

## **APPENDIX B – TEST DATA OF RADIATED EMISSION**

### **Worst case(11a)**

#### **Radiated Emission Band Edge**

The measurement results are obtained as described below:

Measure Level = Reading Level + Cable loss + Antenna factor Sample calculation: (90.10 dBuV/m) = (43.20 dBμV) + (12.40 dB) + (34.50 dB), the corresponding frequency is 5180MHz.

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)

#### **【5150-5250】**

- 802.11a

Carrier Frequency (MHz): 5180

Channel No.: 36

Test Mode: 802.11a

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5180.0	44.30	91.20	N/A	N/A	12.40	34.50
5150.0	13.90	60.80	-13.20	74.00	12.40	34.50

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5180.0	22.40	69.30	N/A	N/A	12.40	34.50
5150.0	-11.20	35.70	-18.30	54.00	12.40	34.50

Carrier Frequency (MHz): 5240

Channel No.: 48

Test Mode: 802.11a

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5240.0	56.40	103.30	N/A	N/A	12.40	34.50
5250.0	10.30	57.20	-16.80	74.00	12.40	34.50

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5240.0	31.60	78.50	N/A	N/A	12.40	34.50
5250.0	-7.40	39.50	-14.50	54.00	12.40	34.50

**【5250-5350】**

● 802.11a

Carrier Frequency (MHz): 5260

Channel No.: 52

Test Mode: 802.11a

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5260.0	55.40	102.30	N/A	N/A	12.40	34.50
5240.0	16.30	63.20	-10.80	74.00	12.40	34.50

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5260.0	27.30	74.20	N/A	N/A	12.40	34.50
5240.0	-5.50	41.40	-12.60	54.00	12.40	34.50

Carrier Frequency (MHz): 5320

Channel No.: 64

Test Mode: 802.11a

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5320.0	39.80	86.70	N/A	N/A	12.40	34.50
5340.0	20.40	67.30	-6.70	74.00	12.40	34.50

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5320.0	23.40	70.30	N/A	N/A	12.40	34.50
5340.0	-0.20	46.70	-7.30	54.00	12.40	34.50

**【5470-5725】**

● 802.11a

Carrier Frequency (MHz): 5500

Channel No.: 100

Test Mode: 802.11a

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5500.0	43.30	90.20	N/A	N/A	12.40	34.50
5480.0	4.40	51.30	-22.70	74.00	12.40	34.50

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5500.0	20.20	67.10	N/A	N/A	12.40	34.50
5480.0	-13.20	33.70	-20.30	54.00	12.40	34.50

Carrier Frequency (MHz): 5700

Channel No.: 140

Test Mode: 802.11a

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5700.0	50.40	97.30	N/A	N/A	12.40	34.50
5720.0	10.60	57.50	-16.50	74.00	12.40	34.50

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5700.0	36.50	83.40	N/A	N/A	12.40	34.50
5720.0	-7.10	39.80	-14.20	54.00	12.40	34.50

**【5725-5850】**

● 802.11a

Carrier Frequency (MHz): 5745

Channel No.: 149

Test Mode: 802.11a

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5745.0	45.80	92.70	N/A	N/A	12.40	34.50
5725.0	10.70	57.60	-16.40	74.00	12.40	34.50

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5745.0	21.30	68.20	N/A	N/A	12.40	34.50
5725.0	-8.10	38.80	-15.20	54.00	12.40	34.50

Carrier Frequency (MHz): 5825

Channel No.: 165

Test Mode: 802.11a

Detector: Peak

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5825.0	37.80	84.70	N/A	N/A	12.40	34.50
5845.0	10.80	57.70	-16.30	74.00	12.40	34.50

Detector: Average

Frequency (MHz)	Reading Level (dBuV)	Measure Level (dBuV/m)	Over Limit (dB)	Limit (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB)
5825.0	26.30	73.20	N/A	N/A	12.40	34.50
5845.0	-5.30	41.60	-12.40	54.00	12.40	34.50

## 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:

$$\text{QuasiPeak} = \text{Reading Value} + A_{Rpl}$$

Above 1GHz:

$$\text{MaxPeak} = \text{Reading MaxPeak} + A_{Rpl}$$

OR

$$\text{Average} = \text{Reading Average} + A_{Rpl}$$

Sample calculation:  $(25.83 \text{ dB}\mu\text{V/m}) = (48.73 \text{ dB}\mu\text{V}) + (-22.90 \text{ dB/m})$ , the corresponding frequency is 35.141MHz.

