

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	43.30	90.20	N/A	N/A	12.40	34.50
5150.0	13.40	60.30	-13.70	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)
5180.0	17.40	64.30	N/A	N/A	12.40	34.50
5150.0	-9.70	37.20	-16.80	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	48.00	94.90	N/A	N/A	12.40	34.50
5250.0	13.20	60.10	-13.90	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	32.30	79.20	N/A	N/A	12.40	34.50
5250.0	-15.20	31.70	-22.30	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)
5500.0	50.40	97.30	N/A	N/A	12.40	34.50
5480.0	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)
5500.0	21.30	68.20	N/A	N/A	12.40	34.50
5480.0	-17.40	29.50	-24.50	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)
5700.0	42.30	89.20	N/A	N/A	12.40	34.50
5720.0	14.80	61.70	-12.30	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)
5700.0	30.80	77.70	N/A	N/A	12.40	34.50
5720.0	-3.70	43.20	-10.80	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:

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

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:

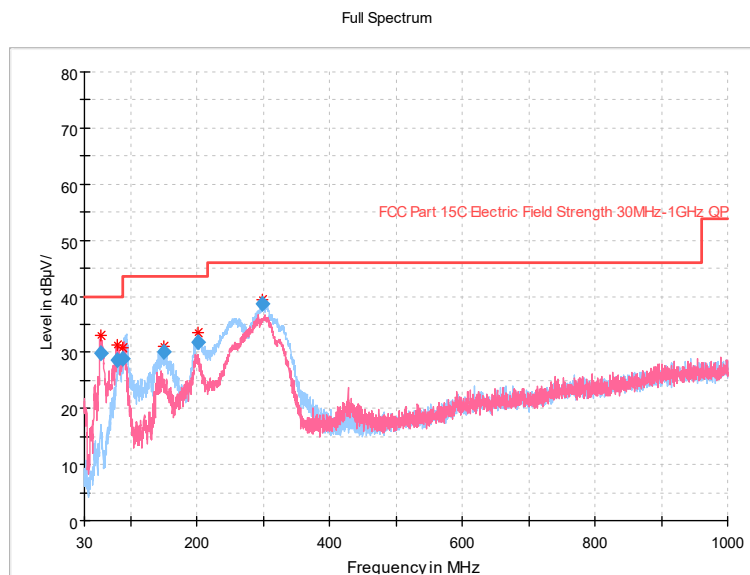
There were no emissions from 9kHz to 30MHz and above 18G found within 20dB of the limit. Thus, the test result was not reported according to §15.31 (o).

【5150~5250】

- 802.11a

Spurious Radiated Emissions from 30MHz to 1GHz:

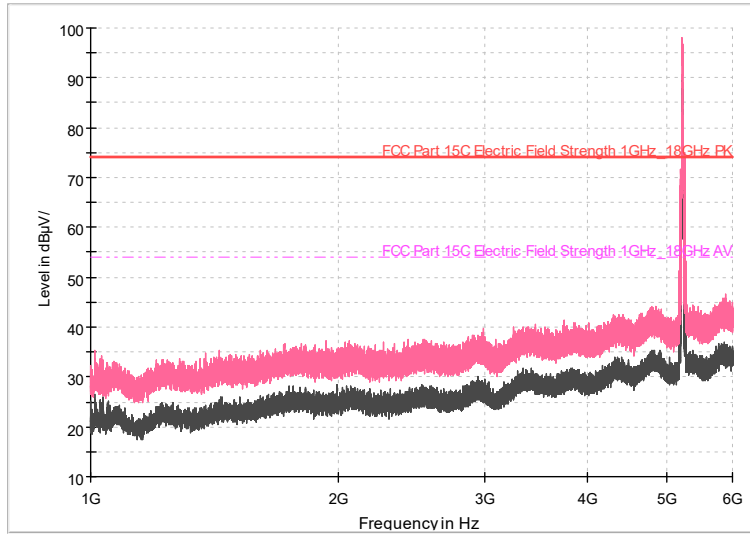
CH Middle (No.44)



