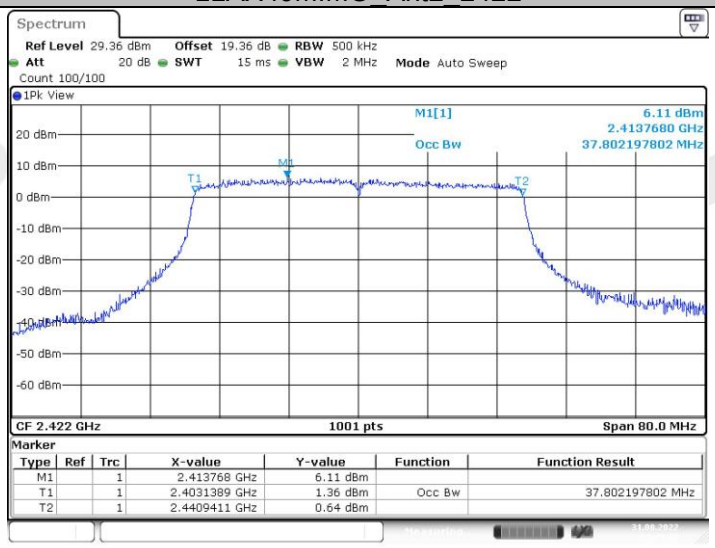
11AX20MIMO_Ant2_2462

Date: 31.AUG.2022 23:46:54

11AX40MIMO_Ant1_2422

Date: 31.AUG.2022 23:48:29

11AX40MIMO_Ant2_2422



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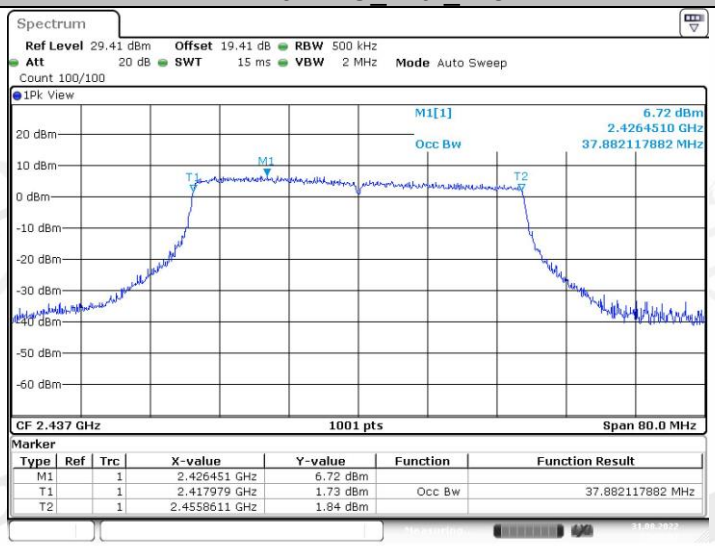
11AX40MIMO_Ant1_2437



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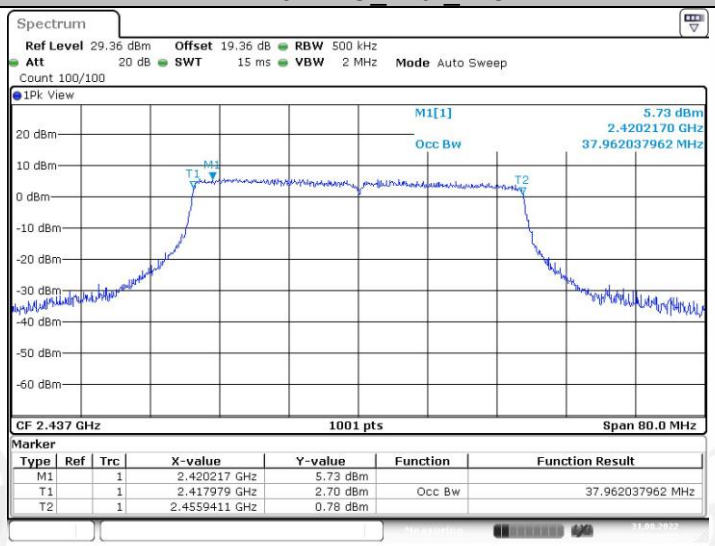
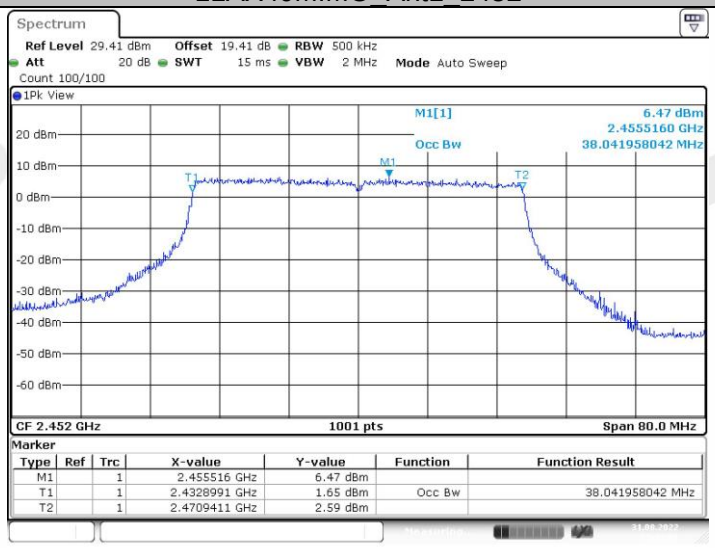


Date: 31.AUG.2022 23:51:55

11AX40MIMO_Ant1_2452



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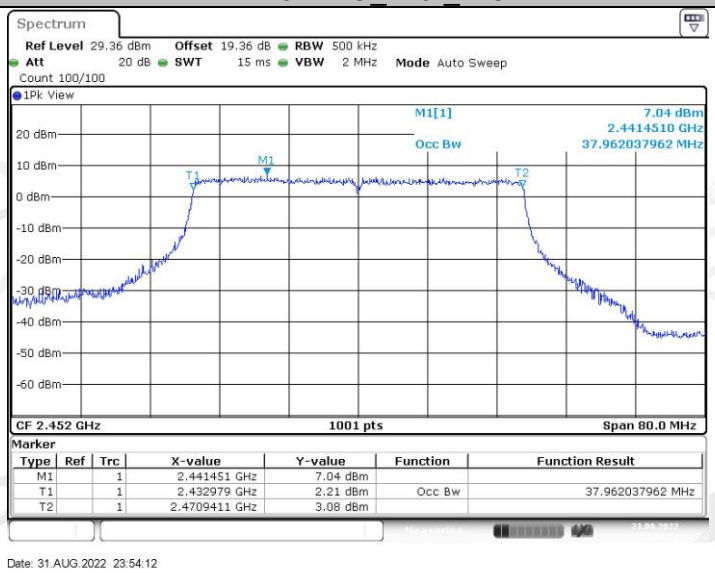
11AX40MIMO_Ant2_2452



5. Conducted Peak Output Power

5.1. Block diagram of test setup

Same as section 4.1

5.2. Limits

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.3. Test procedure

Connect each EUT's antenna output to power sensor by RF cable and attenuator

Measure the PK output power of each antenna port by power meter.

5.4. Test result

Test Mode	Test Channel	Ant	Conducted Output Power (dBm)	Limit [dBm]	Verdict
11B	2412	ANT1	13.86	30	Pass
11B	2412	ANT2	14.18	30	Pass
11B	2437	ANT1	12.87	30	Pass
11B	2437	ANT2	13.60	30	Pass
11B	2462	ANT1	13.37	30	Pass
11B	2462	ANT2	13.88	30	Pass
11G	2412	ANT1	13.85	30	Pass
11G	2412	ANT2	13.26	30	Pass
11G	2437	ANT1	13.00	30	Pass
11G	2437	ANT2	12.99	30	Pass
11G	2462	ANT1	13.41	30	Pass
11G	2462	ANT2	13.41	30	Pass
11N20MIMO	2412	ANT1	13.74	30	Pass
11N20MIMO	2412	ANT2	13.18	30	Pass
11N20MIMO	2412	total	16.48	30	Pass
11N20MIMO	2437	ANT1	12.70	30	Pass
11N20MIMO	2437	ANT2	12.75	30	Pass
11N20MIMO	2437	total	15.74	30	Pass
11N20MIMO	2462	ANT1	13.26	30	Pass
11N20MIMO	2462	ANT2	13.24	30	Pass
11N20MIMO	2462	total	16.26	30	Pass

11N40MIMO	2422	ANT1	13.43	30	Pass
11N40MIMO	2422	ANT2	13.14	30	Pass
11N40MIMO	2422	total	16.30	30	Pass
11N40MIMO	2437	ANT1	13.38	30	Pass
11N40MIMO	2437	ANT2	12.94	30	Pass
11N40MIMO	2437	total	16.18	30	Pass
11N40MIMO	2452	ANT1	13.55	30	Pass
11N40MIMO	2452	ANT2	13.61	30	Pass
11N40MIMO	2452	total	16.59	30	Pass
11AX20MIMO	2412	ANT1	13.97	30	Pass
11AX20MIMO	2412	ANT2	13.41	30	Pass
11AX20MIMO	2412	total	16.71	30	Pass
11AX20MIMO	2437	ANT1	13.16	30	Pass
11AX20MIMO	2437	ANT2	13.27	30	Pass
11AX20MIMO	2437	total	16.23	30	Pass
11AX20MIMO	2462	ANT1	13.42	30	Pass
11AX20MIMO	2462	ANT2	13.69	30	Pass
11AX20MIMO	2462	total	16.57	30	Pass
11AX40MIMO	2422	ANT1	13.68	30	Pass
11AX40MIMO	2422	ANT2	13.51	30	Pass
11AX40MIMO	2422	total	16.61	30	Pass
11AX40MIMO	2437	ANT1	13.60	30	Pass
11AX40MIMO	2437	ANT2	13.30	30	Pass
11AX40MIMO	2437	total	16.46	30	Pass
11AX40MIMO	2452	ANT1	13.79	30	Pass
11AX40MIMO	2452	ANT2	14.15	30	Pass
11AX40MIMO	2452	total	16.98	30	Pass

6. Power Spectral Density

6.1. Block diagram of test setup

Same as section 4.1

6.2. Limits

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

6.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Set the spectrum analyzer as follows:

Center frequency	DTS Channel center frequency
RBW:	3 kHz ≤ RBW ≤ 100 kHz
VBW:	≥ 3RBW
Span	1.5 times the DTS bandwidth
Detector Mode:	RMS
Sweep time:	auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude level within the RBW.

(4) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

6.4. Test result

Test Mode	Test Channel	Ant	PSD [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	2412	ANT1	-14.66	8.00	Pass
11B	2412	ANT2	-14.21	8.00	Pass
11B	2437	ANT1	-15.62	8.00	Pass
11B	2437	ANT2	-14.97	8.00	Pass
11B	2462	ANT1	-15.23	8.00	Pass
11B	2462	ANT2	-14.66	8.00	Pass
11G	2412	ANT1	-17.62	8.00	Pass
11G	2412	ANT2	-18.24	8.00	Pass
11G	2437	ANT1	-19.03	8.00	Pass
11G	2437	ANT2	-18.59	8.00	Pass
11G	2462	ANT1	-18.43	8.00	Pass
11G	2462	ANT2	-18.54	8.00	Pass

11N20MIMO	2412	ANT1	-19.33	8.00	Pass
11N20MIMO	2412	ANT2	-20.14	8.00	Pass
11N20MIMO	2412	total	-16.71	8.00	Pass
11N20MIMO	2437	ANT1	-20.35	8.00	Pass
11N20MIMO	2437	ANT2	-20.72	8.00	Pass
11N20MIMO	2437	total	-17.52	8.00	Pass
11N20MIMO	2462	ANT1	-20.37	8.00	Pass
11N20MIMO	2462	ANT2	-19.81	8.00	Pass
11N20MIMO	2462	total	-17.07	8.00	Pass
11N40MIMO	2422	ANT1	-22.02	8.00	Pass
11N40MIMO	2422	ANT2	-22.61	8.00	Pass
11N40MIMO	2422	total	-19.29	8.00	Pass
11N40MIMO	2437	ANT1	-21.36	8.00	Pass
11N40MIMO	2437	ANT2	-22.39	8.00	Pass
11N40MIMO	2437	total	-18.83	8.00	Pass
11N40MIMO	2452	ANT1	-22.08	8.00	Pass
11N40MIMO	2452	ANT2	-22.11	8.00	Pass
11N40MIMO	2452	total	-19.08	8.00	Pass
11AX20MIMO	2412	ANT1	-21.12	8.00	Pass
11AX20MIMO	2412	ANT2	-22.23	8.00	Pass
11AX20MIMO	2412	total	-18.63	8.00	Pass
11AX20MIMO	2437	ANT1	-22.07	8.00	Pass
11AX20MIMO	2437	ANT2	-21.92	8.00	Pass
11AX20MIMO	2437	total	-18.98	8.00	Pass
11AX20MIMO	2462	ANT1	-21.77	8.00	Pass
11AX20MIMO	2462	ANT2	-21.81	8.00	Pass
11AX20MIMO	2462	total	-18.78	8.00	Pass
11AX40MIMO	2422	ANT1	-23.8	8.00	Pass
11AX40MIMO	2422	ANT2	-24.08	8.00	Pass
11AX40MIMO	2422	total	-20.93	8.00	Pass
11AX40MIMO	2437	ANT1	-23.39	8.00	Pass
11AX40MIMO	2437	ANT2	-24.34	8.00	Pass
11AX40MIMO	2437	total	-20.83	8.00	Pass
11AX40MIMO	2452	ANT1	-23.83	8.00	Pass
11AX40MIMO	2452	ANT2	-23.88	8.00	Pass
11AX40MIMO	2452	total	-20.84	8.00	Pass

6.5. Original test data

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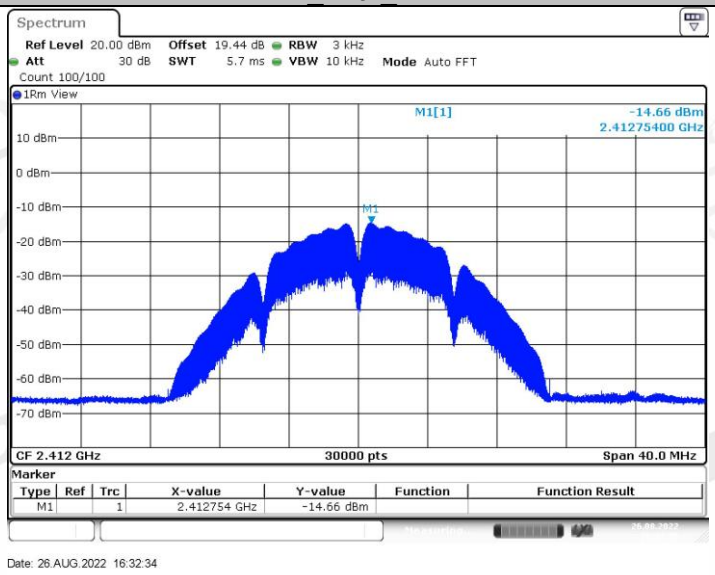

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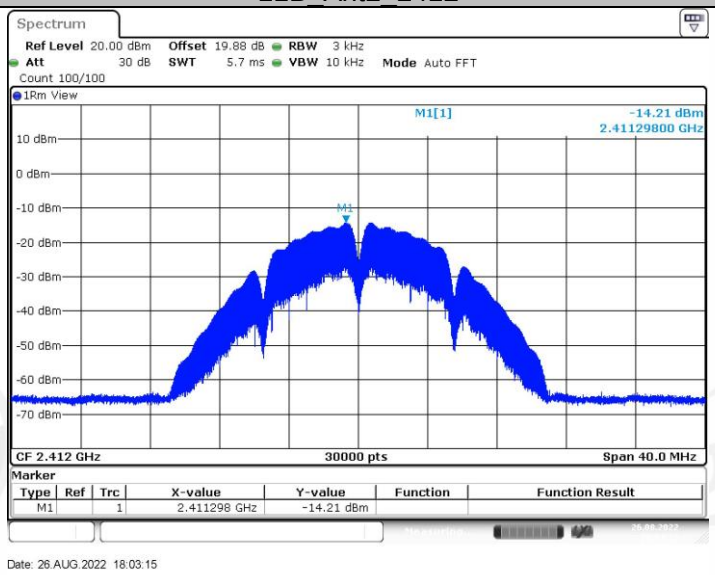

