

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	39.44	86.34	N/A	N/A	12.40	34.50
5150.0	0.19	47.09	-26.91	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	28.46	75.36	N/A	N/A	12.40	34.50
5150.0	-15.37	31.53	-22.47	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	38.96	85.86	N/A	N/A	12.40	34.50
5250.0	24.60	71.50	-2.50	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)
5240.0	27.34	74.24	N/A	N/A	12.40	34.50
5250.0	1.14	48.04	-5.96	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	40.95	87.85	N/A	N/A	12.40	34.50
5240.0	7.42	54.32	-19.68	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	28.86	75.76	N/A	N/A	12.40	34.50
5240.0	-11.06	35.84	-18.16	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	39.17	86.07	N/A	N/A	12.40	34.50
5340.0	3.66	50.56	-23.44	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	27.32	74.22	N/A	N/A	12.40	34.50
5340.0	-12.30	34.60	-19.40	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	38.52	85.42	N/A	N/A	12.40	34.50
5480.0	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)
5500.0	27.83	74.73	N/A	N/A	12.40	34.50
5480.0	-10.19	36.71	-17.29	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	24.03	70.93	N/A	N/A	12.40	34.50
5720.0	-3.25	43.65	-30.35	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	20.60	67.50	N/A	N/A	12.40	34.50
5720.0	-6.44	40.46	-13.54	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	44.40	91.30	N/A	N/A	12.40	34.50
5725.0	11.22	58.12	-15.88	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	33.46	80.36	N/A	N/A	12.40	34.50
5725.0	-2.88	44.02	-9.98	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	41.23	88.13	N/A	N/A	12.40	34.50
5845.0	17.46	64.36	-9.64	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	30.21	77.11	N/A	N/A	12.40	34.50
5845.0	-4.79	42.11	-11.89	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:

QuasiPeak=Reading Value + A_{Rpl}

Above 1GHz:

MaxPeak=Reading MaxPeak + A_{Rpl}

OR

Average=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).

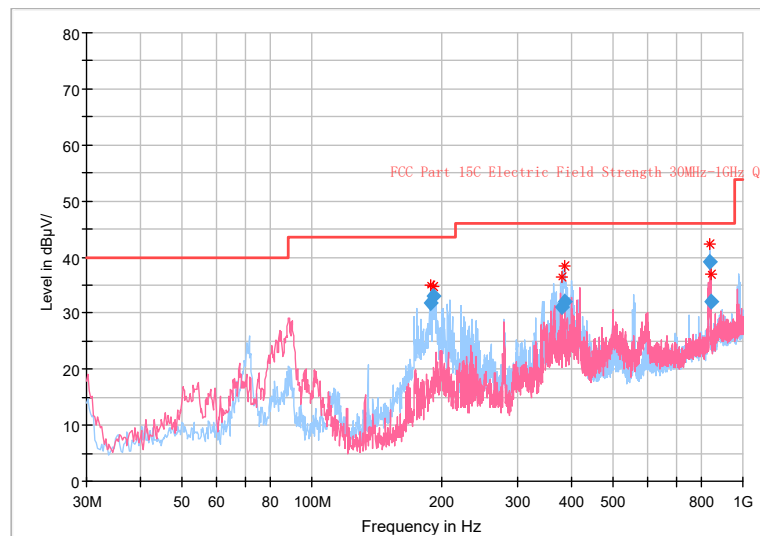
【5150~5250】

● 802.11a

Spurious Radiated Emissions from 30MHz to 1GHz:

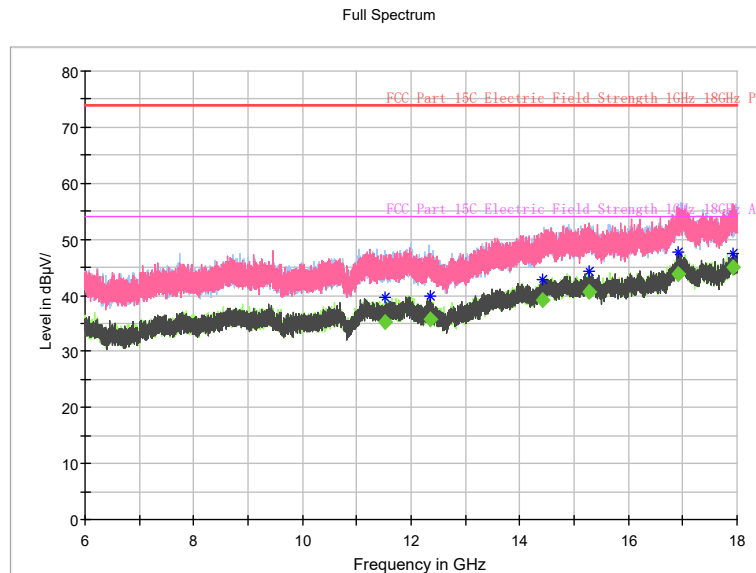
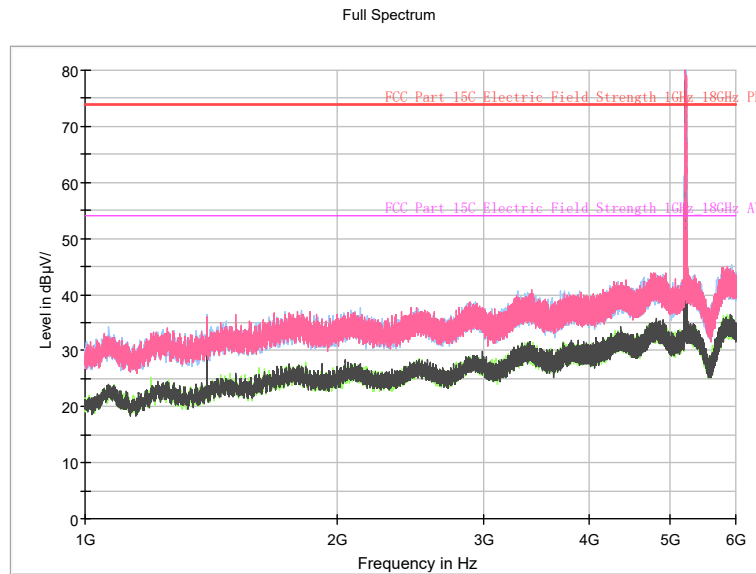
CH Middle (No.44)

Full Spectrum



Frequency (MHz)	Reading (dBuV)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A_{Rpl} (dB)	Polarity
188.11	53.02	31.92	43.5	11.58	-21.1	Vertical
191.505	53.68	33.08	43.5	10.42	-20.6	Vertical
379.2	45.57	31.17	46	14.83	-14.4	Vertical
386.7175	46.42	32.12	46	13.88	-14.3	Vertical
838.7375	43.54	39.14	46	6.86	-4.4	Vertical
842.1325	36.45	32.05	46	13.95	-4.4	Vertical

Spurious Radiated Emissions from 1GHz to 18GHz:
CH Middle (No.44)



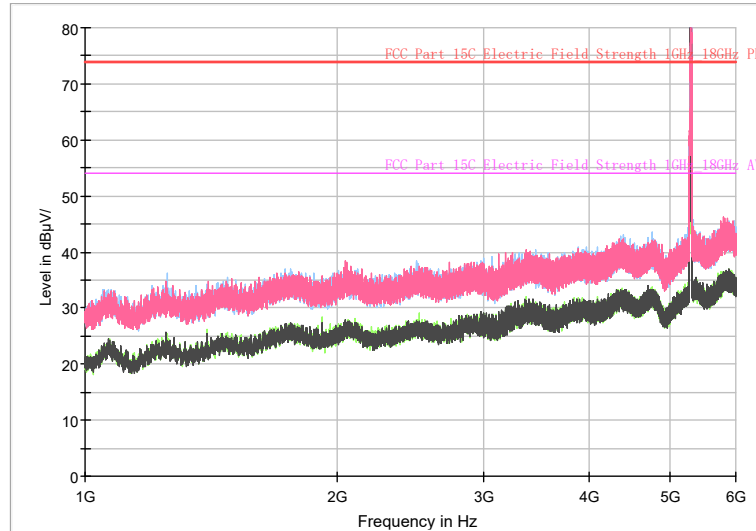
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A _{Rpl} (dB)	Polarity
11520.8	---	52.06	---	35.16	54	18.84	-16.9	Vertical
12344.8	---	53.23	---	35.73	54	18.27	-17.5	Vertical
14428	---	53.28	---	39.18	54	14.82	-14.1	Vertical
15286	---	54.65	---	40.55	54	13.45	-14.1	Vertical
16908.8	---	56.83	---	43.83	54	10.17	-13	Vertical
17934	---	55.24	---	44.94	54	9.06	-10.3	Vertical

