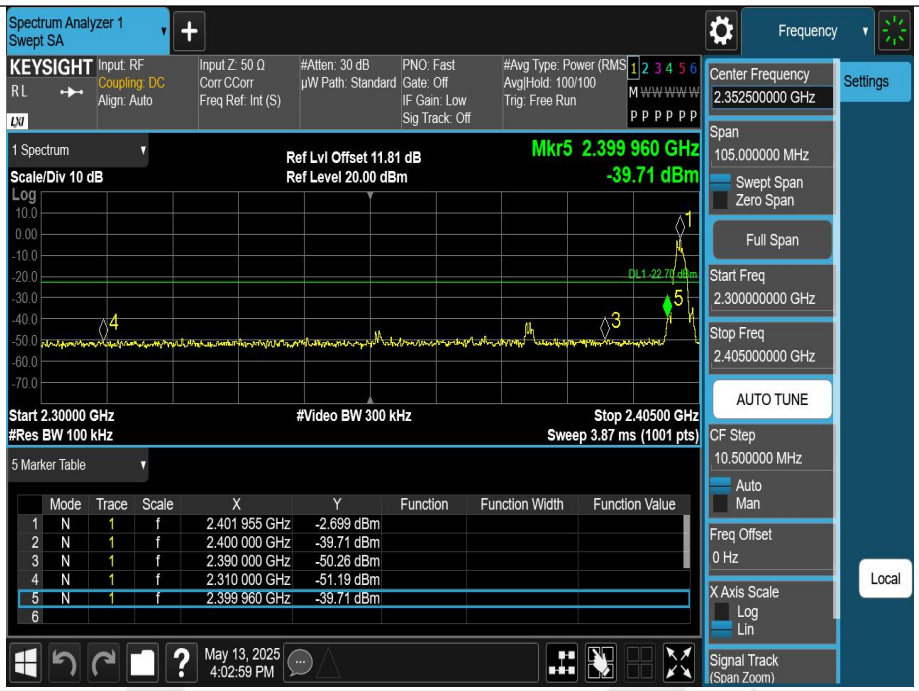


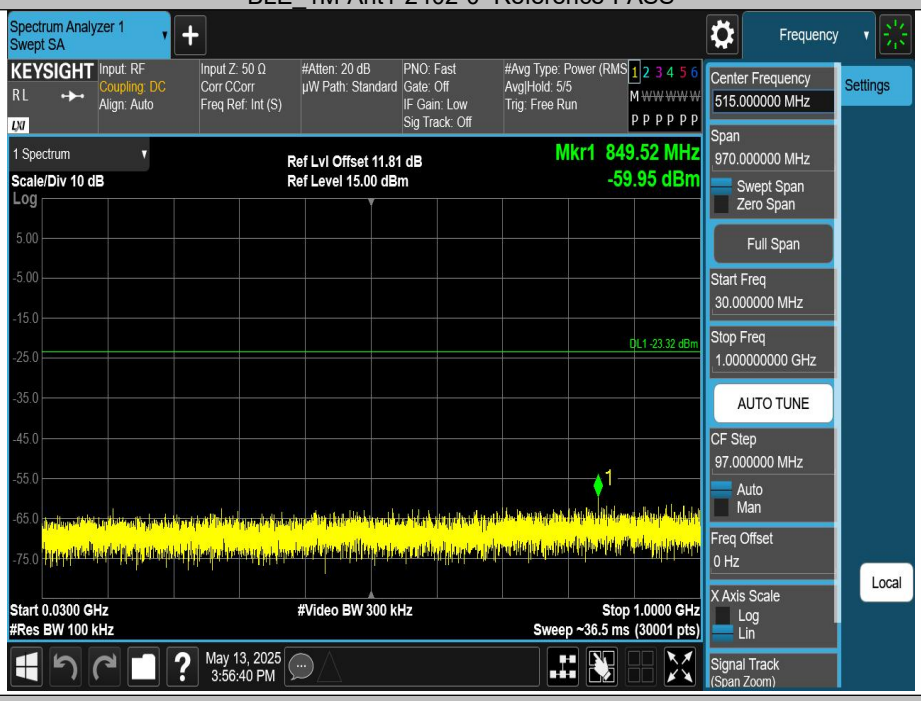

BLE_2M-Ant1-2402-PASS

BLE_2M-Ant1-2480-PASS

Conducted Spurious Emission

| TestMode | Antenna | Frequency[MHz] | FreqRange [MHz] | RefLevel [dBm] | Result[dBm] | Limit[dBm] | Verdict |
|---|---|---|---|---|---|---|---|
| BLE_1M | Ant1 | 2402 | 0~Reference | -3.32 | -3.32 | --- | PASS |
| BLE_1M | Ant1 | 2402 | 30~1000 | -3.32 | -59.95 | ≤-23.32 | PASS |
| BLE_1M | Ant1 | 2402 | 1000~26500 | -3.32 | -49.26 | ≤-23.32 | PASS |
| BLE_1M | Ant1 | 2440 | 0~Reference | -1.74 | -1.74 | --- | PASS |
| BLE_1M | Ant1 | 2440 | 30~1000 | -1.74 | -61.61 | ≤-21.74 | PASS |
| BLE_1M | Ant1 | 2440 | 1000~26500 | -1.74 | -47.93 | ≤-21.74 | PASS |
| BLE_1M | Ant1 | 2480 | 0~Reference | -1.46 | -1.46 | --- | PASS |
| BLE_1M | Ant1 | 2480 | 30~1000 | -1.46 | -61.47 | ≤-21.46 | PASS |
| BLE_1M | Ant1 | 2480 | 1000~26500 | -1.46 | -48.72 | ≤-21.46 | PASS |
| BLE_2M | Ant1 | 2402 | 0~Reference | -3.78 | -3.78 | --- | PASS |
| BLE_2M | Ant1 | 2402 | 30~1000 | -3.78 | -61.11 | ≤-23.78 | PASS |
| BLE_2M | Ant1 | 2402 | 1000~26500 | -3.78 | -49.45 | ≤-23.78 | PASS |
| BLE_2M | Ant1 | 2440 | 0~Reference | -3.25 | -3.25 | --- | PASS |
| BLE_2M | Ant1 | 2440 | 30~1000 | -3.25 | -61.59 | ≤-23.25 | PASS |
| BLE_2M | Ant1 | 2440 | 1000~26500 | -3.25 | -46.8 | ≤-23.25 | PASS |
| BLE_2M | Ant1 | 2480 | 0~Reference | -1.87 | -1.87 | --- | PASS |
| BLE_2M | Ant1 | 2480 | 30~1000 | -1.87 | -61.53 | ≤-21.87 | PASS |
| BLE_2M | Ant1 | 2480 | 1000~26500 | -1.87 | -45.44 | ≤-21.87 | PASS |