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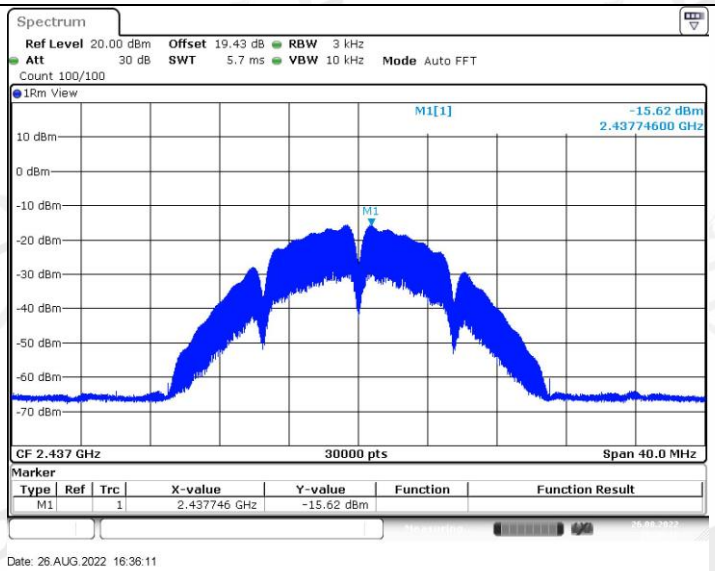

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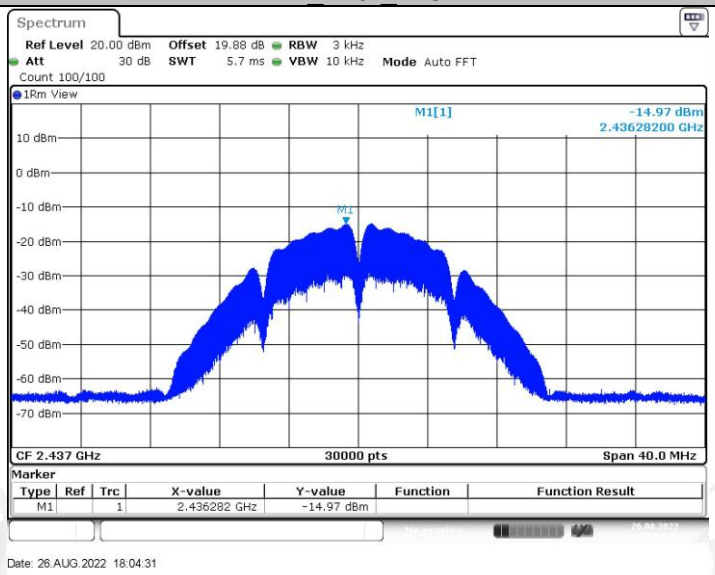

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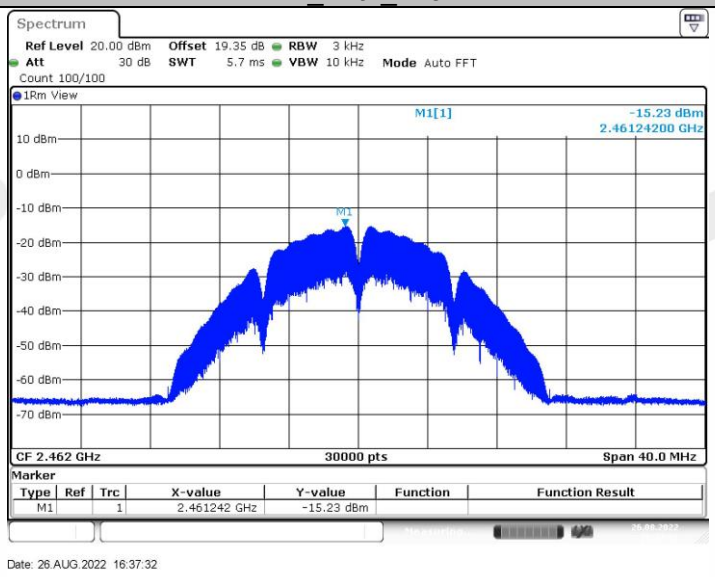

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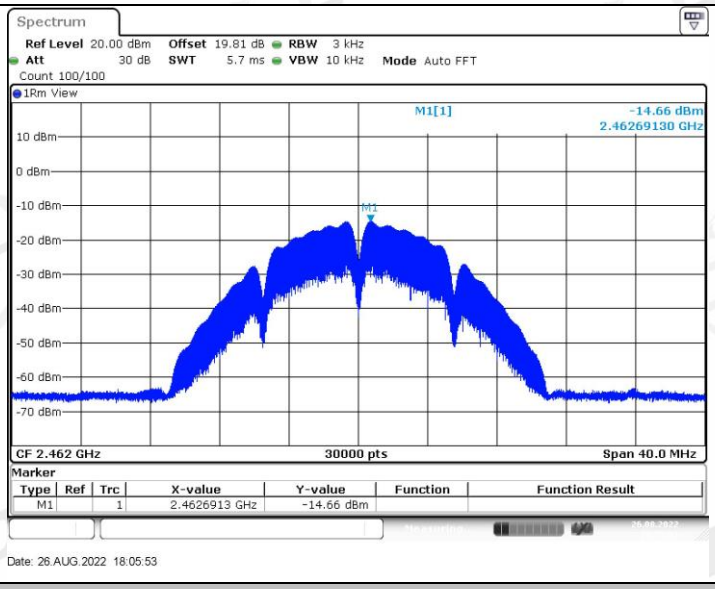

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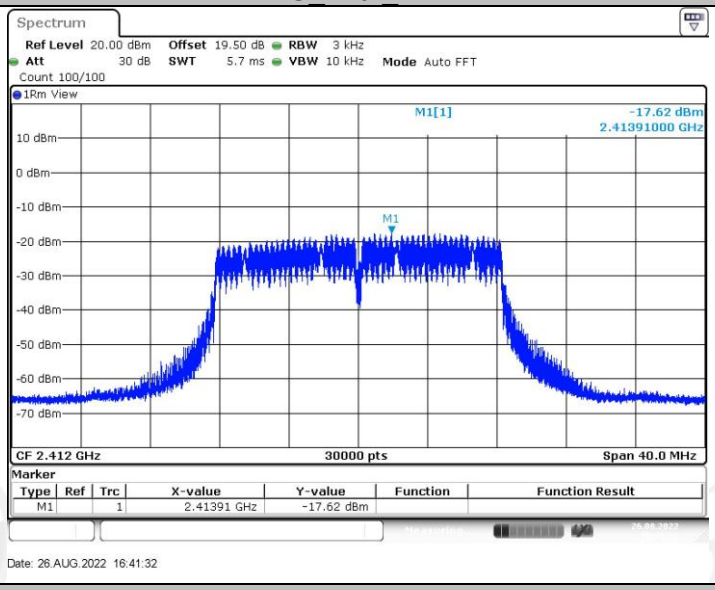

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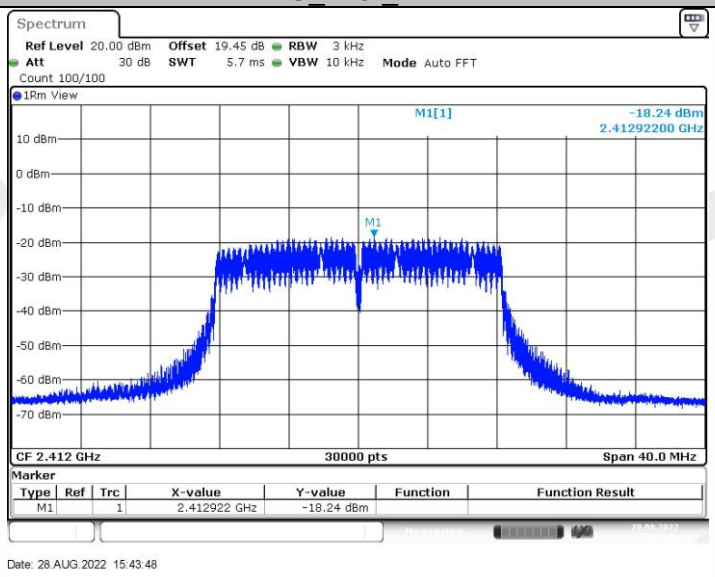

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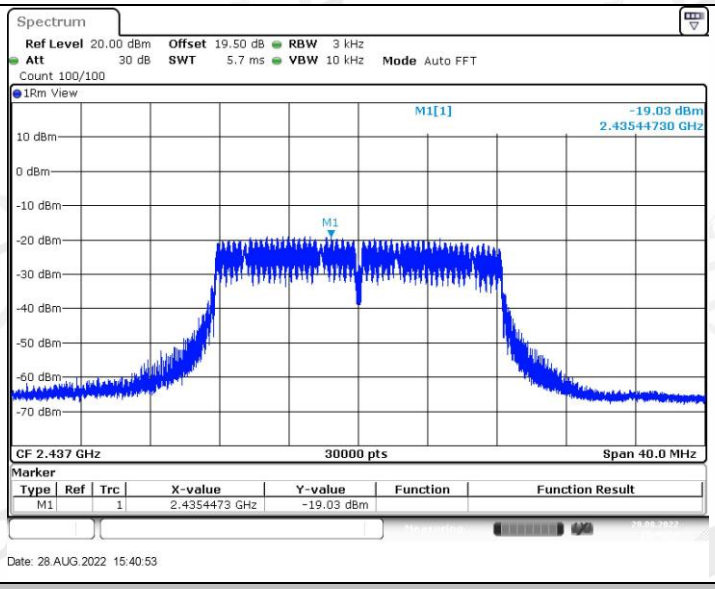

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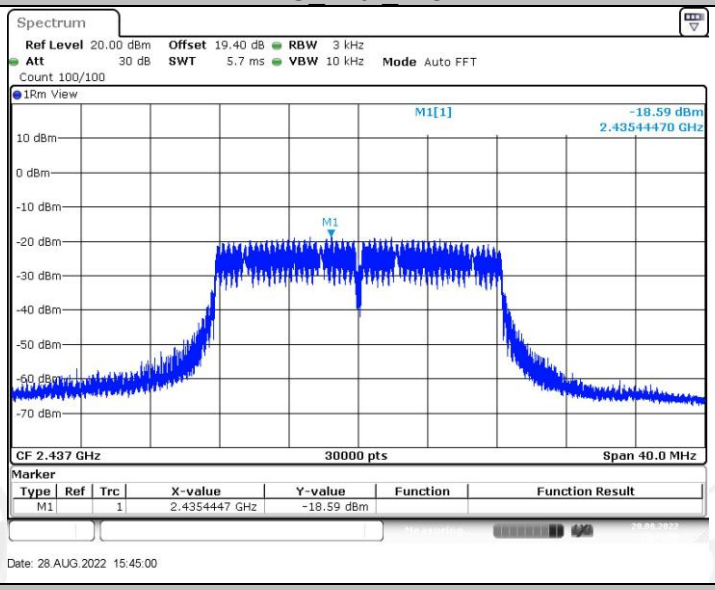

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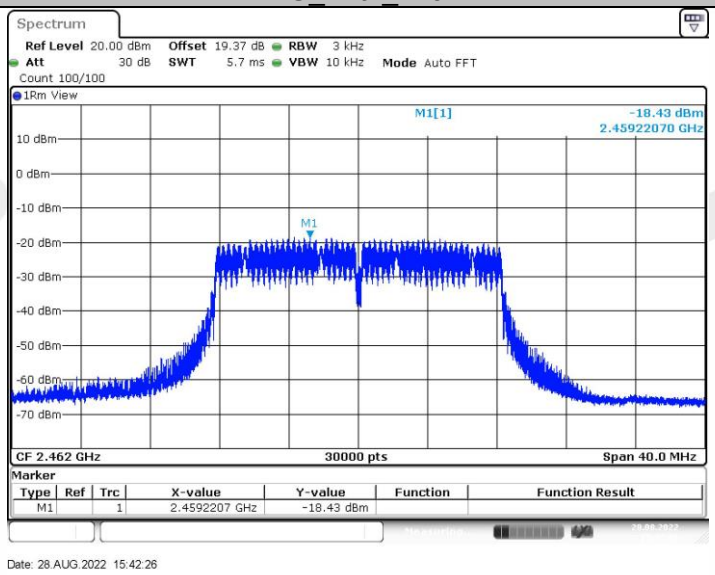

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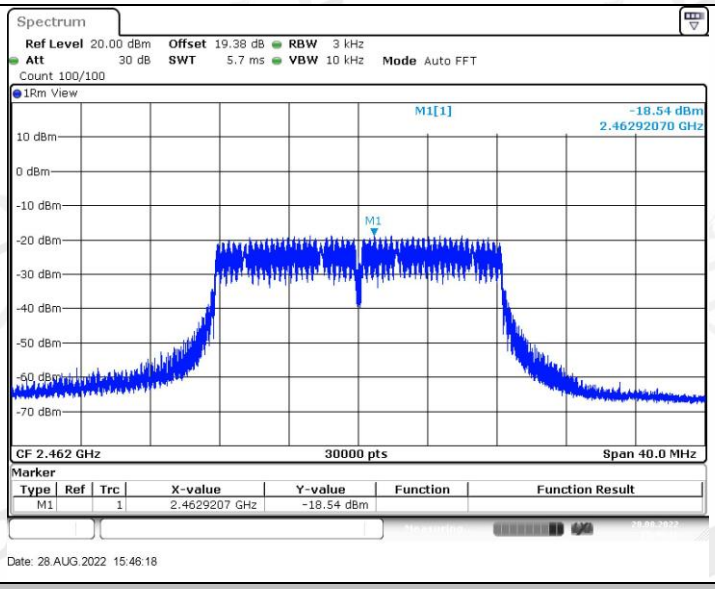

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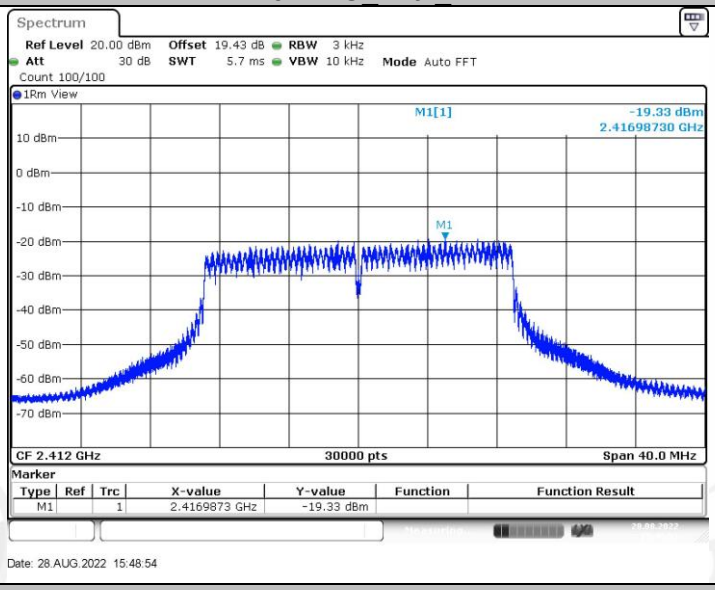

