Radio Test Report

For

HUNAN FN-LINK TECHNOLOGY LIMITED

Test Standards:	ETSI EN 300 328 V2.2.2(2019-07)
Product Description:	WIFI+BT Module
Tested Model:	6221C-PUC
Brand Name:	FN-LINK
Report No.:	EC2009014RE02
Tested Date:	2020-09-16 to 2020-09-26
Issued Date:	2020-09-26
Prepared By:	Jerry Wang / Engineer
Approved By:	Tiny Yang / RF Manager

Hunan Ecloud Testing Technology Co., Ltd.
Building A1, Changsha E Center, No. 18 Xiangtai Avenue, Liuyang Economic and Technological Development Zone, Hunan, P.R.C.
Tel.: +86-731-89634887 Fax.: +86-731-89634887
www.hn-ecloud.com

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	2020.09.26	Valid	Original Report

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SUMMARY OF TEST RESULT

CLAUSE (EN 300 328)	TEST PARAMETER	PASS/FAIL	REMARK
Transmitter Parameters			
4.3.1.2 4.3.2.2	Maximum Transmit Power	PASS	-
4.3.2.3	Maximum Equivalent Isotropically Radiated Power (E.I.R.P.) Spectral Density	PASS	Only applicable for modulations other than FHSS
4.3.1.8 4.3.2.7	Occupied Channel Bandwidth	PASS	-
4.3.1.4 4.3.1.5	Frequency Hopping Requirements	PASS	Only applicable for FHSS
4.3.1.9 4.3.2.8	Transmitter spurious emissions in OOB	PASS	-
4.3.1.10 4.3.2.9	Transmitter spurious emissions	PASS	Under limit 6.42 dB at 665.35 MHz
Receiver Parameters			
4.3.1.11 4.3.2.10	Receiver spurious emissions	PASS	Under limit 6.14 dB at 45.52 MHz
Adaptive Test Item			
4.3.1.7 4.3.2.6	Adaptivity	PASS	Only applicable for adaptive equipment Output Power >10dBm
4.3.1.12 4.3.2.11	Receiver Blocking	PASS	
Non-Adaptive Test Item			
4.3.1.3 4.3.2.4	Duty cycle, Tx-Sequence, Tx-gap	Not Required	Only applicable for non-adaptive equipment Output Power >10dBm
4.3.1.6 4.3.2.5	Medium Utilisation (MU) factor	Not Required	

Note:

1. Bluetooth belongs to adaptive equipment and EIRP < 10dBm.
2. WiFi belongs to adaptive equipment and EIRP > 10dBm.

1. General Description

1.1. Applicant

HUNAN FN-LINK TECHNOLOGY LIMITED
No.8, Litong Road, Liuyang Economic & TechnicalDevelopment Zone, Changsha, Hunan, CHINA

1.2. Manufacturer

HUNAN FN-LINK TECHNOLOGY LIMITED
No.8, Litong Road, Liuyang Economic & TechnicalDevelopment Zone, Changsha, Hunan, CHINA

1.3. General Description of EUT

Product	WIFI+BT Module	
Model NO.	6221C-PUC	
Additional NO.	N/A	
Difference Description	N/A	
Nominal Voltage	3.3Vdc for EUT	
Extreme Temperature	-20℃ and 70℃	
Modulation Type	**WLAN**	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM GFSK for BT LE
	Bluetooth	GFSK, π/4-DQPSK, 8DPSK
Operating Frequency	**WLAN**	2412-2472MHz for 11b/g/n(HT20) 2422-2462MHz for 11n(HT40)
	Bluetooth	2402MHz~2480MHz
HW Version	V1.0	
SW Version	V1.0	
I/O Ports	Refer to user's manual	
Accessory Devices	Refer to note as below	

NOTE:

1. The above EUT information is declared by manufacturer and for more detailed feature description, please refer to the manufacturer's specifications or user's manual.

2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in

test report.

1.4. Support equipment List

Manufacturer	Description	Model	Serial Number	Certificate
Lenovo	Notebook	Xiaoxinchao5000	PF0QPQMH	DOC
NETGEAR	Dual band WiFi AP	R7800	N/A	DOC
Lenovo	PC	T4900d	SS24542038	DOC
Lenovo	LCD monitor	LS2014wA	U15FVGW7	DOC
FN-LINK	Test Fixture	12X16MM_TB_V3.1	N/A	N/A
NA	DC Power Line	N/A	N/A	N/A
Lenovo	Wired Keyboard	LXH-JME2209U	60937461	DOC
Logitech	Wired Mouse	M-U0026	1826HS0070D8	DOC
N/A	PCIE extension cable	N/A	N/A	N/A
GMTC	WiFi ANT/FPC /L=55mm x2	IP15A3	304WIFI0094	N/A

1.5. Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Transmitter / Receiver Frequency Range	2400 MHz ~ 2483.5 MHz
Geo-location capability	Not Supported
Maximum EIRP Average Power	802.11b : 19.05 dBm 802.11g : 17.64 dBm 802.11n HT20 : 16.81 dBm 802.11n HT40 : 17.09 dBm Bluetooth BR (1Mbps) : 9.68 dBm Bluetooth 4.2 - LE (1Mbps) : 8.89 dBm
Antenna Type / Gain	WLAN : FPC Antenna / 2 dBi Bluetooth : FPC Antenna / 2 dBi

Note:

1. Above EUT list used are electrically identical per declared by manufacturer.
2. Above the accessories list are used to exercise the EUT during test, and the serial number of each type of accessories is listed in each section of this report.

1.6. Modification of EUT

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

1.7. Test Condition

Normal Condition	NTNV	Temperature	25℃	Voltage	3.3Vdc
Extreme Condition	LTNV	Temperature	-20℃	Voltage	3.3Vdc
	HTNV	Temperature	70℃	Voltage	3.3Vdc

1.8. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of **ETSI EN 300 328 V2.2.2 (2019-07).**

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

2. Test Configuration of Equipment under Test

2.1. Descriptions of Test Mode

a. During testing, the interface cables and equipment positions were varied according to ETSI EN 300 328 V2.2.2 (2019-07).

b. The complete test system included EUT for RF test.

c. Preliminary tests were checked in different data rate and recorded worse in the following tables:

Modulation	Data Rate
802.11b	11 Mbps
802.11g	54 Mbps
802.11n HT20	MCS7
802.11n HT40	MCS7

The following tables for radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases were recorded in this report.

Test Modes		
RF	**802.11b DSSS**	**802.11g OFDM**
Tx	**802.11b CH01 (2412MHz)** **802.11b CH13 (2472MHz)**	**802.11g CH01 (2412MHz)** **802.11g CH13 (2472MHz)**
Rx	802.11b CH01 (2412MHz) 802.11b CH13 (2472MHz)	802.11g CH01 (2412MHz) 802.11g CH13 (2472MHz)

Test Modes		
RF	**802.11n HT20 OFDM**	**802.11n HT40 OFDM**
Tx	**802.11n HT20 CH01 (2412MHz)** **802.11n HT20 CH13 (2472MHz)**	**802.11n HT40 CH03 (2422MHz)** **802.11n HT40 CH11 (2462MHz)**
Rx	802.11n HT20 CH01 (2412MHz) 802.11n HT20 CH13 (2472MHz)	802.11n HT40 CH03 (2422MHz) 802.11n HT40 CH11 (2462MHz)

Test Modes		
RF	**Bluetooth (1Mbps) GFSK**	**Bluetooth 4.2 - LE GFSK**
Tx	**Bluetooth (1Mbps) CH00 (2402MHz) Bluetooth (1Mbps) CH78 (2480MHz)**	**Bluetooth 4.2 - LE CH00 (2402MHz) Bluetooth 4.2 - LE CH39 (2480MHz)**
Rx	**Bluetooth (1Mbps) CH00 (2402MHz)** Bluetooth (1Mbps) CH78 (2480MHz)	Bluetooth 4.2 - LE CH00 (2402MHz) **Bluetooth 4.2 - LE CH39 (2480MHz)**

Remark:

1. All test modes of the Transmitter Radiated Spurious Emission (RSE) and Receiver Radiated Spurious Emission (RSE) were tested; only the test worse data in bold of these modes were reported.

2.2. Supported Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	Serial Number
1.	Bluetooth Base Station	R&S	CMW270	101231

2.3. EUT Operation Test Setup

For Bluetooth test items, an engineering test program was provided and enabled to make EUT contact with Bluetooth base station for continuous transmitting and receiving signals.

For WLAN and Bluetooth 4.2 – LE test items, an engineering test program was provided and enabled to make EUT continuous transmitting and receiving signals

3. Transmitter Parameters

3.1. Maximum Transmit Power

3.1.1. Limit of Effective Isotropic Radiated Power

SUBCLAUSE 4.3.1.2.3 and 4.3.2.2.3	
TEST CONDITION	**LIMIT**
Normal and Extreme Temperature Conditions	20dBm (e.i.r.p)

3.1.2. Measuring Instruments

The measuring equipment is listed in the section 8 of this test report.

3.1.3. Test Procedure

1. The measurement procedure follows the clause 5.4.2.2.1 of the ETSI EN 300 328 V2.2.2(2019-07).
2. Placing the EUT in thermal chamber.
3. The EUT is connected to external power supply.
4. Setting thermal chamber temperature and power supply voltage at suitable values.
5. Use a fast power sensor suitable for 2,4 GHz and capable of minimum 1 MS/s. Use the following settings:

- Sample speed 1 MS/s or faster.
- The samples shall represent the RMS power of the signal.
- Measurement duration: 1 second to ensure a minimum number of bursts (at least 10) are captured.

For conducted measurements on devices with one transmit chain:

- Connect the power sensor to the transmit port, sample the transmit signal and store the raw data. Use

these stored samples in all following steps.

For conducted measurements on devices with multiple transmit chains:

- Connect one power sensor to each transmit port for a synchronous measurement on all transmit

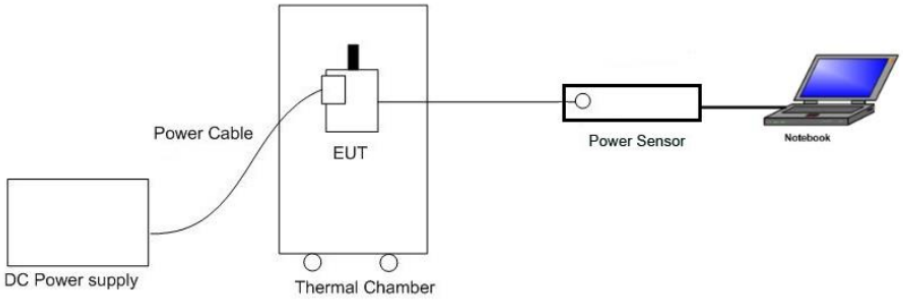
ports.

- Trigger the power sensors so that they start sampling at the same time. Make sure the time difference

between the samples of all sensors is less than 500 ns.

6. The EIRP = A+G+Y, where A is the power measured, G is the assembly gain of the individual antenna of the EUT in dBi and Y is the additional beamforming gain of the EUT in dB if applicable, here, Y=0.

3.1.4. Test Setup



3.1.5. Test Results

Refer to Appendix A of this test report.

3.2. Maximum Equivalent Isotropically Radiated Power (E.I.R.P.) Spectral Density

3.2.1. Limit of Maximum Power Spectral Density

SUBCLAUSE 4.3.2.3.3	
TEST CONDITION	**LIMIT**
Normal and Extreme Temperature Conditions	10dBm / MHz

Remark: Maximum spectral power density is not applicable to FHSS system device.

3.2.2. Measuring Instruments

The measuring equipment is listed in the section 8 of this test report.

3.2.3. Test Procedure

1. The measurement procedure follows the clause 5.4.3.2 .1of the ETSI EN 300 328 V2.2.2(2019-07).
2. These measurements shall only be performed at normal test conditions.
3. The measurement shall be repeated for the equipment being configured to operate at the lowest, the middle, and the highest frequency of the stated frequency range.
4. The test procedure shall be as follows:

Step 1:

Connect the EUT to the spectrum analyzer and use the following settings:

Start Frequency	2400MHz
Stop Frequency	2483.5MHz
Resolution BW	10kHz
Video BW	30kHz
Sweep Points	8350
Detector	RMS
Trace Mode	Max Hold
Sweep time	10 sec

Step 2:

Add up the values for amplitude (power) for all the samples in the file.

Step 3:

Normalize the individual values for amplitude so that the sum is equal to the RF Output Power (e.i.r.p.) measured.

Step 4:

Starting from the first sample in the file (lowest frequency), add up the power of the following samples representing a 1 MHz segment and record the results for power and position (i.e. sample #1 to #100). This is the Power Spectral Density (e.i.r.p.) for the first 1 MHz segment which shall be recorded.

Step 5:

Shift the start point of the samples added up in step 4 by 1 sample and repeat the procedure in step 4 (i.e. sample #2 to #101).

Step 6:

Repeat step 5 until the end of the data set and record the radiated Power Spectral Density values for each of the 1 MHz segments.

From all the recorded results, the highest value is the maximum Power Spectral Density for the EUT. This value shall be recorded in the test report.

3.2.4. Test Setup

3.2.5. Test Results

Refer to Appendix B of this test report.

3.3. Occupied Channel Bandwidth

3.3.1. Limit of Occupied Channel Bandwidth

Occupied Channel Bandwidth fall completely within 2.4 GHz – 2.4835 GHz

3.3.2. Measuring Instruments

The measuring equipment is listed in the section 8 of this test report.

3.3.3. Test Procedure

1. The measurement procedure follows the clause 5.4.7.2.1 of the ETSI EN 300 328 V2.2.2(2019-07).
2. The measurement shall be performed only on the lowest and the highest frequency within the stated frequency range.
3. The test procedure shall be as follows:

Step 1:

Connect the EUT to the spectrum analyzer and use the following settings:

Center Frequency	Channel under test
Resolution BW	1 % of the span
Video BW	3 × RBW
Frequency Span	Frequency hopping equipment: Lowest frequency separation that is used within the hopping sequence. Other equipment: 2 × Occupied Channel Bandwidth (e.g. 40 MHz for a 20 MHz channel)
Detector	RMS
Trace Mode	Max Hold
Sweep Time	1 s

Step 2:

Wait until the trace is completed.

Find the peak value of the trace and place the analyzer marker on this peak.

Step 3:

Use the 99 % bandwidth function of the spectrum analyzer to measure the Occupied Channel Bandwidth of the EUT.

3.3.4. Test Setup

3.3.5. Test Results

Refer to Appendix E of this test report.

3.4. Frequency Hopping Requirements

3.4.1. Dwell Time and Minimum Frequency Occupation Time

3.4.1.1. Limit of Dwell Time

SUBCLAUSE 4.3.1.4.3	
TEST CONDITION	**LIMIT**
Non-Adaptive Frequency Hopping Systems	15 ms within 15ms * hopping frequencies (N)
Adaptive Frequency Hopping Systems	0.4s within 0.4s * hopping frequencies (N)

Limit of Minimum Frequency Occupation Time

SUBCLAUSE 4.3.1.4.3	
TEST CONDITION	**LIMIT**
Normal Condition	Option1: The Minimum Frequency Occupation Time shall be equal to one dwell time within a period not exceeding four times the product of the dwell time per hop and the number of hopping frequencies in use.

Remark: This test item is not applicable to DSSS/OFDM device.

3.4.1.2. Measuring Instruments

The measuring equipment is listed in the section 8 of this test report.

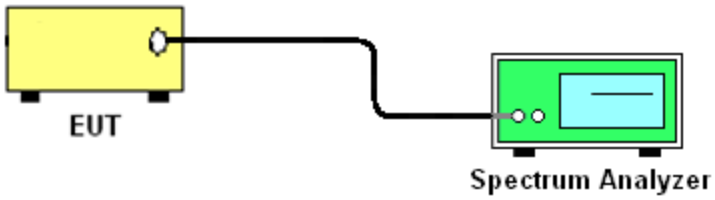
3.4.1.3. Test Procedures

1. The measurement shall be performed on a minimum of 2 hopping frequencies chosen arbitrary from the actual hopping sequence. The results as well as the frequencies on which the test was performed shall be recorded in the test report.
2. The measurement procedure follows the clause 5.4.4.2.1 of the ETSI EN 300 328 V2.2.2(2019-07)..
3. The analyzer shall be set as follows:

Center Frequency	Channel under test
Frequency Span	0 Hz
Resolution BW	300kHz
Video BW	300kHz
Detector	RMS
Sweep time	Equal to the Dwell Time × Minimum number of hopping frequencies (N)
Number of sweep points	30000
Trace Mode	Clear / Write
Trigger	Free Run

4. For accuracy measurement, the sweep time would be zoomed in and verify the dwell time which is from
   the dwell time per hop across the total number of hopping channel. Then record test result.
5. Make the following changes on the analyzer to get Minimum Frequency Occupation Time
   Sweep time: Equal to 4 × Dwell Time × Actual number of hopping frequencies in use

3.4.1.4. Test Setup



3.4.1.5. Test Results

Refer to Appendix C of this test report.

3.4.2. Hopping Sequence

3.4.2.1. Limit of Hopping Sequence

SUBCLAUSE 4.3.1.4.3	
TEST CONDITION	**LIMIT**
Non-Adaptive Frequency Hopping Systems	N
Adaptive Frequency Hopping Systems	N Ch 70% of band

N= 15 or 15 divided by the minimum Hopping Frequency Separation in MHz, whichever is the greater.

Remark: Hopping Sequence is not applicable to DSSS/OFDM device.

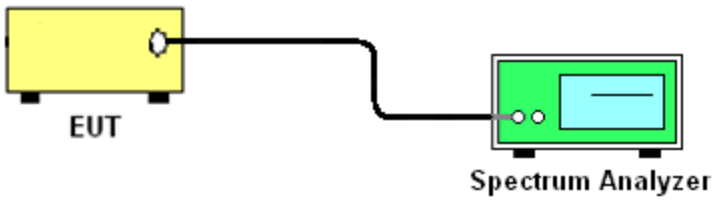
3.4.2.2. Measuring Instruments

The measuring equipment is listed in the section 8 of this test report.

3.4.2.3. Test Procedures

The measurement procedure follows the clause 5.4.4.2.1 of the ETSI EN 300 328 V2.2.2(2019-07).

3.4.2.4. Test Setup



3.4.2.5. Test Results

Refer to Appendix C of this test report.

3.4.3. Hopping Frequency Separation

3.4.3.1. Limit of Hopping Frequency Separation

SUBCLAUSE 4.3.1.5.3.	
TEST CONDITION	**LIMIT**
Non-Adaptive Frequency Hopping Systems	MAX [OBW, 100kHz]
Adaptive Frequency Hopping Systems	100kHz

Remark: Hopping Frequency Separation is not applicable to DSSS/OFDM device.

3.4.3.2. Measuring Instruments

The measuring equipment is listed in the section 8 of this test report.

3.4.3.3. Test Procedures

1. These measurements shall only be performed at normal test conditions.
2. The measurement shall be performed on 2 adjacent hopping frequencies.
3. The frequencies on which the test was performed shall be recorded.

The measurement procedure follows the clause 5.4.5.2.1.3 Option 2 of the ETSI EN 300 328 V2.2.2(2019-07).

3.4.3.4. Test Setup

3.4.3.5. Test Results

Refer to Appendix D of this test report.

3.5. Transmitter unwanted emissions in the out-of-band domain

3.5.1. Transmitter unwanted emissions in the out-of-band domain limit

out-of-band domain limit

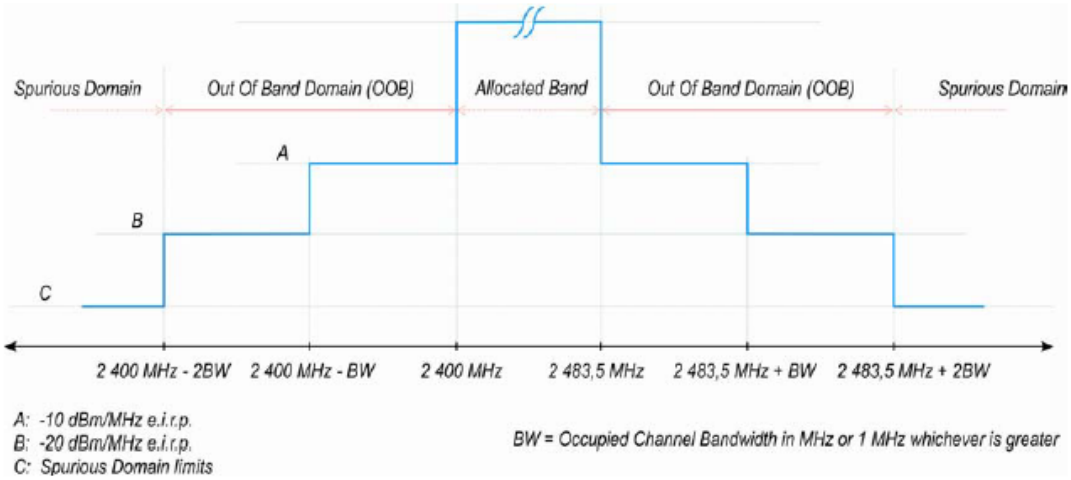


Figure 1: Transmit mask

3.5.2. Measuring Instruments

The measuring equipment is listed in the section 8 of this test report.

3.5.3. Test Procedures

1. The measurement procedure follows the clause 5.4.8.2 of the ETSI EN 300 328 V2.2.2(2019-07)..
2. These measurements shall only be performed at normal test conditions.
3. For conducted measurements on devices with multiple transmit chains using the results for each of the transmit chains for the corresponding 1 MHz segments shall be added and compared with the transmit mask limit.

3.5.4. Test Setup

3.5.5. Test Results

Refer to Appendix F of this test report.

3.6. Transmitter spurious emissions

3.6.1. Limit of Transmitter spurious emissions

Spurious emission limits for transmitter:

SUBCLAUSE 4.3.1.10.3 and 4.3.2.9.3		
FREQUENCY RANGE	**MAXIMUM POWER E.R.P.**	**BANDWIDTH**
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87,5 MHz	-36 dBm	100 kHz
87,5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 862 MHz	-54 dBm	100 kHz
862 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 12,75 GHz	-30 dBm	1 MHz

3.6.2. Measuring Instruments

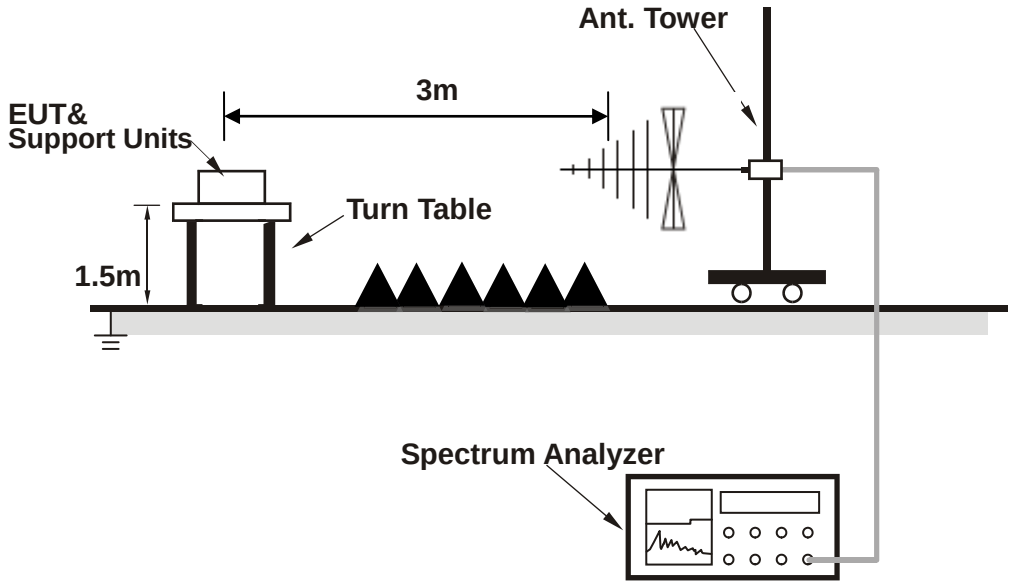
The measuring equipment is listed in the section 8 of this test report.

3.6.3. Test Procedures

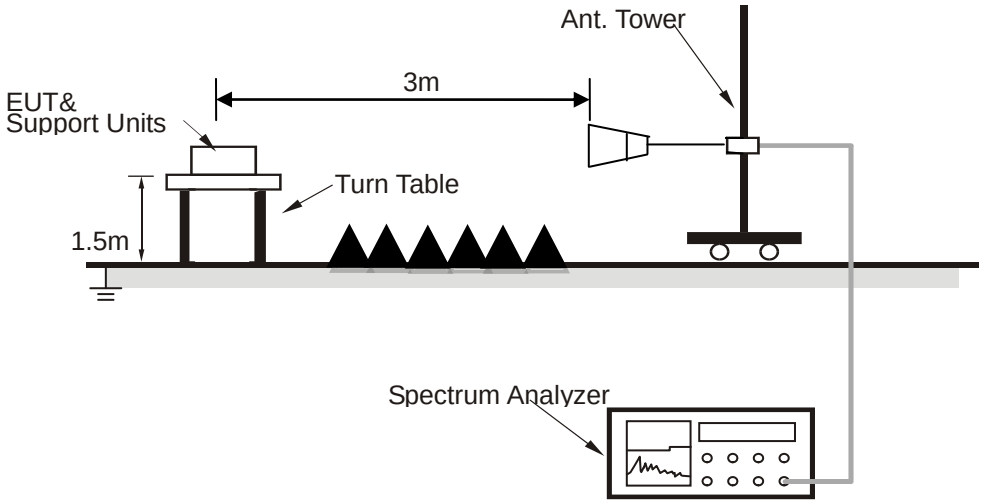
1. The measurement procedure follows the clause 5.4.9.2 of the ETSI EN 300 328 V2.2.2(2019-07).
2. The EUT was placed on a turntable with 1.5m height.
3. The test distance between the receiving antenna and the EUT is 3meter below 1GHz frequency range, and 3 meter which is in far field test condition for measured frequency above 1GHz, while the receiving (test) antenna is kept at 1.5 meter height.
4. Set EUT in continuous transmitting with maximum output power.
5. The table was rotated from 0 to 360 degree to search the highest radiated emission.
6. Repeating step 3 and 4 for each polarization and channel to find the worst emission level.
7. The results obtained are compared to the limits in order to prove compliance with the requirement.

3.6.4. Test Setup

<Below 1GHz>



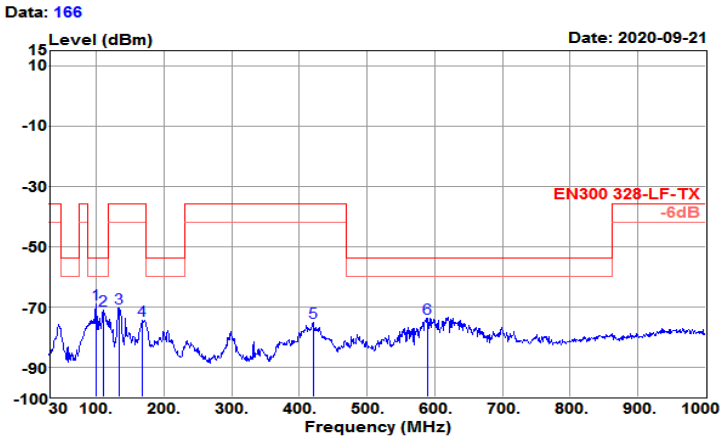
<Above 1GHz>



3.6.5. Test Results

Test Mode :	Bluetooth (1Mbps) CH00 (2402MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : BT CH00(2402MHz)
               ------------------------
```

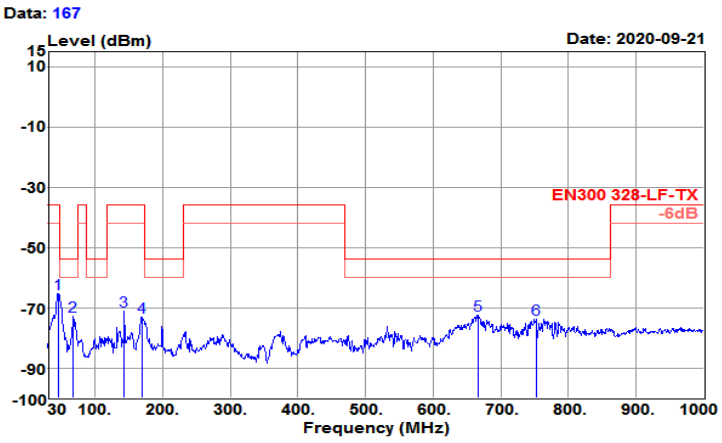


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
99.840	-62.28	-7.00	-69.28	-54.00	-15.28	Average
111.480	-65.11	-5.92	-71.03	-54.00	-17.03	Average
134.760	-66.60	-3.73	-70.33	-36.00	-34.33	Average
168.710	-70.56	-3.85	-74.41	-36.00	-38.41	Average
419.940	-75.28	0.18	-75.10	-36.00	-39.10	Average
589.690	-78.11	4.22	-73.89	-54.00	-19.89	Average

```
Note:
Corrected Reading: Reading level + Aux factor = Level
```

Test Mode :	Bluetooth (1Mbps) CH00 (2402MHz)	Temperature :	21~23℃℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : BT CH00(2402MHz)
               ------------------------
```

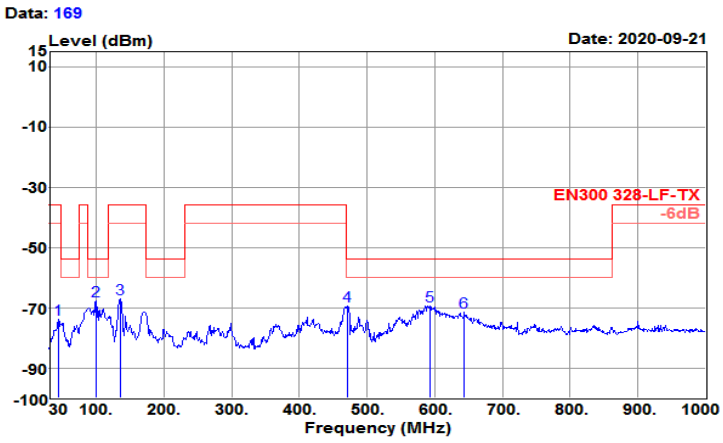


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
45.520	-60.72	-4.51	-65.23	-36.00	-29.23	Average
67.830	-66.47	-6.29	-72.76	-54.00	-18.76	Average
143.490	-67.94	-3.12	-71.06	-36.00	-35.06	Average
170.650	-68.96	-4.15	-73.11	-36.00	-37.11	Average
666.320	-78.05	5.49	-72.56	-54.00	-18.56	Average
751.680	-80.78	6.87	-73.91	-54.00	-19.91	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth (1Mbps) CH78 (2480MHz)	Temperature :	21~23℃℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : BT CH78(2480MHz)
               ------------------------
```

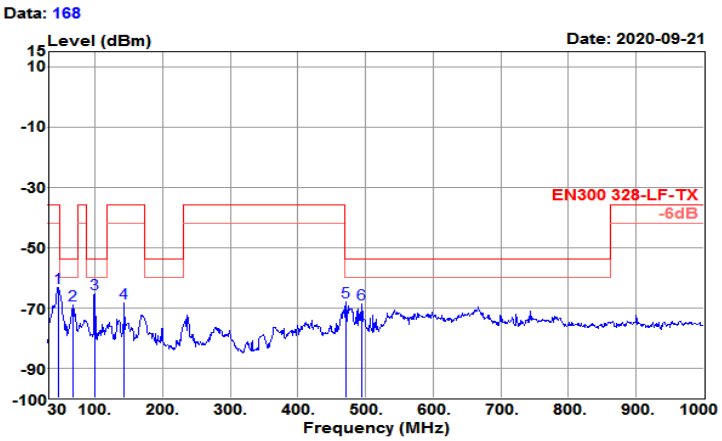


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
44.550	-69.57	-4.41	-73.98	-36.00	-37.98	Average
99.840	-60.67	-7.00	-67.67	-54.00	-13.67	Average
135.730	-63.47	-3.64	-67.11	-36.00	-31.11	Average
470.380	-70.76	1.28	-69.48	-54.00	-15.48	Average
593.570	-73.70	4.30	-69.40	-54.00	-15.40	Average
644.010	-76.89	5.41	-71.48	-54.00	-17.48	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth (1Mbps) CH78 (2480MHz)	Temperature :	21~23℃℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : BT CH78(2480MHz)
               ------------------------
```

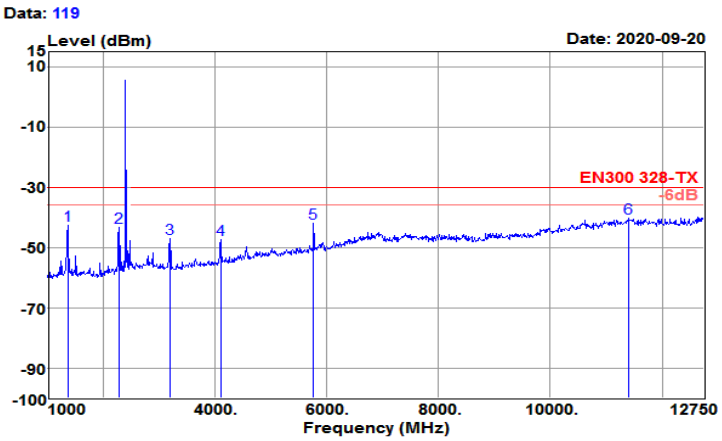


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
45.520	-58.75	-4.51	-63.26	-36.00	-27.26	Average
67.830	-62.74	-6.29	-69.03	-54.00	-15.03	Average
99.840	-58.48	-7.01	-65.49	-54.00	-11.49	Average
143.490	-65.34	-3.12	-68.46	-36.00	-32.46	Average
471.350	-69.38	1.26	-68.12	-54.00	-14.12	Average
494.630	-70.43	1.73	-68.70	-54.00	-14.70	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth (1Mbps) CH00 (2402MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : BT CH00(2402MHz)
               ------------------------
```

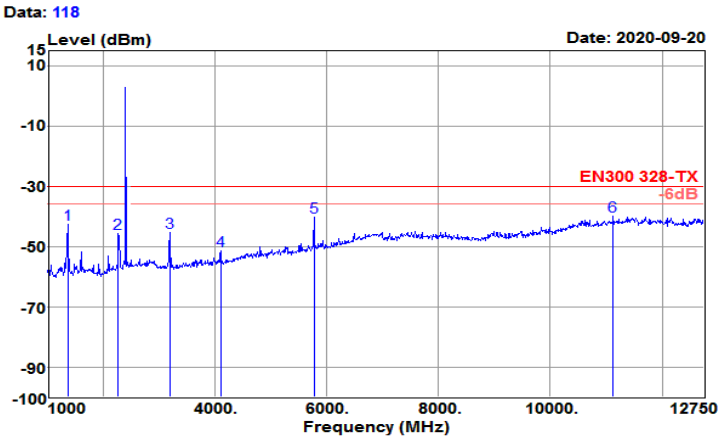


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1364.250	-46.48	3.91	-42.57	-30.00	-12.57	Peak
2280.750	-50.64	7.43	-43.21	-30.00	-13.21	Peak
3185.500	-53.80	6.81	-46.99	-30.00	-16.99	Peak
4102.000	-56.20	8.82	-47.38	-30.00	-17.38	Peak
5758.750	-55.46	13.53	-41.93	-30.00	-11.93	Peak
11398.750	-65.10	24.81	-40.29	-30.00	-10.29	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth (1Mbps) CH00 (2402MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
Model  No.   : 6221C-PUC              Tested   by : Jack
Power rating: 3.3V
EUT          : WIFI+BT Module
Test Mode    : BT CH00(2402MHz)
```

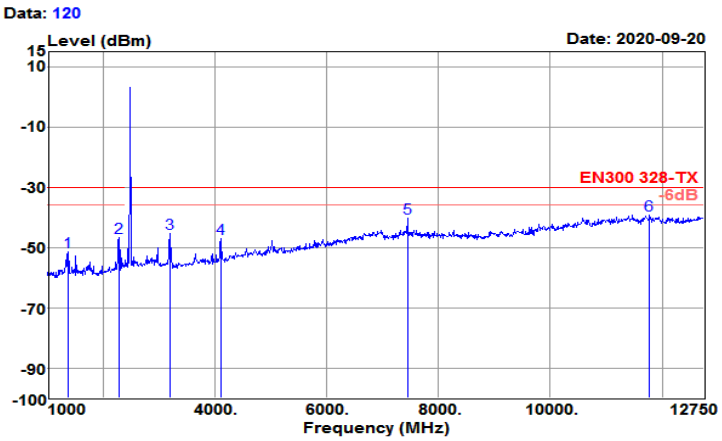


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1364.250	-46.88	4.17	-42.71	-30.00	-12.71	Peak
2269.000	-52.98	7.33	-45.65	-30.00	-15.65	Peak
3185.500	-51.92	6.67	-45.25	-30.00	-15.25	Peak
4102.000	-59.97	8.59	-51.38	-30.00	-21.38	Peak
5770.500	-53.65	13.30	-40.35	-30.00	-10.35	Peak
11128.500	-64.59	24.52	-40.07	-30.00	-10.07	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth (1Mbps) CH78 (2480MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : BT CH78(2480MHz)
               ------------------------
```

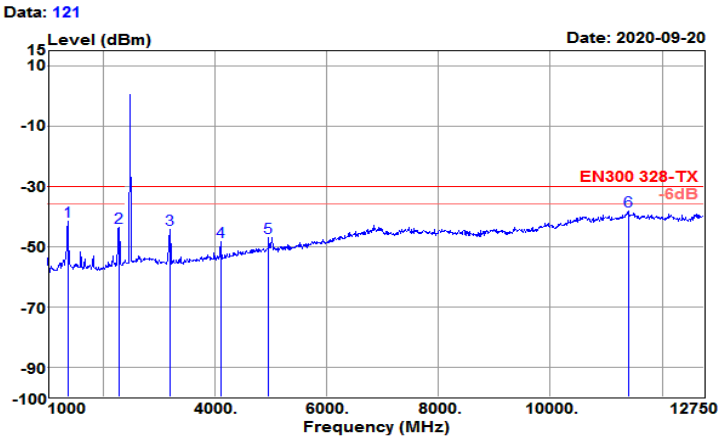


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1376.000	-55.52	3.99	-51.53	-30.00	-21.53	Peak
2280.750	-54.12	7.43	-46.69	-30.00	-16.69	Peak
3185.500	-52.22	6.81	-45.41	-30.00	-15.41	Peak
4102.000	-55.79	8.82	-46.97	-30.00	-16.97	Peak
7439.000	-59.93	19.67	-40.26	-30.00	-10.26	Peak
11774.750	-63.89	24.64	-39.25	-30.00	-9.25	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth (1Mbps) CH78 (2480MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
Model  No.   : 6221C-PUC              Tested   by : Jack
Power rating: 3.3V
EUT          : WIFI+BT Module
Test Mode    : BT CH78(2480MHz)
```

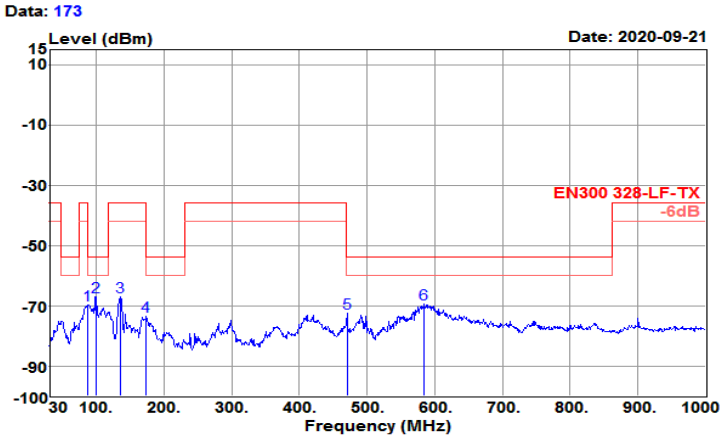


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1364.250	-45.86	4.17	-41.69	-30.00	-11.69	Peak
2280.750	-51.18	7.37	-43.81	-30.00	-13.81	Peak
3185.500	-50.97	6.67	-44.30	-30.00	-14.30	Peak
4102.000	-56.92	8.59	-48.33	-30.00	-18.33	Peak
4959.750	-58.68	11.59	-47.09	-30.00	-17.09	Peak
11398.750	-63.21	24.88	-38.33	-30.00	-8.33	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH00 (2402MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
Model  No.   : 6221C-PUC              Tested   by : Jack
Power rating: 3.3V
EUT          : WIFI+BT Module
Test Mode    : Ble CH00(2402MHz)
```

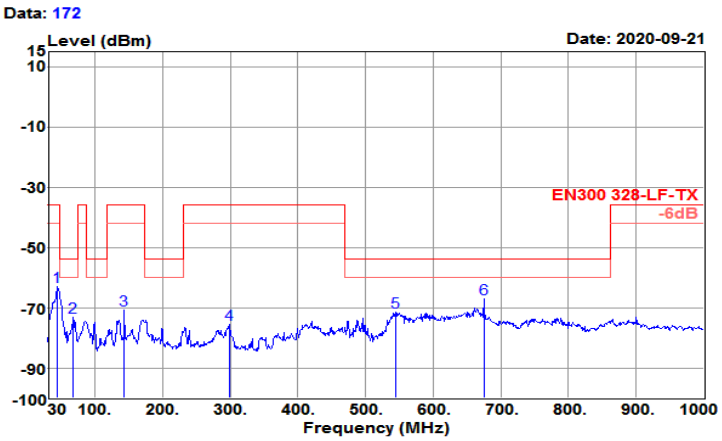


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
87.230	-63.18	-6.63	-69.81	-36.00	-33.81	Average
99.840	-60.12	-7.00	-67.12	-54.00	-13.12	Average
135.730	-63.38	-3.64	-67.02	-36.00	-31.02	Average
173.560	-69.38	-4.25	-73.63	-36.00	-37.63	Average
470.380	-73.87	1.28	-72.59	-54.00	-18.59	Average
584.840	-73.61	4.11	-69.50	-54.00	-15.50	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH00 (2402MHz)	Temperature :	21~23℃℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

Temp/Humi : 17℃/60% Pol/Phase : VERTICAL
Model No. : 6221C-PUC Tested by : Jack
Power rating: 3.3V
EUT : WIFI+BT Module
Test Mode : Ble CH00(2402MHz)

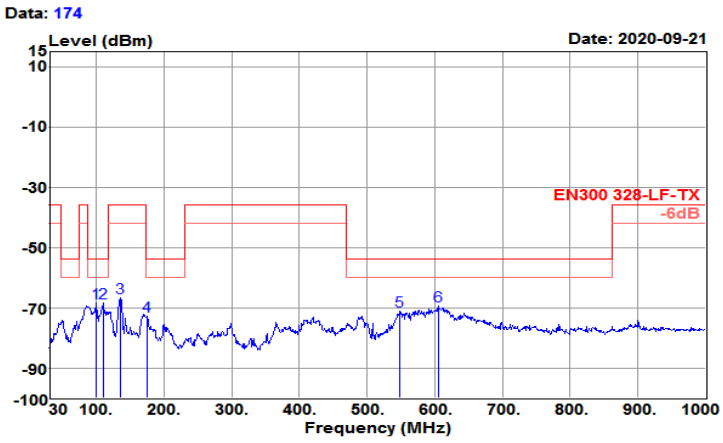


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
44.550	-58.60	-4.55	-63.15	-36.00	-27.15	Average
67.830	-66.80	-6.29	-73.09	-54.00	-19.09	Average
143.490	-67.70	-3.12	-70.82	-36.00	-34.82	Average
298.690	-72.73	-2.72	-75.45	-36.00	-39.45	Average
544.100	-74.35	2.94	-71.41	-54.00	-17.41	Average
675.050	-72.60	5.65	-66.95	-54.00	-12.95	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH39 (2480MHz)	Temperature :	21~23℃℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : Ble CH39(2480MHz)
               ------------------------
```

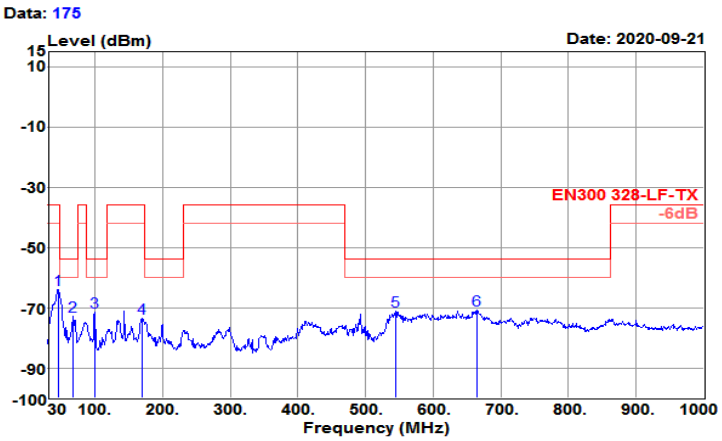


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
99.840	-61.29	-7.00	-68.29	-54.00	-14.29	Average
110.510	-62.56	-6.01	-68.57	-54.00	-14.57	Average
135.730	-63.11	-3.64	-66.75	-36.00	-30.75	Average
174.530	-68.46	-4.33	-72.79	-54.00	-18.79	Average
548.950	-74.51	3.32	-71.19	-54.00	-17.19	Average
605.210	-74.13	4.55	-69.58	-54.00	-15.58	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH39 (2480MHz)	Temperature :	21~23℃℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : Ble CH39(2480MHz)
               ------------------------
```

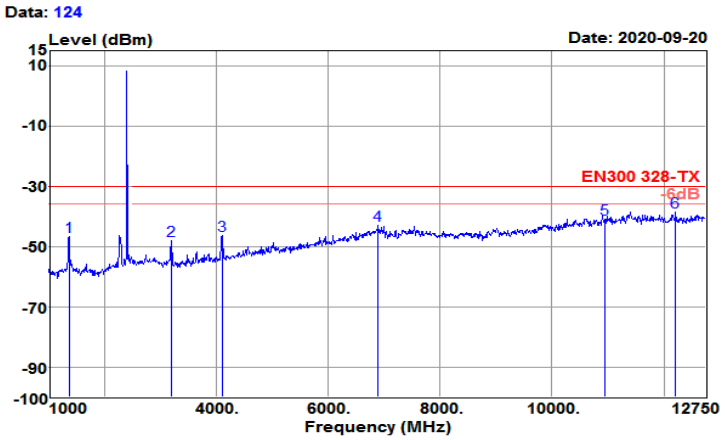


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
45.520	-59.43	-4.51	-63.94	-36.00	-27.94	Average
67.830	-66.60	-6.29	-72.89	-54.00	-18.89	Average
99.840	-64.65	-7.01	-71.66	-54.00	-17.66	Average
169.680	-69.50	-4.08	-73.58	-36.00	-37.58	Average
545.070	-74.19	2.97	-71.22	-54.00	-17.22	Average
665.350	-76.30	5.47	-70.83	-54.00	-16.83	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH00 (2402MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ----------------------                 ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ----------------------                 ----------------
Power rating: 3.3V
               ----------------------
EUT          : WIFI+BT Module
               ----------------------
Test Mode    : Ble CH00(2402MHz)
               ----------------------
```

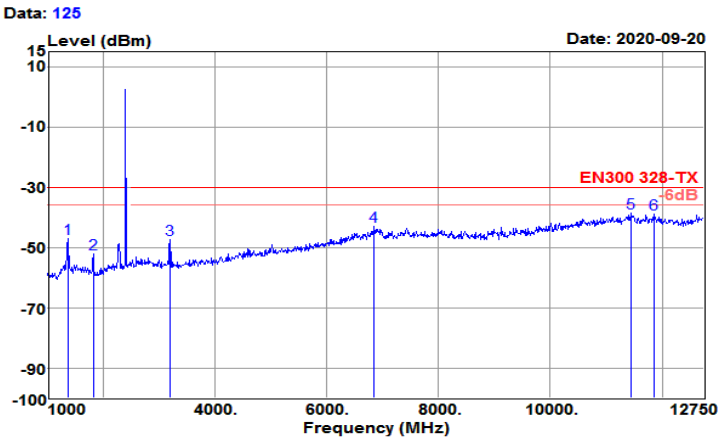


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1364.250	-50.73	3.91	-46.82	-30.00	-16.82	Peak
3185.500	-54.92	6.81	-48.11	-30.00	-18.11	Peak
4102.000	-55.05	8.82	-46.23	-30.00	-16.23	Peak
6886.750	-60.38	17.28	-43.10	-30.00	-13.10	Peak
10952.250	-65.39	24.30	-41.09	-30.00	-11.09	Peak
12209.500	-62.97	24.30	-38.67	-30.00	-8.67	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH00 (2402MHz)	Temperature :	21~23℃℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

Temp/Humi : 17℃/60%
Pol/Phase : VERTICAL
Model No. : 6221C-PUC
Tested by : Jack
Power rating: 3.3V
EUT : WIFI+BT Module
Test Mode : Ble CH00(2402MHz)

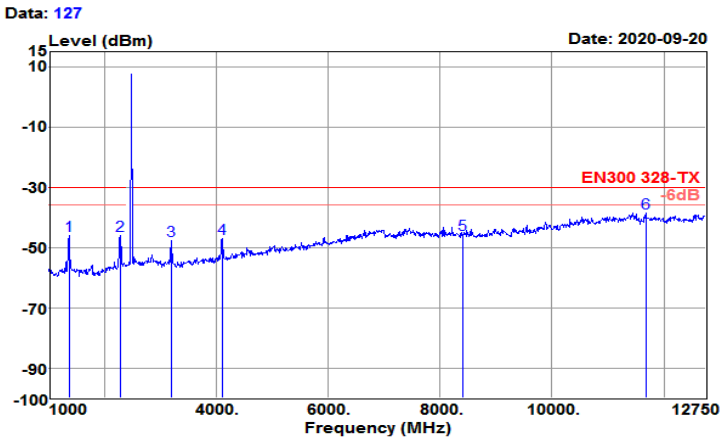


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1364.250	-51.33	4.17	-47.16	-30.00	-17.16	Peak
1822.500	-58.15	5.98	-52.17	-30.00	-22.17	Peak
3185.500	-53.96	6.67	-47.29	-30.00	-17.29	Peak
6851.500	-60.37	17.24	-43.13	-30.00	-13.13	Peak
11445.750	-63.68	24.94	-38.74	-30.00	-8.74	Peak
11857.000	-63.38	24.41	-38.97	-30.00	-8.97	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH39 (2480MHz)	Temperature :	21~23℃℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : Ble CH39(2480MHz)
               ------------------------
```

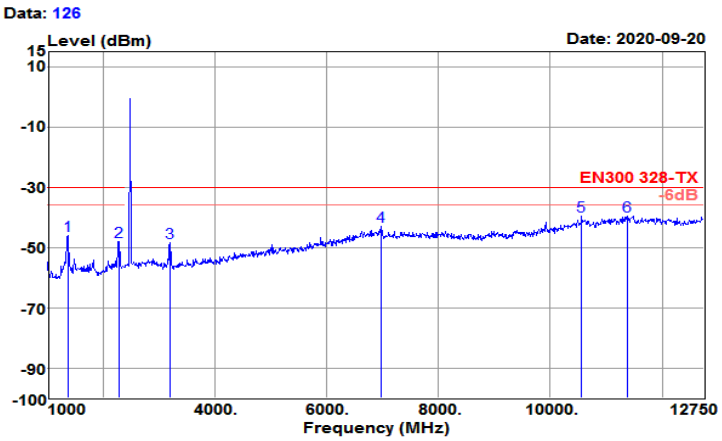


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1364.250	-50.12	3.91	-46.21	-30.00	-16.21	Peak
2280.750	-53.34	7.43	-45.91	-30.00	-15.91	Peak
3185.500	-54.62	6.81	-47.81	-30.00	-17.81	Peak
4102.000	-56.05	8.82	-47.23	-30.00	-17.23	Peak
8414.250	-64.69	18.84	-45.85	-30.00	-15.85	Peak
11680.750	-63.33	24.73	-38.60	-30.00	-8.60	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH39 (2480MHz)	Temperature :	21~23℃℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : Ble CH39(2480MHz)
               ------------------------
```

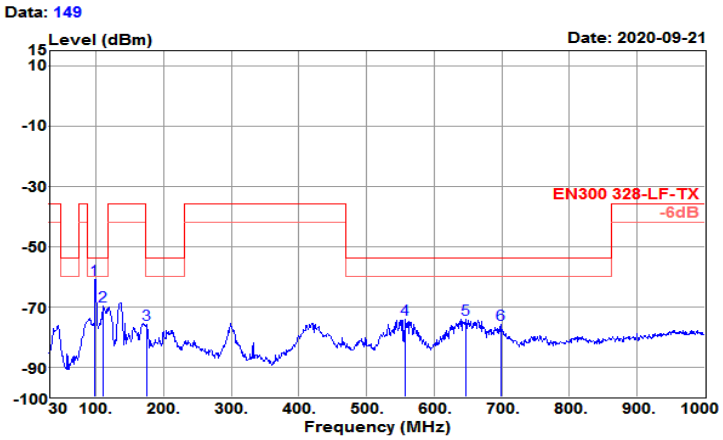


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1364.250	-50.20	4.17	-46.03	-30.00	-16.03	Peak
2280.750	-55.33	7.37	-47.96	-30.00	-17.96	Peak
3185.500	-55.11	6.67	-48.44	-30.00	-18.44	Peak
6969.000	-60.76	17.64	-43.12	-30.00	-13.12	Peak
10564.500	-62.56	22.92	-39.64	-30.00	-9.64	Peak
11375.250	-64.49	24.85	-39.64	-30.00	-9.64	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11b CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
             ------------------------              ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
             ------------------------              ----------------
Power rating: 3.3V
             ------------------------
EUT          : WIFI+BT Module
             ------------------------
Test Mode    : 802.11b CH01(2412MHz)
             ------------------------
```

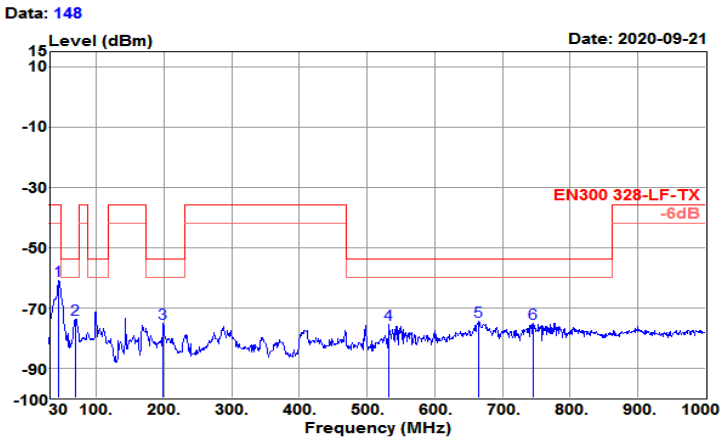


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
98.870	-53.95	-6.97	-60.92	-54.00	-6.92	Average
111.480	-63.83	-5.92	-69.75	-54.00	-15.75	Average
174.530	-71.48	-4.33	-75.81	-54.00	-21.81	Average
556.710	-77.82	3.50	-74.32	-54.00	-20.32	Average
645.950	-79.63	5.45	-74.18	-54.00	-20.18	Average
698.330	-82.01	6.19	-75.82	-54.00	-21.82	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11b CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11b CH01(2412MHz)
               ------------------------
```

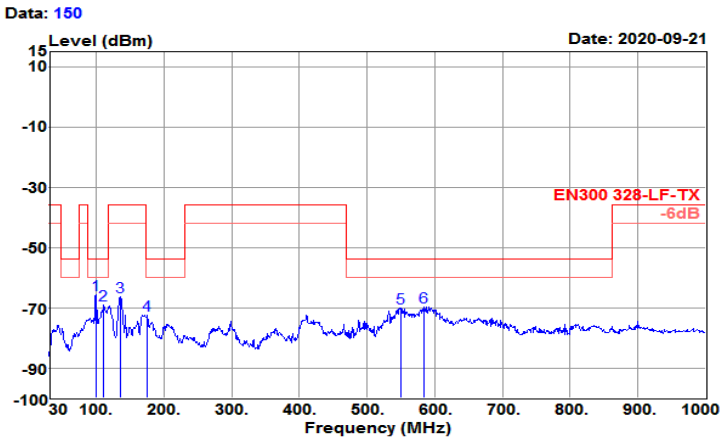


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
44.550	-56.53	-4.55	-61.08	-36.00	-25.08	Average
68.800	-67.46	-6.40	-73.86	-54.00	-19.86	Average
198.780	-68.87	-6.34	-75.21	-54.00	-21.21	Average
532.460	-78.37	2.65	-75.72	-54.00	-21.72	Average
664.380	-80.05	5.46	-74.59	-54.00	-20.59	Average
744.890	-82.03	6.76	-75.27	-54.00	-21.27	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11b CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11b CH13(2472MHz)
               ------------------------
```

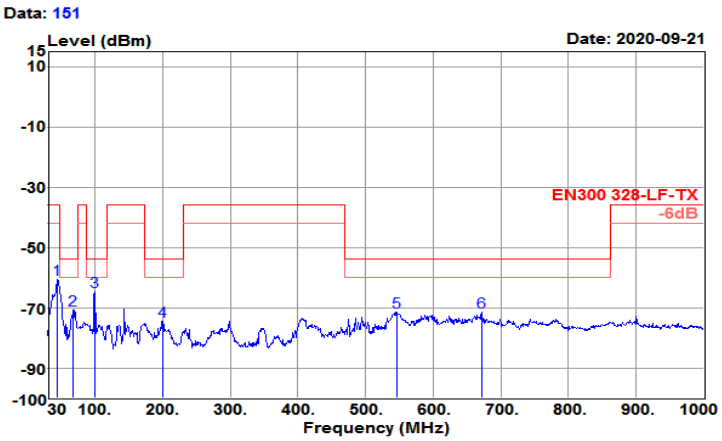


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
99.840	-58.88	-7.00	-65.88	-54.00	-11.88	Average
111.480	-63.20	-5.92	-69.12	-54.00	-15.12	Average
135.730	-62.73	-3.64	-66.37	-36.00	-30.37	Average
175.500	-67.94	-4.41	-72.35	-54.00	-18.35	Average
549.920	-73.39	3.35	-70.04	-54.00	-16.04	Average
584.840	-73.87	4.11	-69.76	-54.00	-15.76	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11b CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11b CH13(2472MHz)
               ------------------------
```

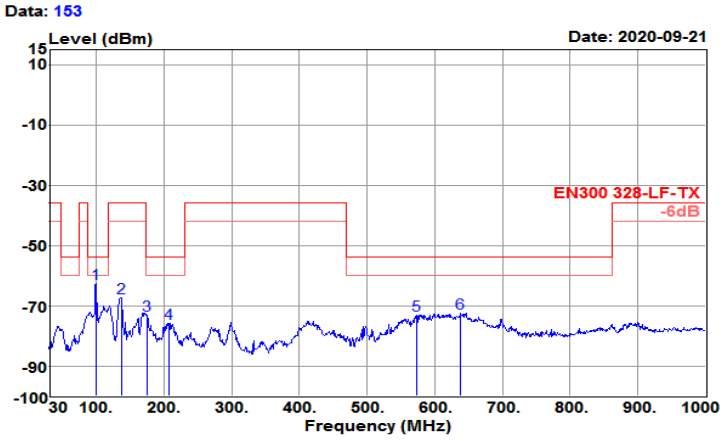


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
44.550	-55.98	-4.55	-60.53	-36.00	-24.53	Average
67.830	-64.39	-6.29	-70.68	-54.00	-16.68	Average
99.840	-57.75	-7.01	-64.76	-54.00	-10.76	Average
199.750	-68.10	-6.42	-74.52	-54.00	-20.52	Average
546.040	-74.50	2.99	-71.51	-54.00	-17.51	Average
671.170	-77.17	5.58	-71.59	-54.00	-17.59	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11g CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
Model  No.   : 6221C-PUC              Tested   by : Jack
Power rating: 3.3V
EUT          : WIFI+BT Module
Test Mode    : 802.11g CH01(2412MHz)
```

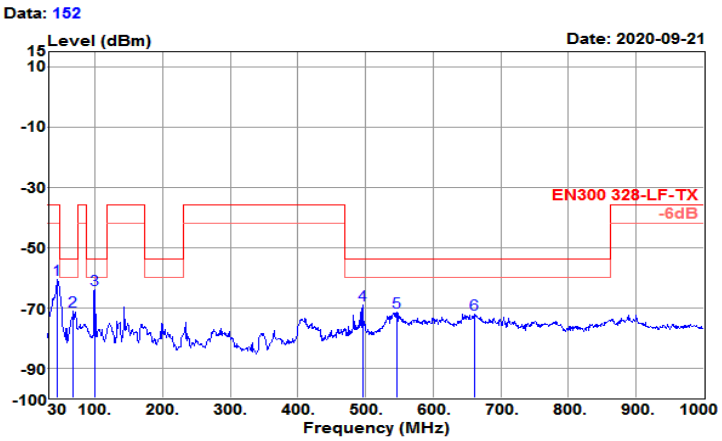


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
99.840	-55.67	-7.00	-62.67	-54.00	-8.67	Average
136.700	-63.86	-3.55	-67.41	-36.00	-31.41	Average
175.500	-68.63	-4.41	-73.04	-54.00	-19.04	Average
206.540	-69.77	-6.15	-75.92	-54.00	-21.92	Average
573.200	-77.14	3.86	-73.28	-54.00	-19.28	Average
638.190	-77.78	5.28	-72.50	-54.00	-18.50	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11g CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11g CH01(2412MHz)
               ------------------------
```

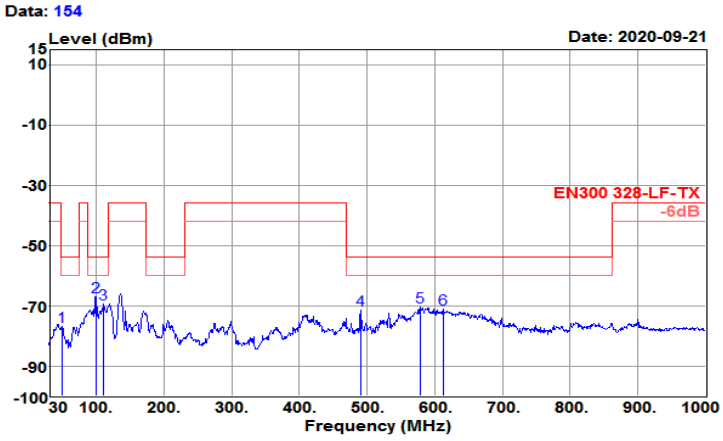


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
44.550	-56.04	-4.55	-60.59	-36.00	-24.59	Average
67.830	-64.98	-6.29	-71.27	-54.00	-17.27	Average
99.840	-56.93	-7.01	-63.94	-54.00	-9.94	Average
495.600	-70.86	1.75	-69.11	-54.00	-15.11	Average
547.010	-74.65	3.02	-71.63	-54.00	-17.63	Average
660.500	-77.42	5.39	-72.03	-54.00	-18.03	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11g CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
-------------------------             ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
-------------------------             ----------------
Power rating: 3.3V
-------------------------
EUT          : WIFI+BT Module
-------------------------
Test Mode    : 802.11g CH13(2472MHz)
-------------------------
```

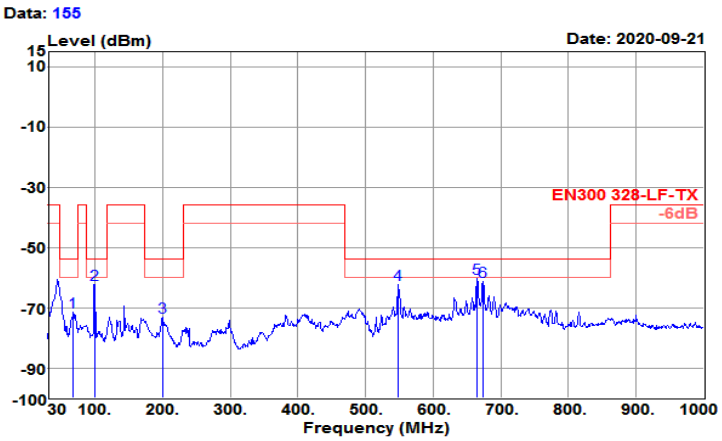


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
50.370	-72.39	-4.37	-76.76	-54.00	-22.76	Average
99.840	-60.15	-7.00	-67.15	-54.00	-13.15	Average
111.480	-63.39	-5.92	-69.31	-54.00	-15.31	Average
490.750	-73.22	1.69	-71.53	-54.00	-17.53	Average
579.020	-74.57	3.98	-70.59	-54.00	-16.59	Average
612.000	-75.69	4.70	-70.99	-54.00	-16.99	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11g CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11g CH13(2472MHz)
               ------------------------
```

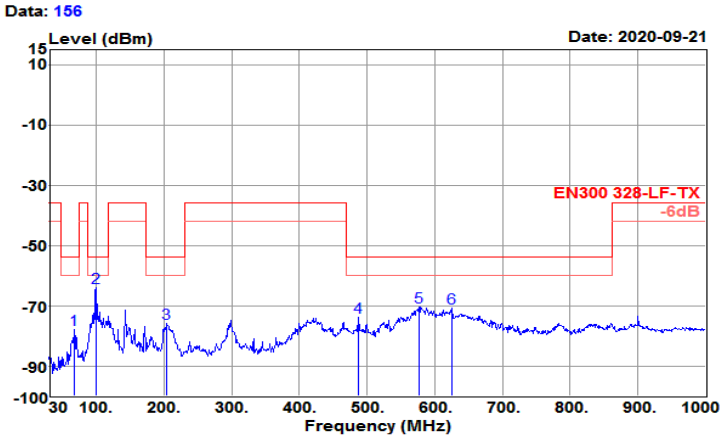


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
67.830	-65.04	-6.29	-71.33	-54.00	-17.33	Average
99.840	-55.17	-7.01	-62.18	-54.00	-8.18	Average
199.750	-66.91	-6.42	-73.33	-54.00	-19.33	Average
548.950	-65.55	3.06	-62.49	-54.00	-8.49	Average
665.350	-65.89	5.47	-60.42	-54.00	-6.42	Average
673.110	-66.82	5.61	-61.21	-54.00	-7.21	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT20 CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
             ------------------------                ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
             ------------------------                ----------------
Power rating: 3.3V
             ------------------------
EUT          : WIFI+BT Module
             ------------------------
Test Mode    : 802.11N HT20 CH01(2412MHz)
             ------------------------
```

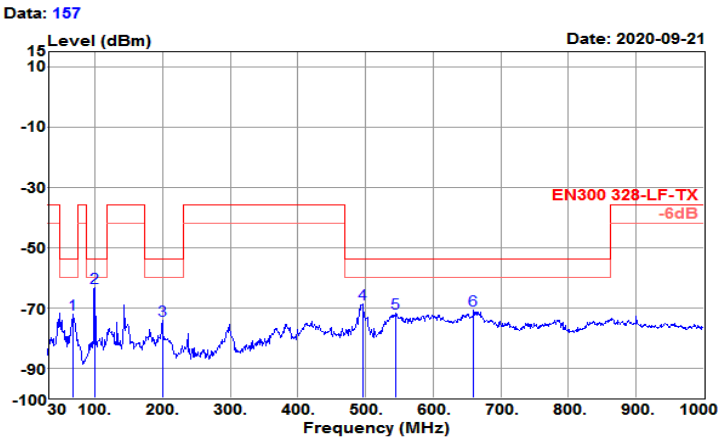


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
67.830	-72.16	-5.94	-78.10	-54.00	-24.10	Average
99.840	-56.97	-7.00	-63.97	-54.00	-9.97	Average
204.600	-69.80	-6.24	-76.04	-54.00	-22.04	Average
487.840	-75.37	1.63	-73.74	-54.00	-19.74	Average
577.080	-74.50	3.94	-70.56	-54.00	-16.56	Average
624.610	-75.85	4.98	-70.87	-54.00	-16.87	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT20 CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11N HT20 CH01(2412MHz)
               ------------------------
```

