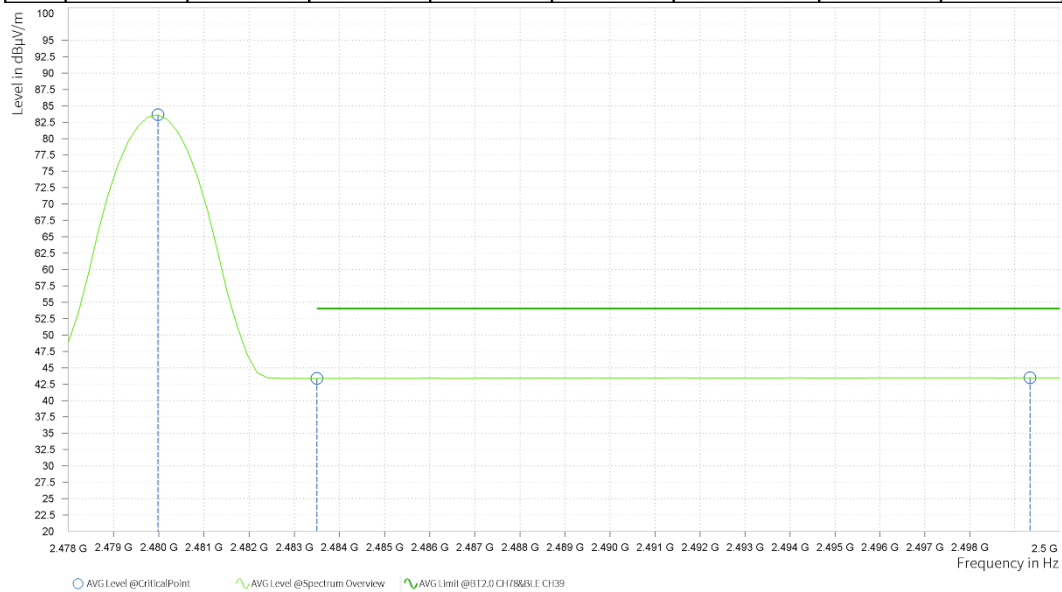




ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,479.980	83.62			37.87	V	217.1	1.00
6	2,483.500	43.38	54.00	10.62	37.88	V	262.4	1.00
6	2,499.340	43.47	54.00	10.53	37.91	V	171.8	2.00



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2480MHz: Fundamental frequency.

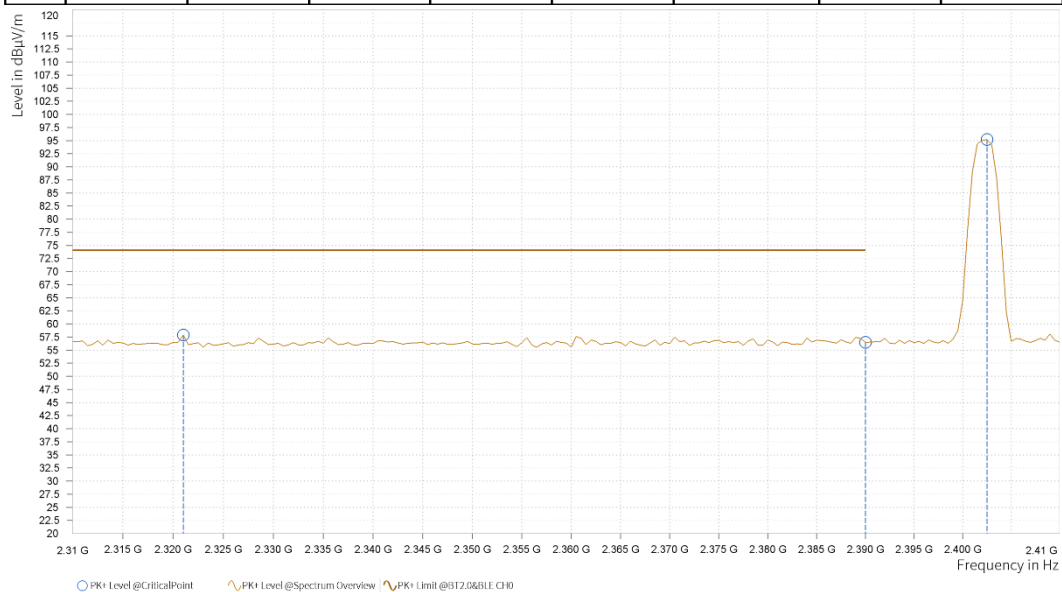


BT-LE _S8

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

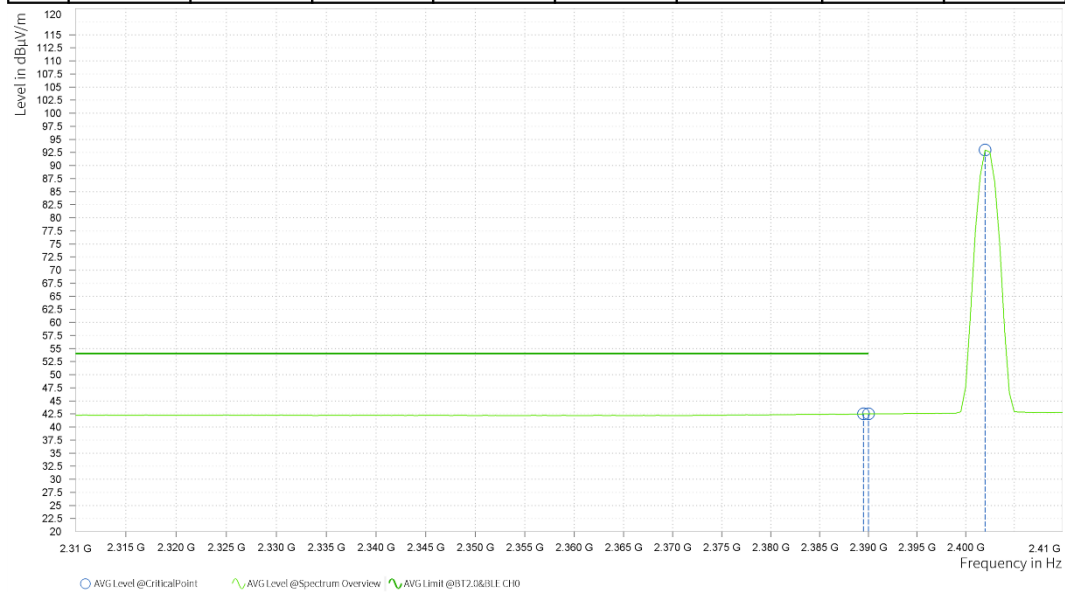
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	2,321.000	57.90	74.00	16.10	36.93	H	4.5	1.00
5	2,390.000	56.48	74.00	17.52	37.10	H	264.2	1.00
5	2,402.500	95.20			37.27	H	164.9	2.00





ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

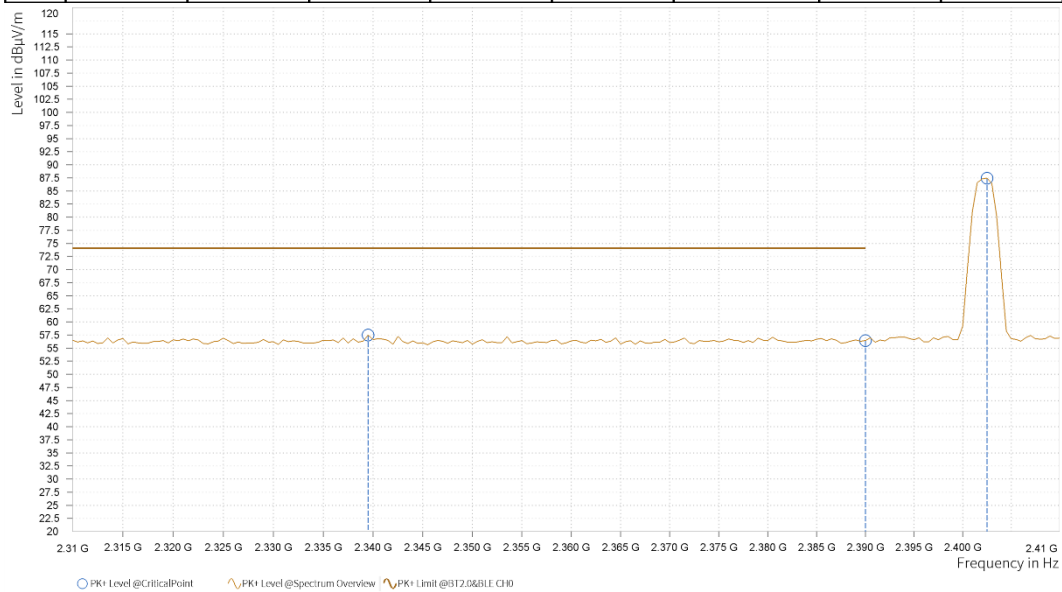
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	2,389.500	42.50	54.00	11.50	37.09	H	353.5	2.00
5	2,390.000	42.49	54.00	11.51	37.10	H	24.2	1.00
5	2,402.000	92.97			37.26	H	163	1.00





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

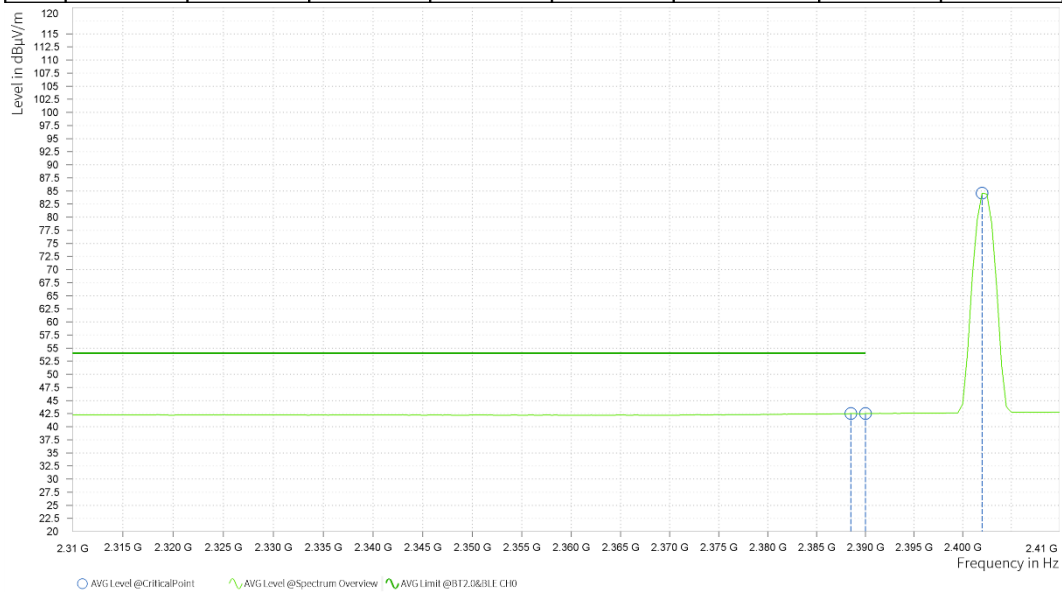
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	2,339.500	57.49	74.00	16.51	36.90	V	165.8	1.00
5	2,390.000	56.44	74.00	17.56	37.10	V	299.3	1.00
5	2,402.500	87.44			37.27	V	33.1	2.00





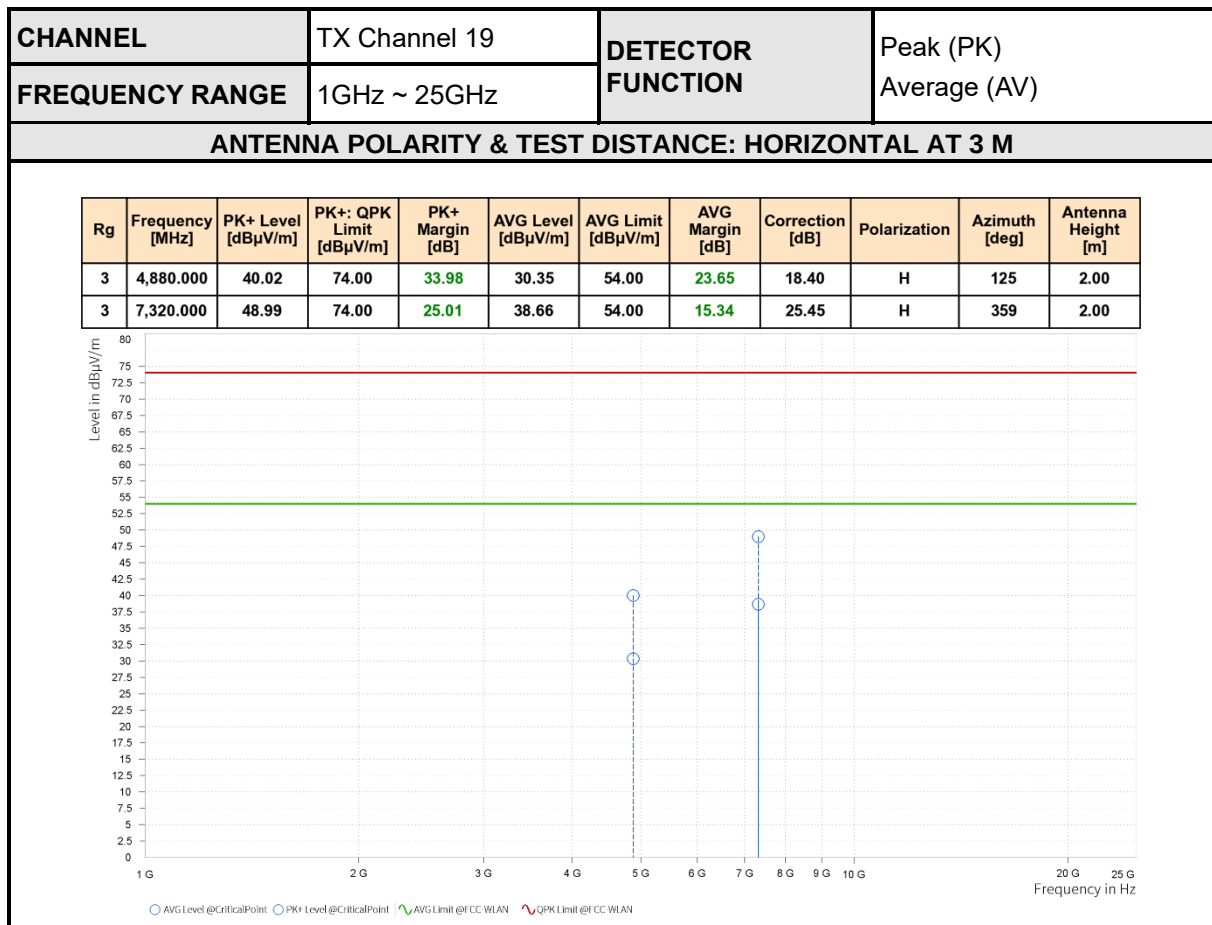
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	2,388.500	42.51	54.00	11.49	37.08	V	166.6	2.00
5	2,390.000	42.49	54.00	11.51	37.10	V	31.4	1.00
5	2,402.000	84.60			37.26	V	31.4	1.00



REMARKS:

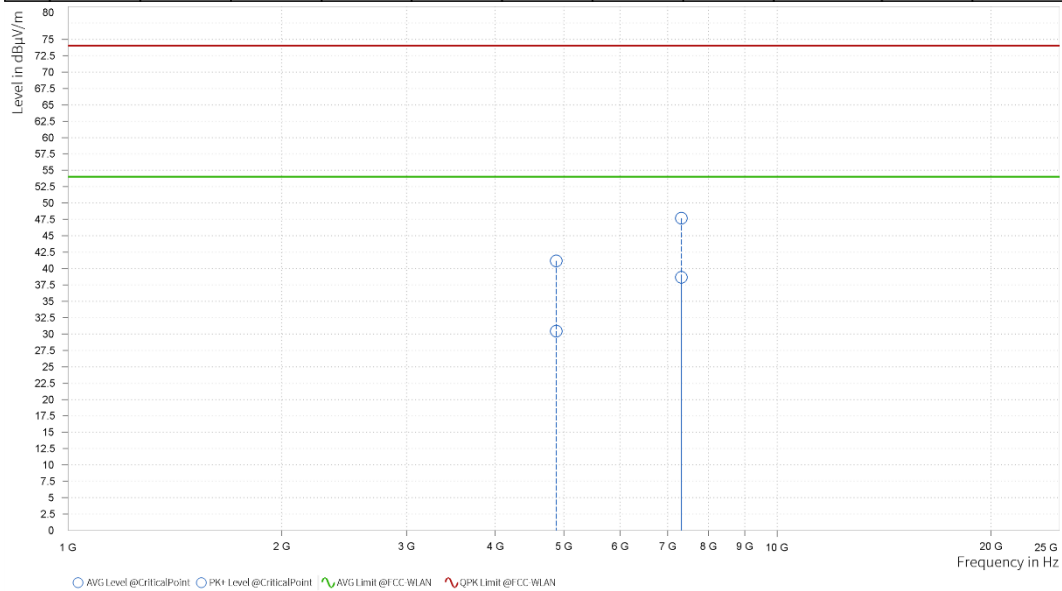
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor.
2. Margin value = Limit value–Emission level.
3. 2402MHz: Fundamental frequency.