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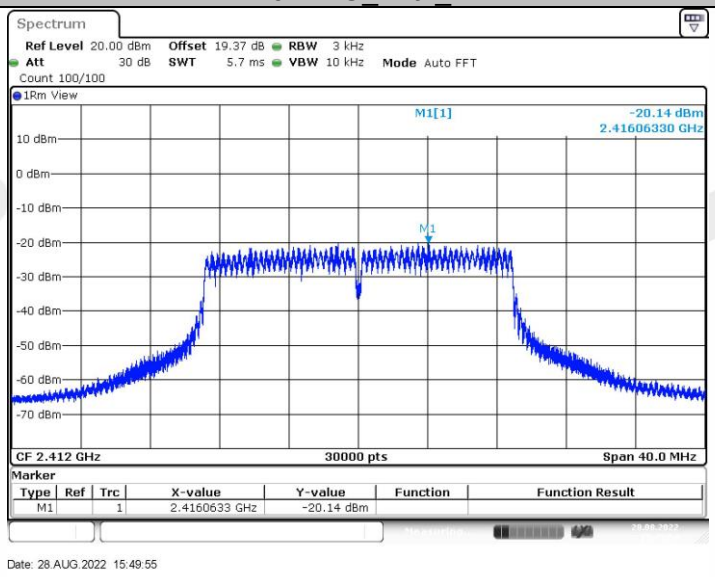

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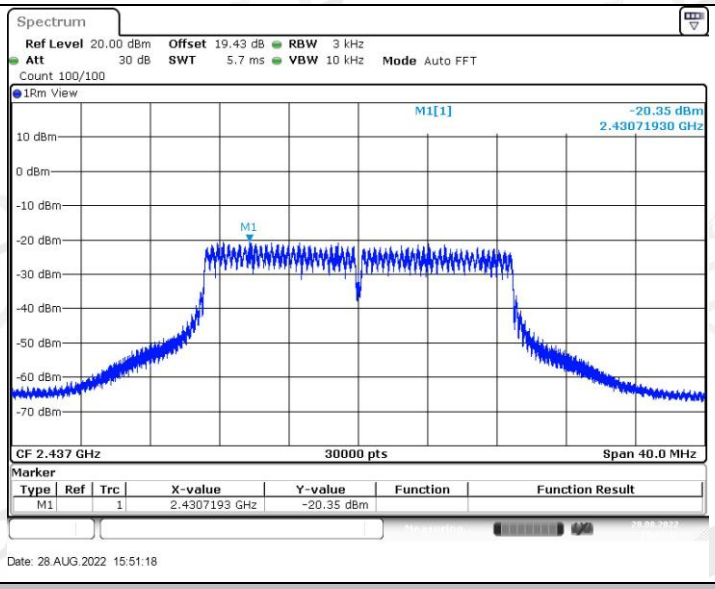

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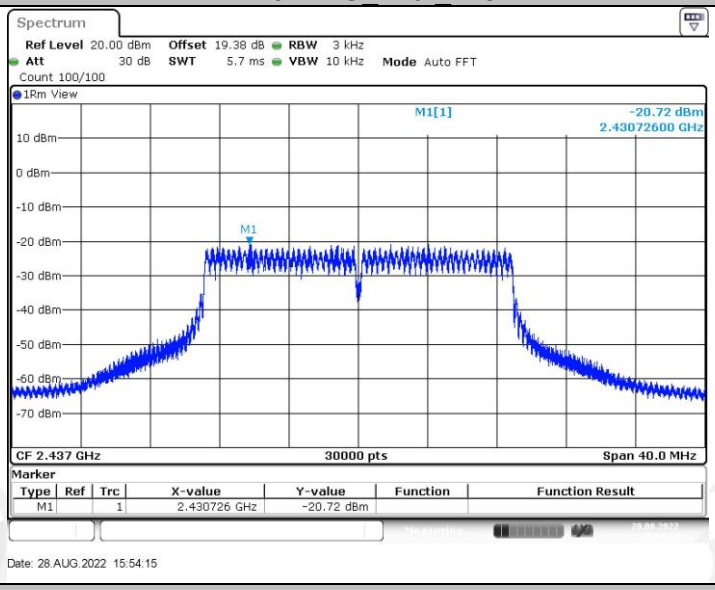

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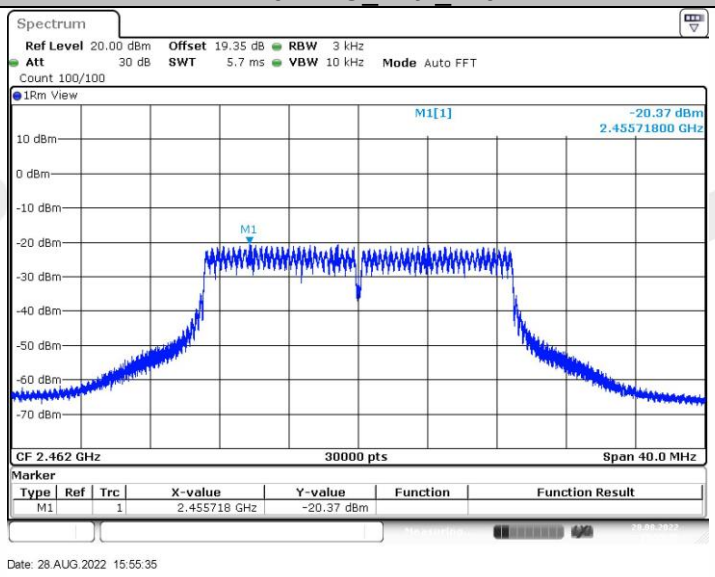

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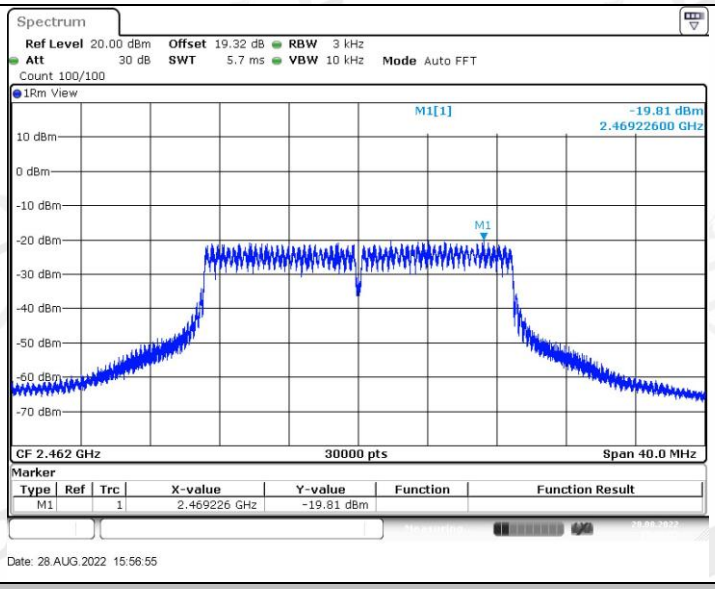

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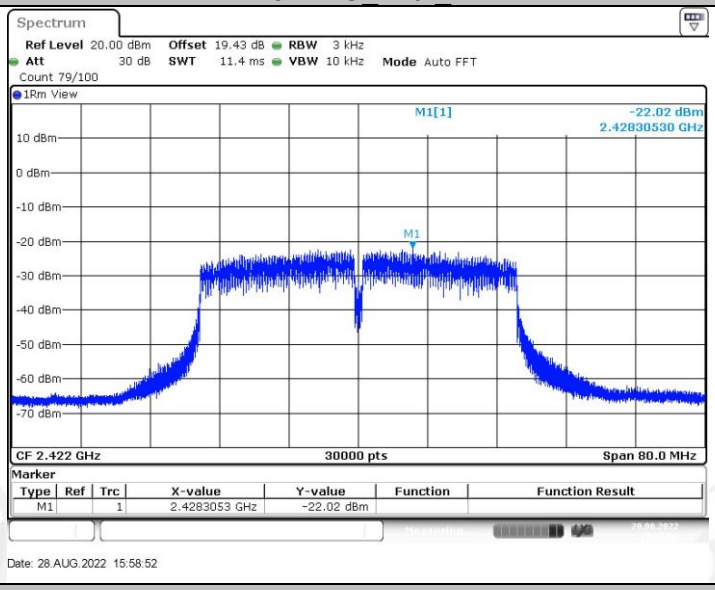

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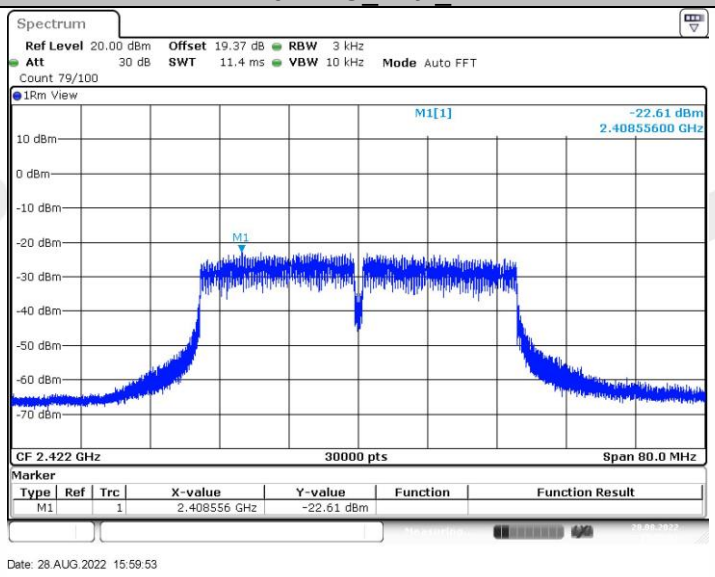

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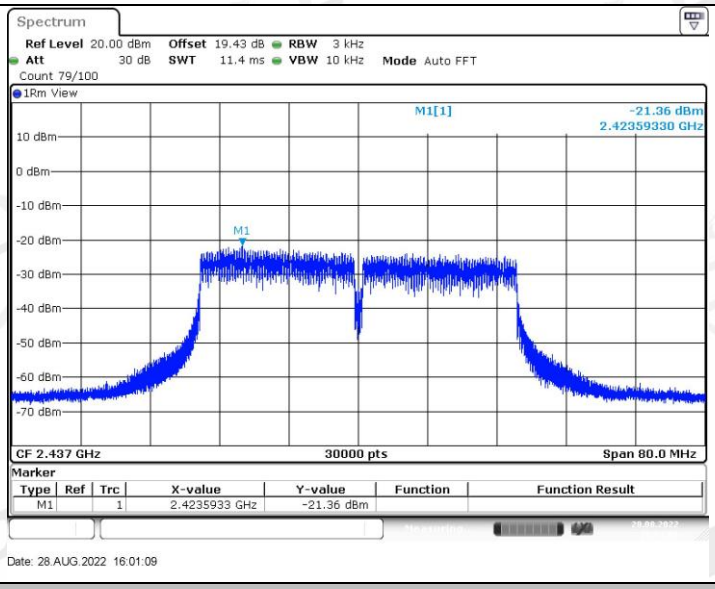

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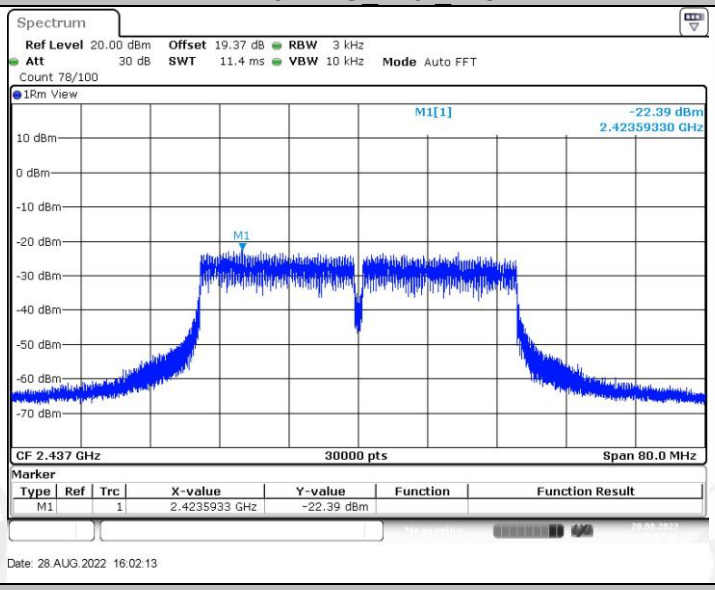

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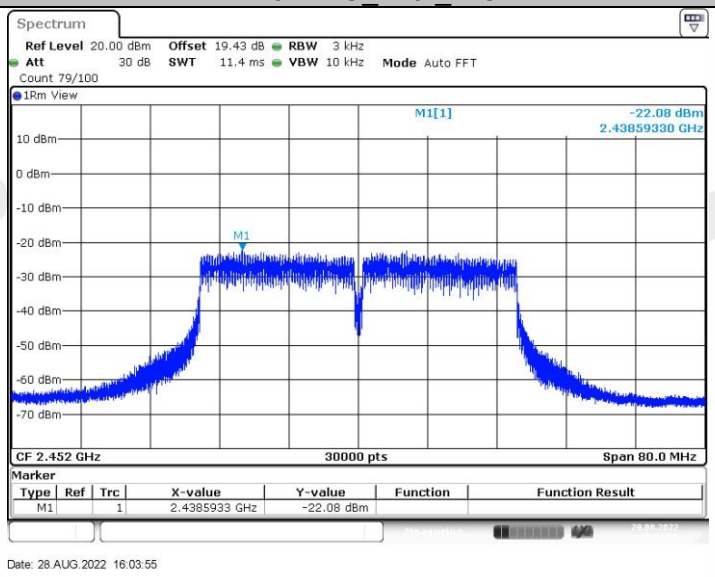

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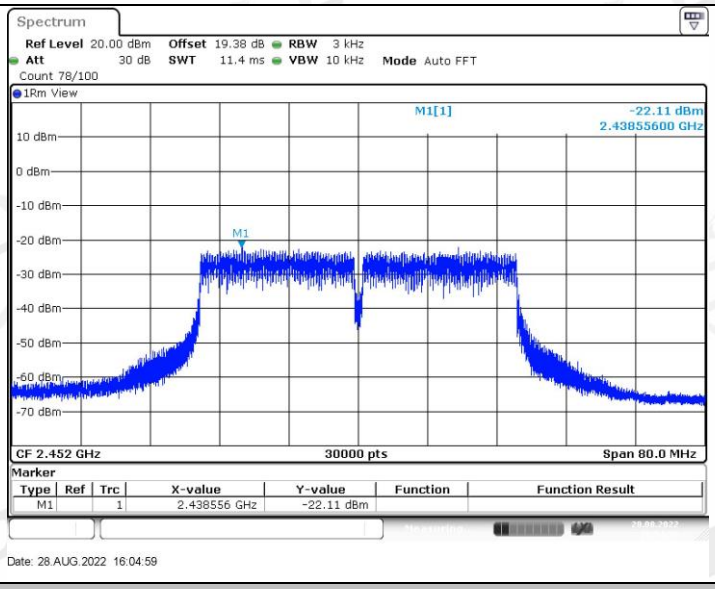

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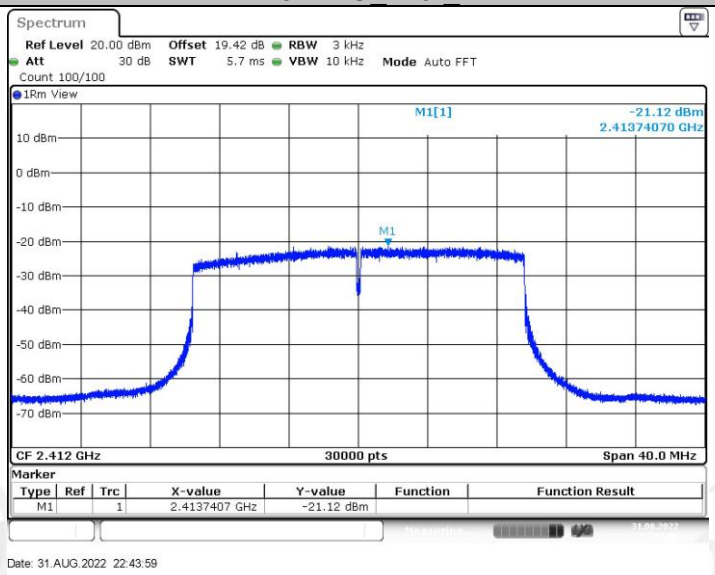