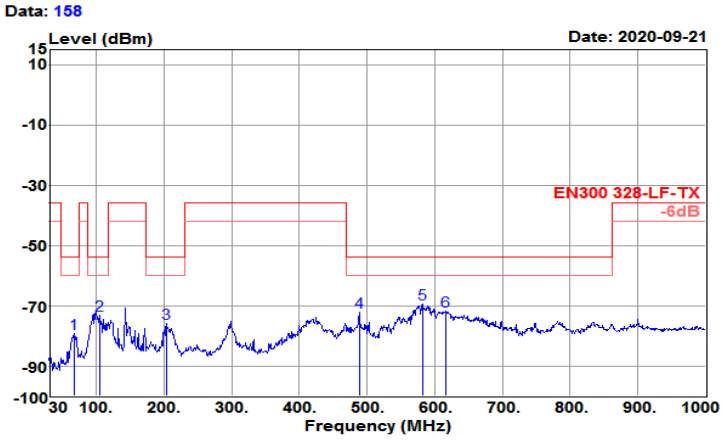


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
67.830	-65.97	-6.29	-72.26	-54.00	-18.26	Average
99.840	-56.49	-7.01	-63.50	-54.00	-9.50	Average
199.750	-67.79	-6.42	-74.21	-54.00	-20.21	Average
495.600	-70.59	1.75	-68.84	-54.00	-14.84	Average
544.100	-74.82	2.94	-71.88	-54.00	-17.88	Average
659.530	-76.30	5.37	-70.93	-54.00	-16.93	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT20 CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
Model  No.   : 6221C-PUC              Tested   by : Jack
Power rating: 3.3V
EUT          : WIFI+BT Module
Test Mode    : 802.11N HT20 CH13(2472MHz)
```

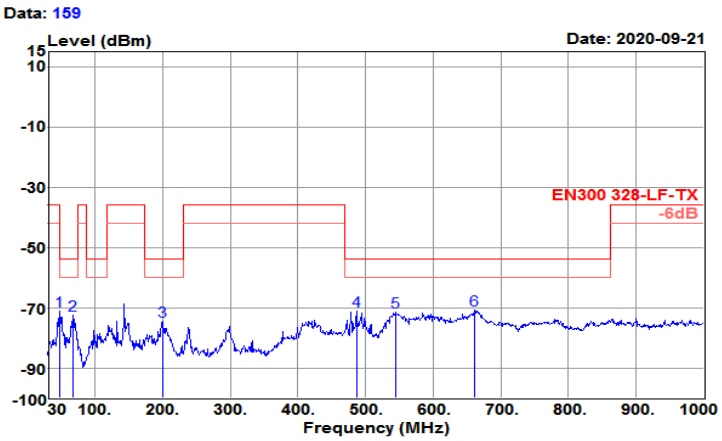


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
67.830	-73.39	-5.94	-79.33	-54.00	-25.33	Average
104.690	-66.71	-6.56	-73.27	-54.00	-19.27	Average
203.630	-69.75	-6.28	-76.03	-54.00	-22.03	Average
488.810	-73.82	1.65	-72.17	-54.00	-18.17	Average
581.930	-73.63	4.05	-69.58	-54.00	-15.58	Average
615.880	-76.74	4.79	-71.95	-54.00	-17.95	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT20 CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11N HT20 CH13(2472MHz)
               ------------------------
```

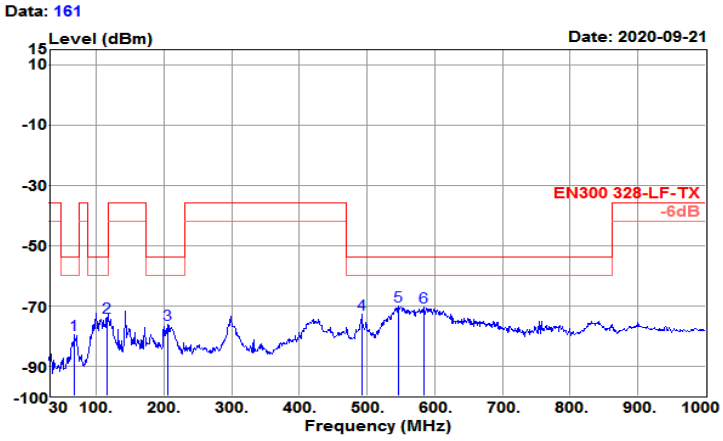


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
47.460	-66.61	-4.45	-71.06	-54.00	-17.06	Average
67.830	-66.37	-6.29	-72.66	-54.00	-18.66	Average
199.750	-68.21	-6.42	-74.63	-54.00	-20.63	Average
486.870	-72.79	1.57	-71.22	-54.00	-17.22	Average
544.100	-74.47	2.94	-71.53	-54.00	-17.53	Average
660.500	-76.29	5.39	-70.90	-54.00	-16.90	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH03 (2422MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
             ------------------------                ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
             ------------------------                ----------------
Power rating: 3.3V
             ------------------------
EUT          : WIFI+BT Module
             ------------------------
Test Mode    : 802.11N HT40 CH03(2422MHz)
             ------------------------
```

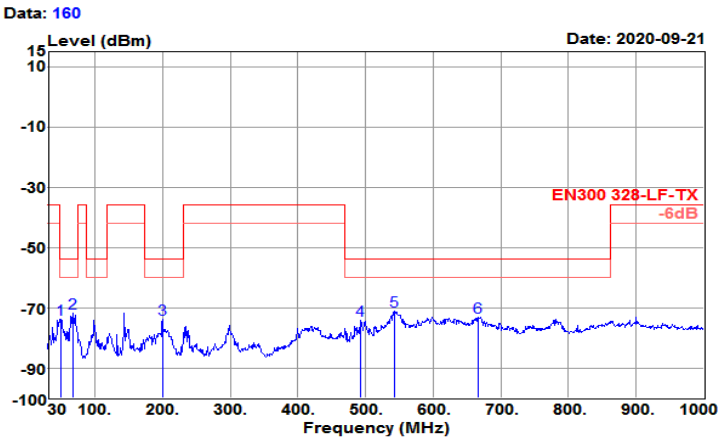


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
67.830	-73.71	-5.94	-79.65	-54.00	-25.65	Average
115.360	-68.22	-5.56	-73.78	-54.00	-19.78	Average
205.570	-69.89	-6.19	-76.08	-54.00	-22.08	Average
491.720	-74.71	1.71	-73.00	-54.00	-19.00	Average
547.010	-73.30	3.26	-70.04	-54.00	-16.04	Average
584.840	-74.73	4.11	-70.62	-54.00	-16.62	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH03 (2422MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11N HT40 CH03(2422MHz)
               ------------------------
```

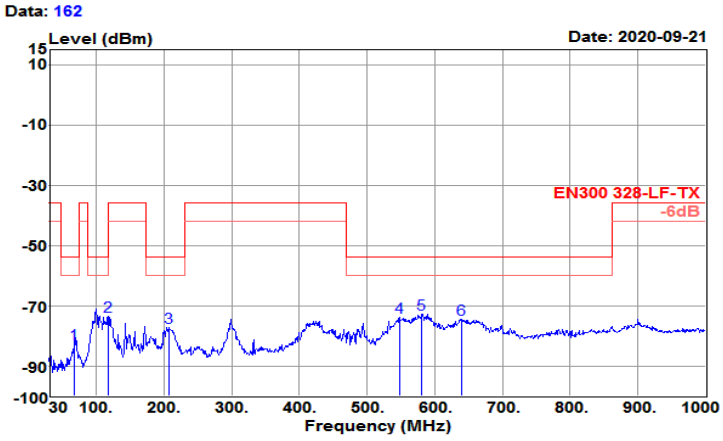


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
50.370	-69.36	-4.40	-73.76	-54.00	-19.76	Average
67.830	-65.50	-6.29	-71.79	-54.00	-17.79	Average
199.750	-67.41	-6.42	-73.83	-54.00	-19.83	Average
491.720	-75.91	1.67	-74.24	-54.00	-20.24	Average
543.130	-74.01	2.92	-71.09	-54.00	-17.09	Average
667.290	-78.74	5.51	-73.23	-54.00	-19.23	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH11 (2462MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
             ------------------------                ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
             ------------------------                ----------------
Power rating: 3.3V
             ------------------------
EUT          : WIFI+BT Module
             ------------------------
Test Mode    : 802.11N HT40 CH11(2462MHz)
             ------------------------
```

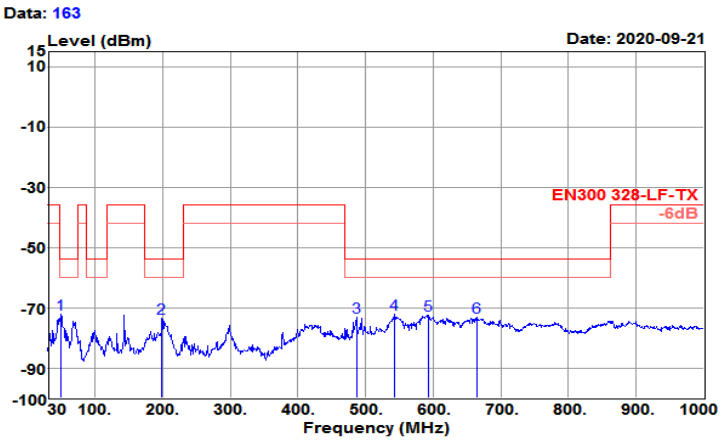


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
67.830	-76.62	-5.94	-82.56	-54.00	-28.56	Average
117.300	-68.19	-5.37	-73.56	-54.00	-19.56	Average
206.540	-71.05	-6.15	-77.20	-54.00	-23.20	Average
547.980	-77.18	3.29	-73.89	-54.00	-19.89	Average
580.960	-76.73	4.02	-72.71	-54.00	-18.71	Average
639.160	-79.82	5.30	-74.52	-54.00	-20.52	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH11 (2462MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11N HT40 CH11(2462MHz)
               ------------------------
```

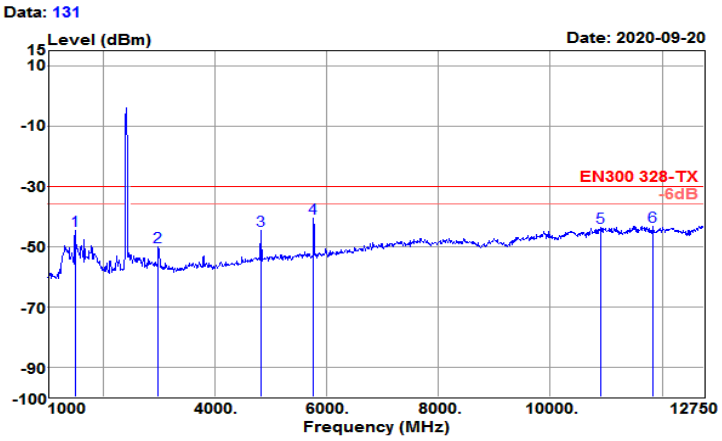


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
50.370	-67.90	-4.40	-72.30	-54.00	-18.30	Average
198.780	-67.06	-6.34	-73.40	-54.00	-19.40	Average
486.870	-74.88	1.57	-73.31	-54.00	-19.31	Average
542.160	-75.19	2.89	-72.30	-54.00	-18.30	Average
593.570	-76.44	4.01	-72.43	-54.00	-18.43	Average
665.350	-78.52	5.47	-73.05	-54.00	-19.05	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11b CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

Temp/Humi : 17℃/60%
Pol/Phase : HORIZONTAL
Model No. : 6221C-PUC
Tested by : Jack
Power rating: 3.3V
EUT : WIFI+BT Module
Test Mode : 802.11b CH01(2412MHz)

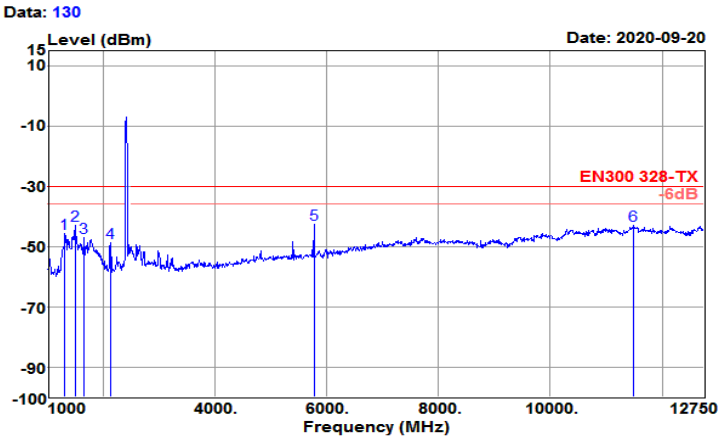


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1493.500	-49.58	4.76	-44.82	-30.00	-14.82	Peak
2985.750	-57.06	6.80	-50.26	-30.00	-20.26	Peak
4818.750	-56.45	11.65	-44.80	-30.00	-14.80	Peak
5758.750	-54.21	13.53	-40.68	-30.00	-10.68	Peak
10905.250	-67.76	24.11	-43.65	-30.00	-13.65	Peak
11833.500	-67.78	24.59	-43.19	-30.00	-13.19	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11b CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11b CH01(2412MHz)
               ------------------------
```



Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-49.55	3.75	-45.80	-30.00	-15.80	Peak
1493.500	-48.11	5.09	-43.02	-30.00	-13.02	Peak
1658.000	-52.59	5.56	-47.03	-30.00	-17.03	Peak
2128.000	-55.76	6.84	-48.92	-30.00	-18.92	Peak
5770.500	-55.96	13.30	-42.66	-30.00	-12.66	Peak
11492.750	-67.90	25.00	-42.90	-30.00	-12.90	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11b CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

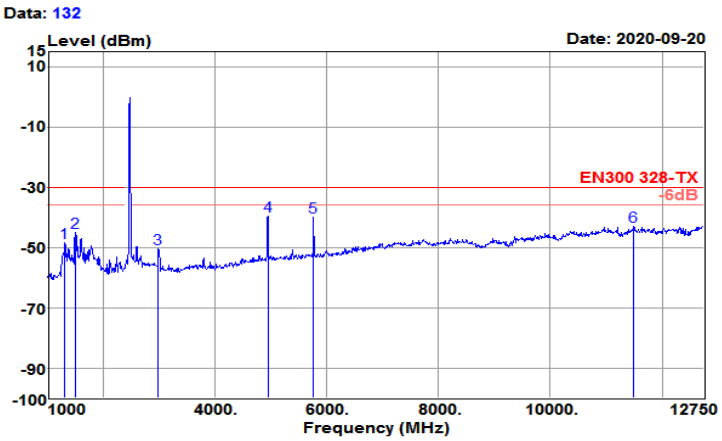
Temp/Humi : 17℃/60% Pol/Phase : HORIZONTAL

Model No. : 6221C-PUC Tested by : Jack

Power rating: 3.3V

EUT : WIFI+BT Module

Test Mode : 802.11b CH13(2472MHz)

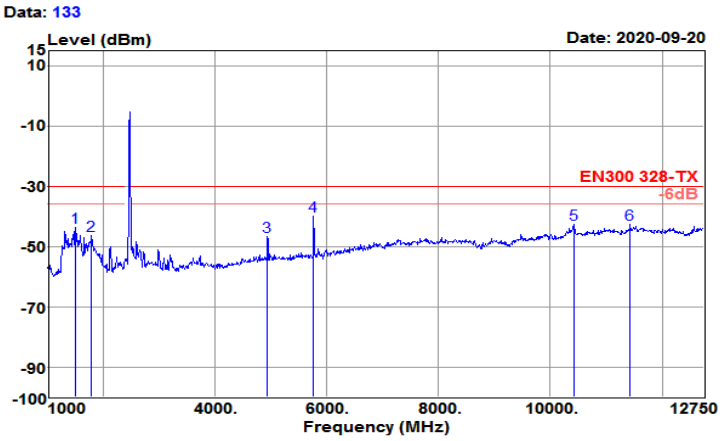


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-51.91	3.53	-48.38	-30.00	-18.38	Peak
1493.500	-49.92	4.76	-45.16	-30.00	-15.16	Peak
2985.750	-57.14	6.80	-50.34	-30.00	-20.34	Peak
4948.000	-51.48	11.82	-39.66	-30.00	-9.66	Peak
5758.750	-53.51	13.53	-39.98	-30.00	-9.98	Peak
11492.750	-68.03	24.88	-43.15	-30.00	-13.15	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11b CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
Model  No.   : 6221C-PUC              Tested   by : Jack
Power rating: 3.3V
EUT          : WIFI+BT Module
Test Mode    : 802.11b CH13(2472MHz)
```

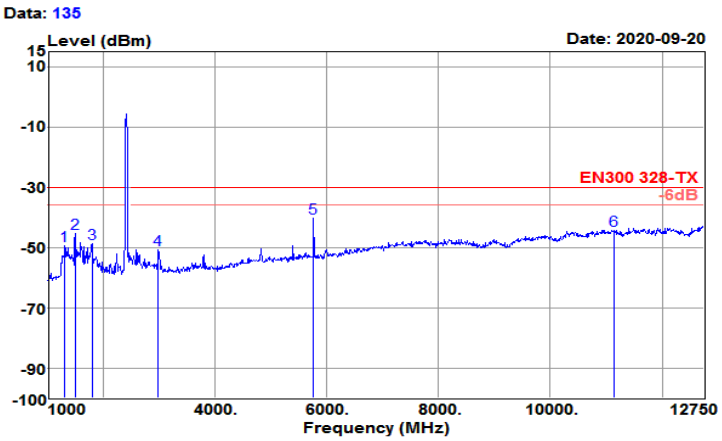


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1493.500	-48.69	5.09	-43.60	-30.00	-13.60	Peak
1787.250	-52.42	5.90	-46.52	-30.00	-16.52	Peak
4936.250	-58.12	11.56	-46.56	-30.00	-16.56	Peak
5758.750	-53.14	13.28	-39.86	-30.00	-9.86	Peak
10435.250	-65.27	22.47	-42.80	-30.00	-12.80	Peak
11434.000	-67.53	24.92	-42.61	-30.00	-12.61	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11g CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

Temp/Humi : 17℃/60% Pol/Phase : HORIZONTAL
Model No. : 6221C-PUC Tested by : Jack
Power rating: 3.3V
EUT : WIFI+BT Module
Test Mode : 802.11g CH01(2412MHz)

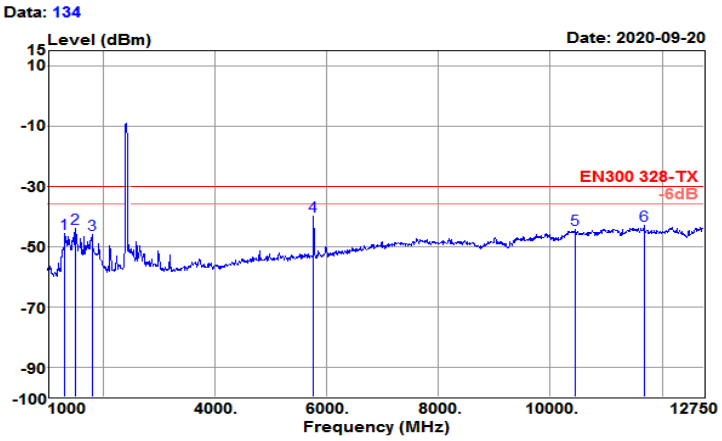


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-53.06	3.53	-49.53	-30.00	-19.53	Peak
1493.500	-50.29	4.76	-45.53	-30.00	-15.53	Peak
1799.000	-54.27	5.43	-48.84	-30.00	-18.84	Peak
2985.750	-57.66	6.80	-50.86	-30.00	-20.86	Peak
5758.750	-53.73	13.53	-40.20	-30.00	-10.20	Peak
11140.250	-68.80	24.60	-44.20	-30.00	-14.20	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11g CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11g CH01(2412MHz)
               ------------------------
```

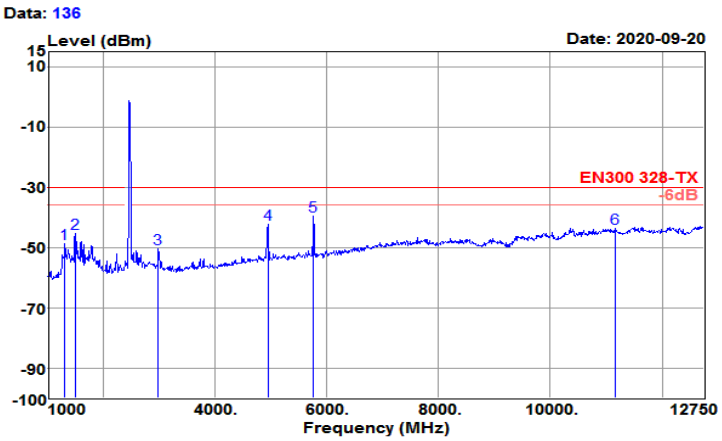


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-49.46	3.75	-45.71	-30.00	-15.71	Peak
1493.500	-49.01	5.09	-43.92	-30.00	-13.92	Peak
1799.000	-52.06	5.93	-46.13	-30.00	-16.13	Peak
5758.750	-53.12	13.28	-39.84	-30.00	-9.84	Peak
10447.000	-66.86	22.52	-44.34	-30.00	-14.34	Peak
11680.750	-67.65	24.71	-42.94	-30.00	-12.94	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11g CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11g CH13(2472MHz)
               ------------------------
```

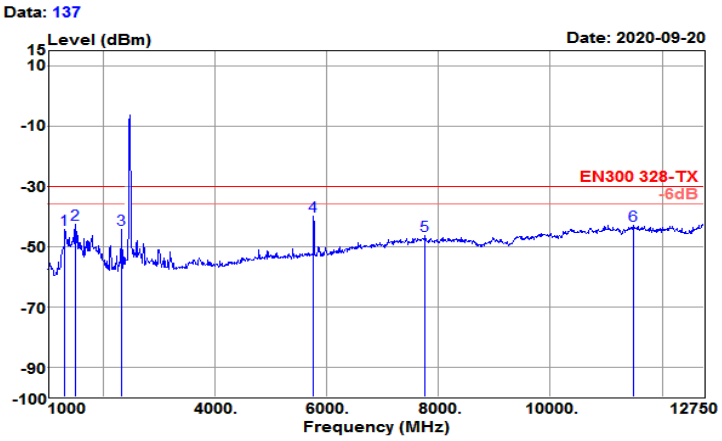


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-52.43	3.53	-48.90	-30.00	-18.90	Peak
1493.500	-50.26	4.76	-45.50	-30.00	-15.50	Peak
2985.750	-57.35	6.80	-50.55	-30.00	-20.55	Peak
4948.000	-54.25	11.82	-42.43	-30.00	-12.43	Peak
5758.750	-53.11	13.53	-39.58	-30.00	-9.58	Peak
11163.750	-68.37	24.62	-43.75	-30.00	-13.75	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11g CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
Model  No.   : 6221C-PUC              Tested   by : Jack
Power rating: 3.3V
EUT          : WIFI+BT Module
Test Mode    : 802.11g CH13(2472MHz)
```

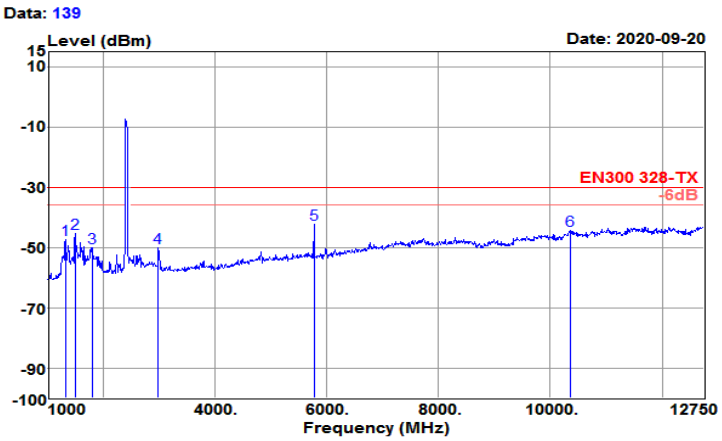


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-47.94	3.75	-44.19	-30.00	-14.19	Peak
1493.500	-47.82	5.09	-42.73	-30.00	-12.73	Peak
2327.750	-51.97	7.53	-44.44	-30.00	-14.44	Peak
5758.750	-53.11	13.28	-39.83	-30.00	-9.83	Peak
7756.250	-65.74	19.27	-46.47	-30.00	-16.47	Peak
11492.750	-67.97	25.00	-42.97	-30.00	-12.97	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT20 CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : 802.11N HT20 CH01(2412MHz)
               ------------------------
```

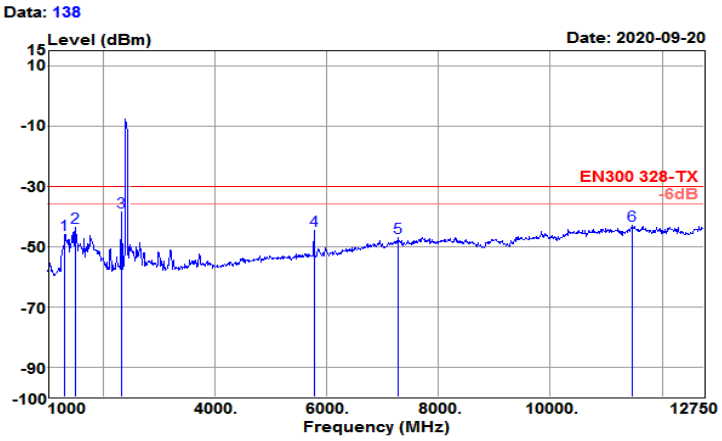


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1317.250	-51.12	3.60	-47.52	-30.00	-17.52	Peak
1493.500	-50.27	4.76	-45.51	-30.00	-15.51	Peak
1799.000	-55.51	5.43	-50.08	-30.00	-20.08	Peak
2985.750	-56.87	6.80	-50.07	-30.00	-20.07	Peak
5770.500	-55.78	13.55	-42.23	-30.00	-12.23	Peak
10353.000	-66.51	22.14	-44.37	-30.00	-14.37	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT20 CH01 (2412MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
             ------------------------                ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
             ------------------------                ----------------
Power rating: 3.3V
             ------------------------
EUT          : WIFI+BT Module
             ------------------------
Test Mode    : 802.11N HT20 CH01(2412MHz)
             ------------------------
```

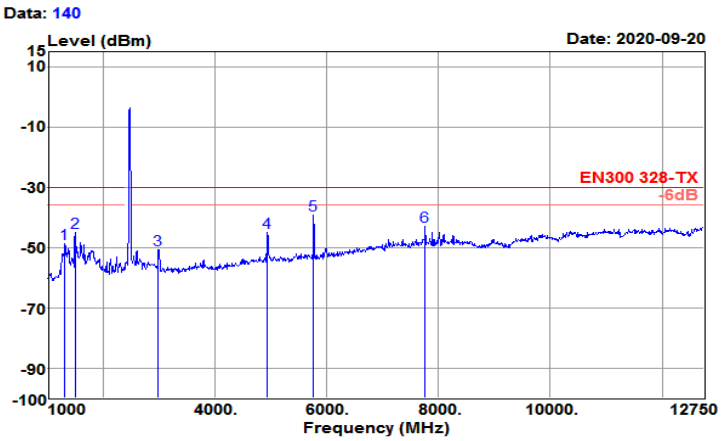


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-49.87	3.75	-46.12	-30.00	-16.12	Peak
1493.500	-48.87	5.09	-43.78	-30.00	-13.78	Peak
2316.000	-46.09	7.49	-38.60	-30.00	-8.60	Peak
5770.500	-57.98	13.30	-44.68	-30.00	-14.68	Peak
7286.250	-65.93	18.98	-46.95	-30.00	-16.95	Peak
11457.500	-68.11	24.95	-43.16	-30.00	-13.16	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT20 CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%              Pol/Phase    : HORIZONTAL
               ----------------------               ----------------
Model  No.   : 6221C-PUC             Tested   by : Jack
               ----------------------               ----------------
Power rating: 3.3V
               ----------------------
EUT          : WIFI+BT Module
               ----------------------
Test Mode    : 802.11N HT20 CH13(2472MHz)
               ----------------------
```

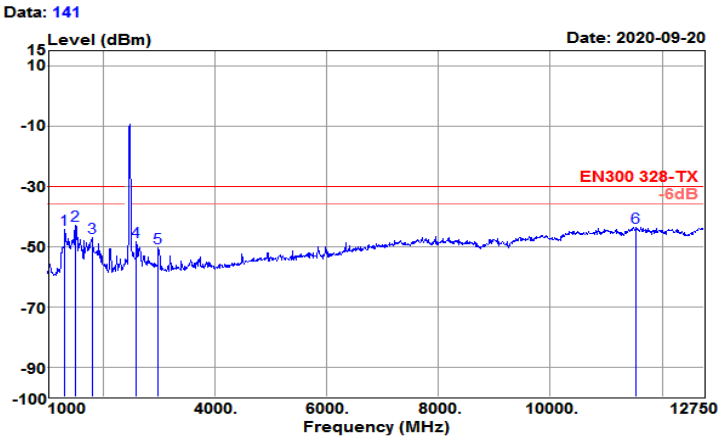


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-52.26	3.53	-48.73	-30.00	-18.73	Peak
1493.500	-49.91	4.76	-45.15	-30.00	-15.15	Peak
2985.750	-57.56	6.80	-50.76	-30.00	-20.76	Peak
4936.250	-56.83	11.81	-45.02	-30.00	-15.02	Peak
5758.750	-52.93	13.53	-39.40	-30.00	-9.40	Peak
7756.250	-62.30	19.23	-43.07	-30.00	-13.07	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT20 CH13 (2472MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
Model  No.   : 6221C-PUC              Tested   by : Jack
Power rating: 3.3V
EUT          : WIFI+BT Module
Test Mode    : 802.11N HT20 CH13(2472MHz)
```

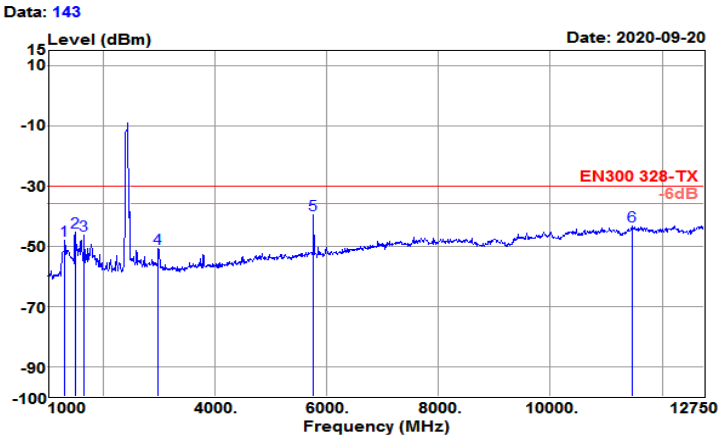


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-48.01	3.75	-44.26	-30.00	-14.26	Peak
1493.500	-48.06	5.09	-42.97	-30.00	-12.97	Peak
1799.000	-53.15	5.93	-47.22	-30.00	-17.22	Peak
2586.250	-56.57	8.14	-48.43	-30.00	-18.43	Peak
2985.750	-56.87	6.44	-50.43	-30.00	-20.43	Peak
11539.750	-68.46	24.94	-43.52	-30.00	-13.52	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH03 (2422MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
             ------------------------              ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
             ------------------------              ----------------
Power rating: 3.3V
             ------------------------
EUT          : WIFI+BT Module
             ------------------------
Test Mode    : 802.11N HT40 CH03(2422MHz)
             ------------------------
```

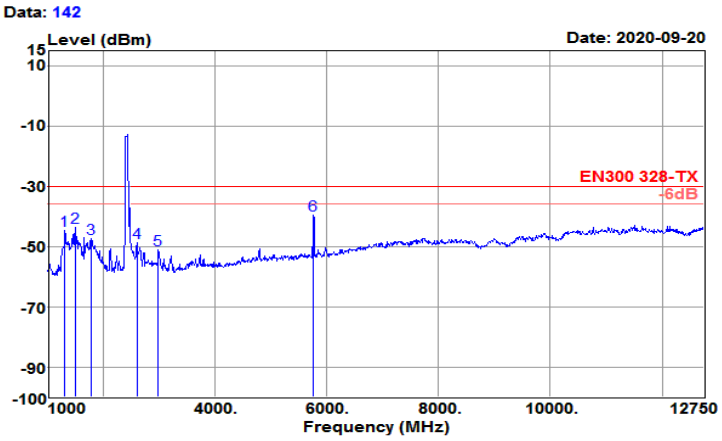


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-51.64	3.53	-48.11	-30.00	-18.11	Peak
1493.500	-50.03	4.76	-45.27	-30.00	-15.27	Peak
1658.000	-51.59	5.13	-46.46	-30.00	-16.46	Peak
2985.750	-57.64	6.80	-50.84	-30.00	-20.84	Peak
5758.750	-53.02	13.53	-39.49	-30.00	-9.49	Peak
11469.250	-68.23	24.87	-43.36	-30.00	-13.36	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH03 (2422MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
             ------------------------                ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
             ------------------------                ----------------
Power rating: 3.3V
             ------------------------
EUT          : WIFI+BT Module
             ------------------------
Test Mode    : 802.11N HT40 CH03(2422MHz)
             ------------------------
```



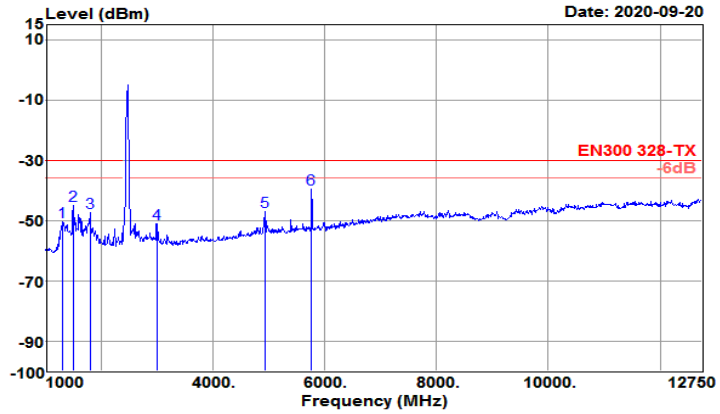
Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-48.58	3.75	-44.83	-30.00	-14.83	Peak
1493.500	-48.64	5.09	-43.55	-30.00	-13.55	Peak
1775.500	-53.16	5.87	-47.29	-30.00	-17.29	Peak
2598.000	-56.97	8.14	-48.83	-30.00	-18.83	Peak
2985.750	-57.58	6.44	-51.14	-30.00	-21.14	Peak
5758.750	-52.80	13.28	-39.52	-30.00	-9.52	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH11 (2462MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%              Pol/Phase    : HORIZONTAL
               ----------------------               ----------------
Model  No.   : 6221C-PUC             Tested   by : Jack
               ----------------------               ----------------
Power rating: 3.3V
               ----------------------
EUT          : WIFI+BT Module
               ----------------------
Test Mode    : 802.11N HT40 CH11(2462MHz)
               ----------------------
```

Data: 144

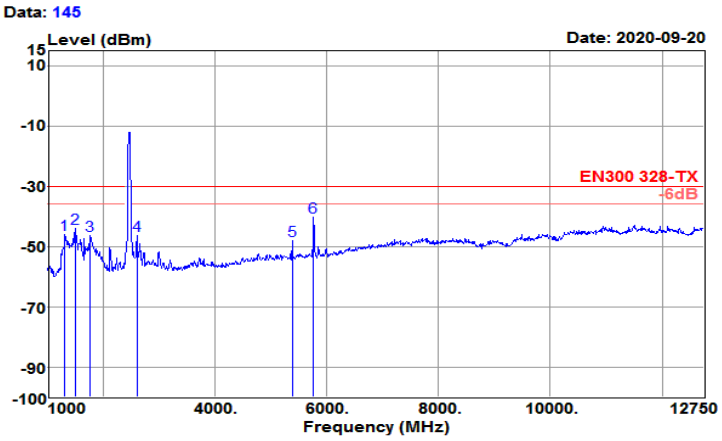


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-54.07	3.53	-50.54	-30.00	-20.54	Peak
1493.500	-49.90	4.76	-45.14	-30.00	-15.14	Peak
1799.000	-52.74	5.43	-47.31	-30.00	-17.31	Peak
2997.500	-58.02	6.74	-51.28	-30.00	-21.28	Peak
4936.250	-58.89	11.81	-47.08	-30.00	-17.08	Peak
5758.750	-53.02	13.53	-39.49	-30.00	-9.49	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH11 (2462MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
             ------------------------                ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
             ------------------------                ----------------
Power rating: 3.3V
             ------------------------
EUT          : WIFI+BT Module
             ------------------------
Test Mode    : 802.11N HT40 CH11(2462MHz)
             ------------------------
```



Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1305.500	-49.86	3.75	-46.11	-30.00	-16.11	Peak
1493.500	-49.21	5.09	-44.12	-30.00	-14.12	Peak
1763.750	-52.19	5.83	-46.36	-30.00	-16.36	Peak
2598.000	-54.68	8.14	-46.54	-30.00	-16.54	Peak
5382.750	-60.50	12.54	-47.96	-30.00	-17.96	Peak
5758.750	-53.63	13.28	-40.35	-30.00	-10.35	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

4. Receiver Parameters

3.7. Receiver spurious emissions

3.7.1. Limit of Receiver spurious emissions

FHSS spurious emission limits for receivers:

SUBCLAUSE 4.3.1.11.3		
Frequency Range	**Maximum Power**	**Measurement Bandwidth**
30 MHz to 1 GHz	-57 dBm	100kHz
1 GHz to 12,75 GHz	-47 dBm	1MHz

WLAN spurious emission limits for receivers

SUBCLAUSE 4.3.2.10.3		
Frequency Range	**Maximum Power**	**Measurement Bandwidth**
30 MHz to 1 GHz	-57 dBm	100kHz
1 GHz to 12,75 GHz	-47 dBm	1MHz

3.7.2. Measuring Instruments

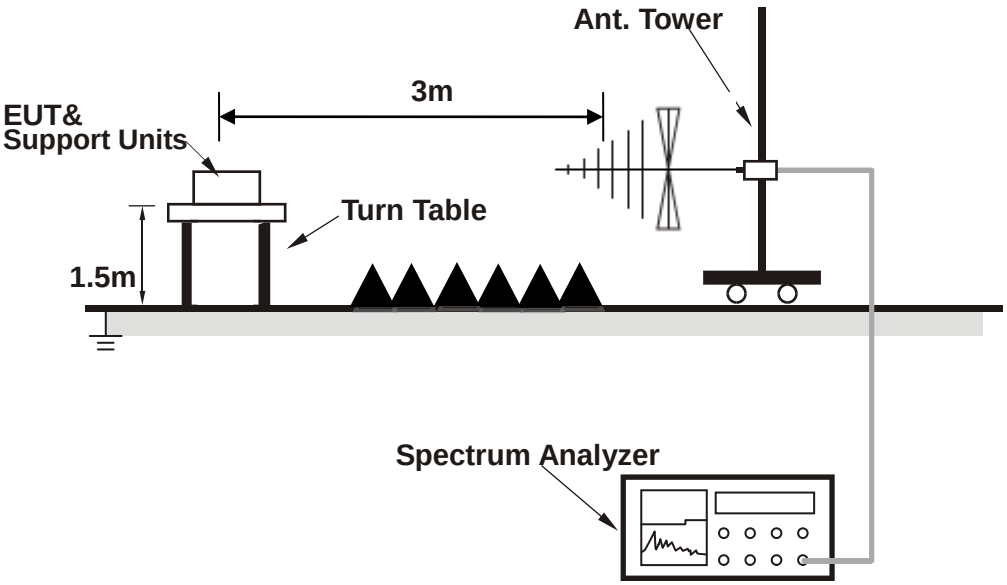
The measuring equipment is listed in the section 8 of this test report.

3.7.3. Test Procedures

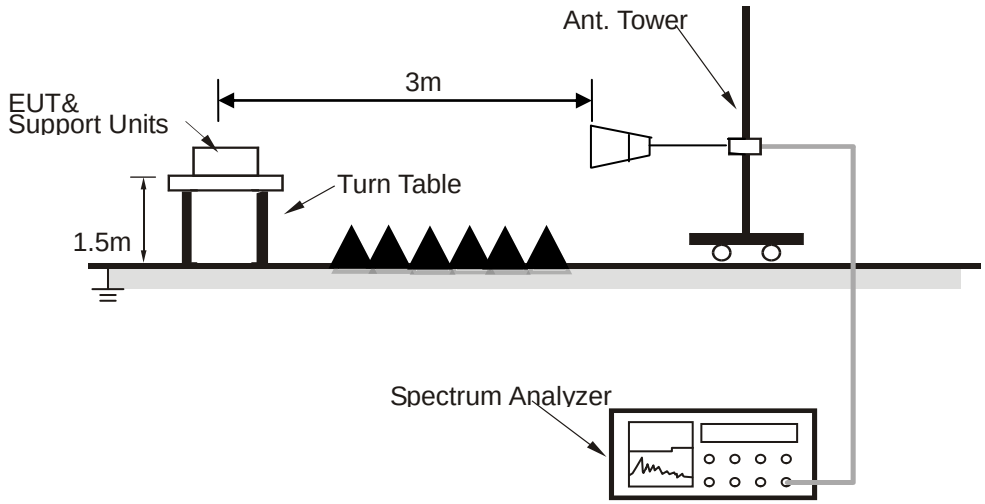
1. The measurement procedure follows the clause 5.4.10.2.2 of the ETSI EN 300 328 V2.2.2(2019-07).
2. The EUT was placed on a turntable with 1.5m height.
3. The test distance between the receiving antenna and the EUT is 3meter below 1GHz frequency range, and 3 meter which is in far field test condition for measured frequency above 1GHz, while the receiving (test) antenna is kept at 1.5 meter height.
4. Set EUT in receiving mode.
5. The table was rotated from 0 to 360 degree to search the highest radiated emission.
6. Repeating step 3 and 4 for each polarization and channel to find the worst emission level.
7. The results obtained are compared to the limits in order to prove compliance with the requirement.

3.7.4. Test Setup

<Below 1GHz>



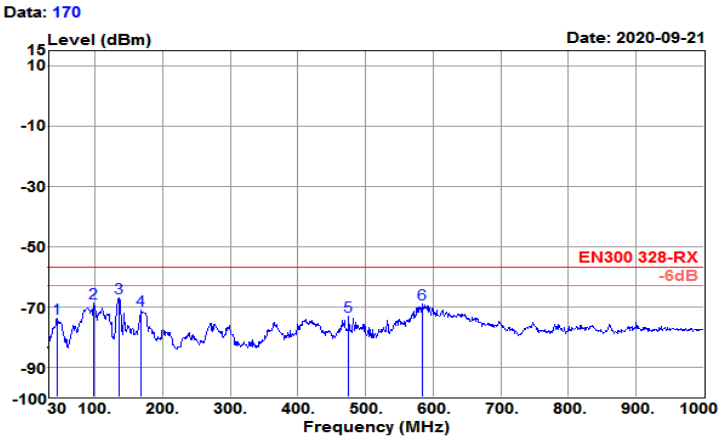
<Above 1GHz>



3.7.5. Test Results

Test Mode :	Bluetooth (1Mbps) CH00 (2402MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : RX Mode
               ------------------------
```

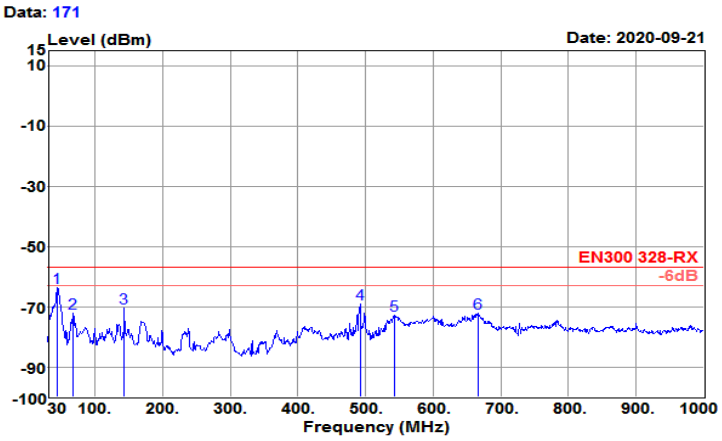


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
43.580	-69.29	-4.43	-73.72	-57.00	-16.72	Average
98.870	-61.70	-6.97	-68.67	-57.00	-11.67	Average
135.730	-63.30	-3.64	-66.94	-57.00	-9.94	Average
168.710	-67.31	-3.85	-71.16	-57.00	-14.16	Average
475.230	-74.67	1.38	-73.29	-57.00	-16.29	Average
584.840	-73.39	4.11	-69.28	-57.00	-12.28	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth (1Mbps) CH00 (2402MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
Model  No.   : 6221C-PUC              Tested   by : Jack
Power rating: 3.3V
EUT          : WIFI+BT Module
Test Mode    : RX Mode
```

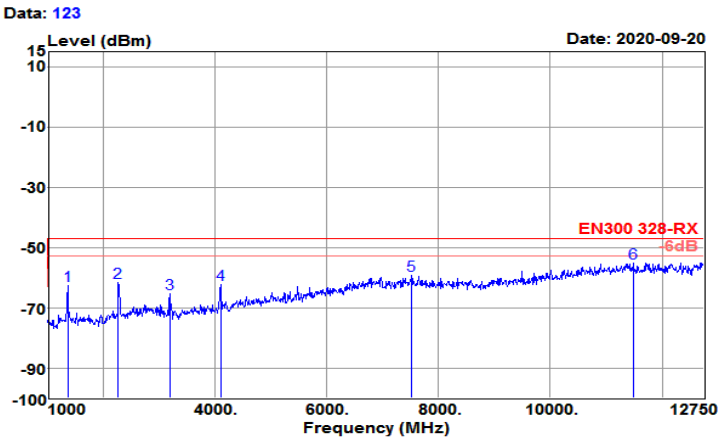


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
44.550	-59.11	-4.55	-63.66	-57.00	-6.66	Average
67.830	-65.81	-6.29	-72.10	-57.00	-15.10	Average
143.490	-67.49	-3.12	-70.61	-57.00	-13.61	Average
491.720	-70.83	1.67	-69.16	-57.00	-12.16	Average
543.130	-75.83	2.92	-72.91	-57.00	-15.91	Average
666.320	-77.72	5.49	-72.23	-57.00	-15.23	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth (1Mbps) CH00 (2402MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%              Pol/Phase    : HORIZONTAL
               ----------------------               ----------------
Model  No.   : 6221C-PUC            Tested   by : Jack
               ----------------------               ----------------
Power rating: 3.3V
               ----------------------
EUT          : WIFI+BT Module
               ----------------------
Test Mode    : RX Mode
               ----------------------
```

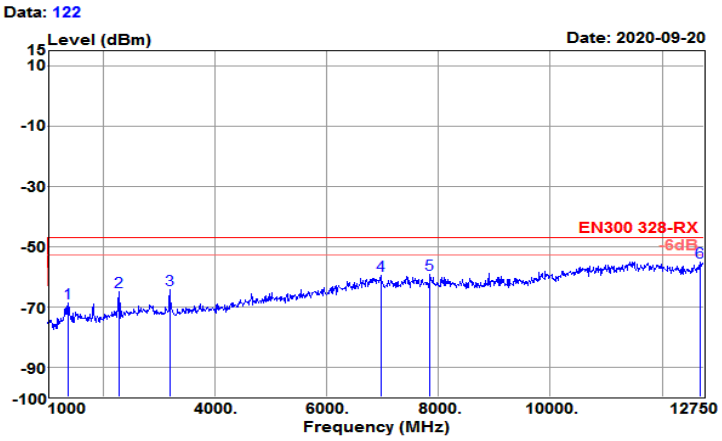


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1364.250	-66.72	3.91	-62.81	-47.00	-15.81	Peak
2269.000	-69.02	7.39	-61.63	-47.00	-14.63	Peak
3185.500	-72.25	6.81	-65.44	-47.00	-18.44	Peak
4102.000	-71.15	8.82	-62.33	-47.00	-15.33	Peak
7521.250	-79.23	19.89	-59.34	-47.00	-12.34	Peak
11481.000	-80.11	24.87	-55.24	-47.00	-8.24	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth (1Mbps) CH00 (2402MHz)	Temperature :	21~23℃
Test Engineer :	Jack Liu	Relative Humidity :	63~65%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%              Pol/Phase    : VERTICAL
Model  No.   : 6221C-PUC            Tested   by : Jack
Power rating: 3.3V
EUT          : WIFI+BT Module
Test Mode    : RX Mode
```



Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1376.000	-72.96	4.25	-68.71	-47.00	-21.71	Peak
2280.750	-72.41	7.37	-65.04	-47.00	-18.04	Peak
3185.500	-70.98	6.67	-64.31	-47.00	-17.31	Peak
6969.000	-77.17	17.64	-59.53	-47.00	-12.53	Peak
7850.250	-78.43	19.05	-59.38	-47.00	-12.38	Peak
12691.250	-80.10	24.87	-55.23	-47.00	-8.23	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH39 (2480MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

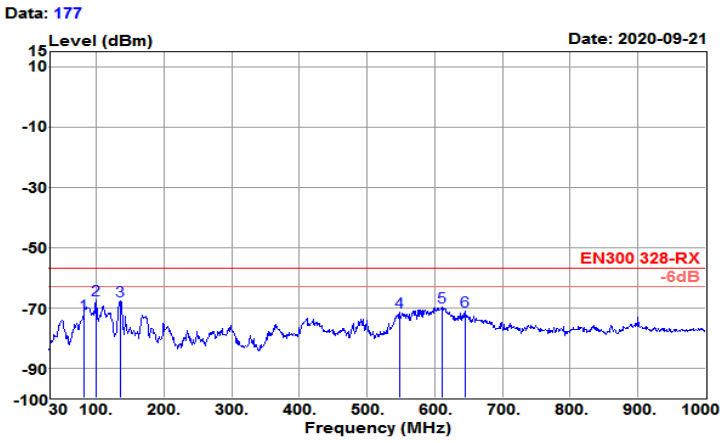
Temp/Humi : 17℃/60% Pol/Phase : HORIZONTAL

Model No. : 6221C-PUC Tested by : Jack

Power rating: 3.3V

EUT : WIFI+BT Module

Test Mode : RX Mode



Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
81.410	-65.69	-6.47	-72.16	-57.00	-15.16	Average
99.840	-60.40	-7.00	-67.40	-57.00	-10.40	Average
135.730	-64.06	-3.64	-67.70	-57.00	-10.70	Average
548.950	-74.94	3.32	-71.62	-57.00	-14.62	Average
610.060	-74.62	4.66	-69.96	-57.00	-12.96	Average
644.980	-76.55	5.43	-71.12	-57.00	-14.12	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH39 (2480MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

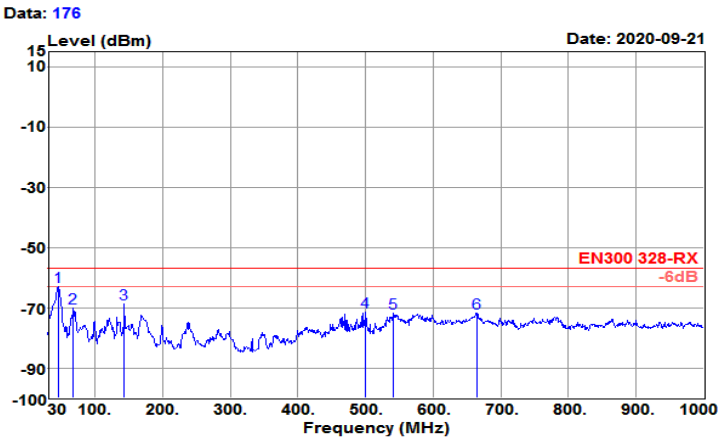
Temp/Humi : 17℃/60% Pol/Phase : VERTICAL

Model No. : 6221C-PUC Tested by : Jack

Power rating: 3.3V

EUT : WIFI+BT Module

Test Mode : RX Mode

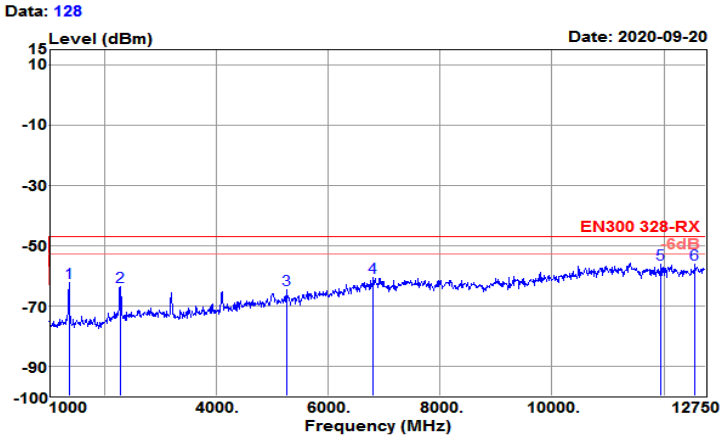


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
45.520	-58.63	-4.51	-63.14	-57.00	-6.14	Average
67.830	-63.99	-6.29	-70.28	-57.00	-13.28	Average
143.490	-65.64	-3.12	-68.76	-57.00	-11.76	Average
500.450	-73.41	1.85	-71.56	-57.00	-14.56	Average
540.220	-74.73	2.85	-71.88	-57.00	-14.88	Average
664.380	-77.41	5.46	-71.95	-57.00	-14.95	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH39 (2480MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
-------------------------             ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
-------------------------             ----------------
Power rating: 3.3V
-------------------------
EUT          : WIFI+BT Module
-------------------------
Test Mode    : RX Mode
-------------------------
```

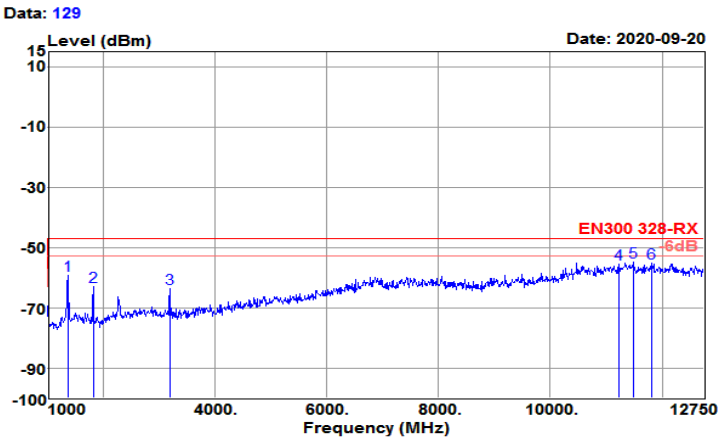


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1364.250	-66.17	3.91	-62.26	-47.00	-15.26	Peak
2280.750	-71.22	7.43	-63.79	-47.00	-16.79	Peak
5253.500	-77.24	12.41	-64.83	-47.00	-17.83	Peak
6804.500	-77.46	16.97	-60.49	-47.00	-13.49	Peak
11951.000	-80.64	24.48	-56.16	-47.00	-9.16	Peak
12562.000	-80.63	24.54	-56.09	-47.00	-9.09	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	Bluetooth 4.2 - LE CH39 (2480MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : RX Mode
               ------------------------
```



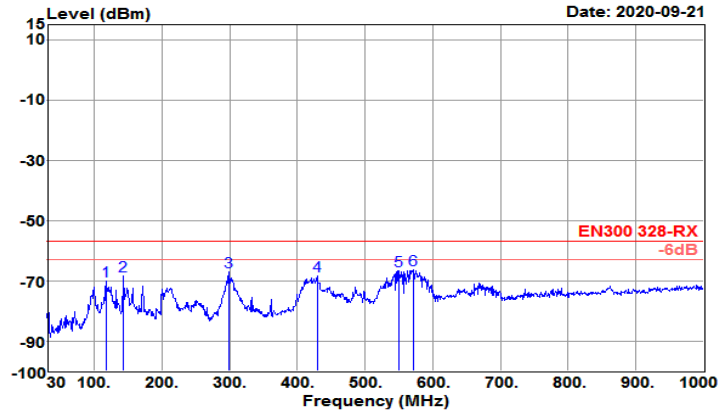
Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1364.250	-63.47	4.17	-59.30	-47.00	-12.30	Peak
1822.500	-69.14	5.98	-63.16	-47.00	-16.16	Peak
3185.500	-70.52	6.67	-63.85	-47.00	-16.85	Peak
11222.500	-80.08	24.64	-55.44	-47.00	-8.44	Peak
11481.000	-79.89	24.98	-54.91	-47.00	-7.91	Peak
11821.750	-79.85	24.47	-55.38	-47.00	-8.38	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH11 (2462MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Horizontal

```
Temp/Humi    : 17℃/60%                Pol/Phase    : HORIZONTAL
-------------------------             ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
-------------------------             ----------------
Power rating: 3.3V
-------------------------
EUT          : WIFI+BT Module
-------------------------
Test Mode    : RX Mode
-------------------------
```

Data: 165

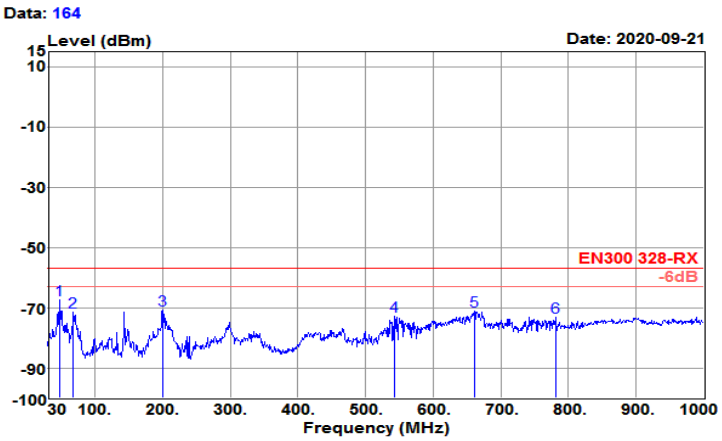


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
117.300	-64.87	-5.37	-70.24	-57.00	-13.24	Average
143.490	-65.44	-2.91	-68.35	-57.00	-11.35	Average
298.690	-64.68	-2.54	-67.22	-57.00	-10.22	Average
429.640	-68.94	0.41	-68.53	-57.00	-11.53	Average
549.920	-69.93	3.35	-66.58	-57.00	-9.58	Average
571.260	-70.13	3.81	-66.32	-57.00	-9.32	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH11 (2462MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	30MHz~1GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC               Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : RX Mode
               ------------------------
```

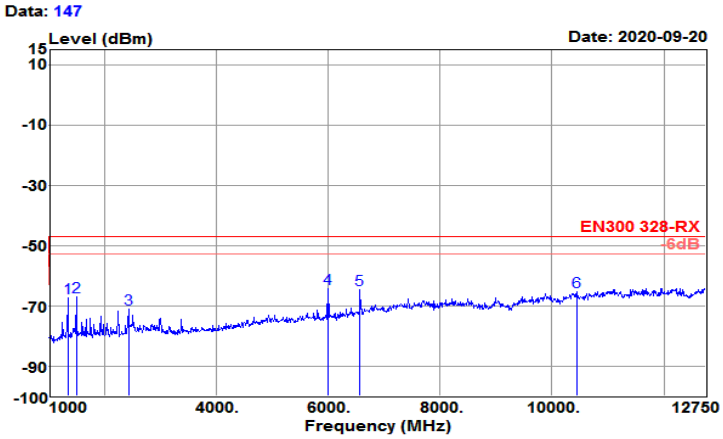


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
47.460	-62.84	-4.45	-67.29	-57.00	-10.29	Average
67.830	-65.10	-6.29	-71.39	-57.00	-14.39	Average
199.750	-64.33	-6.42	-70.75	-57.00	-13.75	Average
542.160	-75.90	2.89	-73.01	-57.00	-16.01	Average
660.500	-76.54	5.39	-71.15	-57.00	-14.15	Average
780.780	-80.64	7.44	-73.20	-57.00	-16.20	Average

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH11 (2462MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Horizontal

Temp/Humi : 17℃/60%
Pol/Phase : HORIZONTAL
Model No. : 6221C-PUC
Tested by : Jack
Power rating: 3.3V
EUT : WIFI+BT Module
Test Mode : RX Mode

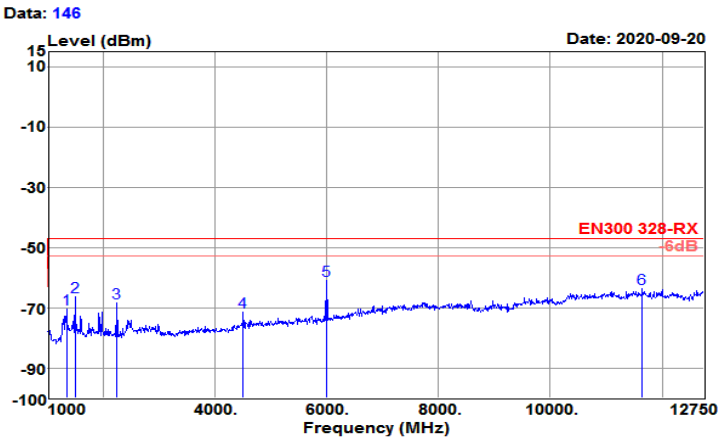


Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1340.750	-71.19	3.76	-67.43	-47.00	-20.43	Peak
1493.500	-72.00	4.76	-67.24	-47.00	-20.24	Peak
2421.750	-79.09	7.90	-71.19	-47.00	-24.19	Peak
5993.750	-78.40	13.90	-64.50	-47.00	-17.50	Peak
6569.500	-80.75	16.11	-64.64	-47.00	-17.64	Peak
10447.000	-87.77	22.38	-65.39	-47.00	-18.39	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

Test Mode :	802.11n HT40 CH11 (2462MHz)	Temperature :	22~24℃
Test Engineer :	Jack Liu	Relative Humidity :	61~63%
Frequency Range	1GHz~12.75GHz	Polarization :	Vertical

```
Temp/Humi    : 17℃/60%                Pol/Phase    : VERTICAL
               ------------------------               ----------------
Model  No.   : 6221C-PUC              Tested   by : Jack
               ------------------------               ----------------
Power rating: 3.3V
               ------------------------
EUT          : WIFI+BT Module
               ------------------------
Test Mode    : RX Mode
               ------------------------
```



Freq MHz	Reading level dBm	Aux factor dB	level dBm	Limit level dBm	Over limit dB	Remark
1340.750	-74.64	4.00	-70.64	-47.00	-23.64	Peak
1493.500	-71.36	5.09	-66.27	-47.00	-19.27	Peak
2245.500	-75.58	7.24	-68.34	-47.00	-21.34	Peak
4501.500	-82.56	11.09	-71.47	-47.00	-24.47	Peak
5993.750	-74.76	13.71	-61.05	-47.00	-14.05	Peak
11645.500	-88.36	24.77	-63.59	-47.00	-16.59	Peak

Note:
Corrected Reading: Reading level + Aux factor = Level

3.8. Receiver Blocking Test

3.8.1. Limit of Receiver Blocking Test

Receiver category 1

1. Adaptive equipment with maximum RF output power > 10dBm e.i.r.p. (WiFi)

Wanted signal mean power from companion device (dBm) (see notes 1 and 4)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 4)	Type of blocking signal
(-133 dBm + 10 × $\log_{10}$(OCBW)) or -68 dBm whichever is less (see note 2)	2 380 2 504	-34	CW
(-139 dBm + 10 × $\log_{10}$(OCBW)) or -74 dBm whichever is less (see note 3)	2 300 2 330 2 360 2 524 2 584 2 674		

NOTE 1: OCBW is in Hz.

NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 26 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE 3: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 20 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE 4: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

Receiver category 2

1. Non-adaptive equipment with MU 1% ~ 10%
2. Adaptive equipment with Maximum RF output power < 10dBm e.i.r.p. (Bluetooth)

Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 3)	Type of blocking signal
(-139 dBm + 10 × $\log_{10}$(OCBW) + 10 dB) or (-74 dBm + 10 dB) whichever is less (see note 2)	2 380 2 504 2 300 2 584	-34	CW
NOTE 1: OCBW is in Hz. NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 26 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal. NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.			

Receiver category 3

1. Non-adaptive equipment with MU < 1%
2. Adaptive equipment with Maximum RF output power < 0dBm e.i.r.p. (Others)

Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 3)	Type of blocking signal
(-139 dBm + 10 × $\log_{10}$(OCBW) + 20 dB) or (-74 dBm + 20 dB) whichever is less (see note 2)	2 380 2 504 2 300 2 584	-34	CW
NOTE 1: OCBW is in Hz. NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative the test may be performed using a wanted signal up to P_{min} + 30 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal. NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.			

3.8.2. Measuring Instruments

The measuring equipment is listed in the section 8 of this test report.

3.8.3. Test Procedures

1. The measurement procedure follows the clause 5.4.11.2 of the ETSI EN 300 328 V2.2.2(2019-07)..
2. For systems using multiple receive chains only one chain (antenna port) need to be tested. All other receiver inputs shall be terminated.

