

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	42.31	89.21	N/A	N/A	12.40	34.50
5150.0	4.20	51.10	-22.90	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)
5180.0	30.77	77.67	N/A	N/A	12.40	34.50
5150.0	-9.75	37.15	-16.85	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	39.34	86.24	N/A	N/A	12.40	34.50
5250.0	27.31	74.21	0.21	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	28.13	75.03	N/A	N/A	12.40	34.50
5250.0	5.48	52.38	-1.62	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)
5500.0	38.39	85.29	N/A	N/A	12.40	34.50
5480.0	20.55	67.45	-6.55	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	28.37	75.27	N/A	N/A	12.40	34.50
5480.0	2.02	48.92	-5.08	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)
5700.0	38.30	85.20	N/A	N/A	12.40	34.50
5720.0	15.84	62.74	-11.26	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	27.94	74.84	N/A	N/A	12.40	34.50
5720.0	-1.41	45.49	-8.51	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.

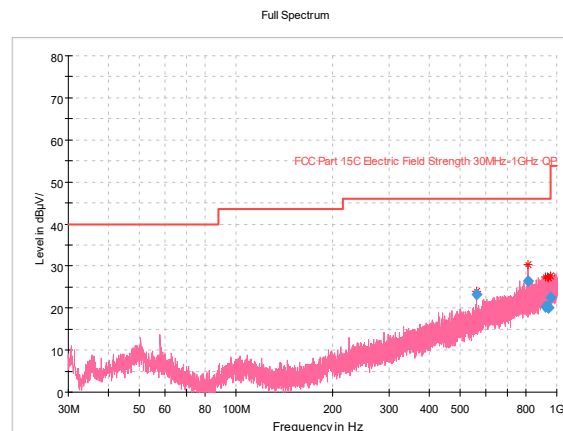
Thus, the test result was not reported according to §15.31 (o).

【5150~5250】

● 802.11a

Spurious Radiated Emissions from 30MHz to 1GHz:

CH Middle (No.44)

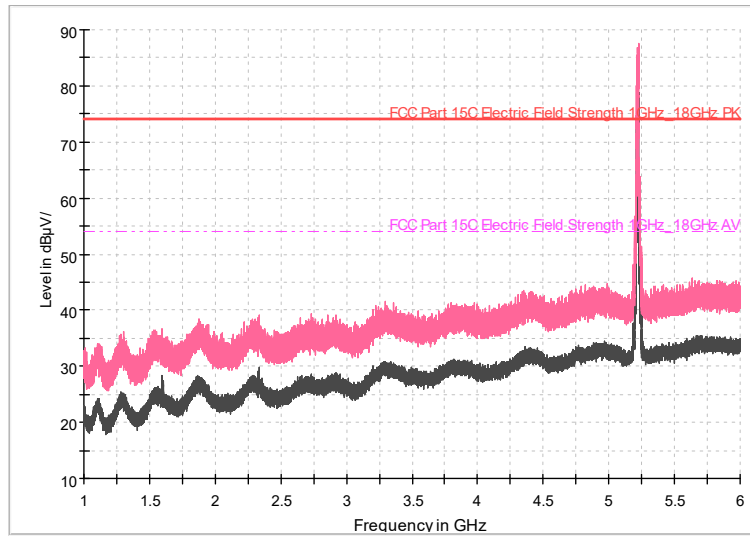


Frequency (MHz)	Reading (dBuV)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A_{Rpl} (dB)	Polarity
562.48	45.90	23.26	46.00	22.74	-9.90	Vertical
812.55	48.20	26.39	46.00	19.61	-4.90	Vertical
922.55	51.50	20.25	46.00	25.75	-2.50	Vertical
936.90	23.90	20.21	46.00	25.79	-2.50	Vertical
940.05	23.80	20.14	46.00	25.86	-2.60	Vertical
959.70	23.90	22.54	46.00	23.46	-2.50	Vertical

