

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:

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

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:

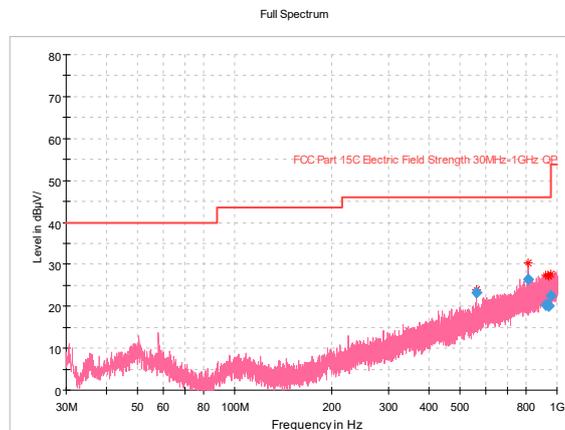
There were no emissions from 9kHz to 30MHz and above 18G found within 20dB of the limit. Thus, the test result was not reported according to §15.31 (o).

【5150~5250】

- 802.11a

Spurious Radiated Emissions from 30MHz to 1GHz:

CH Middle (No.44)

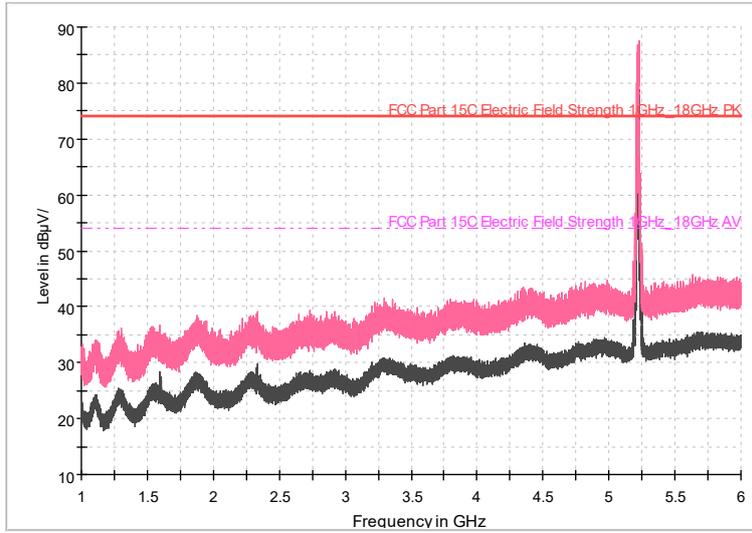


| Frequency (MHz) | Reading (dBuV) | QuasiPeak (dBuV/m) | Limit (dBuV/m) | Margin (dB) | A_{Rpl} (dB) | Polarity |
|-----------------|----------------|--------------------|----------------|-------------|----------------|----------|
| 562.48 | 45.90 | 23.26 | 46.00 | 22.74 | -9.90 | Vertical |
| 812.55 | 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 |

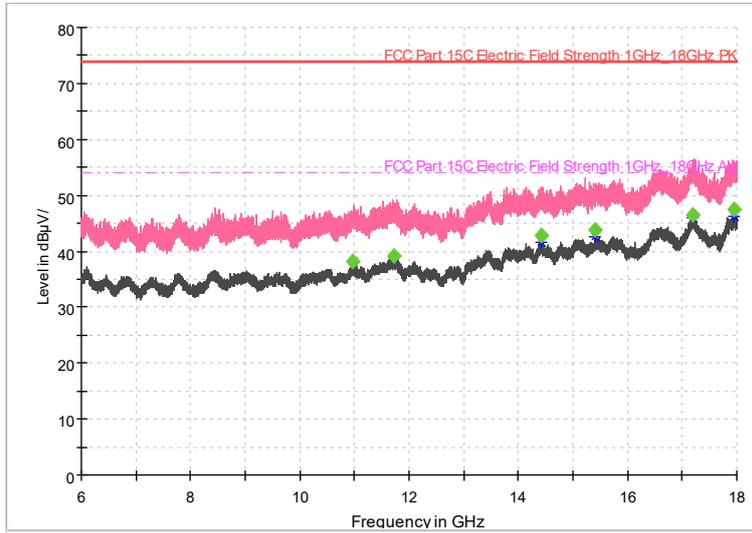
Spurious Radiated Emissions from 1GHz to 18GHz:

CH Middle (No.44)

Full Spectrum



Full Spectrum



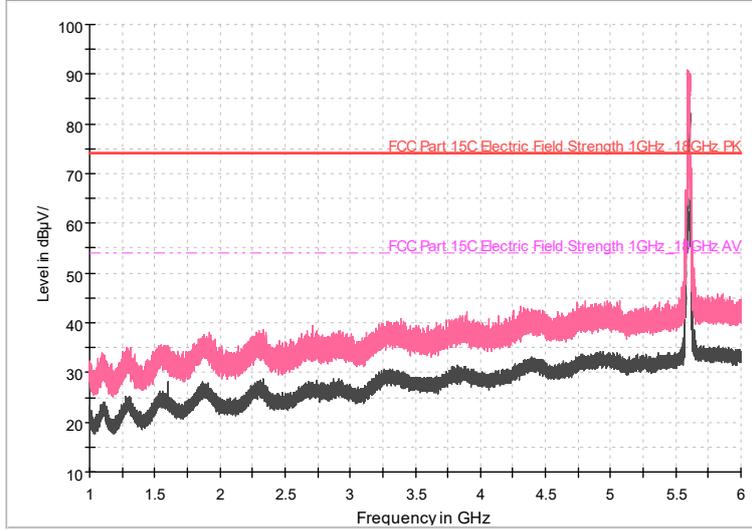
| Frequency (MHz) | Reading MaxPeak (dBuV) | Reading Average (dBuV) | MaxPeak (dBuV/m) | Average (dBuV/m) | Limit (dBuV/m) | Margin (dB) | A _{Rpl} (dB) | Polarity |
|-----------------|------------------------|------------------------|------------------|------------------|----------------|-------------|-----------------------|----------|
| 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】

