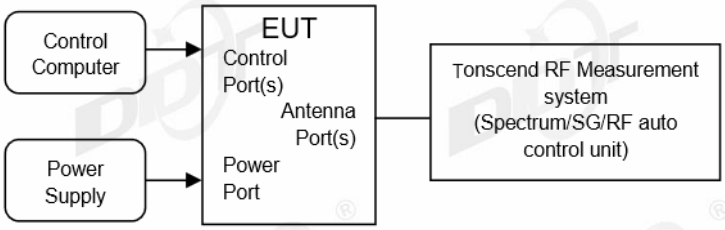
8. Band Edge Compliance (Conducted Method)

8.1. Block diagram of test setup



8.2. 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.

8.3. 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.

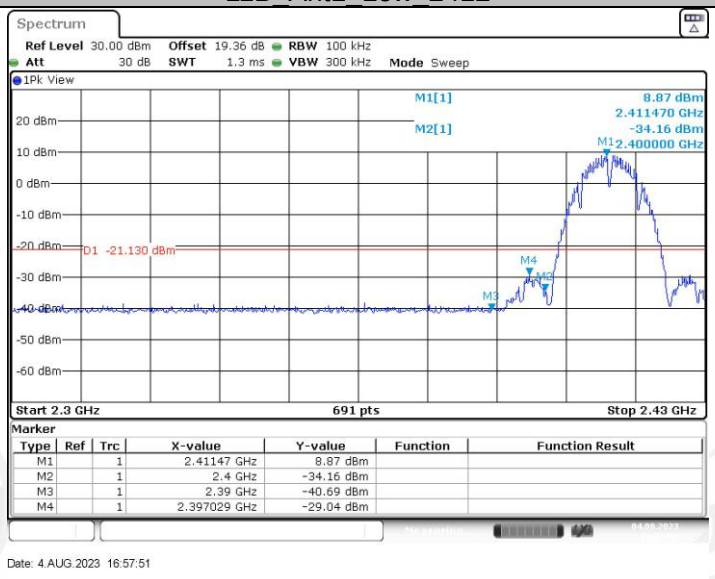
(4) Then mark the maximum amplitude of all unwanted emissions outside of the authorized frequency band.

8.4. Test result

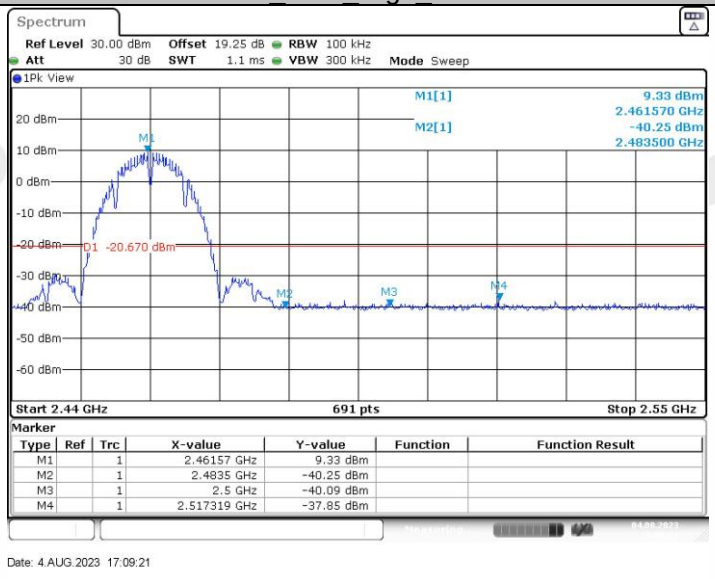
EUT Set Mode	Channel or Frequency	Result (dBm)	EUT Set Mode	Channel or Frequency	Result Result (dBm)
11b	CH1	Pass	11g	CH1	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH11	Pass
11n HT 20	CH1	Pass	11n HT 40	CH3	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH9	Pass