【5250~5350】

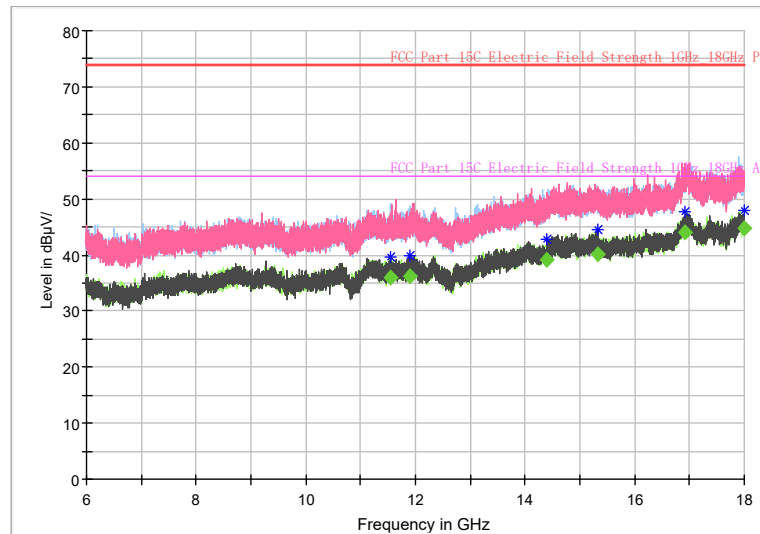
● 802.11a

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

Full Spectrum



Full Spectrum



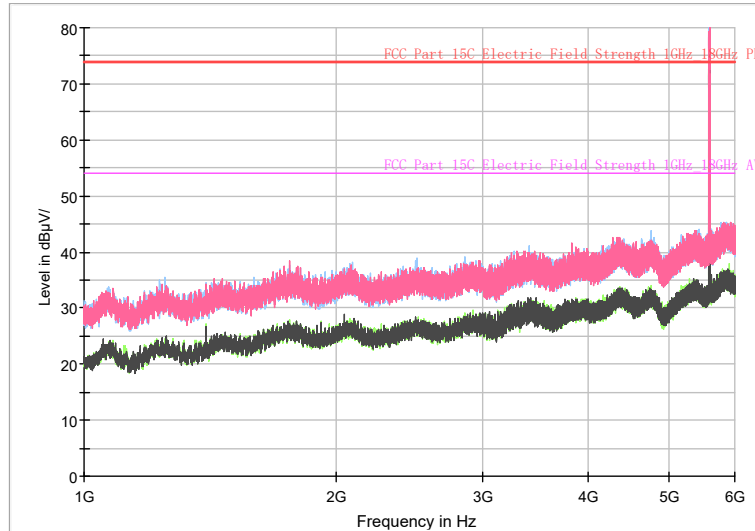
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A _{Rpl} (dB)	Polarity
11558.8	---	52.96	---	36.06	54	17.94	-16.9	Vertical
11911.6	---	53.12	---	36.22	54	17.78	-16.9	Vertical
14384	---	53.16	---	39.06	54	14.94	-14.1	Vertical
15322.8	---	54.21	---	40.11	54	13.89	-14.1	Vertical
16905.2	---	56.95	---	43.95	54	10.05	-13	Vertical
18000	---	54.75	---	44.85	54	9.15	-9.9	Vertical