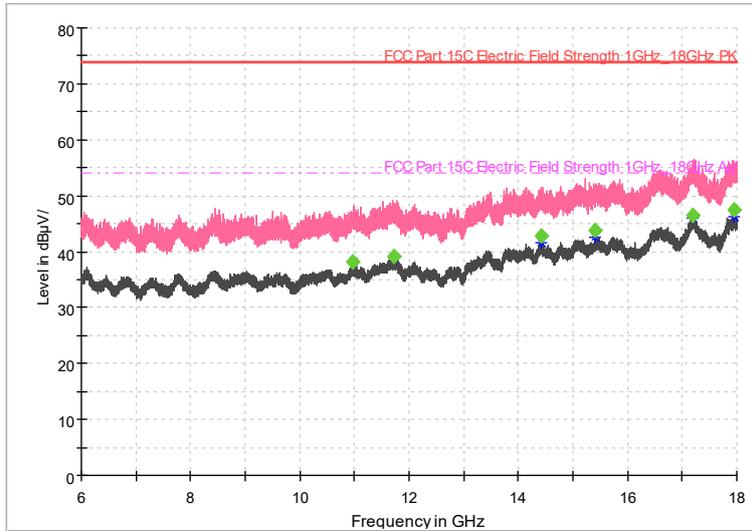
- 802.11a

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

Full Spectrum

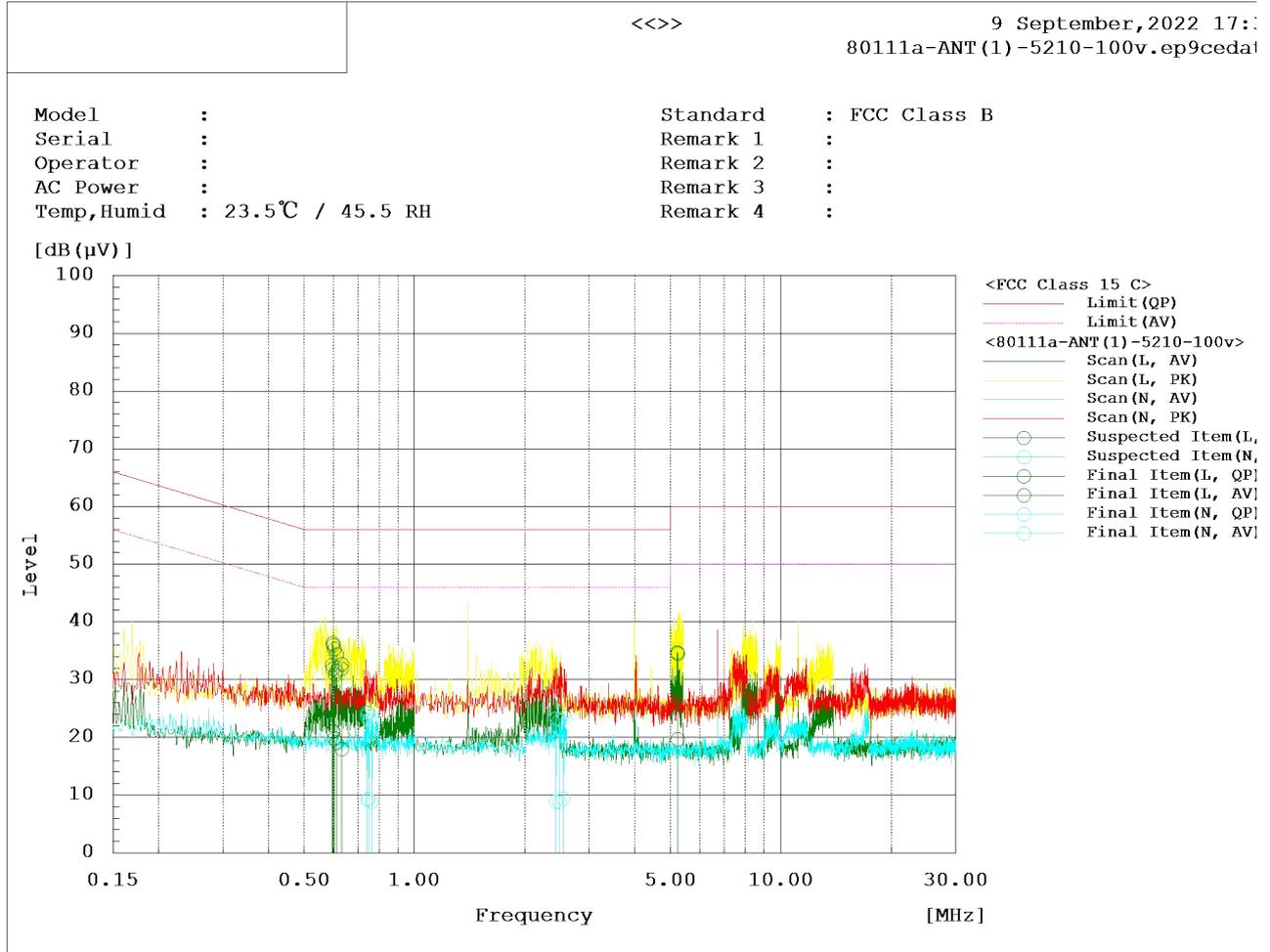


Full Spectrum



| 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**