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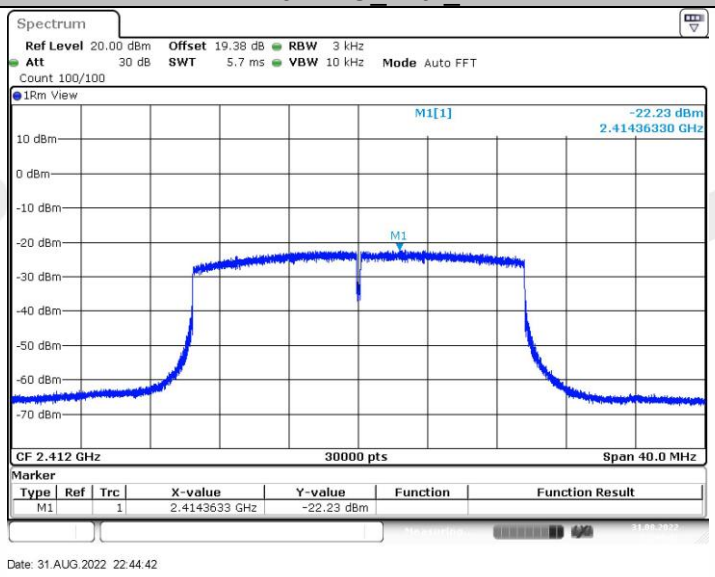

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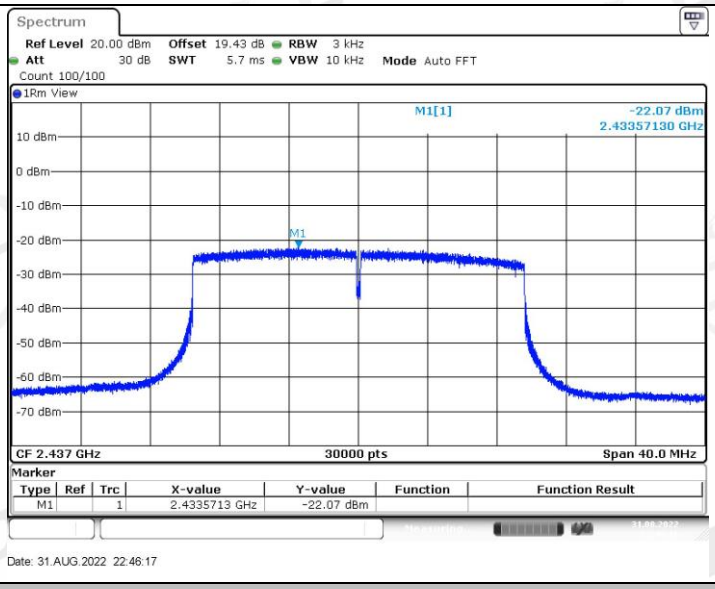

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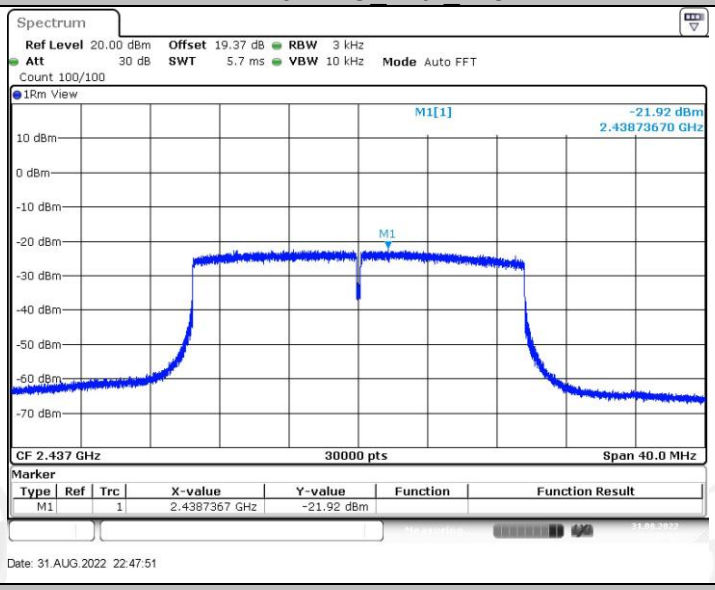

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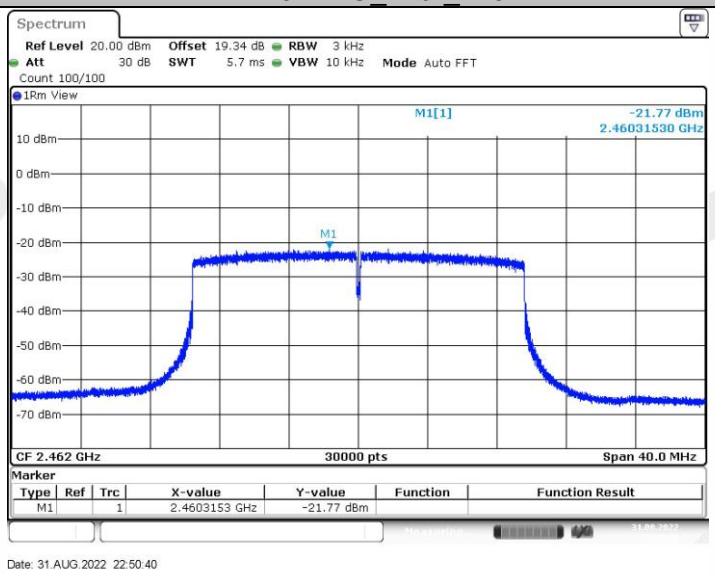

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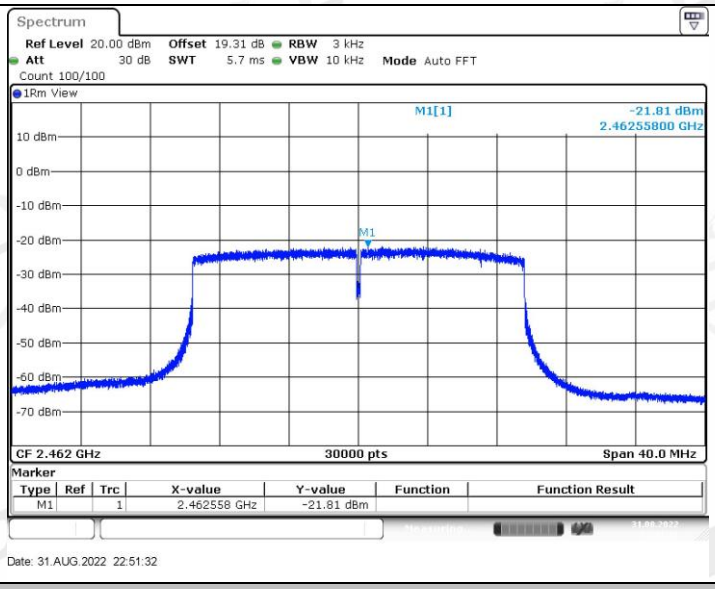

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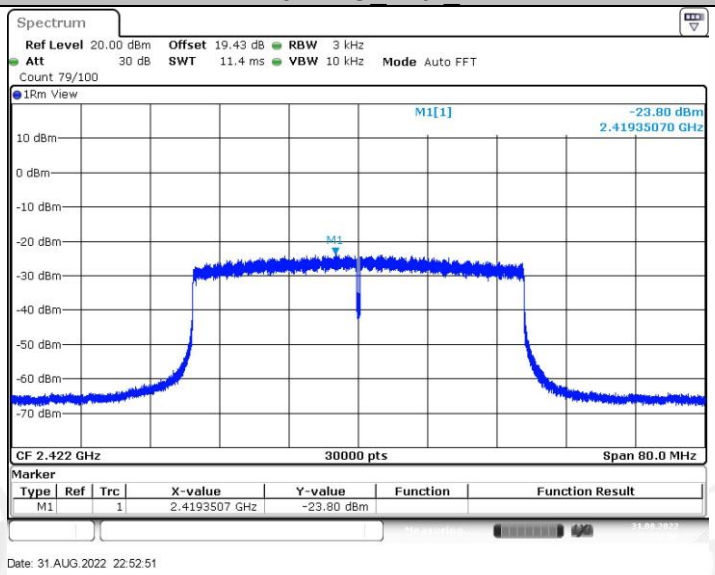

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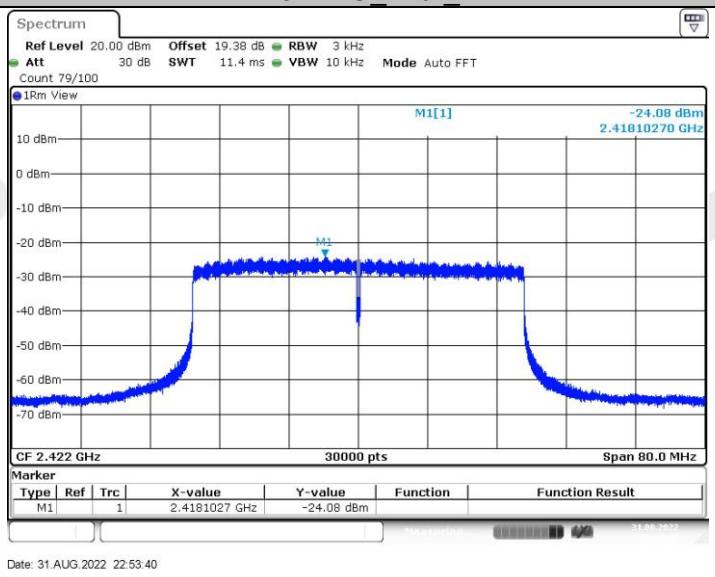
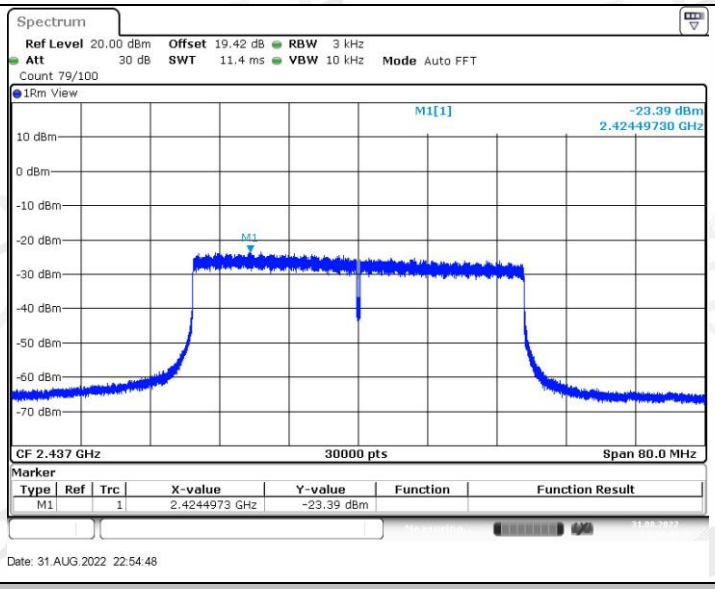
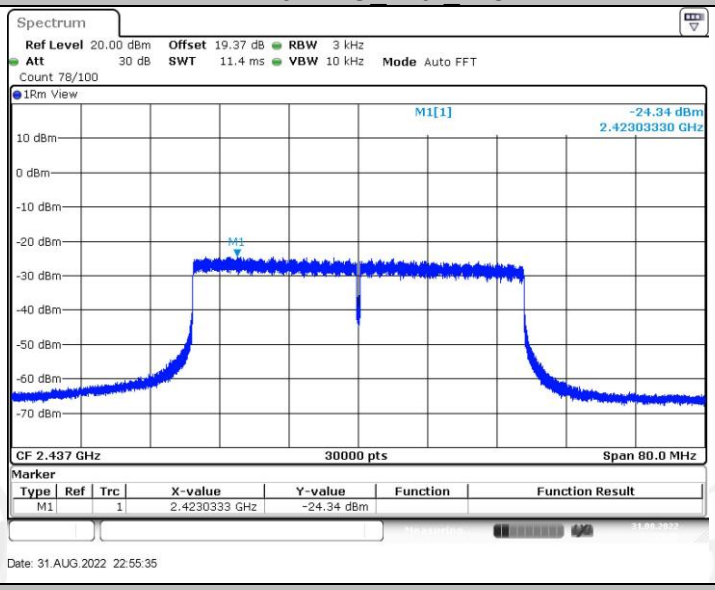


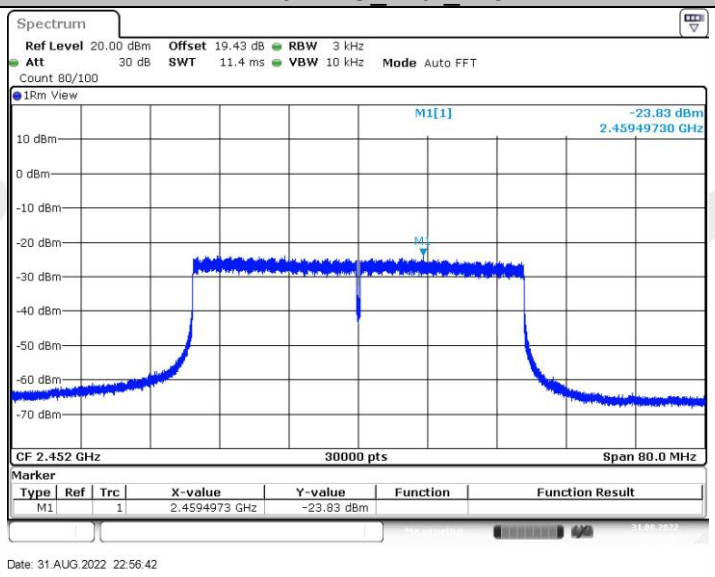
11AX40MIMO_Ant1_2437



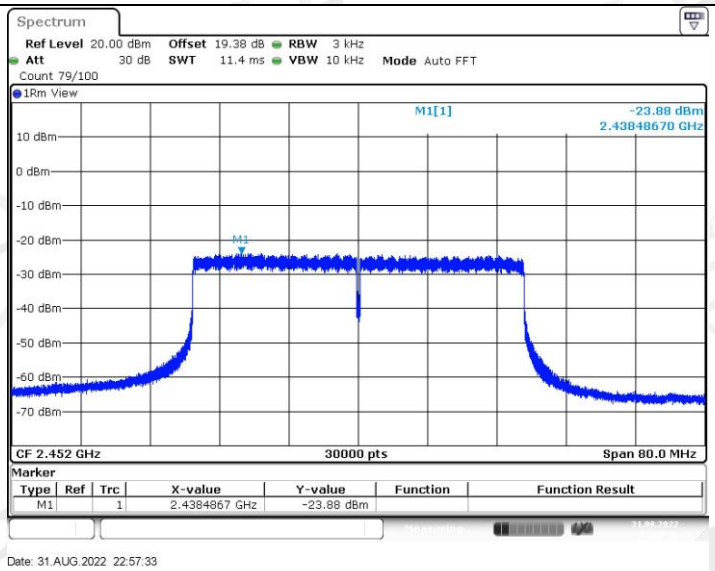
11AX40MIMO_Ant2_2437



11AX40MIMO_Ant1_2452



11AX40MIMO_Ant2_2452


Spectrum
Ref Level 20.00 dBm Offset 19.38 dB RBW 3 kHz
Att 30 dB SWT 11.4 ms VBW 10 kHz Mode Auto FFT
Count 79/100
1Rm View
M1[1] -23.88 dBm
2.43848670 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
CF 2.452 GHz
30000 pts
Span 80.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.4384867 GHz -23.88 dBm
Date: 31.AUG.2022 22:57:33

7. Band Edge Compliance (Conducted Method)

7.1. Block diagram of test setup

Same as section 4.1

7.2. Limits

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

7.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Establish a reference level by using the following procedure:

RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.

(4) Then mark the maximum amplitude of all unwanted emissions outside of the authorized frequency band.

