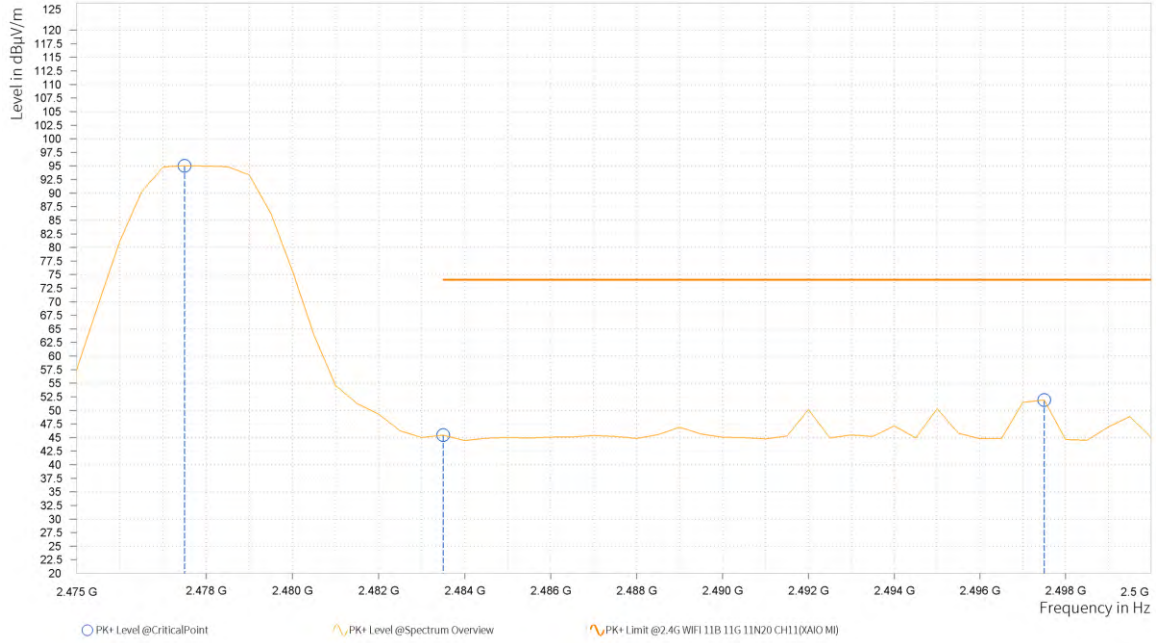
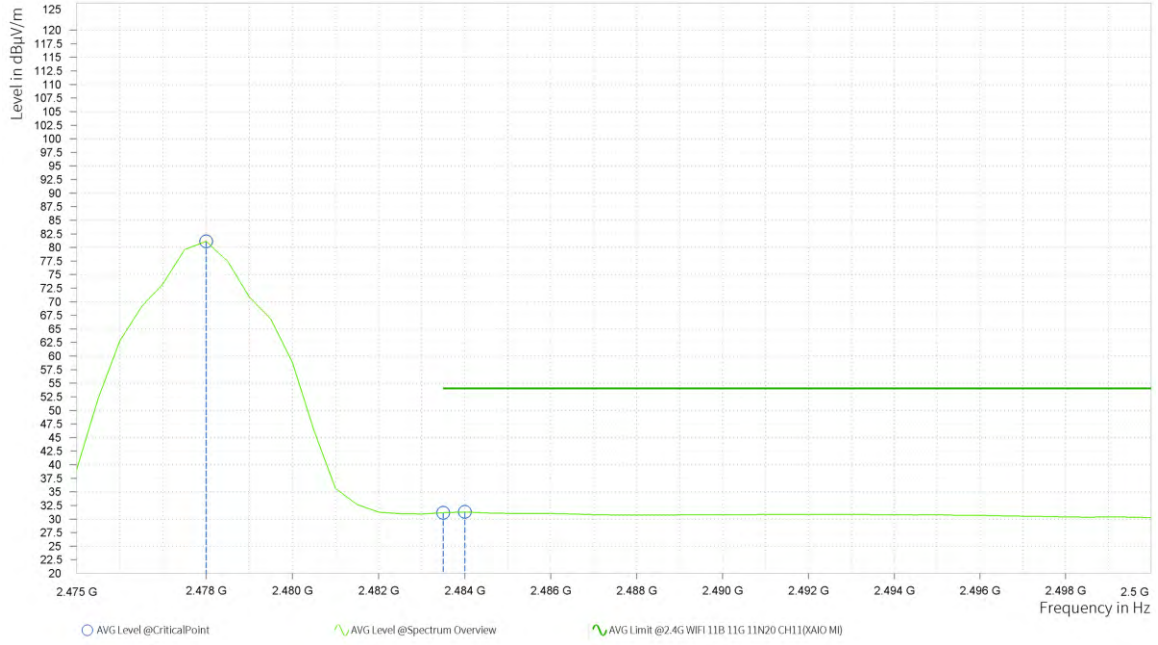
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,477.500	95.05			5.88	V	353.7	2.0
2	2,483.500	45.44	74.0	28.56	5.91	V	359.0	1.0
2	2,497.500	51.91	74.0	22.09	6.0	V	147.4	1.0



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]
2	2,478.000	81.13			5.88	V	355.0	2.0
2	2,483.500	31.17	54.0	22.83	5.91	V	152.2	1.0
2	2,484.000	31.29	54.0	22.71	5.92	V	152.2	1.0



REMARKS:

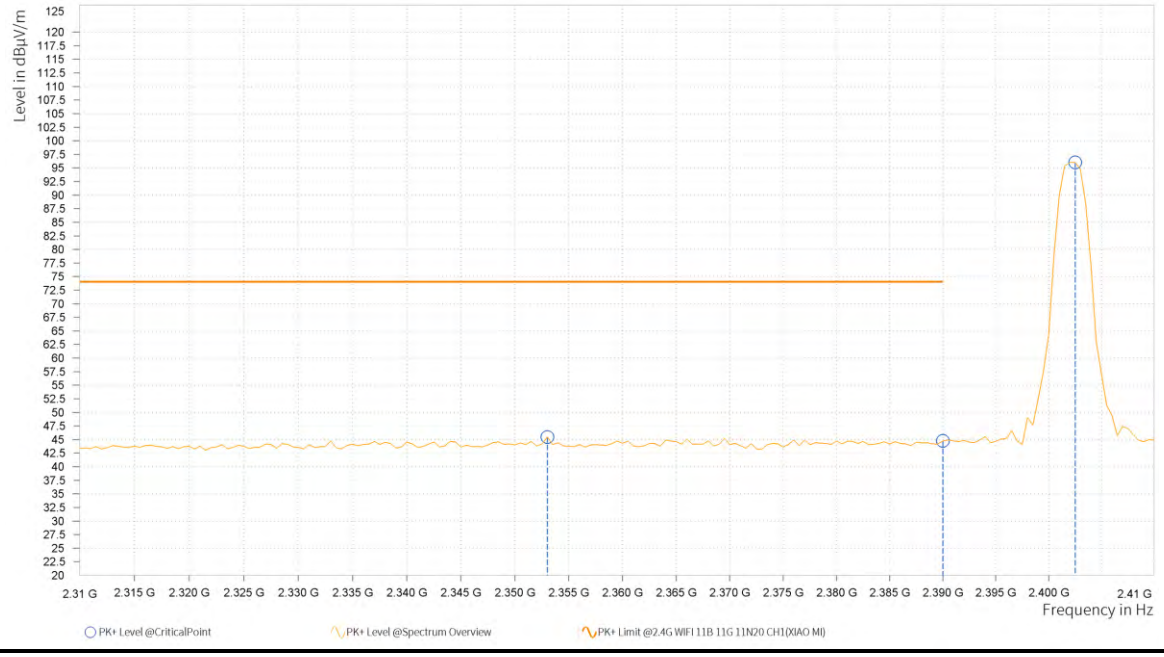
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Limit value–Emission level.
2. 2478MHz: Fundamental frequency.

BT-LE _S2

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]
1	2,353.000	45.48	74.0	28.52	5.59	H	359.1	1.0
1	2,390.000	44.74	74.0	29.26	5.77	H	149.9	1.0
1	2,402.500	96.05			5.86	H	355.1	2.0



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]
1	2,385.500	30.65	54.0	23.35	5.74	H	211.3	2.0
1	2,390.000	30.6	54.0	23.4	5.77	H	359.0	1.0
1	2,402.000	91.88			5.85	H	359.0	1.0

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]
1	2,382.000	45.59	74.0	28.41	5.71	V	353.7	2.0
1	2,390.000	44.44	74.0	29.56	5.77	V	77.0	1.0
1	2,402.500	96.03			5.86	V	359.0	2.0

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]
1	2,382.500	30.69	54.0	23.31	5.72	V	60.6	2.0
1	2,390.000	30.62	54.0	23.38	5.77	V	147.5	1.0
1	2,402.000	92.25			5.85	V	359.0	2.0

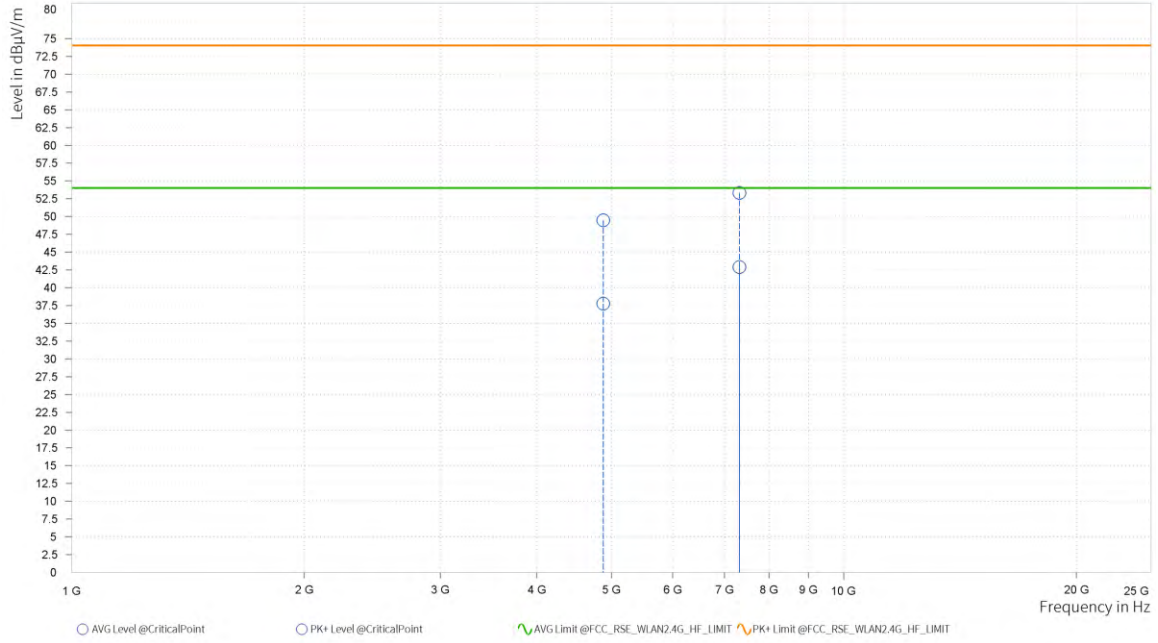
REMARKS:

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

CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

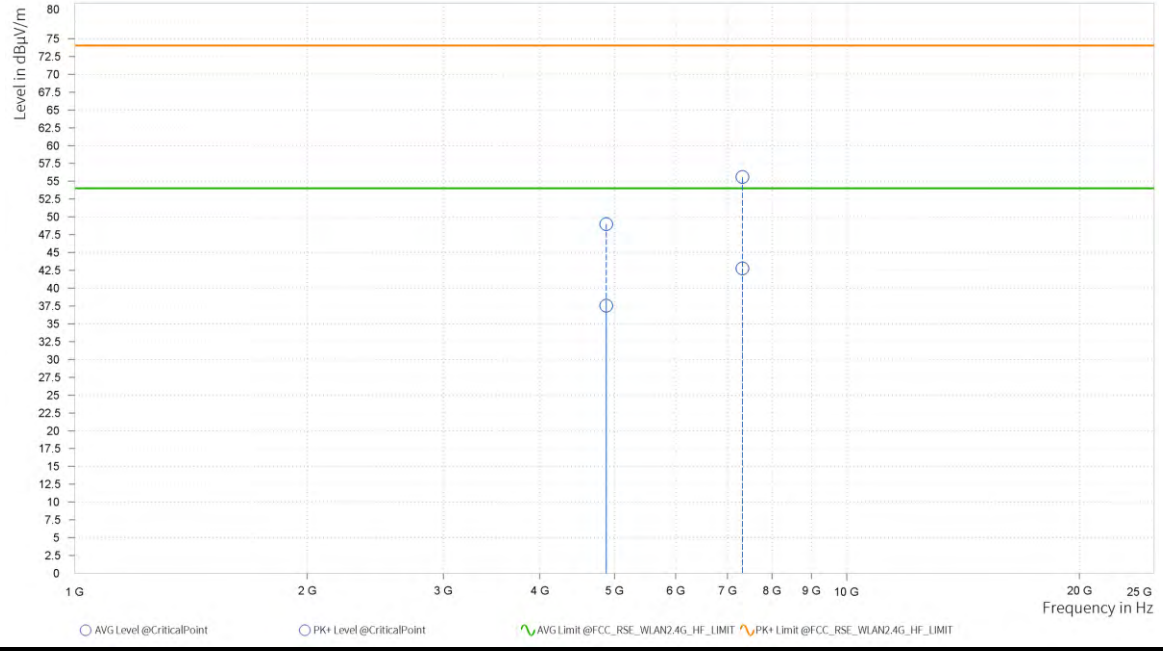
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	4,880.000	49.48	74.0	24.52	37.75	54.0	16.25	13.54	H	359.0	1.0
2	7,320.000	53.33	74.0	20.67	42.9	54.0	11.1	18.9	H	105.6	1.0



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ 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]
2	4,880.000	48.99	74.0	25.01	37.54	54.0	16.46	13.54	V	2.2	2.0
2	7,320.000	55.59	74.0	18.41	42.76	54.0	11.24	18.9	V	359.0	1.0



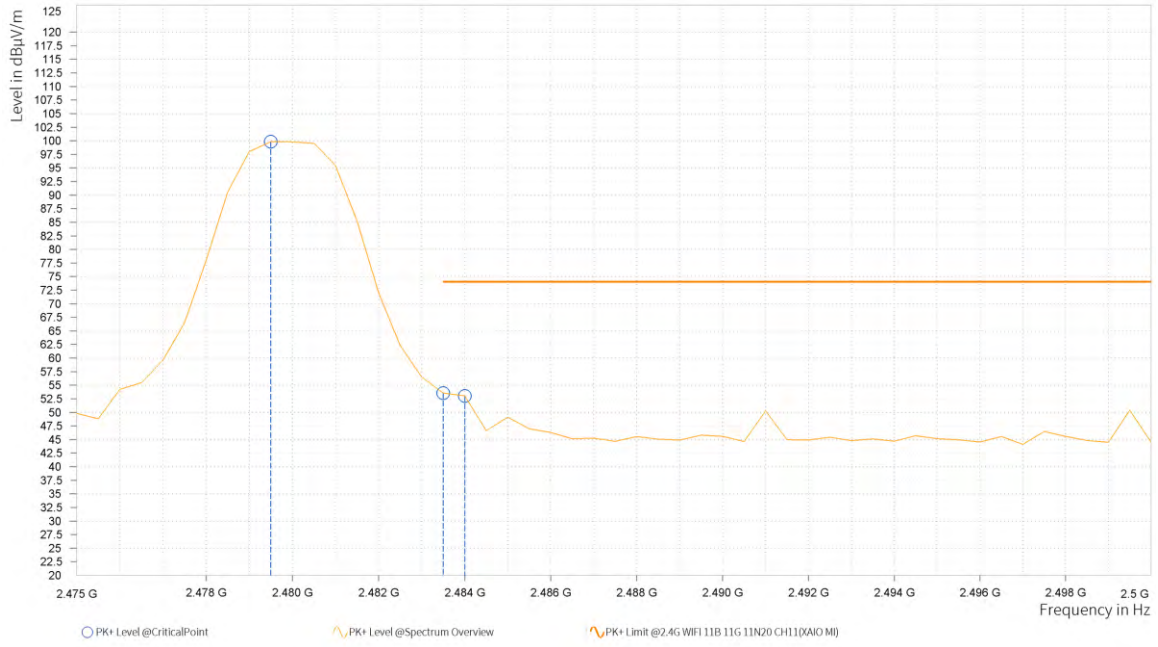
REMARKS:

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

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

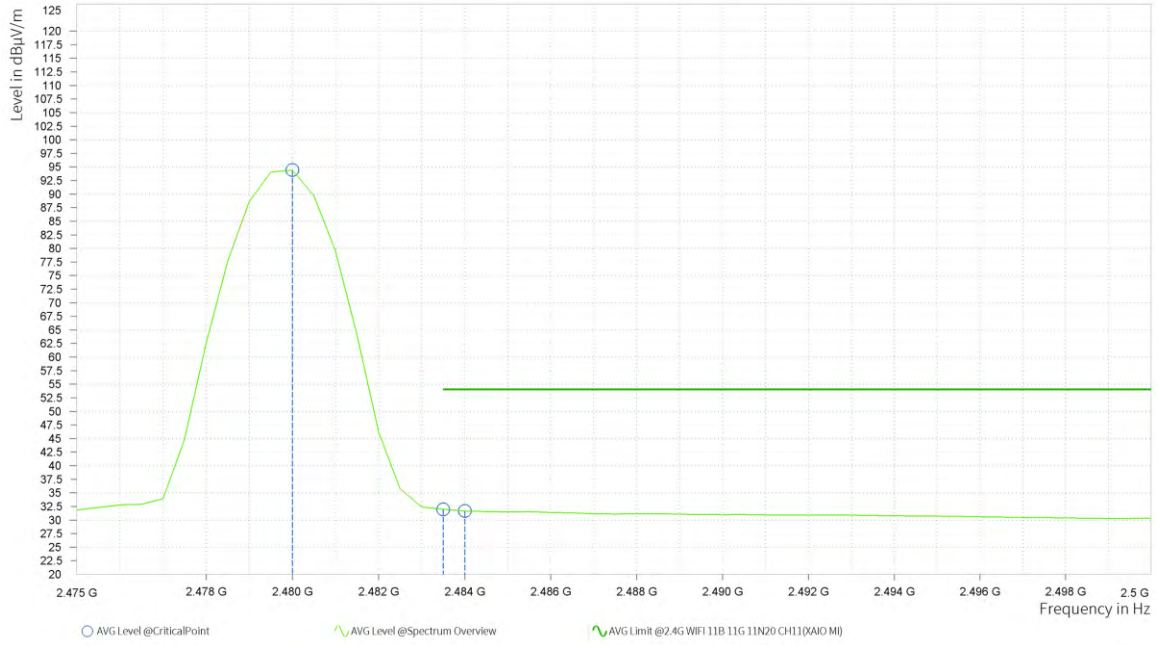
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,479.500	99.84			5.89	H	152.2	1.0
2	2,483.500	53.55	74.0	20.45	5.91	H	354.4	2.0
2	2,484.000	53.05	74.0	20.95	5.92	H	354.4	2.0



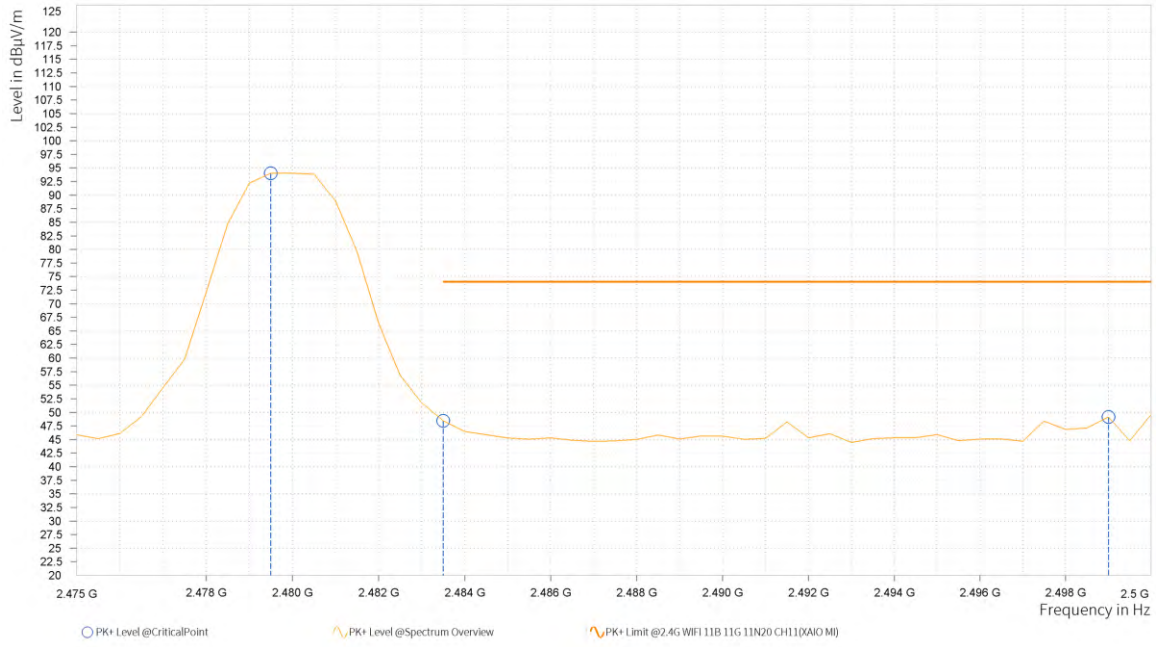
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,480.000	94.41			5.89	H	306.5	1.0
2	2,483.500	31.98	54.0	22.02	5.91	H	306.5	1.0
2	2,484.000	31.65	54.0	22.35	5.92	H	306.5	1.0



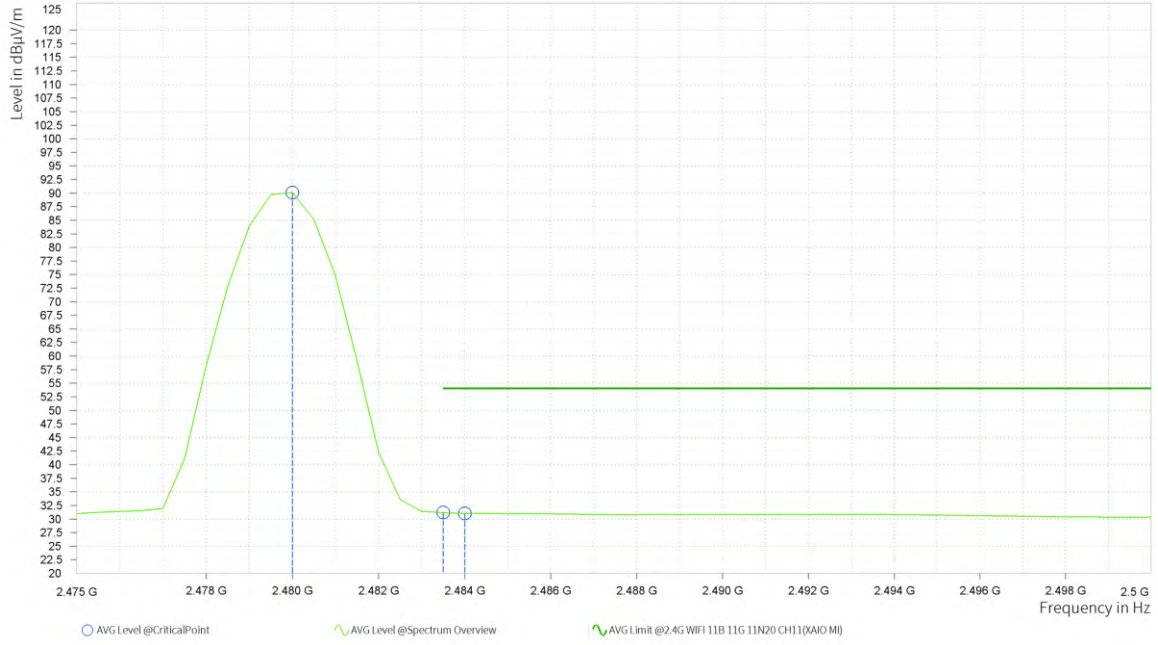
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,479.500	94.05			5.89	V	354.4	2.0
2	2,483.500	48.48	74.0	25.52	5.91	V	354.4	2.0
2	2,499.000	49.17	74.0	24.83	6.01	V	359.0	1.0



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]
2	2,480.000	90.12			5.89	V	354.4	2.0
2	2,483.500	31.18	54.0	22.82	5.91	V	354.4	2.0
2	2,484.000	31.04	54.0	22.96	5.92	V	1.0	2.0



REMARKS:

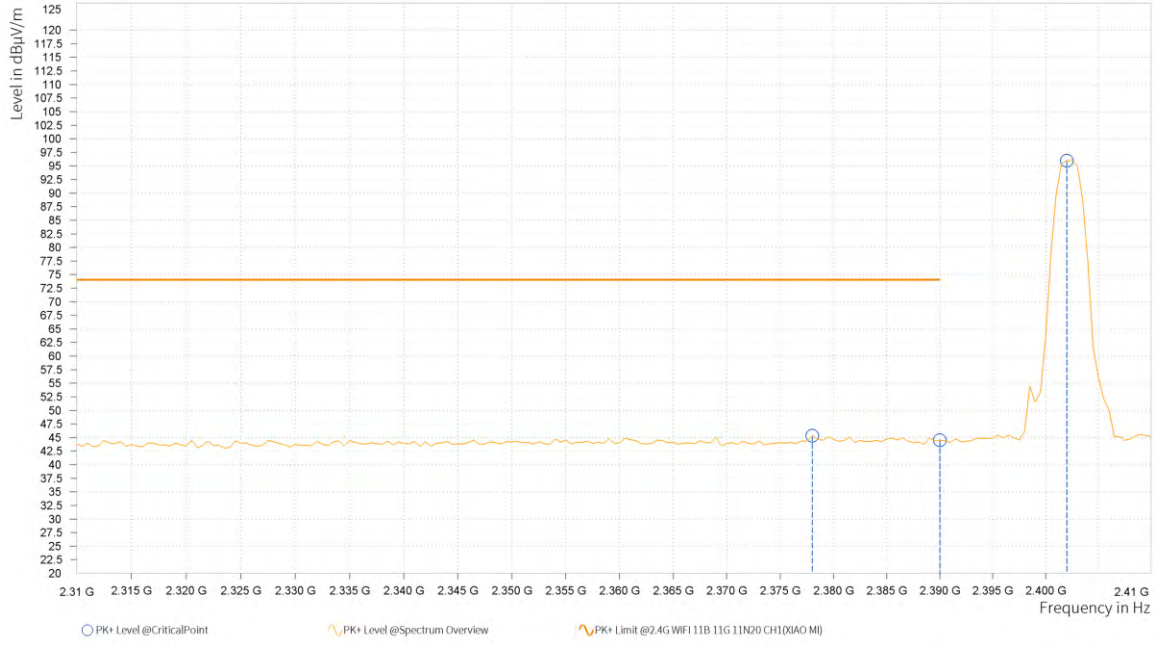
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
   Margin value = Limit value–Emission level.
2. 2480MHz: Fundamental frequency.