【5470~5725】

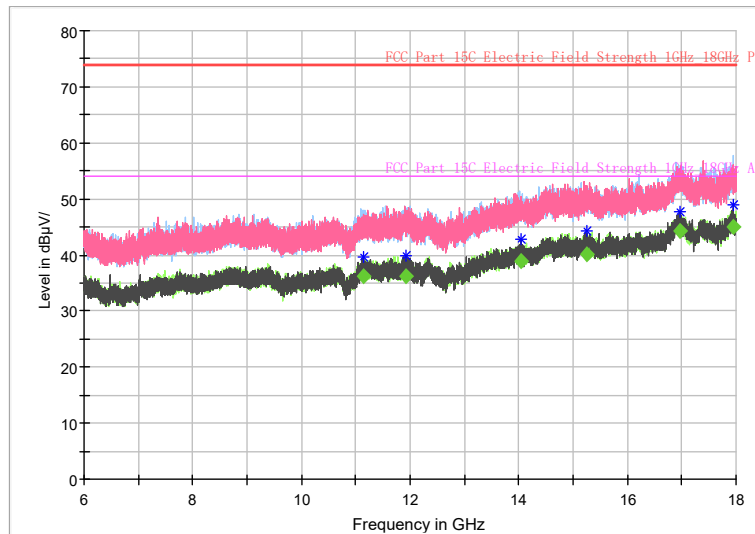
● 802.11a

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

Full Spectrum



Full Spectrum



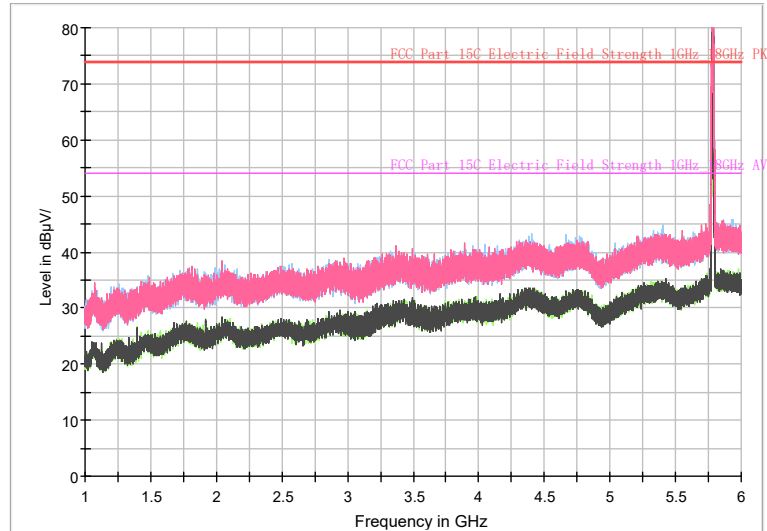
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A _{Rpl} (dB)	Polarity
11152.8	---	53.97	---	36.17	54	17.83	-17.8	Vertical
11912	---	53.15	---	36.25	54	17.75	-16.9	Vertical
14034	---	53.47	---	38.97	54	15.03	-14.5	Vertical
15259.6	---	54.12	---	40.02	54	13.98	-14.1	Vertical
16972.4	---	57.21	---	44.31	54	9.69	-12.9	Vertical
17938.8	---	55.43	---	45.13	54	8.87	-10.3	Vertical

