 5 channels for 20MHz bandwidth(5745-5825MHz) 2 channels for 40MHz bandwidth(5190~5230MHz) 2 channels for 40MHz bandwidth(5270~5310MHz) 5 Channels for 40MHz bandwidth(5510-5670MHz) 2 channels for 40MHz bandwidth(5755~5795MHz) 1 channels for 80MHz bandwidth(5210MHz) 1 channels for 80MHz bandwidth(5290MHz) 1 Channels for 80MHz bandwidth(5530Hz) 1 channels for 80MHz bandwidth(5775MHz) 1 Channels for 160MHz bandwidth(5250Hz) 1 channels for 160MHz bandwidth(5570MHz)
Function:	This device was functioned as a ☒ Master ☐ Slave device with radar detection ☐ Slave device without radar detection
TPC	☒ No ☐ Yes
Antenna type:	Internal antenna
Antenna gain* (Supplied by the customer):	Ant 1: 5.6 dBi

	Ant 2: 5.7 dBi Ant 3: 6.6 dBi
Remark:*When the information provided by the customer was used to calculate test results, if the information provided by the customer is not accurate, shenzhen GUOREN Certification Technology Service Co., Ltd. does not assume any responsibility.	

1.3. Short description of the Equipment under Test (EUT)

This is a HYPEREV.

For more details, refer to the user's manual of the EUT.

1.4. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 920798 Designation Number: CN1304

Shenzhen GUOREN Certification Technology Service Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6202.01

Shenzhen GUOREN Certification Technology Service Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

ISED#: 27264CAB identifier: CN0115

Shenzhen GUOREN Certification Technology Service Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

CNAS-Lab Code: L15631

Shenzhen GUOREN Certification Technology Service Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories for the Competence of Testing and Calibration Laboratories.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

2. Test Equipment

Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date
LISN	R&S	ENV216	GRCTEE009	2023/09/27	2024/09/26
LISN	R&S	ENV216	GRCTEE010	2023/09/27	2024/09/26
EMI Test Receiver	R&S	ESPI	GRCTEE017	2023/09/28	2024/09/27
EMI Test Receiver	R&S	ESCI	GRCTEE008	2023/09/27	2024/09/26
Spectrum Analyzer	Agilent	N9020A	GRCTEE002	2023/09/27	2024/09/26
Spectrum Analyzer	R&S	FSP	GRCTEE003	2023/09/28	2024/09/27
Vector Signal generator	Agilent	N5181A	GRCTEE007	2023/09/27	2024/09/26
Analog Signal Generator	R&S	SML03	GRCTEE006	2023/09/27	2024/09/26
Climate Chamber	QIYA	LCD-9530	GRCTES016	2023/09/27	2024/09/26
Ultra-Broadband Antenna	Schwarzbeck	VULB9163	GRCTEE018	2023/09/28	2026/09/27
Horn Antenna	Schwarzbeck	BBHA 9120D	GRCTEE019	2023/09/28	2026/09/27
Loop Antenna	Zhinan	ZN30900C	GRCTEE020	2023/10/15	2026/10/14
Horn Antenna	Beijing Hangwei Dayang	OBH100400	GRCTEE049	2023/09/28	2026/09/27
Amplifier	Schwarzbeck	BBV 9745	GRCTEE021	2023/09/27	2024/09/26
Amplifier	Taiwan chengyi	EMC051845B	GRCTEE022	2023/09/28	2024/09/27
Temperature/Humidity Meter	Huaguan	HG-308	GRCTES037	2023/09/27	2024/09/26
Directional coupler	NARDA	4226-10	GRCTEE004	2023/09/27	2024/09/26
High-Pass Filter	XingBo	XBLBQ-GTA18	GRCTEE053	2023/09/27	2024/09/26
High-Pass Filter	XingBo	XBLBQ-GTA27	GRCTEE054	2023/09/27	2024/09/26
Automated filter bank	Tonscend	JS0806-F	GRCTEE055	2023/09/27	2024/09/26
Power Sensor	Agilent	U2021XA	GRCTEE070	2023/09/27	2024/09/26
EMI Test Software	ROHDE & SCHWARZ	ESK1-V1.71	GRCTEE060	N/A	N/A
EMI Test Software	Fera	EZ-EMC	GRCTEE061	N/A	N/A

3. Summary of Test Results

Clause	Test Parameter	Remarks	Pass/Fail
§ 15.407	DFS Detection Threshold	Required	Pass
§ 15.407	Channel Availability Check Time	Required	Pass
§ 15.407	Channel Move Time	Required	Pass
§ 15.407	Channel Closing Transmission Time	Required	Pass
§ 15.407	Non- Occupancy Period	Required	Pass
§ 15.407	Statistical Performance Check	Required	Pass
§ 15.407	U-NII Detection Bandwidth	Required	Pass
Test Mode			
Device operating in master mode. Master with injection at the Master. (Radar Test Waveforms are injected into the Master)			

4. U-NII DFS Rule Requirements

Applicability of DFS requirements

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

Table 1: Applicability of DFS requirements prior to use a channel

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

Table 2: Applicability of DFS requirements during normal operation

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

Additional requirements for devices with multiple bandwidth modes	☒ Master Device or Client with Radar Detection	☐ Client without Detection
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 widest BW mode available
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 20MHz channels and the channel center frequency.		

Test Limits and Radar Signal Parameters

Table 5: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection.

Maximum Transmit Power	Value (See Notes 1 and 2)
EIRP≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and Power pectral 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: E.I.R.P is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

Calibration:

For a detection threshold level of -62dBm and the max antenna gain is 5.6 dBi required detection threshold is -56.4dBm=(-62+5.6)dBm.

To meet the stringent requirement, the DFS test used the detection threshold level of -62dBm.

Note: EIRP < 200 milliwatt and Power pectral density < 10 dBm/MHz in this report, so detection threshold level is -62dBm.

Table 6: 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 UNII 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.

PARAMETERS OF DFS TEST SIGNALS

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

Table 7: 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.

Table 7a: Pulse Repetition Intervals Values for Test A.

Pulse Repetition Frequency Number	**Pulse Repetition Frequency (Pulses Per Second)**	**Pulse Repetition Interval (Microseconds)**
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678
10	1432.7	698
11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

Table 8: 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（The center frequency for each of the 30 trials of the Bin 5 radar shall be randomly selected within 80% of the Occupied Bandwidth.）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.

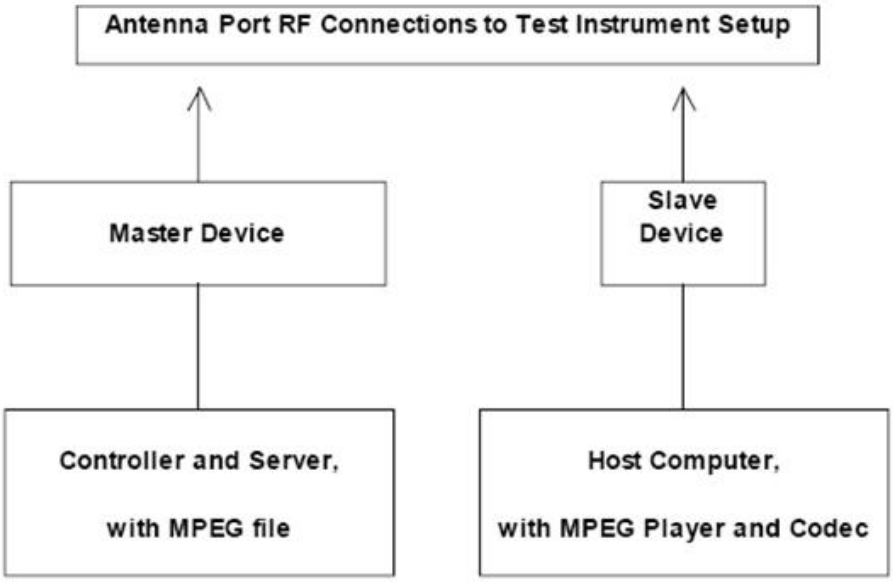
Table 9: Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

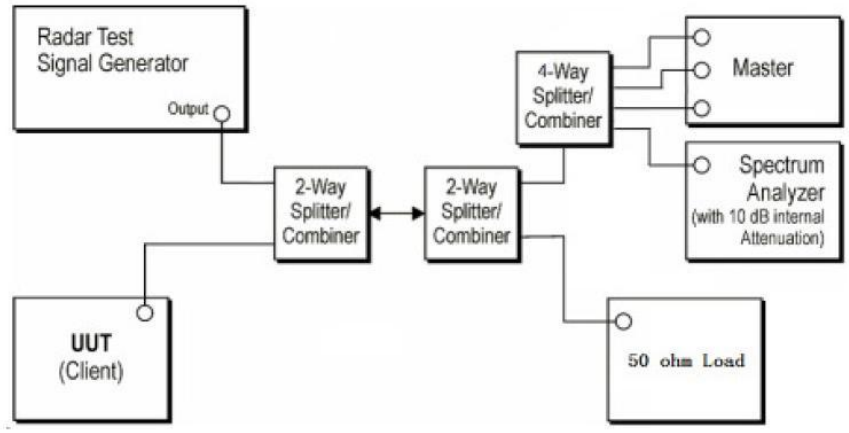
5. Calibration of Radar Waveform

Test Procedure

1. A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected in place of the master device and the signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –62dBm as measured on the spectrum analyzer.
2. Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. Measure the amplitude and calculate the difference from –62dBm. Adjust the Reference Level Offset of the spectrum analyzer to this difference.
3. The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –62dBm and the spectrum analyzer will still indicate the level as received by the Master Device.
4. Set the signal generator to produce a radar waveform, trigger a burst manually and measure the level on the spectrum analyzer. Readjust the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection threshold. Separate signal generator amplitude settings are determined as required for each radar type.



Conducted Calibration Test Setup



Deviation from Test Standard

No Deviation

Radar Waveform Calibration Result

TestMode	Frequency[dbm]	Radar Type	Result	Limit[dbm]	Verdict
11AC20SISO	5320	Type0	-62.26	-62.00	PASS
		Type1	-62.33	-62.00	PASS
		Type2	-62.00	-62.00	PASS
		Type3	-62.23	-62.00	PASS
		Type4	-62.00	-62.00	PASS
		Type5	-62.40	-62.00	PASS
		Type6	-62.13	-62.00	PASS
	5500	Type0	-62.01	-62.00	PASS
		Type1	-62.26	-62.00	PASS
		Type2	-62.15	-62.00	PASS
		Type3	-62.40	-62.00	PASS
		Type4	-62.16	-62.00	PASS
		Type5	-62.10	-62.00	PASS
		Type6	-62.31	-62.00	PASS
11AC40SISO	5310	Type0	-62.15	-62.00	PASS
		Type1	-62.16	-62.00	PASS
		Type2	-62.08	-62.00	PASS
		Type3	-62.10	-62.00	PASS
		Type4	-62.22	-62.00	PASS
		Type5	-62.19	-62.00	PASS
		Type6	-62.25	-62.00	PASS
	5510	Type0	-62.08	-62.00	PASS

		Type1	-62.05	-62.00	PASS
		Type2	-62.10	-62.00	PASS
		Type3	-62.43	-62.00	PASS
		Type4	-62.39	-62.00	PASS
		Type5	-62.22	-62.00	PASS
		Type6	-62.18	-62.00	PASS
11AC80SISO	5290	Type0	-62.47	-62.00	PASS
		Type1	-62.26	-62.00	PASS
		Type2	-62.08	-62.00	PASS
		Type3	-62.03	-62.00	PASS
		Type4	-62.03	-62.00	PASS
		Type5	-62.21	-62.00	PASS
		Type6	-62.43	-62.00	PASS
	5530	Type0	-62.30	-62.00	PASS
		Type1	-62.04	-62.00	PASS
		Type2	-62.12	-62.00	PASS
		Type3	-62.41	-62.00	PASS
		Type4	-62.01	-62.00	PASS
		Type5	-62.37	-62.00	PASS
		Type6	-62.32	-62.00	PASS
11AC160SISO	5250	Type0	-62.04	-62.00	PASS
		Type1	-62.46	-62.00	PASS
		Type2	-62.32	-62.00	PASS
		Type3	-62.32	-62.00	PASS
		Type4	-62.10	-62.00	PASS
		Type5	-62.45	-62.00	PASS
		Type6	-62.13	-62.00	PASS
	5570	Type0	-62.12	-62.00	PASS
		Type1	-62.12	-62.00	PASS
		Type2	-62.37	-62.00	PASS
		Type3	-62.15	-62.00	PASS
		Type4	-62.33	-62.00	PASS
		Type5	-62.37	-62.00	PASS
		Type6	-63.93	-62.00	PASS

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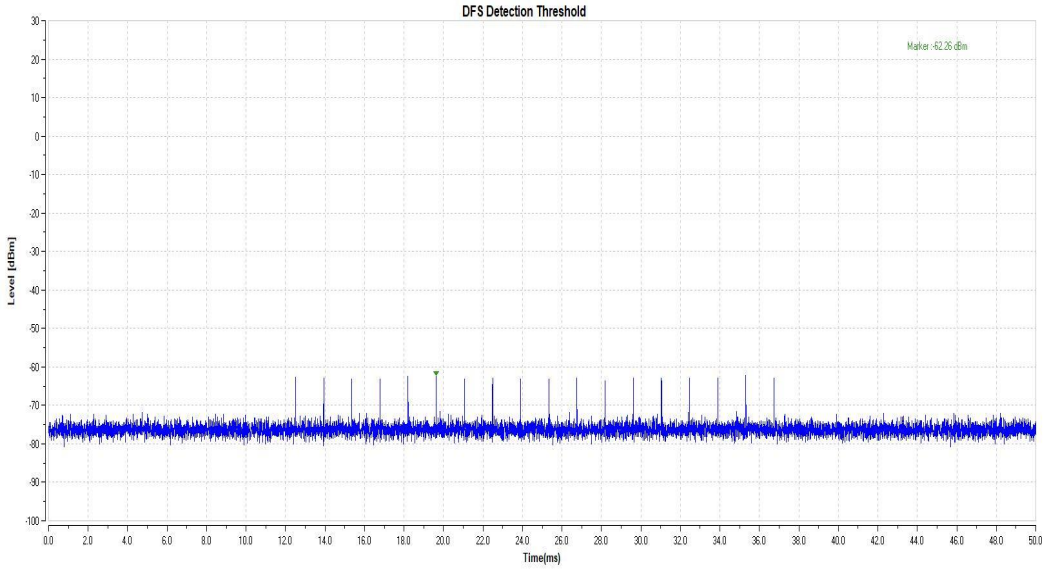
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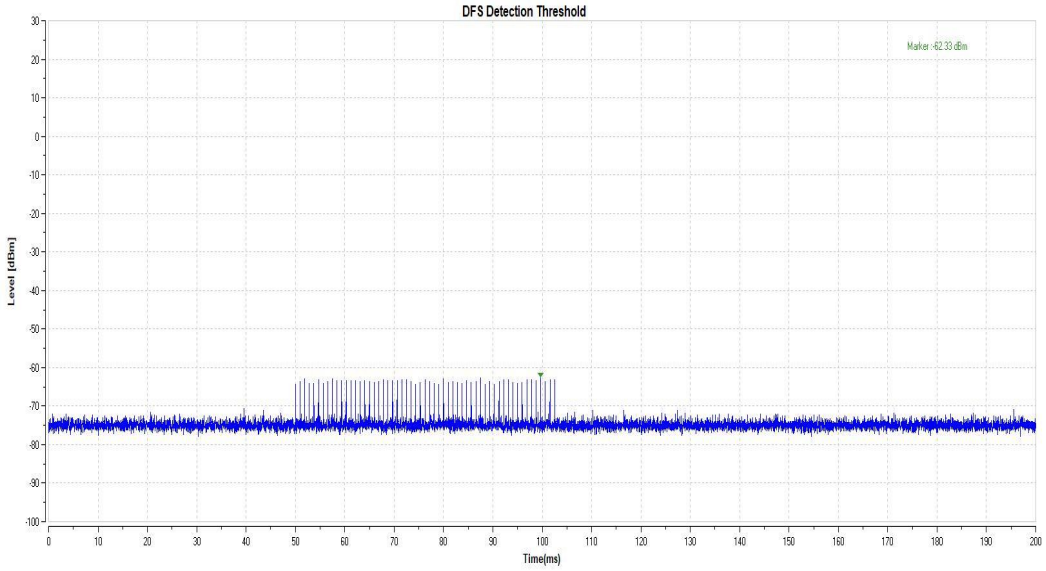
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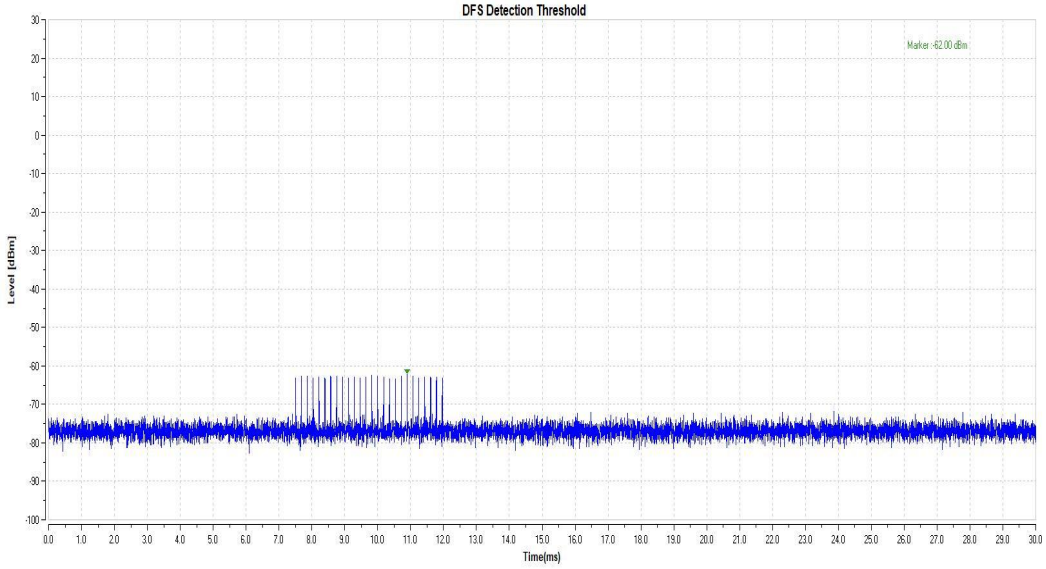

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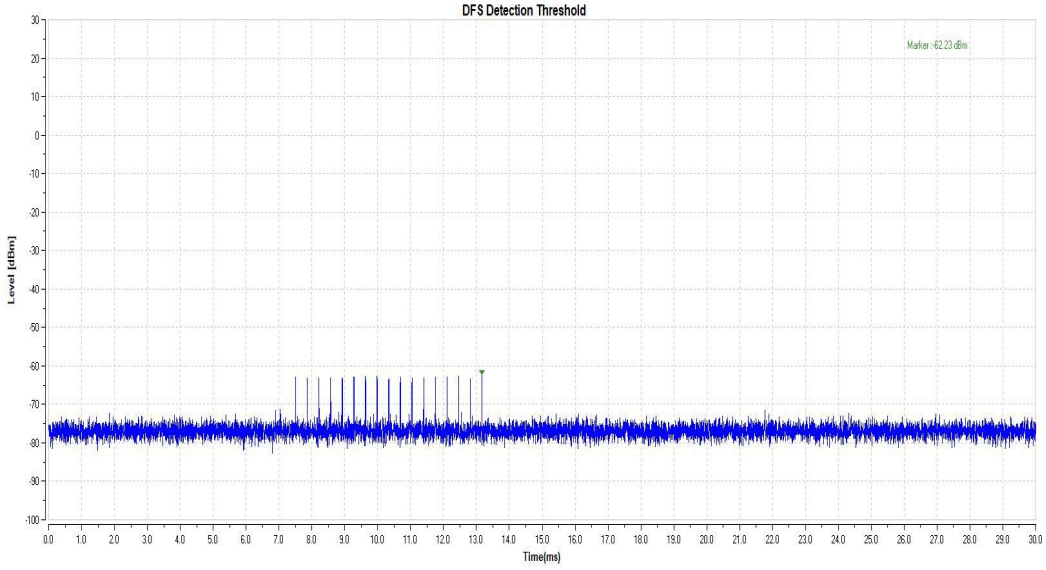

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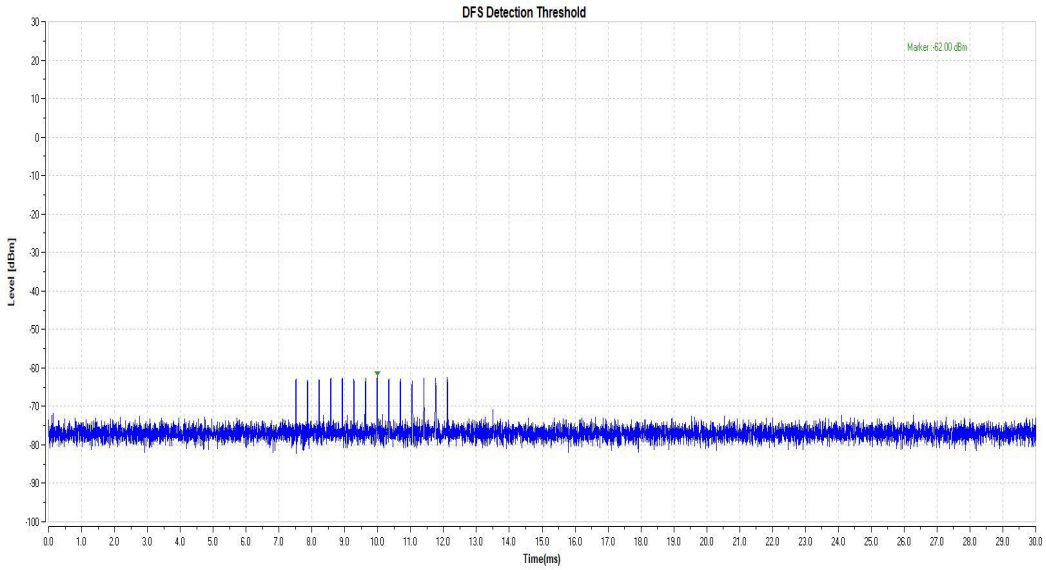

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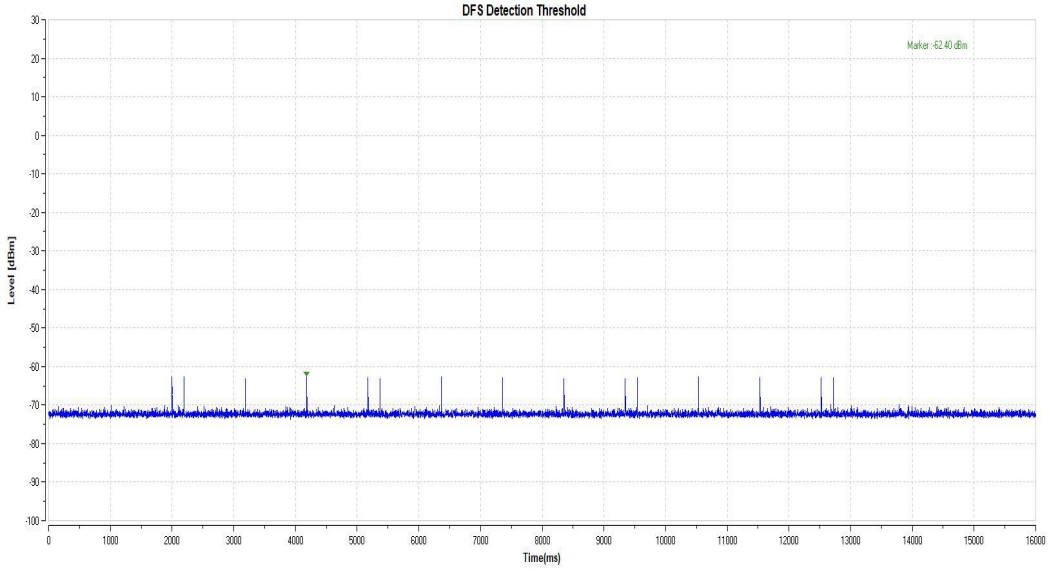

