Conducted Out of band emission measurement

Test Mode: 802.11b

Test Mode:802.11b 2412MHz Chain0

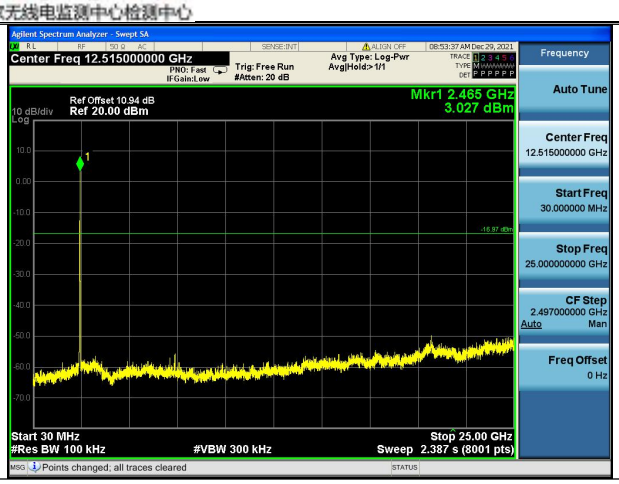
Test Mode:802.11b 2437MHz Chain0

Test Mode:802.11b 2462MHz Chain0

Test Mode: 802.11g

Test Mode:802.11g 2412MHz Chain0

Test Mode:802.11g 2437MHz Chain0



Test Mode:802.11g 2462MHz Chain0

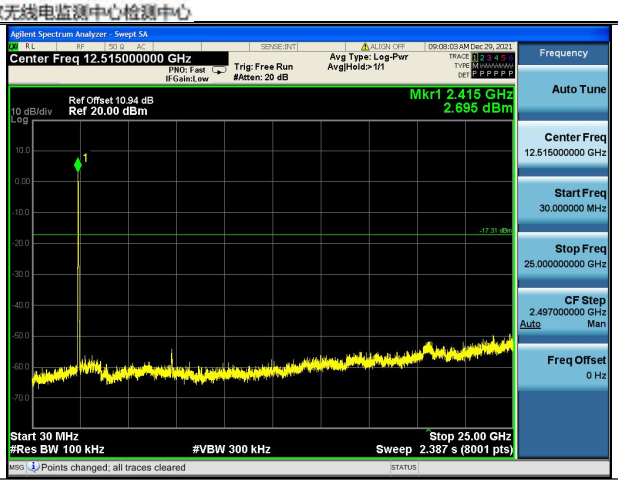
Test Mode: 802.11n HT20

Test Mode:802.11n HT20 2412MHz Chain0

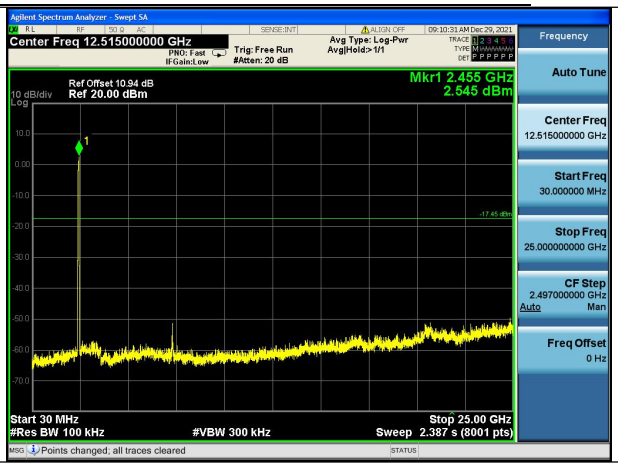
Test Mode:802.11n HT20 2437MHz Chain0

Test Mode:802.11n HT20 2462MHz Chain0

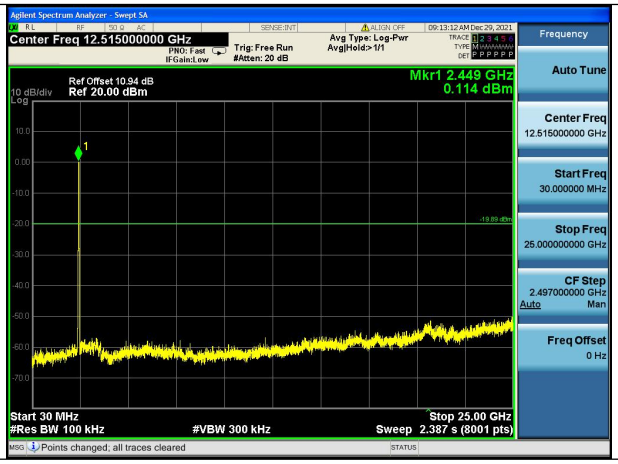
Test Mode: 802.11n HT40



Test Mode:802.11n HT40 2422MHz Chain0



Test Mode:802.11n HT40 2437MHz Chain0



Test Mode:802.11n HT40 2452MHz Chain0

Band edge measurement

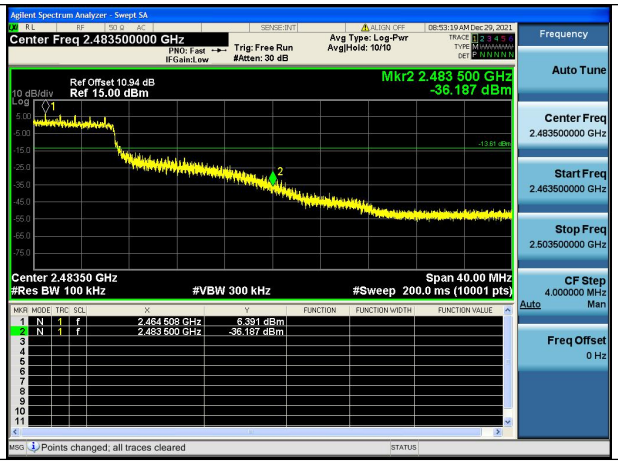
Test Mode: 802.11b

Test Mode:802.11b 2412MHz Chain0

Test Mode:802.11b 2462MHz Chain0

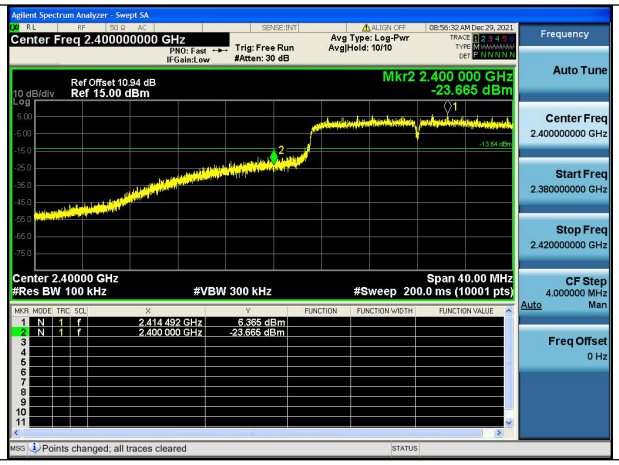
Test Mode: 802.11g

Test Mode:802.11g 2412MHz Chain0

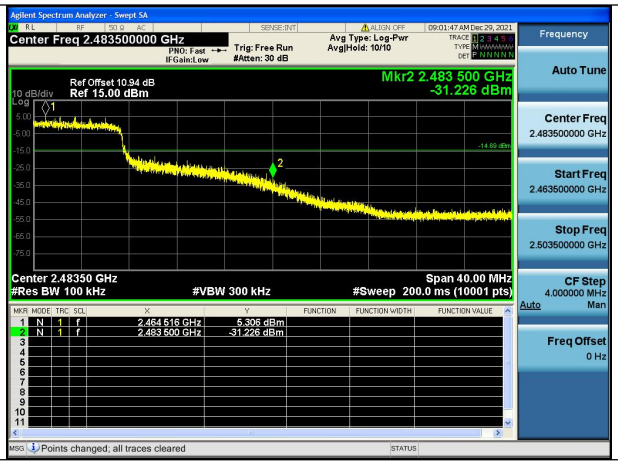


Test Mode:802.11g 2462MHz Chain0

Test Mode: 802.11n HT20



Test Mode:802.11n HT20 2412MHz Chain0



Test Mode:802.11n HT20 2462MHz Chain0

Test Mode: 802.11n HT40

	
Test Mode:802.11n HT40 2422MHz Chain0	Test Mode:802.11n HT40 2452MHz Chain0

APPENDIX B – TEST DATA OF RADIATED EMISSION

Radiated Emission Band Edge

Note: The scanned graph represents the maximum of both horizontal and vertical polarizations and is not a single horizontal or vertical polarization scan.

Note：There were no emissions above 18GHz found within 20dB of the limit. Thus the test result was not reported according to §15.31（o）

The measurement results are obtained as described below:
Measure Level = Reading Level + Cable loss + Antenna factor Sample calculation: (80.96 dBuV/m) = (46.96 dBμV) + (8.90 dB) + (25.10 dB), the corresponding frequency is 2412MHz.

