FCC RF Test Report

APPLICANT	:	**Motorola Mobility LLC**
EQUIPMENT	:	**Mobile Cellular Phone**
BRAND NAME	:	**Motorola**
MODEL NAME	:	**XT2255-3**
FCC ID	:	**IHDT56AF8**
STANDARD	:	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	:	**(DTS) Digital Transmission System**
TEST DATE(S)	:	**Jun. 19, 2022 ~ Jul. 13, 2022**

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR253103-01C	Rev. 01	Initial issue of report	Jul. 27, 2022

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	99% Bandwidth	-	Report Only	-
3.2	15.247(b)	Power Output Measurement	≤ 30dBm	Pass	-
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	Conducted Band Edges	≤ 20dBc	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.24 dB at 2389.69 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 4.40 dB at 0.198 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	15.203 & 15.247(b)	Pass	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2255-3
FCC ID	IHDT56AF8
IMEI Code	Conducted: 356510960017232/356510960017240 Radiation: 356510960013835/356510960014296 Conduction: 351523820003958
HW Version	DVT2
SW Version	S3SV32.14
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Maximum (Peak) Output Power to antenna	802.11b : 20.71 dBm (0.1178 W) 802.11g : 24.95 dBm (0.3126 W) 802.11n HT20 : 25.00 dBm (0.3162 W) 802.11n HT40 : 23.78 dBm (0.2388 W)
Antenna Type / Gain	Fixed Internal Antenna with gain -3.20 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Modification of EUT

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

1.6 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-331
AC Adapter 1(EU)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-332
AC Adapter 1(UK)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-333
AC Adapter 1(IN)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-334
AC Adapter 1(AR)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-336
AC Adapter 2(US)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-331
AC Adapter 2(EU)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-332
AC Adapter 2(UK)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-333
AC Adapter 3(US)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-331
AC Adapter 3(EU)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-332
AC Adapter 3(AR)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-336
Battery 1	**Brand Name**	Motorola (ATL)	**Model Name**	NE50
Battery 2	**Brand Name**	Motorola (Sunwoda)	**Model Name**	NE50
Earphone 1	**Brand Name**	Motorola (NLD)	**Model Name**	MH202
Earphone 2	**Brand Name**	Motorola (Lyand)	**Model Name**	MH202
USB Cable 1	**Brand Name**	Motorola (Saibao)	**Model Name**	SHQ-A110A
USB Cable 2	**Brand Name**	Motorola (KINGPOWER)	**Model Name**	K235-07990-H0

1.7 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	CO01-KS 03CH05-KS TH01-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH05-KS	AUDIX	E3	6.2009-8-24al
2.	CO01-KS	AUDIX	E3	6.2009-8-24

1.9 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart C §15.247
- FCC KDB 558074 D01 15.247 Meas Guidance v05r02
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437		

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

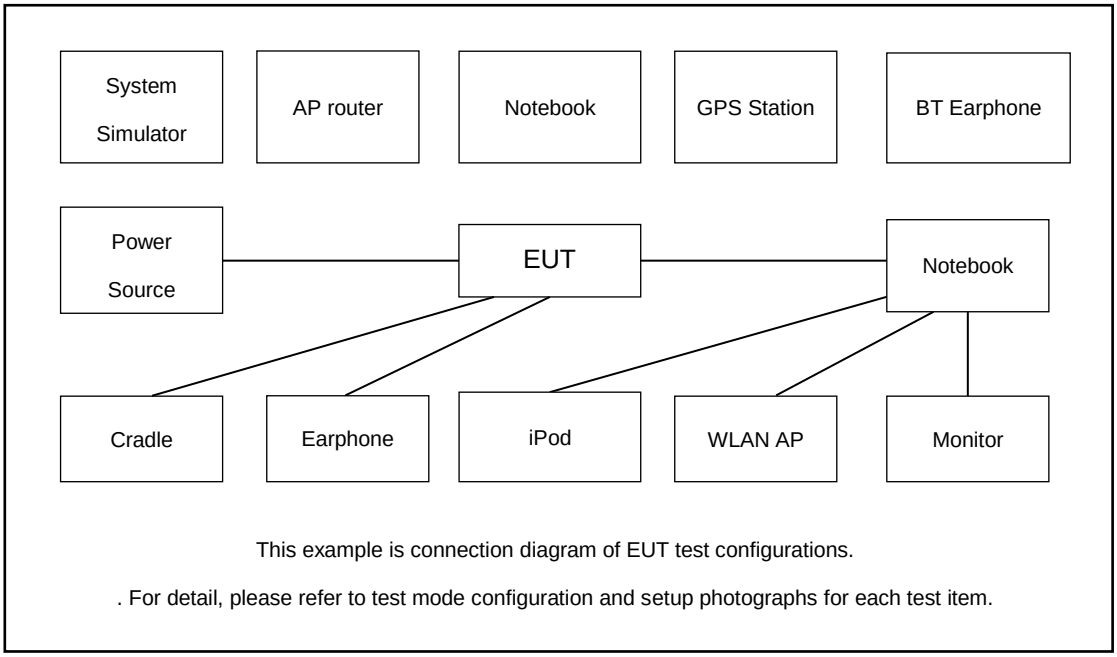
Test Cases	
AC Conducted Emission	Mode 1 :GSM850 Idle+ WLAN Link(2.4G)+ Bluetooth Link+ USB Cable 1(Charging from Adapter1)+ Earphone1

RSE Simultaneous transmission
802.11g CH01(2412MHz) TX + EDGE850 Link

Note:

1. The accessories are from the worst mode of Part 15B report.
2. The RSE Simultaneous transmission mode are from worst WLAN TX and WWAN Link mode.

2.3 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritus	MT8821C	N/A	N/A	Unshielded,1.8m
2.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
3.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Lenovo	LBH308	N/A	N/A	N/A

2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:
The spectrum analyzer offset is derived from RF cable loss and attenuator factor.
Offset = RF cable loss + attenuator factor.
Following shows an offset computation example with cable loss 2.95 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).
= 2.95 + 10 = 12.95 (dB)

3 Test Result

3.1 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

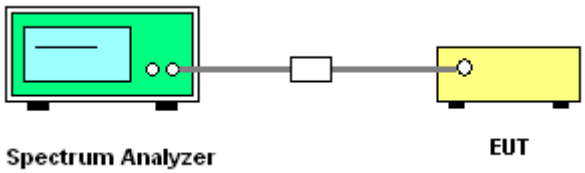
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The testing follows ANSI C63.10-2013 clause 11.8
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Occupied Bandwidth

Please refer to Appendix A.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

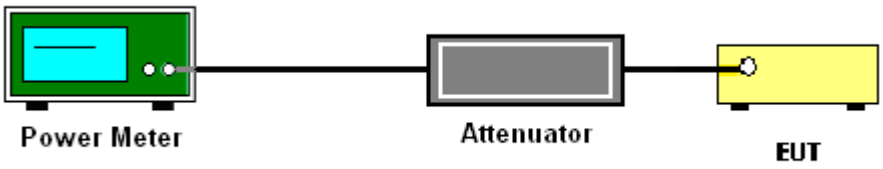
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 clause 11.9.1.3 PKPM1 Peak power meter or ANSI C63.10-2013 clause 11.9.2.3.1 Method AVGPM method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure of ANSI C63.10-2013 clause 11.10.2 Method PKPSD.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.

3.3.4 Test Setup

3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement.

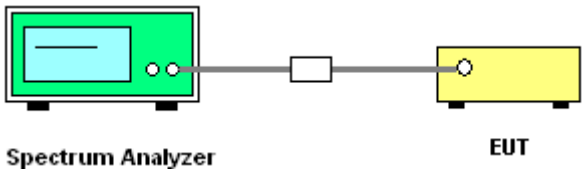
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

1. The testing follows ANSI C63.10-2013 clause 11.13
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Please refer to Appendix A.

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

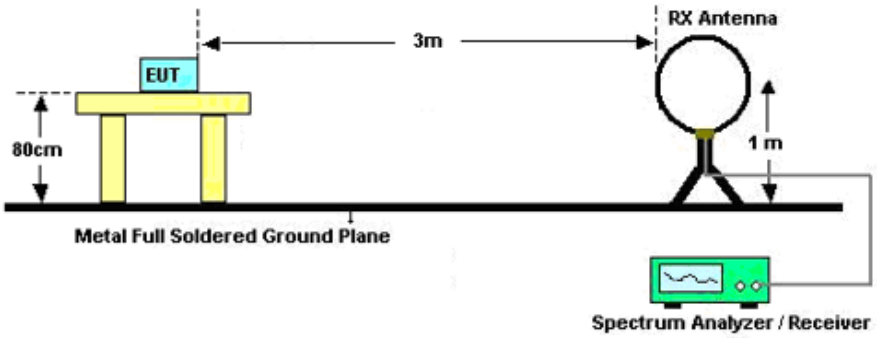
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

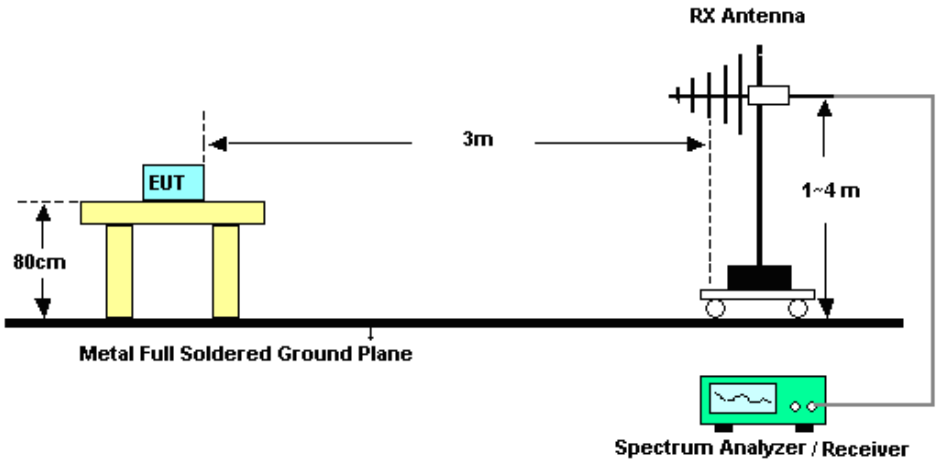
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

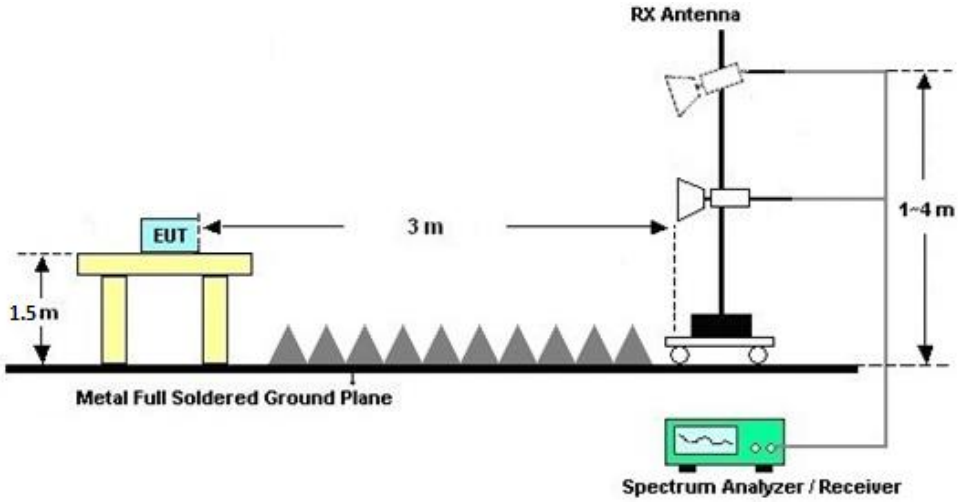
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.5.7 Duty Cycle