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]
1	2,378.000	45.36	74.0	28.64	5.69	H	359.1	1.0
1	2,390.000	44.51	74.0	29.49	5.77	H	53.5	2.0
1	2,402.000	95.98			5.85	H	359.1	1.0



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]
1	2,382.500	30.68	54.0	23.32	5.72	H	205.4	2.0
1	2,390.000	30.66	54.0	23.34	5.77	H	310.0	1.0
1	2,402.000	94.46			5.85	H	359.1	1.0

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]
1	2,319.500	46.28	74.0	27.72	5.55	V	359	1.0
1	2,390.000	45.29	74.0	28.71	5.77	V	359	1.0
1	2,402.500	95.89			5.86	V	283	2.0

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]
1	2,384.500	30.82	54.0	23.18	5.73	V	205.4	2.0
1	2,390.000	30.69	54.0	23.31	5.77	V	76.9	1.0
1	2,402.000	94.13			5.85	V	281.8	2.0

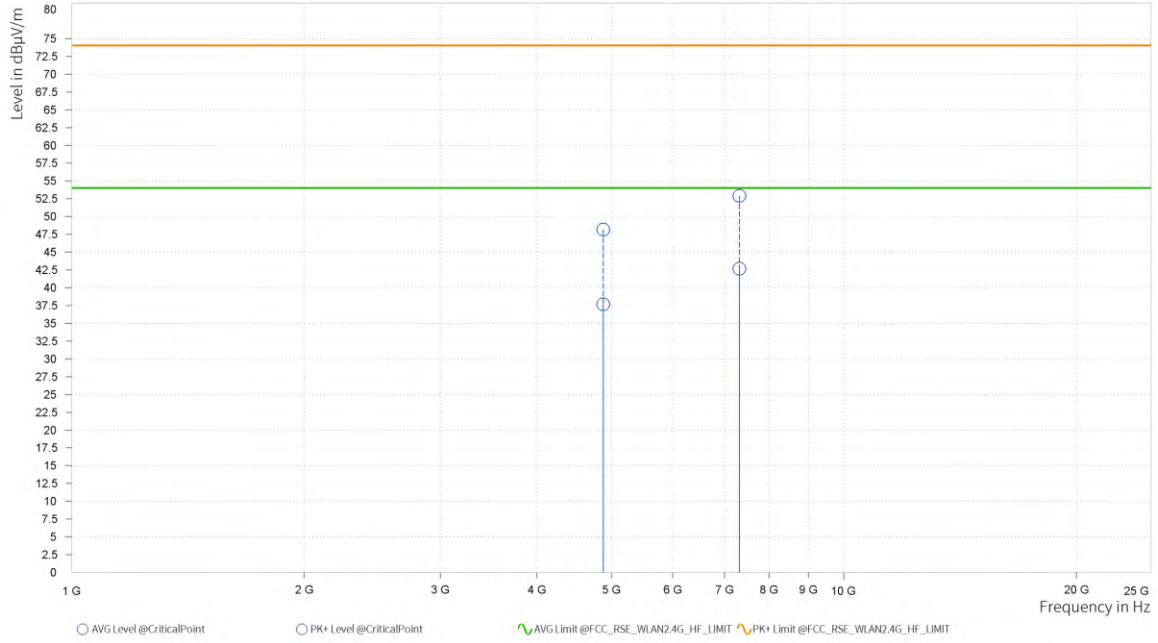
REMARKS:

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

CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

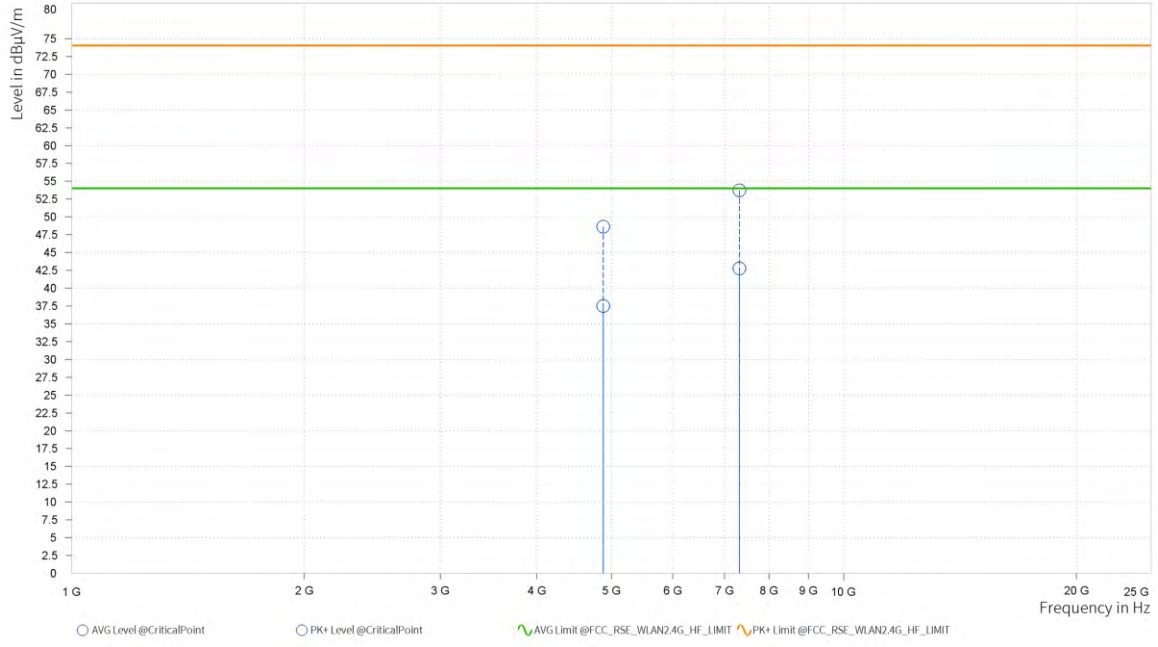
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	4,880.000	48.18	74.0	25.82	37.66	54.0	16.34	13.54	H	359.1	1.0
2	7,320.000	52.9	74.0	21.1	42.7	54.0	11.3	18.9	H	260.3	2.0



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ 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]
2	4,880.000	48.64	74.0	25.36	37.5	54.0	16.5	13.54	V	359	1.0
2	7,320.000	53.71	74.0	20.29	42.76	54.0	11.24	18.9	V	1	2.0



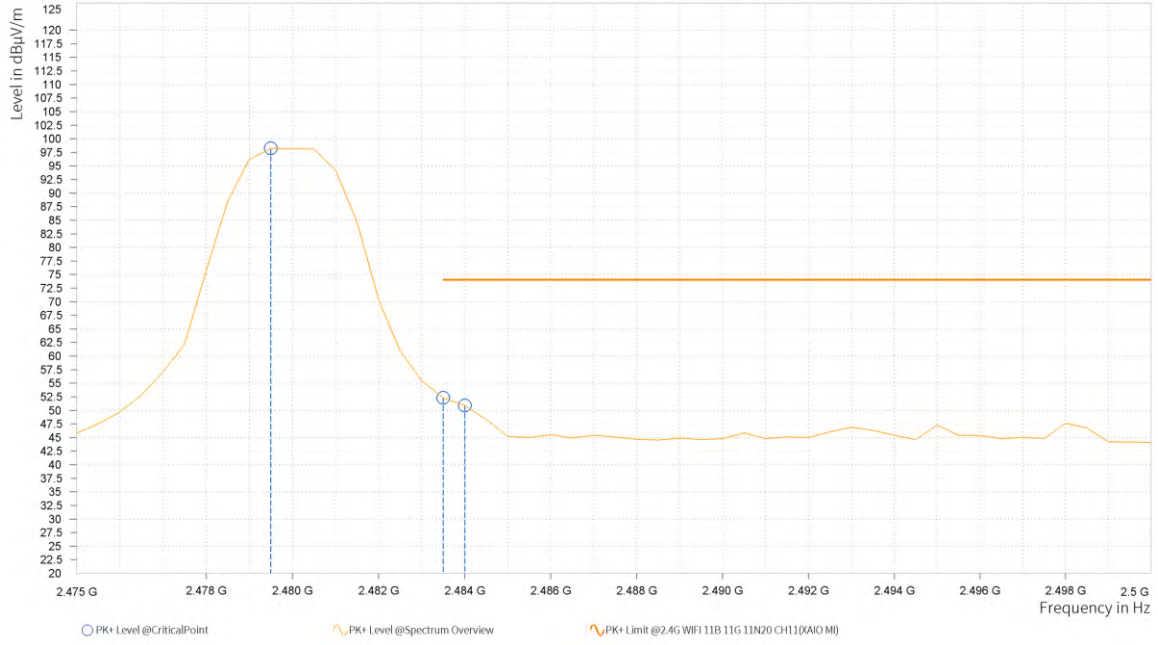
REMARKS:

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

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

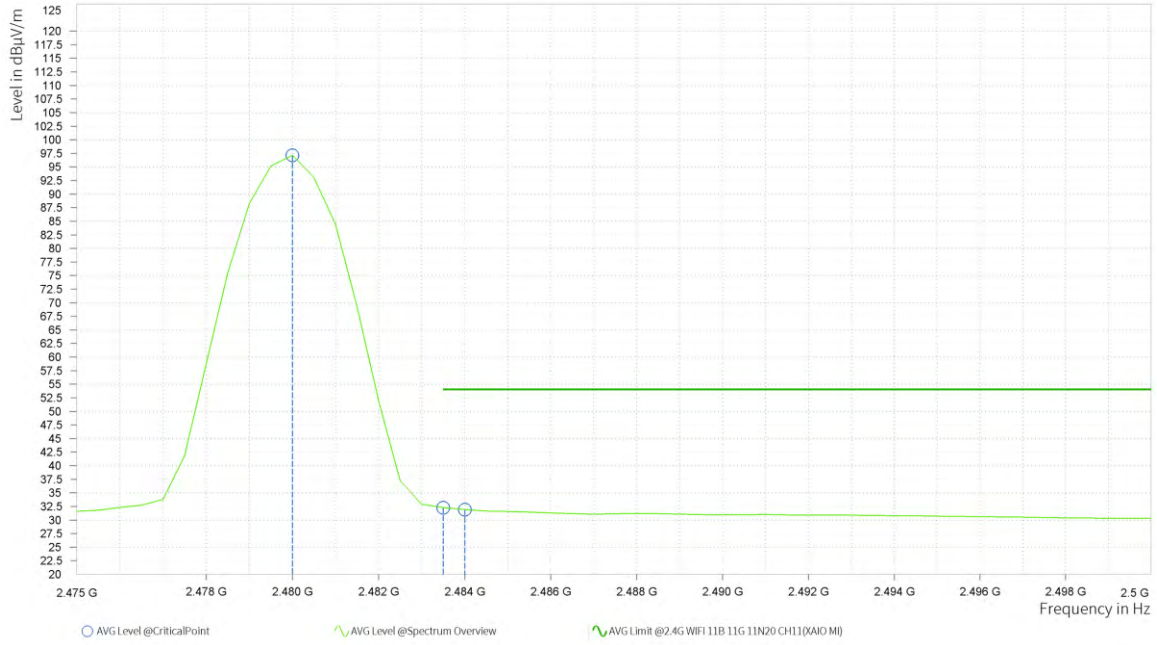
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,479.500	98.23			5.89	H	124.0	2.0
2	2,483.500	52.3	74.0	21.7	5.91	H	1.0	1.0
2	2,484.000	50.92	74.0	23.08	5.92	H	354.4	2.0



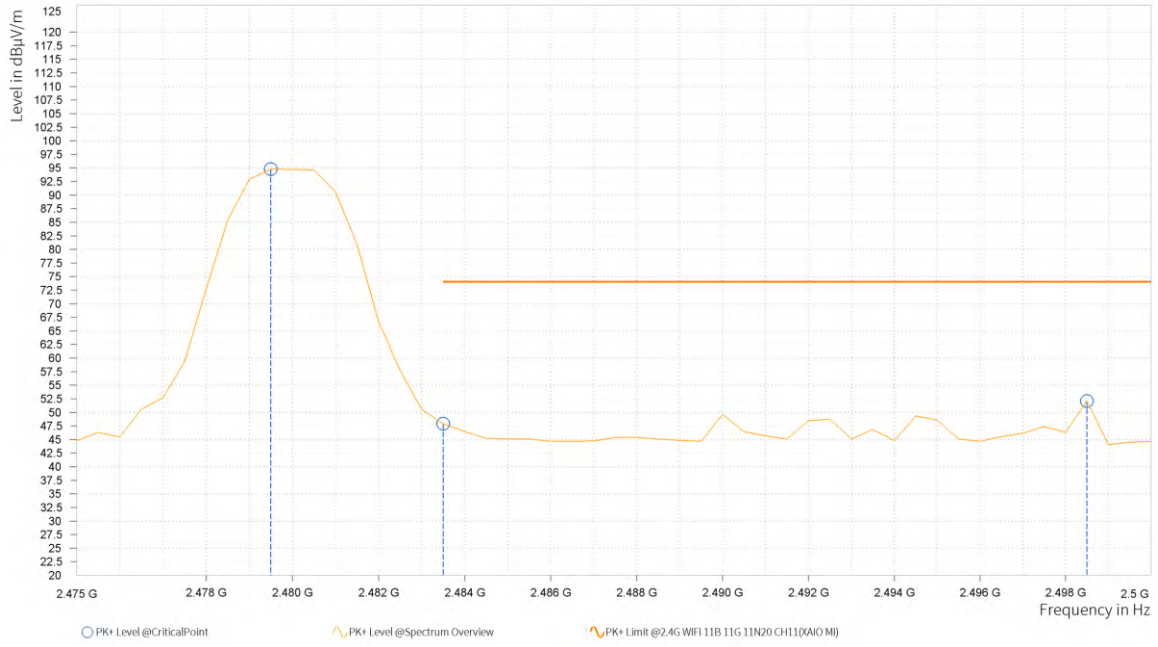
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,480.000	97.17			5.89	H	232.4	1.0
2	2,483.500	32.28	54.0	21.72	5.91	H	355.1	2.0
2	2,484.000	31.93	54.0	22.07	5.92	H	232.4	1.0



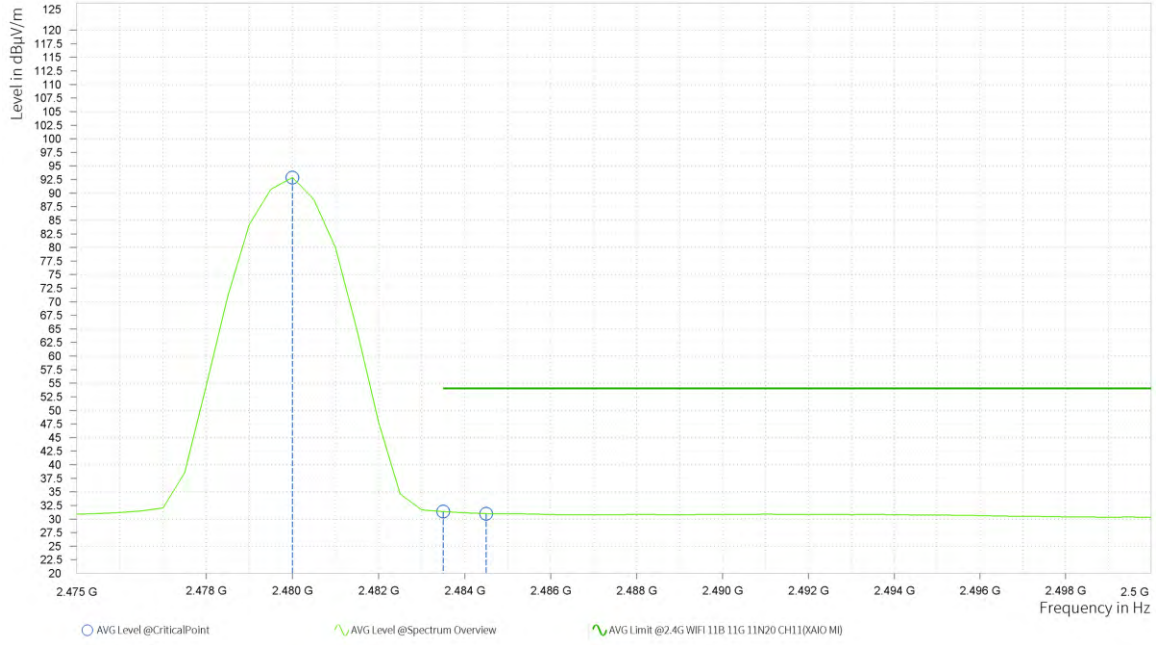
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,479.500	94.79			5.89	V	355.0	2.0
2	2,483.500	47.9	74.0	26.1	5.91	V	355.0	2.0
2	2,498.500	52.1	74.0	21.9	6.01	V	155.9	1.0



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]
2	2,480.000	92.88			5.89	V	355.0	2.0
2	2,483.500	31.38	54.0	22.62	5.91	V	153.4	1.0
2	2,484.500	31.0	54.0	23.0	5.92	V	153.4	1.0



REMARKS:

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

3.3 6 dB BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 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.06,22	Sep.05,24
Hygrothermograph	DELI	20210528	SZ015	Sep.05,24	Sep.04,26
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-03-20-070	Apr.27,24	Apr.26,25
Test Software	EMC32	EMC32	N/A	N/A	N/A
Temperature Chamber	votsch	VT4002	585660781000050	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

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.

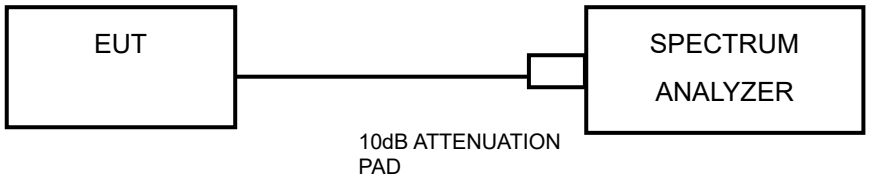
3.3.3 TEST PROCEDURE

1. Set RBW = 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

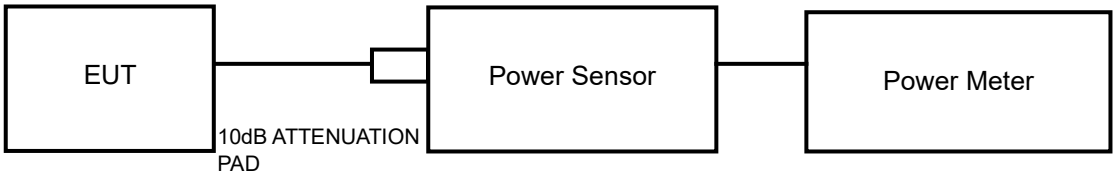
Please Refer to Appendix1/2 Of this test report.

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 Appendix1/2 Of this test report.

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.

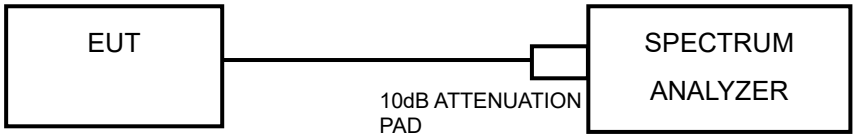
Please Refer to Appendix1/2 Of this test report.

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 ≥ 3 x 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.

3.5.7 TEST RESULTS

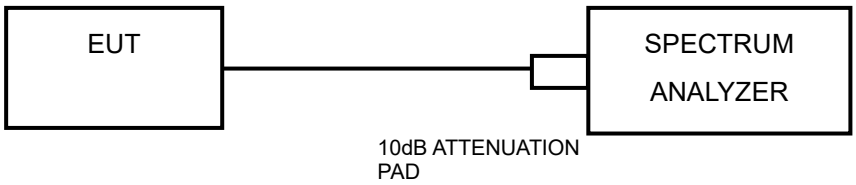
Please Refer to Appendix1/2 Of this test report.

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 ≥ 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 OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 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 Appendix1/2 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).

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.

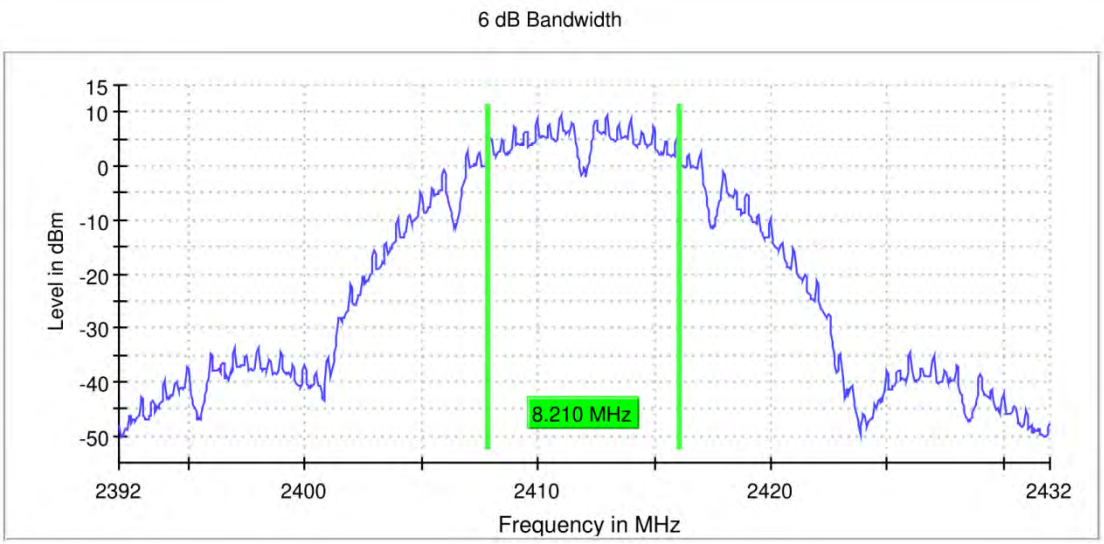
6 APPENDIX 1:

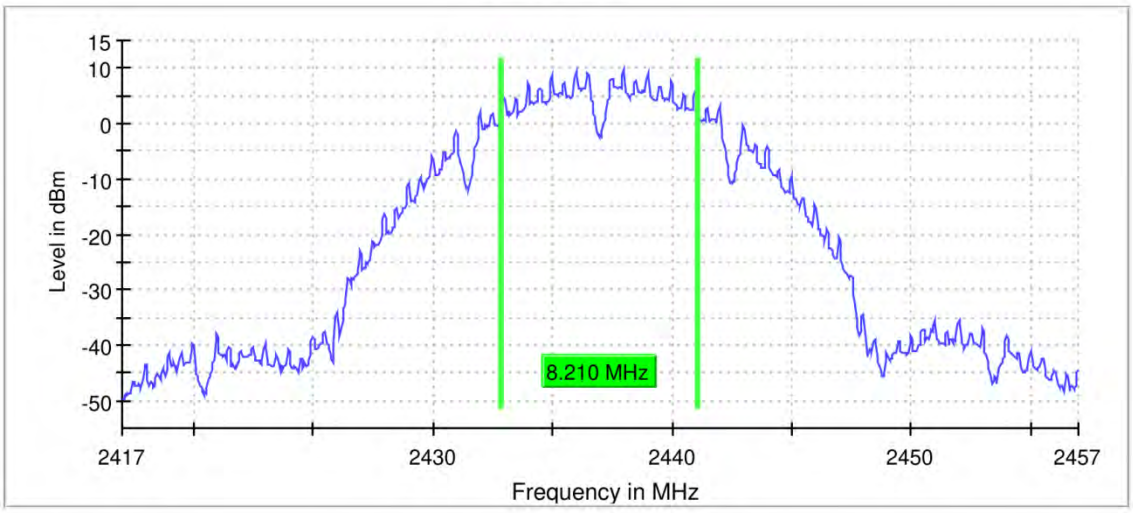
DTS BANDWIDTH

TEST RESULT

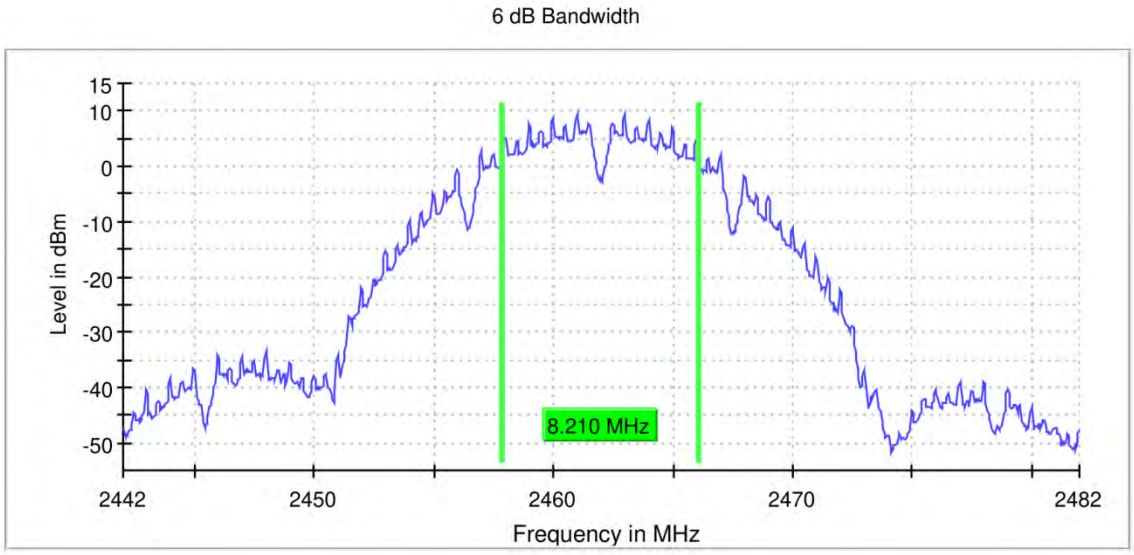
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	ANT0	2412	8.210	2407.870	2416.080	0.5	PASS
	ANT0	2437	8.210	2432.870	2441.080	0.5	PASS
	ANT0	2462	8.210	2457.870	2466.080	0.5	PASS
11G	ANT0	2412	15.419	2404.165	2419.584	0.5	PASS
	ANT0	2437	15.569	2429.365	2444.934	0.5	PASS
	ANT0	2462	15.419	2454.165	2469.584	0.5	PASS
11N20	ANT0	2412	15.219	2404.365	2419.584	0.5	PASS
	ANT0	2437	16.270	2429.365	2445.635	0.5	PASS
	ANT0	2462	16.170	2453.414	2469.584	0.5	PASS
11N40	ANT0	2422	35.922	2404.364	2440.286	0.5	PASS
	ANT0	2437	35.722	2419.414	2455.136	0.5	PASS
	ANT0	2452	35.222	2434.414	2469.636	0.5	PASS

TEST GRAPHS

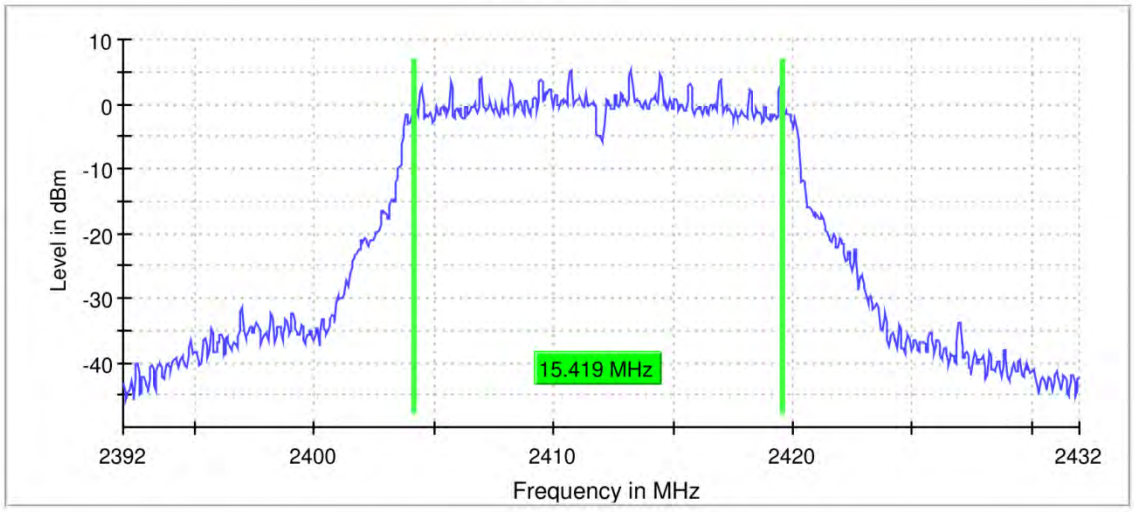
11B_Ant0_2412


11B_Ant0_2437


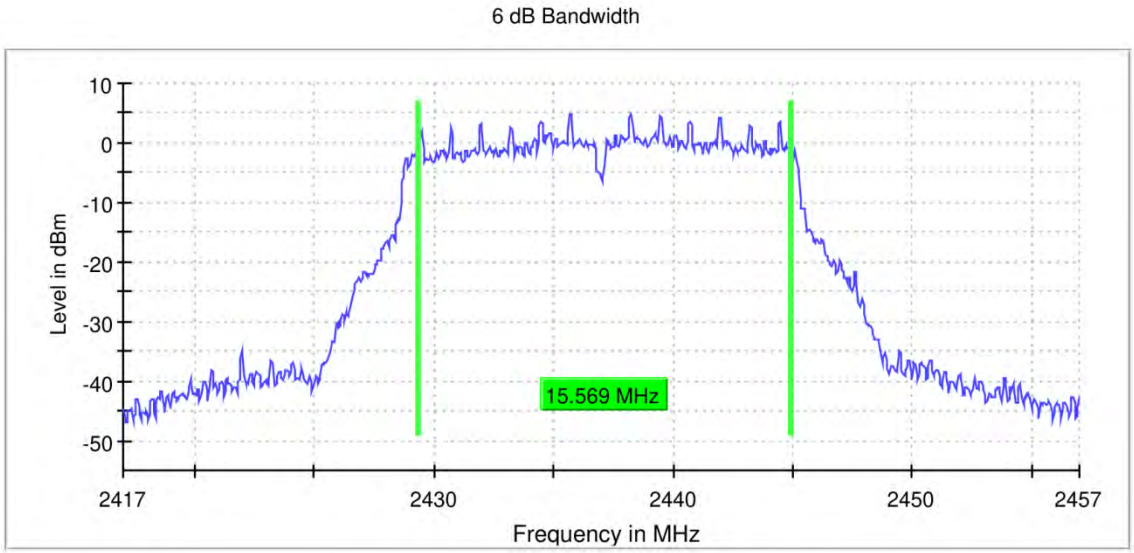
11B_Ant0_2462



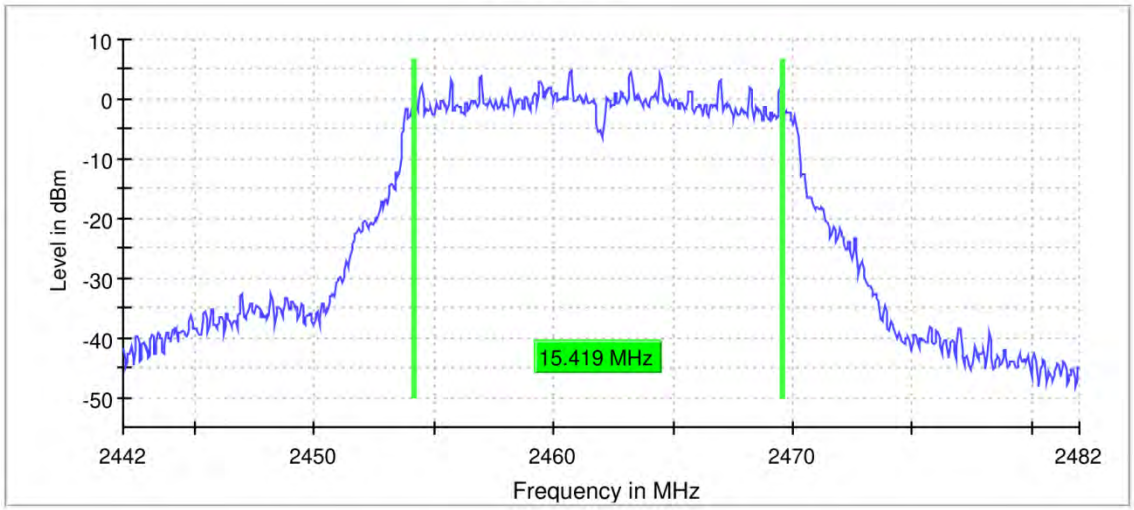
11G_Ant0_2412



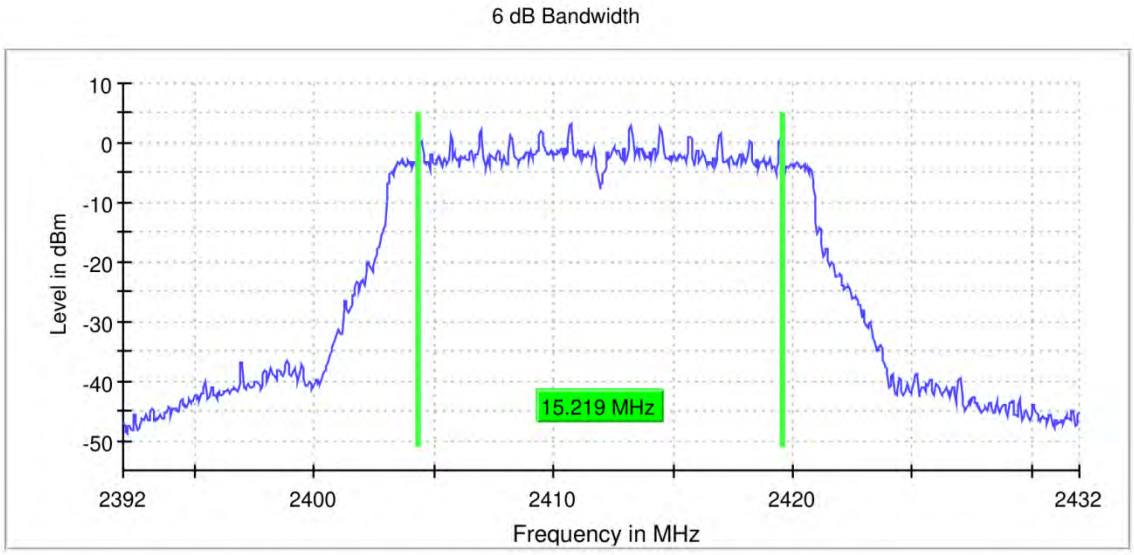
11G_Ant0_2437



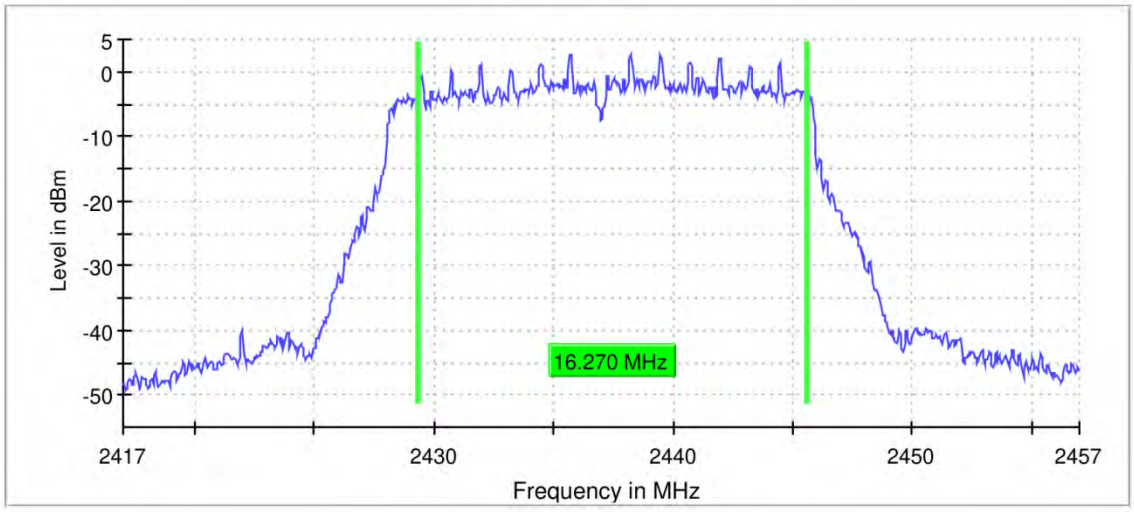
11G_Ant0_2462



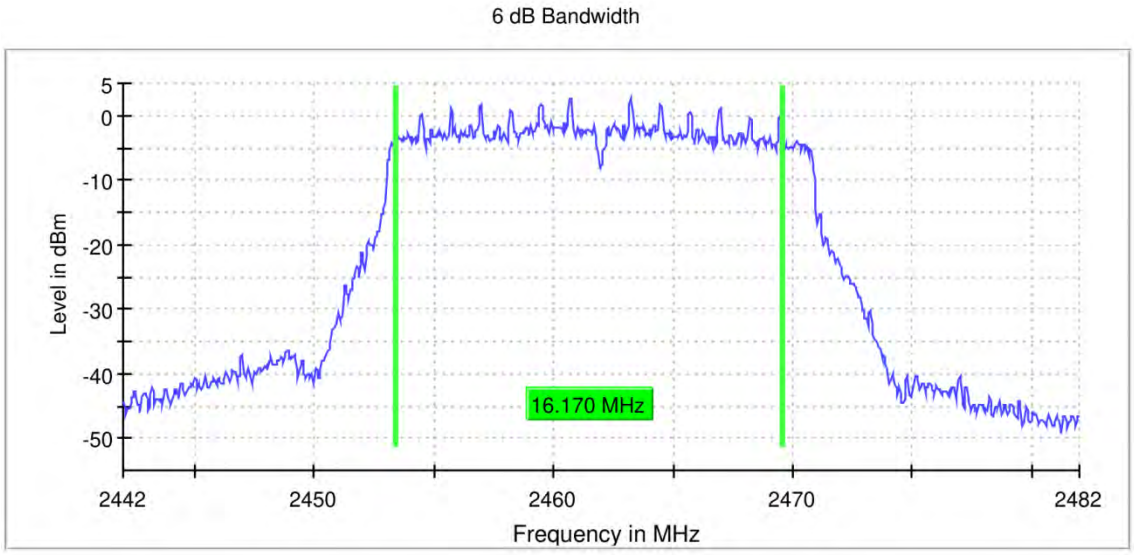
11N20_Ant0_2412



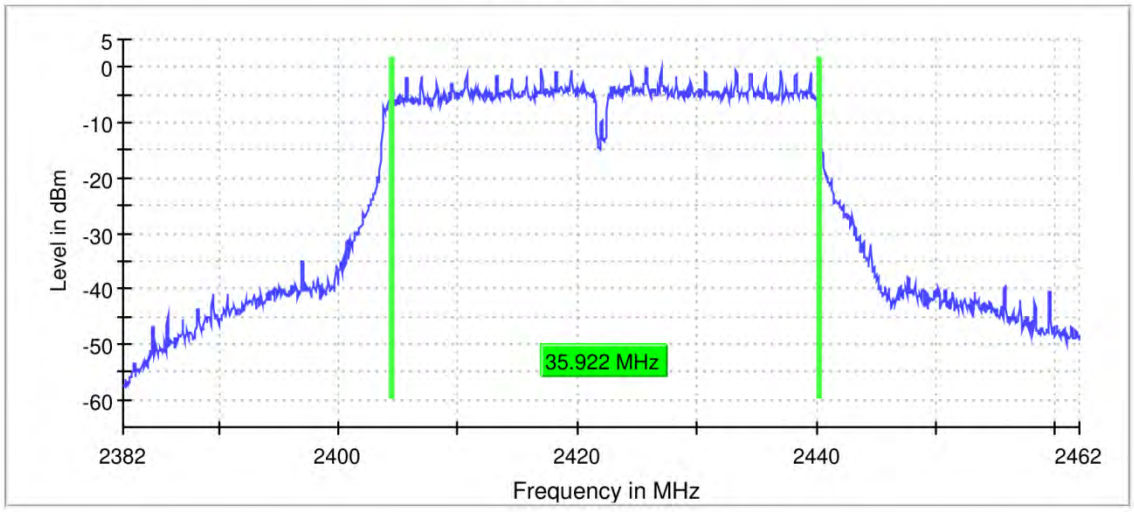
11N20_Ant0_2437



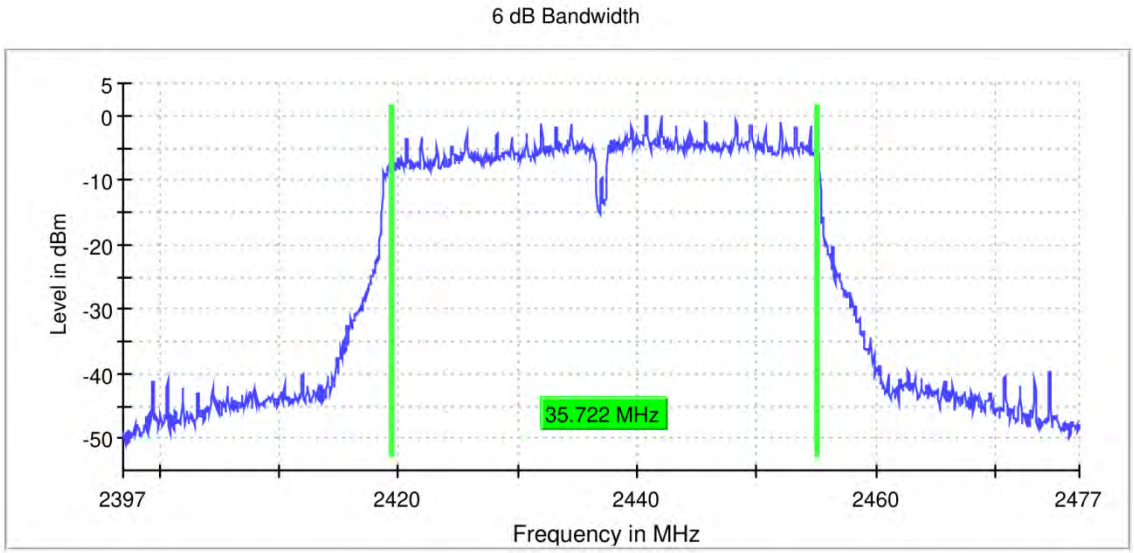
11N20_Ant0_2462



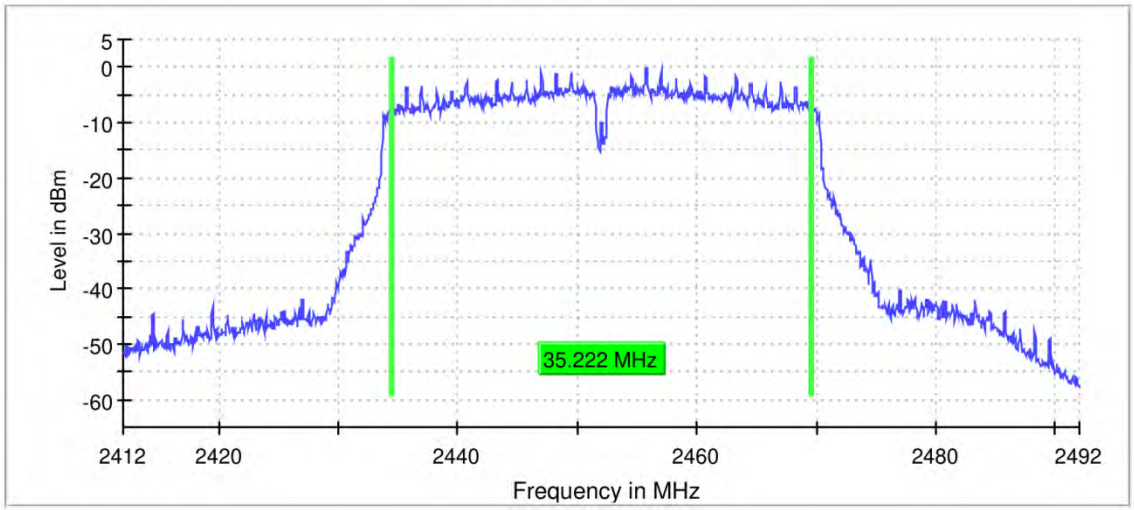
11N40_Ant0_2422



11N40_Ant0_2437



11N40_Ant0_2452



20M

RBW 100.000 kHz

VBW 300.000 kHz

40M

RBW 100.000 kHz

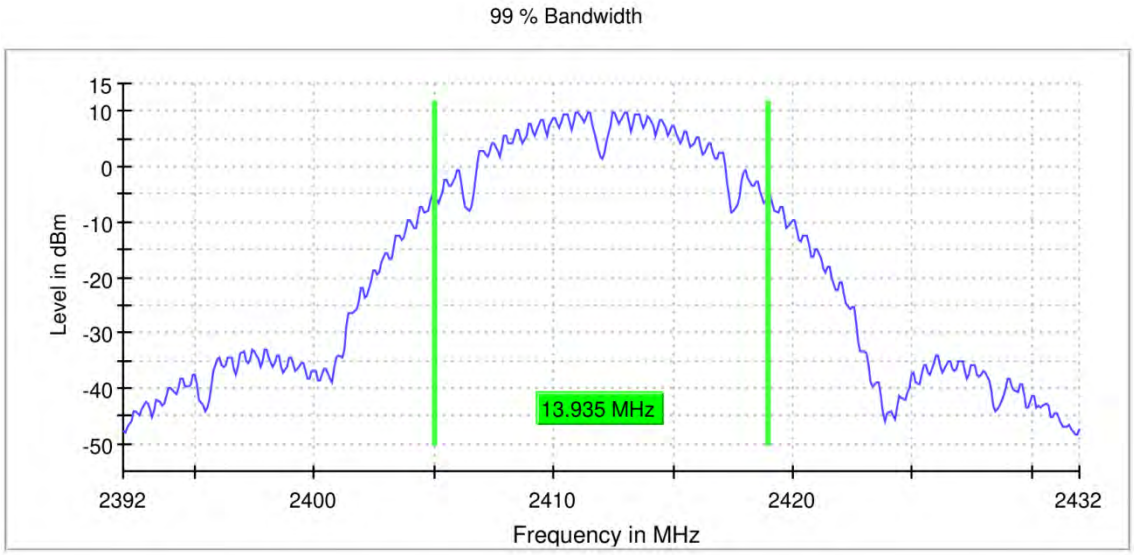
VBW 300.000 kHz

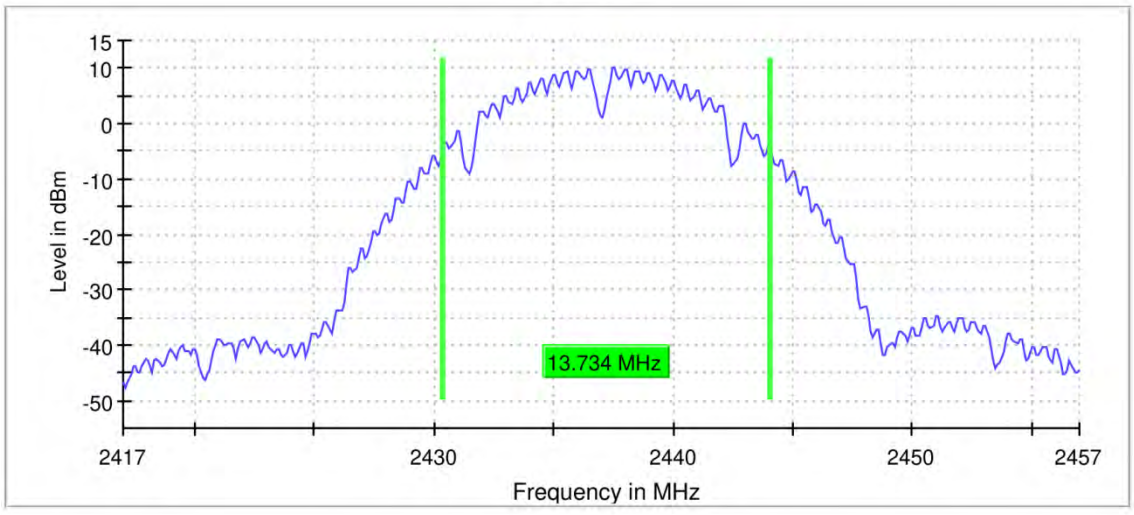
OBW BANDWIDTH

TEST RESULT

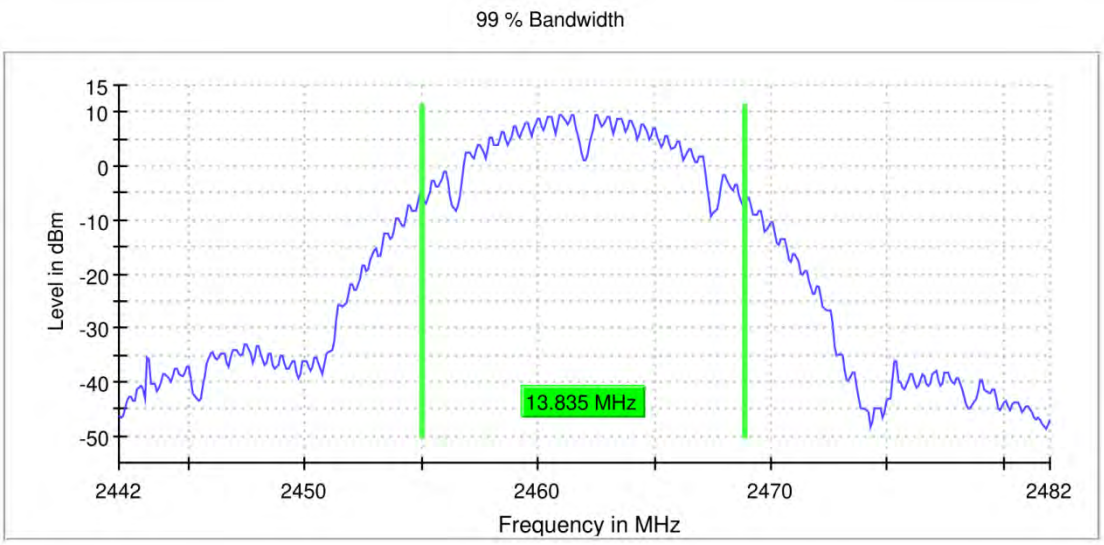
TestMode	Antenna	Frequency[MHz]	OBW BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	ANT0	2412	13.935	2405.033	2418.968	---	PASS
	ANT0	2437	13.734	2430.333	2444.067	---	PASS
	ANT0	2462	13.835	2455.033	2468.868	---	PASS
11G	ANT0	2412	16.541	2403.729	2420.270	---	PASS
	ANT0	2437	16.541	2428.830	2445.371	---	PASS
	ANT0	2462	16.541	2453.729	2470.270	---	PASS
11N20	ANT0	2412	17.744	2403.128	2420.872	---	PASS
	ANT0	2437	17.744	2428.228	2445.972	---	PASS
	ANT0	2462	17.744	2453.128	2470.872	---	PASS
11N40	ANT0	2422	36.614	2403.818	2440.432	---	PASS
	ANT0	2437	36.614	2418.818	2455.432	---	PASS
	ANT0	2452	36.364	2433.818	2470.182	---	PASS