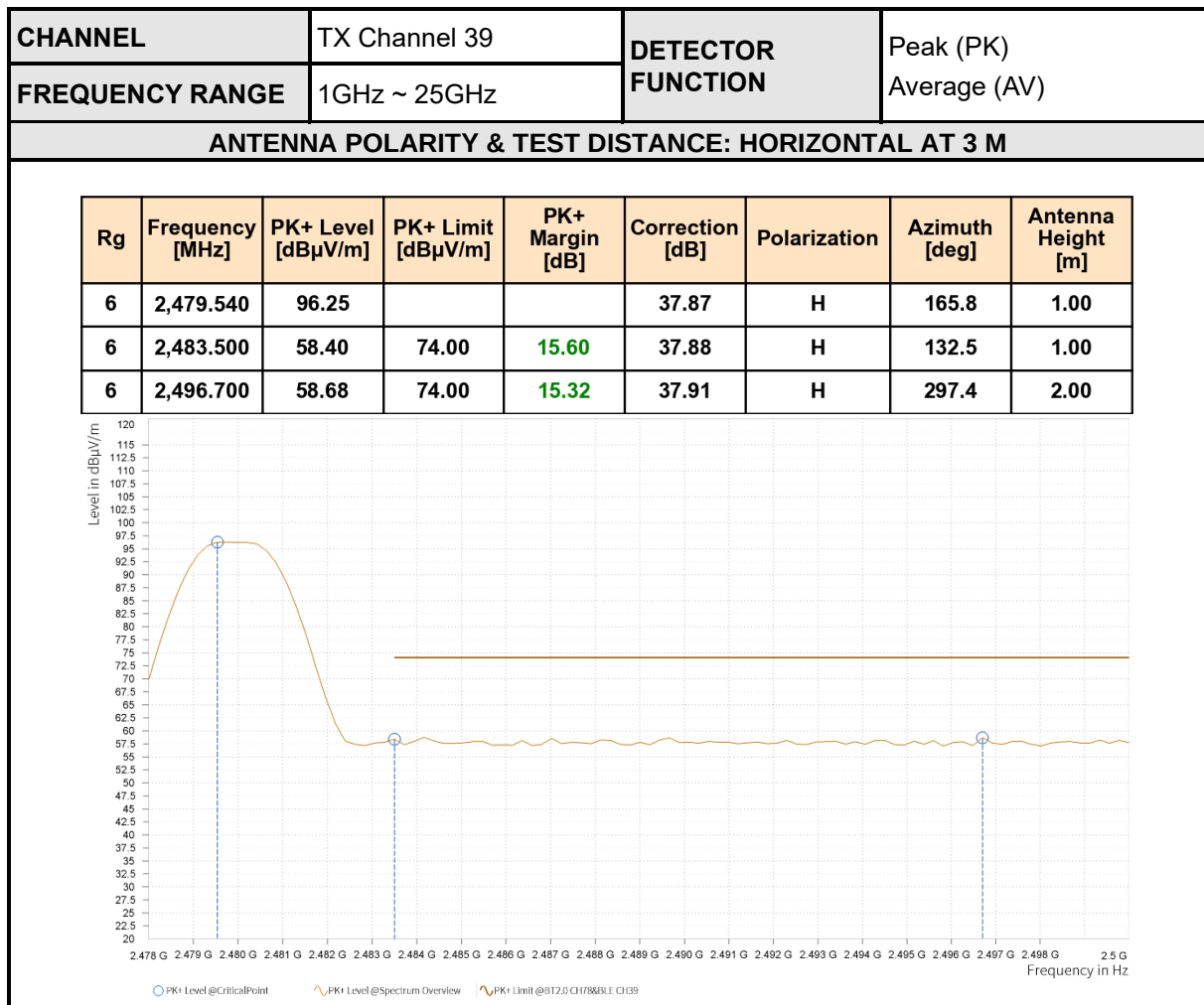
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	4,880.000	41.16	74.00	32.84	30.44	54.00	23.56	18.40	V	359.1	1.00
3	7,320.000	47.68	74.00	26.32	38.65	54.00	15.35	25.45	V	1	1.00



REMARKS:

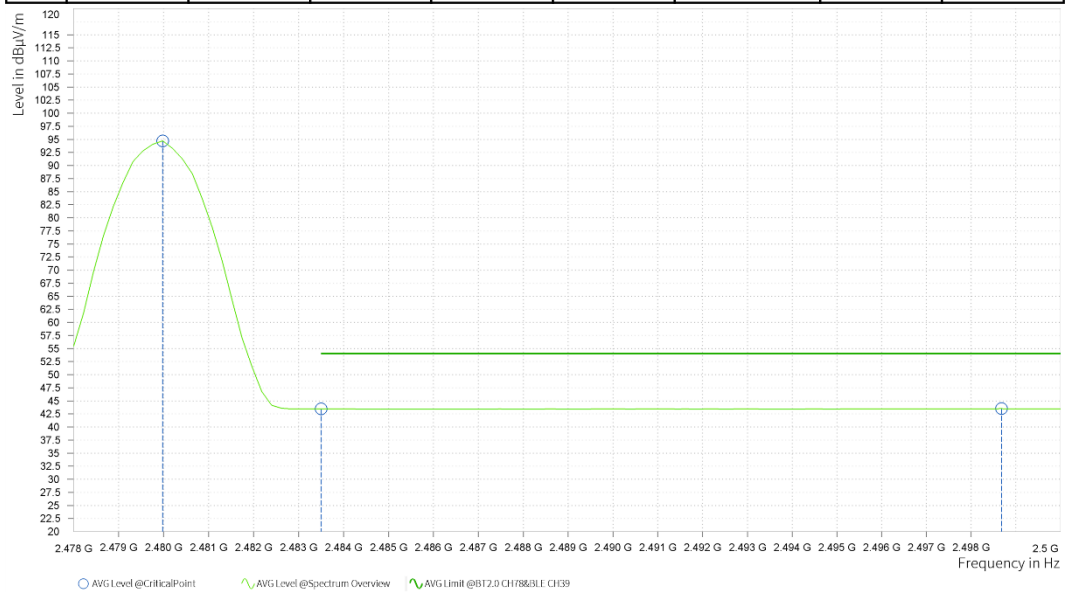
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2440MHz: Fundamental frequency.





ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

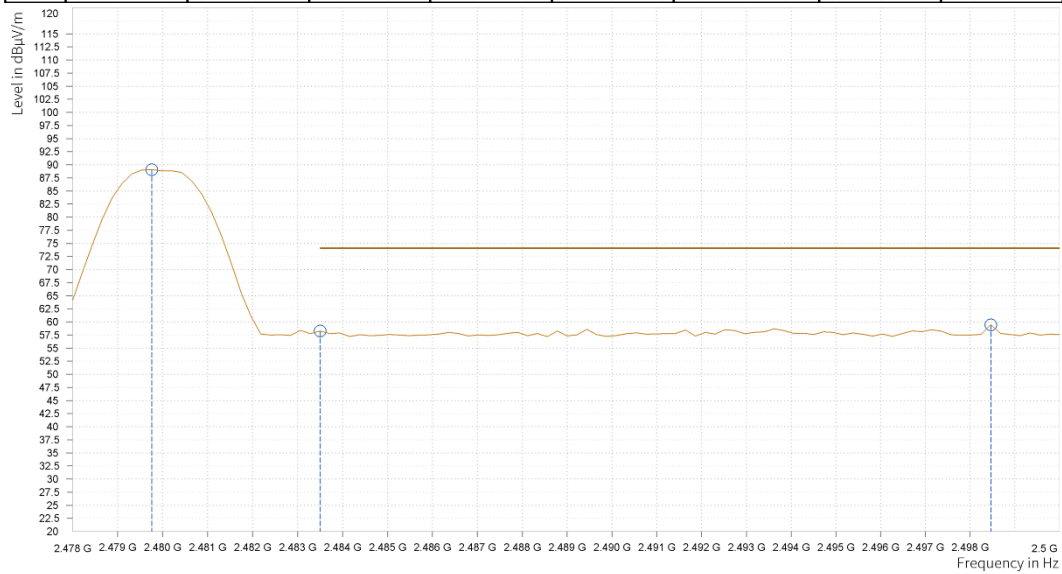
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,479.980	94.71			37.87	H	168.5	1.00
6	2,483.500	43.44	54.00	10.56	37.88	H	33.2	1.00
6	2,498.680	43.49	54.00	10.51	37.91	H	1	2.00





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

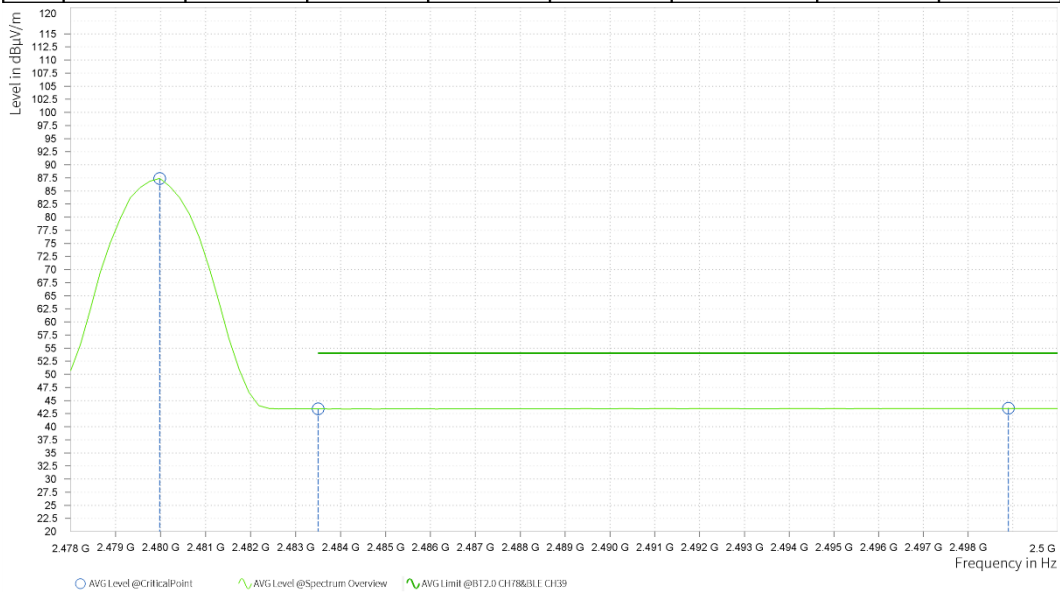
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,479.760	89.06			37.87	V	233.8	1.00
6	2,483.500	58.26	74.00	15.74	37.88	V	301.1	1.00
6	2,498.460	59.45	74.00	14.55	37.91	V	32.2	2.00





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,479.980	87.39			37.87	V	237.4	1.00
6	2,483.500	43.41	54.00	10.59	37.88	V	1	2.00
6	2,498.900	43.49	54.00	10.51	37.91	V	68	1.00



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2480MHz: Fundamental frequency.

**3.3 6 dB BANDWIDTH MEASUREMENT****3.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT**

The minimum 6dB Bandwidth Measurement is 0.5 MHz.

3.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	R&S	ESW 44	101973	Mar.28,24	Mar.27,26
Open Switch and Control Unit	R&S	OSP-B157W8	100836	N/A	N/A
Vector Signal Generator	R&S	SMBV100B	102176	Mar.29,24	Mar.28,26
Signal Generator	R&S	SMB100A03	182185	Mar.29,24	Mar.28,26
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.19,24	Jun.18,26
Hygrothermograph	DELI	20210528	SZ015	Sep.06,23	Sep.05,25
PC	LENOVO	E14	HRSW0024	N/A	N/A
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.27,24	Apr.26,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.26,25	Apr.25,26
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.27,24	Apr.26,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.26,25	Apr.25,26
Test Software	EMC32	EMC32	N/A	N/A	N/A
Temperature Chamber	votsch	VT4002	58566078100050	May.30,24	May.29,26
Power Meter	R&S	NRX	102380	Mar.28,24	Mar.27,26
Power Meter probe	R&S	NRP6A	102942	Mar.28,24	Mar.27,26
EMI Test Receiver	R&S	ESW 44	101973	Mar.28,24	Mar.27,26

NOTE:

1. The calibration interval of the above test instruments is 12/ 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in RF Oven room.



3.3.3 TEST PROCEDURE

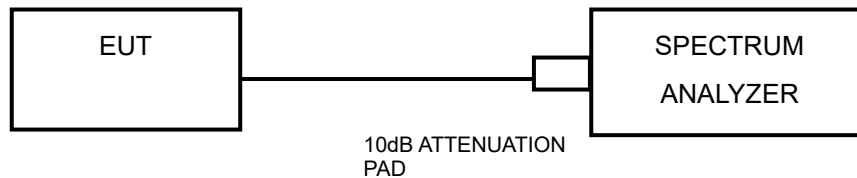
1. Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



3.3.4 DEVIATION FROM TEST STANDARD

No deviation.

3.3.5 TEST SETUP



3.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

3.3.7 TEST RESULTS

Please Refer to Appendix A/B Of this test report..

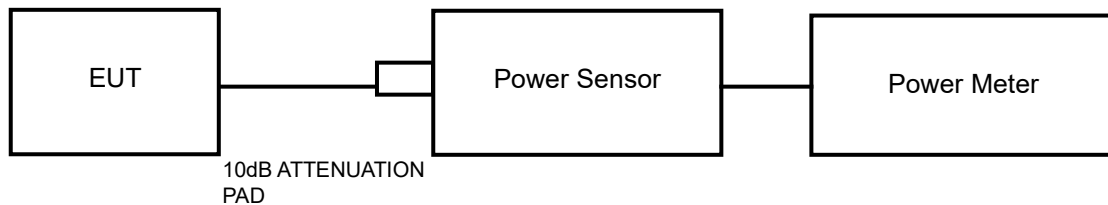


3.4 CONDUCTED OUTPUT POWER

3.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm)

3.4.2 TEST SETUP



3.4.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.4.4 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



3.4.7 TEST RESULTS

3.4.7.1 MAXIMUM PEAK OUTPUT POWER

Please Refer to Appendix A/B Of this test report..