3.8.4. Test Setup

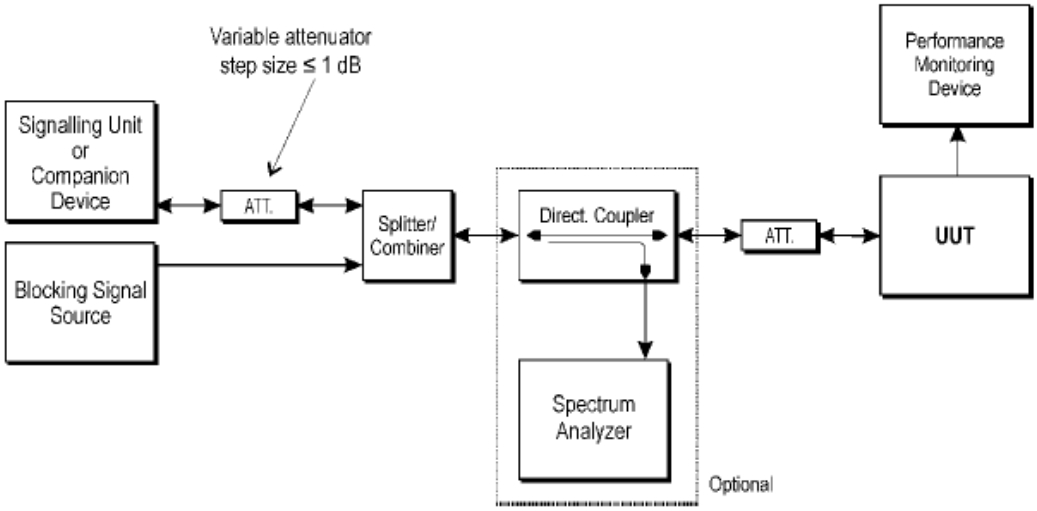


Figure 6: Test Set-up for receiver blocking

3.8.5. Test Results of Receiver Blocking

Pmin = Companion Device or CMW270 burst power - path cable loss - attenuator.
Note pre-scan all test mode found worst case at

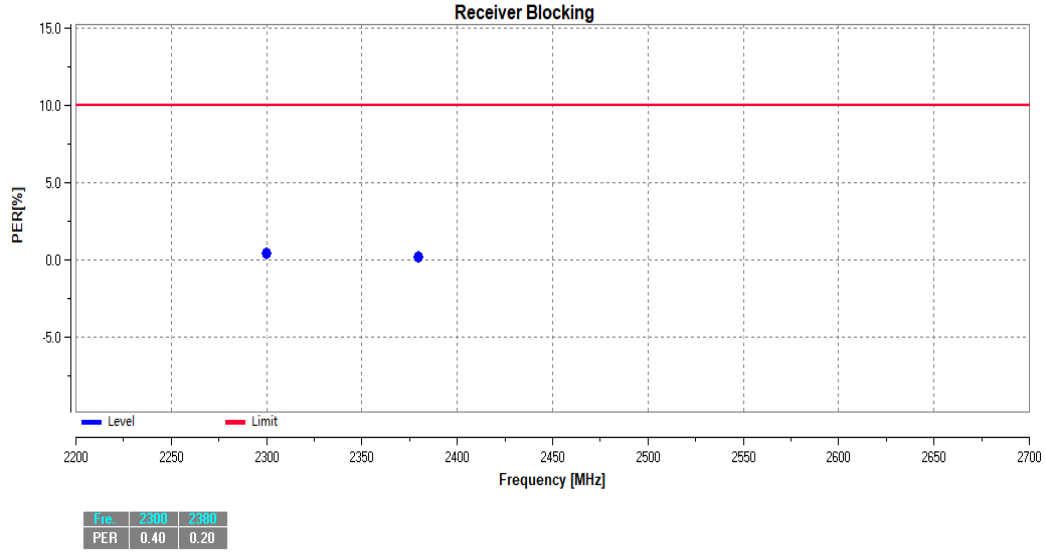
Mode	Worst Case
BT+EDR	1Mbps
WIFI	802.11b

Therefore only the worst mode test results are displayed.

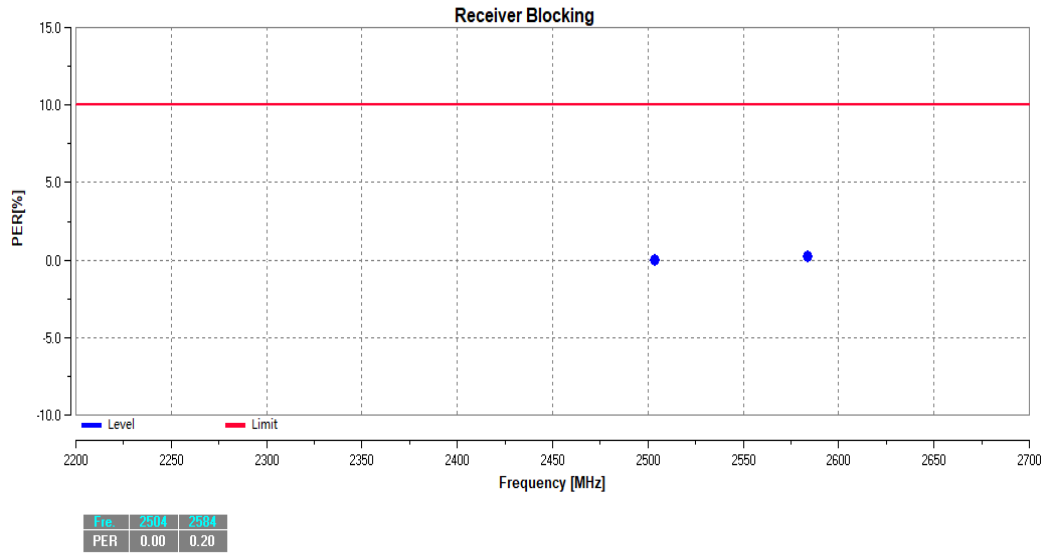
TestMode	Antenna	Channel	Pmin [dBm]	Wanted signal [dBm]	Freq. [MHz]	CW [dBm]	PER [%]	Limit [%]	Verdict
DH5	ANT1	2402	---	-69.53	2300	-34	0.40	<=10	PASS
			---	-69.53	2380	-34	0.20	<=10	PASS
		2480	---	-69.53	2504	-34	0.00	<=10	PASS
			---	-69.53	2584	-34	0.20	<= 10	PASS

Test Graph

DH5_ANT1_2402



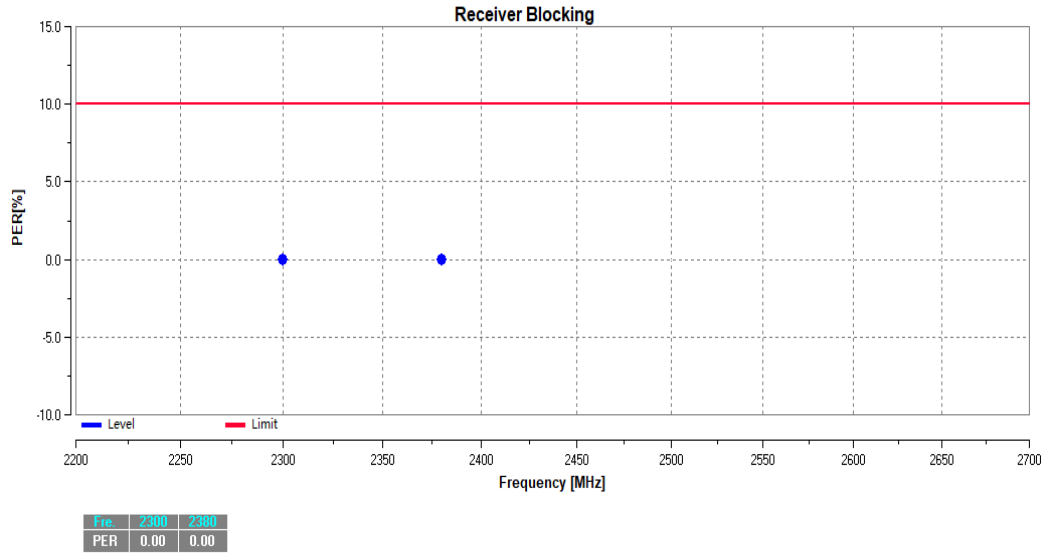
DH5_ANT1_2480



TestMode	Antenna	Channel	Pmin [dBm]	Wanted signal [dBm]	Freq. [MHz]	CW [dBm]	PER [%]	Limit [%]	Verdict
BLE_BT4.2	ANT1	2402	---	-68.77	2300	-34	0.00	<=10	PASS
			---	-68.77	2380	-34	0.00	<=10	PASS
		2480	---	-68.77	2504	-34	0.00	<=10	PASS
			---	-68.77	2584	-34	0.00	<=10	PASS

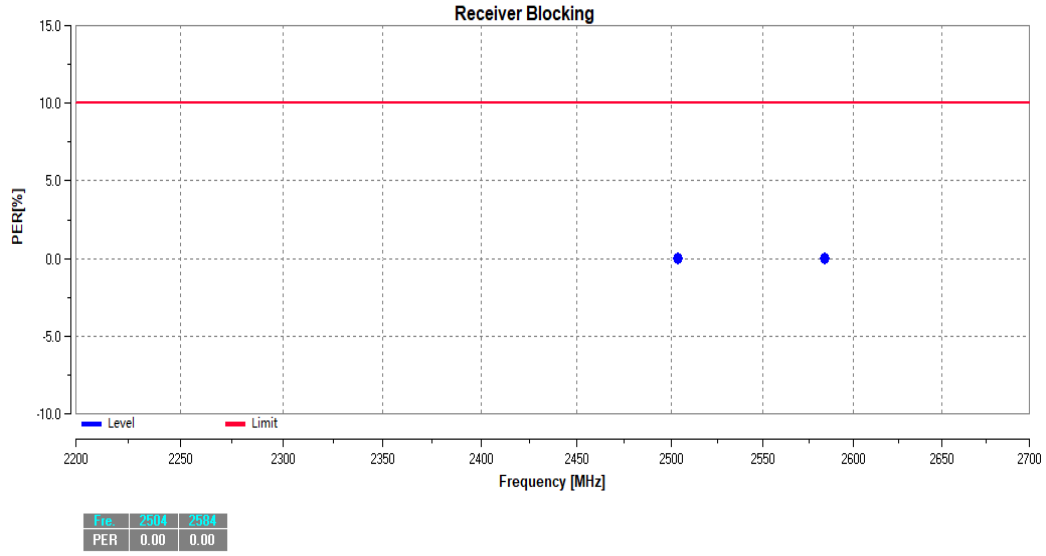
Test Graph

BLE_BT4.2_ANT1_2402



Fre.	2300	2380
PER	0.00	0.00

BLE_BT4.2_ANT1_2480

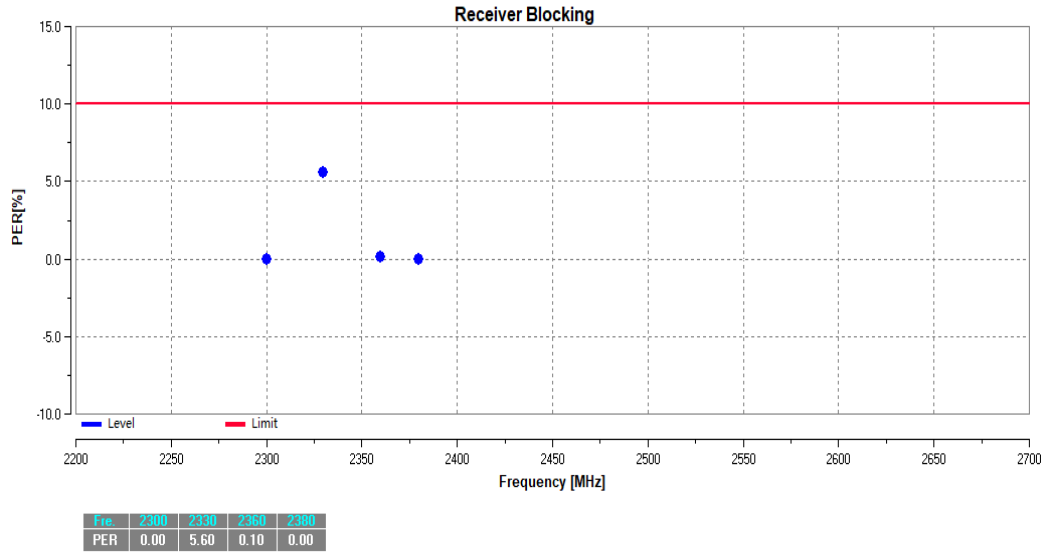


Fre.	2504	2584
PER	0.00	0.00

TestMode	Antenna	Channel	Pmin [dBm]	Wanted signal [dBm]	Freq. [MHz]	CW [dBm]	PER [%]	Limit [%]	Verdict
11B	ANT1	2412	---	-74	2300	-34	0.00	<=10	PASS
			---	-74	2330	-34	5.60	<=10	PASS
			---	-74	2360	-34	0.10	<=10	PASS
			---	-68	2380	-34	0.00	<= 10	PASS
		2472	---	-68	2504	-34	0.00	<=10	PASS
			---	-74	2524	-34	0.00	<=10	PASS
			---	-74	2584	-34	0.00	<=10	PASS
			---	-74	2674	-34	0.00	<= 10	PASS

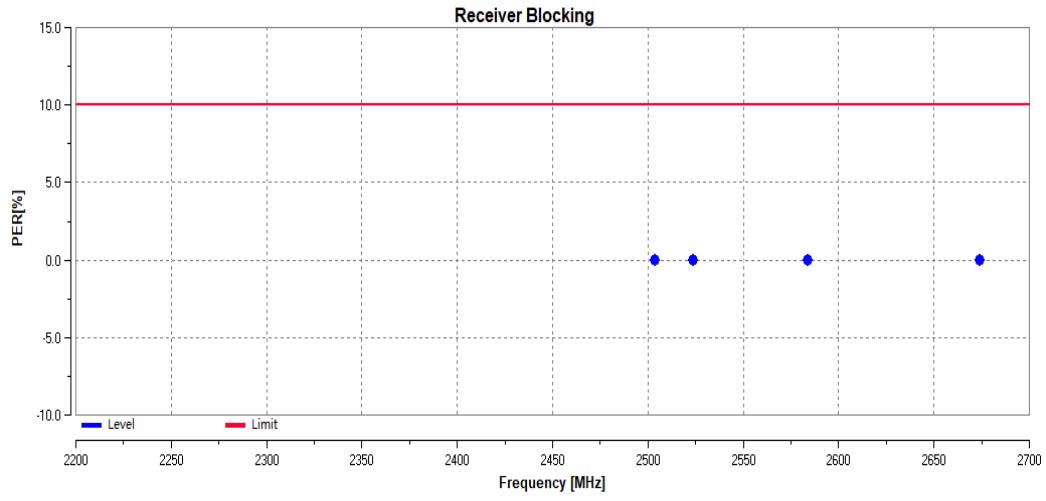
Test Graph

11B_ANT1_2412



Fre.	2300	2330	2360	2380
PER	0.00	5.60	0.10	0.00

11B_ANT1_2472



Fre.	2504	2524	2584	2674
PER	0.00	0.00	0.00	0.00

5. Adaptivity Test

3.9. Adaptivity

3.9.1. Limit of Adaptivity

Only for adaptive systems and RF Output Power > 10 dBm

LBT based Detect and Avoid (Load Based Equipment with spectrum sharing mechanism IEEE Std.):

LBT based spectrum sharing mechanism may implement in IEEE Std. 802.11-2012 clauses 9, clause 10, clause 16, clause 17, clause 19 and clause 20, or in IEEE Std. IEEE 802.15.4-2011, clause 4, clause 5 and clause 8.

Short Control Signaling Transmissions shall have a maximum TxOn / (TxOn + TxOff) ratio of 10 % within an observation period of 50 ms.

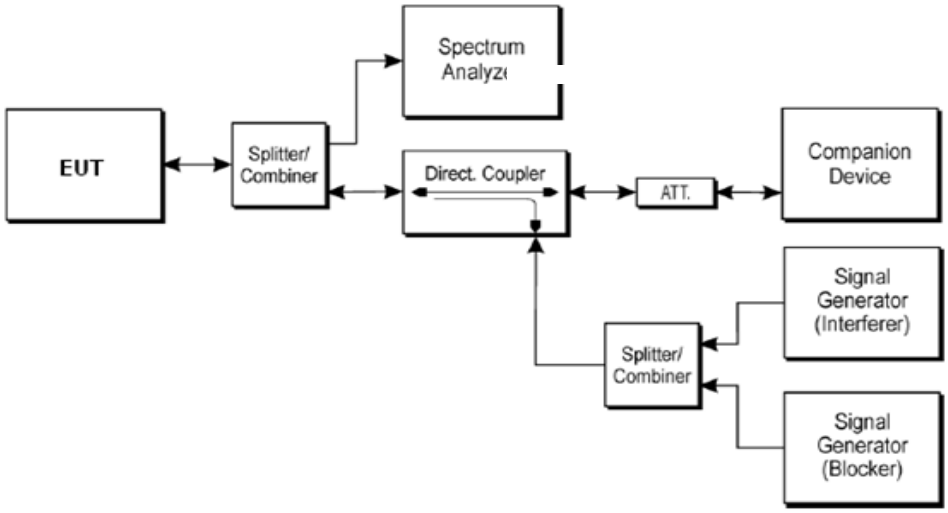
3.9.2. Measurement Instruments

The measuring equipment is listed in the section 8 of this test report.

3.9.3. Test Procedures

1. The measurement procedure follows the clause 5.4.6.2.1 of the ETSI EN 300 328 V2.2.2(2019-07)..
2. For conducted measurements on devices with multiple transmit chains and receive chains. The power splitter/combiner shall be used to combine all the transmit/receive chains (antenna outputs) into a single test point. The insertion loss of the power splitter/combiner shall be taken into account.

3.9.4. Test Setup



3.9.5. Support Unit used in test configuration and system

Item	Instrument	Manufacturer	Model No.	Characteristics
1.	WLAN AP	NETGEAR	X4S R7800	AP
2.	Notebook	Lenovo	Xiaoxinchao5000	FTP / LAN

3.9.6. Test Results of Adaptivity Test

Equipment Information:		
☐	Non-Adaptive Equipment	
	The maximum RF output power (E.I.R.P.) dBm:	
	The maximum (Corresponding) Duty Cycle : %	
☒	Adaptive Equipment without the possibility to switch to a non-adaptive mode:	
	☒	The equipment has implemented an LBT based DAA mechanism:
		☐ The equipment is Frame Based equipment
		☒ The equipment is Load Based equipment
		☐ The equipment can switch dynamically between Frame Based and Load Based equipment
	☐	The equipment has implemented an non-LBT based DAA mechanism
	☐	The equipment can operate in more than one adaptive mode
	☐	Adaptive Frequency Hopping using other forms of DAA (non-LBT based)
☐	Adaptive Equipment which can also operate in non-adaptive mode	

	Modulation	Data Rate (single)	Nominal Bandwidth	Channel	Test Frequency	Test Result
WIFI 2.4GHz	802.11b	11Mbit/s	20MHz	01	2412 MHz	PASS
				13	2472 MHz	PASS
	802.11g	54Mbit/s	20MHz	01	2412 MHz	PASS
				13	2472 MHz	PASS
	802.11n HT20	65Mbit/s	20MHz	01	2412 MHz	PASS
				13	2472 MHz	PASS
	802.11n HT40	65Mbit/s	40MHz	03	2422 MHz	PASS
				11	2462 MHz	PASS
BT Nom	GFSK	1Mbit/s	1MHz	00	2402 MHz	PASS
				78	2480 MHz	PASS

Note: The CCA time is declared by the manufacturer.

3.9.7. Test Plots of Adaptivity Test

Refer to Appendix G of this test report.

6. Geo-location Capability

3.9.8. Definition and Requirement

Geo-location capability is a feature of the equipment to determine its geographical location with the purpose to configure itself according to the regulatory requirements applicable at the geographical location where it operates.

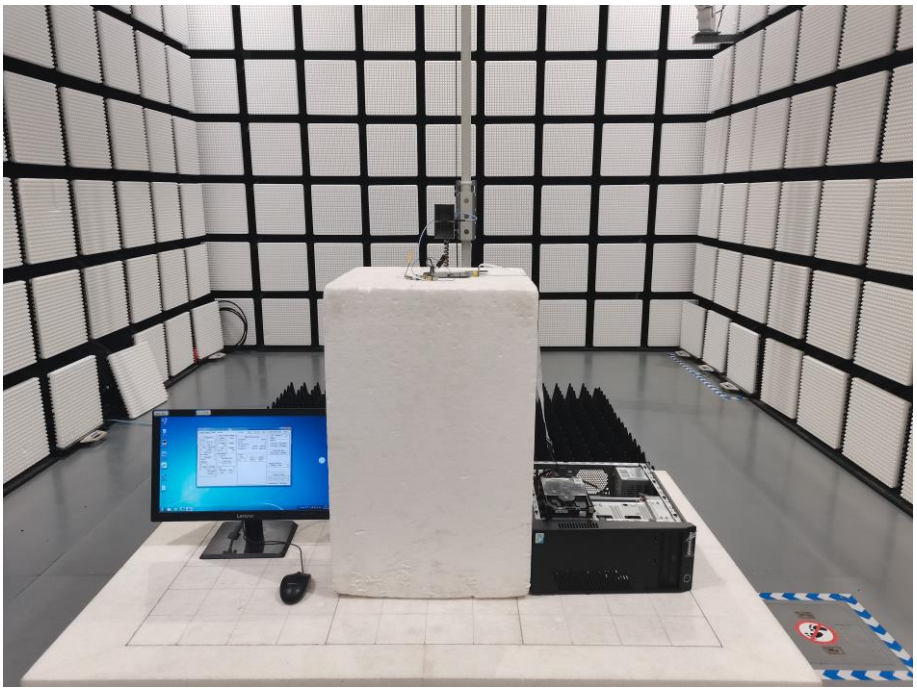
The geo-location capability may be present in the equipment or in an external device (temporary) associated with the equipment operating at the same geographical location during the initial power up of the equipment. The geographical location may also be available in equipment already installed and operating at the same geographical location.

The geographical location determined by the equipment shall not be accessible to the user.

7. Photographs of Radiated Emission Test Configuration

LH

HF



8. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Due Date	Remark
Spectrum Analyzer	Keysight	N9010A	MY56070788	2020-01-15	2021-01-14	Conducted
Power Sensor	Keysight	U2021XA	MY56510025	2020-01-16	2021-01-15	Conducted
Power Sensor	Keysight	U2021XA	MY57030005	2020-01-16	2021-01-15	Conducted
Power Sensor	Keysight	U2021XA	MY56510018	2020-01-16	2021-01-15	Conducted
Power Sensor	Keysight	U2021XA	MY56480002	2020-01-16	2021-01-15	Conducted
Thermal Chamber	Howkin	UHL-34	19111801	2020-04-30	2021-04-29	Conducted
Base Station	R&S	CMW 270	101231	2020-01-16	2021-01-15	Conducted
Signal Generator (Interferer)	Keysight	N5182B	MY56200384	2020-02-21	2021-02-20	Conducted
Signal Generator (Blocker)	Keysight	N5171B	MY56200661	2020-01-15	2021-01-14	Conducted

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV 30	103728	2020-01-19	2021-01-18	Radiation
Amplifier	Sonoma	310	363917	2020-01-15	2021-01-14	Radiation
Amplifier	Schwarzbeck	BBV 9718	327	2020-01-15	2021-01-14	Radiation
Bilog Antenna	Schwarzbeck	VULB 9168	9168-757	2018-08-31	2021-08-30	Radiation
Horn Antenna	Schwarzbeck	BBHA 9120 D	1677	2020-02-14	2023-02-13	Radiation
Test Software	Audix	E3	6.111221a	N/A	N/A	Radiation
Filter	Micro-Tronics	BRM 50702	G266	N/A	N/A	Radiation

Note:

1. Test equipment calibration is traceable to the procedure of ISO17025.
2. N/A：No Calibration Required.

9. Uncertainty Evaluation

Test Item	Measurement Uncertainty	Notes
Occupied Channel Bandwidth	±196.4Hz	(1)
RF output power, conducted	±2.31 dB	(1)
Power density, conducted	±2.31 dB	(1)
Radiated emissions 30MHz-1000MHz	2.50 dB	(1)
Radiated emissions 1GHz-18GHz	3.51 dB	(1)
Radiated emissions 18GHz-40GHz	3.96 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Appendix A):RF Output Power

Test Result

BT+EDR

Test Condition	TestMode	Antenna	Channel	EIRP[dBm]	Limit[dBm]	Verdict
NTNV	DH1	ANT1	Hop	9.37	20	PASS
	DH3	ANT1	Hop	9.48	20	PASS
	DH5	ANT1	Hop	9.42	20	PASS
	2DH1	ANT1	Hop	8.80	20	PASS
	2DH3	ANT1	Hop	8.13	20	PASS
	2DH5	ANT1	Hop	8.74	20	PASS
	3DH1	ANT1	Hop	8.99	20	PASS
	3DH3	ANT1	Hop	8.06	20	PASS
	3DH5	ANT1	Hop	7.99	20	PASS
LTNV	DH1	ANT1	Hop	9.56	20	PASS
	DH3	ANT1	Hop	9.42	20	PASS
	DH5	ANT1	Hop	9.28	20	PASS
	2DH1	ANT1	Hop	8.95	20	PASS
	2DH3	ANT1	Hop	8.27	20	PASS
	2DH5	ANT1	Hop	7.94	20	PASS
	3DH1	ANT1	Hop	8.96	20	PASS
	3DH3	ANT1	Hop	8.09	20	PASS
	3DH5	ANT1	Hop	8.17	20	PASS
HTNV	DH1	ANT1	Hop	9.68	20	PASS
	DH3	ANT1	Hop	9.26	20	PASS
	DH5	ANT1	Hop	9.35	20	PASS
	2DH1	ANT1	Hop	9.01	20	PASS
	2DH3	ANT1	Hop	8.10	20	PASS
	2DH5	ANT1	Hop	8.09	20	PASS
	3DH1	ANT1	Hop	8.96	20	PASS
	3DH3	ANT1	Hop	8.31	20	PASS
	3DH5	ANT1	Hop	7.91	20	PASS

BLE

Test Condition	TestMode	Antenna	Channel	EIRP[dBm]	Limit[dBm]	Verdict
NTNV	BLE_BT4.2	ANT1	2402	7.87	20	PASS
			2440	7.25	20	PASS
			2480	8.86	20	PASS
LTNV	BLE_BT4.2	ANT1	2402	7.93	20	PASS
			2440	7.31	20	PASS

			2480	8.72	20	PASS
HTNV	BLE_BT4.2	ANT1	2402	7.92	20	PASS
			2440	7.40	20	PASS
			2480	8.89	20	PASS

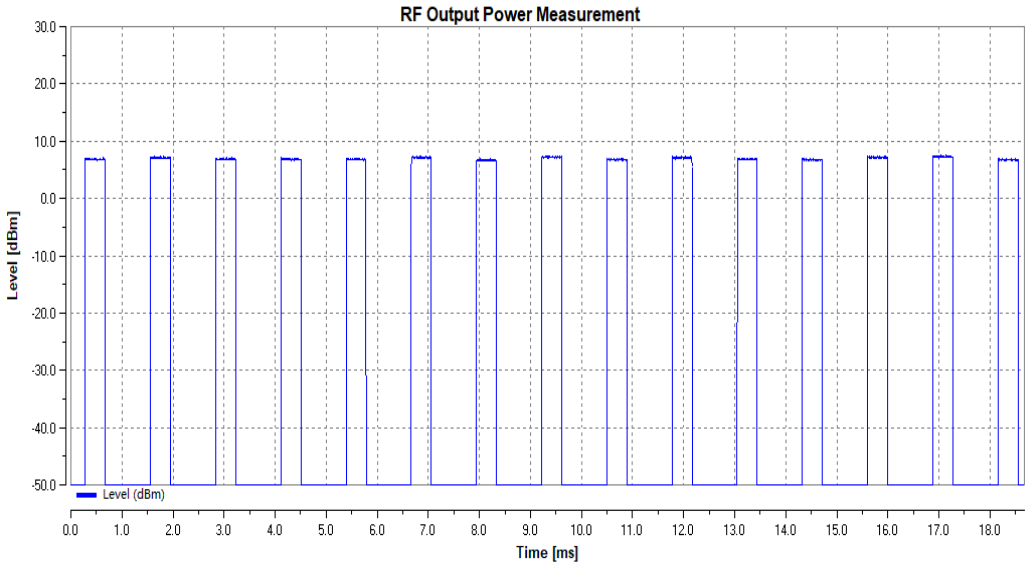
WLAN

Test Condition	TestMode	Antenna	Channel	EIRP[dBm]	Limit[dBm]	Verdict
NTNV	11B	Ant1	2412	18.80	20	PASS
			2442	19.05	20	PASS
			2472	18.59	20	PASS
	11G	Ant1	2412	17.27	20	PASS
			2442	17.06	20	PASS
			2472	17.64	20	PASS
	11N20SISO	Ant1	2412	16.76	20	PASS
			2442	16.57	20	PASS
			2472	16.76	20	PASS
	11N40SISO	Ant1	2422	16.46	20	PASS
			2442	16.70	20	PASS
			2462	16.82	20	PASS
LTNV	11B	Ant1	2412	18.89	20	PASS
			2442	19.02	20	PASS
			2472	18.61	20	PASS
	11G	Ant1	2412	17.23	20	PASS
			2442	17.41	20	PASS
			2472	17.29	20	PASS
	11N20SISO	Ant1	2412	16.81	20	PASS
			2442	16.40	20	PASS
			2472	16.61	20	PASS
	11N40SISO	Ant1	2422	16.55	20	PASS
			2442	16.40	20	PASS
			2462	16.65	20	PASS
HTNV	11B	Ant1	2412	19.00	20	PASS
			2442	18.97	20	PASS
			2472	18.63	20	PASS
	11G	Ant1	2412	17.62	20	PASS
			2442	17.13	20	PASS
			2472	17.45	20	PASS
	11N20SISO	Ant1	2412	16.61	20	PASS
			2442	16.73	20	PASS
			2472	16.68	20	PASS
	11N40SISO	Ant1	2422	16.37	20	PASS
			2442	16.55	20	PASS
			2462	17.09	20	PASS

