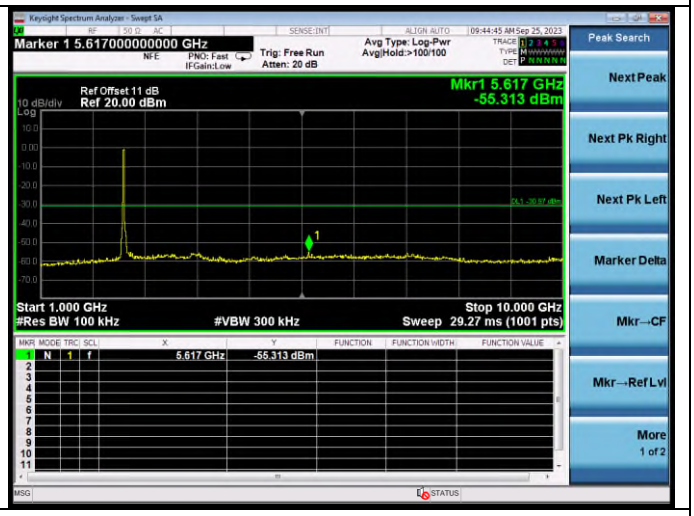
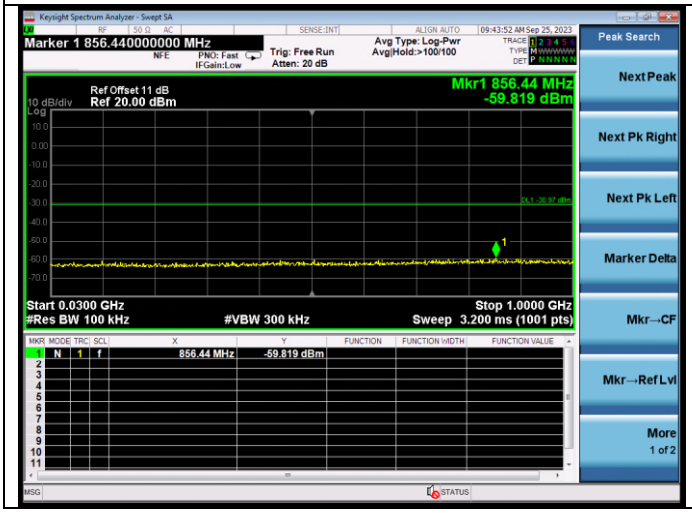
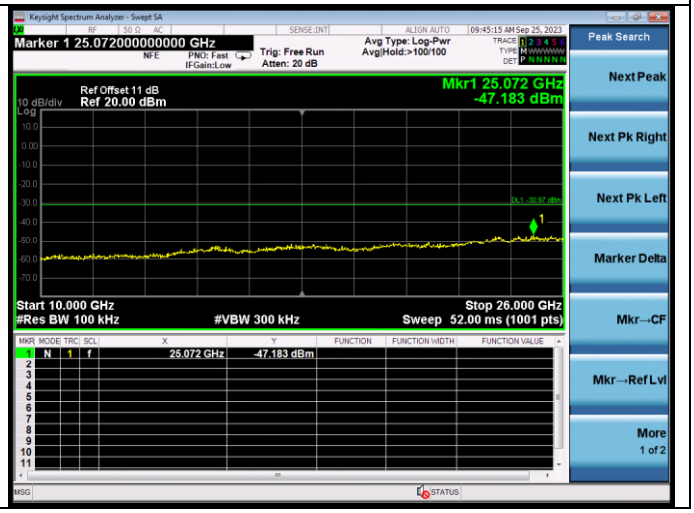
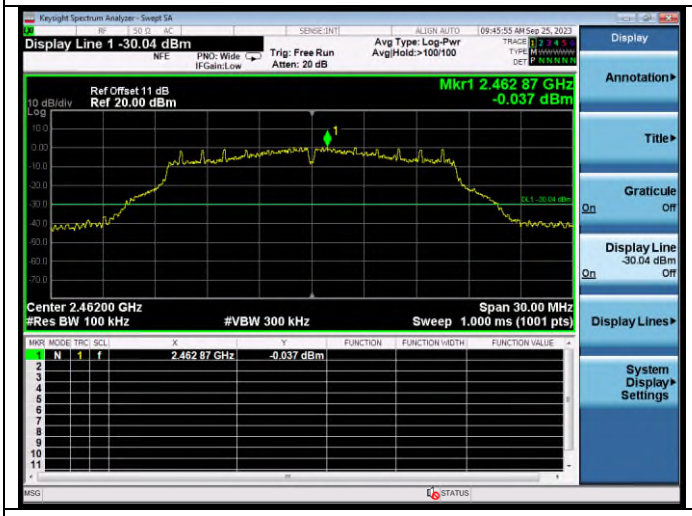
Test CH6: 2437MHz