The worst case attitude: The mobile lay down.

### Spurious Radiated Emissions below 30MHz and above 18G:

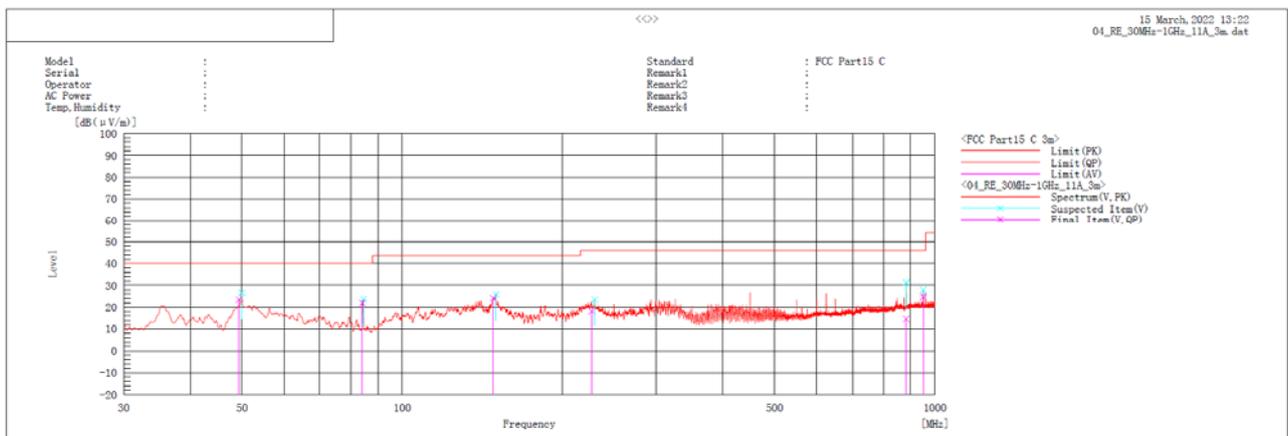
There were no emissions from 9kHz to 30MHz and above 18G found within 20dB of the limit. Thus, the test result was not reported according to §15.31 (o).

#### 【5150~5250】

##### ● 802.11a

### Spurious Radiated Emissions from 30MHz to 1GHz:

#### CH Middle (No.44)

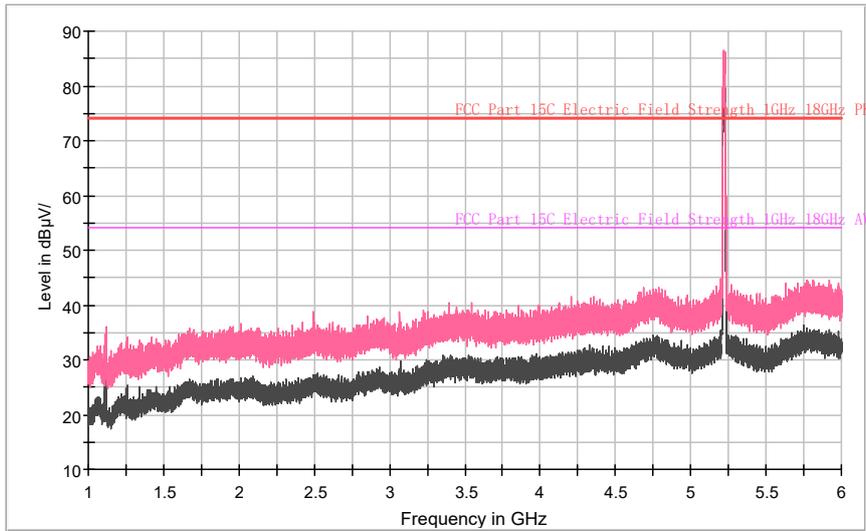


Frequency (MHz)	Reading (dBuV)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	$A_{Rpl}$ (dB)	Polarity
49.37	44.50	23.50	40.00	16.50	-21.00	Vertical
84.16	48.70	21.90	40.00	18.10	-26.80	Vertical
148.22	50.20	24.10	43.50	19.40	-26.10	Vertical
226.98	40.20	18.20	46.00	27.80	-22.00	Vertical
882.33	23.30	14.60	46.00	31.40	-8.70	Vertical
950.69	32.70	24.70	46.00	21.30	-8.00	Vertical