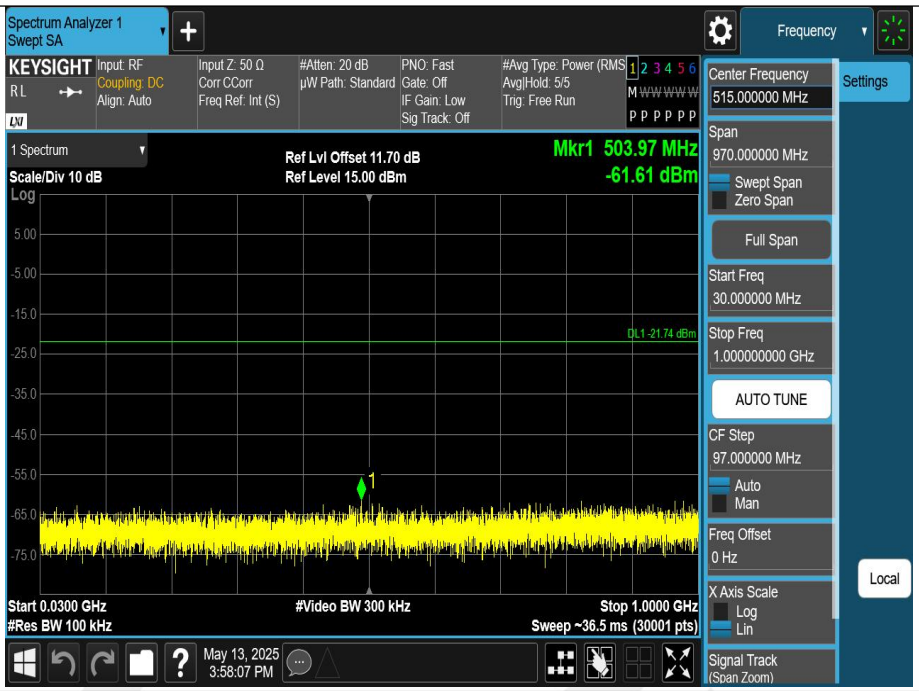
BLE_1M-Ant1-2402-0~Reference-PASS




BLE_1M-Ant1-2402-30~1000-PASS

BLE_1M-Ant1-2402-1000~26500-PASS

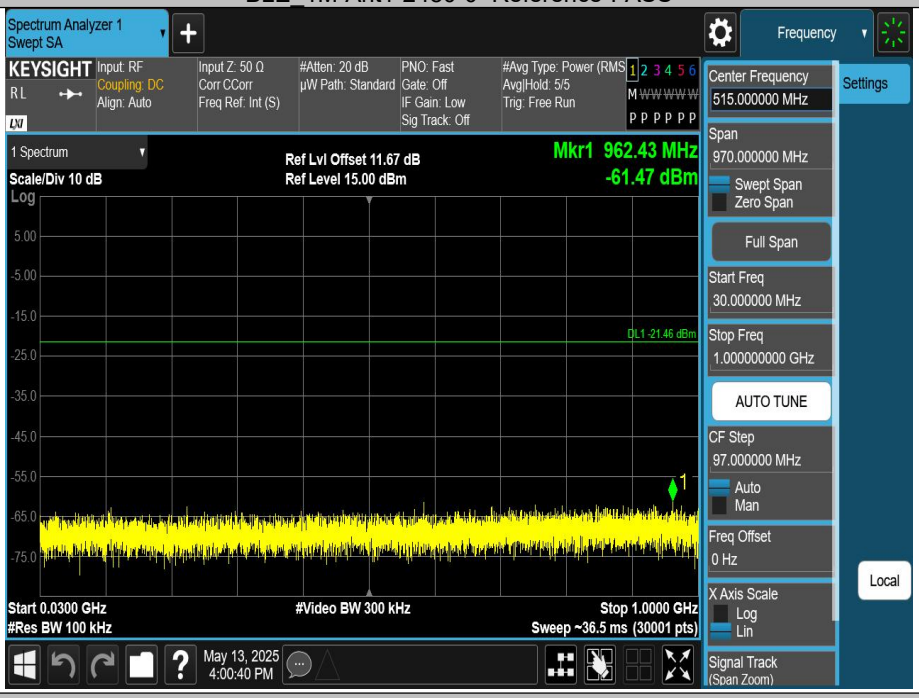
BLE_1M-Ant1-2440-0~Reference-PASS




BLE_1M-Ant1-2440-30~1000-PASS

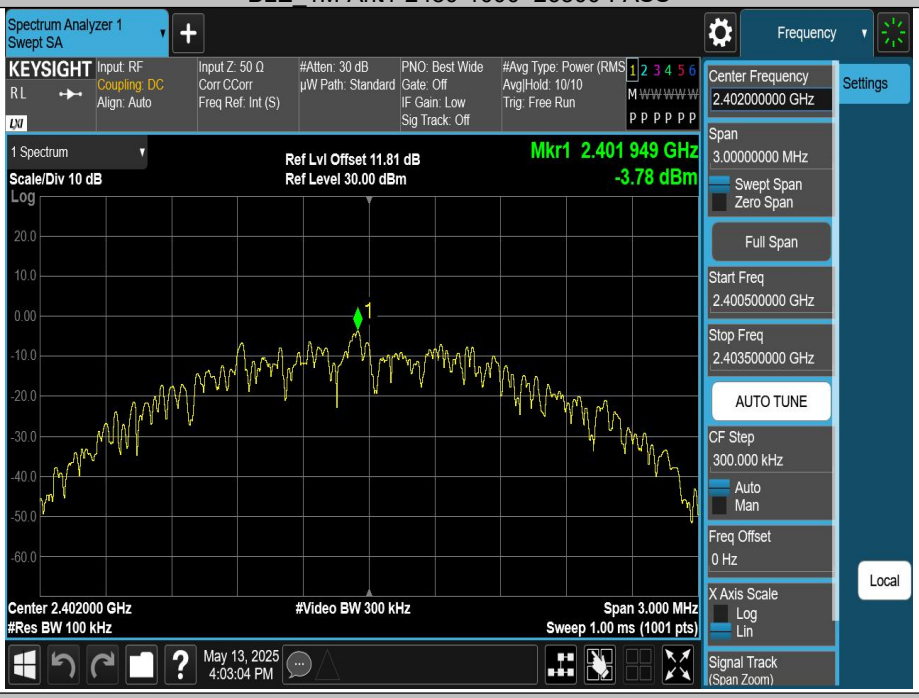
BLE_1M-Ant1-2440-1000~26500-PASS

BLE_1M-Ant1-2480-0~Reference-PASS

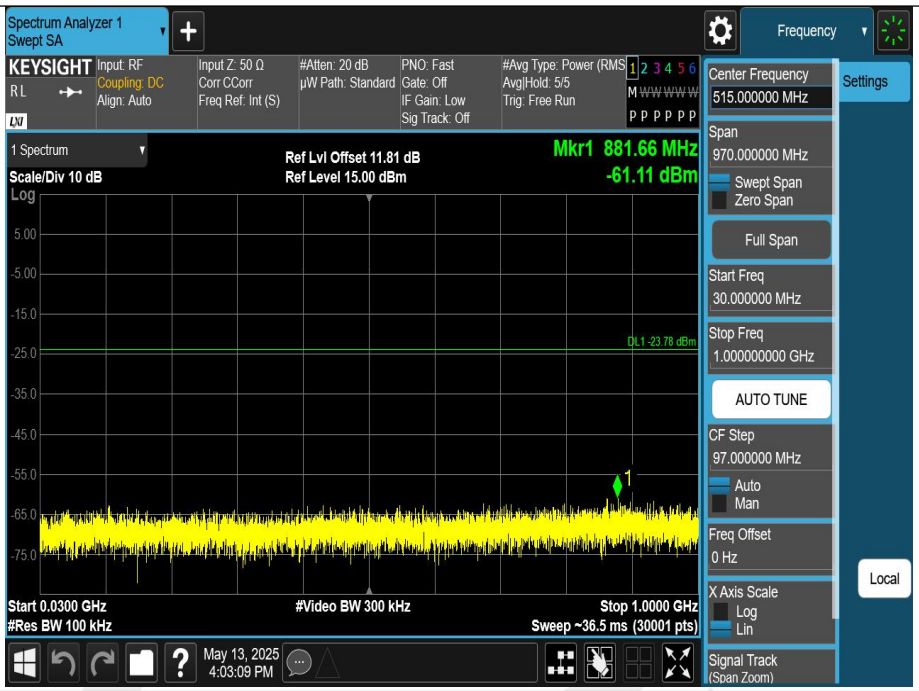



BLE_1M-Ant1-2480-30~1000-PASS

BLE_1M-Ant1-2480-1000~26500-PASS



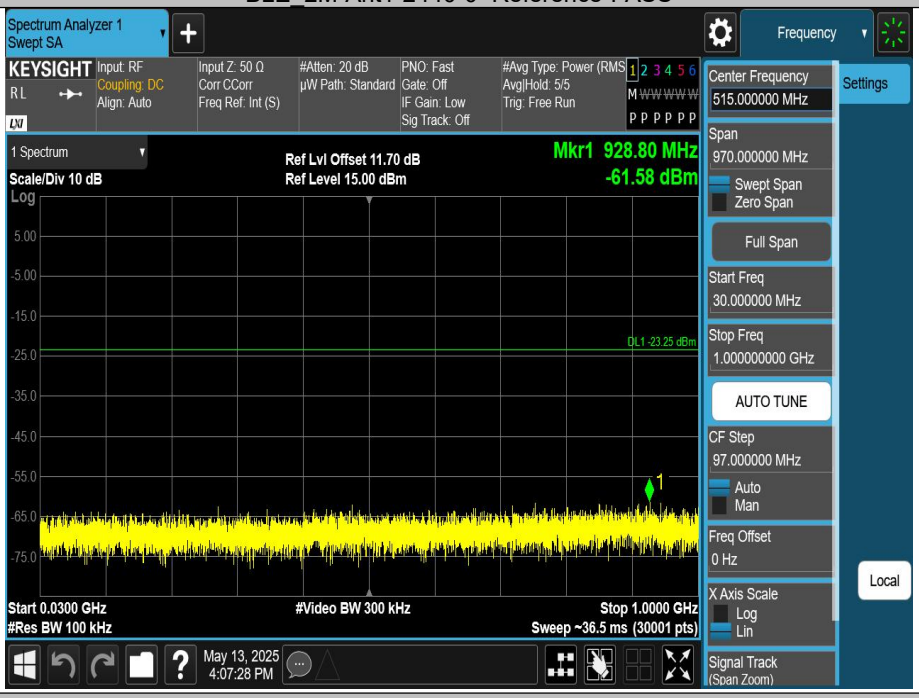

BLE_2M-Ant1-2402-0~Reference-PASS




BLE_2M-Ant1-2402-30~1000-PASS

BLE_2M-Ant1-2402-1000~26500-PASS

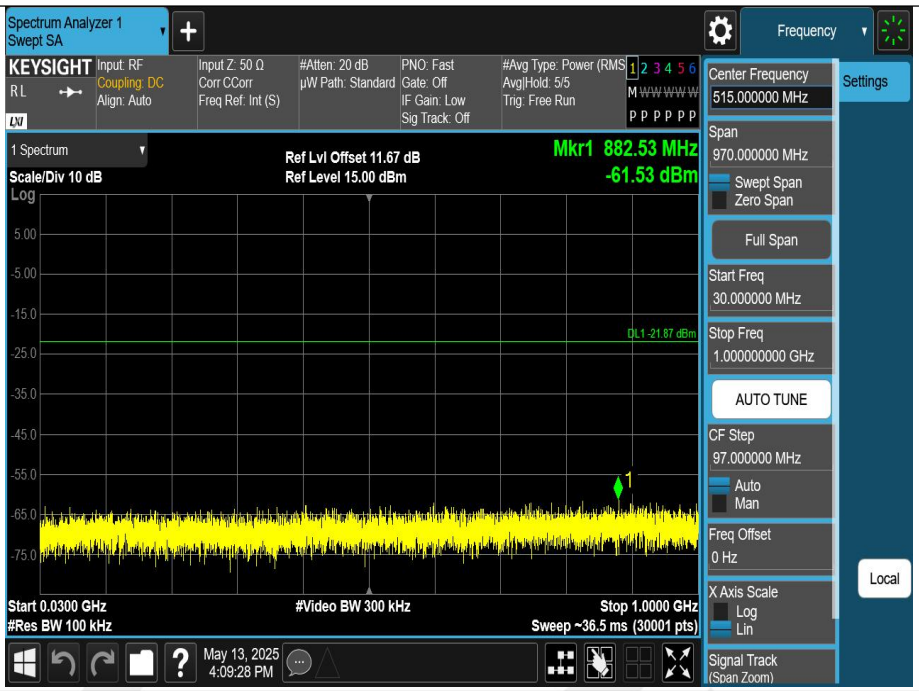
BLE_2M-Ant1-2440-0~Reference-PASS




BLE_2M-Ant1-2440-30~1000-PASS

BLE_2M-Ant1-2440-1000~26500-PASS

BLE_2M-Ant1-2480-0~Reference-PASS




BLE_2M-Ant1-2480-30~1000-PASS

BLE_2M-Ant1-2480-1000~26500-PASS

## 8.6 RADIATED SPURIOUS EMISSION

### 8.6.1 Applicable Standard

According to FCC Part 15.247(d), 15.205, 15.209 and KDB 558074 D01 15.247 Meas Guidance v05r02
According to IC RSS-Gen and RSS-247

### 8.6.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
According to FCC Part15.205, Restricted bands

| MHz | MHz | MHz | GHz |
|---|---|---|---|
| 0.090-0.110 | 16.42-16.423 | 399.9-410 | 4.5-5.15 |
| 10.495-0.505 | 16.69475-16.69525 | 608-614 | 5.35-5.46 |
| 2.1735-2.1905 | 16.80425-16.80475 | 960-1240 | 7.25-7.75 |
| 4.125-4.128 | 25.5-25.67 | 1300-1427 | 8.025-8.5 |
| 4.17725-4.17775 | 37.5-38.25 | 1435-1626.5 | 9.0-9.2 |
| 4.20725-4.20775 | 73-74.6 | 1645.5-1646.5 | 9.3-9.5 |
| 6.215-6.218 | 74.8-75.2 | 1660-1710 | 10.6-12.7 |