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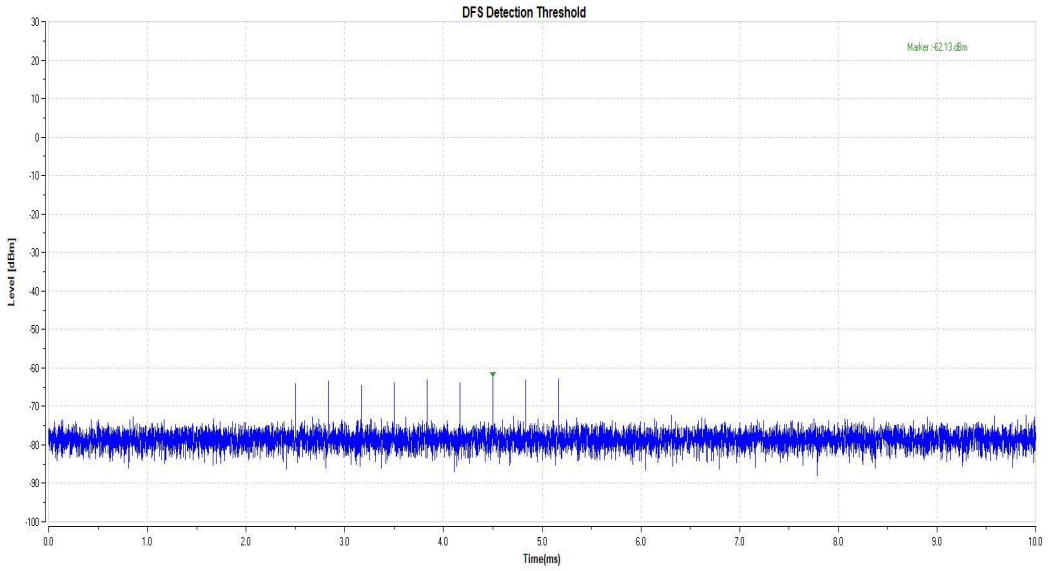

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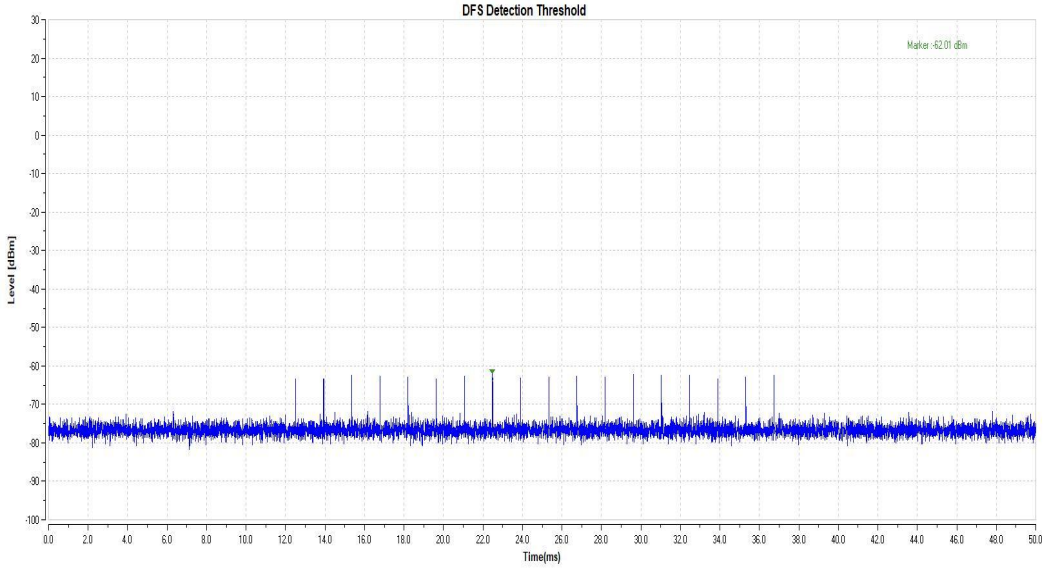

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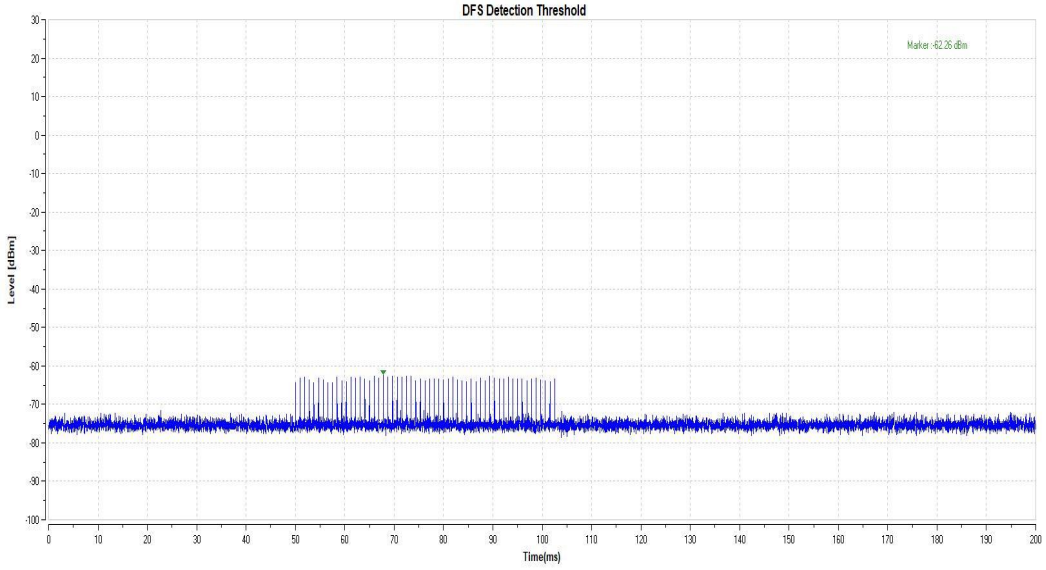

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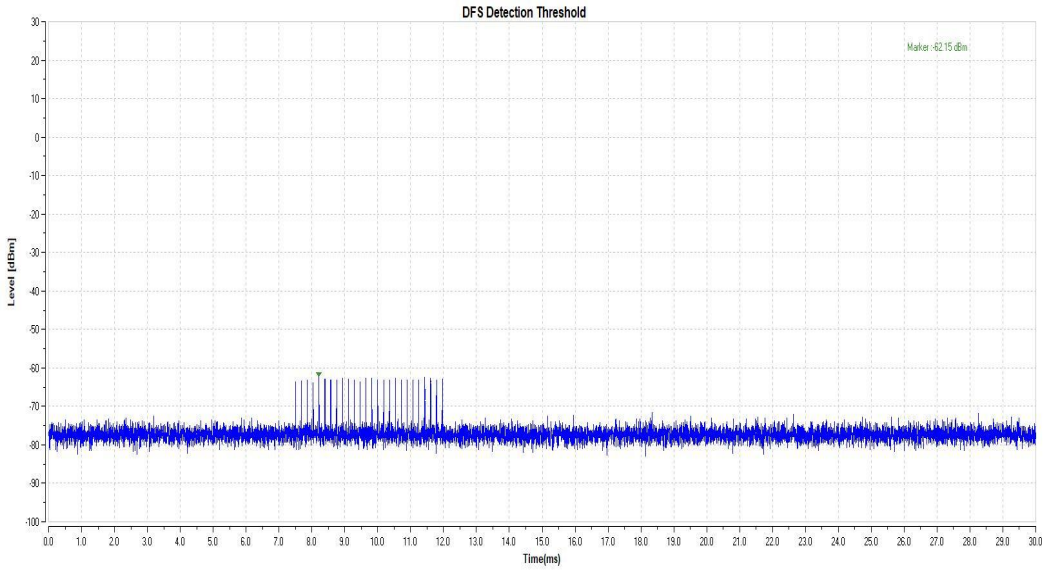

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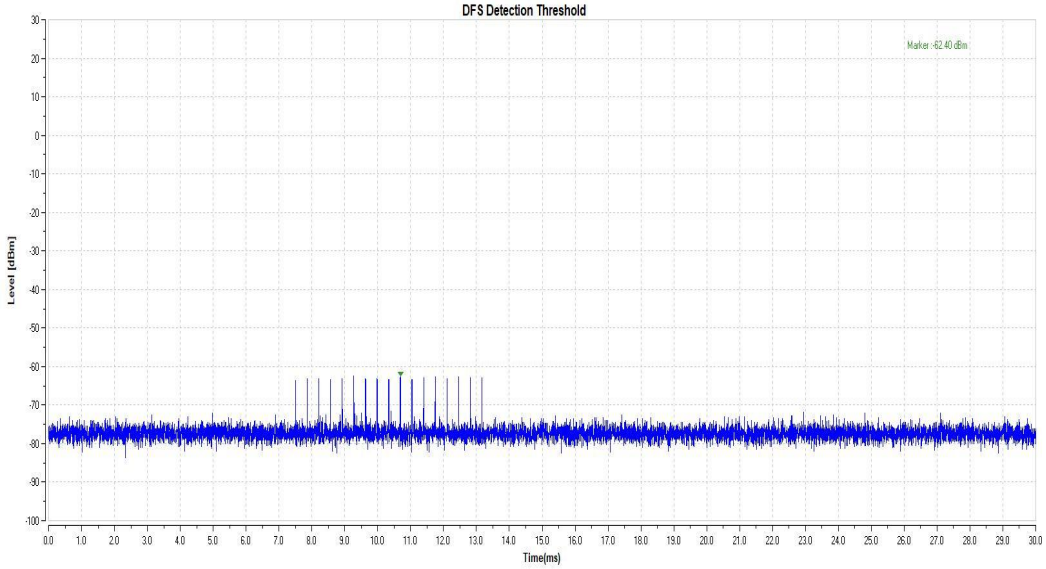
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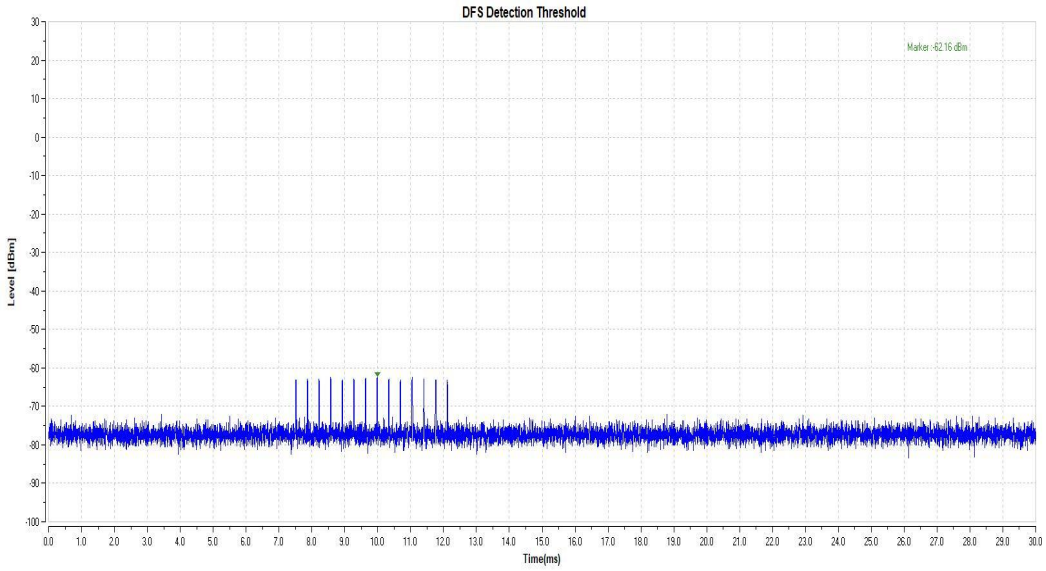
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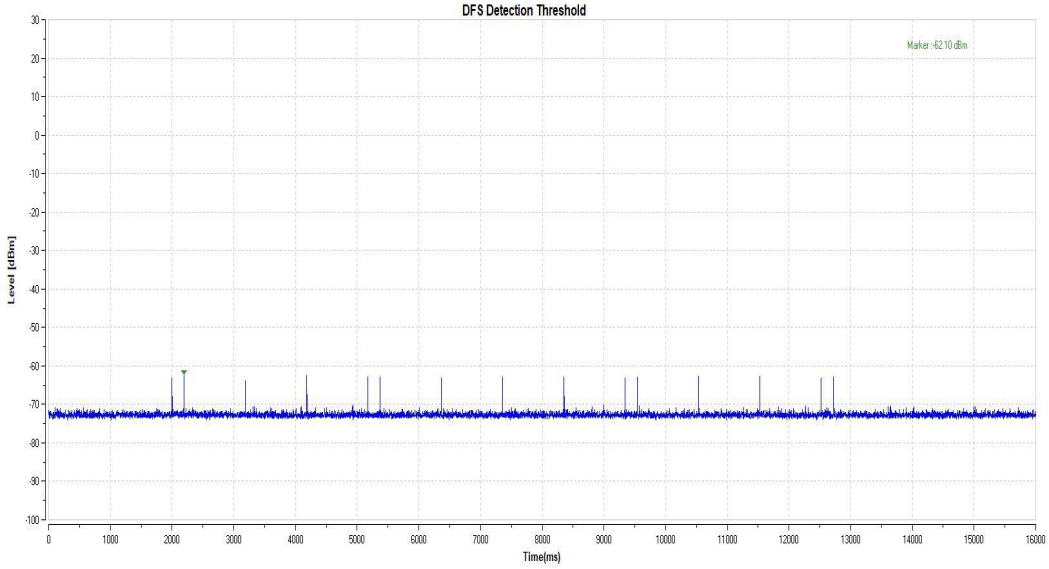
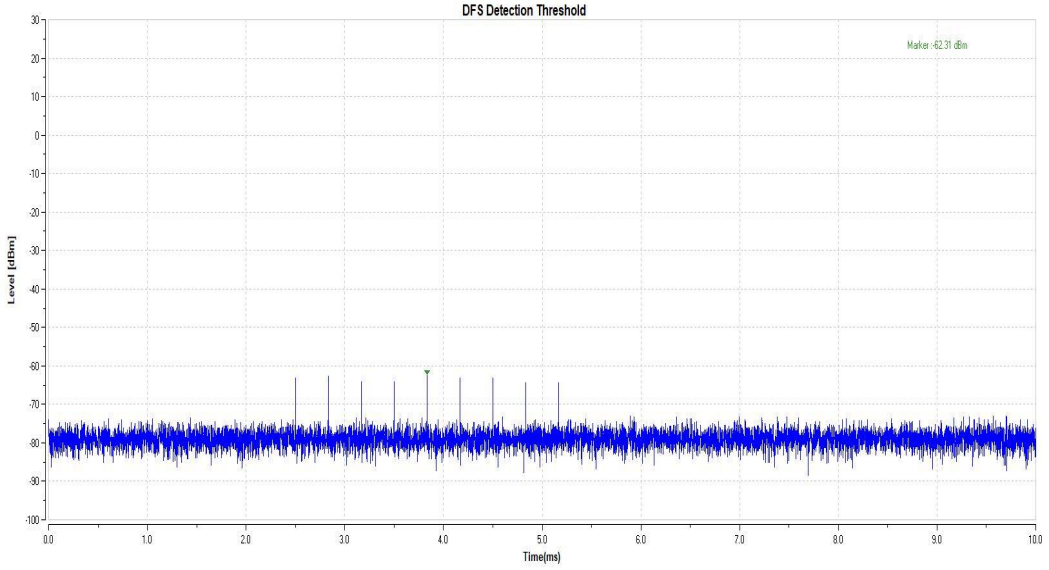
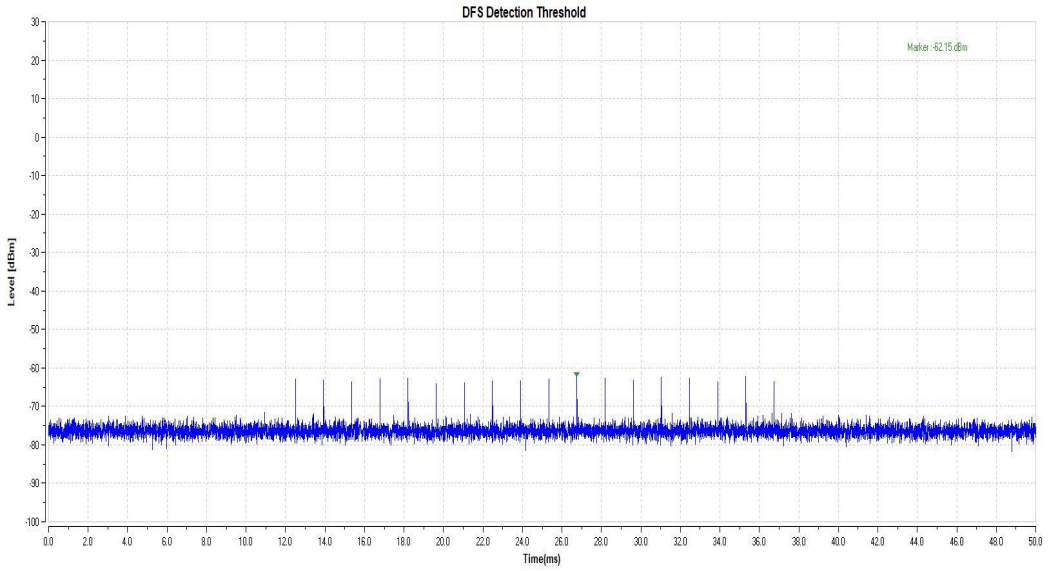


11AC20SISO_5500_Type6



11AC40SISO_5310_Type0



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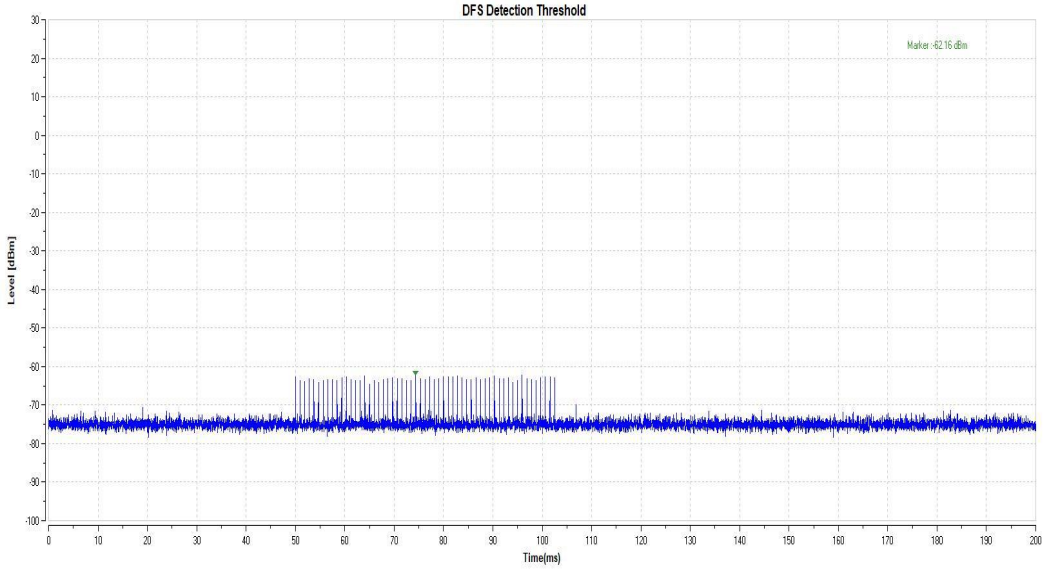
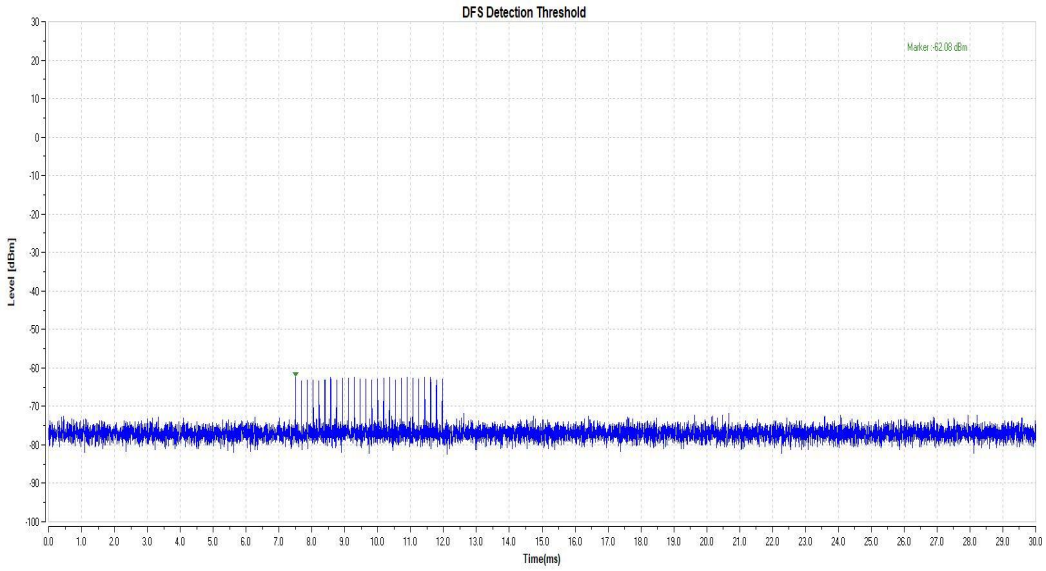
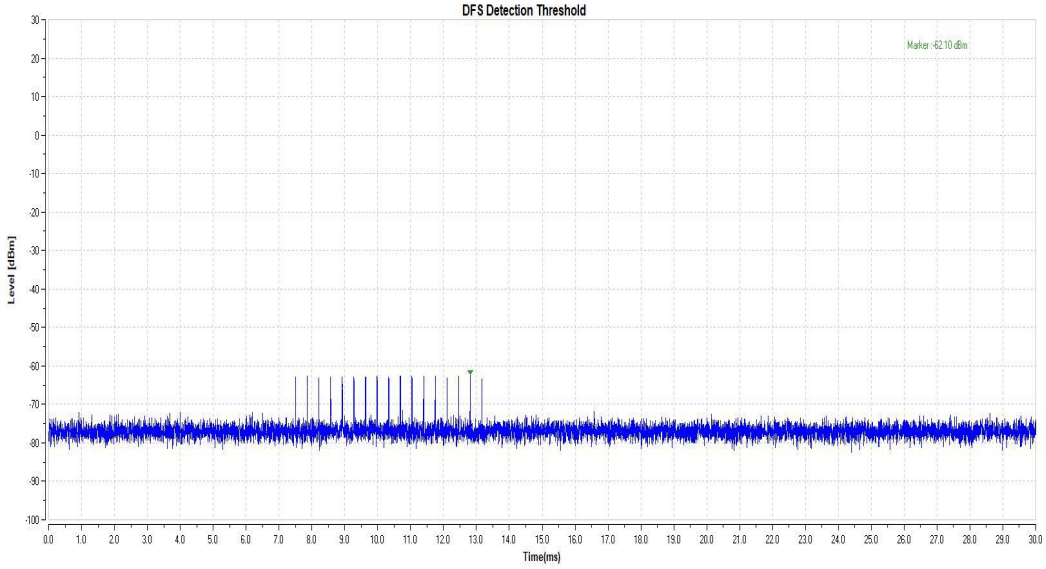