Test Report No.: PSZ-QBJ2504140715RF07

3.4.7.2 AVERAGE OUTPUT POWER (FOR REFERENCE)

The average power sensor was used on the output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level.

Please Refer to Appendix A/B Of this test report..

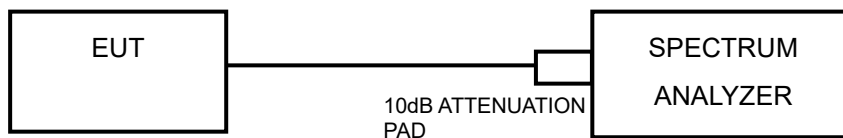


3.5 POWER SPECTRAL DENSITY MEASUREMENT

3.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm/3KHz.

3.5.2 TEST SETUP



3.5.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.5.4 TEST PROCEDURE

1. Set the span to 1.5 times the DTS bandwidth
2. Set the RBW = 3 kHz, VBW $\geq 3 \times$ RBW, Detector = peak.
3. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

3.5.5 DEVIATION FROM TEST STANDARD

No deviation.

3.5.6 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



Please Refer to Appendix A/B Of this test report..

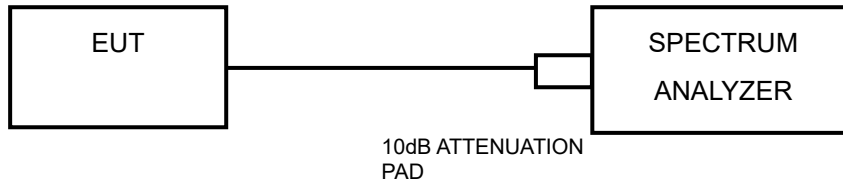


3.6 OUT OF BAND EMISSION MEASUREMENT

3.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

3.6.2 TEST SETUP



3.6.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.6.4 TEST PROCEDURE

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW $\geq$ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.



MEASUREMENT PROCEDURE OOB

1. Set RBW = 100 kHz.
2. Set VBW $\geq$ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

3.6.5 DEVIATION FROM TEST STANDARD

No deviation.

3.6.6 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

3.6.7 TEST RESULTS

The spectrum plots are attached on the following images. D1 line indicates the highest level. D2 line indicates the 20dB offset below D1. It shows compliance to the requirement.

Please Refer to Appendix A/B Of this test report..



3.7 ANTENNA REQUIREMENTS

3.7.1 STANDARD APPLICABLE

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.7.2 ANTENNA CONNECTED 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 and PSD limit.



4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).



Test Report No.: PSZ-QBJ2504140715RF07

5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.



6 APPENDIX A:WIFI

DTS BANDWIDTH

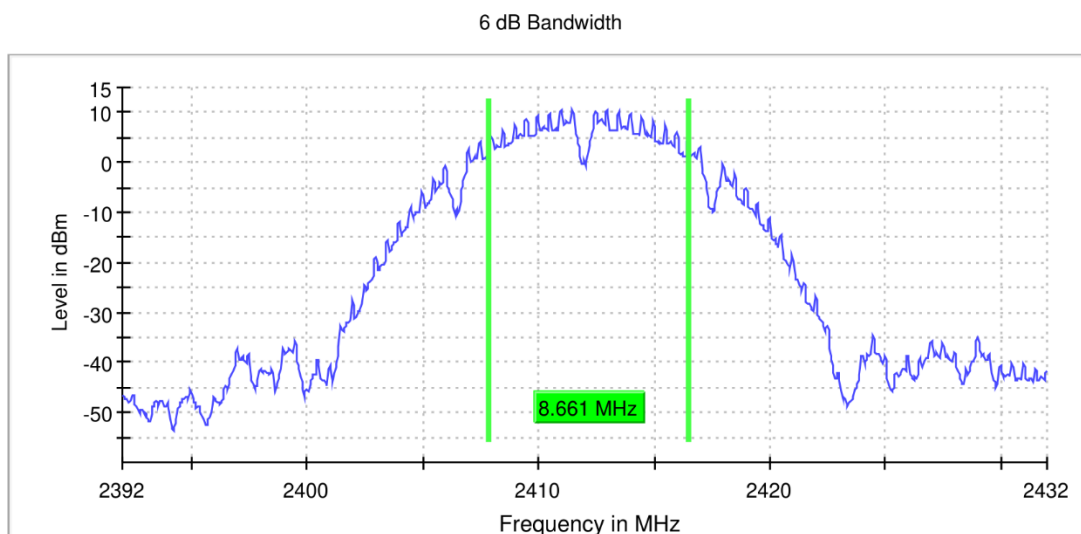
TEST RESULT

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	ANT6	2412	8.661	2407.870	2416.531	0.5	PASS
	ANT6	2437	8.160	2432.870	2441.030	0.5	PASS
	ANT6	2462	8.160	2457.870	2466.030	0.5	PASS
11G	ANT6	2412	15.419	2404.365	2419.785	0.5	PASS
	ANT6	2437	15.219	2429.365	2444.584	0.5	PASS
	ANT6	2462	15.219	2454.365	2469.584	0.5	PASS
11N20	ANT6	2412	15.569	2404.365	2419.935	0.5	PASS
	ANT6	2437	15.219	2429.365	2444.584	0.5	PASS
	ANT6	2462	15.219	2454.365	2469.584	0.5	PASS