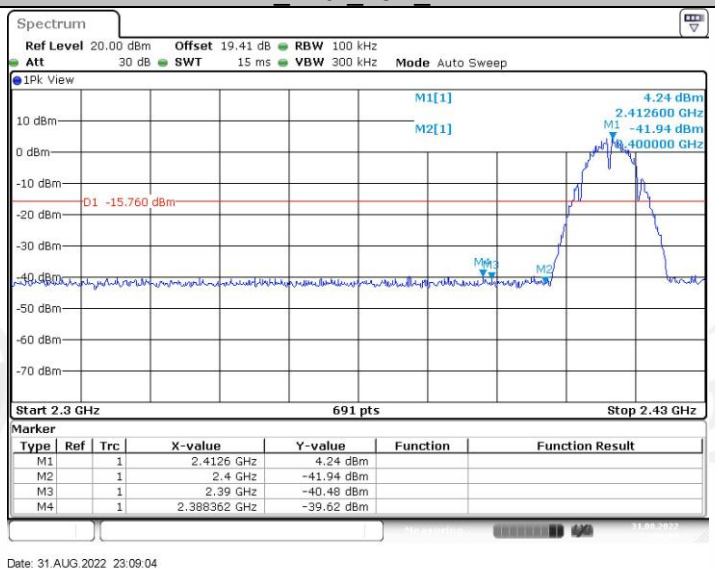
7.4. Test result

EUT Set Mode	CH or Frequency	Result (dBm)	EUT Set Mode	CH or Frequency	Result Result (dBm)
11b	CH1	Pass	11g	CH1	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH11	Pass
11n HT 20	CH1	Pass	11n HT 40	CH3	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH9	Pass
11ax HE 20	CH1	Pass	11ax HE 40	CH3	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH9	Pass

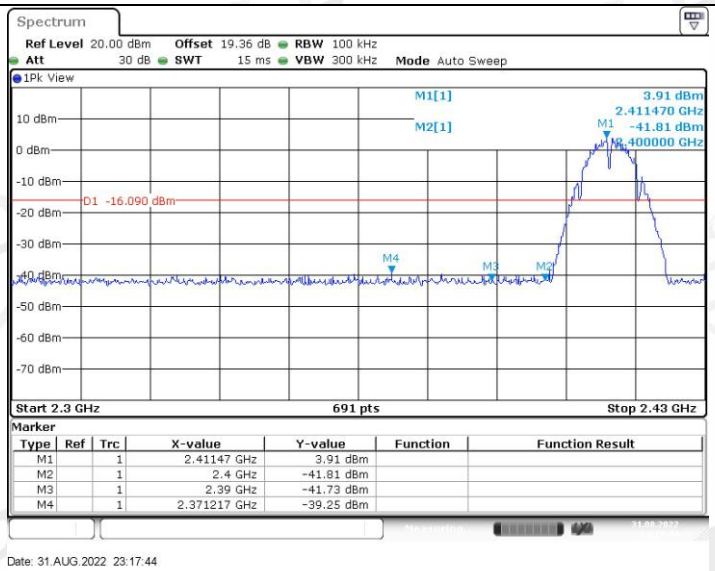
Note: for 802.11ax mode, according exploratory explorer test, Specific Resource Unit have no distinct influence, so the final test data only record the Worst Case.

7.5. Original test data

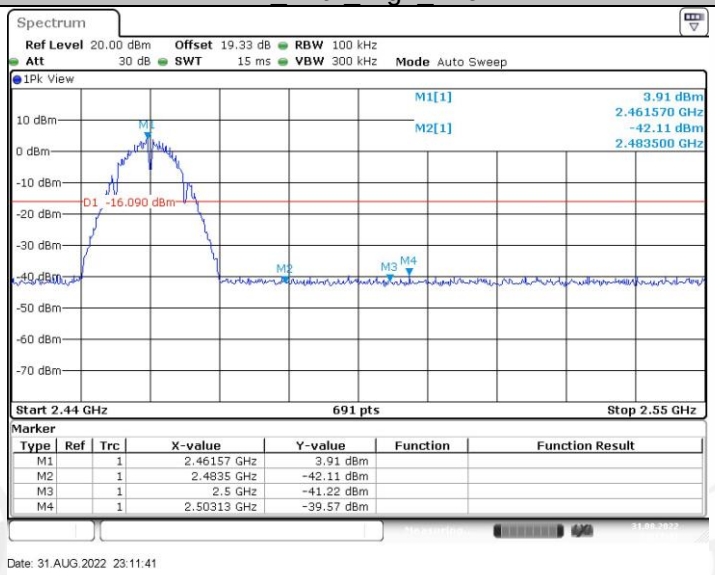
11B_Ant1_Low_2412



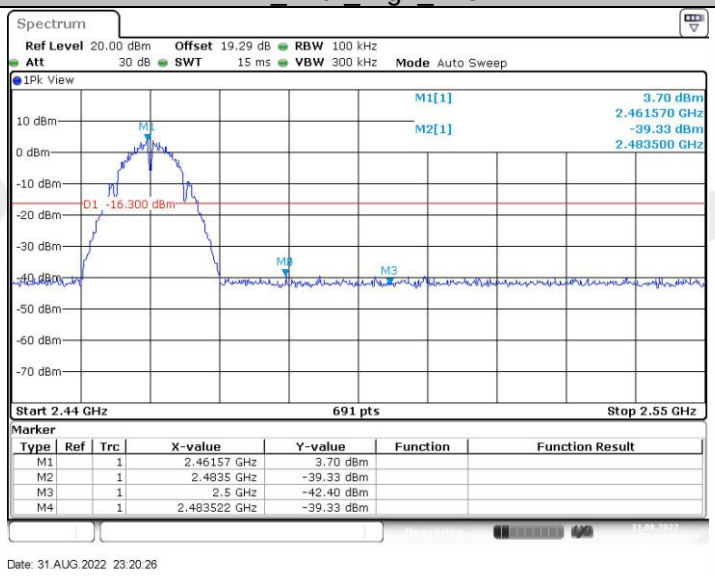
11B_Ant2_Low_2412



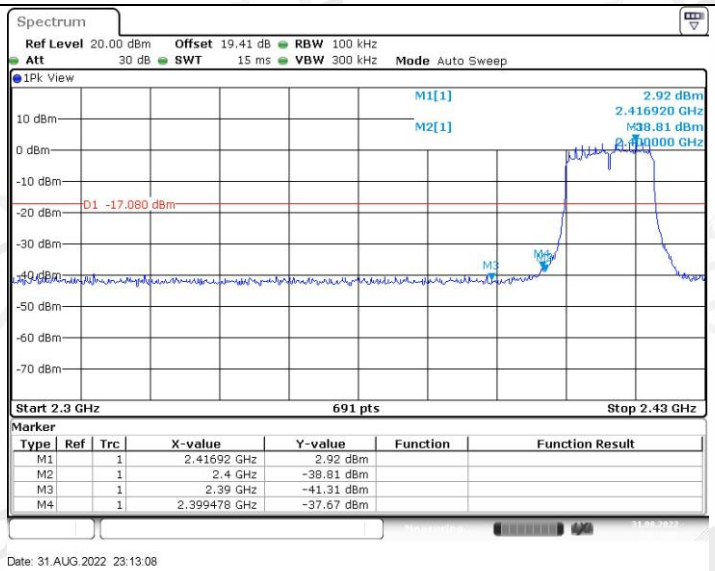
11B_Ant1_High_2462



11B_Ant2_High_2462



11G_Ant1_Low_2412



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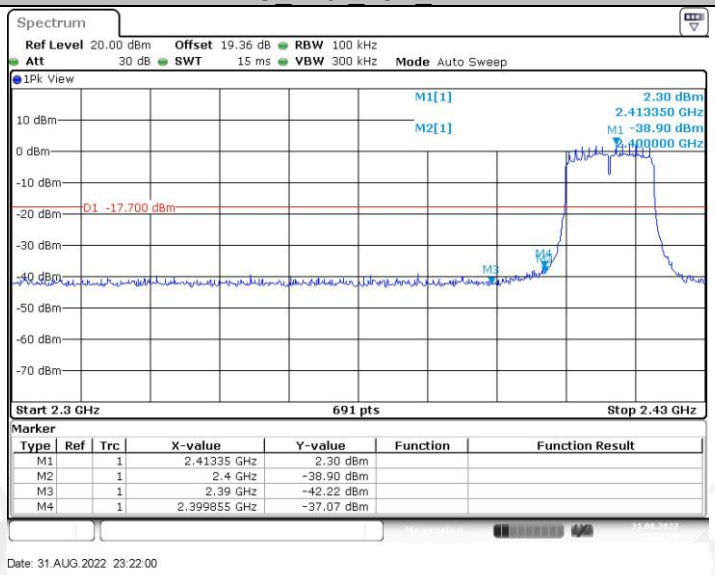

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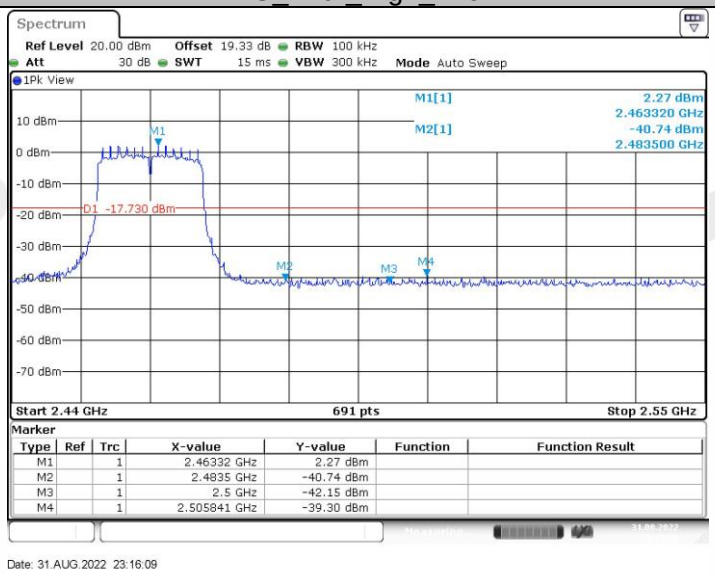

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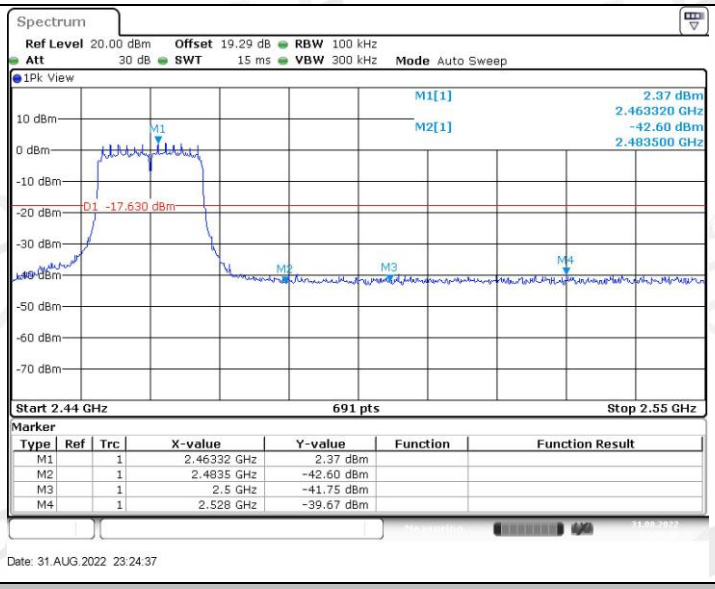
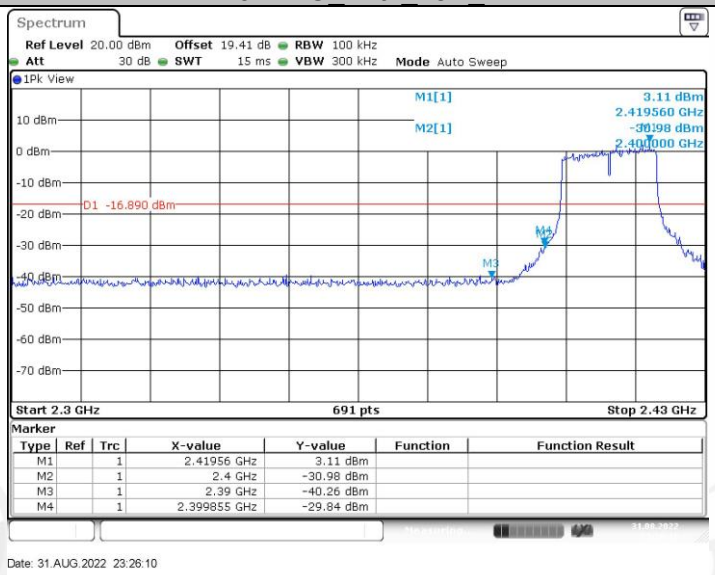


11N20MIMO_Ant1_Low_2412



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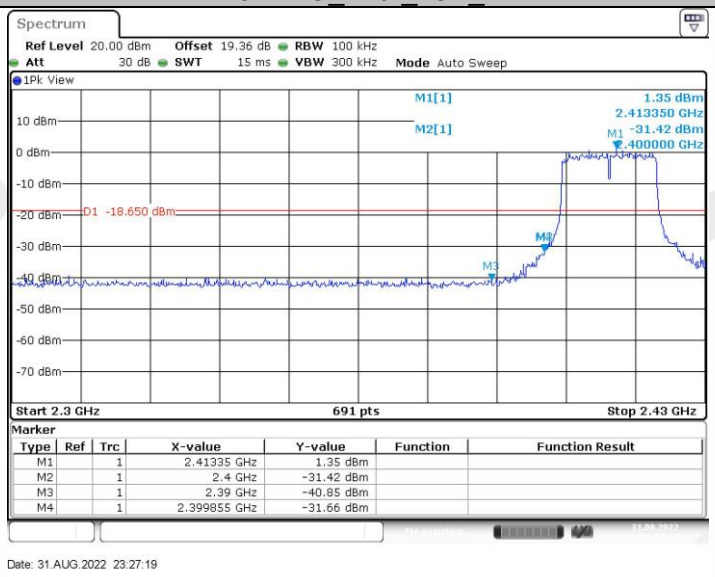
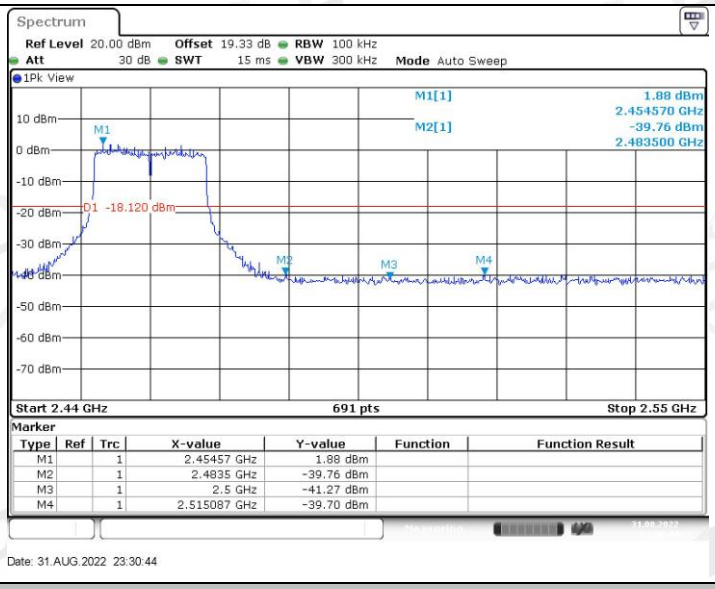
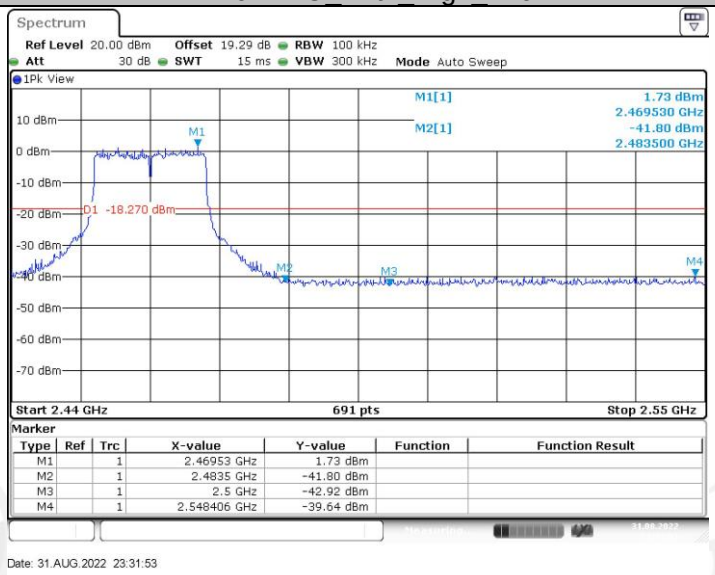