Please refer to Appendix D.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

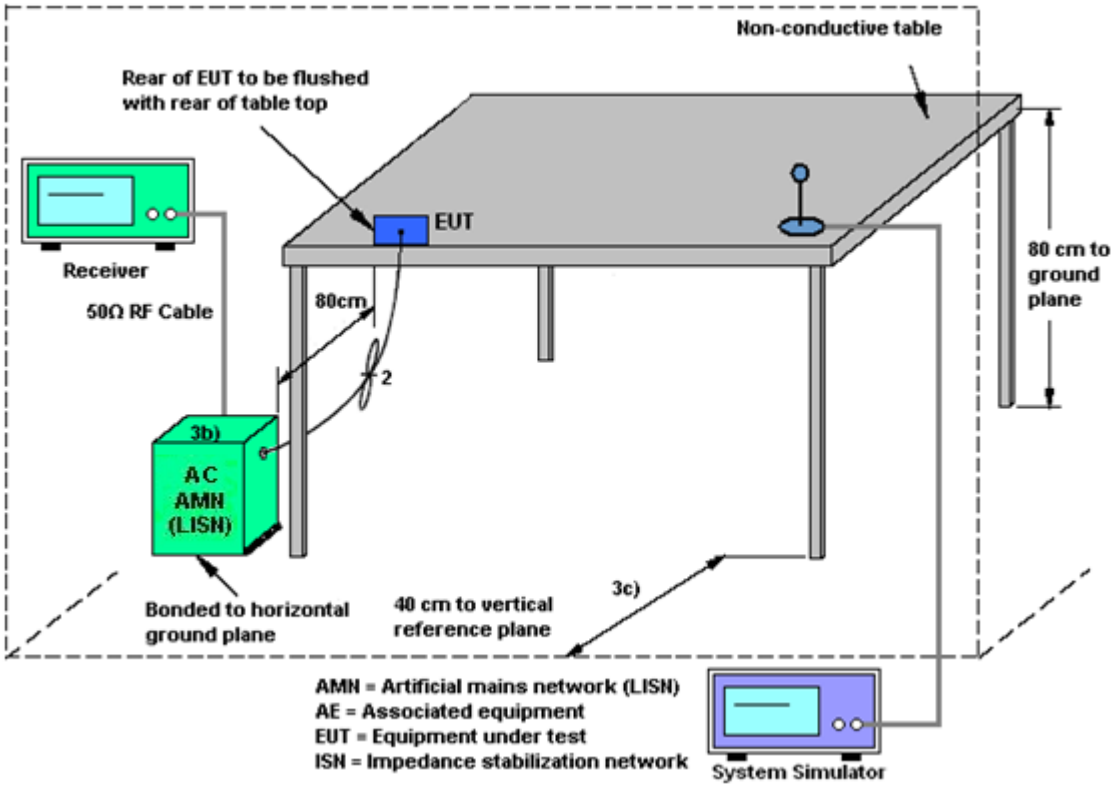
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 14, 2021	Jul. 05, 2022~ Jul. 12, 2022	Oct. 13, 2022	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 05, 2022	Jul. 05, 2022~ Jul. 12, 2022	Jan. 04, 2023	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 05, 2022	Jul. 05, 2022~ Jul. 12, 2022	Jan. 04, 2023	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 16, 2021	Jul. 13, 2022	Oct. 15, 2022	Radiation (03CH05-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Mar. 24, 2022	Jul. 13, 2022	Mar. 23, 2023	Radiation (03CH05-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Jul. 13, 2022	Oct. 29, 2022	Radiation (03CH05-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Jun. 04 ,2022	Jul. 13, 2022	Jun. 03, 2023	Radiation (03CH05-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Nov. 08, 2021	Jul. 13, 2022	Nov. 07, 2022	Radiation (03CH05-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2022	Jul. 13, 2022	Jan. 04, 2023	Radiation (03CH05-KS)
Amplifier	SONOMA	310N	380826	9KHz-1GHz	Jul. 11, 2022	Jul. 13, 2022	Jul. 10, 2023	Radiation (03CH05-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2022	Jul. 13, 2022	Jan. 04, 2023	Radiation (03CH05-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2012228	1Ghz-18Ghz	Oct. 16, 2021	Jul. 13, 2022	Oct. 15, 2022	Radiation (03CH05-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5GHz	Oct. 16, 2021	Jul. 13, 2022	Oct. 15, 2022	Radiation (03CH05-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jul. 13, 2022	NCR	Radiation (03CH05-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jul. 13, 2022	NCR	Radiation (03CH05-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jul. 13, 2022	NCR	Radiation (03CH05-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	May 24, 2022	Jun. 19, 2022	May 23, 2023	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 14, 2021	Jun. 19, 2022	Oct. 13, 2022	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	May 24, 2022	Jun. 19, 2022	May 23, 2023	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 14, 2021	Jun. 19, 2022	Oct. 13, 2022	Conduction (CO01-KS)

NCR: No Calibration Required

5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	±0.56 dB
Conducted Emissions	±0.92 dB
Occupied Channel Bandwidth	±0.03 %
Conducted Power Spectral Density	±0.54 dB

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.94dB

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0dB

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0dB

---------- THE END ----------

Appendix A. Conducted Test Results

Ambient Condition: 25 ℃, 45 %RH,	
Test Date: 2022.7.14	**Test Engineer:** Jiang Jun

Maximum Output Power

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
11b	1Mbps	1	1	2412	20.71	30.00	-3.20	17.51	36.00	Pass
11b	1Mbps	1	6	2437	20.49	30.00	-3.20	17.29	36.00	Pass
11b	1Mbps	1	11	2462	20.28	30.00	-3.20	17.08	36.00	Pass
11g	6Mbps	1	1	2412	23.98	30.00	-3.20	20.78	36.00	Pass
11g	6Mbps	1	6	2437	24.95	30.00	-3.20	21.75	36.00	Pass
11g	6Mbps	1	10	2457	24.27	30.00	-3.20	21.07	36.00	Pass
11g	6Mbps	1	11	2462	23.06	30.00	-3.20	19.86	36.00	Pass
HT20	MCS0	1	1	2412	24.09	30.00	-3.20	20.89	36.00	Pass
HT20	MCS0	1	6	2437	25.00	30.00	-3.20	21.80	36.00	Pass
HT20	MCS0	1	10	2457	24.42	30.00	-3.20	21.22	36.00	Pass
HT20	MCS0	1	11	2462	22.84	30.00	-3.20	19.64	36.00	Pass
HT40	MCS0	1	3	2422	22.82	30.00	-3.20	19.62	36.00	Pass
HT40	MCS0	1	4	2427	23.38	30.00	-3.20	20.18	36.00	Pass
HT40	MCS0	1	6	2437	23.78	30.00	-3.20	20.58	36.00	Pass
HT40	MCS0	1	7	2442	23.47	30.00	-3.20	20.27	36.00	Pass
HT40	MCS0	1	8	2447	22.96	30.00	-3.20	19.76	36.00	Pass
HT40	MCS0	1	9	2452	22.51	30.00	-3.20	19.31	36.00	Pass

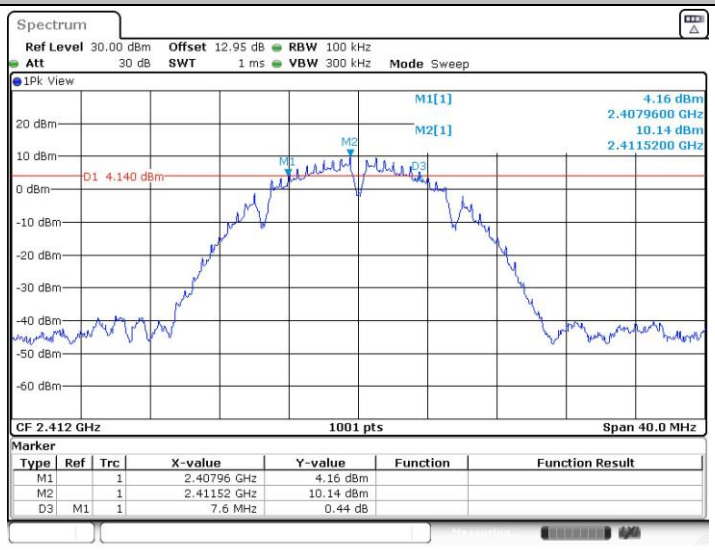
DTS Bandwidth

Test Result

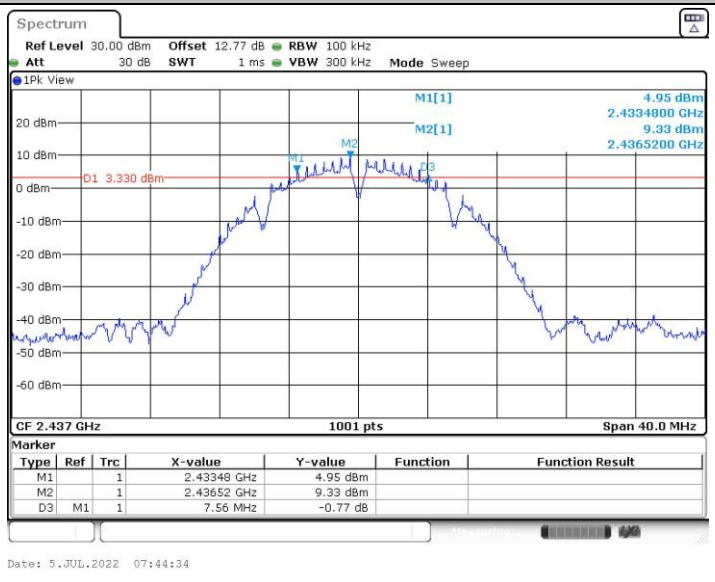
TestMode	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	2412	7.60	2407.96	2415.56	0.5	PASS
	2437	7.56	2433.48	2441.04	0.5	PASS
	2462	8.08	2457.96	2466.04	0.5	PASS
11G	2412	15.12	2404.44	2419.56	0.5	PASS
	2437	15.64	2429.24	2444.88	0.5	PASS
	2457	15.32	2449.24	2464.56	0.5	PASS
	2462	15.88	2453.88	2469.76	0.5	PASS
11N20SISO	2412	16.24	2403.64	2419.88	0.5	PASS
	2437	15.12	2429.44	2444.56	0.5	PASS
	2457	15.12	2449.44	2464.56	0.5	PASS
	2462	15.16	2454.44	2469.60	0.5	PASS
11N40SISO	2422	35.12	2404.48	2439.60	0.5	PASS
	2427	35.28	2409.48	2444.76	0.5	PASS
	2437	35.12	2419.48	2454.60	0.5	PASS
	2442	35.12	2424.48	2459.60	0.5	PASS
	2447	35.12	2429.48	2464.60	0.5	PASS
	2452	35.12	2434.48	2469.60	0.5	PASS