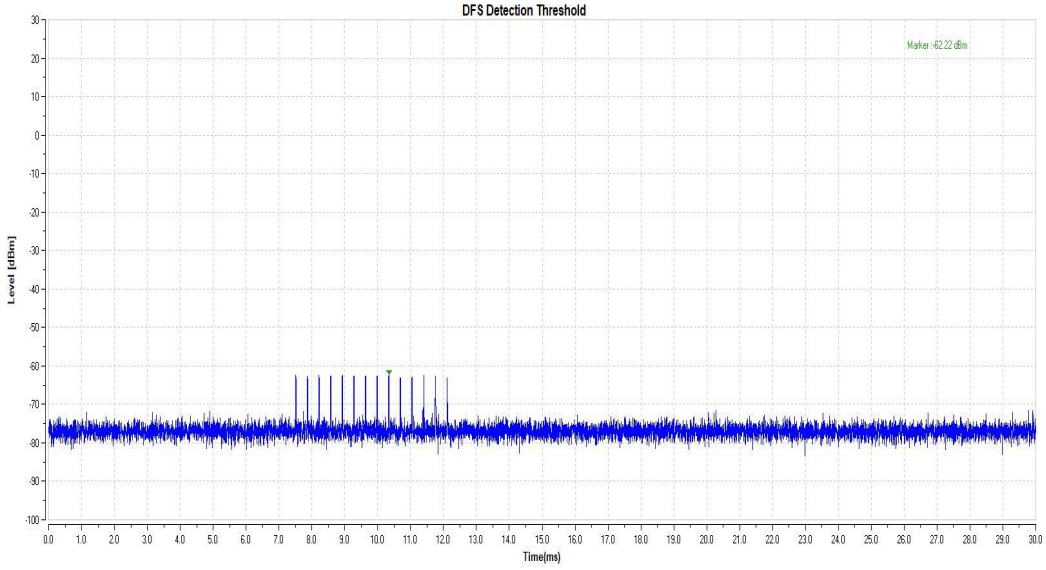
11AC40SISO_5310_Type2



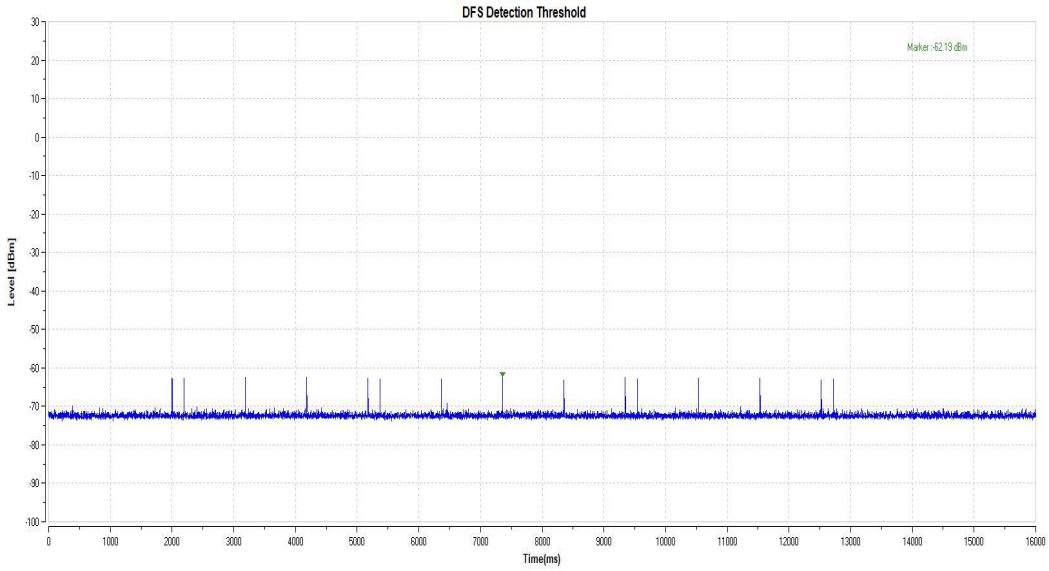
11AC40SISO_5310_Type3



11AC40SISO_5310_Type4



11AC40SISO_5310_Type5



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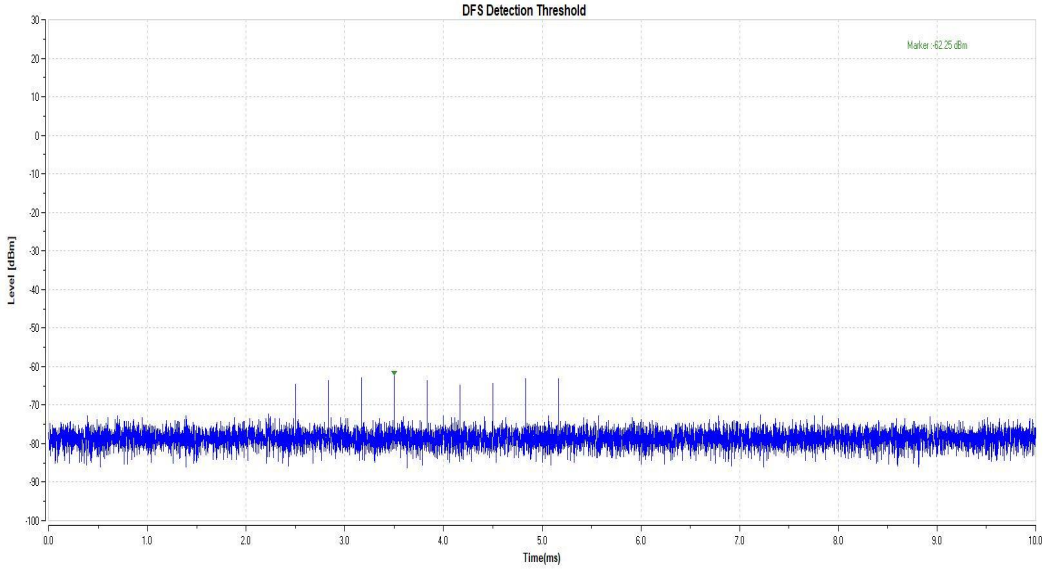
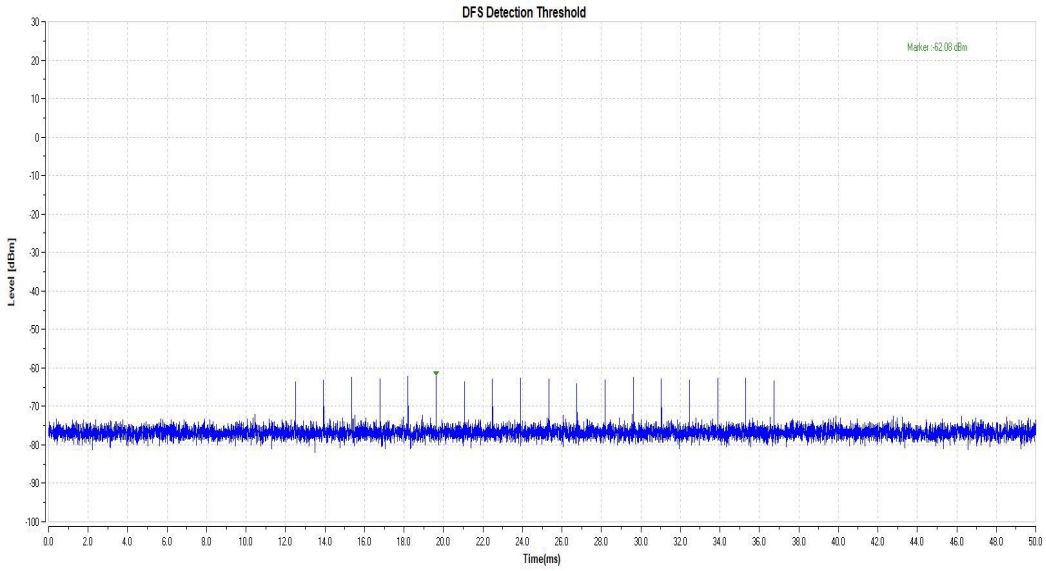
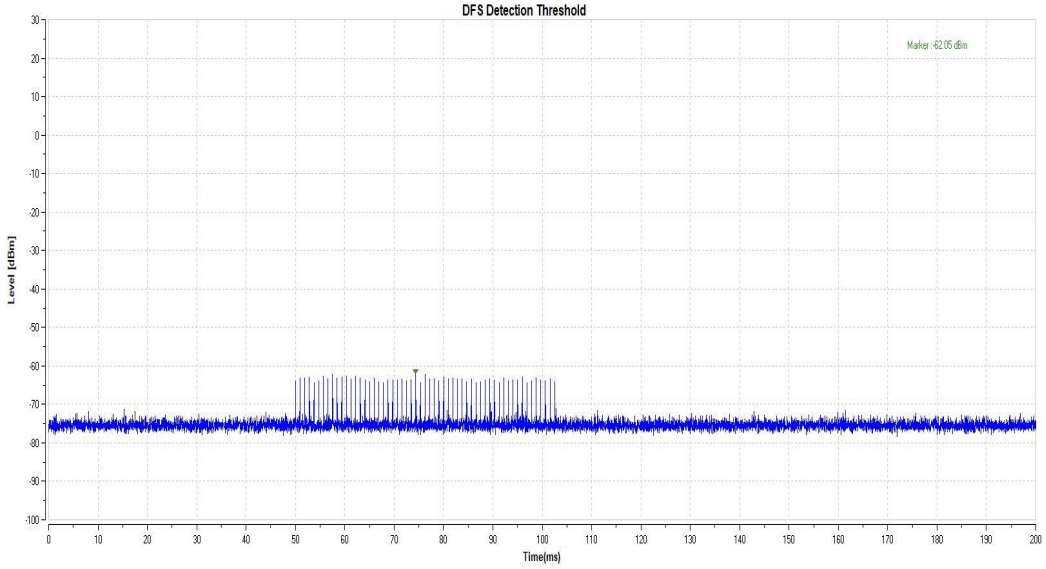