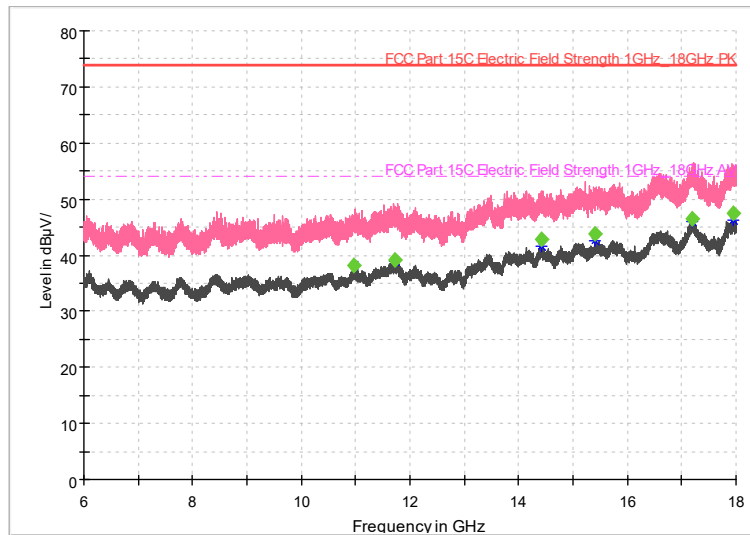
Spurious Radiated Emissions from 1GHz to 18GHz:

CH Middle (No.44)

Full Spectrum



Full Spectrum



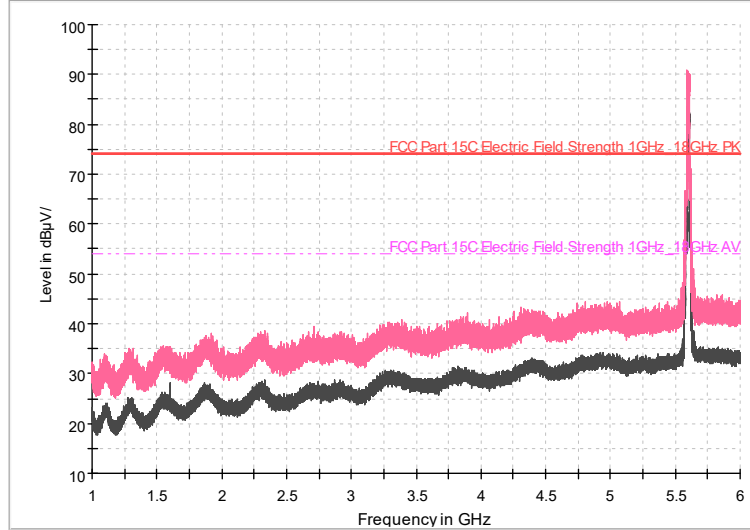
Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A _{Rpl} (dB)	Polarity
6066.40	---	58.89	---	38.99	54.00	15.01	-19.90	Vertical
11530.40	---	55.98	---	39.08	54.00	14.92	-16.90	Vertical
11697.20	---	55.97	---	39.07	54.00	14.93	-16.90	Vertical
14430.00	---	56.85	---	42.75	54.00	11.25	-14.10	Vertical
15486.40	---	57.67	---	43.47	54.00	10.53	-14.20	Vertical
17910.00	---	57.74	---	47.24	54.00	6.76	-10.50	Vertical