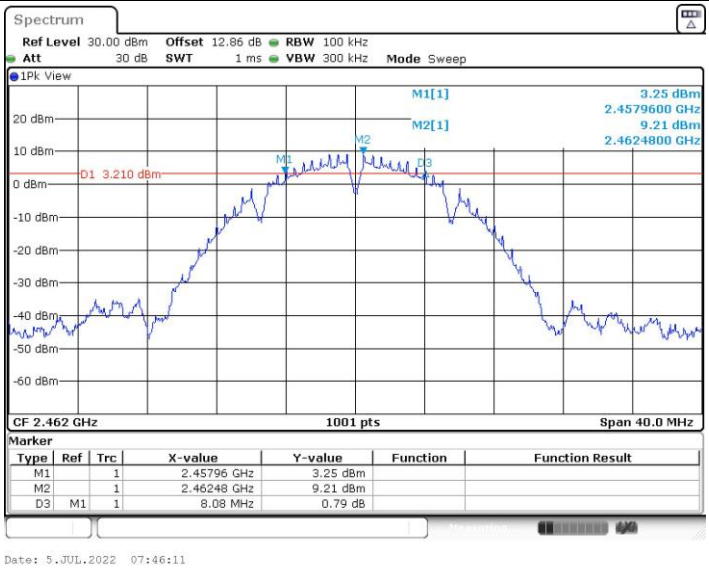
Test Graphs

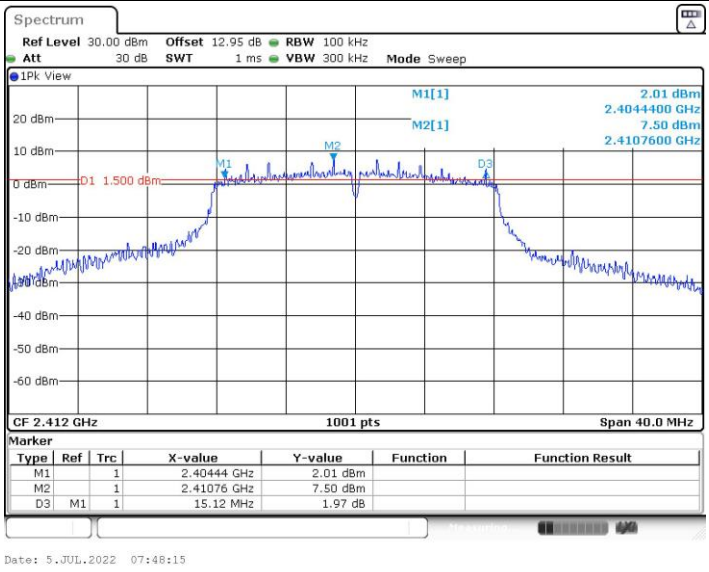
11B_Ant1_2412



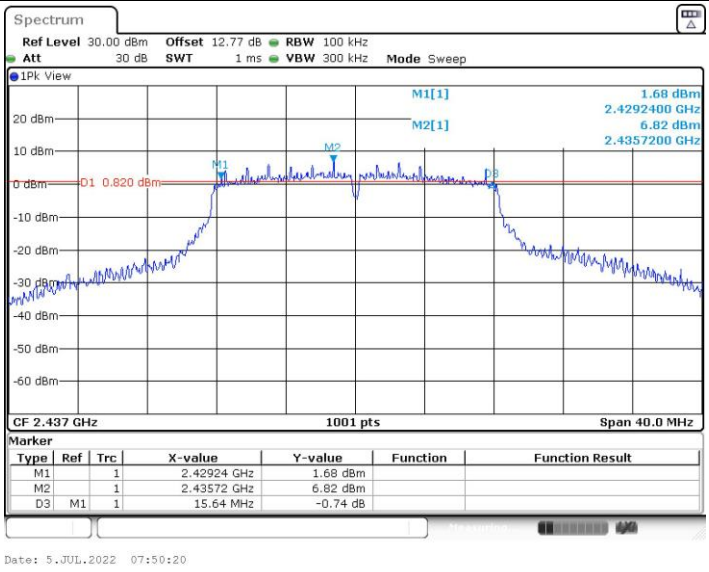
11B_Ant1_2437



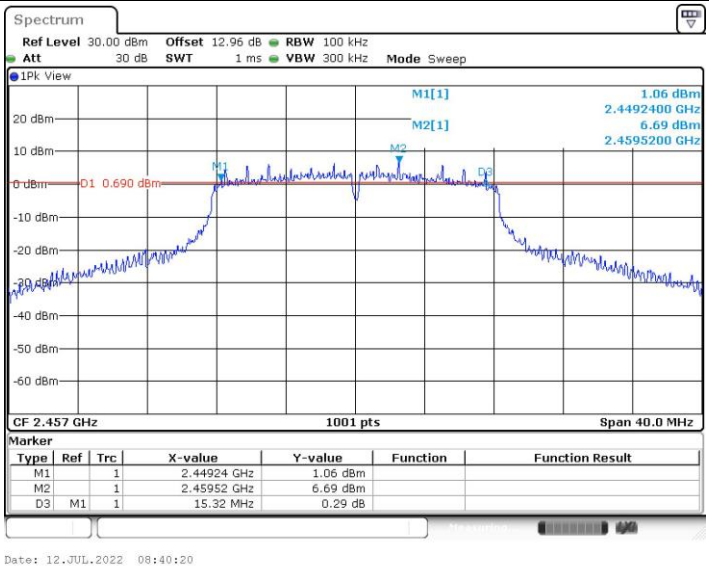
11B_Ant1_2462


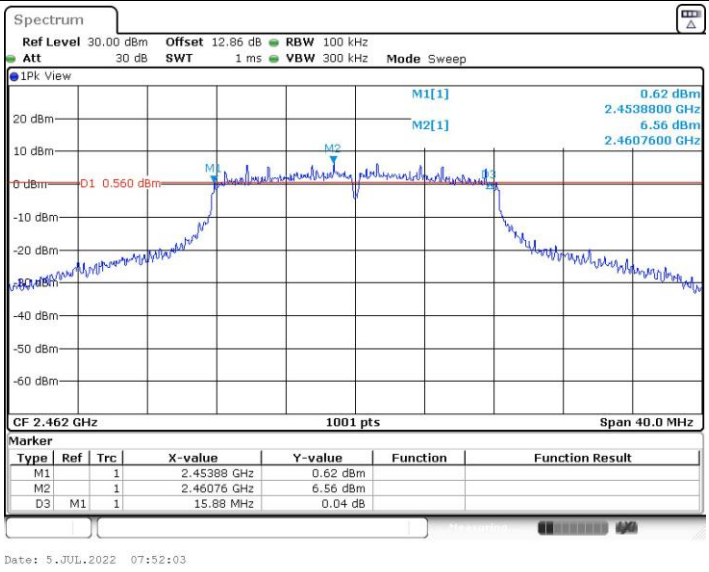
11G_Ant1_2412


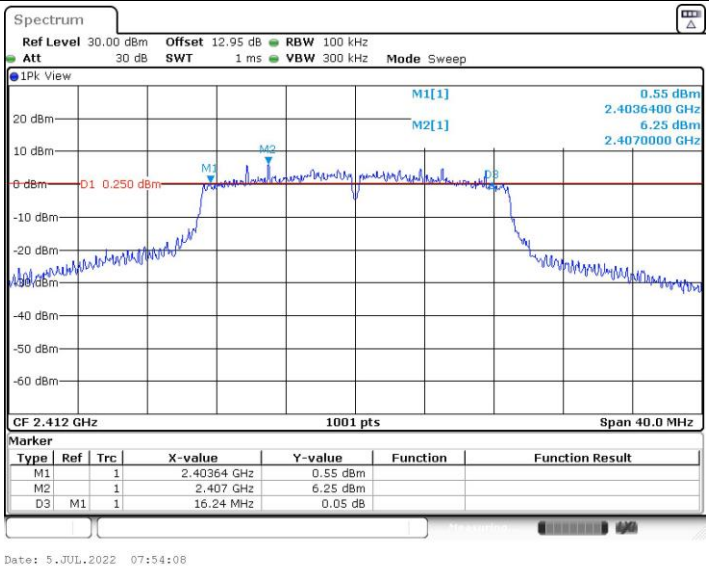
11G_Ant1_2437

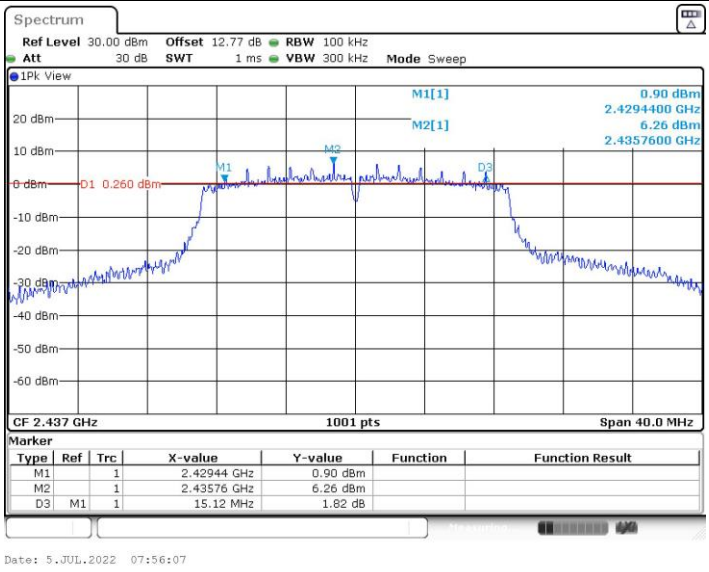


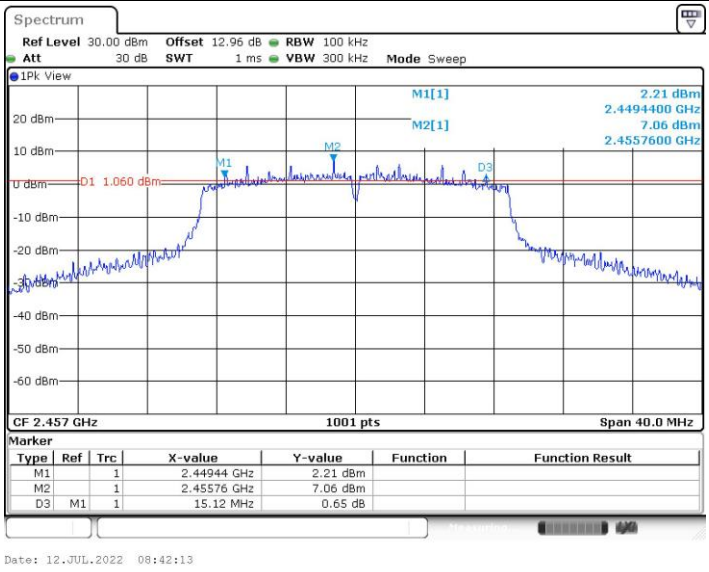
11G_Ant1_2457

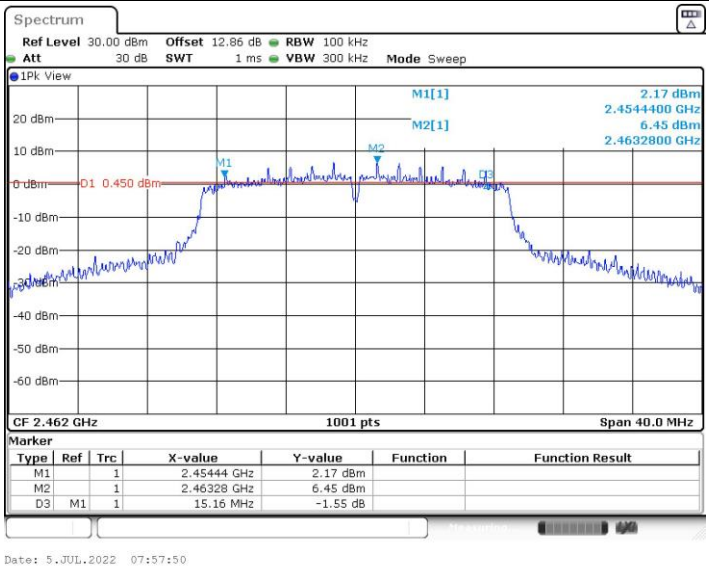


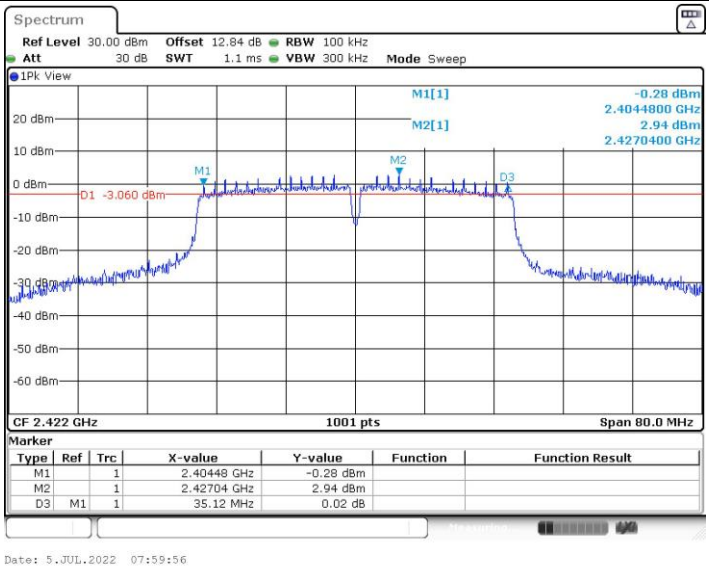
11G_Ant1_2462


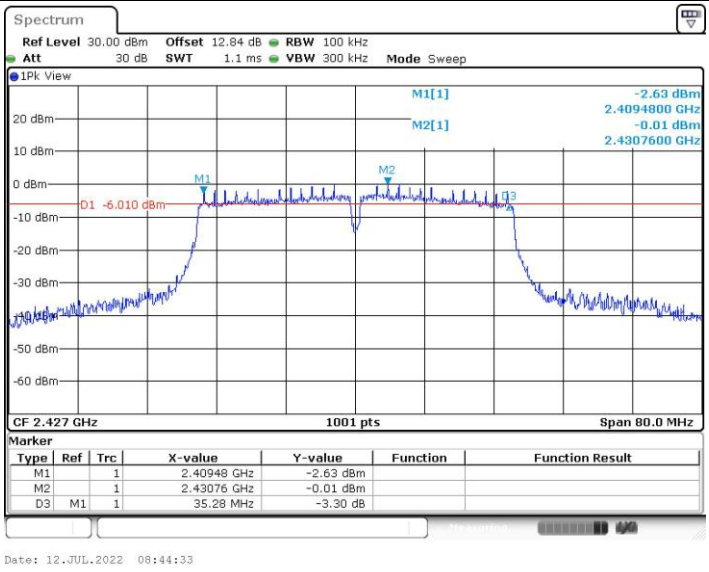
11N20SISO_Ant1_2412


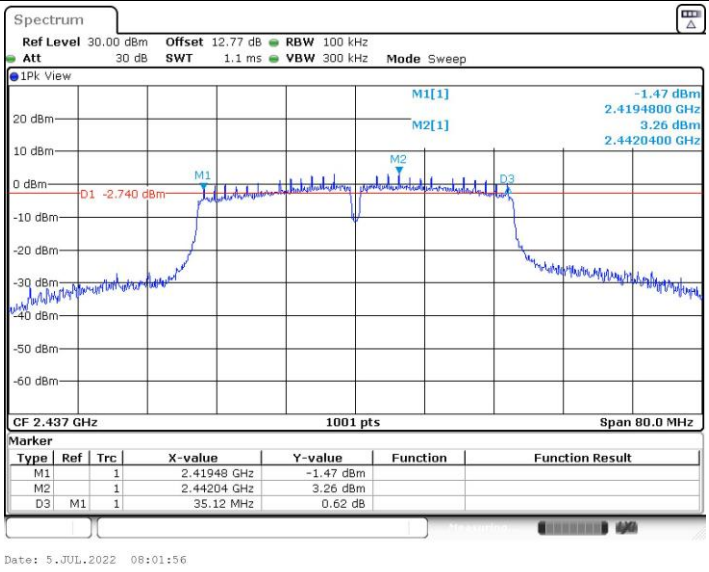
11N20SISO_Ant1_2437


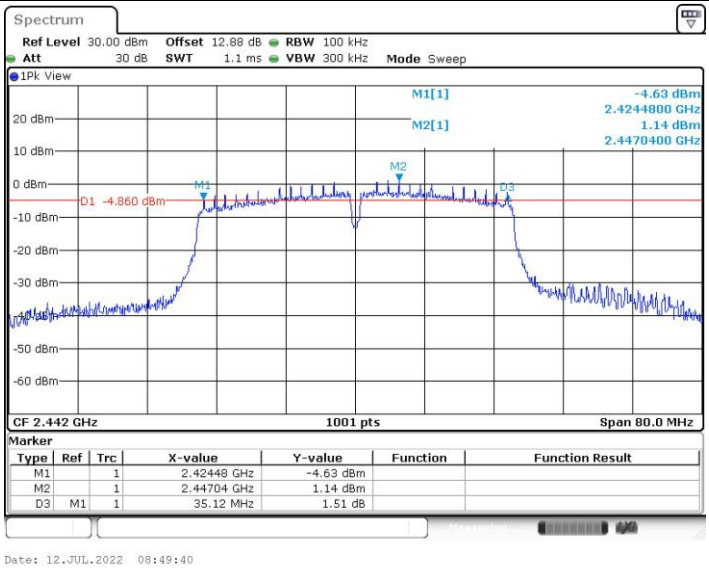
11N20SISO_Ant1_2457


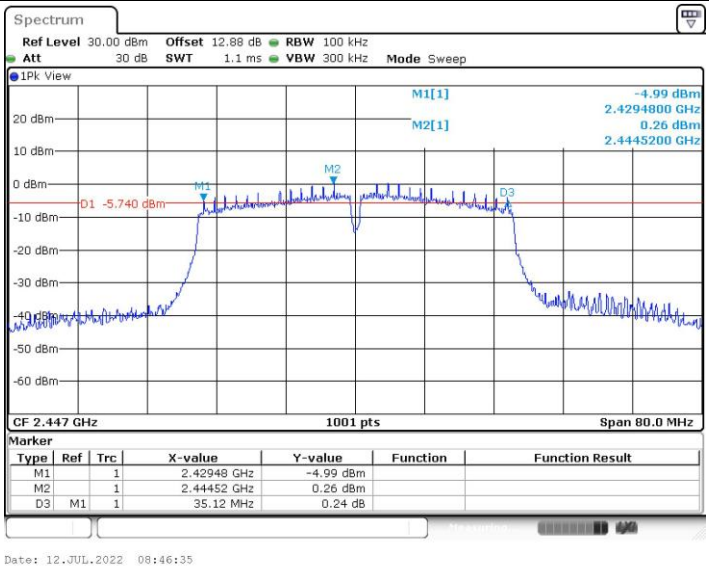
11N20SISO_Ant1_2462


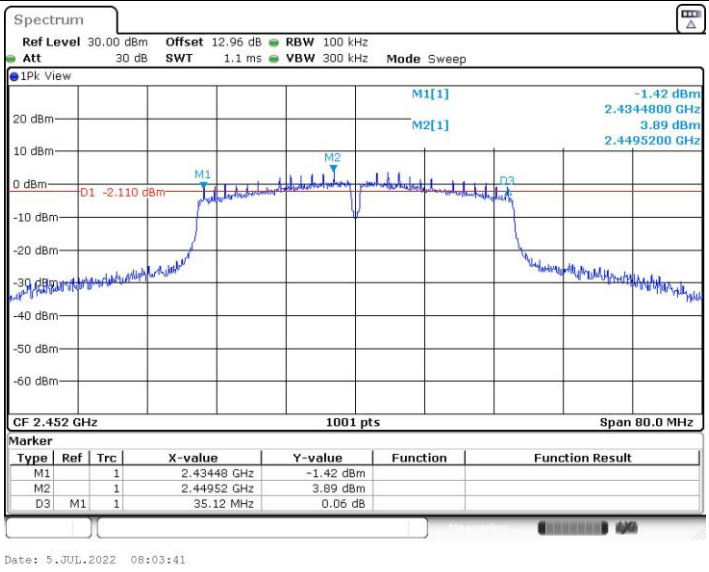
11N40SISO_Ant1_2422


11N40SISO_Ant1_2427


11N40SISO_Ant1_2437


11N40SISO_Ant1_2442