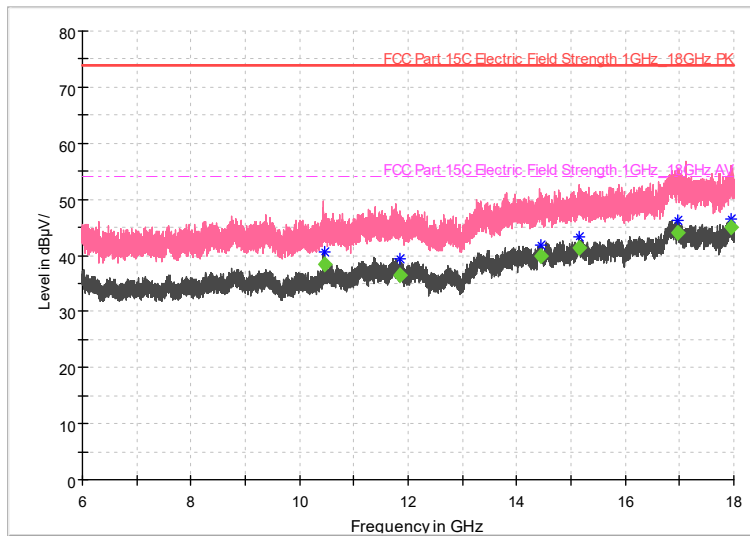
Frequency (MHz)	Reading (dBuV)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A_{Rpl} (dB)	Polarity
54.25	49.66	29.96	40	10.04	-19.7	Vertical
80.44	54.80	28.7	40	11.3	-26.1	Vertical
87.9575	52.87	28.87	40	11.13	-24	Vertical
149.5525	53.89	30.09	43.5	13.41	-23.8	Vertical
200.72	51.88	31.78	43.5	11.72	-20.1	Vertical
298.69	55.75	38.65	46	7.35	-17.1	Vertical

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

Full Spectrum



Full Spectrum



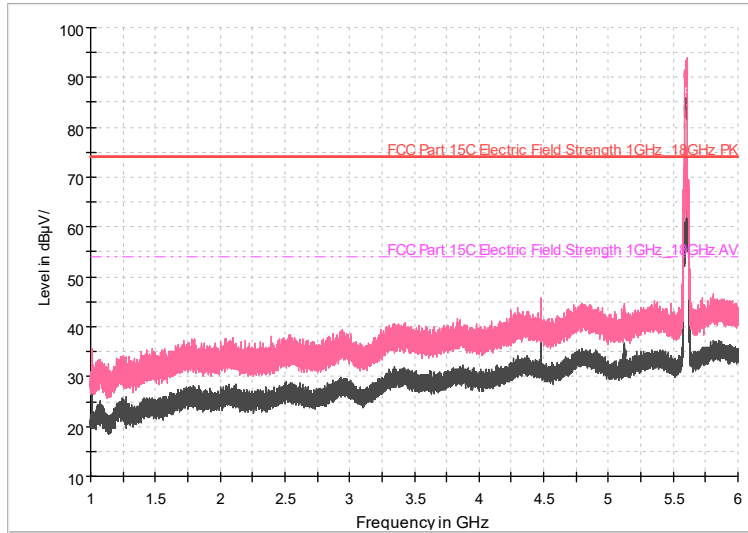
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A _{Rpl} (dB)	Polarity
10449.6	---	57.59	---	38.49	54	15.51	-19.1	Vertical
11838.4	---	53.55	---	36.55	54	17.45	-17	Vertical
14433.2	---	54.04	---	39.94	54	14.06	-14.1	Vertical
15161.2	---	55.33	---	41.23	54	12.77	-14.1	Vertical
16956.8	---	56.95	---	44.05	54	9.95	-12.9	Vertical
17952	---	55.13	---	44.93	54	9.07	-10.2	Vertical