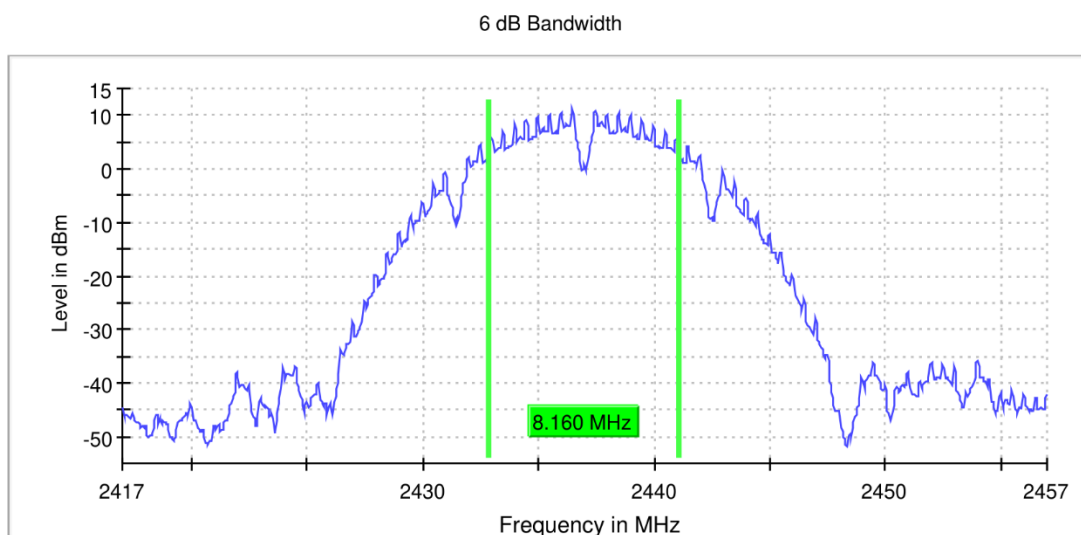


TEST GRAPHS

11B_ANT6_2412



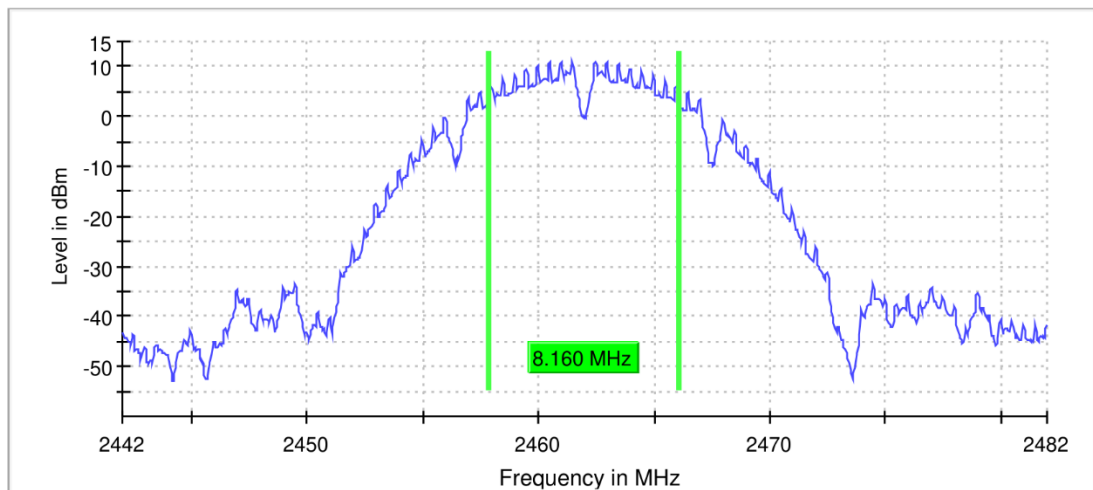
11B_ANT6_2437



11B_ANT6_2462

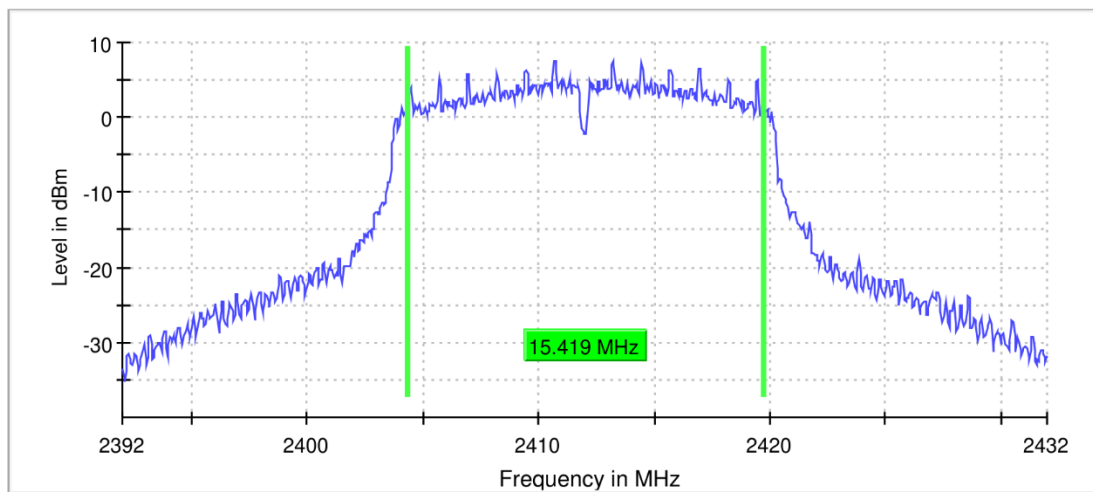


6 dB Bandwidth



11G_ANT6_2412

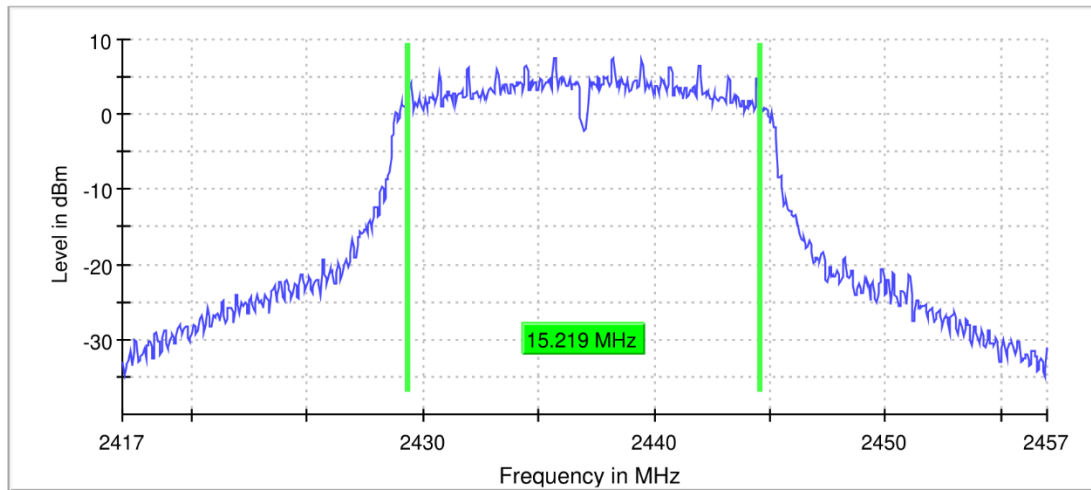
6 dB Bandwidth



11G_ANT6_2437

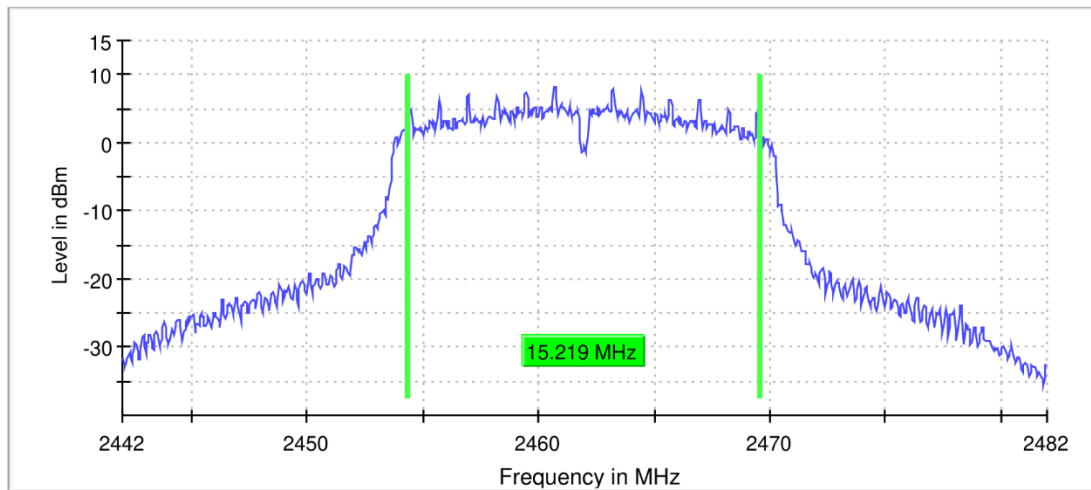


6 dB Bandwidth



11G_ANT6_2462

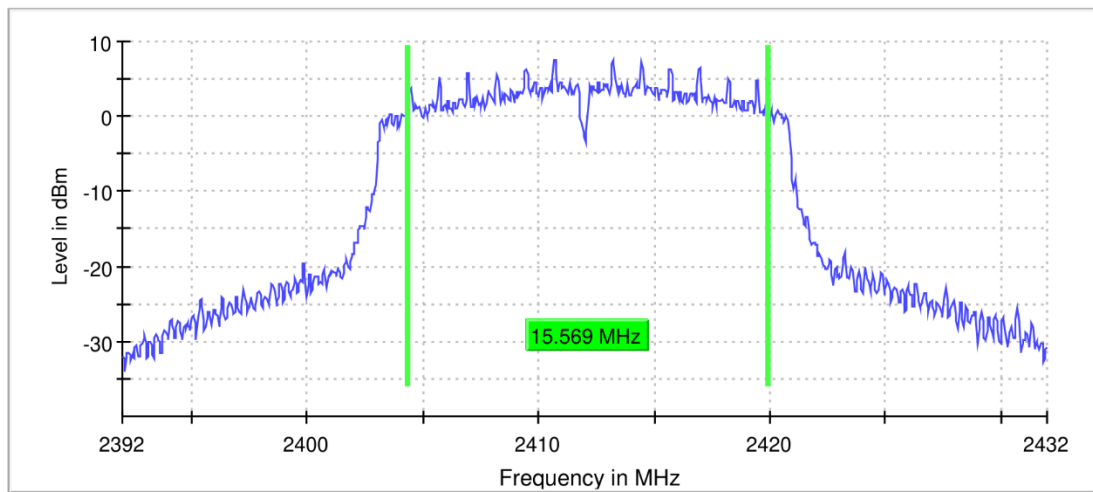
6 dB Bandwidth



11N20_ANT6_2412

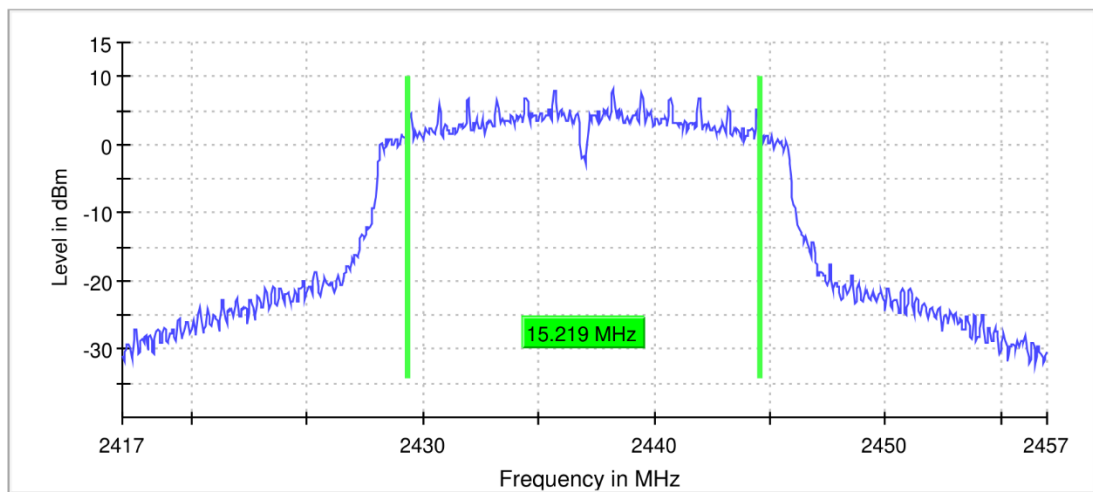


6 dB Bandwidth

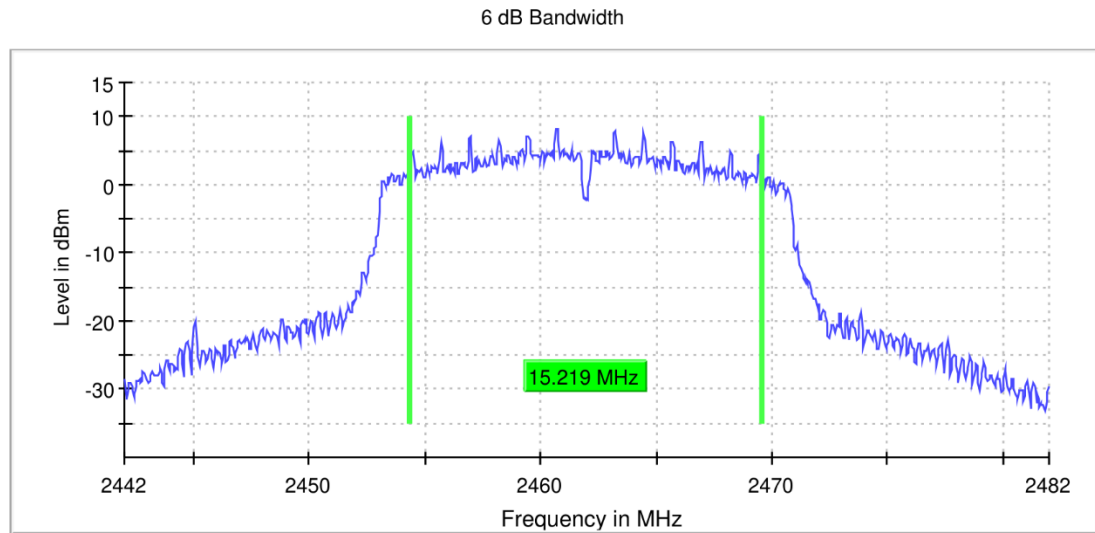


11N20_ANT6_2437

6 dB Bandwidth



11N20_ANT6_2462



20M

RBW 200.000 kHz

VBW 1.000 MHz

OBW BANDWIDTH

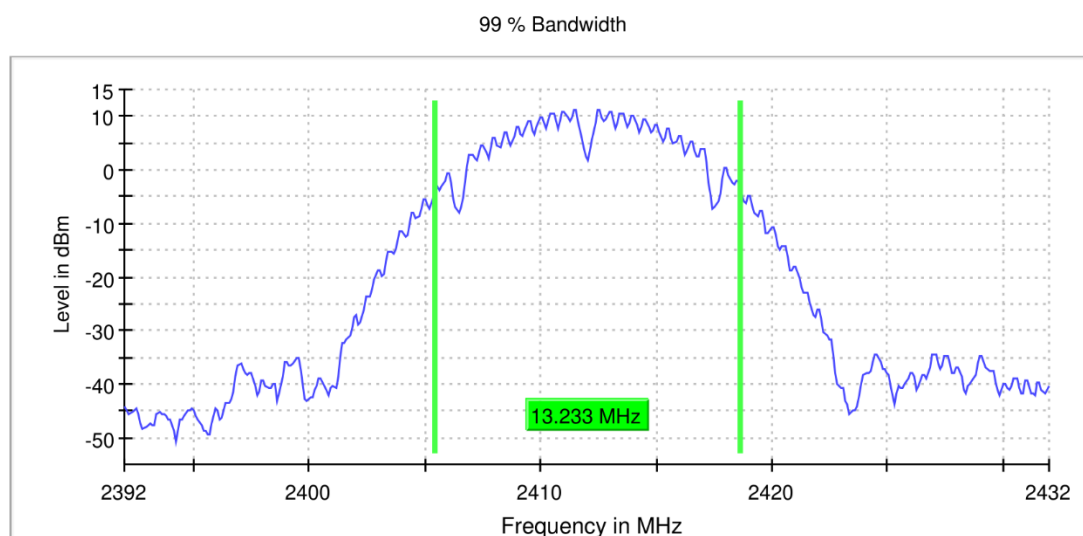
TEST RESULT

TestMode	Antenna	Frequency[MHz]	OBW BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	ANT6	2412	13.233	2405.434	2418.667	---	PASS
	ANT6	2437	13.133	2430.434	2443.566	---	PASS
	ANT6	2462	13.233	2455.333	2468.566	---	PASS
11G	ANT6	2412	16.742	2403.629	2420.371	---	PASS
	ANT6	2437	16.742	2428.629	2445.371	---	PASS
	ANT6	2462	16.642	2453.629	2470.271	---	PASS
11N20	ANT6	2412	17.744	2403.128	2420.872	---	PASS
	ANT6	2437	17.744	2428.128	2445.872	---	PASS
	ANT6	2462	17.845	2453.028	2470.872	---	PASS