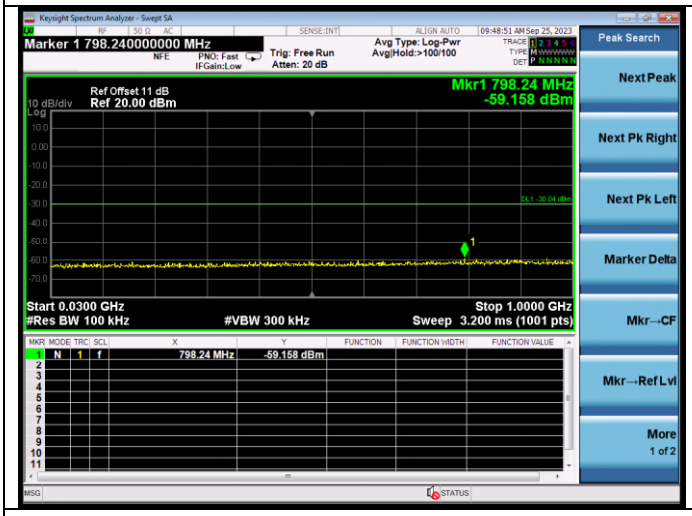


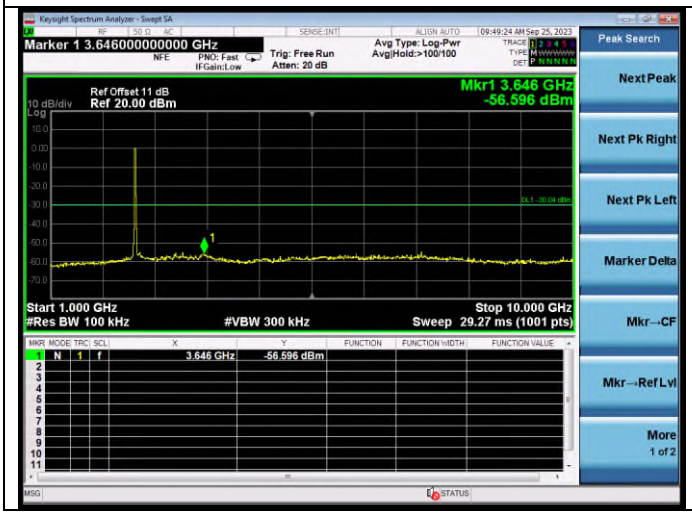




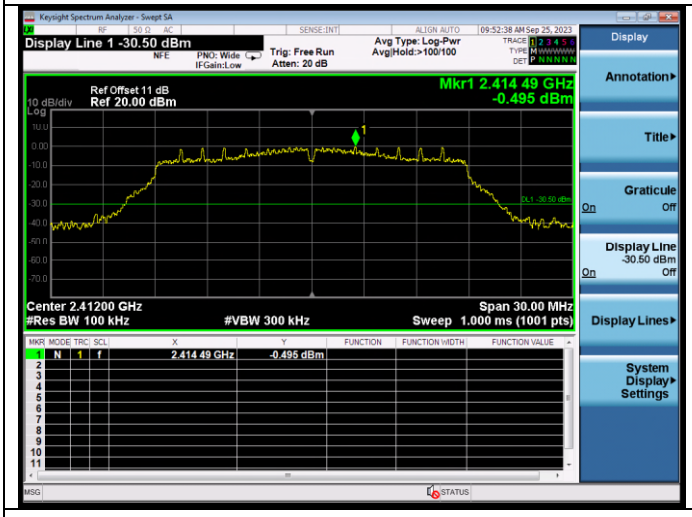
Test CH11: 2462MHz

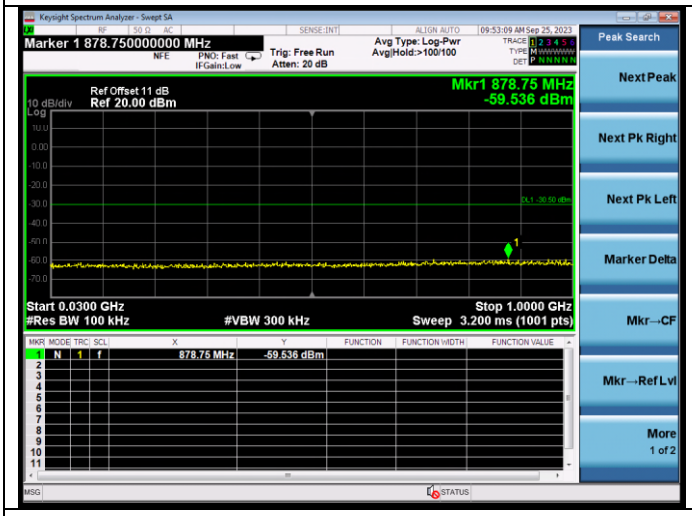


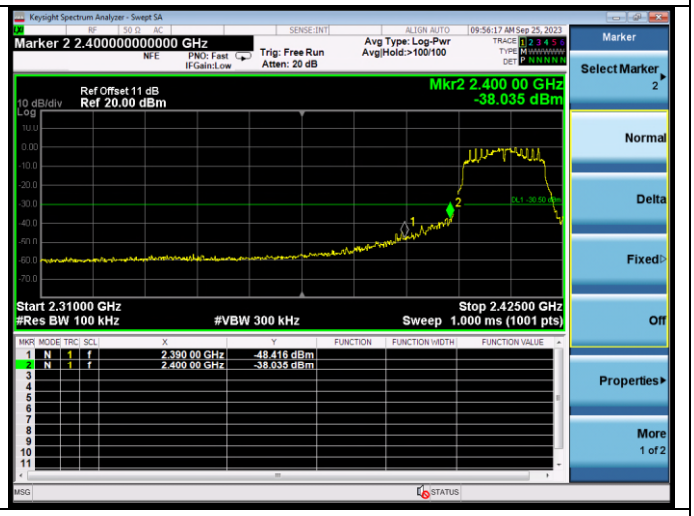


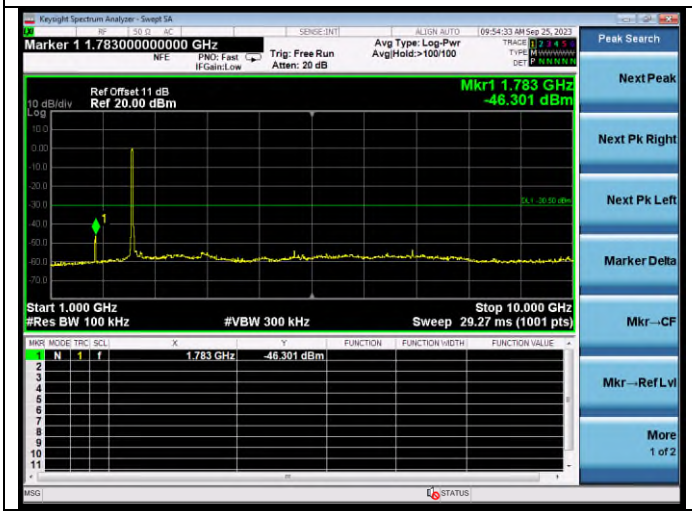


Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz

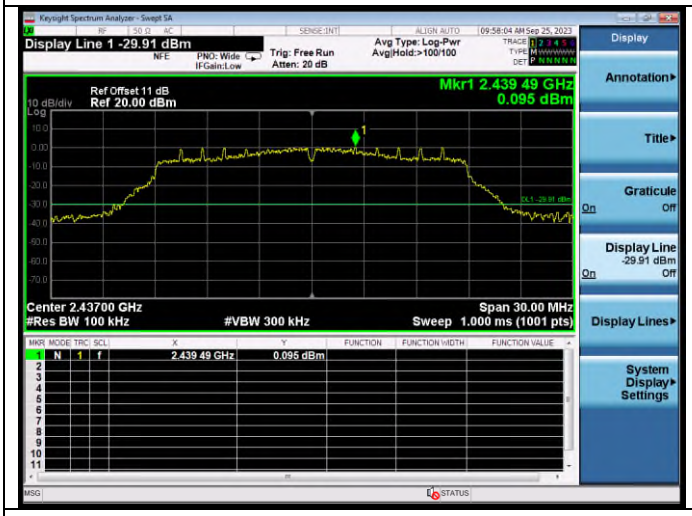


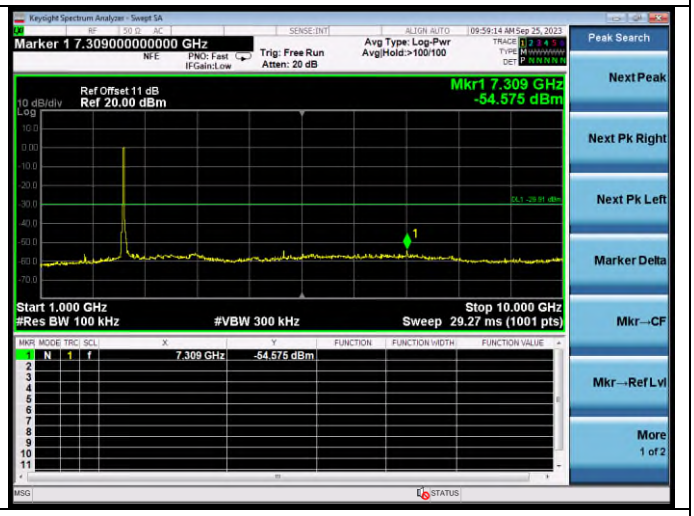


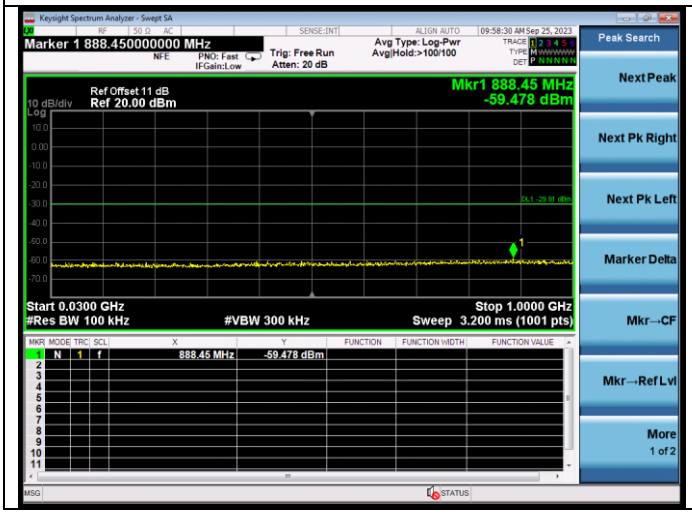


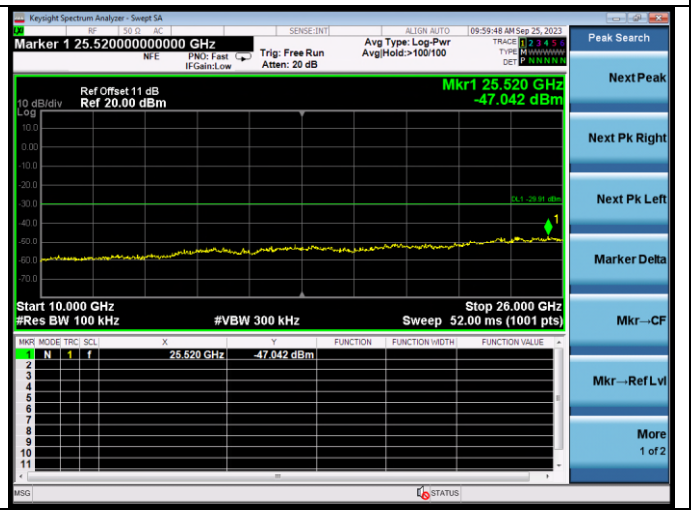


Test CH6: 2437MHz

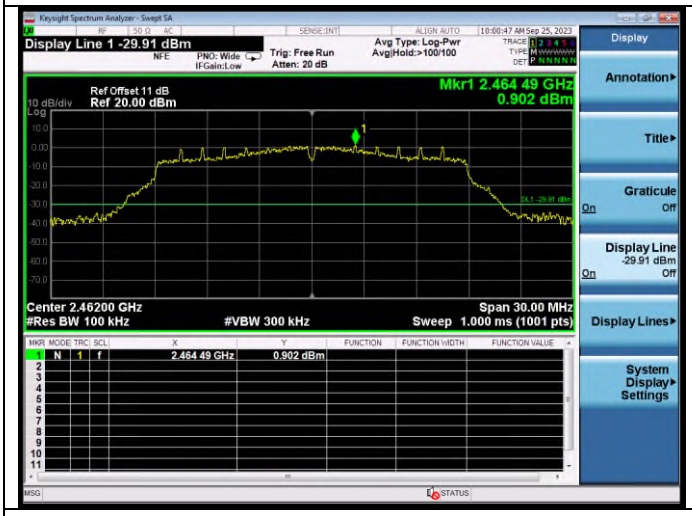


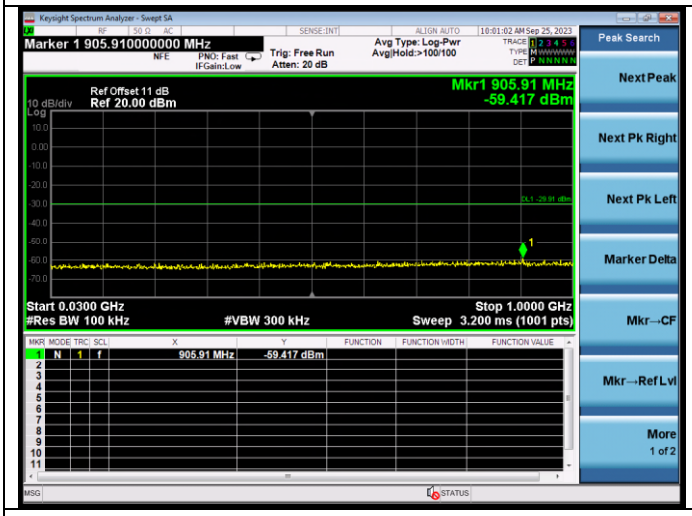


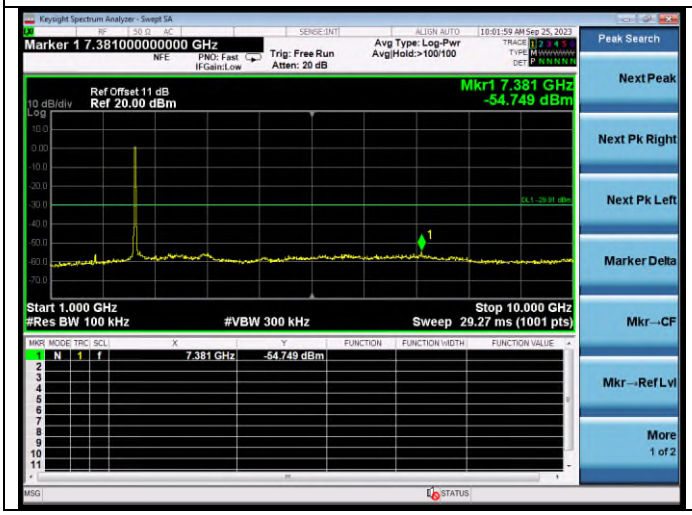




Test CH11: 2462MHz







---

6. BAND EDGE COMPLIANCE TEST

6.1.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Analyzer	Rohde & Schwarz	FSV40	101608	Nov.09,22	1 Year
2.	Amplifier	Agilent	8449B	3008A00863	Nov.09,22	1 Year
3.	Horn Antenna	ETC	MCTD 1209	DRH15F03006	Aug.23,23	1 Year
4.	RF Cable	HUBER+SUHNER	SUCOFLEX-106	505238/6	Apr.02,23	1 Year

6.2.Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

6.3.Test Procedure

1. The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.

2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.

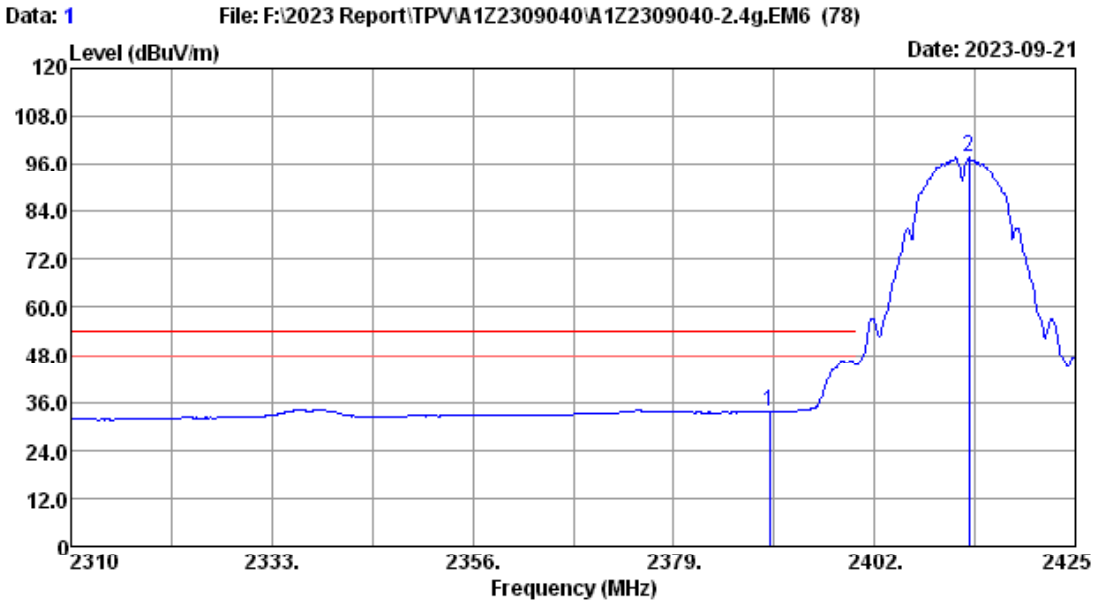
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

(a) PEAK: RBW=1MHz; VBW=3MHz; Sweep=AUTO
(b) AVERAGE: RBW=1MHz; VBW=10Hz; Sweep=AUTO

6.4.Test Results

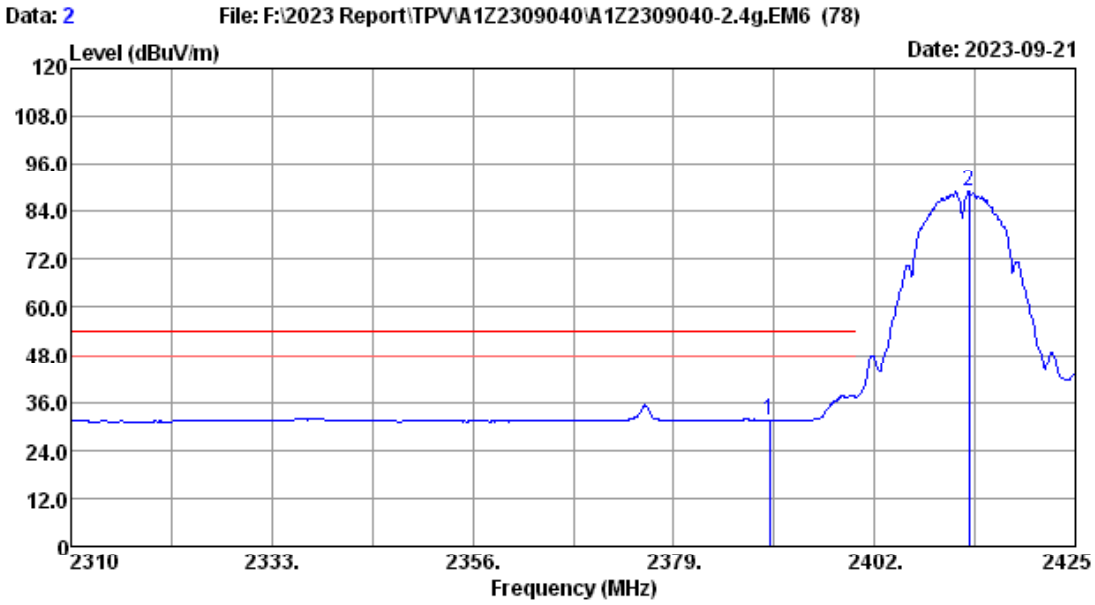
Pass (The testing data was attached in the next pages.)