TEST GRAPHS

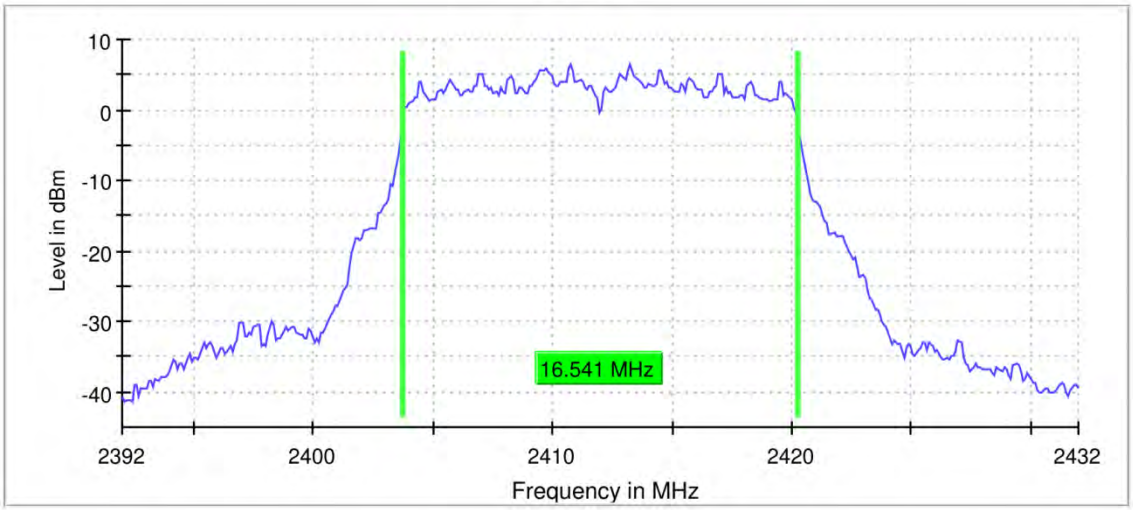
11B_Ant0_2412


11B_Ant0_2437


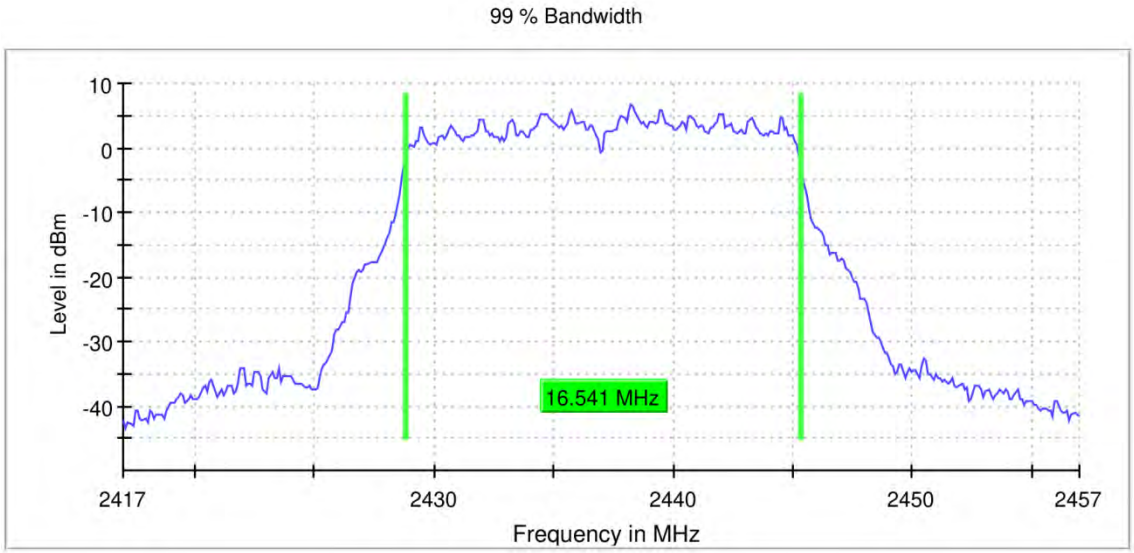
11B_Ant0_2462



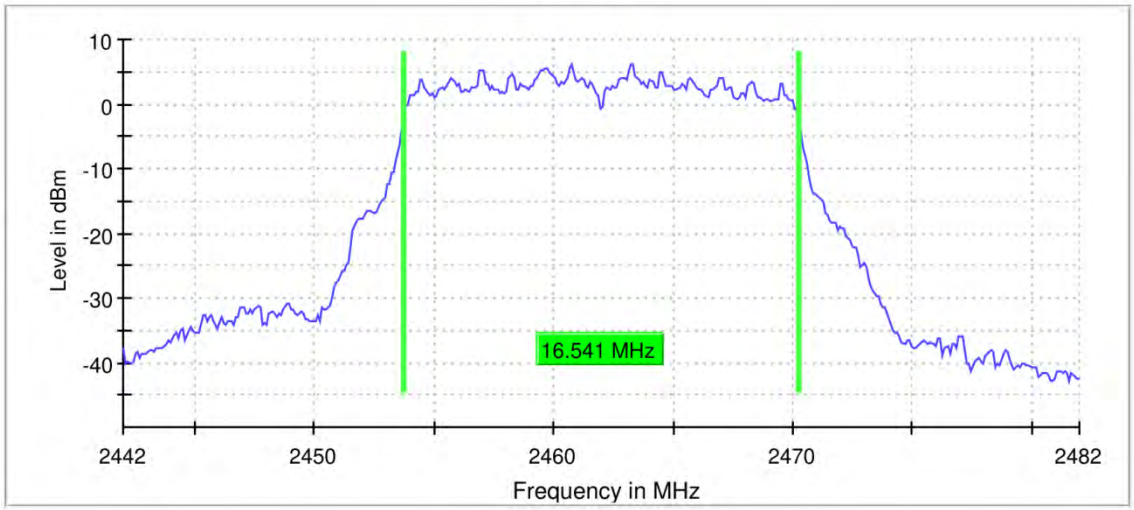
11G_Ant0_2412



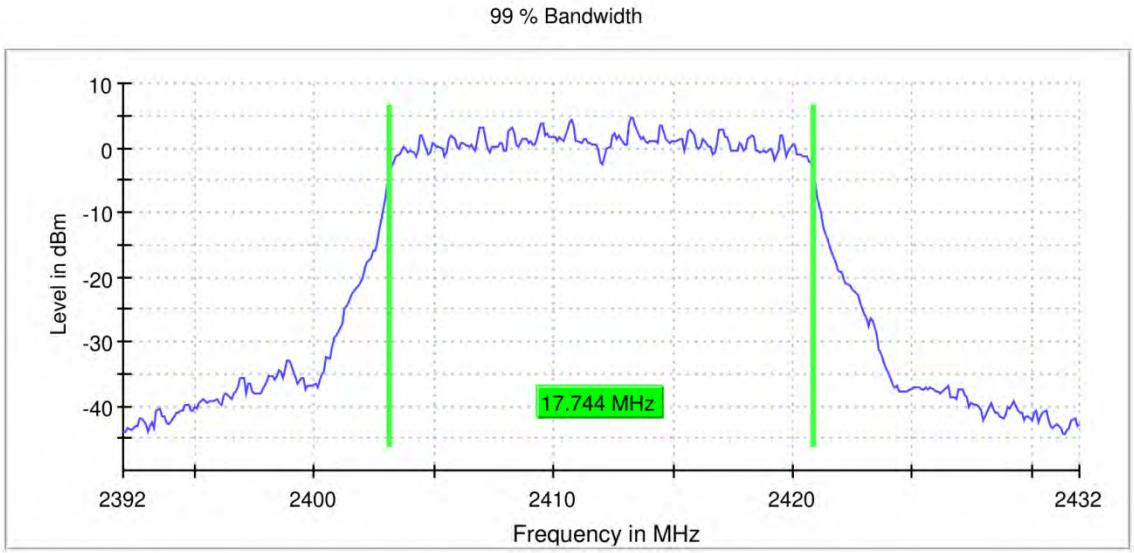
11G_Ant0_2437



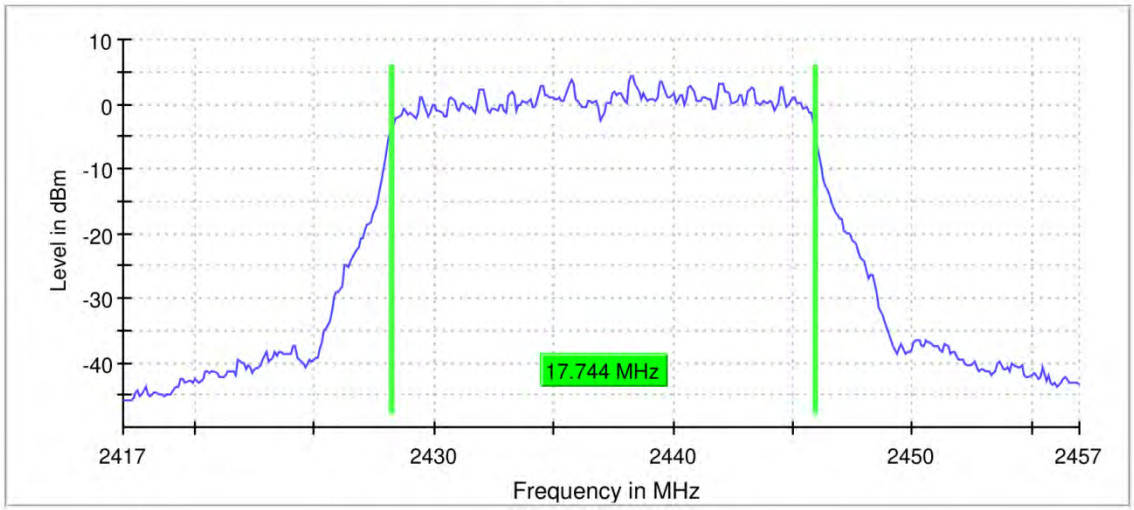
11G_Ant0_2462



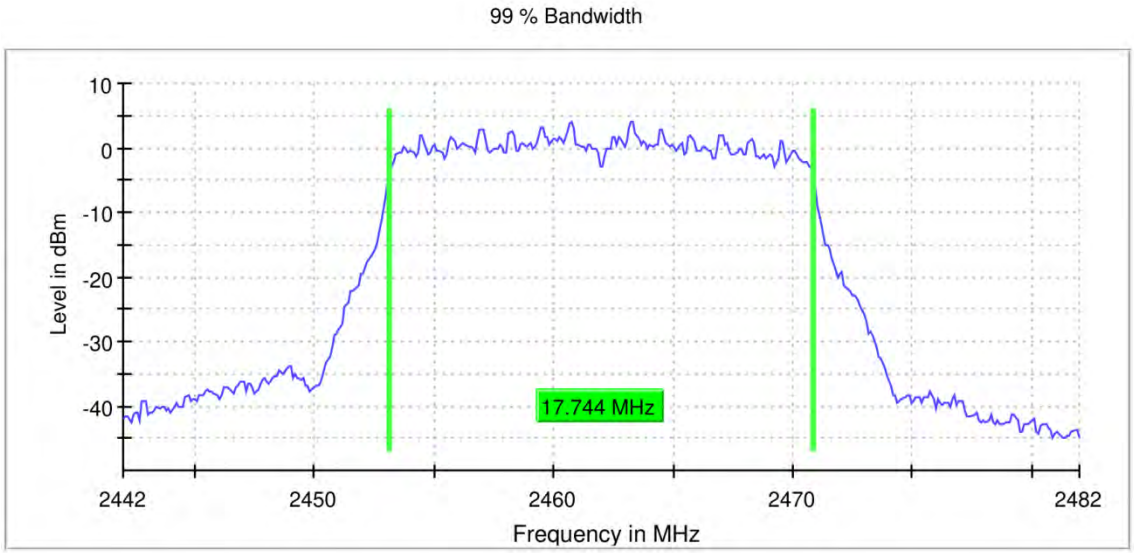
11N20_Ant0_2412



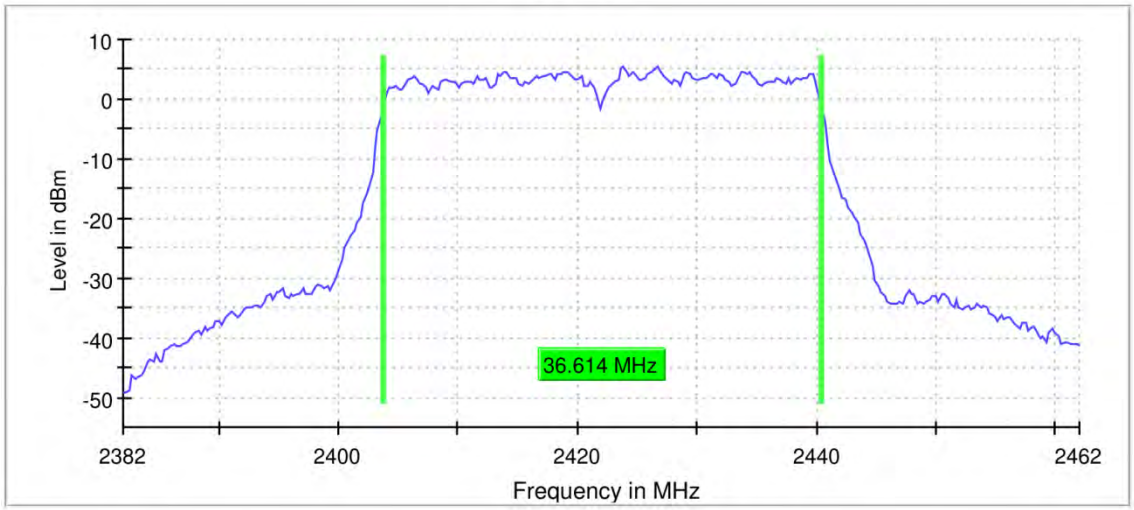
11N20_Ant0_2437



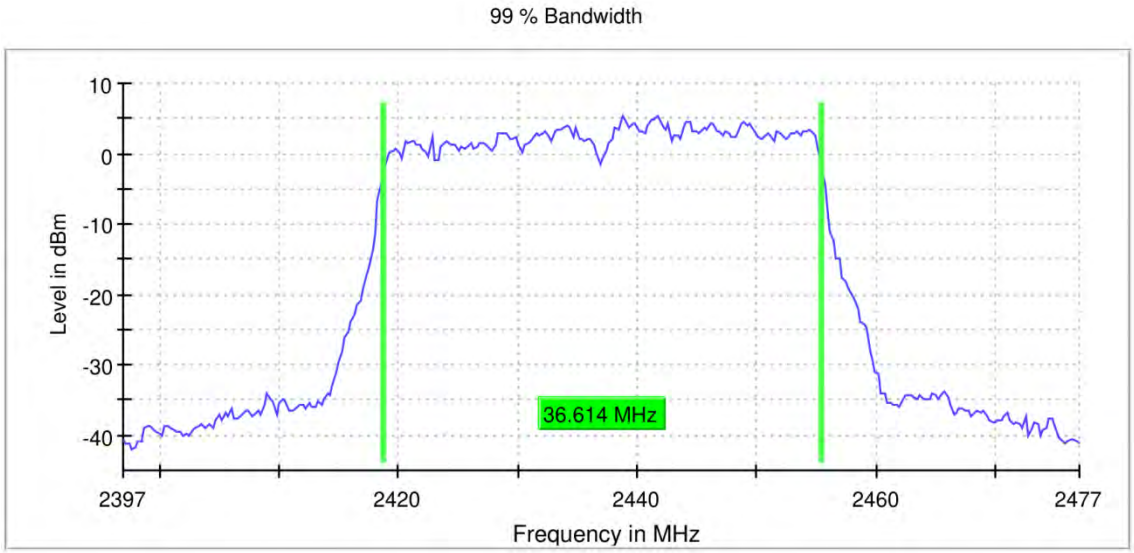
11N20_Ant0_2462



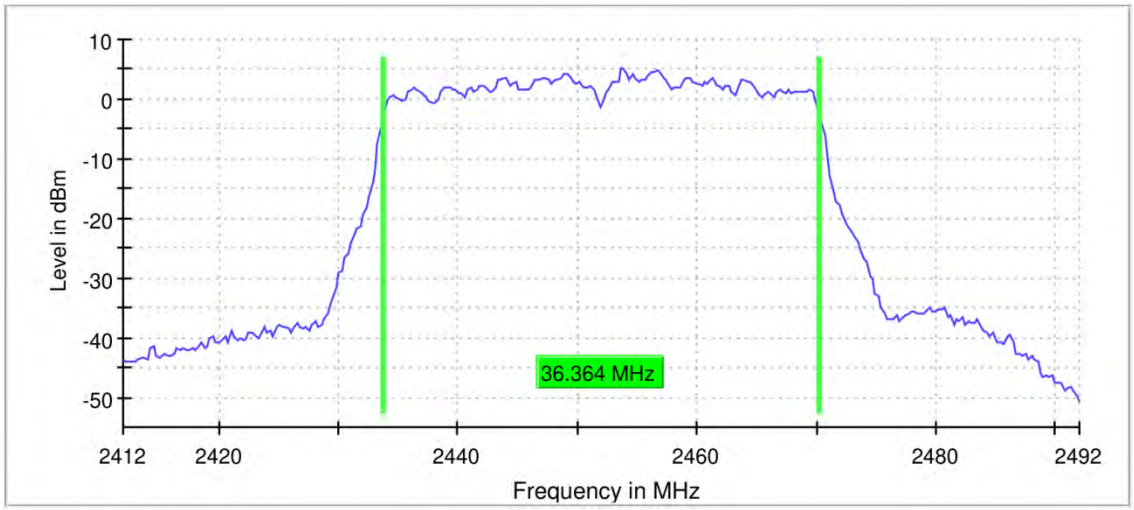
11N40_Ant0_2422



11N40_Ant0_2437



11N40_Ant0_2452



20M

RBW 200.000 kHz

VBW 1.000 MHz

40M

RBW 500.000 kHz

VBW 2.000 MHz

MAXIMUM CONDUCTED OUTPUT POWER

TEST RESULT

TestMode	TX Mod.	Frequency [MHz]	Peak power [dBm] Ant0	MAX Peak power [mw]	Limit [dBm]	Verdict	Power Setting
11B	SISO	2412	21.00	125.89	≤30.00	PASS	17
		2437	20.31	107.40	≤30.00	PASS	17
		2462	20.11	102.57	≤30.00	PASS	17
11g	SISO	2412	20.66	116.41	≤30.00	PASS	14
		2437	20.06	101.39	≤30.00	PASS	14
		2462	20.16	103.75	≤30.00	PASS	14
11N20	SISO	2412	18.82	76.21	≤30.00	PASS	12
		2437	18.01	63.24	≤30.00	PASS	12
		2462	18.00	63.10	≤30.00	PASS	12
11N40	SISO	2422	20.31	107.40	≤30.00	PASS	12
		2437	19.73	93.97	≤30.00	PASS	12
		2452	19.08	80.91	≤30.00	PASS	12

TestMode	TX Mod.	Freq. [MHz]	Avg.power [dBm]	Power Setting
			Ant0	
11B	SISO	2412	18.10	17
		2437	17.51	17
		2462	17.22	17
11g	SISO	2412	14.90	14
		2437	14.15	14
		2462	14.19	14
11N20	SISO	2412	12.77	12
		2437	11.94	12
		2462	11.90	12
11N40	SISO	2422	13.17	12
		2437	12.45	12
		2452	12.13	12

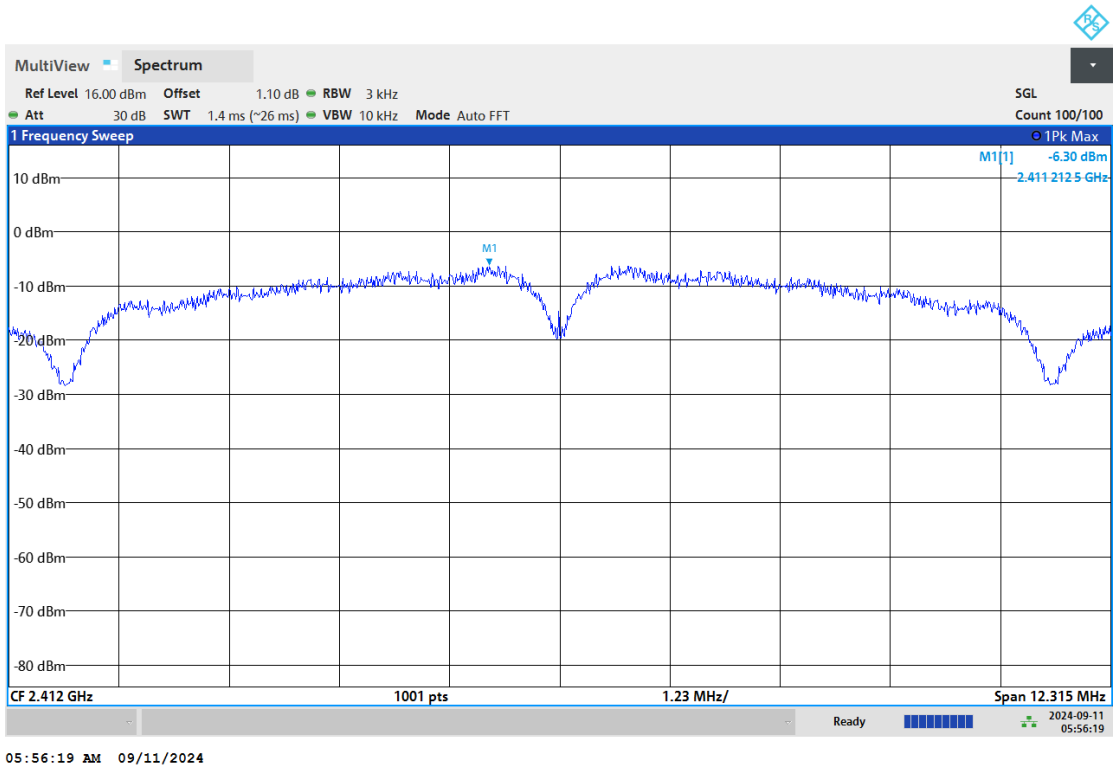
MAXIMUM POWER SPECTRAL DENSITY

TEST RESULT

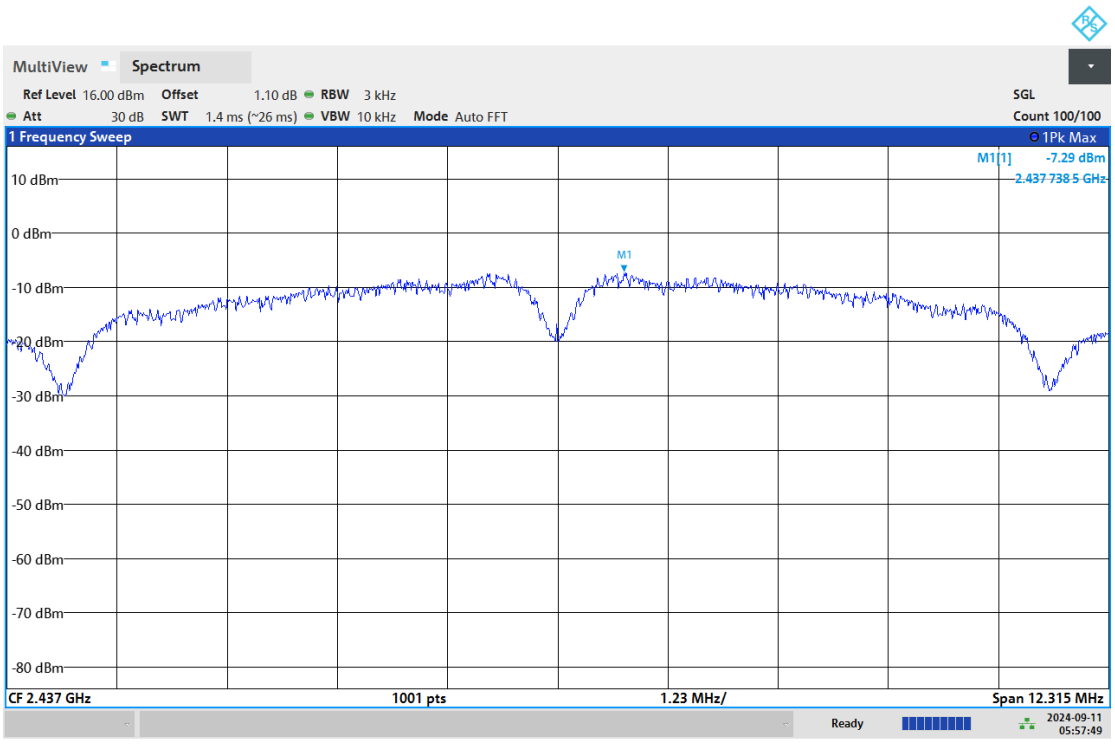
TestMode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	ANT0	2412	-6.30	≤8.00	PASS
	ANT0	2437	-7.29	≤8.00	PASS
	ANT0	2462	-6.02	≤8.00	PASS
11G	ANT0	2412	-11.41	≤8.00	PASS
	ANT0	2437	-12.72	≤8.00	PASS
	ANT0	2462	-11.91	≤8.00	PASS
11N20	ANT0	2412	-14.55	≤8.00	PASS
	ANT0	2437	-14.71	≤8.00	PASS
	ANT0	2462	-14.94	≤8.00	PASS
11N40	ANT0	2422	-16.72	≤8.00	PASS
	ANT0	2437	-16.03	≤8.00	PASS
	ANT0	2452	-16.77	≤8.00	PASS