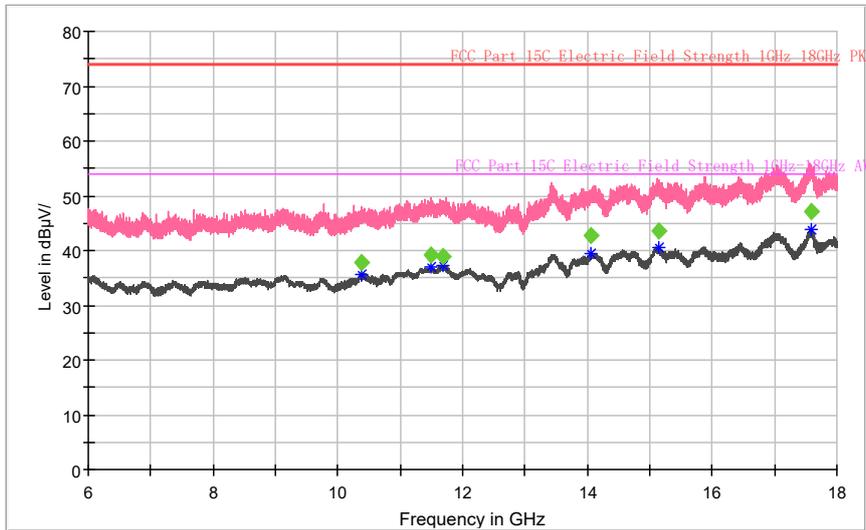
### Spurious Radiated Emissions from 1GHz to 18GHz:

#### CH Middle (No.44)

Full Spectrum



Full Spectrum



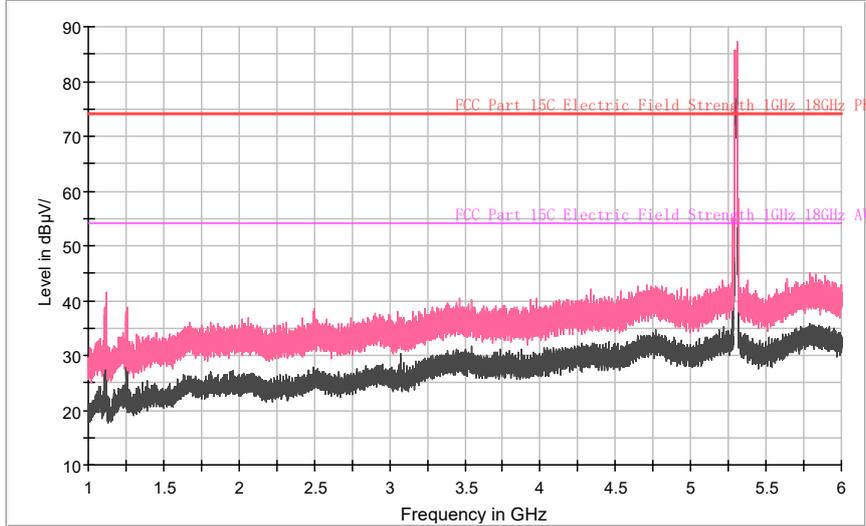
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A <sub>Rpl</sub> (dB)	Polarity
10386.8	---	57.03	---	37.83	54	16.17	-19.2	Vertical
11480.8	---	56.07	---	39.17	54	14.83	-16.9	Vertical
11680.8	---	55.87	---	38.97	54	15.03	-16.9	Vertical
14054.4	---	57.20	---	42.7	54	11.3	-14.5	Vertical
15148.8	---	57.54	---	43.44	54	10.56	-14.1	Vertical
17588.8	---	58.91	---	47.01	54	6.99	-11.9	Vertical