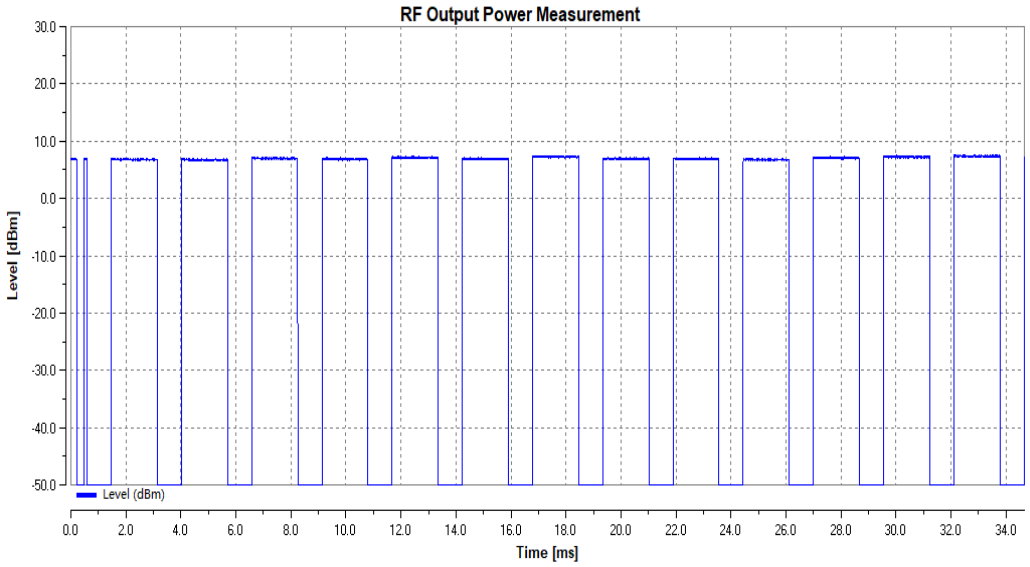
Test Graphs

BT+EDR

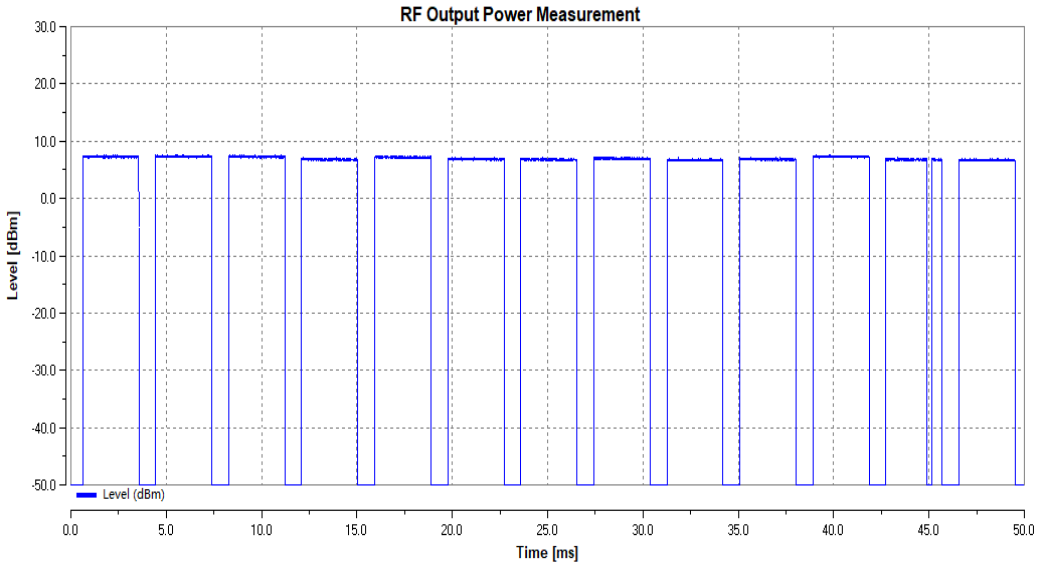
NTNV_DH1_Ant1_Hop



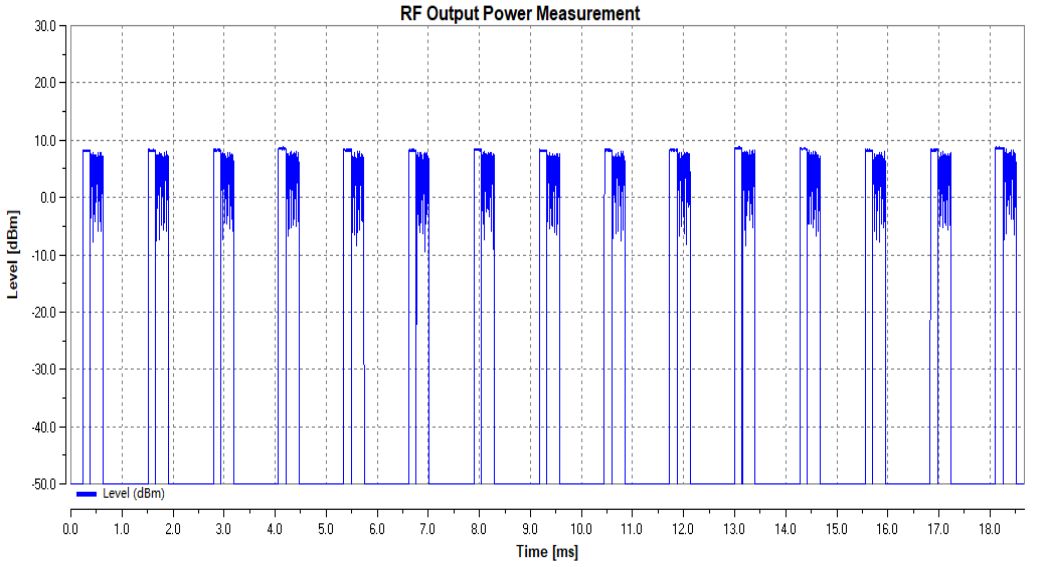
NTNV_DH3_Ant1_Hop



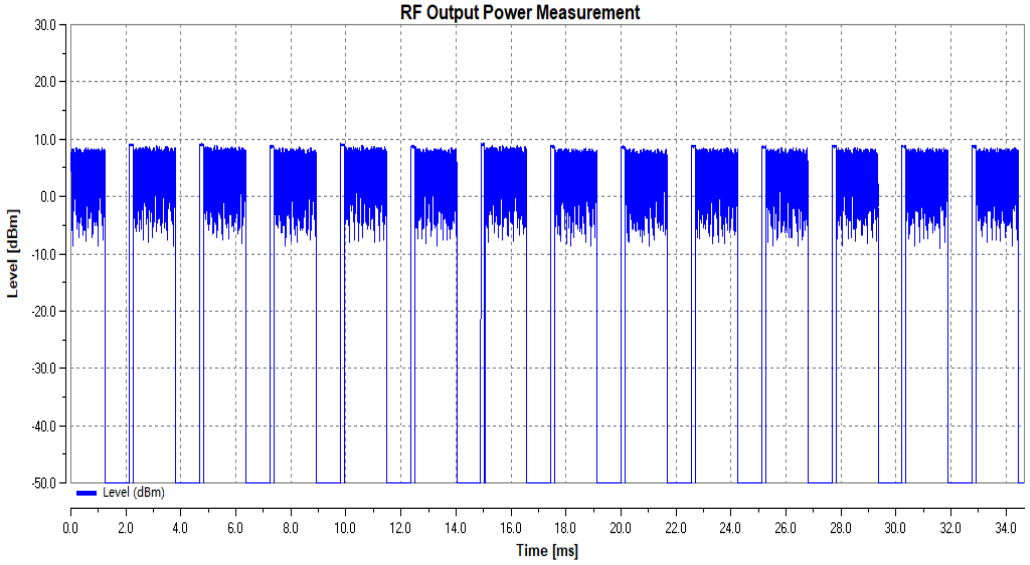
NTNV_DH5_Ant1_Hop



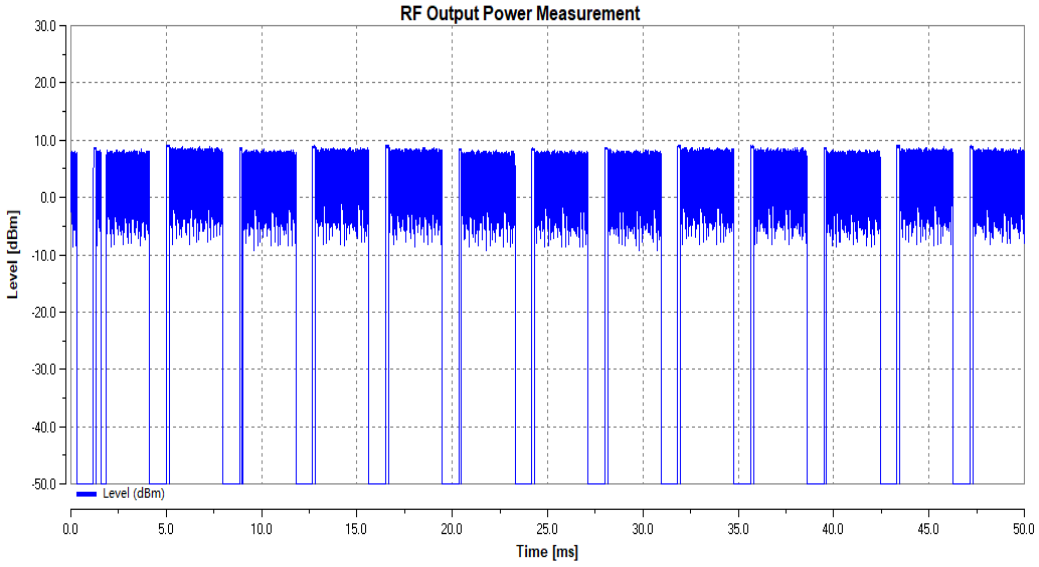
NTNV_2DH1_Ant1_Hop



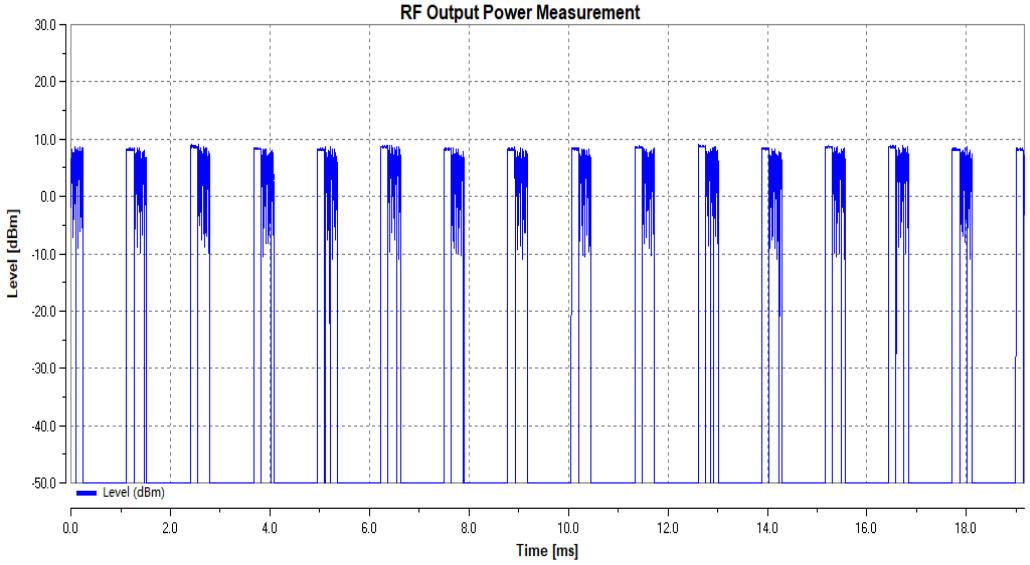
NTNV_2DH3_Ant1_Hop



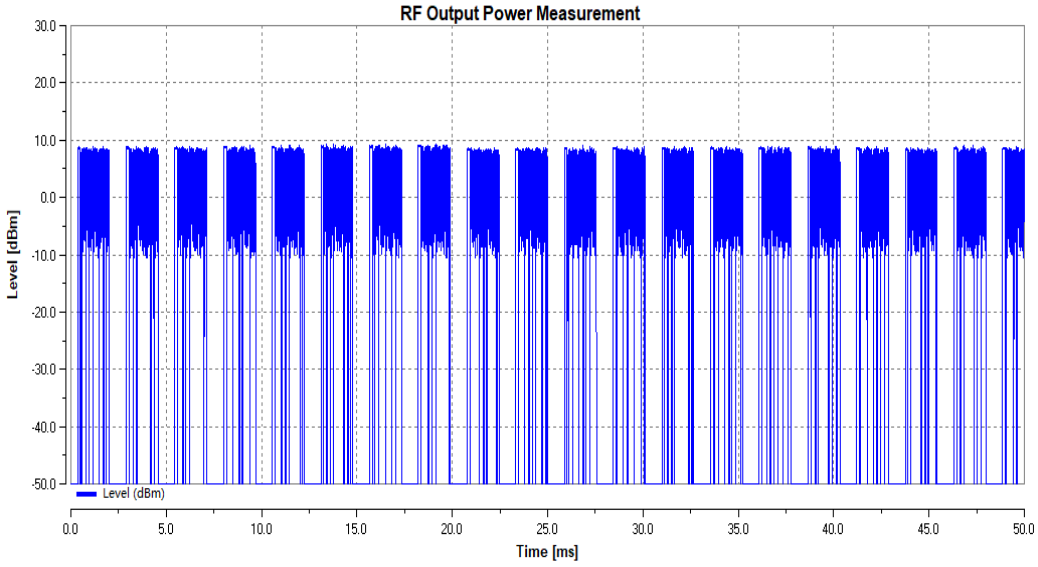
NTNV_2DH5_Ant1_Hop



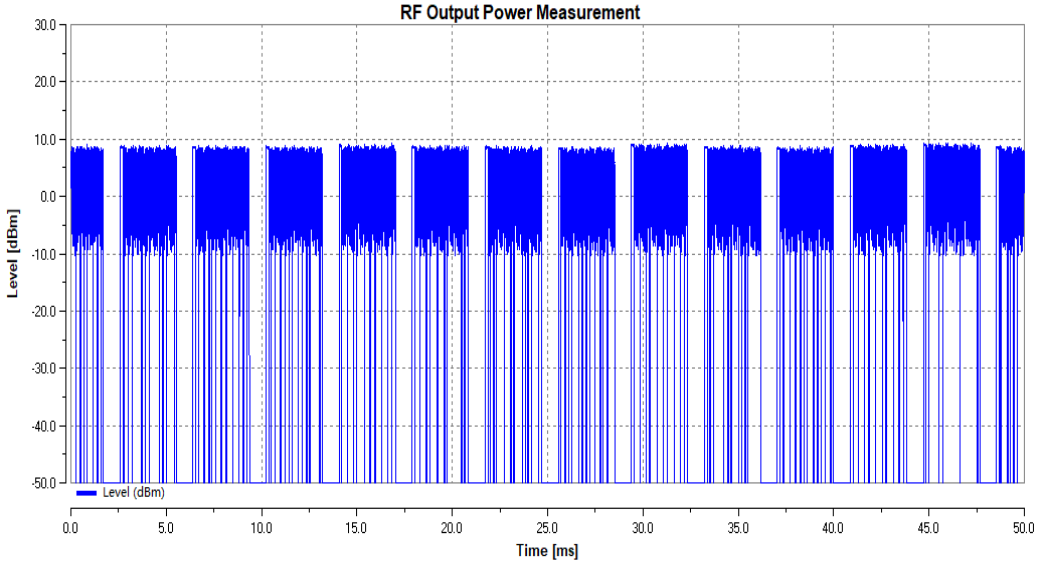
NTNV_3DH1_Ant1_Hop



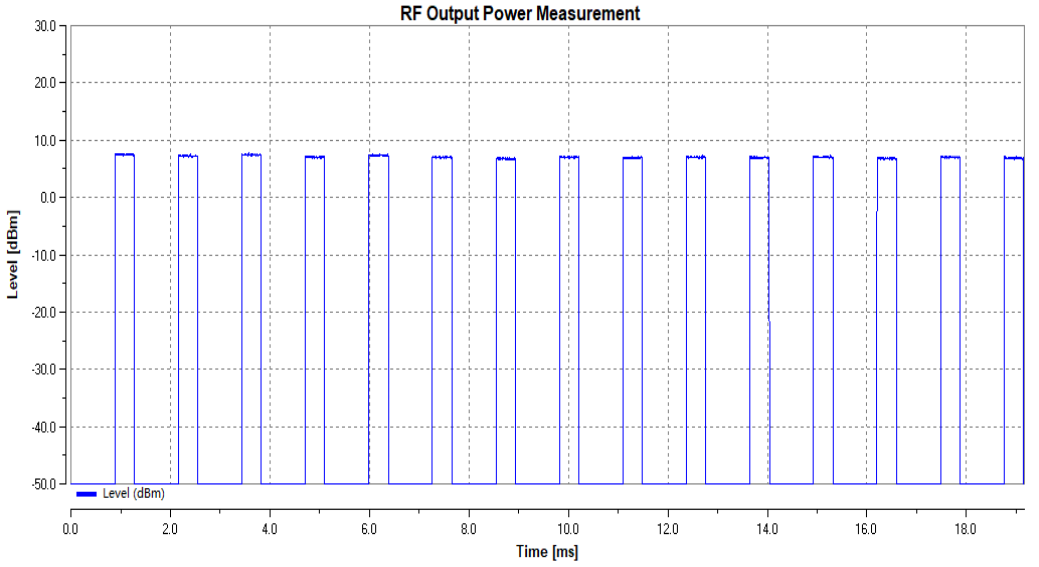
NTNV_3DH3_Ant1_Hop



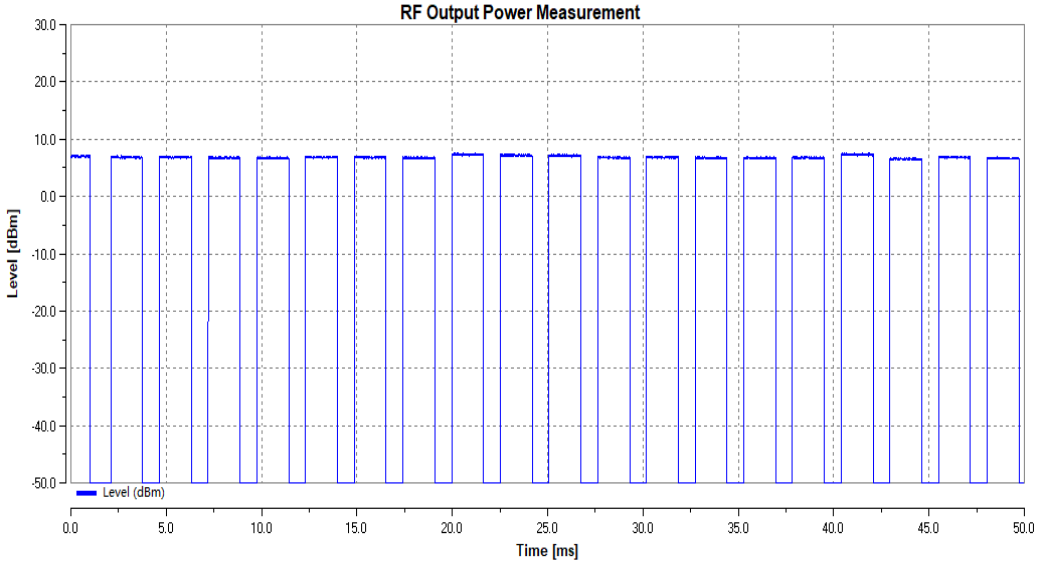
NTNV_3DH5_Ant1_Hop



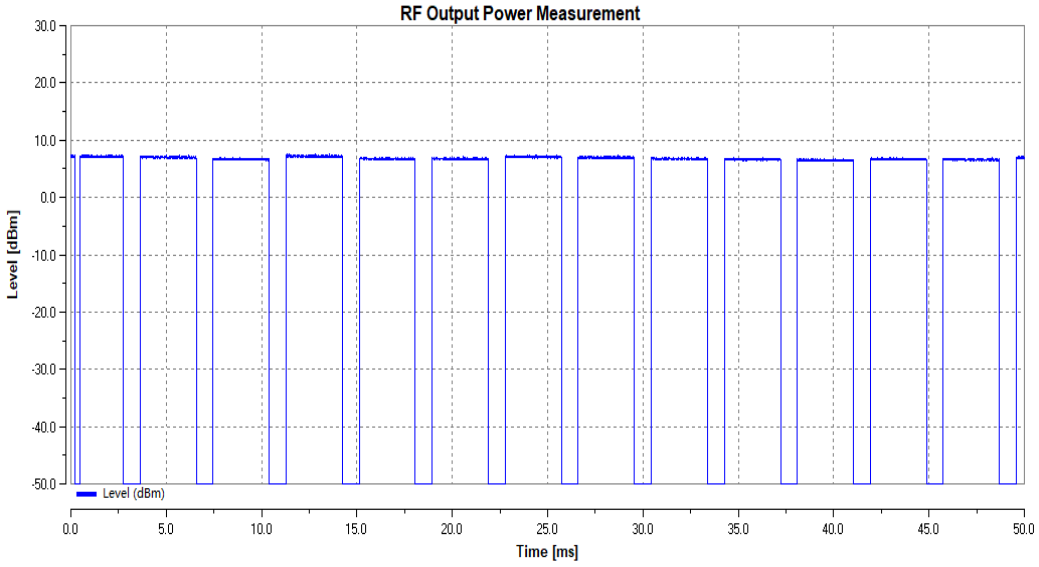
LTNV_DH1_Ant1_Hop



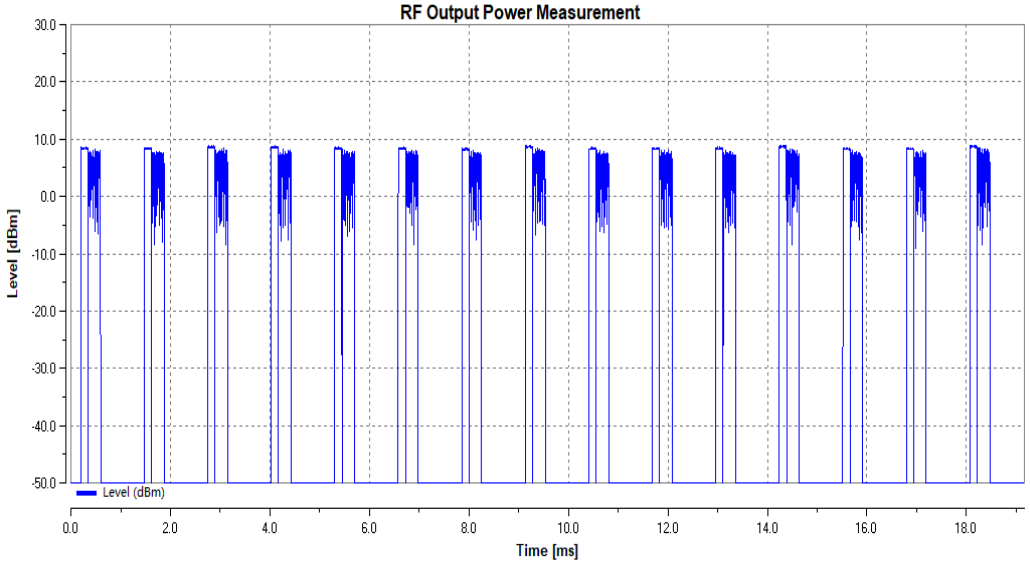
LTNV_DH3_Ant1_Hop



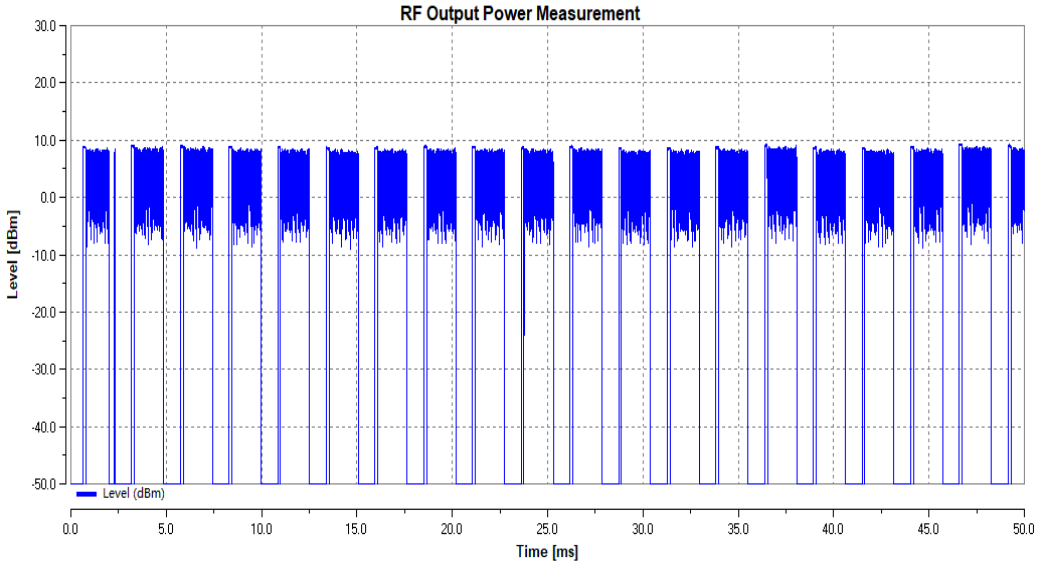
LTNV_DH5_Ant1_Hop



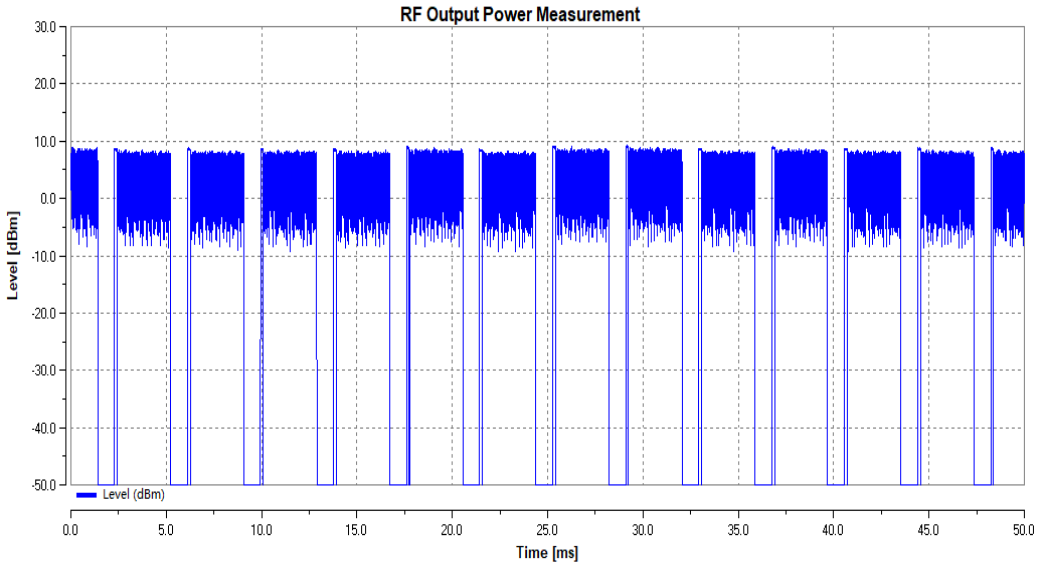
LTNV_2DH1_Ant1_Hop



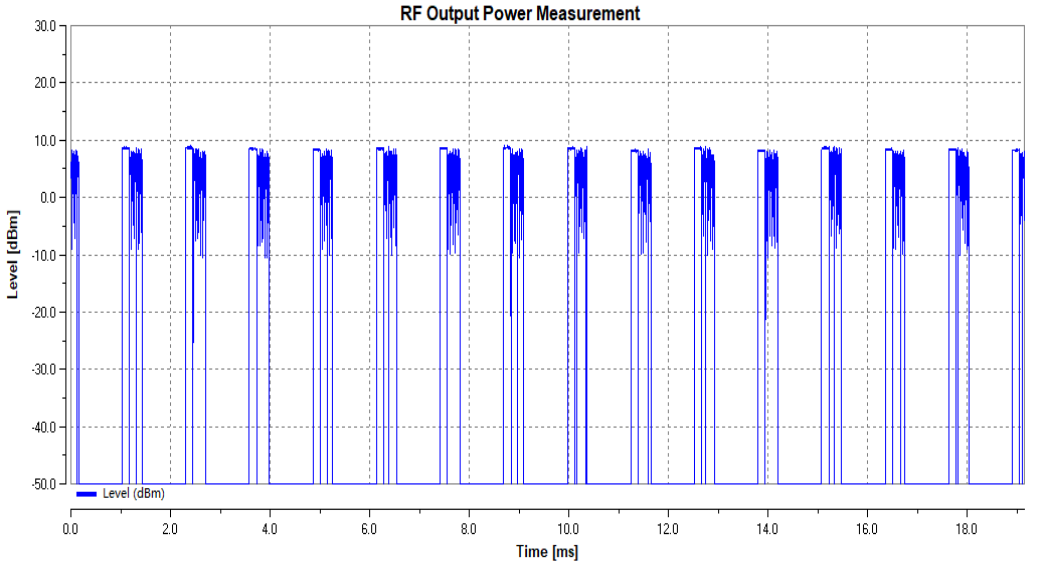
LTNV_2DH3_Ant1_Hop



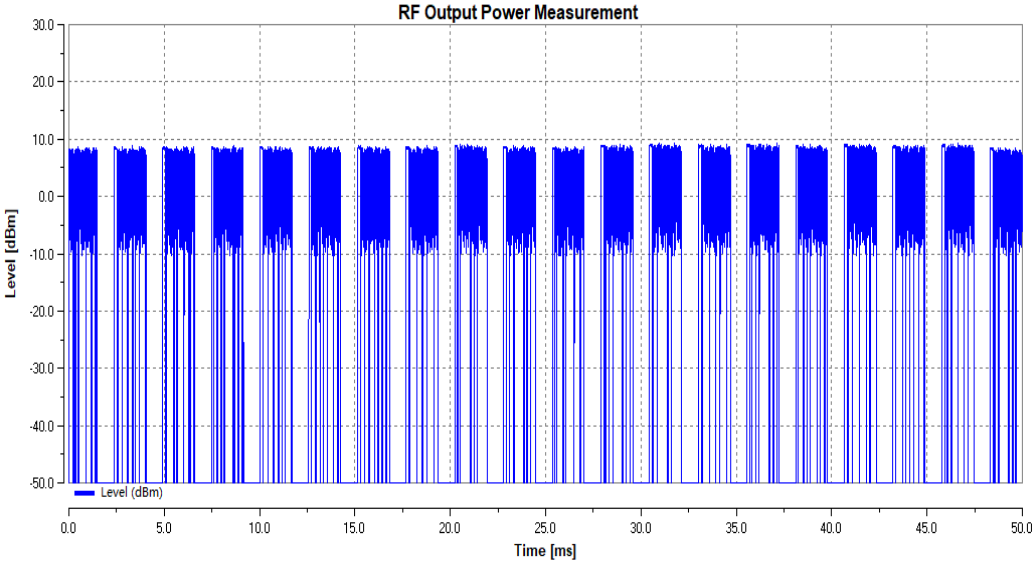
LTNV_2DH5_Ant1_Hop



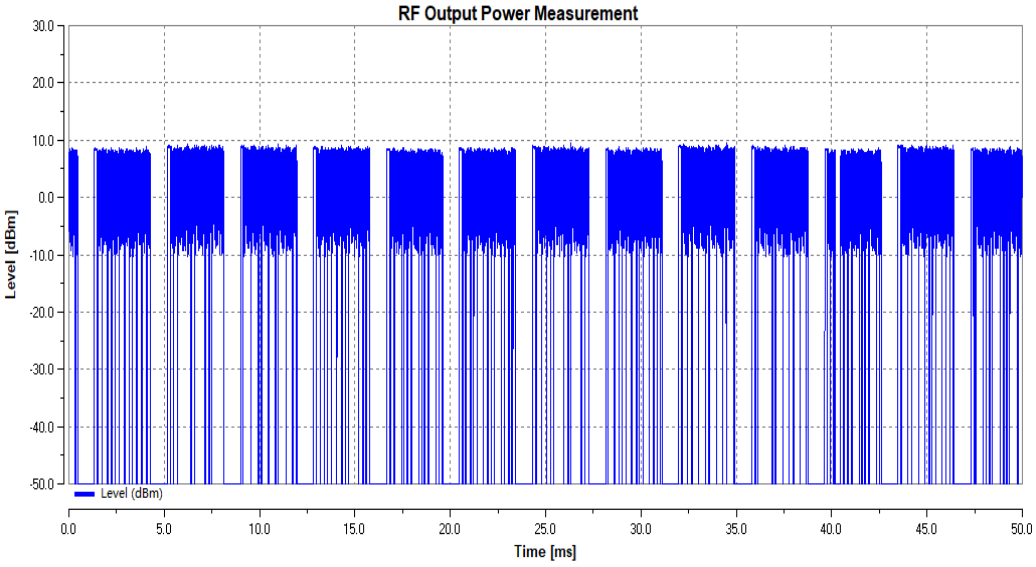
LTNV_3DH1_Ant1_Hop



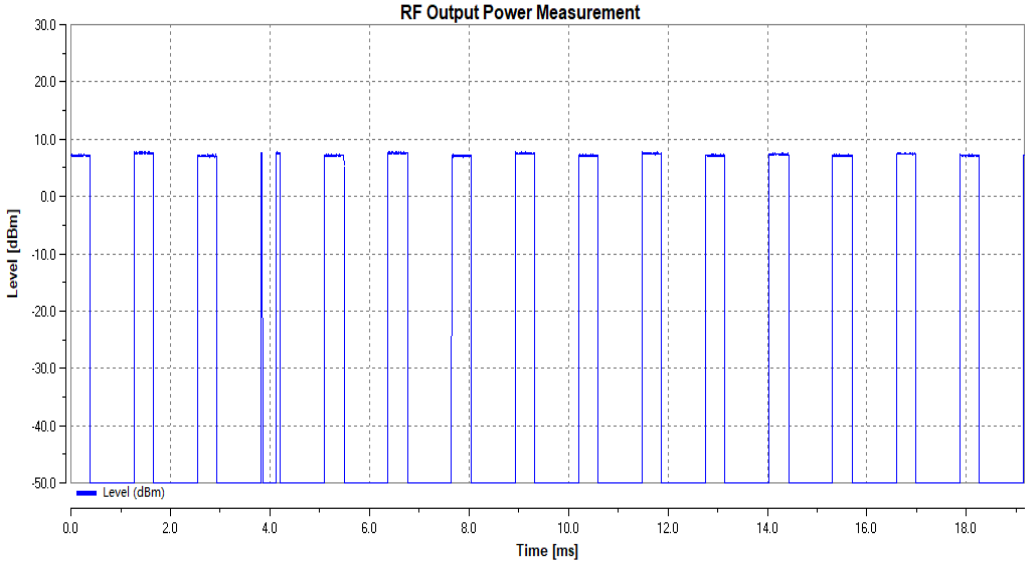
LTNV_3DH3_Ant1_Hop



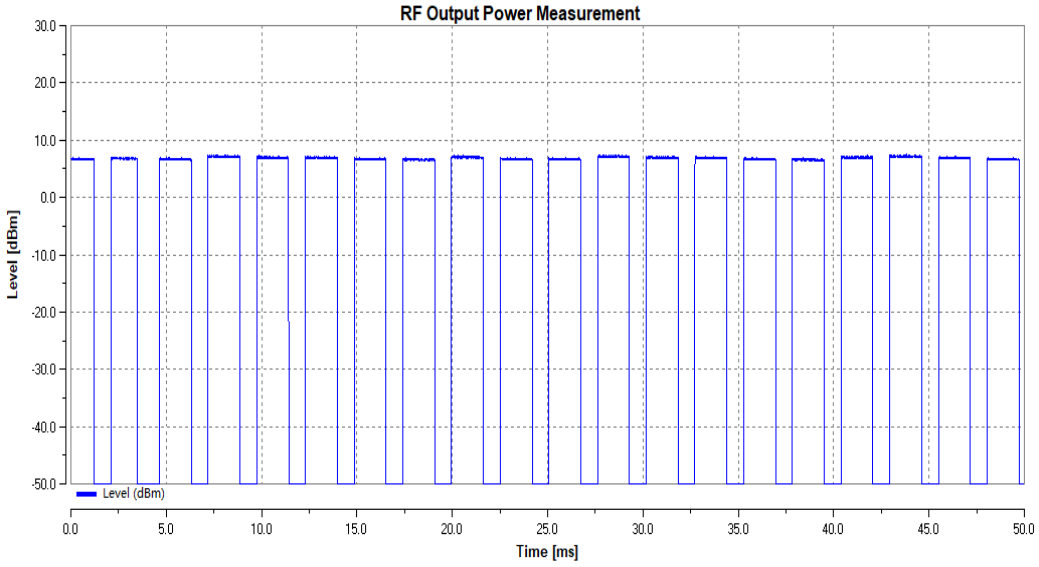
LTNV_3DH5_Ant1_Hop



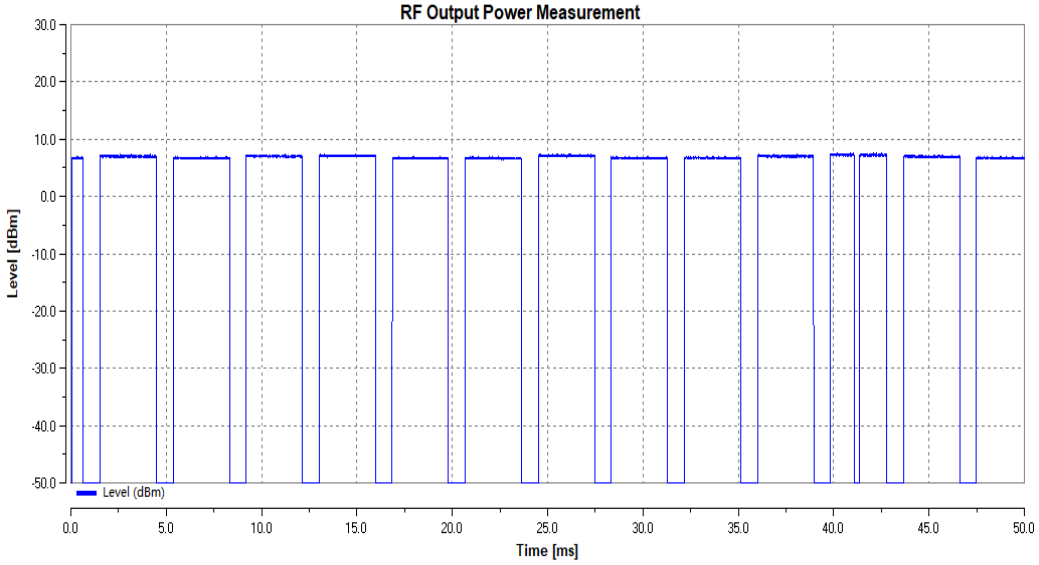
HTNV_DH1_Ant1_Hop



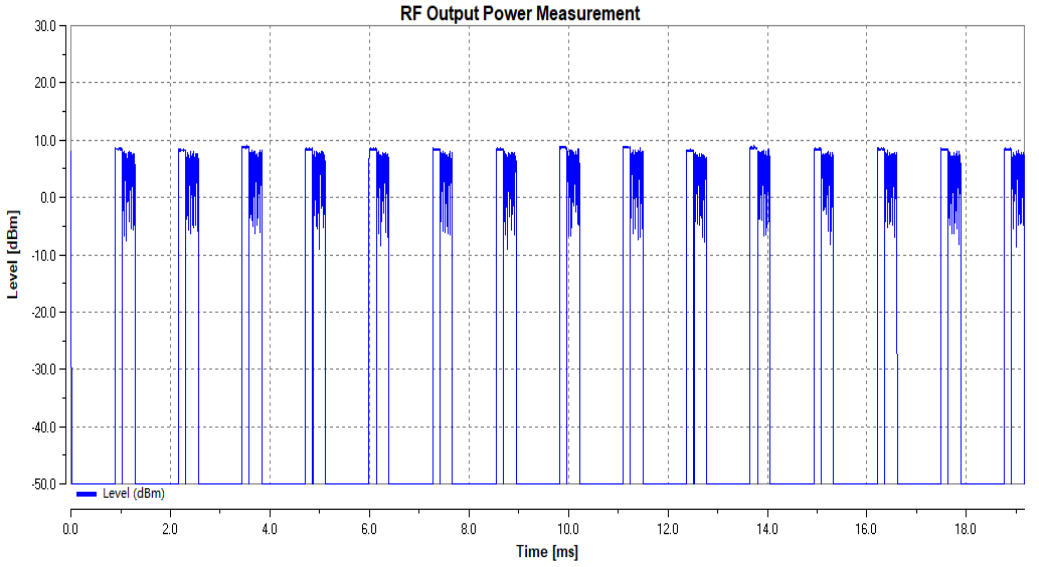
HTNV_DH3_Ant1_Hop



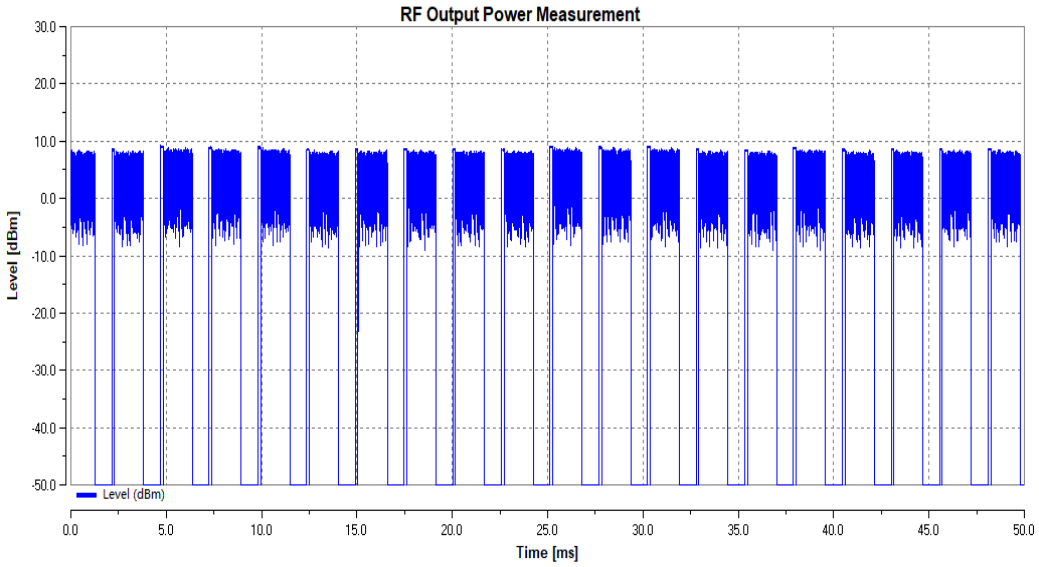
HTNV_DH5_Ant1_Hop



HTNV_2DH1_Ant1_Hop



HTNV_2DH3_Ant1_Hop



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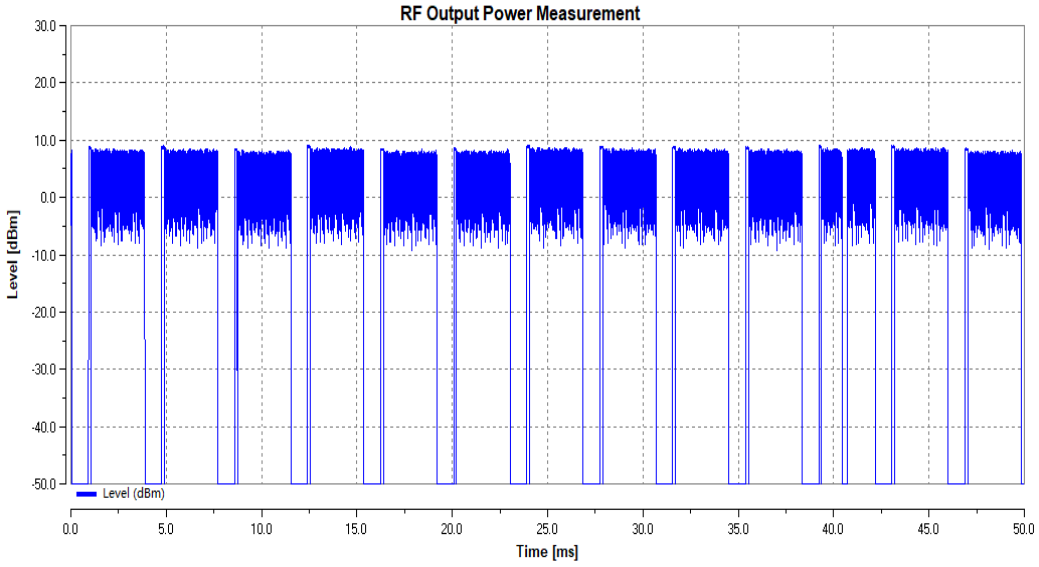
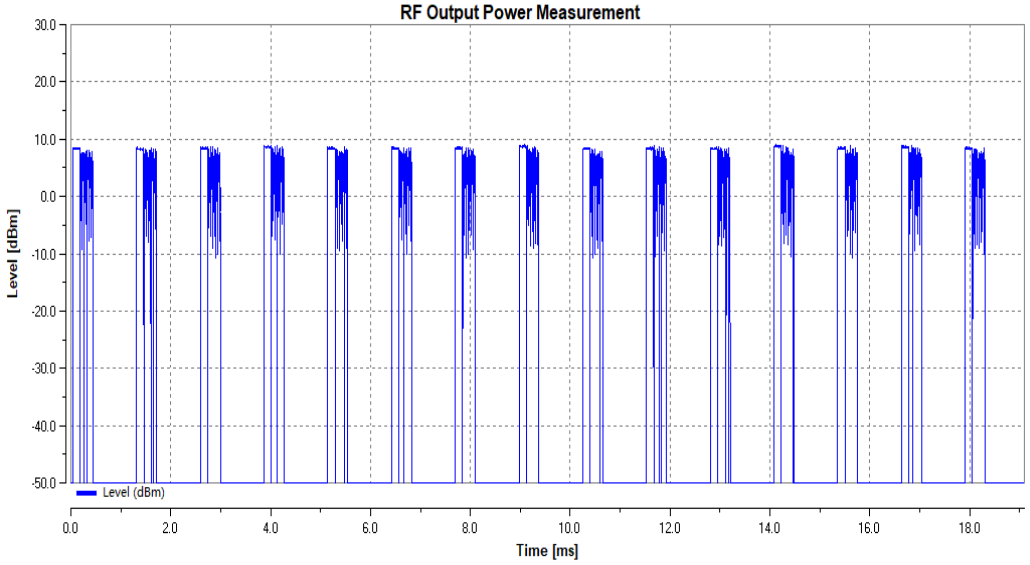
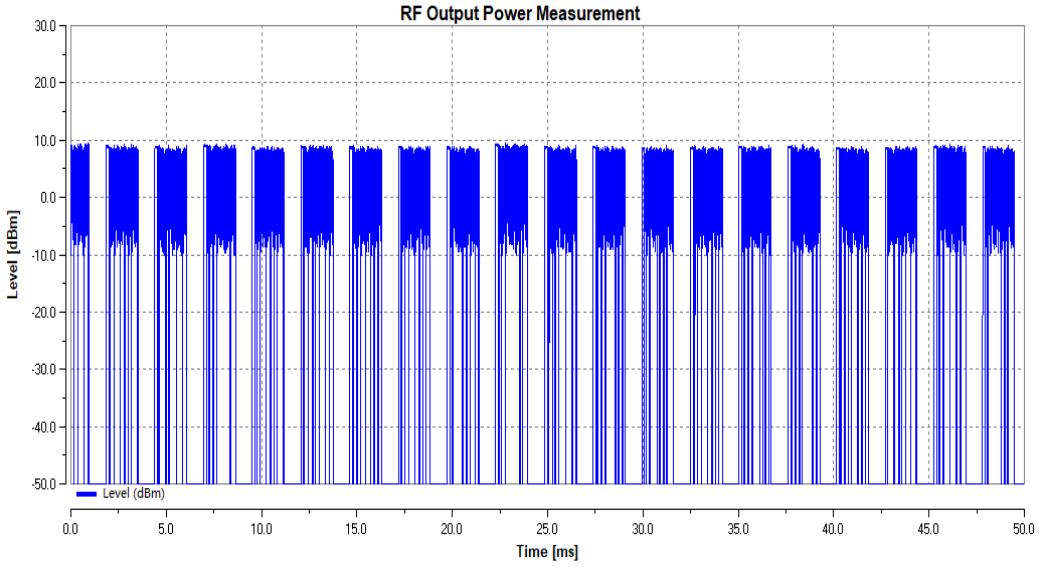


HTNV_3DH1_Ant1_Hop



HTNV_3DH3_Ant1_Hop



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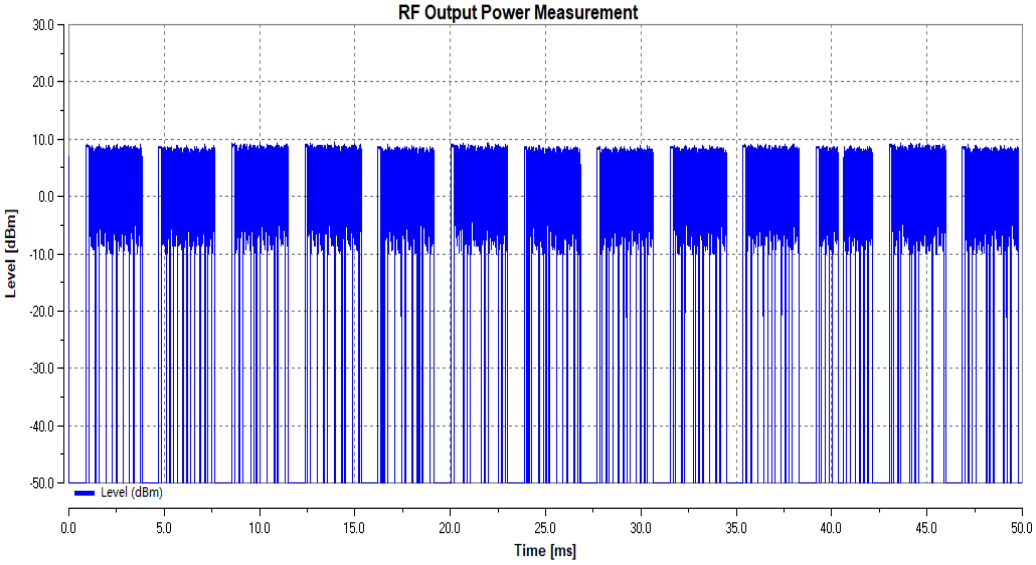
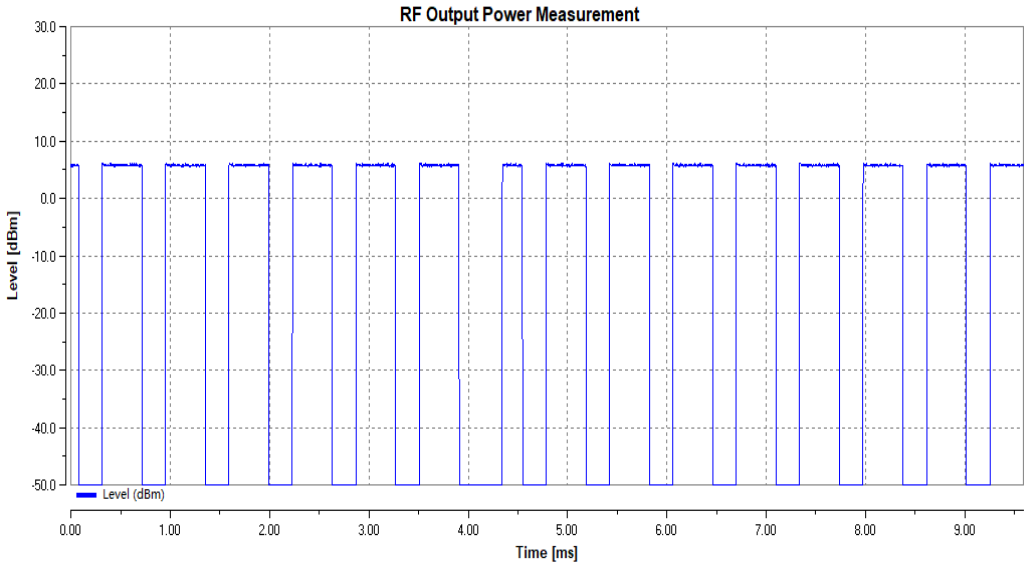
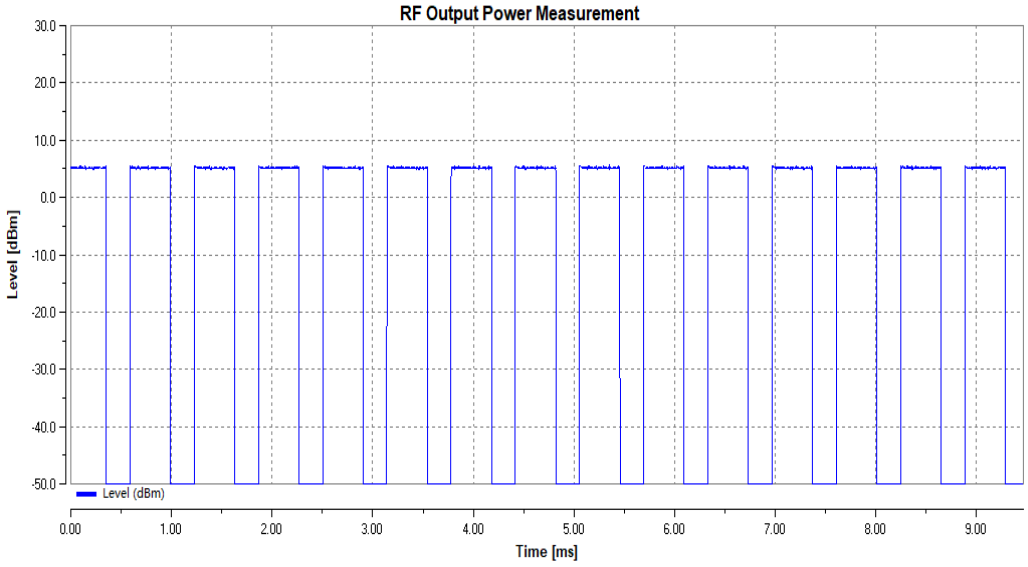

RF Output Power Measurement
Level [dBm]
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
-40.0
-50.0
Level (dBm)
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
Time [ms]

BLE

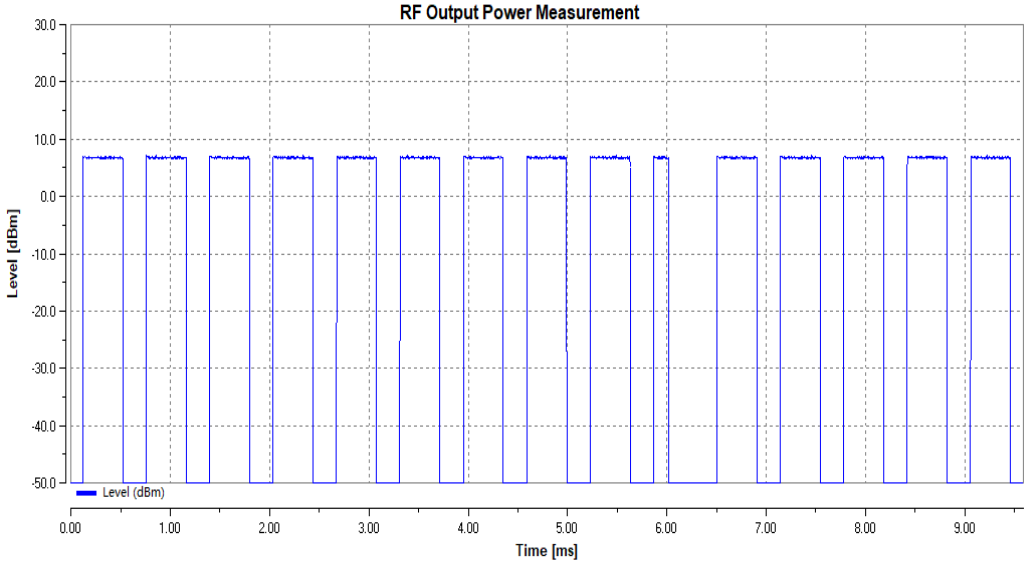
NTNV_BLE_BT4.2_Ant1_2402



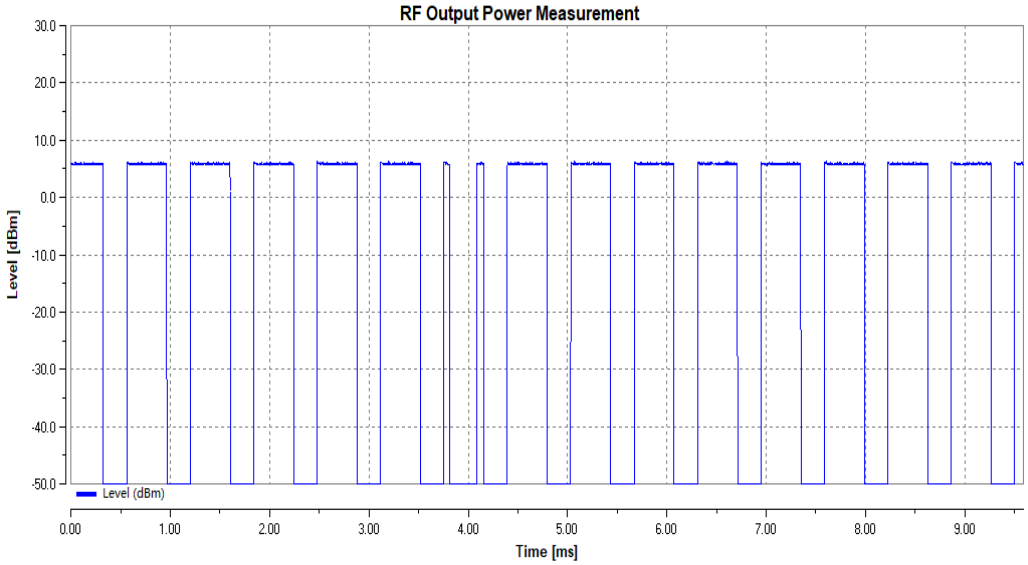
NTNV_BLE_BT4.2_Ant1_2440



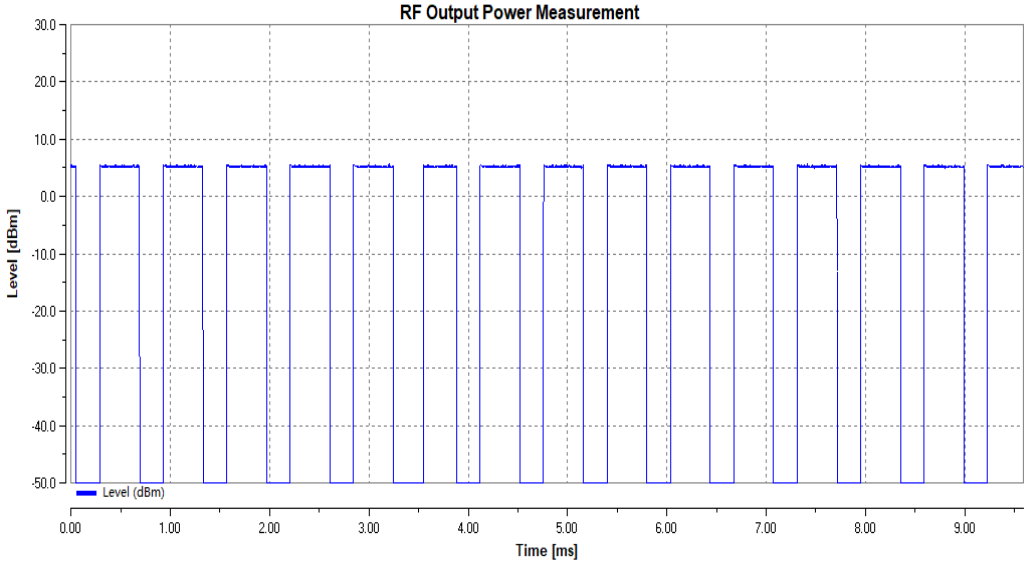
NTNV_BLE_BT4.2_Ant1_2480



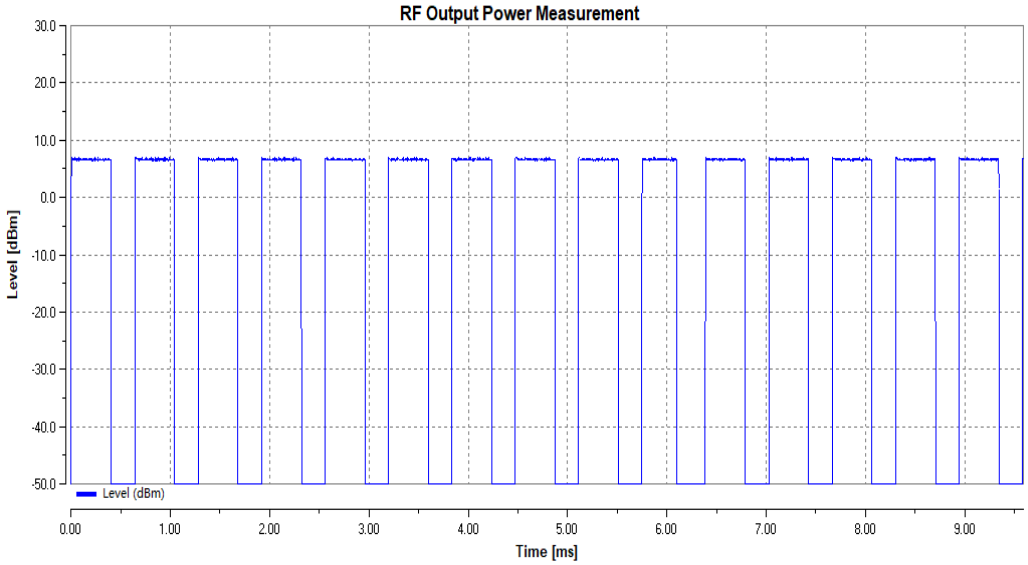
LTNV_BLE_BT4.2_Ant1_2402



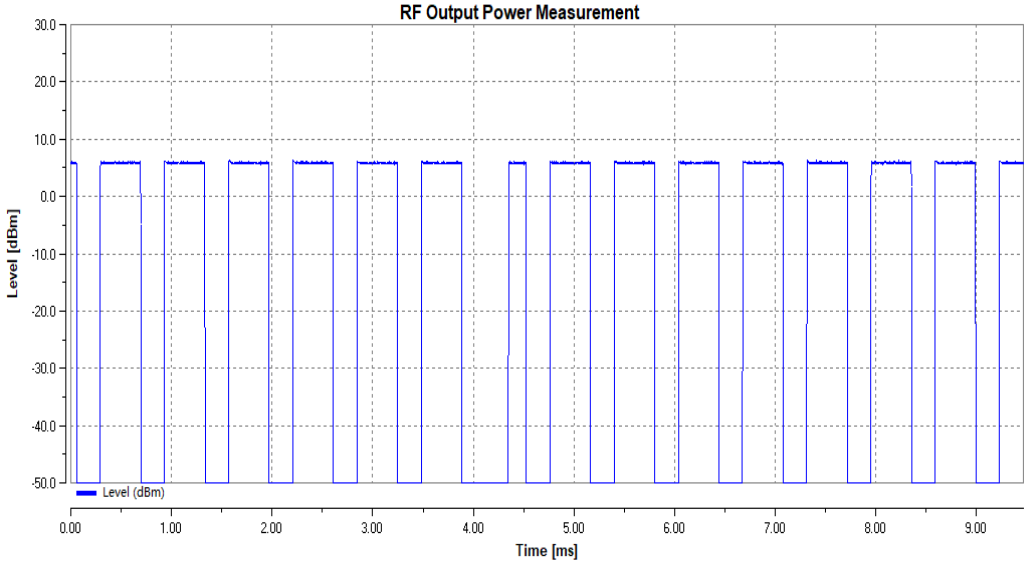
LTNV_BLE_BT4.2_Ant1_2440



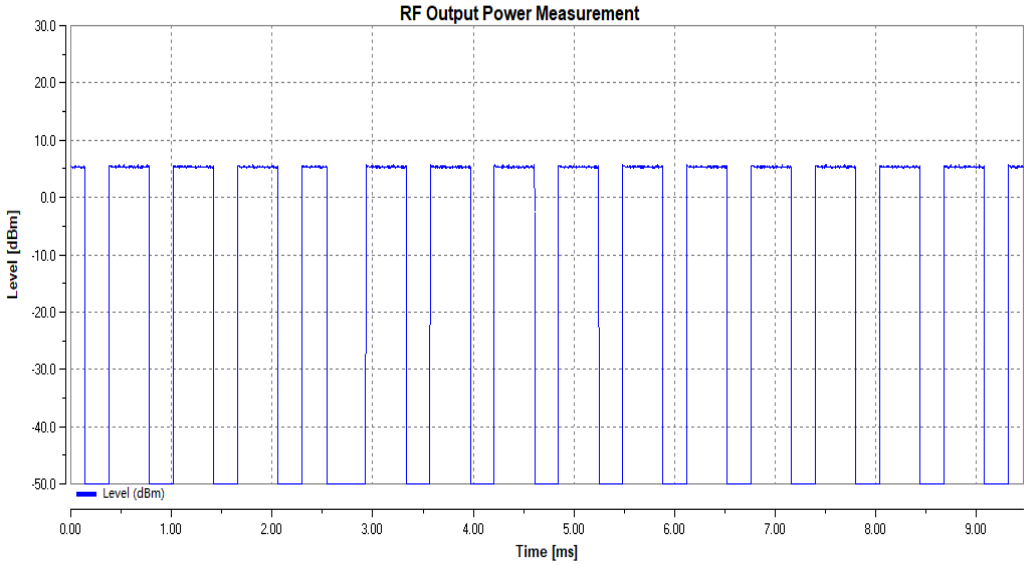
LTNV_BLE_BT4.2_Ant1_2480



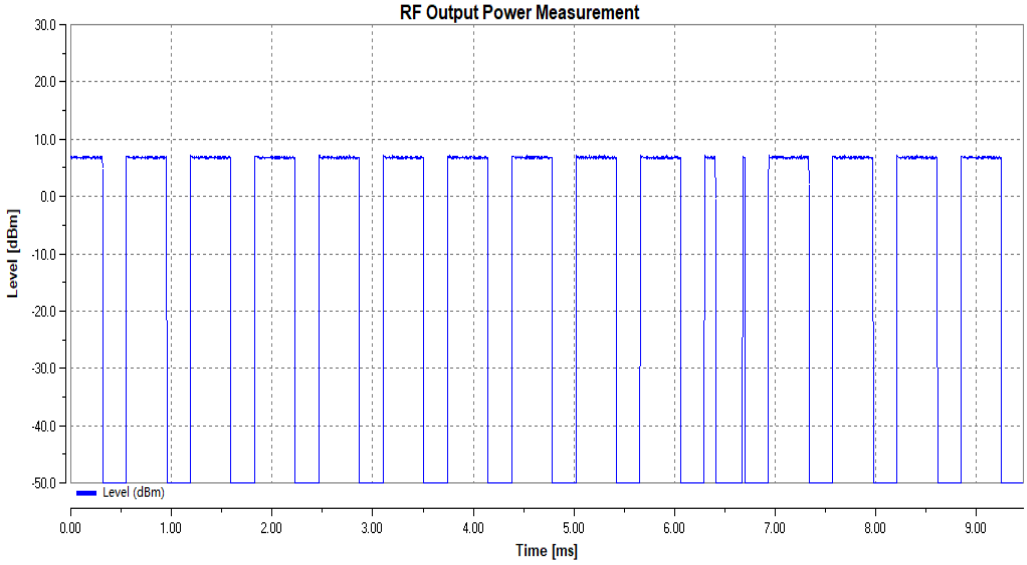
HTNV_BLE_BT4.2_Ant1_2402



HTNV_BLE_BT4.2_Ant1_2440

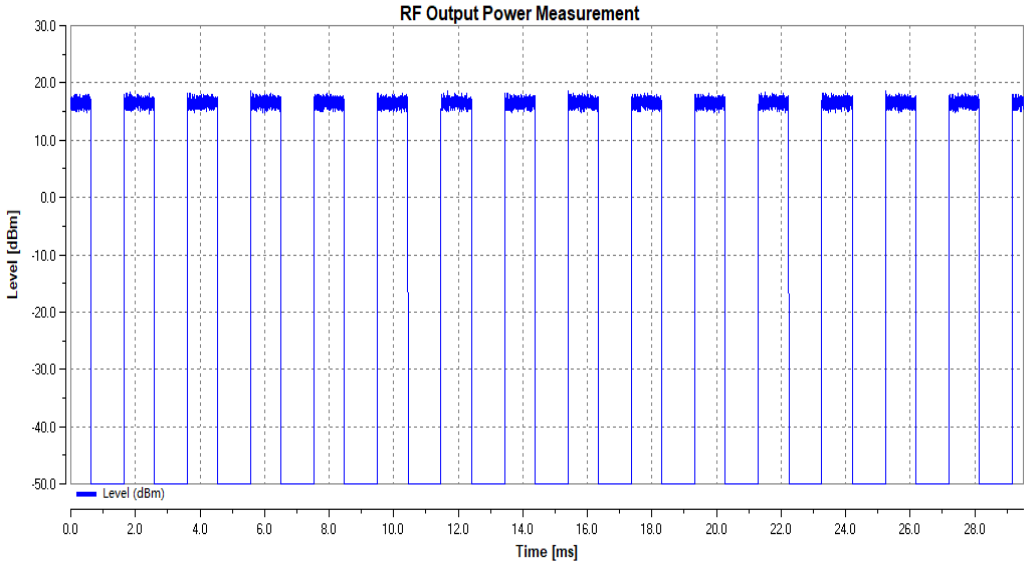


HTNV_BLE_BT4.2_Ant1_2480

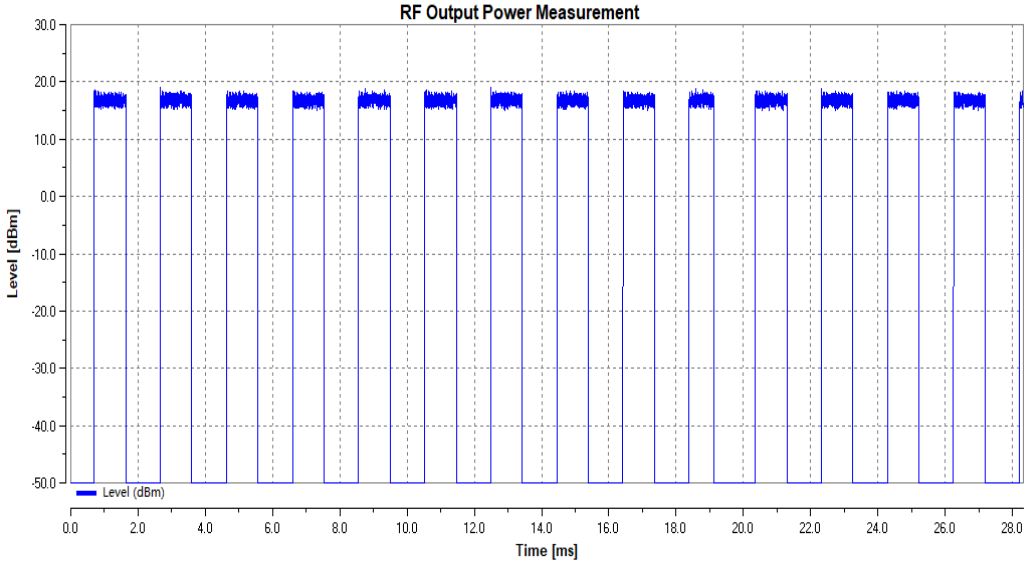


WLAN

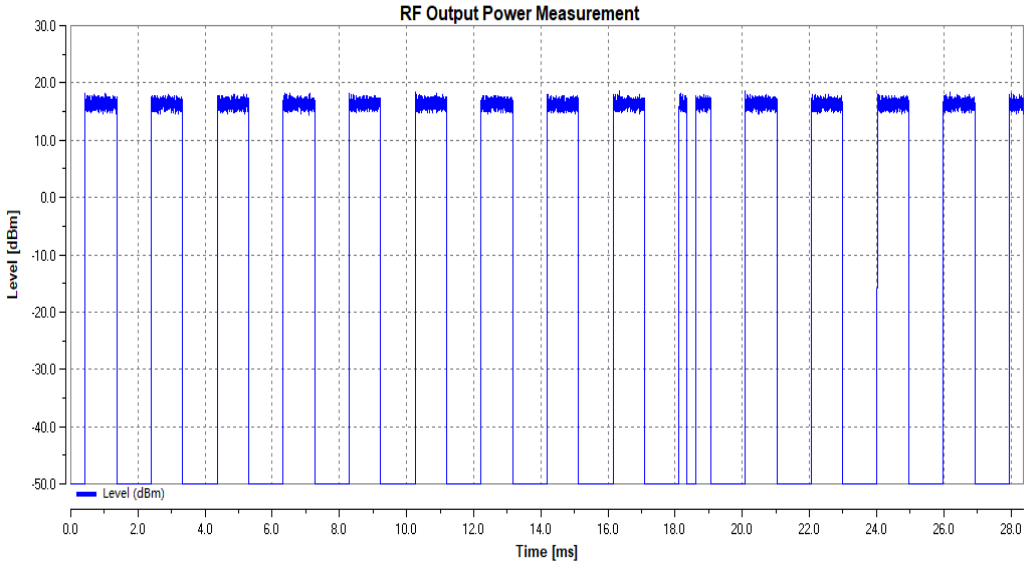
NTNV_11B_Ant1_2412



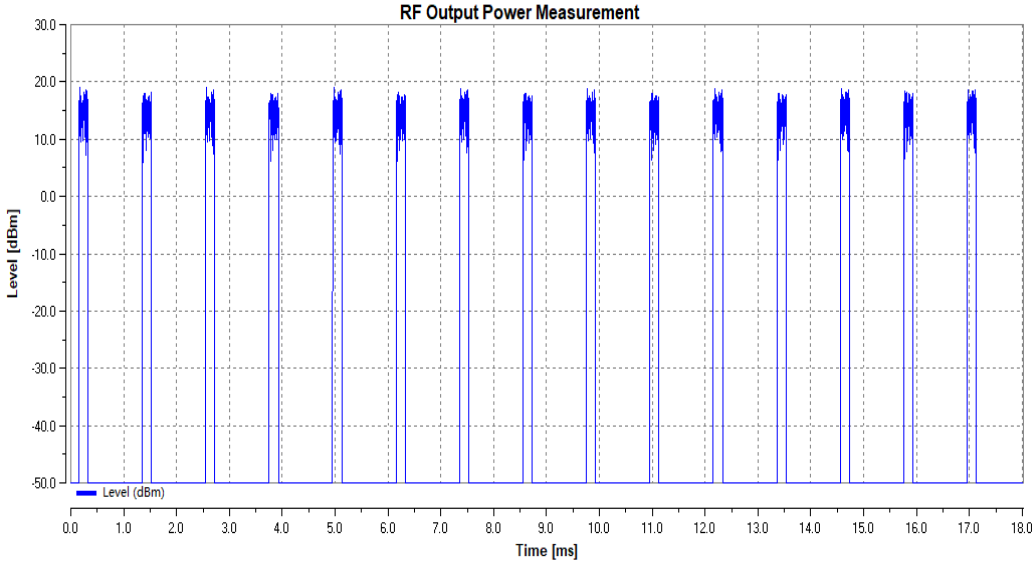
NTNV_11B_Ant1_2442



NTNV_11B_Ant1_2472



NTNV_11G_Ant1_2412



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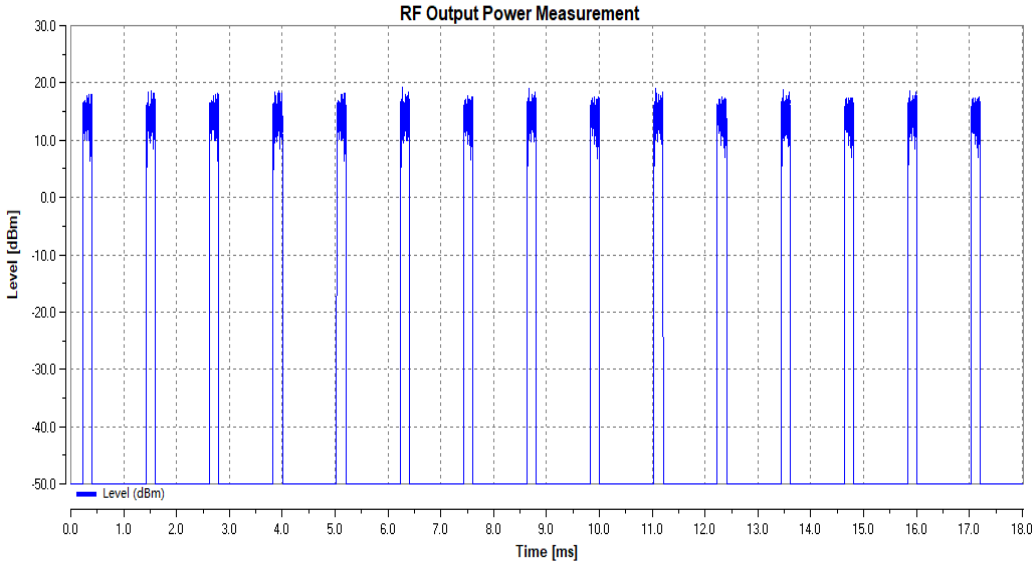
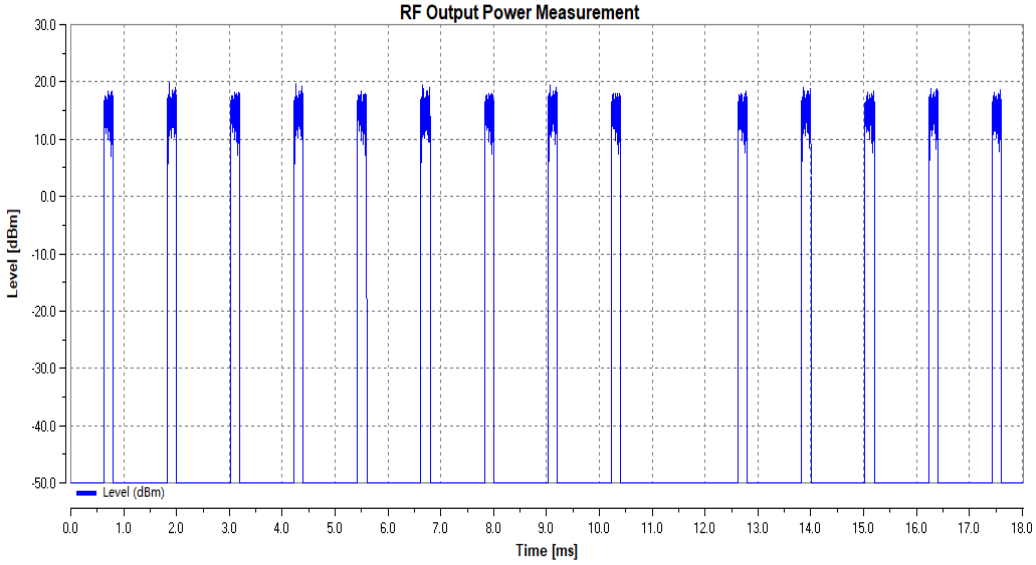
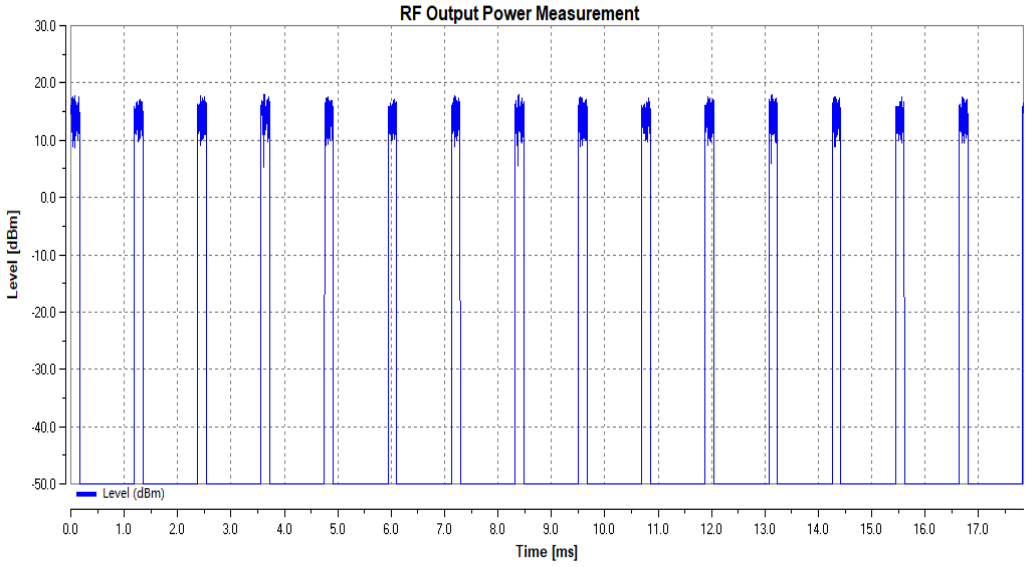


NTNV_11G_Ant1_2472



NTNV_11N20SISO_Ant1_2412



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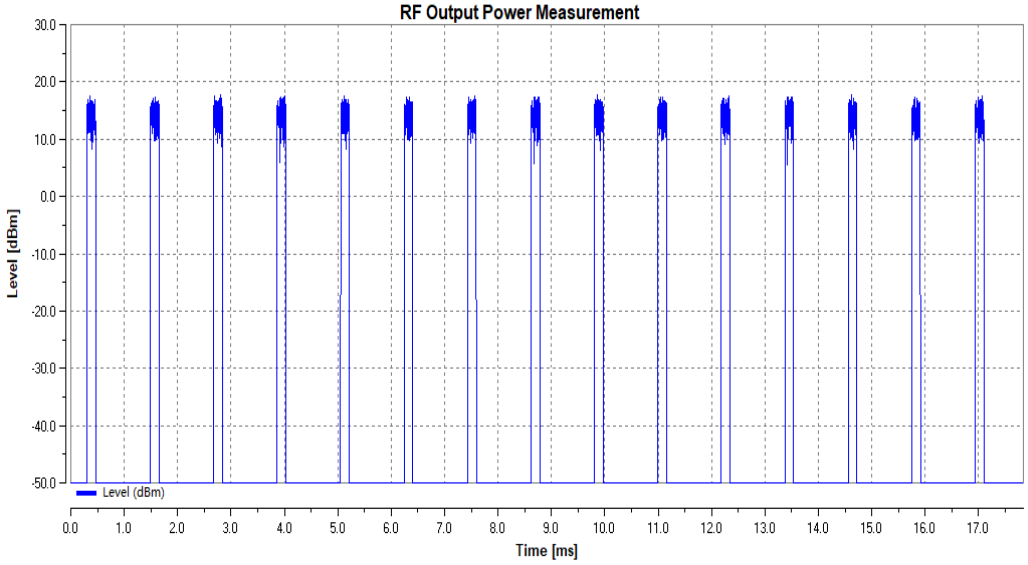

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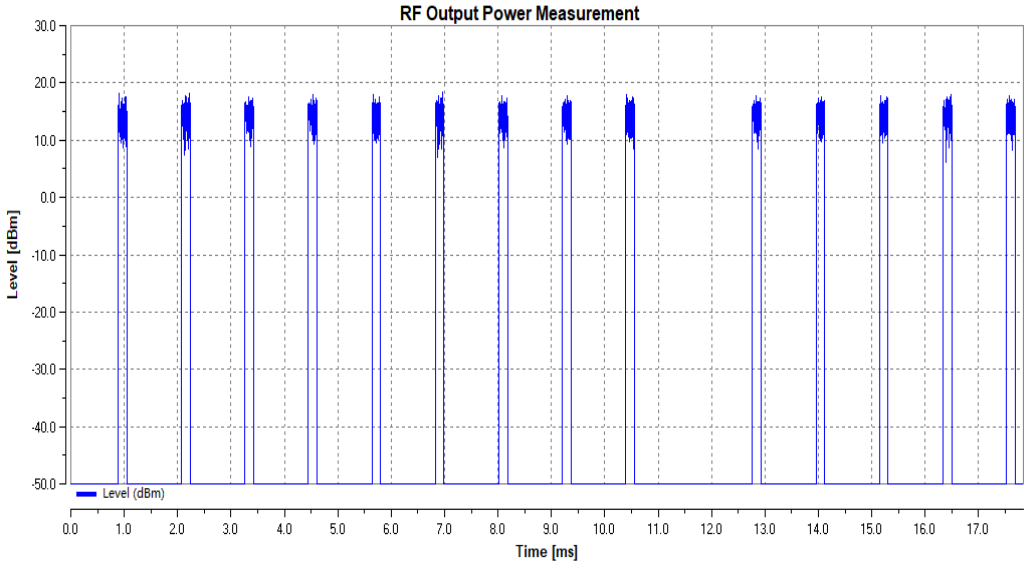
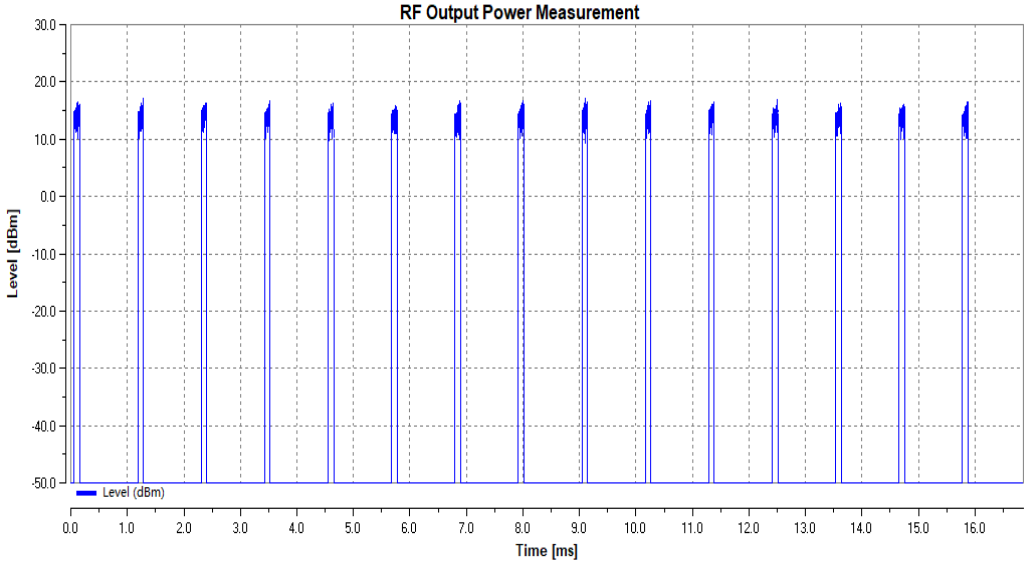
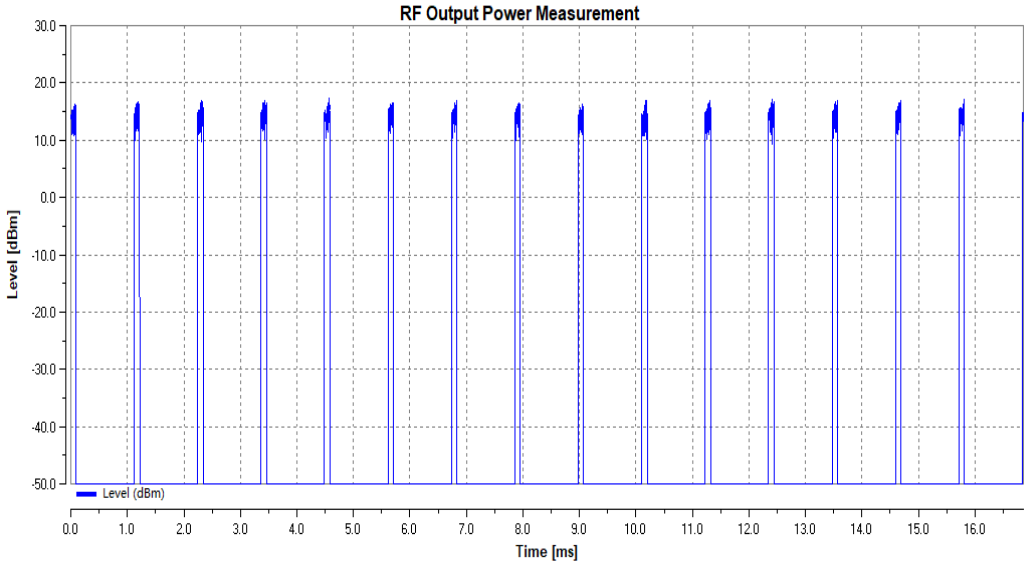


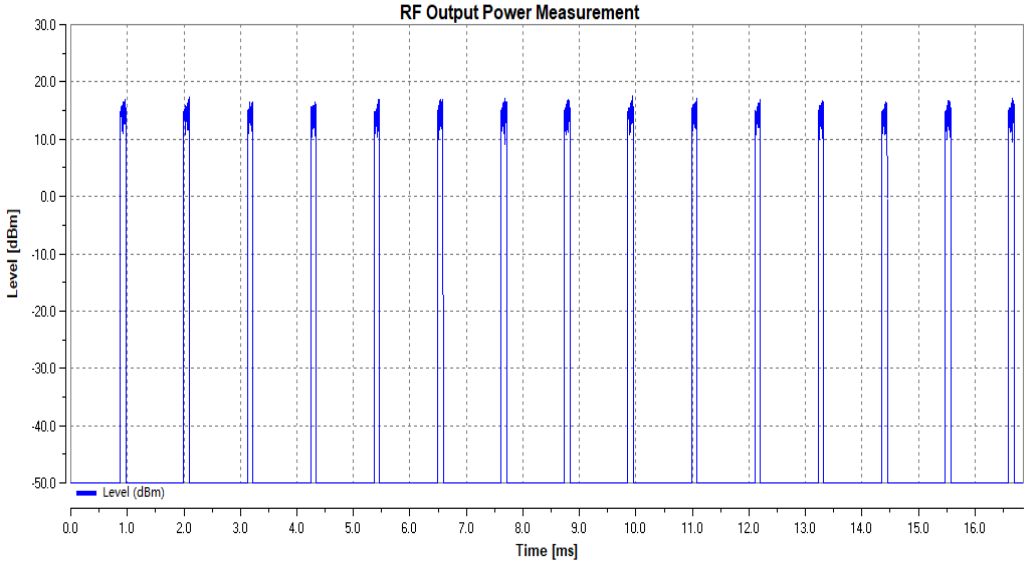
NTNV_11N40SISO_Ant1_2422



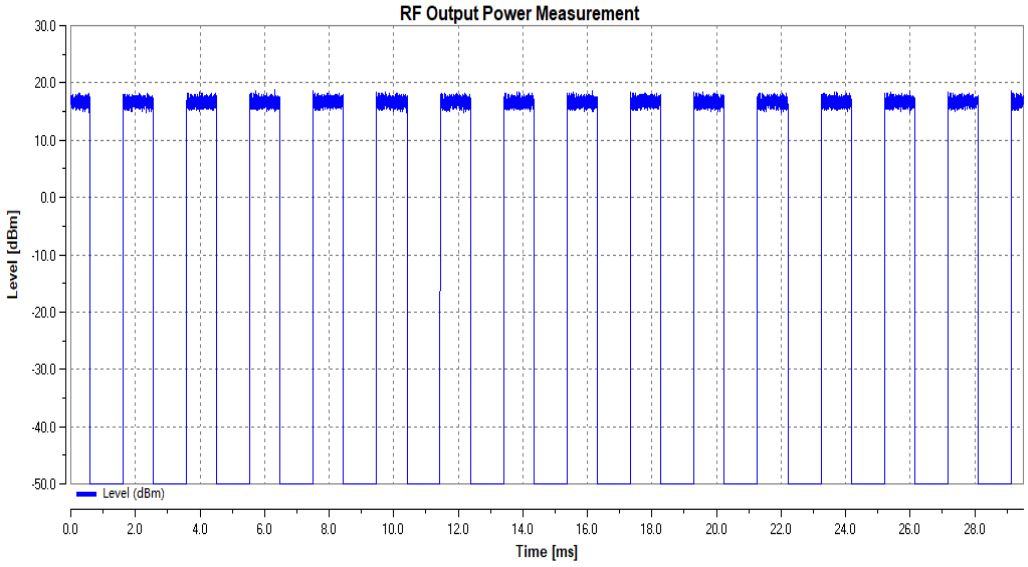
NTNV_11N40SISO_Ant1_2442



NTNV_11N40SISO_Ant1_2462



LTNV_11B_Ant1_2412



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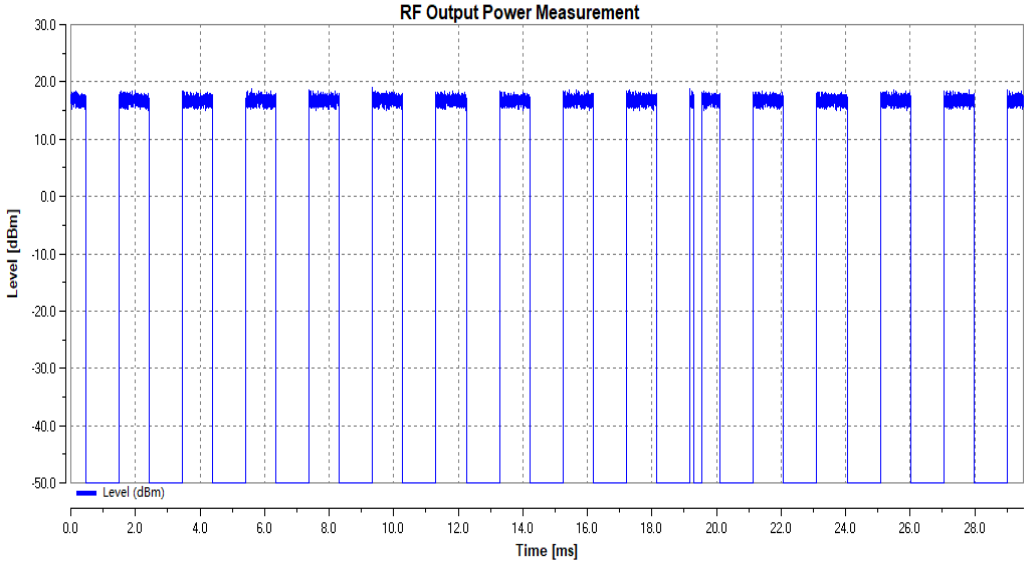

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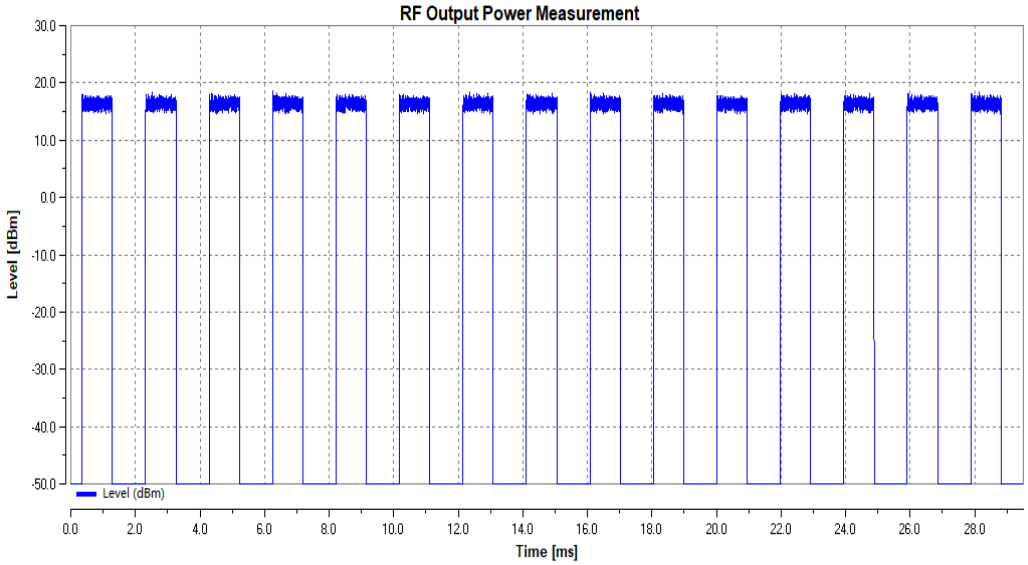
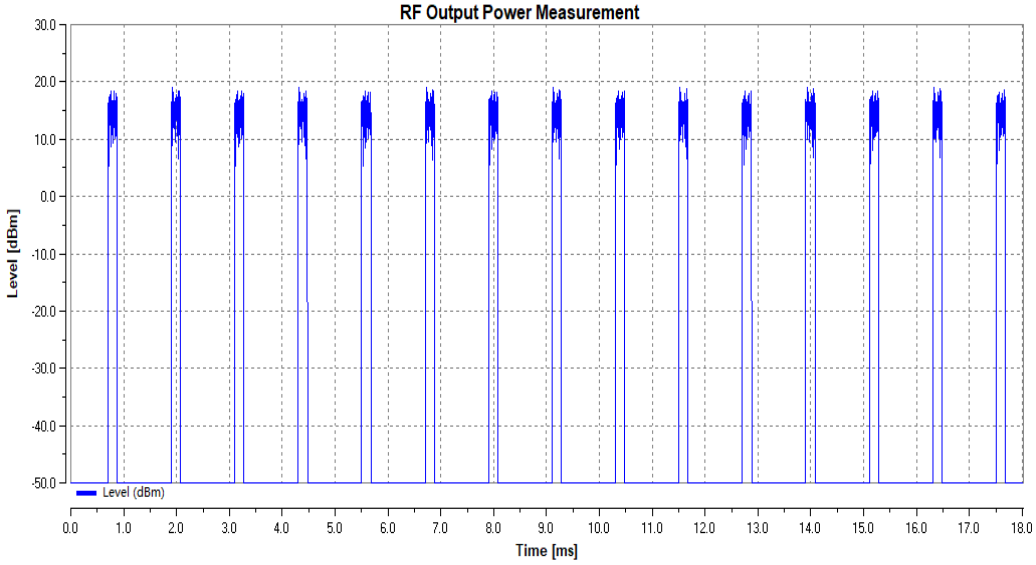
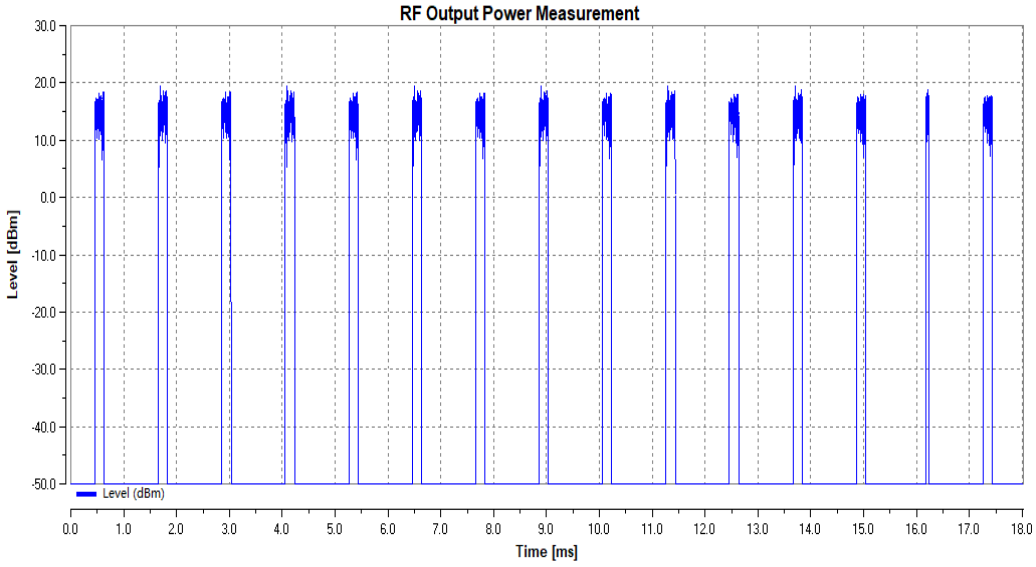


LTNV_11G_Ant1_2412



LTNV_11G_Ant1_2442



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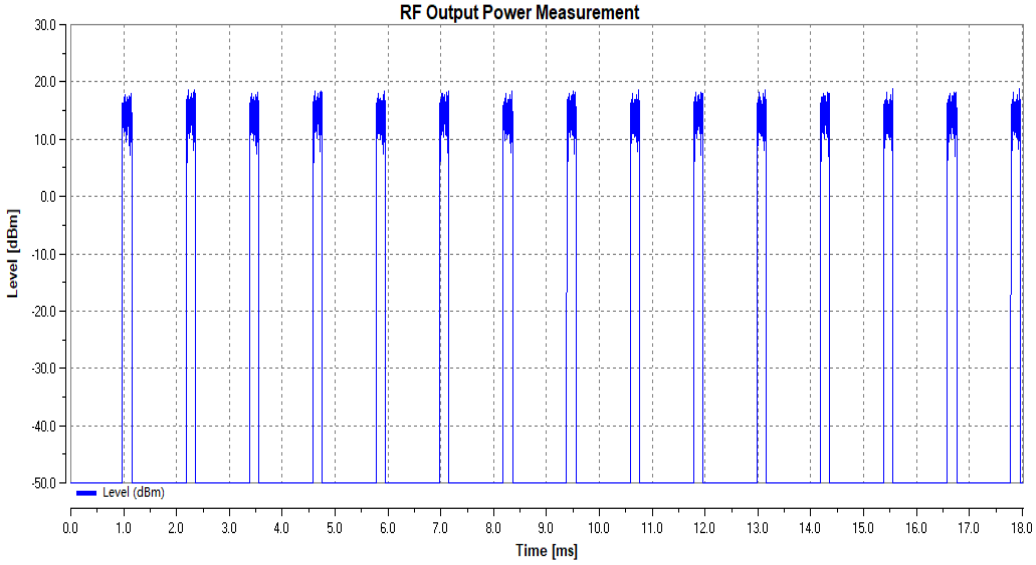