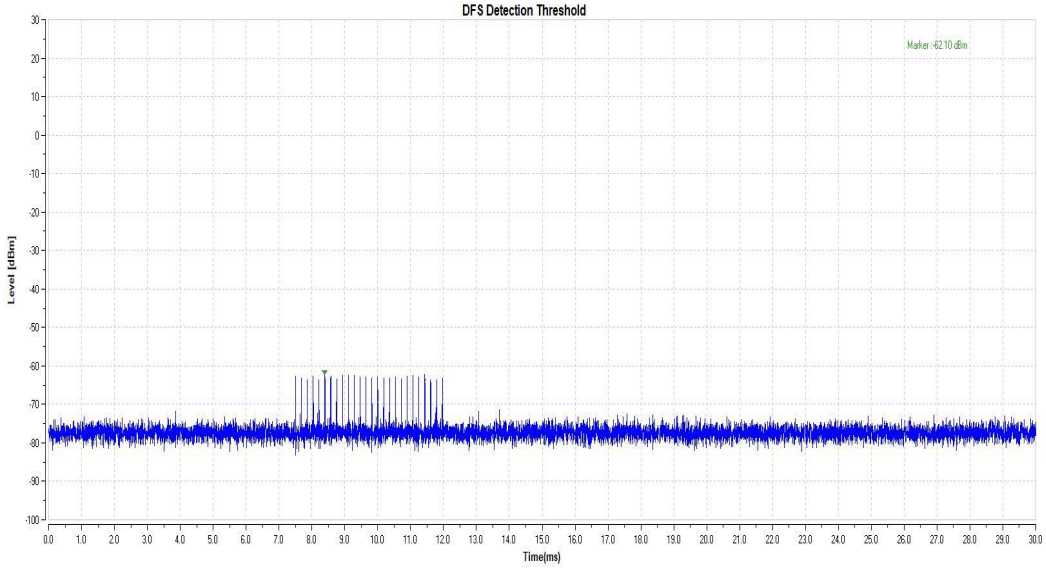
11AC40SISO_5510_Type0



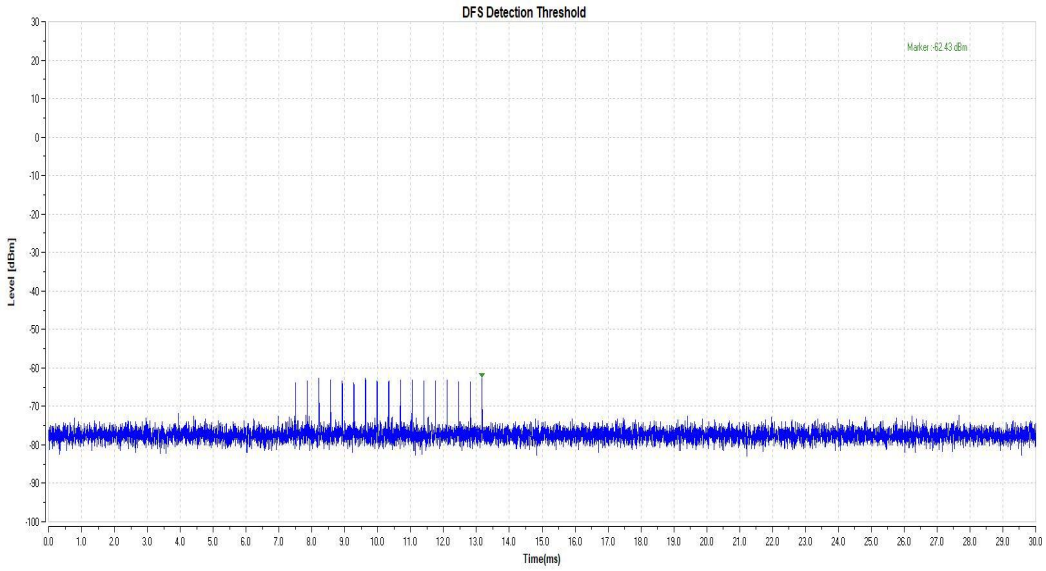
11AC40SISO_5510_Type1



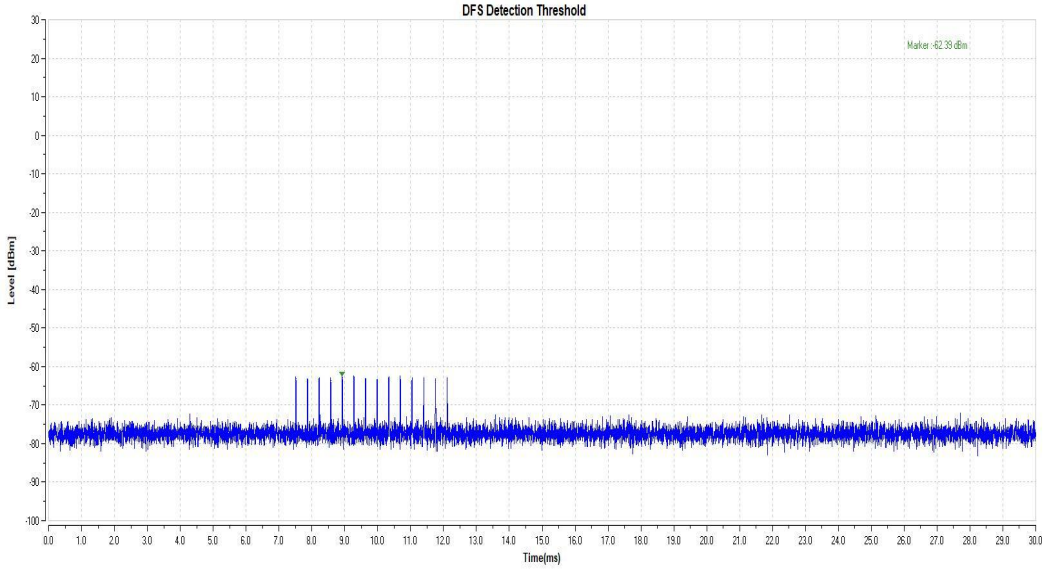
11AC40SISO_5510_Type2



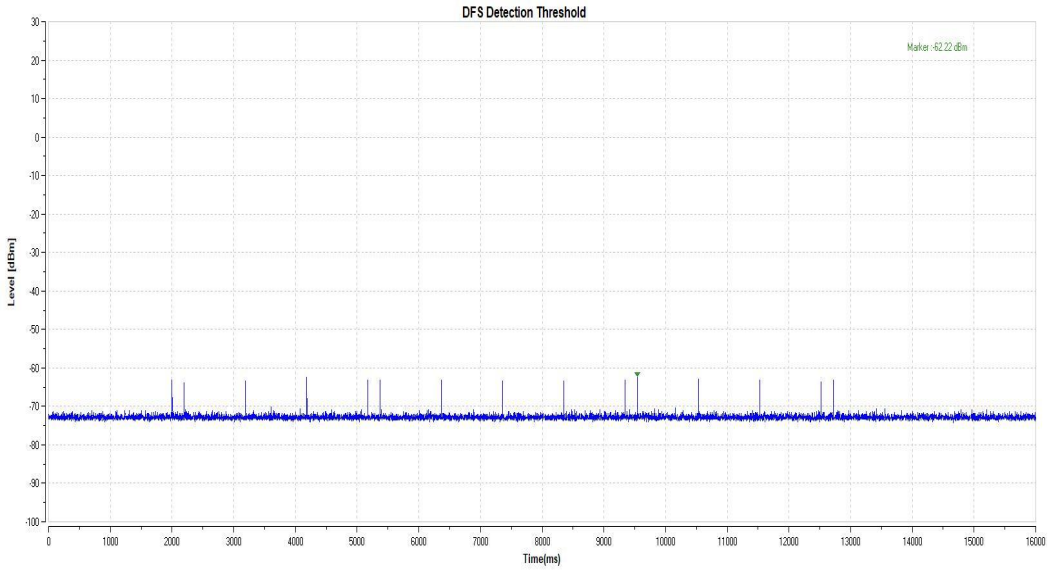
11AC40SISO_5510_Type3



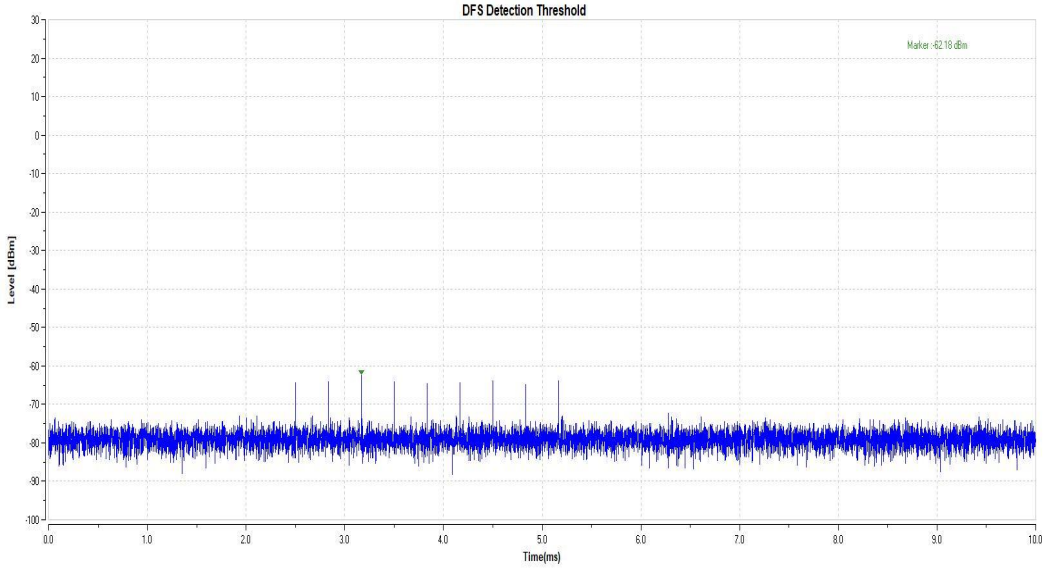
11AC40SISO_5510_Type4



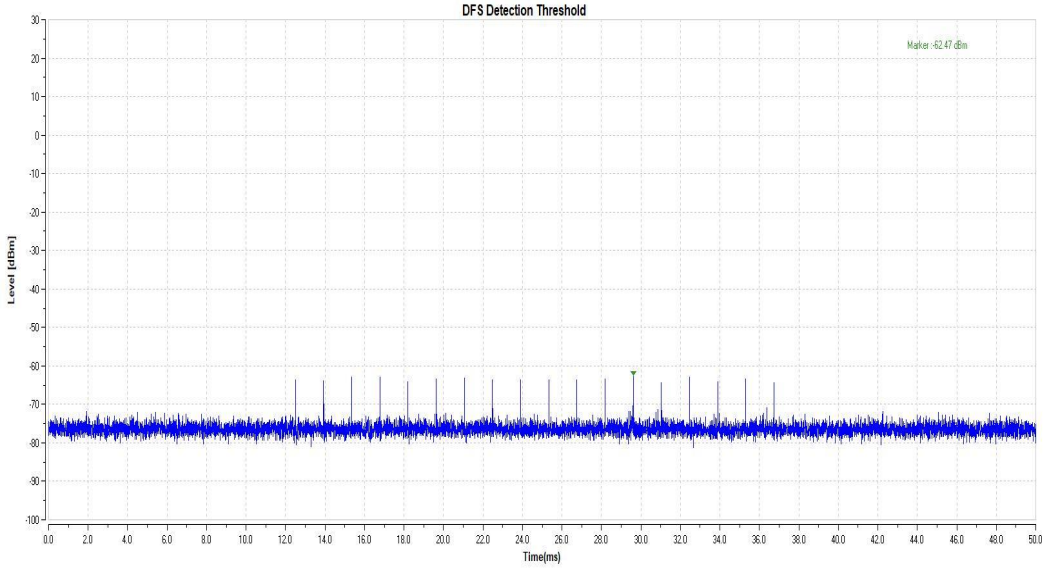
11AC40SISO_5510_Type5



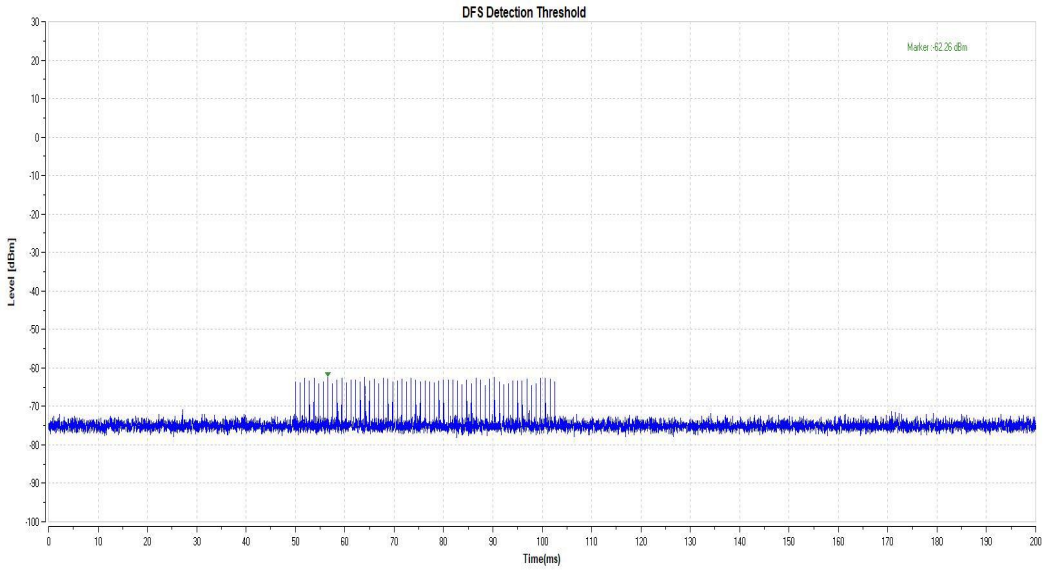
11AC40SISO_5510_Type6



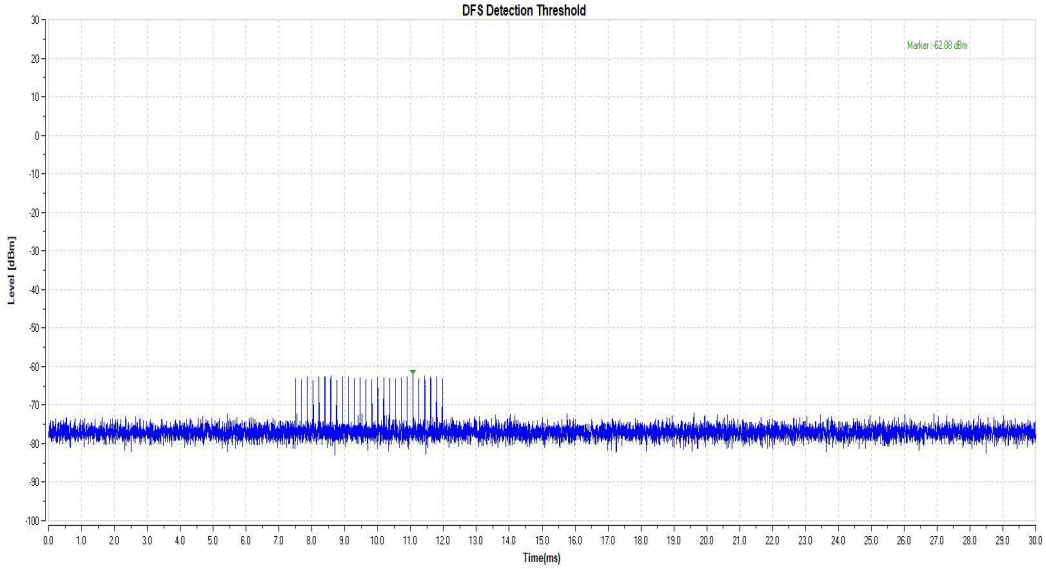
11AC80SISO_5290_Type0



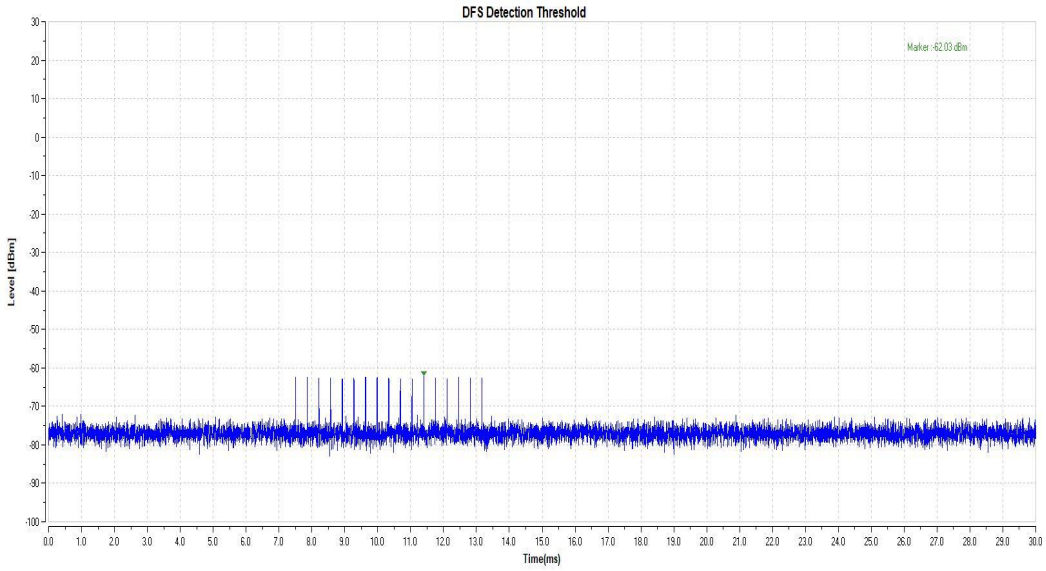
11AC80SISO_5290_Type1



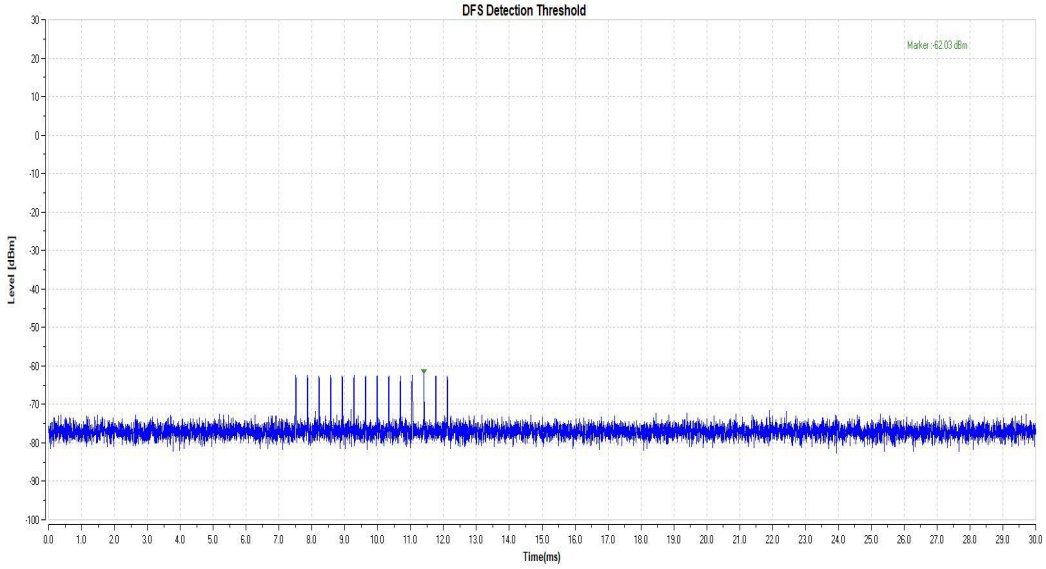
11AC80SISO_5290_Type2



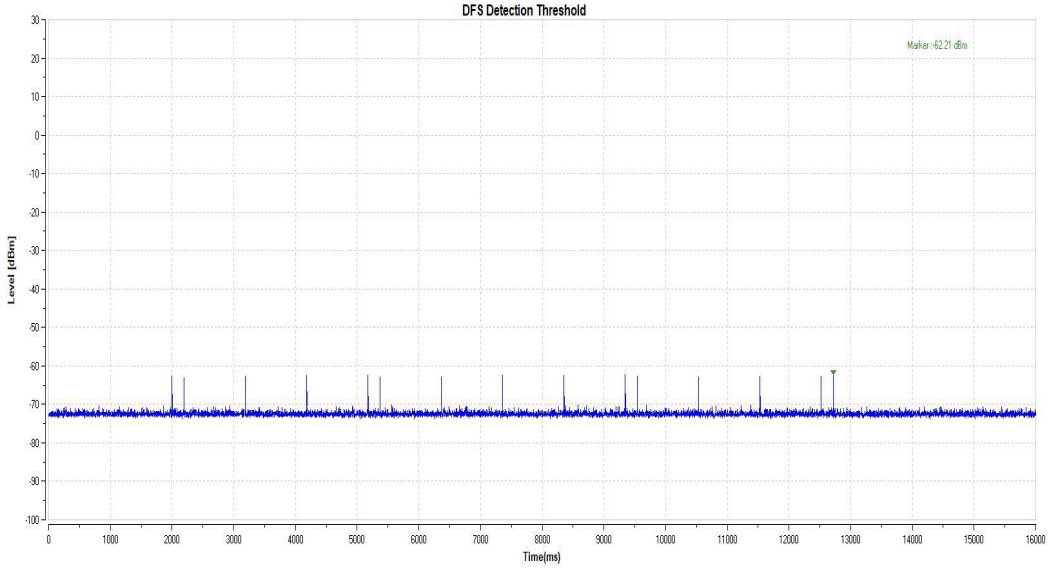
11AC80SISO_5290_Type3



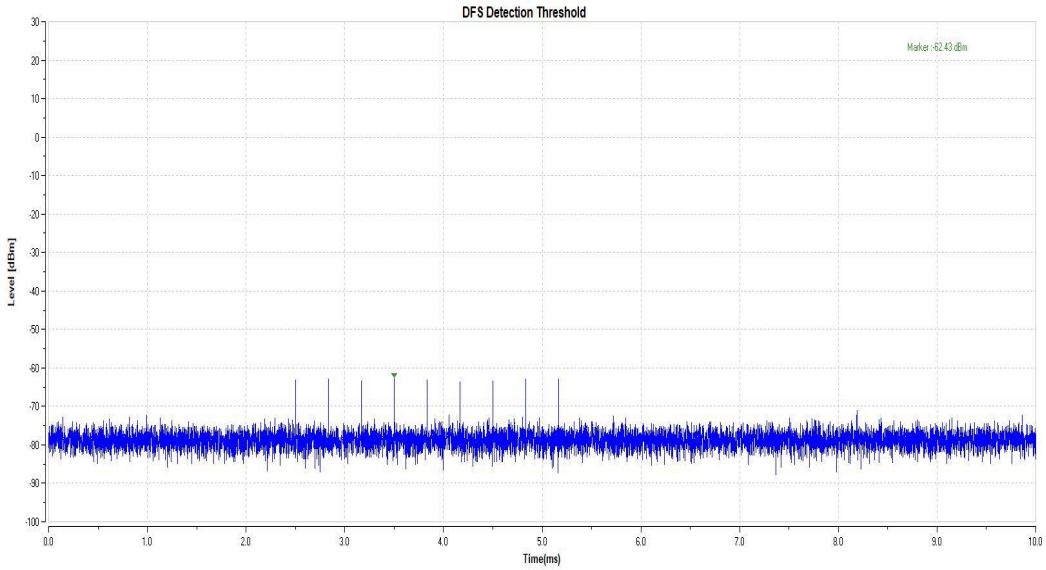
11AC80SISO_5290_Type4



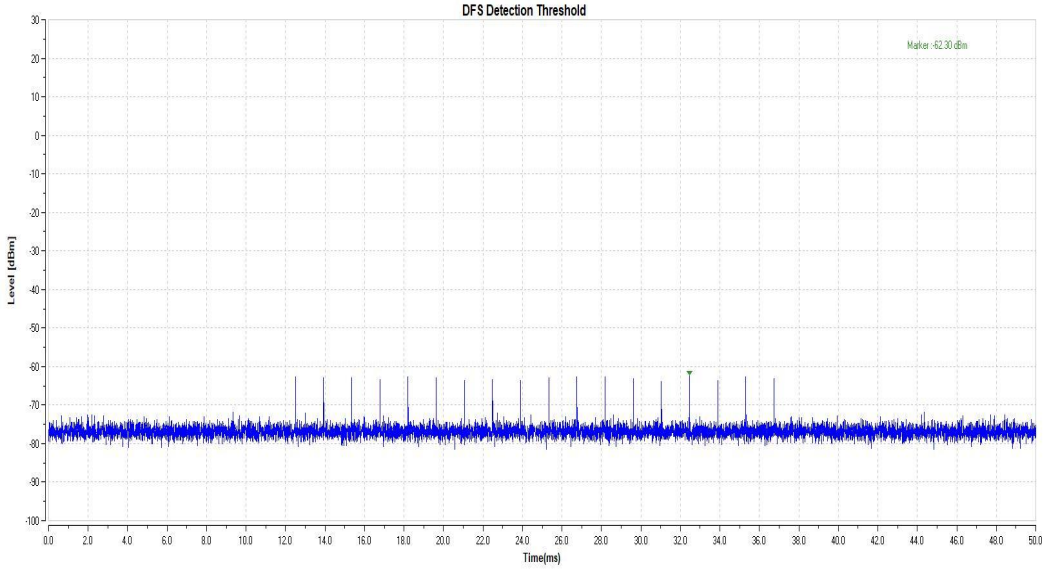
11AC80SISO_5290_Type5



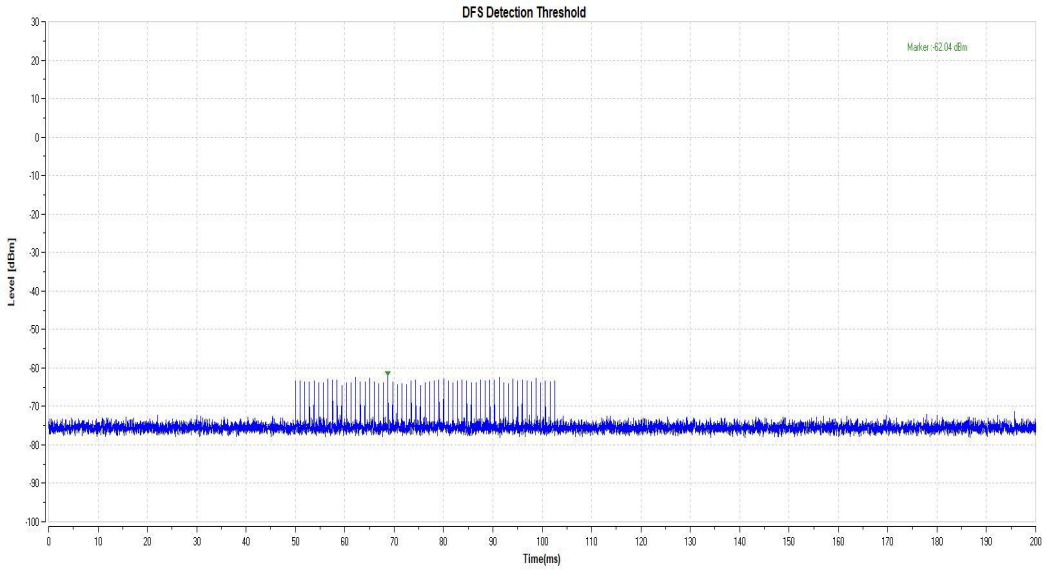
11AC80SISO_5290_Type6



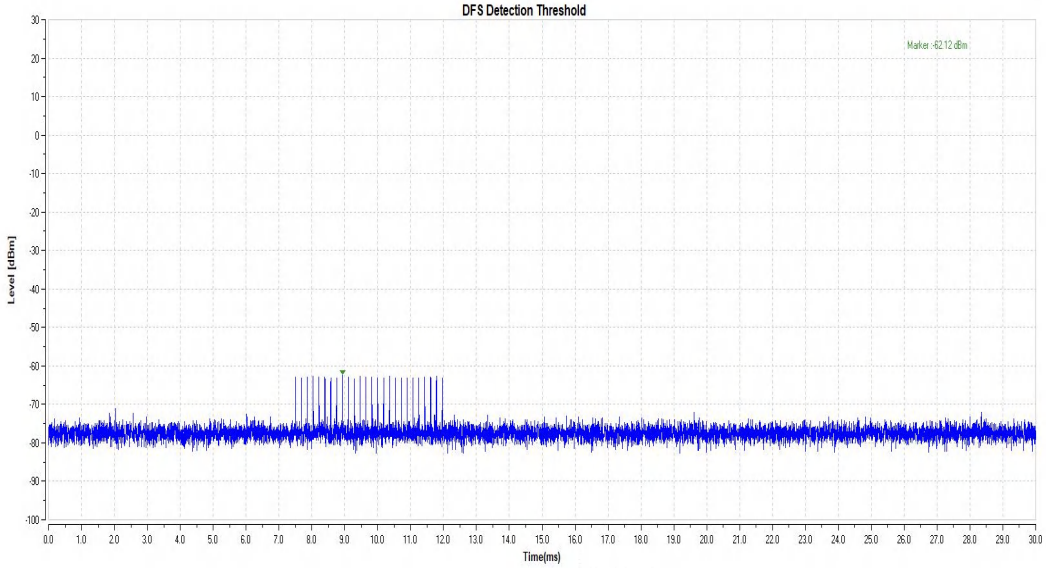
11AC80SISO_5530_Type0



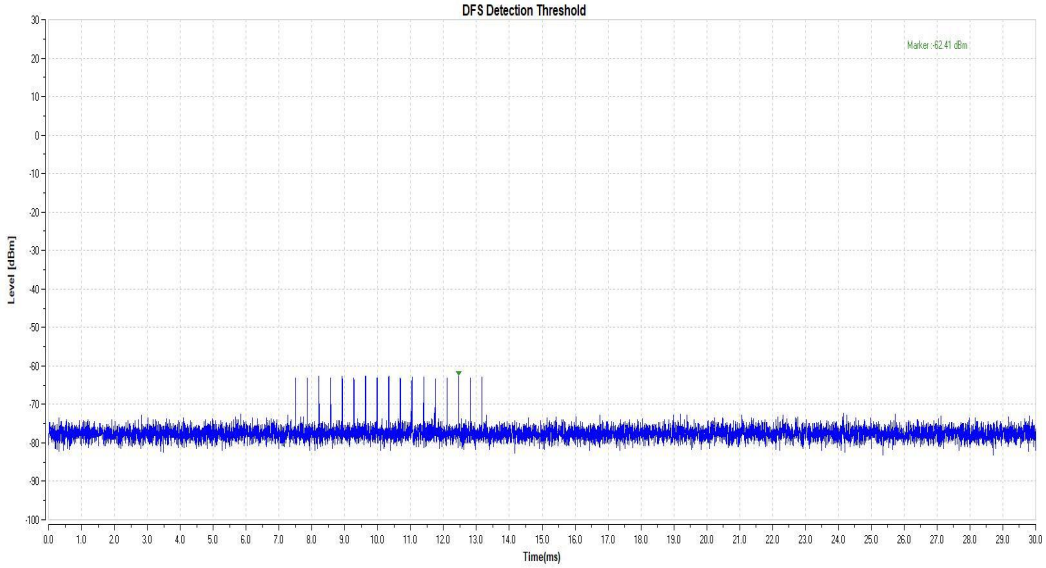
11AC80SISO_5530_Type1



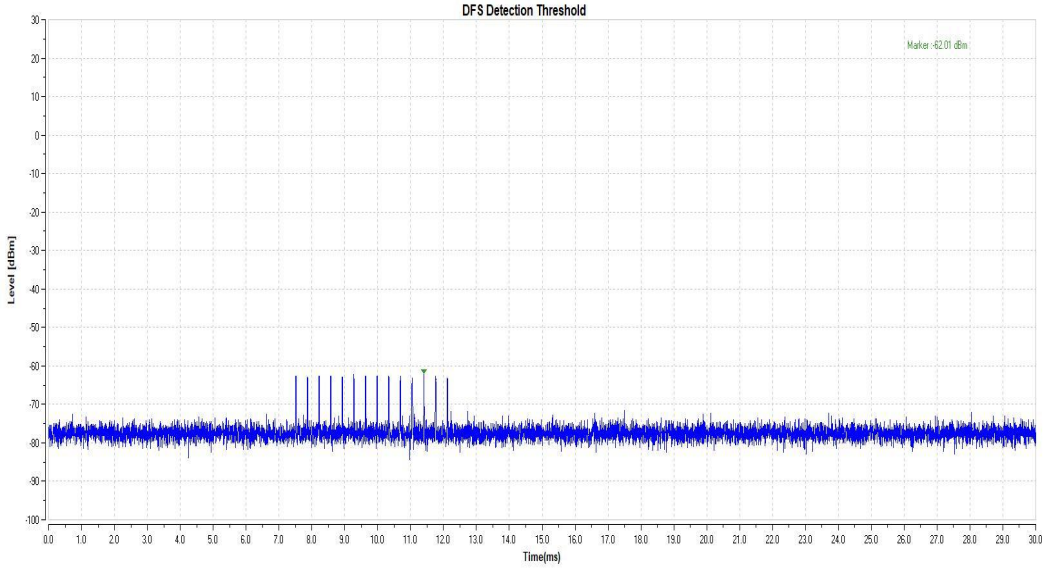
11AC80SISO_5530_Type2



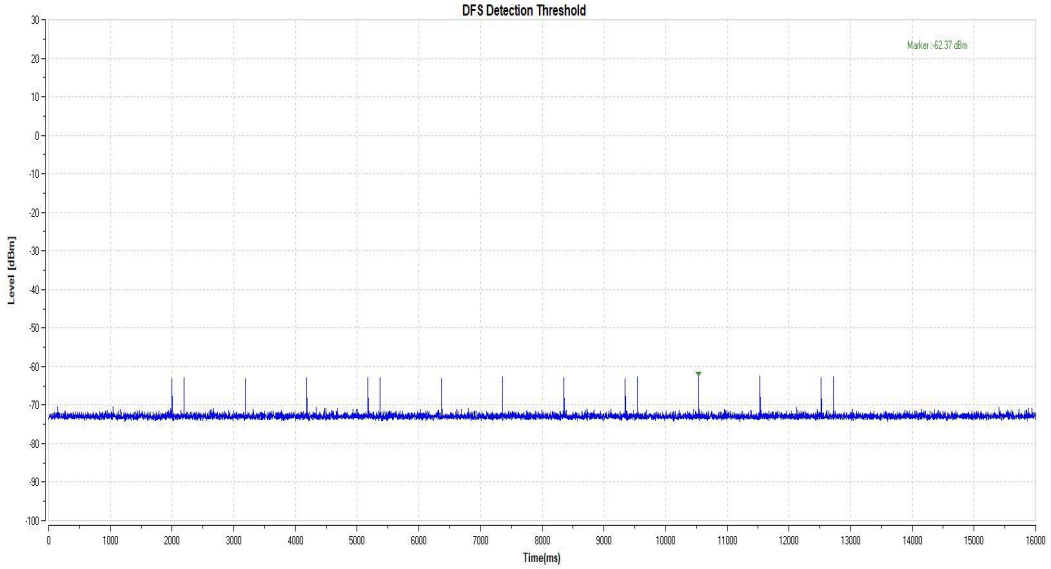
11AC80SISO_5530_Type3



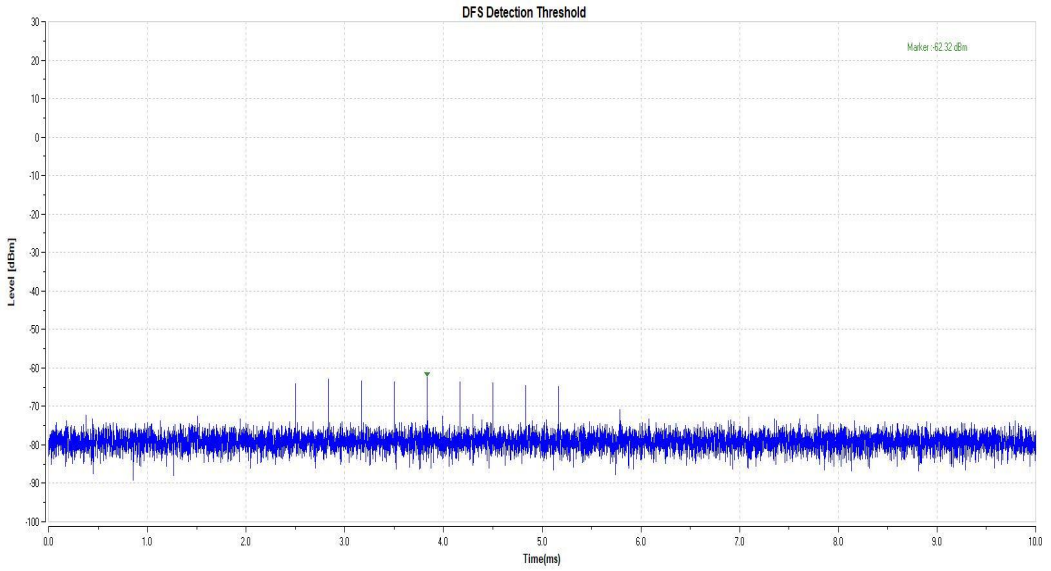
11AC80SISO_5530_Type4



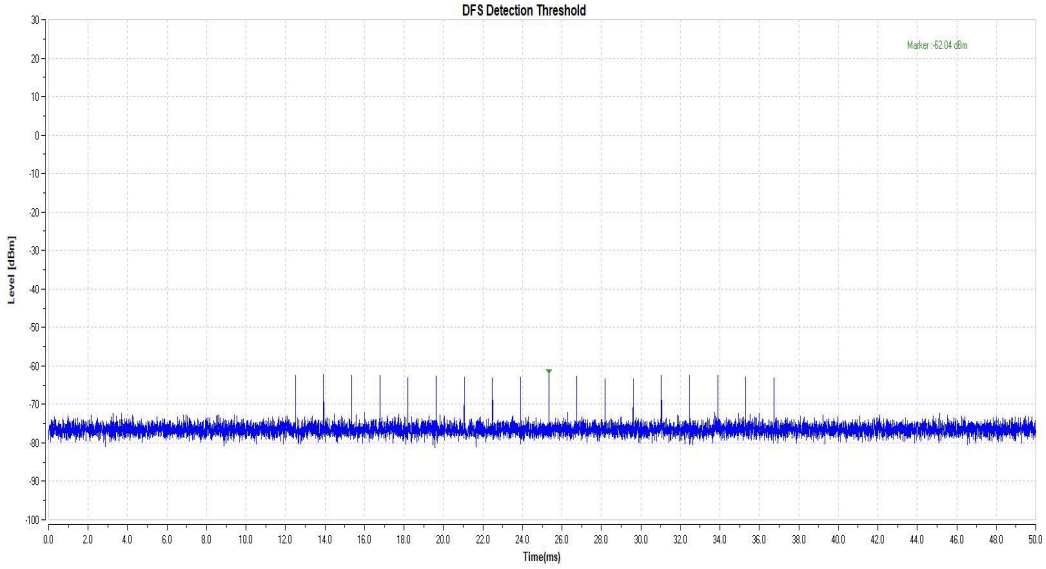
11AC80SISO_5530_Type5



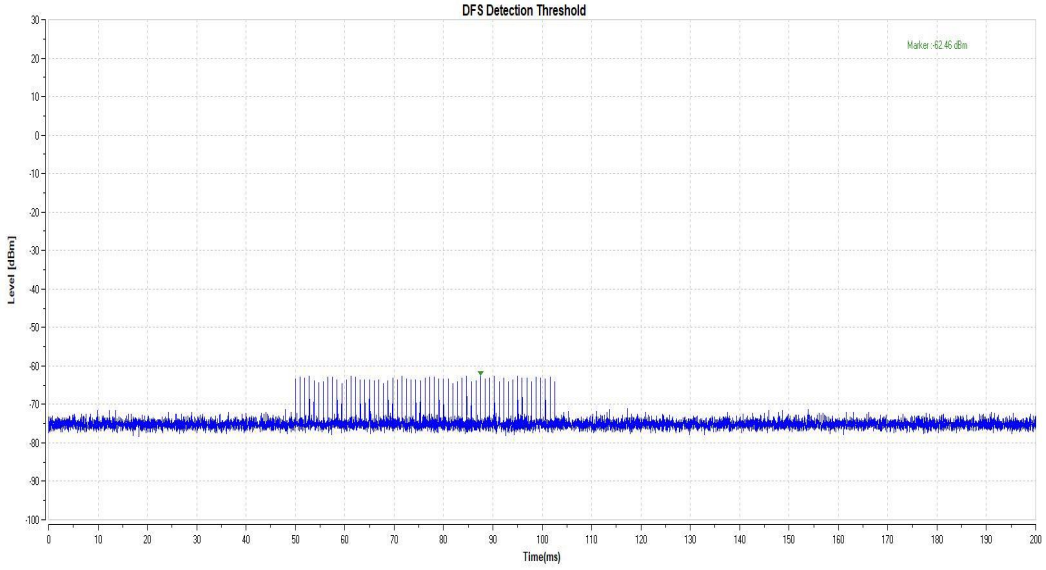
11AC80SISO_5530_Type6



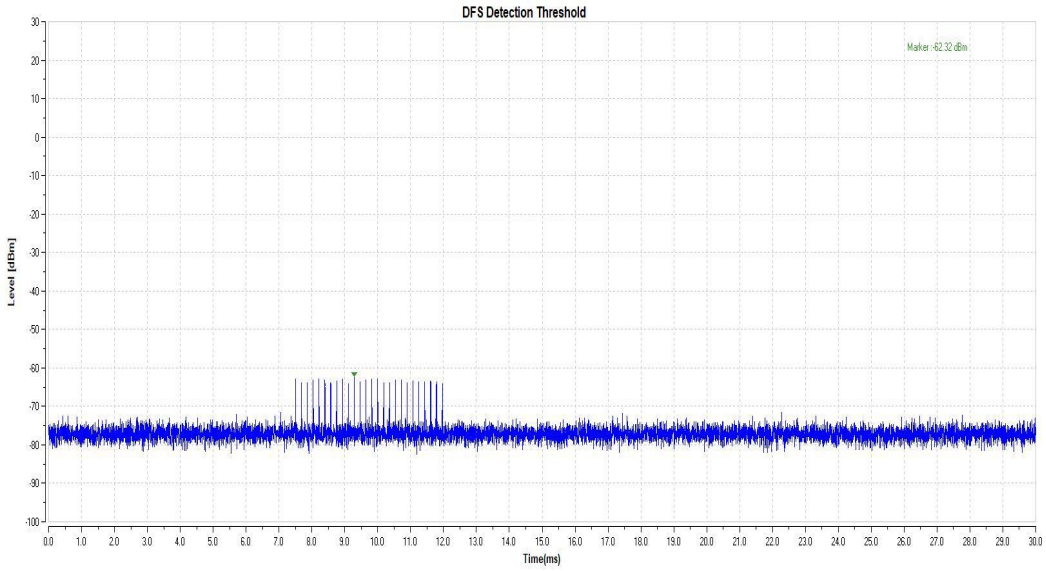
11AC160SISO_5250_Type0

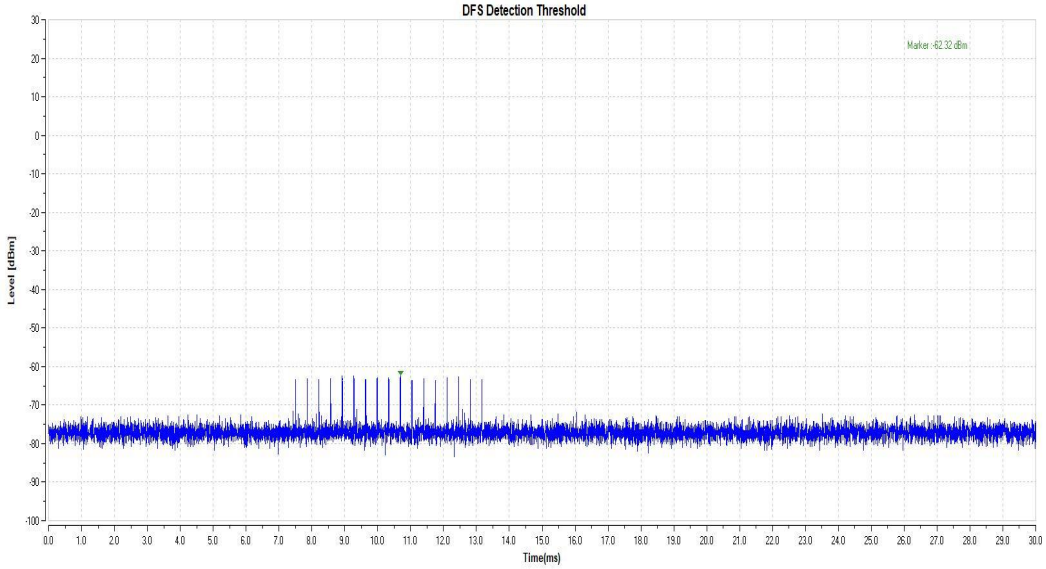


11AC160SISO_5250_Type1



11AC160SISO_5250_Type2



11AC160SISO_5250_Type3

