



FCC Test Report

Equipment : M904S
Brand Name : MtM
Model No. : M904S
FCC ID : 2AJ9P-M904S
Standard : 47 CFR FCC Part 15.247
RF Specification : Bluetooth LE
Frequency : 2400 MHz – 2483.5 MHz
FCC Classification : DTS
Applicant : MtM Technology Corporation
8F, 178 MinQuan East Road Section 3, Taipei,
Taiwan (R.O.C.)
Manufacturer : ASE Group.
No.26, Chin 3rd Rd., N.E.P.Z., Nantze,
Kaohsiung, Taiwan

The product sample received on Apr. 29, 2016 and completely tested on Aug. 25, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:


Kevin Liang / Assistant Manager





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Appendix I. Test Result of AC Power-line Conducted Emissions**Appendix A. Test Result of Emission Bandwidth****Appendix B. Test Result of Maximum Conducted Output Power****Appendix C. Test Result of Power Spectral Density****Appendix D. Test Result of Transmitter Radiated Bandedge Emissions****Appendix E. Transmitter Radiated Unwanted Emissions****Appendix F. Test Photos****Appendix EP. Photographs of EUT v01**



Summary of Test Result

| Conformance Test Specifications | | | | | |
|---------------------------------|------------------|--|---|--|----------|
| Report Clause | Ref. Std. Clause | Description | Measured | Limit | Result |
| 1.1.3 | 15.203 | Antenna Requirement | Antenna connector mechanism complied | FCC 15.203 | Complied |
| 3.1 | 15.207 | AC Power-line Conducted Emissions | [dBuV]: 0.48MHz 27.51 (Margin 28.85dB) - QP 22.16 (Margin 24.20dB) - AV | FCC 15.207 | Complied |
| 3.2 | 15.247(a) | DTS Bandwidth | Refer as Appendix A | $\geq 500\text{kHz}$ | Complied |
| 3.3 | 15.247(b) | Fundamental Emission Output Power | Refer as Appendix B | Power [dBm]:30 | Complied |
| 3.4 | 15.247(e) | Power Spectral Density | Refer as Appendix C | PSD [dBm/3kHz]:8 | Complied |
| 3.5 | 15.247(d) | Test Result of Transmitter Radiated Bandedge Emissions | Non-Restricted Bands: 2528.384 MHz: 33.76 dB Restricted Bands [dBuV/m at 3m]: 2490.172 MHz 64.27 (Margin 9.73 dB) - PK 46.00 (Margin 8.00 dB) - AV | Non-Restricted Bands:> 20 dBc Bands: FCC 15.209 | Complied |
| 3.6 | 15.247(d) | Transmitter Radiated Unwanted Emissions | Restricted Bands [dBuV/m at 3m]: 4960 MHz 48.16 (Margin 5.84dB) - AV 57.88 (Margin 16.12dB) - PK | Non-Restricted Bands:> 20 dBc Restricted Bands: FCC 15.209 | Complied |



Revision History



1 General Description

1.1 Information

1.1.1 Product Details

| | |
|---|-----|
| The difference between the report no. : N/A | |
| The Difference | N/A |

| | |
|----------------------|-----|
| Evaluated Test Items | N/A |
|----------------------|-----|

1.1.2 RF General Information

| Band | Mode | BWch (MHz) | Nss-Min | Nant |
|------|-------|------------|---------|------|
| 2.4G | BT-LE | 1 | 1 | 1 |

Note:

- 2.4G is the 2.4GHz Band (2.4-2.4835GHz).
- Bluetooth LE (Low Energy) using GFSK modulation for DTS digital modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs.

1.1.3 Antenna Information

| Antenna Category | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Integral antenna (antenna permanently attached) |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Temporary RF connector provided |
| <input type="checkbox"/> | <input type="checkbox"/> No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path. |
| <input checked="" type="checkbox"/> | External antenna (dedicated antennas) |
| | <input checked="" type="checkbox"/> Single power level with corresponding antenna(s). |
| | <input type="checkbox"/> Multiple power level and corresponding antenna(s). |
| | <input type="checkbox"/> RF connector provided |
| | <input type="checkbox"/> Unique antenna connector. (e.g., MMCX, U.FL, IPX, and RP-SMA, RP-N type...) |
| | <input type="checkbox"/> Standard antenna connector. (e.g., SMA, N, BNC, and TNC type...) |

| Antenna General Information | | | | | |
|-----------------------------|-----------|-----------|------------|-----------|-----------|
| No. | Ant. Cat. | Ant. Type | Gain (dBi) | Connector | Model No. |
| 1 | Integral | PIFA | 2 | I-Pex | 001-0014 |
| 2 | External | Dipole | 1.8 | RP-SMA(M) | GW26.0151 |



1.1.4 Type of EUT

| Identify EUT | |
|--|---|
| EUT Serial Number | N/A |
| Presentation of Equipment | <input type="checkbox"/> Production ; <input checked="" type="checkbox"/> Pre-Production ; <input type="checkbox"/> Prototype |
| Type of EUT | |
| <input checked="" type="checkbox"/> Stand-alone | |
| <input type="checkbox"/> Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.: ... | |
| <input type="checkbox"/> Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.: ... | |
| <input type="checkbox"/> Other: | |

1.1.5 Mode Test Duty Cycle

| Operated Mode for Worst Duty Cycle | |
|---|--|
| <input checked="" type="checkbox"/> Operated test mode for worst duty cycle | |
| Test Signal Duty Cycle (x) | Power Duty Factor [dB] – (10 log 1/x) |
| <input checked="" type="checkbox"/> 69.6% - test mode single channel – LE | 1.57 |

1.1.6 EUT Operational Condition

| | | | |
|-------------------|--|--|----------------------------------|
| Supply Voltage | <input type="checkbox"/> AC mains | <input checked="" type="checkbox"/> DC | |
| Type of DC Source | <input type="checkbox"/> External AC adapter | <input checked="" type="checkbox"/> From Host System | <input type="checkbox"/> Battery |

1.1.7 EUT Operate Information

| Items | Description | | |
|-------------------|-------------------------------------|---------------------------|---|
| Operate Condition | <input checked="" type="checkbox"/> | Point-to-multipoint (P2M) | <input type="checkbox"/> Point-to-point (P2P) |



1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 558074 D01 v03r05

1.3 Testing Location Information

| Testing Location | | | | |
|-------------------------------------|---------------|---------------|---|----------------------|
| <input checked="" type="checkbox"/> | HWA YA | ADD | : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. | |
| | | TEL | : 886-3-327-3456 | FAX : 886-3-327-6973 |
| Test Condition | Test Site No. | Test Engineer | Test Environment | Test Date |
| AC Conduction | CO04-HY | Jeо | 26°C / 57% | 25/08/2016 |
| RF Conducted | TH01-HY | Gary | 23.5°C / 62% | 12/08/2016 |
| Radiated | 03CH03-HY | Streak | 23.6°C / 57% | 19/08/2016 |

Test site registered number [553509] with FCC.