- **802.11b**

Carrier Frequency (MHz): 2412
Channel No.: 1
Test Mode: 802.11b
Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2412.0	46.96	80.96	N/A	N/A	8.90	25.10
2390.0	6.17	40.17	-33.83	74.00	8.90	25.10

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2412.0	41.53	75.53	N/A	N/A	8.90	25.10
2390.0	-6.07	27.93	-26.07	54.00	8.90	25.10

Carrier Frequency (MHz): 2462
Channel No.: 11
Test Mode: 802.11b
Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2462.0	45.82	79.82	N/A	N/A	8.90	25.10
2483.5	6.07	40.07	-33.93	74.00	8.90	25.10

Detector: Average

Frequency	Reading	Measure	Over	Limit (dBuV/m)	Cable	Antenna

(MHz)	Level (dBuV)	Level (dBuV/m)	Limit (dB)		Loss (dB)	Factor (dB)
2462.0	42.85	76.85	N/A	N/A	8.90	25.10
2483.5	-6.61	27.39	-26.61	54.00	8.90	25.10

- **802.11g**

Carrier Frequency (MHz): 2412
Channel No.: 1
Test Mode: 802.11g
Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2412.0	44.01	78.01	N/A	N/A	8.90	25.10
2390.0	20.44	54.44	-19.56	74.00	8.90	25.10

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2412.0	34.75	68.75	N/A	N/A	8.90	25.10
2390.0	-0.60	33.40	-20.60	54.00	8.90	25.10

Carrier Frequency (MHz): 2462
Channel No.: 11
Test Mode: 802.11g
Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2462.0	45.87	79.87	N/A	N/A	8.90	25.10
2483.5	24.67	58.67	-15.33	74.00	8.90	25.10

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2462.0	36.66	70.66	N/A	N/A	8.90	25.10
2483.5	6.80	40.80	-13.20	54.00	8.90	25.10

- **802.11n (HT20)**

Carrier Frequency (MHz): 2412

Channel No.: 1

Test Mode: 802.11n (HT20)

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2412.0	44.44	78.44	N/A	N/A	8.90	25.10
2390.0	22.35	56.35	-17.65	74.00	8.90	25.10

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2412.0	34.13	68.13	N/A	N/A	8.90	25.10
2390.0	1.00	35.00	-19.00	54.00	8.90	25.10