TEST GRAPHS

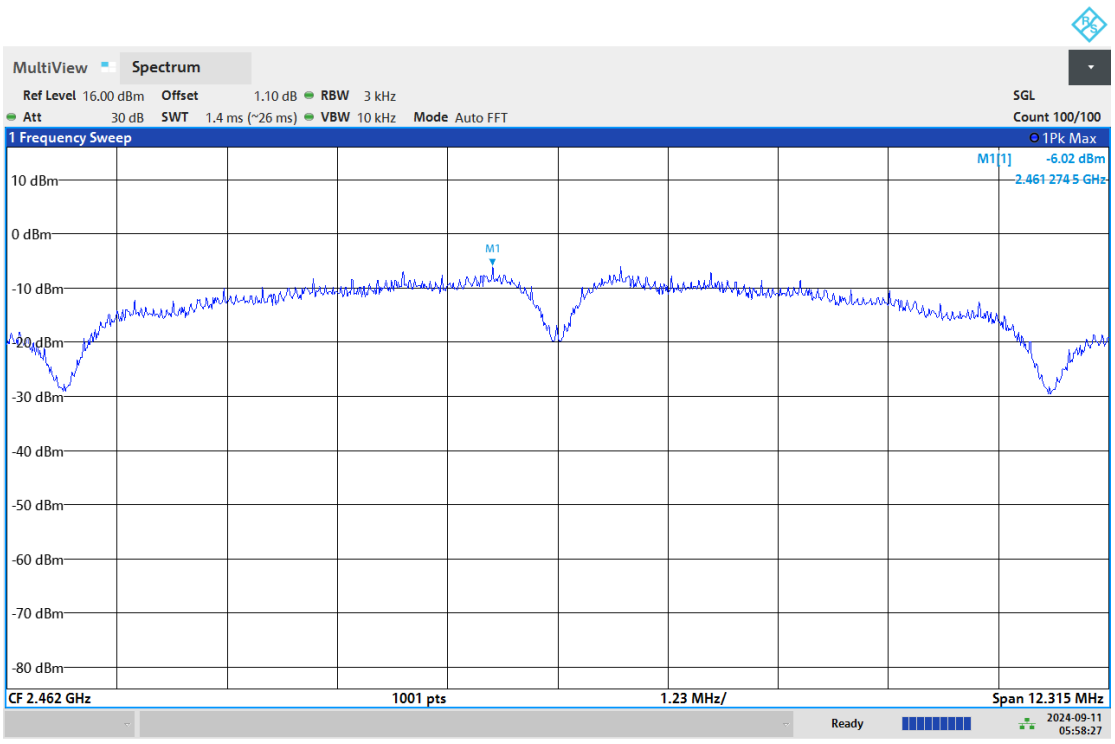
11B_Ant0_2412



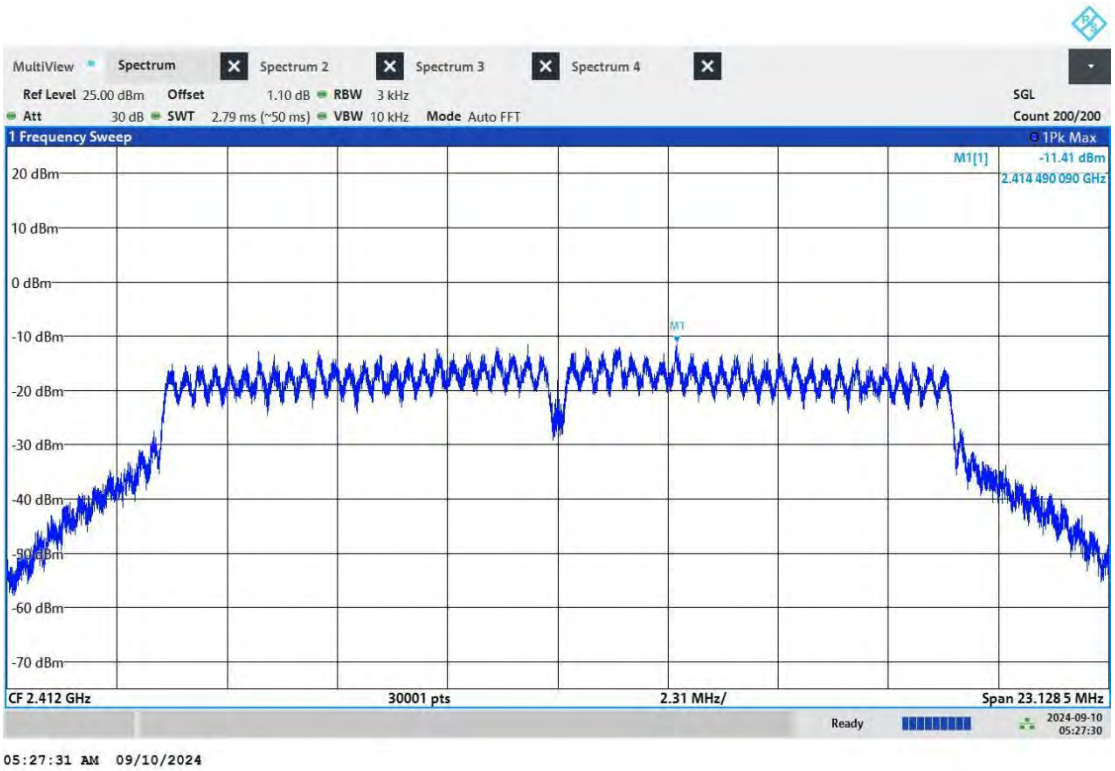
11B_Ant0_2437



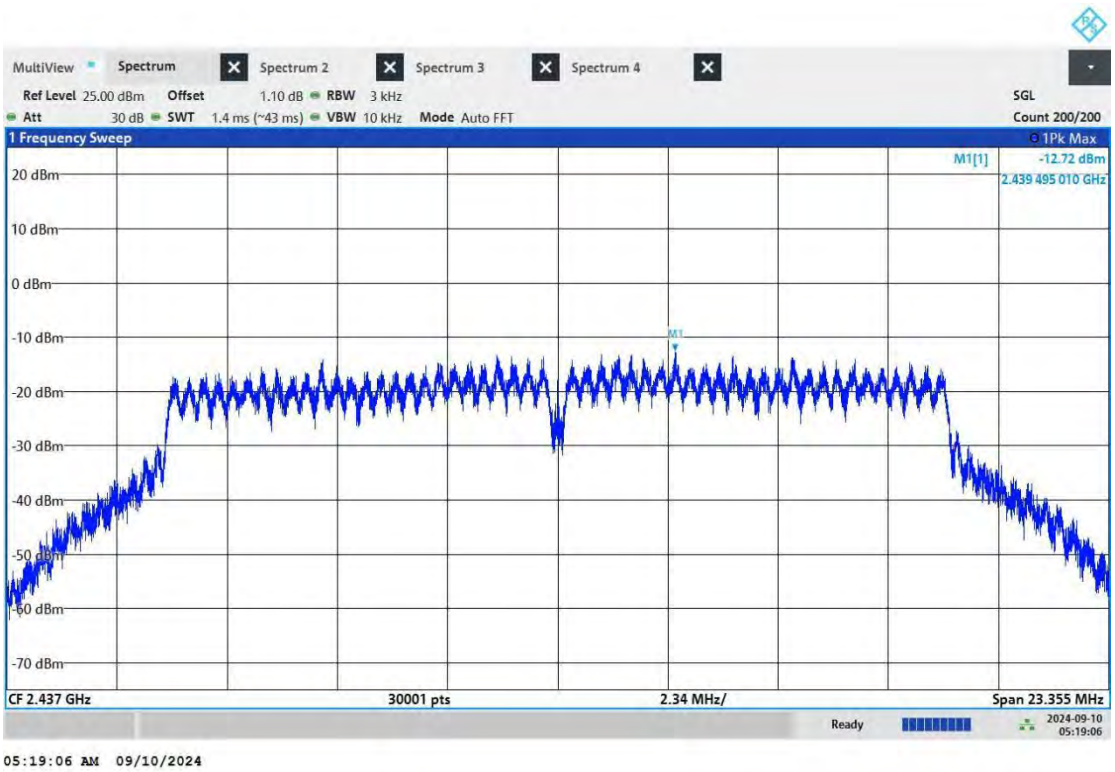
11B_Ant0_2462



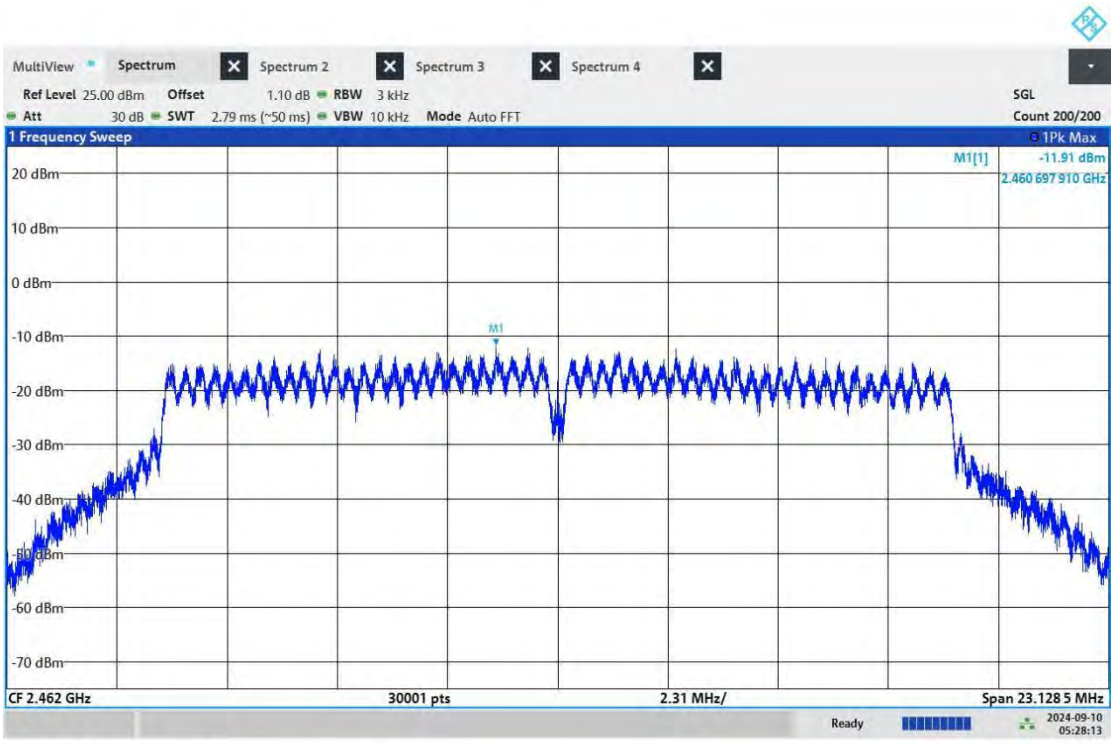
11G_Ant0_2412



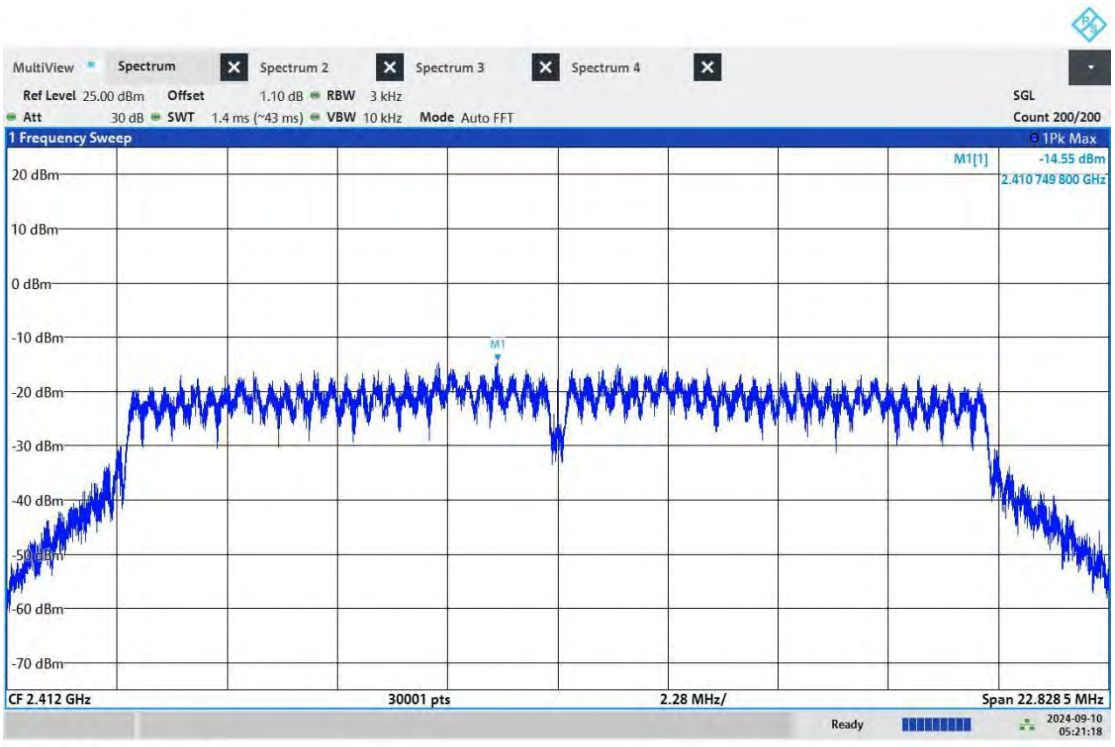
11G_Ant0_2437



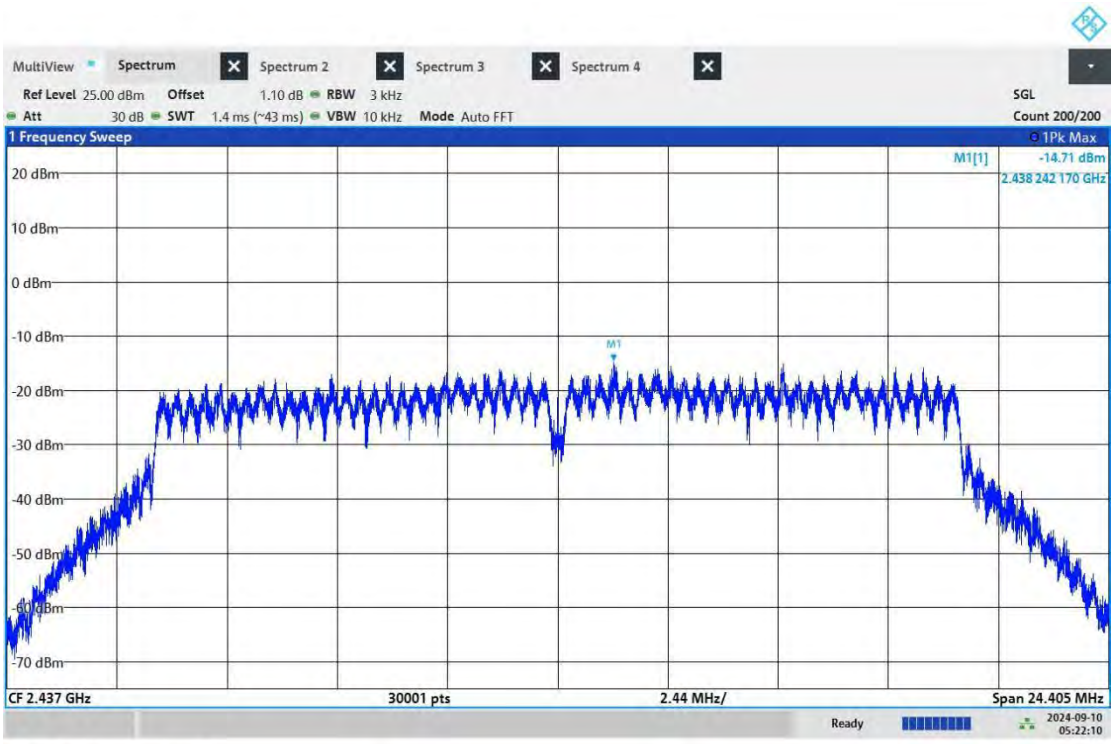
11G_Ant0_2462



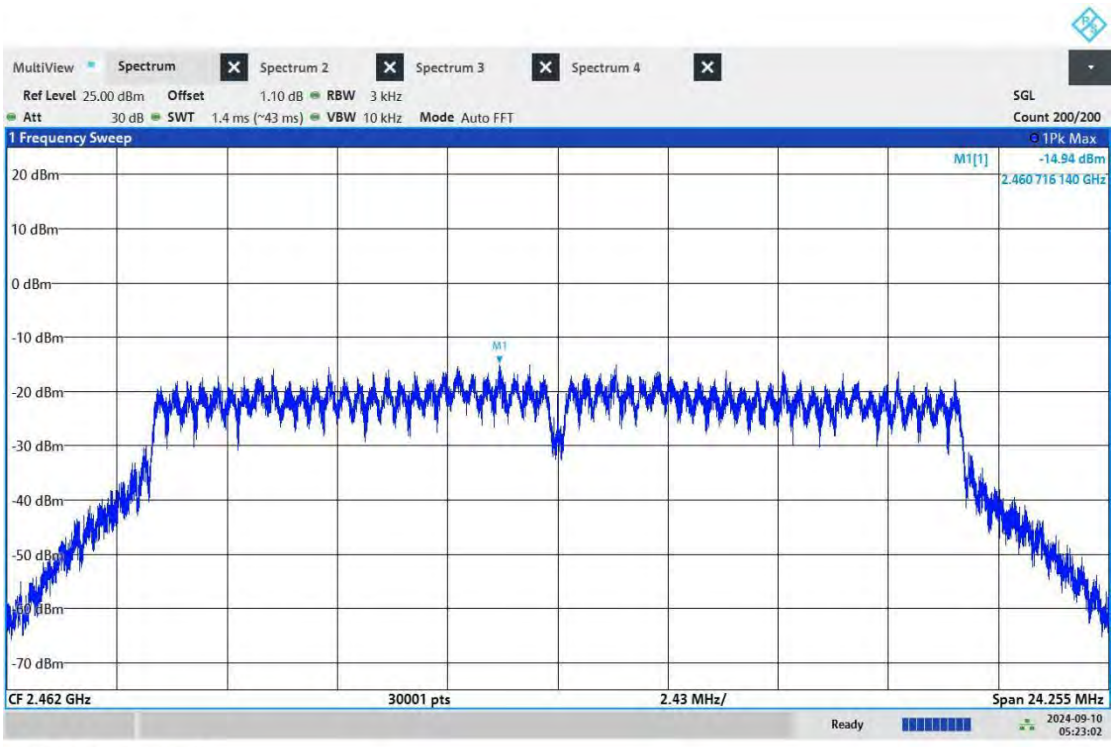
11N20_Ant0_2412



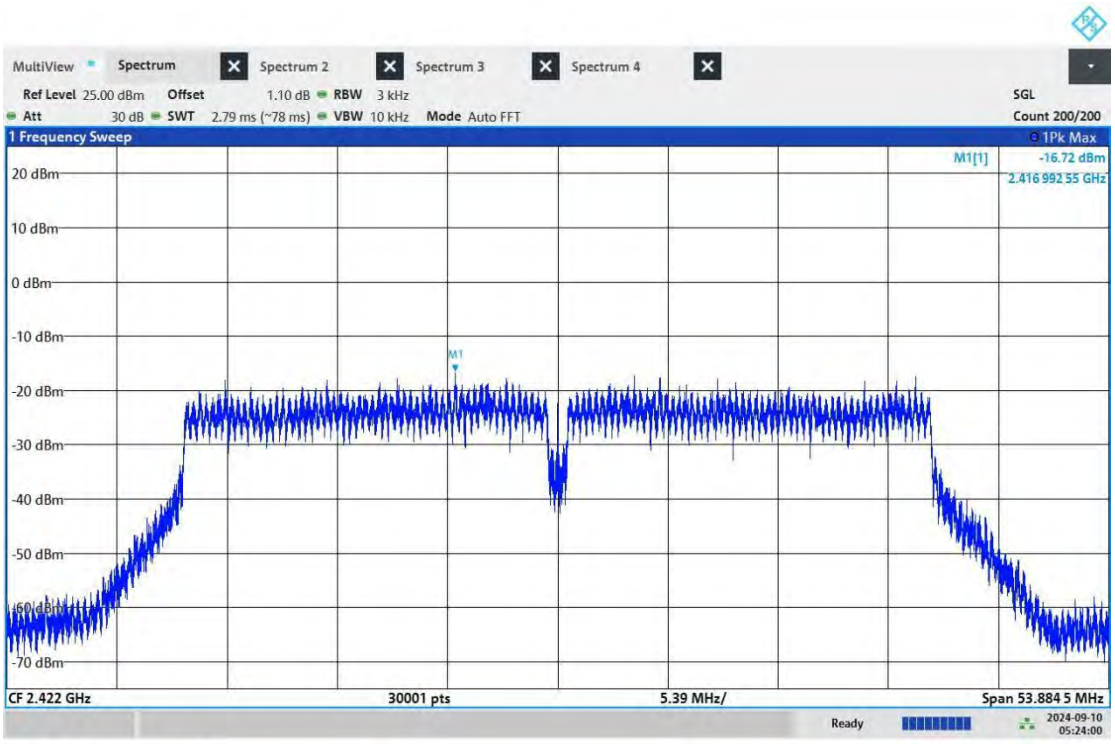
11N20_Ant0_2437



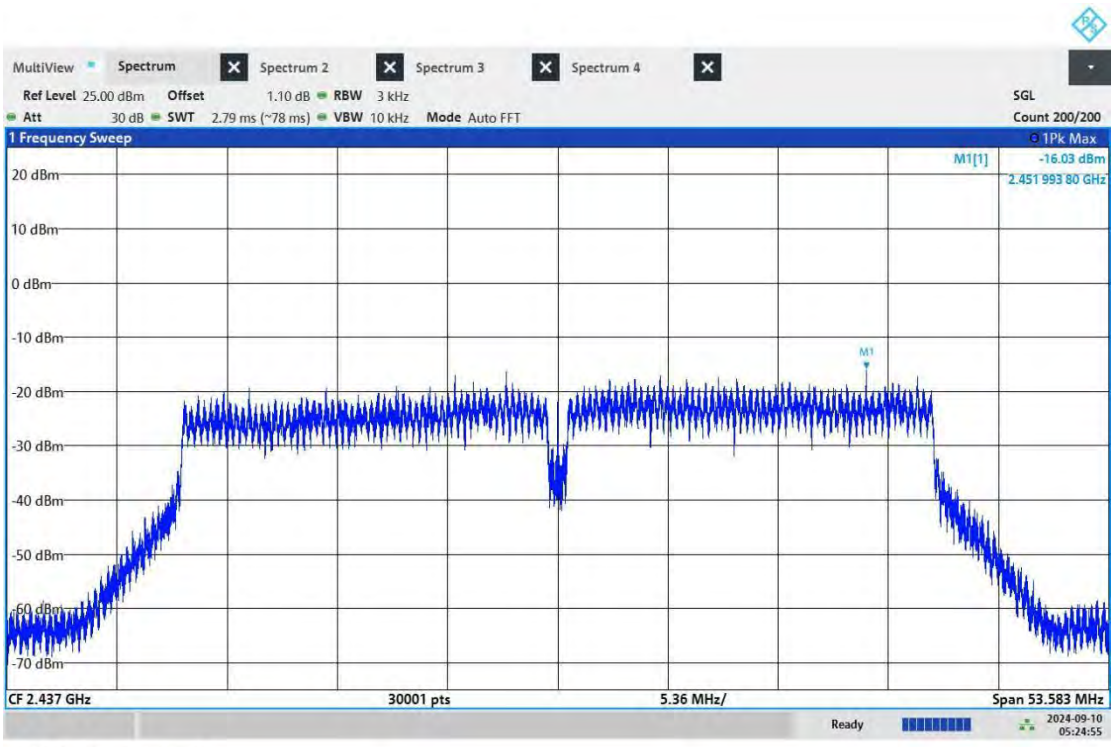
11N20_Ant0_2462



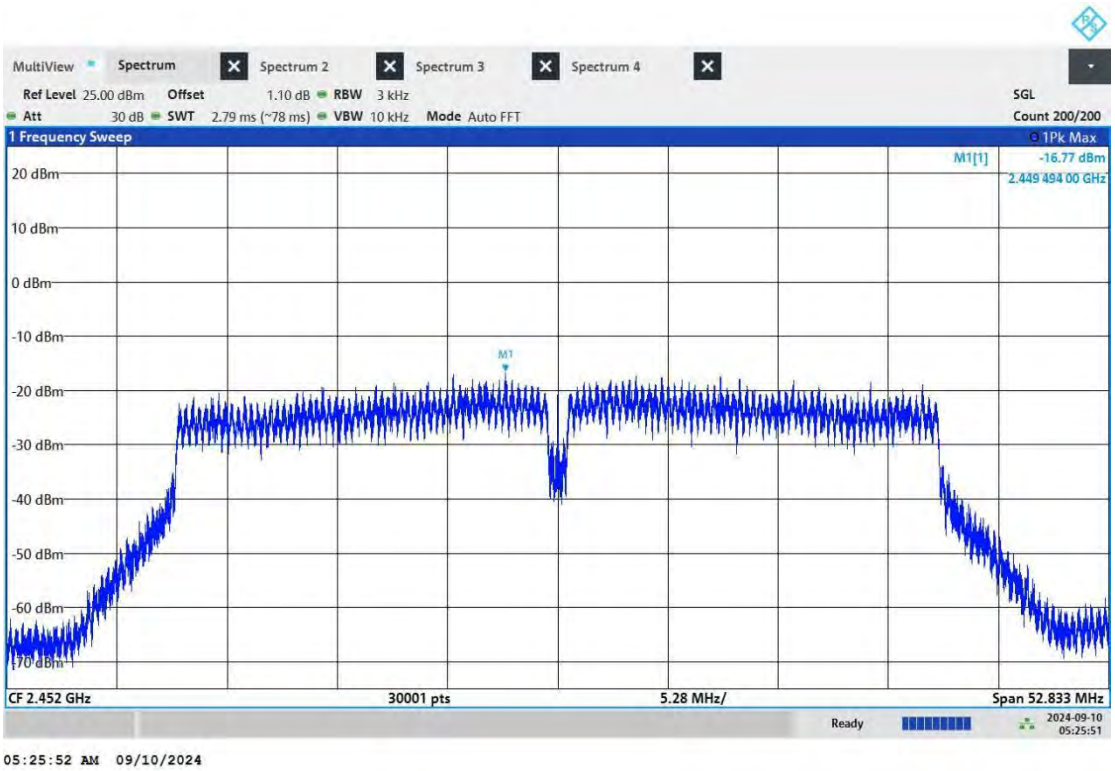
11N40_Ant0_2422



11N40_Ant0_2438



11N40_Ant0_2452


MultiView
Spectrum
Spectrum 2
Spectrum 3
Spectrum 4
Ref Level 25.00 dBm Offset 1.10 dB RBW 3 kHz
Att 30 dB SWT 2.79 ms (~78 ms) VBW 10 kHz Mode Auto FFT
SGL
Count 200/200
1 Frequency Sweep
1Pk Max
M1[1]
-16.77 dBm
2.449 494 00 GHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
CF 2.452 GHz
30001 pts
5.28 MHz/
Span 52.833 MHz
Ready
2024-09-10
05:25:51
05:25:52 AM 09/10/2024