1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

| Measurement Uncertainty | | |
|-----------------------------------|---------------|---------|
| Test Item | Uncertainty | |
| AC power-line conducted emissions | ±2.3 dB | |
| Emission bandwidth, 6dB bandwidth | ±0.6 % | |
| RF output power, conducted | ±0.1 dB | |
| Power density, conducted | ±0.6 dB | |
| Unwanted emissions, conducted | 9 – 150 kHz | ±0.4 dB |
| | 0.15 – 30 MHz | ±0.4 dB |
| | 30 – 1000 MHz | ±0.6 dB |
| | 1 – 18 GHz | ±0.5 dB |
| | 18 – 40 GHz | ±0.5 dB |
| | 40 – 200 GHz | N/A |
| All emissions, radiated | 9 – 150 kHz | ±2.5 dB |
| | 0.15 – 30 MHz | ±2.3 dB |
| | 30 – 1000 MHz | ±2.6 dB |
| | 1 – 18 GHz | ±3.6 dB |
| | 18 – 40 GHz | ±3.8 dB |
| | 40 – 200 GHz | N/A |
| Temperature | ±0.8 °C | |
| Humidity | ±5 % | |
| DC and low frequency voltages | ±0.9% | |
| Time | ±1.4 % | |
| Duty Cycle | ±0.6 % | |



2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

| Worst Modulation Used for Conformance Testing | | | |
|---|------------------------------|-----------|-----------------|
| Bluetooth Version | Transmit Chains (N_{TX}) | Data Rate | Modulation Mode |
| LE | 1 | 1 Mbps | LE-1Mbps |

Note 1: Bluetooth LE (Low Energy) using GFSK modulation for DTS digital modulation.
Note 2: Modulation modes consist below configuration:
DSSS LE-1Mbps: GFSK (1Mbps)

2.2 Test Channel Mode

| Test Software Version | | nFRgo Studio V1.17.0.3211 | | | | | |
|-----------------------|----------|---------------------------|---------|------|-----------|-------|---------------|
| Band | Mode | BWch (MHz) | Nss-Min | Nant | Ch. (MHz) | Range | Power Setting |
| 2.4G | LE-1Mbps | 20 | 1 | 1 | 2402 | L | Default |
| 2.4G | LE-1Mbps | 20 | 1 | 1 | 2440 | M | Default |
| 2.4G | LE-1Mbps | 20 | 1 | 1 | 2480 | H | Default |

Abbreviation Explanation

| Band | Mode | BWch (MHz) | Nss-Min | Nant | Ch. (MHz) | Range | Test Cond. | Abbreviation |
|------|--------|------------|---------|------|-----------|-------|------------|-----------------------------|
| 2.4G | BT-LE, | 1 | 1 | 1 | 2402 | L | TN,VN | 2.4G;BT-LE;1;1;1;2402;TN,VN |

Note:

- ◆ Test range channel consist of L (Low Ch.), M (Middle Ch.), H (High Ch.), S (Single Ch.).



2.3 The Worst Case Measurement Configuration

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| Tests Item | AC power-line conducted emissions |
| Condition | AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz |
| Operating Mode | Operating Mode Description |
| 1 | PIFA Ant. Mode |
| 2 | Dipole 1 Ant. Mode |
| 3 | Dipole 2 Ant. Mode |

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| Tests Item | DTS Bandwidth, Fundamental Emission Output Power, Power Spectral Density, Emissions in Non-restricted Frequency Bands |
| Test Condition | Conducted measurement at transmit chains |

| The Worst Case Mode for Following Conformance Tests | | | | | | | |
|---|--|---------|---------|---------|--|--|--|
| Tests Item | Emissions in Restricted Frequency Bands | | | | | | |
| Test Condition | Radiated measurement | | | | | | |
| User Position | <input type="checkbox"/> EUT will be placed in fixed position. <input checked="" type="checkbox"/> EUT will be placed in mobile position and operating multiple positions. <input type="checkbox"/> EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. | | | | | | |
| Operating Mode < 1GHz | <input checked="" type="checkbox"/> 1. PIFA Ant. Mode <input checked="" type="checkbox"/> 2. Dipole 1 Ant. Mode <input checked="" type="checkbox"/> 3. Dipole 2 Ant. Mode | | | | | | |
| Orthogonal Planes of EUT | <table border="1"> <thead> <tr> <th>X Plane</th> <th>Y Plane</th> <th>Z Plane</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table> | X Plane | Y Plane | Z Plane | | | |
| X Plane | Y Plane | Z Plane | | | | | |
| | | | | | | | |
| Worst Planes of EUT | V | | | | | | |
| Worst Planes of Ant. (PIFA) | V | | | | | | |
| Worst Planes of Ant. (Dipole 1) | | | | | | | |
| Worst Planes of Ant. (Dipole 2) | V | | | | | | |



2.4 Support Equipment

| Support Equipment –AC Conduction | | | | |
|----------------------------------|-----------------------------|------------|-------------|--------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| 1 | Test Fixture | - | - | - |
| 2 | AC Adapter for Test fixture | ECOPAC | 3A-181WP05A | - |

Note: Support equipment No.1 was provided by customer.

| Support Equipment –Radiated Emission | | | | |
|--------------------------------------|-----------------------------|------------|-------------|--------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| 1 | Test Fixture | - | - | - |
| 2 | AC Adapter for Test fixture | ECOPAC | 3A-181WP05A | - |

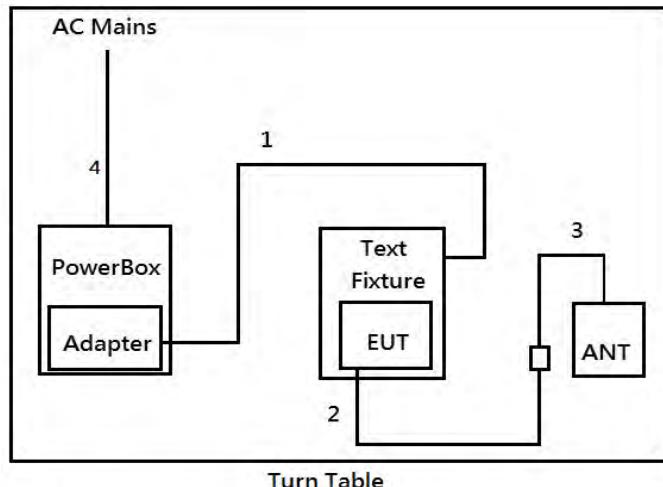
Note: Support equipment No.1 was provided by customer.

| Support Equipment - RF Conducted | | | | |
|----------------------------------|-------------------------|------------|------------|--------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| 1 | Test Fixture | - | - | - |
| 2 | Notebook | Lenovo | - | - |
| 3 | AC Adapter for Notebook | Lenovo | - | - |

Note: Support equipment No.1 was provided by customer.