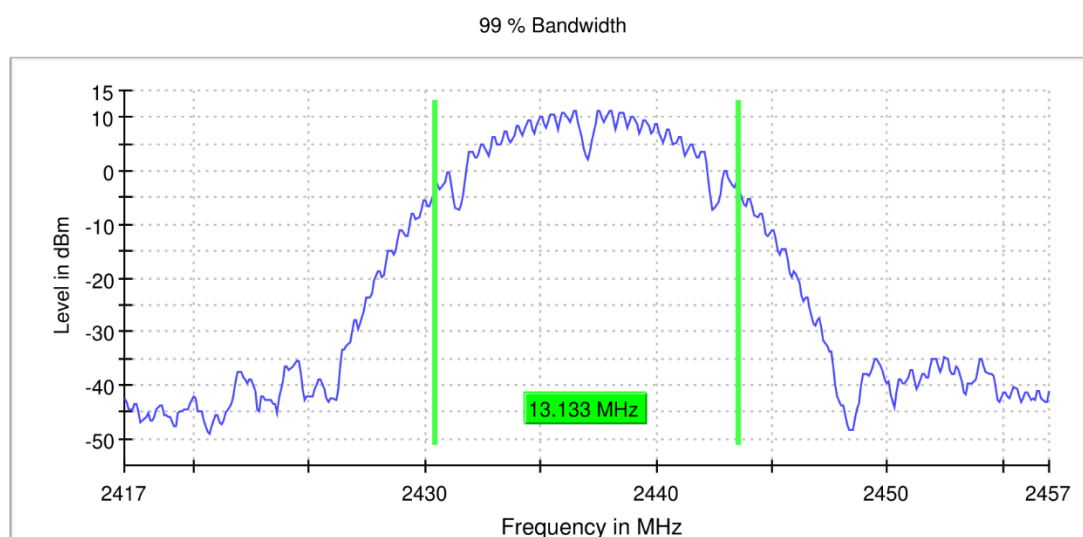


TEST GRAPHS

11B_ANT6_2412



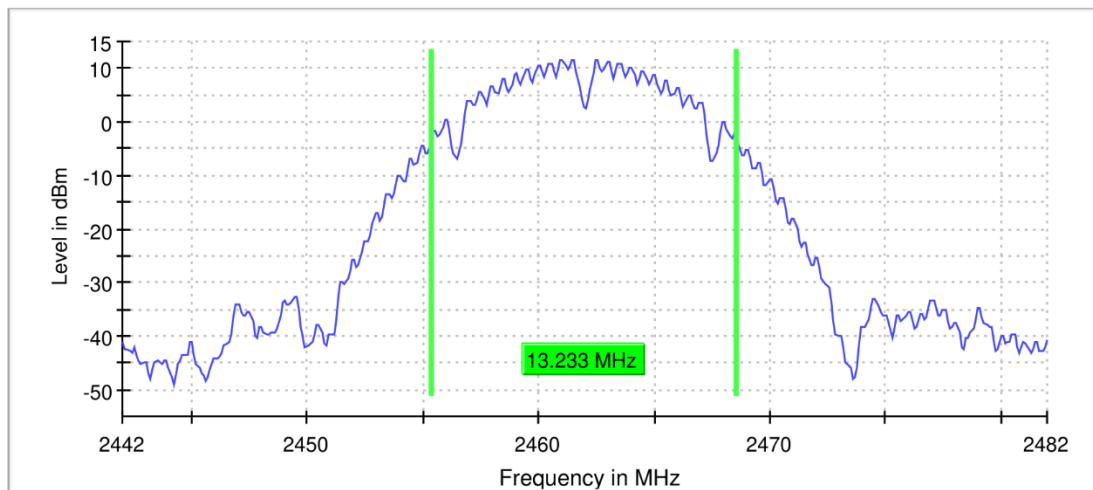
11B_ANT6_2437



11B_ANT6_2462

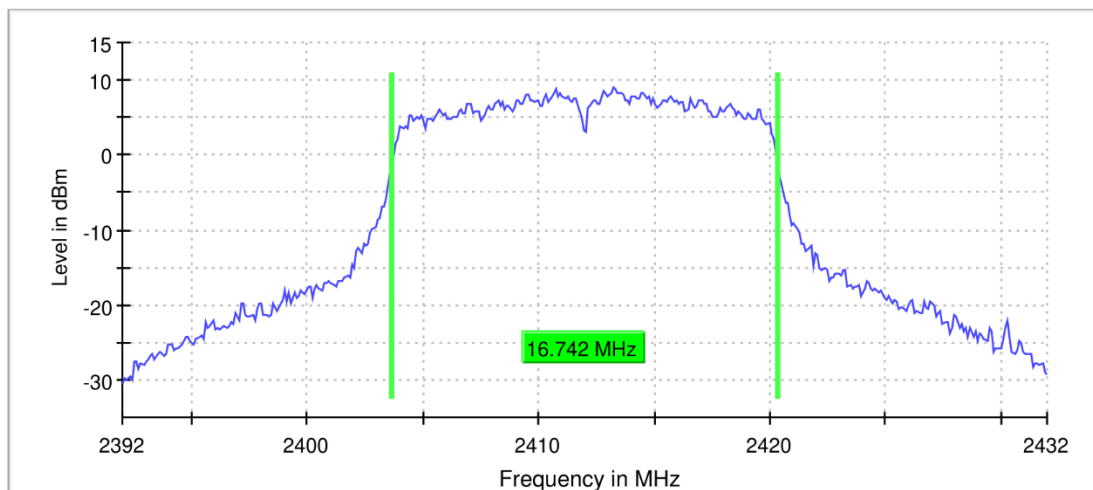


99 % Bandwidth



11G_ANT6_2412

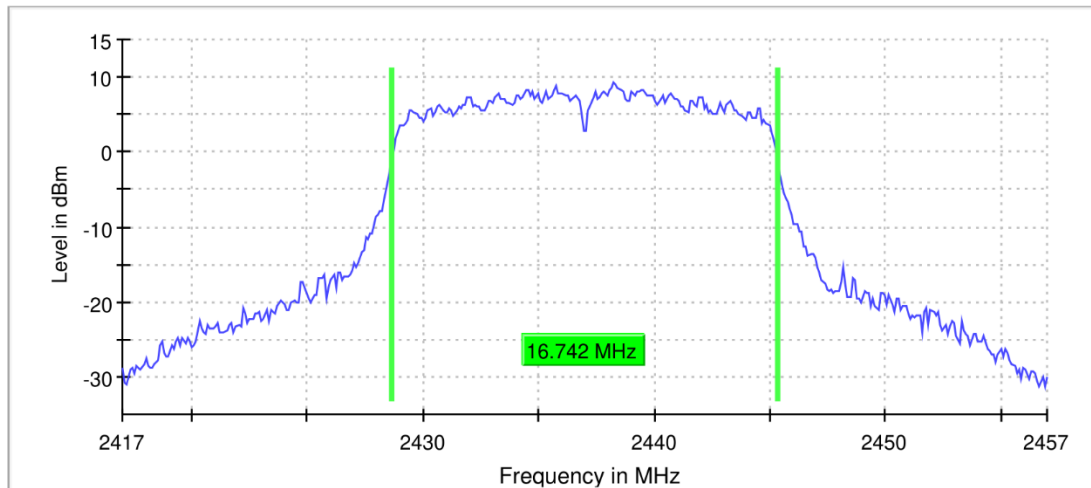
99 % Bandwidth



11G_ANT6_2437

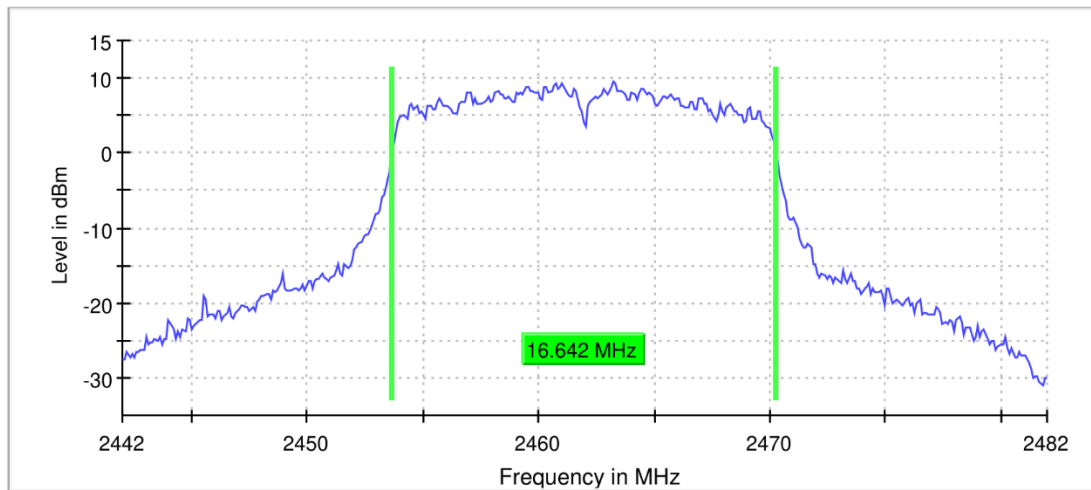


99 % Bandwidth



11G_ANT6_2462

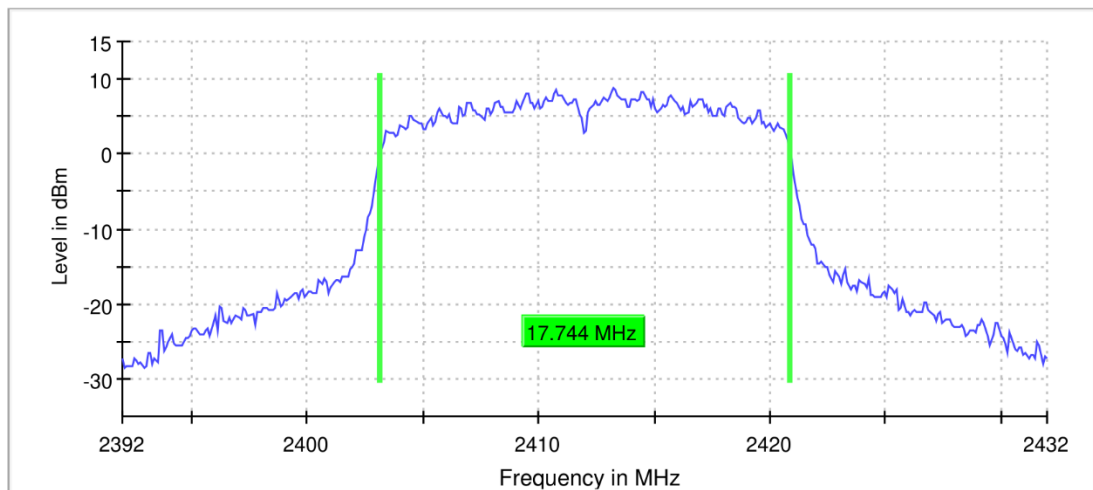
99 % Bandwidth



11N20_ANT6_2412

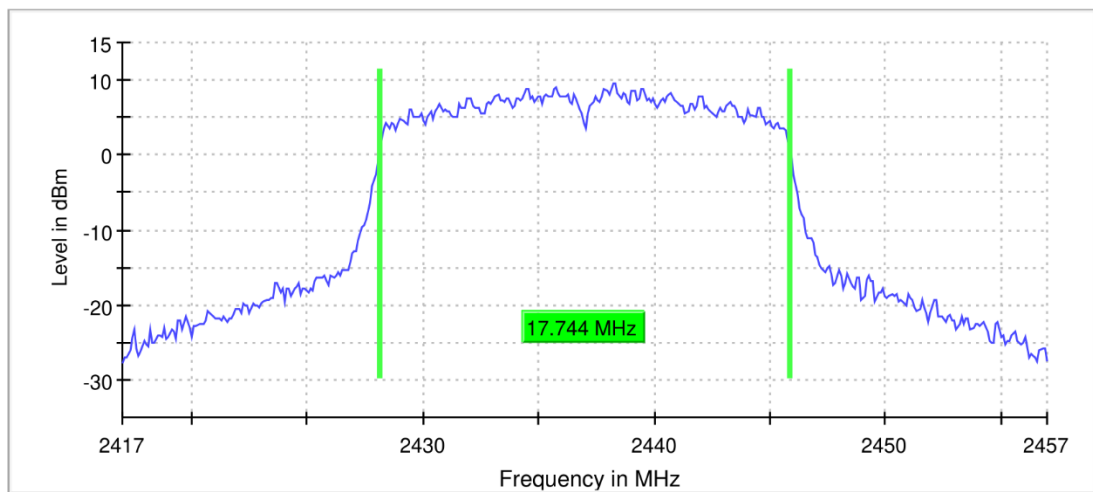


99 % Bandwidth

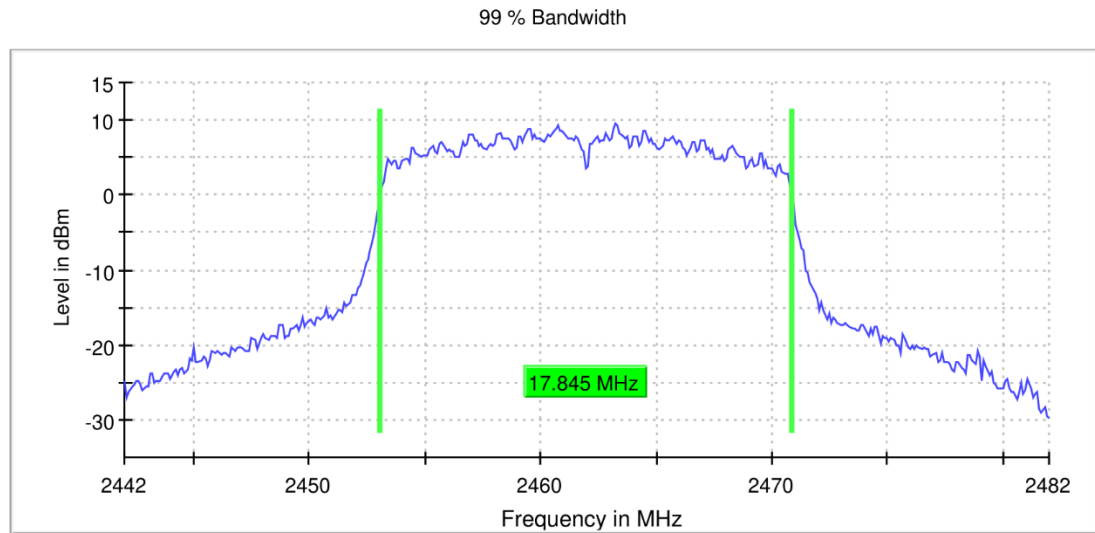


11N20_ANT6_2437

99 % Bandwidth



11N20_ANT6_2462



20M

RBW 200.000 kHz

VBW 1.000 MHz

**MAXIMUM CONDUCTED OUTPUT POWER****TEST RESULT**

TestMode	TX Mod.	Frequency [MHz]	Peak power [dBm]	MAX Peak power [mw]	Limit [dBm]	Verdict
			ANT6			
11B	SISO	2412	20.70	117.49	≤30.00	PASS
		2437	20.33	107.89	≤30.00	PASS
		2462	20.95	124.45	≤30.00	PASS
11g	SISO	2412	24.44	277.97	≤30.00	PASS
		2437	24.78	300.61	≤30.00	PASS
		2462	24.58	287.08	≤30.00	PASS
11N20	SISO	2412	24.41	276.06	≤30.00	PASS
		2437	24.84	304.79	≤30.00	PASS
		2462	24.47	279.90	≤30.00	PASS

TestMode	TX Mod.	Freq. [MHz]	Avg.power [dBm]	Power Setting
			ANT6	
11B	SISO	2412	18.03	18.5
		2437	18.07	18.5
		2462	18.53	18.5
11g	SISO	2412	17.16	16
		2437	16.93	16
		2462	15.74	16
11N20	SISO	2412	16.19	15
		2437	16.77	15
		2462	14.70	15

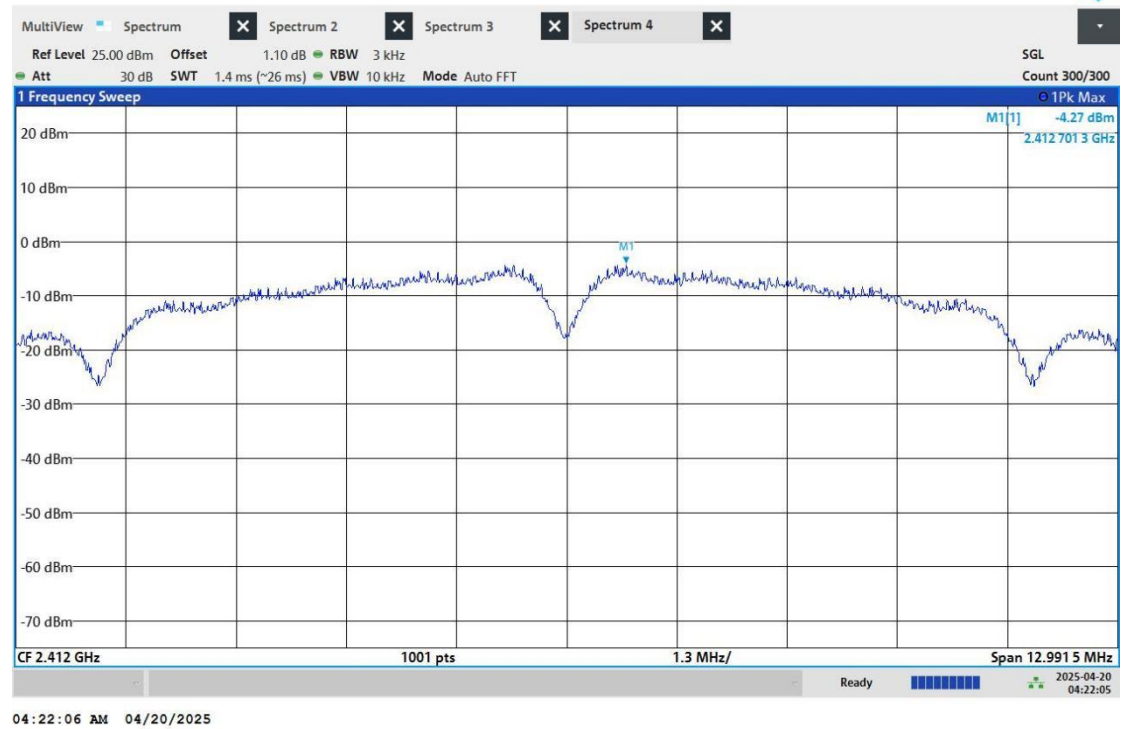
**MAXIMUM POWER SPECTRAL DENSITY****TEST RESULT**

TestMode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	ANT6	2412	-4.27	≤8.00	PASS
	ANT6	2437	-4.65	≤8.00	PASS
	ANT6	2462	-3.50	≤8.00	PASS
11G	ANT6	2412	-6.41	≤8.00	PASS
	ANT6	2437	-7.18	≤8.00	PASS
	ANT6	2462	-6.75	≤8.00	PASS
11N20	ANT6	2412	-8.55	≤8.00	PASS
	ANT6	2437	-7.58	≤8.00	PASS
	ANT6	2462	-7.29	≤8.00	PASS