11N40SISO_Ant1_2447


11N40SISO_Ant1_2452


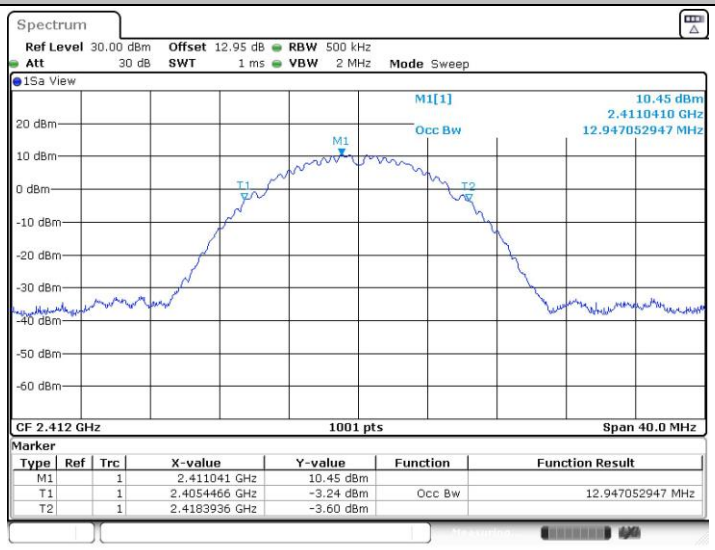
Occupied Channel Bandwidth

Test Result

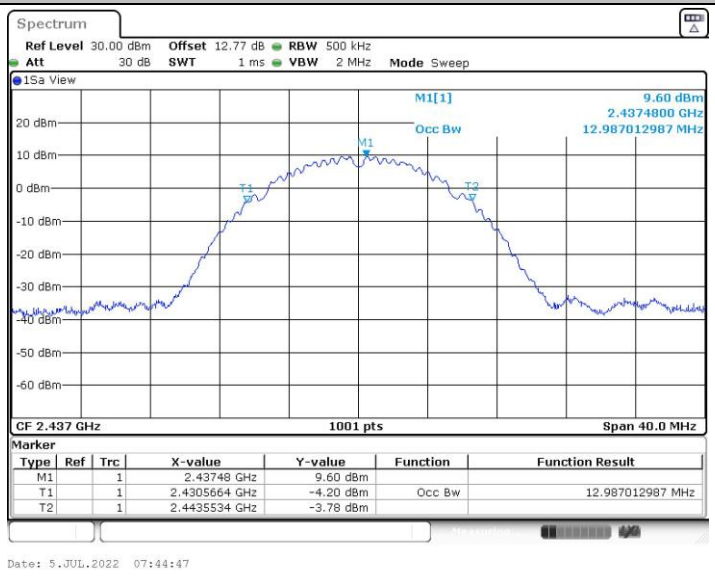
TestMode	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	2412	12.947	2405.447	2418.394	---	---
	2437	12.987	2430.566	2443.553	---	---
	2462	13.227	2455.367	2468.593	---	---
11G	2412	17.702	2403.009	2420.711	---	---
	2437	17.702	2428.249	2445.951	---	---
	2457	17.542	2448.209	2465.751	---	---
	2462	17.822	2453.089	2470.911	---	---
11N20SISO	2412	18.581	2402.569	2421.151	---	---
	2437	18.462	2427.809	2446.271	---	---
	2457	18.422	2447.769	2466.191	---	---
	2462	18.541	2452.689	2471.231	---	---
11N40SISO	2422	37.163	2403.379	2440.541	---	---
	2427	36.843	2408.538	2445.382	---	---
	2437	36.843	2418.778	2455.621	---	---
	2442	36.364	2423.938	2460.302	---	---
	2447	36.124	2429.018	2465.142	---	---
	2452	36.763	2433.698	2470.462	---	---