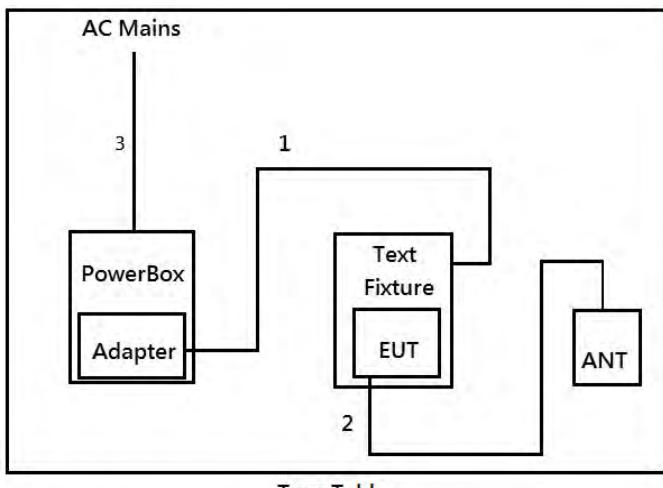
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test (Mode 1)

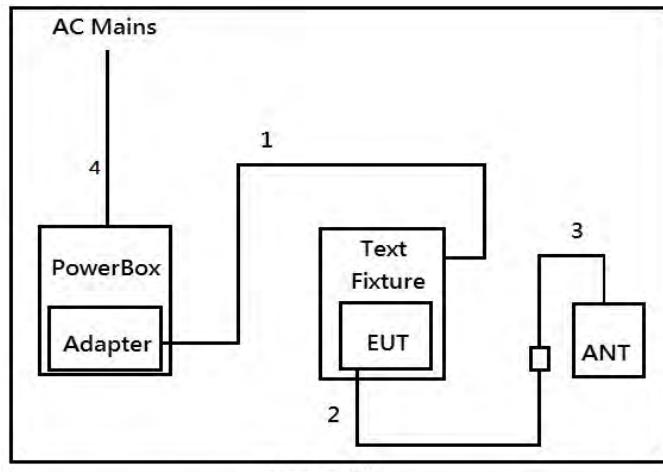


1. DC power line , 1m , Non-shielding
2. RF cable line , 0.28m , Non-shielding
3. RF cable line , 0.1m , Non-shielding
4. AC power line , 1.8m , Non-shielding

Test Setup Diagram – AC Line Conducted Emission Test (Mode 2, 3)

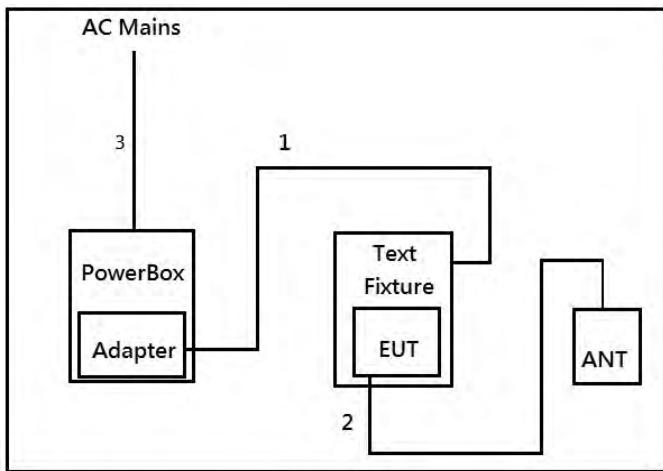


1. DC power line , 1m , Non-shielding
2. RF cable line , 0.28m , Non-shielding
3. AC power line , 1.8m , Non-shielding

Test Setup Diagram - Radiated Test(Mode 1)

Turn Table

1. DC power line , 1m , Non-shielding
2. RF cable line , 0.28m , Non-shielding
3. RF cable line , 0.1m , Non-shielding
4. AC power line , 1.8m , Non-shielding

Test Setup Diagram - Radiated Test(Mode 2, 3)

Turn Table

1. DC power line , 1m , Non-shielding
2. RF cable line , 0.28m , Non-shielding
3. AC power line , 1.8m , Non-shielding

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

| AC Power-line Conducted Emissions Limit | | |
|---|------------|-----------|
| Frequency Emission (MHz) | Quasi-Peak | Average |
| 0.15-0.5 | 66 - 56 * | 56 - 46 * |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

Note 1: * Decreases with the logarithm of the frequency.

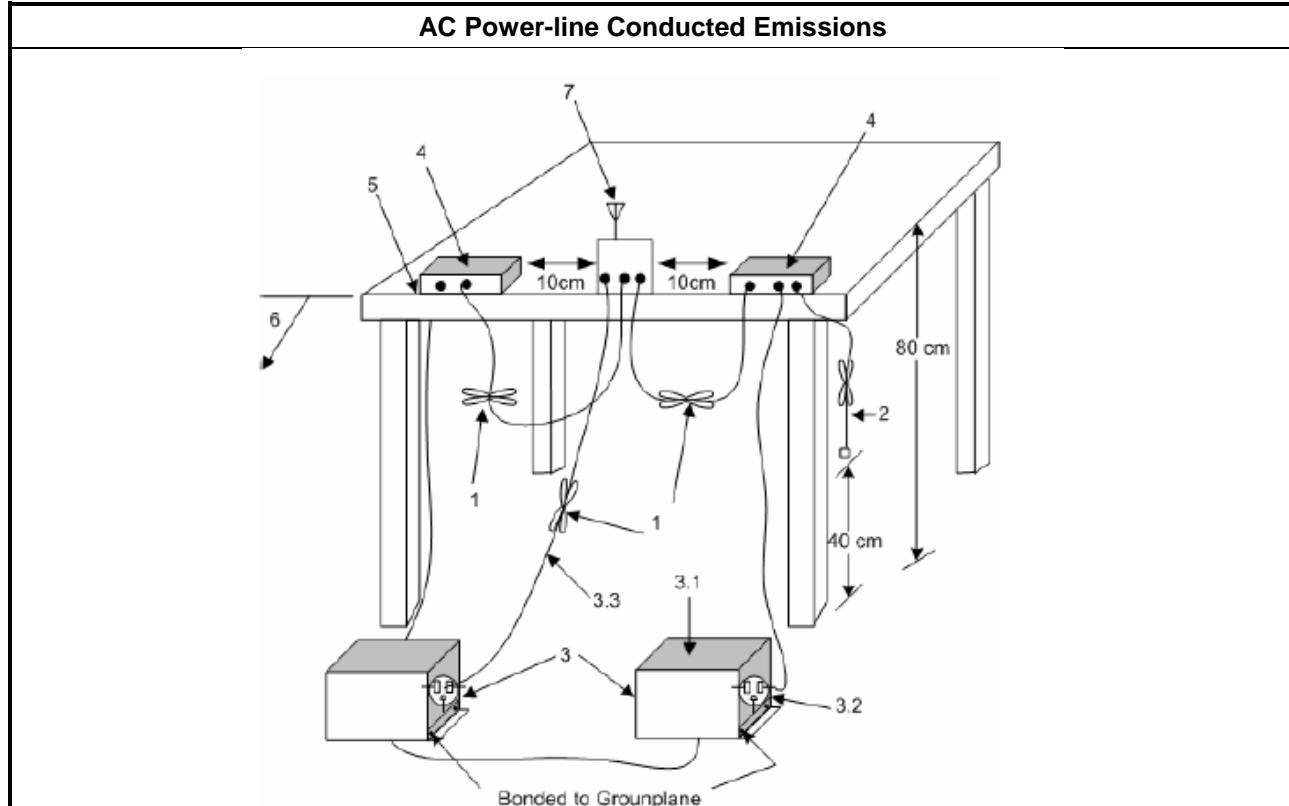
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

| Test Method |
|--|
| ▪ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions. |