**【5250~5350】**

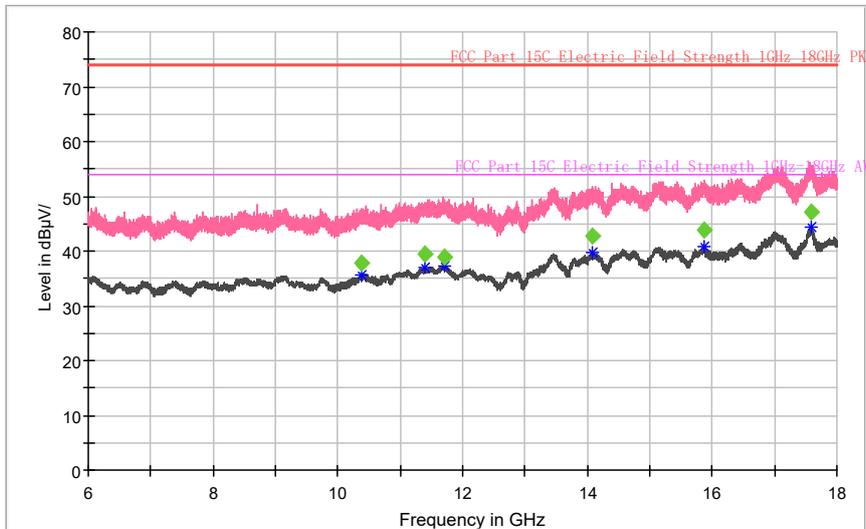
- 802.11a

Spurious Radiated Emissions from 1GHz to 18GHz:  
CH Middle (No.60)

Full Spectrum



Full Spectrum



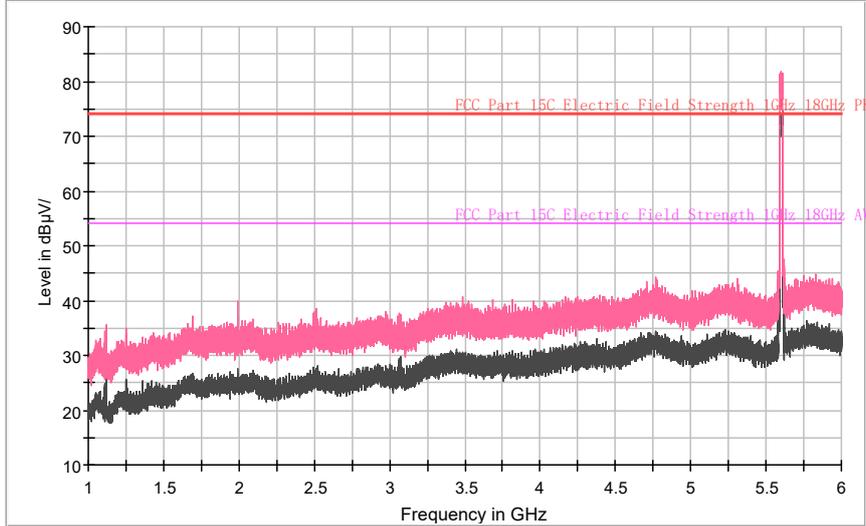
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A <sub>Rpl</sub> (dB)	Polarity
10384	---	57.07	---	37.87	54	16.13	-19.2	Vertical
11403.6	---	56.53	---	39.43	54	14.57	-17.1	Vertical
11720.8	---	56.02	---	39.02	54	14.98	-17	Vertical
14073.6	---	57.04	---	42.64	54	11.36	-14.4	Vertical
15880.8	---	58.36	---	43.86	54	10.14	-14.5	Vertical
17588.8	---	58.98	---	47.08	54	6.92	-11.9	Vertical