8.5. Test graphs

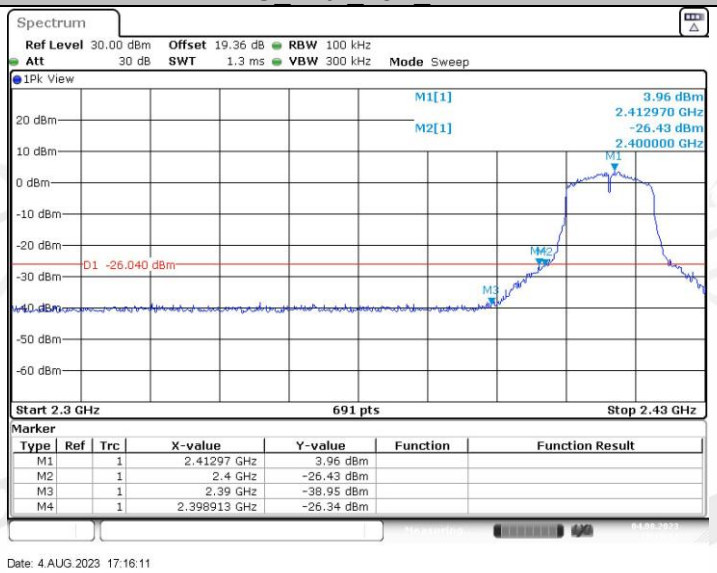
11B_Ant1_Low_2412



11B_Ant1_High_2462

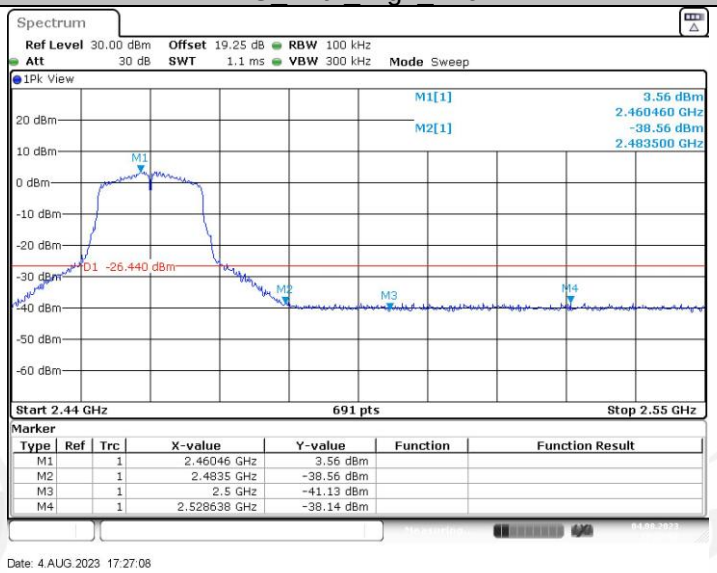


11G_Ant1_Low_2412



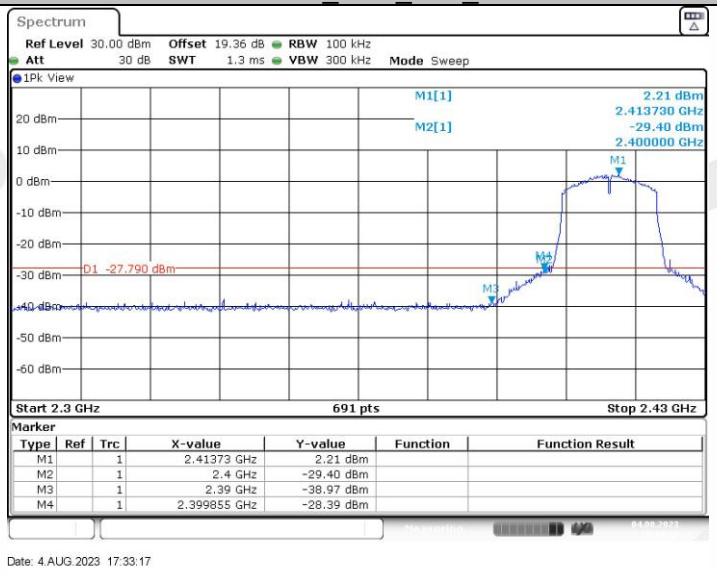
Date: 4.AUG.2023 17:16:11

11G_Ant1_High_2462



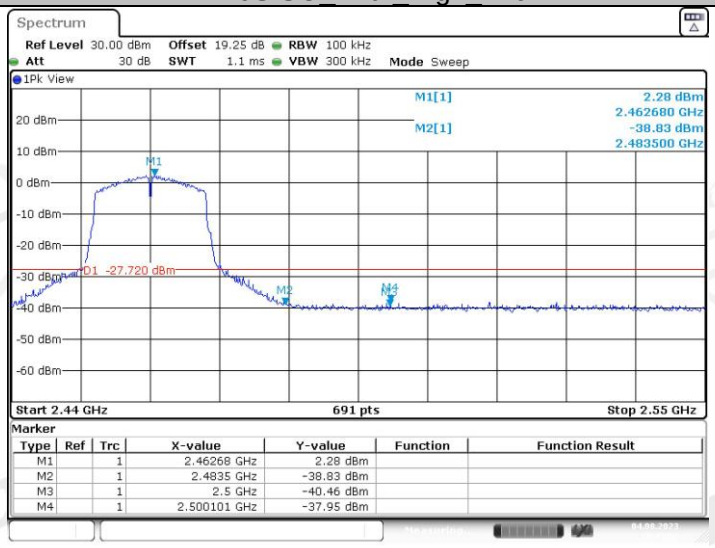
Date: 4.AUG.2023 17:27:08

11N20SISO_Ant1_Low_2412



Date: 4.AUG.2023 17:33:17

11N20SISO_Ant1_High_2462



Date: 4.AUG.2023 17:45:51

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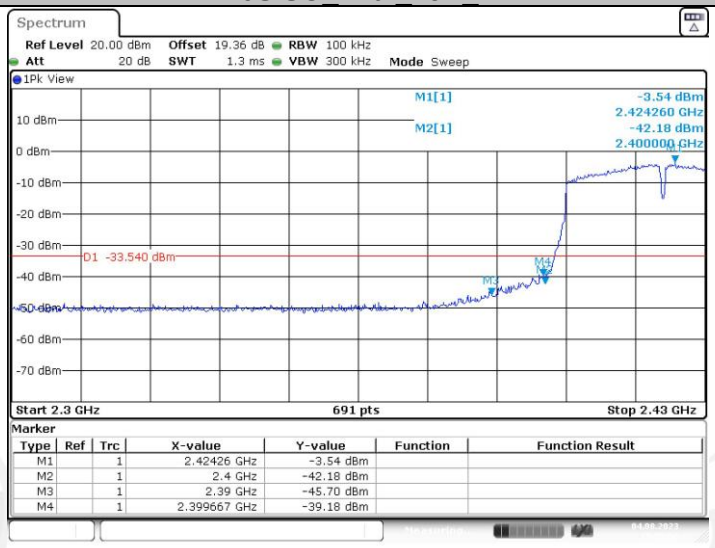

Date: 4.AUG.2023 17:59:50

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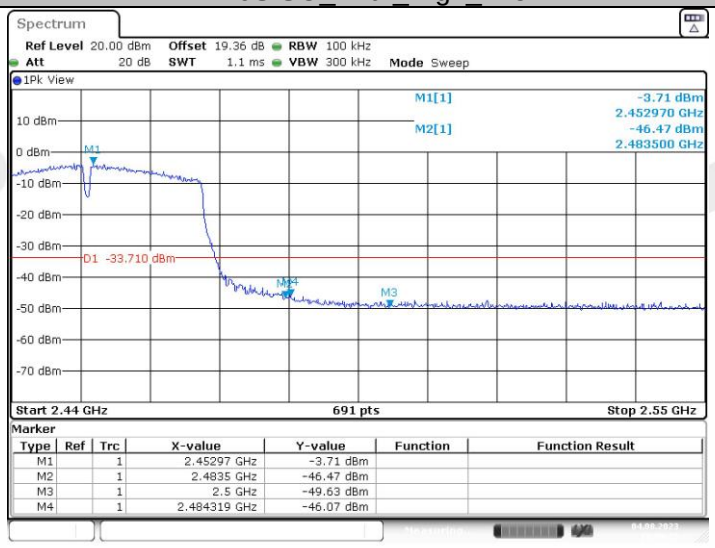
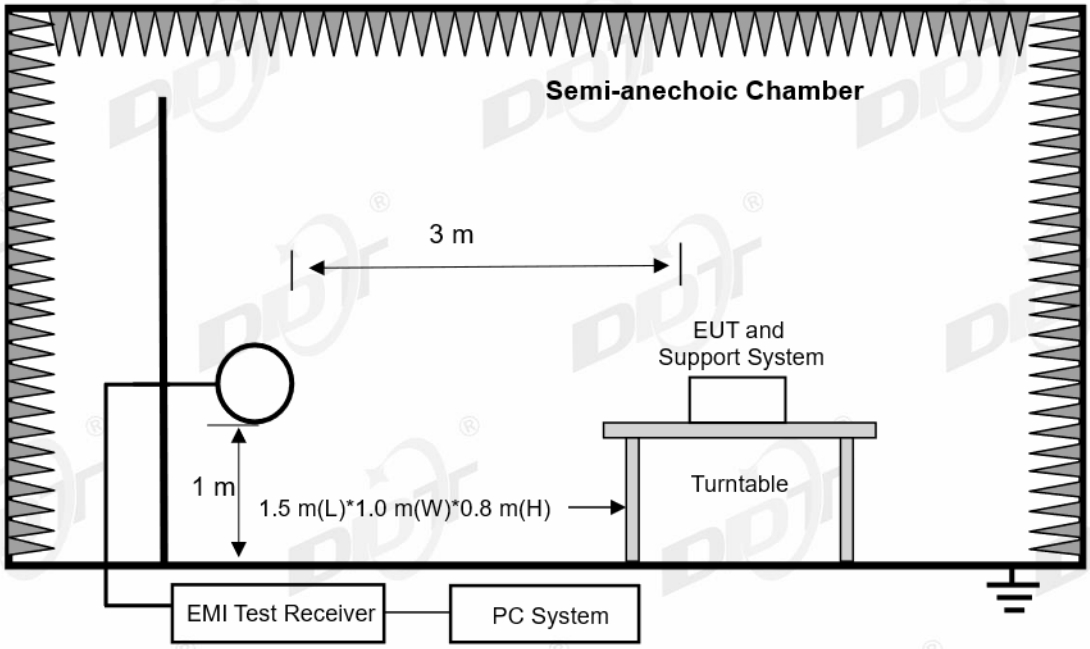


Date: 4.AUG.2023 18:09:15

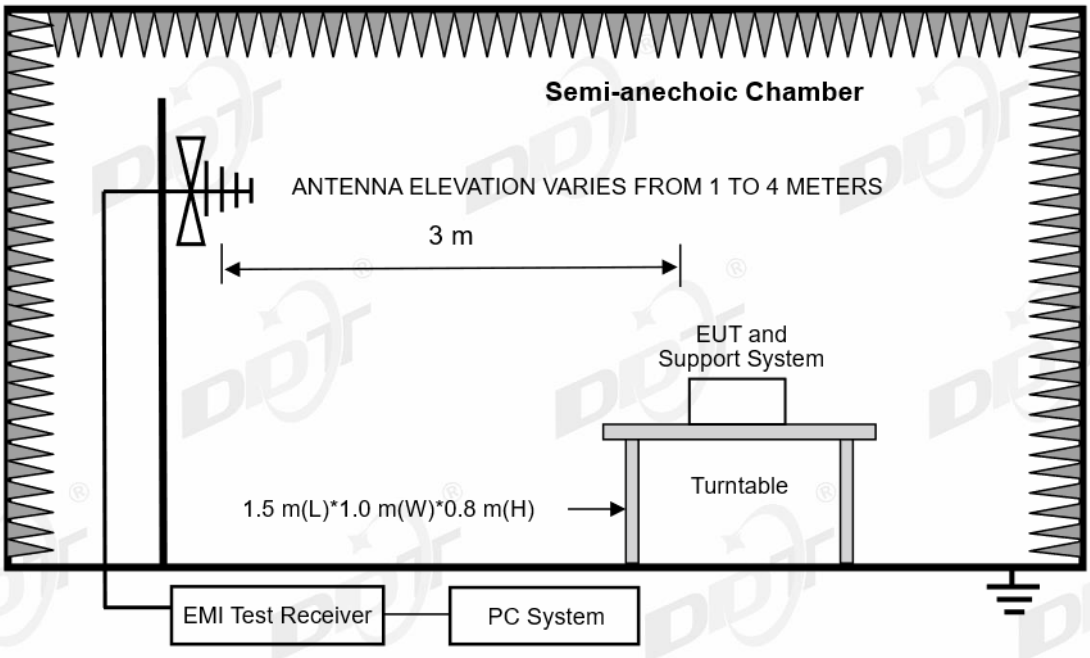
9. Radiated Spurious Emissions

9.1. Block diagram of test setup

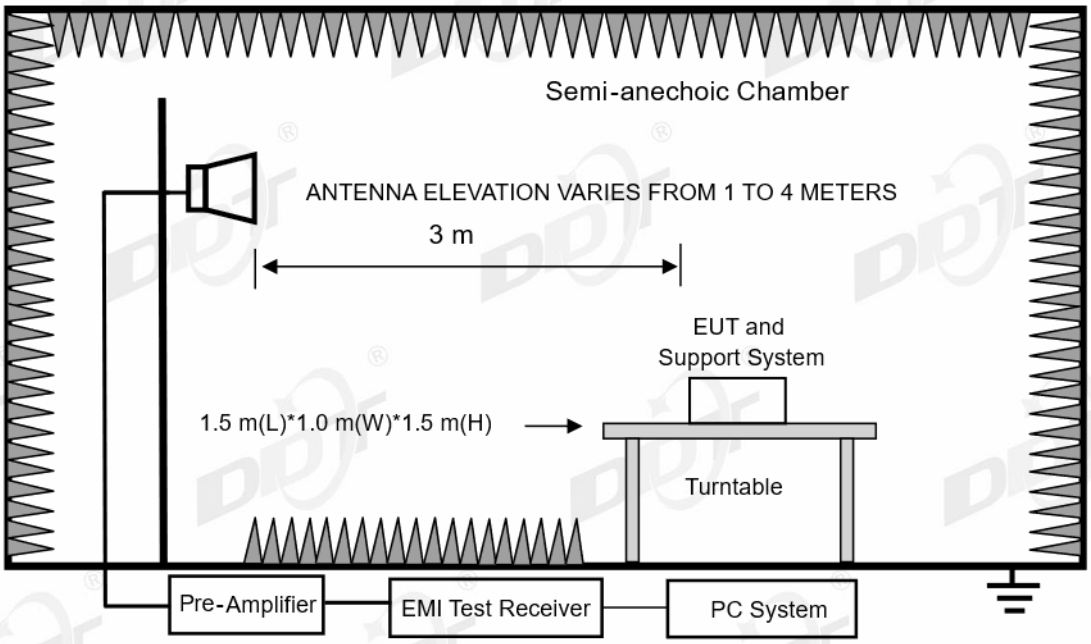
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



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.