| 6.26775-6.26825 | 123-138 | 2200-2300 | 14.47-14.5 |
| 8.291-8.294 | 149.9-150.05 | 2310-2390 | 15.35-16.2 |
| 8.362-8.366 | 156.52475-156.52525 | 2483.5-2500 | 17.7-21.4 |
| 8.37625-8.38675 | 156.7-156.9 | 2690-2900 | 22.01-23.12 |
| 8.41425-8.41475 | 162.0125-167.17 | 3260-3267 | 23.6-24.0 |
| 12.29-12.293 | 167.72-173.2 | 3332-3339 | 31.2-31.8 |
| 12.51975-12.52025 | 240-285 | 3345.8-3358 | 36.43-36.5 |
| 12.57675-12.57725 | 322-335.4 | 3600-4400 | (2) |
| 13.36-13.41 | | | |

According to FCC Part15.205, the level of any transmitter spurious emission in Restricted bands shall not exceed the level of the emission specified in the following table

| Restricted Frequency(MHz) | Field Strength (μV/m) | Field Strength (dBμV/m) | Measurement Distance |
|---|---|---|---|
| 0.009-0.490 | 2400/F(KHz) | 20 log (uV/m) | 300 |
| 0.490-1.705 | 24000/F(KHz) | 20 log (uV/m) | 30 |
| 1.705-30 | 30 | 29.5 | 30 |
| 30-88 | 100 | 40 | 3 |
| 88-216 | 150 | 43.5 | 3 |
| 216-960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

### 8.6.3 Test Configuration

Test according to clause 7.2 radio frequency test setup 2

### 8.6.4 Test Procedure

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:
The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1 GHz(1GHz to 25GHz), 100 kHz for f < 1 GHz(30MHz to 1GHz)

VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b). Submit this data.
Now set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from 20log(dwell time/100 ms), in an effort to demonstrate compliance with the 15.209 limit. Submit this data.
Repeat above procedures until all frequency measured was complete.