Site no. : 3m Chamber
Data no. : 1
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11b 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	35.45	34.36	33.56	54.00	20.44	Average
2	2412.81	27.65	4.87	99.60	34.36	97.76	------	------	Average

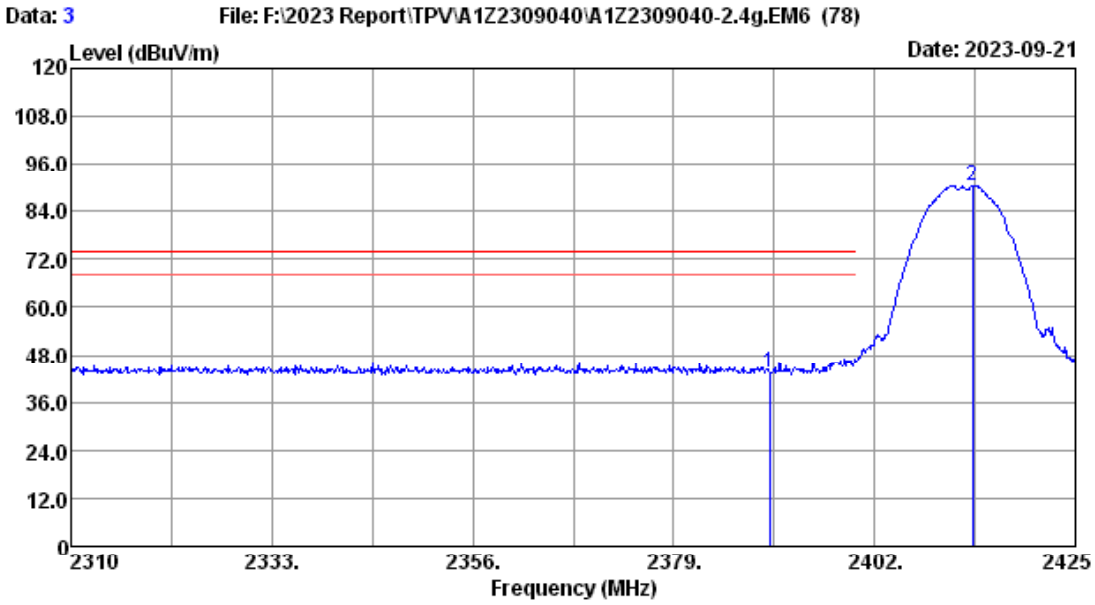
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 2
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11b 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	33.48	34.36	31.59	54.00	22.41	Average
2	2412.81	27.65	4.87	90.82	34.36	88.98	------	------	Average

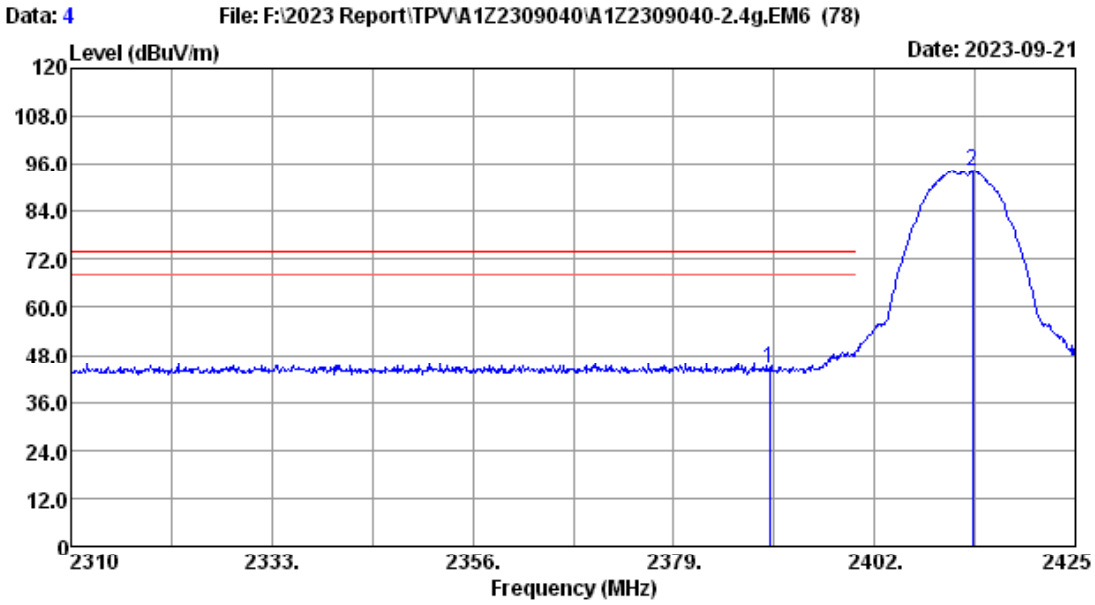
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 3
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11b 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	45.49	34.36	43.60	74.00	30.40	Peak
2	2413.27	27.65	4.87	92.26	34.36	90.42	------	------	Peak

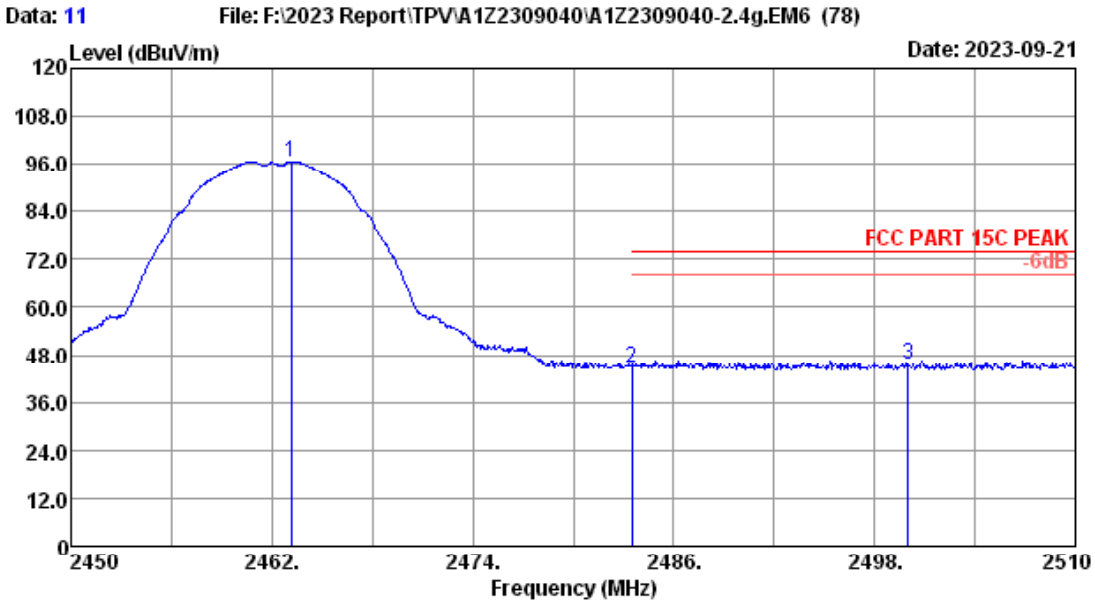
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 4
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11b 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	46.72	34.36	44.83	74.00	29.17	Peak
2	2413.27	27.65	4.87	95.96	34.36	94.12	------	------	Peak

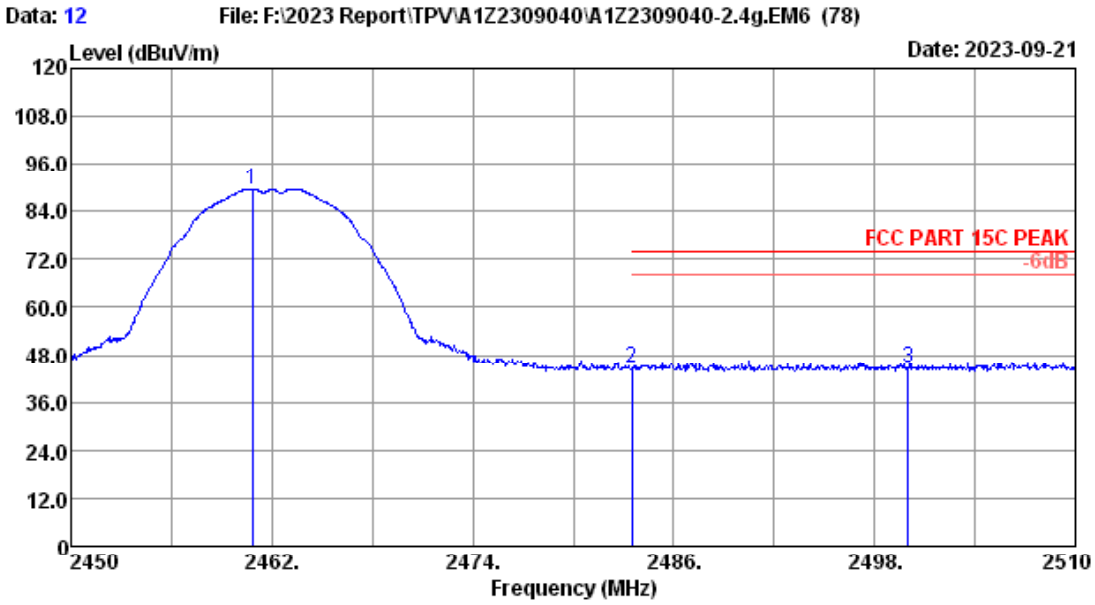
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 11
Dis. / Ant. : 3m 2023 MCTD1209-3006 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5% Engineer : Allen
Test Mode : 11b 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.14	27.80	4.92	98.23	34.35	96.60	------	------	Peak
2	2483.50	27.80	4.94	46.19	34.35	44.58	74.00	29.42	Peak
3	2500.00	27.80	4.95	47.11	34.35	45.51	74.00	28.49	Peak