9.2. 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

RSS-Gen section 8.10 Restricted frequency bands*

MHz	MHz	MHz	GHz
0.090-0.110	12.51975-12.52025	240-285	3.5-4.4
0.495-0.505	12.57675-12.57725	322-335.4	4.5-5.15
2.1735-2.1905	13.36-13.41	399.9-410	5.35-5.46
3.020-3.026	16.42-16.423	608-614	7.25-7.75
4.125-4.128	16.69475-16.69525	960-1427	8.025-8.5
4.1772&4.17775	16.80425-16.80475	1435-1626.5	9.0-9.2
4.2072&4.20775	25.5-25.67	1645.5-1646.5	9.3-9.5
5.677-5.683	37.5-38.25	1660-1710	10.6-12.7
6.215-6.218	73-74.6	1718.8-1722.2	13.25-13.4
6.26775-6.26825	74.8-75.2	2200-2300	14.47-14.5
6.31175-6.31225	108-138	2310-2390	15.35-16.2
8.291-8.294	149.9-150.05	2483.5-2500	17.7-21.4
8.362-8.366	156.52475-156.52525	2655-2900	22.01-23.12
8.37625-8.38675	156.7-156.9	3260-3267	23.6-24.0
8.41425-8.41475	162.0125-167.17	3332-3339	31.2-31.8
12.29-12.293	167.72-173.2	3345.8-3358	36.43-36.5
			Above 38.6

* Certain frequency bands listed in table and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

(2) FCC 15.209 Limit & RSS-Gen section 8.9 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, and the emissions appearing within RSS-Gen section 8.10 Restricted frequency bands shall not exceed the limits shown in RSS-Gen section 8.9, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits and RSS-Gen section 8.9 limits.

9.3. 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; according ANSI C63.10:2013 clause 4.2.3.2.3 procedure for average measure.

9.4. 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 and RSS-Gen section 8.9 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 802.11b mode)

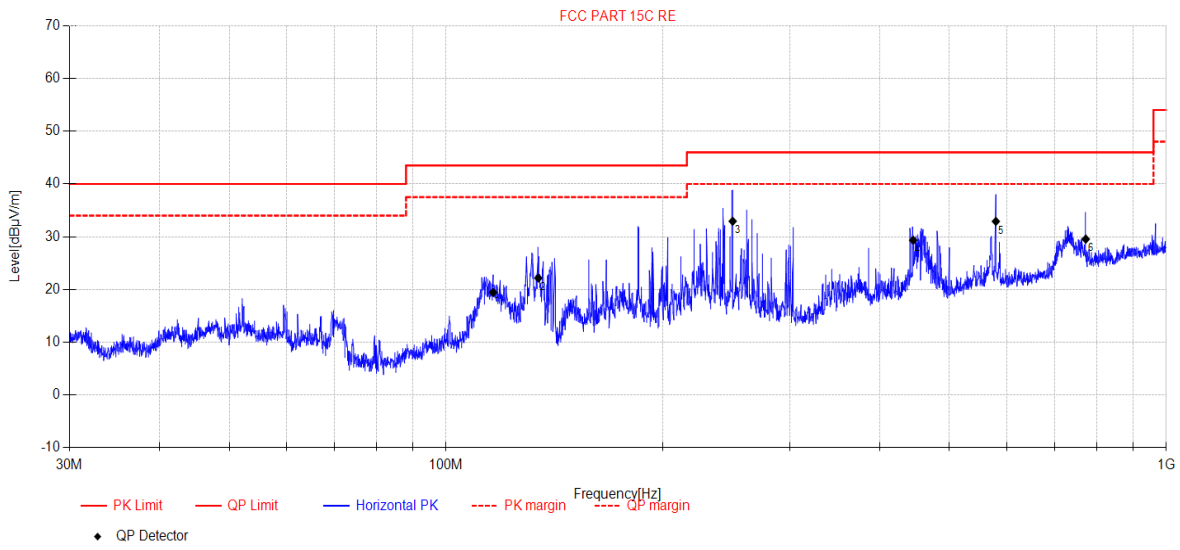
Note3: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in 802.11b 2437 Tx mode.

Note4: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit. Only recorded the worst case in this report.

Radiated Emission test (below 1GHz)

TR-4-E-009 Radiated Emission Test Result

Test Date:	2023-08-03	**Tested By**:	Bairong
EUT:	Phyn Protect	**Model Number**:	PHYPF011
Test Mode:	TX Mode	**Power Supply**:	AC 120V/60Hz
Condition:	Temp:22.8°C;Humi:58.5%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2023 report data\Q23072112-2E PHYPF011\FCC BELOW 1G\20230803-225704_H		
Memo:	2.4GWIFI		

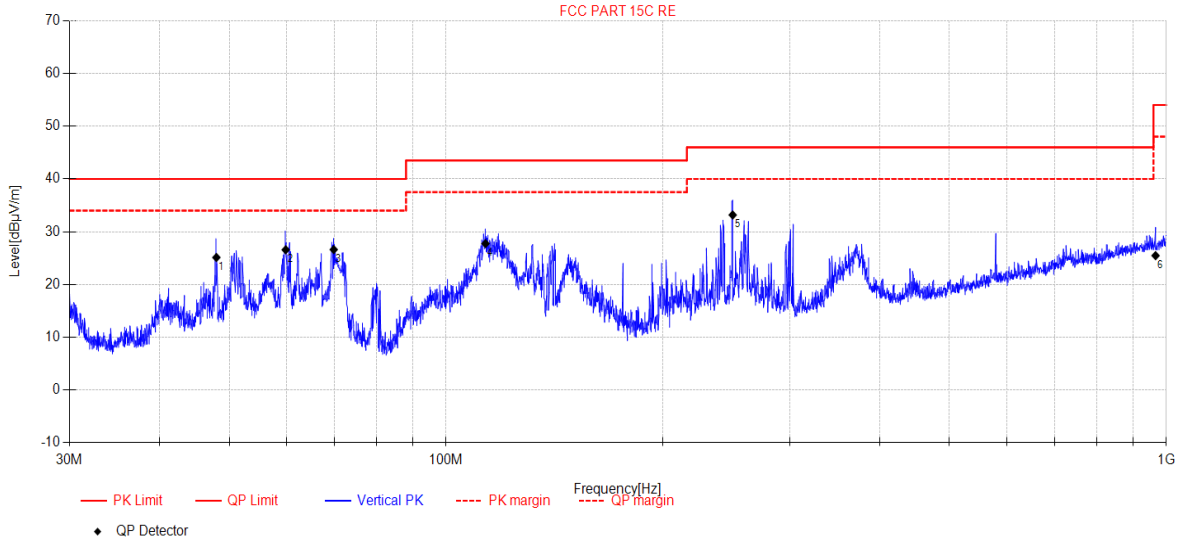


Final Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**AMP [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	116.26	35.7	9.45	5.15	-30.85	19.45	43.50	24.05	QP	Horizontal
2	134.33	40.15	7.57	5.24	-30.80	22.16	43.50	21.34	QP	Horizontal
3	250.02	45.14	12.30	5.94	-30.45	32.93	46.00	13.07	QP	Horizontal
4	445.24	36.54	16.00	6.80	-30.01	29.33	46.00	16.67	QP	Horizontal
5	579.95	37.26	18.30	7.25	-29.90	32.91	46.00	13.09	QP	Horizontal
6	773.11	30.57	20.96	7.92	-29.90	29.55	46.00	16.45	QP	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
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 Date:	2023-08-03	**Tested By**:	Bairong
EUT:	Phyn Protect	**Model Number**:	PHYPF011
Test Mode:	TX Mode	**Power Supply**:	AC 120V/60Hz
Condition:	Temp:22.8°C;Humi:58.5%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2023 report data\Q23072112-2E PHYPF011\FCC BELOW 1G\20230803-225758_V		
Memo:	2.4GWIFI		



Final Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**AMP [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	47.99	37.95	13.20	4.70	-30.73	25.12	40.00	14.88	QP	Vertical
2	59.89	40.53	11.92	4.76	-30.63	26.58	40.00	13.42	QP	Vertical
3	69.83	43.83	8.57	4.79	-30.57	26.62	40.00	13.38	QP	Vertical
4	113.45	43.46	10.01	5.14	-30.86	27.75	43.50	15.75	QP	Vertical
5	250.02	45.39	12.30	5.94	-30.45	33.18	46.00	12.82	QP	Vertical
6	966.23	22.5	22.80	8.57	-28.40	25.47	54.00	28.53	QP	Vertical