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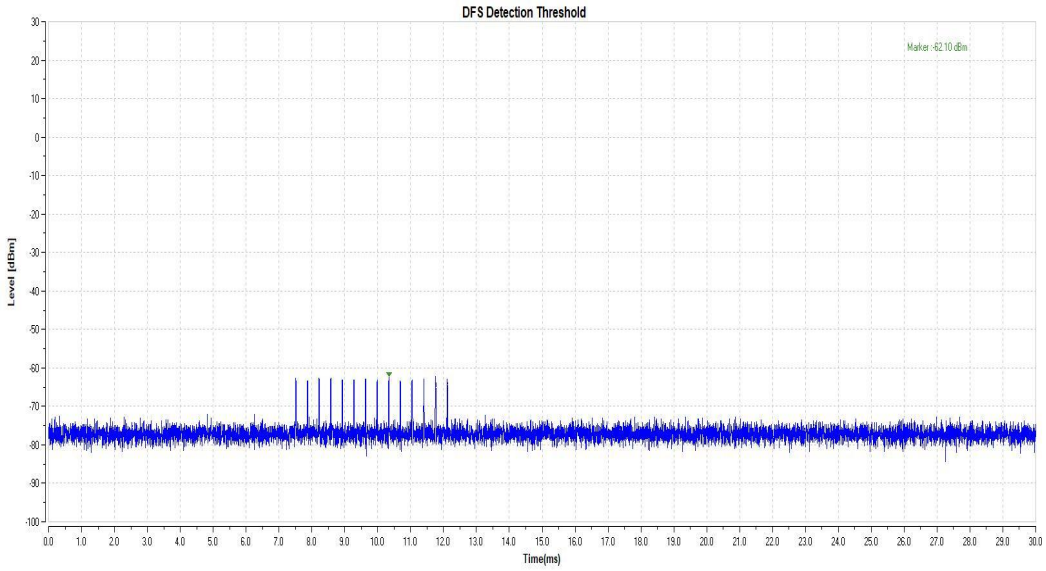
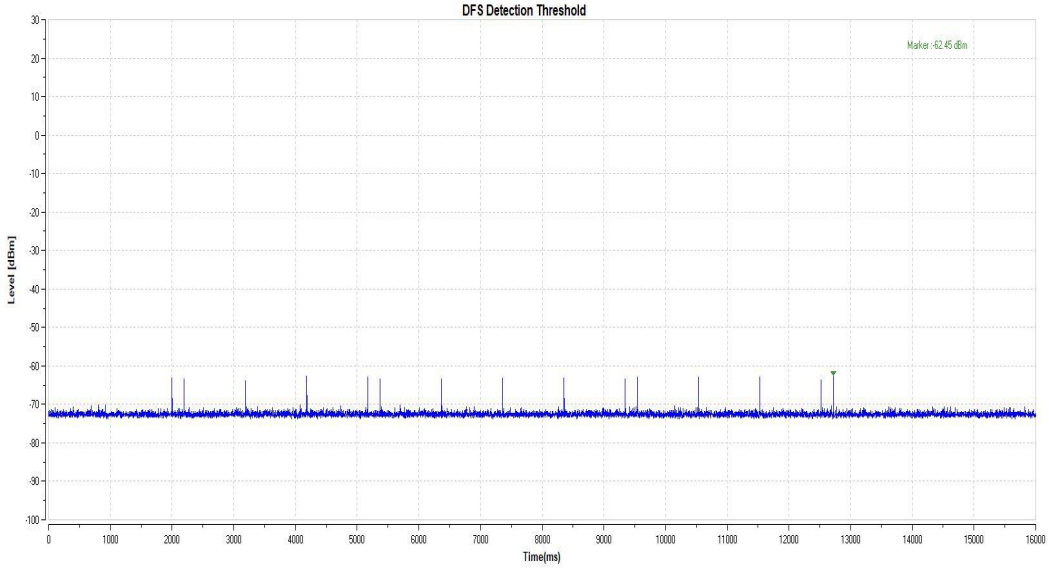
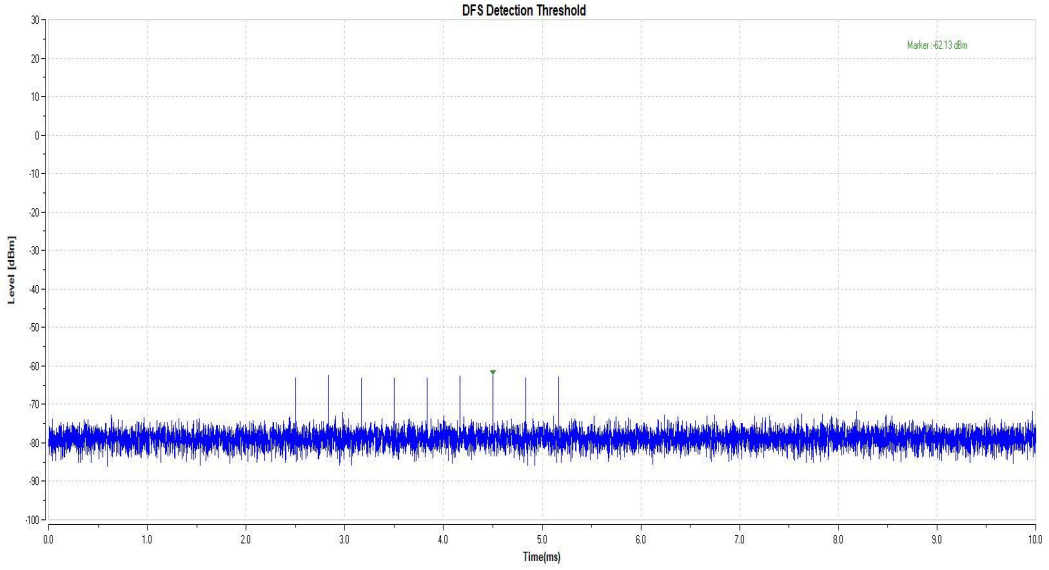
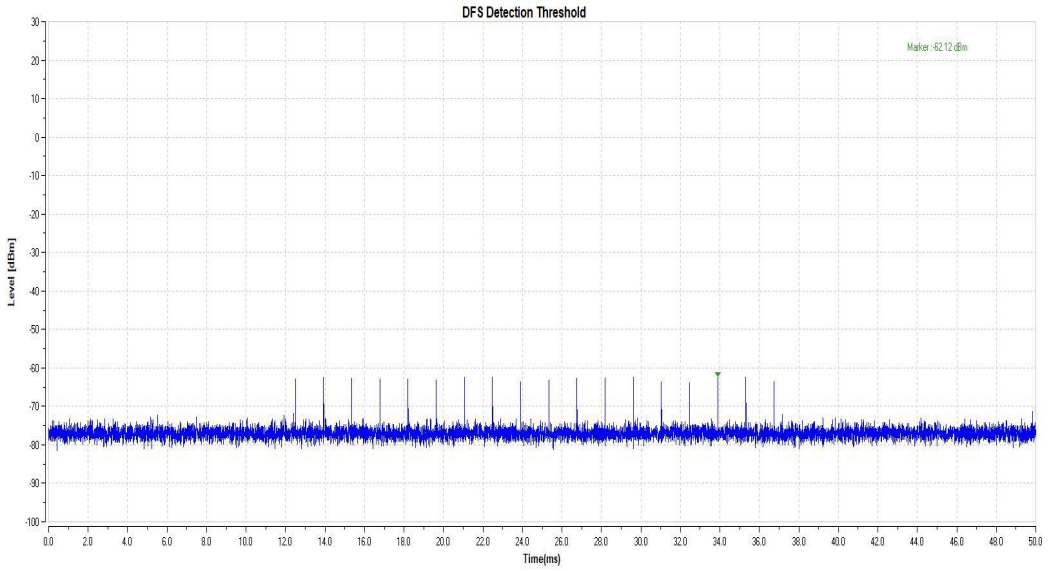

11AC160SISO_5250_Type5



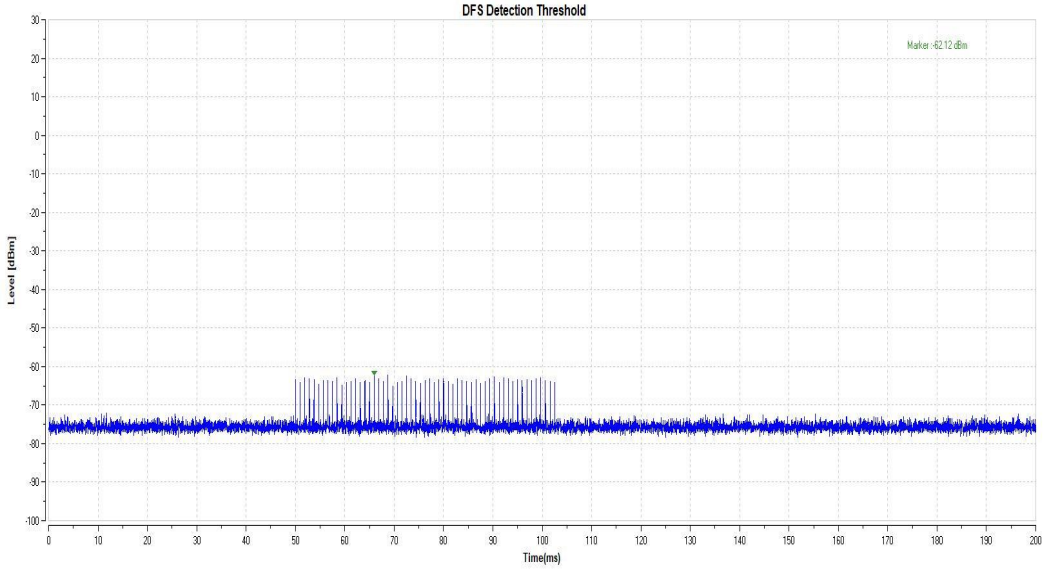
11AC160SISO_5250_Type6



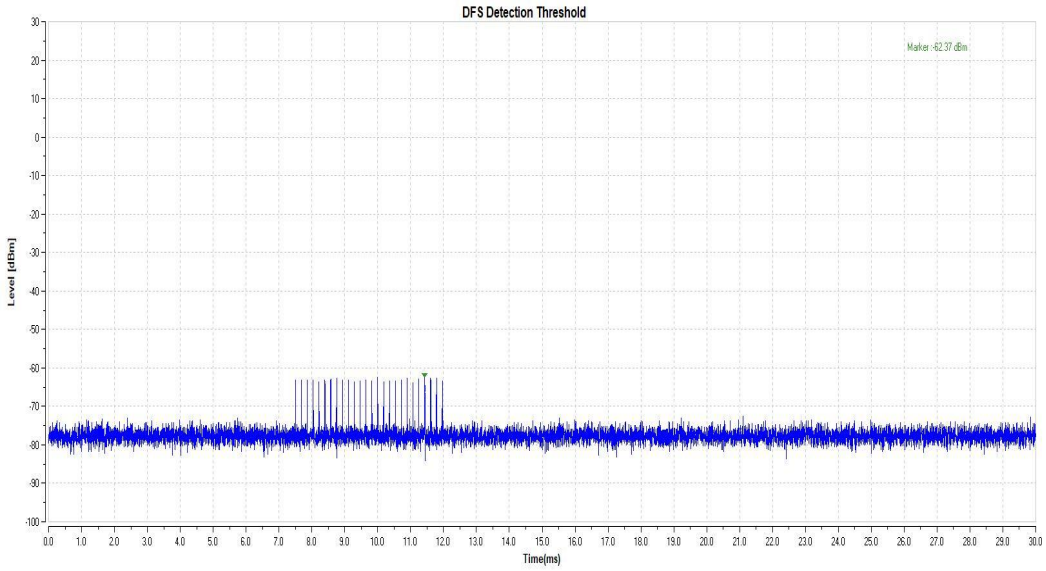
11AC160SISO_5570_Type0



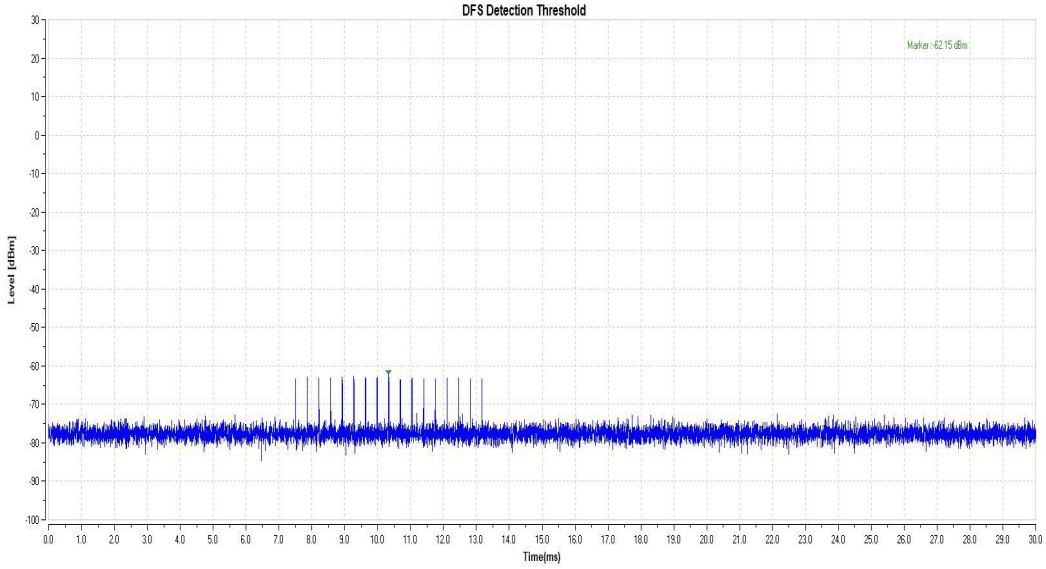
11AC160SISO_5570_Type1



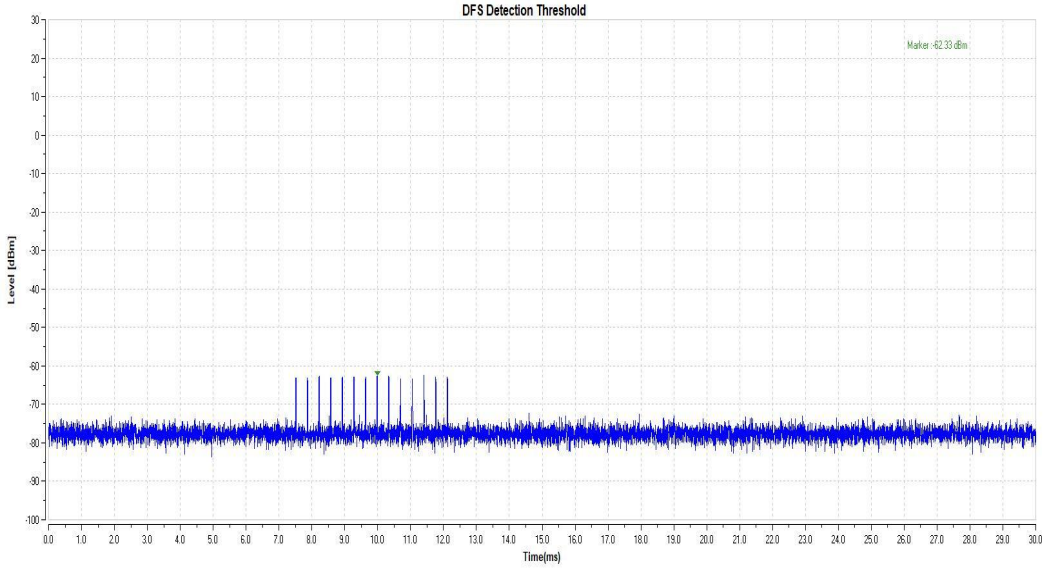
11AC160SISO_5570_Type2



11AC160SISO_5570_Type3



11AC160SISO_5570_Type4



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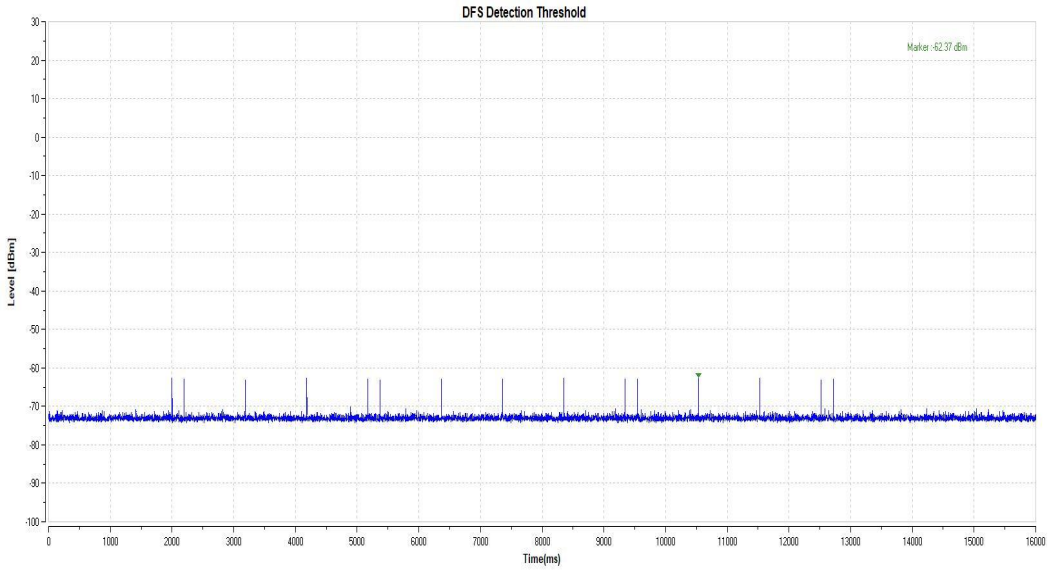
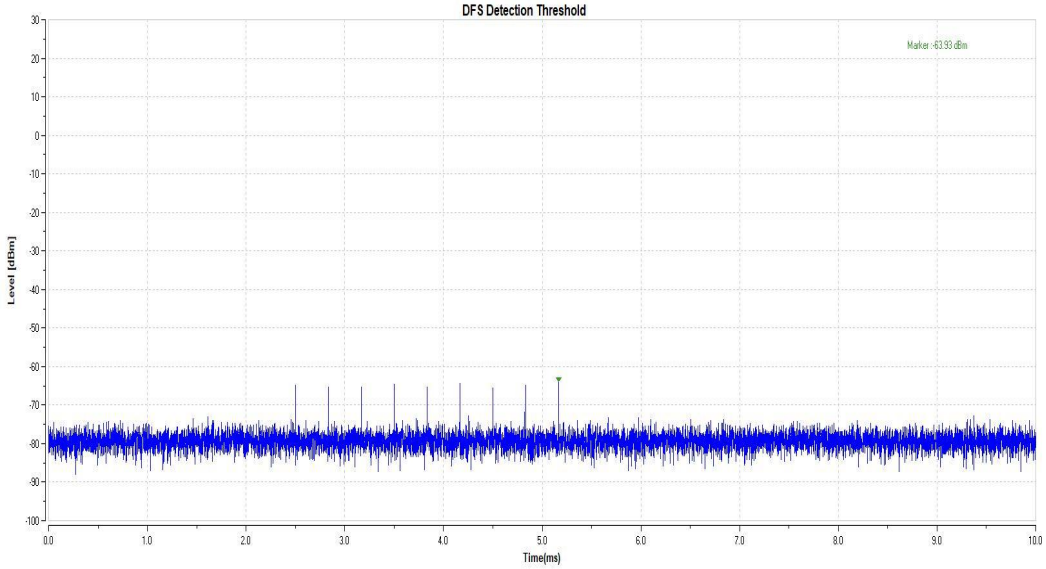


11AC160SISO_5570_Type6



Radar Signal 1					
Trial ID	Radar Type	Pulse Width (us)	PRI (us)	Number of Pulses	Waveform Length (us)
0	Type 1	1	938	57	53466
1	Type 1	1	698	76	53048
2	Type 1	1	618	86	53148
3	Type 1	1	538	99	53262
4	Type 1	1	878	61	53558
5	Type 1	1	3066	18	55188
6	Type 1	1	638	83	52954
7	Type 1	1	918	58	53244
8	Type 1	1	838	63	52794
9	Type 1	1	858	62	53196
10	Type 1	1	798	67	53466
11	Type 1	1	718	74	53132
12	Type 1	1	578	92	53176
13	Type 1	1	598	89	53222
14	Type 1	1	558	95	53010
15	Type 1	1	2536	21	53256
16	Type 1	1	966	55	53130
17	Type 1	1	827	64	52928
18	Type 1	1	2501	22	55022
19	Type 1	1	2595	21	54495
20	Type 1	1	1114	48	53472
21	Type 1	1	1302	41	53382
22	Type 1	1	3045	18	54810
23	Type 1	1	1624	33	53592
24	Type 1	1	2878	19	54682
25	Type 1	1	1027	52	53404
26	Type 1	1	2485	22	54670
27	Type 1	1	1600	33	52800
28	Type 1	1	1172	46	53912
29	Type 1	1	1177	45	52965