【5725~5850】

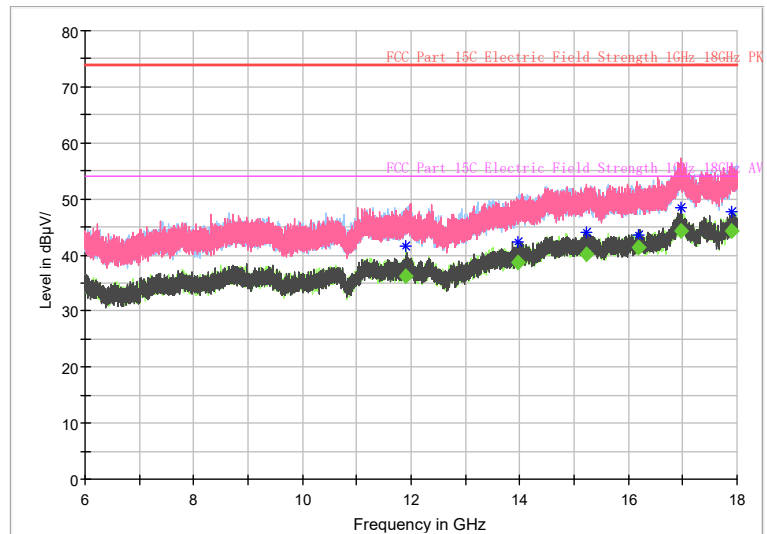
● 802.11a

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

Full Spectrum

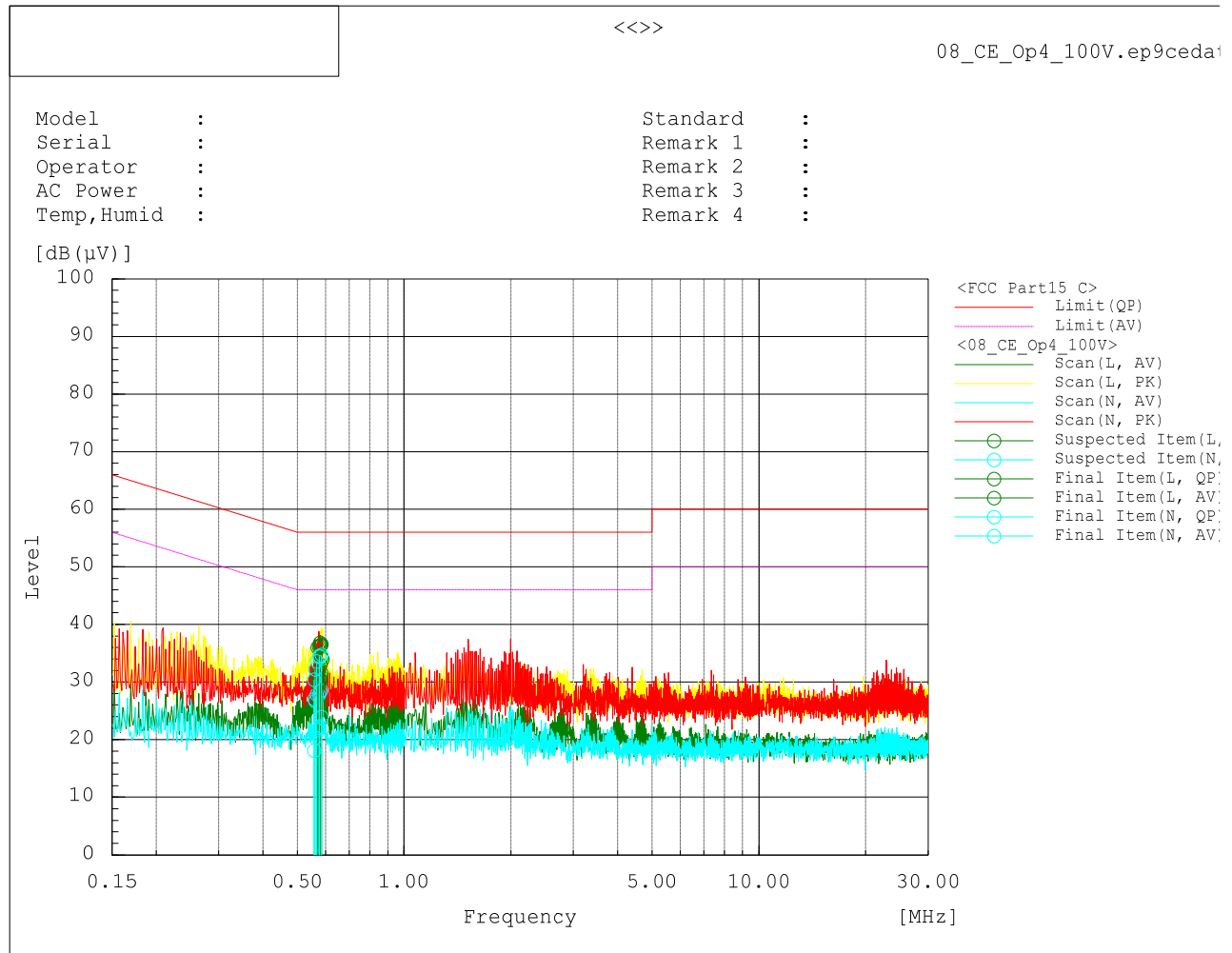


Full Spectrum



Frequency (MHz)	Reading MaxPeak (dBμV)	Reading Average (dBμV)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	A _{Rpl} (dB)	Polarity
11908.8	---	53.14	---	36.24	54	17.76	-16.9	Vertical
13968.8	---	53.13	---	38.73	54	15.27	-14.4	Vertical
15224.8	---	54.07	---	40.07	54	13.93	-14	Vertical
16173.2	---	55.99	---	41.39	54	12.61	-14.6	Vertical
16976.4	---	57.08	---	44.28	54	9.72	-12.8	Vertical
17898	---	54.95	---	44.35	54	9.65	-10.6	Vertical