【5725~5850】

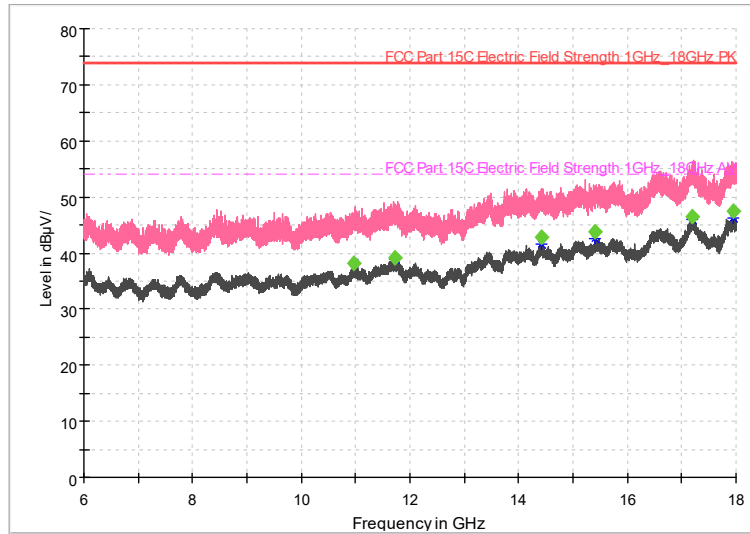
● 802.11a

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

Full Spectrum

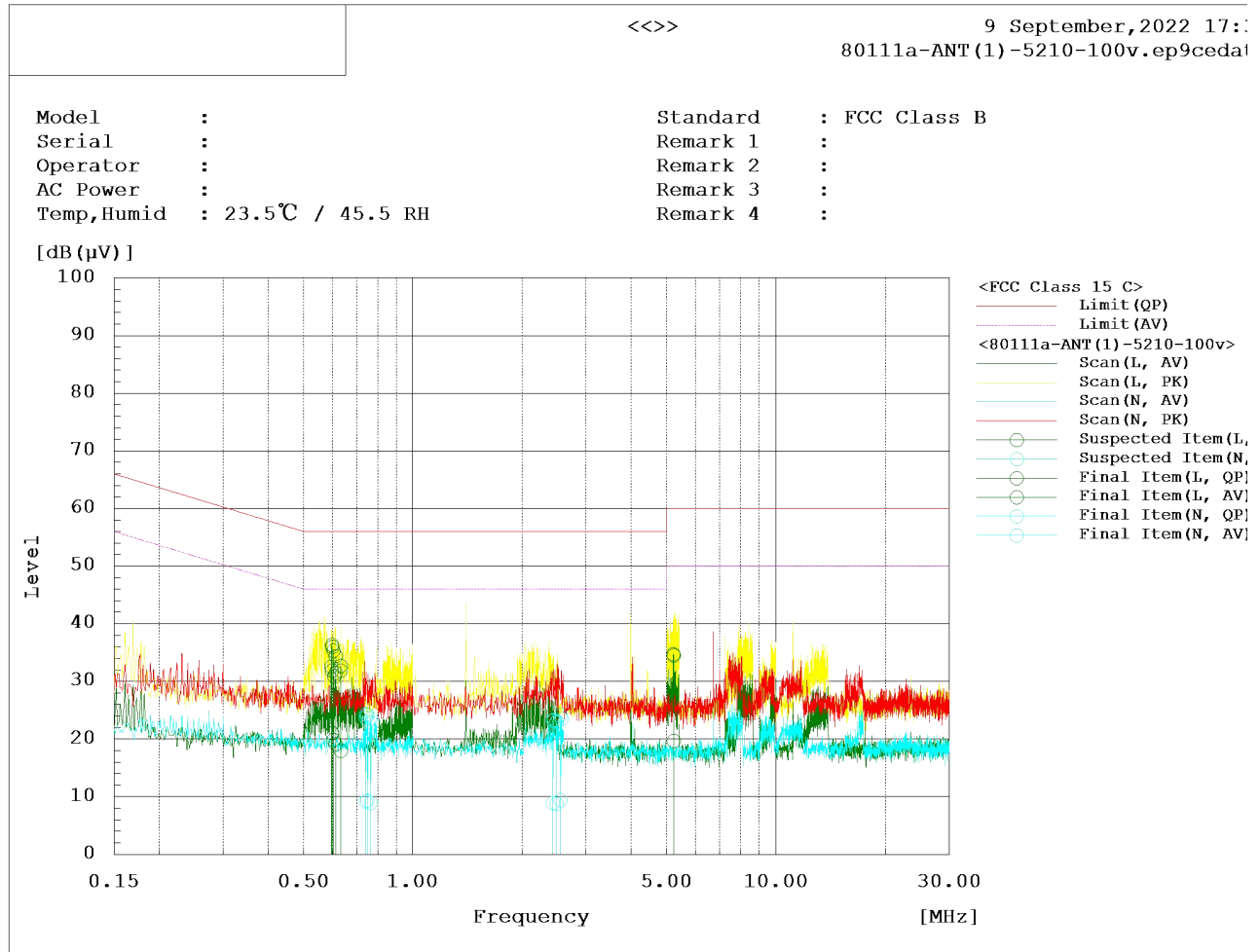


Full Spectrum



Frequency (MHz)	Reading MaxPeak (dBuV)	Reading Average (dBuV)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	A _{Rpl} (dB)	Polarity
10967.20	---	56.43	---	38.13	54.00	15.87	-18.30	Vertical
11712.40	---	56.16	---	39.16	54.00	14.84	-17.00	Vertical
14417.20	---	56.95	---	42.85	54.00	11.15	-14.10	Vertical
15415.20	---	57.93	---	43.73	54.00	10.27	-14.20	Vertical
17201.60	---	58.88	---	46.58	54.00	7.42	-12.30	Vertical
17939.60	---	57.69	---	47.39	54.00	6.61	-10.30	Vertical