【5470~5725】

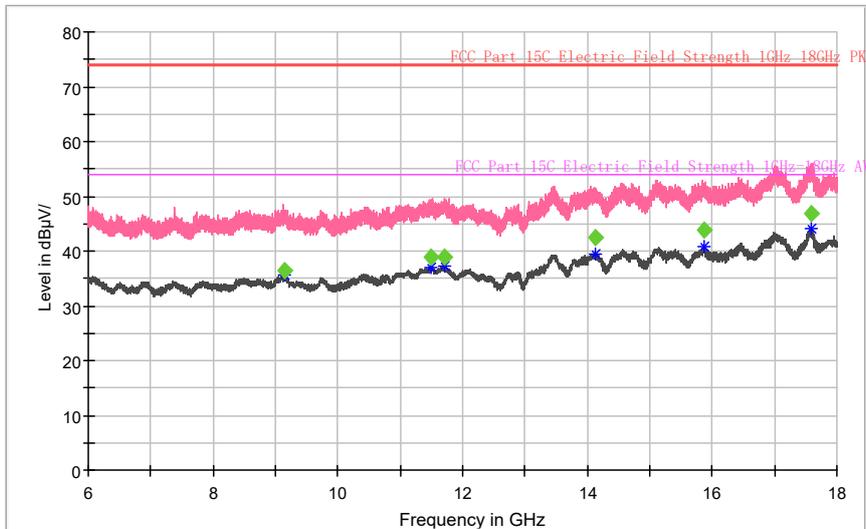
● 802.11a

Spurious Radiated Emissions from 1GHz to 18GHz:  
CH Middle (No.120)

Full Spectrum



Full Spectrum



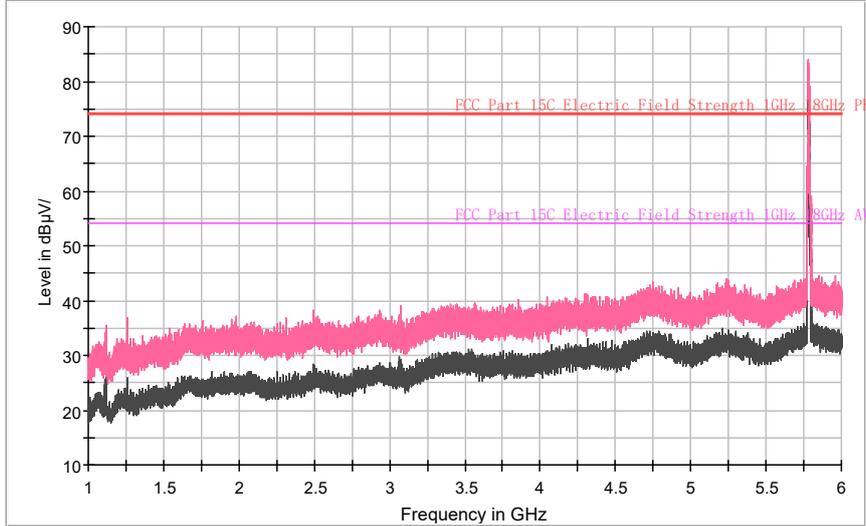
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A <sub>Rpl</sub> (dB)	Polarity
9143.6	---	56.75	---	36.55	54	17.45	-20.2	Vertical
11487.6	---	55.88	---	38.98	54	15.02	-16.9	Vertical
11711.2	---	55.99	---	38.99	54	15.01	-17	Vertical
14117.2	---	56.65	---	42.35	54	11.65	-14.3	Vertical
15880.8	---	58.36	---	43.86	54	10.14	-14.5	Vertical
17585.2	---	58.86	---	46.96	54	7.04	-11.9	Vertical