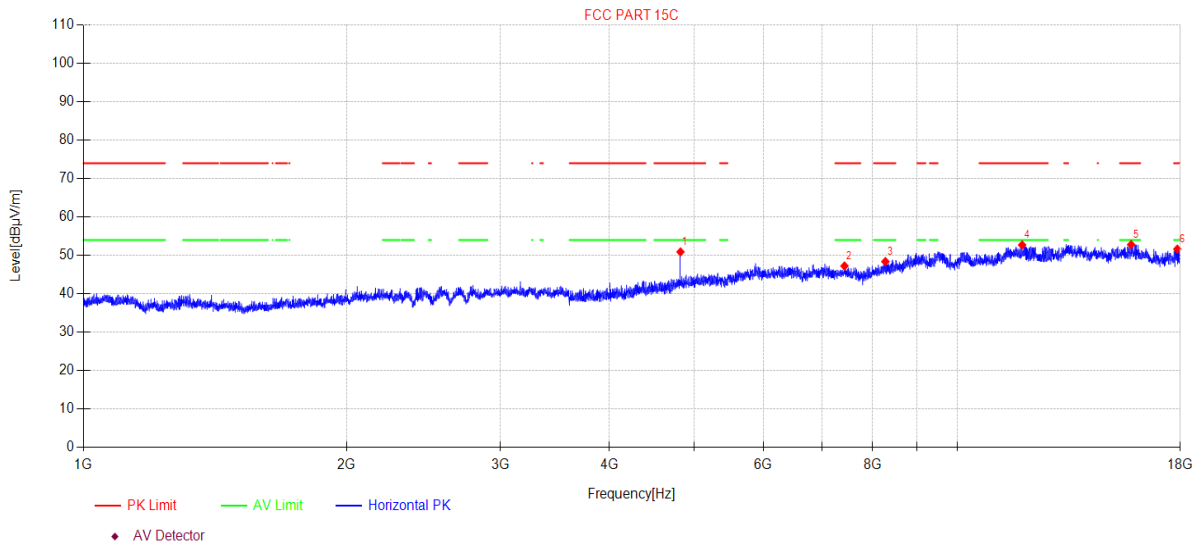
Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Radiated Emission test (above 1GHz)

TR-4-E-009 Radiated Emission Test Result

Test Date:	2023-08-01	**Tested By**:	Liaowanrong
EUT:	Phyn Protect	**Model Number**:	PHYPF011
Test Mode:	TX Mode	**Power Supply**:	AC 120V/60Hz
Condition:	Temp:22.8°C;Humi:58.5%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2023 report data\Q23072112-2E PHYPF011\FCC ABOVE 1G\3		
Memo:	11B 2412 POWER 30		

Test Graph



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Cable loss [dB]	Antenna Factor [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	4822.83	52.16	7.51	32.39	-41.15	50.91	74.00	23.09	PK	Horizontal
2	7429.28	44.11	7.64	36.50	-41.00	47.25	74.00	26.75	PK	Horizontal
3	8274.91	43.83	7.97	37.15	-40.56	48.39	74.00	25.61	PK	Horizontal
4	11865.34	42.62	10.42	38.80	-39.12	52.72	74.00	21.28	PK	Horizontal
5	15814.01	39.85	15.04	38.19	-40.27	52.81	74.00	21.19	PK	Horizontal
6	17860.09	38.40	12.96	40.92	-40.64	51.64	74.00	22.36	PK	Horizontal

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
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 Date: 2023-08-01 **Tested By**: Liaowanrong

EUT: Phyn Protect **Model Number**: PHYPF011

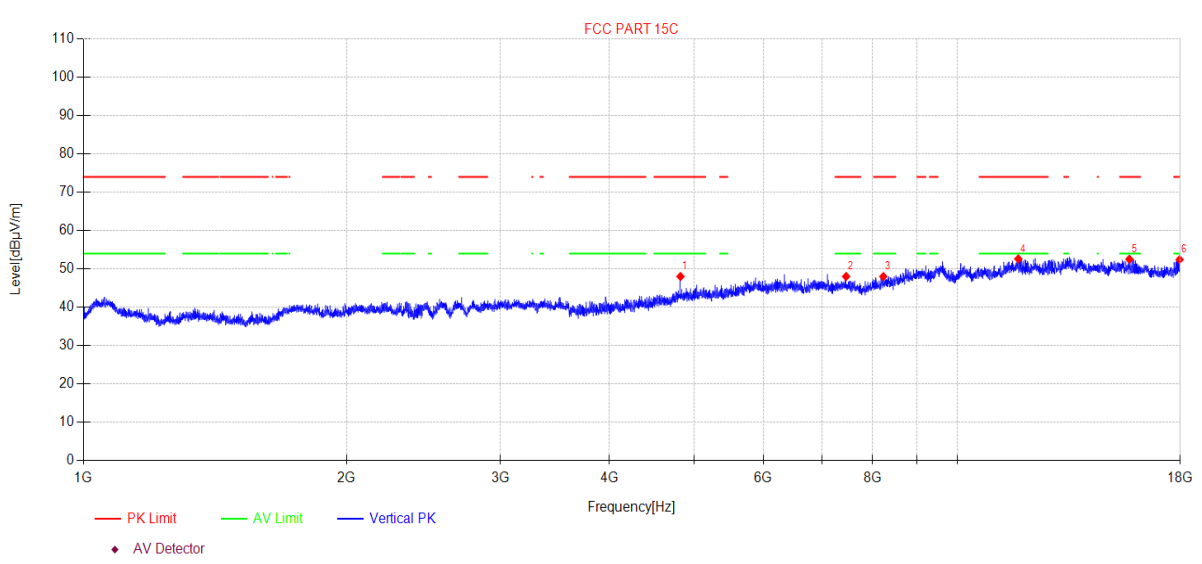
Test Mode: TX Mode **Power Supply**: AC 120V/60Hz

Condition: Temp:22.8°C;Humi:58.5% **Test Site**: DDT 3# Chamber

File Path: d:\ts\2023 report data\Q23072112-2E PHYPF011\FCC ABOVE 1G\4

Memo: 11B 2412 POWER 30

Test Graph



Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Cable loss [dB]	Antenna Factor [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	4822.83	49.27	7.51	32.39	-41.15	48.02	74.00	25.98	PK	Vertical
2	7461.55	44.91	7.64	36.48	-41.00	48.03	74.00	25.97	PK	Vertical
3	8229.60	43.63	7.92	37.10	-40.63	48.02	74.00	25.98	PK	Vertical
4	11745.93	42.82	10.31	38.80	-39.31	52.62	74.00	21.38	PK	Vertical
5	15741.05	39.78	14.71	38.26	-40.22	52.53	74.00	21.47	PK	Vertical
6	17968.81	38.42	13.09	41.61	-40.69	52.43	74.00	21.57	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
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 Date: 2023-08-03 **Tested By**: Liaowanrong

EUT: Phyn Protect **Model Number**: PHYPF011

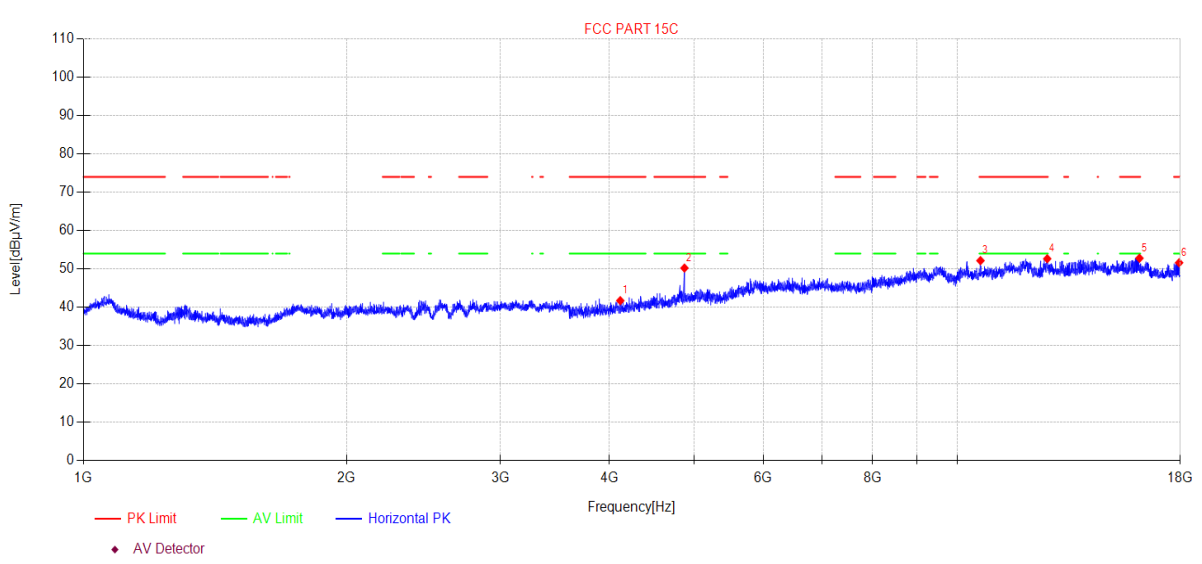
Test Mode: TX Mode **Power Supply**: AC 120V/60Hz

Condition: Temp:22.8°C;Humi:58.5% **Test Site**: DDT 3# Chamber

File Path: d:\ts\2023 report data\Q23072112-2E PHYPF011\FCC ABOVE 1G\5

Memo: 11B 2437 POWER 30

Test Graph



Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Cable loss [dB]	Antenna Factor [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	4115.23	46.09	6.08	30.93	-41.37	41.73	74.00	32.27	PK	Horizontal
2	4873.27	51.20	7.61	32.55	-41.14	50.22	74.00	23.78	PK	Horizontal
3	10631.26	44.28	9.39	39.03	-40.54	52.16	74.00	21.84	PK	Horizontal
4	12677.20	42.34	10.54	39.35	-39.58	52.65	74.00	21.35	PK	Horizontal
5	16165.20	40.21	15.23	37.73	-40.38	52.79	74.00	21.21	PK	Horizontal
6	17942.87	37.77	13.06	41.46	-40.68	51.61	74.00	22.39	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
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 Date: 2023-08-03 **Tested By**: Liaowanrong