Carrier Frequency (MHz): 2462

Channel No.: 11

Test Mode: 802.11n (HT20)

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2462.0	45.80	79.80	N/A	N/A	8.90	25.10
2483.5	18.88	52.88	-21.12	74.00	8.90	25.10

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2462.0	34.35	68.35	N/A	N/A	8.90	25.10
2483.5	-2.28	31.72	-22.28	54.00	8.90	25.10

- **802.11n (HT40)**

Carrier Frequency (MHz): 2422

Channel No.: 3

Test Mode: 802.11n (HT40)

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2422.0	41.57	75.57	N/A	N/A	8.90	25.10
2390.0	5.60	39.60	-34.40	74.00	8.90	25.10

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2422.0	28.55	62.55	N/A	N/A	8.90	25.10
2390.0	-6.97	27.03	-26.97	54.00	8.90	25.10

Carrier Frequency (MHz): 2452
Channel No.: 9
Test Mode: 802.11n (HT40)
Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2452.0	41.56	75.56	N/A	N/A	8.90	25.10
2483.5	24.36	58.36	-15.64	74.00	8.90	25.10

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
2452.0	30.85	64.85	N/A	N/A	8.90	25.10
2483.5	6.48	40.48	-13.52	54.00	8.90	25.10

Radiated Emissions

Sample Calculations：

Determining Spurious Emissions Levels

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss. The measurement results are obtained as described below:

Below 1GHz：

QuasiPeak=Reading Value + A_{Rpl}

Above 1GHz:

MaxPeak=Reading MaxPeak + A_{Rpl}

OR

Average=Reading Average + A_{Rpl}

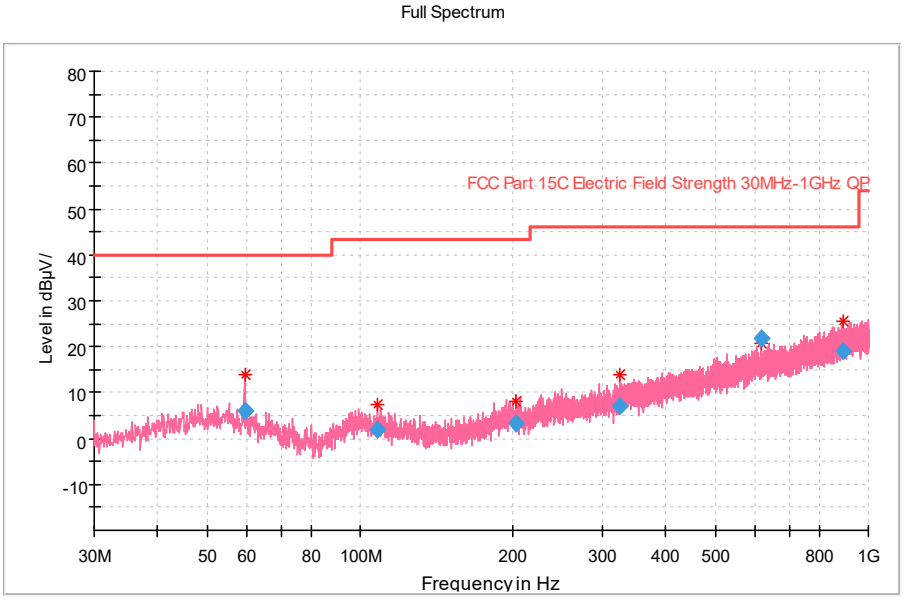
Sample calculation: (5.96 dBμV/m) = (26.46 dBμV) + (-20.50 dB/m), the corresponding frequency is 59.294MHz.

The worst case attitude： The mobile lay down.

● 802.11b

Spurious Radiated Emissions from 30MHz to 1GHz:

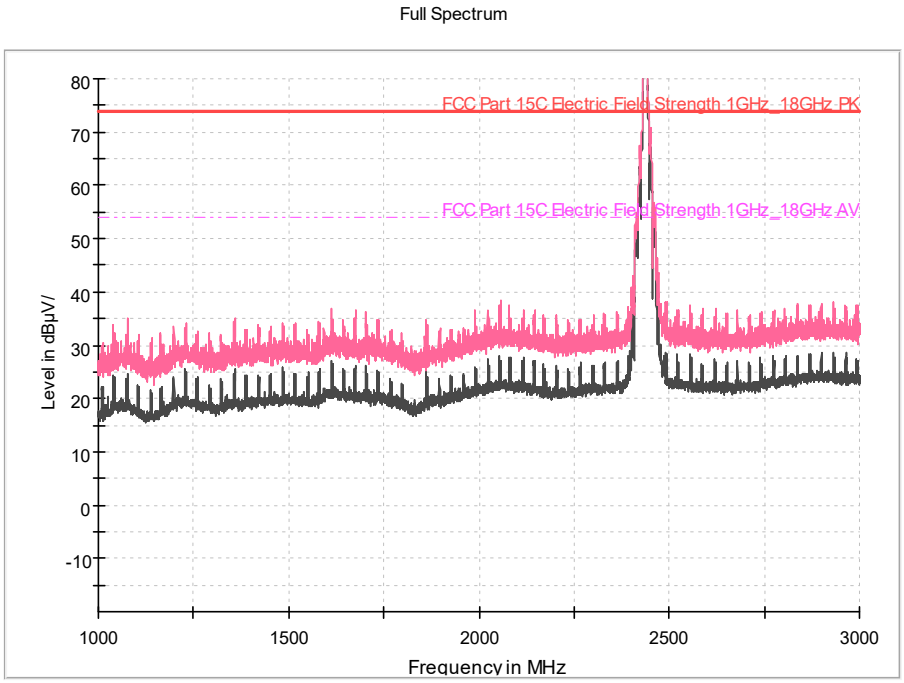
CH Middle (No.6)