【5725~5850】

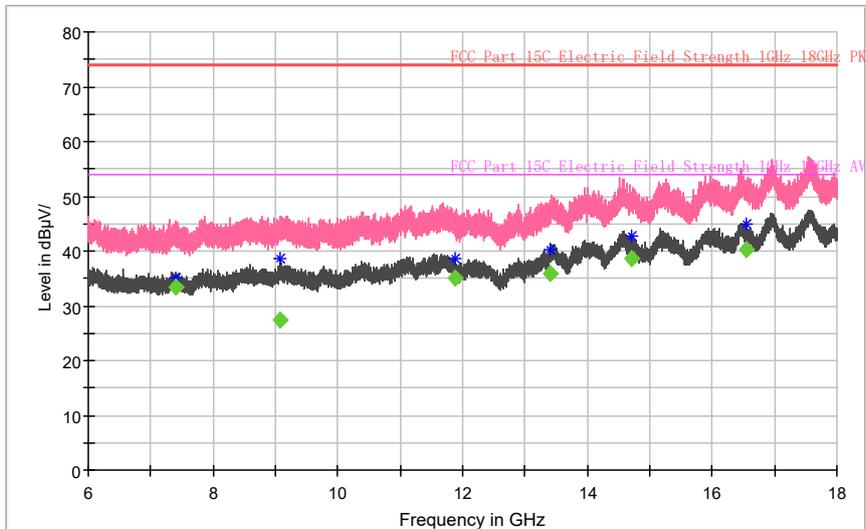
● 802.11a

Spurious Radiated Emissions from 1GHz to 18GHz:  
CH Middle (No.157)