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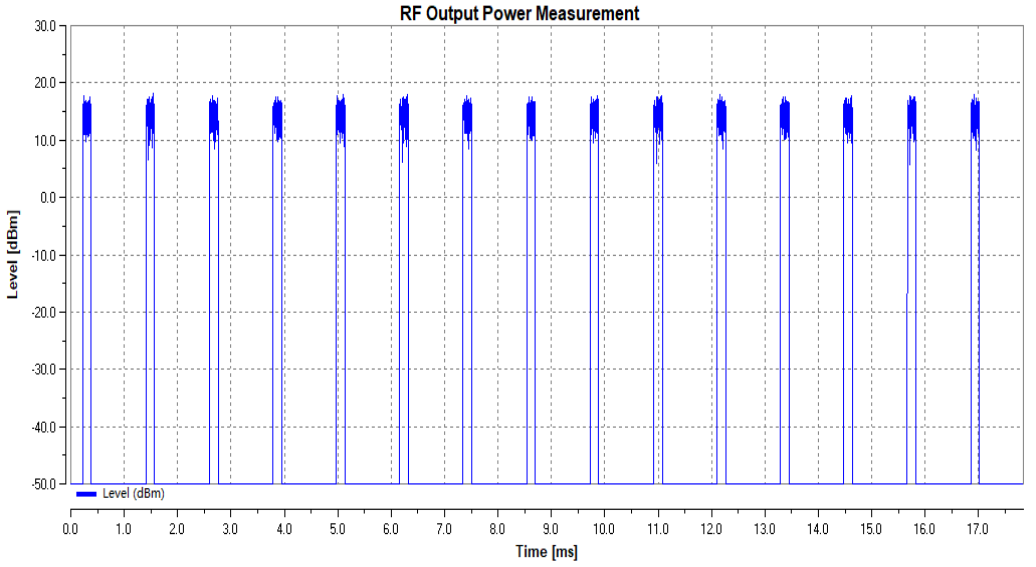

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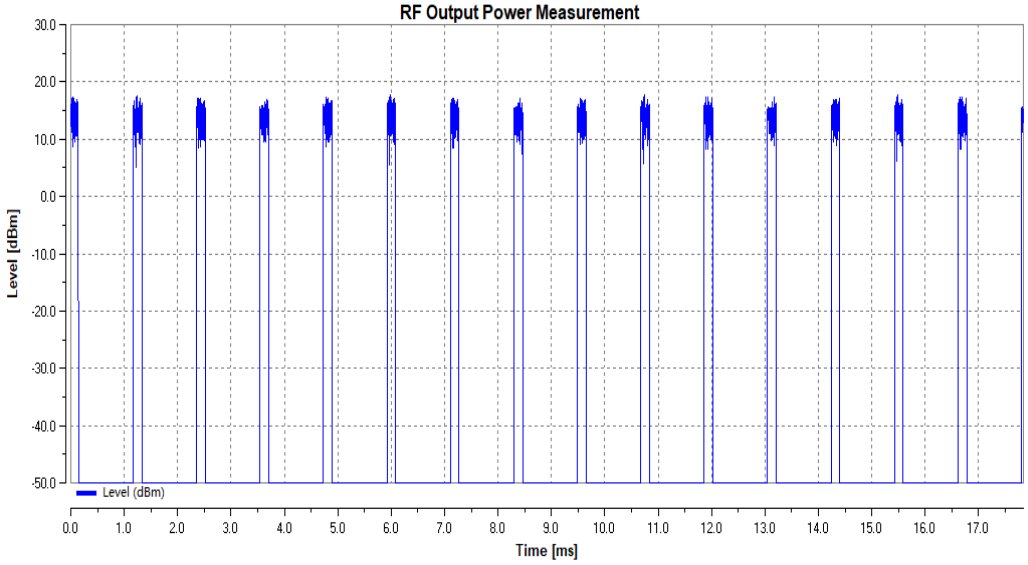

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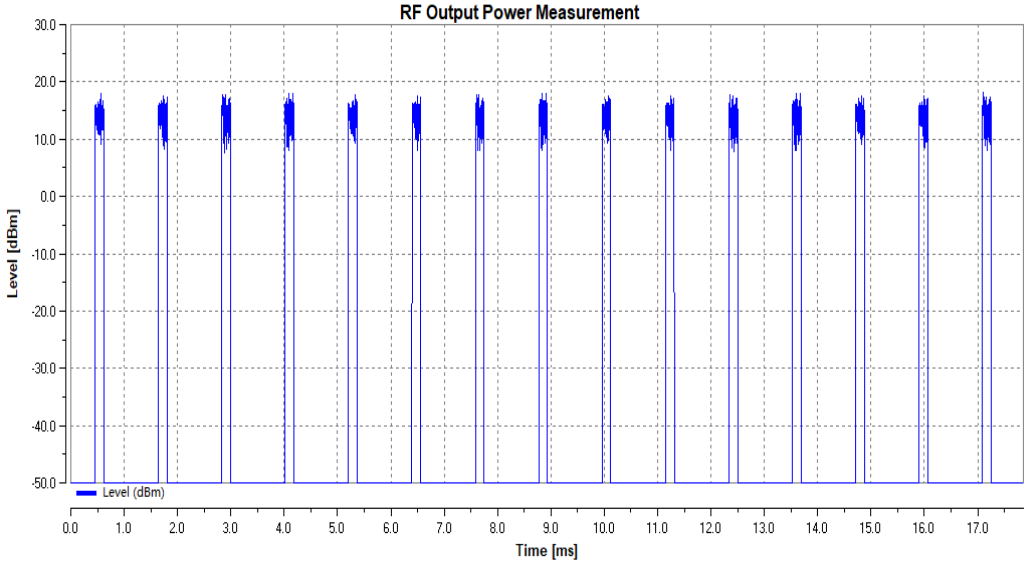

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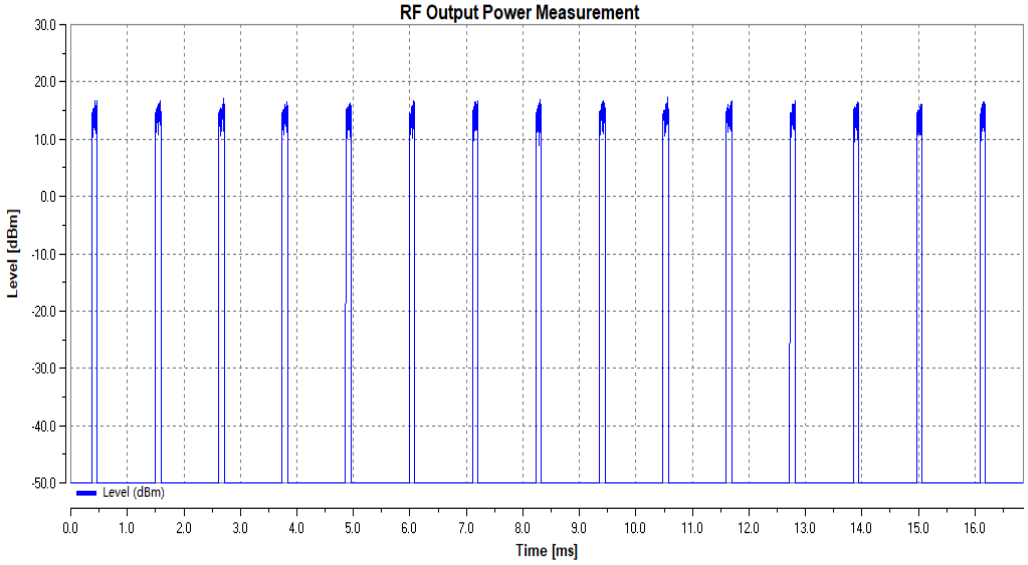

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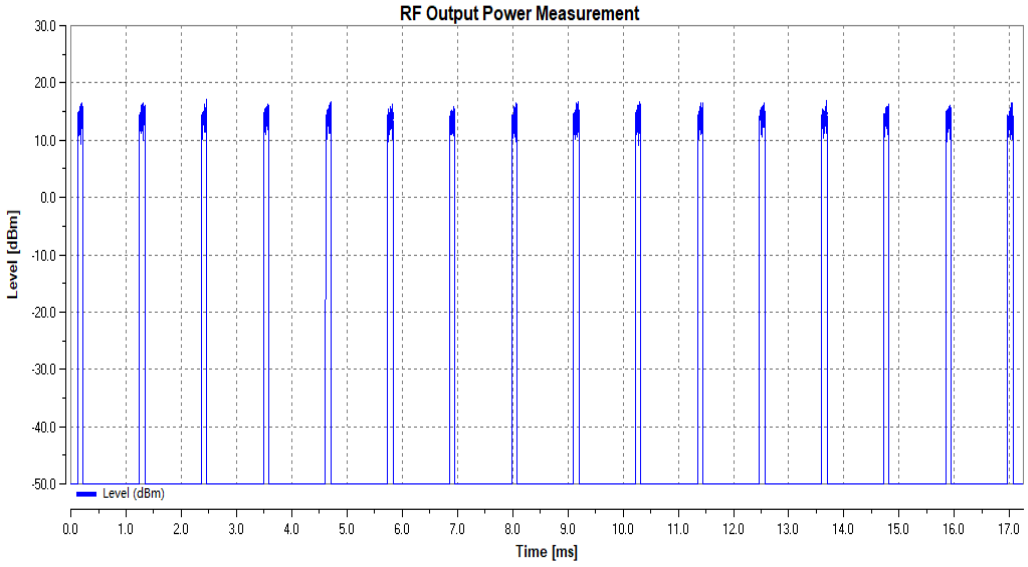

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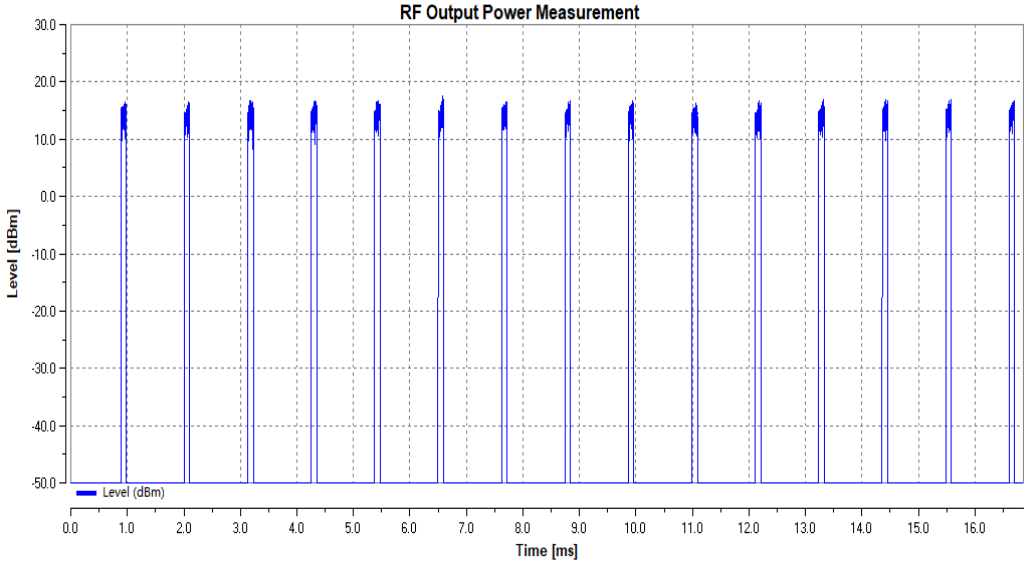

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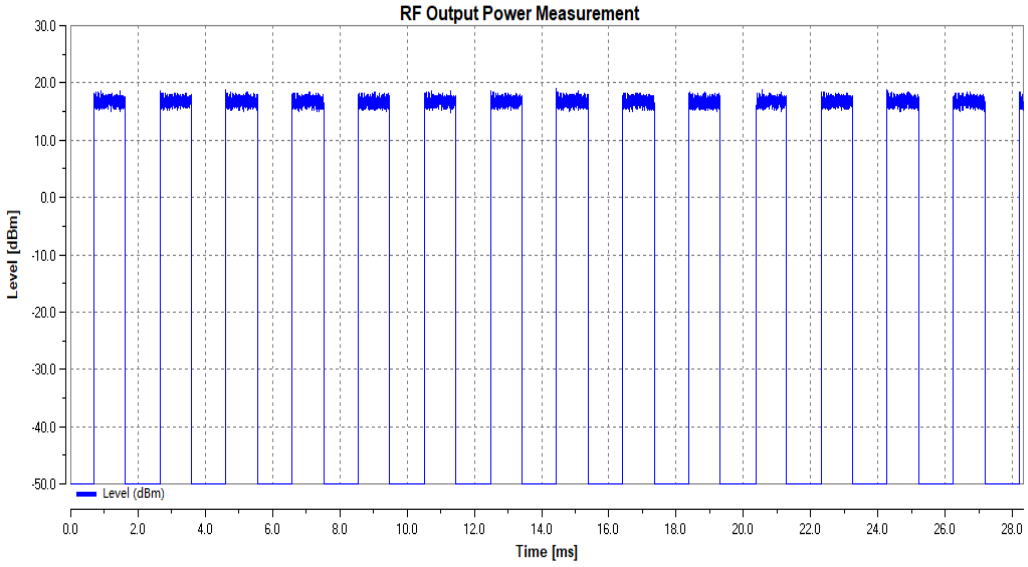

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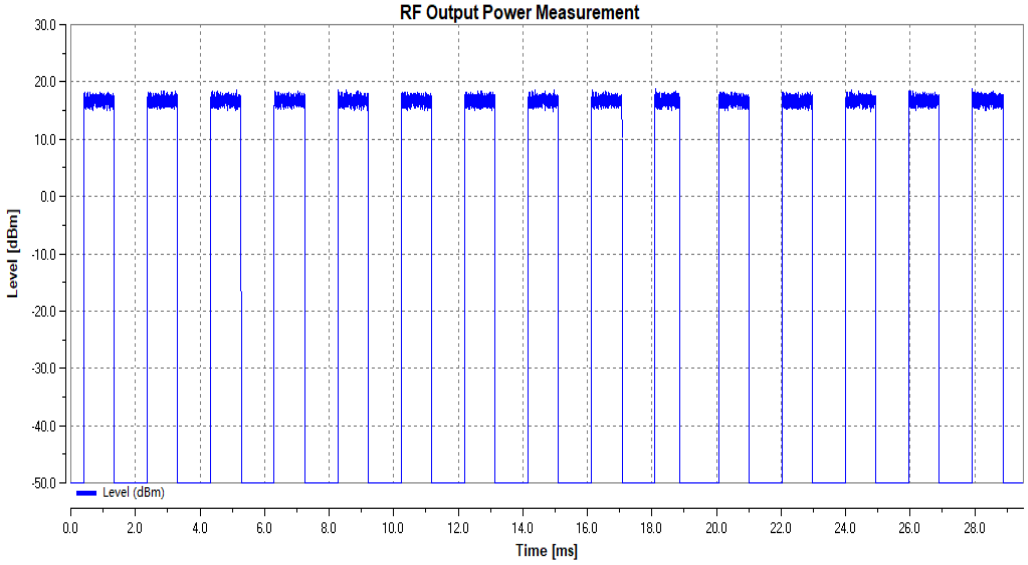
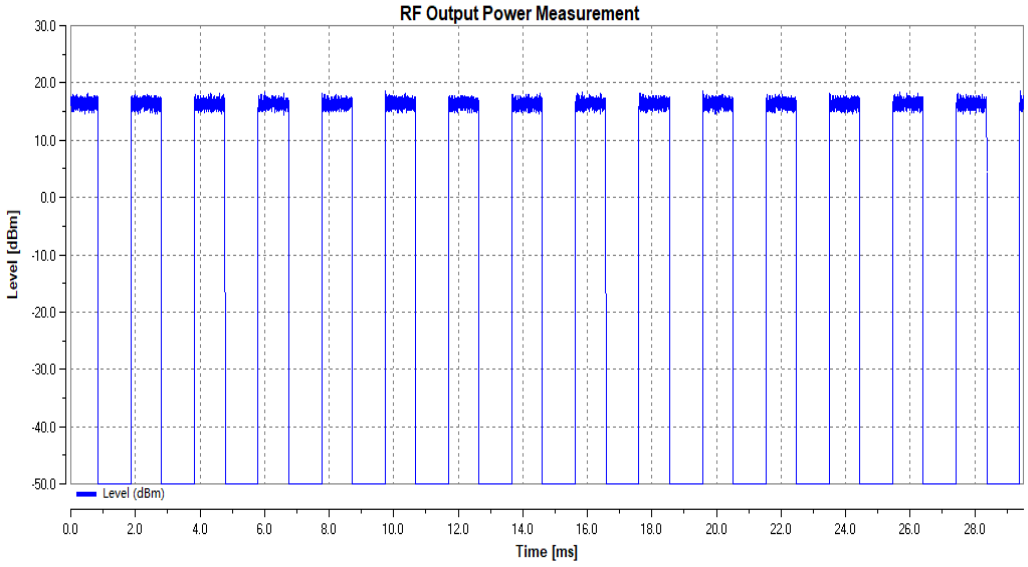


HTNV_11B_Ant1_2472



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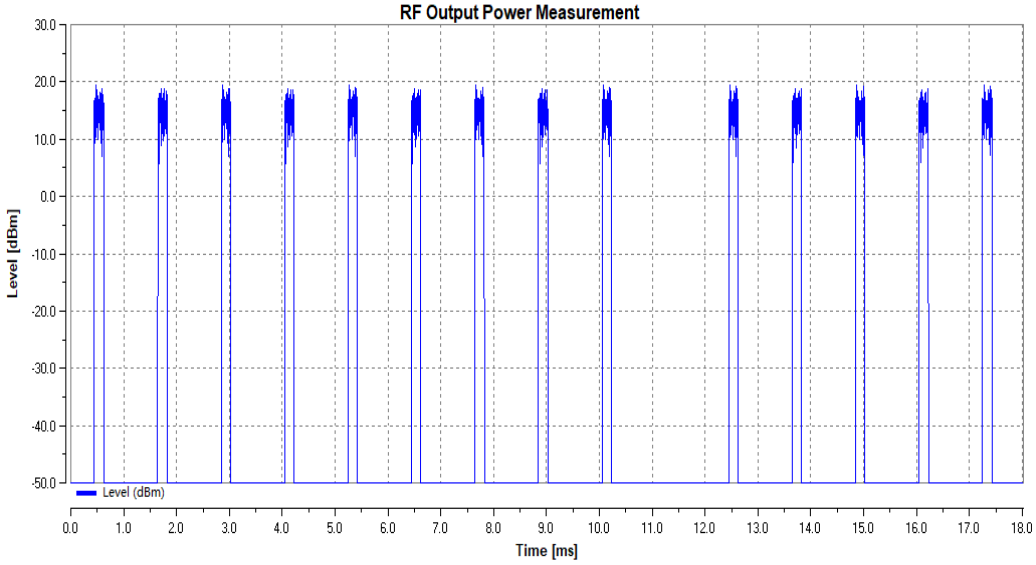

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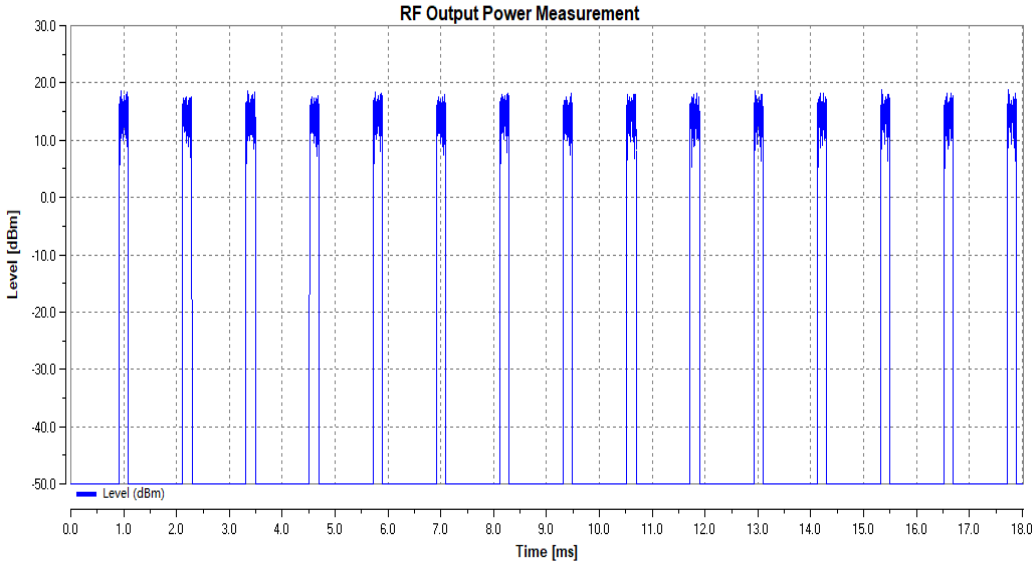

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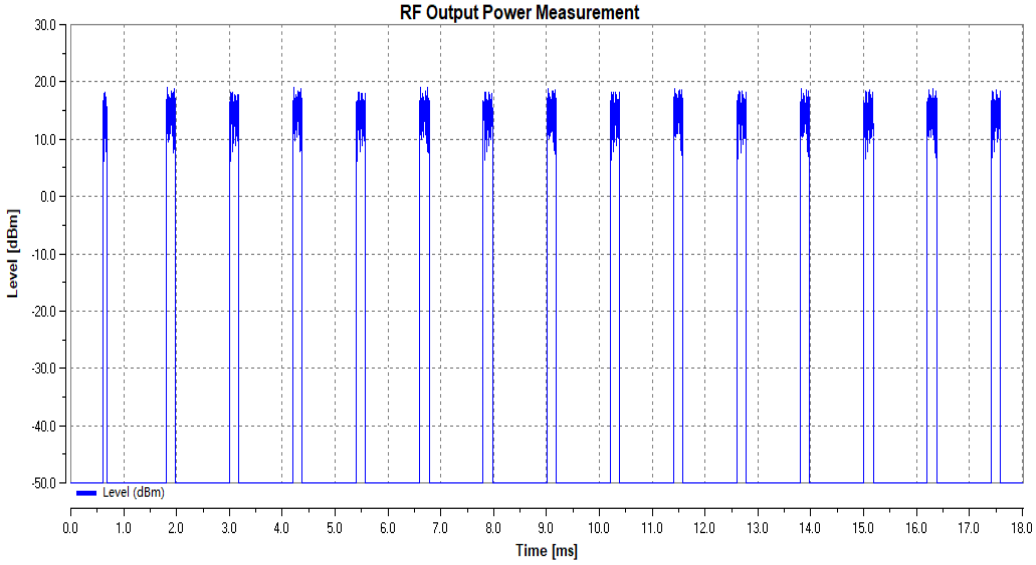

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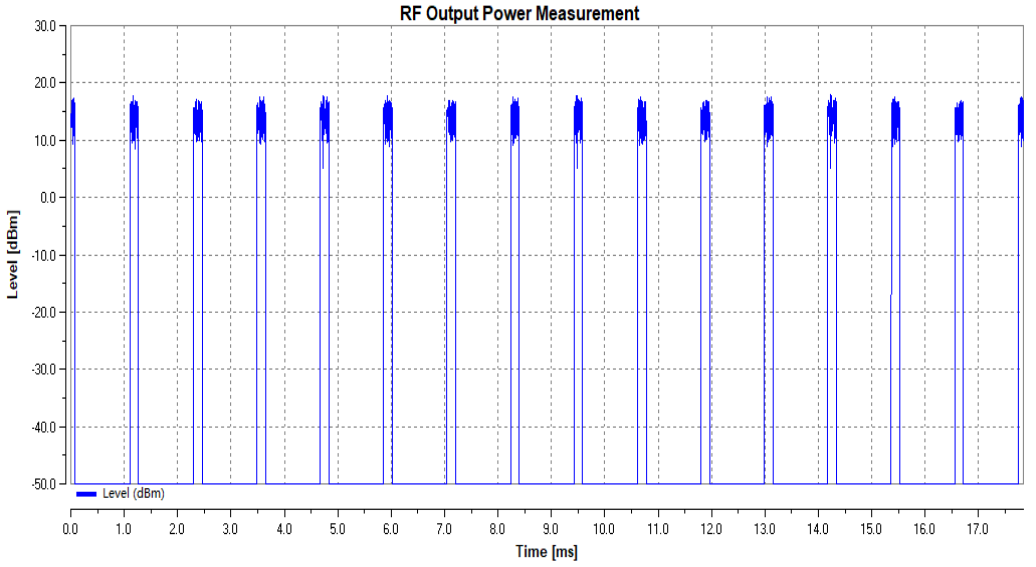

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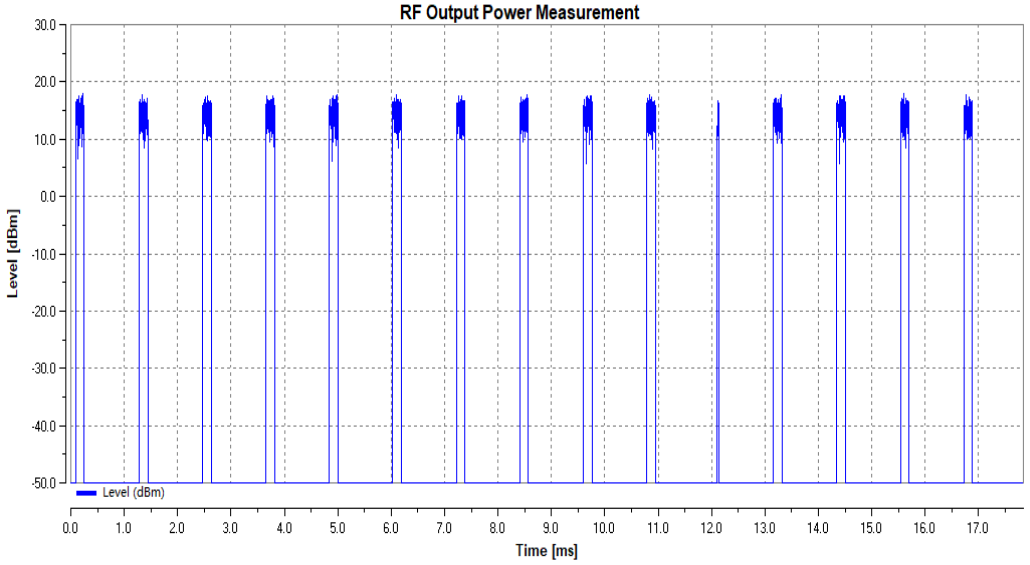

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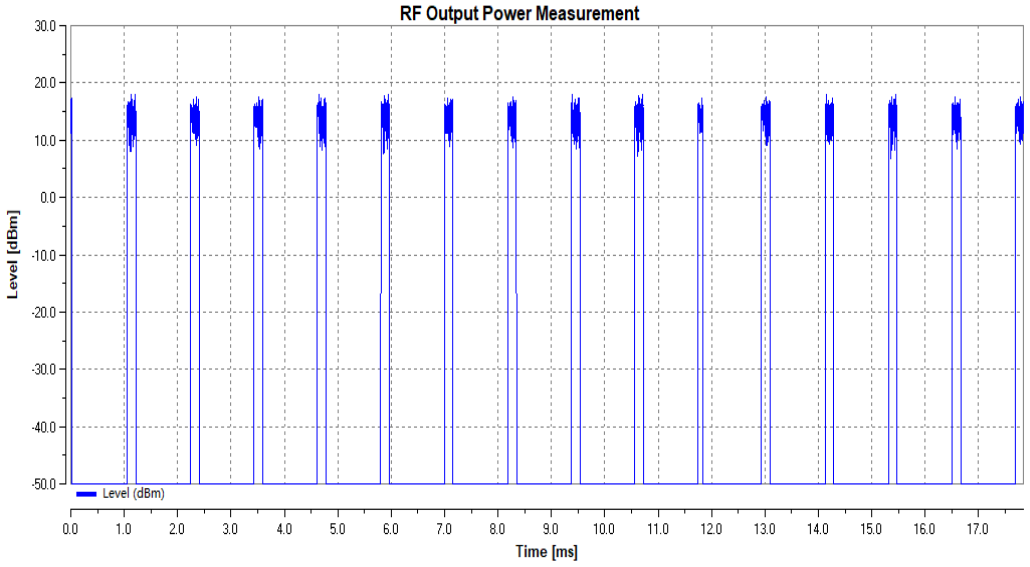

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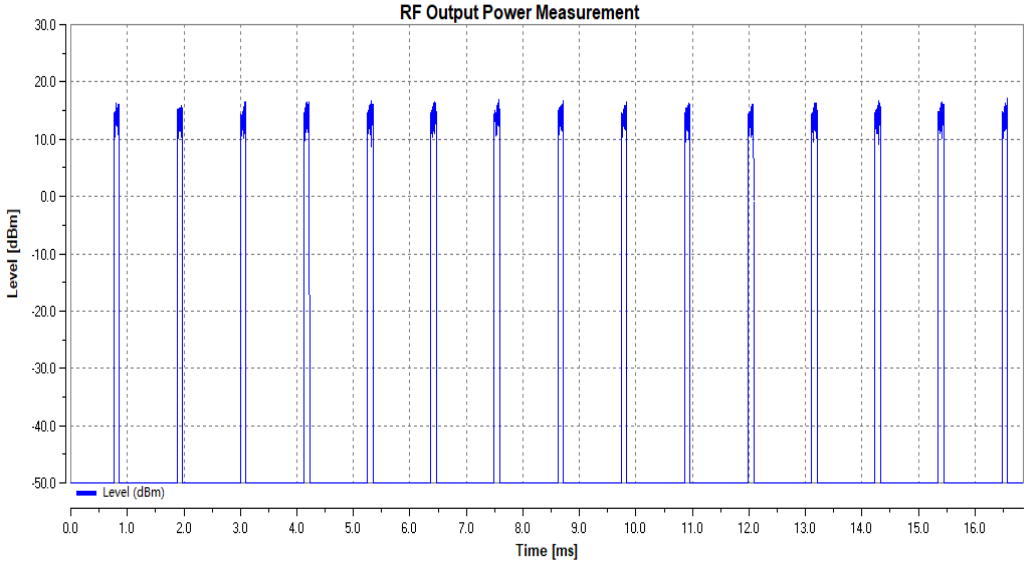

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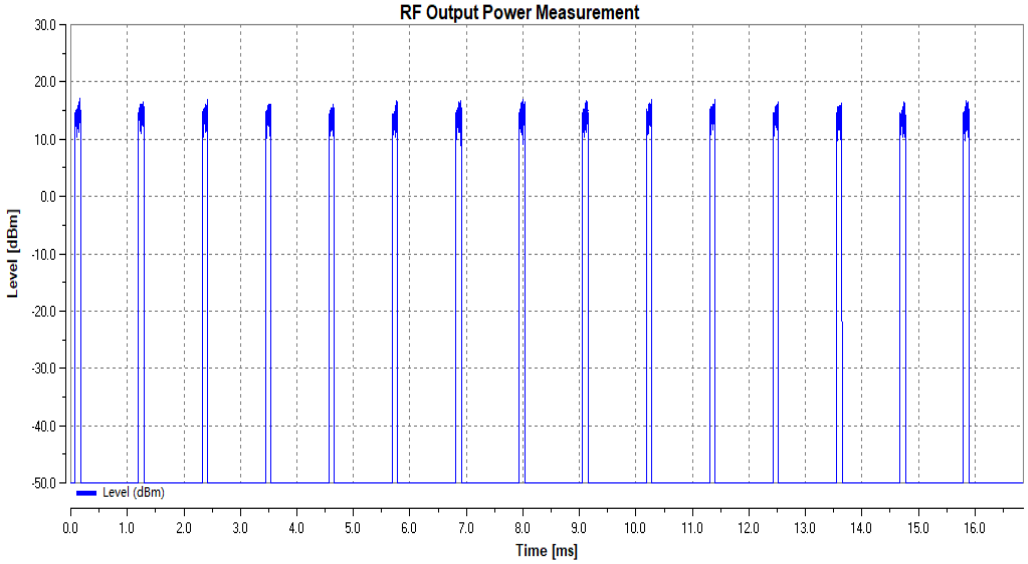

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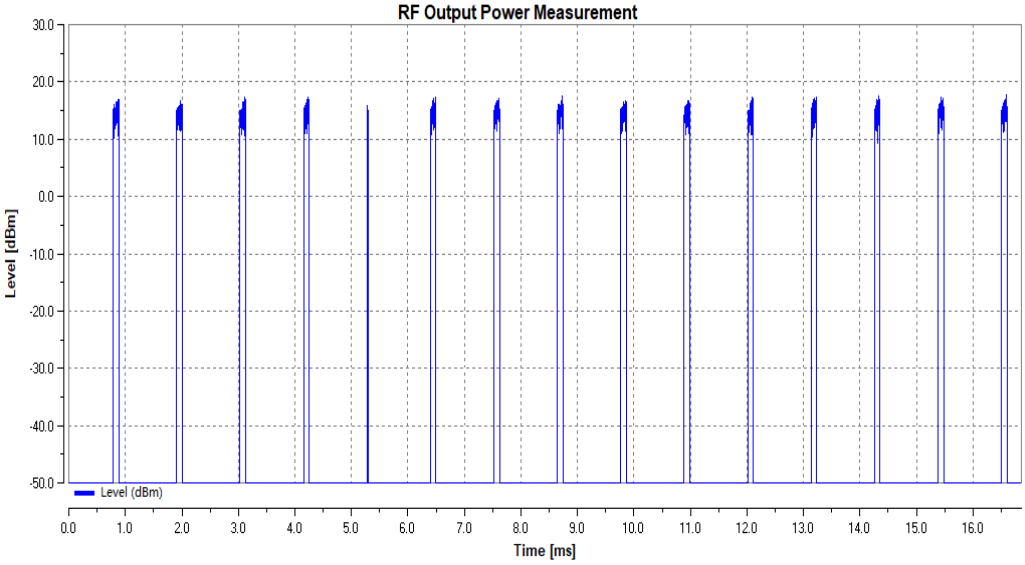

RF Output Power Measurement
Level [dBm]
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
-40.0
-50.0
Level (dBm)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
16.0
Time [ms]

Appendix B): Maximum Power Spectral Density Level

Test Result

BLE

TestMode	Antenna	Channel	PSD[dBm/MHz]	Limit[dBm/MHz]	Verdict
BLE_BT4.2	ANT1	2402	7.77	10	PASS
		2440	7.16	10	PASS
		2480	8.76	10	PASS

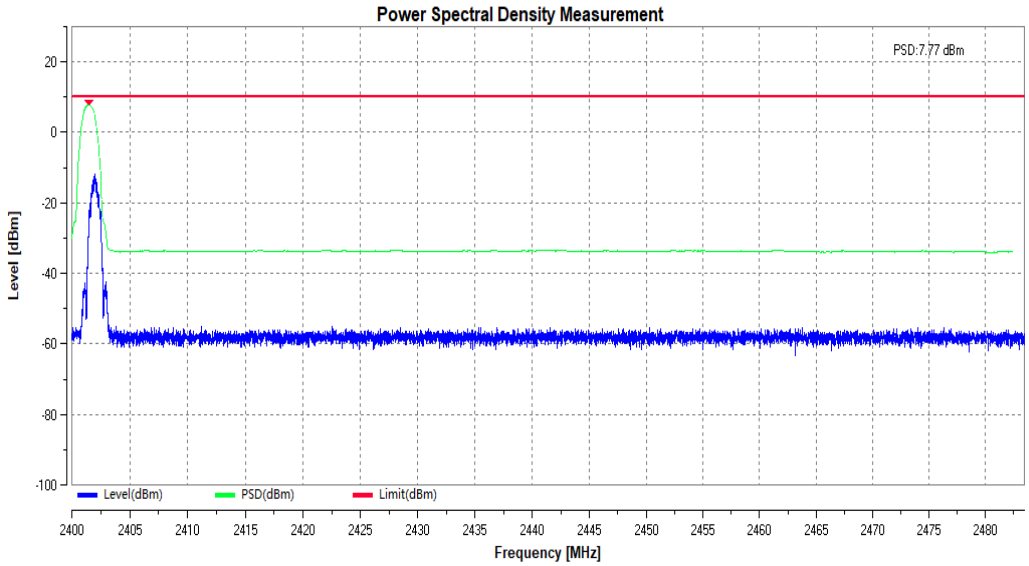
WLAN

TestMode	Antenna	Channel	PSD[dBm/MHz]	Limit[dBm/MHz]	Verdict
11B	ANT1	2412	9.67	10	PASS
		2442	9.90	10	PASS
		2472	9.51	10	PASS
11G	ANT1	2412	6.16	10	PASS
		2442	5.86	10	PASS
		2472	6.57	10	PASS
11N20SISO	ANT1	2412	5.47	10	PASS
		2442	5.31	10	PASS
		2472	5.55	10	PASS
11N40SISO	ANT1	2422	2.20	10	PASS
		2442	2.44	10	PASS
		2462	2.52	10	PASS

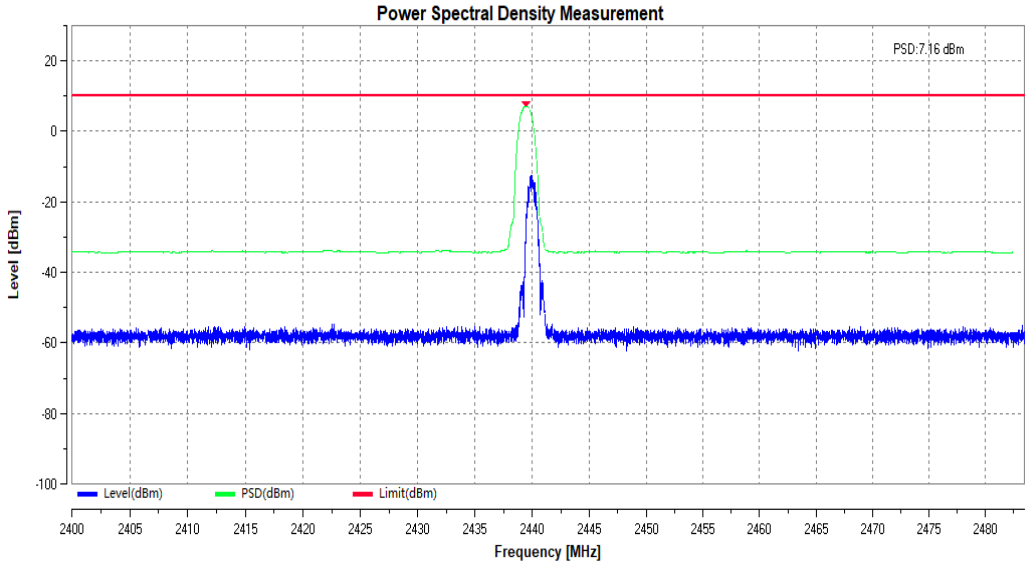
Test Graphs

BLE

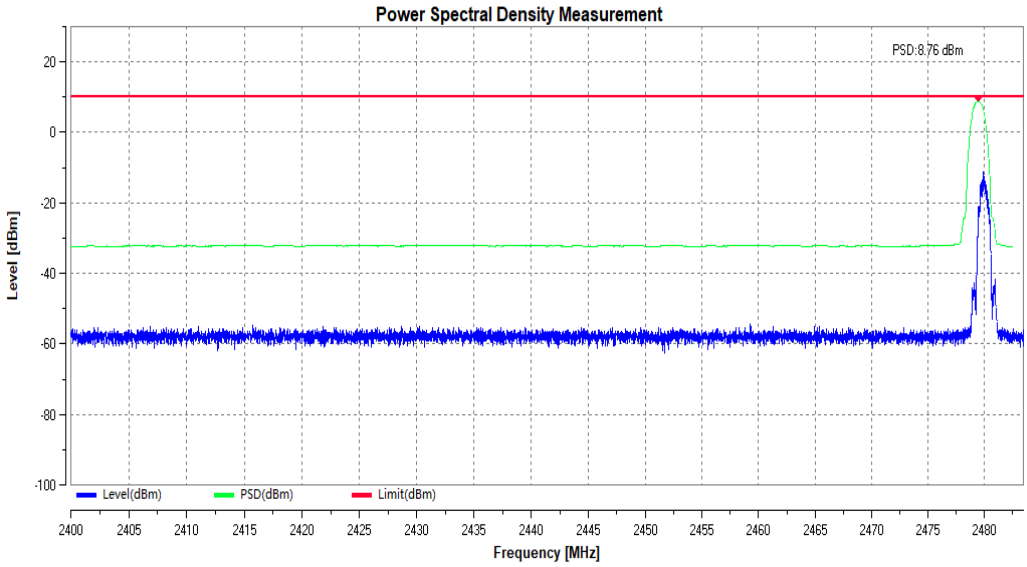
BLE_BT4.2_Ant1_2402



BLE_BT4.2_Ant1_2440

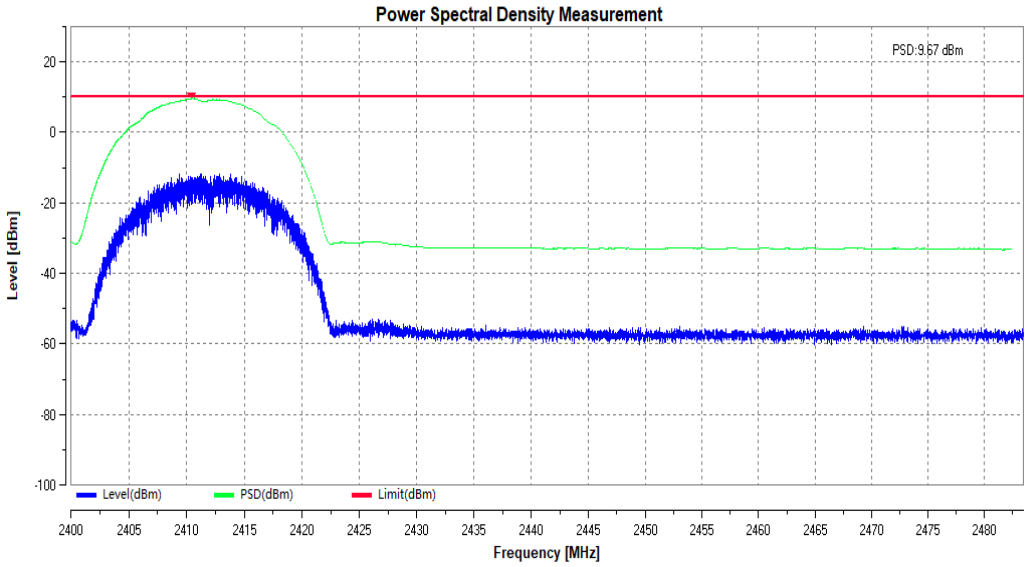


BLE_BT4.2_Ant1_2480

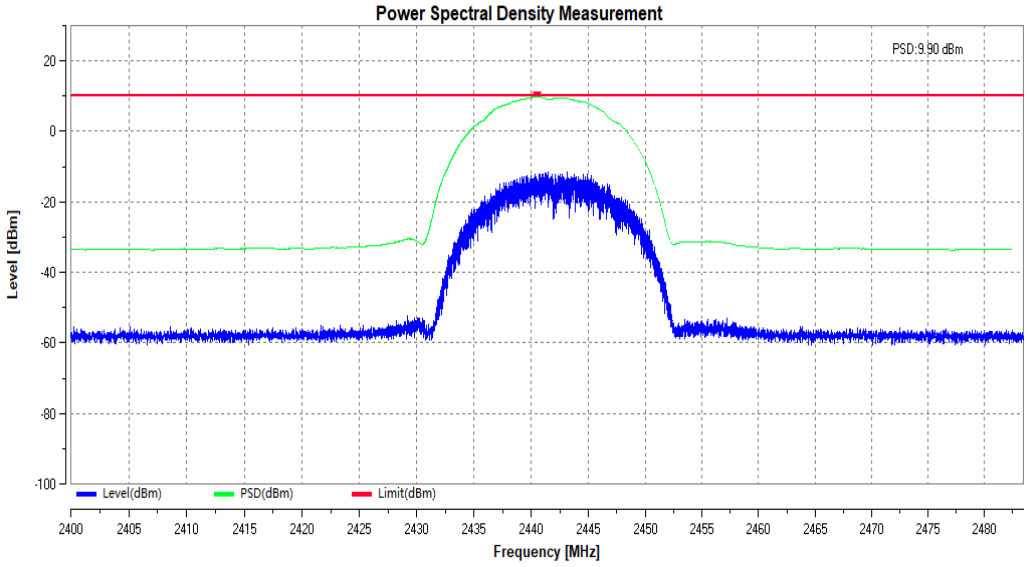

Power Spectral Density Measurement
PSD:8.76 dBm
Level [dBm]
20
0
-20
-40
-60
-80
-100
Level(dBm)
PSD(dBm)
Limit(dBm)
2400
2405
2410
2415
2420
2425
2430
2435
2440
2445
2450
2455
2460
2465
2470
2475
2480
Frequency [MHz]

WLAN

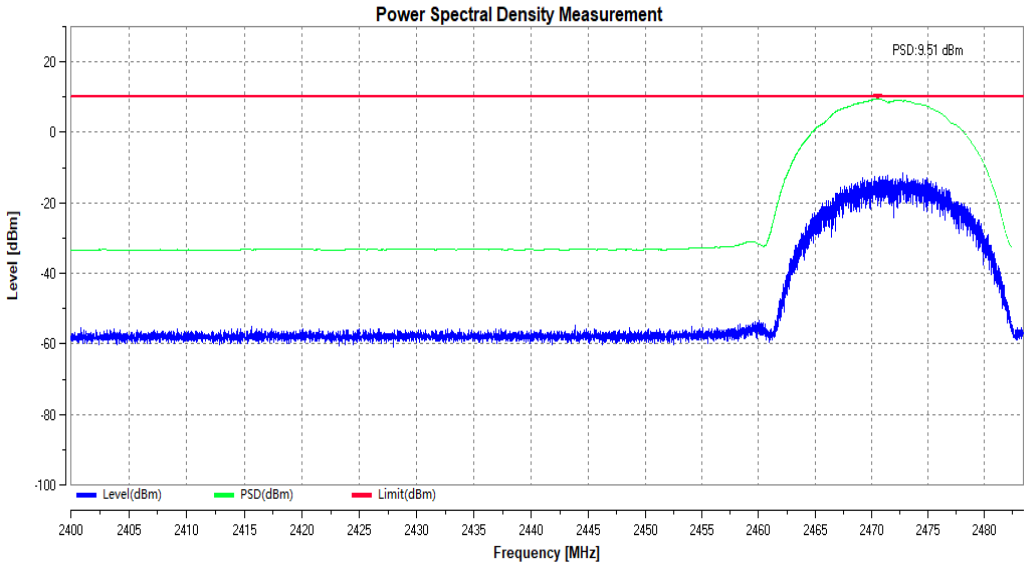
11B_Ant1_2412



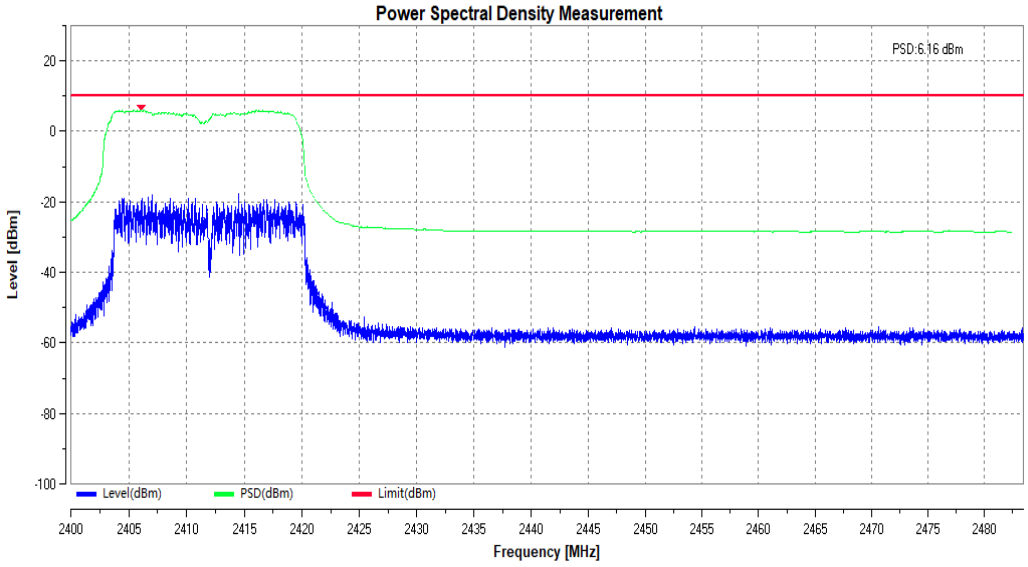
11B_Ant1_2442



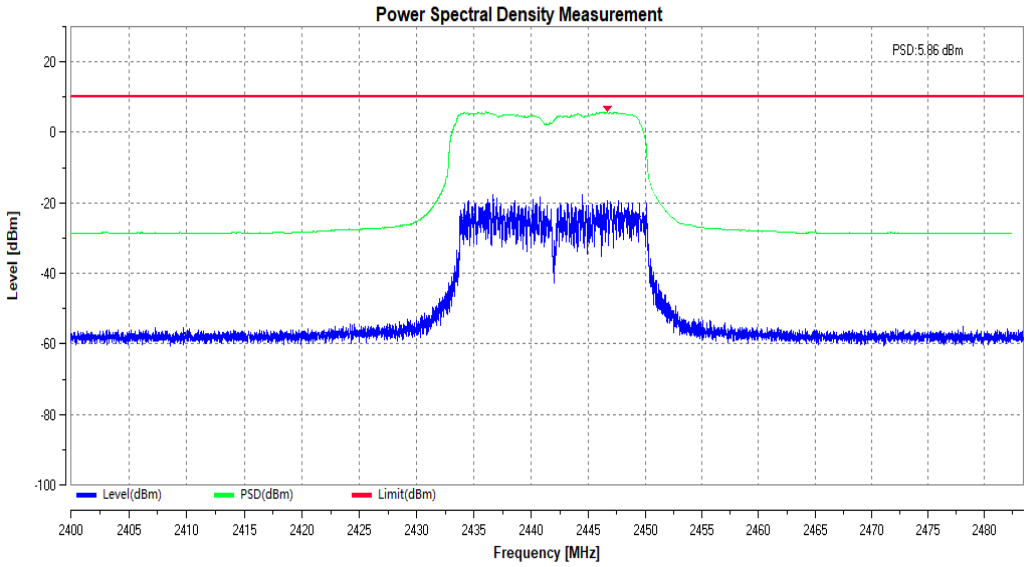
11B_Ant1_2472



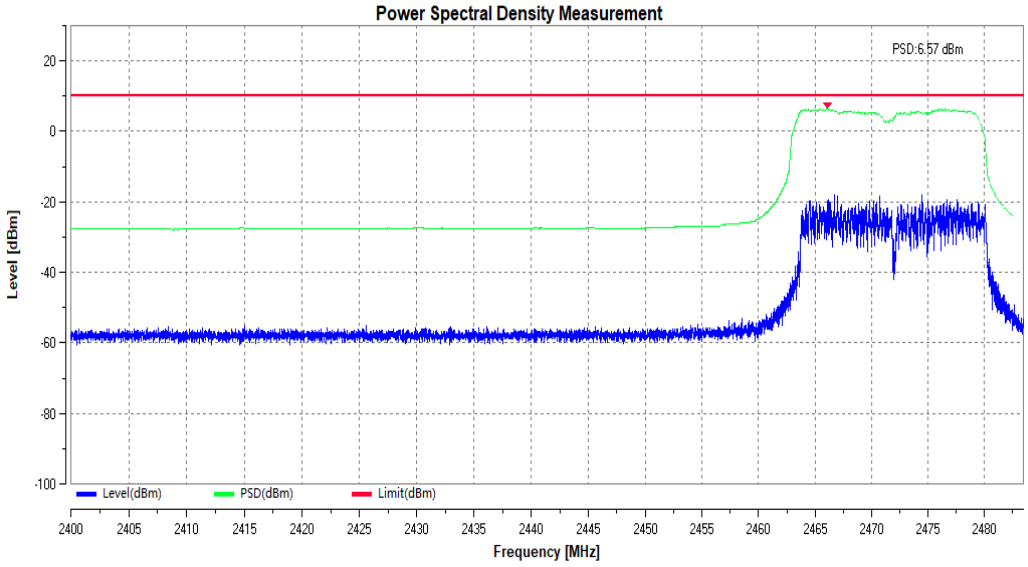
11G_Ant1_2412



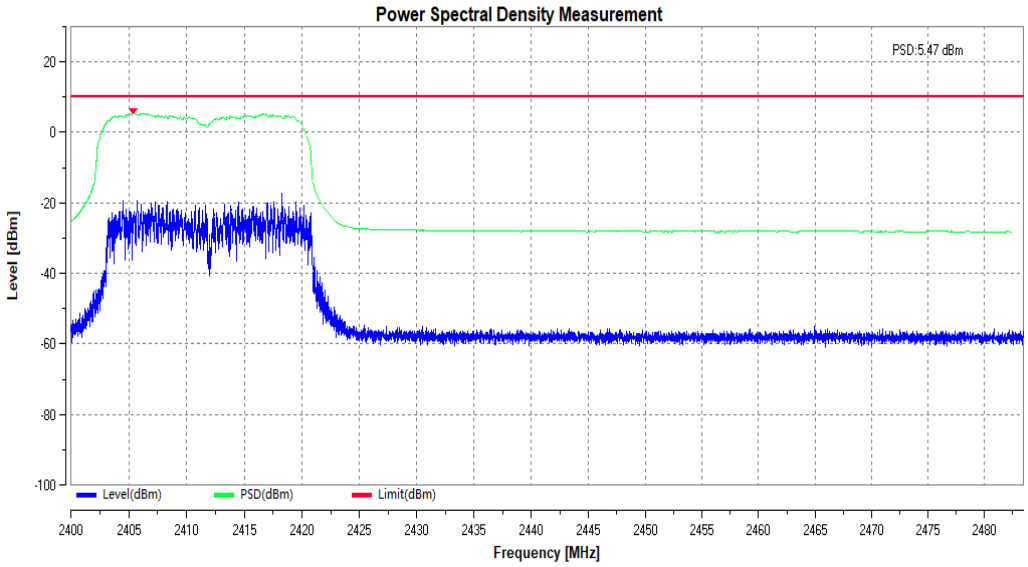
11G_Ant1_2442



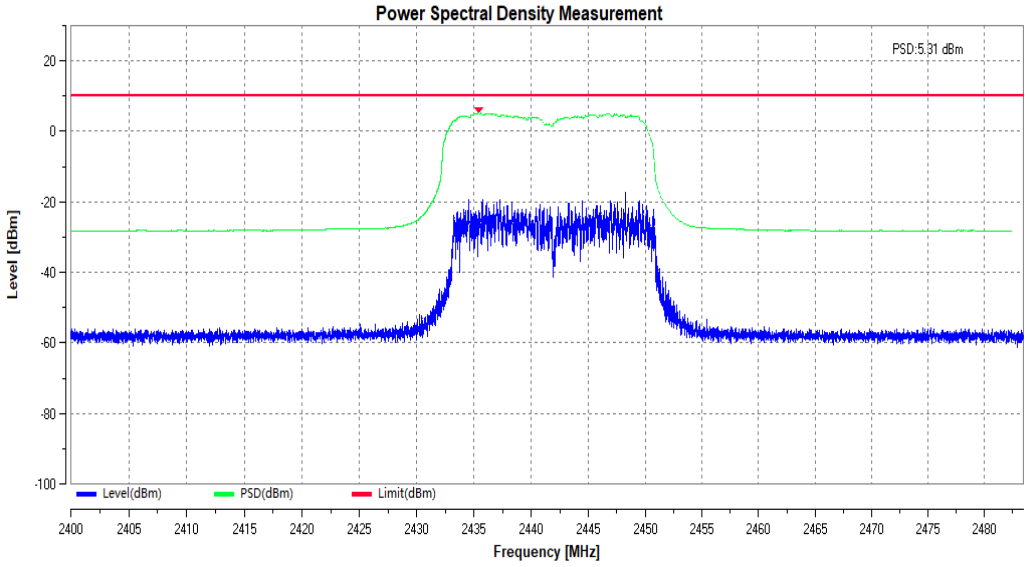
11G_Ant1_2472



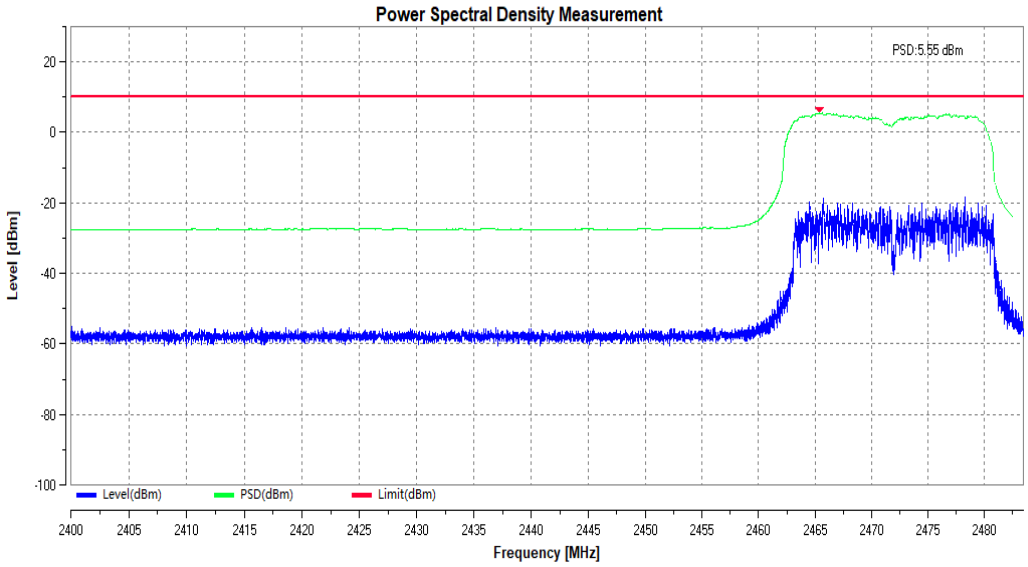
11N20SISO_Ant1_2412



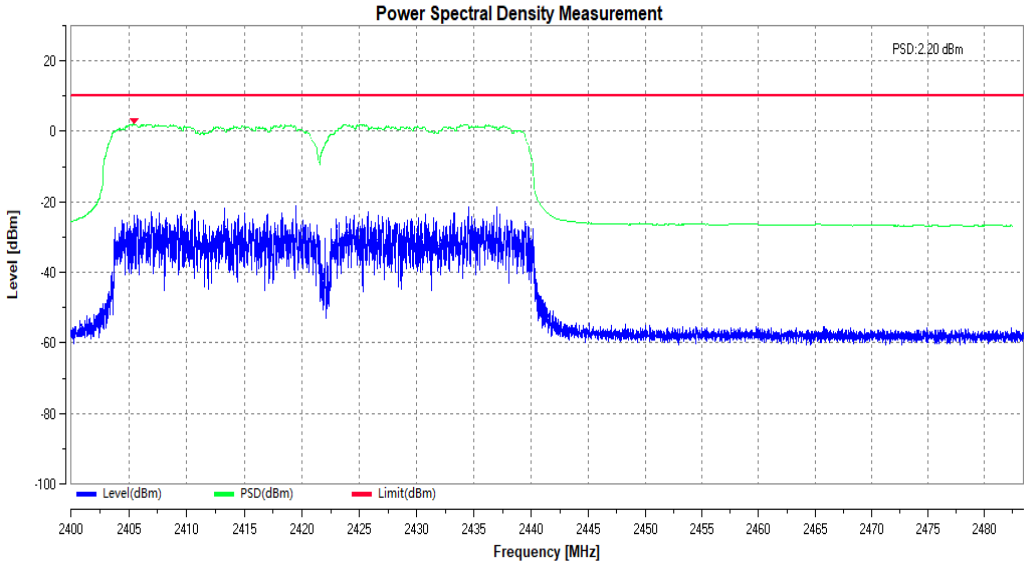
11N20SISO_Ant1_2442



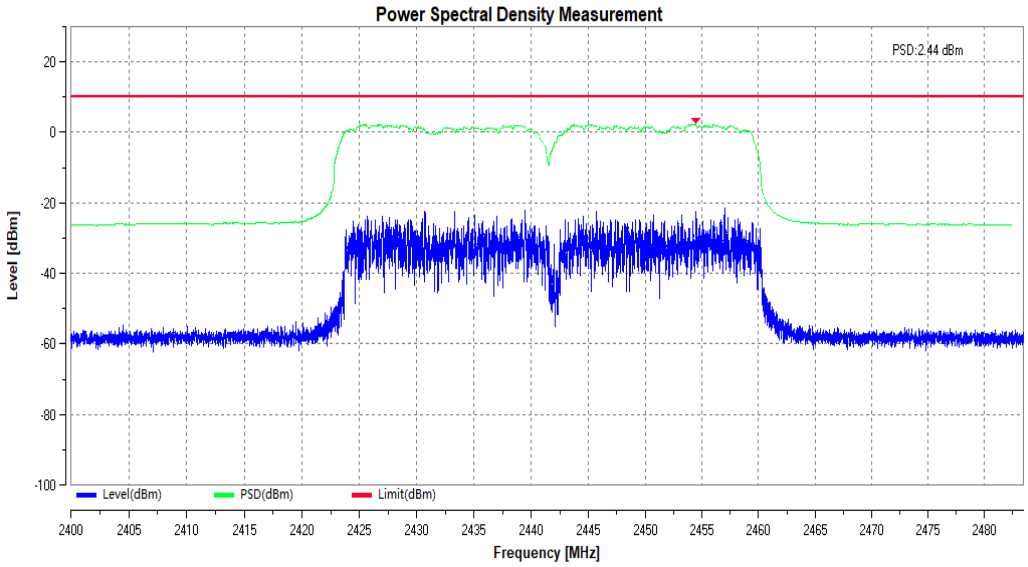
11N20SISO_Ant1_2472



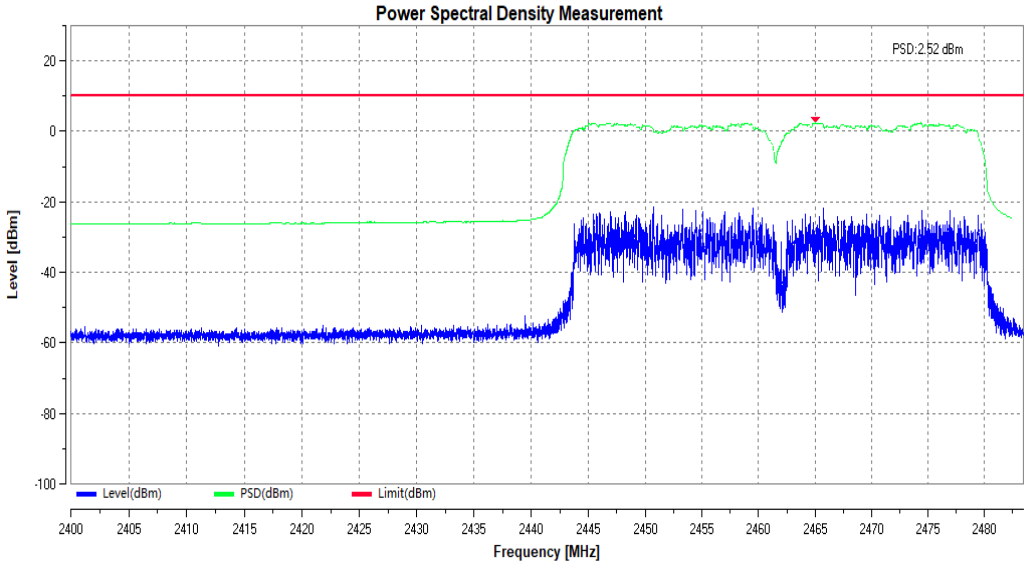
11N40SISO_Ant1_2422



11N40SISO_Ant1_2442



11N40SISO_Ant1_2462



Appendix C): Accumulated Dwell time, Minimum Frequency Occupation and Hopping Sequence

Test Result

BT+EDR

Accumulated Dwell Time

TestMode	Antenna	Channel	Result [ms]	Limit[ms]	Verdict
DH5	ANT1	Hop_2402	369.731	400	PASS
		Hop_2480	360.251	400	PASS
2DH5	ANT1	Hop_2402	344.450	400	PASS
		Hop_2480	372.891	400	PASS
3DH5	ANT1	Hop_2402	344.450	400	PASS
		Hop_2480	329.703	400	PASS

Frequency Occupation

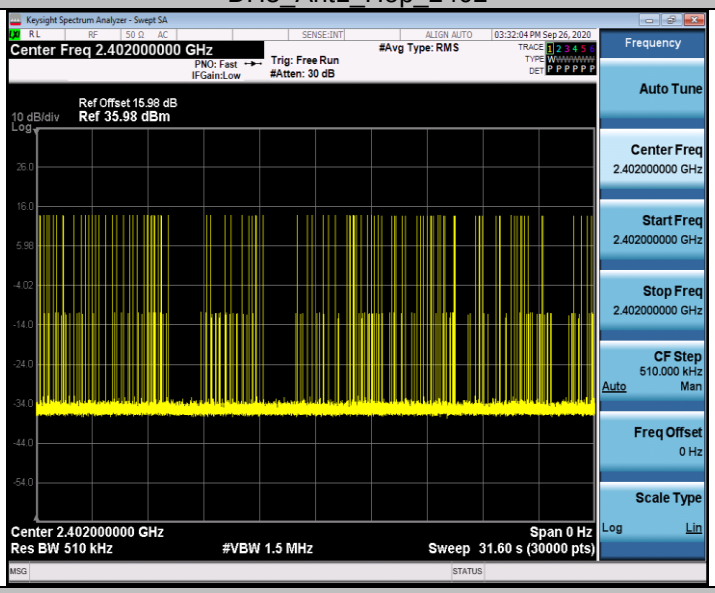
TestMode	Antenna	Channel	Result [Num.]	Limit [Num.]	Verdict
DH5	ANT1	Hop_2402	4	1	PASS
		Hop_2480	2	1	PASS
2DH5	ANT1	Hop_2402	8	1	PASS
		Hop_2480	6	1	PASS
3DH5	ANT1	Hop_2402	6	1	PASS
		Hop_2480	14	1	PASS