EUT: Phyn Protect **Model Number**: PHYPF011

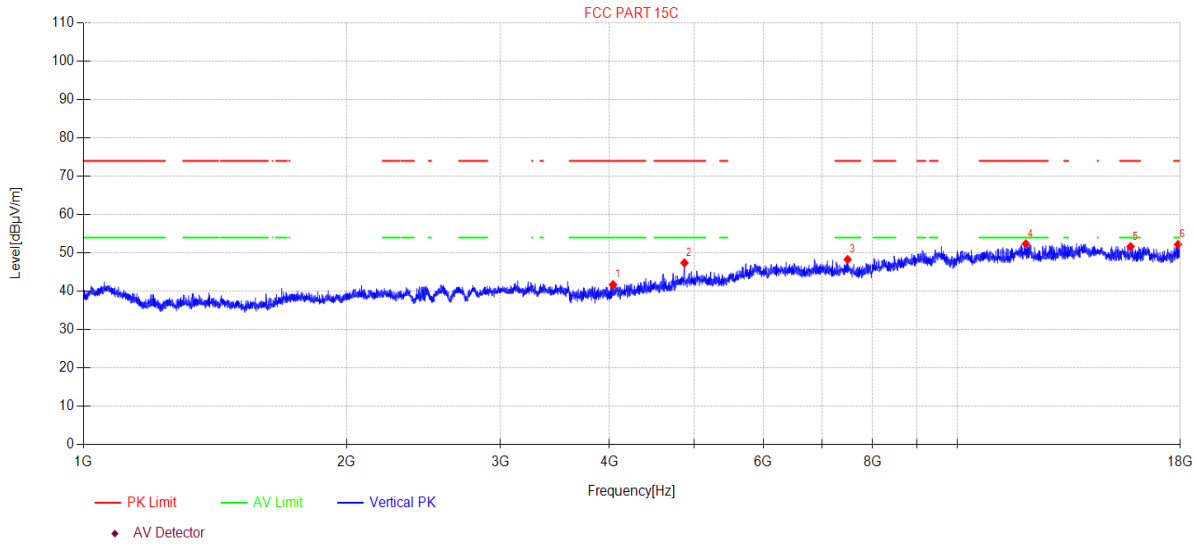
Test Mode: TX Mode **Power Supply**: AC 120V/60Hz

Condition: Temp:22.8°C;Humi:58.5% **Test Site**: DDT 3# Chamber

File Path: d:\ts\2023 report data\Q23072112-2E PHYPF011\FCC ABOVE 1G\6

Memo: 11B 2437 POWER 30

Test Graph



Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Cable loss [dB]	Antenna Factor [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	4037.48	46.41	5.93	30.77	-41.39	41.72	74.00	32.28	PK	Vertical
2	4873.27	48.38	7.61	32.55	-41.14	47.40	74.00	26.60	PK	Vertical
3	7491.80	45.23	7.64	36.42	-41.00	48.29	74.00	25.71	PK	Vertical
4	11982.51	41.91	10.52	38.88	-38.93	52.38	74.00	21.62	PK	Vertical
5	15791.17	38.78	14.93	38.21	-40.25	51.67	74.00	22.33	PK	Vertical
6	17891.09	38.73	13.00	41.14	-40.66	52.21	74.00	21.79	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
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 Date: 2023-08-03 **Tested By**: Liaowanrong

EUT: Phyn Protect **Model Number**: PHYPF011

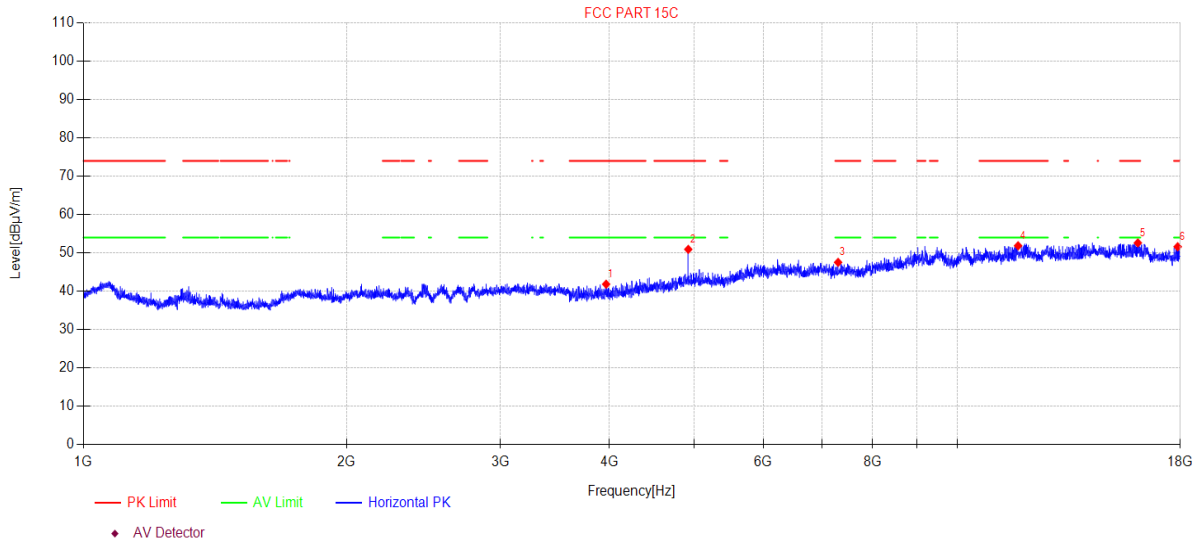
Test Mode: TX Mode **Power Supply**: AC 120V/60Hz

Condition: Temp:22.8°C;Humi:58.5% **Test Site**: DDT 3# Chamber

File Path: d:\ts\2023 report data\Q23072112-2E PHYPF011\FCC ABOVE 1G\7

Memo: 11B 2462 POWER 30

Test Graph



Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Cable loss [dB]	Antenna Factor [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	3964.63	46.76	5.84	30.63	-41.38	41.85	74.00	32.15	PK	Horizontal
2	4922.82	51.65	7.71	32.69	-41.12	50.93	74.00	23.07	PK	Horizontal
3	7305.78	44.41	7.63	36.50	-41.00	47.54	74.00	26.46	PK	Horizontal
4	11739.14	42.07	10.31	38.80	-39.32	51.86	74.00	22.14	PK	Horizontal
5	16095.27	39.69	15.50	37.80	-40.39	52.60	74.00	21.40	PK	Horizontal
6	17875.58	38.25	12.98	41.03	-40.65	51.61	74.00	22.39	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
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 Date: 2023-08-03 **Tested By**: Liaowanrong

EUT: Phyn Protect **Model Number**: PHYPF011

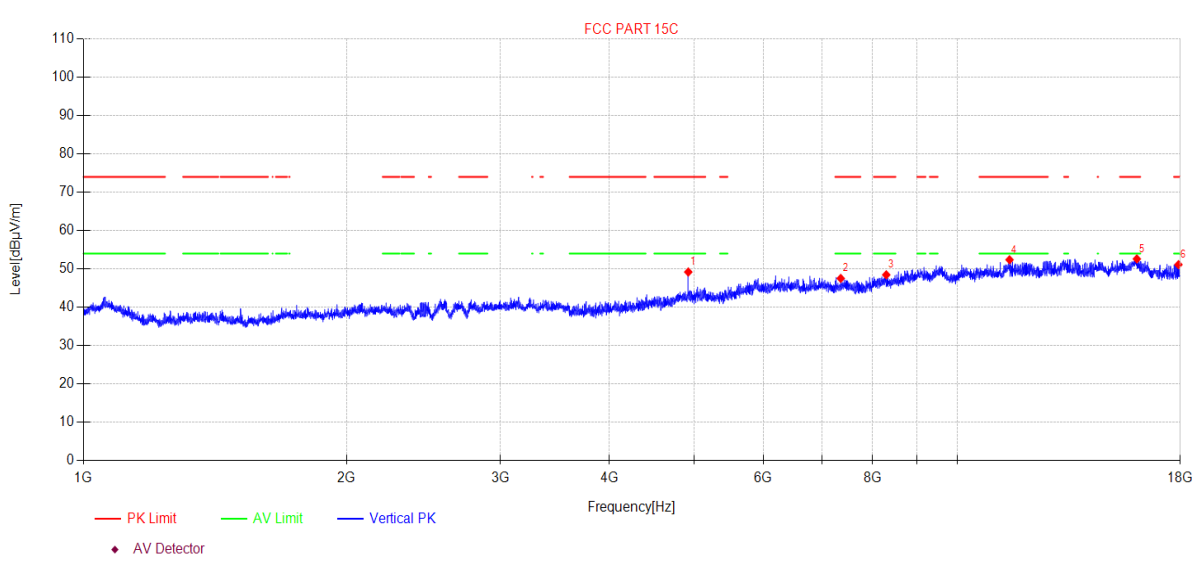
Test Mode: TX Mode **Power Supply**: AC 120V/60Hz

Condition: Temp:22.8°C;Humi:58.5% **Test Site**: DDT 3# Chamber

File Path: d:\ts\2023 report data\Q23072112-2E PHYPF011\FCC ABOVE 1G\8

Memo: 11B 2462 POWER 30

Test Graph



Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Cable loss [dB]	Antenna Factor [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	4922.82	49.92	7.71	32.69	-41.12	49.20	74.00	24.80	PK	Vertical
2	7356.63	44.40	7.63	36.50	-41.00	47.53	74.00	26.47	PK	Vertical
3	8294.07	43.81	7.99	37.19	-40.53	48.46	74.00	25.54	PK	Vertical
4	11477.47	43.04	10.07	39.02	-39.74	52.39	74.00	21.61	PK	Vertical
5	16053.46	39.47	15.67	37.85	-40.39	52.60	74.00	21.40	PK	Vertical
6	17911.78	37.48	13.02	41.27	-40.66	51.11	74.00	22.89	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
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.