3.1.4 Test Setup



3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix I

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

| 6dB Bandwidth Limit |
|---|
| Systems using digital modulation techniques: |
| ▪ 6 dB bandwidth \geq 500 kHz. |

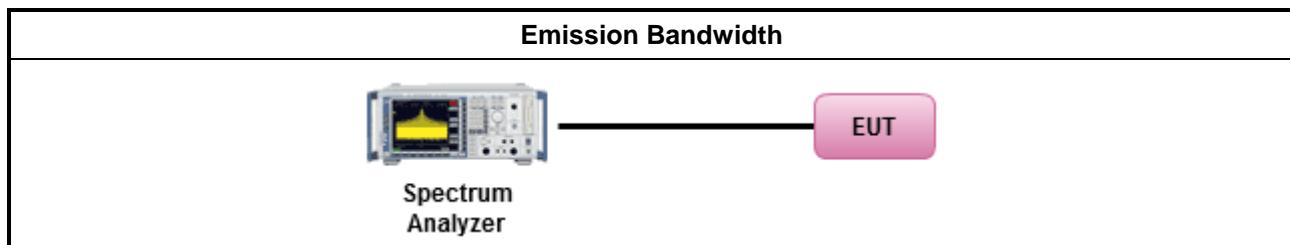
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

| Test Method |
|--|
| ▪ For the emission bandwidth shall be measured using one of the options below: |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement. |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement. |
| <input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing. |

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix A



3.3 Fundamental Emission Output Power

3.3.1 Fundamental Emission Output Power Limit

| Maximum Peak Conducted Output Power or Maximum Conducted Output Power Limit | |
|--|--|
| ▪ 2400-2483.5 MHz Band: | |
| | ▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W) |
| | ▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm |
| | ▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm |
| | ▪ Smart antenna system (SAS): |
| | - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm |
| | - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm |
| | - Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm |
| e.i.r.p. Power Limit: | |
| ▪ 2400-2483.5 MHz Band | |
| | ▪ Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W) |
| | ▪ Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm |
| | ▪ Smart antenna system (SAS) |
| | - Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm |
| | - Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm |
| | - Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ dBm |
| P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi. P_{eirp} = e.i.r.p. Power in dBm. | |

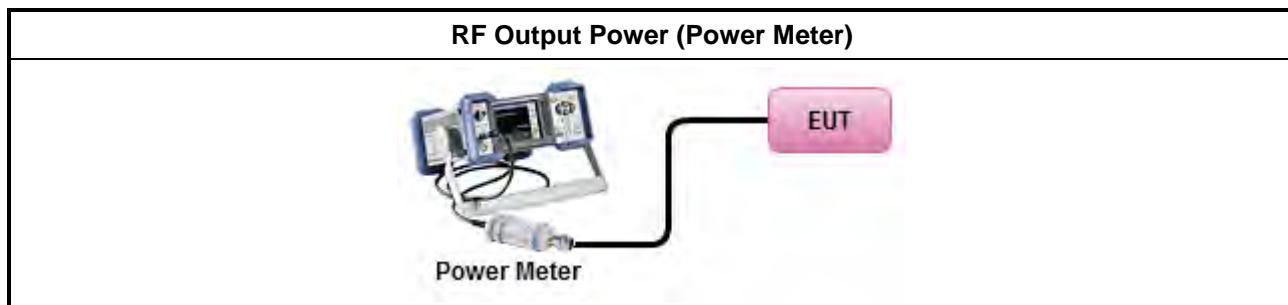
3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

| Test Method | |
|--|---|
| ▪ Maximum Peak Conducted Output Power | <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW \geq EBW method). <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 9.1.2 Option 2 (peak power meter for VBW \geq DTS BW) |
| ▪ Maximum Average Conducted Output Power | <p>Duty cycle \geq 98%</p> <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging). |
| | <p>Duty cycle $<$ 98%</p> <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed) |
| | RF power meter and average over on/off periods with duty factor or gated trigger |
| | <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.3 Method AVGPM (using an RF average power meter). |
| ▪ For conducted measurement. | <ul style="list-style-type: none">If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$ |

3.3.4 Test Setup



3.3.5 Test Result of Maximum Peak Conducted Output Power

Refer as Appendix B

3.3.6 Test Result of Maximum Average Conducted Output Power

Refer as Appendix B



3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

| Power Spectral Density Limit |
|--|
| ▪ Power Spectral Density (PSD) $\leq 8 \text{ dBm/3kHz}$ |

3.4.2 Measuring Instruments

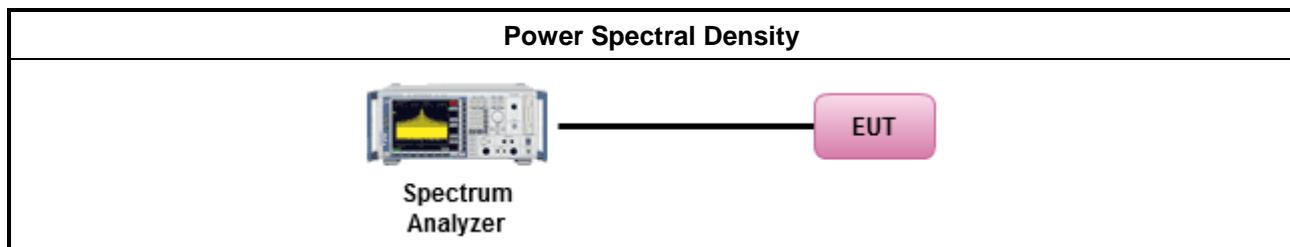
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

| Test Method |
|--|
| ▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option). |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak). |
| Duty cycle $\geq 98\%$ |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 10.5 Method AVGPSD-2 (spectral trace averaging). |
| Duty cycle $< 98\%$ |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed) |
| ▪ For conducted measurement. |
| <ul style="list-style-type: none">▪ If The EUT supports multiple transmit chains using options given below:<ul style="list-style-type: none"><input type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the N_{TX} output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.<input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,<input type="checkbox"/> Option 3: Measure and add $10 \log(N)$ dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with $10 \log(N)$. Or each transmit chains shall be add $10 \log(N)$ to compared with the limit. |