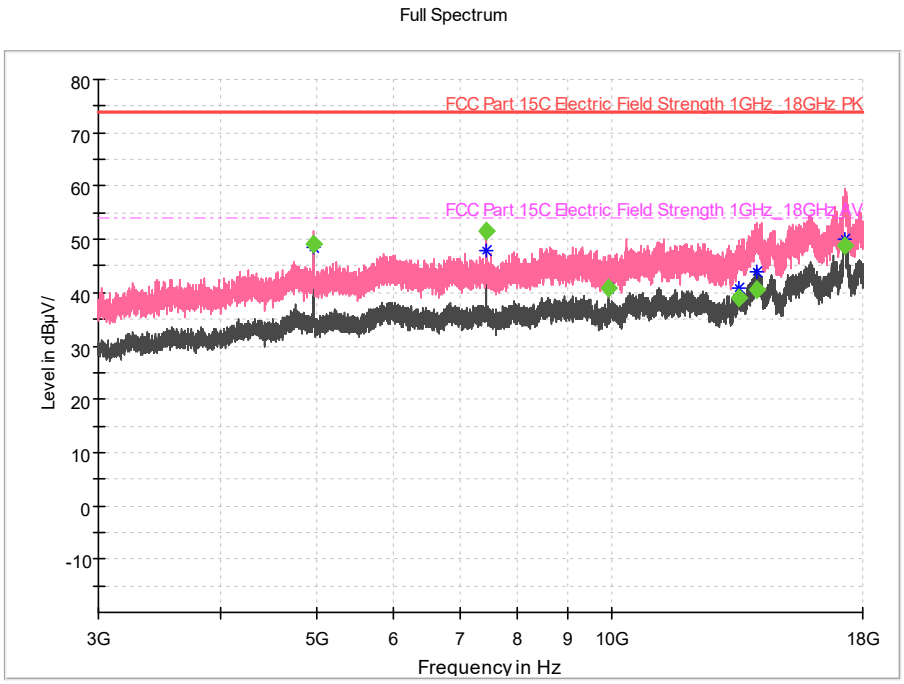


Frequency (MHz)	Reading (dBuV)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A_{Rpl} (dB)	Polarity
59.294	26.46	5.96	40.00	34.04	-20.50	Vertical
107.988	23.02	1.92	43.50	41.58	-21.10	Vertical

202.078	23.45	3.35	43.50	40.15	-20.10	Vertical
324.686	23.33	7.03	46.00	38.97	-16.30	Vertical
614.425	29.63	21.73	46.00	24.27	-7.90	Vertical
894.852	22.15	19.05	46.00	26.95	-3.10	Vertical

Spurious Radiated Emissions from 1GHz to 18GHz:
CH Middle (No.6)