Radar Signal 2					
Trial ID	Radar Type	Pulse Width (us)	PRI (us)	Number of Pulses	Waveform Length (us)
0	Type 2	3.2	179	26	4654
1	Type 2	1.1	207	23	4761
2	Type 2	2.1	230	24	5520
3	Type 2	4.8	200	29	5800
4	Type 2	3.9	214	28	5992
5	Type 2	2.9	222	26	5772
6	Type 2	3.2	204	26	5304
7	Type 2	2.5	192	25	4800
8	Type 2	3.1	164	26	4264
9	Type 2	1.2	156	23	3588
10	Type 2	3.9	210	27	5670
11	Type 2	4.6	201	29	5829
12	Type 2	3.2	162	26	4212
13	Type 2	2.2	197	25	4925
14	Type 2	4.5	163	29	4727
15	Type 2	3	203	26	5278
16	Type 2	5	168	29	4872
17	Type 2	2.4	217	25	5425
18	Type 2	2.9	191	26	4966
19	Type 2	2.3	166	25	4150
20	Type 2	3.7	150	27	4050
21	Type 2	2.2	176	25	4400
22	Type 2	4.9	195	29	5655
23	Type 2	2.9	202	26	5252
24	Type 2	2.5	178	25	4450
25	Type 2	1.1	206	23	4738
26	Type 2	3.8	155	27	4185
27	Type 2	4.7	157	29	4553
28	Type 2	2.4	224	25	5600
29	Type 2	4.2	159	28	4452

Radar Signal 3					
Trial ID	Radar Type	Pulse Width (us)	PRI (us)	Number of Pulses	Waveform Length (us)
0	Type 3	8.2	355	17	6035
1	Type 3	6.1	487	16	7792
2	Type 3	7.1	344	16	5504
3	Type 3	9.8	288	18	5184
4	Type 3	8.9	230	18	4140
5	Type 3	7.9	432	17	7344
6	Type 3	8.2	207	17	3519
7	Type 3	7.5	443	17	7531
8	Type 3	8.1	439	17	7463
9	Type 3	6.2	223	16	3568
10	Type 3	8.9	208	18	3744
11	Type 3	9.6	463	18	8334
12	Type 3	8.2	441	17	7497
13	Type 3	7.2	323	16	5168
14	Type 3	9.5	297	18	5346
15	Type 3	8	412	17	7004
16	Type 3	10	324	18	5832
17	Type 3	7.4	271	17	4607
18	Type 3	7.9	349	17	5933
19	Type 3	7.3	409	16	6544
20	Type 3	8.7	373	18	6714
21	Type 3	7.2	254	16	4064
22	Type 3	9.9	274	18	4932
23	Type 3	7.9	278	17	4726
24	Type 3	7.5	317	17	5389
25	Type 3	6.1	260	16	4160
26	Type 3	8.8	211	18	3798
27	Type 3	9.7	272	18	4896
28	Type 3	7.4	264	17	4488
29	Type 3	9.2	284	18	5112

Radar Signal 4					
Trial ID	Radar Type	Pulse Width (us)	PRI (us)	Number of Pulses	Waveform Length (us)
0	Type 4	16	355	14	4970
1	Type 4	11.3	487	12	5844
2	Type 4	13.5	344	13	4472
3	Type 4	19.4	288	16	4608
4	Type 4	17.5	230	15	3450
5	Type 4	15.3	432	14	6048
6	Type 4	15.9	207	14	2898
7	Type 4	14.3	443	13	5759
8	Type 4	15.8	439	14	6146
9	Type 4	11.5	223	12	2676
10	Type 4	17.4	208	15	3120
11	Type 4	19	463	16	7408
12	Type 4	16	441	14	6174
13	Type 4	13.8	323	13	4199
14	Type 4	18.9	297	16	4752
15	Type 4	15.5	412	14	5768
16	Type 4	19.9	324	16	5184
17	Type 4	14.1	271	13	3523
18	Type 4	15.2	349	14	4886
19	Type 4	13.8	409	13	5317
20	Type 4	17.1	373	15	5595
21	Type 4	13.8	254	13	3302
22	Type 4	19.8	274	16	4384
23	Type 4	15.3	278	14	3892
24	Type 4	14.5	317	13	4121
25	Type 4	11.3	260	12	3120
26	Type 4	17.3	211	15	3165
27	Type 4	19.2	272	16	4352
28	Type 4	14.2	264	13	3432
29	Type 4	18.2	284	15	4260

Radar Signal 5				
Trial ID	Radar Type	Number of Bursts	Burst Period (s)	Waveform Length (s)
0	Type 5	15	0.8	12
1	Type 5	8	1.5	12
2	Type 5	11	1.09091	12
3	Type 5	20	0.6	12
4	Type 5	17	0.70588	12
5	Type 5	14	0.85714	12
6	Type 5	15	0.8	12
7	Type 5	12	1	12
8	Type 5	14	0.85714	12
9	Type 5	8	1.5	12
10	Type 5	17	0.70588	12
11	Type 5	19	0.63158	12
12	Type 5	15	0.8	12
13	Type 5	12	1	12
14	Type 5	19	0.63158	12
15	Type 5	14	0.85714	12
16	Type 5	20	0.6	12
17	Type 5	12	1	12
18	Type 5	14	0.85714	12
19	Type 5	12	1	12
20	Type 5	16	0.75	12
21	Type 5	12	1	12
22	Type 5	20	0.6	12
23	Type 5	14	0.85714	12
24	Type 5	13	0.92308	12
25	Type 5	8	1.5	12
26	Type 5	17	0.70588	12
27	Type 5	19	0.63158	12
28	Type 5	12	1	12
29	Type 5	18	0.66667	12

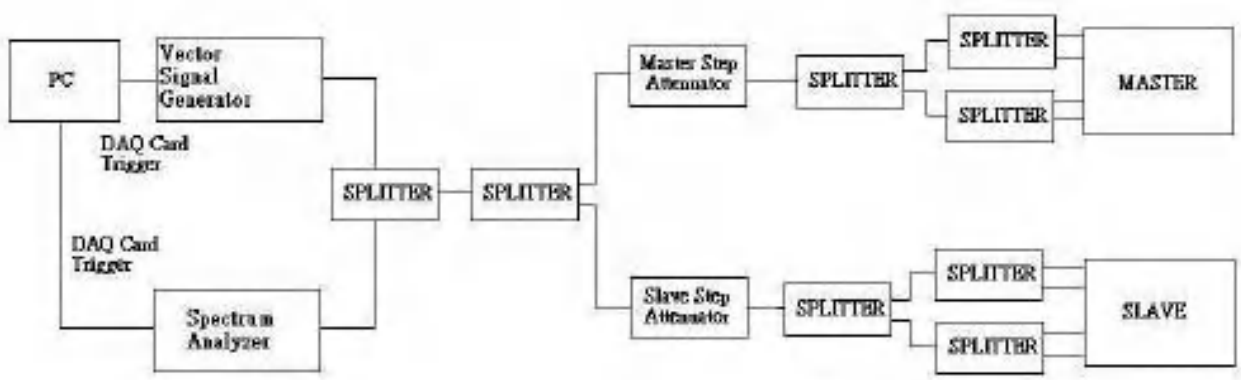
Radar Signal 6							
Trial ID	Radar Type	Pulse Width (us)	PRI (us)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (ms)	Visible Frequency Number
0	Type 6	1	333.3	9	0.3333	300	32
1	Type 6	1	333.3	9	0.3333	300	27
2	Type 6	1	333.3	9	0.3333	300	25
3	Type 6	1	333.3	9	0.3333	300	33
4	Type 6	1	333.3	9	0.3333	300	37
5	Type 6	1	333.3	9	0.3333	300	30
6	Type 6	1	333.3	9	0.3333	300	33
7	Type 6	1	333.3	9	0.3333	300	27
8	Type 6	1	333.3	9	0.3333	300	33
9	Type 6	1	333.3	9	0.3333	300	30
10	Type 6	1	333.3	9	0.3333	300	37
11	Type 6	1	333.3	9	0.3333	300	36
12	Type 6	1	333.3	9	0.3333	300	38
13	Type 6	1	333.3	9	0.3333	300	35
14	Type 6	1	333.3	9	0.3333	300	28
15	Type 6	1	333.3	9	0.3333	300	37
16	Type 6	1	333.3	9	0.3333	300	35
17	Type 6	1	333.3	9	0.3333	300	37
18	Type 6	1	333.3	9	0.3333	300	27
19	Type 6	1	333.3	9	0.3333	300	34
20	Type 6	1	333.3	9	0.3333	300	35
21	Type 6	1	333.3	9	0.3333	300	37
22	Type 6	1	333.3	9	0.3333	300	41
23	Type 6	1	333.3	9	0.3333	300	36
24	Type 6	1	333.3	9	0.3333	300	29
25	Type 6	1	333.3	9	0.3333	300	32
26	Type 6	1	333.3	9	0.3333	300	30
27	Type 6	1	333.3	9	0.3333	300	31
28	Type 6	1	333.3	9	0.3333	300	31
29	Type 6	1	333.3	9	0.3333	300	40

6. U-NII DFS Testing

Test Procedure

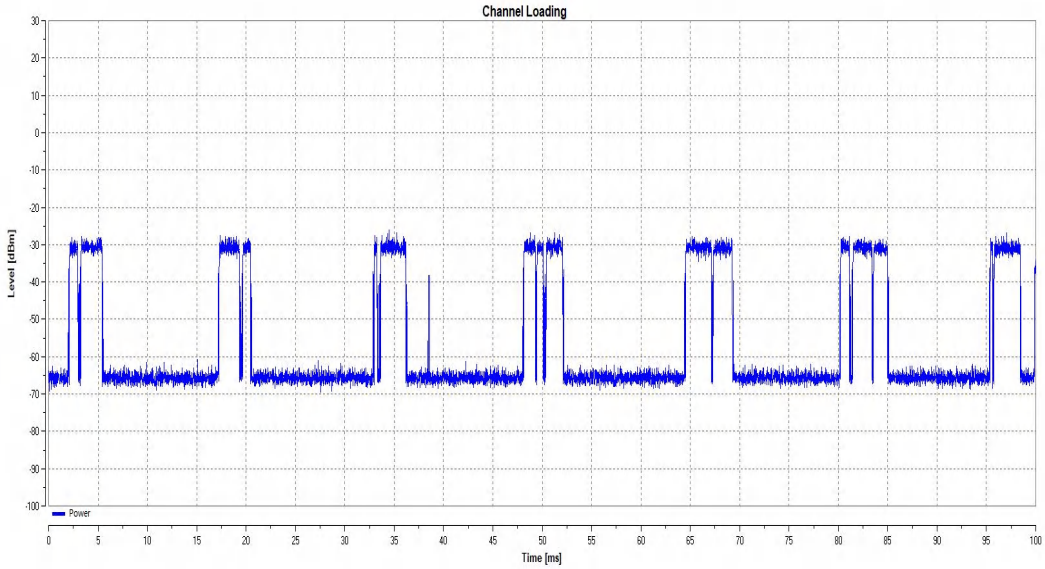
1. Master device and client device are set up by conduction method as the following configuration.
2. The client device is connected to notebook and to access a IP address on wireless connection with the master device.
3. Then the master device is connected to another notebook to access a IP address.
4. Finally, let the two IP addresses run traffic with each other through the Run flow software “Lan test” to reach 17% channel loading as below:

Test Setup

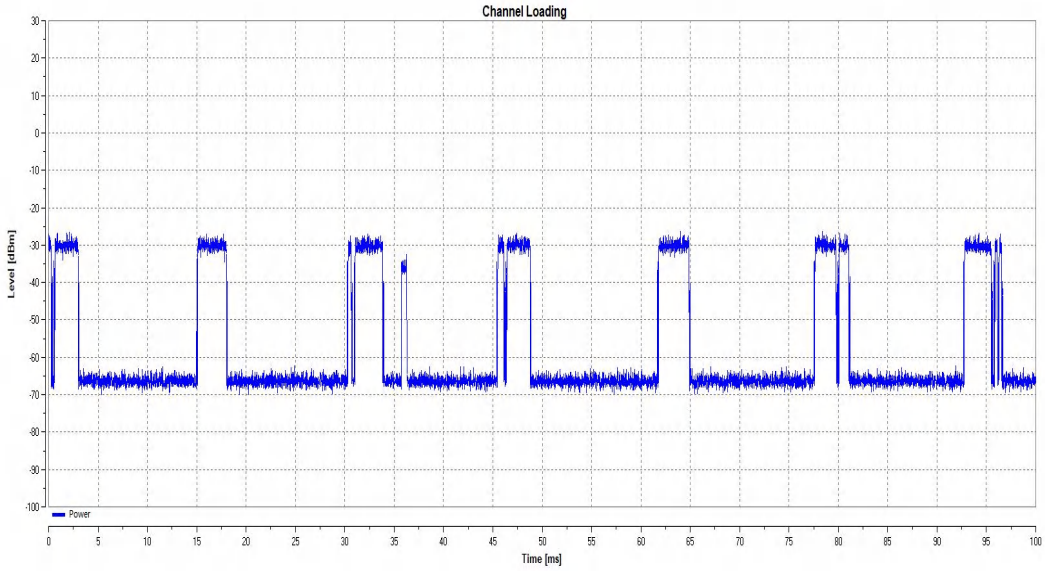


Channel Loading

TestMode	Frequency[MHz]	Result	Limit [%]	Verdict
11AC160SISO	5250	25.63	17	PASS
	5570	22.96	17	PASS



11AC160-5250



11AC160-5570

7. Testing Results

Conducted Output Power&E.I.R.P and PSD

Mode: TX (802.11ac(VHT20))						
Frequency Band (MHz)	Ant.	Max Conducted Power (dBm)	Gain (dBi)	Max E.I.R.P (dBm)	Max E.I.R.P (mW)	Max.PSD (dBm/MHz)
5260~5320	1	11.93	5.60	17.53	56.6239	3.66
	2	11.91	5.70	17.61	57.6766	2.60
	3	11.81	6.60	18.41	69.3426	2.77
Mode: TX (802.11ac(VHT40))						
Frequency Band (MHz)	Ant.	Max Conducted Power (dBm)	Gain (dBi)	Max E.I.R.P (dBm)	Max E.I.R.P (mW)	Max.PSD (dBm/MHz)
5260~5320	1	11.74	5.60	17.34	54.2001	-0.18
	2	11.63	5.70	17.33	54.0754	-0.76
	3	11.71	6.60	18.31	67.7642	-0.02
Mode: TX (802.11ac(VHT80))						
Frequency Band (MHz)	Ant.	Max Conducted Power (dBm)	Gain (dBi)	Max E.I.R.P (dBm)	Max E.I.R.P (mW)	Max.PSD (dBm/MHz)
5260~5320	1	6.40	5.60	12.00	15.8489	-3.09
	2	6.86	5.70	12.56	18.0302	-2.28
	3	7.07	6.60	13.67	23.2809	-1.51
Mode: TX (802.11ac(VHT160))						
Frequency Band (MHz)	Ant.	Max Conducted Power (dBm)	Gain (dBi)	Max E.I.R.P (dBm)	Max E.I.R.P (mW)	Max.PSD (dBm/MHz)
5260~5320	1	7.53	5.60	13.13	20.5589	-6.29
	2	7.25	5.70	12.95	19.7242	-6.19
	3	7.46	6.60	14.06	25.4683	-5.11

Mode: TX (802.11ac(VHT20))						
Frequency Band (MHz)	Ant.	Max Conducted Power (dBm)	Gain (dBi)	Max E.I.R.P (dBm)	Max E.I.R.P (mW)	Max.PSD (dBm/MHz)
5500~5700	1	11.93	5.60	17.53	56.6239	4.68
	2	11.62	5.70	17.32	53.9511	3.99
	3	11.75	6.60	18.35	68.3912	4.15
Mode: TX (802.11ac(VHT40))						
Frequency Band (MHz)	Ant.	Max Conducted Power (dBm)	Gain (dBi)	Max E.I.R.P (dBm)	Max E.I.R.P (mW)	Max.PSD (dBm/MHz)
5500~5700	1	11.92	5.60	17.52	56.4937	0.81
	2	11.75	5.70	17.45	55.5904	-1.05
	3	11.81	6.60	18.41	69.3426	-0.11
Mode: TX (802.11ac(VHT80))						
Frequency Band (MHz)	Ant.	Max Conducted Power (dBm)	Gain (dBi)	Max E.I.R.P (dBm)	Max E.I.R.P (mW)	Max.PSD (dBm/MHz)
5500~5700	1	7.35	5.60	12.95	19.7242	-0.80
	2	7.10	5.70	12.80	19.0546	-3.21
	3	7.53	6.60	14.13	25.8821	-0.85
Mode: TX (802.11ac(VHT160))						
Frequency Band (MHz)	Ant.	Max Conducted Power (dBm)	Gain (dBi)	Max E.I.R.P (dBm)	Max E.I.R.P (mW)	Max.PSD (dBm/MHz)
5500~5700	1	7.85	5.60	13.45	22.1309	-5.83
	2	7.48	5.70	13.18	20.7970	-5.76
	3	7.18	6.60	13.78	23.8781	-5.18

Channel Availability Check Time

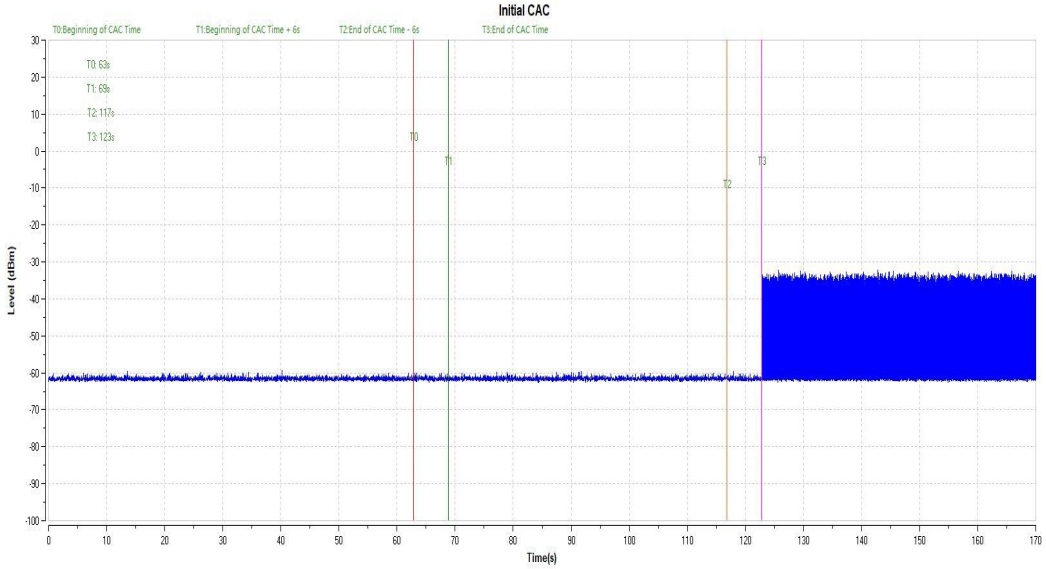
If the UUT successfully detected the radar burst, it should be observed as the UUT has no transmissions occurred until the UUT starts transmitting on another channel.

Test Result

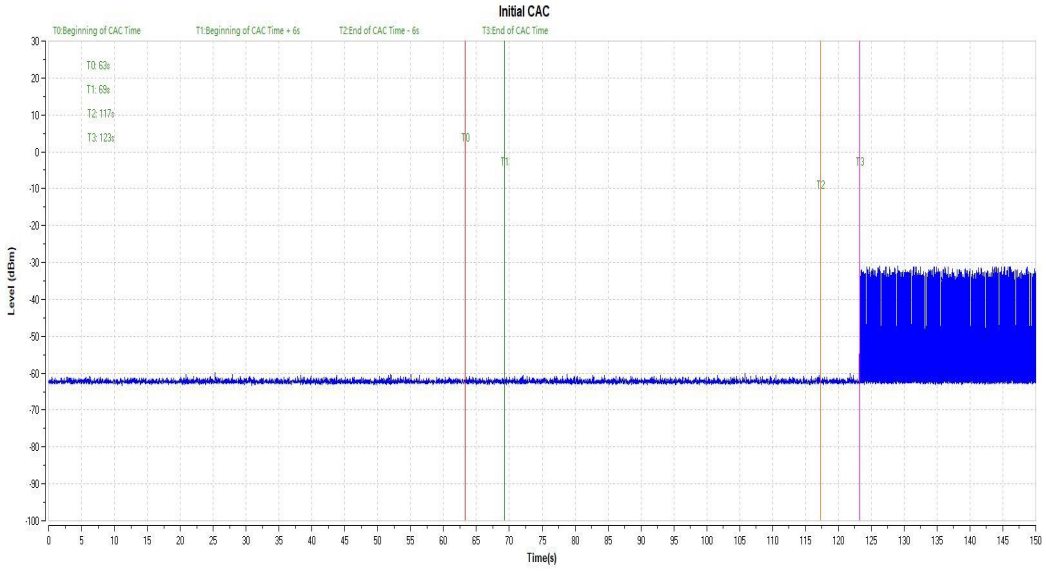
Test Mode	Frequency[MHz]	Result	Verdict
11AC160	5250	See test Graph	PASS
	5570	See test Graph	PASS

Test Graphs

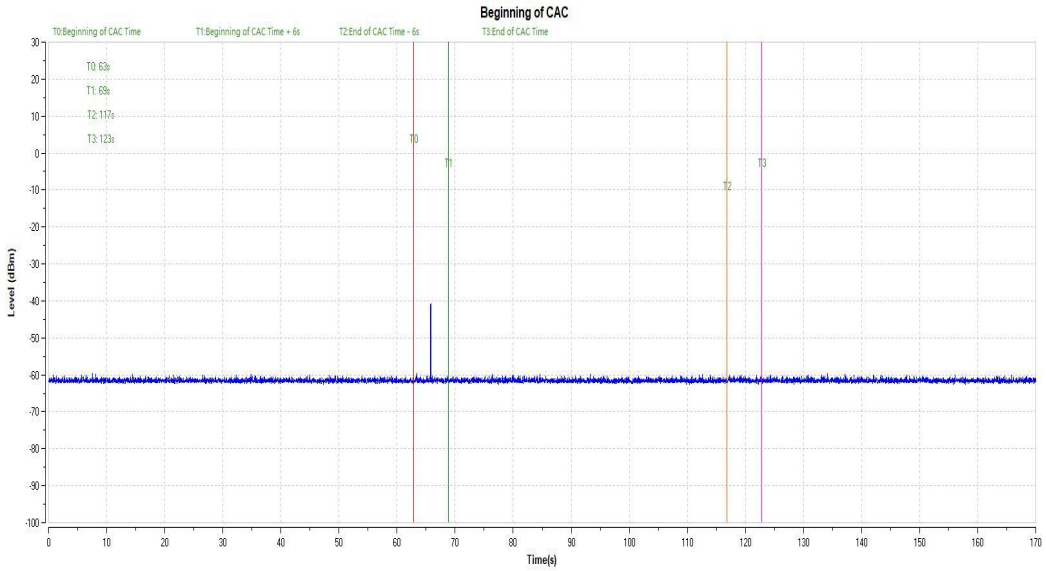
Initial Channel Availability Check Time
11AC160_5250