Hopping Sequence

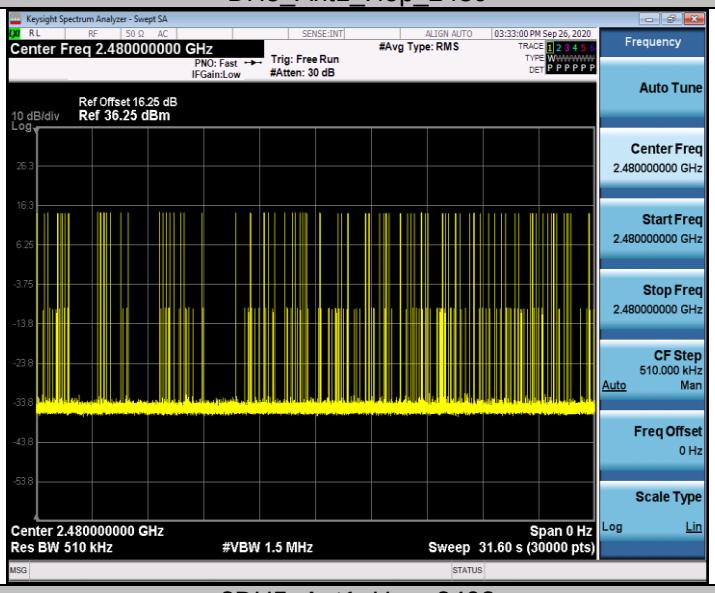
TestMode	Antenna	Channel	Hop. [Num.]	Limit[Num.]	Band Use [%]	Limit [%]	Verdict
DH5	ANT1	Hop_2441	79	15	95.74	70	PASS
2DH5	ANT1	Hop_2441	79	15	96.24	70	PASS
3DH5	ANT1	Hop_2441	79	15	96.24	70	PASS

Test Graphs

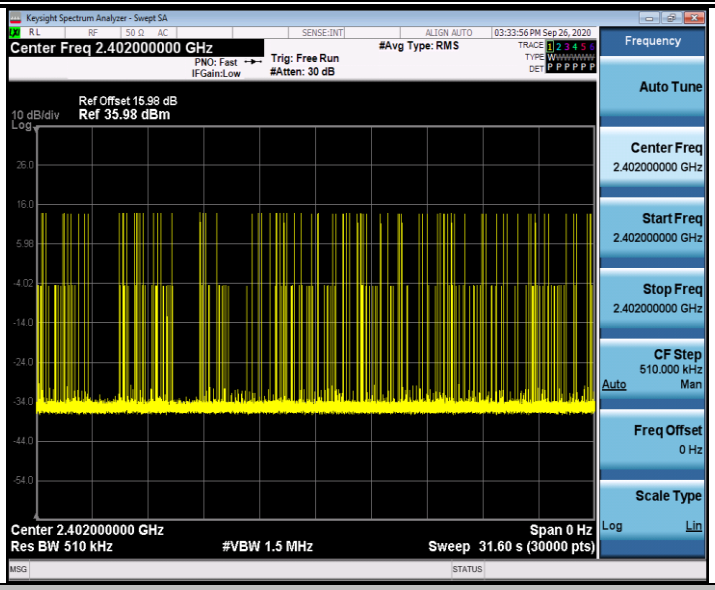
DH5_Ant1_Hop_2402



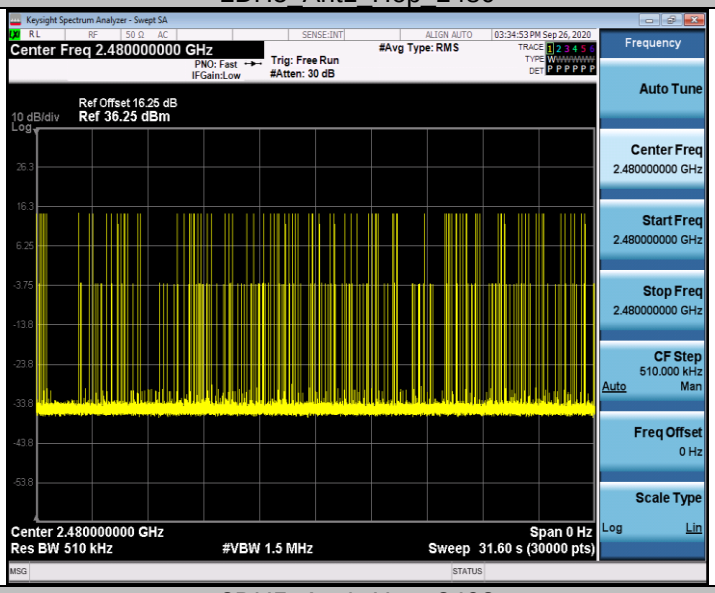
DH5_Ant1_Hop_2480



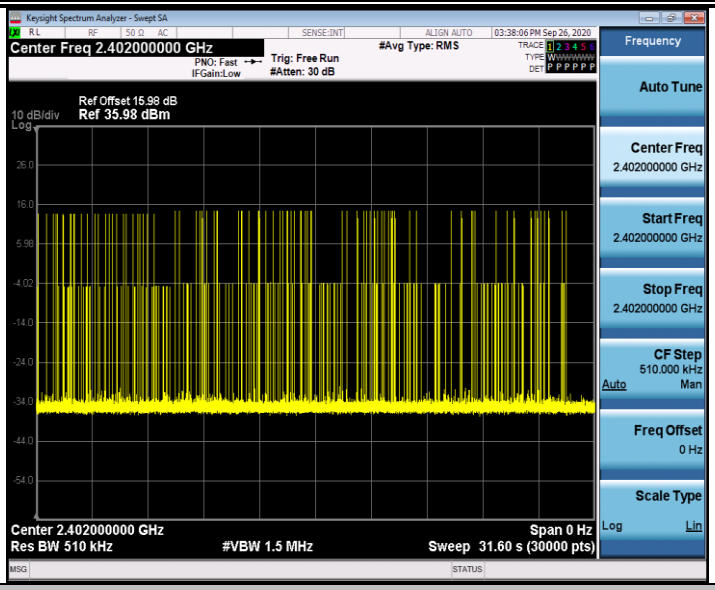
2DH5_Ant1_Hop_2402



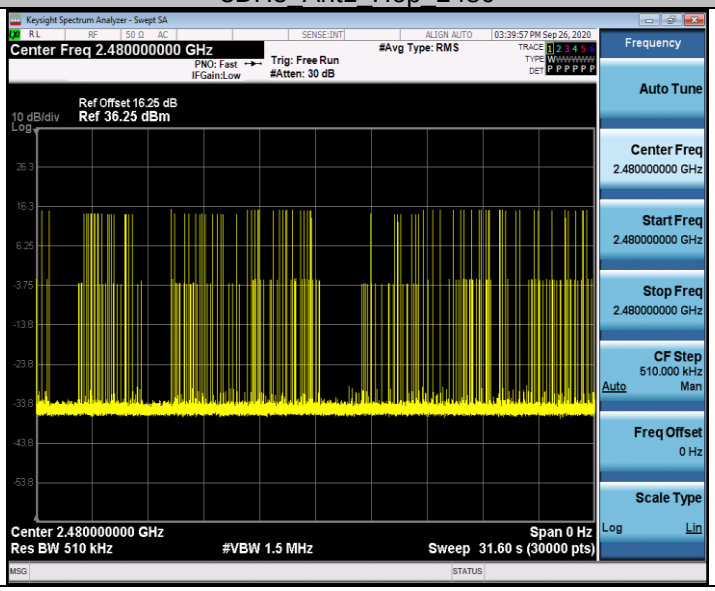
2DH5_Ant1_Hop_2480



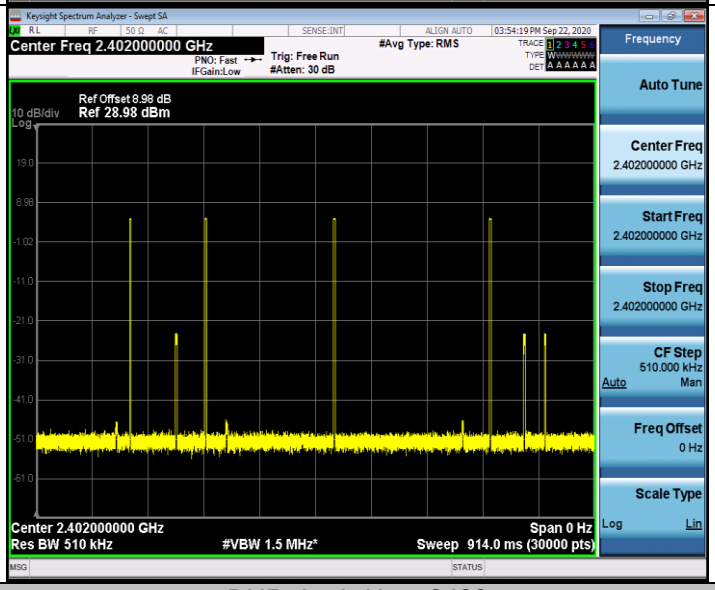
3DH5_Ant1_Hop_2402

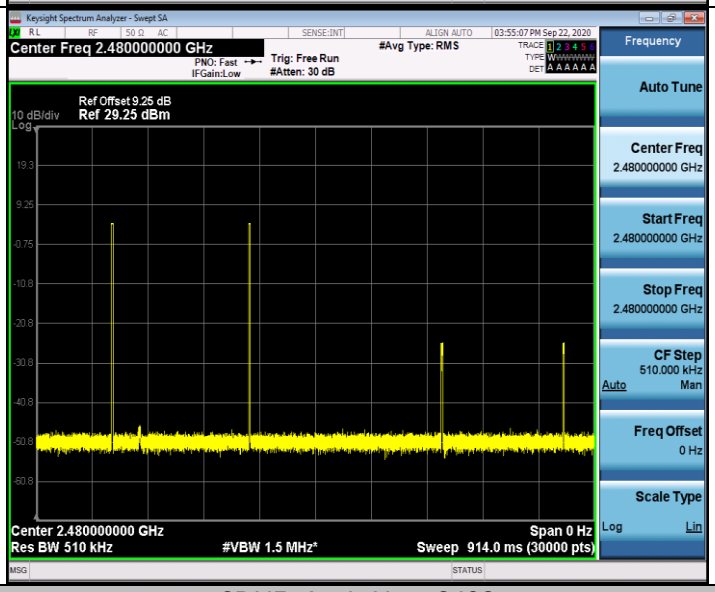


3DH5_Ant1_Hop_2480

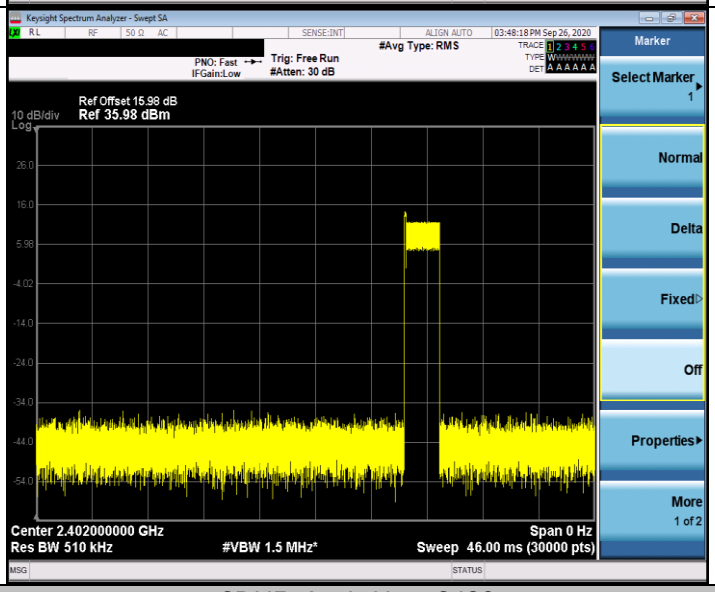


DH5_Ant1_Hop_2402

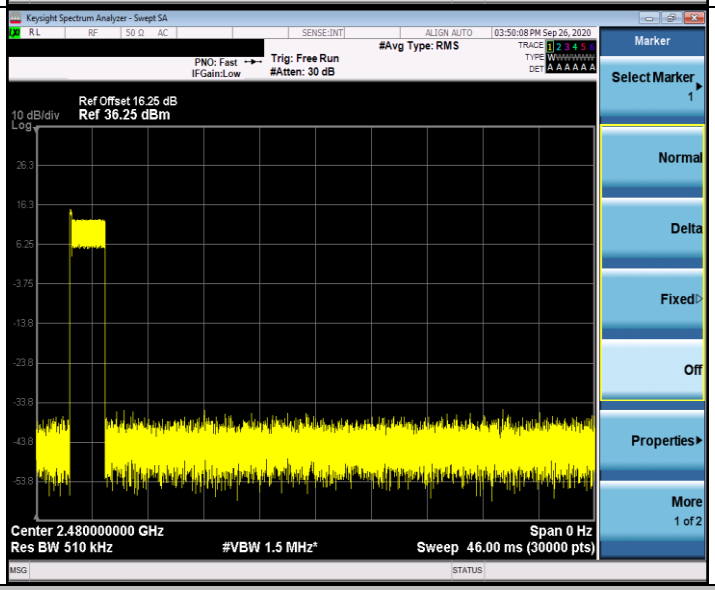

DH5_Ant1_Hop_2480



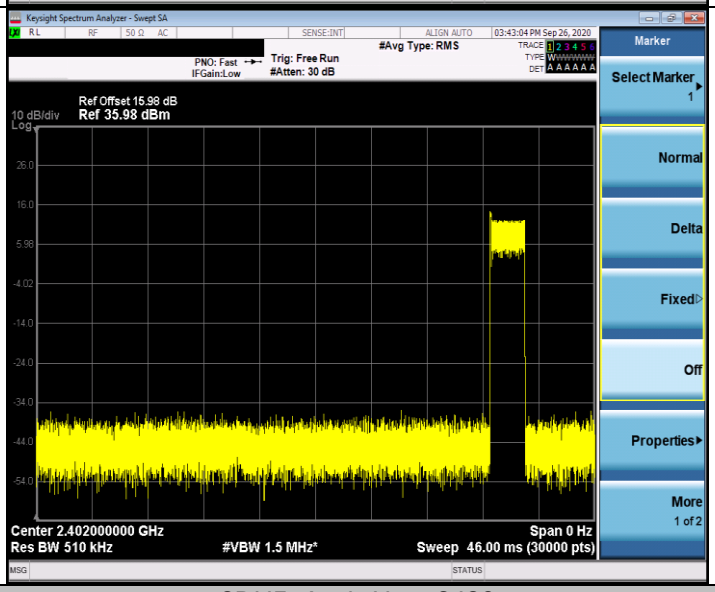
2DH5_Ant1_Hop_2402



2DH5_Ant1_Hop_2480

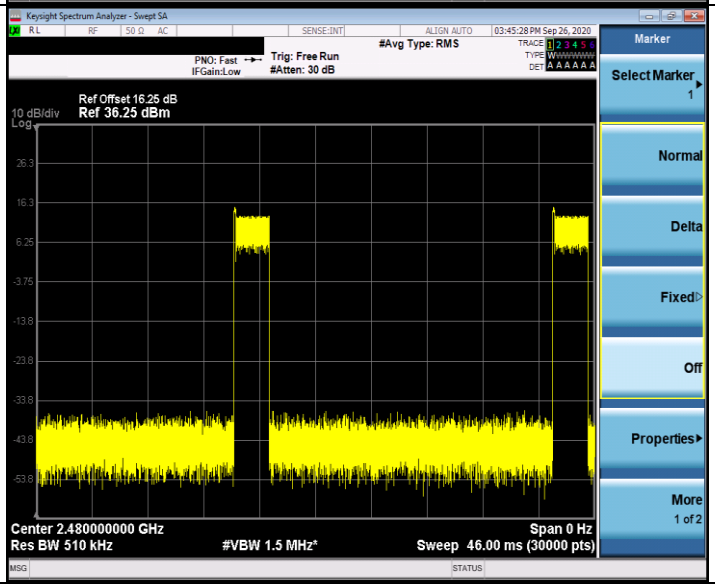


3DH5_Ant1_Hop_2402

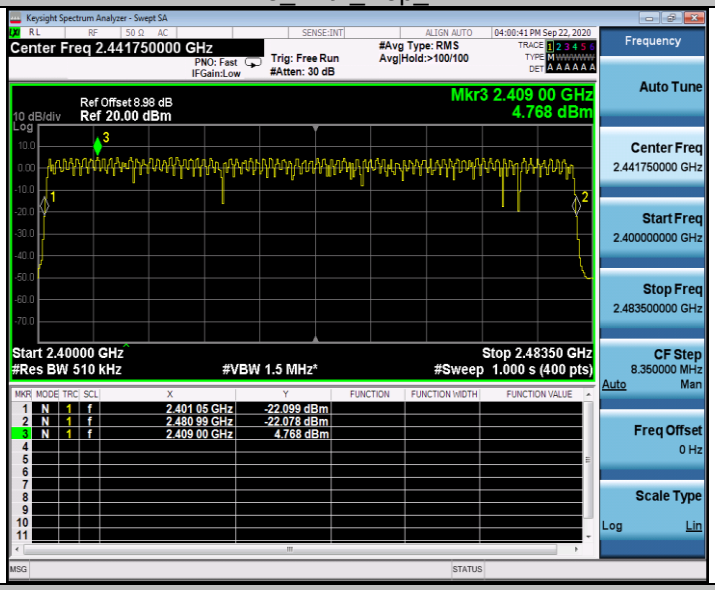


3DH5_Ant1_Hop_2480

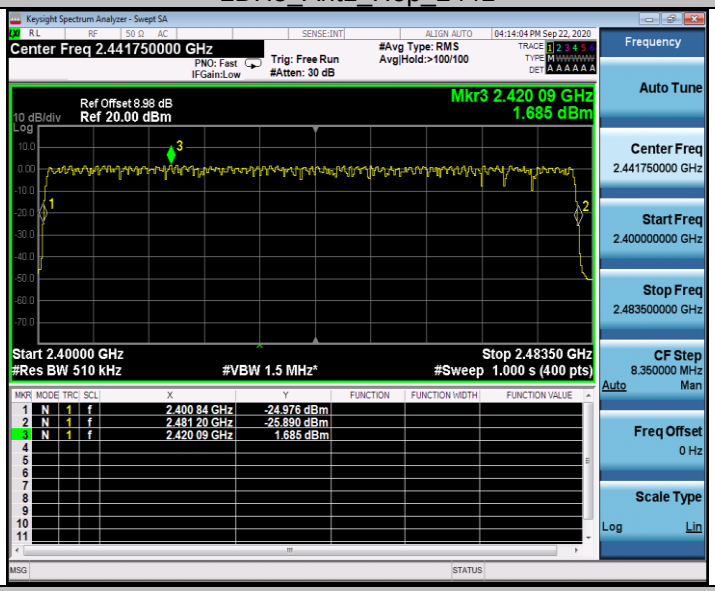

Keysight Spectrum Analyzer - Swept SA
Marker 2 Δ 142.338 µs
PNO: Fast
IFGain:Low
Trig Delay-200.0 µs
Trig: Video
#Atten: 30 dB
#Avg Type: RMS
03:45:08 PM Sep 26, 2020
Ref Offset 16.25 dB
10 dB/div
Ref 36.25 dBm
ΔMkr2 142.3 µs
-47.96 dB
1Δ2
2Δ1
Center 2.480000000 GHz
Res BW 510 kHz
#VBW 1.5 MHz*
Span 0 Hz
Sweep 5.000 ms (30000 pts)
Marker
Select Marker 2
Normal
Delta
Fixed
Off
Properties
More 1 of 2


Keysight Spectrum Analyzer - Swept SA
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
03:45:28 PM Sep 26, 2020
Ref Offset 16.25 dB
10 dB/div
Ref 36.25 dBm
Center 2.480000000 GHz
Res BW 510 kHz
#VBW 1.5 MHz*
Span 0 Hz
Sweep 46.00 ms (30000 pts)
Marker
Select Marker 1
Normal
Delta
Fixed
Off
Properties
More 1 of 2

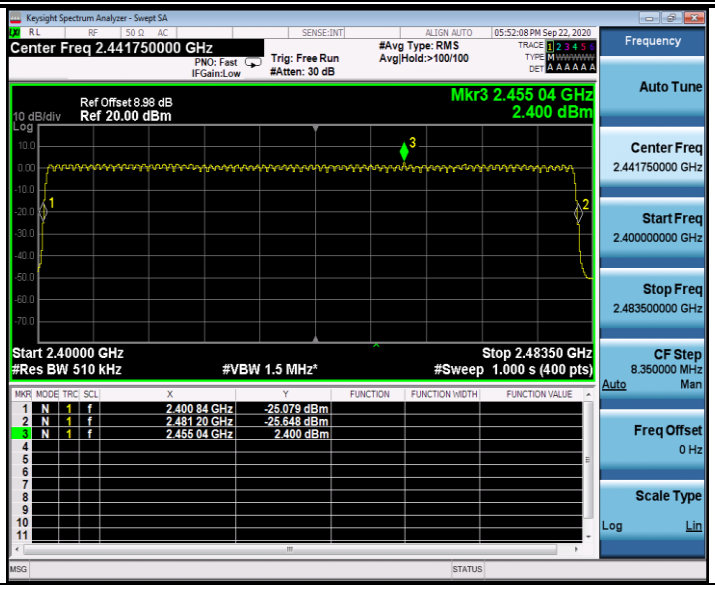
DH5_Ant1_Hop_2441



2DH5_Ant1_Hop_2441



3DH5_Ant1_Hop_2441


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441750000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold:>100/100
05:52:08 PM Sep 22, 2020
Ref Offset 8.98 dB
10 dB/div
Ref 20.00 dBm
Mkr3 2.455 04 GHz
2.400 dBm
Start 2.40000 GHz
#Res BW 510 kHz
#VBW 1.5 MHz
Stop 2.48350 GHz
#Sweep 1.000 s (400 pts)
1 N 1 f 2.400 84 GHz -25.079 dBm
2 N 1 f 2.481 20 GHz -25.648 dBm
3 N 1 f 2.455 04 GHz 2.400 dBm
Frequency
Auto Tune
Center Freq
2.441750000 GHz
Start Freq
2.400000000 GHz
Stop Freq
2.483500000 GHz
CF Step
8.350000 MHz
Auto
Man
Freq Offset
0 Hz
Scale Type
Log
Lin

Appendix D): Hopping Frequency Separation

Test Result

BT+EDR

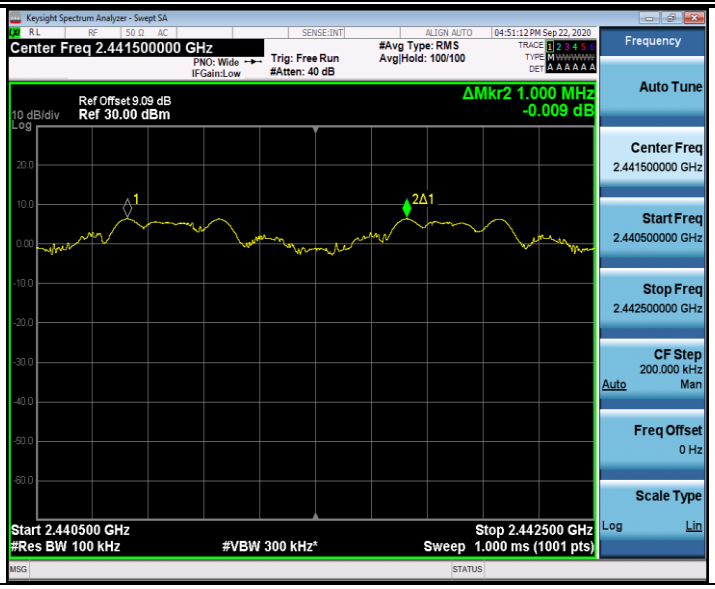
TestMode	Antenna	Channel	Result [MHz]	Limit[MHz]	Verdict
DH5	ANT1	Hop	1.032	0.100	PASS
2DH5	ANT1	Hop	1.034	0.100	PASS
3DH5	ANT1	Hop	1.000	0.100	PASS

Test Graphs

DH5_Ant1_Hop

2DH5_Ant1_Hop

3DH5_Ant1_Hop


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441500000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
04:51:12 PM Sep 22, 2020
Ref Offset 9.09 dB
10 dB/div
Ref 30.00 dBm
ΔMkr2 1.000 MHz
-0.009 dB
Start 2.440500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.442500 GHz
Sweep 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.441500000 GHz
Start Freq
2.440500000 GHz
Stop Freq
2.442500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz
Scale Type
Log
Lin

Appendix E): Occupied Channel Bandwidth

Test Result

BT+EDR

TestMode	Antenna	Channel	OCB[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	ANT1	2402	0.88612	2401.55	2402.44	2400 to 2483.5	PASS
		2480	0.88604	2479.55	2480.43	2400 to 2483.5	PASS
2DH5	ANT1	2402	1.1896	2401.39	2402.58	2400 to 2483.5	PASS
		2480	1.1890	2479.39	2480.58	2400 to 2483.5	PASS
3DH5	ANT1	2402	1.1820	2401.40	2402.58	2400 to 2483.5	PASS
		2480	1.1802	2479.40	2480.58	2400 to 2483.5	PASS

BLE

TestMode	Antenna	Channel	OCB[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.2	ANT1	2402	1.0543	2401.47	2402.52	2400 to 2483.5	PASS
		2440	1.0552	2479.47	2480.52	2400 to 2483.5	PASS
		2480	1.0543	2401.47	2402.52	2400 to 2483.5	PASS

WLAN

TestMode	Antenna	Channel	OCB[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	ANT1	2412	14.944	2404.48	2419.42	2400 to 2483.5	PASS
		2442	14.933	2464.49	2479.43	2400 to 2483.5	PASS
		2472	16.540	2403.70	2420.24	2400 to 2483.5	PASS
11G	ANT1	2412	16.541	2463.70	2480.24	2400 to 2483.5	PASS
		2442	17.659	2403.16	2420.82	2400 to 2483.5	PASS
		2472	17.658	2463.16	2480.82	2400 to 2483.5	PASS
11N20SISO	ANT1	2412	36.227	2403.86	2440.09	2400 to 2483.5	PASS
		2442	36.214	2443.87	2480.09	2400 to 2483.5	PASS
		2472	14.944	2404.48	2419.42	2400 to 2483.5	PASS
11N40SISO	ANT1	2422	14.933	2464.49	2479.43	2400 to 2483.5	PASS
		2442	16.540	2403.70	2420.24	2400 to 2483.5	PASS
		2462	16.541	2463.70	2480.24	2400 to 2483.5	PASS

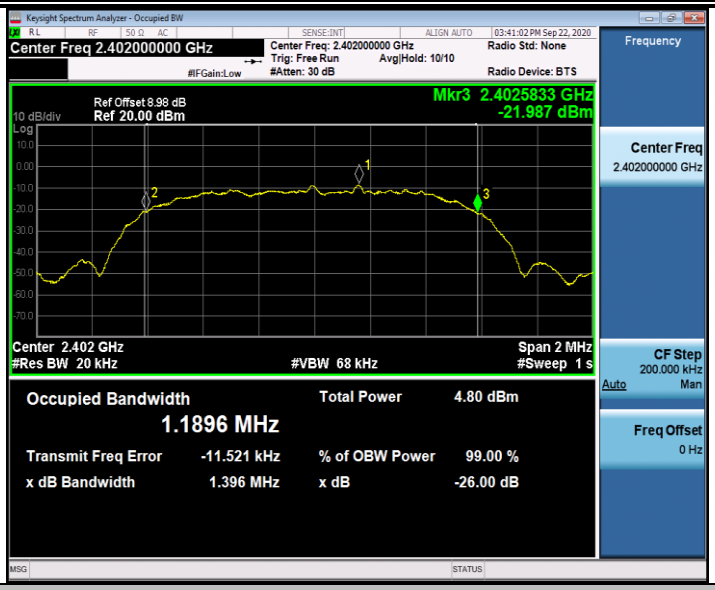
Test Graphs

BT+EDR

DH5_Ant1_2402

DH5_Ant1_2480

2DH5_Ant1_2402



2DH5_Ant1_2480

3DH5_Ant1_2402

3DH5_Ant1_2480

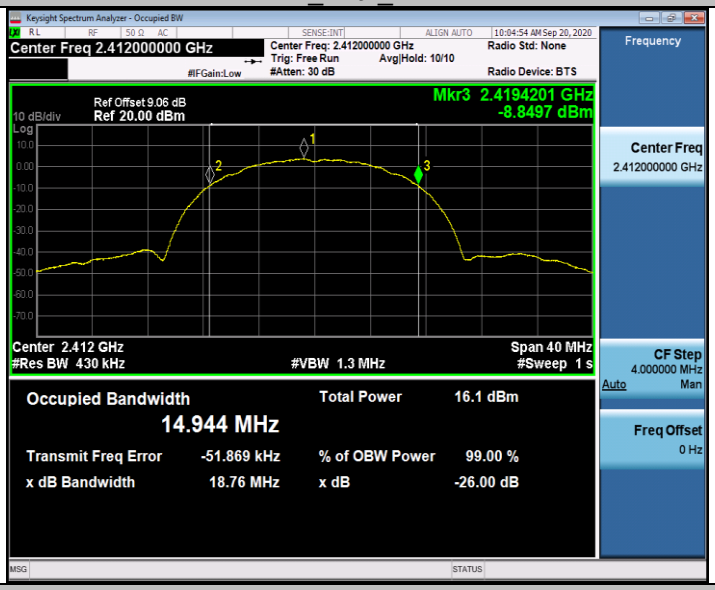
BLE

BLE_BT4.2_Ant1_2402

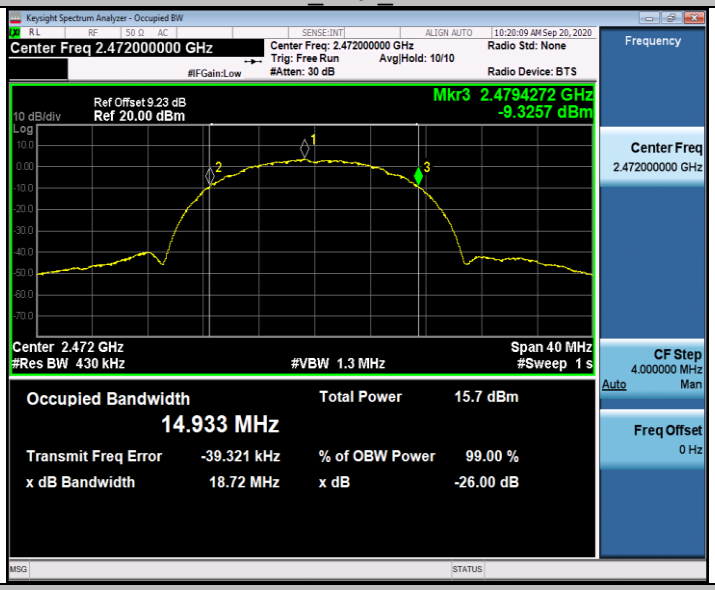
BLE_BT4.2_Ant1_2480

WLAN

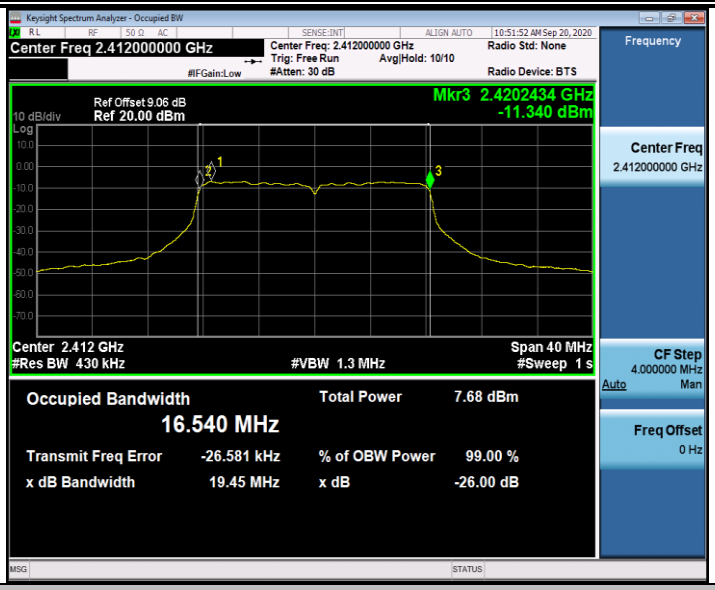
11B_Ant1_2412



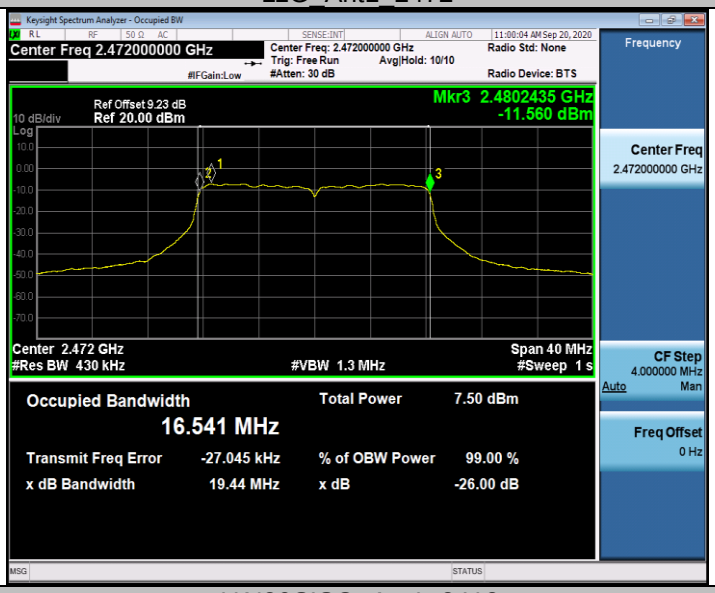
11B_Ant1_2472



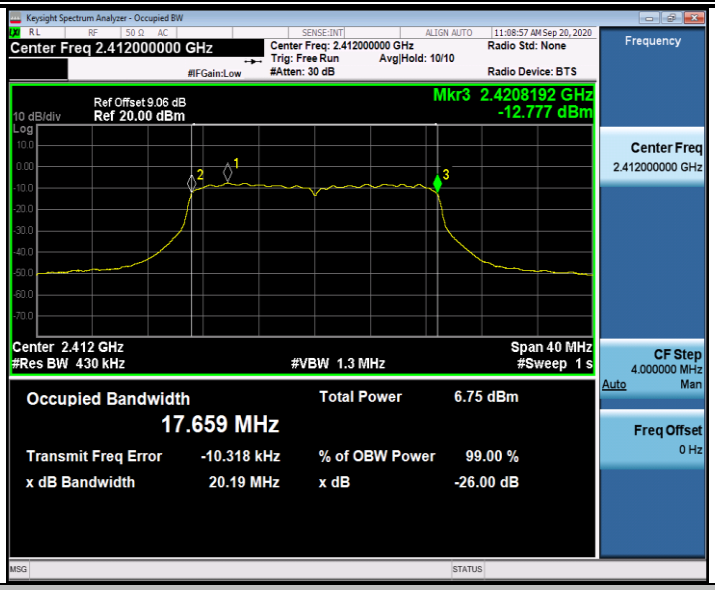
11G_Ant1_2412



11G_Ant1_2472

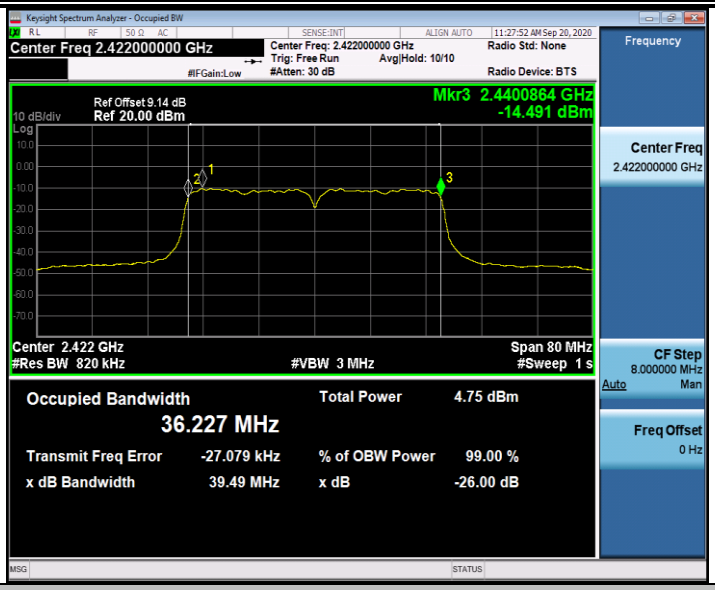


11N20SISO_Ant1_2412



11N20SISO_Ant1_2472

11N40SISO_Ant1_2422



11N40SISO_Ant1_2462

Appendix F): Transmitter unwanted Out Of Band domain

Test Result

BT+EDR

TestMode	Antenna	Channel	Freq. [MHz]	Level[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop	2398.5	-48.14	-20.00	PASS
			2399.5	-45.89	-10.00	PASS
			2484	-51.26	-10.00	PASS
			2485	-52.17	-20.00	PASS
2DH5	Ant1	Hop	2398.1208	-49.55	-20.00	PASS
			2398.3104	-47.22	-20.00	PASS
			2399.3104	-43.02	-10.00	PASS
			2399.5	-40.61	-10.00	PASS
			2484	-50.61	-10.00	PASS
			2484.1896	-50.40	-10.00	PASS
			2485.1896	-52.53	-20.00	PASS
			2485.3792	-53.27	-20.00	PASS
3DH5	Ant1	Hop	2398.136	-48.72	-20.00	PASS
			2398.318	-47.63	-20.00	PASS
			2399.318	-43.23	-10.00	PASS
			2399.5	-40.65	-10.00	PASS
			2484	-51.79	-10.00	PASS
			2484.182	-51.39	-10.00	PASS
			2485.182	-52.16	-20.00	PASS
			2485.364	-53.04	-20.00	PASS

BLE

TestMode	Antenna	Channel	Freq. [MHz]	Level[dBm]	Limit[dBm]	Verdict
BLE_BT4.2	Ant1	2402	2398.3914	-43.11	-20.00	PASS
			2398.4457	-43.03	-20.00	PASS
			2399.4457	-41.28	-10.00	PASS
			2399.5	-41.17	-10.00	PASS
			2484	-44.89	-10.00	PASS
			2484.0543	-45.59	-10.00	PASS
			2485.0543	-44.94	-20.00	PASS
			2485.1086	-45.15	-20.00	PASS
		2480	2398.3896	-46.11	-20.00	PASS
			2398.4448	-45.91	-20.00	PASS
			2399.4448	-44.21	-10.00	PASS
			2399.5	-45.44	-10.00	PASS
			2484	-44.06	-10.00	PASS
			2484.0552	-43.93	-10.00	PASS
			2485.0552	-44.66	-20.00	PASS
			2485.1104	-44.03	-20.00	PASS

WIFI

TestMode	Antenna	Channel	Freq. [MHz]	Level[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	2370.556	-40.98	-20.00	PASS
			2370.612	-40.84	-20.00	PASS
			2371.556	-41.37	-20.00	PASS
			2372.556	-40.89	-20.00	PASS
			2373.556	-40.97	-20.00	PASS
			2374.556	-40.83	-20.00	PASS
			2375.556	-41.26	-20.00	PASS
			2376.556	-41.09	-20.00	PASS
			2377.556	-41.30	-20.00	PASS
			2378.556	-41.06	-20.00	PASS
			2379.556	-41.23	-20.00	PASS
			2380.556	-40.24	-20.00	PASS
			2381.556	-40.22	-20.00	PASS
			2382.556	-38.51	-20.00	PASS
			2383.556	-37.98	-20.00	PASS
			2384.556	-37.32	-20.00	PASS
			2385.5	-37.02	-10.00	PASS
			2385.556	-37.31	-10.00	PASS
			2386.5	-35.98	-10.00	PASS
			2387.5	-37.68	-10.00	PASS
			2388.5	-37.65	-10.00	PASS
			2389.5	-37.42	-10.00	PASS
			2390.5	-36.96	-10.00	PASS
			2391.5	-36.96	-10.00	PASS
			2392.5	-35.87	-10.00	PASS
			2393.5	-33.38	-10.00	PASS
			2394.5	-32.27	-10.00	PASS
			2395.5	-30.06	-10.00	PASS
			2396.5	-30.83	-10.00	PASS
			2397.5	-29.15	-10.00	PASS
			2398.5	-28.04	-10.00	PASS
			2399.5	-27.26	-10.00	PASS
			2484	-43.56	-10.00	PASS
			2485	-43.37	-10.00	PASS
			2486	-42.71	-10.00	PASS
			2487	-43.40	-10.00	PASS
			2488	-42.99	-10.00	PASS
			2489	-43.11	-10.00	PASS
			2490	-43.24	-10.00	PASS
			2491	-43.31	-10.00	PASS
			2492	-42.56	-10.00	PASS
			2493	-43.41	-10.00	PASS
			2494	-42.96	-10.00	PASS
			2495	-42.98	-10.00	PASS
			2496	-43.24	-10.00	PASS
			2497	-43.32	-10.00	PASS
			2497.944	-43.76	-10.00	PASS
			2498	-43.63	-10.00	PASS
			2498.944	-43.72	-20.00	PASS
			2499.944	-43.60	-20.00	PASS

			2500.944	-43.63	-20.00	PASS
			2501.944	-43.13	-20.00	PASS
			2502.944	-43.17	-20.00	PASS
			2503.944	-43.47	-20.00	PASS
			2504.944	-43.96	-20.00	PASS
			2505.944	-44.18	-20.00	PASS
			2506.944	-43.47	-20.00	PASS
			2507.944	-43.86	-20.00	PASS
			2508.944	-44.28	-20.00	PASS
			2509.944	-44.22	-20.00	PASS
			2510.944	-43.99	-20.00	PASS
			2511.944	-43.73	-20.00	PASS
			2512.888	-44.13	-20.00	PASS
			2512.944	-43.33	-20.00	PASS
		2472	2370.567	-42.35	-20.00	PASS
			2370.634	-42.03	-20.00	PASS
			2371.567	-42.09	-20.00	PASS
			2372.567	-41.61	-20.00	PASS
			2373.567	-42.12	-20.00	PASS
			2374.567	-42.47	-20.00	PASS
			2375.567	-42.24	-20.00	PASS
			2376.567	-41.77	-20.00	PASS
			2377.567	-42.62	-20.00	PASS
			2378.567	-42.18	-20.00	PASS
			2379.567	-42.74	-20.00	PASS
			2380.567	-42.55	-20.00	PASS
			2381.567	-42.66	-20.00	PASS
			2382.567	-42.52	-20.00	PASS
			2383.567	-42.01	-20.00	PASS
			2384.567	-42.42	-20.00	PASS
			2385.5	-42.33	-10.00	PASS
			2385.567	-42.81	-10.00	PASS
			2386.5	-42.16	-10.00	PASS
			2387.5	-42.33	-10.00	PASS
			2388.5	-42.50	-10.00	PASS
			2389.5	-42.03	-10.00	PASS
			2390.5	-42.29	-10.00	PASS
			2391.5	-42.56	-10.00	PASS
			2392.5	-42.68	-10.00	PASS
			2393.5	-41.62	-10.00	PASS
			2394.5	-42.19	-10.00	PASS
			2395.5	-42.73	-10.00	PASS
			2396.5	-42.35	-10.00	PASS
			2397.5	-43.11	-10.00	PASS
			2398.5	-41.84	-10.00	PASS
			2399.5	-42.63	-10.00	PASS
			2484	-28.41	-10.00	PASS
			2485	-29.94	-10.00	PASS
			2486	-30.48	-10.00	PASS
			2487	-30.06	-10.00	PASS
			2488	-31.49	-10.00	PASS
			2489	-32.71	-10.00	PASS
			2490	-34.58	-10.00	PASS
			2491	-35.34	-10.00	PASS

			2492	-38.19	-10.00	PASS
			2493	-38.83	-10.00	PASS
			2494	-37.78	-10.00	PASS
			2495	-39.62	-10.00	PASS
			2496	-39.38	-10.00	PASS
			2497	-38.82	-10.00	PASS
			2497.933	-37.88	-10.00	PASS
			2498	-38.47	-10.00	PASS
			2498.933	-39.14	-20.00	PASS
			2499.933	-39.26	-20.00	PASS
			2500.933	-40.43	-20.00	PASS
			2501.933	-41.38	-20.00	PASS
			2502.933	-42.50	-20.00	PASS
			2503.933	-42.26	-20.00	PASS
			2504.933	-42.23	-20.00	PASS
			2505.933	-42.52	-20.00	PASS
			2506.933	-42.88	-20.00	PASS
			2507.933	-42.94	-20.00	PASS
			2508.933	-42.94	-20.00	PASS
			2509.933	-43.05	-20.00	PASS
			2510.933	-43.00	-20.00	PASS
			2511.933	-42.97	-20.00	PASS
			2512.866	-42.76	-20.00	PASS
			2512.933	-43.26	-20.00	PASS
11G	Ant1	2412	2366.96	-40.97	-20.00	PASS
			2367.42	-41.02	-20.00	PASS
			2367.96	-41.30	-20.00	PASS
			2368.96	-40.56	-20.00	PASS
			2369.96	-40.92	-20.00	PASS
			2370.96	-40.26	-20.00	PASS
			2371.96	-40.30	-20.00	PASS
			2372.96	-40.93	-20.00	PASS
			2373.96	-40.91	-20.00	PASS
			2374.96	-40.03	-20.00	PASS
			2375.96	-40.57	-20.00	PASS
			2376.96	-39.17	-20.00	PASS
			2377.96	-38.41	-20.00	PASS
			2378.96	-39.94	-20.00	PASS
			2379.96	-38.39	-20.00	PASS
			2380.96	-37.22	-20.00	PASS
			2381.96	-38.07	-20.00	PASS
			2382.96	-36.95	-20.00	PASS
			2383.5	-37.96	-10.00	PASS
			2383.96	-37.93	-10.00	PASS
			2384.5	-37.28	-10.00	PASS
			2385.5	-35.99	-10.00	PASS
			2386.5	-34.77	-10.00	PASS
			2387.5	-36.21	-10.00	PASS
			2388.5	-34.81	-10.00	PASS
			2389.5	-33.15	-10.00	PASS
			2390.5	-30.09	-10.00	PASS
			2391.5	-26.95	-10.00	PASS
			2392.5	-24.71	-10.00	PASS
			2393.5	-24.94	-10.00	PASS

			2394.5	-24.92	-10.00	PASS
			2395.5	-23.64	-10.00	PASS
			2396.5	-24.33	-10.00	PASS
			2397.5	-20.90	-10.00	PASS
			2398.5	-17.71	-10.00	PASS
			2399.5	-18.08	-10.00	PASS
			2484	-43.41	-10.00	PASS
			2485	-43.60	-10.00	PASS
			2486	-43.37	-10.00	PASS
			2487	-43.41	-10.00	PASS
			2488	-43.86	-10.00	PASS
			2489	-43.76	-10.00	PASS
			2490	-43.62	-10.00	PASS
			2491	-44.16	-10.00	PASS
			2492	-43.86	-10.00	PASS
			2493	-44.09	-10.00	PASS
			2494	-44.21	-10.00	PASS
			2495	-43.85	-10.00	PASS
			2496	-43.29	-10.00	PASS
			2497	-43.75	-10.00	PASS
			2498	-43.82	-10.00	PASS
			2499	-43.78	-10.00	PASS
			2499.54	-43.57	-10.00	PASS
			2500	-43.85	-10.00	PASS
			2500.54	-44.08	-20.00	PASS
			2501.54	-43.84	-20.00	PASS
			2502.54	-44.05	-20.00	PASS
			2503.54	-44.22	-20.00	PASS
			2504.54	-43.50	-20.00	PASS
			2505.54	-43.88	-20.00	PASS
			2506.54	-44.41	-20.00	PASS
			2507.54	-43.97	-20.00	PASS
			2508.54	-44.23	-20.00	PASS
			2509.54	-43.50	-20.00	PASS
			2510.54	-44.26	-20.00	PASS
			2511.54	-43.60	-20.00	PASS
			2512.54	-44.20	-20.00	PASS
			2513.54	-44.08	-20.00	PASS
			2514.54	-44.16	-20.00	PASS
			2515.54	-43.47	-20.00	PASS
			2516.08	-44.00	-20.00	PASS
			2516.54	-43.55	-20.00	PASS
		2472	2366.959	-43.10	-20.00	PASS
			2367.418	-43.19	-20.00	PASS
			2367.959	-42.82	-20.00	PASS
			2368.959	-42.19	-20.00	PASS
			2369.959	-42.51	-20.00	PASS
			2370.959	-42.71	-20.00	PASS
			2371.959	-42.06	-20.00	PASS
			2372.959	-42.53	-20.00	PASS
			2373.959	-43.12	-20.00	PASS
			2374.959	-42.82	-20.00	PASS
			2375.959	-42.22	-20.00	PASS
			2376.959	-42.92	-20.00	PASS

			2377.959	-42.99	-20.00	PASS
			2378.959	-42.63	-20.00	PASS
			2379.959	-42.37	-20.00	PASS
			2380.959	-42.19	-20.00	PASS
			2381.959	-42.87	-20.00	PASS
			2382.959	-42.58	-20.00	PASS
			2383.5	-42.39	-10.00	PASS
			2383.959	-42.00	-10.00	PASS
			2384.5	-42.50	-10.00	PASS
			2385.5	-42.51	-10.00	PASS
			2386.5	-42.25	-10.00	PASS
			2387.5	-42.83	-10.00	PASS
			2388.5	-42.76	-10.00	PASS
			2389.5	-42.58	-10.00	PASS
			2390.5	-42.77	-10.00	PASS
			2391.5	-43.32	-10.00	PASS
			2392.5	-42.84	-10.00	PASS
			2393.5	-43.20	-10.00	PASS
			2394.5	-43.34	-10.00	PASS
			2395.5	-42.77	-10.00	PASS
			2396.5	-42.62	-10.00	PASS
			2397.5	-43.59	-10.00	PASS
			2398.5	-43.50	-10.00	PASS
			2399.5	-43.08	-10.00	PASS
			2484	-17.76	-10.00	PASS
			2485	-16.11	-10.00	PASS
			2486	-18.83	-10.00	PASS
			2487	-23.21	-10.00	PASS
			2488	-25.88	-10.00	PASS
			2489	-26.05	-10.00	PASS
			2490	-25.64	-10.00	PASS
			2491	-24.83	-10.00	PASS
			2492	-27.66	-10.00	PASS
			2493	-29.15	-10.00	PASS
			2494	-29.11	-10.00	PASS
			2495	-33.38	-10.00	PASS
			2496	-36.96	-10.00	PASS
			2497	-37.92	-10.00	PASS
			2498	-39.77	-10.00	PASS
			2499	-39.17	-10.00	PASS
			2499.541	-39.22	-10.00	PASS
			2500	-39.64	-10.00	PASS
			2500.541	-39.72	-20.00	PASS
			2501.541	-39.87	-20.00	PASS
			2502.541	-39.33	-20.00	PASS
			2503.541	-40.72	-20.00	PASS
			2504.541	-40.86	-20.00	PASS
			2505.541	-41.63	-20.00	PASS
			2506.541	-41.73	-20.00	PASS
			2507.541	-41.53	-20.00	PASS
			2508.541	-42.45	-20.00	PASS
			2509.541	-42.28	-20.00	PASS
			2510.541	-42.71	-20.00	PASS
			2511.541	-42.59	-20.00	PASS

			2512.541	-42.28	-20.00	PASS
			2513.541	-42.41	-20.00	PASS
			2514.541	-41.53	-20.00	PASS
			2515.541	-42.59	-20.00	PASS
			2516.082	-43.22	-20.00	PASS
			2516.541	-42.12	-20.00	PASS
11N20SISO	Ant1	2412	2364.841	-41.49	-20.00	PASS
			2365.182	-42.44	-20.00	PASS
			2365.841	-42.46	-20.00	PASS
			2366.841	-41.77	-20.00	PASS
			2367.841	-41.66	-20.00	PASS
			2368.841	-41.86	-20.00	PASS
			2369.841	-41.94	-20.00	PASS
			2370.841	-41.68	-20.00	PASS
			2371.841	-41.14	-20.00	PASS
			2372.841	-40.23	-20.00	PASS
			2373.841	-39.84	-20.00	PASS
			2374.841	-40.92	-20.00	PASS
			2375.841	-41.14	-20.00	PASS
			2376.841	-40.91	-20.00	PASS
			2377.841	-40.63	-20.00	PASS
			2378.841	-40.14	-20.00	PASS
			2379.841	-40.44	-20.00	PASS
			2380.841	-39.91	-20.00	PASS
			2381.841	-38.79	-20.00	PASS
			2382.5	-38.94	-10.00	PASS
			2382.841	-39.35	-10.00	PASS
			2383.5	-38.79	-10.00	PASS
			2384.5	-38.68	-10.00	PASS
			2385.5	-37.21	-10.00	PASS
			2386.5	-36.05	-10.00	PASS
			2387.5	-35.99	-10.00	PASS
			2388.5	-31.37	-10.00	PASS
			2389.5	-29.02	-10.00	PASS
			2390.5	-28.25	-10.00	PASS
			2391.5	-28.75	-10.00	PASS
			2392.5	-29.38	-10.00	PASS
			2393.5	-29.23	-10.00	PASS
			2394.5	-27.53	-10.00	PASS
			2395.5	-26.23	-10.00	PASS
			2396.5	-25.49	-10.00	PASS
			2397.5	-26.59	-10.00	PASS
			2398.5	-25.10	-10.00	PASS
			2399.5	-20.21	-10.00	PASS
			2484	-43.60	-10.00	PASS
			2485	-43.51	-10.00	PASS
			2486	-43.91	-10.00	PASS
			2487	-44.02	-10.00	PASS
			2488	-43.69	-10.00	PASS
			2489	-43.64	-10.00	PASS
			2490	-43.97	-10.00	PASS
			2491	-44.19	-10.00	PASS
			2492	-43.72	-10.00	PASS
			2493	-44.05	-10.00	PASS

			2494	-44.09	-10.00	PASS
			2495	-43.44	-10.00	PASS
			2496	-43.89	-10.00	PASS
			2497	-43.15	-10.00	PASS
			2498	-43.78	-10.00	PASS
			2499	-44.16	-10.00	PASS
			2500	-44.22	-10.00	PASS
			2500.659	-44.07	-10.00	PASS
			2501	-43.73	-10.00	PASS
			2501.659	-43.50	-20.00	PASS
			2502.659	-44.24	-20.00	PASS
			2503.659	-44.09	-20.00	PASS
			2504.659	-43.20	-20.00	PASS
			2505.659	-44.07	-20.00	PASS
			2506.659	-44.43	-20.00	PASS
			2507.659	-44.38	-20.00	PASS
			2508.659	-44.53	-20.00	PASS
			2509.659	-44.55	-20.00	PASS
			2510.659	-44.47	-20.00	PASS
			2511.659	-43.87	-20.00	PASS
			2512.659	-44.15	-20.00	PASS
			2513.659	-44.34	-20.00	PASS
			2514.659	-44.33	-20.00	PASS
			2515.659	-44.26	-20.00	PASS
			2516.659	-44.09	-20.00	PASS
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			2518.318	-44.45	-20.00	PASS
			2518.659	-44.38	-20.00	PASS
		2472	2364.842	-43.05	-20.00	PASS
			2365.184	-42.08	-20.00	PASS
			2365.842	-42.58	-20.00	PASS
			2366.842	-43.14	-20.00	PASS
			2367.842	-42.89	-20.00	PASS
			2368.842	-42.97	-20.00	PASS
			2369.842	-42.67	-20.00	PASS
			2370.842	-42.22	-20.00	PASS
			2371.842	-42.90	-20.00	PASS
			2372.842	-42.77	-20.00	PASS
			2373.842	-42.45	-20.00	PASS
			2374.842	-42.71	-20.00	PASS
			2375.842	-42.56	-20.00	PASS
			2376.842	-42.53	-20.00	PASS
			2377.842	-42.11	-20.00	PASS
			2378.842	-42.44	-20.00	PASS
			2379.842	-42.72	-20.00	PASS
			2380.842	-42.31	-20.00	PASS
			2381.842	-42.77	-20.00	PASS
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			2386.5	-42.22	-10.00	PASS
			2387.5	-42.70	-10.00	PASS

			2388.5	-42.85	-10.00	PASS
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			2390.5	-43.23	-10.00	PASS
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			2392.5	-42.86	-10.00	PASS
			2393.5	-43.64	-10.00	PASS
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			2395.5	-43.17	-10.00	PASS
			2396.5	-42.30	-10.00	PASS
			2397.5	-43.03	-10.00	PASS
			2398.5	-42.51	-10.00	PASS
			2399.5	-43.05	-10.00	PASS
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			2485	-24.48	-10.00	PASS
			2486	-26.53	-10.00	PASS
			2487	-28.09	-10.00	PASS
			2488	-28.90	-10.00	PASS
			2489	-29.08	-10.00	PASS
			2490	-29.65	-10.00	PASS
			2491	-30.71	-10.00	PASS
			2492	-32.83	-10.00	PASS
			2493	-29.69	-10.00	PASS
			2494	-31.59	-10.00	PASS
			2495	-33.05	-10.00	PASS
			2496	-35.13	-10.00	PASS
			2497	-37.93	-10.00	PASS
			2498	-39.69	-10.00	PASS
			2499	-40.11	-10.00	PASS
			2500	-39.95	-10.00	PASS
			2500.658	-40.24	-10.00	PASS
			2501	-40.17	-10.00	PASS
			2501.658	-41.42	-20.00	PASS
			2502.658	-41.66	-20.00	PASS
			2503.658	-41.58	-20.00	PASS
			2504.658	-40.21	-20.00	PASS
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			2507.658	-42.65	-20.00	PASS
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			2509.658	-42.07	-20.00	PASS
			2510.658	-42.63	-20.00	PASS
			2511.658	-43.75	-20.00	PASS
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			2513.658	-43.59	-20.00	PASS
			2514.658	-42.89	-20.00	PASS
			2515.658	-42.43	-20.00	PASS
			2516.658	-43.20	-20.00	PASS
			2517.658	-43.50	-20.00	PASS
			2518.316	-42.82	-20.00	PASS
			2518.658	-43.77	-20.00	PASS
11N40SISO	Ant1	2422	2328.046	-41.38	-20.00	PASS
			2328.273	-42.24	-20.00	PASS
			2329.273	-41.86	-20.00	PASS
			2330.273	-41.77	-20.00	PASS

			2331.273	-41.32	-20.00	PASS
			2332.273	-42.02	-20.00	PASS
			2333.273	-41.76	-20.00	PASS
			2334.273	-41.45	-20.00	PASS
			2335.273	-41.93	-20.00	PASS
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			2337.273	-41.88	-20.00	PASS
			2338.273	-41.65	-20.00	PASS
			2339.273	-41.81	-20.00	PASS
			2340.273	-41.45	-20.00	PASS
			2341.273	-41.35	-20.00	PASS
			2342.273	-40.77	-20.00	PASS
			2343.273	-41.40	-20.00	PASS
			2344.273	-41.06	-20.00	PASS
			2345.273	-41.54	-20.00	PASS
			2346.273	-41.16	-20.00	PASS
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			2348.273	-41.10	-20.00	PASS
			2349.273	-41.10	-20.00	PASS
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			2352.273	-41.21	-20.00	PASS
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			2356.273	-39.99	-20.00	PASS
			2357.273	-40.74	-20.00	PASS
			2358.273	-39.51	-20.00	PASS
			2359.273	-38.38	-20.00	PASS
			2360.273	-39.92	-20.00	PASS
			2361.273	-39.94	-20.00	PASS
			2362.273	-40.04	-20.00	PASS
			2363.273	-39.07	-20.00	PASS
			2364.273	-38.97	-10.00	PASS
			2364.5	-38.60	-10.00	PASS
			2365.5	-36.73	-10.00	PASS
			2366.5	-36.63	-10.00	PASS
			2367.5	-36.28	-10.00	PASS
			2368.5	-38.70	-10.00	PASS
			2369.5	-37.82	-10.00	PASS
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			2371.5	-37.31	-10.00	PASS
			2372.5	-36.32	-10.00	PASS
			2373.5	-35.36	-10.00	PASS
			2374.5	-35.87	-10.00	PASS
			2375.5	-33.88	-10.00	PASS
			2376.5	-32.96	-10.00	PASS
			2377.5	-31.37	-10.00	PASS
			2378.5	-32.42	-10.00	PASS
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			2380.5	-31.46	-10.00	PASS
			2381.5	-31.02	-10.00	PASS
			2382.5	-31.13	-10.00	PASS
			2383.5	-30.13	-10.00	PASS

			2384.5	-28.14	-10.00	PASS
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			2386.5	-28.03	-10.00	PASS
			2387.5	-27.47	-10.00	PASS
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			2389.5	-28.20	-10.00	PASS
			2390.5	-25.62	-10.00	PASS
			2391.5	-27.27	-10.00	PASS
			2392.5	-25.59	-10.00	PASS
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			2396.5	-24.03	-10.00	PASS
			2397.5	-25.93	-10.00	PASS
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			2494	-42.81	-10.00	PASS
			2495	-42.18	-10.00	PASS
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			2499	-43.69	-10.00	PASS
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			2512	-43.58	-10.00	PASS
			2513	-44.02	-10.00	PASS
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			2515	-44.23	-10.00	PASS
			2516	-44.01	-10.00	PASS
			2517	-44.49	-10.00	PASS
			2518	-43.82	-10.00	PASS
			2519	-43.91	-10.00	PASS
			2519.227	-44.25	-10.00	PASS
			2520.227	-44.36	-20.00	PASS

			2521.227	-44.37	-20.00	PASS
			2522.227	-44.01	-20.00	PASS
			2523.227	-43.77	-20.00	PASS
			2524.227	-44.49	-20.00	PASS
			2525.227	-44.24	-20.00	PASS
			2526.227	-44.68	-20.00	PASS
			2527.227	-43.45	-20.00	PASS
			2528.227	-43.94	-20.00	PASS
			2529.227	-44.67	-20.00	PASS
			2530.227	-44.22	-20.00	PASS
			2531.227	-43.81	-20.00	PASS
			2532.227	-44.08	-20.00	PASS
			2533.227	-44.49	-20.00	PASS
			2534.227	-43.77	-20.00	PASS
			2535.227	-43.76	-20.00	PASS
			2536.227	-44.36	-20.00	PASS
			2537.227	-45.17	-20.00	PASS
			2538.227	-44.43	-20.00	PASS
			2539.227	-44.22	-20.00	PASS
			2540.227	-43.92	-20.00	PASS
			2541.227	-44.73	-20.00	PASS
			2542.227	-43.78	-20.00	PASS
			2543.227	-44.41	-20.00	PASS
			2544.227	-44.17	-20.00	PASS
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			2546.227	-44.42	-20.00	PASS
			2547.227	-45.03	-20.00	PASS
			2548.227	-44.35	-20.00	PASS
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			2333.286	-41.44	-20.00	PASS
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			2336.286	-42.61	-20.00	PASS
			2337.286	-42.03	-20.00	PASS
			2338.286	-42.67	-20.00	PASS
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			2341.286	-42.33	-20.00	PASS
			2342.286	-41.95	-20.00	PASS
			2343.286	-42.24	-20.00	PASS
			2344.286	-42.37	-20.00	PASS

			2345.286	-41.70	-20.00	PASS
			2346.286	-42.53	-20.00	PASS
			2347.286	-42.39	-20.00	PASS
			2348.286	-42.79	-20.00	PASS
			2349.286	-41.86	-20.00	PASS
			2350.286	-42.02	-20.00	PASS
			2351.286	-42.19	-20.00	PASS
			2352.286	-41.38	-20.00	PASS
			2353.286	-42.38	-20.00	PASS
			2354.286	-41.84	-20.00	PASS
			2355.286	-42.60	-20.00	PASS
			2356.286	-42.33	-20.00	PASS
			2357.286	-41.88	-20.00	PASS
			2358.286	-42.57	-20.00	PASS
			2359.286	-41.43	-20.00	PASS
			2360.286	-42.42	-20.00	PASS
			2361.286	-42.32	-20.00	PASS
			2362.286	-42.18	-20.00	PASS
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			2364.5	-42.49	-10.00	PASS
			2365.5	-42.32	-10.00	PASS
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			2367.5	-42.37	-10.00	PASS
			2368.5	-42.08	-10.00	PASS
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			2398.5	-41.27	-10.00	PASS
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			2484	-21.87	-10.00	PASS
			2485	-23.34	-10.00	PASS
			2486	-25.13	-10.00	PASS
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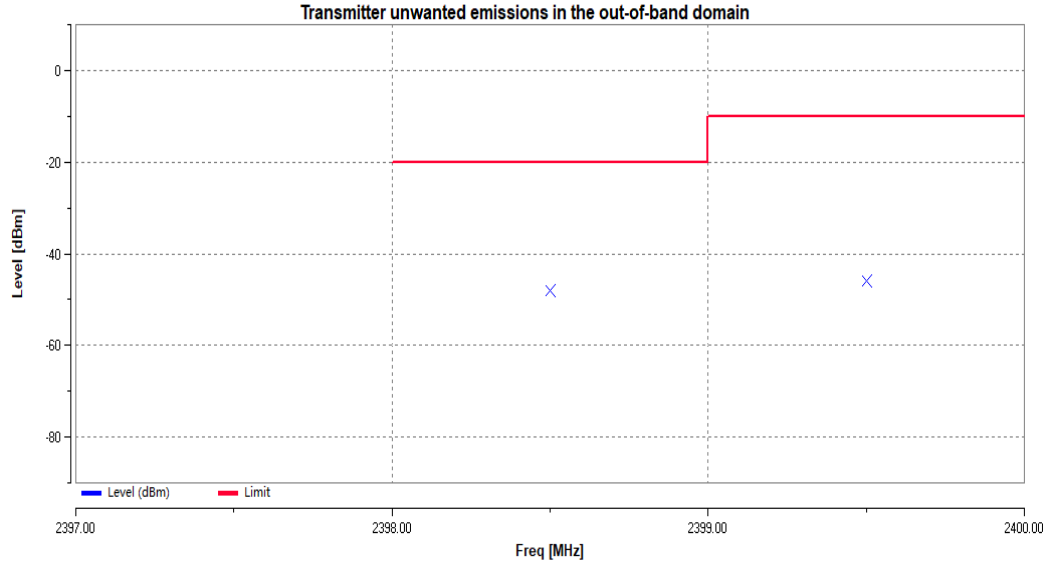
			2490	-23.49	-10.00	PASS
			2491	-28.13	-10.00	PASS
			2492	-28.33	-10.00	PASS
			2493	-27.44	-10.00	PASS
			2494	-27.62	-10.00	PASS
			2495	-25.08	-10.00	PASS
			2496	-26.86	-10.00	PASS
			2497	-28.85	-10.00	PASS
			2498	-28.33	-10.00	PASS
			2499	-26.45	-10.00	PASS
			2500	-29.24	-10.00	PASS
			2501	-31.24	-10.00	PASS
			2502	-29.23	-10.00	PASS
			2503	-31.74	-10.00	PASS
			2504	-29.60	-10.00	PASS
			2505	-32.47	-10.00	PASS
			2506	-31.44	-10.00	PASS
			2507	-34.86	-10.00	PASS
			2508	-32.85	-10.00	PASS
			2509	-36.73	-10.00	PASS
			2510	-34.94	-10.00	PASS
			2511	-37.00	-10.00	PASS
			2512	-37.73	-10.00	PASS
			2513	-37.69	-10.00	PASS
			2514	-39.02	-10.00	PASS
			2515	-40.55	-10.00	PASS
			2516	-40.93	-10.00	PASS
			2517	-40.98	-10.00	PASS
			2518	-40.86	-10.00	PASS
			2519	-41.52	-10.00	PASS
			2519.214	-40.89	-10.00	PASS
			2520.214	-42.41	-20.00	PASS
			2521.214	-41.90	-20.00	PASS
			2522.214	-41.80	-20.00	PASS
			2523.214	-41.73	-20.00	PASS
			2524.214	-41.70	-20.00	PASS
			2525.214	-42.92	-20.00	PASS
			2526.214	-42.73	-20.00	PASS
			2527.214	-42.19	-20.00	PASS
			2528.214	-43.24	-20.00	PASS
			2529.214	-43.05	-20.00	PASS
			2530.214	-42.64	-20.00	PASS
			2531.214	-43.54	-20.00	PASS
			2532.214	-42.90	-20.00	PASS
			2533.214	-43.07	-20.00	PASS
			2534.214	-42.88	-20.00	PASS