### 8.6.5 Test Results

| | |
|---|---|
| Temperature: | 22° C |
| Relative Humidity: | 43% |
| ATM Pressure: | 1011 mbar |

■ Spurious Emission below 30MHz (9KHz to 30MHz)

| Freq. (MHz) | Ant.Pol. | Emission Level(dBuV/m) | | Limit 3m(dBuV/m) | | Over(dB) | |
|---|---|---|---|---|---|---|---|
| | H/V | PK | AV | PK | AV | PK | AV |
| -- | -- | -- | -- | -- | -- | -- | -- |

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.
Distance extrapolation factor =40log(Specific distance/ test distance)( dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor

■ Spurious Emission Above 1GHz (1GHz to 25GHz)

All the antenna(Antenna 1) and modes(BLE_1M, BLE_2M) mode have been tested, and the worst(Antenna 1, BLE_1M) result recorded was report as below:

Test mode: BLE_1M Frequency: Channel 0: 2402MHz

| Freq. (MHz) | Ant.Pol. | Emission Level(dBuV/m) | | Limit 3m(dBuV/m) | | Over(dB) | |
|---|---|---|---|---|---|---|---|
| | H/V | PK | AV | PK | AV | PK | AV |
| 11066.49 | V | 59.75 | 47.01 | 74.00 | 54.00 | -14.25 | -6.99 |
| 12790.84 | V | 59.75 | 46.64 | 74.00 | 54.00 | -14.25 | -7.36 |
| 15686.33 | V | 60.07 | 47.10 | 74.00 | 54.00 | -13.93 | -6.90 |
| 9102.35 | H | 58.94 | 46.12 | 74.00 | 54.00 | -15.06 | -7.88 |
| 12787.15 | H | 58.76 | 45.70 | 74.00 | 54.00 | -15.24 | -8.30 |
| 17512.47 | H | 59.18 | 45.94 | 74.00 | 54.00 | -14.82 | -8.06 |

Test mode: BLE_1M Frequency: Channel 19: 2440MHz

| Freq. (MHz) | Ant.Pol. | Emission Level(dBuV/m) | | Limit 3m(dBuV/m) | | Over(dB) | |
|---|---|---|---|---|---|---|---|
| | H/V | PK | AV | PK | AV | PK | AV |
| 8024.61 | V | 59.44 | 46.69 | 74.00 | 54.00 | -14.56 | -7.31 |
| 9442.69 | V | 59.55 | 46.91 | 74.00 | 54.00 | -14.45 | -7.09 |
| 10898.26 | V | 58.84 | 45.89 | 74.00 | 54.00 | -15.16 | -8.11 |
| 9522.17 | H | 60.15 | 47.10 | 74.00 | 54.00 | -13.85 | -6.90 |
| 10280.17 | H | 60.42 | 47.19 | 74.00 | 54.00 | -13.58 | -6.81 |
| 17186.52 | H | 60.99 | 47.73 | 74.00 | 54.00 | -13.01 | -6.27 |

Test mode: BLE_1M Frequency: Channel 39: 2480MHz

| Freq. (MHz) | Ant.Pol. | Emission Level(dBuV/m) | | Limit 3m(dBuV/m) | | Over(dB) | |
|---|---|---|---|---|---|---|---|
| | H/V | PK | AV | PK | AV | PK | AV |
| 12280.04 | V | 58.69 | 45.77 | 74.00 | 54.00 | -15.31 | -8.23 |
| 13326.74 | V | 59.49 | 46.57 | 74.00 | 54.00 | -14.51 | -7.43 |
| 16822.83 | V | 59.40 | 46.65 | 74.00 | 54.00 | -14.60 | -7.35 |
| 11414.09 | H | 59.74 | 46.89 | 74.00 | 54.00 | -14.26 | -7.11 |
| 14826.67 | H | 59.69 | 46.88 | 74.00 | 54.00 | -14.31 | -7.12 |
| 17221.33 | H | 60.37 | 47.16 | 74.00 | 54.00 | -13.63 | -6.84 |

**Note:**
(1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor.
(3) Correct Factor= Ant_F + Cab_L – Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

■ Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz

All the antenna(Antenna 1) and modes(BLE_1M, BLE_2M) mode have been tested, and the worst(Antenna 1, BLE_1M) result recorded was report as below:

| Test mode: | BLE_1M | Frequency: | Channel 0: 2402MHz |
|---|---|---|---|

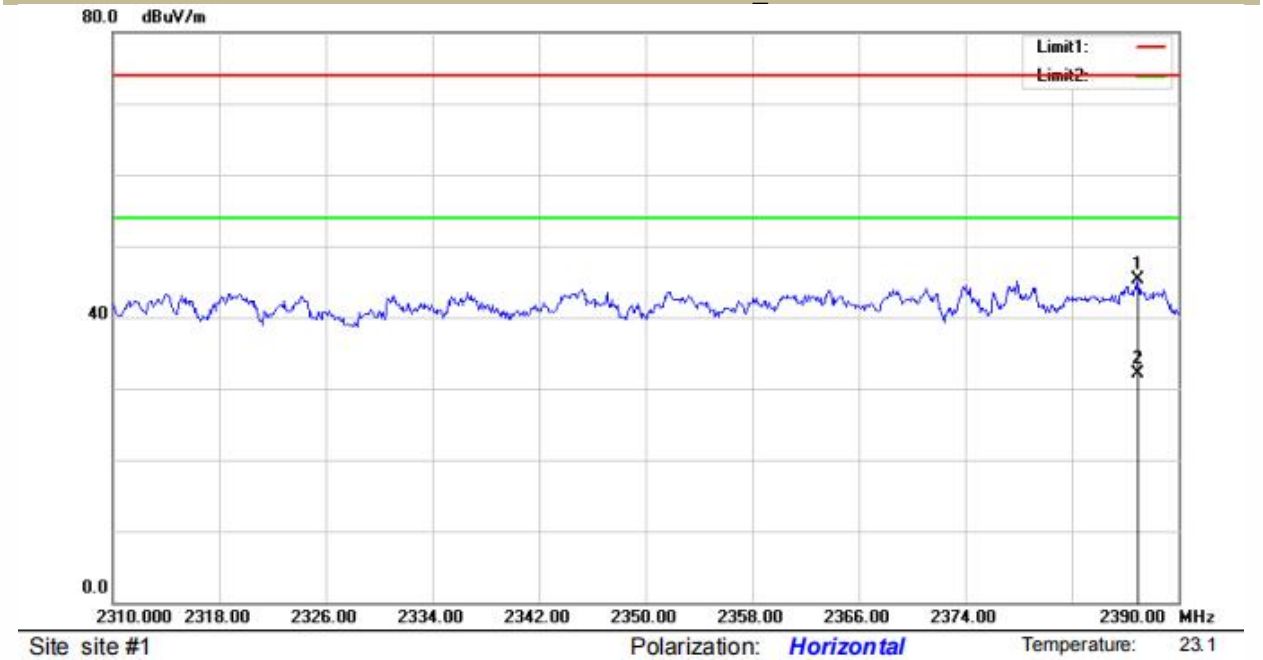
| Frequency (MHz) | Polarity | PK(dBuV/m) (VBW=3MHz) | Limit 3m (dBuV/m) | AV(dBuV/m) (VBW=10Hz) | Limit 3m (dBuV/m) |
|---|---|---|---|---|---|
| 2387.03 | H | 45.35 | 74.00 | 32.02 | 54.00 |
| 2389.51 | V | 44.37 | 74.00 | 31.18 | 54.00 |