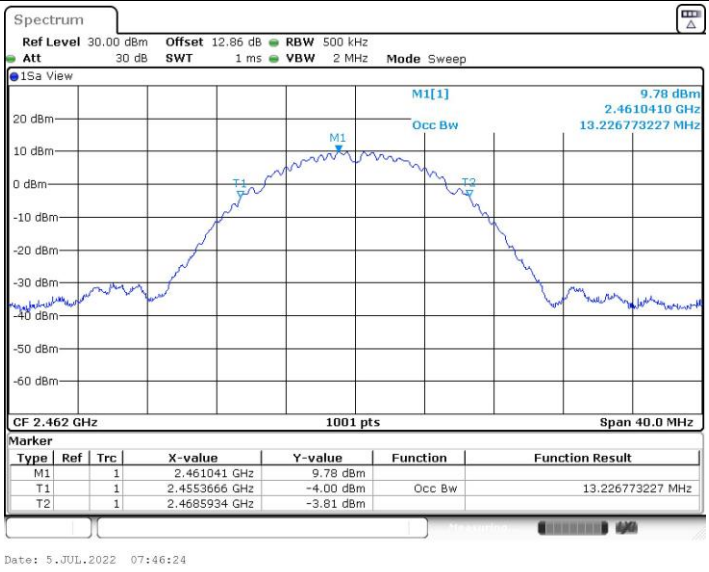
Test Graphs

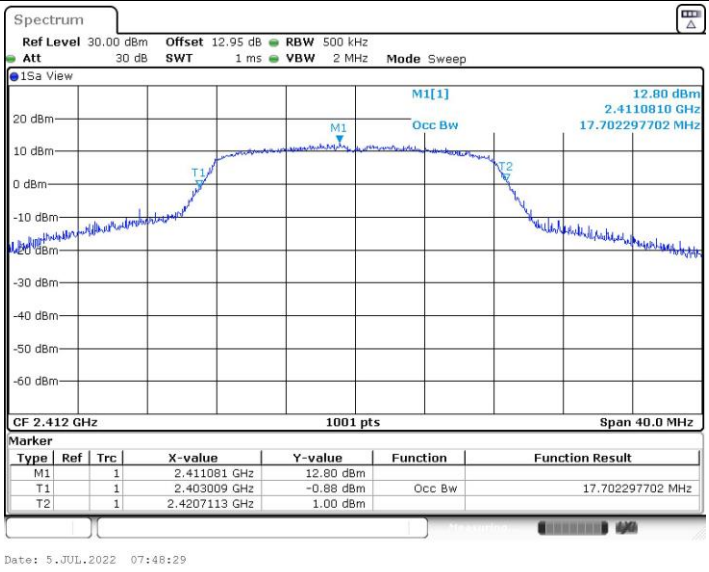
11B_Ant1_2412



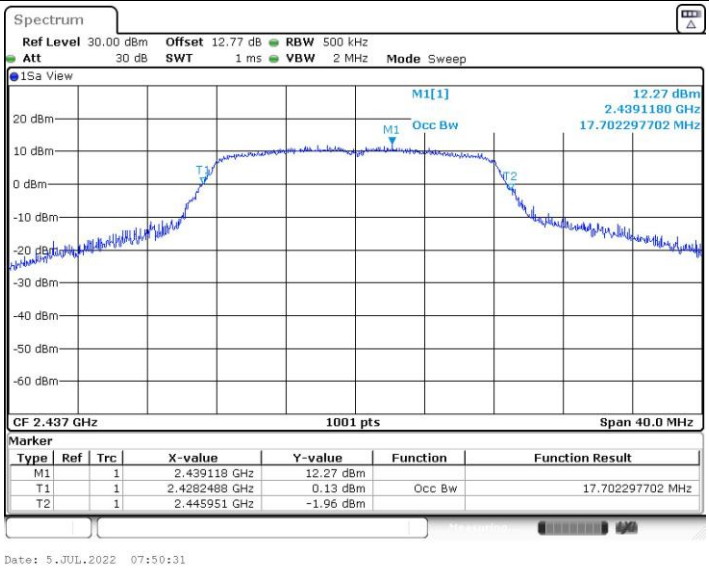
11B_Ant1_2437



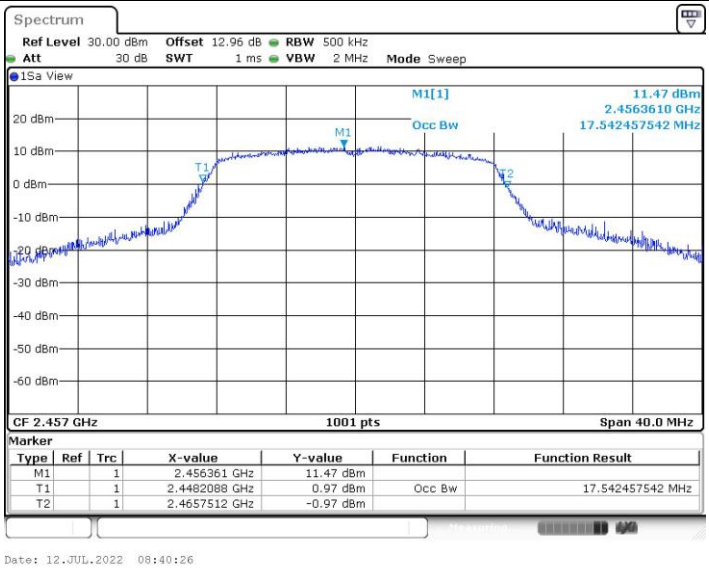
11B_Ant1_2462


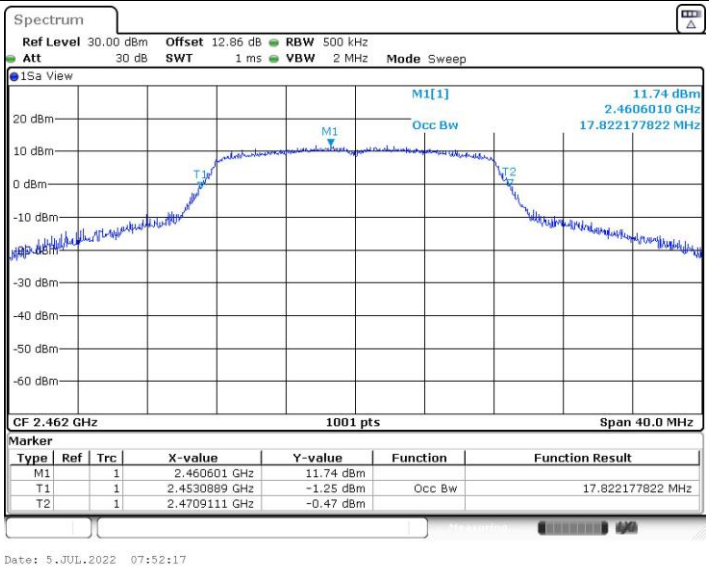
11G_Ant1_2412


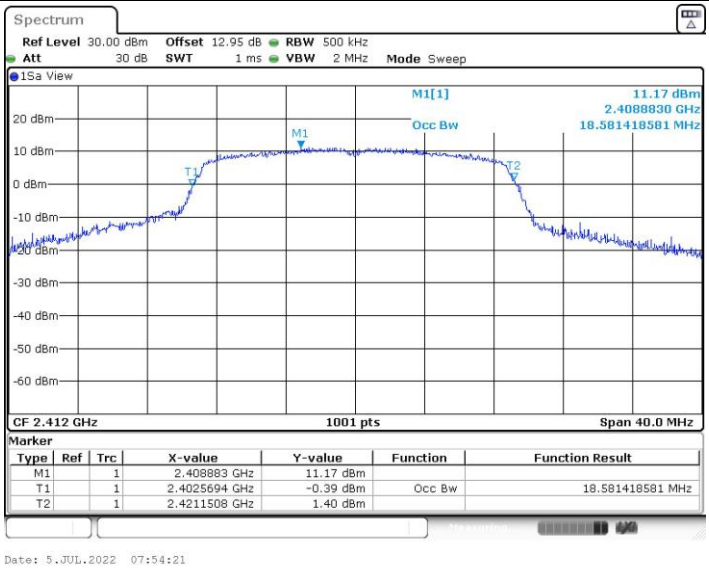
11G_Ant1_2437

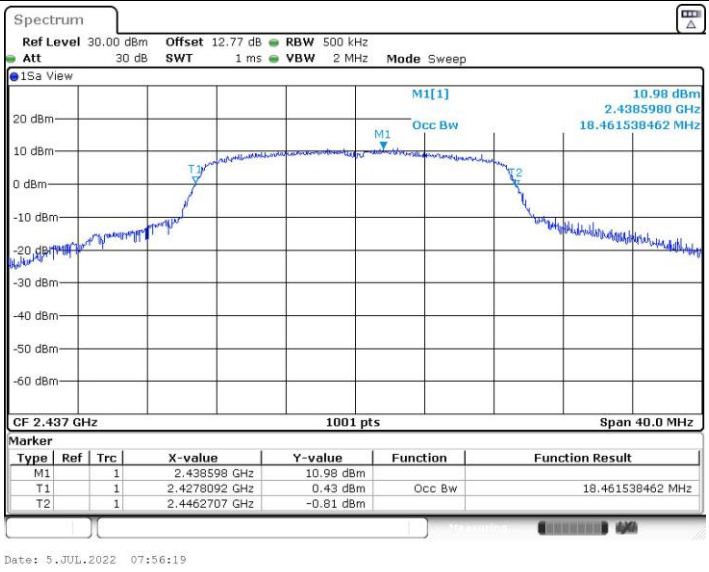


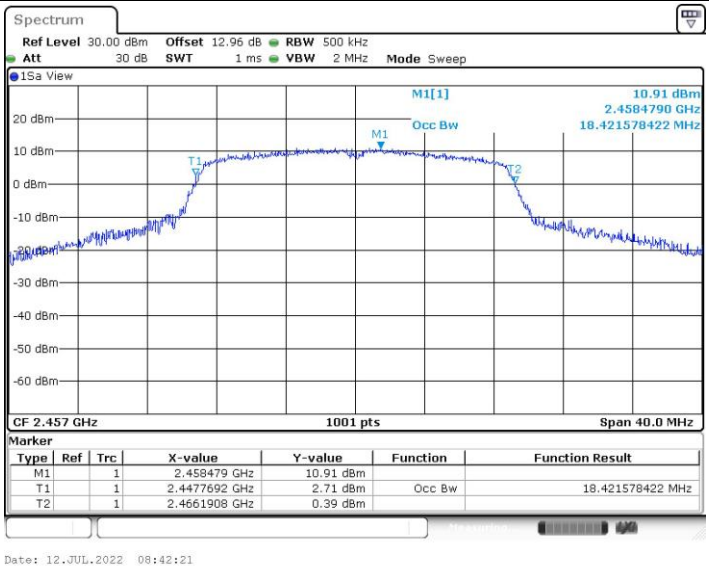
11G_Ant1_2457

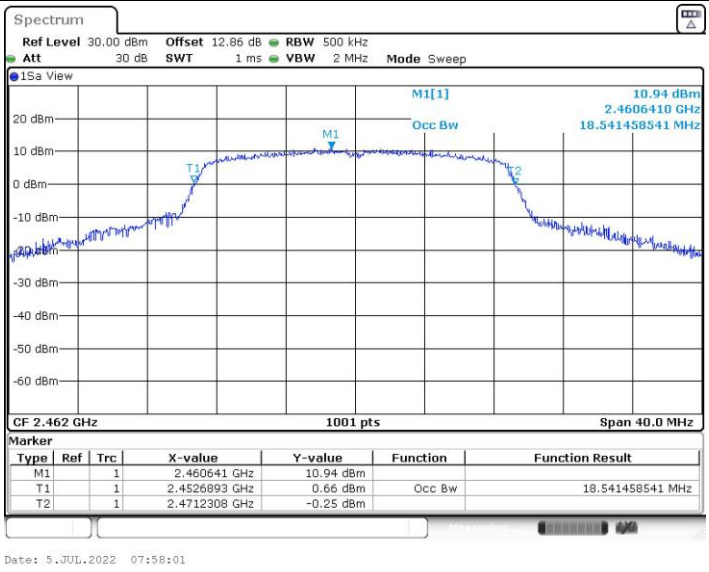


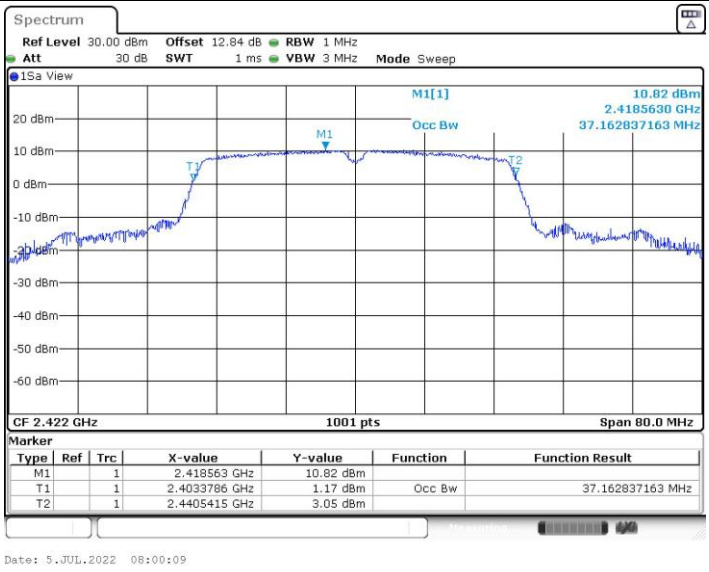
11G_Ant1_2462


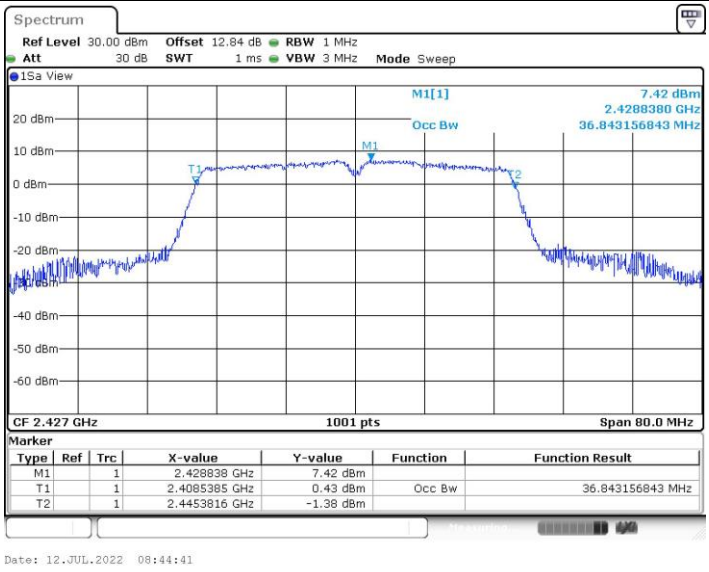
11N20SISO_Ant1_2412


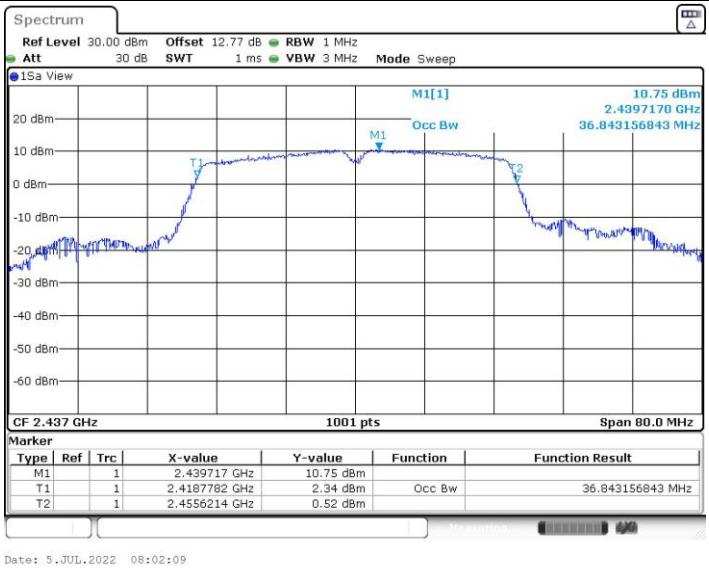
11N20SISO_Ant1_2437


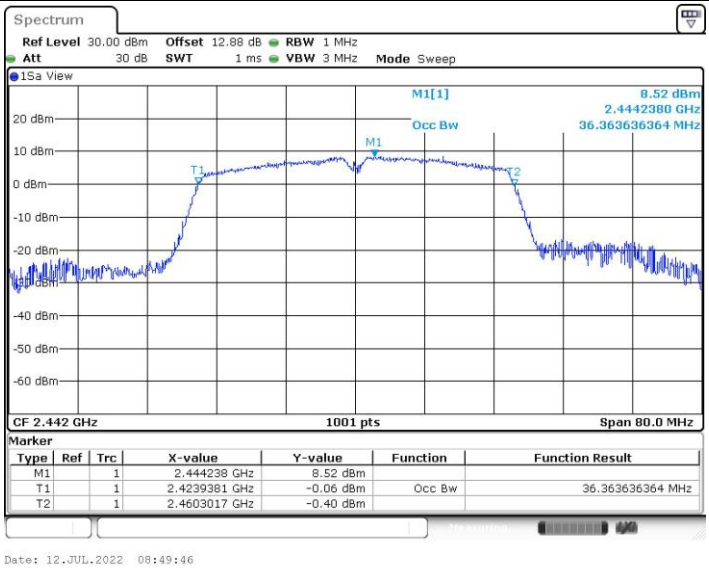
11N20SISO_Ant1_2457


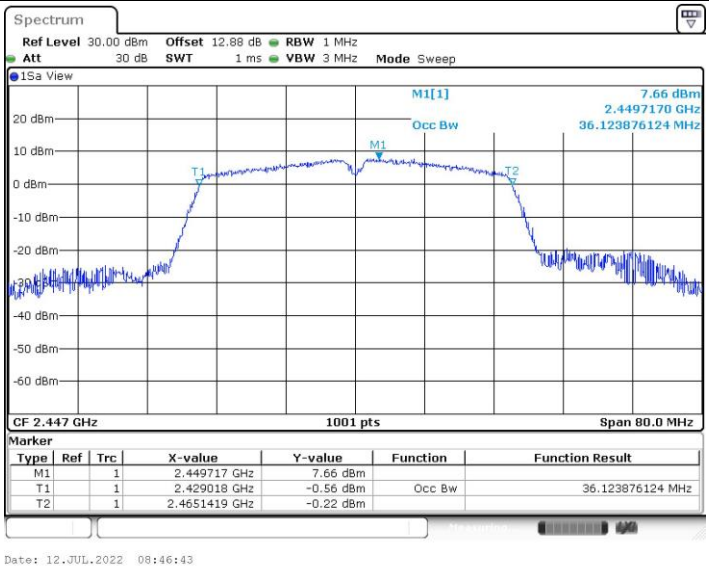
11N20SISO_Ant1_2462


11N40SISO_Ant1_2422


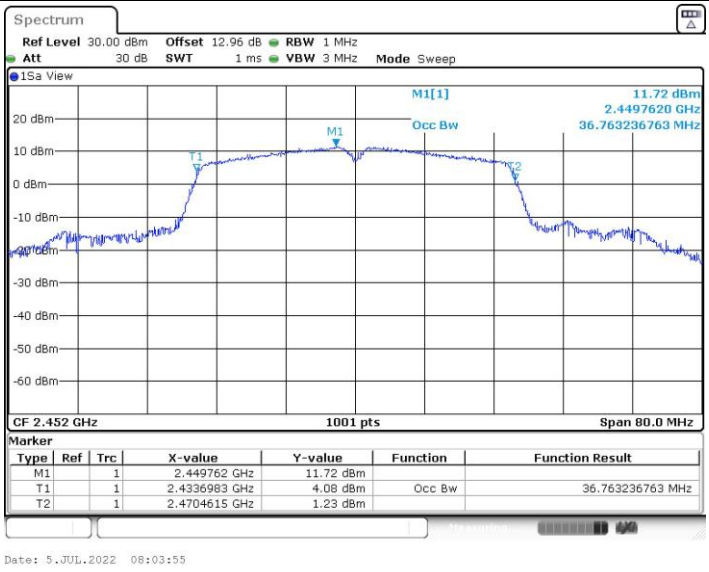
11N40SISO_Ant1_2427


11N40SISO_Ant1_2437


11N40SISO_Ant1_2442


11N40SISO_Ant1_2447


11N40SISO_Ant1_2452



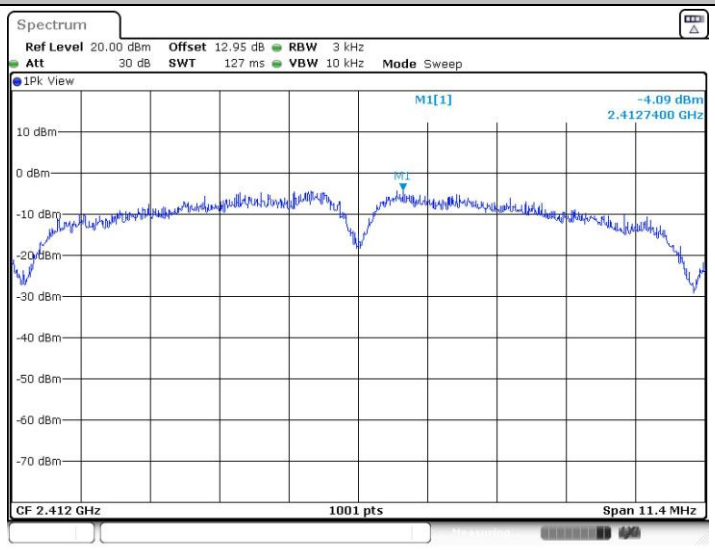
Maximum power spectral density (3K PSD)

Test Result

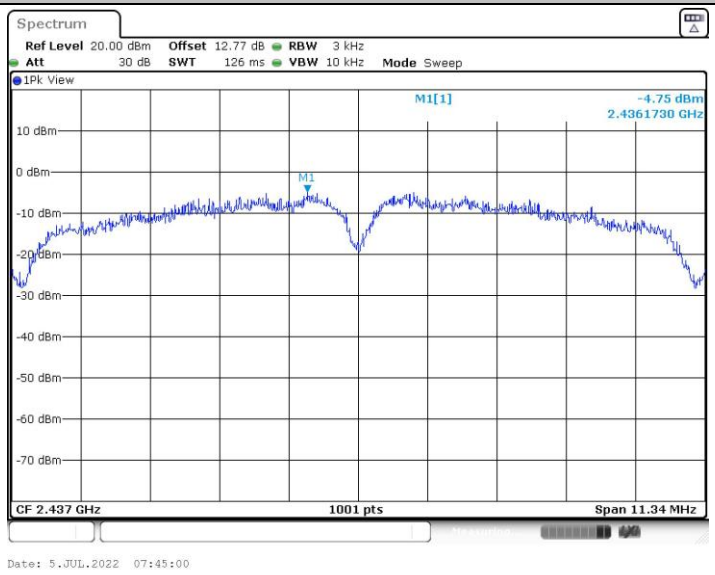
TestMode	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	2412	-4.09	≤8.00	PASS
	2437	-4.75	≤8.00	PASS
	2462	-3.57	≤8.00	PASS
11G	2412	-8.44	≤8.00	PASS
	2437	-5.96	≤8.00	PASS
	2457	-7.29	≤8.00	PASS
	2462	-10.66	≤8.00	PASS
11N20SISO	2412	-9.1	≤8.00	PASS
	2437	-7.69	≤8.00	PASS
	2457	-6.47	≤8.00	PASS
	2462	-10.92	≤8.00	PASS
11N40SISO	2422	-15.44	≤8.00	PASS
	2427	-14.4	≤8.00	PASS
	2437	-12.28	≤8.00	PASS
	2442	-14.25	≤8.00	PASS
	2447	-14.65	≤8.00	PASS
	2452	-14.73	≤8.00	PASS