3.4.4 Test Setup

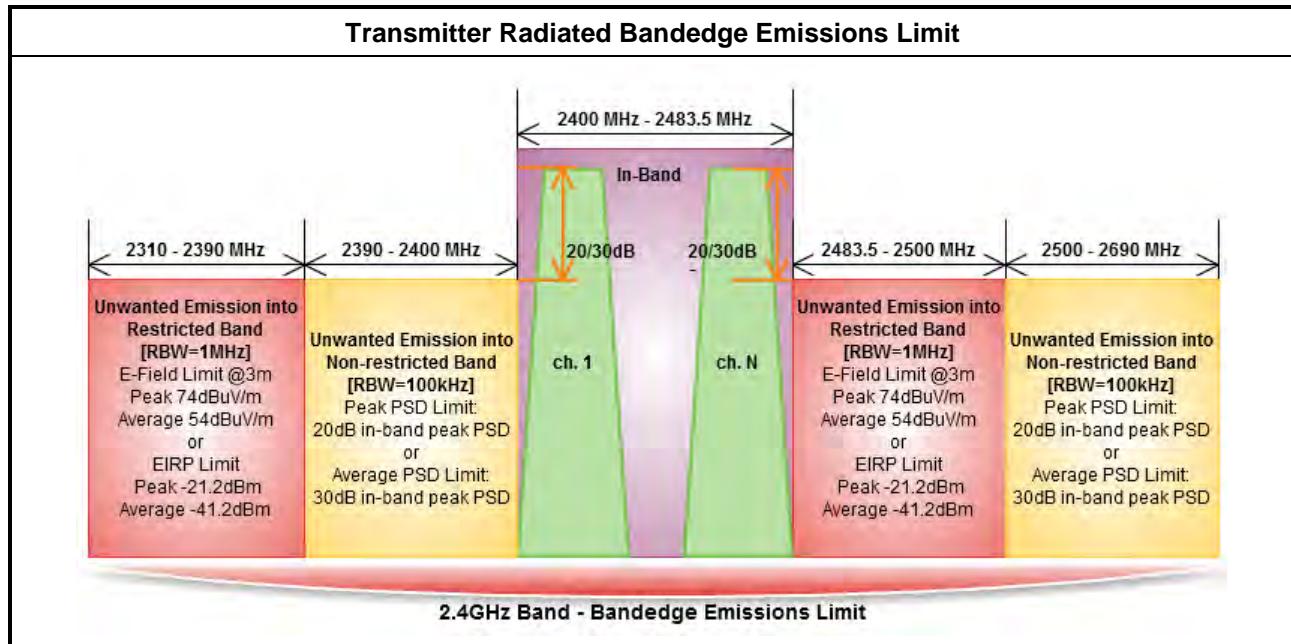


3.4.5 Test Result of Power Spectral Density

Refer as Appendix C

3.5 Transmitter Radiated Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit



3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

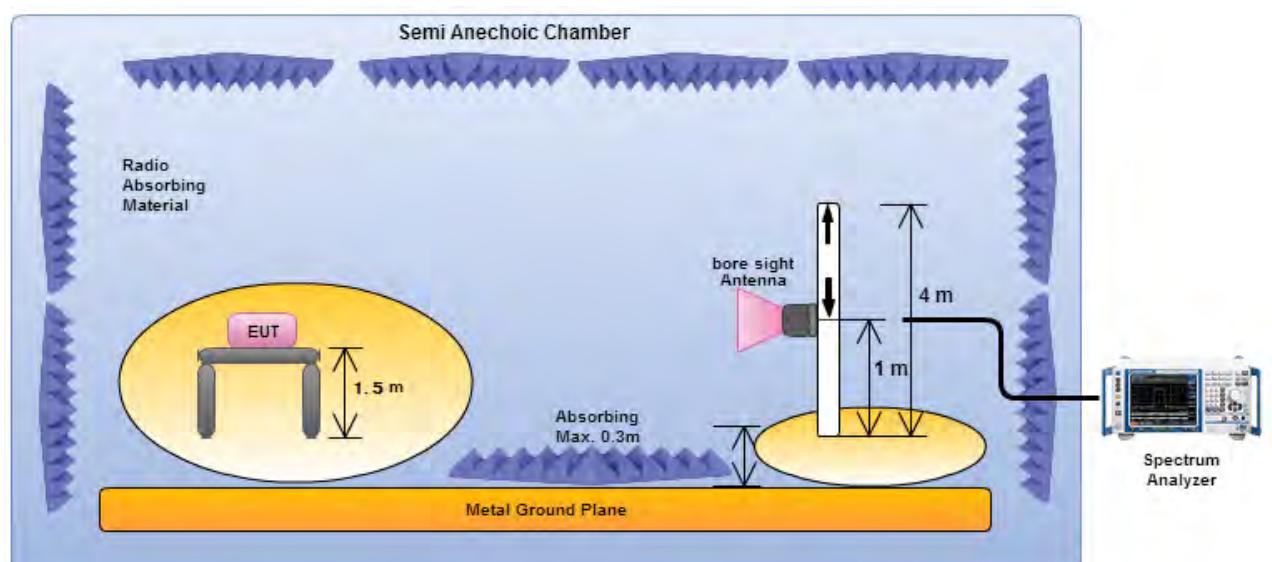


3.5.3 Test Procedures

| Test Method |
|--|
| <input checked="" type="checkbox"/> The average emission levels shall be measured in [duty cycle \geq 98 or duty factor]. |
| <input checked="" type="checkbox"/> Refer as ANSI C63.10, clause 6.10 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band. |
| <input checked="" type="checkbox"/> For the transmitter unwanted emissions shall be measured using following options below: |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands. |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands. |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq 98\%$) |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor). |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced $VBW \geq 1/T$). |
| <input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW). $VBW \geq 1/T$, where T is pulse time. |
| <input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 11.3 and 12.2.4 measurement procedure peak limit. |
| <input checked="" type="checkbox"/> For the transmitter bandedge emissions shall be measured using following options below: |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz). |
| <input type="checkbox"/> Refer as ANSI C63.10, clause 6.10 for band-edge testing. |
| <input checked="" type="checkbox"/> Refer as ANSI C63.10, clause 6.10.6.2 for marker-delta method for band-edge measurements. |
| <input checked="" type="checkbox"/> For radiated measurement, refer as FCC KDB 558074, clause 12.2.7 and ANSI C63.10, clause 6.6. Test distance is 3m. |

3.5.4 Test Setup

Transmitter Radiated Bandedge Emissions



Electric field tests shall be performed in transmitter bandedge emissions using a calibrated horn antenna.