Full Spectrum

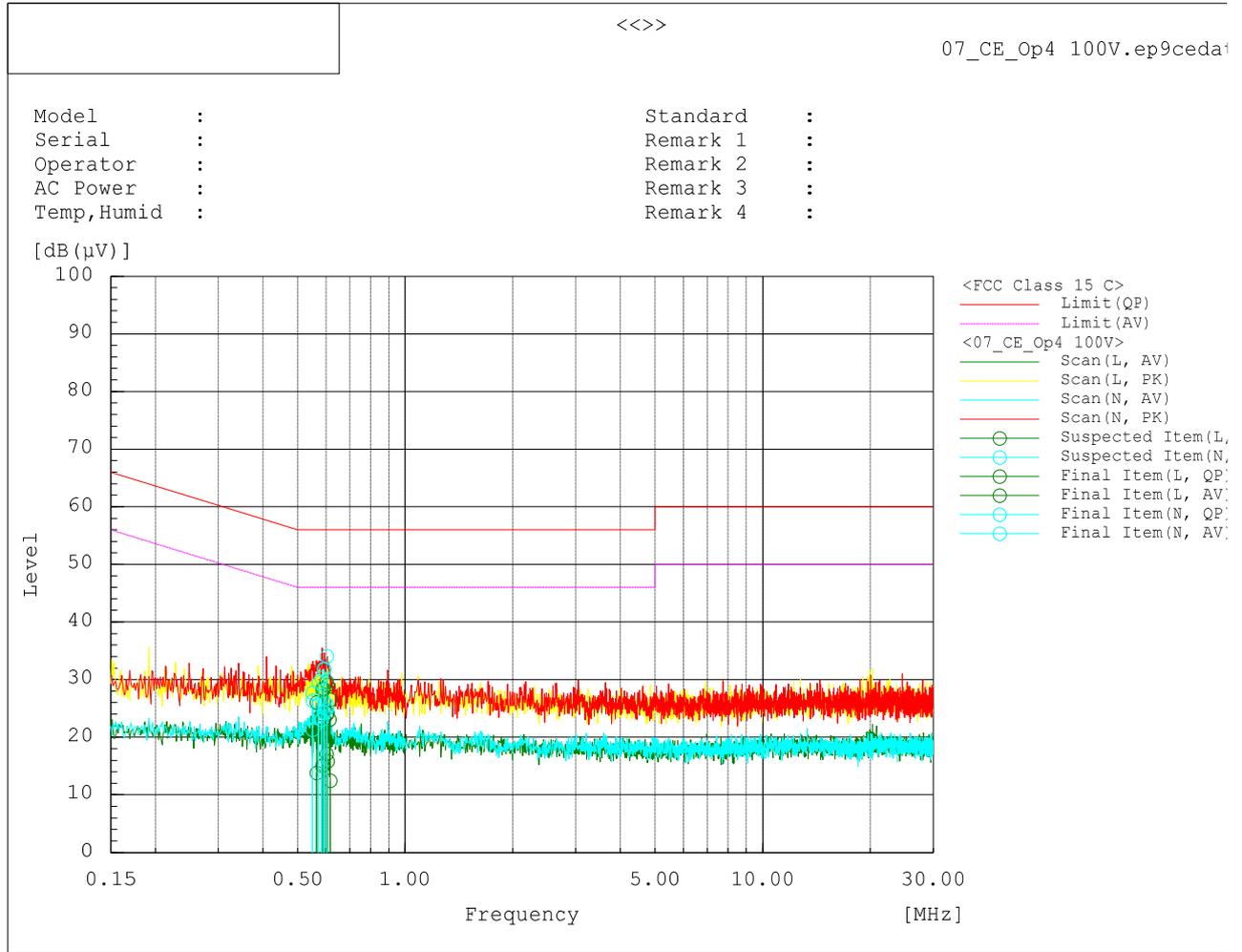


Full Spectrum



Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A <sub>Rpl</sub> (dB)	Polarity
7404	---	54.92	---	33.32	54	20.68	-21.6	Vertical
9080.8	---	47.64	---	27.34	54	26.66	-20.3	Vertical
11880	---	51.95	---	34.95	54	19.05	-17	Vertical
13398.8	---	51.20	---	36	54	18	-15.2	Vertical
14700.4	---	52.75	---	38.65	54	15.35	-14.1	Vertical
16537.2	---	53.96	---	40.16	54	13.84	-13.8	Vertical