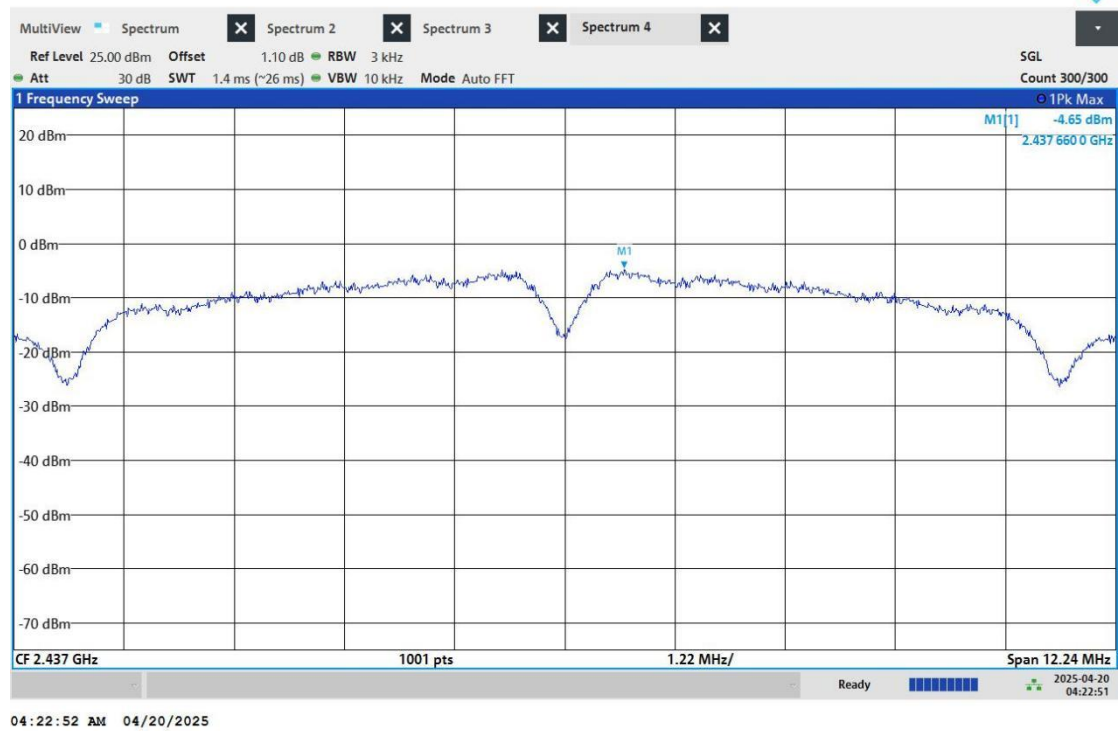


TEST GRAPHS

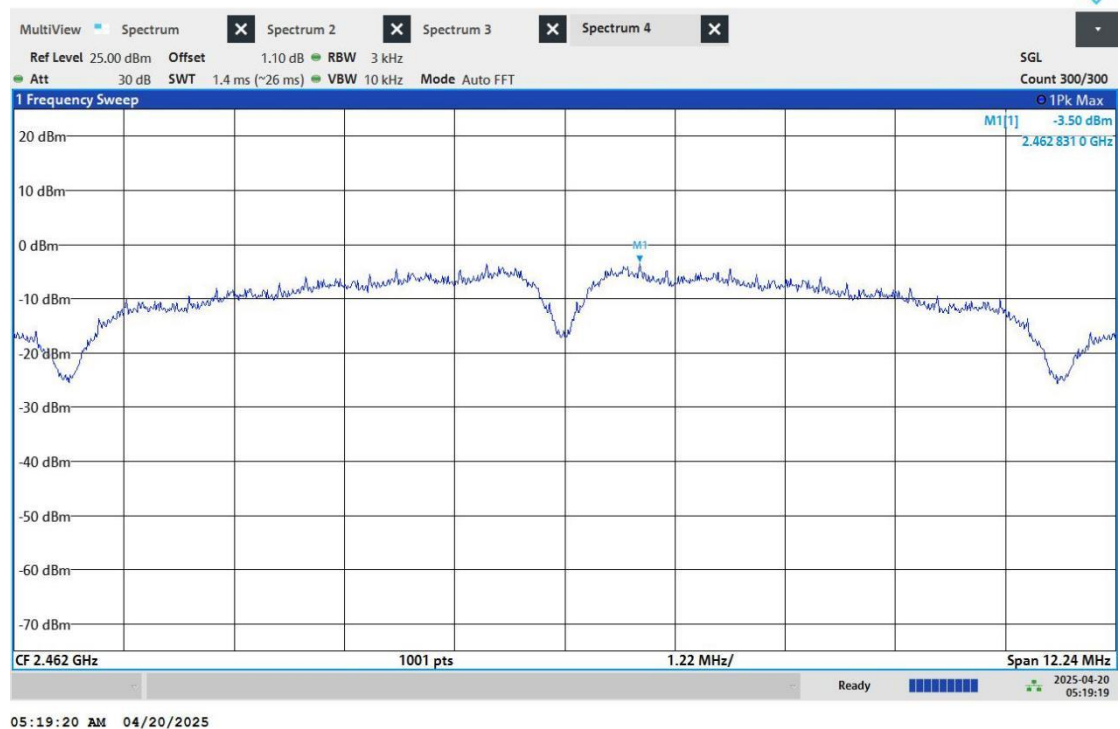
11B_ANT6_2412



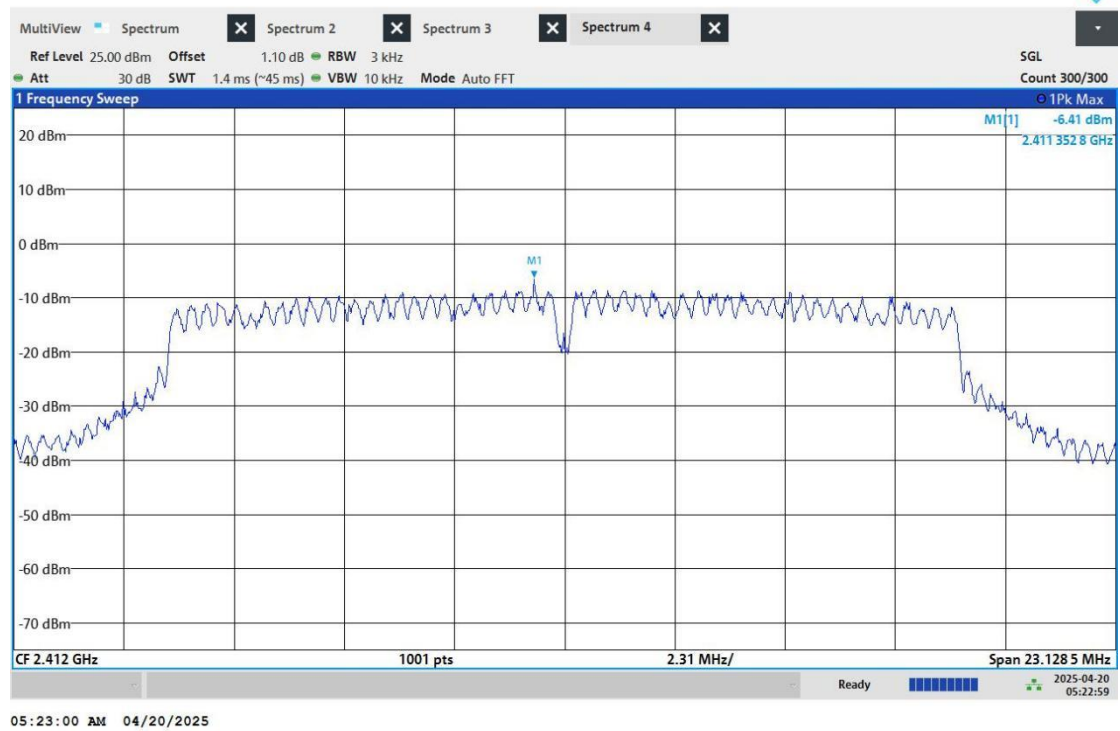
11B_ANT6_2437



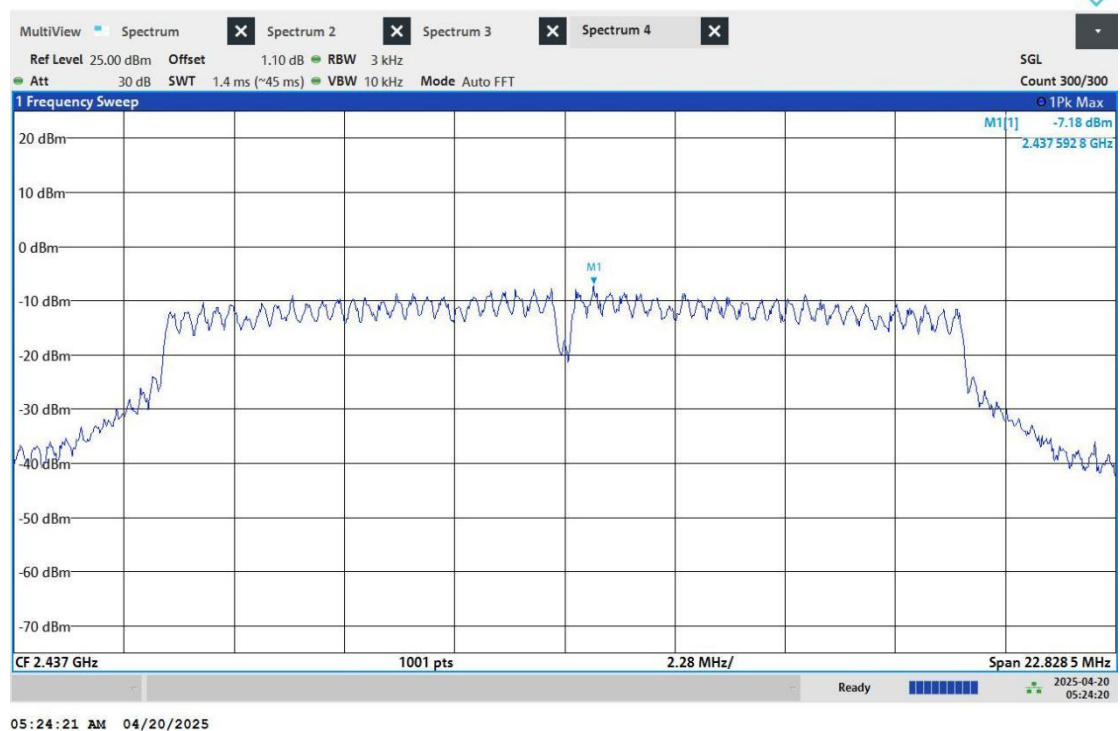
11B_ANT6_2462



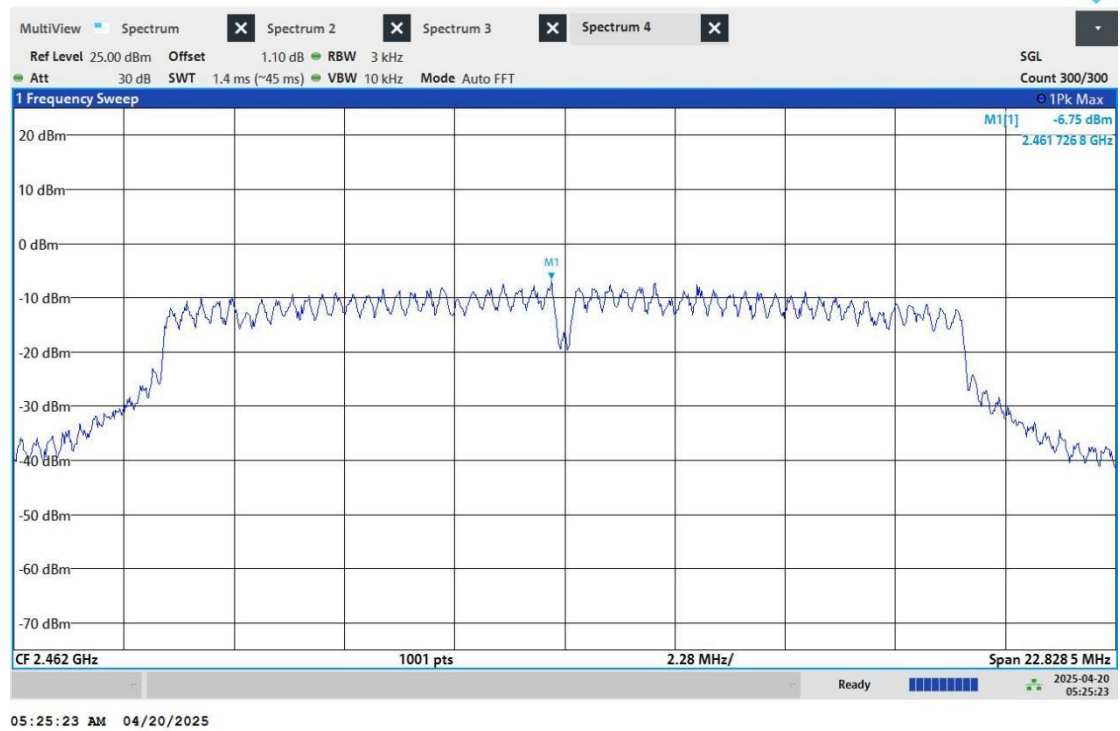
11G_ANT6_2412



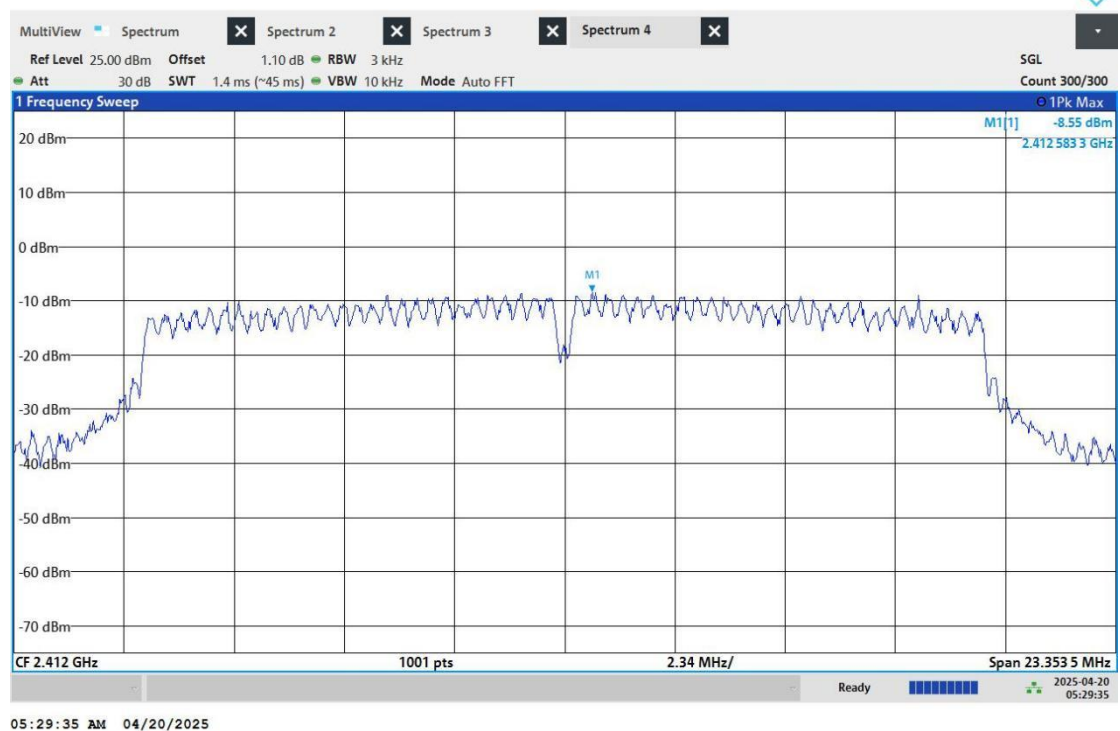
11G_ANT6_2437



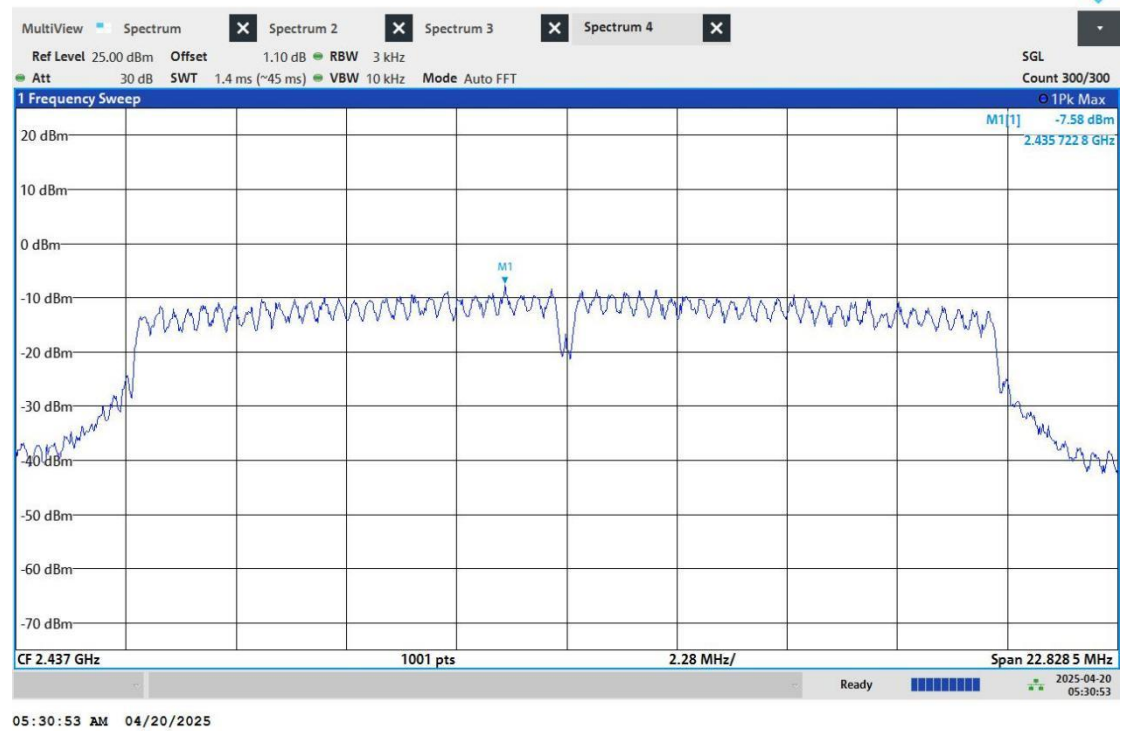
11G_ANT6_2462



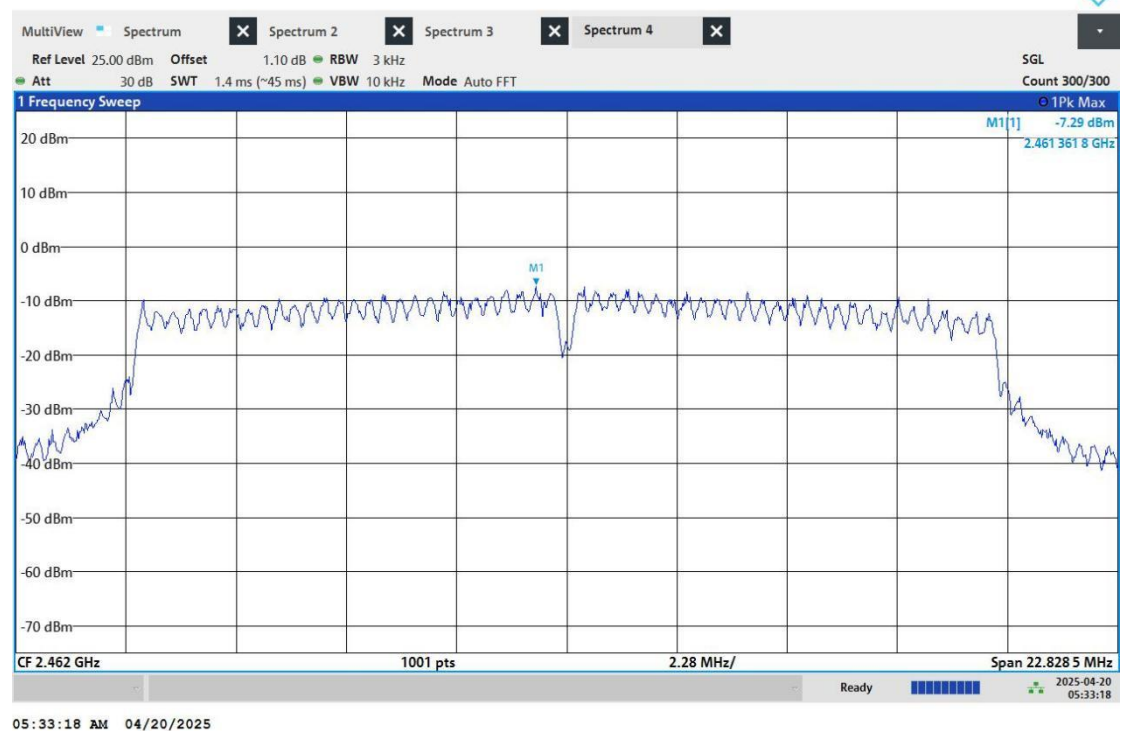
11N20_ANT6_2412



11N20_ANT6_2437



11N20_ANT6_2462



**BAND EDGE MEASUREMENTS****TEST RESULT**

TestMode	Antenna	ChName	Frequency [MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	ANT6	Low	2412	See test graph	See test graph	PASS