			2535.214	-43.45	-20.00	PASS
			2536.214	-43.46	-20.00	PASS
			2537.214	-43.09	-20.00	PASS
			2538.214	-43.86	-20.00	PASS
			2539.214	-43.98	-20.00	PASS
			2540.214	-43.48	-20.00	PASS
			2541.214	-43.61	-20.00	PASS
			2542.214	-43.46	-20.00	PASS
			2543.214	-44.04	-20.00	PASS
			2544.214	-43.00	-20.00	PASS
			2545.214	-42.89	-20.00	PASS
			2546.214	-43.77	-20.00	PASS
			2547.214	-43.13	-20.00	PASS
			2548.214	-43.82	-20.00	PASS
			2549.214	-43.95	-20.00	PASS
			2550.214	-44.22	-20.00	PASS
			2551.214	-44.78	-20.00	PASS
			2552.214	-44.27	-20.00	PASS
			2553.214	-44.38	-20.00	PASS
			2554.214	-43.89	-20.00	PASS
			2555.214	-44.74	-20.00	PASS
			2555.428	-44.03	-20.00	PASS

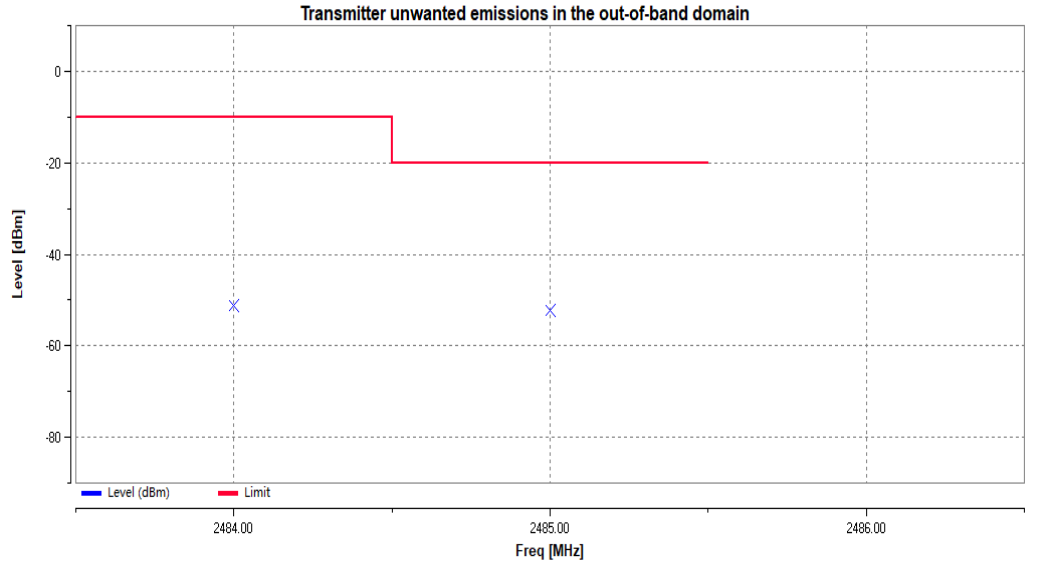
Test Graphs

BT+EDR

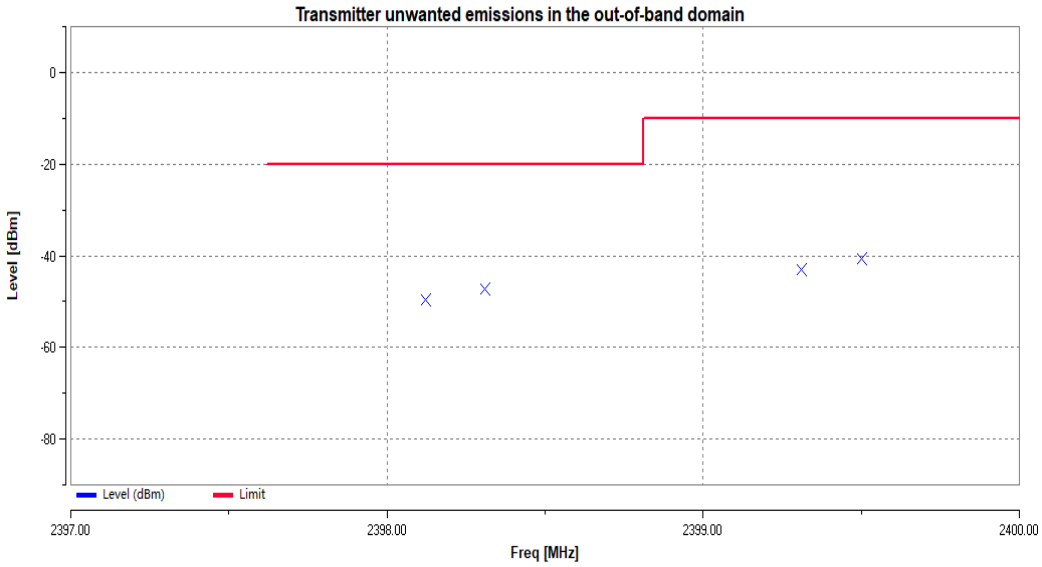
DH5_Ant1_Hop_2400MHz-2BW to 2400MHz



DH5_Ant1_Hop_2483.5MHz to 2483.5MHz+2BW



2DH5_Ant1_Hop_2400MHz-2BW to 2400MHz



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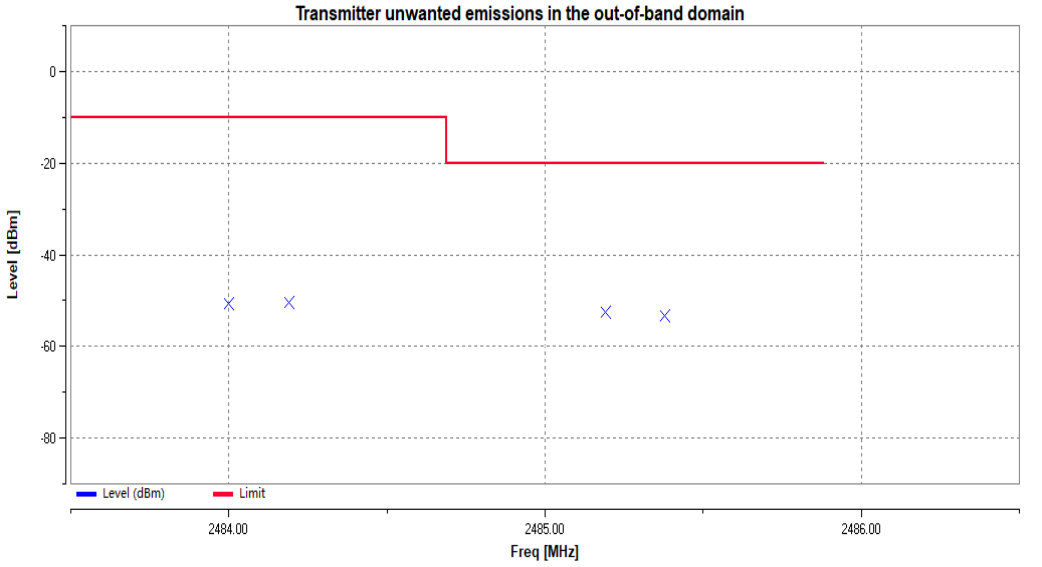
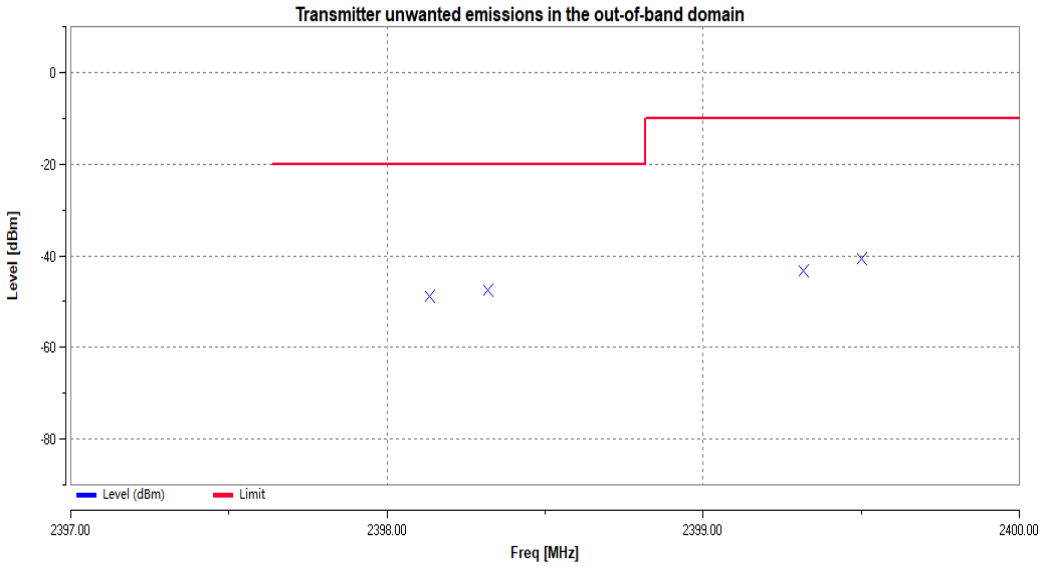
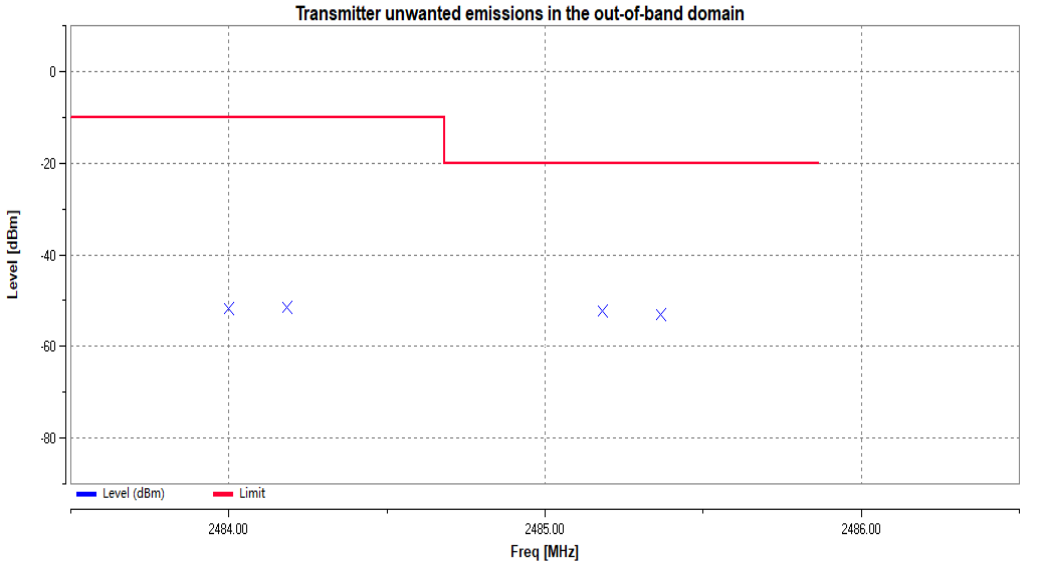


3DH5_Ant1_Hop_2400MHz-2BW to 2400MHz

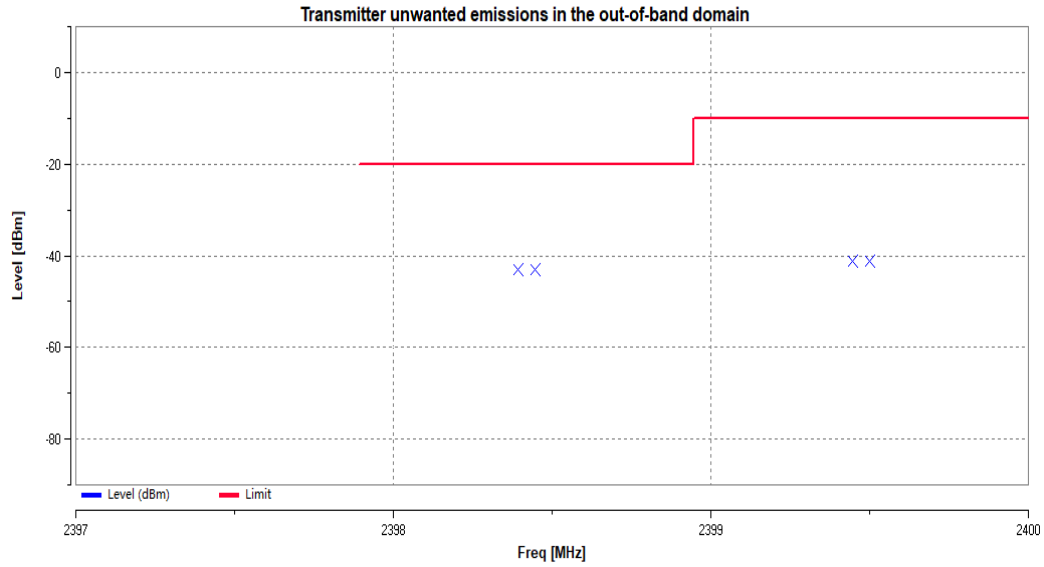


3DH5_Ant1_Hop_2483.5MHz to 2483.5MHz+2BW

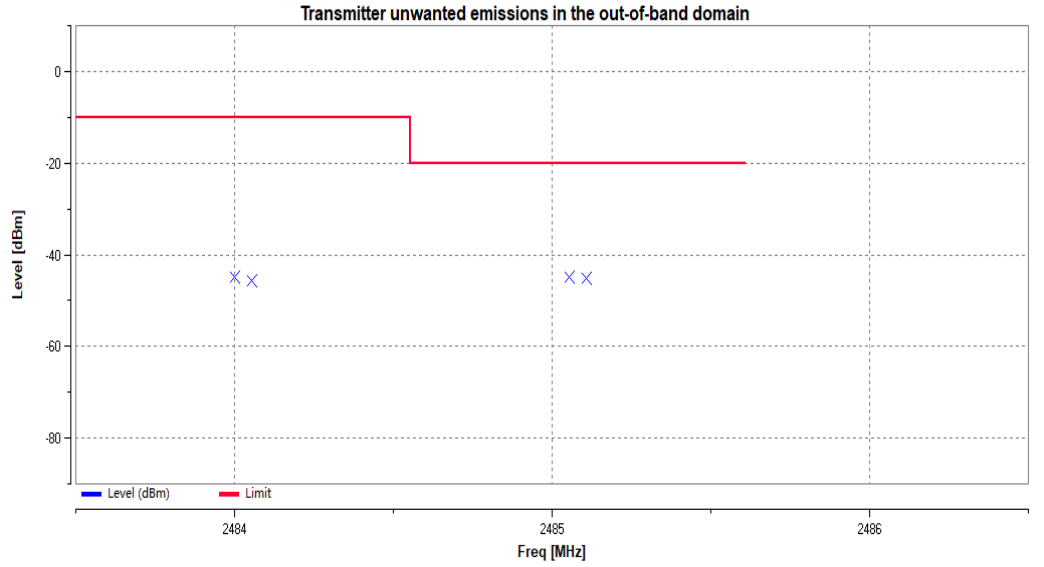


BLE

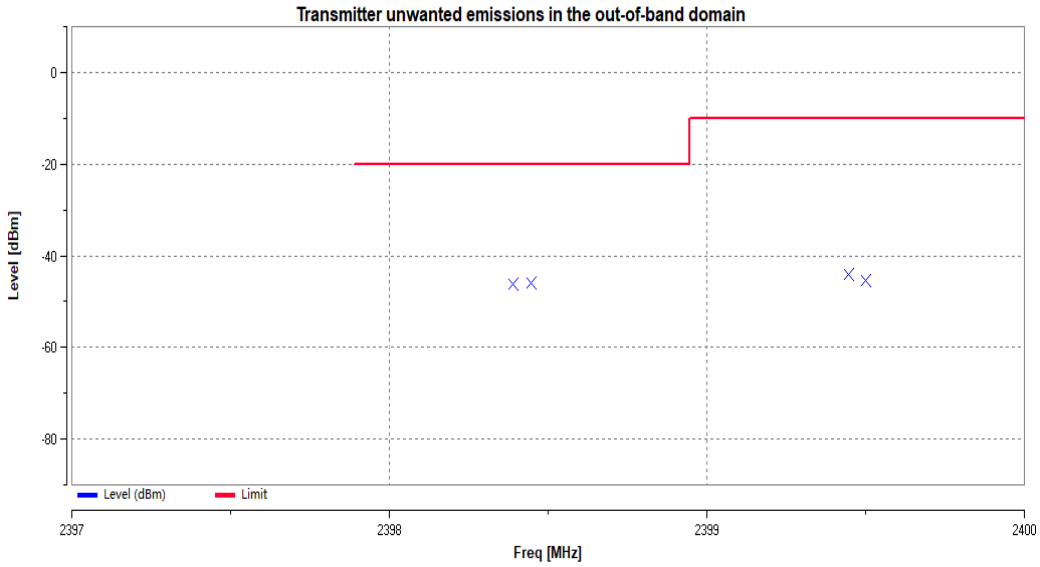
BLE_BT4.2_Ant1_2402_2400MHz-2BW to 2400MHz



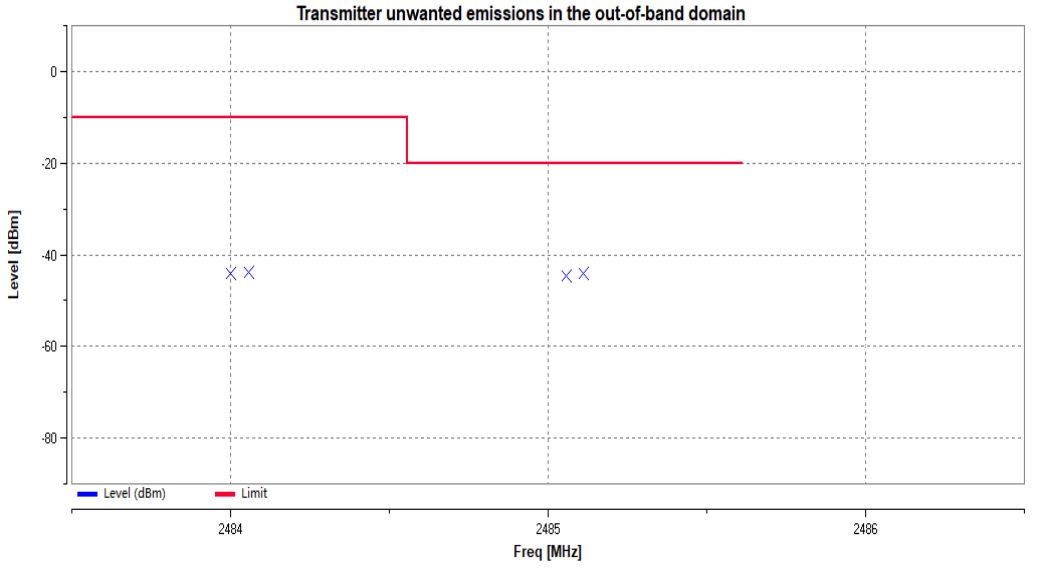
BLE_BT4.2_Ant1_2402_2483.5MHz to 2483.5MHz+2BW



BLE_BT4.2_Ant1_2480_2400MHz-2BW to 2400MHz

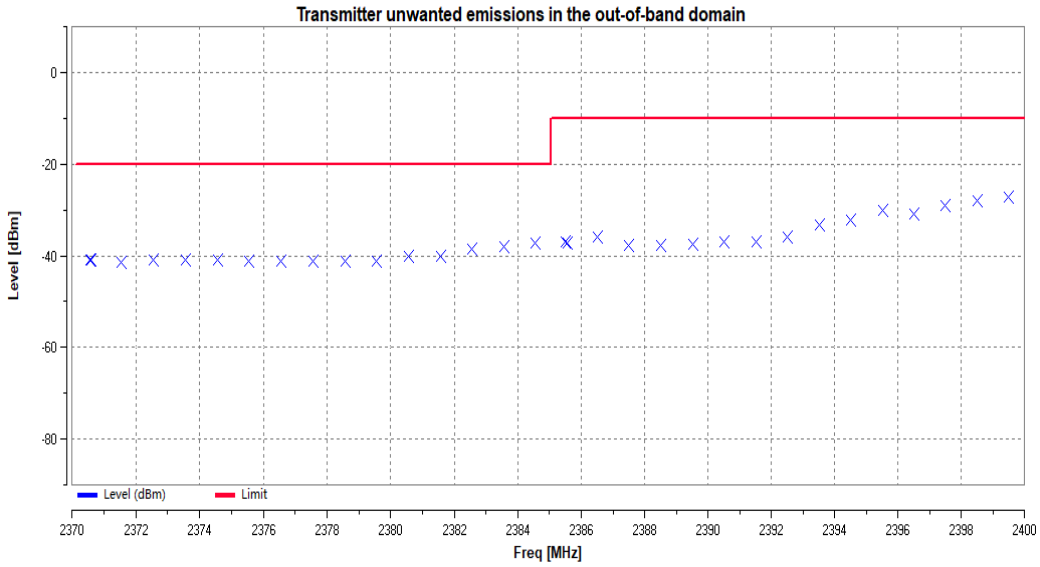


BLE_BT4.2_Ant1_2480_2483.5MHz to 2483.5MHz+2BW

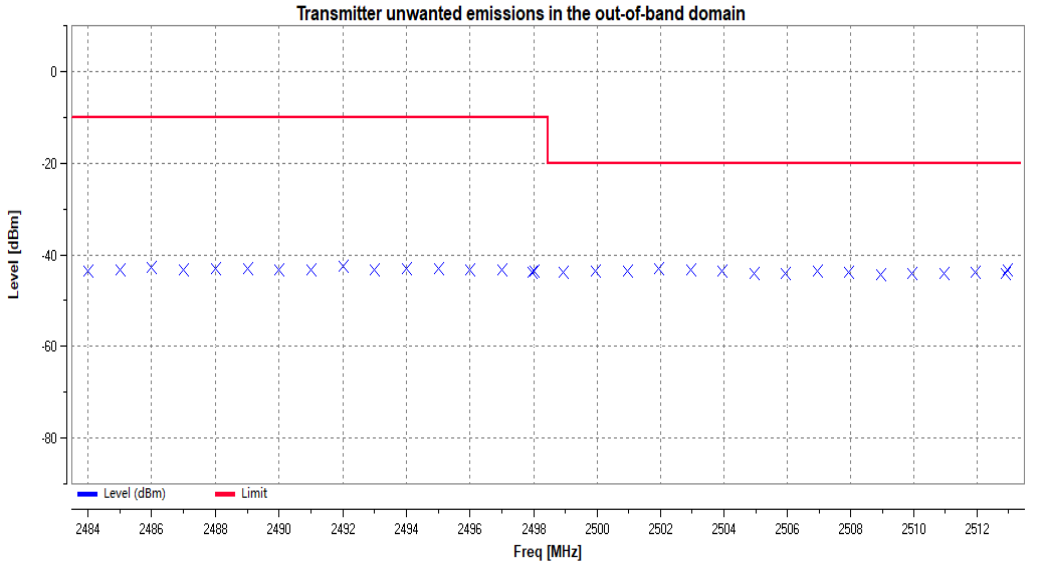


WIFI

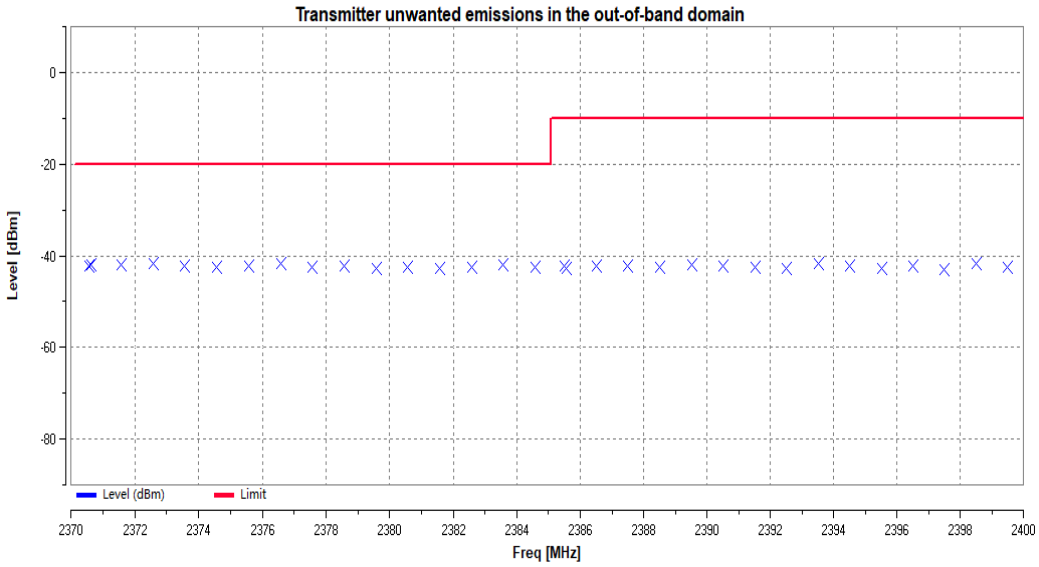
11B_Ant1_2412_2400MHz-2BW to 2400MHz



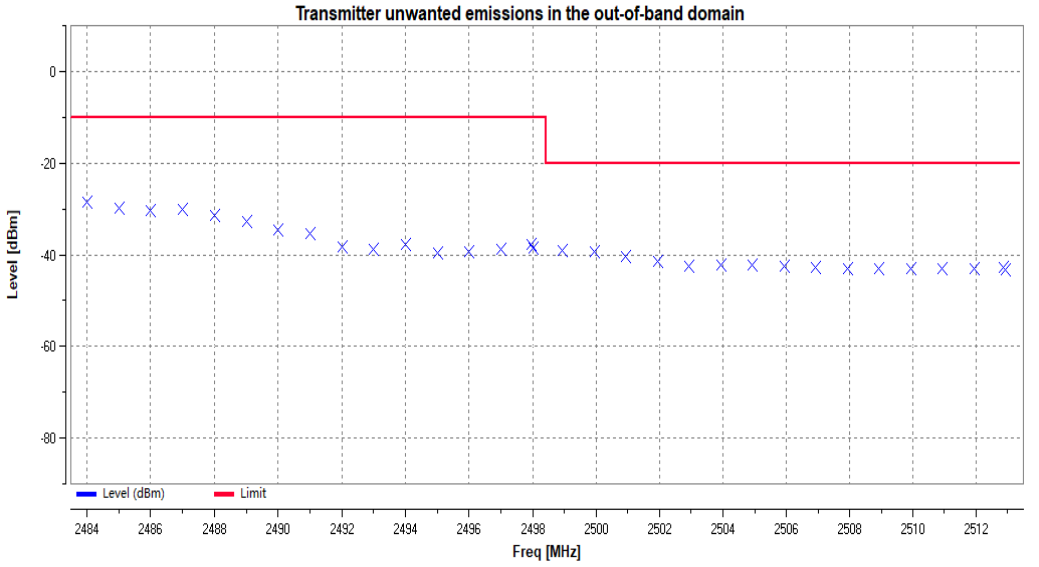
11B_Ant1_2412_2483.5MHz to 2483.5MHz+2BW



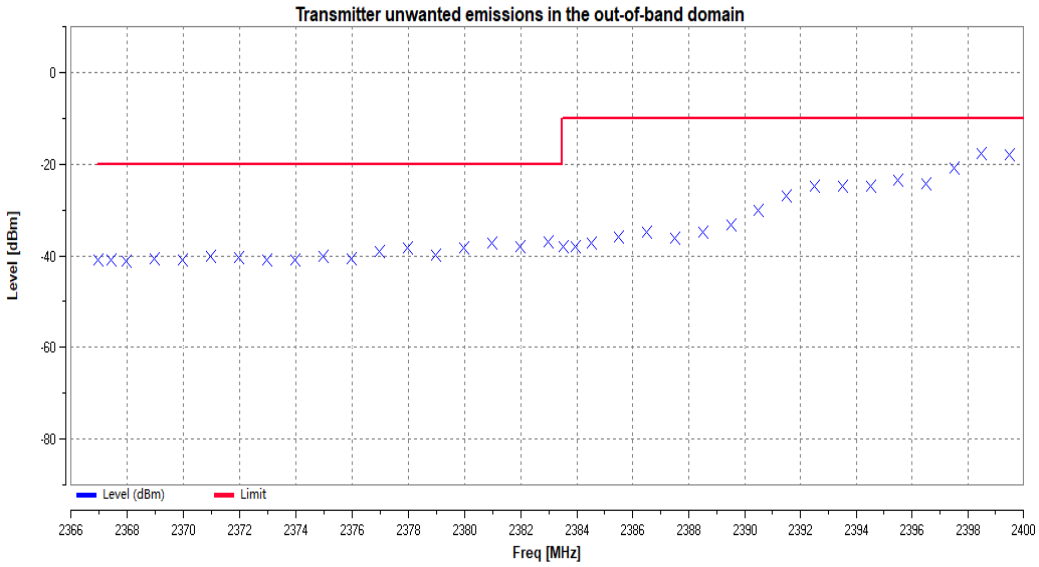
11B_Ant1_2472_2400MHz-2BW to 2400MHz



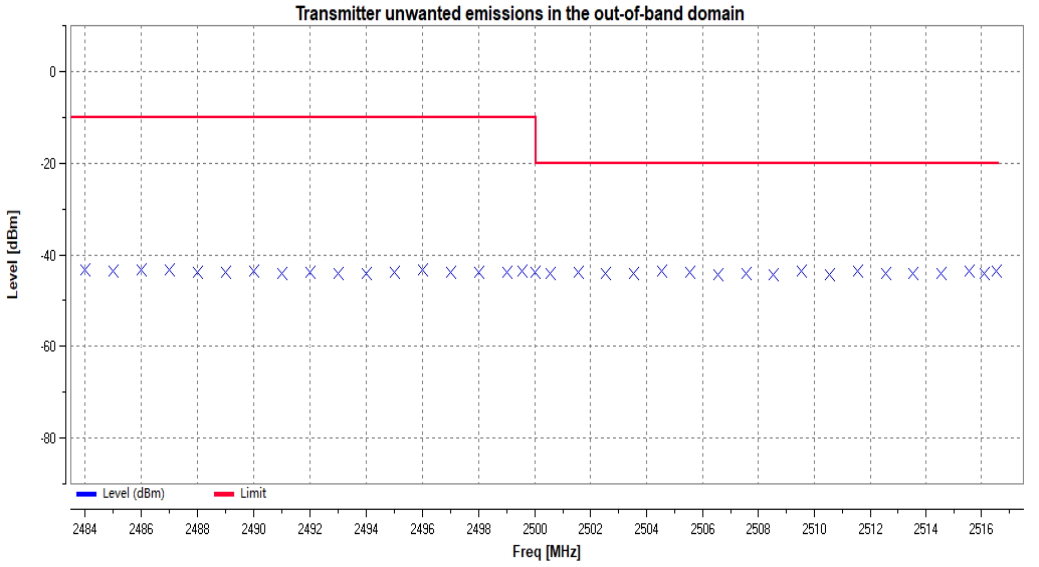
11B_Ant1_2472_2483.5MHz to 2483.5MHz+2BW



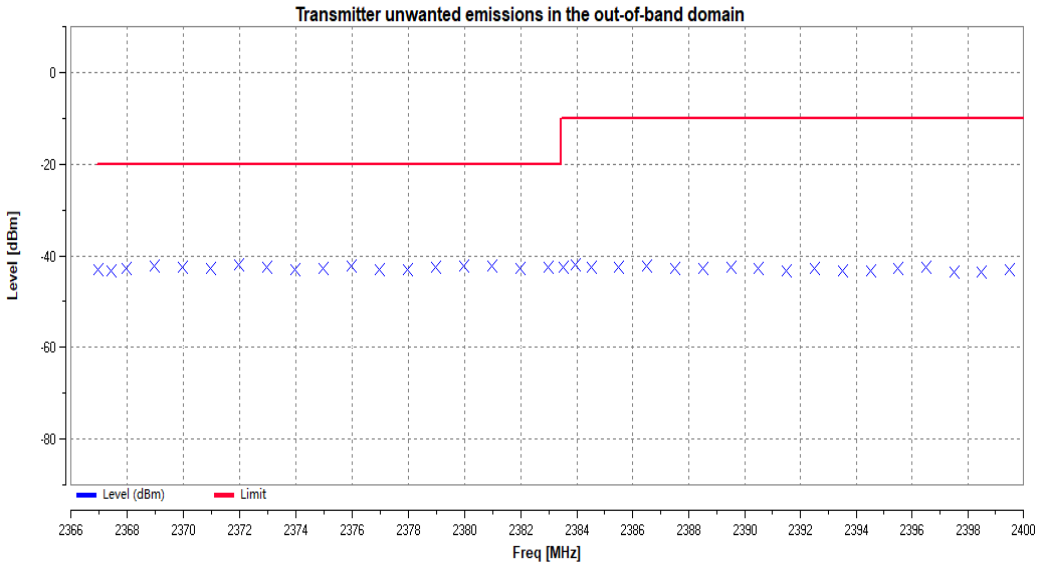
11G_Ant1_2412_2400MHz-2BW to 2400MHz



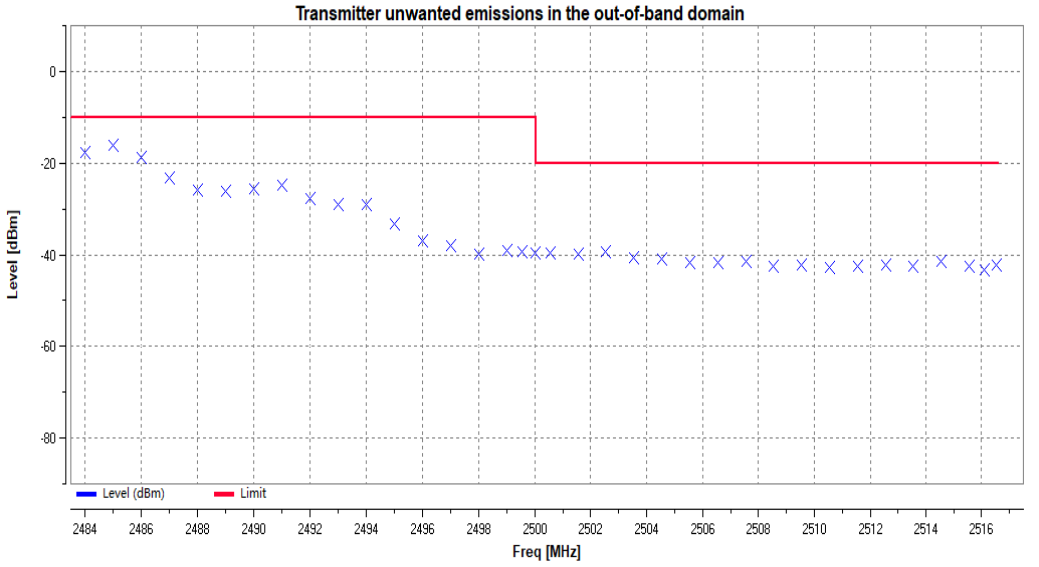
11G_Ant1_2412_2483.5MHz to 2483.5MHz+2BW



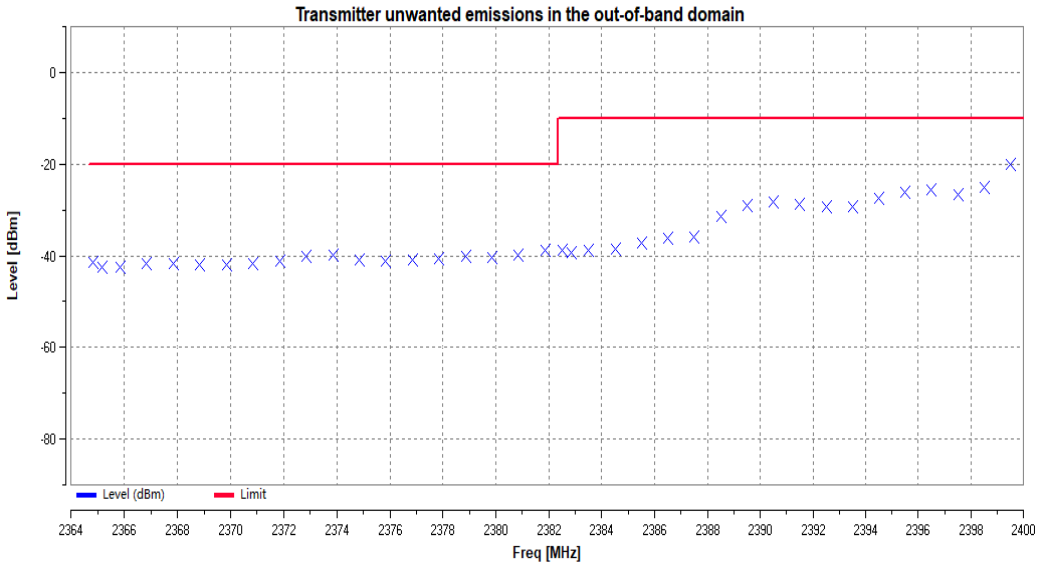
11G_Ant1_2472_2400MHz-2BW to 2400MHz



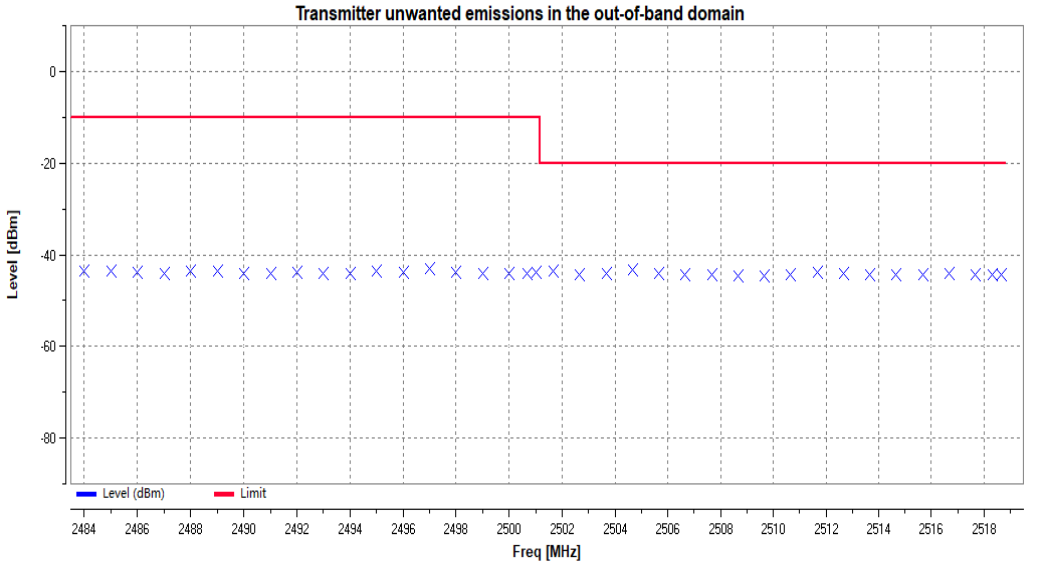
11G_Ant1_2472_2483.5MHz to 2483.5MHz+2BW



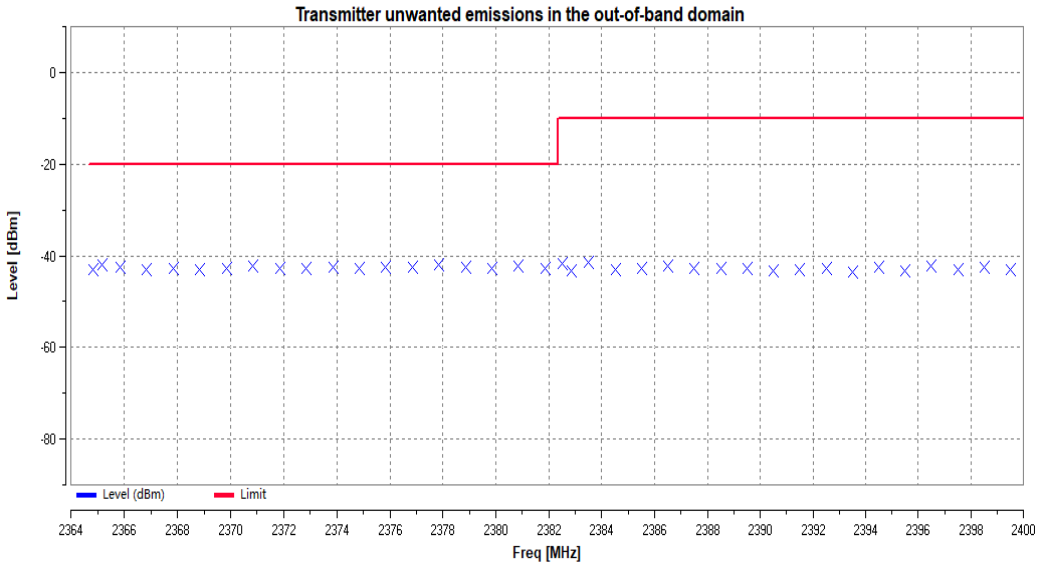
11N20SISO_Ant1_2412_2400MHz-2BW to 2400MHz



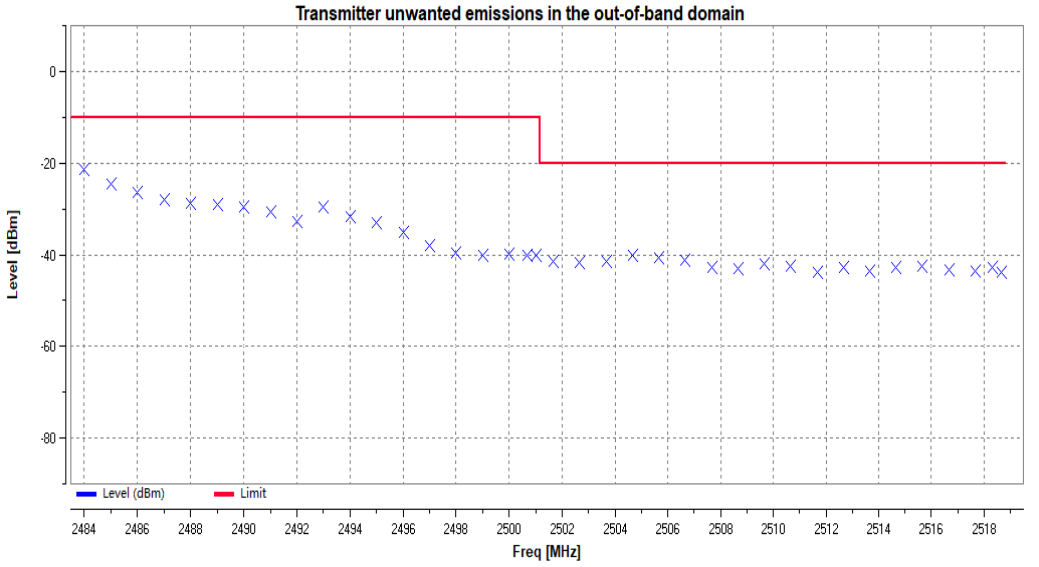
11N20SISO_Ant1_2412_2483.5MHz to 2483.5MHz+2BW



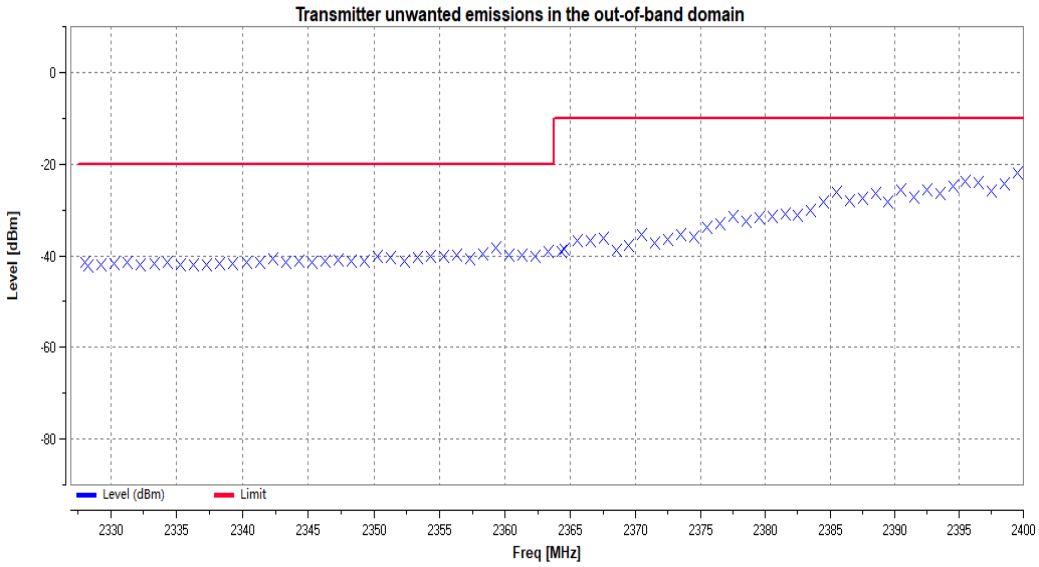
11N20SISO_Ant1_2472_2400MHz-2BW to 2400MHz



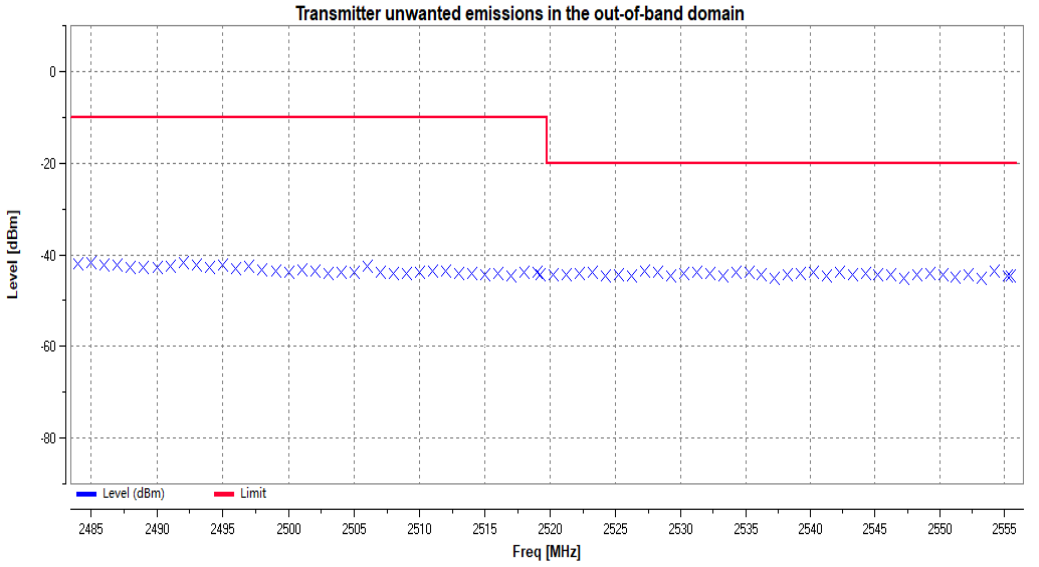
11N20SISO_Ant1_2472_2483.5MHz to 2483.5MHz+2BW



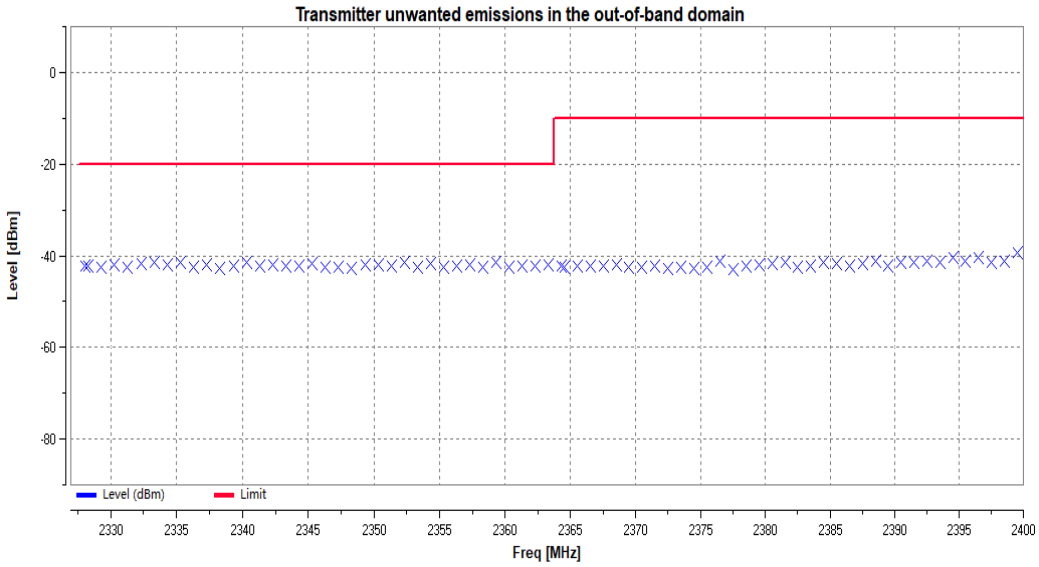
11N40SISO_Ant1_2422_2400MHz-2BW to 2400MHz



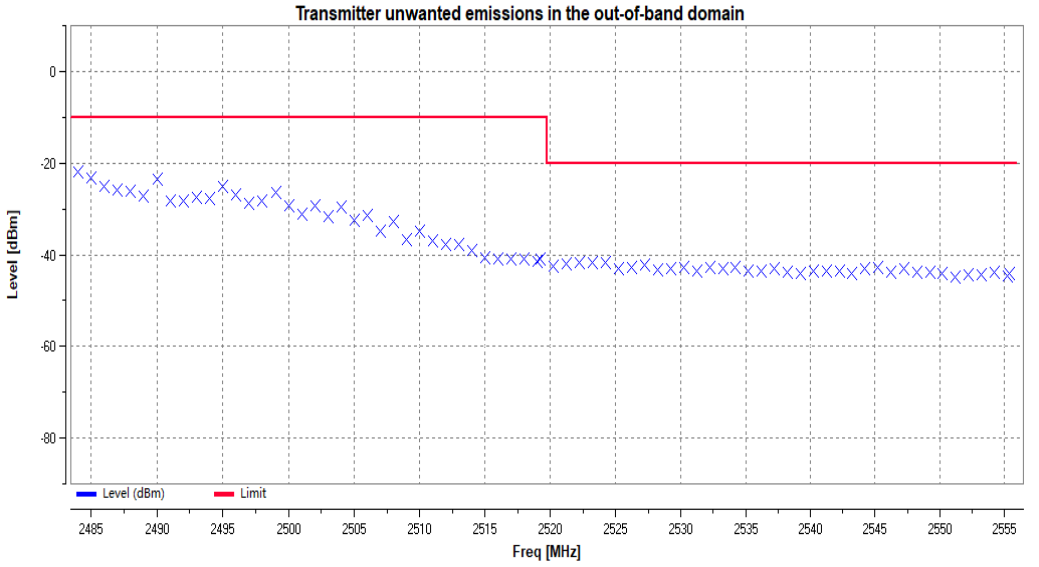
11N40SISO_Ant1_2422_2483.5MHz to 2483.5MHz+2BW



11N40SISO_Ant1_2462_2400MHz-2BW to 2400MHz



11N40SISO_Ant1_2462_2483.5MHz to 2483.5MHz+2BW



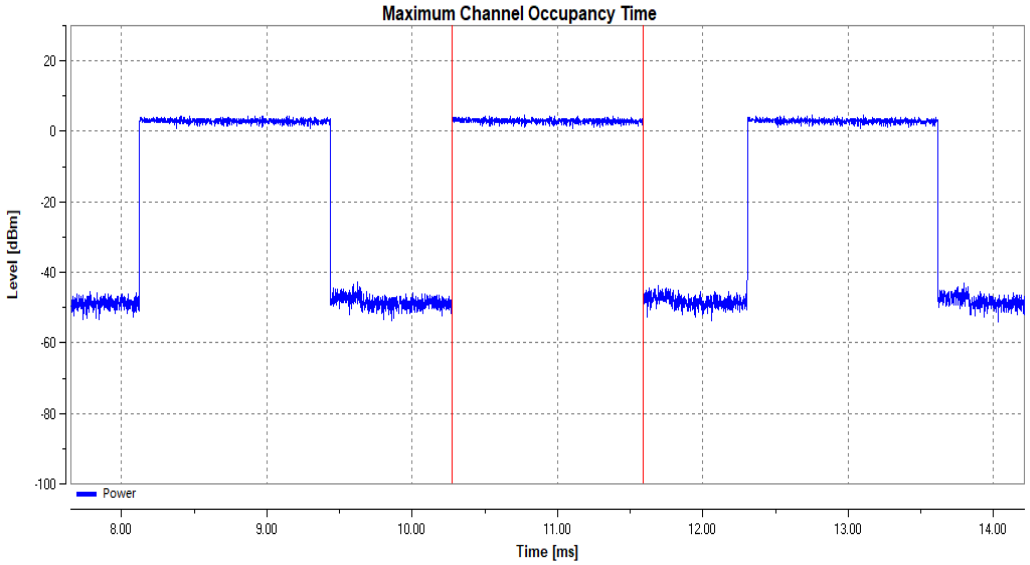
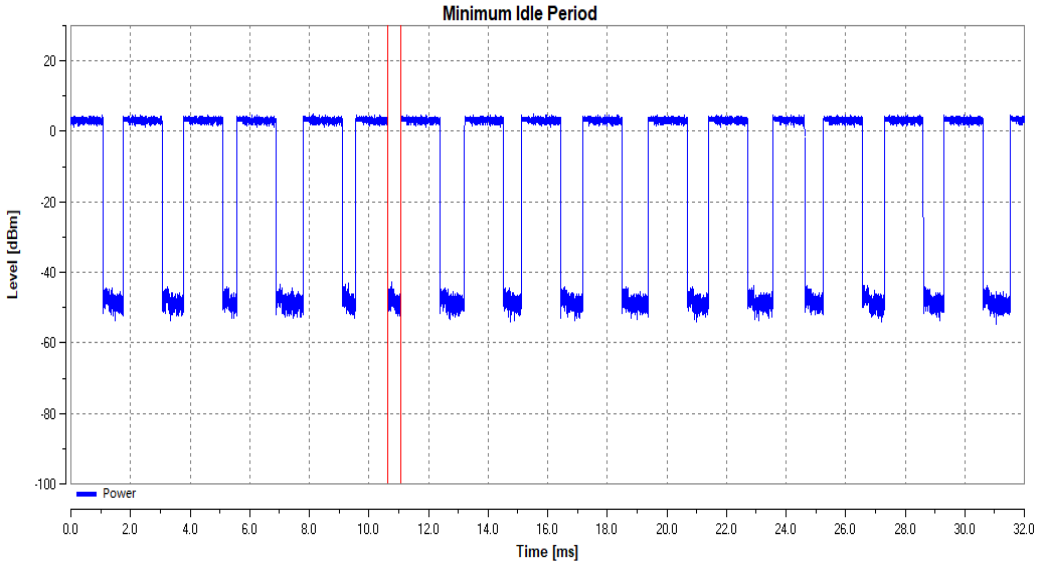
Appendix G): Adaptivity Test

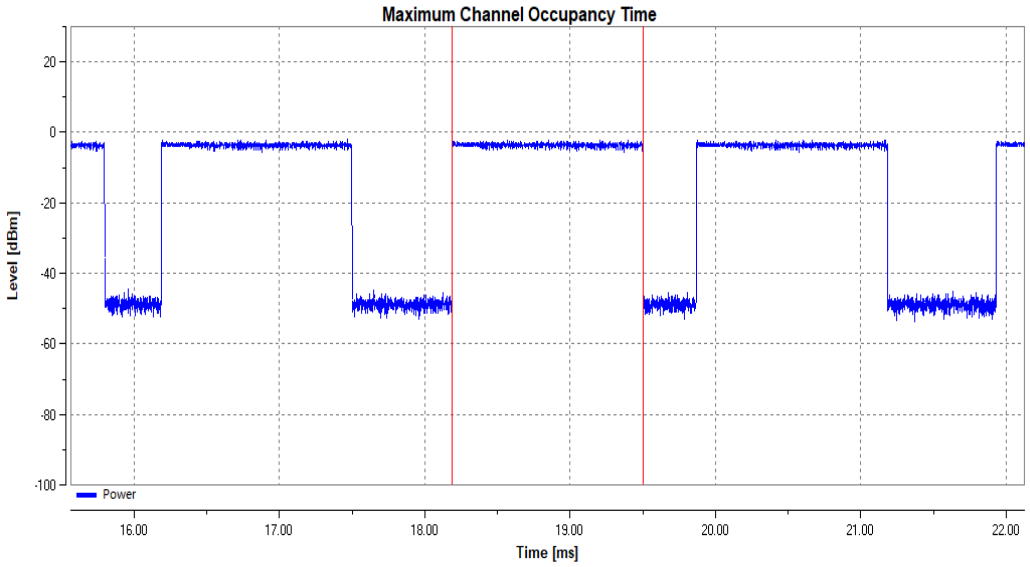
Test Result

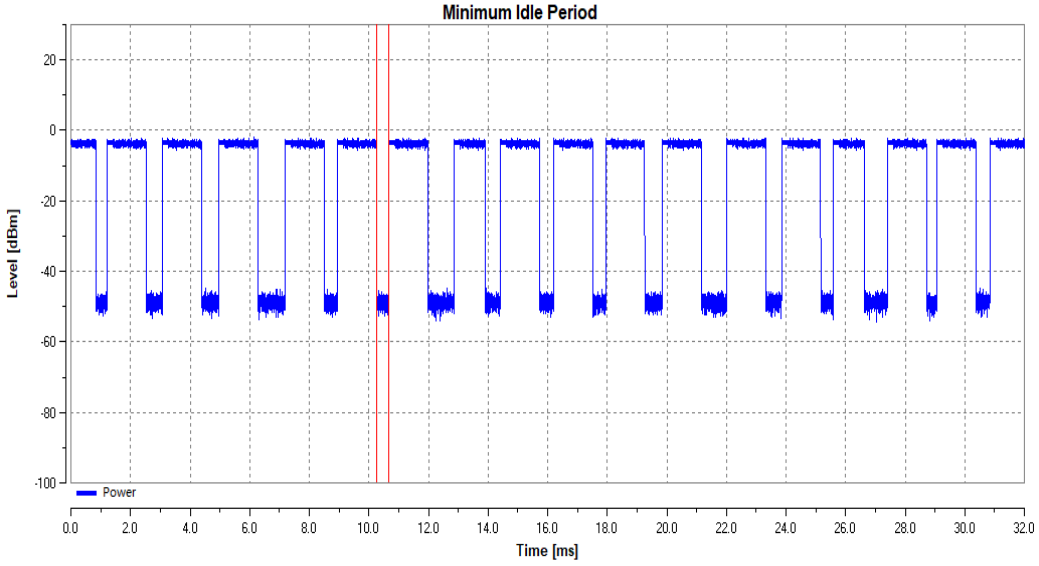
TestMode	Antenna	Channel	Max.COT [ms]	Limit[ms]	Min.Idel Time[ms]	Limit[ms]	Verdict
11B	Ant1	2412	1.312	13	0.459	0.018	PASS
		2472	1.312	13	0.410	0.018	PASS
11G	Ant1	2412	2.433	13	0.073	0.018	PASS
		2472	0.537	13	0.057	0.018	PASS
11N20SISO	Ant1	2412	3.561	13	0.065	0.018	PASS
		2472	3.561	13	0.065	0.018	PASS
11N40SISO	Ant1	2422	3.539	13	0.061	0.018	PASS
		2462	3.540	13	0.061	0.018	PASS

TestMode	Antenna	Channel	Add Signal Type	Add Signal Time[ms]	Add Signal Level[dbm]	Max. Short Time [%]	Limit [%]	Verdict
11B	Ant1	2412	AWGN	2114	-66.80	4.00	10	PASS
			CW	62152	-33.00	4.20	10	PASS
		2472	AWGN	2114	-66.59	8.00	10	PASS
			CW	62152	-33.00	8.00	10	PASS
11G	Ant1	2412	AWGN	2114	-65.27	5.60	10	PASS
			CW	62152	-33.00	4.00	10	PASS
		2472	AWGN	2114	-65.64	8.20	10	PASS
			CW	62152	-33.00	4.00	10	PASS
11N20SISO	Ant1	2412	AWGN	2114	-64.76	4.00	10	PASS
			CW	62152	-33.00	4.00	10	PASS
		2472	AWGN	2114	-64.76	7.80	10	PASS
			CW	62152	-33.00	3.80	10	PASS
11N40SISO	Ant1	2422	AWGN	2114	-64.46	4.00	10	PASS
			CW	62152	-33.00	4.00	10	PASS
		2462	AWGN	2114	-64.82	7.40	10	PASS
			CW	62152	-33.00	4.00	10	PASS