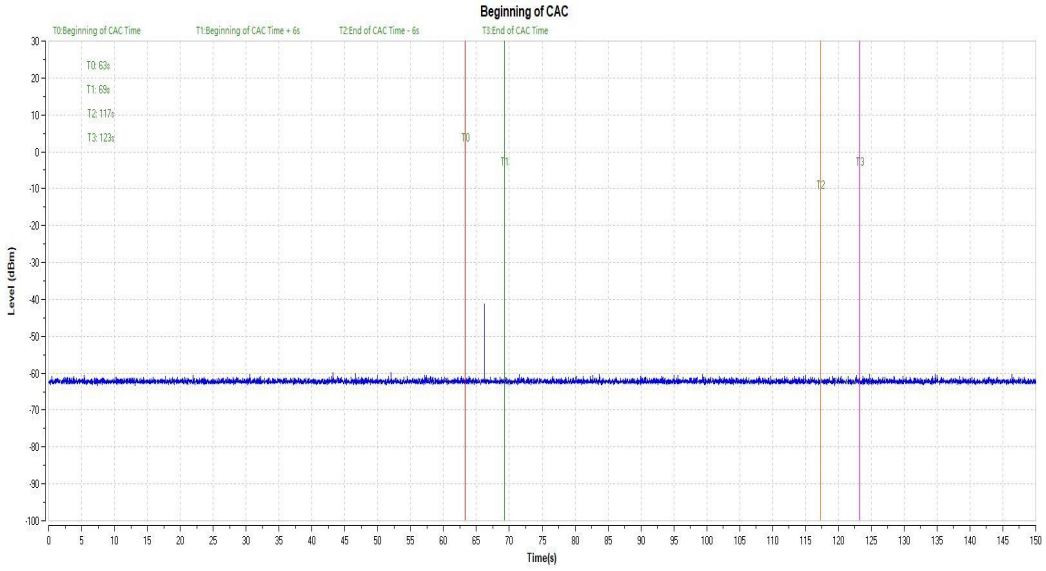
11AC160_5570



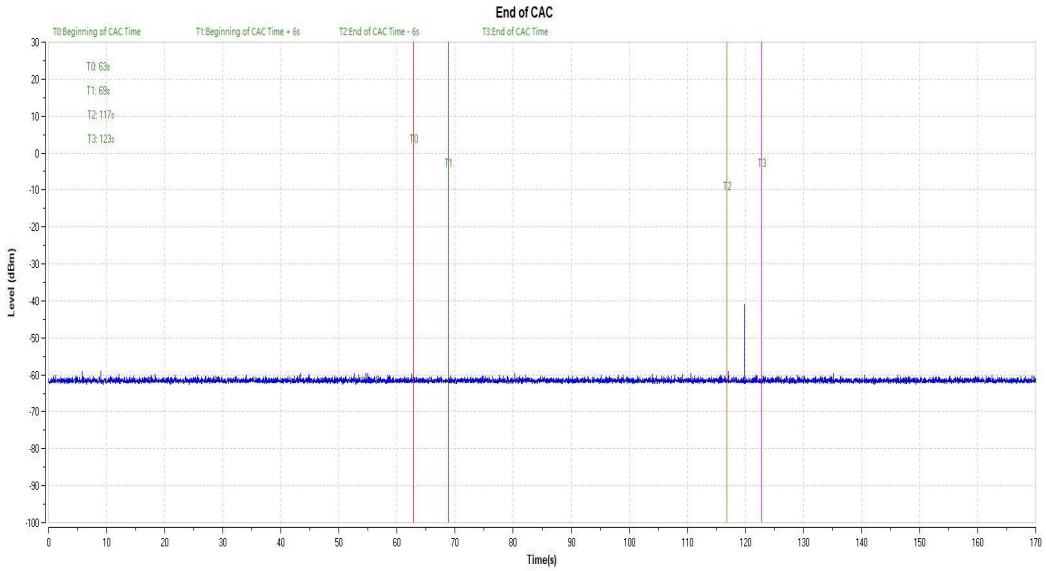
Beginning of Channel Availability Check Time
11AC160_5250



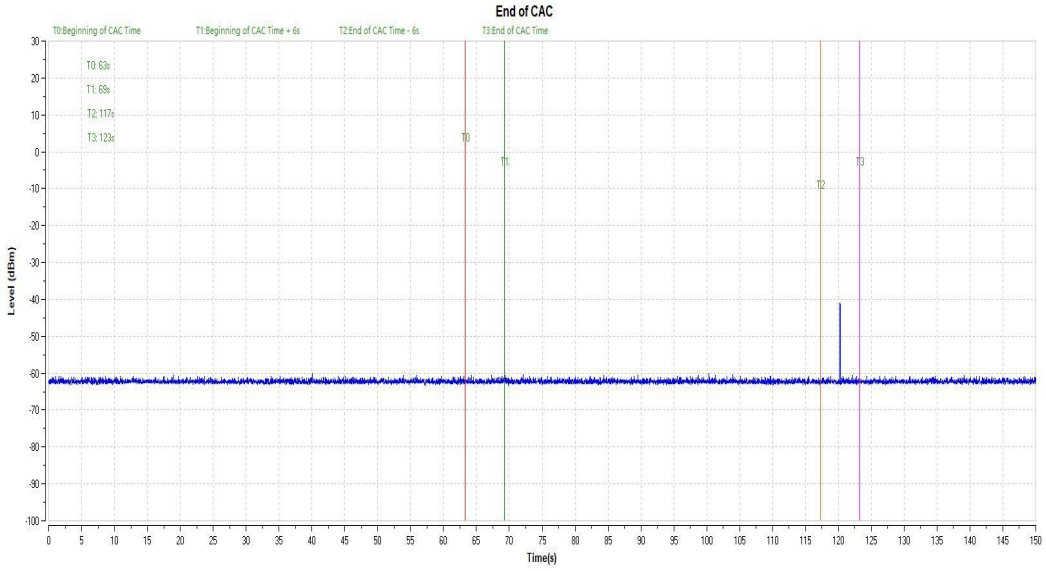
11AC160_5570



End of Channel Availability Check Time
11AC160_5250



11AC160_5570



Statistical Performance check

TestMode	Frequency[MHz]	Radar Type	Pass Times	Fail Times	Probability (%)	Limit (%)	Verdict
11AC160	5250	Type1	26	4	86.67	60	PASS
		Type2	27	3	90.00	60	PASS
		Type3	25	5	83.33	60	PASS
		Type4	28	2	93.33	60	PASS
		Type 1-4	---	---	88.33	80	PASS
		Type5	26	4	86.67	80	PASS
		Type6	30	0	100.00	70	PASS

TestMode	Frequency[MHz]	Radar Type	Pass Times	Fail Times	Probability (%)	Limit (%)	Verdict
11AC160	5570	Type1	28	2	93.33	60	PASS
		Type2	24	6	80.00	60	PASS
		Type3	26	4	86.67	60	PASS
		Type4	24	6	80.00	60	PASS
		Type 1-4	---	---	85.00	80	PASS
		Type5	26	4	86.67	80	PASS
		Type6	30	0	100.00	70	PASS

Test Mode	Frequency [MHz]	Radar Type	Trial ID	Pulse width(μs)	PRI(μs)	Pulses per Burst	Detection (1: Yes; 0: No)
11AC160	5250	Type1	0	1	938	57	1
		Type1	1	1	698	76	1
		Type1	2	1	618	86	1
		Type1	3	1	538	99	1
		Type1	4	1	878	61	0
		Type1	5	1	3066	18	1
		Type1	6	1	638	83	0
		Type1	7	1	918	58	1
		Type1	8	1	838	63	1
		Type1	9	1	858	62	1
		Type1	10	1	798	67	1
		Type1	11	1	718	74	1
		Type1	12	1	578	92	1
		Type1	13	1	598	89	1
		Type1	14	1	558	95	1
		Type1	15	1	2536	21	1
		Type1	16	1	966	55	1
		Type1	17	1	827	64	1
		Type1	18	1	2501	22	1
		Type1	19	1	2595	21	1
		Type1	20	1	1114	48	1
		Type1	21	1	1302	41	1
		Type1	22	1	3045	18	1
		Type1	23	1	1624	33	1
		Type1	24	1	2878	19	1
		Type1	25	1	1027	52	1
		Type1	26	1	2485	22	0
		Type1	27	1	1600	33	1
		Type1	28	1	1172	46	0
		Type1	29	1	1177	45	1
		Type2	0	3.2	179	26	1
		Type2	1	1.1	207	23	1
		Type2	2	2.1	230	24	1
		Type2	3	4.8	200	29	1

		Type2	4	3.9	214	28	1
		Type2	5	2.9	222	26	1
		Type2	6	3.2	204	26	1
		Type2	7	2.5	192	25	0
		Type2	8	3.1	164	26	1
		Type2	9	1.2	156	23	1
		Type2	10	3.9	210	27	1
		Type2	11	4.6	201	29	1
		Type2	12	3.2	162	26	1
		Type2	13	2.2	197	25	1
		Type2	14	4.5	163	29	1
		Type2	15	3	203	26	0
		Type2	16	5	168	29	1
		Type2	17	2.4	217	25	1
		Type2	18	2.9	191	26	1
		Type2	19	2.3	166	25	1
		Type2	20	3.7	150	27	1
		Type2	21	2.2	176	25	1
		Type2	22	4.9	195	29	1
		Type2	23	2.9	202	26	1
		Type2	24	2.5	178	25	0
		Type2	25	1.1	206	23	1
		Type2	26	3.8	155	27	1
		Type2	27	4.7	157	29	1
		Type2	28	2.4	224	25	1
		Type2	29	4.2	159	28	1
		Type3	0	8.2	355	17	1
		Type3	1	6.1	487	16	1
		Type3	2	7.1	344	16	1
		Type3	3	9.8	288	18	1
		Type3	4	8.9	230	18	1
		Type3	5	7.9	432	17	0
		Type3	6	8.2	207	17	1
		Type3	7	7.5	443	17	1
		Type3	8	8.1	439	17	0
		Type3	9	6.2	223	16	1
		Type3	10	8.9	208	18	1

		Type3	11	9.6	463	18	1
		Type3	12	8.2	441	17	1
		Type3	13	7.2	323	16	1
		Type3	14	9.5	297	18	1
		Type3	15	8	412	17	0
		Type3	16	10	324	18	1
		Type3	17	7.4	271	17	1
		Type3	18	7.9	349	17	1
		Type3	19	7.3	409	16	1
		Type3	20	8.7	373	18	1
		Type3	21	7.2	254	16	1
		Type3	22	9.9	274	18	1
		Type3	23	7.9	278	17	0
		Type3	24	7.5	317	17	1
		Type3	25	6.1	260	16	1
		Type3	26	8.8	211	18	0
		Type3	27	9.7	272	18	1
		Type3	28	7.4	264	17	1
		Type3	29	9.2	284	18	1
		Type4	0	16	355	14	1
		Type4	1	11.3	487	12	1
		Type4	2	13.5	344	13	1
		Type4	3	19.4	288	16	1
		Type4	4	17.5	230	15	0
		Type4	5	15.3	432	14	1
		Type4	6	15.9	207	14	1
		Type4	7	14.3	443	13	1
		Type4	8	15.8	439	14	0
		Type4	9	11.5	223	12	1
		Type4	10	17.4	208	15	1
		Type4	11	19	463	16	1
		Type4	12	16	441	14	1
		Type4	13	13.8	323	13	1
		Type4	14	18.9	297	16	1
		Type4	15	15.5	412	14	1
		Type4	16	19.9	324	16	1
		Type4	17	14.1	271	13	1

		Type4	18	15.2	349	14	1
		Type4	19	13.8	409	13	1
		Type4	20	17.1	373	15	1
		Type4	21	13.8	254	13	1
		Type4	22	19.8	274	16	1
		Type4	23	15.3	278	14	1
		Type4	24	14.5	317	13	1
		Type4	25	11.3	260	12	1
		Type4	26	17.3	211	15	1
		Type4	27	19.2	272	16	1
		Type4	28	14.2	264	13	1
		Type4	29	18.2	284	15	1
		Type5	0	15	12	5530	1
		Type5	1	8	12	5530	1
		Type5	2	11	12	5530	1
		Type5	3	20	12	5530	1
		Type5	4	17	12	5530	1
		Type5	5	14	12	5530	1
		Type5	6	15	12	5530	1
		Type5	7	12	12	5530	1
		Type5	8	14	12	5530	1
		Type5	9	8	12	5530	1
		Type5	10	17	12	5498	0
		Type5	11	19	12	5499	1
		Type5	12	15	12	5497	1
		Type5	13	12	12	5496	1
		Type5	14	19	12	5499	1
		Type5	15	14	12	5496	1
		Type5	16	20	12	5500	1
		Type5	17	12	12	5496	0
		Type5	18	14	12	5496	1
		Type5	19	12	12	5496	1
		Type5	20	16	12	5562	1
		Type5	21	12	12	5565	1
		Type5	22	20	12	5560	0
		Type5	23	14	12	5564	1
		Type5	24	13	12	5564	0

		Type5	25	8	12	5566	1
		Type5	26	17	12	5562	1
		Type5	27	19	12	5561	1
		Type5	28	12	12	5564	1
		Type5	29	18	12	5562	1
		Type6	0	1	333.3	9	1
		Type6	1	1	333.3	9	1
		Type6	2	1	333.3	9	1
		Type6	3	1	333.3	9	1
		Type6	4	1	333.3	9	1
		Type6	5	1	333.3	9	1
		Type6	6	1	333.3	9	1
		Type6	7	1	333.3	9	1
		Type6	8	1	333.3	9	1
		Type6	9	1	333.3	9	1
		Type6	10	1	333.3	9	1
		Type6	11	1	333.3	9	1
		Type6	12	1	333.3	9	1
		Type6	13	1	333.3	9	1
		Type6	14	1	333.3	9	1
		Type6	15	1	333.3	9	1
		Type6	16	1	333.3	9	1
		Type6	17	1	333.3	9	1
		Type6	18	1	333.3	9	1
		Type6	19	1	333.3	9	1
		Type6	20	1	333.3	9	1
		Type6	21	1	333.3	9	1
		Type6	22	1	333.3	9	1
		Type6	23	1	333.3	9	1
		Type6	24	1	333.3	9	1
		Type6	25	1	333.3	9	1
		Type6	26	1	333.3	9	1
		Type6	27	1	333.3	9	1
		Type6	28	1	333.3	9	1
		Type6	29	1	333.3	9	1

Test Mode	Frequency [MHz]	Radar Type	Trial ID	Pulse width(μs)	PRI(μs)	Pulses per Burst	Detection (1: Yes; 0: No)
11AC160	5570	Type1	0	1	938	57	1
		Type1	1	1	698	76	1
		Type1	2	1	618	86	1
		Type1	3	1	538	99	1
		Type1	4	1	878	61	0
		Type1	5	1	3066	18	1
		Type1	6	1	638	83	0
		Type1	7	1	918	58	1
		Type1	8	1	838	63	1
		Type1	9	1	858	62	1
		Type1	10	1	798	67	1
		Type1	11	1	718	74	1
		Type1	12	1	578	92	1
		Type1	13	1	598	89	1
		Type1	14	1	558	95	1
		Type1	15	1	2536	21	1
		Type1	16	1	966	55	1
		Type1	17	1	827	64	1
		Type1	18	1	2501	22	1
		Type1	19	1	2595	21	1
		Type1	20	1	1114	48	1
		Type1	21	1	1302	41	1
		Type1	22	1	3045	18	1
		Type1	23	1	1624	33	1
		Type1	24	1	2878	19	1
		Type1	25	1	1027	52	1
		Type1	26	1	2485	22	1
		Type1	27	1	1600	33	1
		Type1	28	1	1172	46	1
		Type1	29	1	1177	45	1
		Type2	0	3.2	179	26	1
		Type2	1	1.1	207	23	1
		Type2	2	2.1	230	24	1
		Type2	3	4.8	200	29	0

		Type2	4	3.9	214	28	1
		Type2	5	2.9	222	26	1
		Type2	6	3.2	204	26	1
		Type2	7	2.5	192	25	0
		Type2	8	3.1	164	26	1
		Type2	9	1.2	156	23	1
		Type2	10	3.9	210	27	1
		Type2	11	4.6	201	29	0
		Type2	12	3.2	162	26	1
		Type2	13	2.2	197	25	1
		Type2	14	4.5	163	29	1
		Type2	15	3	203	26	0
		Type2	16	5	168	29	1
		Type2	17	2.4	217	25	1
		Type2	18	2.9	191	26	1
		Type2	19	2.3	166	25	1
		Type2	20	3.7	150	27	1
		Type2	21	2.2	176	25	1
		Type2	22	4.9	195	29	1
		Type2	23	2.9	202	26	1
		Type2	24	2.5	178	25	0
		Type2	25	1.1	206	23	1
		Type2	26	3.8	155	27	1
		Type2	27	4.7	157	29	1
		Type2	28	2.4	224	25	0
		Type2	29	4.2	159	28	1
		Type3	0	8.2	355	17	1
		Type3	1	6.1	487	16	1
		Type3	2	7.1	344	16	1
		Type3	3	9.8	288	18	1
		Type3	4	8.9	230	18	1
		Type3	5	7.9	432	17	0
		Type3	6	8.2	207	17	1
		Type3	7	7.5	443	17	1
		Type3	8	8.1	439	17	0
		Type3	9	6.2	223	16	1
		Type3	10	8.9	208	18	1

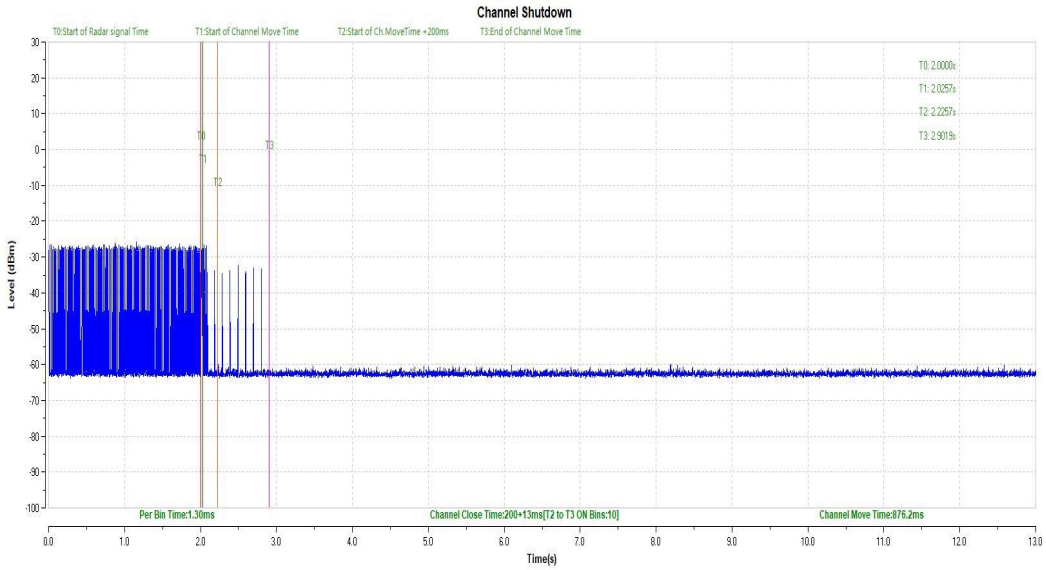
		Type3	11	9.6	463	18	1
		Type3	12	8.2	441	17	1
		Type3	13	7.2	323	16	1
		Type3	14	9.5	297	18	1
		Type3	15	8	412	17	0
		Type3	16	10	324	18	1
		Type3	17	7.4	271	17	1
		Type3	18	7.9	349	17	1
		Type3	19	7.3	409	16	1
		Type3	20	8.7	373	18	1
		Type3	21	7.2	254	16	1
		Type3	22	9.9	274	18	1
		Type3	23	7.9	278	17	0
		Type3	24	7.5	317	17	1
		Type3	25	6.1	260	16	1
		Type3	26	8.8	211	18	1
		Type3	27	9.7	272	18	1
		Type3	28	7.4	264	17	1
		Type3	29	9.2	284	18	1
		Type4	0	16	355	14	1
		Type4	1	11.3	487	12	1
		Type4	2	13.5	344	13	1
		Type4	3	19.4	288	16	1
		Type4	4	17.5	230	15	0
		Type4	5	15.3	432	14	1
		Type4	6	15.9	207	14	1
		Type4	7	14.3	443	13	1
		Type4	8	15.8	439	14	0
		Type4	9	11.5	223	12	1
		Type4	10	17.4	208	15	1
		Type4	11	19	463	16	1
		Type4	12	16	441	14	1
		Type4	13	13.8	323	13	0
		Type4	14	18.9	297	16	1
		Type4	15	15.5	412	14	1
		Type4	16	19.9	324	16	1
		Type4	17	14.1	271	13	1

		Type4	18	15.2	349	14	1
		Type4	19	13.8	409	13	1
		Type4	20	17.1	373	15	0
		Type4	21	13.8	254	13	1
		Type4	22	19.8	274	16	1
		Type4	23	15.3	278	14	1
		Type4	24	14.5	317	13	0
		Type4	25	11.3	260	12	1
		Type4	26	17.3	211	15	0
		Type4	27	19.2	272	16	1
		Type4	28	14.2	264	13	1
		Type4	29	18.2	284	15	1
		Type5	0	15	12	5530	1
		Type5	1	8	12	5530	1
		Type5	2	11	12	5530	1
		Type5	3	20	12	5530	1
		Type5	4	17	12	5530	1
		Type5	5	14	12	5530	1
		Type5	6	15	12	5530	1
		Type5	7	12	12	5530	1
		Type5	8	14	12	5530	1
		Type5	9	8	12	5530	1
		Type5	10	17	12	5498	0
		Type5	11	19	12	5499	1
		Type5	12	15	12	5497	1
		Type5	13	12	12	5496	1
		Type5	14	19	12	5499	1
		Type5	15	14	12	5496	1
		Type5	16	20	12	5500	1
		Type5	17	12	12	5496	0
		Type5	18	14	12	5496	1
		Type5	19	12	12	5496	1
		Type5	20	16	12	5562	1
		Type5	21	12	12	5565	1
		Type5	22	20	12	5560	0
		Type5	23	14	12	5564	1
		Type5	24	13	12	5564	0

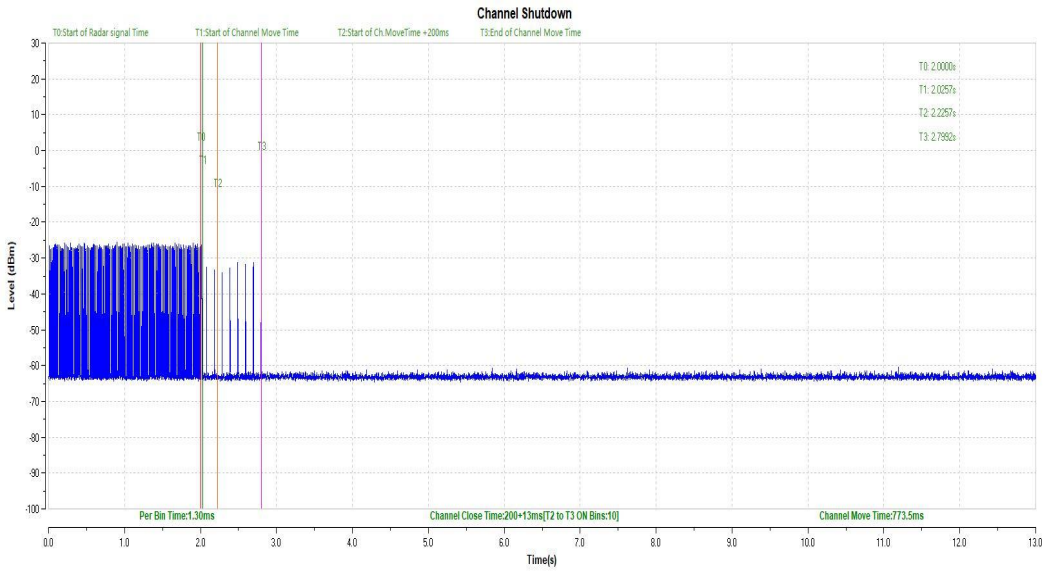
		Type5	25	8	12	5566	1
		Type5	26	17	12	5562	1
		Type5	27	19	12	5561	1
		Type5	28	12	12	5564	1
		Type5	29	18	12	5562	1
		Type6	0	1	333.3	9	1
		Type6	1	1	333.3	9	1
		Type6	2	1	333.3	9	1
		Type6	3	1	333.3	9	1
		Type6	4	1	333.3	9	1
		Type6	5	1	333.3	9	1
		Type6	6	1	333.3	9	1
		Type6	7	1	333.3	9	1
		Type6	8	1	333.3	9	1
		Type6	9	1	333.3	9	1
		Type6	10	1	333.3	9	1
		Type6	11	1	333.3	9	1
		Type6	12	1	333.3	9	1
		Type6	13	1	333.3	9	1
		Type6	14	1	333.3	9	1
		Type6	15	1	333.3	9	1
		Type6	16	1	333.3	9	1
		Type6	17	1	333.3	9	1
		Type6	18	1	333.3	9	1
		Type6	19	1	333.3	9	1
		Type6	20	1	333.3	9	1
		Type6	21	1	333.3	9	1
		Type6	22	1	333.3	9	1
		Type6	23	1	333.3	9	1
		Type6	24	1	333.3	9	1
		Type6	25	1	333.3	9	1
		Type6	26	1	333.3	9	1
		Type6	27	1	333.3	9	1
		Type6	28	1	333.3	9	1
		Type6	29	1	333.3	9	1

Channel Move Time and Channel Closing Transmission Time

Test Mode	Frequency[MHz]	CCTT[ms]	Limit[ms]	CMT[ms]	Limit[ms]	Verdict
11AC160	5250	200+13	200+60	876.2	10000	PASS
	5570	200+13	200+60	773.5	10000	PASS