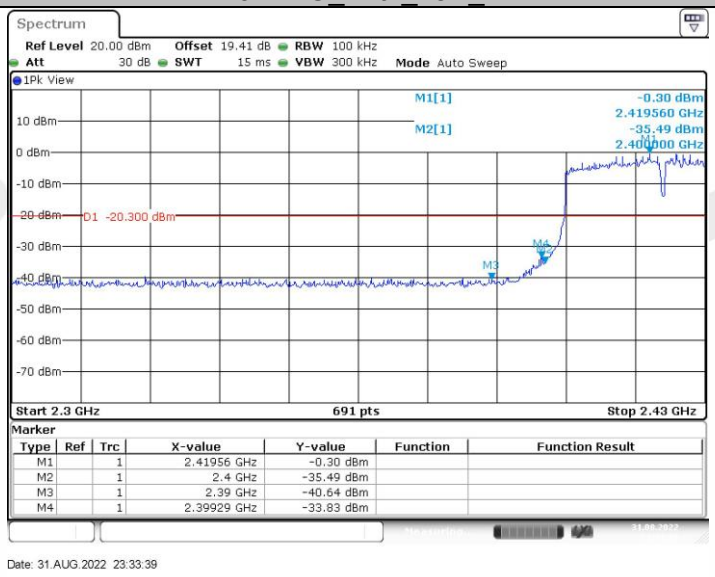
11N20MIMO_Ant1_High_2462



11N20MIMO_Ant2_High_2462



11N40MIMO_Ant1_Low_2422



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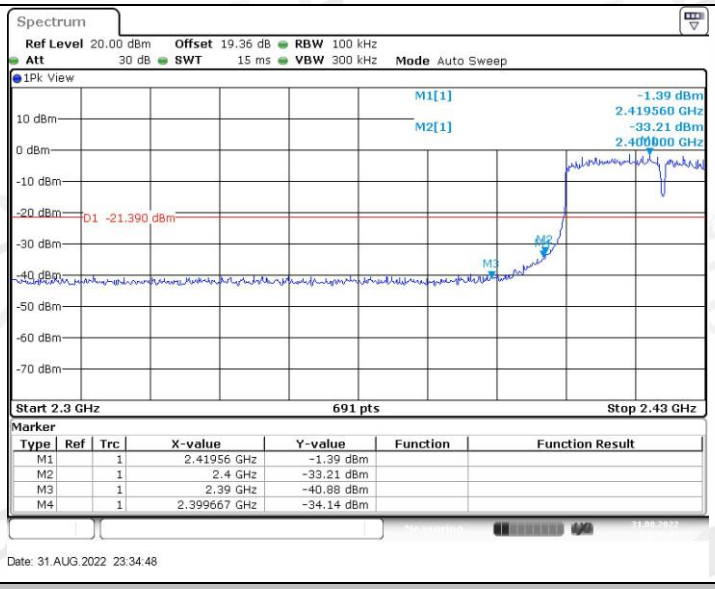
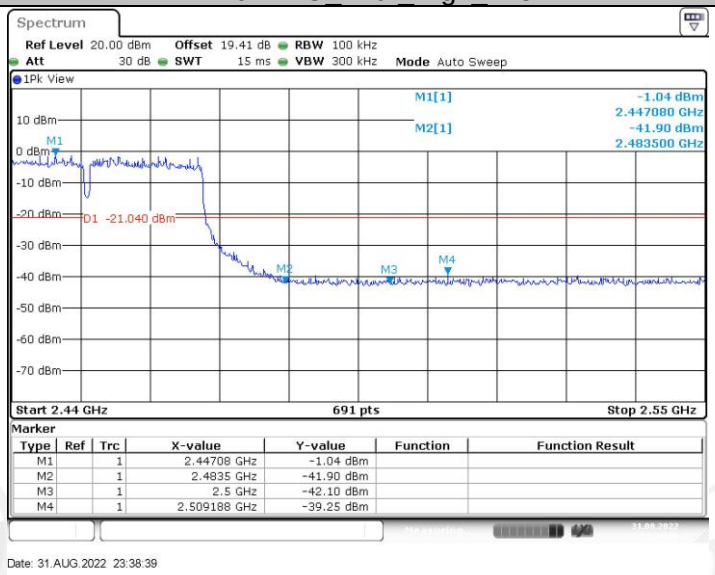


11N40MIMO_Ant1_High_2452



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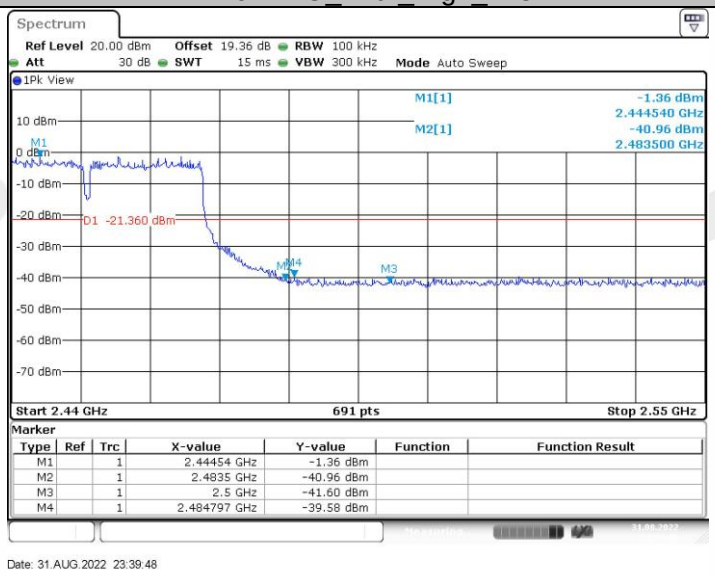
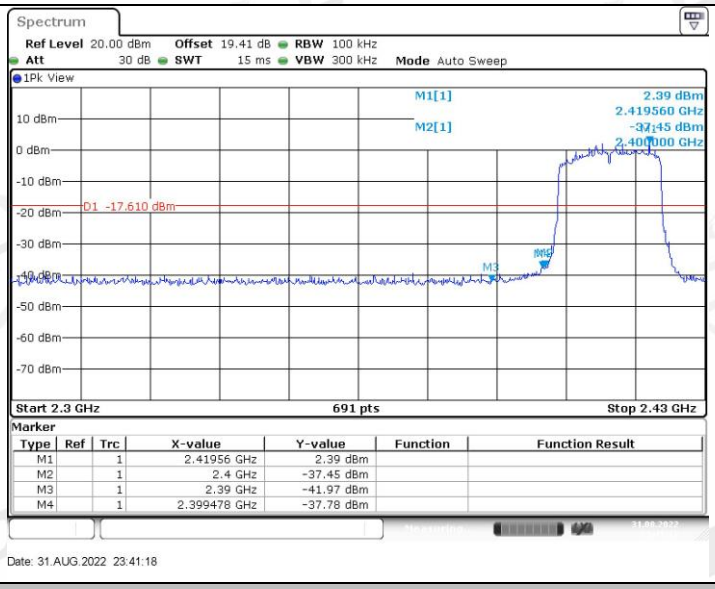
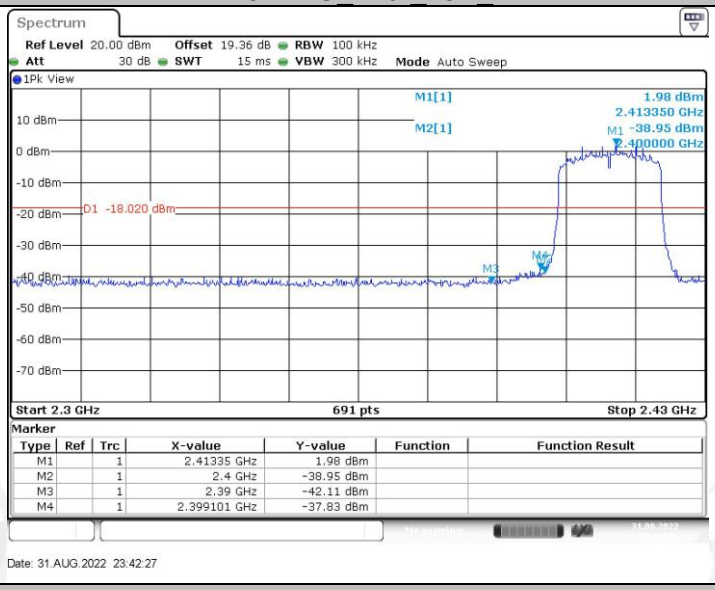


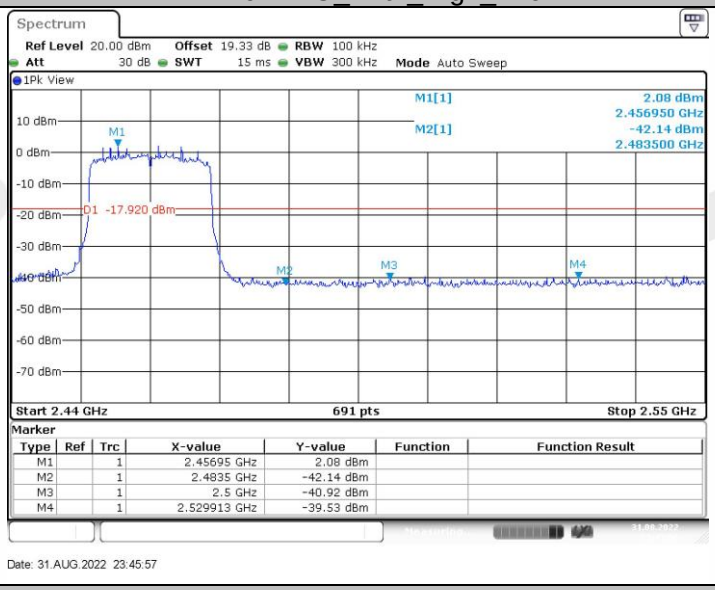
11AX20MIMO_Ant1_Low_2412



11AX20MIMO_Ant2_Low_2412



11AX20MIMO_Ant1_High_2462



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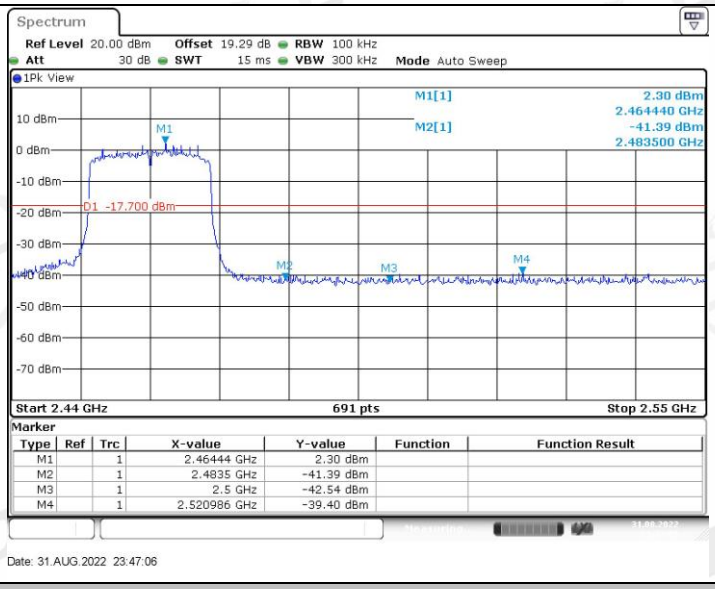

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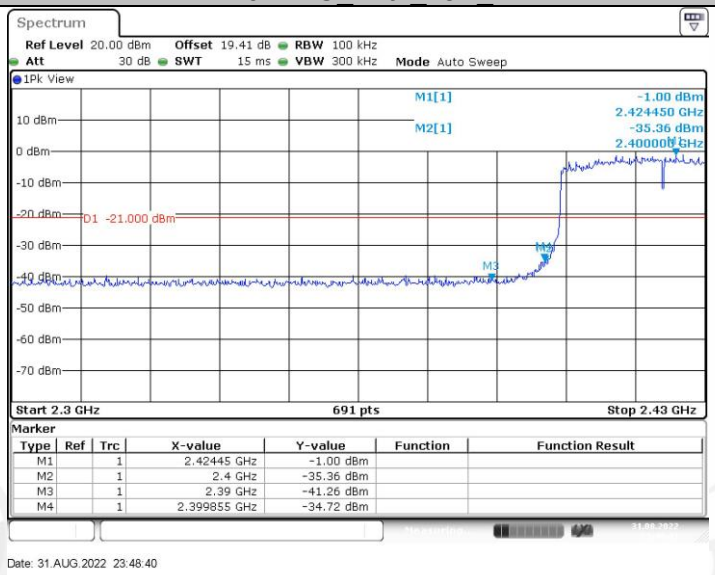

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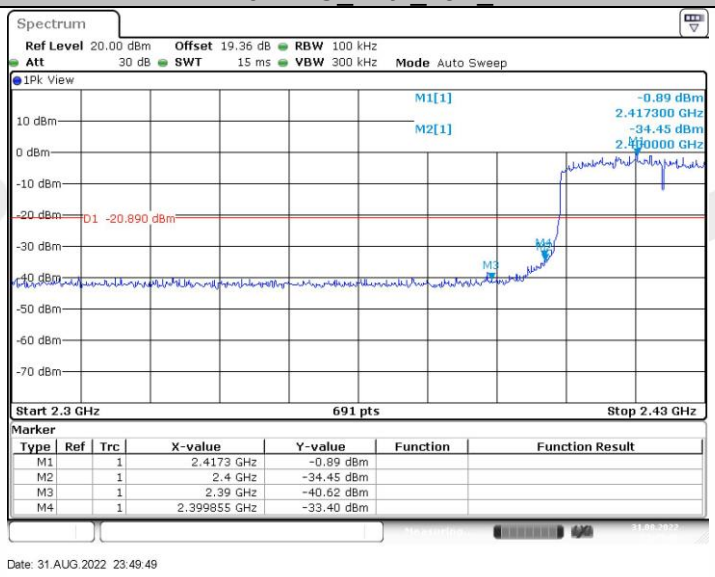

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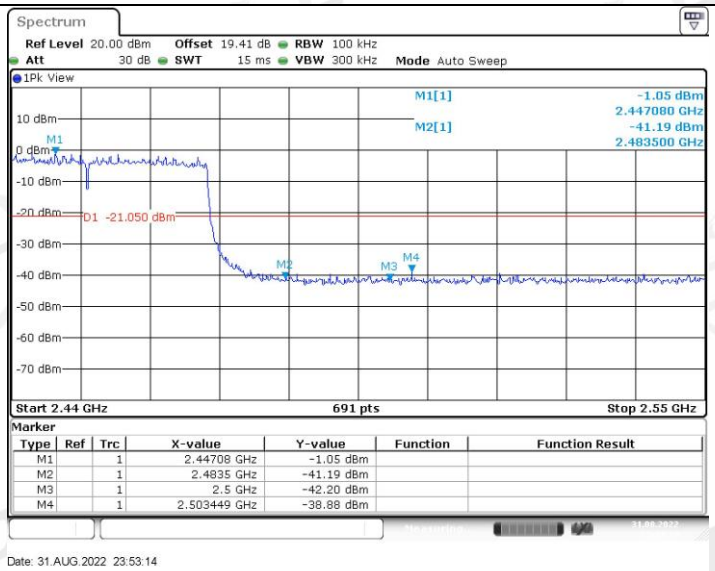