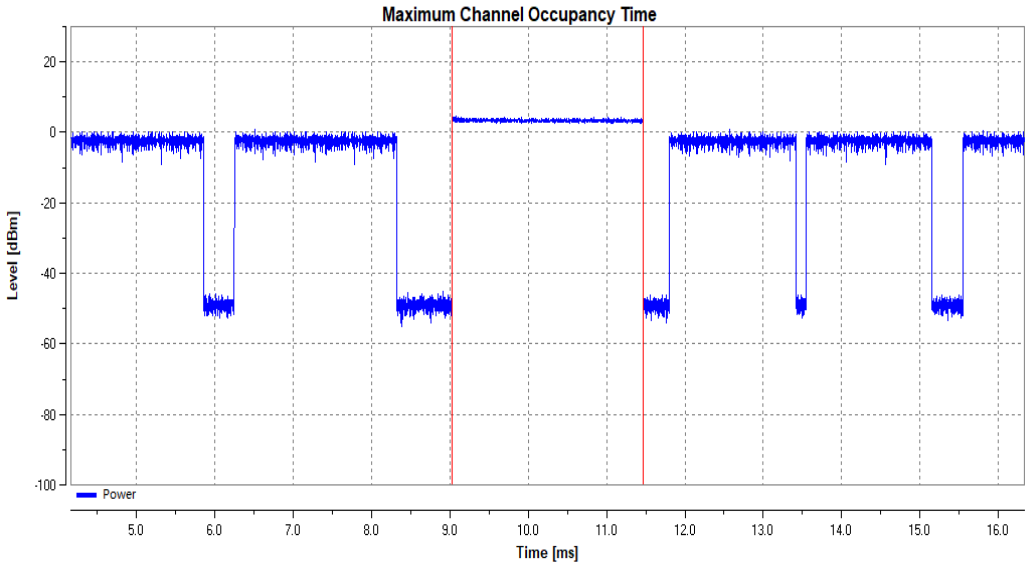
Test Graphs

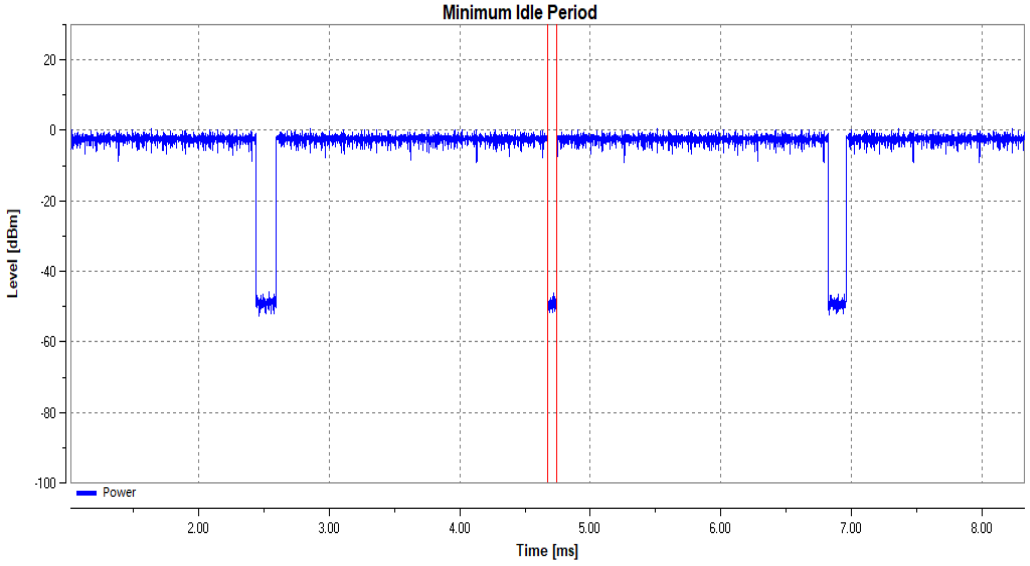
11B_Ant1_2412


11B_Ant1_2472



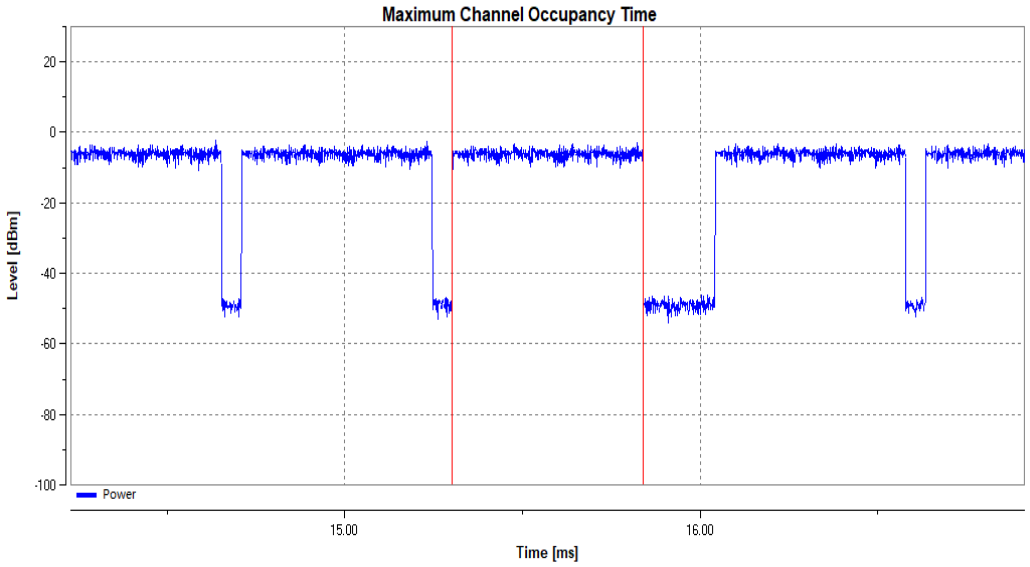


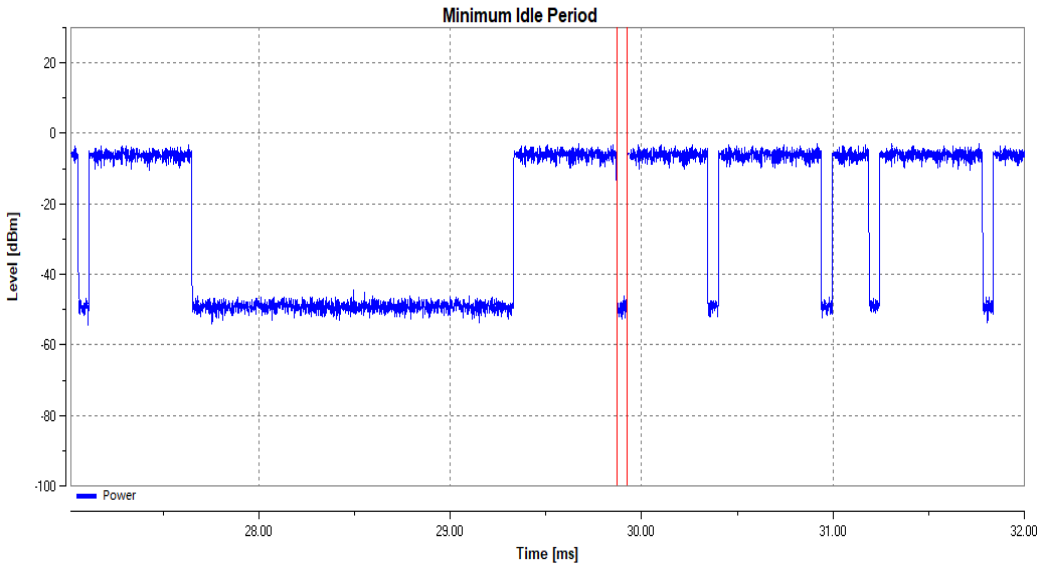
11G_Ant1_2412



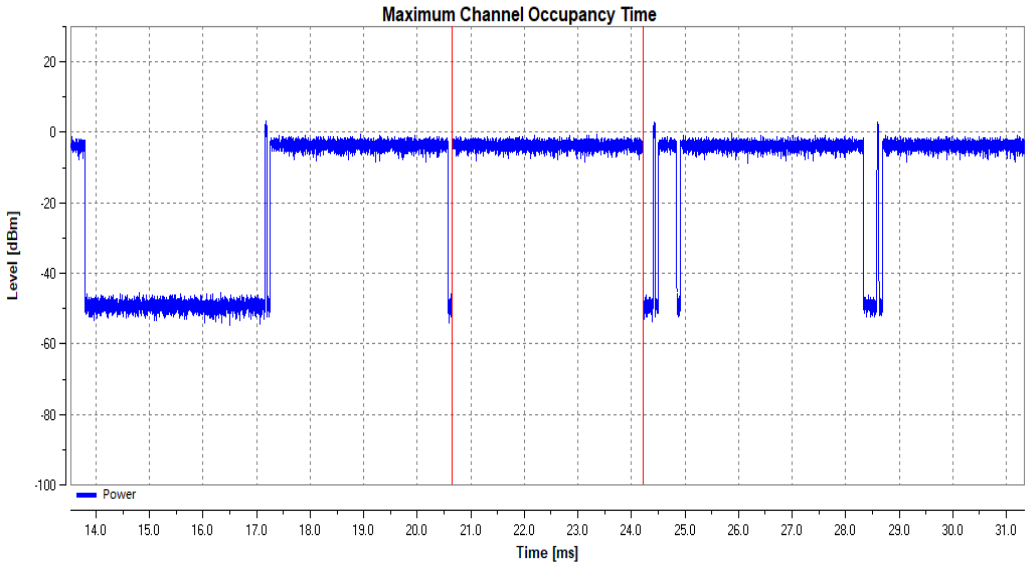


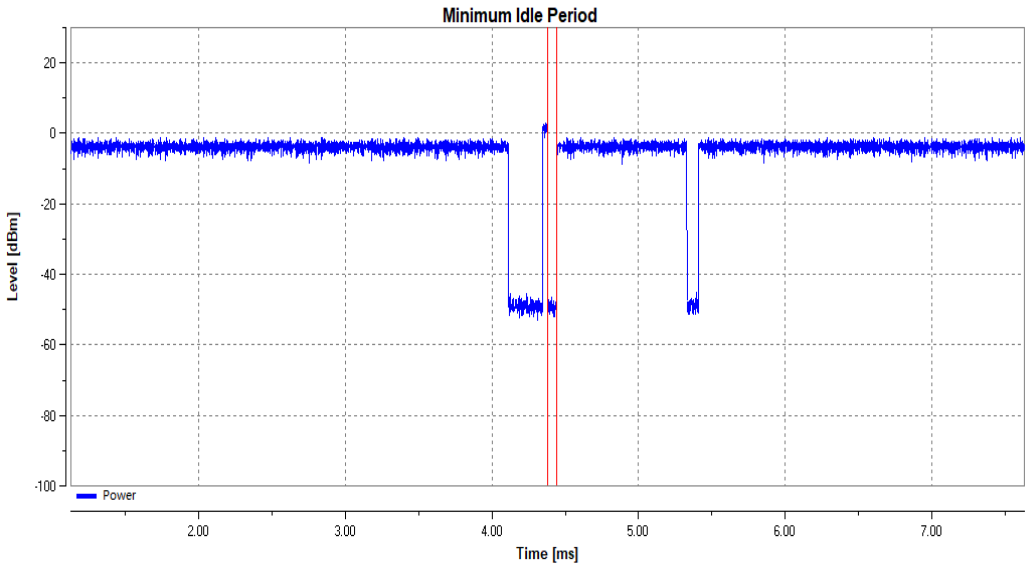
11G_Ant1_2472



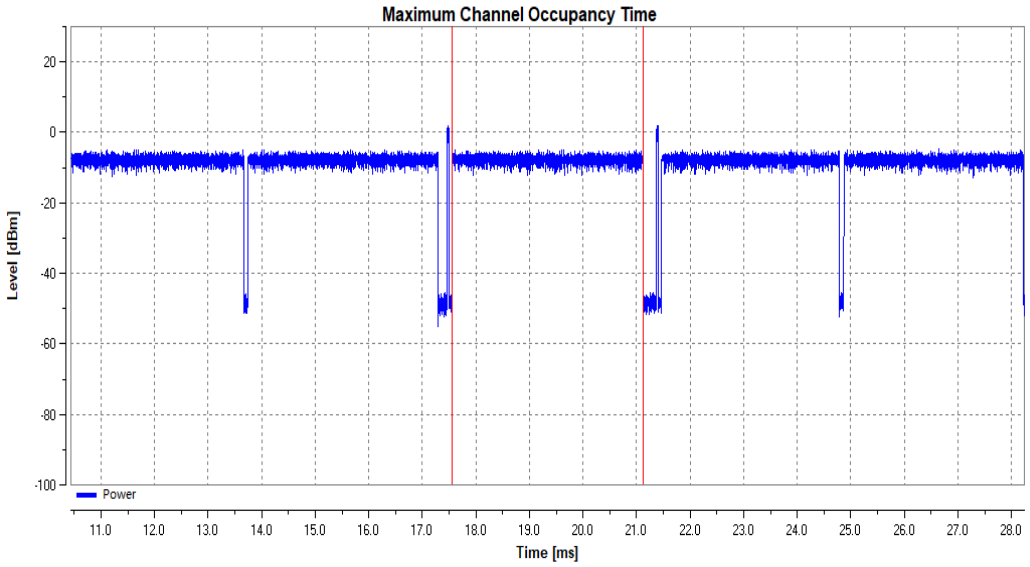


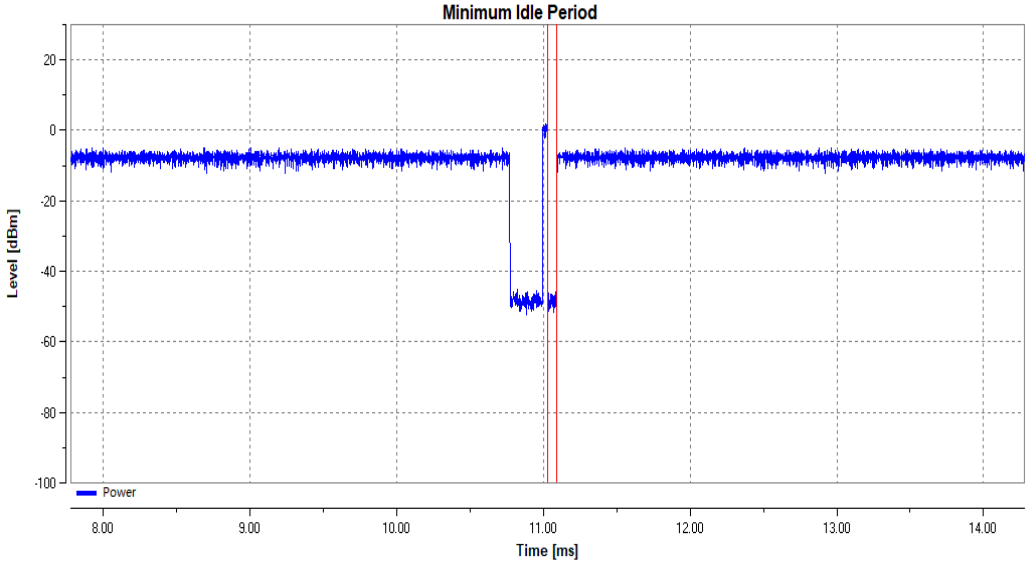
11N20SISO_Ant1_2412



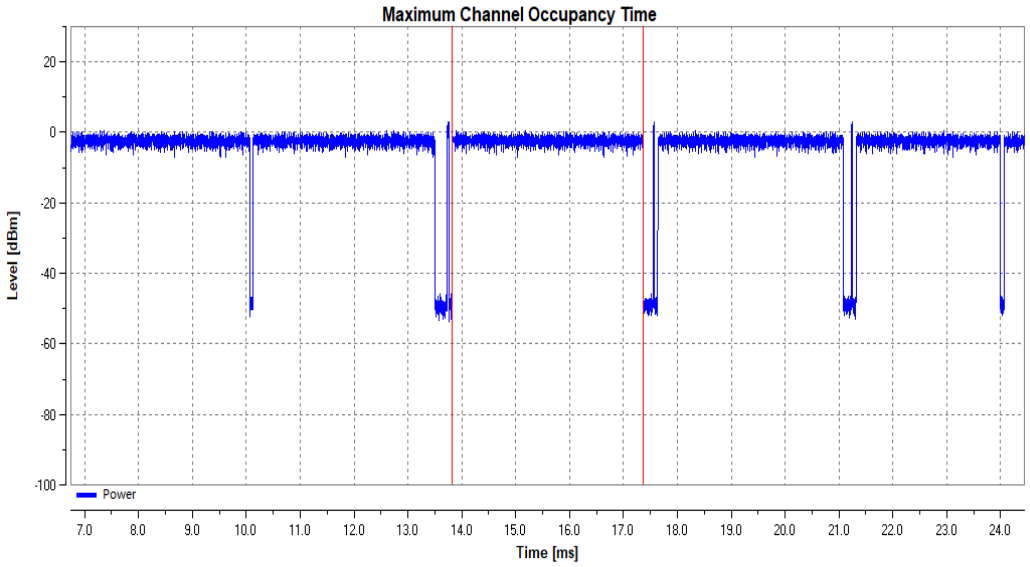


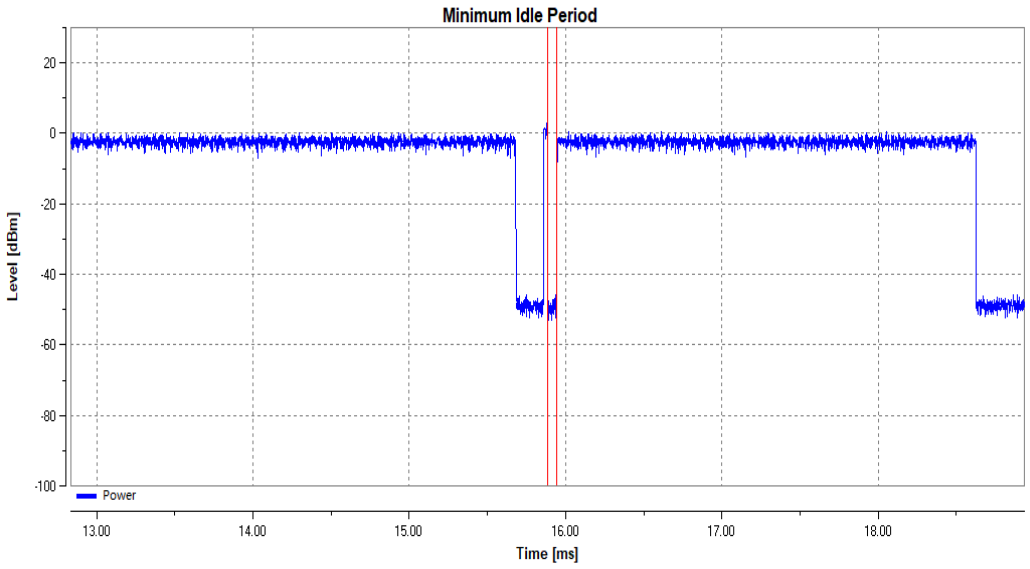
11N20SISO_Ant1_2472



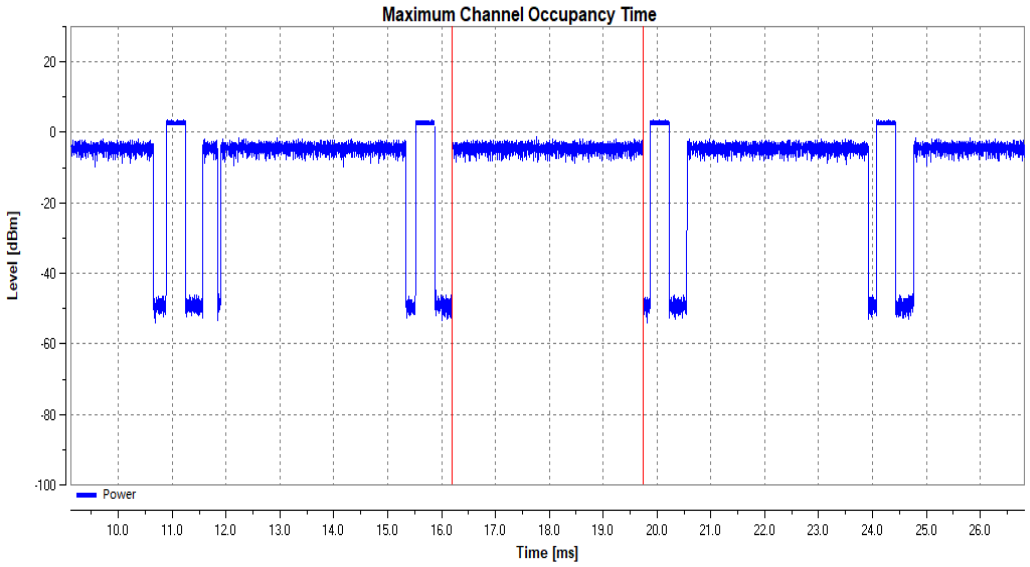


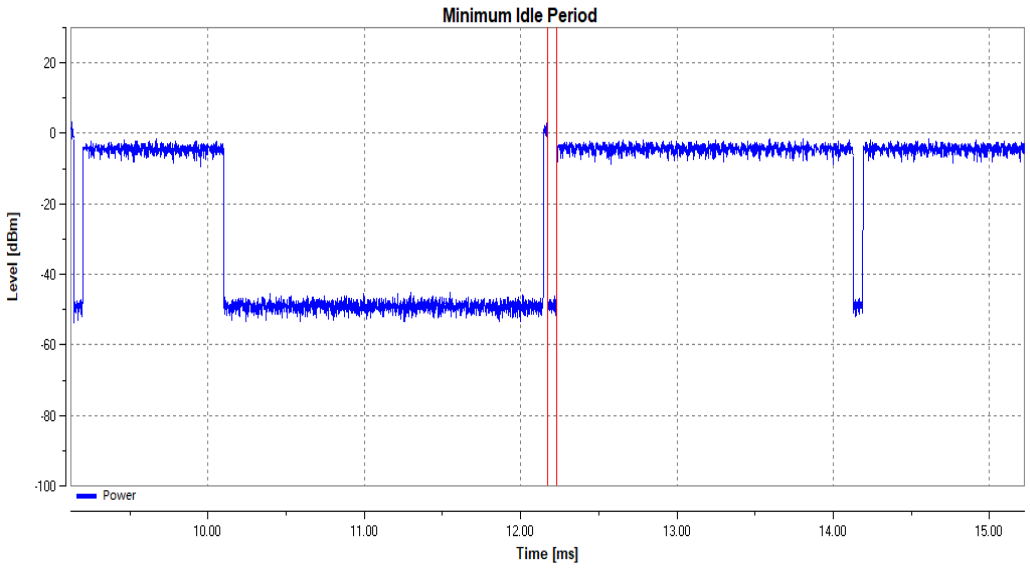
11N40SISO_Ant1_2422

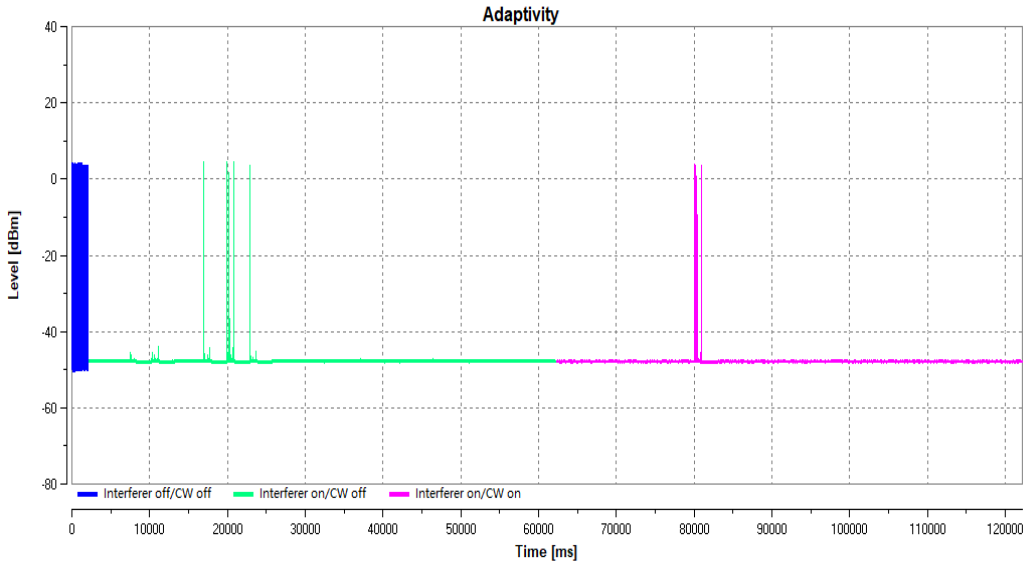
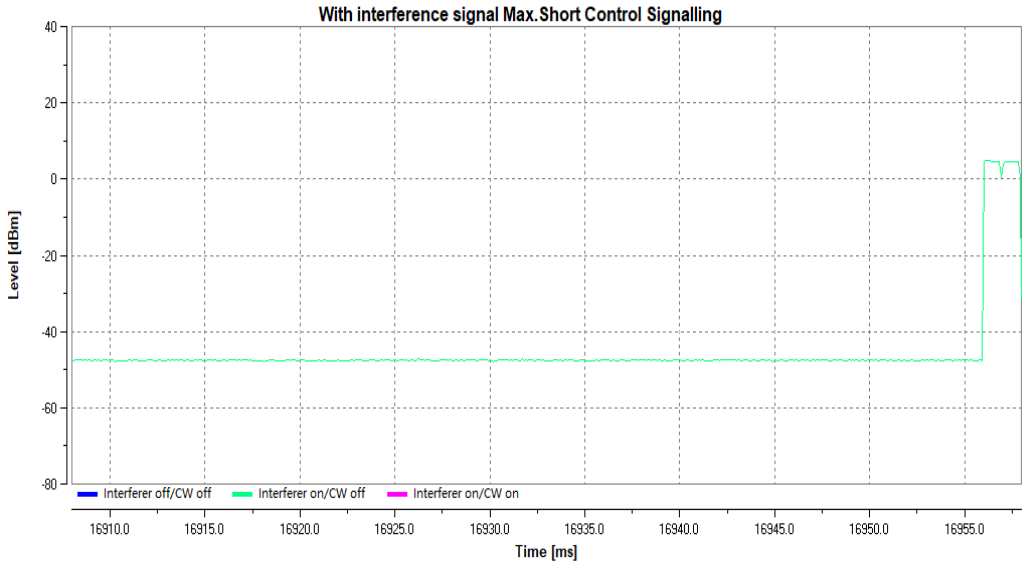


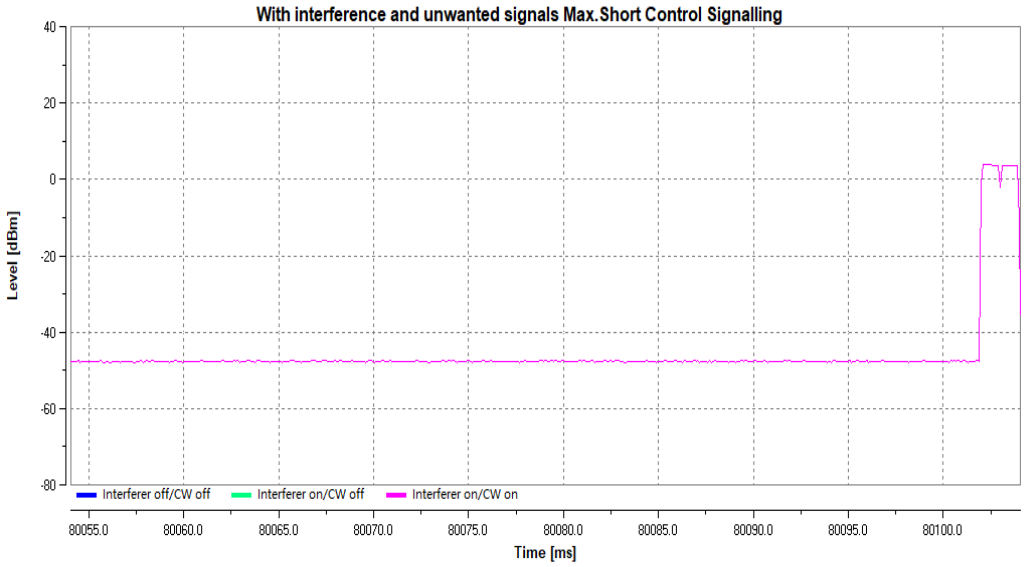


11N40SISO_Ant1_2462

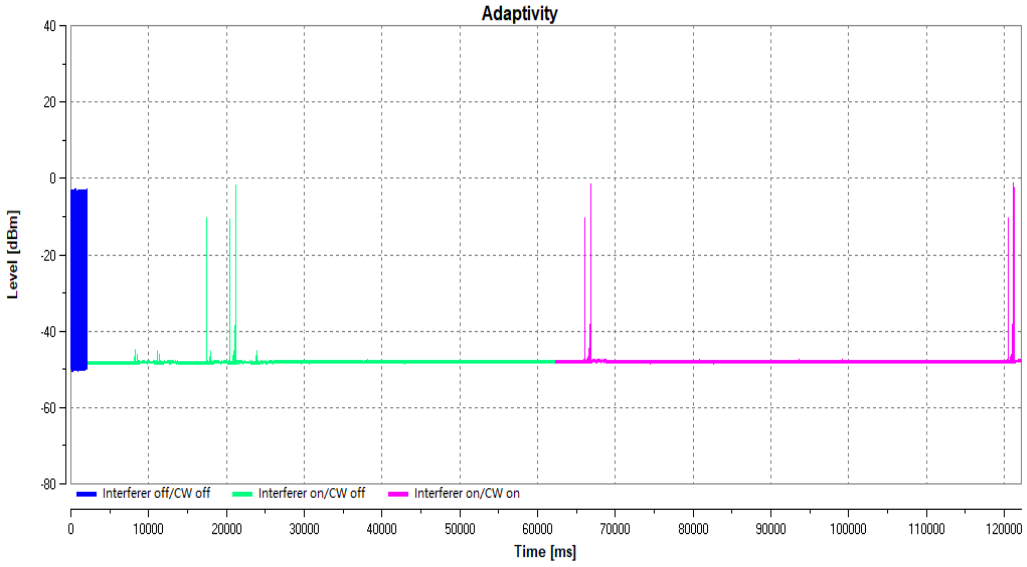

Maximum Channel Occupancy Time
Level [dBm]
20
0
-20
-40
-60
-80
-100
Power
10.0
11.0
12.0
13.0
14.0
15.0
16.0
17.0
18.0
19.0
20.0
21.0
22.0
23.0
24.0
25.0
26.0
Time [ms]

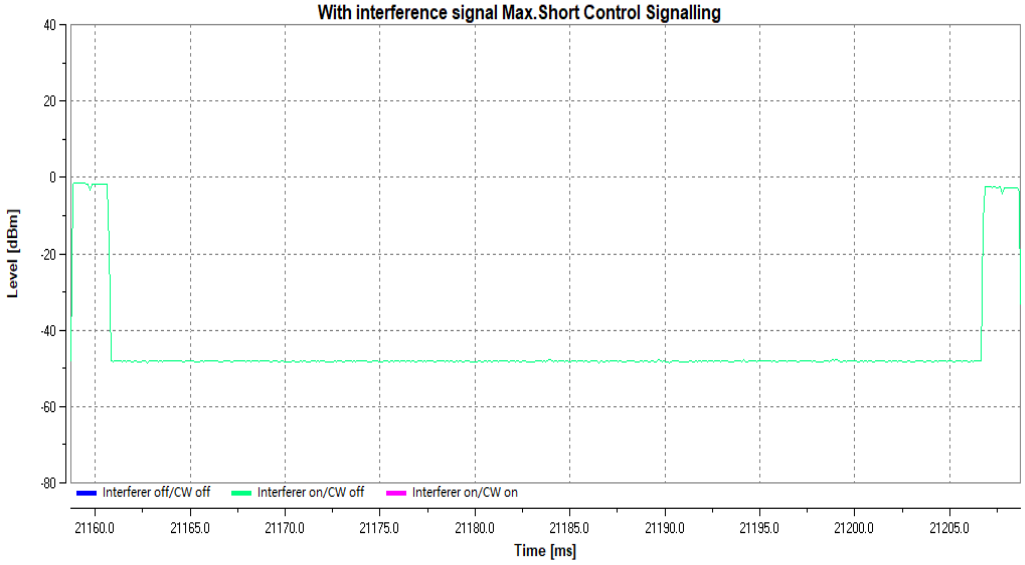

Minimum Idle Period
Level [dBm]
20
0
-20
-40
-60
-80
-100
Power
10.00
11.00
12.00
13.00
14.00
15.00
Time [ms]

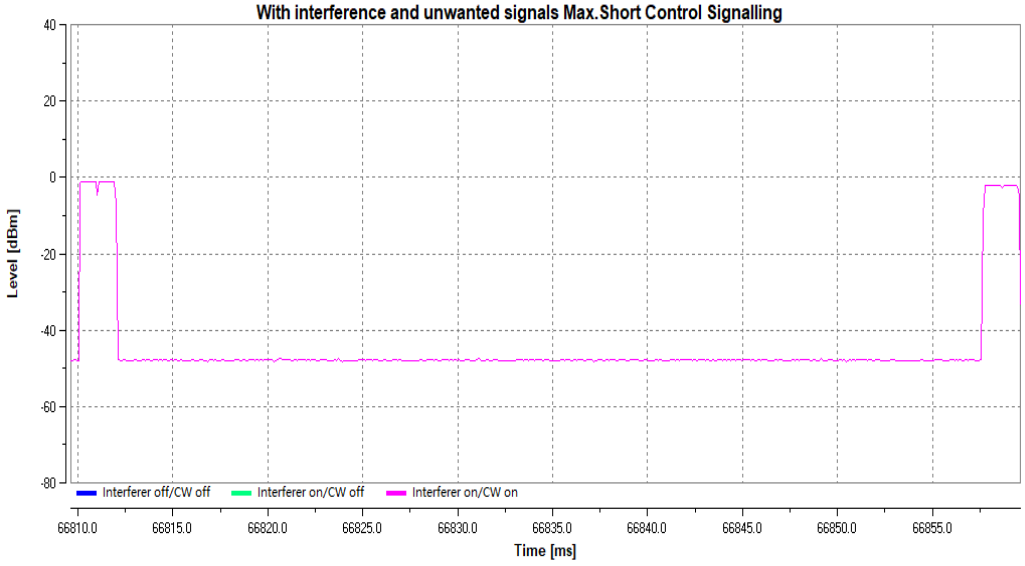
11B_Ant1_2412





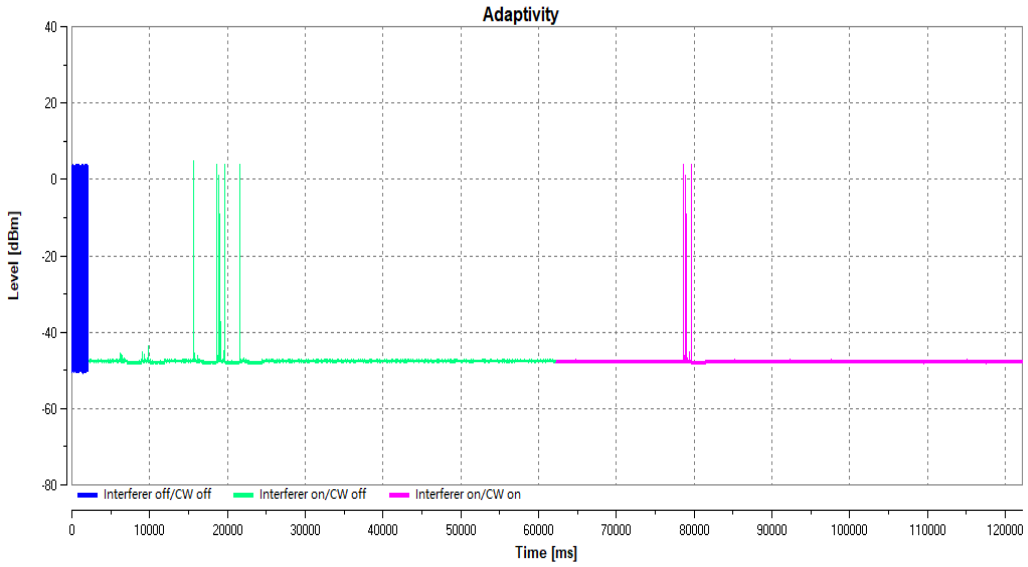
11B_Ant1_2472

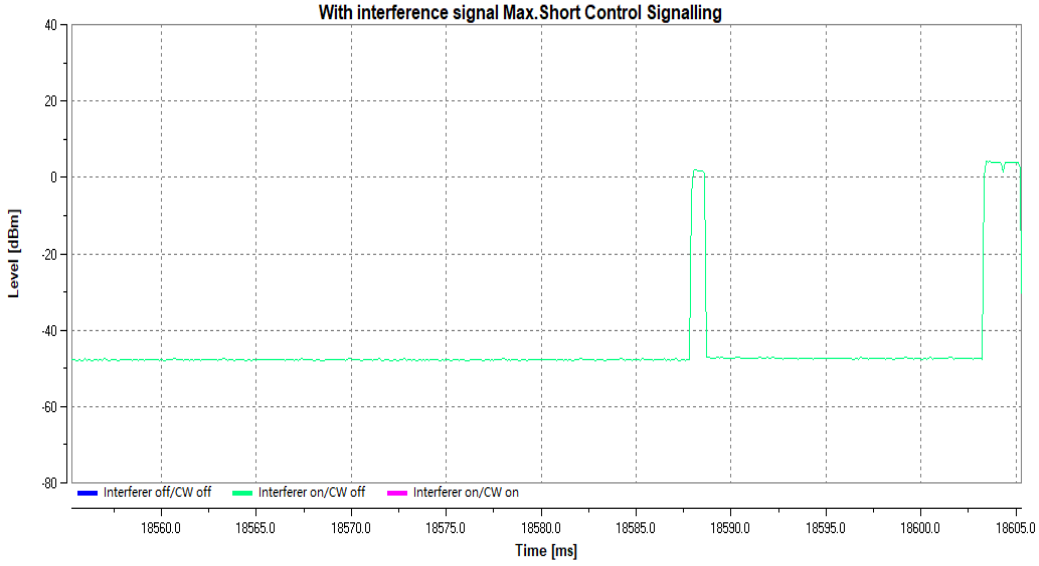


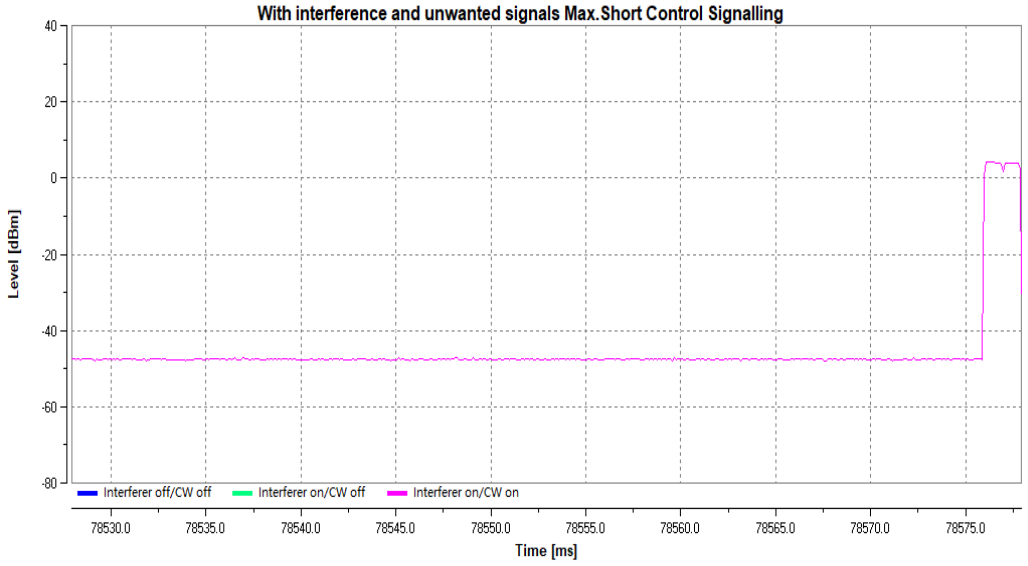




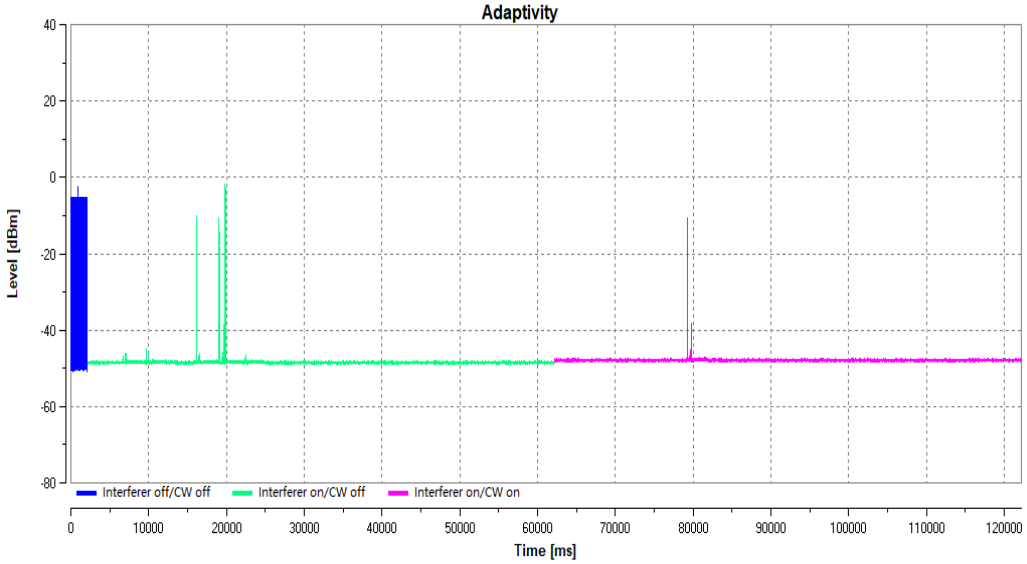
11G_Ant1_2412

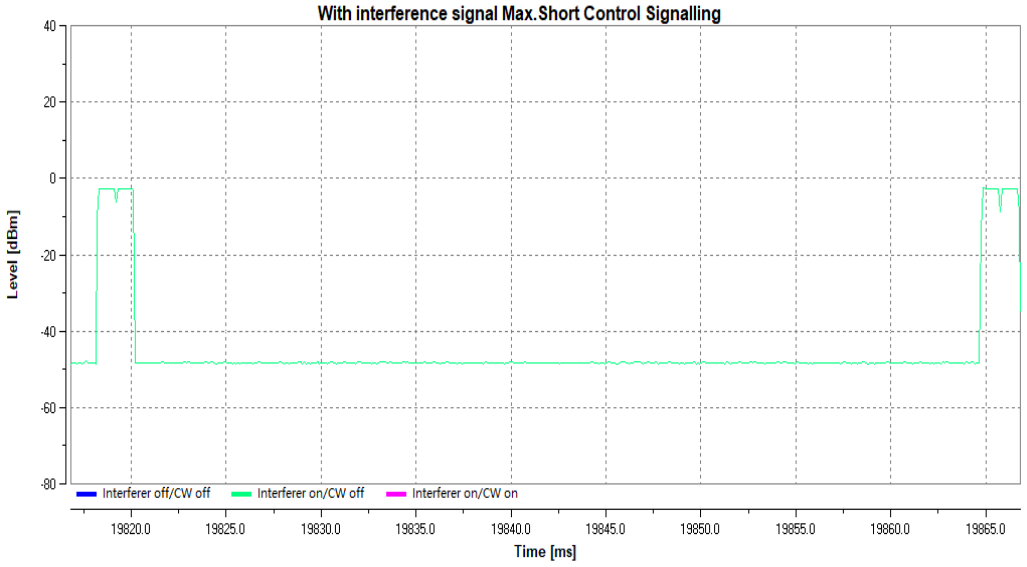

Adaptivity
Level [dBm]
Time [ms]
Interferer off/CW off
Interferer on/CW off
Interferer on/CW on

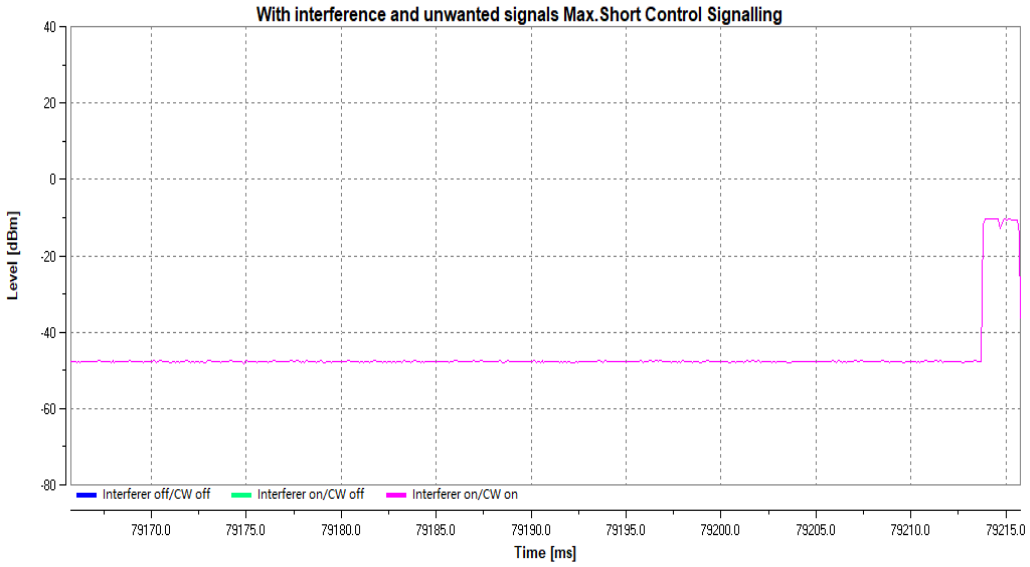

With interference signal Max.Short Control Signalling
Level [dBm]
Time [ms]
Interferer off/CW off
Interferer on/CW off
Interferer on/CW on


With interference and unwanted signals Max.Short Control Signalling
Level [dBm]
Time [ms]
Interferer off/CW off
Interferer on/CW off
Interferer on/CW on

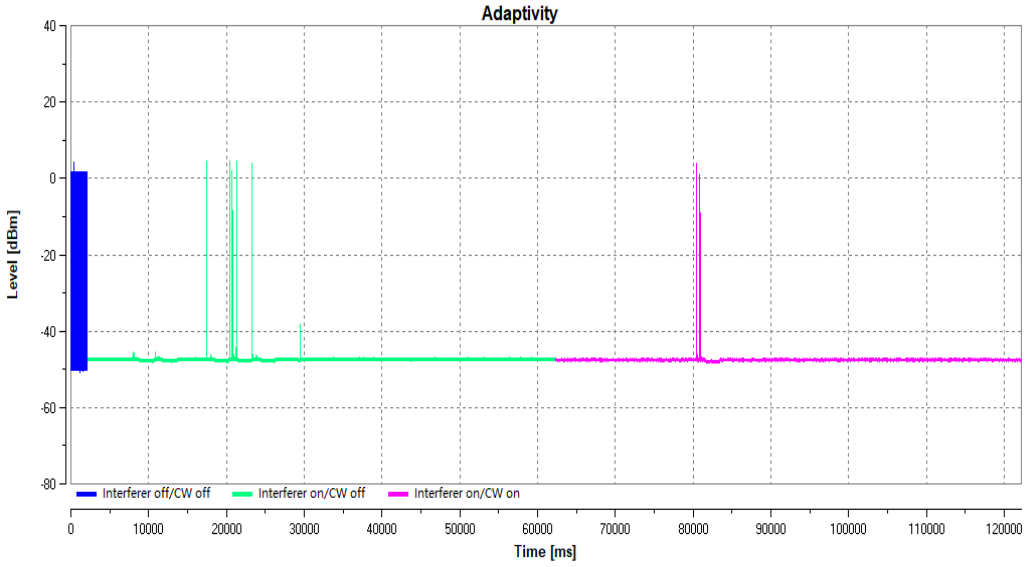
11G_Ant1_2472

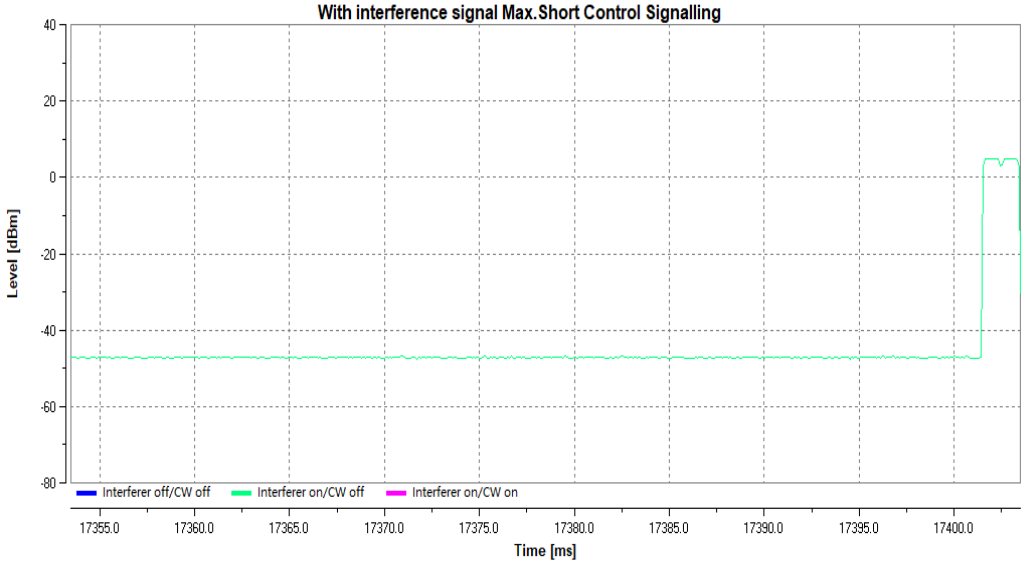


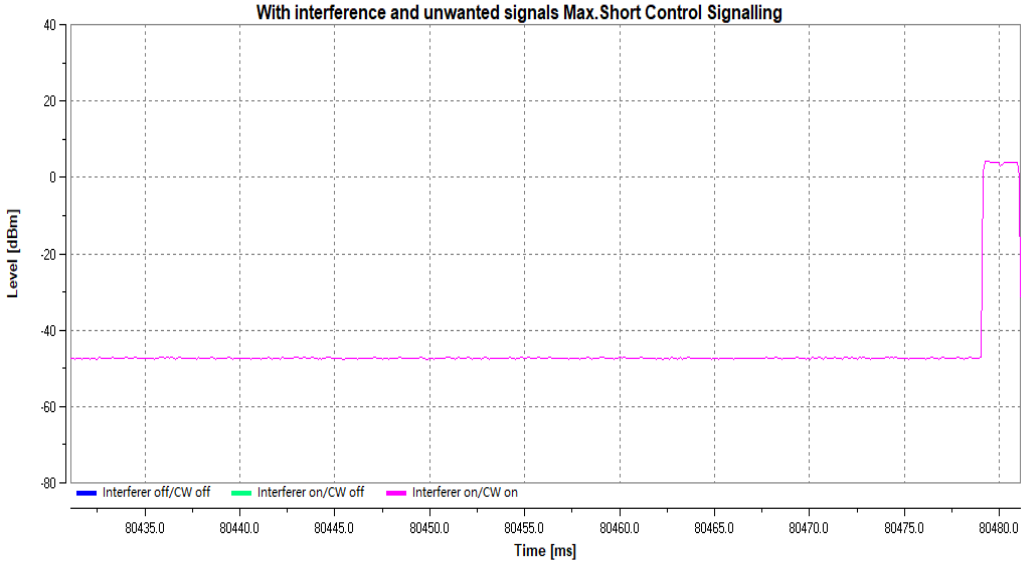




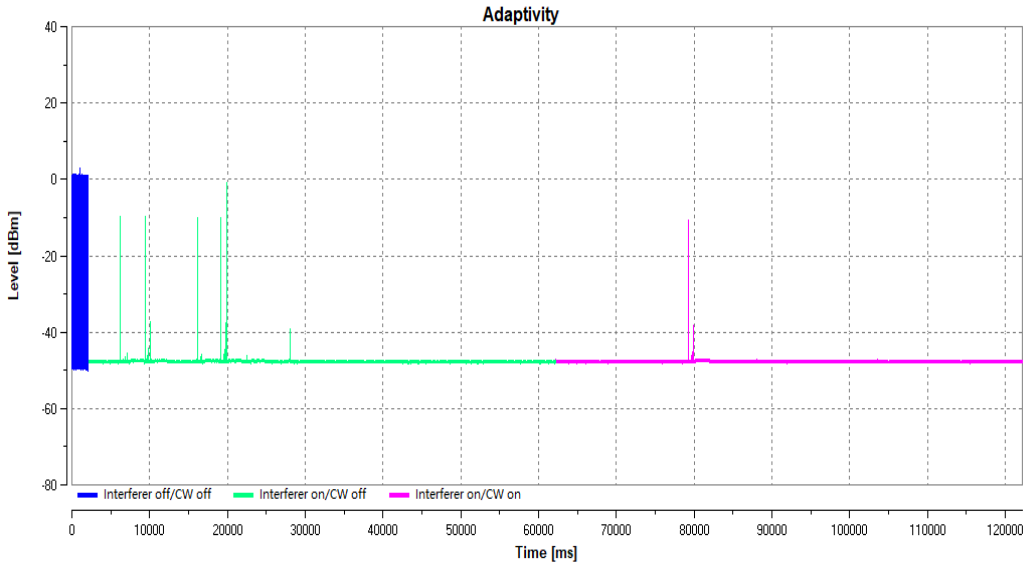
11N20SISO_Ant1_2412

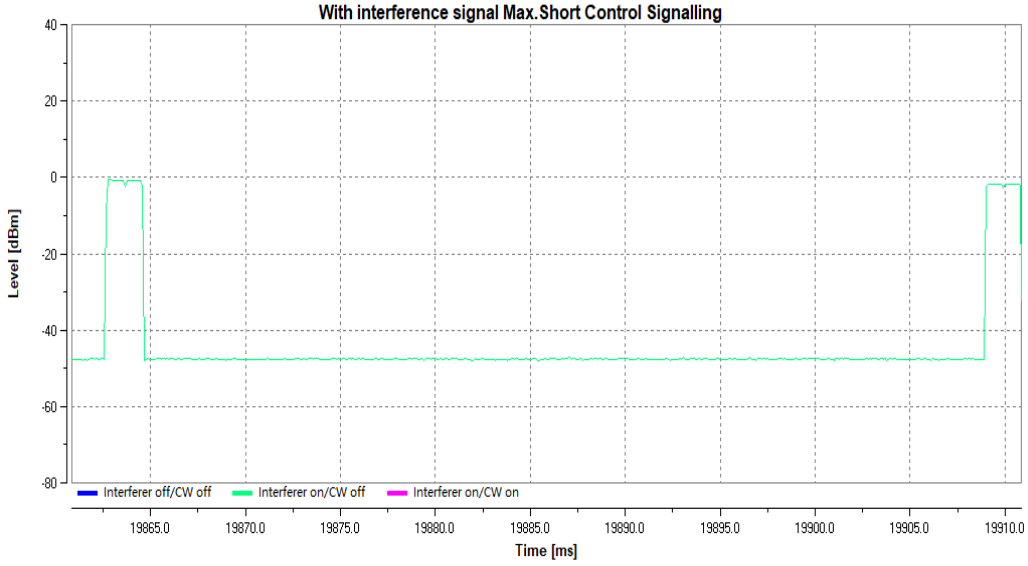


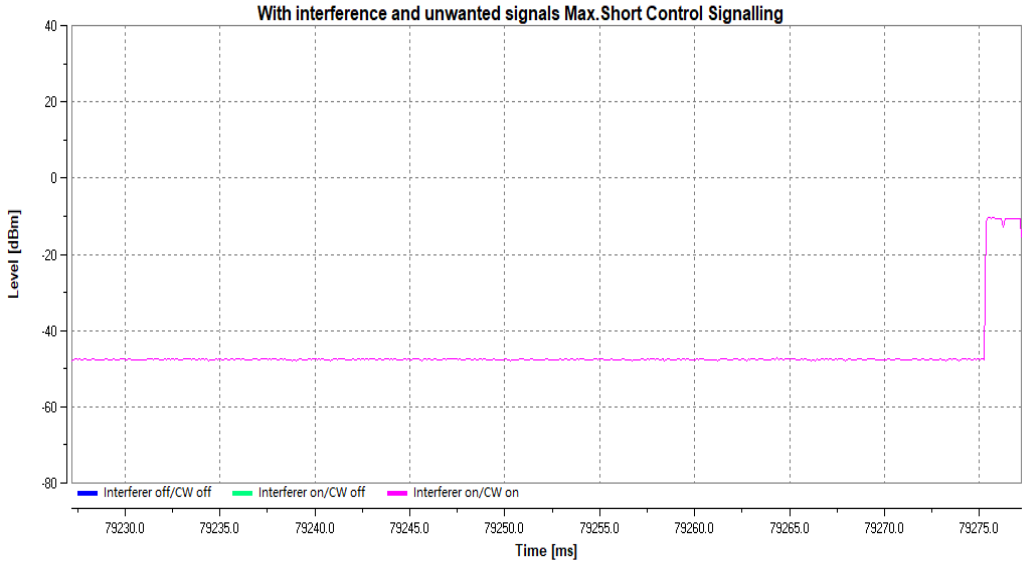




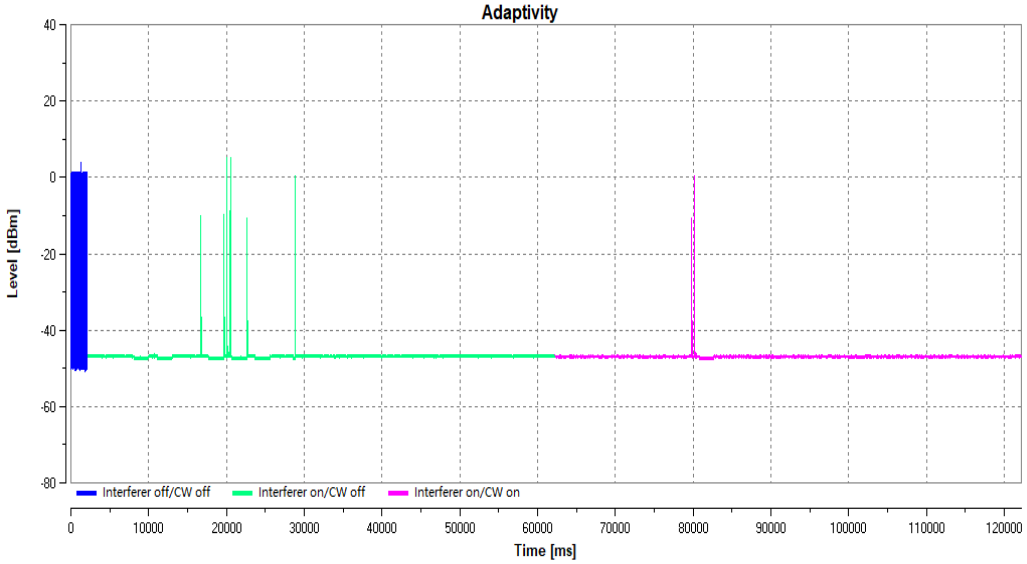
11N20SISO_Ant1_2472

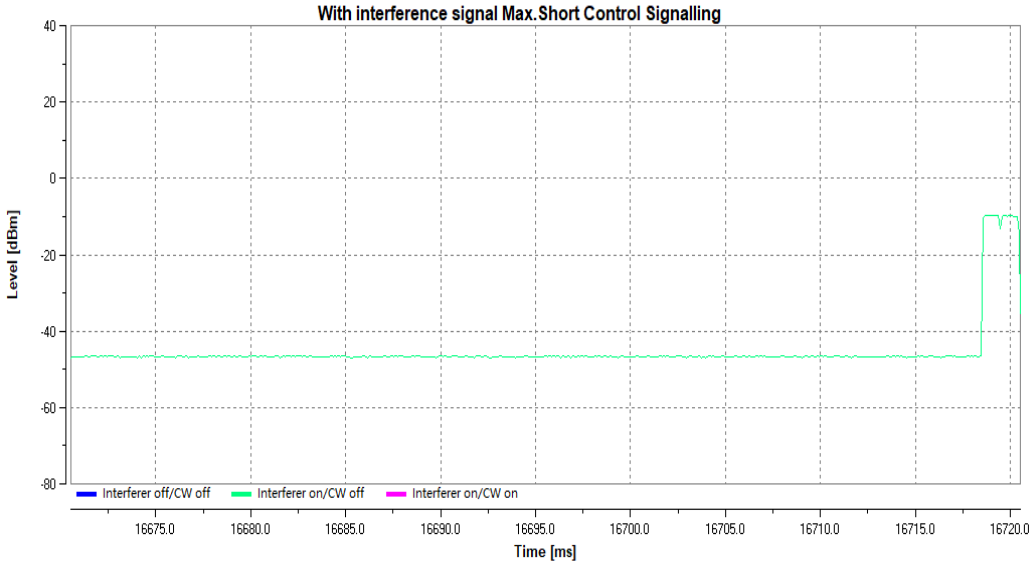

Adaptivity
Level [dBm]
40
20
0
-20
-40
-60
-80
Interferer off/CW off
Interferer on/CW off
Interferer on/CW on
0
10000
20000
30000
40000
50000
60000
70000
80000
90000
100000
110000
120000
Time [ms]

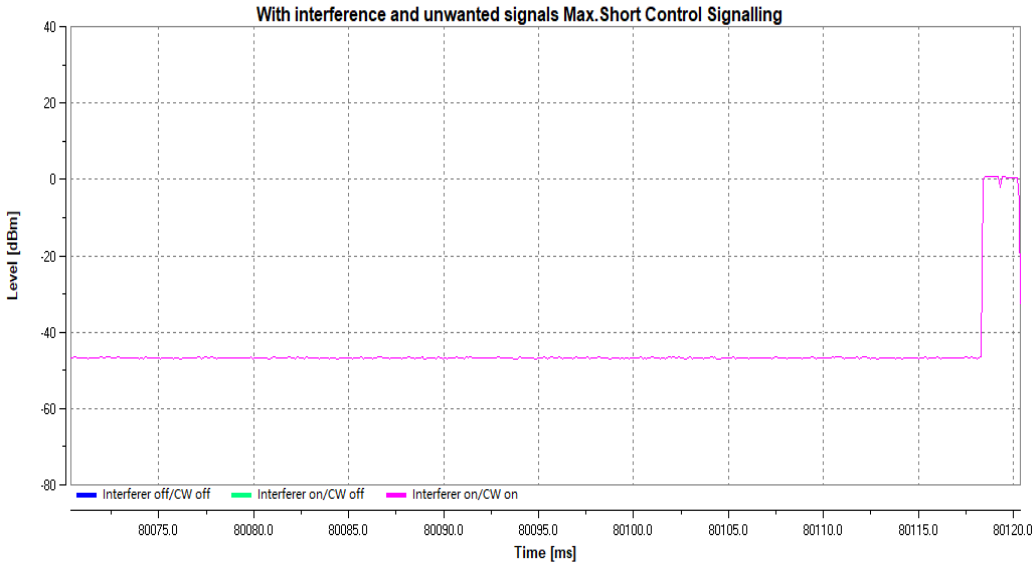

With interference signal Max.Short Control Signalling
Level [dBm]
40
20
0
-20
-40
-60
-80
Interferer off/CW off
Interferer on/CW off
Interferer on/CW on
19865.0
19870.0
19875.0
19880.0
19885.0
19890.0
19895.0
19900.0
19905.0
19910.0
Time [ms]


With interference and unwanted signals Max.Short Control Signalling
Level [dBm]
40
20
0
-20
-40
-60
-80
Interferer off/CW off
Interferer on/CW off
Interferer on/CW on
79230.0
79235.0
79240.0
79245.0
79250.0
79255.0
79260.0
79265.0
79270.0
79275.0
Time [ms]

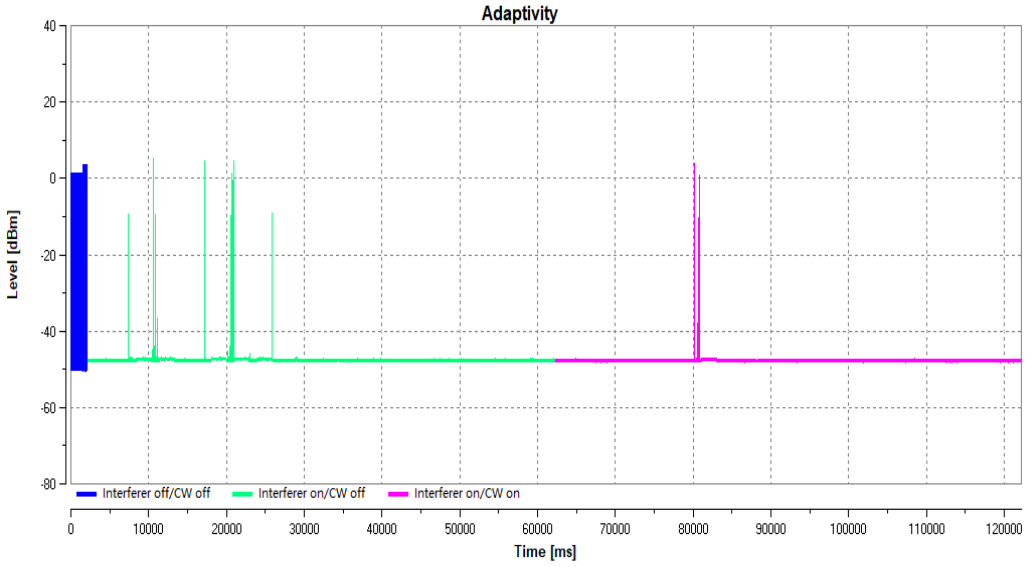
11N40SISO_Ant1_2422

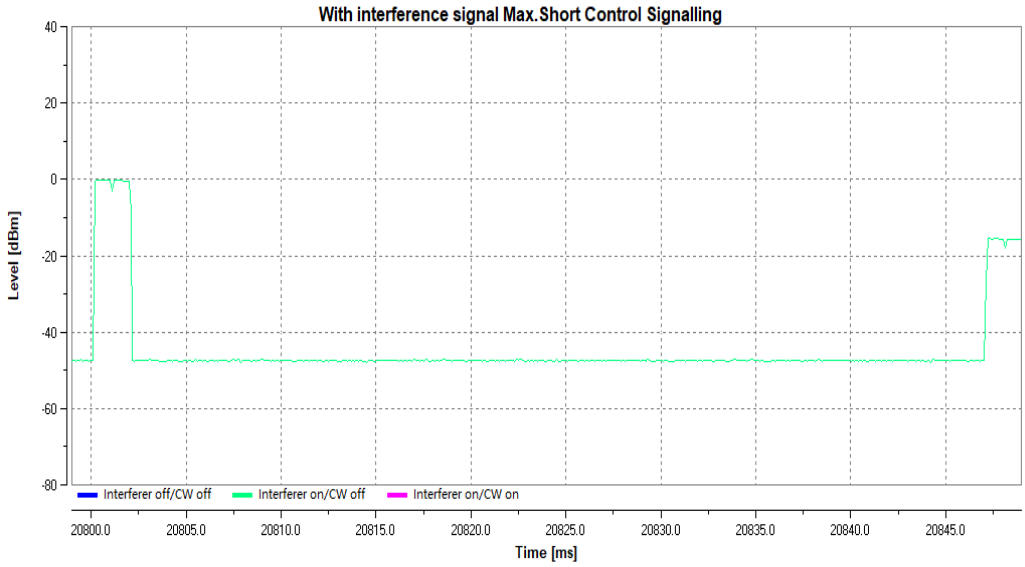


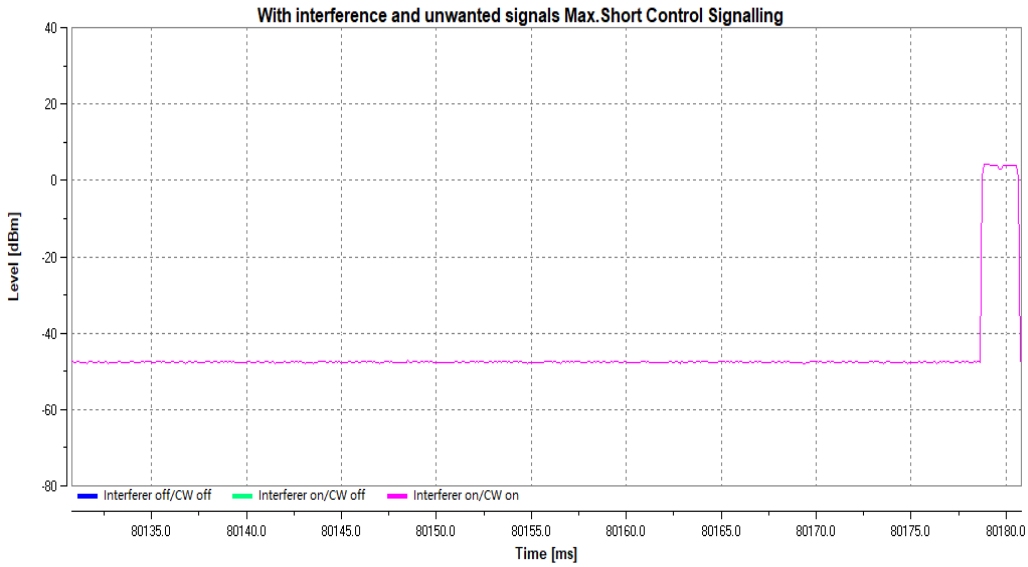




11N40SISO_Ant1_2462







----------End of the report----------