BAND EDGE MEASUREMENTS

TEST RESULT

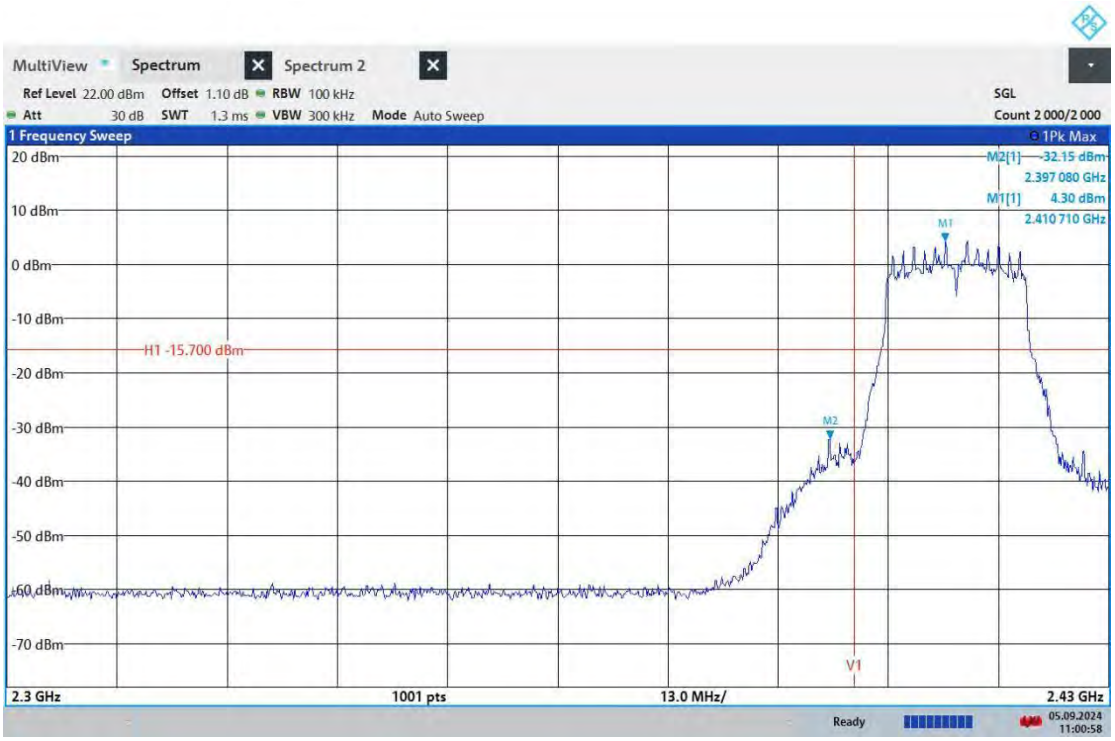
TestMode	Antenna	ChName	Frequency [MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	ANT0	Low	2412	See test graph	See test graph	PASS
	ANT0	High	2462	See test graph	See test graph	PASS
11G	ANT0	Low	2412	See test graph	See test graph	PASS
	ANT0	High	2462	See test graph	See test graph	PASS
11N20	ANT0	Low	2412	See test graph	See test graph	PASS
	ANT0	High	2462	See test graph	See test graph	PASS
11N40	ANT0	Low	2422	See test graph	See test graph	PASS
	ANT0	High	2452	See test graph	See test graph	PASS

TEST GRAPHS

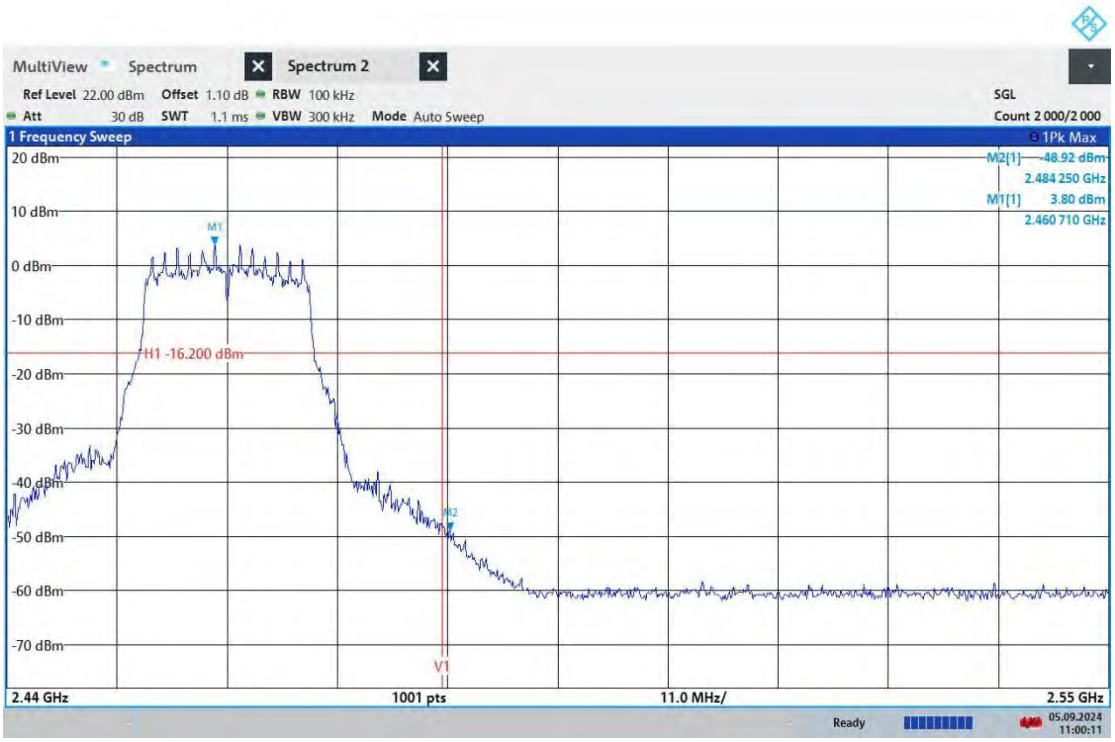
11B-CDD_Ant0_Low_2412


11B-CDD_Ant0_High_2462

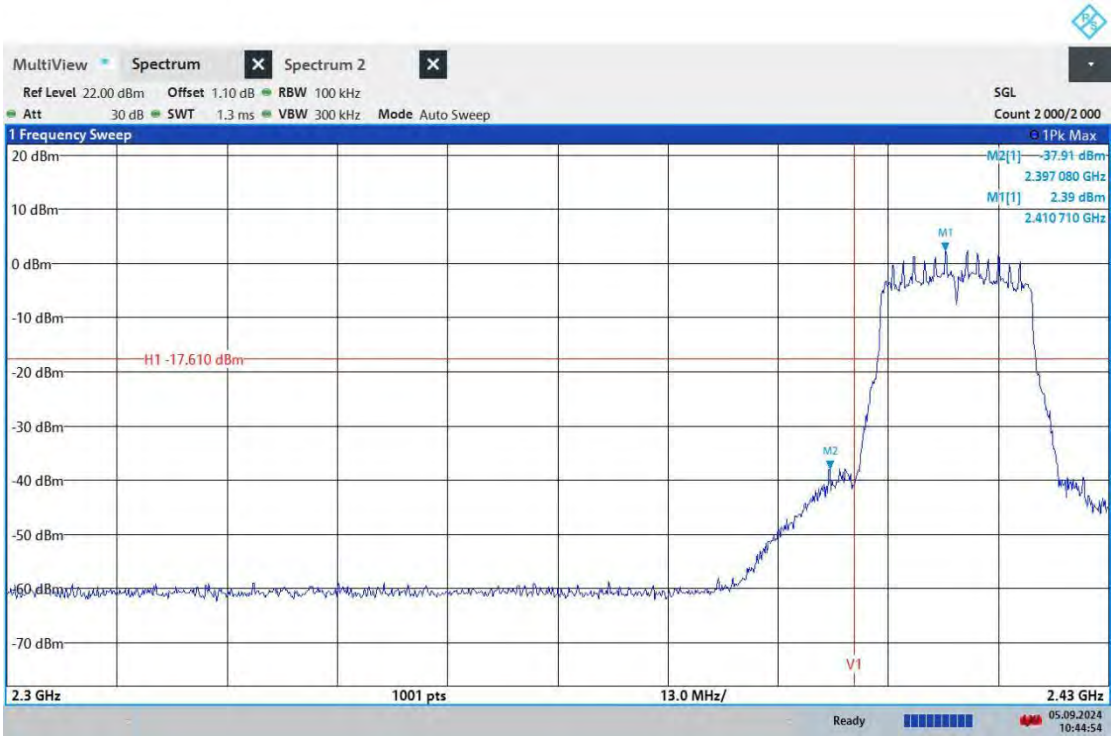

11G-CDD_Ant0_Low_2412



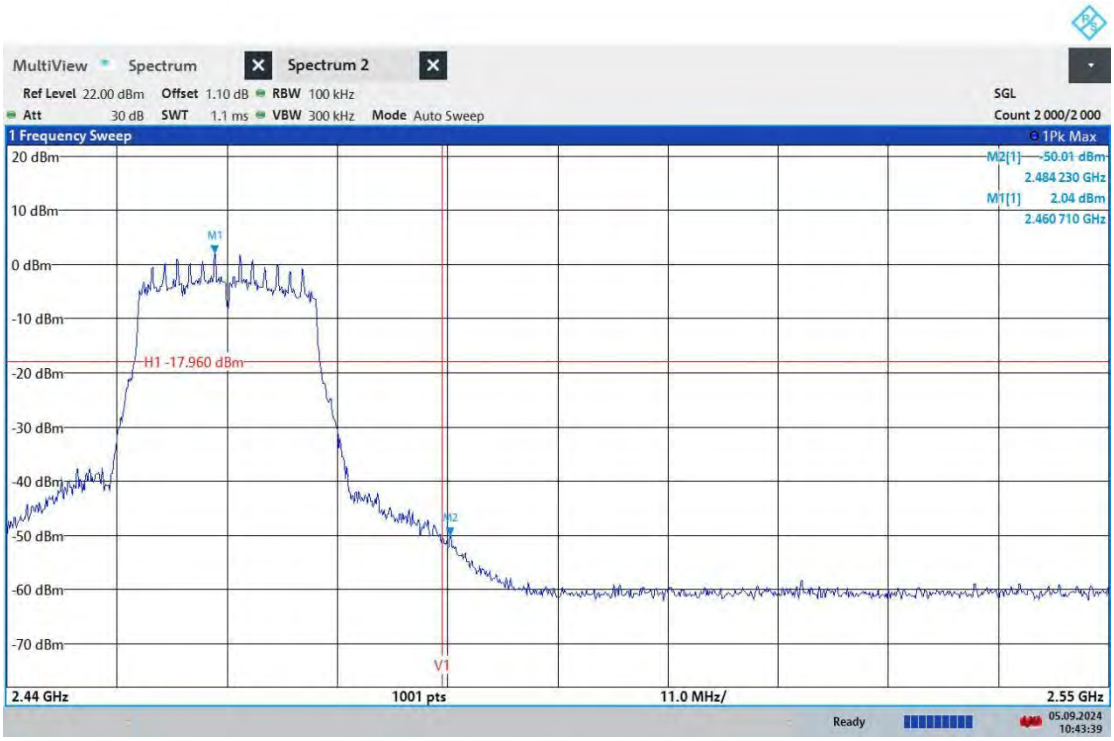
11G-CDD_Ant0_High_2462



11N20SISO_Ant0_Low_2412

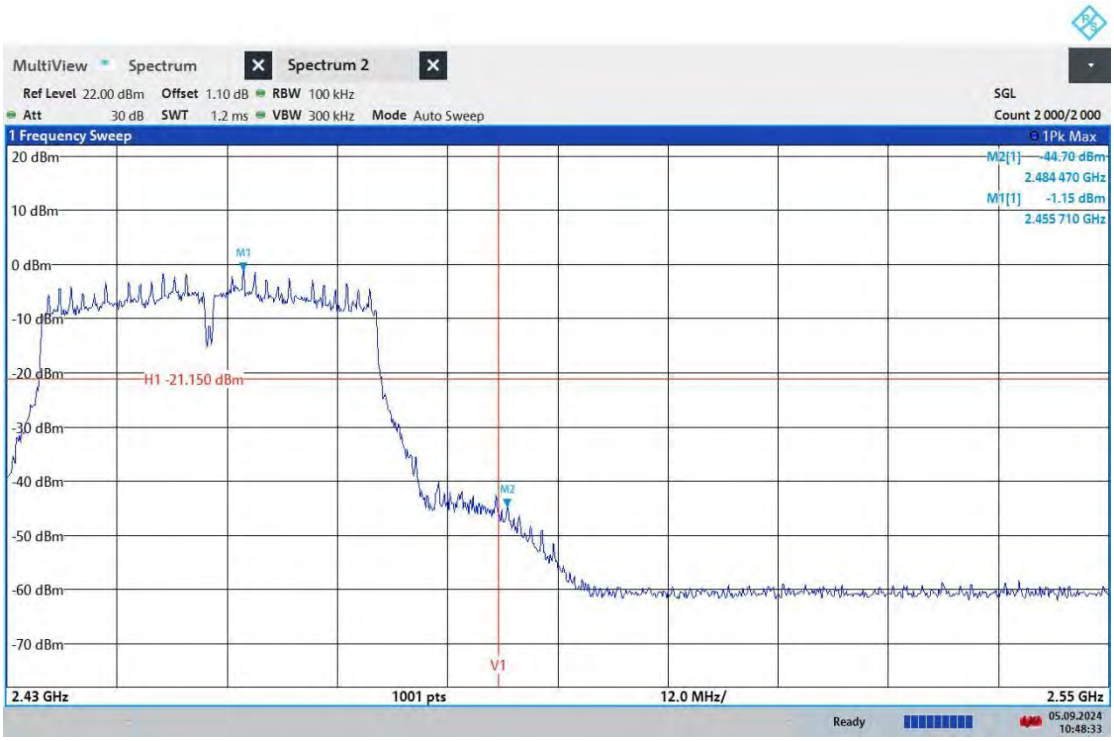


11N20SISO_Ant0_High_2462



11N40SISO_Ant0_Low_2422

11N40SISO_Ant0_High_2452



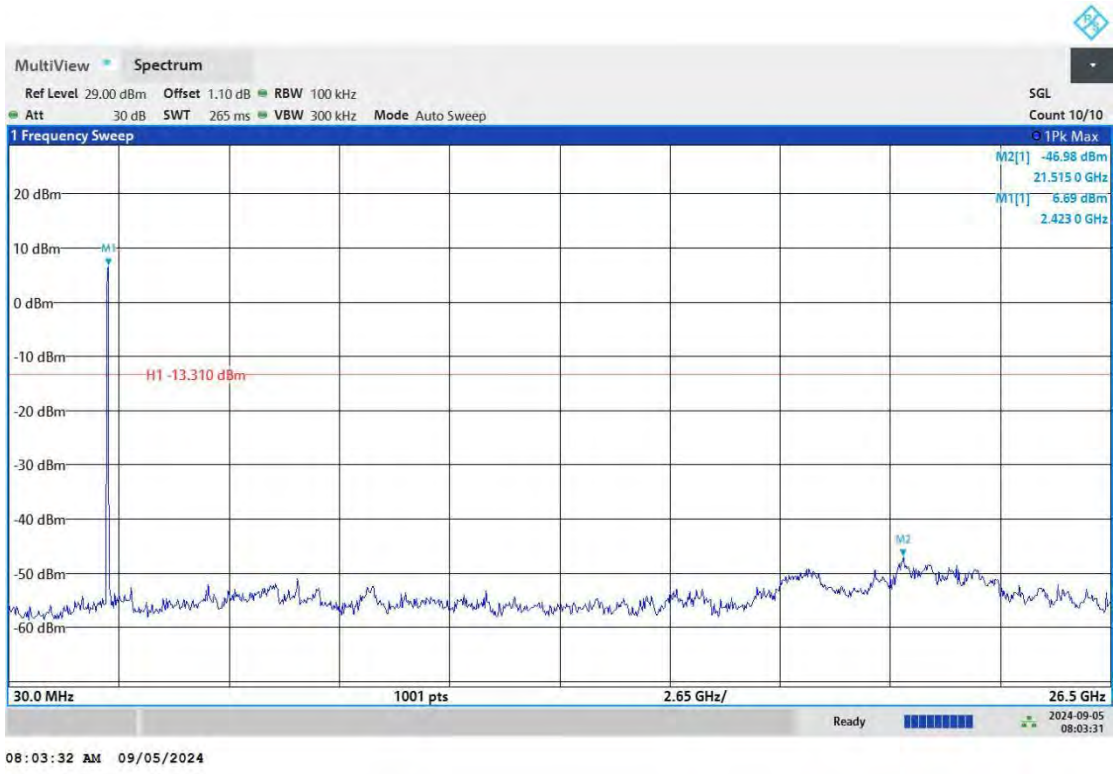
CONDUCTED SPURIOUS EMISSION

TEST RESULT

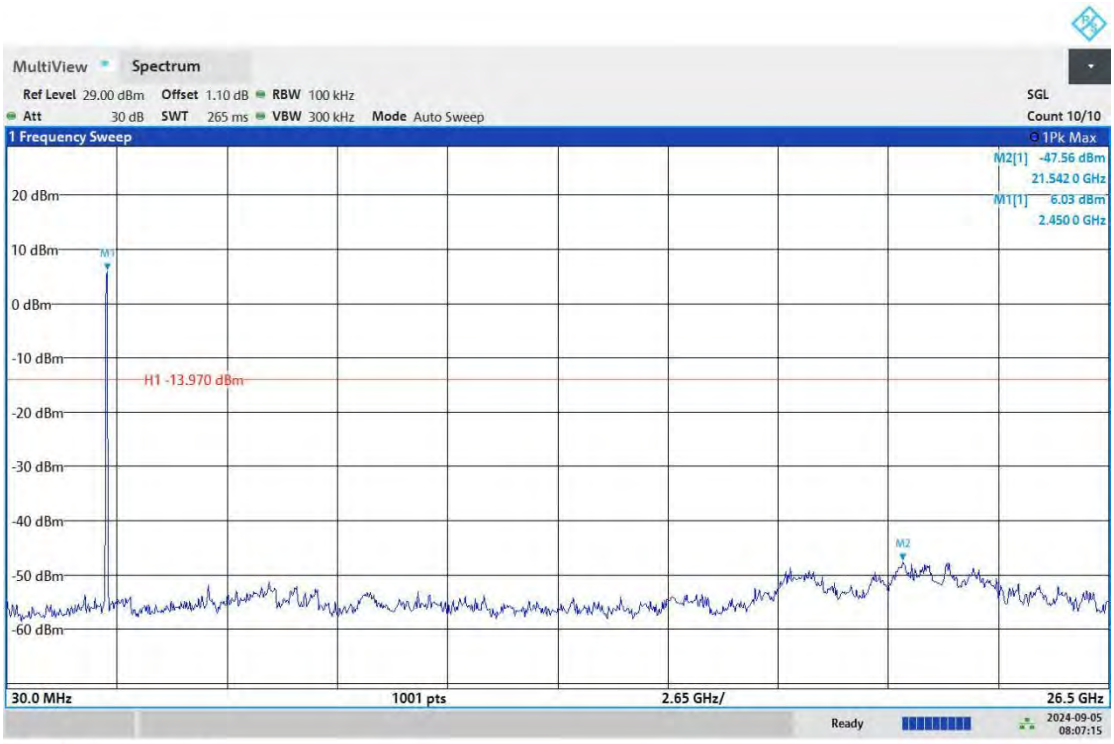
TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	Result [dBm]	Limit [dBm]	Verdict
11B	ANT0	2412	30~265000	See test graph	See test graph	PASS
	ANT0	2437	30~265000	See test graph	See test graph	PASS
	ANT0	2462	30~265000	See test graph	See test graph	PASS
11G	ANT0	2412	30~265000	See test graph	See test graph	PASS
	ANT0	2437	30~265000	See test graph	See test graph	PASS
	ANT0	2462	30~265000	See test graph	See test graph	PASS
11N20	ANT0	2412	30~265000	See test graph	See test graph	PASS
	ANT0	2437	30~265000	See test graph	See test graph	PASS
	ANT0	2462	30~265000	See test graph	See test graph	PASS
11N40	ANT0	2422	30~265000	See test graph	See test graph	PASS
	ANT0	2437	30~265000	See test graph	See test graph	PASS
	ANT0	2452	30~265000	See test graph	See test graph	PASS