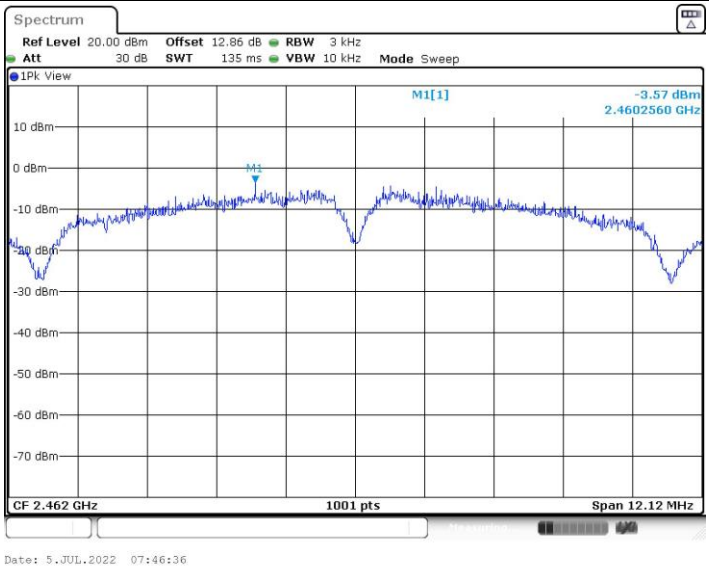
Test Graphs

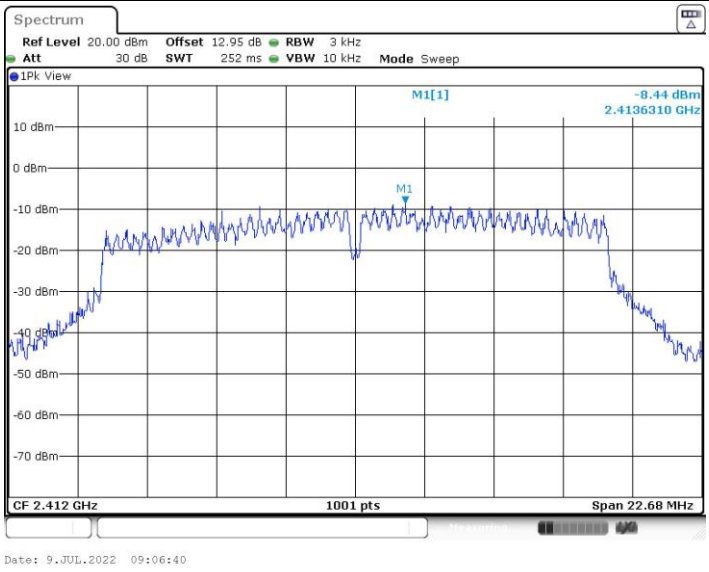
11B_Ant1_2412

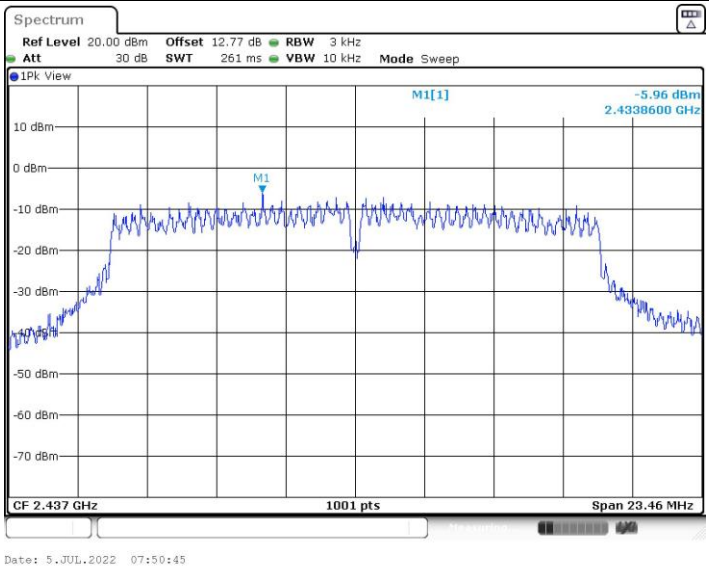


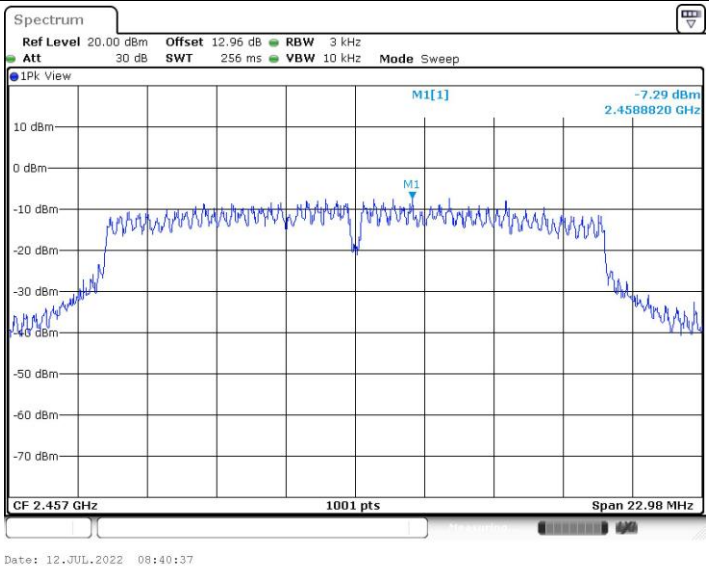
11B_Ant1_2437



11B_Ant1_2462


11G_Ant1_2412


11G_Ant1_2437


11G_Ant1_2457


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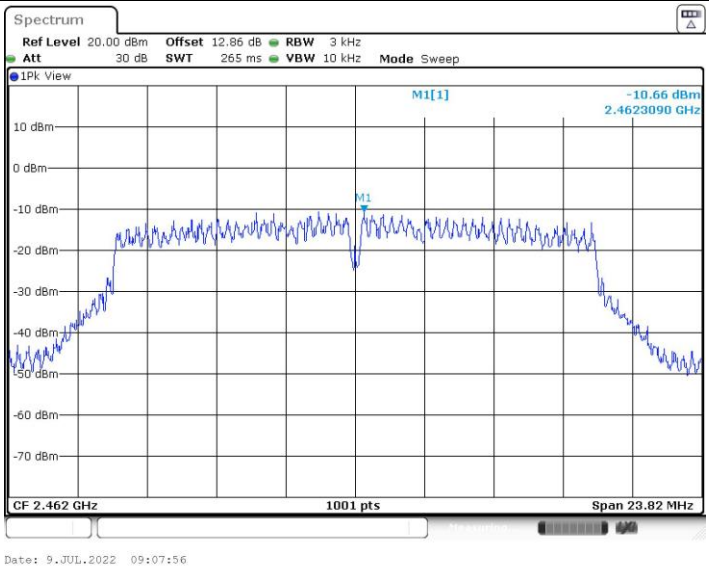
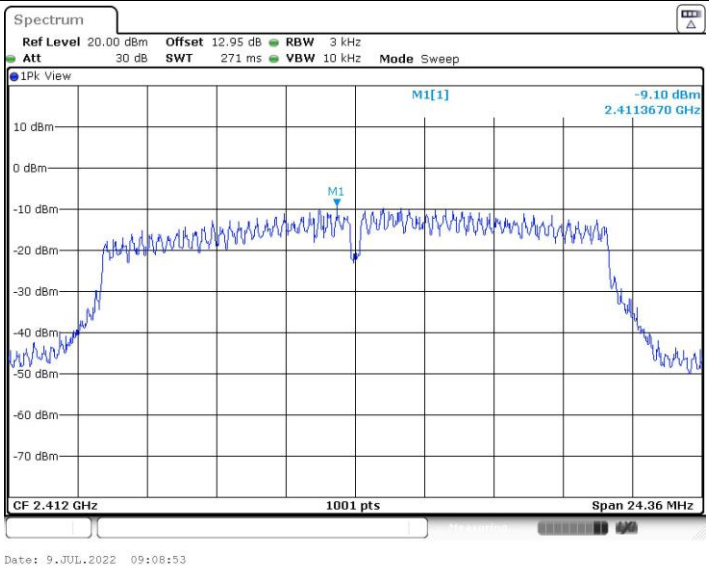

11N20SISO_Ant1_2412


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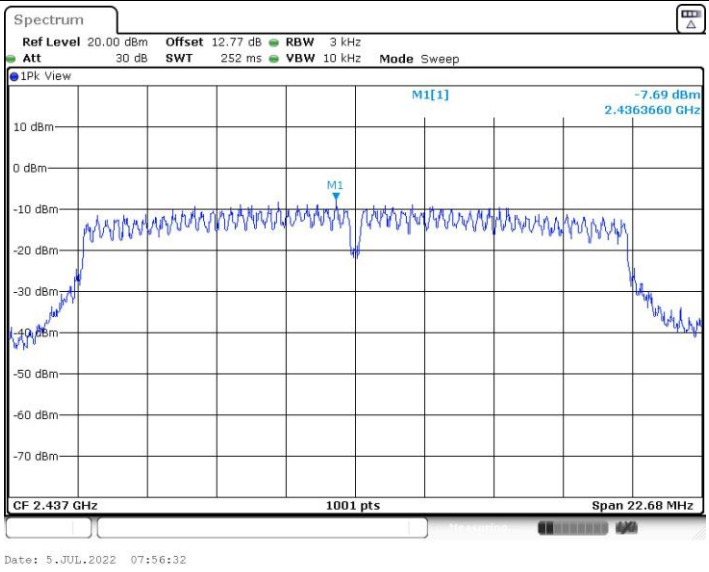

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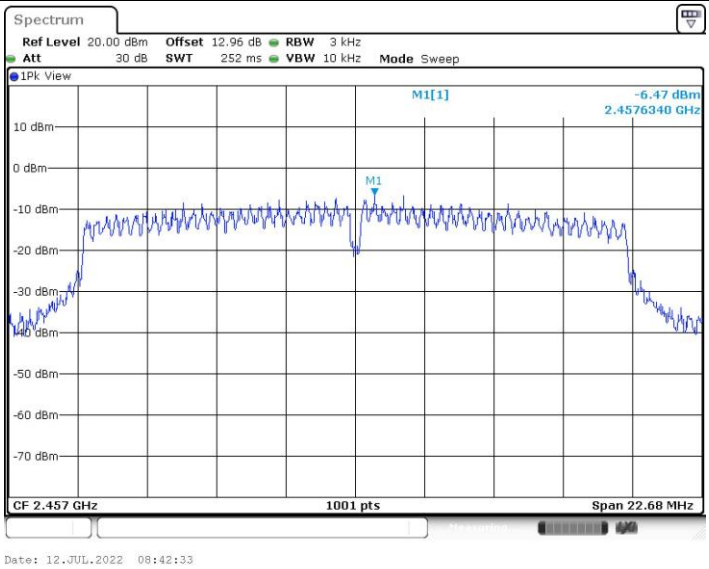
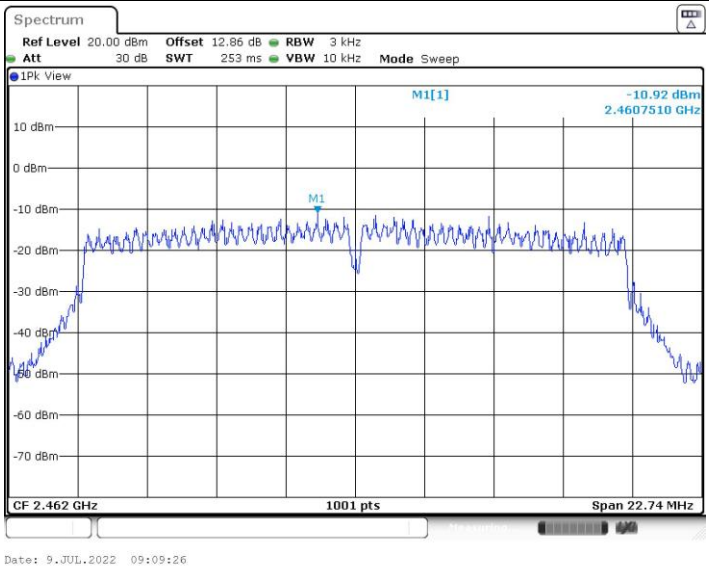
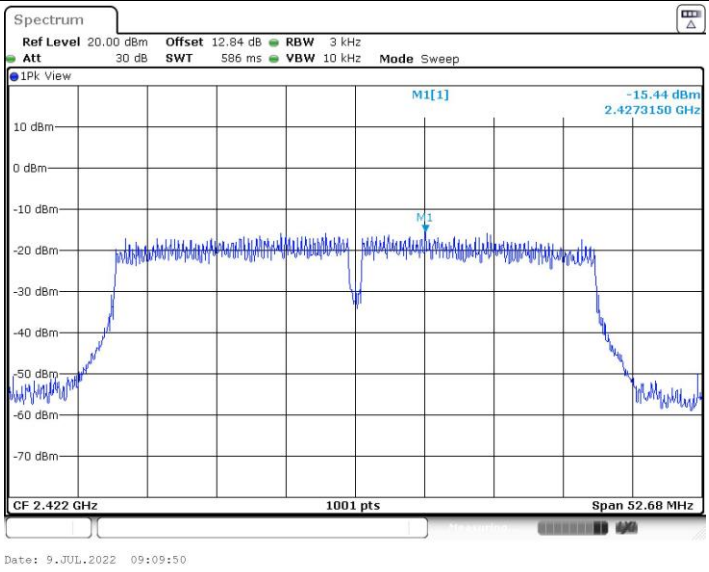