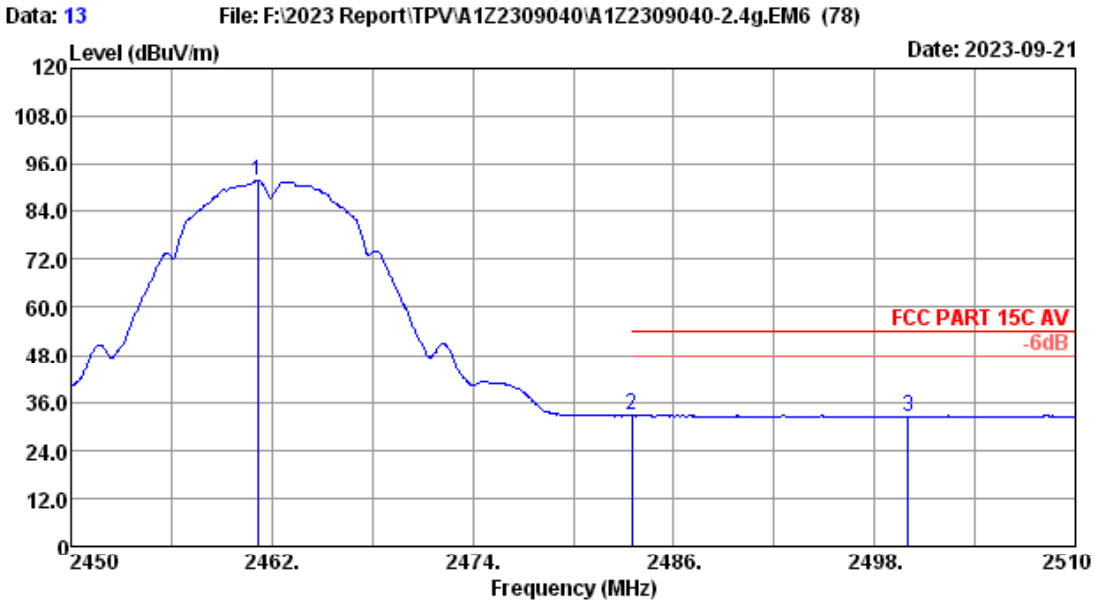
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 12
Dis. / Ant. : 3m 2023 MCTD1209-3006 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5% Engineer : Allen
Test Mode : 11b 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.86	27.80	4.91	91.30	34.35	89.66	------	------	Peak
2	2483.50	27.80	4.94	46.44	34.35	44.83	74.00	29.17	Peak
3	2500.00	27.80	4.95	46.16	34.35	44.56	74.00	29.44	Peak

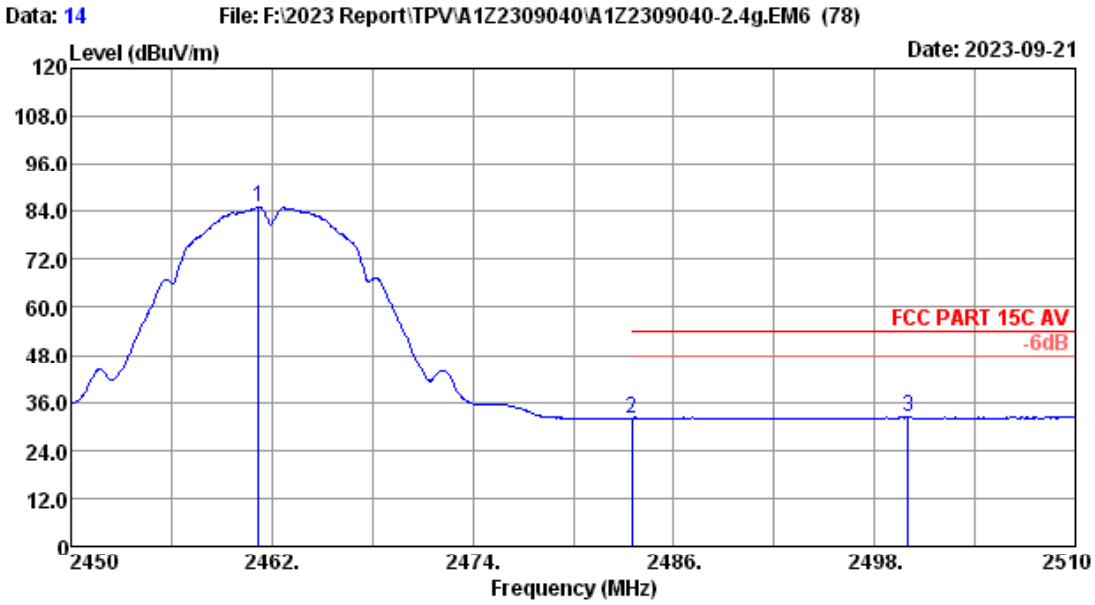
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 13
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11b 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.16	27.80	4.92	93.32	34.35	91.69	------	------	Peak
2	2483.50	27.80	4.94	34.26	34.35	32.65	54.00	21.35	Peak
3	2500.00	27.80	4.95	34.08	34.35	32.48	54.00	21.52	Peak

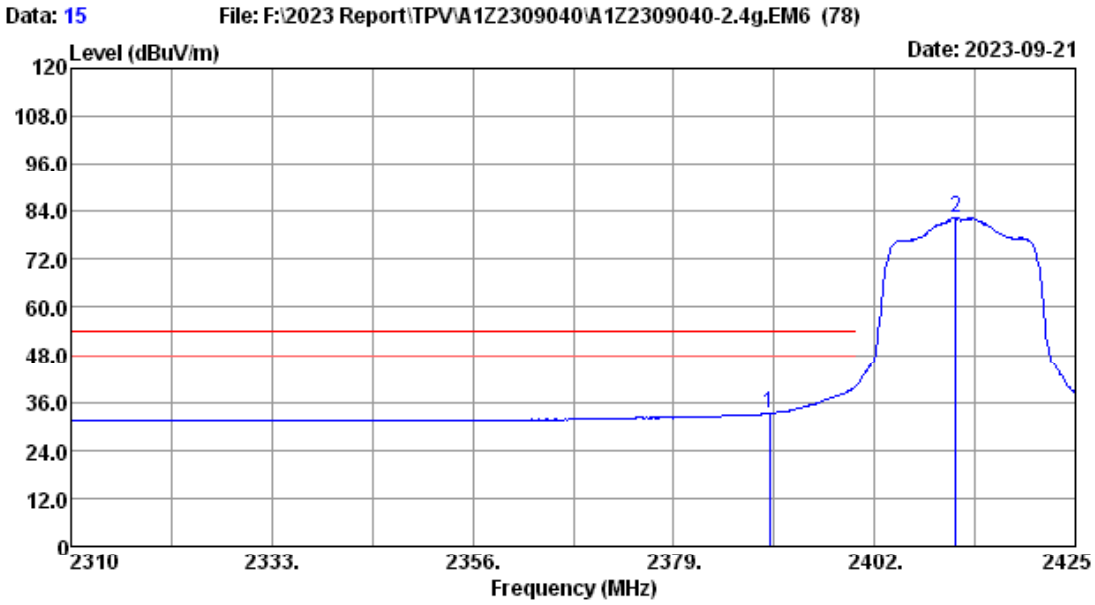
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 14
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11b 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.22	27.80	4.92	86.63	34.35	85.00	------	------	Peak
2	2483.50	27.80	4.94	33.65	34.35	32.04	54.00	21.96	Peak
3	2500.00	27.80	4.95	33.75	34.35	32.15	54.00	21.85	Peak

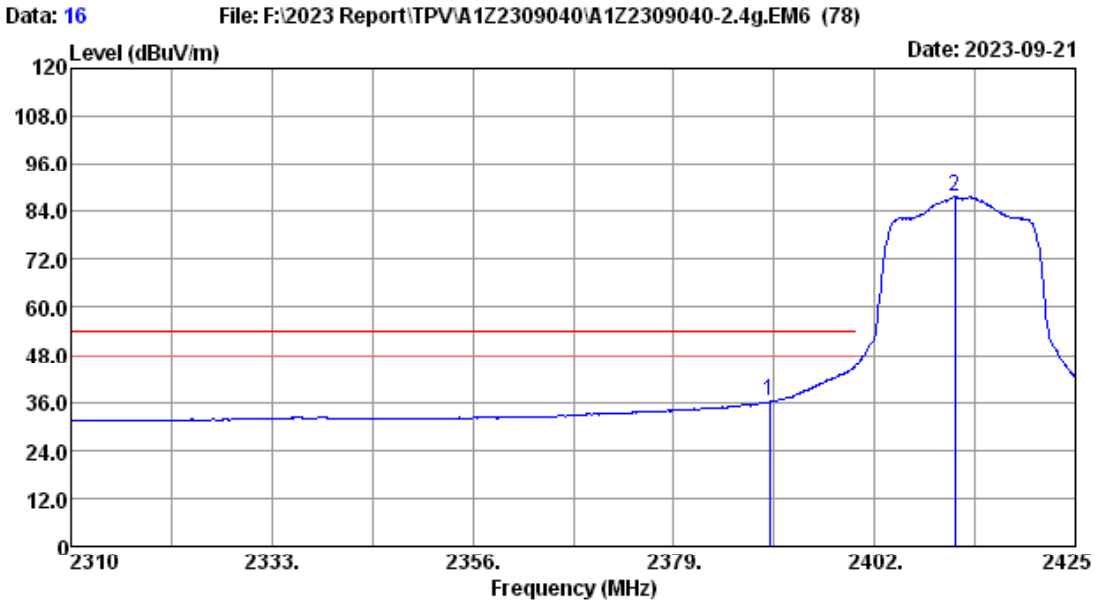
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 15
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11g 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	35.07	34.36	33.18	54.00	20.82	Peak
2	2411.32	27.65	4.87	84.19	34.36	82.35	------	------	Peak

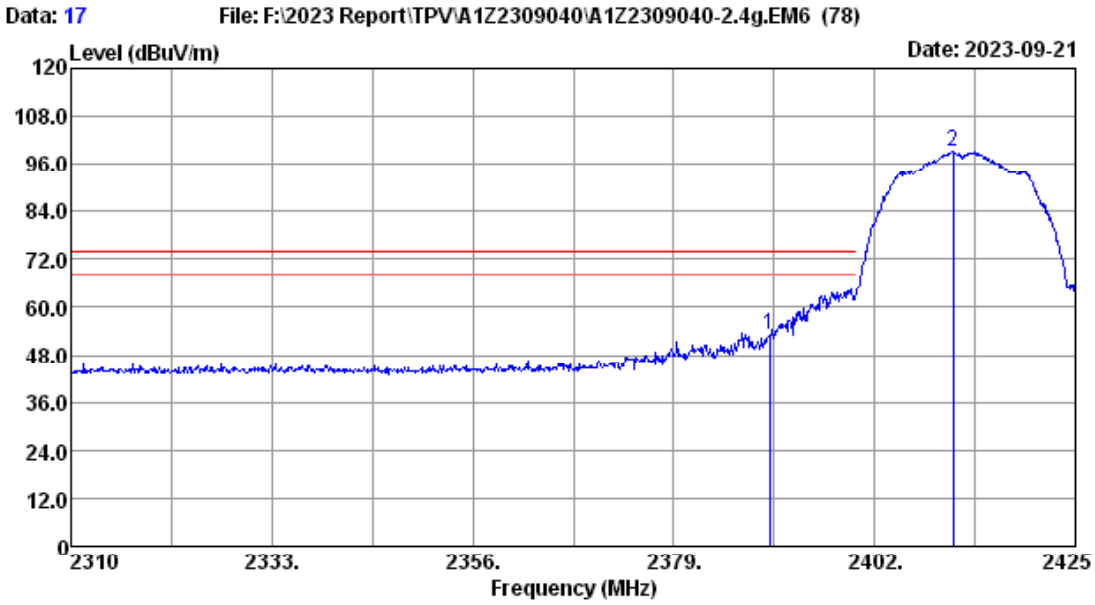
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 16
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11g 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	38.02	34.36	36.13	54.00	17.87	Peak
2	2411.20	27.64	4.87	89.55	34.36	87.70	------	------	Peak