TEST GRAPHS

11B _Ant0_2412_30~265000



11B_Ant0_2437_30~265000



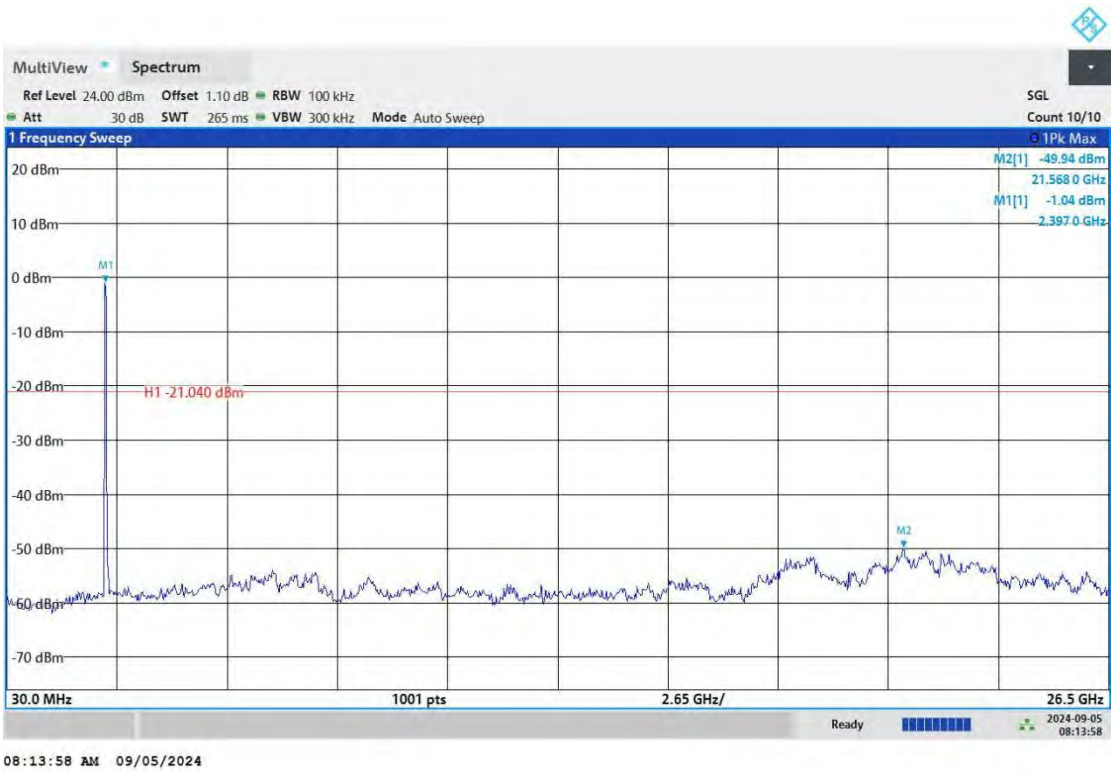
11B_Ant0_2462_30~265000

11G_Ant0_2412_30~265000

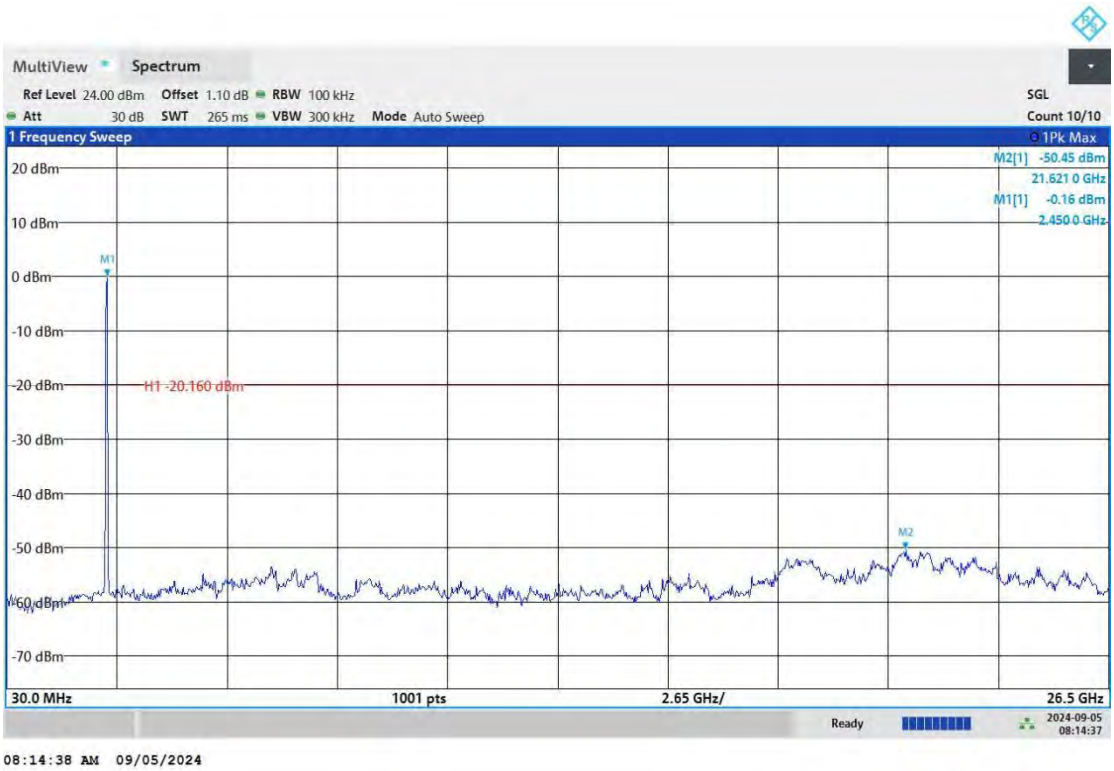
11G_Ant0_2437_30~265000

11G_Ant0_2462_30~265000

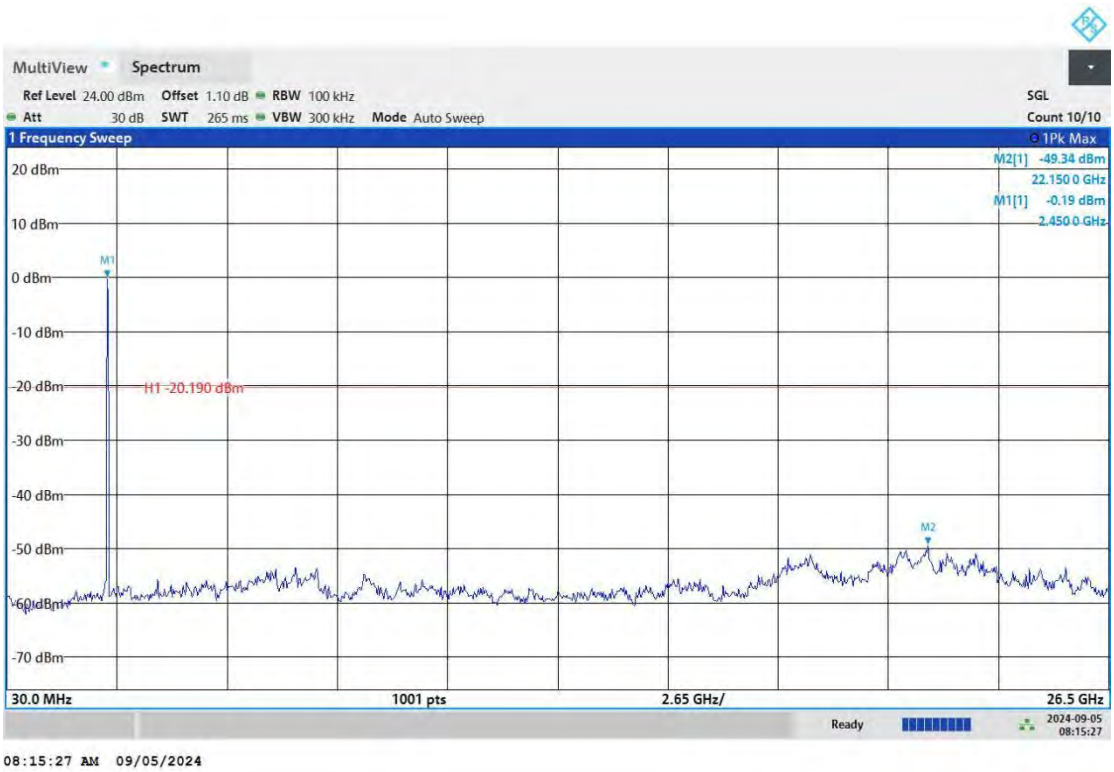
11N20_Ant0_2412_30~265000



11N20_Ant0_2437_30~265000



11N20_Ant0_2462_30~265000



11N40_Ant0_2422_30~265000

11N40_Ant0_2437_30~265000

11N40_Ant0_2452_30~265000


MultiView
Spectrum
Ref Level 24.00 dBm Offset 1.10 dB RBW 100 kHz
Att 30 dB SWT 265 ms VBW 300 kHz Mode Auto Sweep
SGL
Count 10/10
1 Frequency Sweep
1Pk Max
M2[1] -49.60 dBm
18.897 0 GHz
M1[1] -2.43 dBm
2.450 0 GHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
H1 -22.430 dBm
M2
30.0 MHz
1001 pts
2.65 GHz/
26.5 GHz
Ready
2024-09-05
08:16:25
08:16:25 AM 09/05/2024

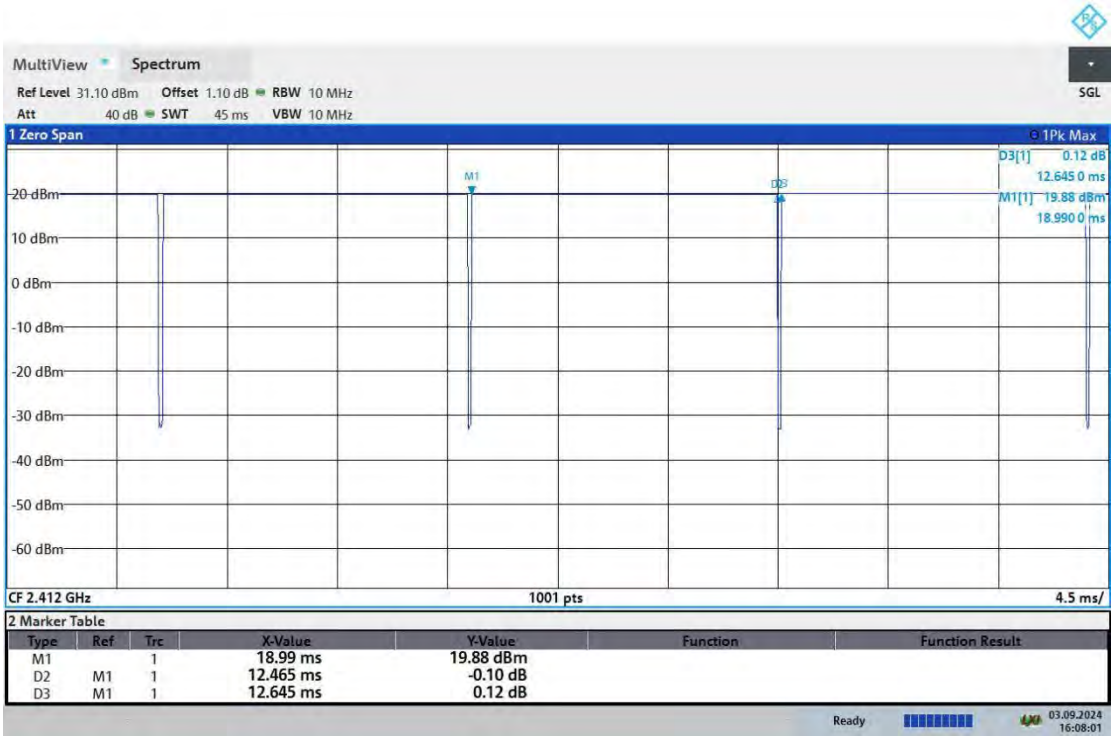
DUTY CYCLE

TEST RESULT

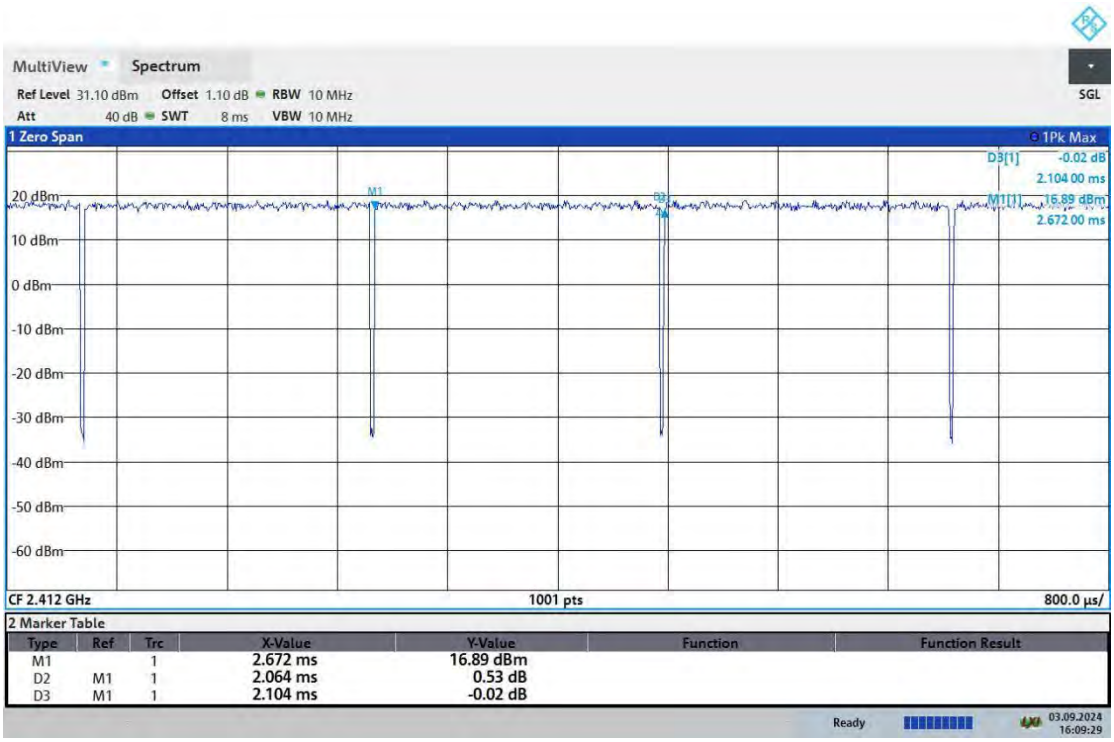
TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	dutycycle factor
11B	ANT0	2412	12.465	12.645	98.51%	0.07
11G	ANT0	2412	2.0640	2.1040	98.10%	0.08
11N20	ANT0	2412	1.9280	1.9600	98.37%	0.07
11N40	ANT0	2422	0.9480	1.0000	94.80%	0.23

TEST GRAPHS

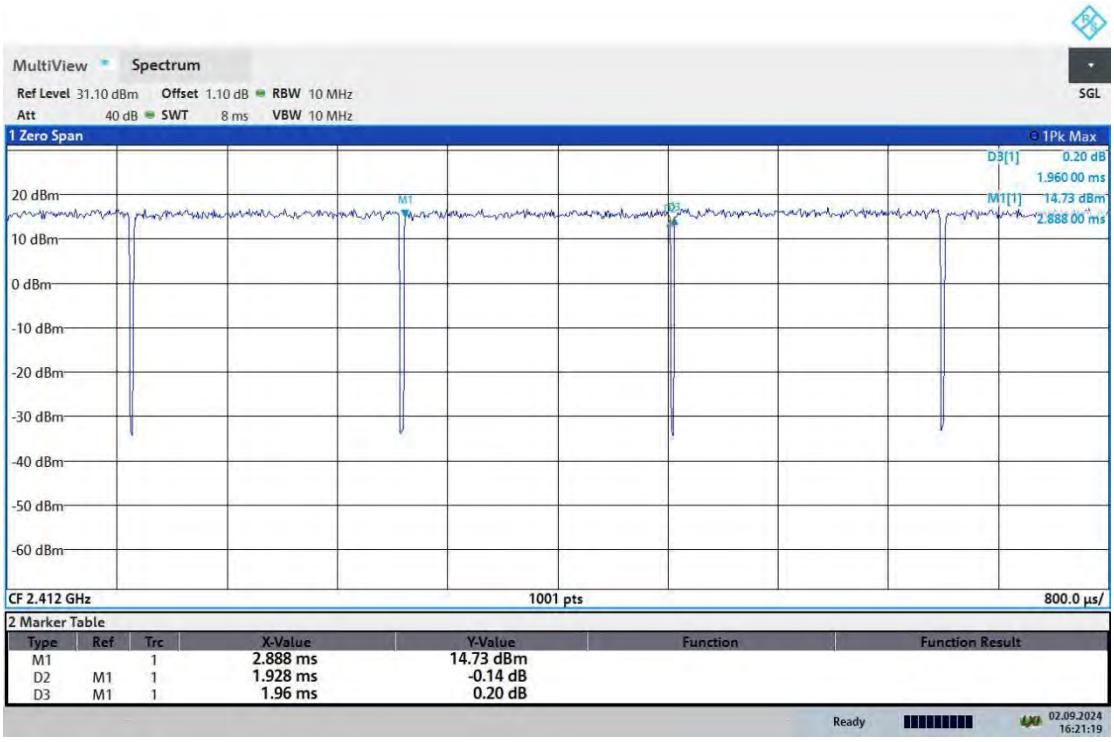
11B_Ant0_2412



11G_Ant0_2412



11N20_Ant0_2412



11N40_Ant0_2422


MultiView
Spectrum
Ref Level 31.10 dBm Offset 1.10 dB RBW 10 MHz
Att 40 dB SWT 4 ms VBW 10 MHz
SGL
1 Zero Span
1Pk Max
D3[1] -0.04 dB
1.000 00 ms
M1[1] 9.51 dBm
1.296 00 ms
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 2.422 GHz
1001 pts
400.0 µs/
2 Marker Table
Type Ref Trc X-Value Y-Value Function Function Result
M1 1 1.296 ms 9.51 dBm
D2 M1 1 948.0 µs 2.96 dB
D3 M1 1 1 000.0 µs -0.04 dB
Ready
02.09.2024
16:22:04

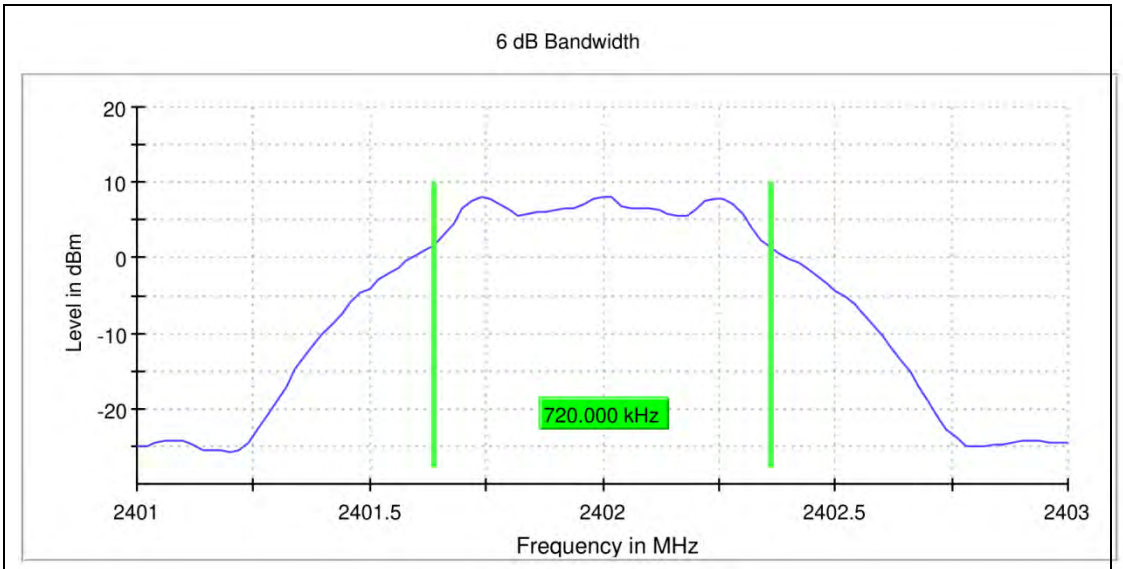
7 APPENDIX 2:BLE

DTS BANDWIDTH

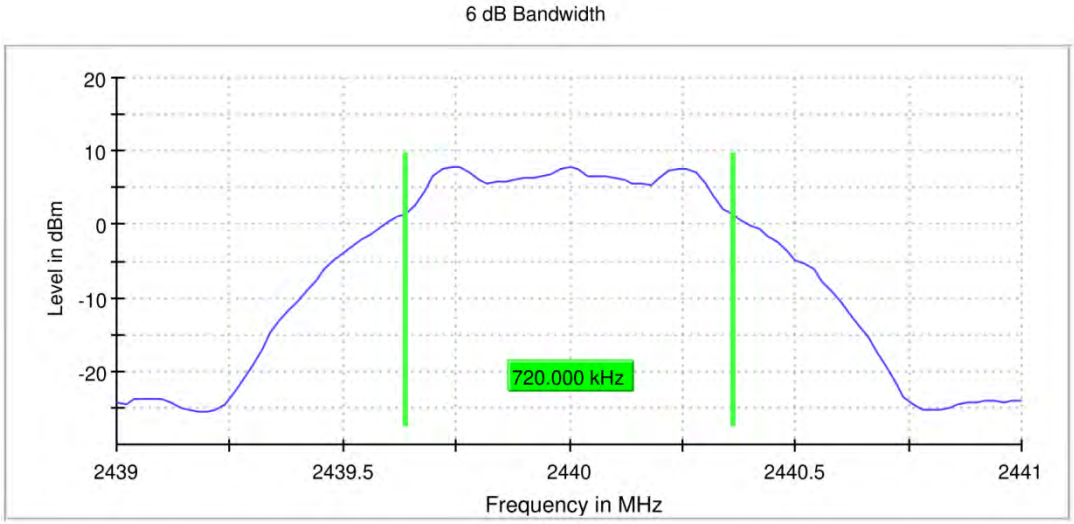
TEST RESULT

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	ANT0	2402	0.720	2401.640	2402.360	0.5	PASS
		2440	0.720	2439.640	2440.360	0.5	PASS
		2480	0.720	2479.640	2480.360	0.5	PASS
BLE_2M	ANT0	2404	1.280	2403.360	2404.640	0.5	PASS
		2440	1.280	2439.360	2440.640	0.5	PASS
		2478	1.280	2477.360	2478.640	0.5	PASS
BLE-S2	ANT0	2402	0.720	2401.640	2402.360	0.5	PASS
		2440	0.720	2439.640	2440.360	0.5	PASS
		2480	0.720	2479.640	2480.360	0.5	PASS
BLE_S8	ANT0	2402	0.640	2401.680	2402.320	0.5	PASS
		2440	0.660	2439.660	2440.320	0.5	PASS
		2480	0.640	2479.680	2480.320	0.5	PASS