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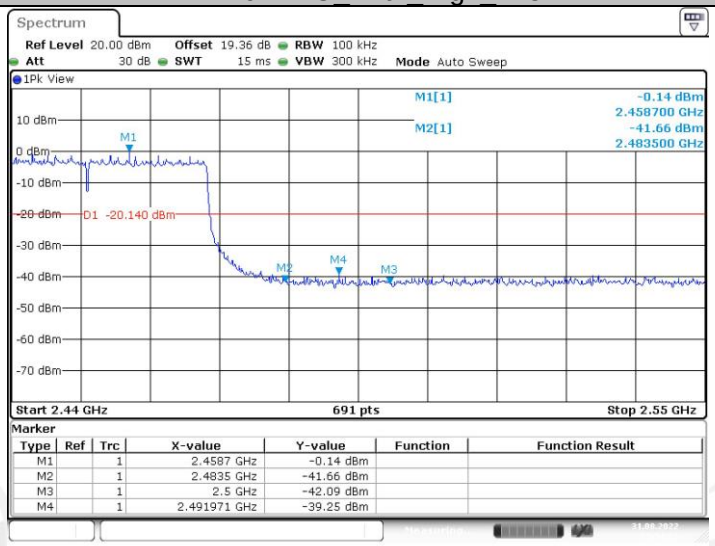
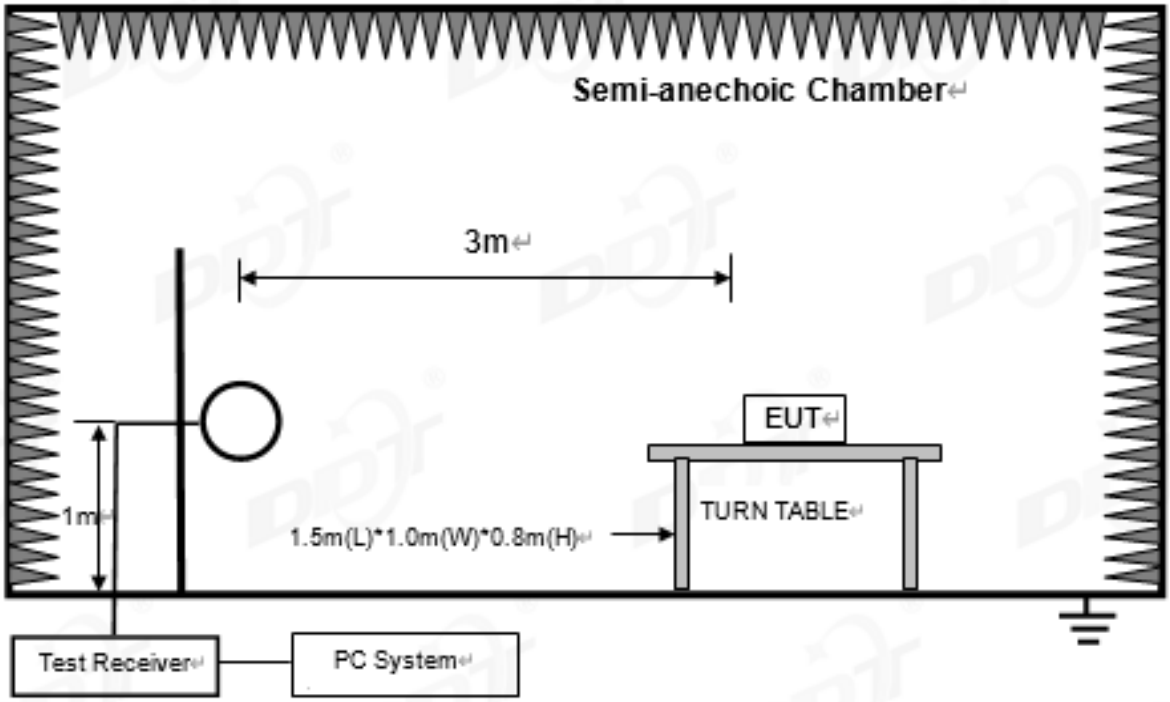


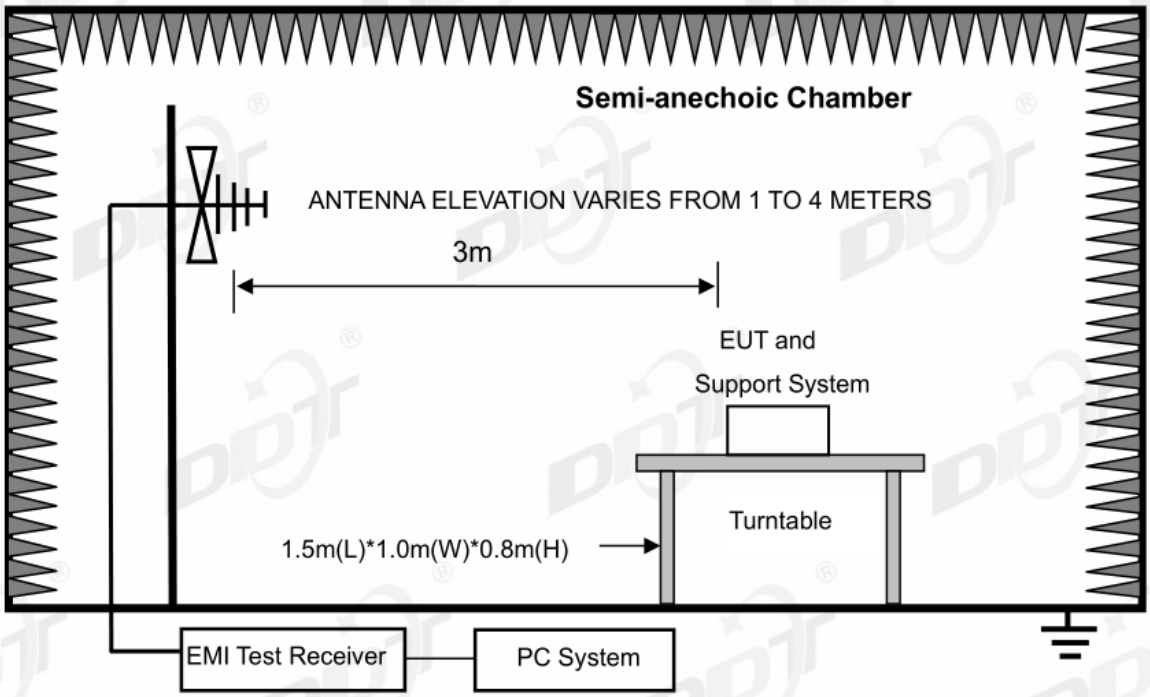
8. Radiated Spurious Emissions

8.1. Block diagram of test setup

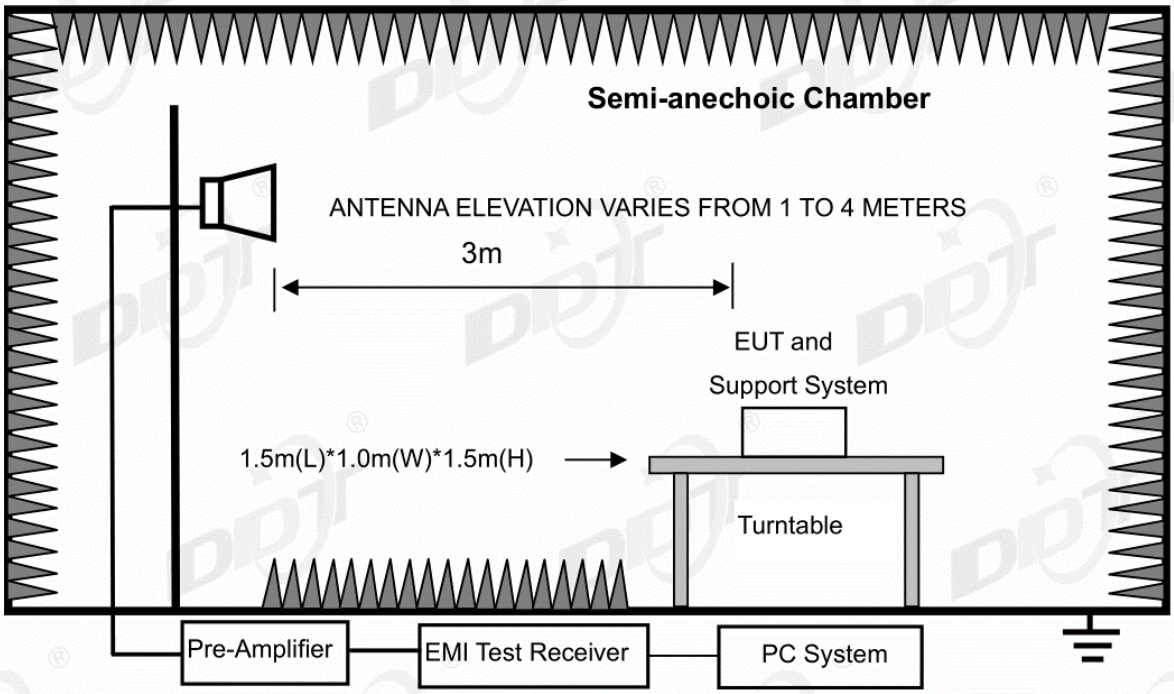
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

8.2. Limit

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2]Above 38.6

(2) FCC 15.209 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Note: (1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30 MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$Limit_{3m}(dBuV/m) = Limit_{30m}(dBuV/m) + 40Log(30m/3m)$$

(3) Limit for this EUT
The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits.

8.3. Test procedure

(1) EUT height should be 0.8 m for below 1 GHz at a semi-anechoic chamber while EUT height should be 1.5 m for above 1 GHz at full chamber or semi-anechoic chamber ground with absorbers.

(2) The antenna used as below table.

Test frequency range	Test antenna used	Measuring distance
9 kHz-30 MHz	Active Loop antenna	3 m
30 MHz-1 GHz	Trilog Broadband Antenna	3 m
1 GHz-18 GHz	Double Ridged Horn Antenna(1GHz-18GHz)	3 m
18 GHz-40 GHz	Horn Antenna(18GHz-40GHz)	1 m

According ANSI C63.10:2013 clause 6.4.4.2 and 6,5.3, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also be positioned with its plane horizontal at the specified distance from the EUT. The center of the

loop is 1 m above the ground. for measurement above 30 MHz, the Trilog Broadband Antenna or Horn Antenna was located 3 m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 25 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 25 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 18GHz to 25GHz, so below final test was performed with frequency range from 9kHz to 18GHz.

(4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 2013 on Radiated Emission test.

(5) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9-90 kHz, 110-490 kHz, for emissions from 9 kHz-90 kHz,110 kHz-490 kHz and above 1 GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.

(6) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW

Frequency band	RBW
9 kHz-150 kHz	200 Hz
150 kHz-30 MHz	9 kHz
30 MHz-1 GHz	120 kHz

(7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure; RMS detector RBW 1 MHz VBW 10 Hz for Average measure (according ANSI C63.10:2013 clause 4.2.3.2.3 procedure for average measure).

8.4. Test result

Pass. (See below detailed test result)

All the emissions except fundamental emission from 9 kHz to 25 GHz were comply with 15.209 limits.

Note1: According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 25 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

Note2: 30 MHz ~ 25 GHz: (Scan with all mode, the worst case is 802.11ax HE20 mode)

Note3: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in 802.11ax HE20 mode.

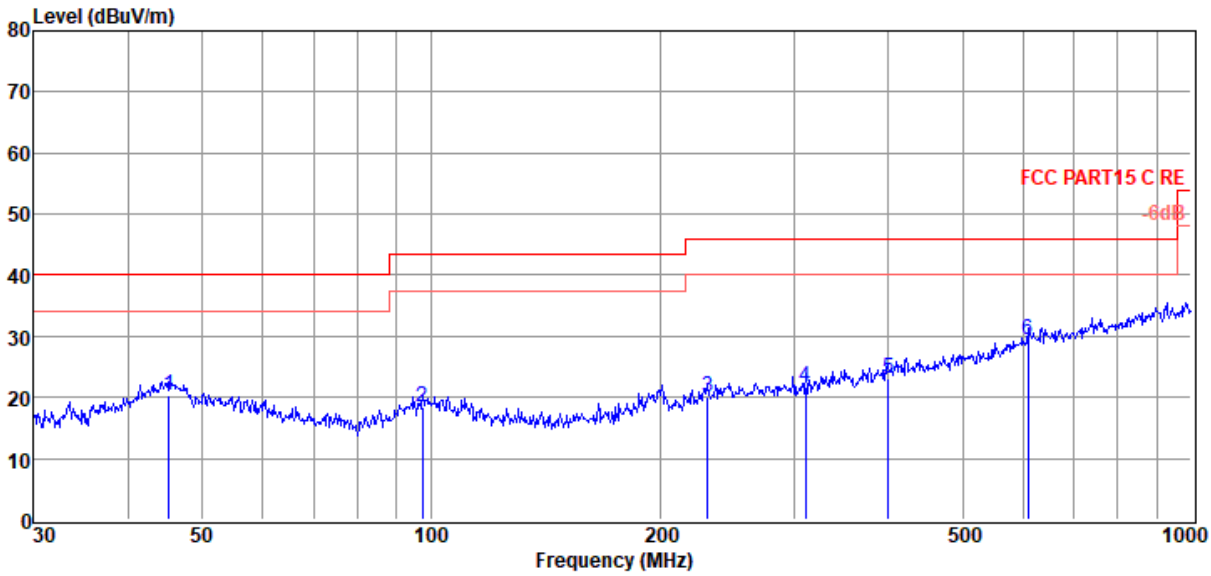
Note4: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit. And the BT+2.4GWIFI is the worst simultaneous case and reported.

Radiated Emission test (below 1GHz)

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 3#	D:\E3 6.111\2022 Report Data\Q21123016-3O 1020VR\FCC BELOW 1G.EM6	
Test Date	: 2022-07-05	**Tested By**	: Bairong
EUT	: arpara AIO 5K	**Model Number**	: VRM1020WNA
Power Supply	: Battery	**Test Mode**	: Tx Mode
Condition	: Temp:22.8°C,Humi:52.6%,Press:100.3kPa	**Antenna/Distance**	: 2021 VLUB 9163 #3/3m/HORIZONTAL
Memo	: 2.4GWIFI		

Data:
5



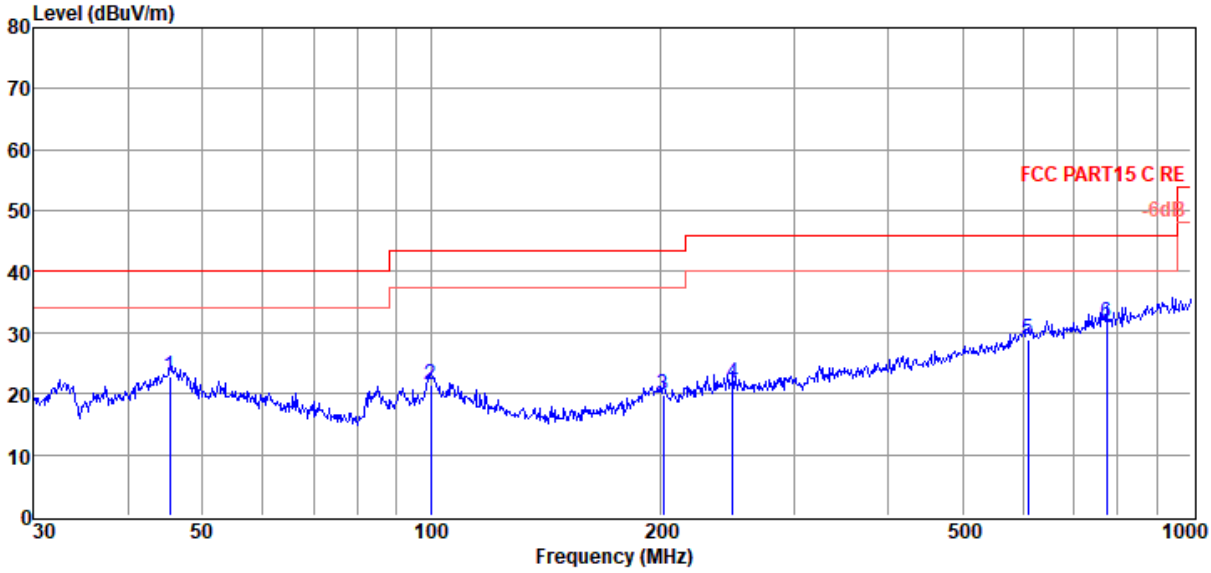
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	45.22	1.84	14.99	3.65	20.48	40.00	-19.52	QP	HORIZONTAL
2	97.46	3.00	11.45	3.97	18.42	43.50	-25.08	QP	HORIZONTAL
3	230.91	3.35	12.05	4.58	19.98	46.00	-26.02	QP	HORIZONTAL
4	311.09	3.52	13.44	4.86	21.82	46.00	-24.18	QP	HORIZONTAL
5	399.03	2.53	15.50	5.15	23.18	46.00	-22.82	QP	HORIZONTAL
6	609.92	4.51	19.20	5.76	29.47	46.00	-16.53	QP	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 3#	D:\E3 6.111\2022 Report Data\Q21123016-3O 1020VR\FCC BELOW 1G.EM6	
Test Date	: 2022-07-05	**Tested By**	: Bairong
EUT	: arpara AIO 5K	**Model Number**	: VRM1020WNA
Power Supply	: Battery	**Test Mode**	: Tx Mode
Condition	: Temp:22.8°C,Humi:52.6%,Press:100.3kPa	**Antenna/Distance**	: 2021 VLUB 9163 #3/3m/VERTICAL
Memo	: 2.4GWIFI		