【5470~5725】

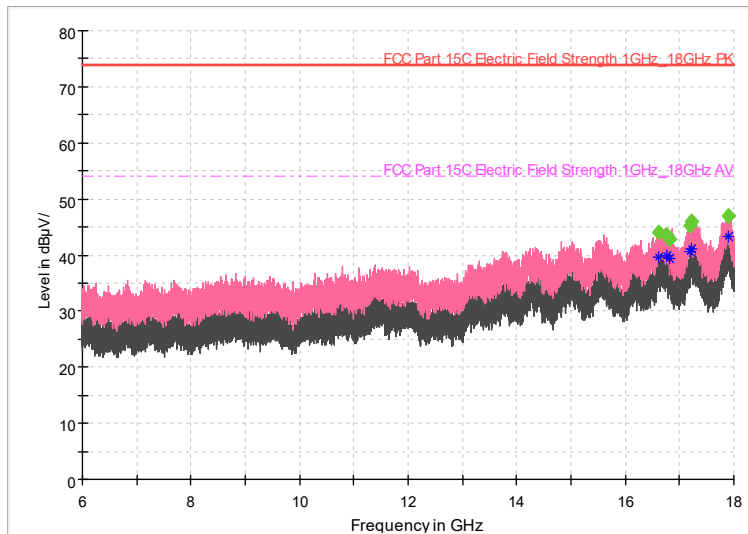
- 802.11a

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

Full Spectrum

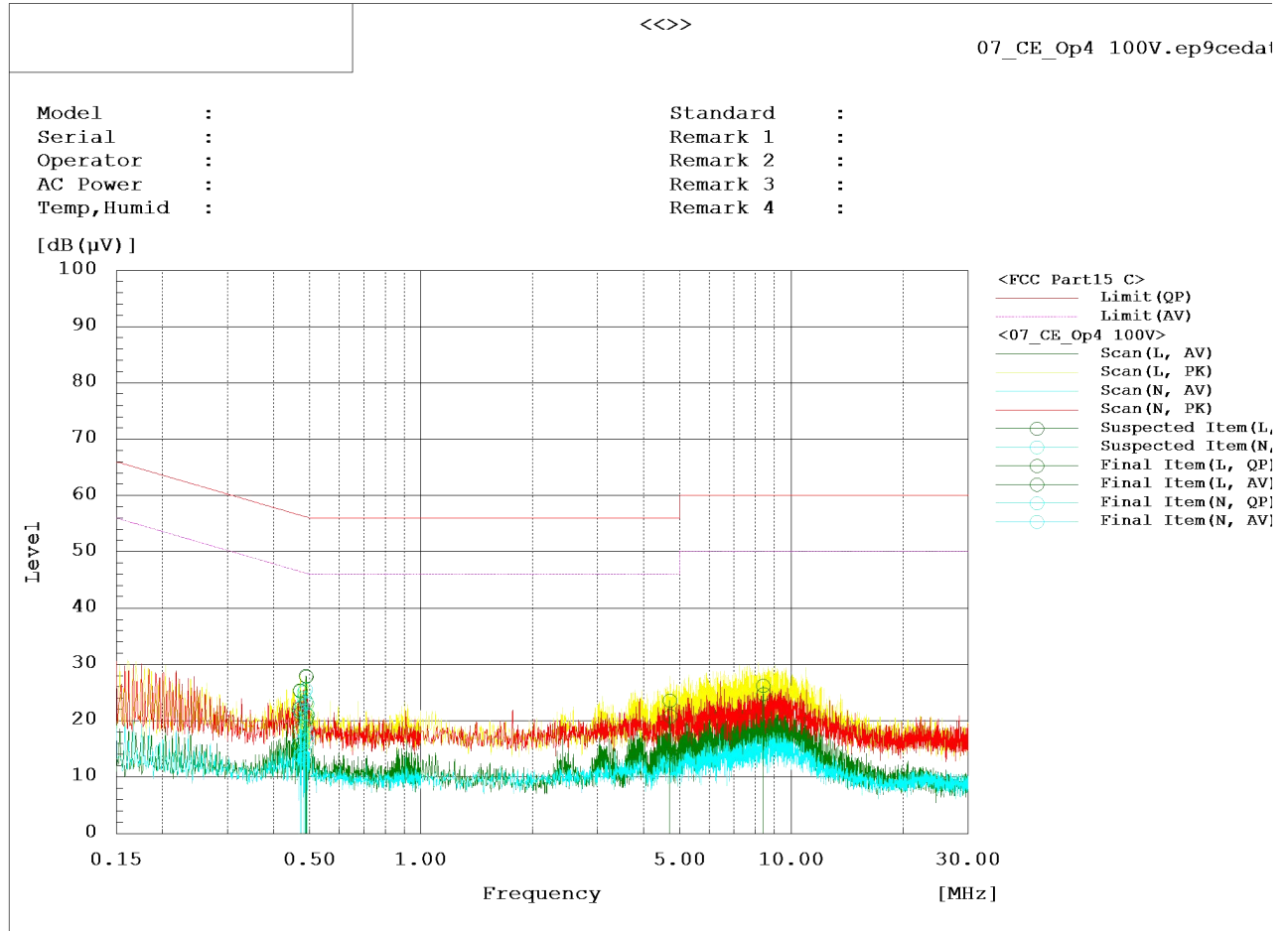


Full Spectrum



Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A _{Rpl} (dB)	Polarity
16612	---	57.21	---	44.01	54	9.99	-13.2	Vertical