| Test mode: | BLE_1M | Frequency: | Channel 39: 2480MHz |
|---|---|---|---|

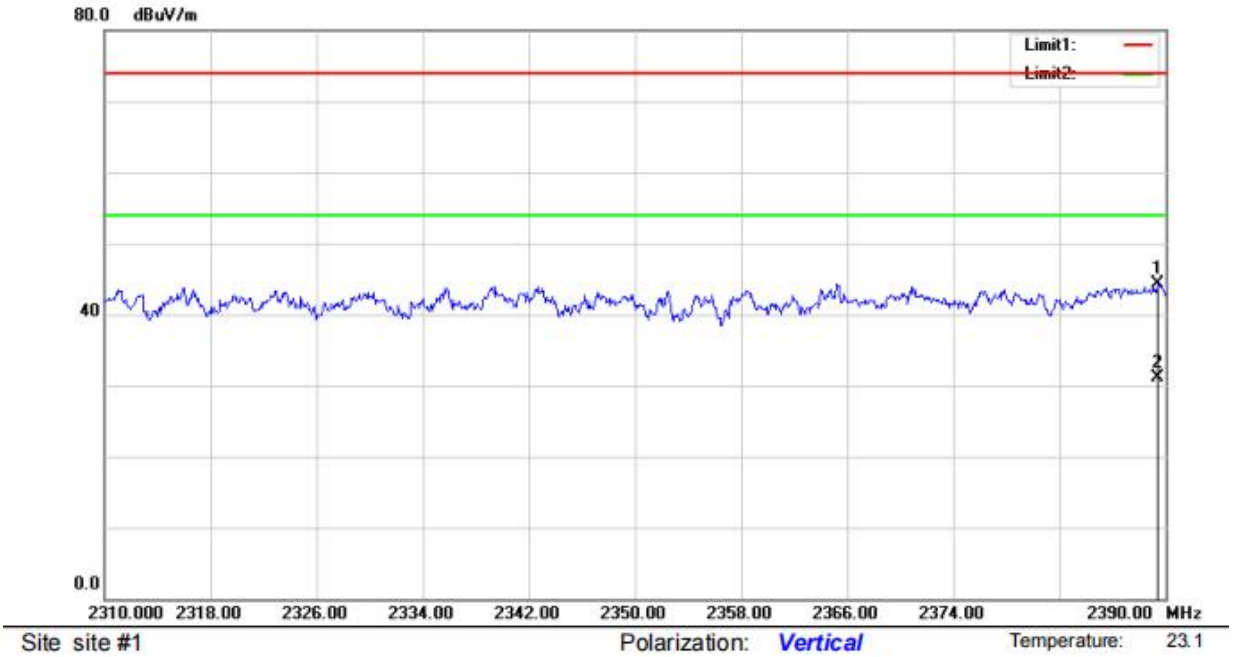
| Frequency (MHz) | Polarity | PK(dBuV/m) (VBW=3MHz) | Limit 3m (dBuV/m) | AV(dBuV/m) (VBW=10Hz) | Limit 3m (dBuV/m) |
|---|---|---|---|---|---|
| 2494.37 | H | 44.71 | 74.00 | 31.43 | 54.00 |
| 2487.26 | V | 44.55 | 74.00 | 31.39 | 54.00 |

**Note:**
(1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

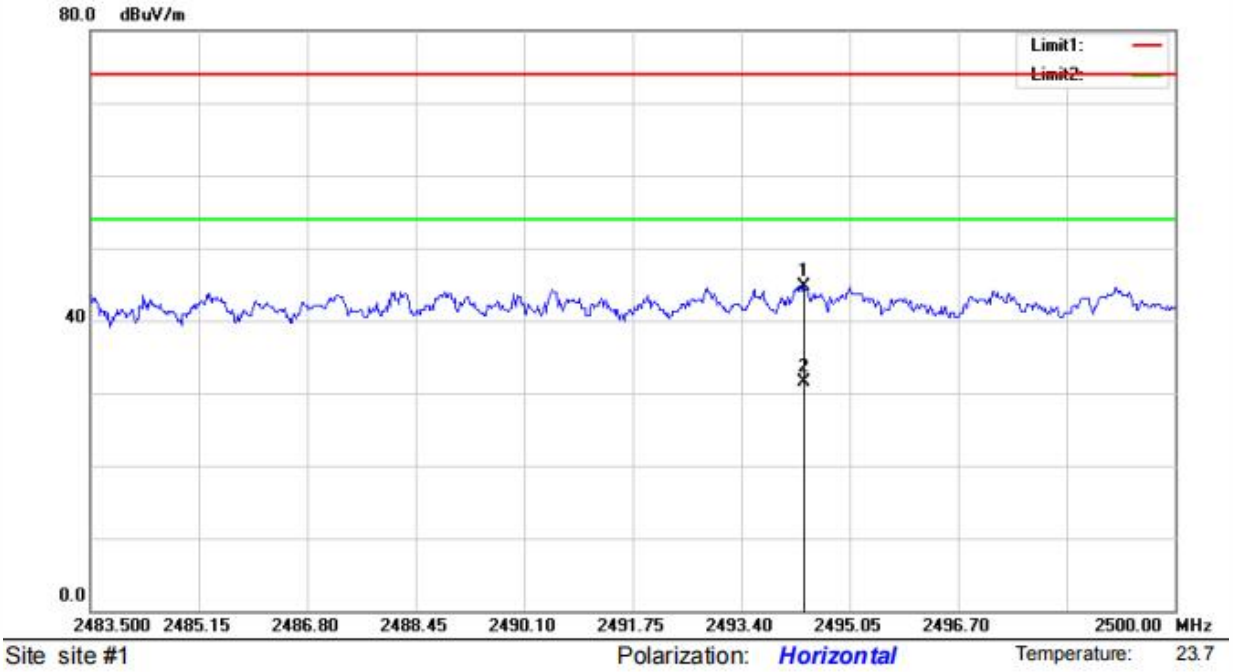
| Test Model | Spurious Emission in Restricted Band 2310-2390MHz<br>Channel 0: 2402MHz BLE_1M H |
|---|---|