10. RF Conducted Spurious Emissions

10.1. Block diagram of test setup

Same as 4.1.

10.2. 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

10.3. Test procedure

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

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

Center frequency	Test frequency
RBW:	100 kHz
VBW:	300 kHz
Span	Wide enough to capture the peak level of the in-band emission
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) Set the spectrum analyzer as follows:

RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Number of measurement points	≥span/RBW
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

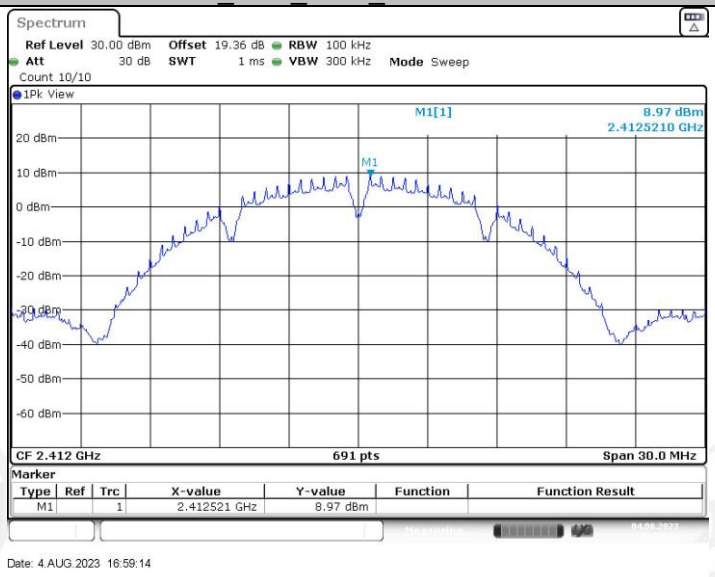
(5) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

10.4. Test result

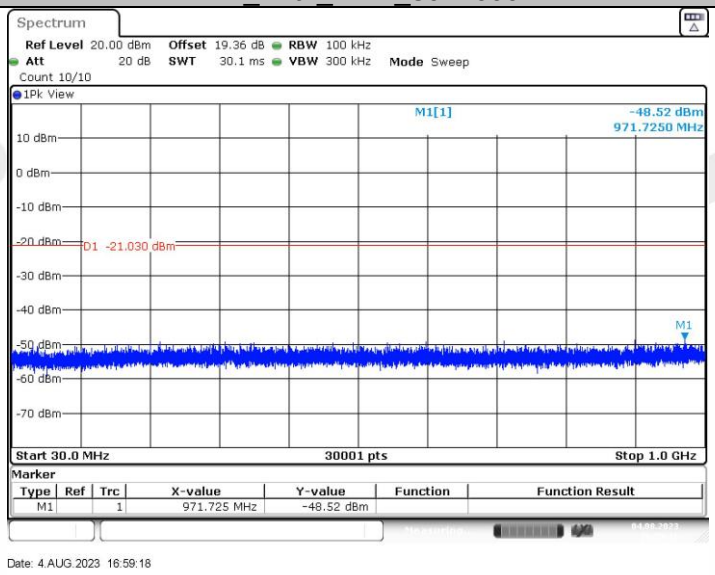
EUT Set Mode	Channel or Frequency	Result (dBm)	EUT Set Mode	Channel or Frequency	Result Result (dBm)
11b	CH1	Pass	11g	CH1	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH11	Pass
11n HT 20	CH1	Pass	11n HT 40	CH3	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH9	Pass

10.5. Test graphs

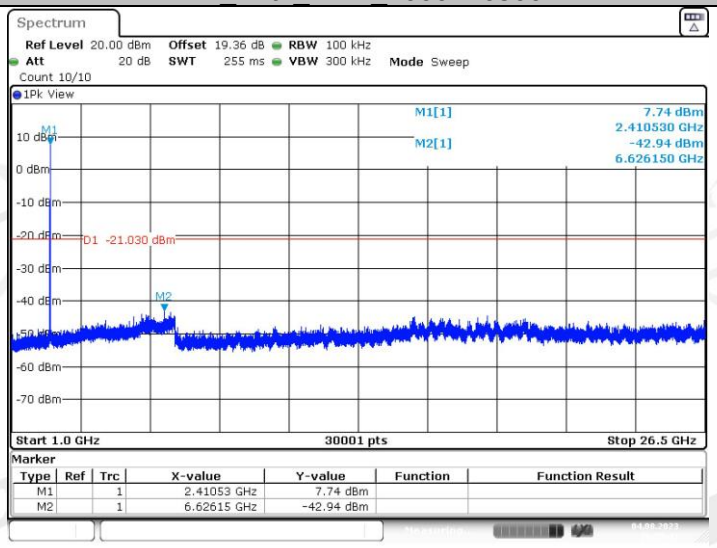
11B_Ant1_2412_0~Reference



11B_Ant1_2412_30~1000

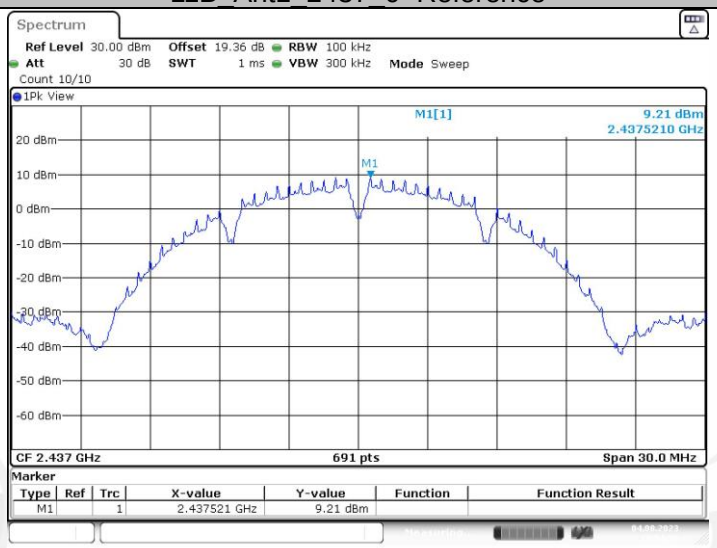


11B_Ant1_2412_1000~26500



Date: 4.AUG.2023 16:59:41

11B_Ant1_2437_0~Reference



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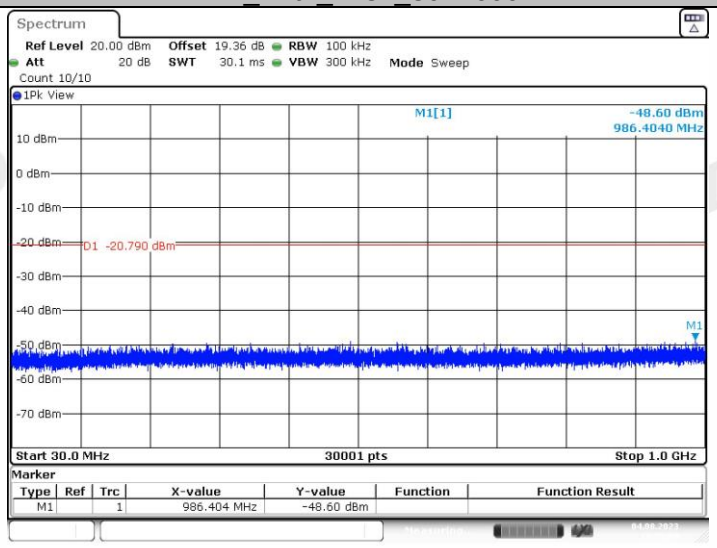
11B_Ant1_2437_30~1000



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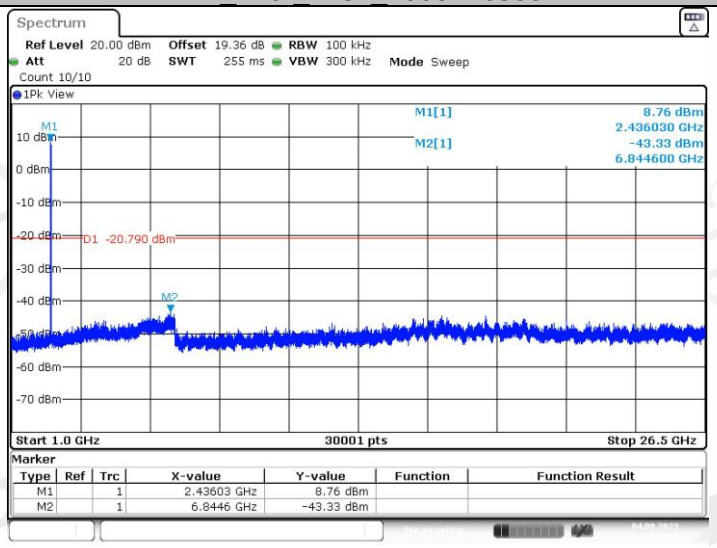