3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix D



3.6 Transmitter Radiated Unwanted Emissions

3.6.1 Transmitter in Radiated Unwanted Emissions Limit

| Restricted Band Emissions Limit | | | |
|---------------------------------|-----------------------|-------------------------|----------------------|
| Frequency Range (MHz) | Field Strength (uV/m) | Field Strength (dBuV/m) | Measure Distance (m) |
| 0.009~0.490 | 2400/F(kHz) | 48.5 - 13.8 | 300 |
| 0.490~1.705 | 24000/F(kHz) | 33.8 - 23 | 30 |
| 1.705~30.0 | 30 | 29 | 30 |
| 30~88 | 100 | 40 | 3 |
| 88~216 | 150 | 43.5 | 3 |
| 216~960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

| Un-restricted Band Emissions Limit | |
|------------------------------------|------------|
| RF output power procedure | Limit (dB) |
| Peak output power procedure | 20 |
| Average output power procedure | 30 |

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

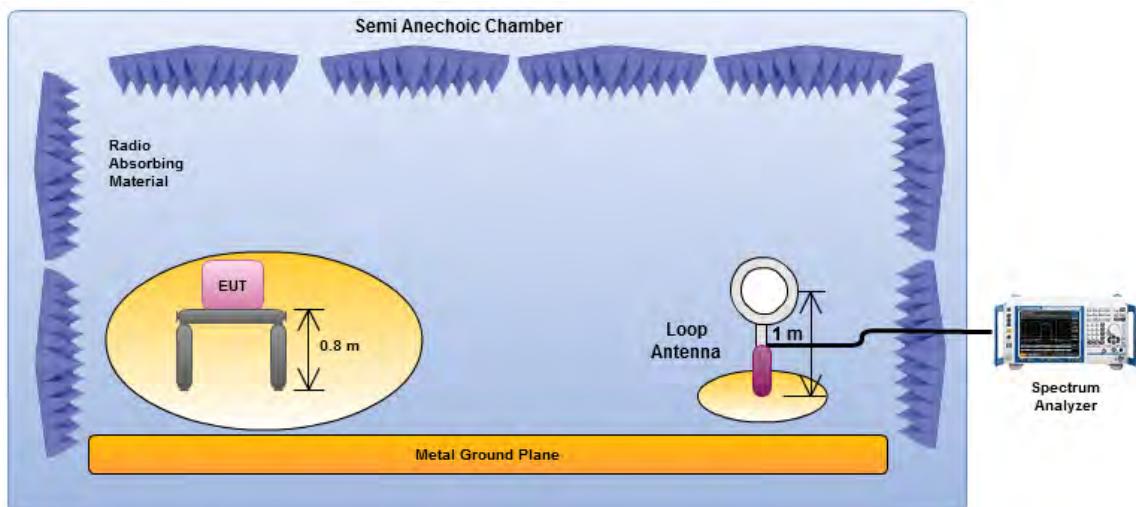


3.6.3 Test Procedures

| Test Method |
|---|
| <input checked="" type="checkbox"/> Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements). |
| <input checked="" type="checkbox"/> The average emission levels shall be measured in [duty cycle \geq 98 or duty factor]. |
| <input checked="" type="checkbox"/> For the transmitter unwanted emissions shall be measured using following options below: |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands. |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands. |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq 98\%$) |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor). |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced $VBW \geq 1/T$). |
| <input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW). $VBW \geq 1/T$, where T is pulse time. |
| <input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 11.3 and 12.2.4 measurement procedure peak limit. |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.3 measurement procedure Quasi-Peak limit. |
| <input checked="" type="checkbox"/> For radiated measurement, refer as FCC KDB 558074, clause 12.2.7. |
| <input checked="" type="checkbox"/> Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m. |
| <input checked="" type="checkbox"/> Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m. |
| <input checked="" type="checkbox"/> Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m. |
| <input checked="" type="checkbox"/> The any unwanted emissions level shall not exceed the fundamental emission level. |
| <input checked="" type="checkbox"/> All amplitude of spurious emissions that are attenuated by more than 30 dB below the permissible value has no need to be reported. |

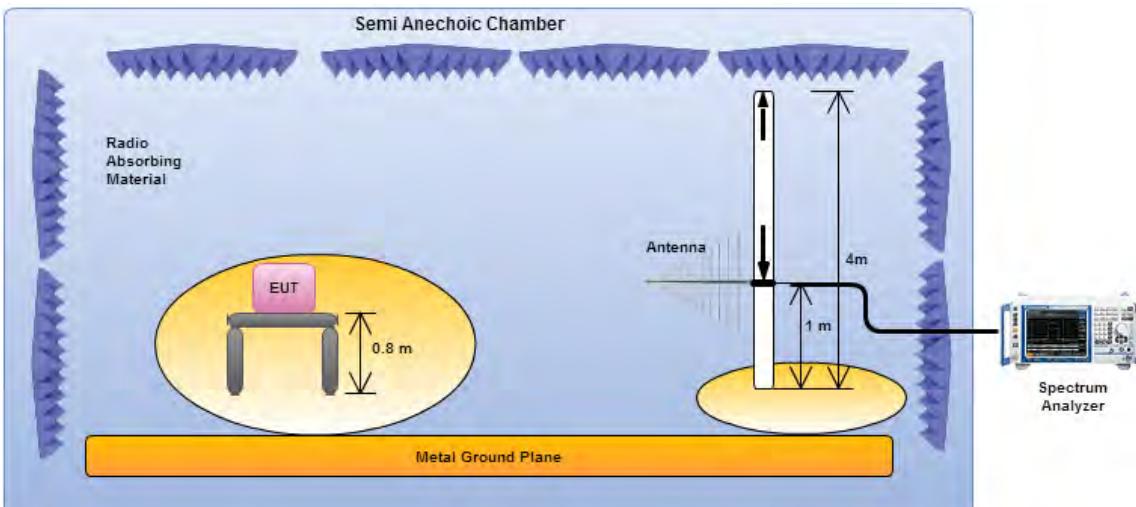
3.6.4 Test Setup

Transmitter Spurious and Out of Band Emissions (9 kHz - 30 MHz)

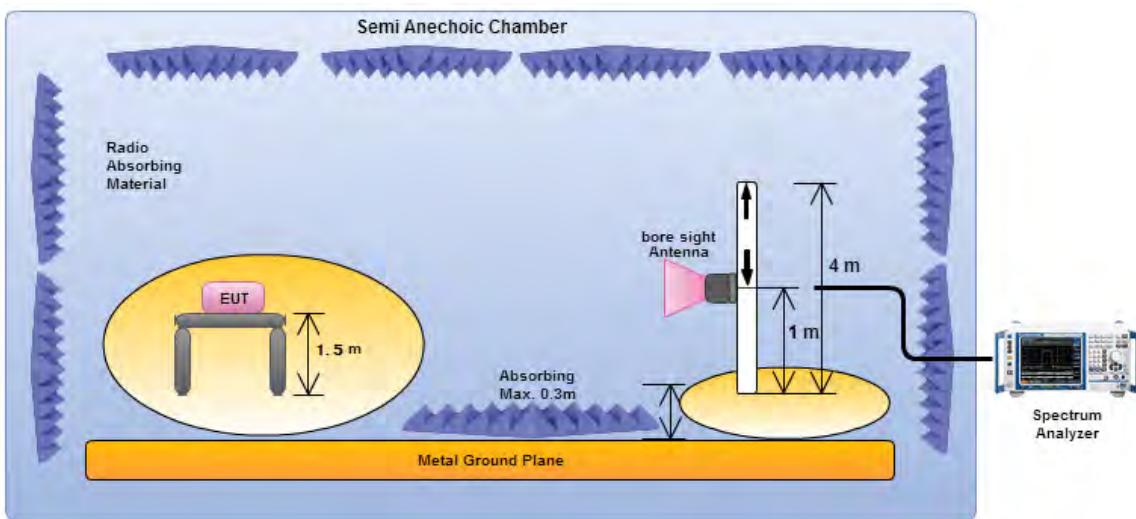


Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna.