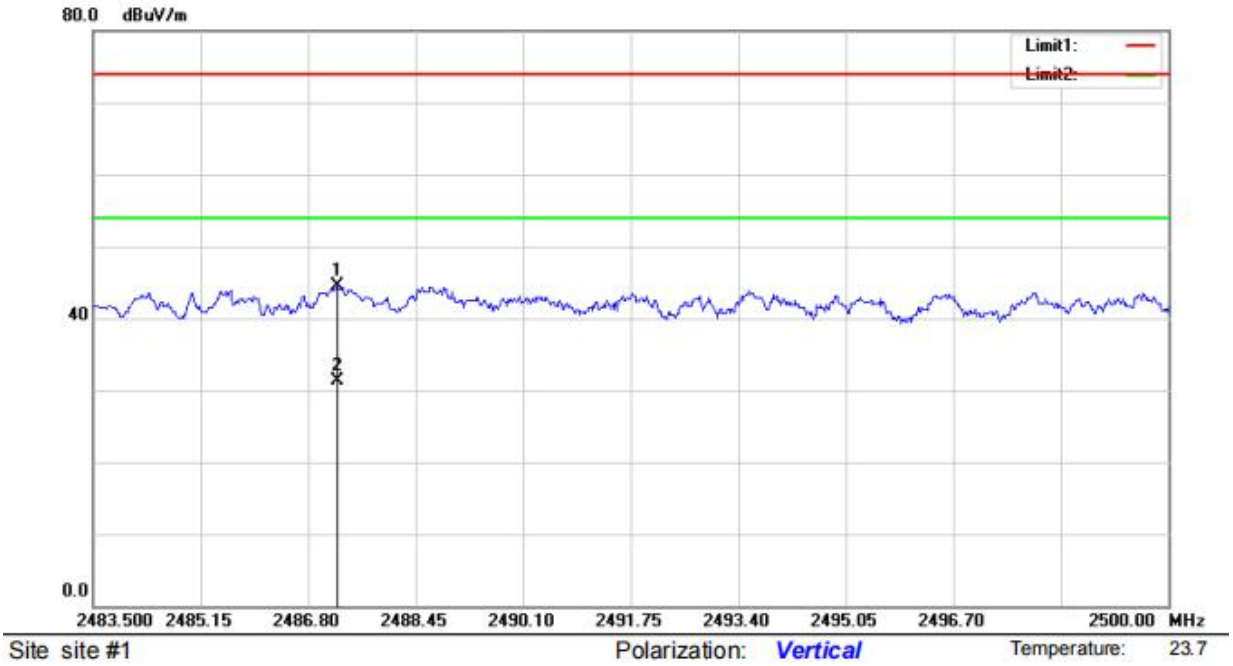

| Test Model | Spurious Emission in Restricted Band 2310-2390MHz<br>Channel 0: 2402MHz BLE_1M V |
|---|---|



| Test Model | Spurious Emission in Restricted Band 2483.5-2500MHz<br>Channel 39: 2480MHz BLE_1M H |
|---|---|

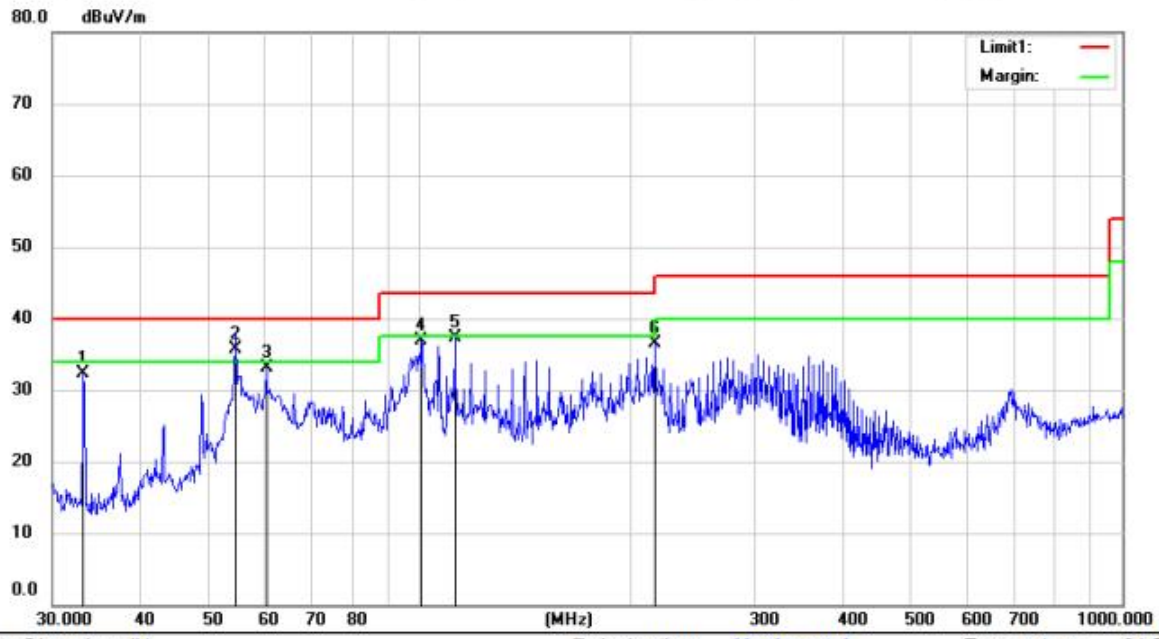



| Test Model | Spurious Emission in Restricted Band 2483.5-2500MHz<br>Channel 39: 2480MHz BLE_1M V |
|---|---|



■ Spurious Emission below 1GHz (30MHz to 1GHz)

All the antenna(Antenna 1) and modes(BLE_1M, BLE_2M) mode have been tested, and the worst(Antenna 1, BLE_1M) result recorded was report as below:



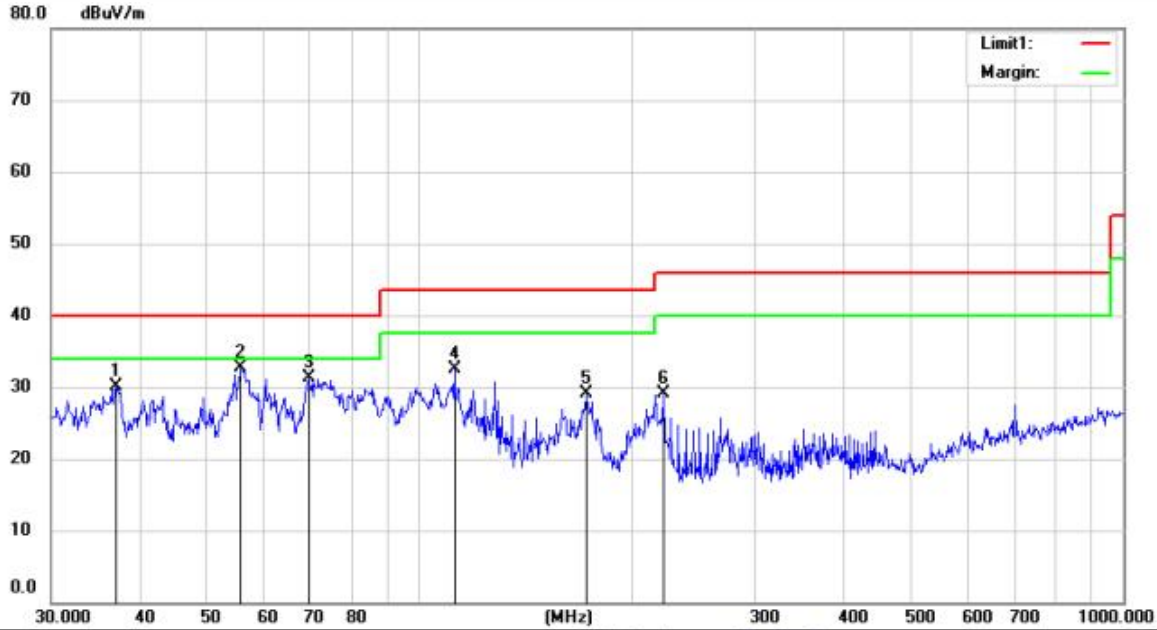

Site Chamber #1 Polarization: *Horizontal* Temperature: 24 C

| No. | Mk. | Freq. | Reading Level | Ant. Factor | Pre Amp Gain | Cable loss | Measure-ment | Limit | Over | | HI | Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | Detector | cm | deg. | Comment |
| 1 | | 33.2111 | 49.48 | 10.93 | 29.1 | 0.9 | 32.21 | 40.00 | -7.79 | QP | | | |
| 2 | * | 54.6430 | 50.41 | 13.36 | 29 | 0.93 | 35.70 | 40.00 | -4.30 | QP | | | |
| 3 | | 60.4917 | 48.59 | 12.7 | 29.03 | 0.88 | 33.14 | 40.00 | -6.86 | QP | | | |
| 4 | | 100.5806 | 53.18 | 11.28 | 28.85 | 1.25 | 36.86 | 43.50 | -6.64 | QP | | | |
| 5 | | 112.1303 | 53.10 | 11.77 | 28.82 | 1.32 | 37.37 | 43.50 | -6.13 | QP | | | |
| 6 | | 216.0240 | 52.58 | 10.78 | 28.52 | 1.75 | 36.59 | 46.00 | -9.41 | QP | | | |