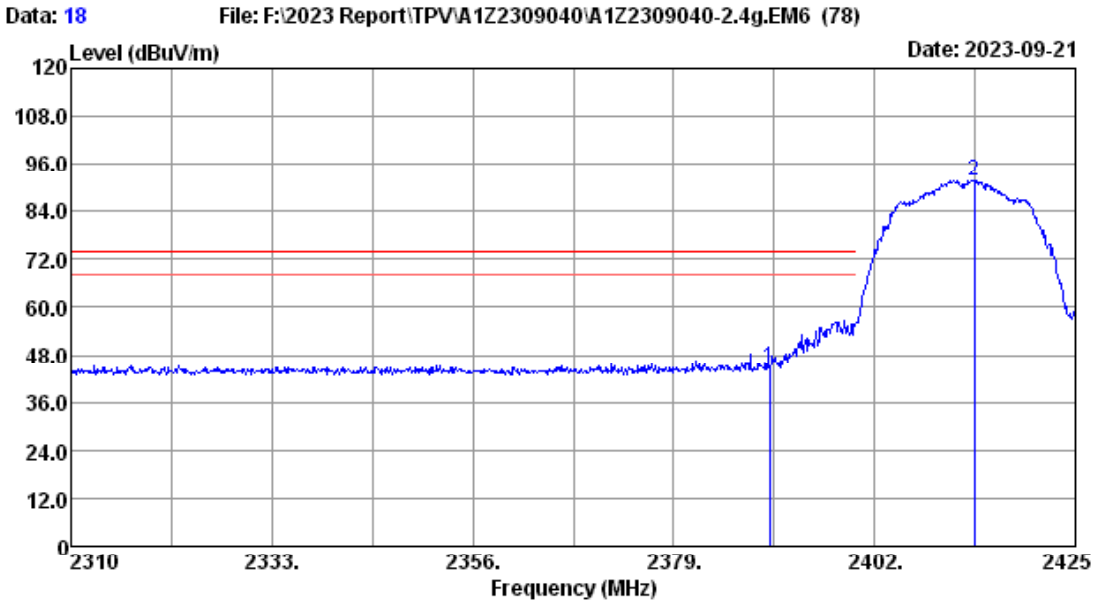
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 17
Dis. / Ant. : 3m 2023 MCTD1209-3006 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5% Engineer : Allen
Test Mode : 11g 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	54.96	34.36	53.07	74.00	20.93	Peak
2	2410.97	27.64	4.87	100.93	34.36	99.08	------	------	Peak

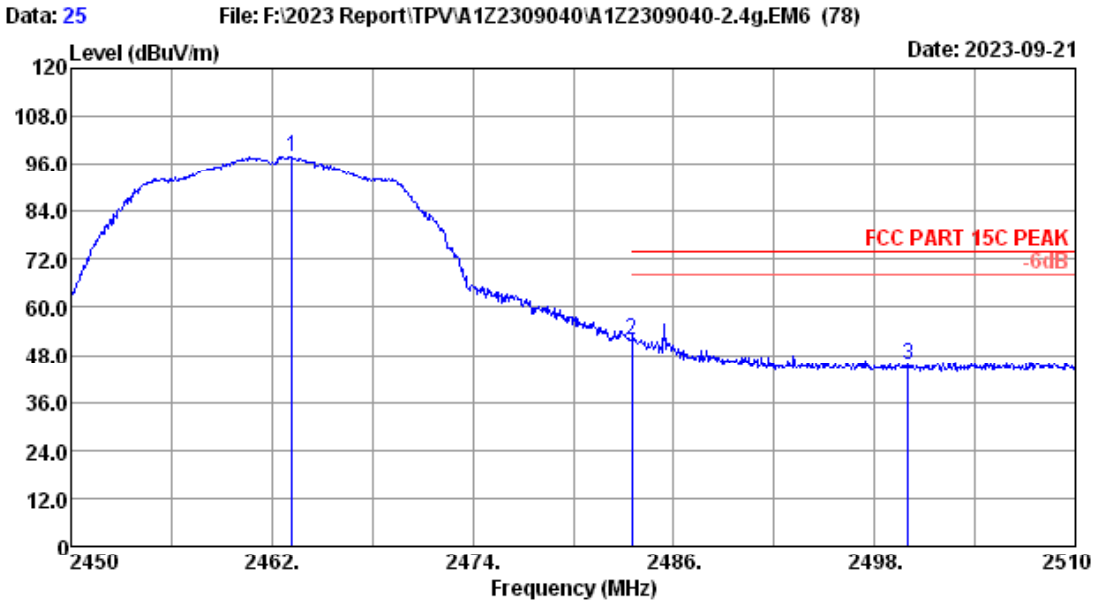
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 18
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11g 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	46.68	34.36	44.79	74.00	29.21	Peak
2	2413.39	27.65	4.87	93.70	34.36	91.86	------	------	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.

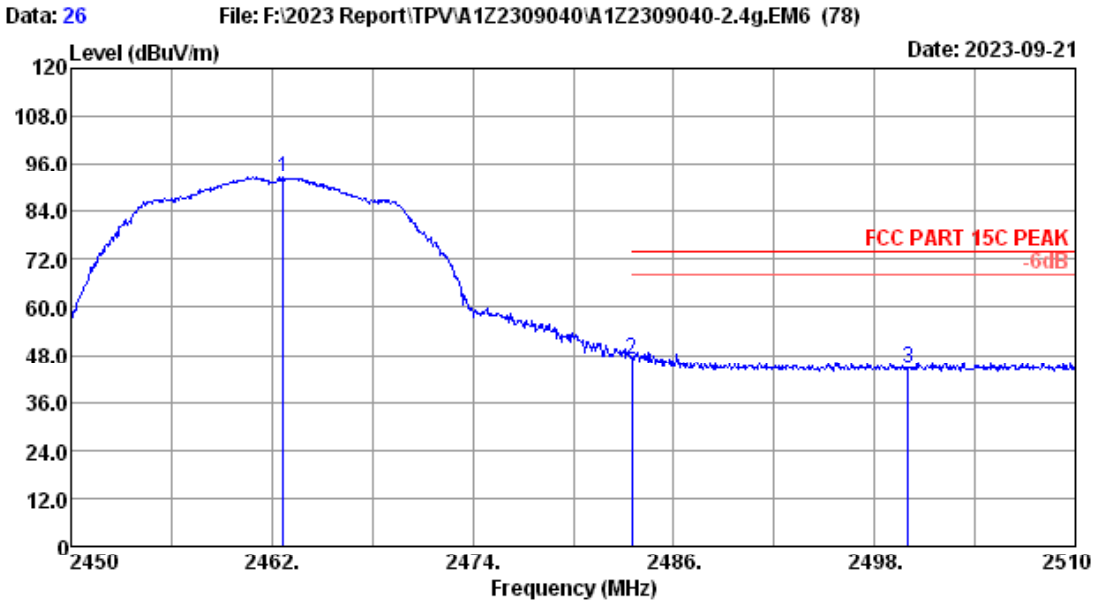


Site no. : 3m Chamber
Dis. / Ant. : 3m 2023 MCTD1209-3006
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5%
Test Mode : 11g 2462MHz TX

Data no. : 25
Ant. pol. : HORIZONTAL
Engineer : Allen

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.20	27.80	4.92	99.43	34.35	97.80	------	------	Peak
2	2483.50	27.80	4.94	53.50	34.35	51.89	74.00	22.11	Peak
3	2500.00	27.80	4.95	47.40	34.35	45.80	74.00	28.20	Peak

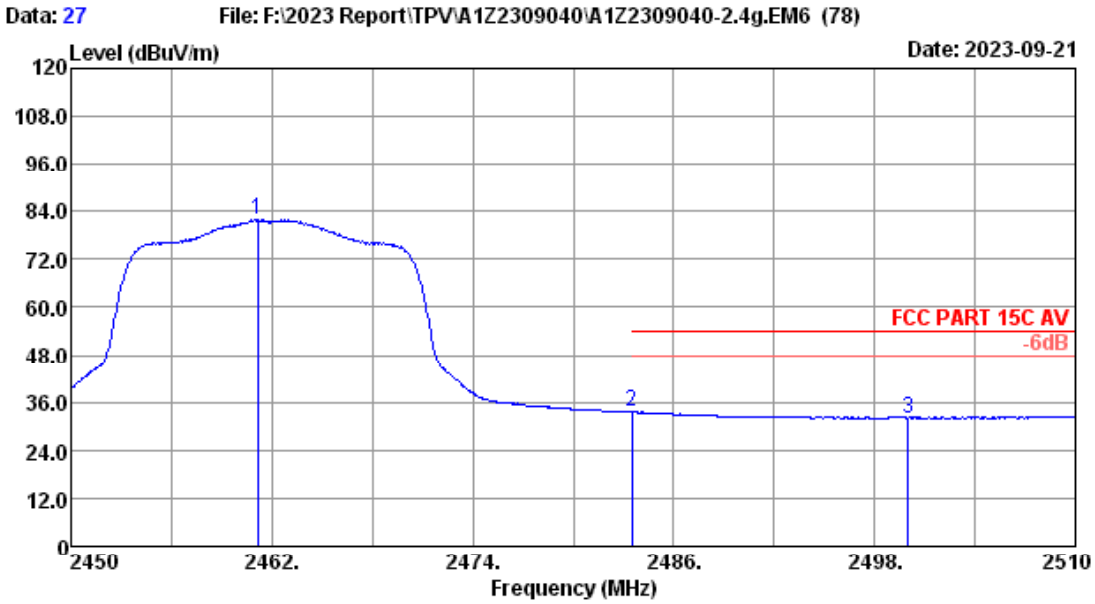
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 26
Dis. / Ant. : 3m 2023 MCTD1209-3006 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5% Engineer : Allen
Test Mode : 11g 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.66	27.80	4.92	94.01	34.35	92.38	------	------	Peak
2	2483.50	27.80	4.94	48.42	34.35	46.81	74.00	27.19	Peak
3	2500.00	27.80	4.95	46.50	34.35	44.90	74.00	29.10	Peak

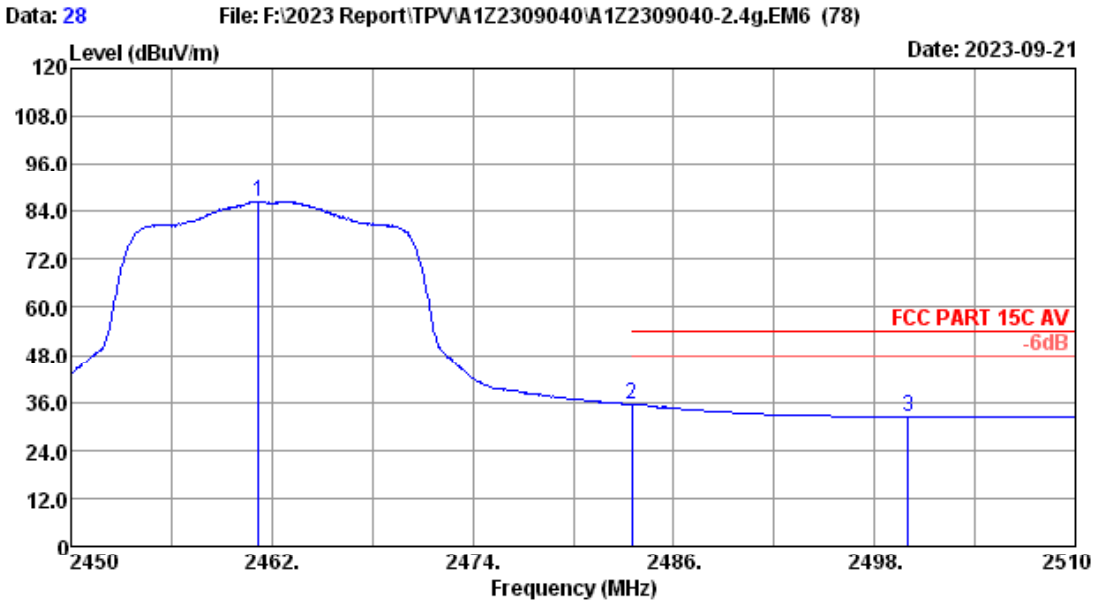
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 27
Dis. / Ant. : 3m 2023 MCTD1209-3006 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5% Engineer : Allen
Test Mode : 11g 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.16	27.80	4.92	83.57	34.35	81.94	------	------	Peak
2	2483.50	27.80	4.94	35.10	34.35	33.49	54.00	20.51	Peak
3	2500.00	27.80	4.95	33.70	34.35	32.10	54.00	21.90	Peak