16755.6	---	56.19	---	43.59	54	10.41	-12.6	Vertical
16805.2	---	55.26	---	42.86	54	11.14	-12.4	Vertical
17193.2	---	56.89	---	45.29	54	8.71	-11.6	Vertical
17210.8	---	57.48	---	45.88	54	8.12	-11.6	Vertical
17893.6	---	56.88	---	46.98	54	7.02	-9.9	Vertical

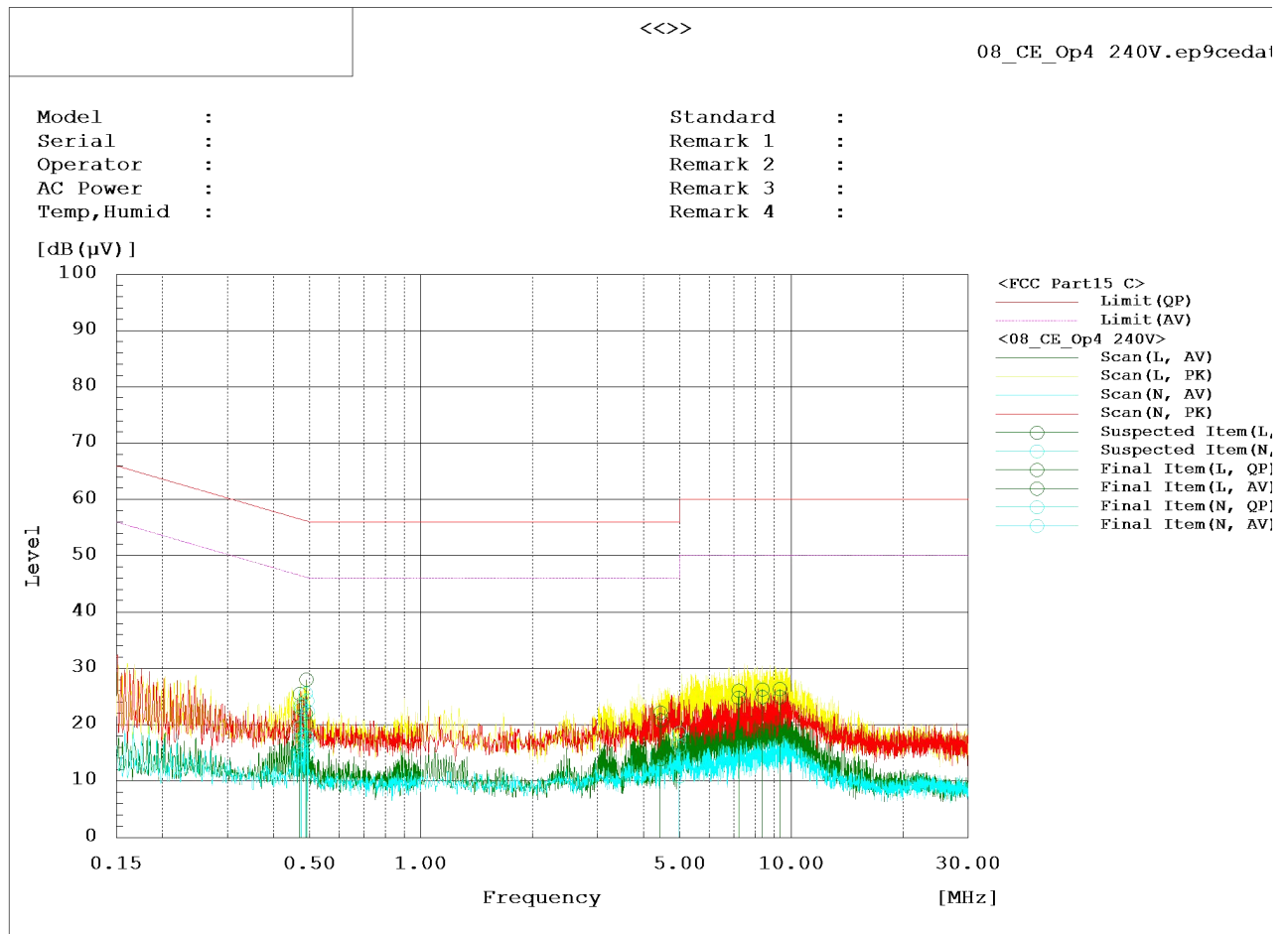
**AC Power line Conducted Emission
100V**