*:Maximum data x:Over limit !:over margin Operator: Ccyf

Remark:

1. Measurement (dBμV/m) = Antenna Factor(dB) -Amp Factor(dB) +Cable Loss(dB) + Reading(dBμV/m)
2. Over (dB) = Measurement (dBμV/m) - Limit (dBμV/m)




Site Chamber #1 Polarization: *Vertical* Temperature: 24 C

| No. | Mk. | Freq. | Reading Level | Ant. Factor | Pre Amp Gain | Cable loss | Measure-ment | Limit | Over | | HI | Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | Detector | cm | deg. | Comment |
| 1 | | 37.0250 | 46.31 | 11.9 | 29.07 | 0.92 | 30.06 | 40.00 | -9.94 | QP | | | |
| 2 | * | 55.8047 | 47.89 | 12.92 | 29 | 0.92 | 32.73 | 40.00 | -7.27 | QP | | | |
| 3 | | 69.6004 | 48.88 | 10.38 | 29.09 | 1.05 | 31.22 | 40.00 | -8.78 | QP | | | |
| 4 | | 112.1304 | 48.29 | 11.79 | 28.82 | 1.32 | 32.58 | 43.50 | -10.92 | QP | | | |
| 5 | | 172.5987 | 46.66 | 9.46 | 28.64 | 1.61 | 29.09 | 43.50 | -14.41 | QP | | | |
| 6 | | 222.1697 | 45.19 | 10.7 | 28.5 | 1.76 | 29.15 | 46.00 | -16.85 | QP | | | |

*:Maximum data x:Over limit !:over margin Operator: Ccyf

Remark:

1. Measurement (dBμV/m) = Antenna Factor(dB) -Amp Factor(dB) +Cable Loss(dB) + Reading(dBμV/m)
2. Over (dB) = Measurement (dBμV/m) - Limit (dBμV/m)

## 8.7 CONDUCTED EMISSIONS TEST

### 8.7.1 Applicable Standard

According to FCC Part 15.207(a)
According to IC RSS-Gen 8.8

### 8.7.2 Conformance Limit

Conducted Emission Limit

| Frequency(MHz) | Quasi-peak | Average |
|---|---|---|
| 0.15-0.5 | 66-56 | 56-46 |
| 0.5-5.0 | 56 | 46 |
| 5.0-30.0 | 60 | 50 |

Note: 1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

### 8.7.3 Test Configuration

Test according to clause 7.3 conducted emission test setup

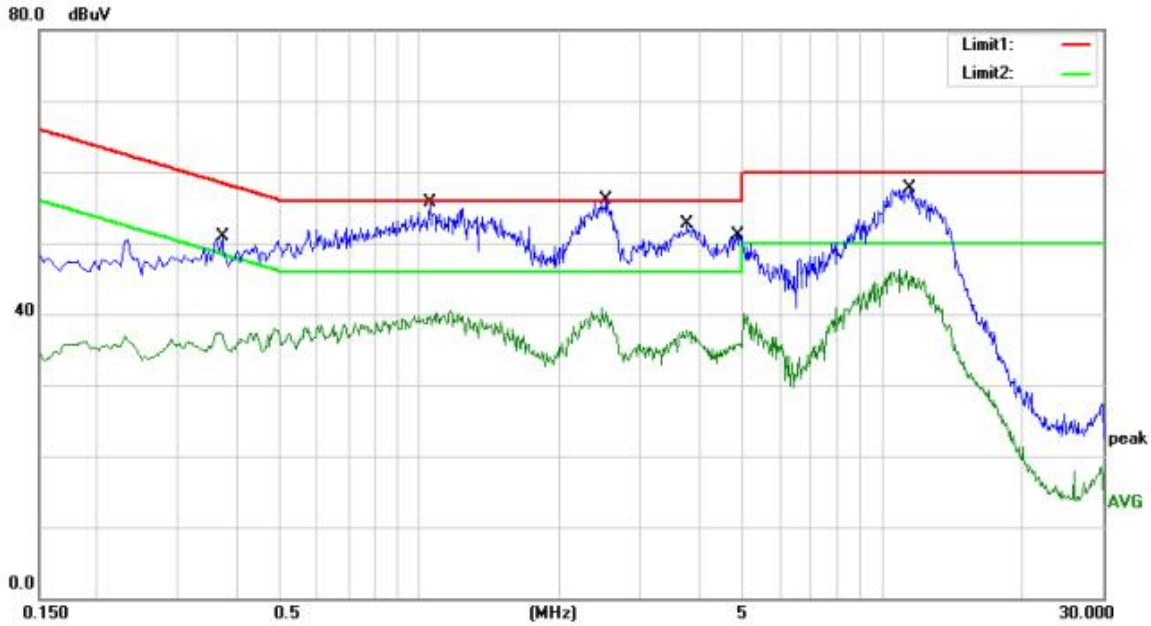
### 8.7.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Repeat above procedures until all frequency measured were complete.

### 8.7.5 Test Results

Pass

The AC120V &240V voltage have been tested, and the worst result recorded was report as below:

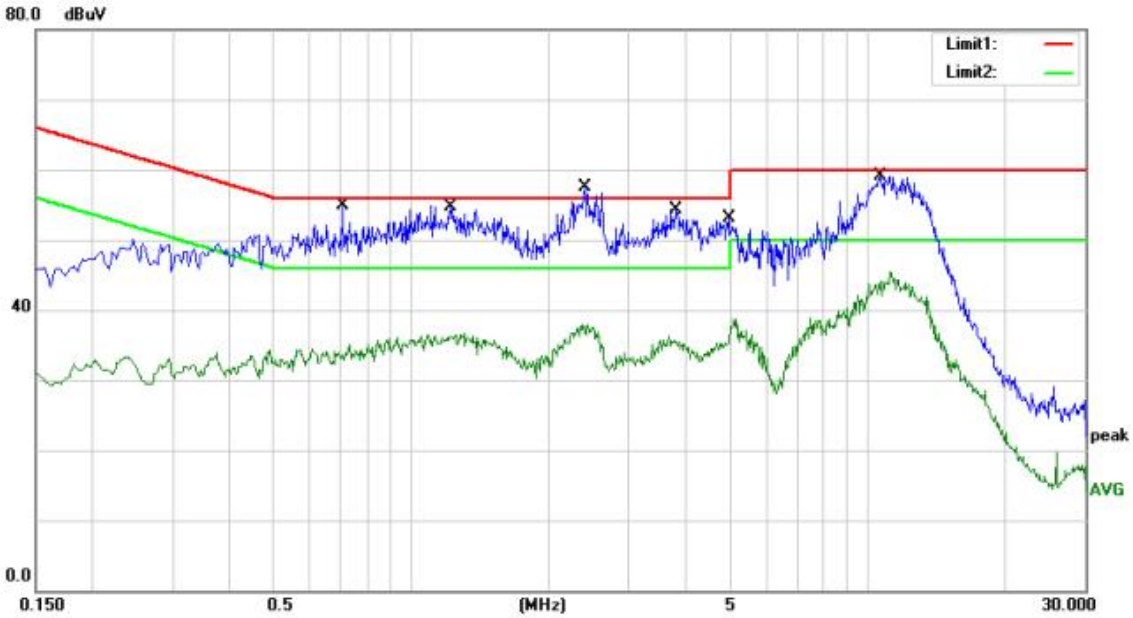



Site site #1 Phase: *L1* Temperature: 22.5

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.3740 | 33.89 | 17.05 | 50.94 | 58.41 | -7.47 | QP | |
| 2 | | 0.3740 | 20.40 | 17.05 | 37.45 | 48.41 | -10.96 | AVG | |
| 3 | | 1.0500 | 32.37 | 17.03 | 49.40 | 56.00 | -6.60 | QP | |
| 4 | | 1.0500 | 22.99 | 17.03 | 40.02 | 46.00 | -5.98 | AVG | |
| 5 | | 2.5300 | 33.04 | 17.06 | 50.10 | 56.00 | -5.90 | QP | |
| 6 | | 2.5300 | 23.87 | 17.06 | 40.93 | 46.00 | -5.07 | AVG | |
| 7 | * | 3.7820 | 35.75 | 16.99 | 52.74 | 56.00 | -3.26 | QP | |
| 8 | | 3.7820 | 20.80 | 16.99 | 37.79 | 46.00 | -8.21 | AVG | |
| 9 | | 4.8980 | 34.14 | 16.95 | 51.09 | 56.00 | -4.91 | QP | |
| 10 | | 4.8980 | 23.14 | 16.95 | 40.09 | 46.00 | -5.91 | AVG | |
| 11 | | 11.4780 | 35.05 | 16.95 | 52.00 | 60.00 | -8.00 | QP | |
| 12 | | 11.4780 | 29.30 | 16.95 | 46.25 | 50.00 | -3.75 | AVG | |

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator:

Remark:
1. Measurement (dBμV) = AMN Factor (dB) + Cable Loss (dB) + Reading (dBμV)
2. Over (dB) = Measurement (dBμV) - Limit (dBμV)




Site site #1 Phase: N Temperature: 22.5

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.7060 | 29.79 | 17.01 | 46.80 | 56.00 | -9.20 | QP | |
| 2 | | 0.7060 | 18.04 | 17.01 | 35.05 | 46.00 | -10.95 | AVG | |
| 3 | | 1.2180 | 31.75 | 17.05 | 48.80 | 56.00 | -7.20 | QP | |
| 4 | | 1.2180 | 19.67 | 17.05 | 36.72 | 46.00 | -9.28 | AVG | |
| 5 | | 2.4060 | 32.63 | 17.07 | 49.70 | 56.00 | -6.30 | QP | |
| 6 | | 2.4060 | 20.88 | 17.07 | 37.95 | 46.00 | -8.05 | AVG | |
| 7 | | 3.8100 | 30.31 | 16.99 | 47.30 | 56.00 | -8.70 | QP | |
| 8 | | 3.8100 | 19.23 | 16.99 | 36.22 | 46.00 | -9.78 | AVG | |
| 9 | | 4.9740 | 29.15 | 16.95 | 46.10 | 56.00 | -9.90 | QP | |
| 10 | | 4.9740 | 21.78 | 16.95 | 38.73 | 46.00 | -7.27 | AVG | |
| 11 | | 10.6700 | 36.83 | 16.97 | 53.80 | 60.00 | -6.20 | QP | |
| 12 | * | 10.6700 | 28.48 | 16.97 | 45.45 | 50.00 | -4.55 | AVG | |

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator:

Remark:
1. Measurement (dBμV) = AMN Factor (dB) + Cable Loss (dB) + Reading (dBμV)
2. Over (dB) = Measurement (dBμV) - Limit (dBμV)

## 8.8 ANTENNA APPLICATION

### 8.8.1 Antenna Requirement

| Standard | Requirement |
|---|---|
| FCC CRF Part 15.203 | An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. |
| FCC 47 CFR Part 15.247 (b) | If transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi. |
| RSS-Gen Section 6.8 | The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list. |
| RSS-247 Section 5.4 | If the transmitter employs an antenna system that emits multiple directional beams, but does not emit multiple directional beams simultaneously, the total output power conducted to the array or arrays that comprise the device (i.e. the sum of the power supplied to all antennas, antenna elements, staves, etc., and summed across all carriers or frequency channels) shall not exceed the applicable output power limit. However, the total conducted output power shall be reduced by 1 dB below the specified limits for each 3 dB that the directional gain of the antenna/antenna array exceeds 6 dBi. The directional antenna gain shall be computed as the sum of 10 log (number of array elements or staves) plus the directional gain of the element or stave having the highest gain. |

### 8.8.2 Result

PASS.

Note: ☑ Antenna use a permanently attached antenna which is not replaceable.
☐ Not using a standard antenna jack or electrical connector for antenna replacement
☐ The antenna has to be professionally installed (please provide method of installation)

Please refer to the attached document Internal Photos to show the antenna connector.

Detail of Factor For Radiated Emission

| Frequency(MHz) | Ant_F(dB) | Cab_L(dB) | Preamp(dB) | Correct Factor(dB) |
|---|---|---|---|---|
| 0.009 | 20.6 | 0.03 | \ | 20.63 |
| 0.15 | 20.7 | 0.1 | \ | 20.8 |
| 1 | 20.9 | 0.15 | \ | 21.05 |
| 10 | 20.1 | 0.28 | \ | 20.38 |
| 30 | 18.8 | 0.45 | \ | 19.25 |
| | | | | |
| 30 | 11.7 | 0.62 | 27.9 | -15.58 |
| 100 | 12.5 | 1.02 | 27.8 | -14.28 |
| 300 | 12.9 | 1.91 | 27.5 | -12.69 |
| 600 | 19.2 | 2.92 | 27 | -4.88 |
| 800 | 21.1 | 3.54 | 26.6 | -1.96 |
| 1000 | 22.3 | 4.17 | 26.2 | 0.27 |
| | | | | |
| 1000 | 25.6 | 1.76 | 41.4 | -14.04 |
| 3000 | 28.9 | 3.27 | 43.2 | -11.03 |
| 5000 | 31.1 | 4.2 | 44.6 | -9.3 |
| 8000 | 36.2 | 5.95 | 44.7 | -2.55 |
| 10000 | 38.4 | 6.3 | 43.9 | 0.8 |
| 12000 | 38.5 | 7.14 | 42.3 | 3.34 |
| 15000 | 40.2 | 8.15 | 41.4 | 6.95 |
| 18000 | 45.4 | 9.02 | 41.3 | 13.12 |
| | | | | |
| 18000 | 37.9 | 1.81 | 47.9 | -8.19 |
| 21000 | 37.9 | 1.95 | 48.7 | -8.85 |
| 25000 | 39.3 | 2.01 | 42.8 | -1.49 |
| 28000 | 39.6 | 2.16 | 46.0 | -4.24 |
| 31000 | 41.2 | 2.24 | 44.5 | -1.06 |
| 34000 | 41.5 | 2.29 | 46.6 | -2.81 |
| 37000 | 43.8 | 2.30 | 46.4 | -0.3 |
| 40000 | 43.2 | 2.50 | 42.2 | 3.5 |

--------- END OF REPORT --------