11AC160_5250

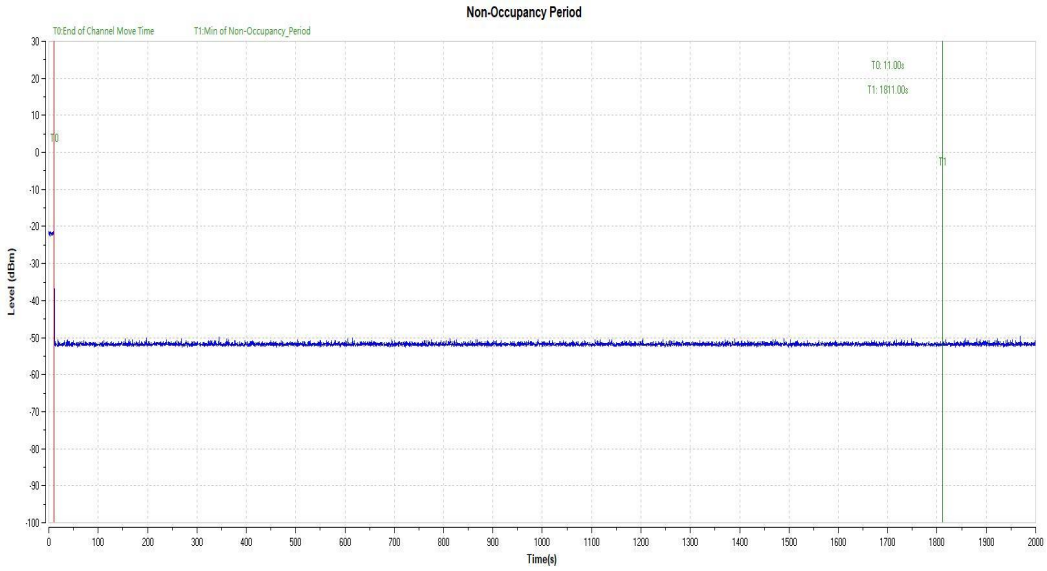


11AC160_5570

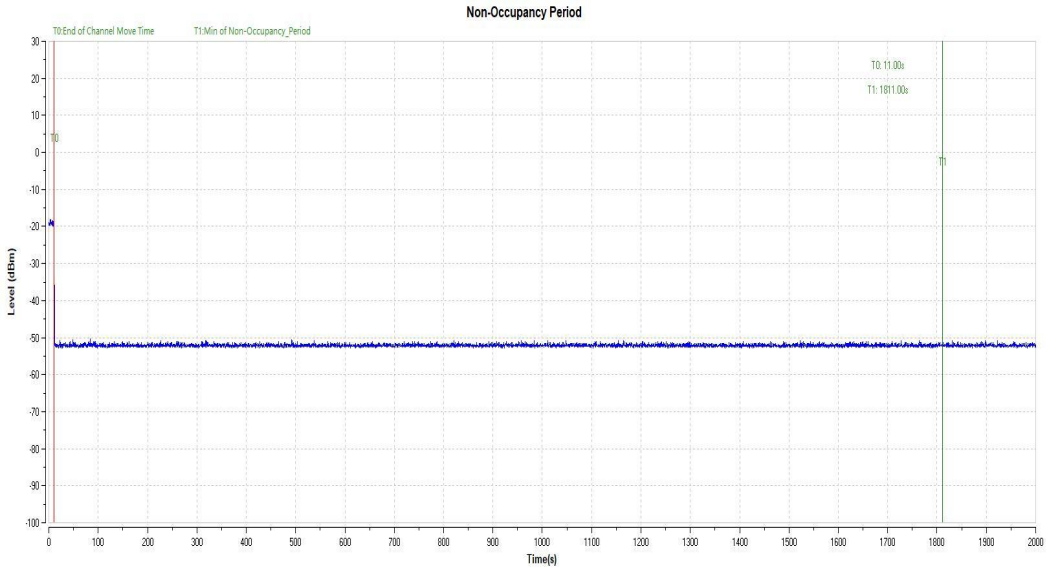
Non-occupancy Period

TestMode	Frequency[MHz]	Result	Limit[s]	Verdict
11AC160	5250	see test graph	≥1800	PASS
	5570	see test graph	≥1800	PASS

11AC160SISO 5250MHz



11AC160SISO 5570MHz



U-NII Detection Bandwidth

Test Result

Test Mode	Frequency[MHz]	FL[MHz]	FH[MHz]	Detection Bandwidth [MHz]	OCB [MHz]	Ratio [%]	Limit [%]	Verdict
11AC20	5260	5250	5270	20	16.959	117.93	≥100	PASS
	5500	5490	5510	20	17.151	116.61	≥100	PASS
11AC40	5270	5250	5290	40	36.240	110.38	≥100	PASS
	5510	5490	5530	40	36.537	109.48	≥100	PASS
11AC80	5290	5250	5330	80	75.626	105.78	≥100	PASS
	5610	5570	5650	80	75.935	105.35	≥100	PASS
11AC160	5250	5249	5329	80	77.065	103.81	≥100	PASS
	5570	5490	5650	160	154.530	103.54	≥100	PASS
Note: For 5250MHz. The 99% channel bandwidth fall within DFS bandwidth is 77.065MHz.								

Test Mode	Frequency[MHz]	Radar Freq.	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8	Trial 9	Trial 10	Ratio (%)
11AC20	5260	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
		5271	0	0	0	0	0	0	0	0	0	0	0
11AC40	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	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
11AC80	5290	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	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	1	1	1	1	100
		5330	1	1	1	1	1	1	1	1	1	1	100
		5331	0	0	0	0	0	0	0	0	0	0	0
11AC160	5250	5248	1	0	0	0	0	0	0	0	0	0	10
		5249	1	1	1	1	1	1	1	1	1	1	100
		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	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	1	1	1	1	100
		5326	1	1	1	1	1	1	1	1	1	1	100

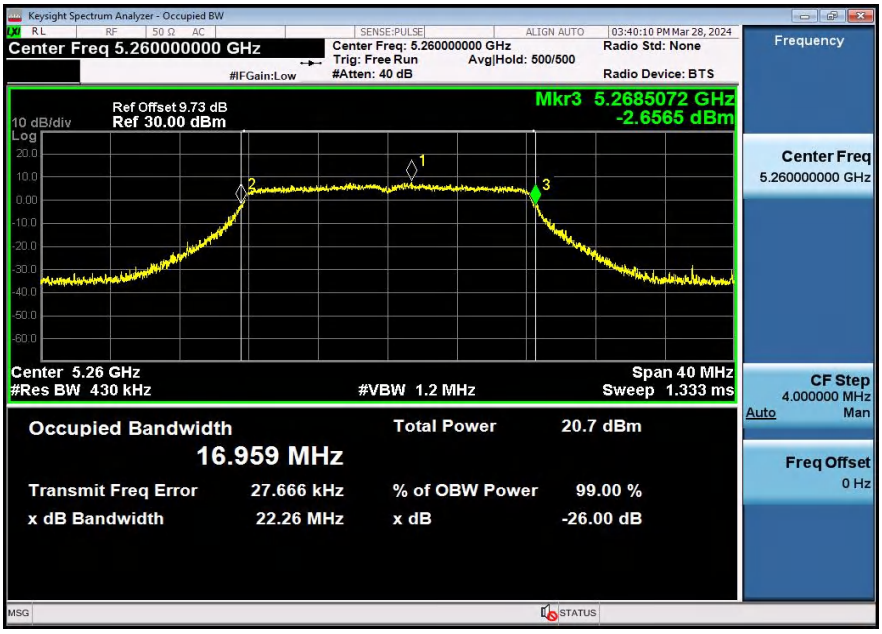
		5327	1	1	1	1	1	1	1	1	1	1	100
		5328	1	1	1	1	1	1	1	1	1	1	100
		5329	1	1	1	1	1	1	1	1	1	1	100
		5330	0	0	0	0	0	0	0	0	0	0	0

Test Mode	Frequency[MHz]	Radar Freq.	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8	Trial 9	Trial 10	Ratio (%)
11AC20	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
11AC40	5510	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
		5531	0	0	0	0	0	0	0	0	0	0	0
11AC80	5610	5569	0	0	0	0	0	0	0	0	0	0	0
		5570	1	1	1	1	1	1	1	1	1	1	100
		5575	1	1	1	1	1	1	1	1	1	1	100
		5580	1	1	1	1	1	1	1	1	1	1	100
		5585	1	1	1	1	1	1	1	1	1	1	100
		5590	1	1	1	1	1	1	1	1	1	1	100
		5595	1	1	1	1	1	1	1	1	1	1	100
		5600	1	1	1	1	1	1	1	1	1	1	100
		5605	1	1	1	1	1	1	1	1	1	1	100
		5610	1	1	1	1	1	1	1	1	1	1	100
		5615	1	1	1	1	1	1	1	1	1	1	100
		5620	1	1	1	1	1	1	1	1	1	1	100

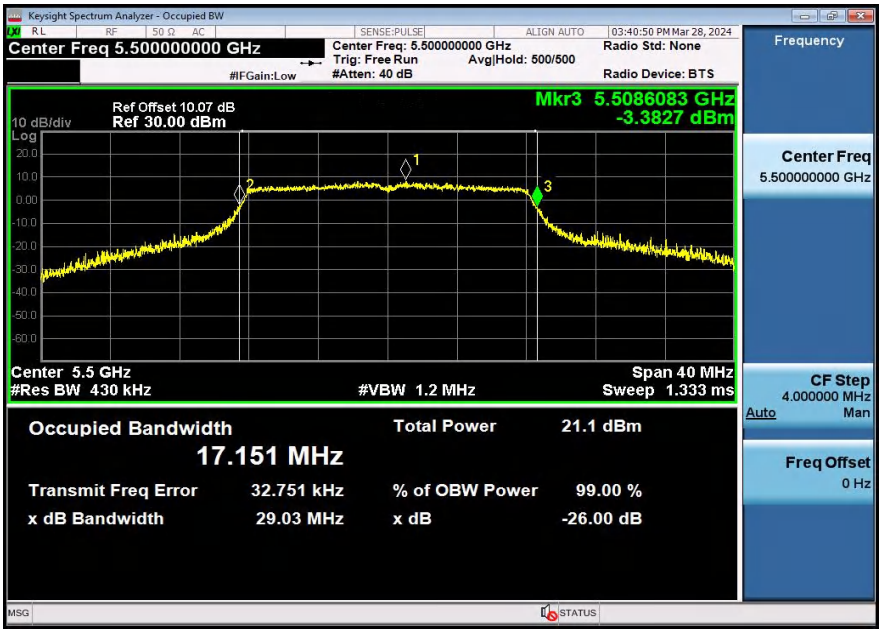
		5625	1	1	1	1	1	1	1	1	1	1	100
		5630	1	1	1	1	1	1	1	1	1	1	100
		5635	1	1	1	1	1	1	1	1	1	1	100
		5640	1	1	1	1	1	1	1	1	1	1	100
		5645	1	1	1	1	1	1	1	1	1	1	100
		5650	1	1	1	1	1	1	1	1	1	1	100
		5651	0	0	0	0	0	0	0	0	0	0	0
11AC160	5570	5489	0	0	0	0	0	0	0	0	0	0	0
		5490	1	1	1	1	1	1	1	1	1	1	100
		5495	1	1	1	1	1	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
		5575	1	1	1	1	1	1	1	1	1	1	100
		5580	1	1	1	1	1	1	1	1	1	1	100
		5585	1	1	1	1	1	1	1	1	1	1	100
		5590	1	1	1	1	1	1	1	1	1	1	100
		5595	1	1	1	1	1	1	1	1	1	1	100
		5600	1	1	1	1	1	1	1	1	1	1	100
		5605	1	1	1	1	1	1	1	1	1	1	100
		5610	1	1	1	1	1	1	1	1	1	1	100
		5615	1	1	1	1	1	1	1	1	1	1	100
		5620	1	1	1	1	1	1	1	1	1	1	100
		5625	1	1	1	1	1	1	1	1	1	1	100
		5630	1	1	1	1	1	1	1	1	1	1	100

		5635	1	1	1	1	1	1	1	1	1	1	100
		5640	1	1	1	1	1	1	1	1	1	1	100
		5645	1	1	1	1	1	1	1	1	1	1	100
		5650	1	1	1	1	1	1	1	1	1	1	100
		5651	0	0	0	0	0	0	0	0	0	0	0

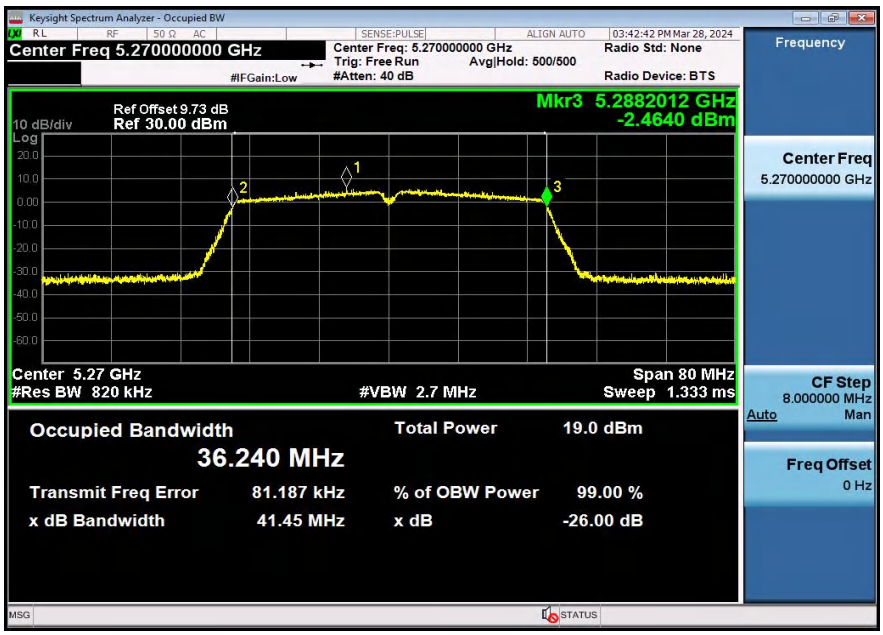
Test Graphs



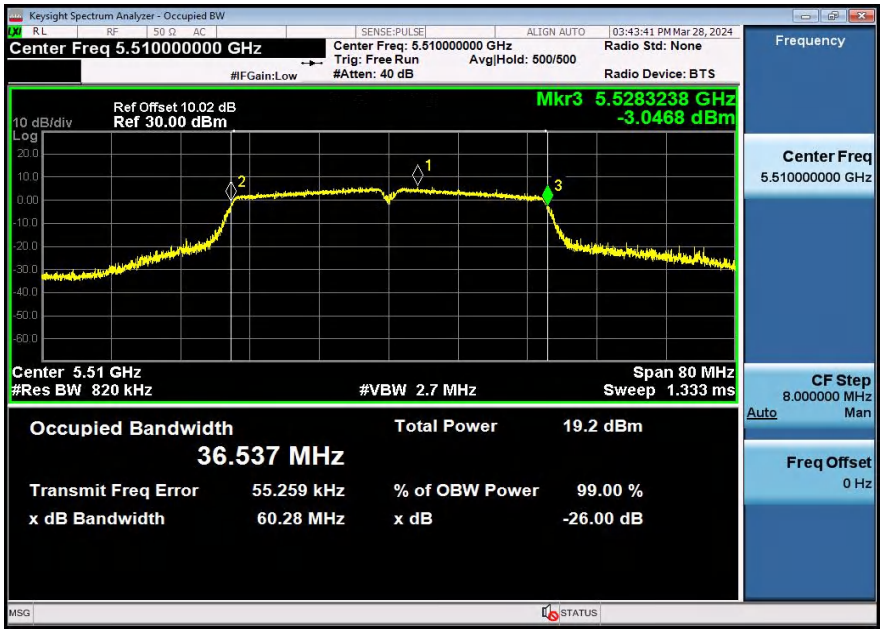
11AC-5260-PASS



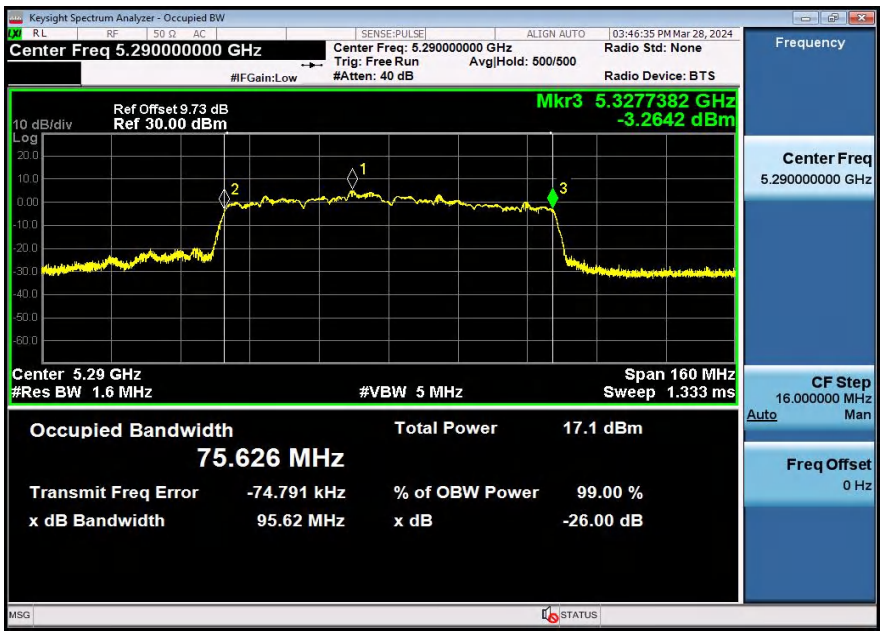
11AC-5500-PASS



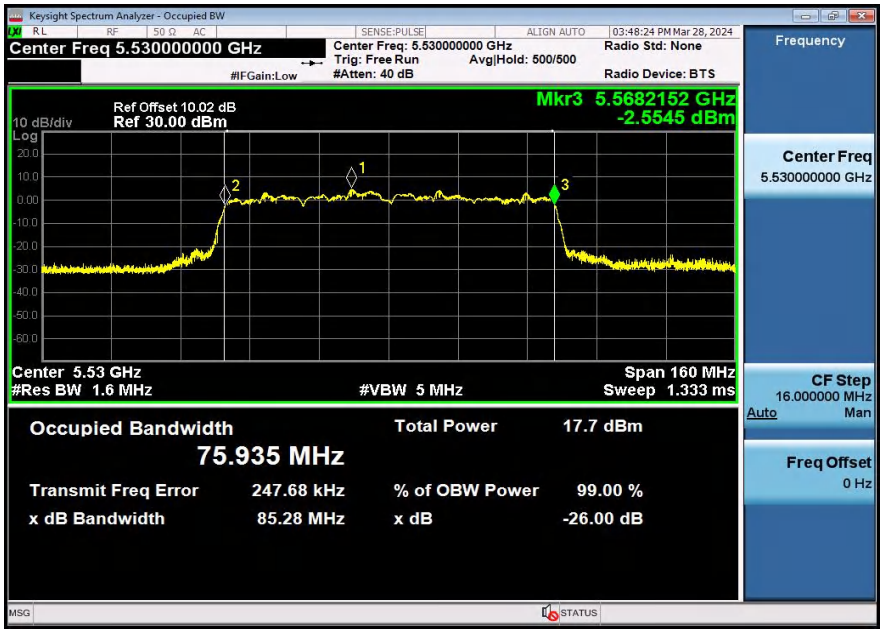
11AC40-5270-PASS



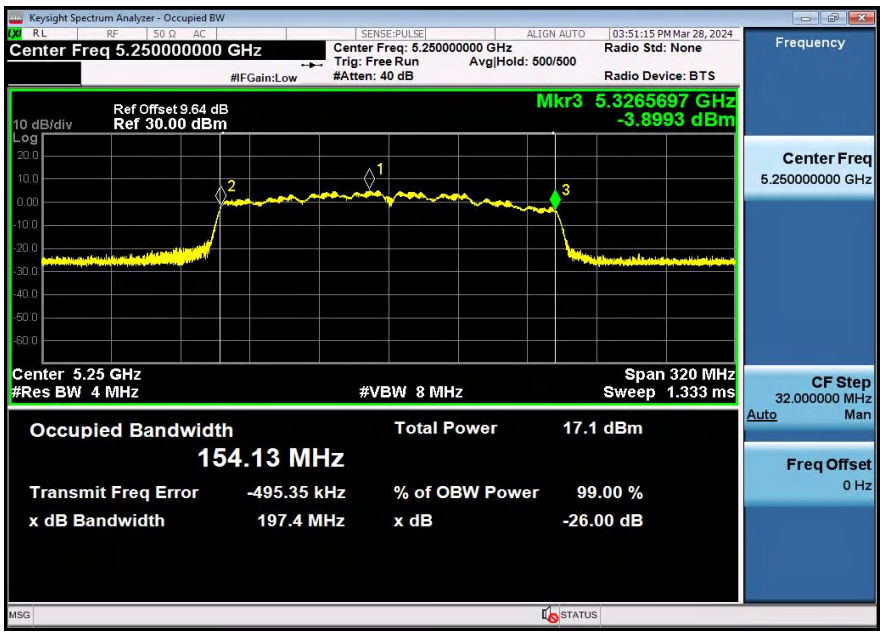
11 AC40-5510-PASS



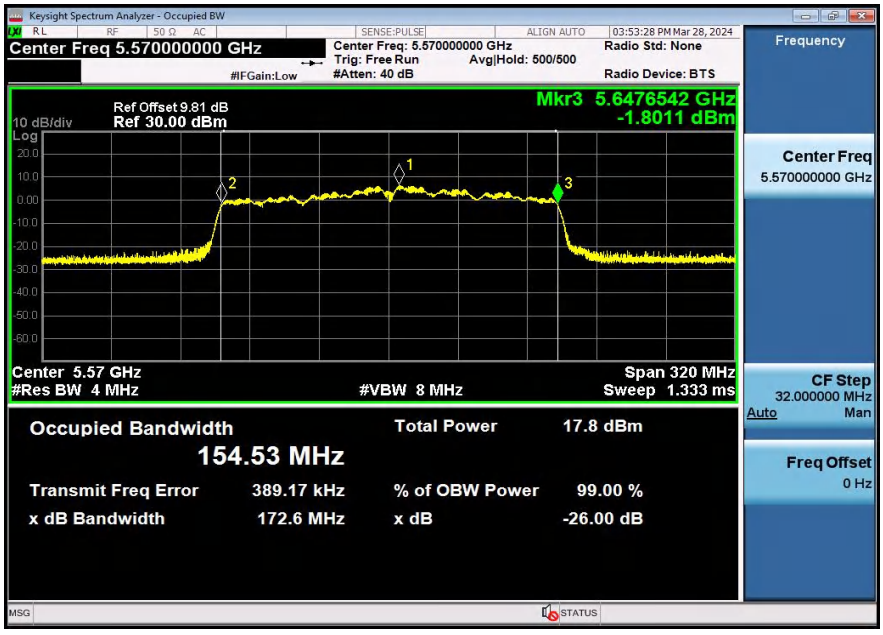
11AC80SISO-5290-PASS



11AC80SISO-5530-PASS

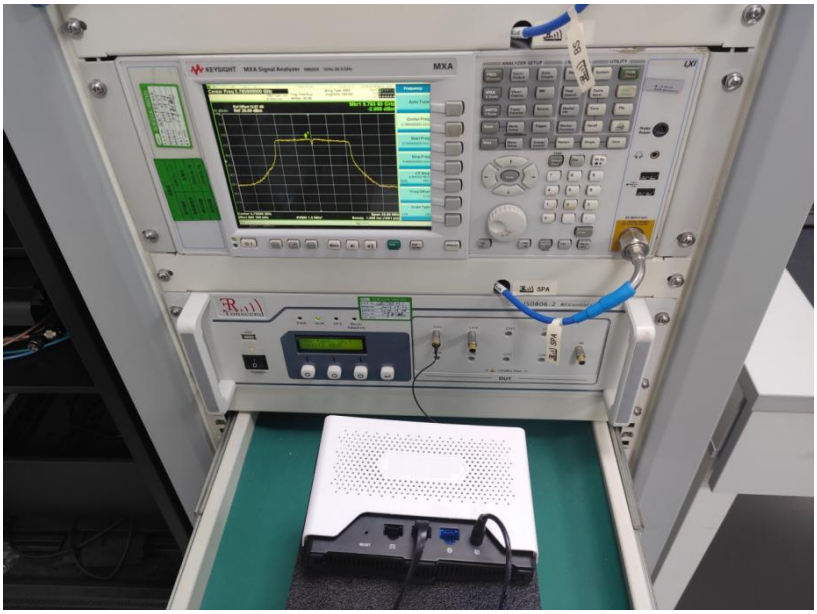


11AC160SISO-5250-PASS



11AC160SISO-5570-PASS

8. Test Setup Photos of the EUT



9. Photos of the EUT

Reference to the test report No.**GRCTR240301004-01.**

********** End of Report **********