	ANT6	High	2462	See test graph	See test graph	PASS
11G	ANT6	Low	2412	See test graph	See test graph	PASS
	ANT6	High	2462	See test graph	See test graph	PASS
11N20	ANT6	Low	2412	See test graph	See test graph	PASS
	ANT6	High	2462	See test graph	See test graph	PASS

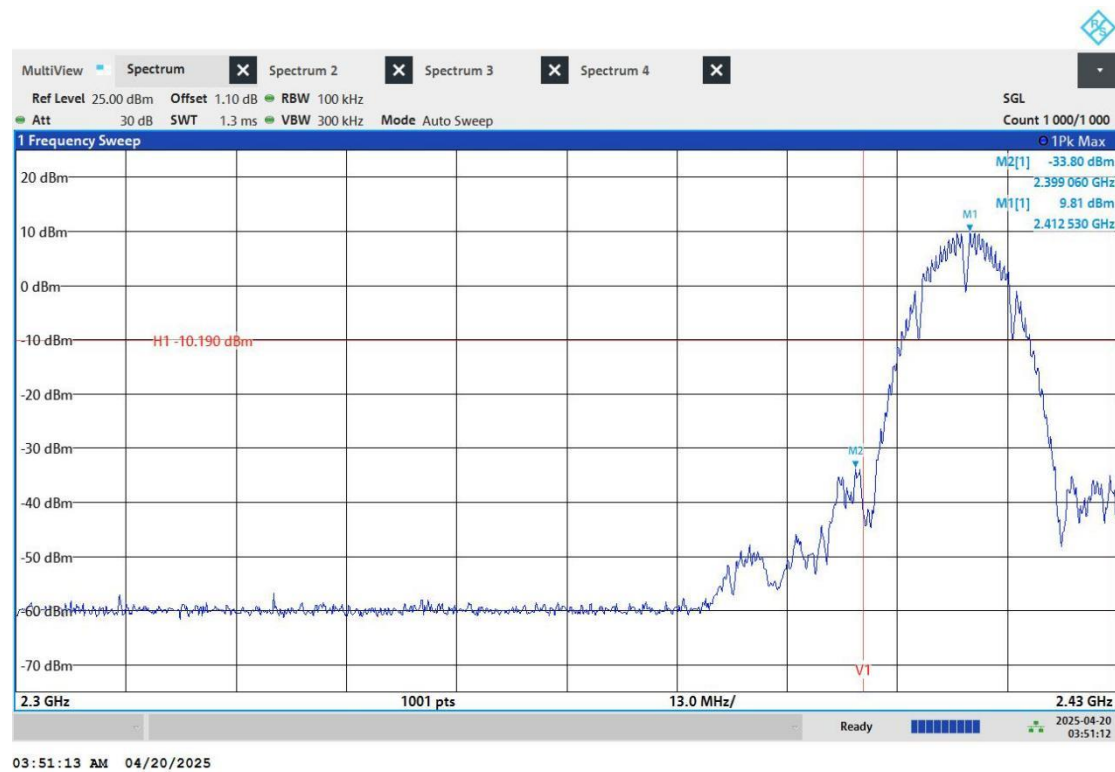


BUREAU
VERITAS

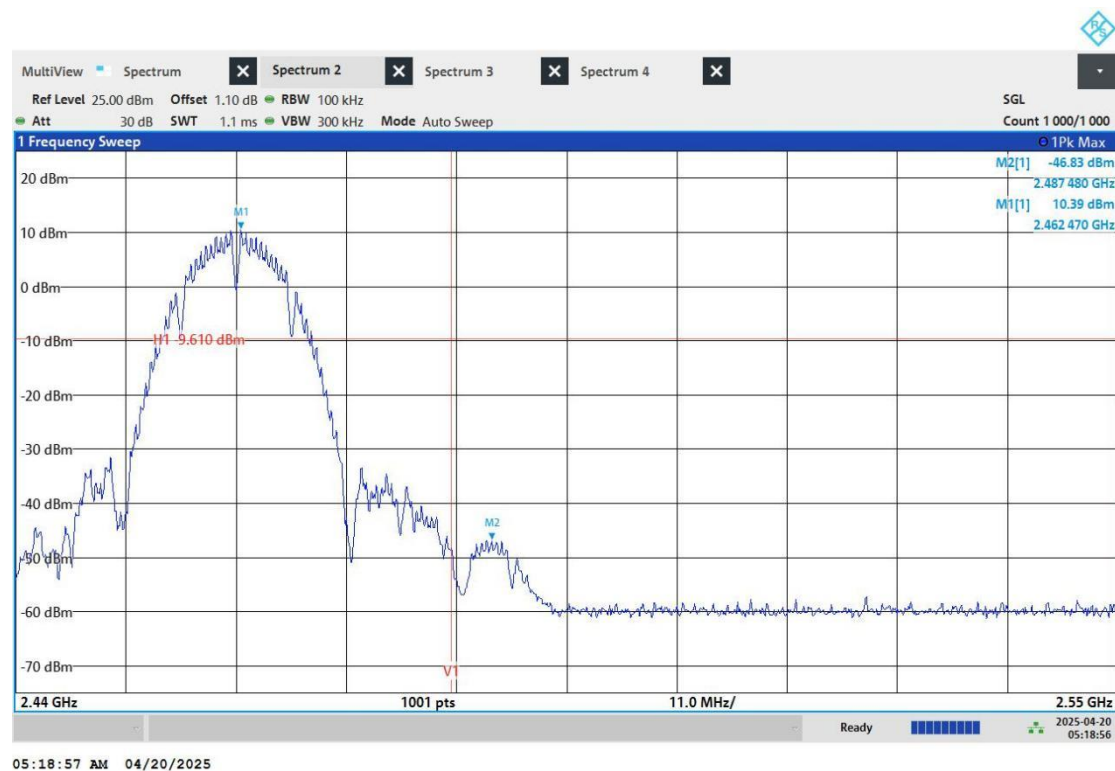
Test Report No.: PSZ-QBJ2504140715RF07

TEST GRAPHS

11B-CDD_ANT6_Low_2412



11B-CDD_ANT6_High_2462

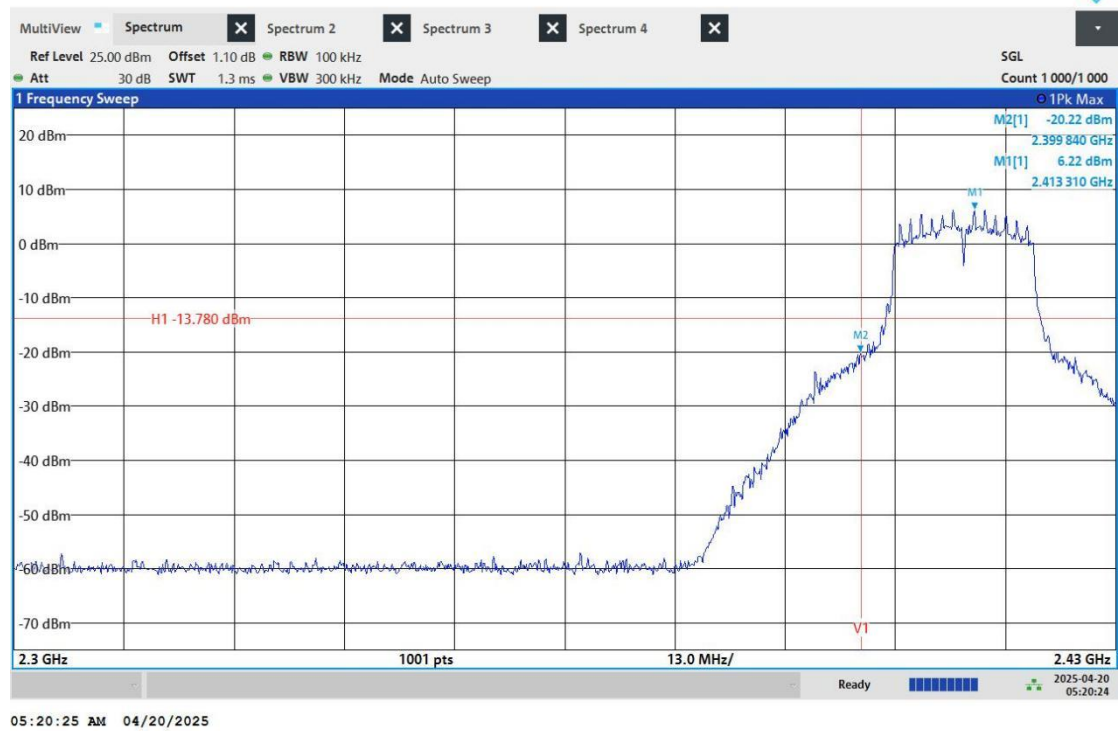


11G-CDD_ANT6_Low_2412

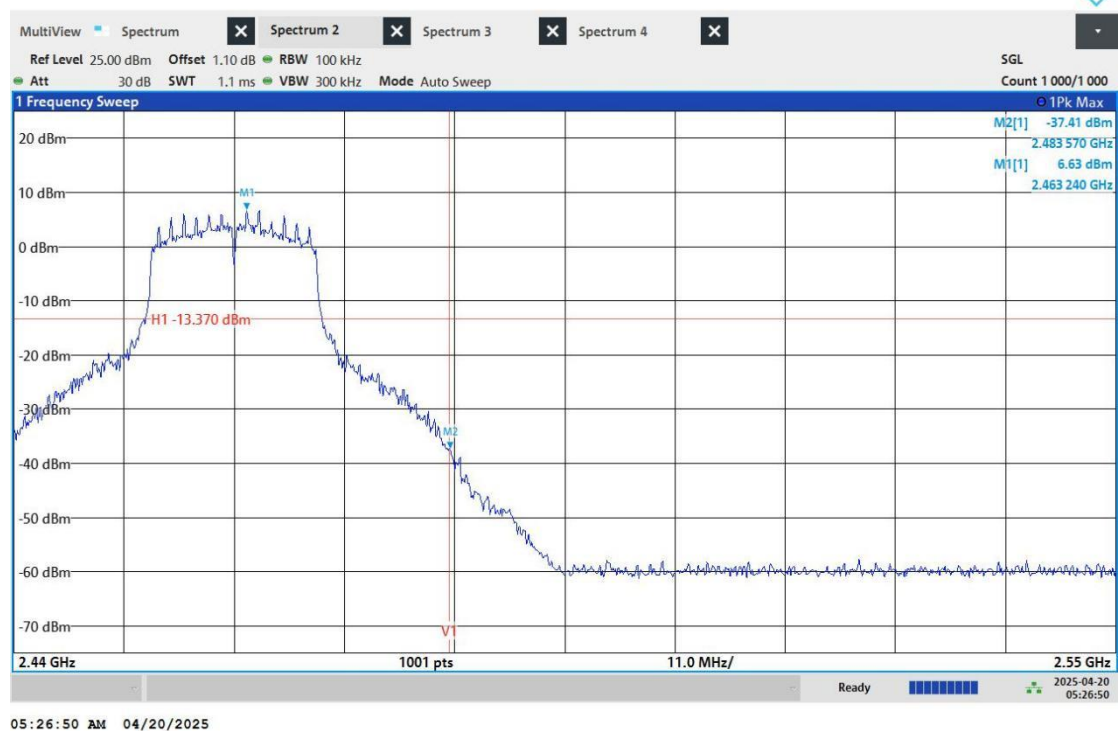
Huarui 7layers High Technology
(Suzhou) Co., Ltd.