Transmitter Radiated Unwanted Emissions (below 1GHz)



Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna.

Transmitter Radiated Unwanted Emissions (above 1GHz)

Electric field tests shall be performed in the frequency range of 1 GHz to 10th harmonic of highest fundamental frequency or 40 GHz using a calibrated horn antenna.

3.6.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. Any spurious which has more than 20 dB of margin compared to the applicable limit is not necessarily reported.

3.6.6 Transmitter Radiated Unwanted Emissions

Refer as Appendix E



4 Test Equipment and Calibration Data

Instrument for AC Conduction

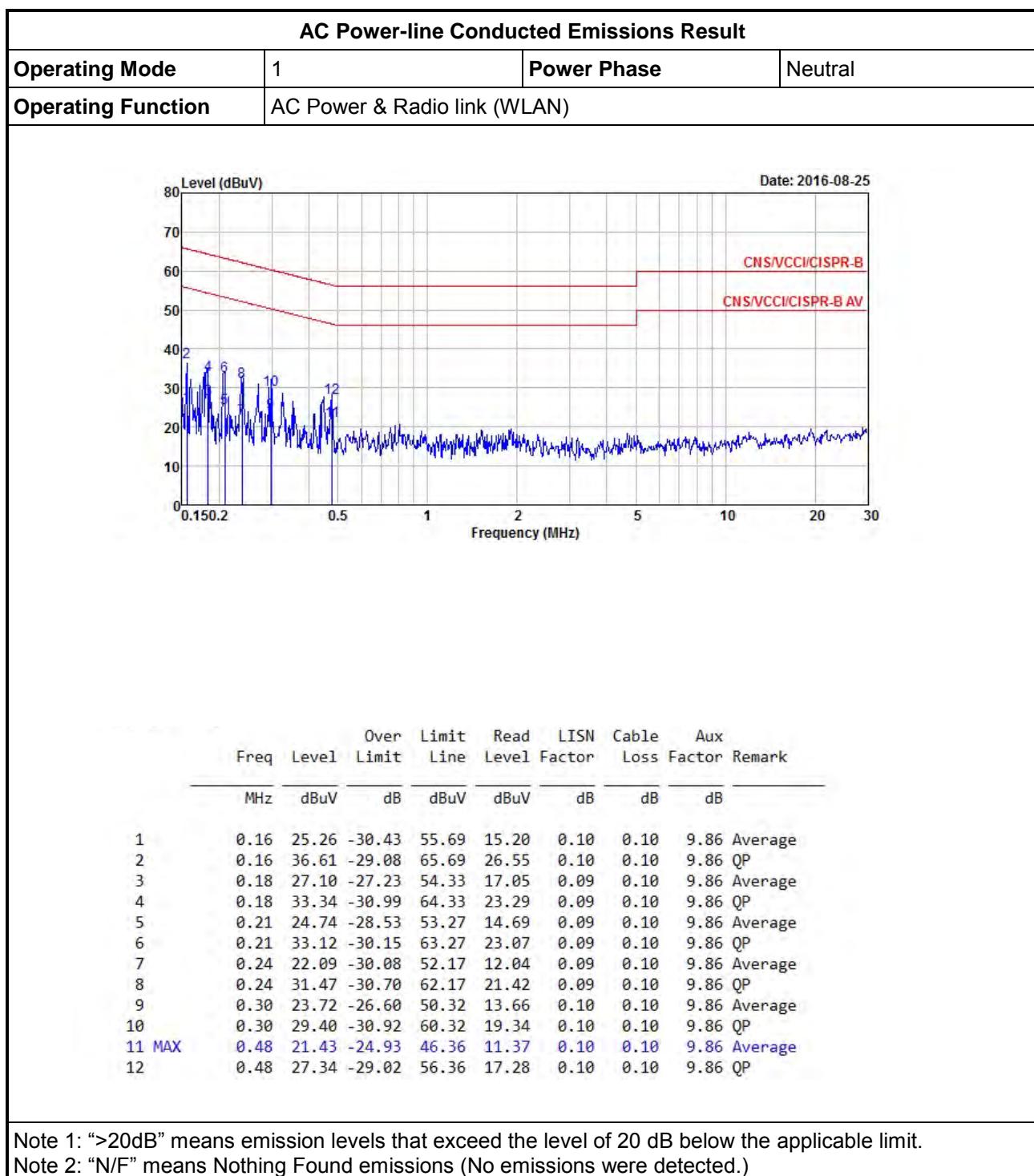
| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Last Cal. | Calibration Due Date |
|------------------------|--------------------------------|-----------|----------------|-----------------|-----------------------|----------------------|
| EMC Receiver | R&S | ESR-3 | 102051 | 9KHz ~ 3.6GHz | 19/04/2016 | 18/04/2017 |
| LISN | SCHWARZBECK MESS-ELEKTRONIK | NSLK 8127 | 8127-477 | 9kHz ~ 30MHz | 26/01/2016 | 25/01/2017 |
| LISN (Support Unit) | R&S | ENV216 | 101295 | 9kHz ~ 30MHz | 04/11/2015 | 03/11/2016 |
| RF Cable-CON | HUBER+SUHNER | RG213/U | 07611832020001 | 9kHz ~ 30MHz | 30/10/2015 | 29/10/2016 |