AC Power line Conducted Emission 100V

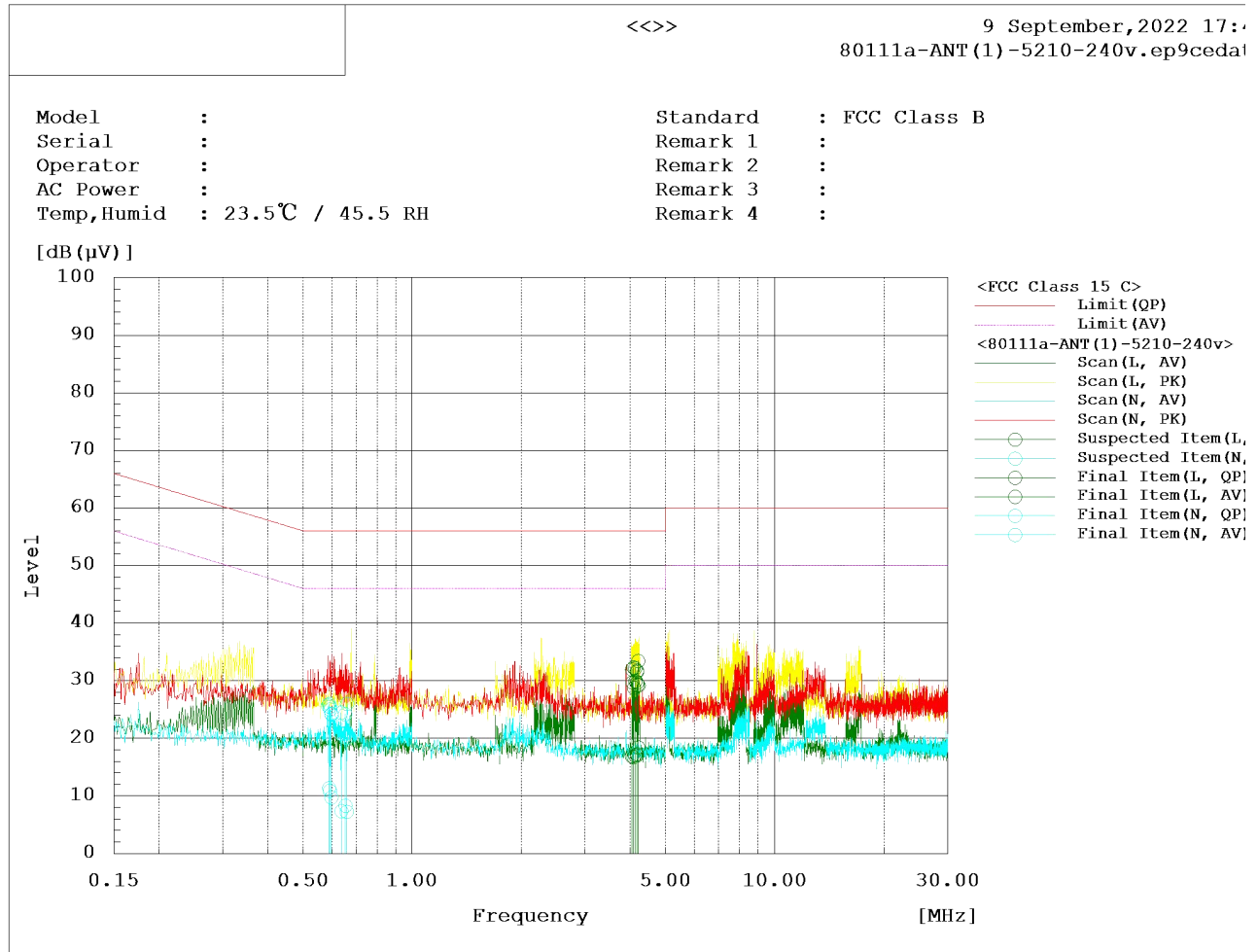


L+N Line

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	0.6	L	16.8	1.5		19.6	36.4	21.1			56	46		19.6	24.9		Pass
Band1	0.6	L	16.5	1.5		19.6	36.1	21.1			56	46		19.9	24.9		Pass
Band1	0.6	L	15.7	0.3		19.6	35.3	19.9			56	46		20.7	26.1		Pass
Band1	0.61	L	14.8	-0.5		19.6	34.4	19.1			56	46		21.6	26.9		Pass
Band1	0.63	L	13.1	-1.6		19.6	32.7	18			56	46		23.3	28		Pass
Band1	5.22	L	14.9	0.1		19.6	34.5	19.7			60	50		25.5	30.3		Pass
Band1	0.74	N	4.3	-10		19.5	23.8	9.2			56	46		32.2	36.8		Pass
Band1	0.75	N	4.7	-10		19.5	24.2	9.3			56	46		31.8	36.7		Pass
Band1	0.76	N	4.2	-11		19.5	23.7	8.9			56	46		32.3	37.1		Pass
Band1	2.42	N	3.8	-11		19.5	23.3	8.9			56	46		32.7	37.1		Pass
Band1	2.49	N	3.6	-11		19.5	23.1	8.8			56	46		32.9	37.2		Pass
Band1	2.55	N	4.6	-10		19.5	24.1	9.4			56	46		31.9	36.6		Pass