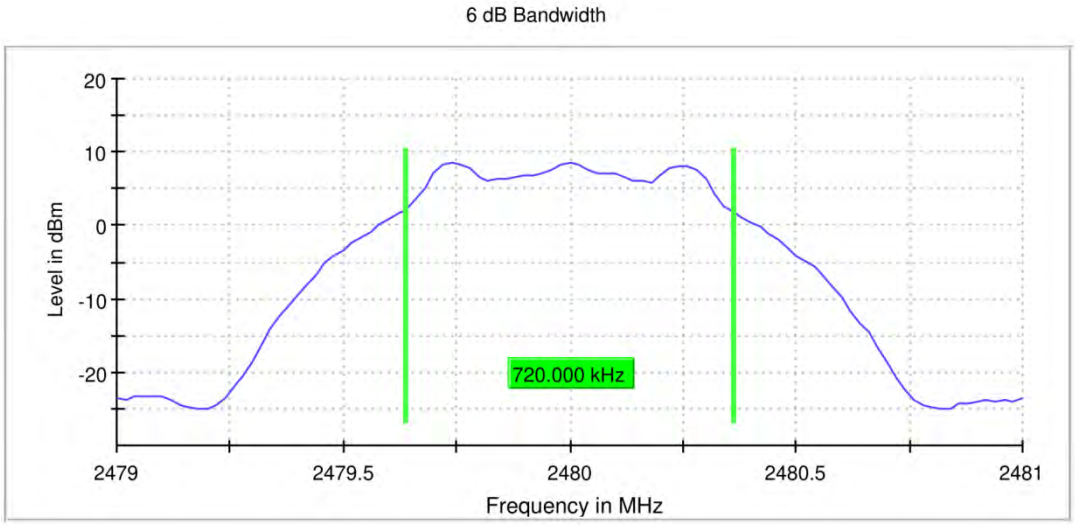
TEST GRAPHS



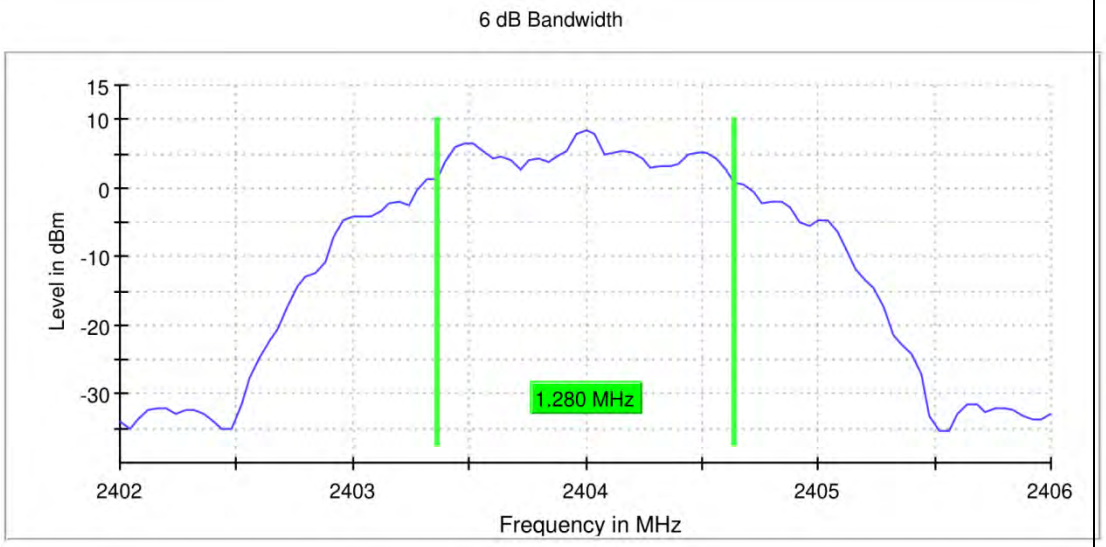
BLE_1M_ANT0_2402



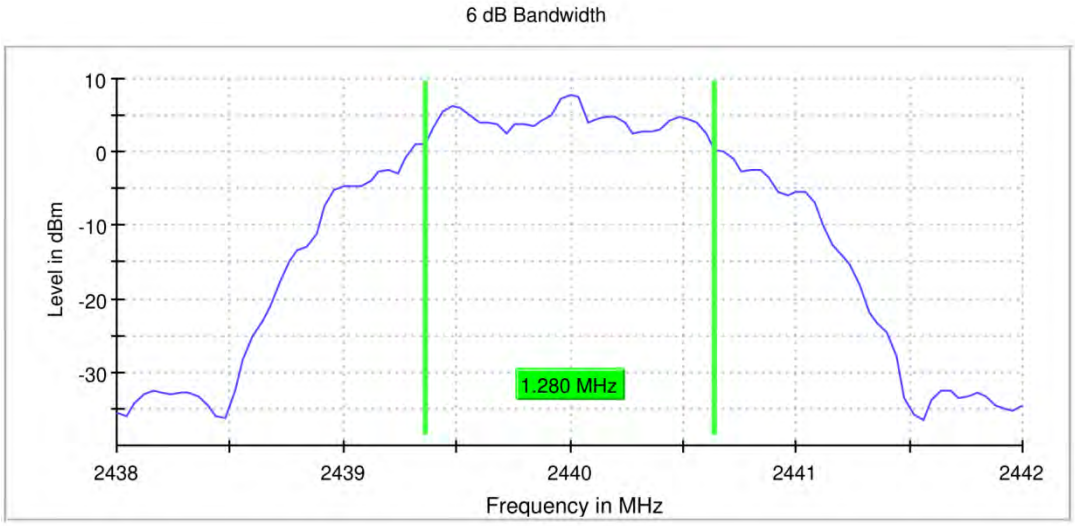
BLE_1M_ANT0_2440



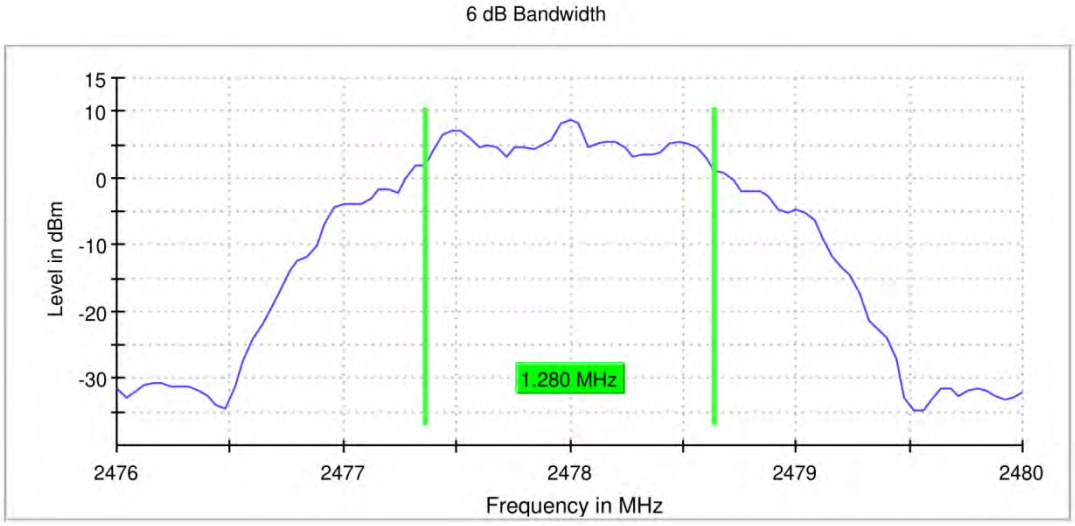
BLE_1M_ANT0_2480



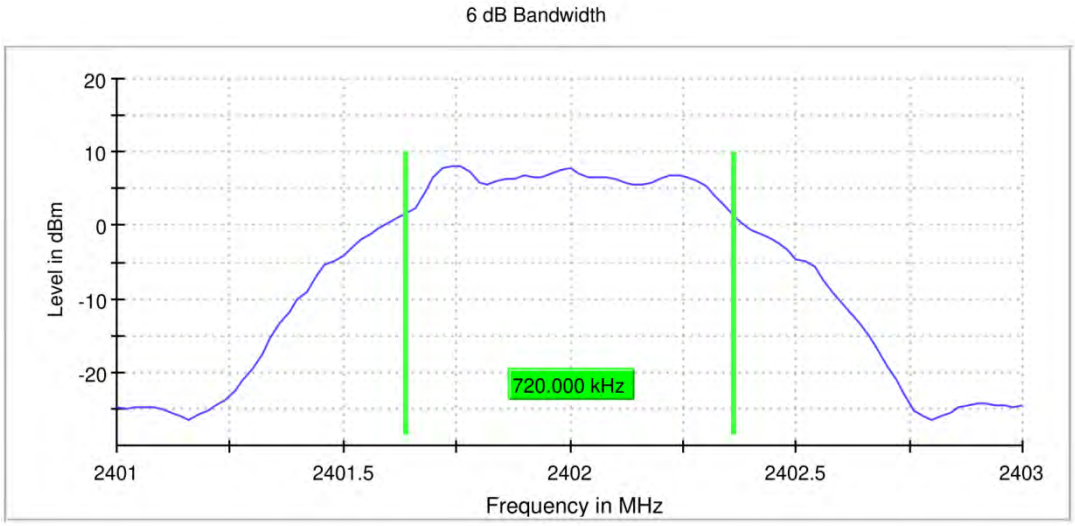
BLE_2M_ANT0_2404



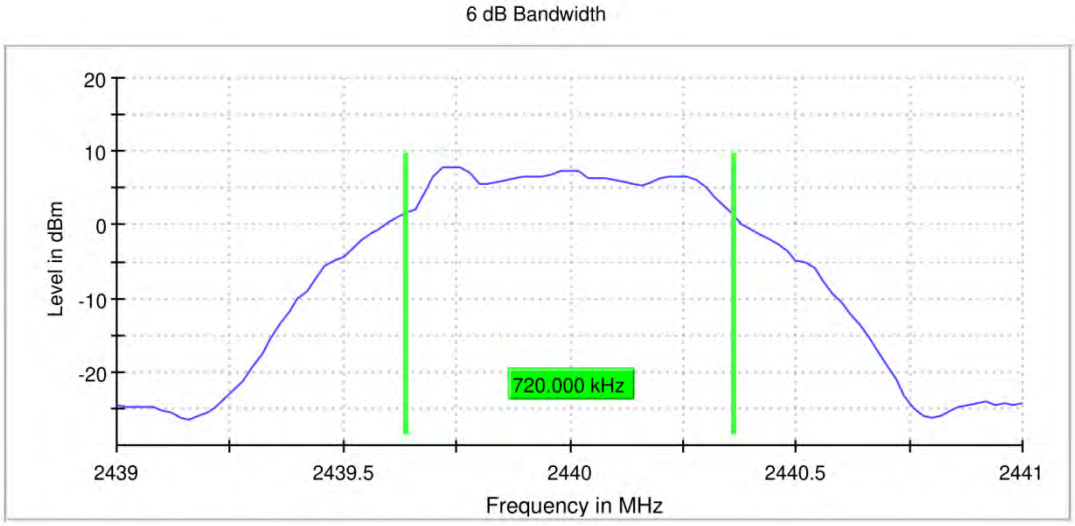
BLE_2M_ANT0_2440



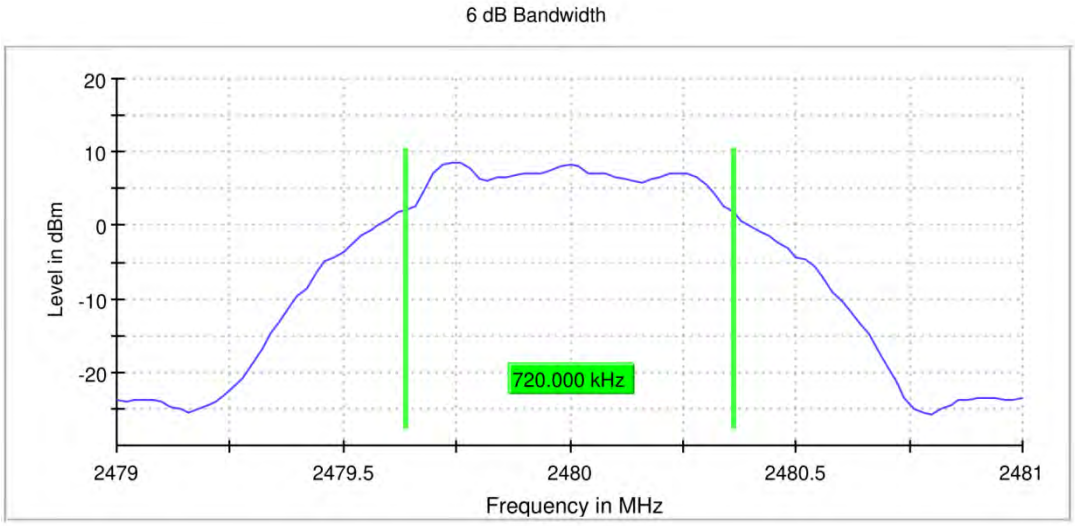
BLE_2M_ANT0_2478



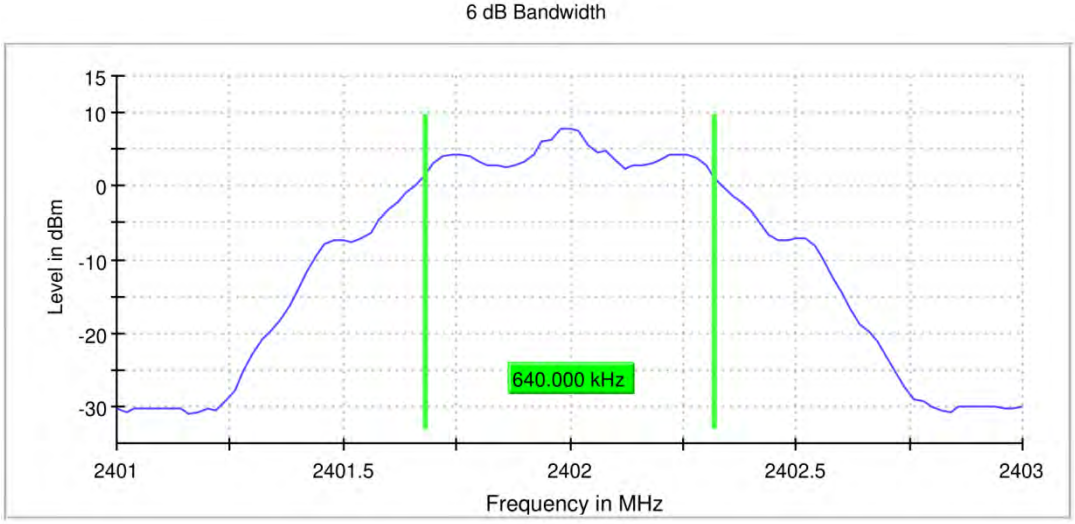
BLE_S2_ANT0_2402



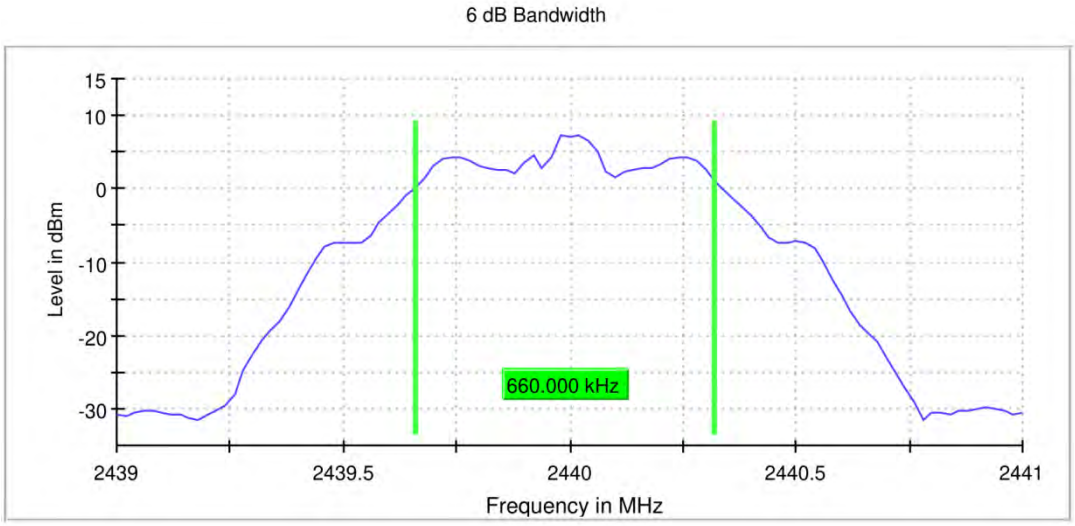
BLE_S2_ANT0_2440



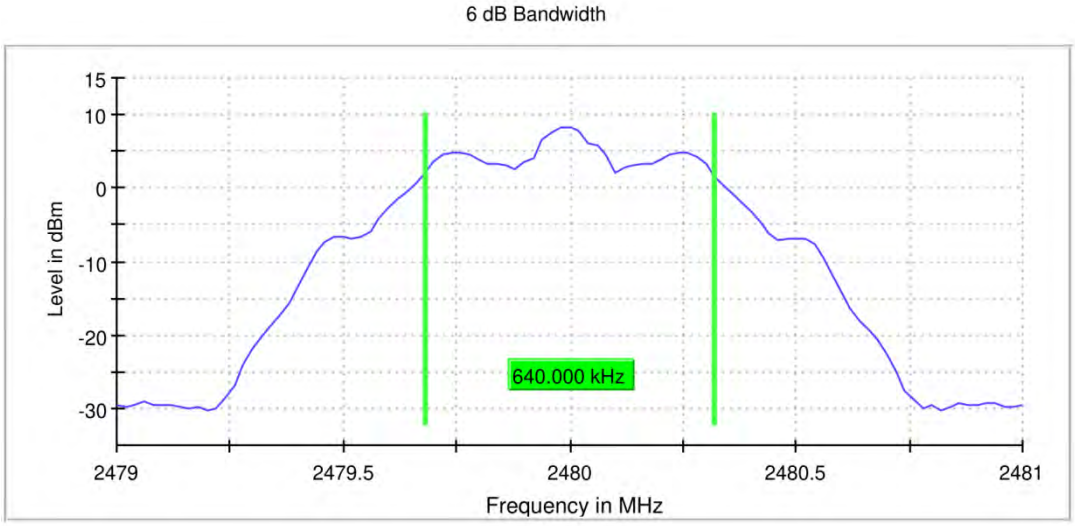
BLE_S2_ANT0_2480



BLE_S8_ANT0_2402



BLE_S8_ANT0_2440



BLE_S8_ANT0_2480

RBW 100.000 kHz

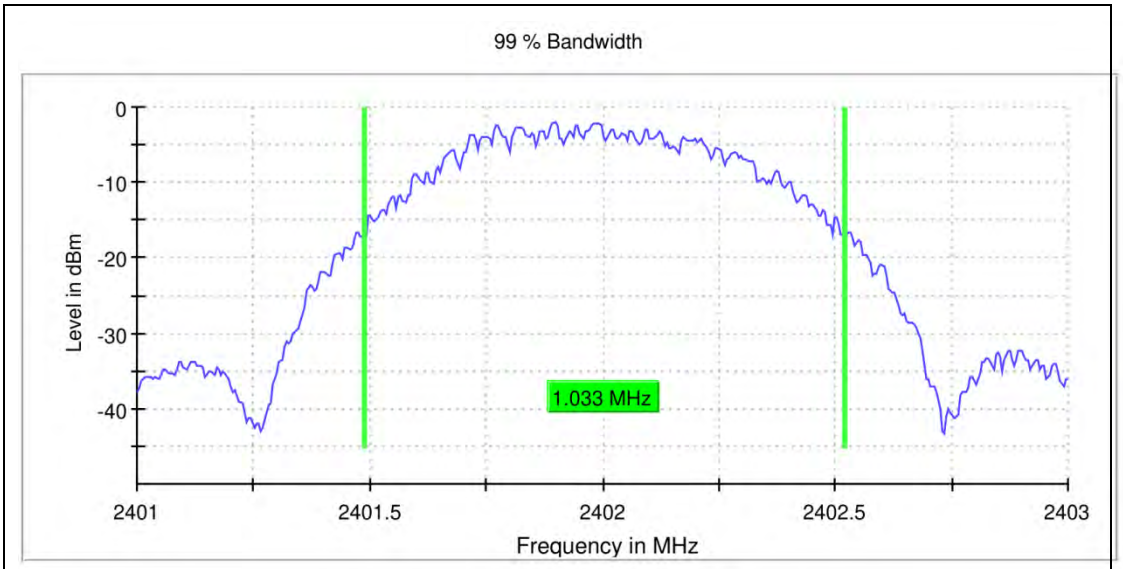
VBW 300.000 kHz

OCCUPIED CHANNEL BANDWIDTH

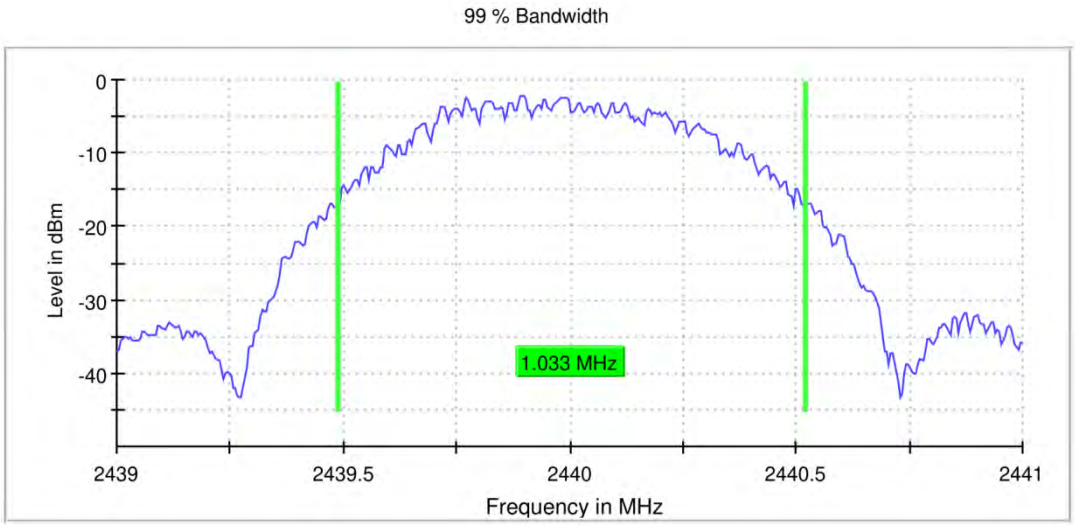
TEST RESULT

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	ANT0	2402	1.033	2401.486	2402.519	2400-24835	PASS
		2440	1.033	2439.486	2440.519	2400-24835	PASS
		2480	1.038	2479.481	2480.519	2400-24835	PASS
BLE_2M	ANT0	2404	2.035	2402.993	2405.028	2400-24835	PASS
		2440	2.035	2438.993	2441.028	2400-24835	PASS
		2478	2.025	2476.993	2479.018	2400-24835	PASS
BLE-S2	ANT0	2402	1.013	2401.491	2402.504	2400-24835	PASS
		2440	1.013	2439.491	2440.504	2400-24835	PASS
		2480	1.018	2479.486	2480.504	2400-24835	PASS
BLE_S8	ANT0	2402	1.048	2401.476	2402.524	2400-24835	PASS
		2440	1.053	2439.471	2440.524	2400-24835	PASS
		2480	1.053	2479.471	2480.524	2400-24835	PASS

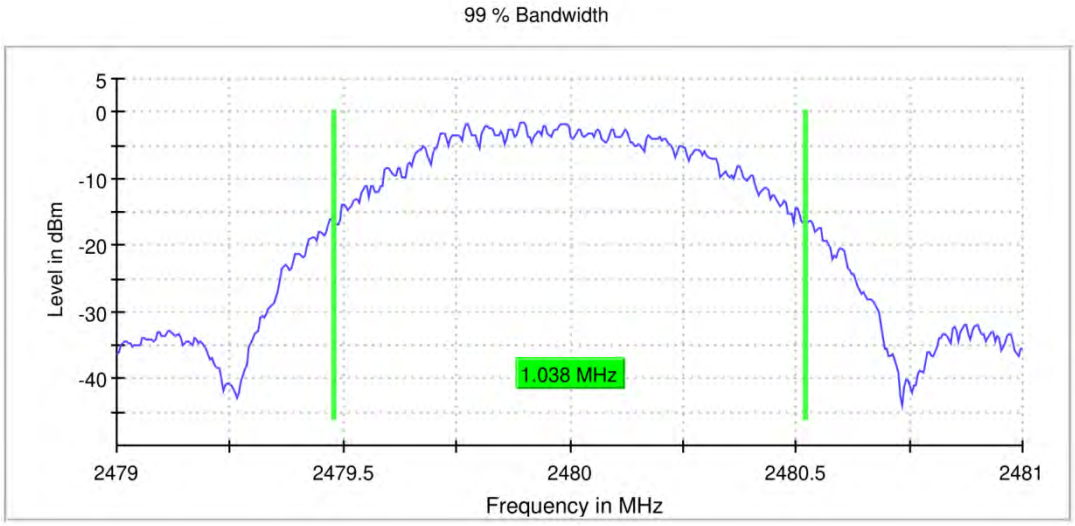
TEST GRAPHS



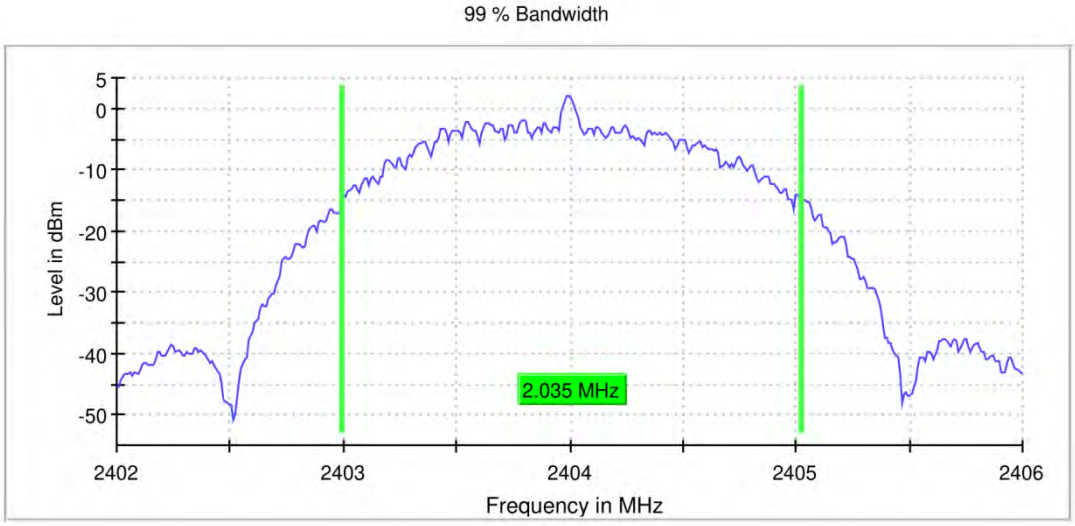
BLE_1M_ANT0_2402



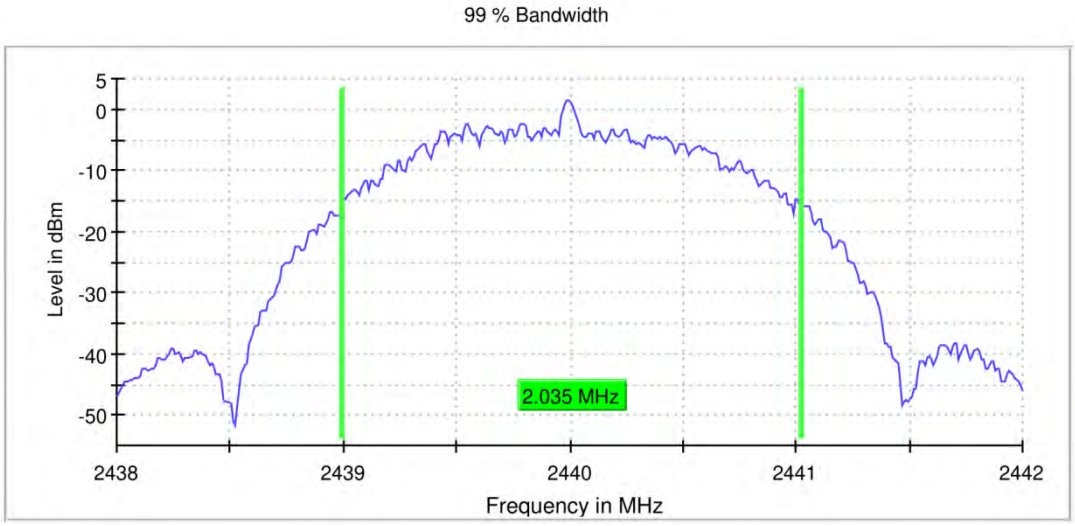
BLE_1M_ANT0_2440



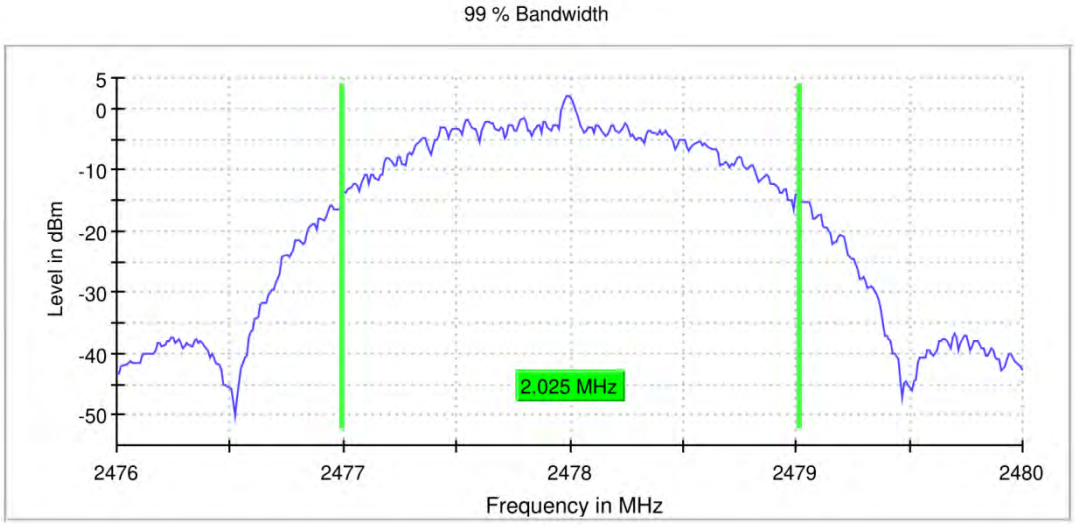
BLE_1M_ANT0_2480



BLE_2M_ANT0_2404



BLE_2M_ANT0_2440



BLE_2M_ANT0_2478