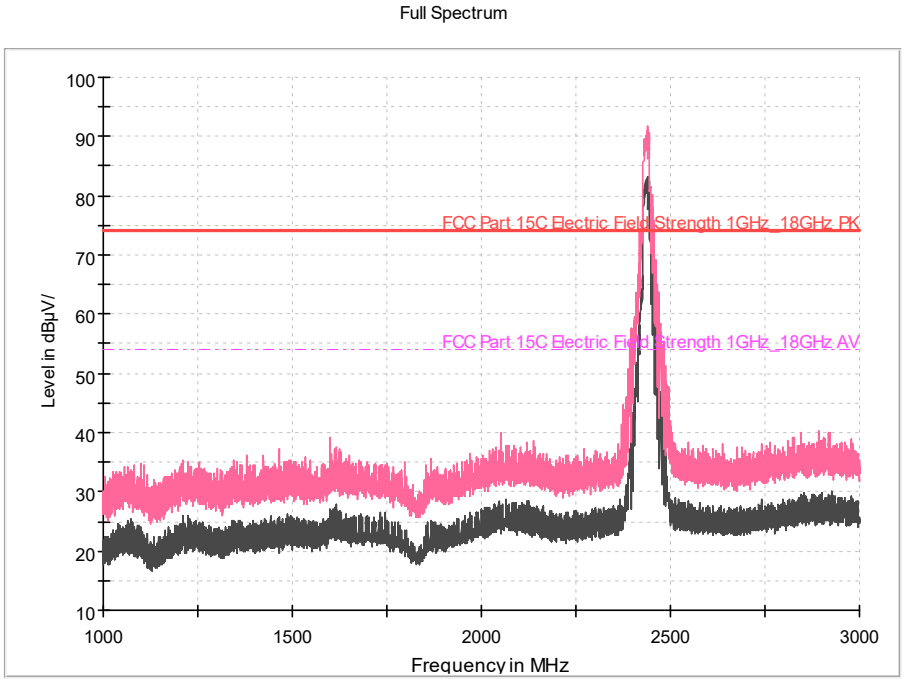




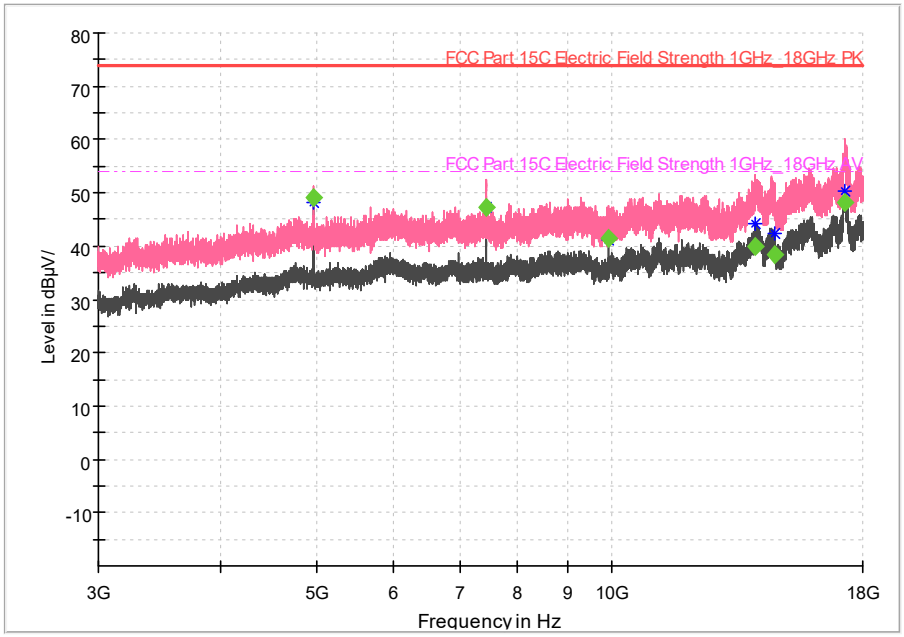
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A_{Rpl} (dB)	Polarity
4968.000	---	71.48	---	49.08	54.00	4.92	-22.40	Vertical
7453.000	---	72.90	---	51.70	54.00	2.30	-21.20	Vertical
9936.000	---	61.23	---	40.83	54.00	13.17	-20.40	Vertical
13459.000	---	53.38	---	38.88	54.00	15.12	-14.50	Vertical
14042.500	---	54.31	---	40.61	54.00	13.39	-13.70	Vertical
17277.000	---	60.29	---	48.69	54.00	5.31	-11.60	Vertical

- **802.11g**

Spurious Radiated Emissions from 1GHz to 18GHz:
CH Middle (No.6)



Full Spectrum



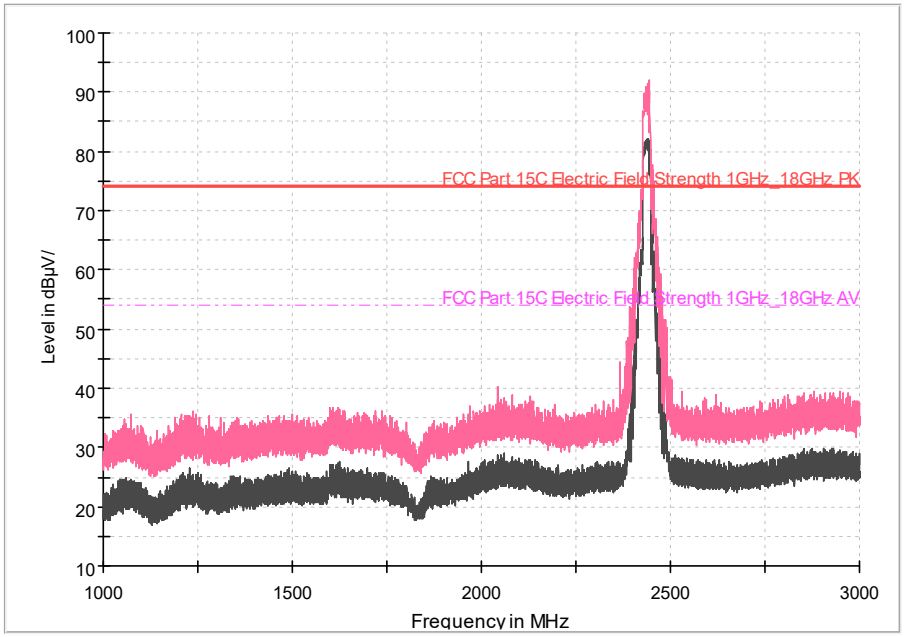
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A_{Rpl} (dB)	Polarity
4968.000	---	71.53	---	49.13	54.00	4.87	-22.40	Vertical
7450.500	---	68.53	---	47.33	54.00	6.67	-21.20	Vertical
9936.000	---	61.75	---	41.35	54.00	12.65	-20.40	Vertical
13994.000	---	53.69	---	39.99	54.00	14.01	-13.70	Vertical
14642.500	---	52.00	---	38.40	54.00	15.60	-13.60	Vertical
17245.500	---	59.76	---	48.16	54.00	5.84	-11.60	Vertical

- **802.11n (HT20)**

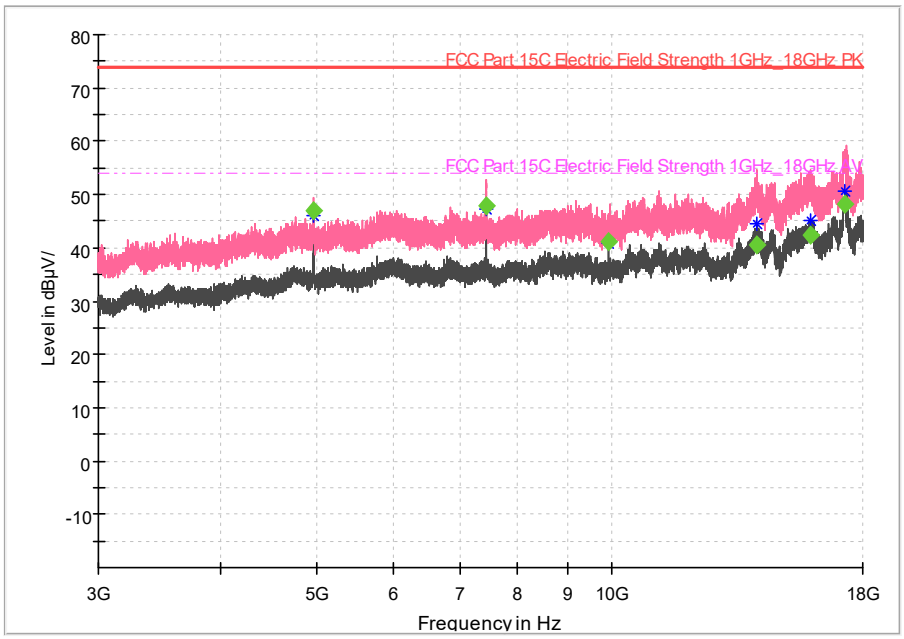
Spurious Radiated Emissions from 1GHz to 18GHz:

CH Middle (No.6)

Full Spectrum



Full Spectrum



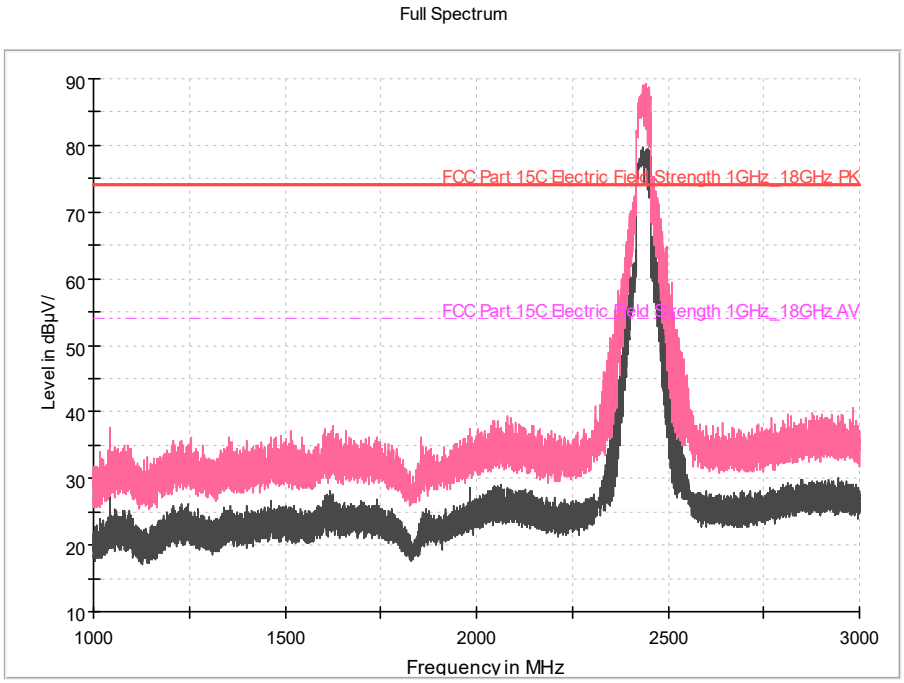
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A_{Rpl} (dB)	Polarity

4968.000	---	69.30	---	46.90	54.00	7.10	-22.40	Vertical
7453.000	---	69.01	---	47.81	54.00	6.19	-21.20	Vertical
9936.000	---	61.57	---	41.17	54.00	12.83	-20.40	Vertical
14039.000	---	54.15	---	40.45	54.00	13.55	-13.70	Vertical
15932.000	---	56.36	---	42.46	54.00	11.54	-13.90	Vertical
17286.000	---	59.91	---	48.31	54.00	5.69	-11.60	Vertical

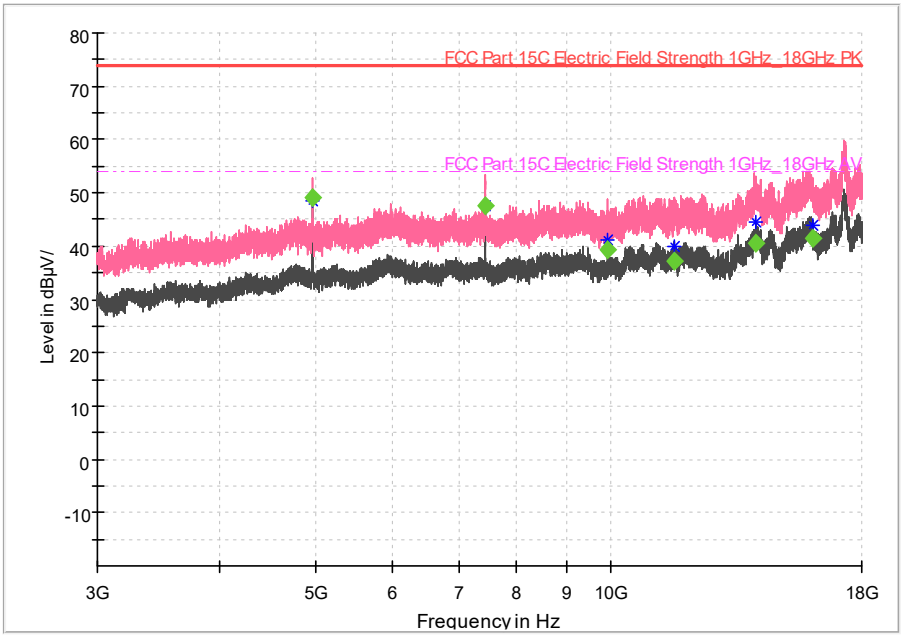
- **802.11n (HT40)**

Spurious Radiated Emissions from 1GHz to 18GHz:

CH Middle (No.6)