240V



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	0.59	N	6.4	-8.2		19.6	26	11.4			56	46		30	34.6		Pass
Band1	0.59	N	5.9	-8.7		19.6	25.5	10.9			56	46		30.5	35.1		Pass
Band1	0.6	N	4.6	-9.9		19.6	24.2	9.7			56	46		31.8	36.3		Pass
Band1	0.64	N	1.2	-12		19.6	20.8	7.4			56	46		35.2	38.6		Pass
Band1	0.65	N	1.3	-11		19.6	20.9	8.4			56	46		35.1	37.6		Pass
Band1	0.66	N	0.5	-12		19.6	20.1	7.3			56	46		35.9	38.7		Pass
Band1	4.04	L	12.4	-2.7		19.6	32	16.9			56	46		24	29.1		Pass
Band1	4.07	L	12.7	-2.8		19.6	32.3	16.8			56	46		23.7	29.2		Pass
Band1	4.12	L	12.6	-2.6		19.6	32.2	17			56	46		23.8	29		Pass
Band1	4.17	L	12	-2.4		19.6	31.6	17.2			56	46		24.4	28.8		Pass
Band1	4.17	L	12.1	-2.6		19.6	31.7	17			56	46		24.3	29		Pass
Band1	4.2	L	13.8	-1.1		19.6	33.4	18.5			56	46		22.6	27.5		Pass

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