AC Power line Conducted Emission 100V

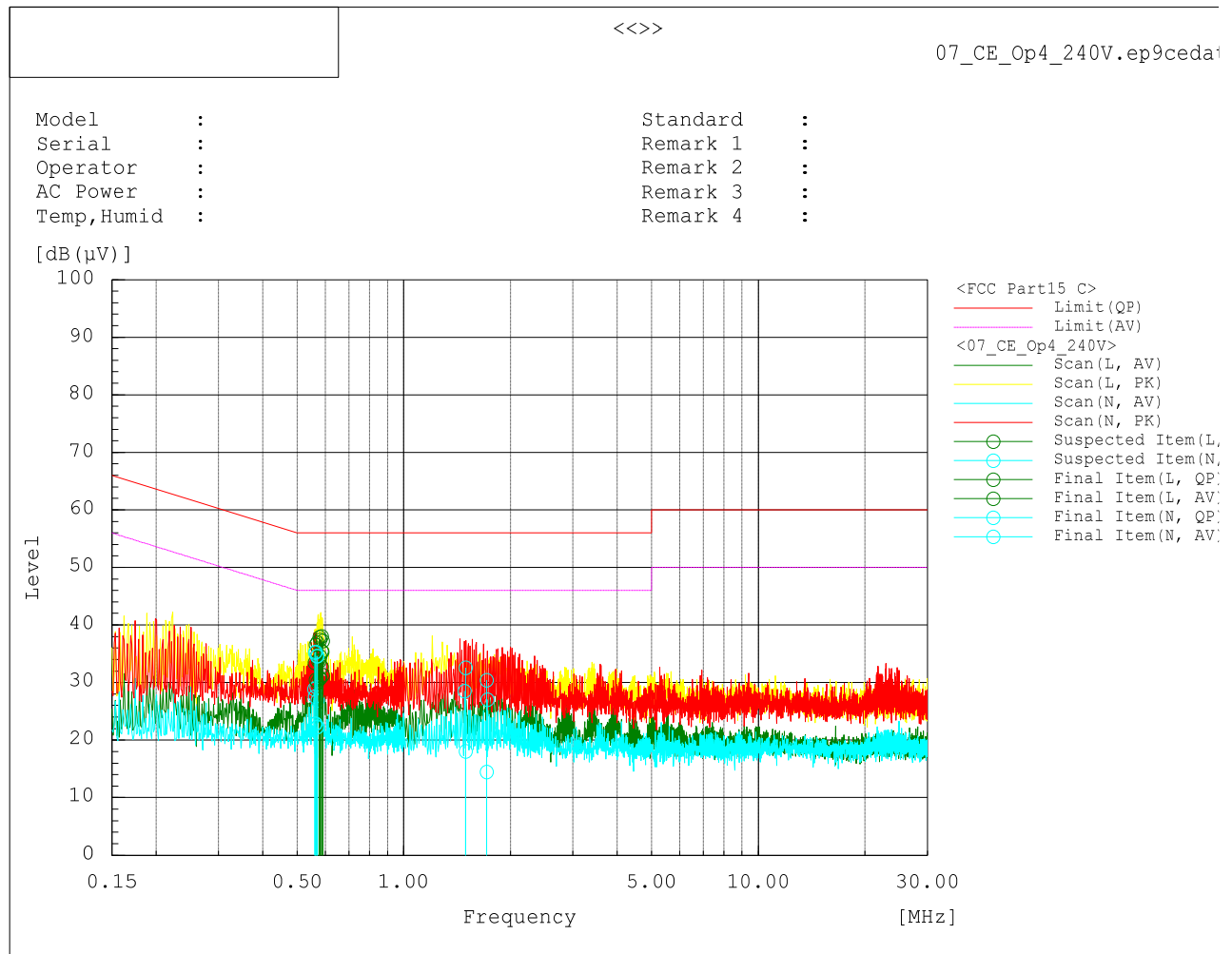


L+N Line

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	0.56	N	10.8	-1.5		19.6	30.4	18.1			56	46		25.6	27.9		Pass
Band1	0.56	N	12.7	0.7		19.6	32.3	20.3			56	46		23.7	25.7		Pass
Band1	0.57	N	14	2.1		19.6	33.6	21.7			56	46		22.4	24.3		Pass
Band1	0.58	N	14.9	2.5		19.6	34.5	22.1			56	46		21.5	23.9		Pass
Band1	0.58	N	14.8	2.7		19.6	34.4	22.3			56	46		21.6	23.7		Pass
Band1	0.59	N	15.1	4.3		19.6	34.7	23.9			56	46		21.3	22.1		Pass
Band1	0.57	L	16.4	10		19.6	36	29.7			56	46		20	16.3		Pass
Band1	0.58	L	16.6	9.9		19.6	36.2	29.5			56	46		19.8	16.5		Pass
Band1	0.58	L	17.2	11		19.6	36.8	30.3			56	46		19.2	15.7		Pass
Band1	0.58	L	16.8	12		19.6	36.4	31.1			56	46		19.6	14.9		Pass
Band1	0.58	L	16.7	11		19.6	36.3	30.5			56	46		19.7	15.5		Pass
Band1	0.59	L	17	12		19.6	36.6	31.5			56	46		19.4	14.5		Pass

240V



L+N Line

MEASUREMENT RESULT:

Range	Frequency	Line	Reading			Factor	Level			Limit	Limit			Margin			Pass/Fail		
	MHz		dB(μV)				dB	dB(μV)			dB(μV)	dB(μV)			dB				
			QP	AV	PK			QP	AV			PK	QP	AV	PK	QP		AV	PK
Band1	0.56	L	17	11		19.6	36.6	30.5			56	46		19.4	15.5		Pass		
Band1	0.57	L	17.4	10		19.6	37	30			56	46		19	16		Pass		
Band1	0.58	L	18.3	11		19.6	37.9	30.8			56	46		18.1	15.2		Pass		
Band1	0.58	L	17.8	11		19.6	37.4	30.8			56	46		18.6	15.2		Pass		
Band1	0.59	L	17.6	12		19.6	37.2	31.3			56	46		18.8	14.7		Pass		
Band1	0.59	L	18.5	13		19.6	38.1	32.7			56	46		17.9	13.3		Pass		
Band1	0.56	N	15.6	3.2		19.6	35.2	22.8			56	46		20.8	23.2		Pass		
Band1	0.56	N	15.7	3.3		19.6	35.3	22.9			56	46		20.7	23.1		Pass		
Band1	0.57	N	15	2.7		19.6	34.6	22.3			56	46		21.4	23.7		Pass		
Band1	0.57	N	15	2.7		19.6	34.6	22.3			56	46		21.4	23.7		Pass		
Band1	1.49	N	13.1	-1.4		19.5	32.6	18.1			56	46		23.4	27.9		Pass		
Band1	1.71	N	10.9	-5		19.5	30.4	14.5			56	46		25.6	31.5		Pass		

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