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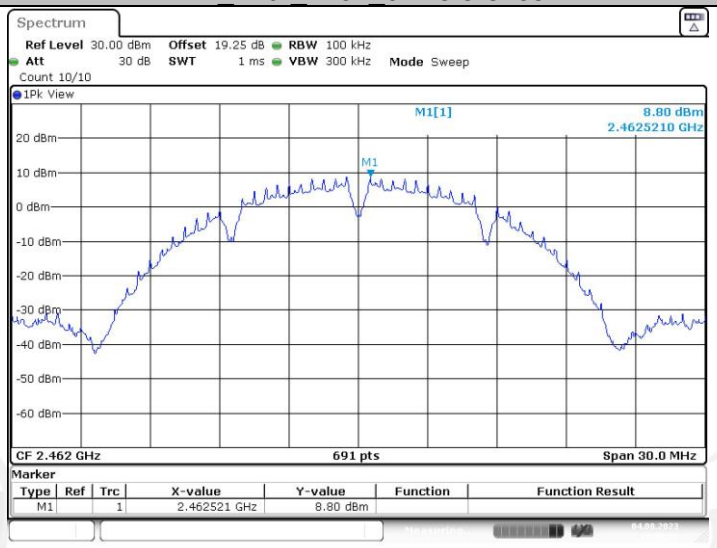

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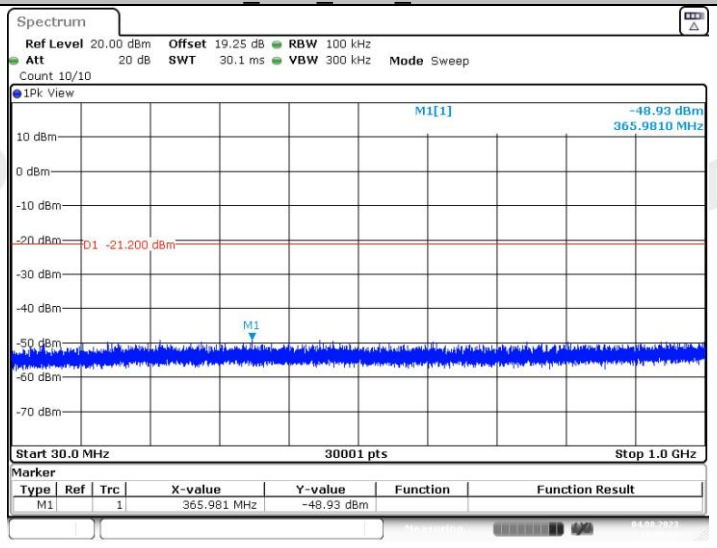
11B_Ant1_2462_30~1000



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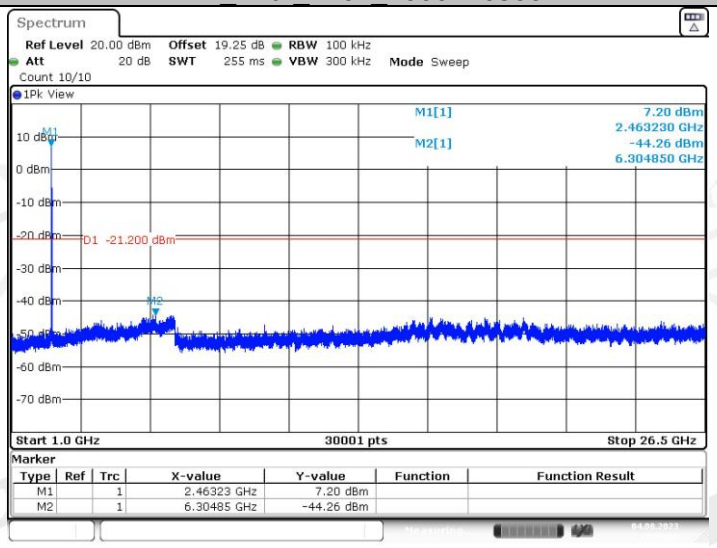
11B_Ant1_2462_1000~26500



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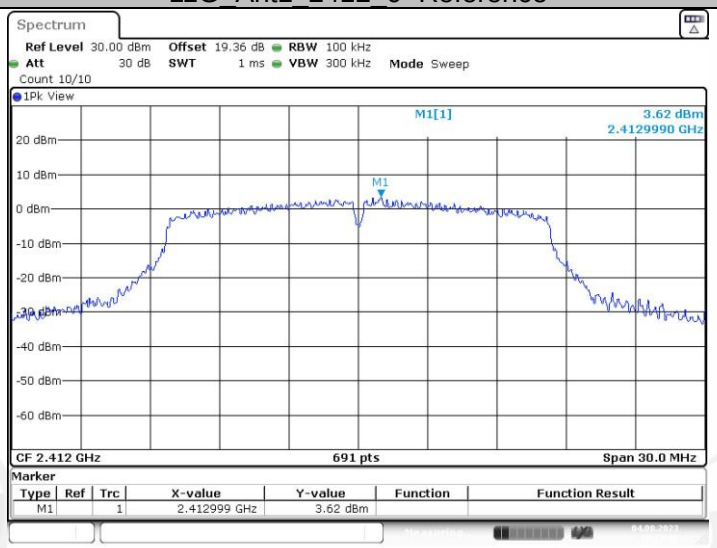
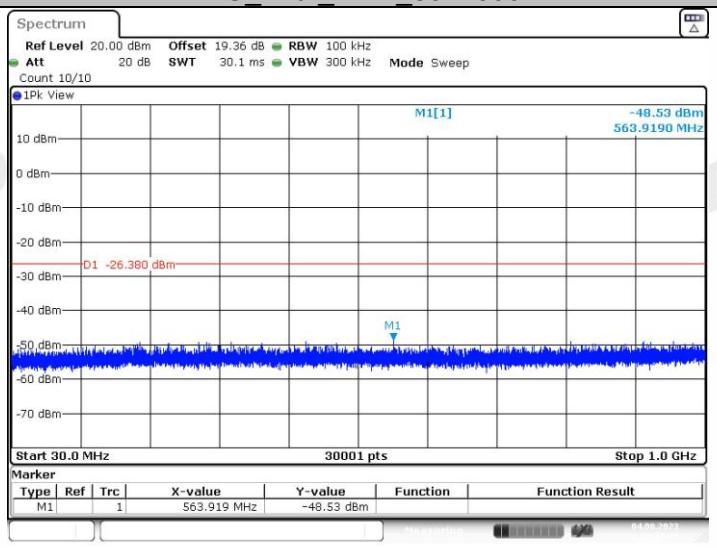
11G_Ant1_2412_0~Reference



Date: 4.AUG.2023 17:17:38

11G_Ant1_2412_30~1000



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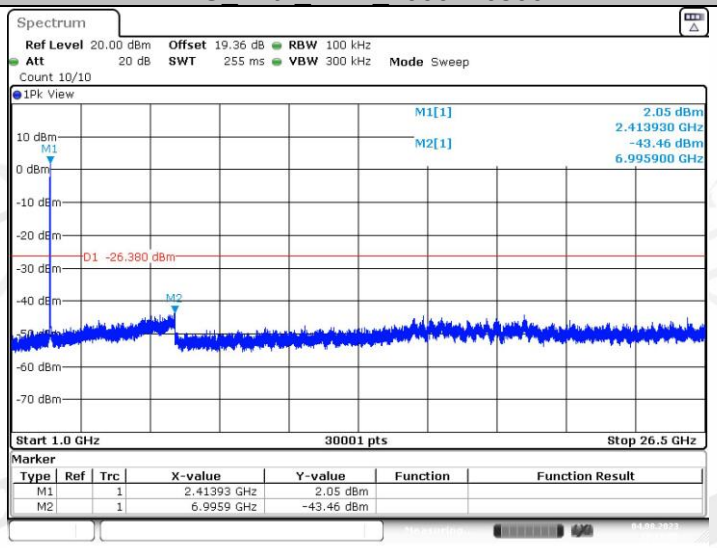
11G_Ant1_2412_1000~26500



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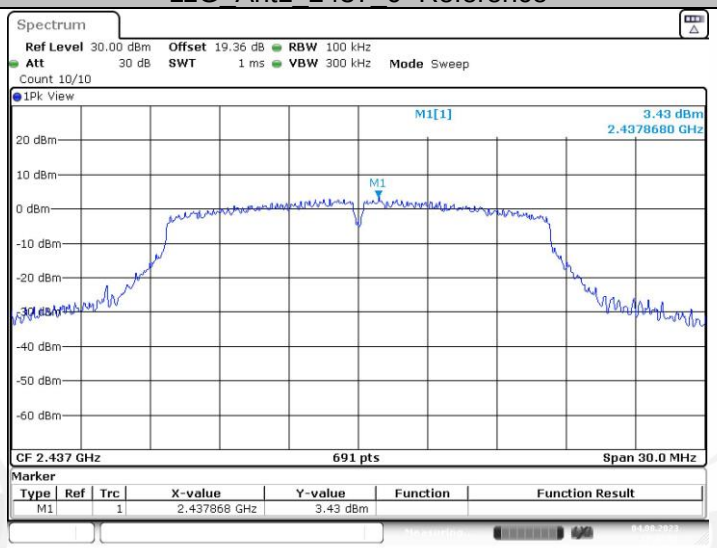
11G_Ant1_2437_0~Reference