11N20SISO_Ant1_2462


11N40SISO_Ant1_2422


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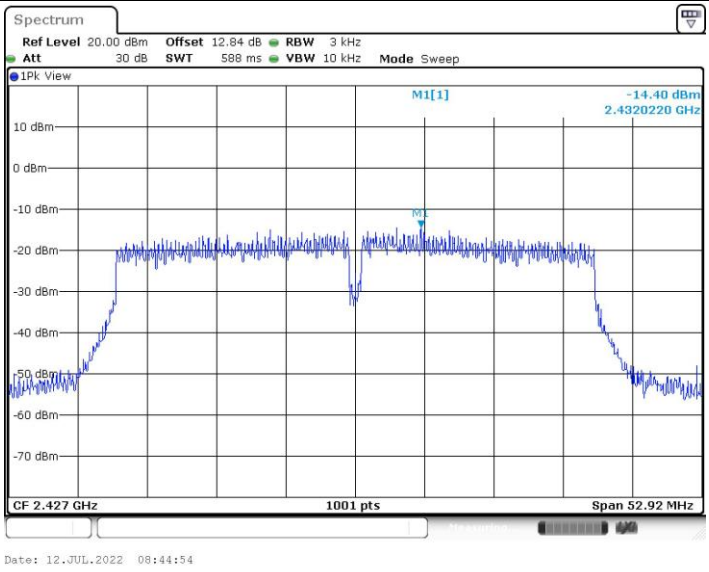

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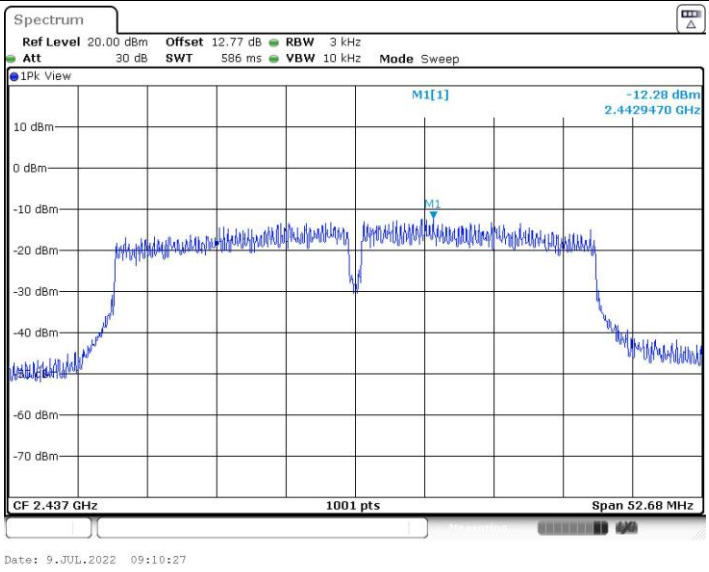
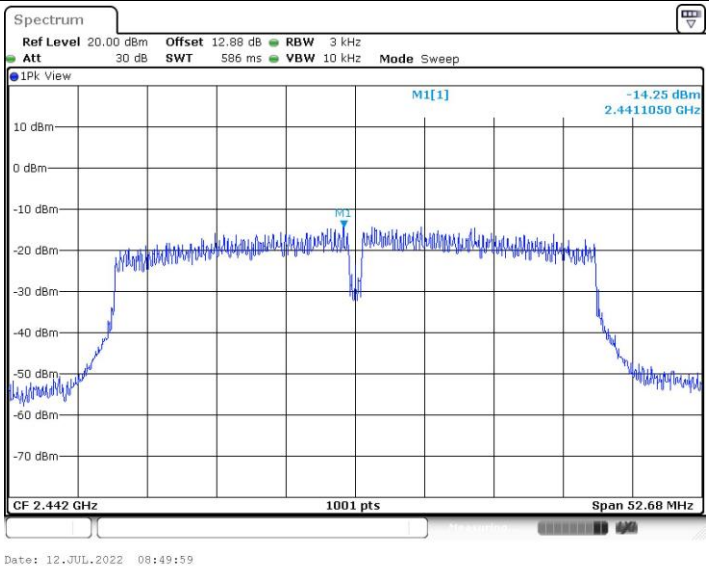
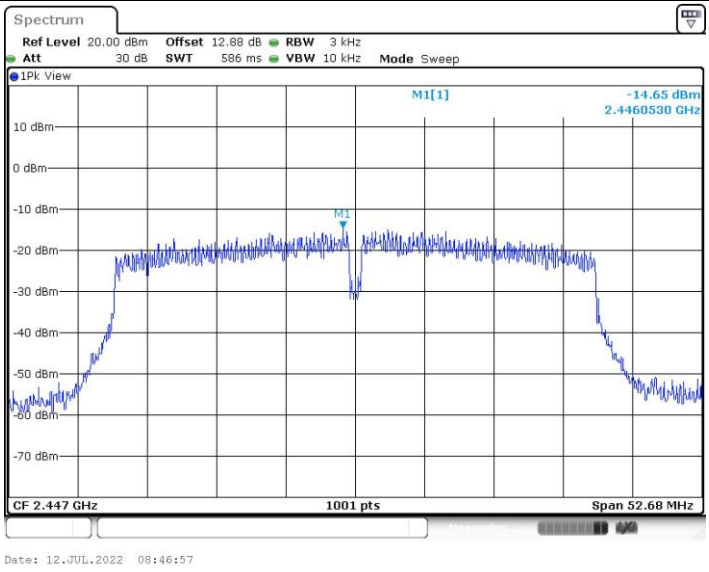
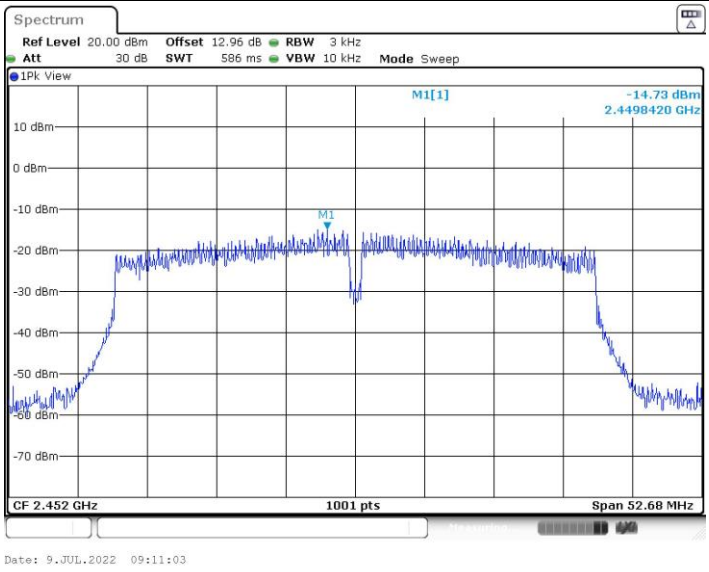


11N40SISO_Ant1_2442

11N40SISO_Ant1_2447


11N40SISO_Ant1_2452


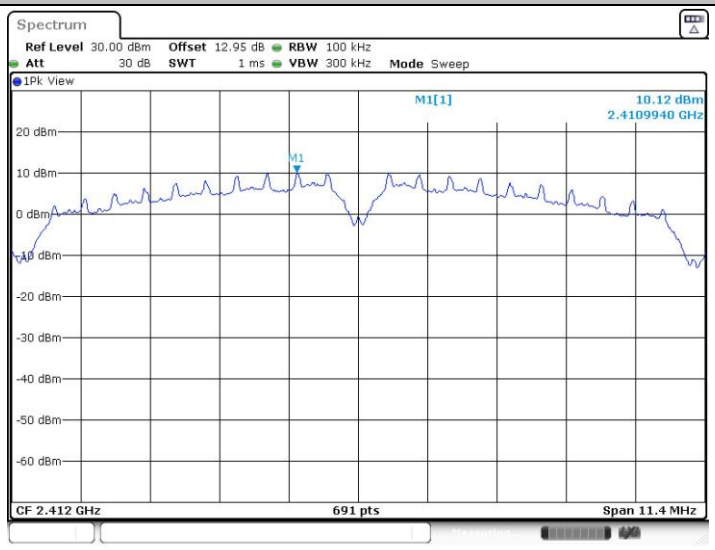
Reference level measurement (100K PSD)

Test Result

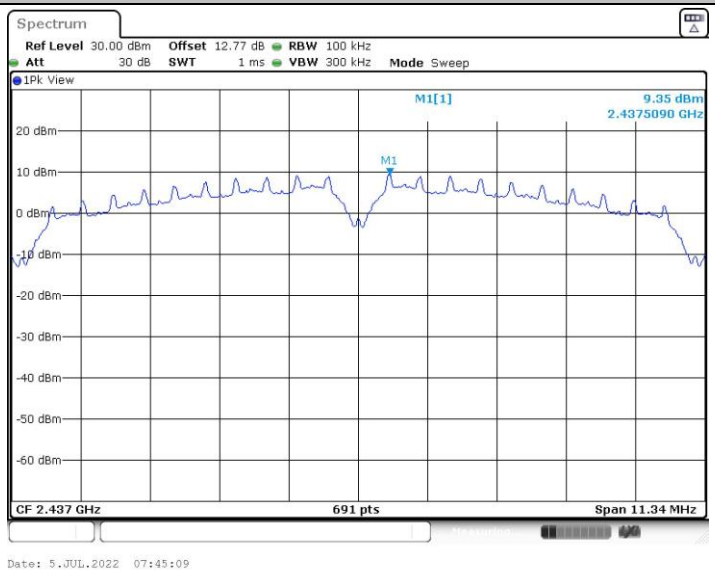
TestMode	Freq(MHz)	Max.Point[MHz]	Result[dBm]
11B	2412	2410.99	10.12
	2437	2437.51	9.35
	2462	2461.49	9.23
11G	2412	2410.72	7.57
	2437	2435.74	6.75
	2457	2455.74	6.98
	2462	2460.73	6.94
11N20SISO	2412	2410.77	7.03
	2437	2435.75	6.23
	2457	2458.25	6.90
	2462	2463.25	6.25
11N40SISO	2422	2427.03	2.93
	2427	2431.98	-0.06
	2437	2442.03	3.18
	2442	2447.03	1.10
	2447	2450.74	0.21
	2452	2449.48	3.96