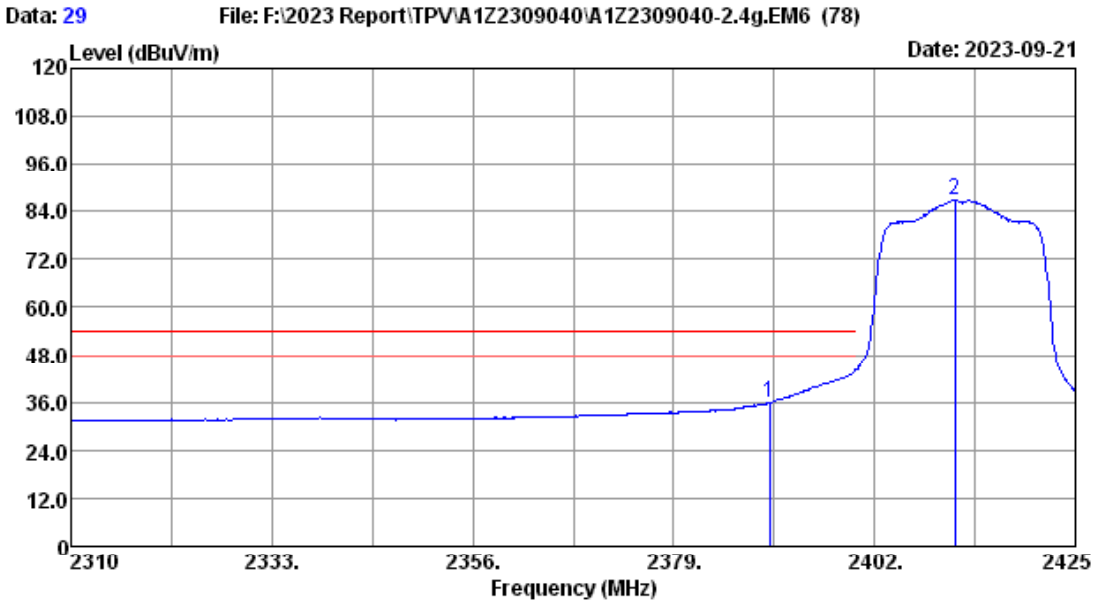
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 28
Dis. / Ant. : 3m 2023 MCTD1209-3006 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5% Engineer : Allen
Test Mode : 11g 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.22	27.80	4.92	88.15	34.35	86.52	------	------	Peak
2	2483.50	27.80	4.94	37.01	34.35	35.40	54.00	18.60	Peak
3	2500.00	27.80	4.95	34.00	34.35	32.40	54.00	21.60	Peak

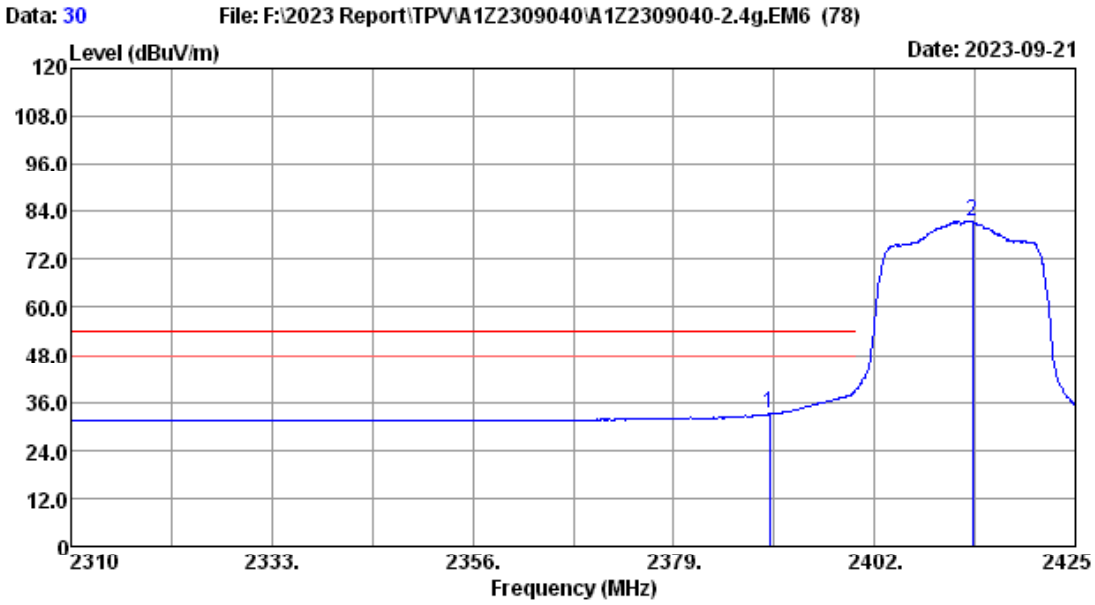
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 29
Dis. / Ant. : 3m 2023 MCTD1209-3006 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5% Engineer : Allen
Test Mode : 11n20 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	37.71	34.36	35.82	54.00	18.18	Peak
2	2411.20	27.64	4.87	88.60	34.36	86.75	------	------	Peak

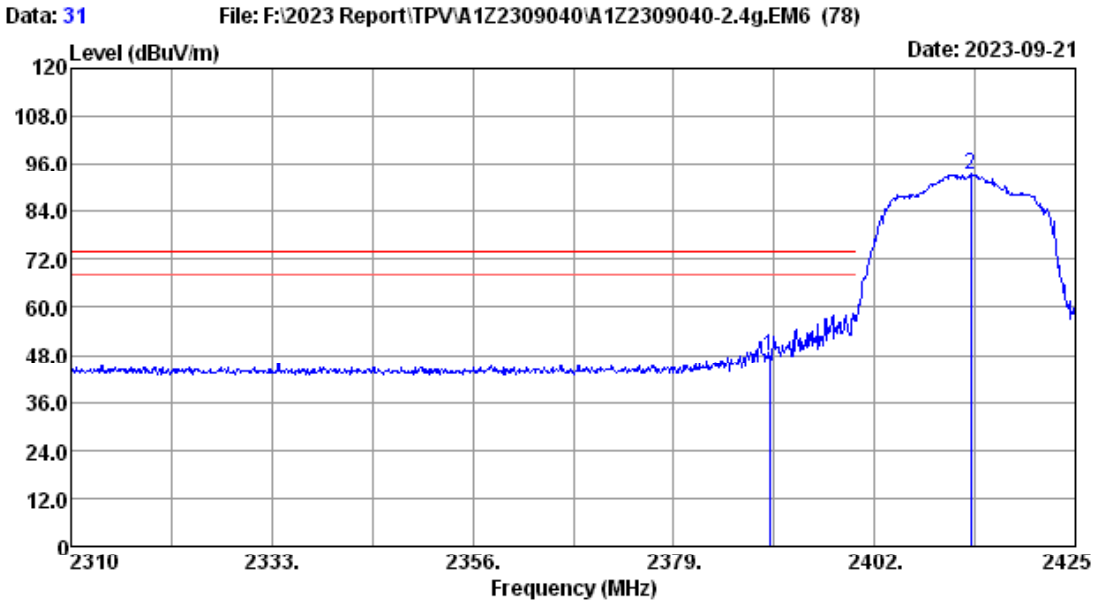
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 30
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11n20 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	34.88	34.36	32.99	54.00	21.01	Peak
2	2413.27	27.65	4.87	83.23	34.36	81.39	------	------	Peak

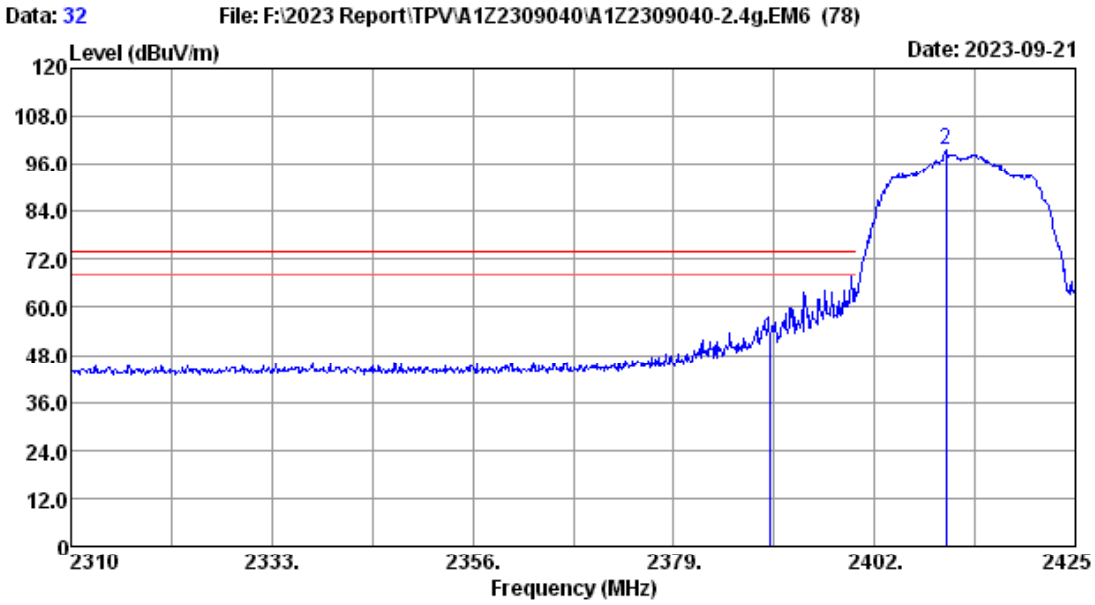
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 31
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11n20 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	49.73	34.36	47.84	74.00	26.16	Peak
2	2413.04	27.65	4.87	95.17	34.36	93.33	------	------	Peak

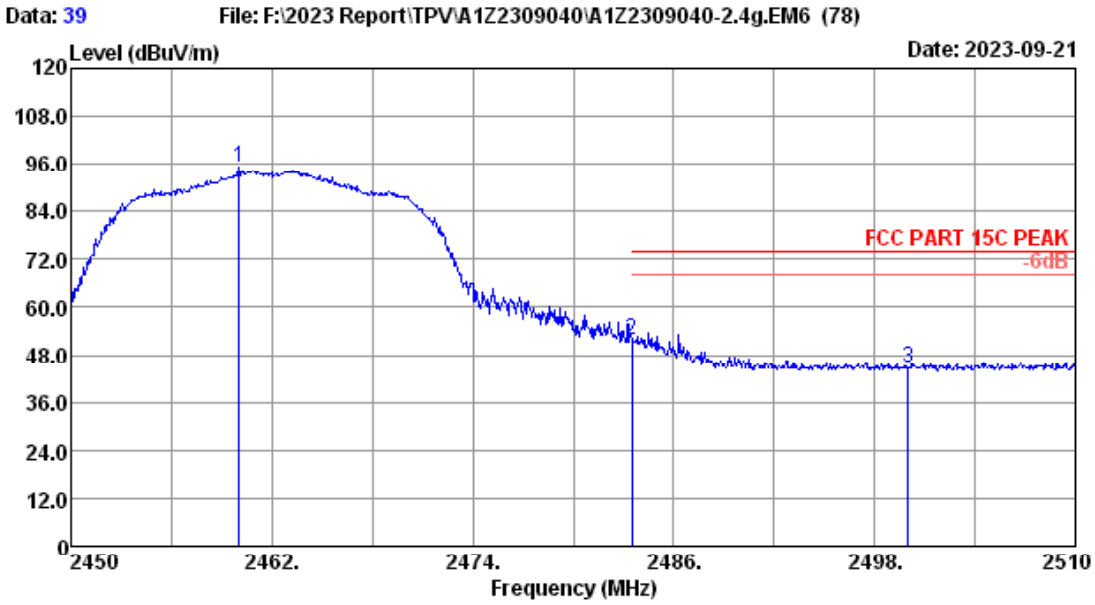
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 32
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11n20 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.62	4.85	54.35	34.36	52.46	74.00	21.54	Peak
2	2410.17	27.64	4.87	101.47	34.36	99.62	------	------	Peak