Tower N, Innovation Center, 88 Zuyi Road, High-tech
District, Suzhou City, Anhui Province, China

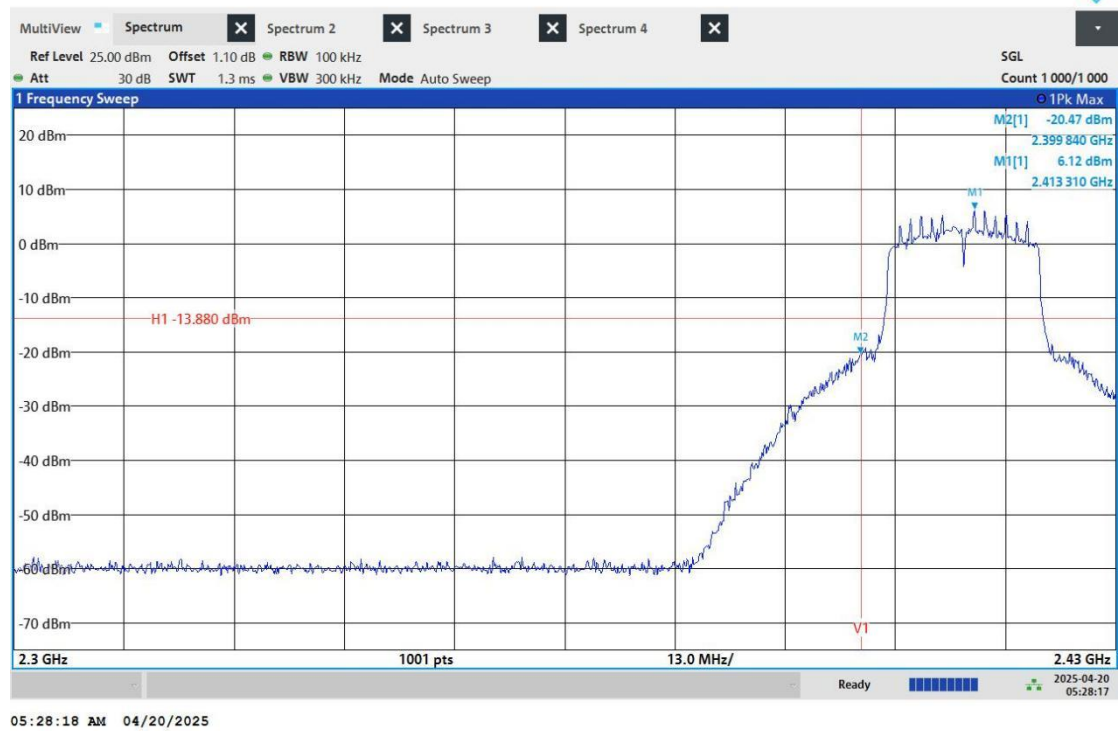
Tel: +86 (0557) 368 1008



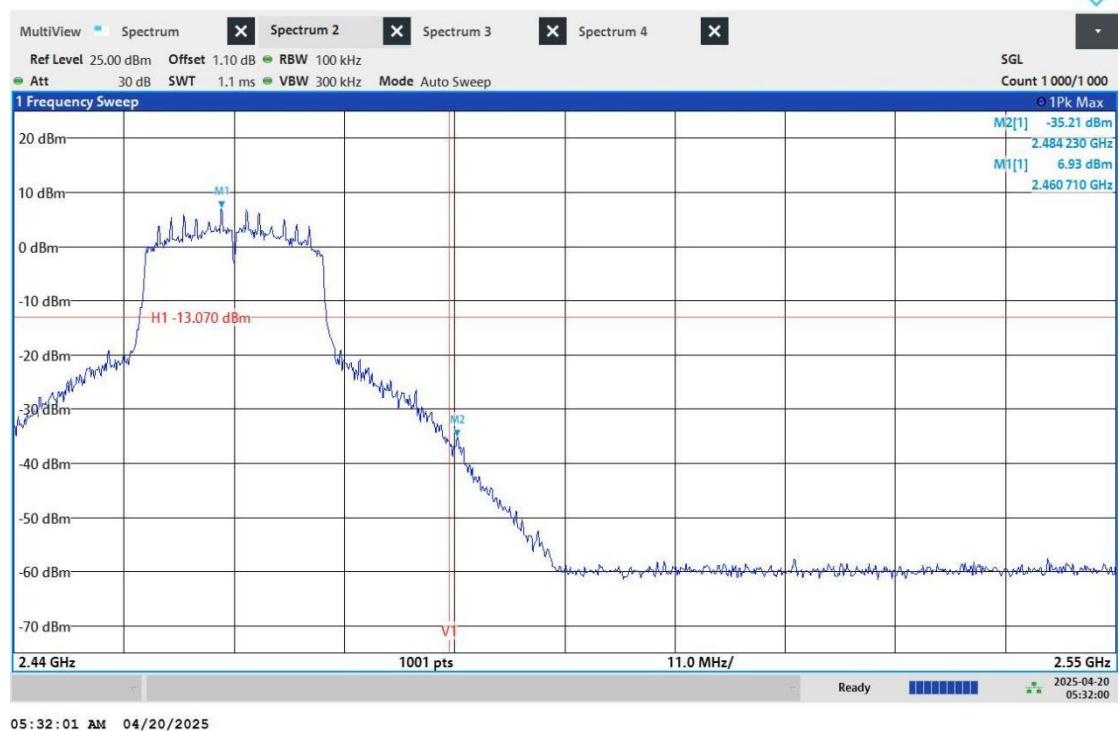
11G-CDD_ANT6_High_2462



11N20SISO_ANT6_Low_2412



11N20SISO_ANT6_High_2462



CONDUCTED SPURIOUS EMISSION

TEST RESULT

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	Result [dBm]	Limit [dBm]	Verdict
11B	ANT6	2412	30~260000	See test graph	See test graph	PASS
	ANT6	2437	30~260000	See test graph	See test graph	PASS
	ANT6	2462	30~260000	See test graph	See test graph	PASS
11G	ANT6	2412	30~260000	See test graph	See test graph	PASS
	ANT6	2437	30~260000	See test graph	See test graph	PASS
	ANT6	2462	30~260000	See test graph	See test graph	PASS
11N20	ANT6	2412	30~260000	See test graph	See test graph	PASS
	ANT6	2437	30~260000	See test graph	See test graph	PASS
	ANT6	2462	30~260000	See test graph	See test graph	PASS

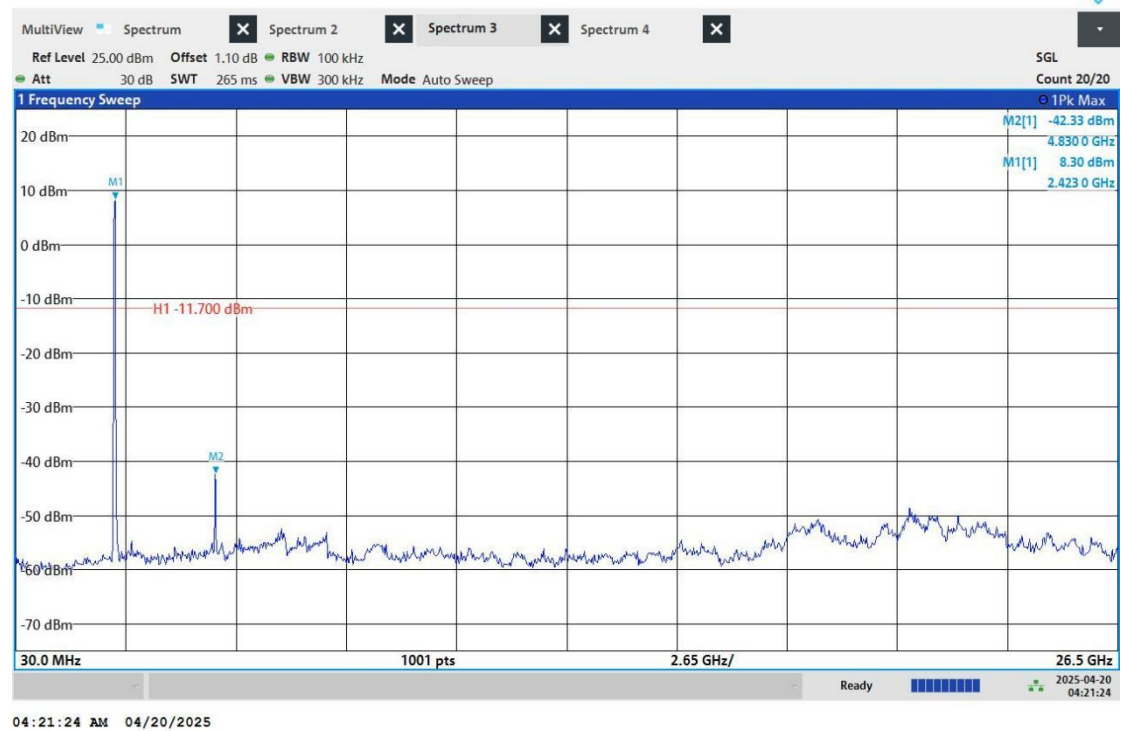


BUREAU
VERITAS

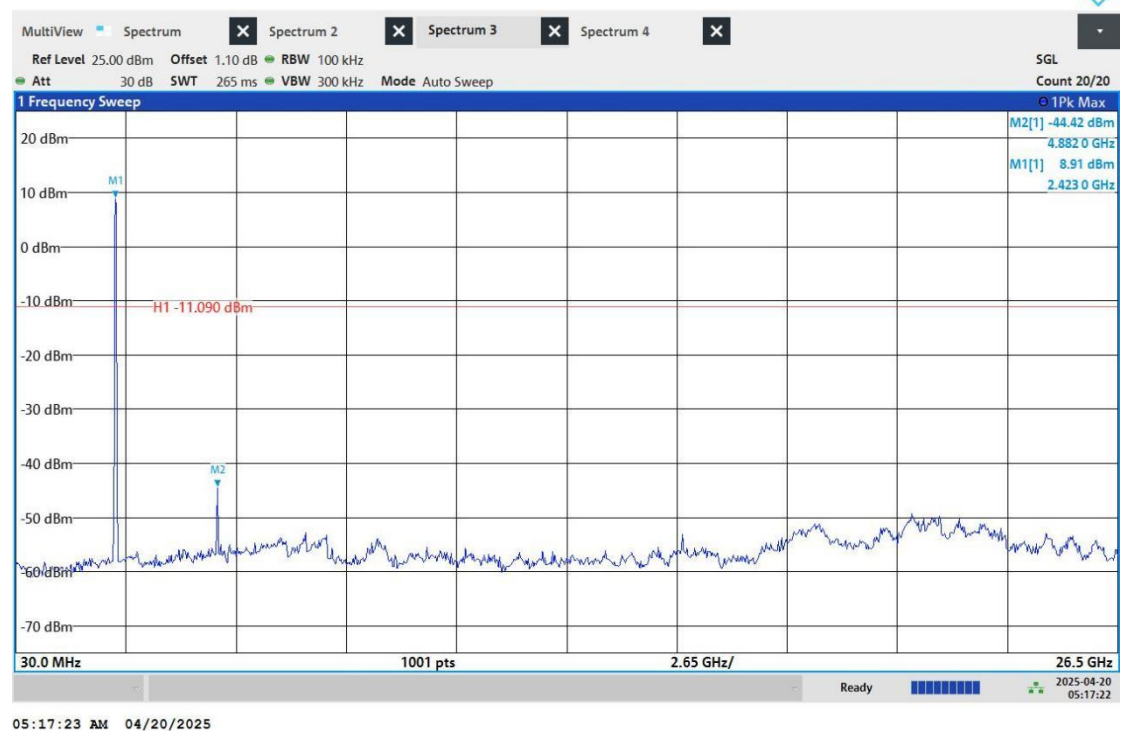
Test Report No.: PSZ-QBJ2504140715RF07

TEST GRAPHS

11B_ANT6_2412_30~260000



11B_ANT6_2437_30~260000

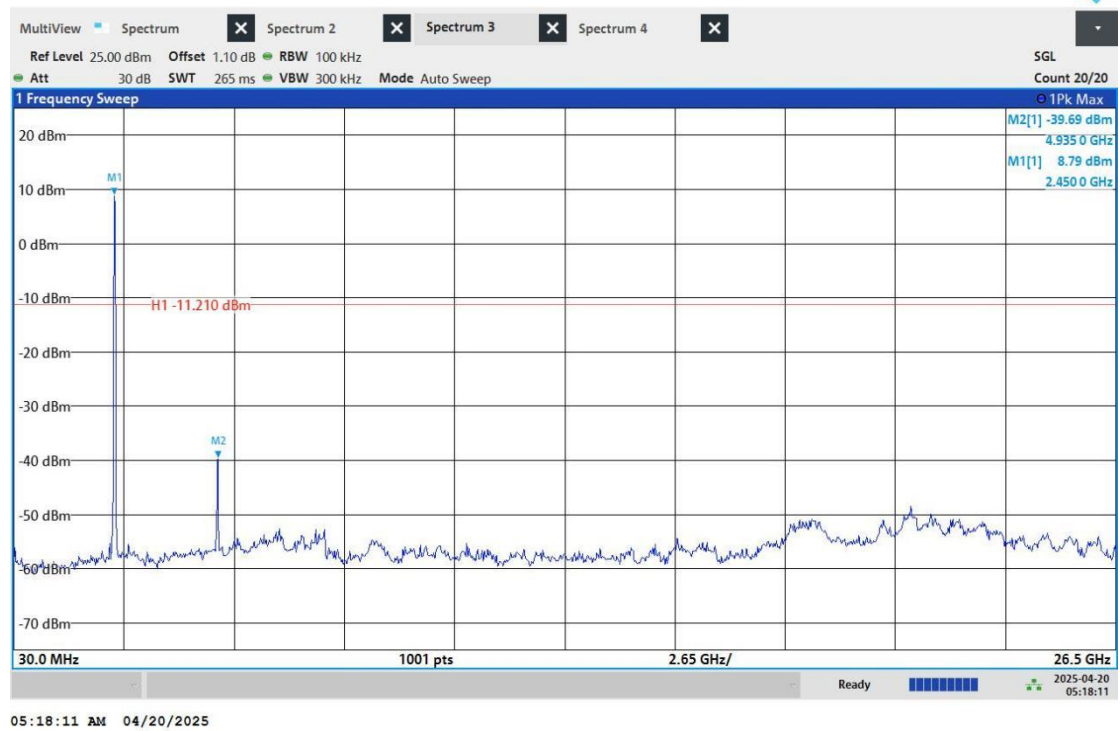


11B_ANT6_2462_30~260000

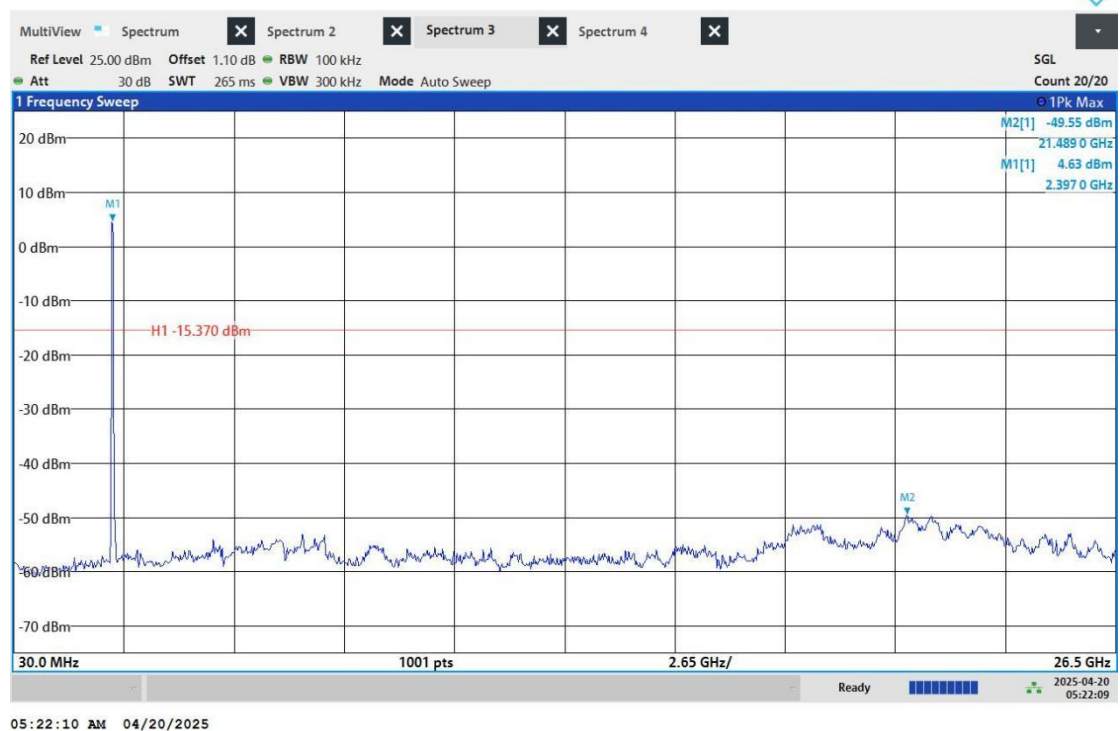
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Tel: +86 (0557) 368 1008



11G_ANT6_2412_30~260000



11G_ANT6_2437_30~260000