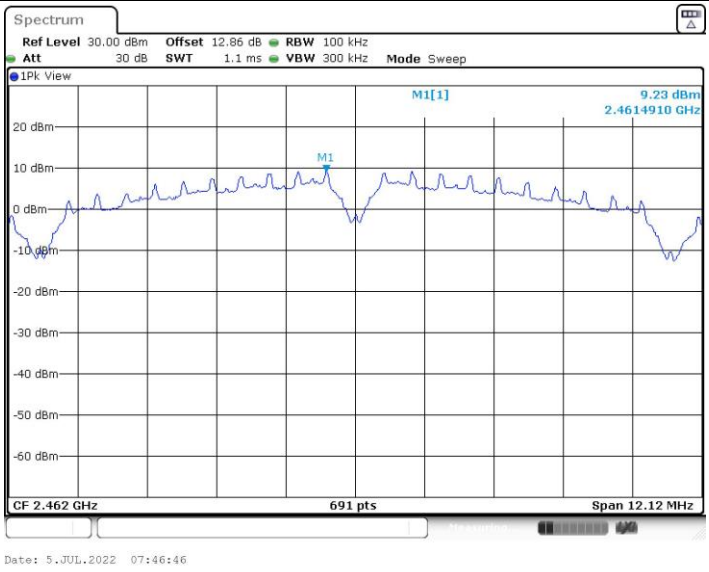
Test Graphs

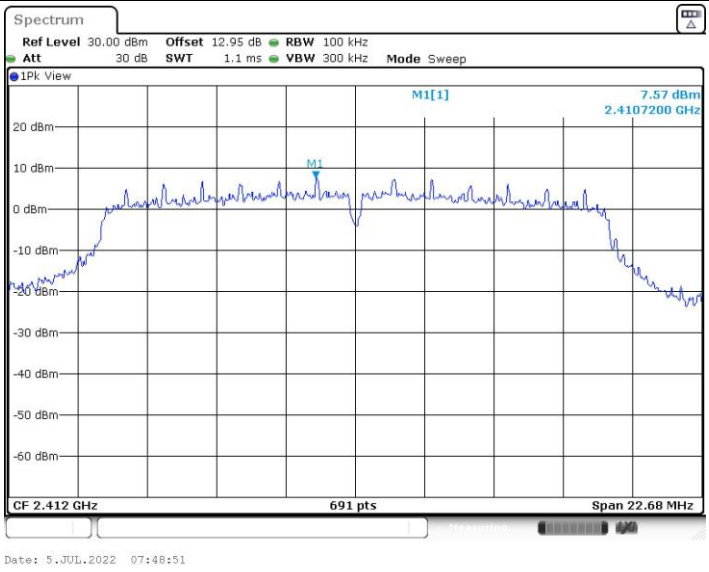
11B_Ant1_2412

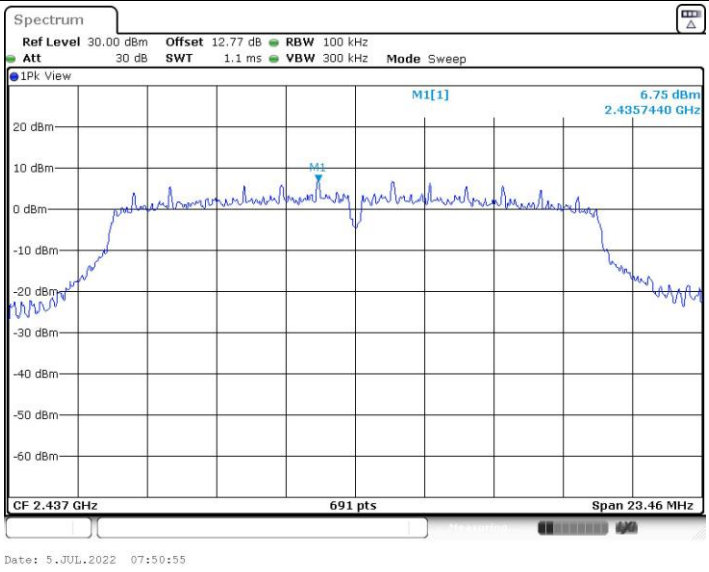


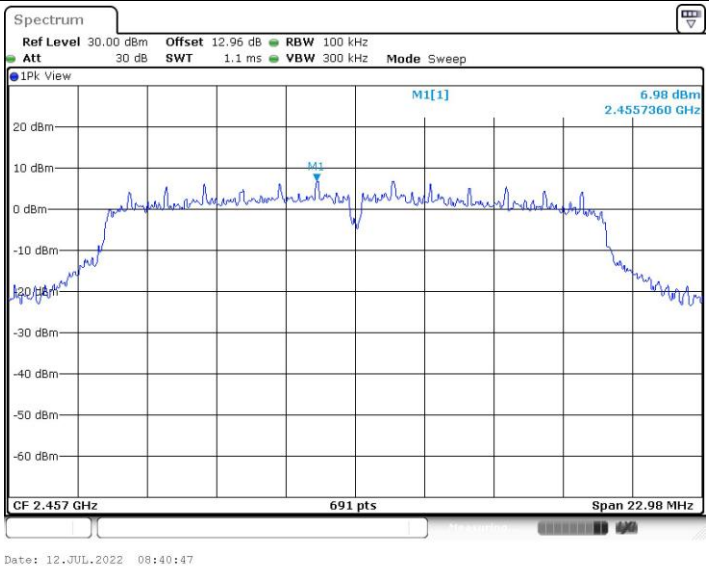
11B_Ant1_2437



11B_Ant1_2462


11G_Ant1_2412


11G_Ant1_2437


11G_Ant1_2457


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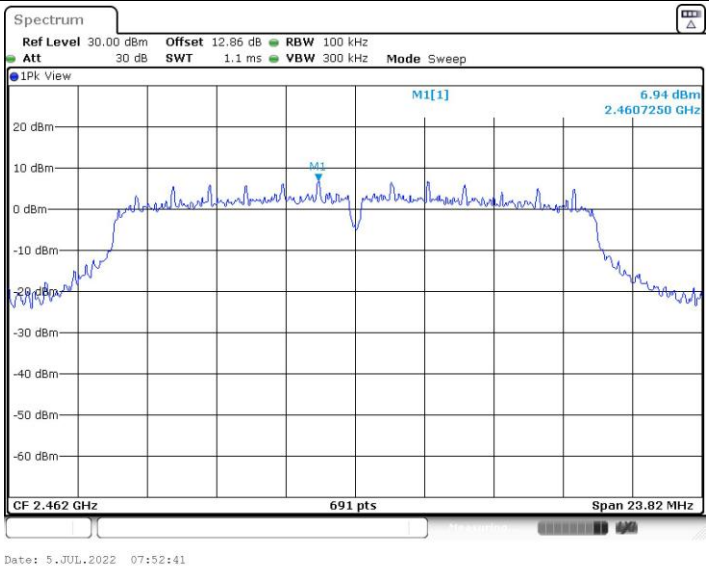
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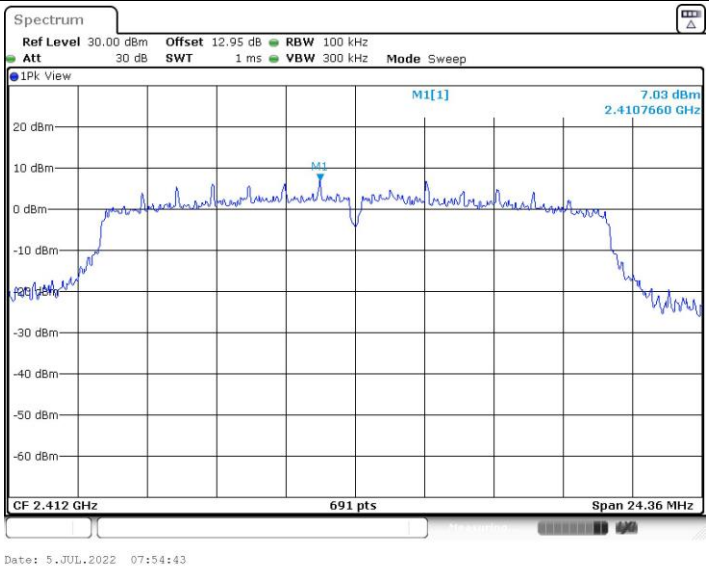

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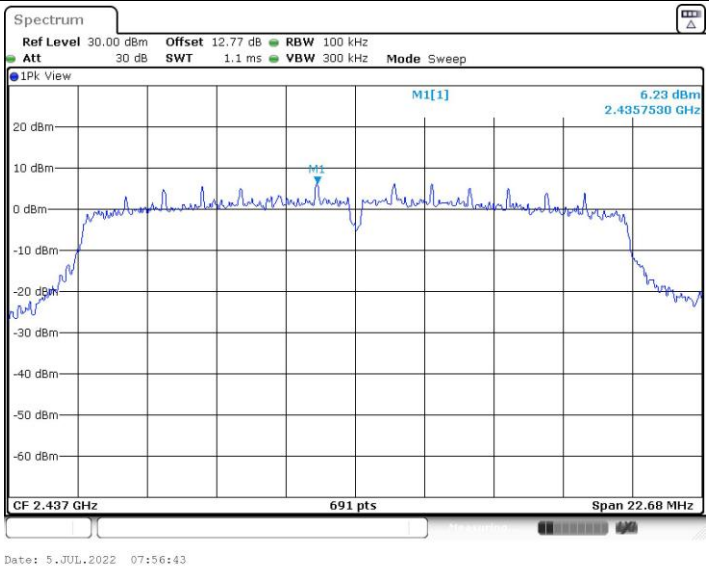

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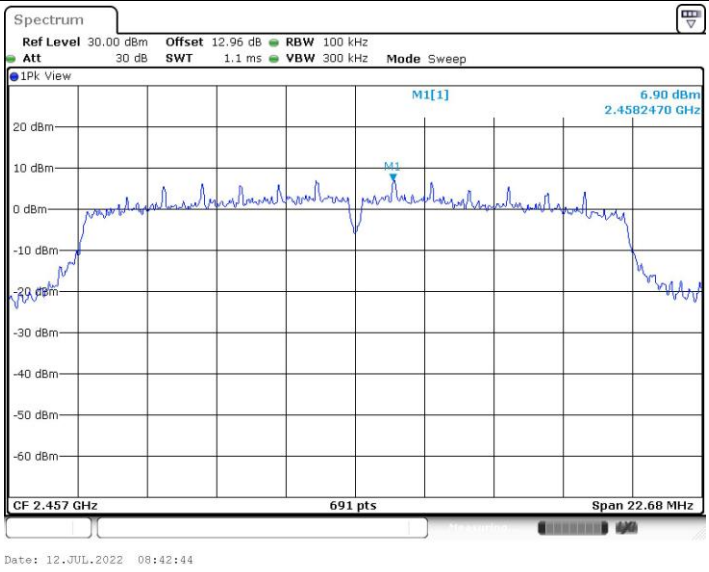

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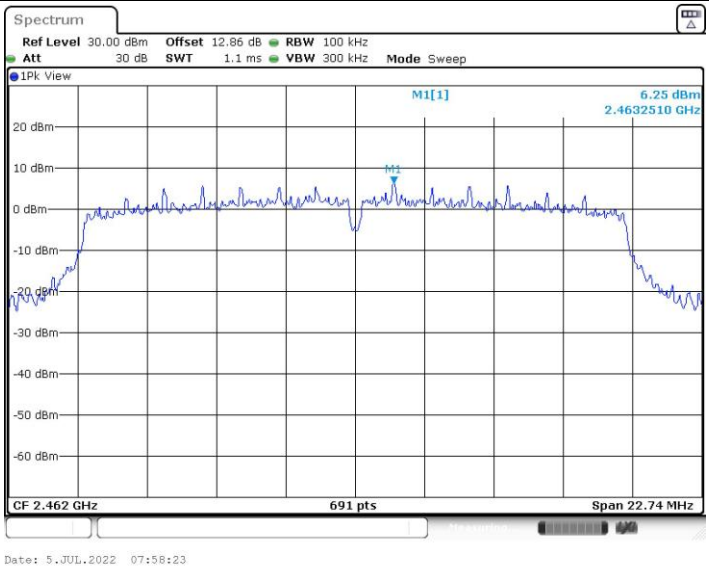
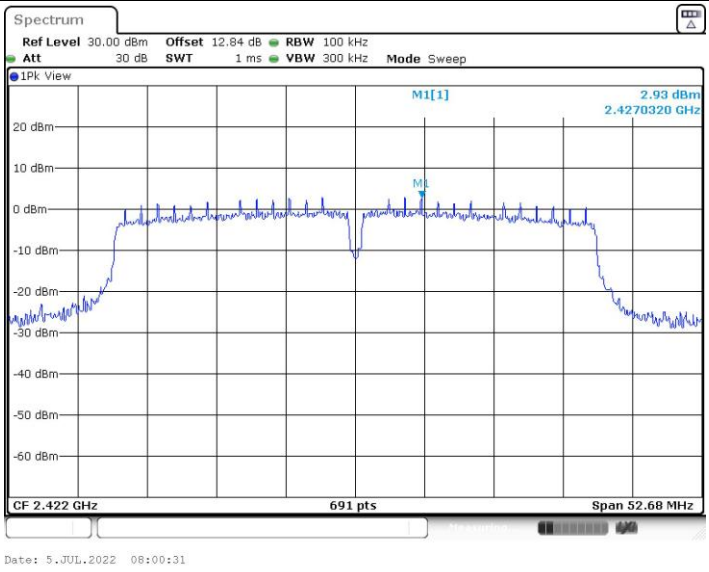
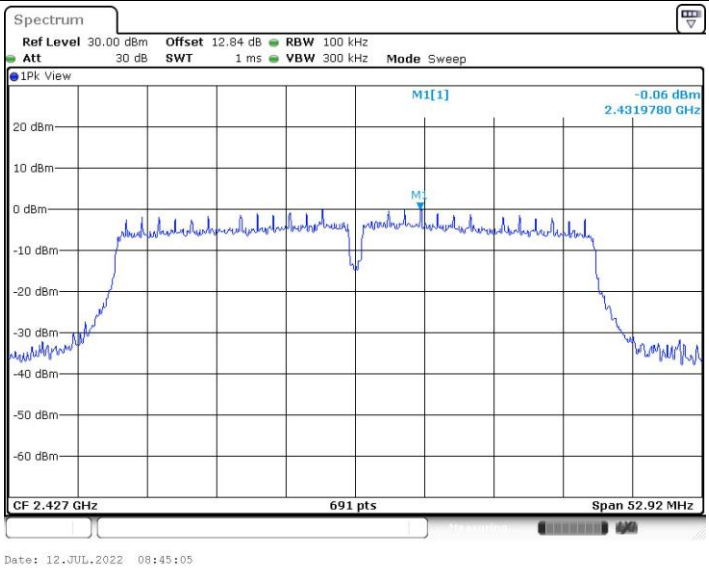


11N40SISO_Ant1_2422


11N40SISO_Ant1_2427

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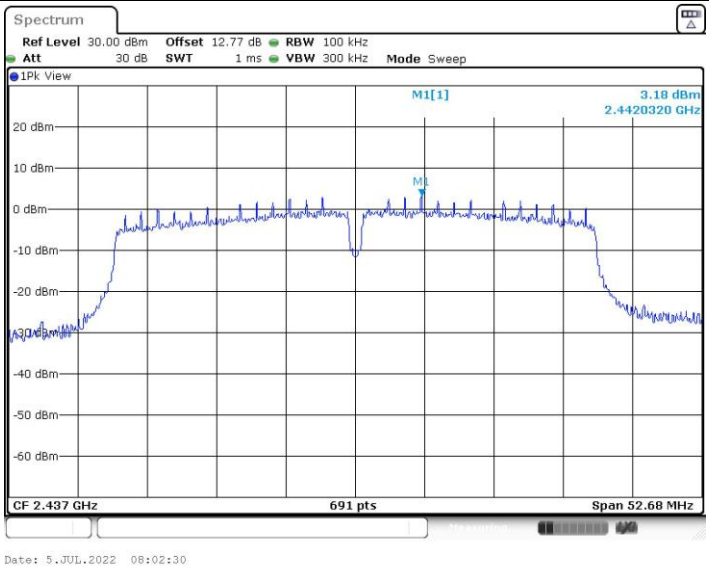
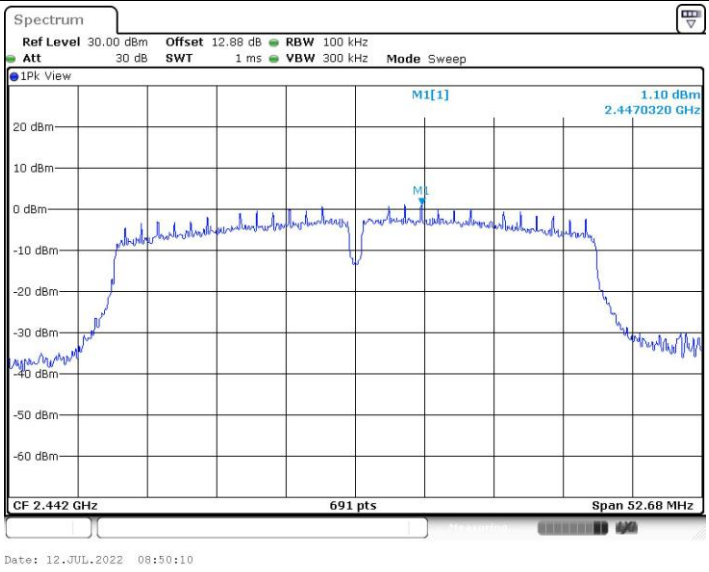


11N40SISO_Ant1_2442

11N40SISO_Ant1_2447