Data:
6



Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	45.38	4.13	14.91	3.65	22.69	40.00	-17.31	QP	VERTICAL
2	99.88	5.95	11.50	3.98	21.43	43.50	-22.07	QP	VERTICAL
3	202.10	3.78	11.43	4.46	19.67	43.50	-23.83	QP	VERTICAL
4	249.43	4.62	12.50	4.65	21.77	46.00	-24.23	QP	VERTICAL
5	609.92	3.89	19.20	5.76	28.85	46.00	-17.15	QP	VERTICAL
6	774.16	4.74	20.60	6.16	31.50	46.00	-14.50	QP	VERTICAL

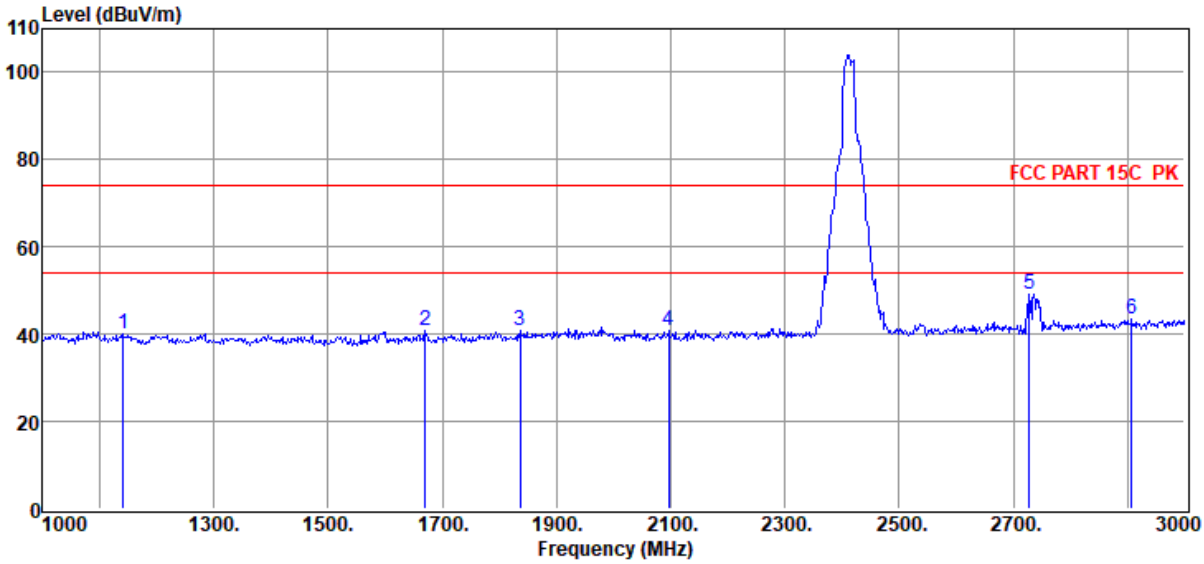
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Radiated Emission test (above 1GHz)

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 3#	D:\E3 6.111\2022 Report Data\Q21123016-3O 1020VR\FCC ABOVE 1G 2.4G WIFI.EM6	
Test Date	: 2022-07-07	**Tested By**	: Bairong
EUT	: arpara AIO 5K	**Model Number**	: VRM1020WNA
Power Supply	: Battery	**Test Mode**	: Tx Mode
Condition	: Temp:22.2°C,Humi:52.4%,Press:100.3kPa	**Antenna/Distance**	: 2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	: 11AX20 2412		

Data: 33



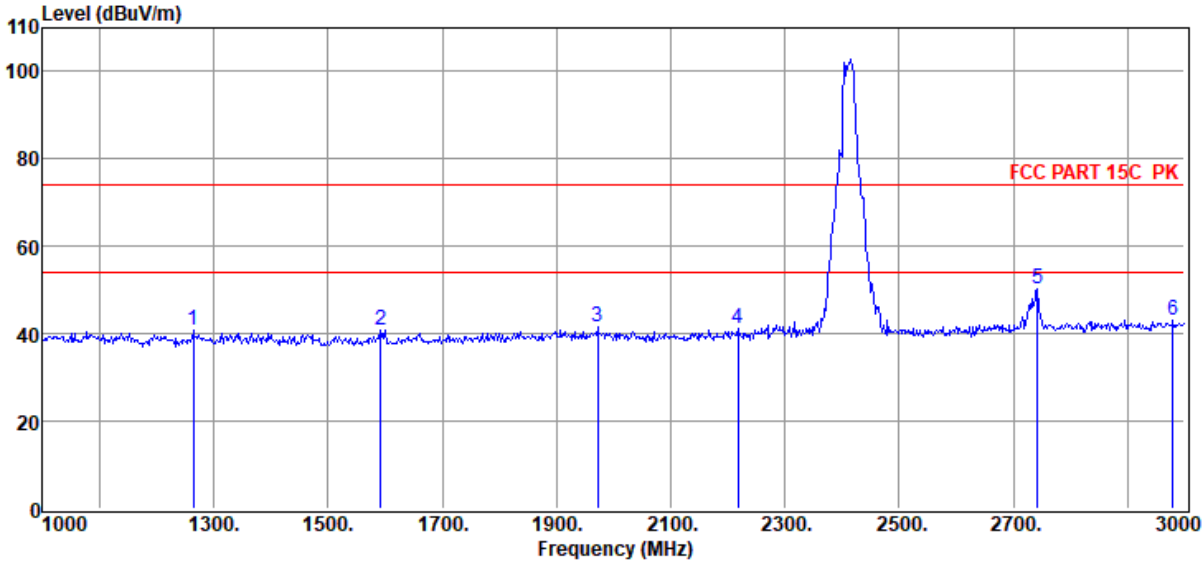
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1142.00	50.97	25.47	38.11	1.18	0.53	40.04	74.00	-33.96	Peak	HORIZONTAL
2	1670.00	51.94	25.84	38.91	1.45	0.62	40.94	74.00	-33.06	Peak	HORIZONTAL
3	1836.00	51.36	26.27	39.15	1.53	0.65	40.66	74.00	-33.34	Peak	HORIZONTAL
4	2096.00	51.21	26.87	39.45	1.63	0.69	40.95	74.00	-33.05	Peak	HORIZONTAL
5	2728.00	57.99	28.47	39.76	1.80	0.76	49.26	74.00	-24.74	Peak	HORIZONTAL
6	2908.00	51.42	29.15	39.85	1.85	0.78	43.35	74.00	-30.65	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 3#	D:\E3 6.111\2022 Report Data\Q21123016-3O 1020VR\FCC ABOVE 1G 2.4G WIFI.EM6	
Test Date	: 2022-07-07	**Tested By**	: Bairong
EUT	: arpara AIO 5K	**Model Number**	: VRM1020WNA
Power Supply	: Battery	**Test Mode**	: Tx Mode
Condition	: Temp:22.2°C,Humi:52.4%,Press:100.3kPa	**Antenna/Distance**	: 2021 BBHA 9120D 3#/3m/VERTICAL
Memo	: 11AX20 2412		

Data: 34



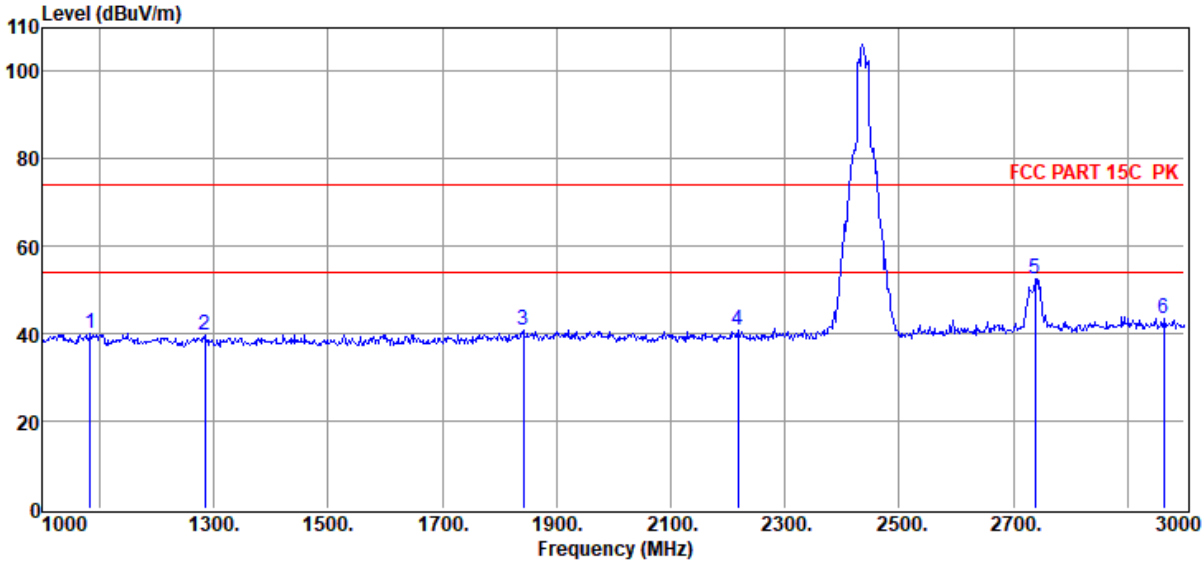
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1264.00	51.77	25.45	38.30	1.25	0.55	40.72	74.00	-33.28	Peak	VERTICAL
2	1592.00	51.95	25.64	38.79	1.42	0.61	40.83	74.00	-33.17	Peak	VERTICAL
3	1972.00	51.89	26.63	39.36	1.59	0.67	41.42	74.00	-32.58	Peak	VERTICAL
4	2218.00	51.26	27.09	39.51	1.66	0.70	41.20	74.00	-32.80	Peak	VERTICAL
5	2742.00	58.80	28.52	39.77	1.80	0.76	50.11	74.00	-23.89	Peak	VERTICAL
6	2980.00	50.84	29.42	39.89	1.86	0.79	43.02	74.00	-30.98	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 3#	D:\E3 6.111\2022 Report Data\Q21123016-3O 1020VR\FCC ABOVE 1G 2.4G WIFI.EM6	
Test Date	: 2022-07-07	**Tested By**	: Bairong
EUT	: arpara AIO 5K	**Model Number**	: VRM1020WNA
Power Supply	: Battery	**Test Mode**	: Tx Mode
Condition	: Temp:22.2°C,Humi:52.4%,Press:100.3kPa	**Antenna/Distance**	: 2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	: 11AX20 2437		

Data: 35



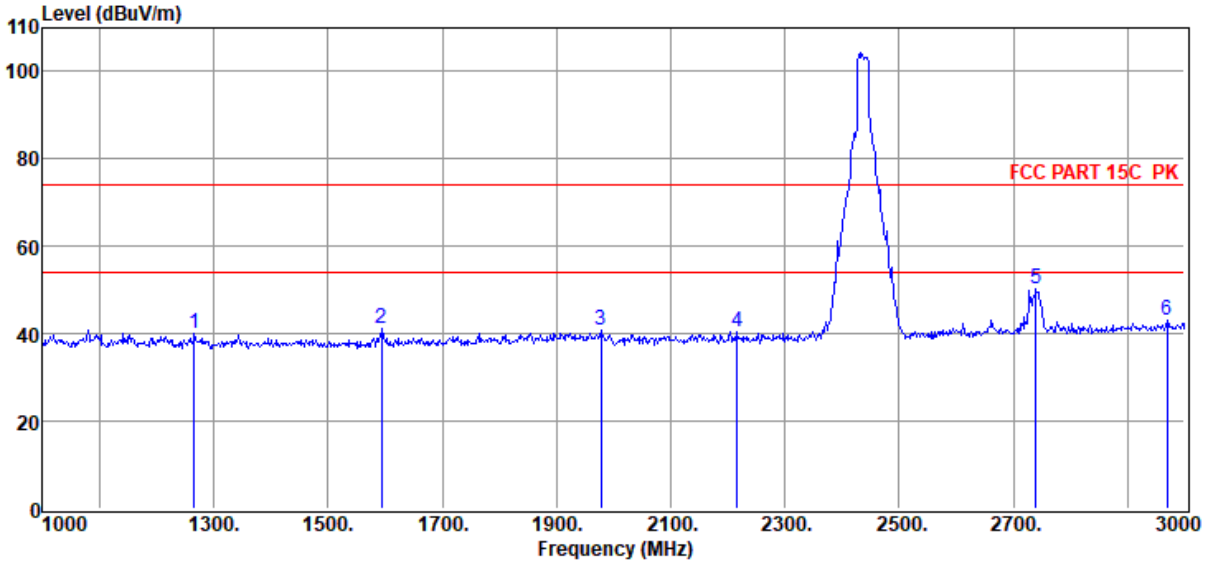
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1084.00	50.99	25.48	38.03	1.15	0.52	40.11	74.00	-33.89	Peak	HORIZONTAL
2	1284.00	50.77	25.44	38.33	1.26	0.55	39.69	74.00	-34.31	Peak	HORIZONTAL
3	1842.00	51.44	26.29	39.16	1.53	0.65	40.75	74.00	-33.25	Peak	HORIZONTAL
4	2218.00	50.95	27.09	39.51	1.66	0.70	40.89	74.00	-33.11	Peak	HORIZONTAL
5	2738.00	61.29	28.50	39.77	1.80	0.76	52.58	74.00	-21.42	Peak	HORIZONTAL
6	2964.00	51.37	29.36	39.88	1.86	0.79	43.50	74.00	-30.50	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 3#	D:\E3 6.111\2022 Report Data\Q21123016-3O 1020VR\FCC ABOVE 1G 2.4G WIFI.EM6	
Test Date	: 2022-07-07	**Tested By**	: Bairong
EUT	: arpara AIO 5K	**Model Number**	: VRM1020WNA
Power Supply	: Battery	**Test Mode**	: Tx Mode
Condition	: Temp:22.2°C,Humi:52.4%,Press:100.3kPa	**Antenna/Distance**	: 2021 BBHA 9120D 3#/3m/VERTICAL
Memo	: 11AX20 2437		

Data: 36



Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1266.00	51.08	25.45	38.30	1.25	0.55	40.03	74.00	-33.97	Peak	VERTICAL
2	1594.00	52.45	25.64	38.79	1.42	0.61	41.33	74.00	-32.67	Peak	VERTICAL
3	1978.00	51.31	26.64	39.37	1.59	0.68	40.85	74.00	-33.15	Peak	VERTICAL
4	2216.00	50.59	27.09	39.51	1.66	0.70	40.53	74.00	-33.47	Peak	VERTICAL
5	2740.00	59.09	28.51	39.77	1.80	0.76	50.39	74.00	-23.61	Peak	VERTICAL
6	2970.00	50.93	29.39	39.89	1.86	0.79	43.08	74.00	-30.92	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.