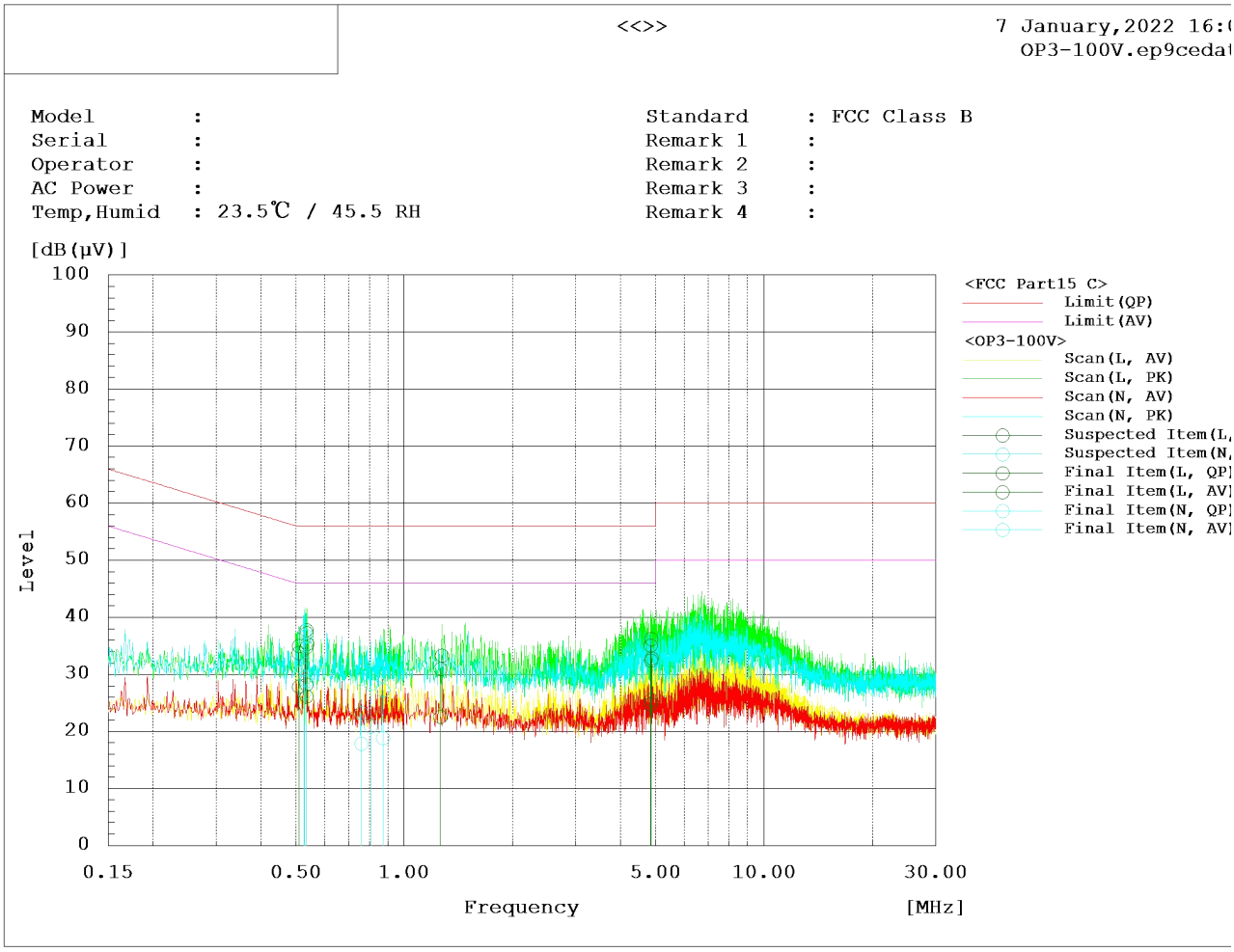


Full Spectrum

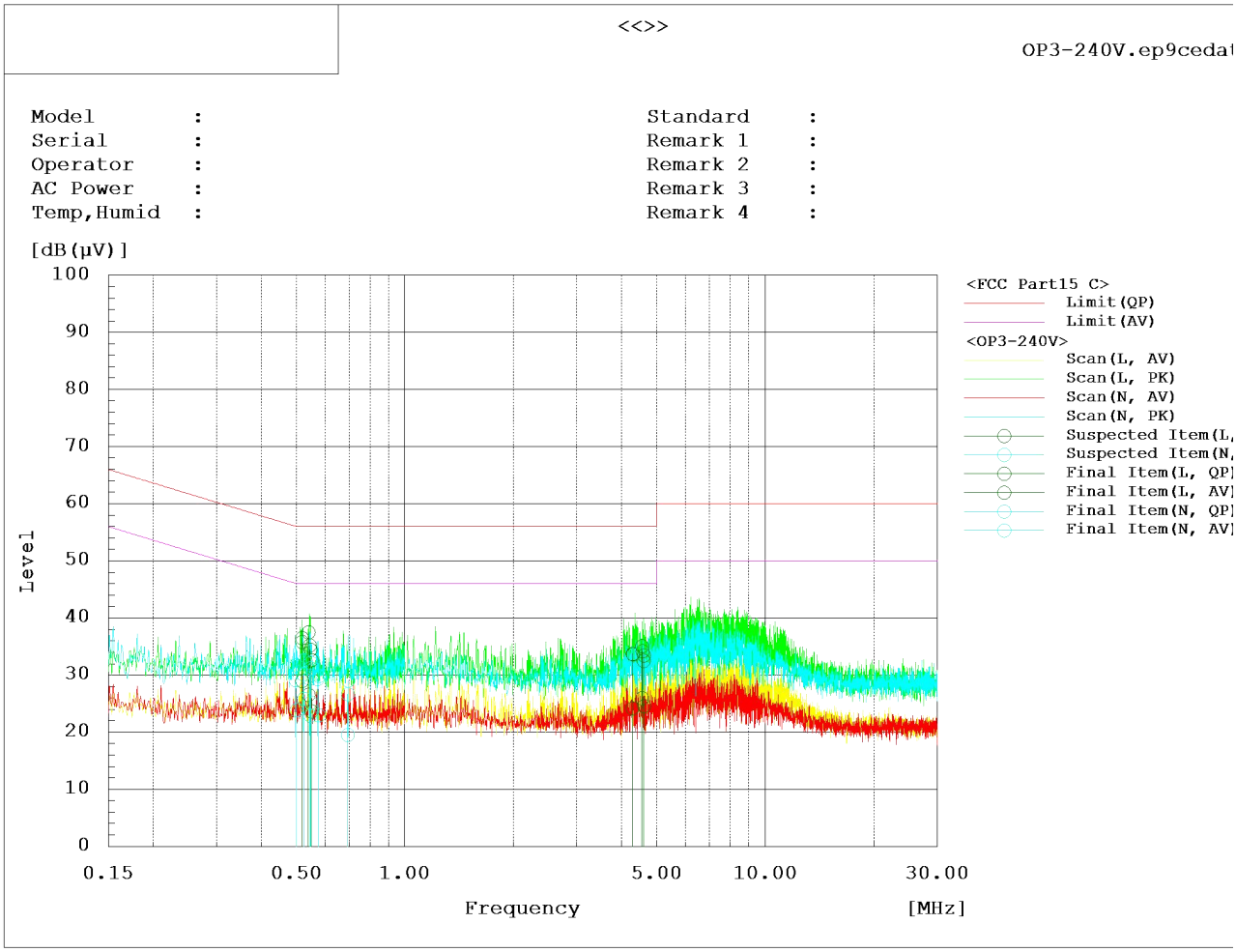


Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A_{Rpl} (dB)	Polarity
4968.000	---	71.47	---	49.07	54.00	4.93	-22.40	Vertical
7452.500	---	68.69	---	47.49	54.00	6.51	-21.20	Vertical
9936.500	---	59.58	---	39.18	54.00	14.82	-20.40	Vertical
11597.000	---	53.55	---	37.05	54.00	16.95	-16.50	Vertical
14039.000	---	54.10	---	40.40	54.00	13.60	-13.70	Vertical
16024.500	---	55.35	---	41.35	54.00	12.65	-14.00	Vertical

AC Power line Conducted Emission



Range	Frequency	Line	Reading			Factor	Level			Limit	Limit			Margin			Pass/Fai
	MHz		dB(μV)			dB	dB(μV)			dB(μV)	dB(μV)			dB			
			QP	AV	PK		QP	AV	PK		QP	AV	PK	QP	AV	PK	
Band1	0.53	N	16.7	6.9		19.9	36.6	26.8			56	46		19.4	19.2		Pass
Band1	0.53	N	17.8	9.5		19.9	37.7	29.4			56	46		18.3	16.6		Pass
Band1	0.54	N	16.8	9		19.9	36.7	28.9			56	46		19.3	17.1		Pass
Band1	0.76	N	3.4	-1.9		19.8	23.2	17.9			56	46		32.8	28.1		Pass
Band1	0.81	N	8.6	1.1		19.8	28.4	20.9			56	46		27.6	25.1		Pass
Band1	0.87	N	7.4	-0.9		19.8	27.2	18.9			56	46		28.8	27.1		Pass
Band1	0.51	L	15.1	8		19.9	35	27.9			56	46		21	18.1		Pass
Band1	0.53	L	17.9	8.3		19.9	37.8	28.2			56	46		18.2	17.8		Pass