**AC Power line Conducted Emission  
100V**

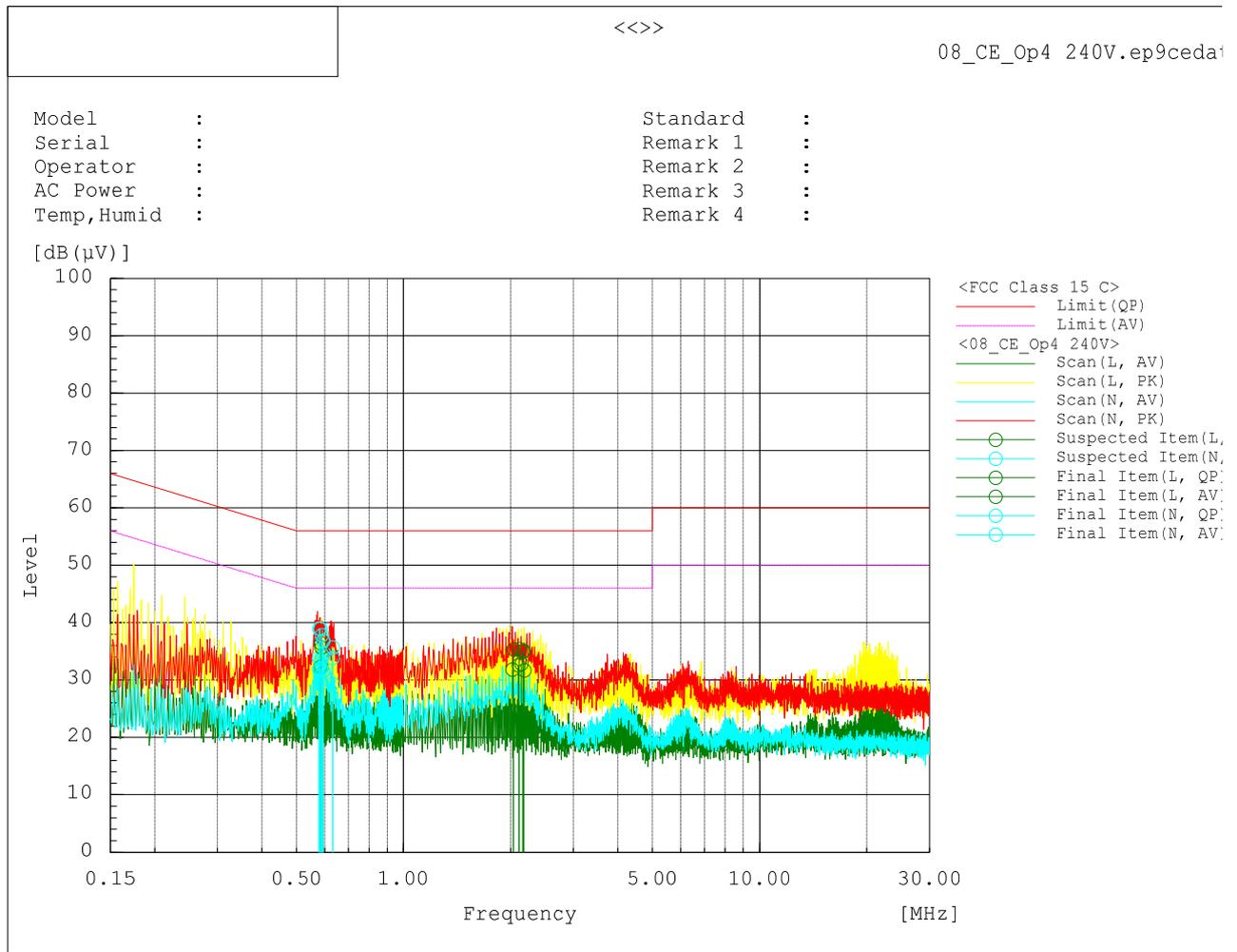


**L+N Line**

**MEASUREMENT RESULT:**

Range	Frequency MHz	Line	Reading			Factor dB	Level			Limit dB(μV)	Limit			Margin			Pass/Fail
			dB(μV)				dB(μV)				dB(μV)			dB			
			QP	AV	PK		QP	AV	PK		QP	AV	PK	QP	AV	PK	
Band1	0.55	N	8.1	1.7		19.6	27.7	21.3		56	46		28.3	24.7		Pass	
Band1	0.57	N	9.9	4		19.6	29.5	23.6		56	46		26.5	22.4		Pass	
Band1	0.58	N	10.7	3.4		19.6	30.3	23		56	46		25.7	23		Pass	
Band1	0.59	N	12.2	4.8		19.6	31.8	24.4		56	46		24.2	21.6		Pass	
Band1	0.59	N	12.3	4.7		19.6	31.9	24.3		56	46		24.1	21.7		Pass	
Band1	0.6	N	14.5	5.2		19.6	34.1	24.8		56	46		21.9	21.2		Pass	
Band1	0.57	L	6.4	-5.8		19.6	26	13.8		56	46		30	32.2		Pass	
Band1	0.59	L	8.8	-4.6		19.6	28.4	15		56	46		27.6	31		Pass	
Band1	0.59	L	8.8	-4.4		19.6	28.4	15.2		56	46		27.6	30.8		Pass	
Band1	0.6	L	10.1	-2.5		19.6	29.7	17.1		56	46		26.3	28.9		Pass	
Band1	0.61	L	9.4	-3.7		19.6	29	15.9		56	46		27	30.1		Pass	
Band1	0.62	L	6.9	-7.1		19.6	26.5	12.5		56	46		29.5	33.5		Pass	

**240V**



**L+N Line**

**MEASUREMENT RESULT:**

Range	Frequency MHz	Line	Reading			Factor	Level			Limit	Limit			Margin			Pass/Fail
			dB(µV)				dB	dB(µV)			dB(µV)	dB(µV)			dB		
			QP	AV	PK			QP	AV			PK	QP	AV		PK	
Band1	0.58	L	16.8	4.6		19.6	36.4	24.2		56	46		19.6	21.8		Pass	
Band1	0.59	L	16.1	4.7		19.6	35.7	24.3		56	46		20.3	21.7		Pass	
Band1	2.04	L	15.9	4.8		19.5	35.4	24.3		56	46		20.6	21.7		Pass	
Band1	2.11	L	15.9	4.9		19.5	35.4	24.4		56	46		20.6	21.6		Pass	
Band1	2.16	L	15.5	4.5		19.5	35	24		56	46		21	22		Pass	
Band1	2.18	L	15.5	4.3		19.5	35	23.8		56	46		21	22.2		Pass	
Band1	0.58	N	19.4	12		19.6	39	31.9		56	46		17	14.1		Pass	
Band1	0.58	N	19.3	12		19.6	38.9	32		56	46		17.1	14		Pass	
Band1	0.59	N	18.2	12		19.6	37.8	32		56	46		18.2	14		Pass	
Band1	0.59	N	17.2	12		19.6	36.8	31.6		56	46		19.2	14.4		Pass	
Band1	0.59	N	17.2	12		19.6	36.8	31.6		56	46		19.2	14.4		Pass	
Band1	0.63	N	16.1	9.8		19.6	35.7	29.4		56	46		20.3	16.6		Pass	

---The end of the test report---