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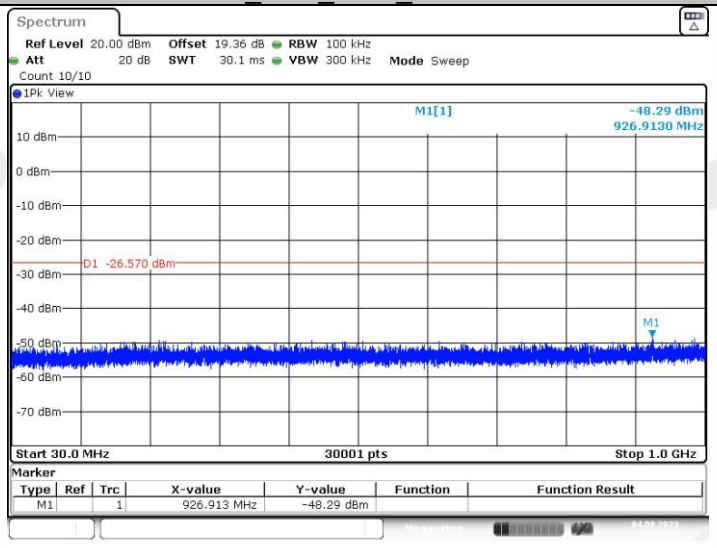
11G_Ant1_2437_30~1000



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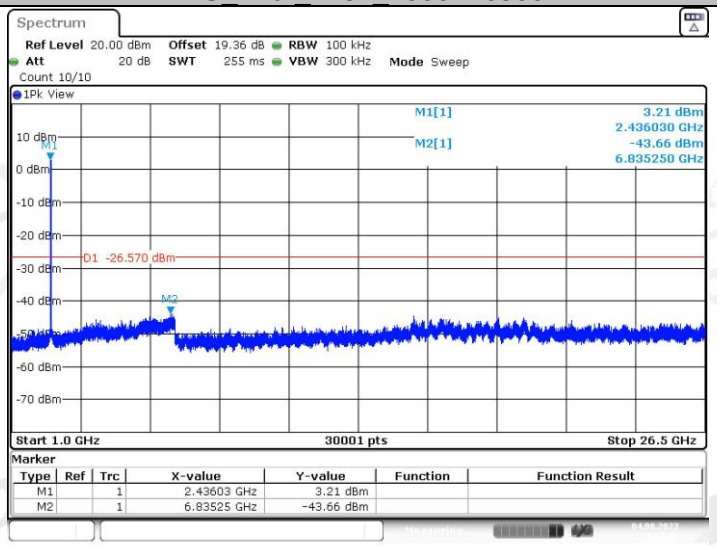
11G_Ant1_2437_1000~26500



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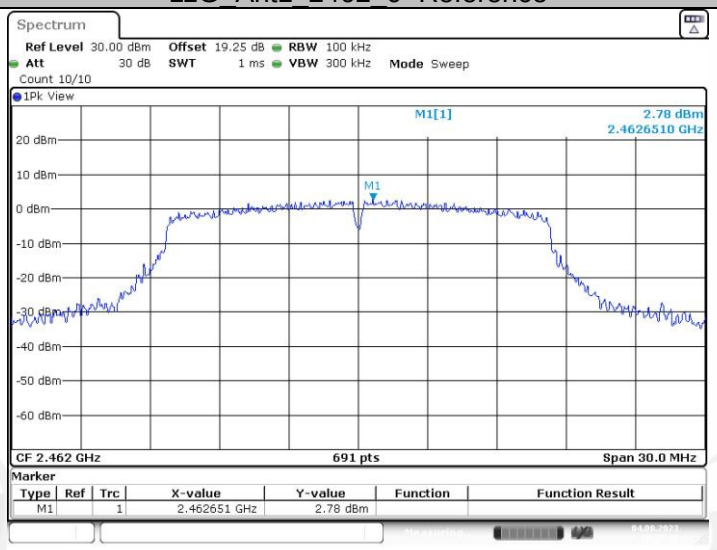

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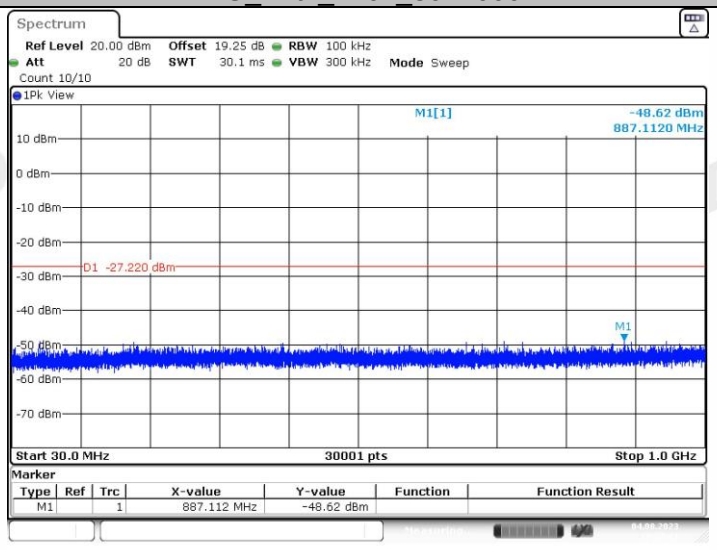
11G_Ant1_2462_30~1000



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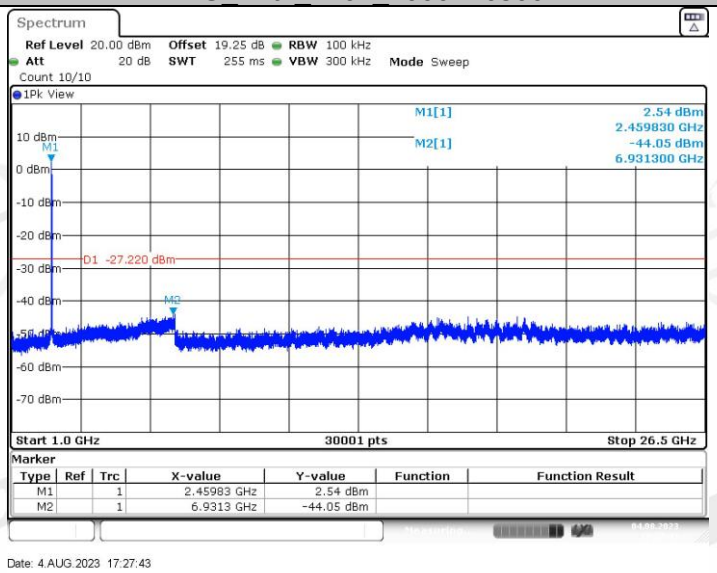
11G_Ant1_2462_1000~26500



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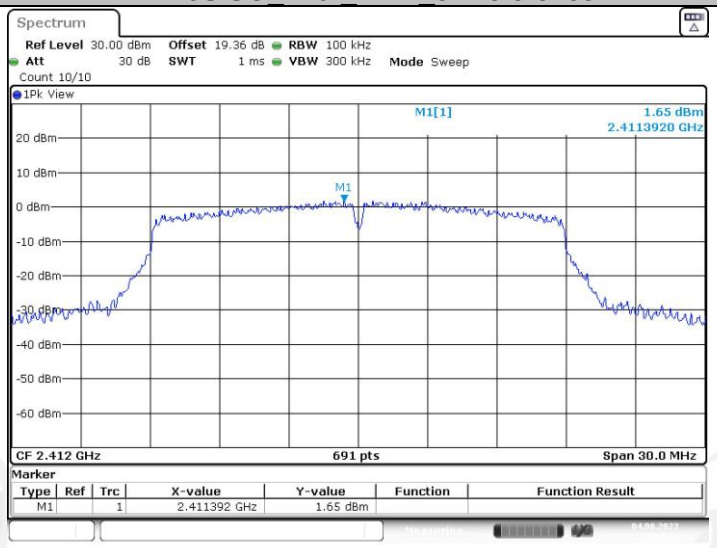
11N20SISO_Ant1_2412_0~Reference



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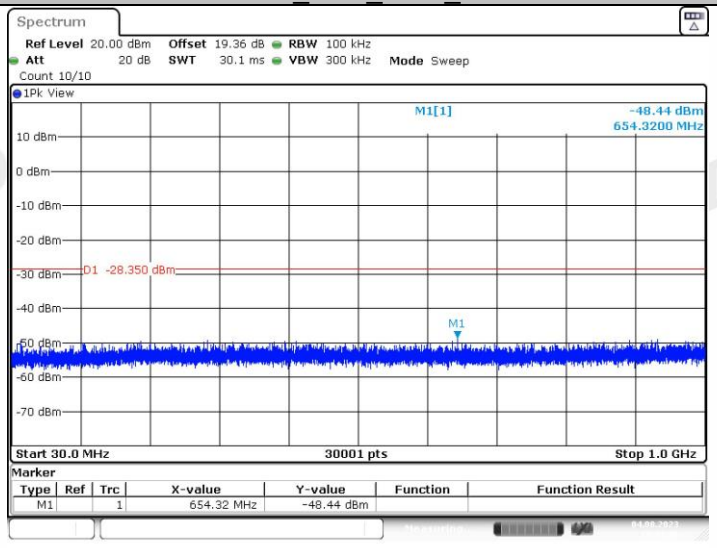
11N20SISO_Ant1_2412_30~1000



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