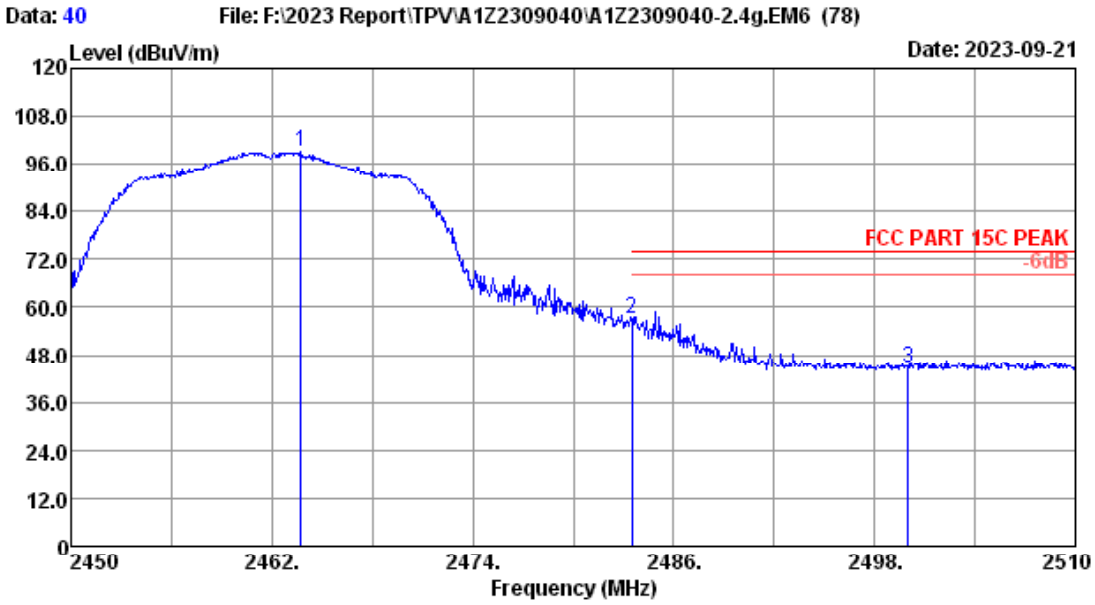
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 39
Dis. / Ant. : 3m 2023 MCTD1209-3006 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5% Engineer : Allen
Test Mode : 11n20 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.02	27.80	4.91	96.76	34.35	95.12	------	------	Peak
2	2483.50	27.80	4.94	53.53	34.35	51.92	74.00	22.08	Peak
3	2500.00	27.80	4.95	46.21	34.35	44.61	74.00	29.39	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.

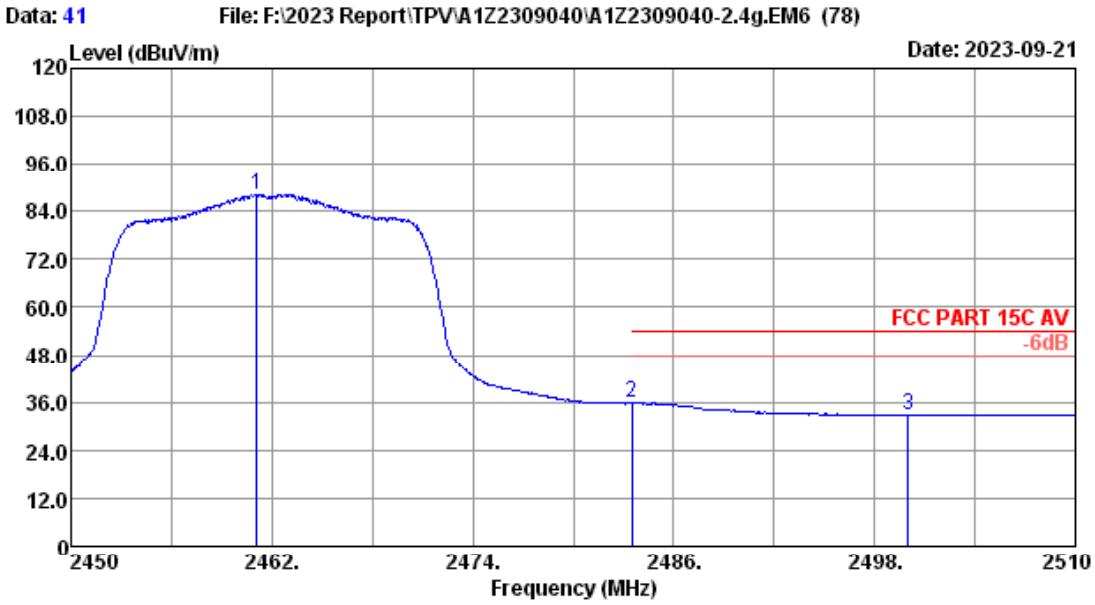


Site no. : 3m Chamber
Dis. / Ant. : 3m 2023 MCTD1209-3006
Limit : FCC PART 15C PEAK
Env. / Ins. : 21.2*C/50.5%
Test Mode : 11n20 2462MHz TX

Data no. : 40
Ant. pol. : HORIZONTAL
Engineer : Allen

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.74	27.80	4.92	100.62	34.35	98.99	------	------	Peak
2	2483.50	27.80	4.94	58.82	34.35	57.21	74.00	16.79	Peak
3	2500.00	27.80	4.95	46.54	34.35	44.94	74.00	29.06	Peak

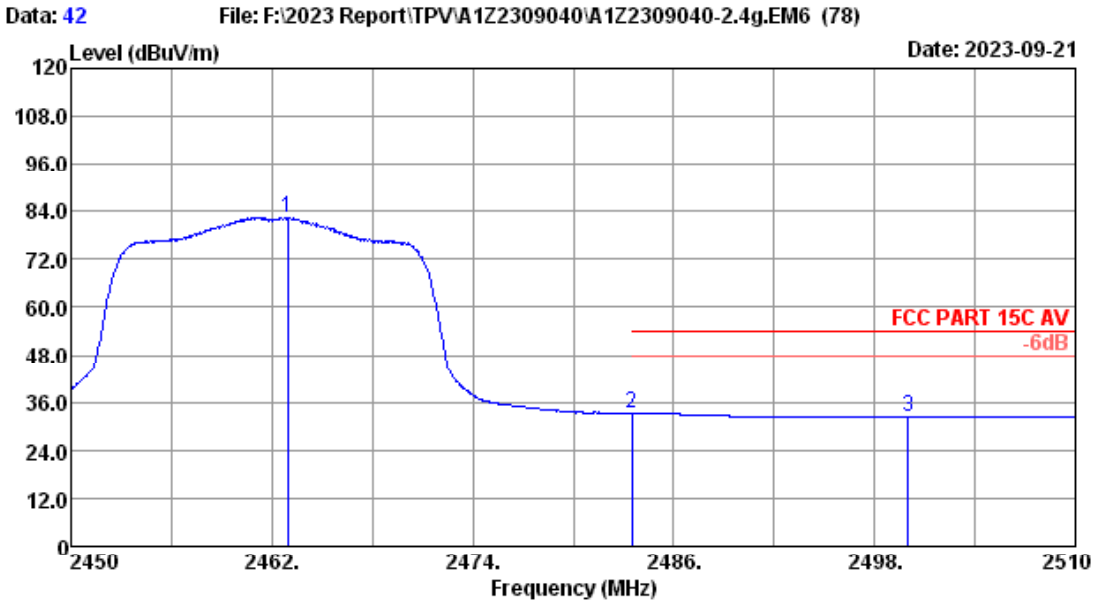
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber
Data no. : 41
Dis. / Ant. : 3m 2023 MCTD1209-3006
Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5%
Engineer : Allen
Test Mode : 11n20 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.10	27.80	4.91	89.88	34.35	88.24	------	------	Peak
2	2483.50	27.80	4.94	37.39	34.35	35.78	54.00	18.22	Peak
3	2500.00	27.80	4.95	34.45	34.35	32.85	54.00	21.15	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 42
Dis. / Ant. : 3m 2023 MCTD1209-3006 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 21.2*C/50.5% Engineer : Allen
Test Mode : 11n20 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.96	27.80	4.92	84.19	34.35	82.56	------	------	Peak
2	2483.50	27.80	4.94	34.89	34.35	33.28	54.00	20.72	Peak
3	2500.00	27.80	4.95	33.86	34.35	32.26	54.00	21.74	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.

7. 6dB & 99% Bandwidth Test

7.1.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.07,22	1 Year
2.	RF Cable	HUBER+SUHNER	SUCOFLEX-106	505238/6	Apr.06,22	1 Year

7.2.Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

7.3.Test Procedure

Use the test method descried in ANSI C63.10 Section 11.8:
The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described in 11.8.1 (i.e., RBW = 100 kHz, VBW ≥ 3 × RBW, and peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥6 dB.

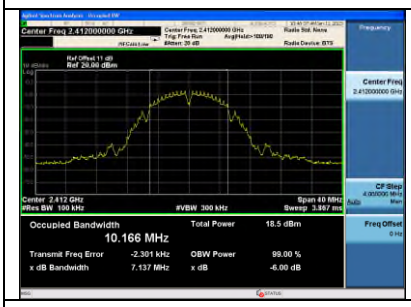
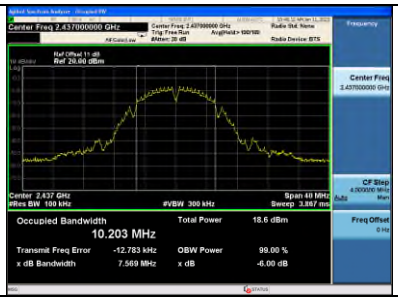
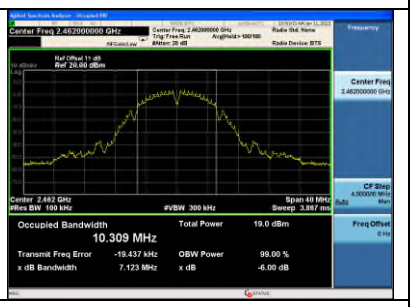
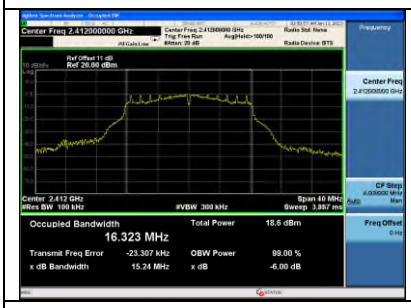
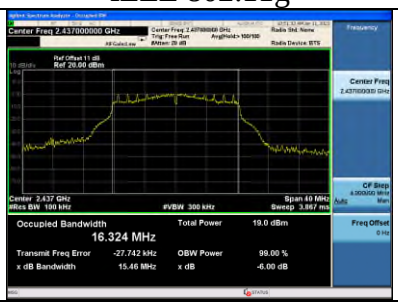
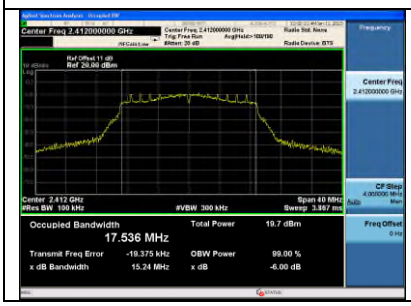
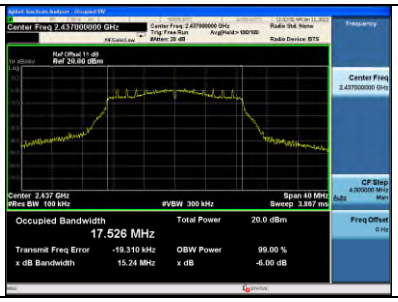
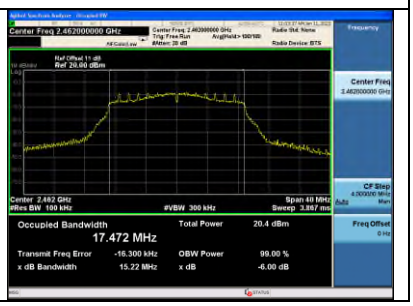
Use the test method descried in ANSI C63.10 Section 6.9.2:
The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.
d) Step a) through step c) might require iteration to adjust within the specified range.
e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