Band1	0.53	L	17.3	6.3		19.9	37.2	26.2			56	46		18.8	19.8		Pass
Band1	1.26	L	11	2.7		19.9	30.9	22.6			56	46		25.1	23.4		Pass
Band1	4.84	L	15.2	4.9		19.9	35.1	24.8			56	46		20.9	21.2		Pass
Band1	4.86	L	16.3	5.6		19.9	36.2	25.5			56	46		19.8	20.5		Pass



Range	Frequency	Line	Reading			Factor	Level			Limit	Limit			Margin			Pass/Fai
	MHz		dB(μV)			dB	dB(μV)			dB(μV)	dB(μV)			dB			
			QP	AV	PK		QP	AV	PK		QP	AV	PK	QP	AV	PK	
Band1	0.52	L	16.6	9.1		19.9	36.5	29			56	46		19.5	17		Pass
Band1	0.54	L	17.6	6.7		19.9	37.5	26.6			56	46		18.5	19.4		Pass
Band1	0.55	L	12.8	3.7		19.9	32.7	23.6			56	46		23.3	22.4		Pass
Band1	4.28	L	13.8	4.3		19.9	33.7	24.2			56	46		22.3	21.8		Pass
Band1	4.55	L	15.2	6.1		19.9	35.1	26			56	46		20.9	20		Pass
Band1	4.61	L	13.5	4.7		19.9	33.4	24.6			56	46		22.6	21.4		Pass
Band1	0.5	N	11.9	4		19.9	31.8	23.9			56	46		24.2	22.1		Pass
Band1	0.52	N	12.7	6		19.9	32.6	25.9			56	46		23.4	20.1		Pass
Band1	0.55	N	12.3	5.4		19.9	32.2	25.3			56	46		23.8	20.7		Pass
Band1	0.55	N	11.3	3		19.9	31.2	22.9			56	46		24.8	23.1		Pass
Band1	0.58	N	10	3.1		19.9	29.9	23			56	46		26.1	23		Pass
Band1	0.69	N	6.9	-0.3		19.8	26.7	19.5			56	46		29.3	26.5		Pass

---End of the test report---