MEASUREMENT RESULT:

Range	Frequency MHz	Line	Reading			Factor	Level			Limit			Margin			Pass/Fail	
			dB(μV)				dB	dB(μV)			dB(μV)			dB			
			QP	AV	PK			QP	AV	PK	QP	AV	PK	QP	AV		PK
Band1	0.471	N	11.7	3.8		10	21.7	13.8		56.5	46.5		34.8	32.7		Pass	
Band1	0.475	N	12.6	3.7		10	22.6	13.7		56.4	46.4		33.8	32.7		Pass	
Band1	0.482	N	15.1	4.8		10	25.1	14.8		56.3	46.3		31.2	31.5		Pass	
Band1	0.482	N	14.1	3.2		10	24.1	13.2		56.3	46.3		32.2	33.1		Pass	
Band1	0.487	N	15.5	9		10	25.5	19		56.2	46.2		30.7	27.2		Pass	
Band1	0.492	N	13	6.4		10	23	16.4		56.1	46.1		33.1	29.7		Pass	
Band1	0.471	L	15.4	5.8		10	25.4	15.8		56.5	46.5		31.1	30.7		Pass	
Band1	0.471	L	15.3	5.7		10	25.3	15.7		56.5	46.5		31.2	30.8		Pass	
Band1	0.489	L	18	10.1		10	28	20.1		56.2	46.2		28.2	26.1		Pass	
Band1	0.489	L	17.9	10.5		10	27.9	20.5		56.2	46.2		28.3	25.7		Pass	
Band1	4.691	L	13.6	4.5		10	23.6	14.5		56	46		32.4	31.5		Pass	
Band1	8.386	L	16.2	8.4		10	26.2	18.4		60	50		33.8	31.6		Pass	

240V



L+N Line

MEASUREMENT RESULT:

Range	Frequency MHz	Line	Reading			Factor	Level			Limit			Margin			Pass/Fail	
			dB(μV)				dB	dB(μV)			dB(μV)			dB			
			QP	AV	PK			QP	AV	PK	QP	AV	PK	QP	AV		PK
Band1	0.47	L	15.5	6.7		10	25.5	16.7		56.5	46.5		31	29.8		Pass	
Band1	0.489	L	18.1	10.2		10	28.1	20.2		56.2	46.2		28.1	26		Pass	
Band1	4.431	L	12.2	3.9		10	22.2	13.9		56	46		33.8	32.1		Pass	
Band1	7.211	L	16.1	7.8		10	26.1	17.8		60	50		33.9	32.2		Pass	
Band1	8.338	L	16.3	8.2		10	26.3	18.2		60	50		33.7	31.8		Pass	
Band1	9.312	L	16.4	8.7		10	26.4	18.7		60	50		33.6	31.3		Pass	
Band1	0.473	N	13.5	4.7		10	23.5	14.7		56.5	46.5		33	31.8		Pass	
Band1	0.475	N	12.9	4		10	22.9	14		56.4	46.4		33.5	32.4		Pass	
Band1	0.488	N	15.6	7.8		10	25.6	17.8		56.2	46.2		30.6	28.4		Pass	
Band1	0.493	N	12.4	4.7		10	22.4	14.7		56.1	46.1		33.7	31.4		Pass	
Band1	0.492	N	14.2	7.7		10	24.2	17.7		56.1	46.1		31.9	28.4		Pass	
Band1	4.973	N	8.6	0.9		10	18.6	10.9		56	46		37.4	35.1		Pass	

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