7.4.Test Results

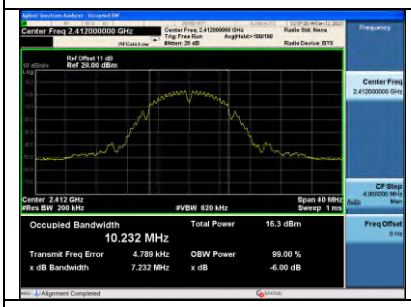
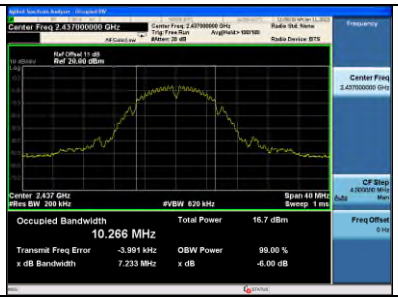
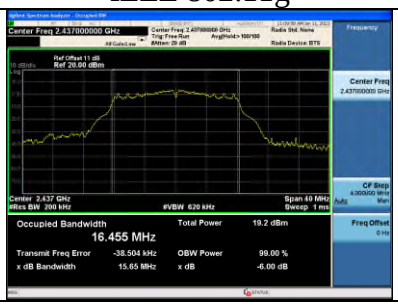
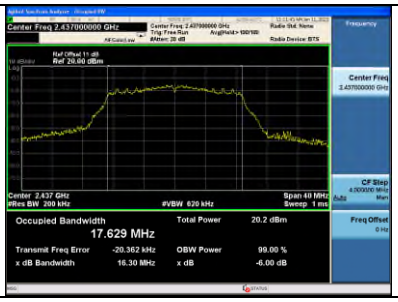
EUT: Room Booking Panel		
M/N: IAD-18010A		
Test date: 2023-01-11	Pressure: 102.5±1.0 kpa	Humidity: 53.6±3.0%
Tested by: Carl	Test site: RF site	Temperature:22.4±0.6 ℃

Test Mode	CH	6dB bandwidth (MHz)	Limit (kHz)
11b	CH1	7.137	≥ 500
	CH6	7.569	≥ 500
	CH11	7.123	≥ 500
11g	CH1	15.24	≥ 500
	CH6	15.46	≥ 500
	CH11	15.22	≥ 500
11n HT20	CH1	15.24	≥ 500
	CH6	15.24	≥ 500
	CH11	15.22	≥ 500
Conclusion：PASS			

Low Channel	Middle Channel	High Channel
IEEE 802.11b		
		
IEEE 802.11g		
		
IEEE 802.11n HT20		
		

EUT: Room Booking Panel		
M/N: IAD-18010A		
Test date: 2023-01-11	Pressure: 102.5±1.0 kpa	Humidity: 53.6±3.0%
Tested by: Carl	Test site: RF site	Temperature:22.4±0.6 ℃

Test Mode	CH	99%Bandwidth (MHz)	Limit (MHz)
11b	CH1	10.232	N/A
	CH6	10.266	
	CH11	10.360	
11g	CH1	16.455	N/A
	CH6	16.455	
	CH11	16.348	
11n HT20	CH1	17.623	N/A
	CH6	17.629	
	CH11	17.503	
Conclusion:Pass			

Low Channel	Middle Channel	High Channel
IEEE 802.11b		
		
IEEE 802.11g		
		
IEEE 802.11n HT20		
		

8. OUTPUT POWER TEST

8.1.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Analyzer	Rohde & Schwarz	FSV40	101608	Nov.09,22	1 Year
2.	Power meter	HP	436A	3103U06658	Apr.02,23	1 Year
3.	Power Sensor	Agilent	8482B	MY41090514	Apr.02,23	1 Year
4.	Attenuator	Agilent	8491B	MY39269201	Oct.09,22	1 Year
5.	RF Cable	HUBER+SUHNER	SUCOFLEX-106	505238/6	Apr.02,23	1 Year

8.2.Limit (FCC Part 15C 15.247 b(3))

For systems using digital modulation in the 2400—2483.5MHz, The Peak output Power shall not exceed 1W(30dBm), As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level.

8.3.Test Procedure

1, Connected the EUT's antenna port to measure device by 20dB attenuator.

2, Use the test method descried in ANSI C63.10-2013 clause 11.9.2.2.2 Method AVGSA-1.

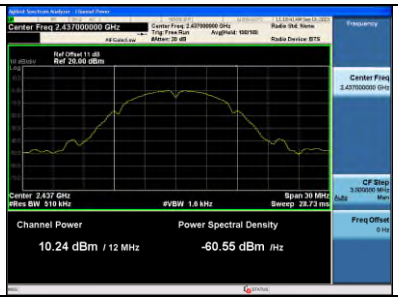
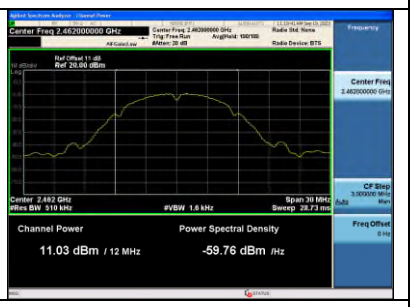
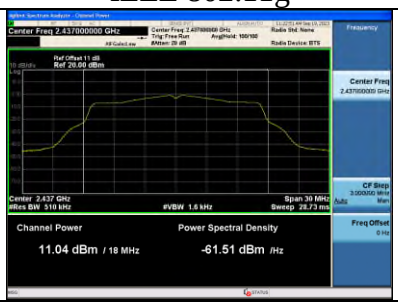
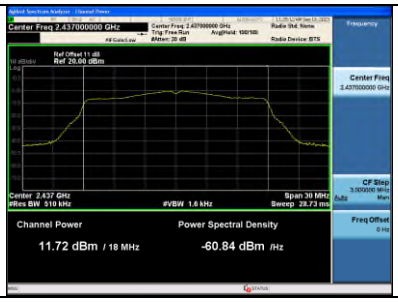
1) Set span to at least 1.5 times the OBW.
2) Set RBW = 1% to 5% of the OBW, not to exceed 1 MHz.
3) Set VBW ≥ [3 × RBW].
4) Number of points in sweep ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
5) Sweep time = auto.
6) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
7) If transmit duty cycle < 98%, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at the maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no OFF intervals) or at duty cycle ≥ 98%, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run."
8) Trace average at least 100 traces in power averaging (rms) mode.
9) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

8.4.Test Results

EUT: Room Booking Panel		
M/N: IAD-18010A		
Test date: 2023-09-19	Pressure: 102.6±1.0 kpa	Humidity: 52.2±3.0%
Tested by: Jerry	Test site: RF site	Temperature:23.7±0.6 ℃

Test Mode	CH	Power Setting	Output Power (dBm)	Limit (dBm)
11b	CH1	Default	10.11	30
	CH6	Default	10.24	
	CH11	Default	11.03	
11g	CH1	Default	10.65	30
	CH6	Default	11.04	
	CH11	Default	11.64	
11n HT20	CH1	Default	11.27	30
	CH6	Default	11.72	
	CH11	Default	12.44	
Conclusion: PASS				

Low Channel	Middle Channel	High Channel
IEEE 802.11b		
		
IEEE 802.11g		
		
IEEE 802.11n HT20		
		

9. POWER SPECTRAL DENSITY TEST

9.1.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.07,22	1 Year
2.	RF Cable	Mini-Circults	CBL-1M-SMSM+	No.7	Oct.10,22	1 Year

9.2.Limit

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

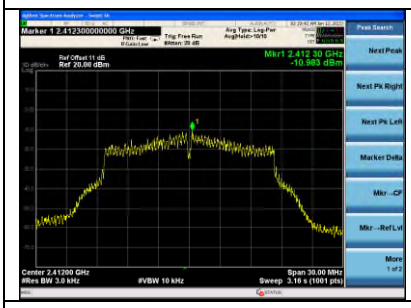
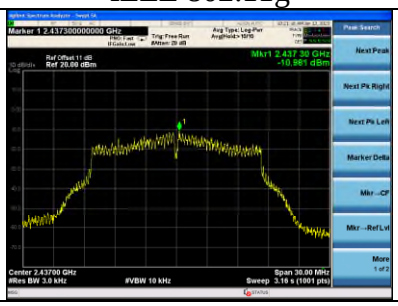
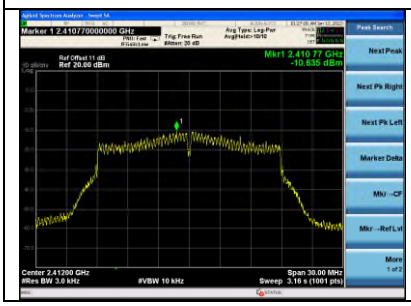
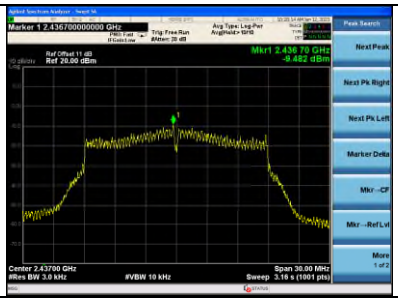
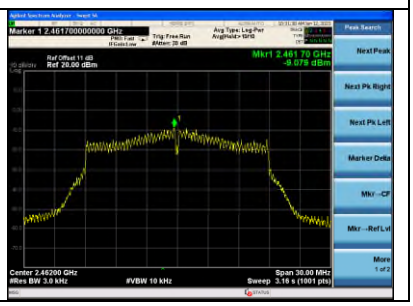
9.3.Test Procedure

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 DTS bandwidth.
c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ [3 × RBW].
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.

9.4.Test Results

EUT: Room Booking Panel		
M/N: IAD-18010A		
Test date: 2023-01-12	Pressure: 102.6±1.0 kpa	Humidity: 52.2±3.0%
Tested by: Carl	Test site: RF site	Temperature: 23.7±0.6℃

Test Mode	CH	Power Density (dBm/3kHz)	Limit (dBm/3kHz)
11b	CH1	-9.066	8
	CH6	-10.205	
	CH11	-10.126	
11g	CH1	-10.983	8
	CH6	-10.981	
	CH11	-10.492	
11n HT20	CH1	-10.635	8
	CH6	-9.482	
	CH11	-9.079	
Conclusion: PASS			

Low Channel	Middle Channel	High Channel
IEEE 802.11b		
IEEE 802.11g		
		
IEEE 802.11n HT20		
		

10. ANTENNA REQUIREMENT

10.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

10.2. Antenna Connected Construction

The antennas used for this product are FPC antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 2.3dBi.

11. DEVIATION TO TEST SPECIFICATIONS

[NONE]

THE END