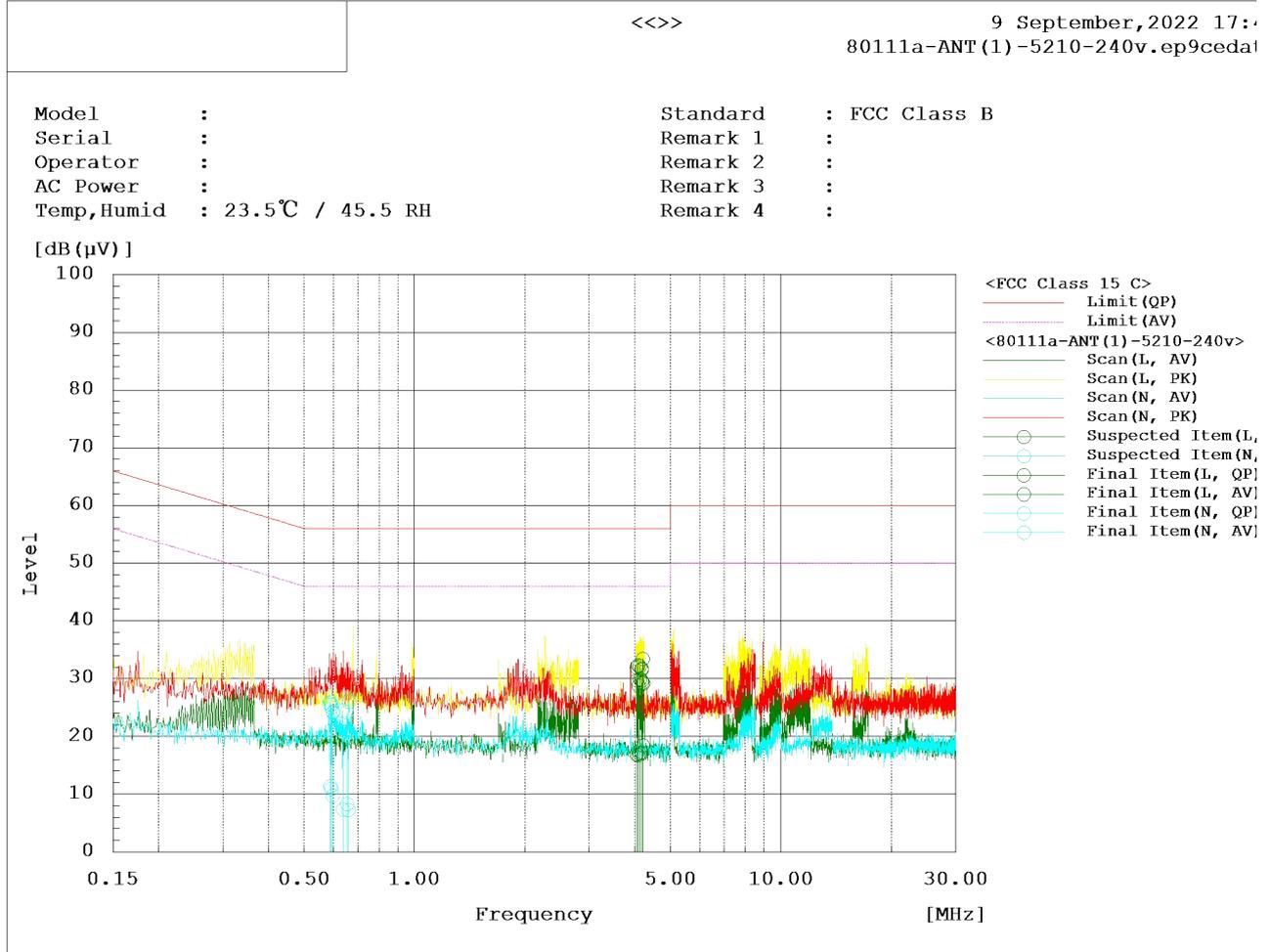


L+N Line

MEASUREMENT RESULT:

| Range | Frequency MHz | Line | Reading | | | Factor | Level | | | Limit | 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 | 0.6 | 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---