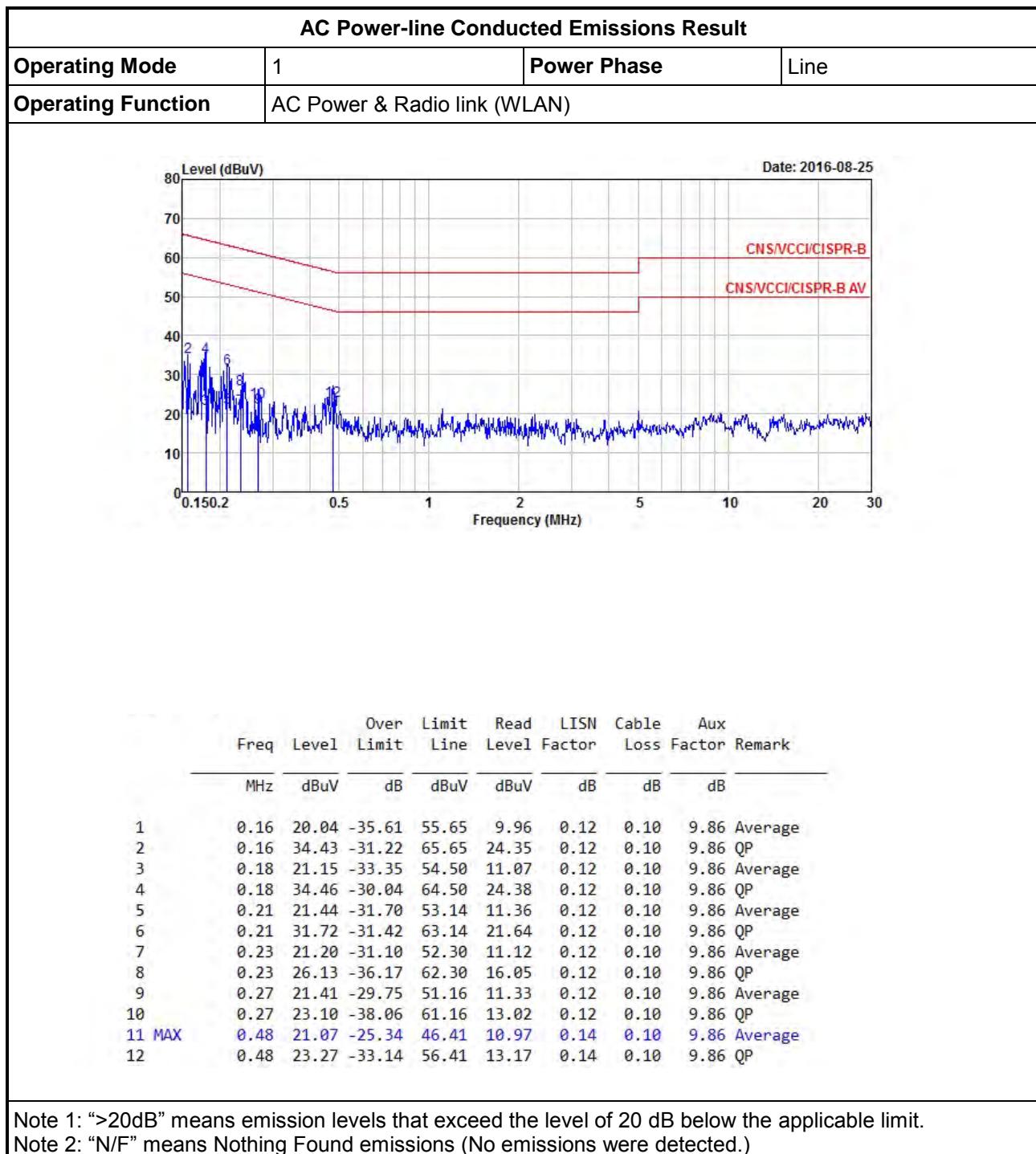
Instrument for Conducted Test

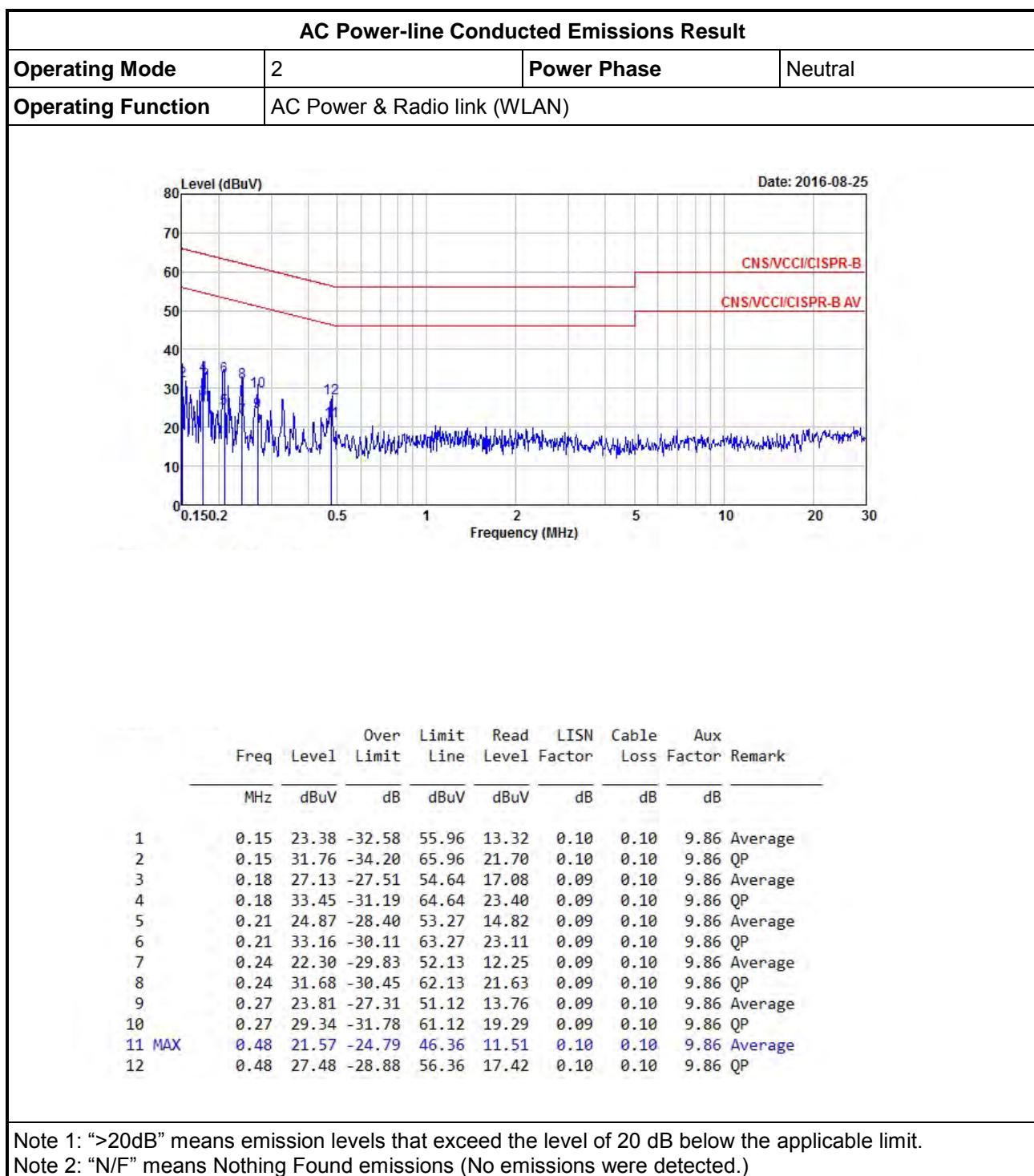
| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Last Cal. | Calibration Due Date |
|-------------------|--------------|-----------|------------|-----------------|-----------------------|----------------------|
| Spectrum Analyzer | R&S | FSV 40 | 101500 | 9KHz~40GHz | 12/05/2016 | 11/05/ 2017 |
| Power Sensor | Anritsu | MA2411B | 917017 | 300MHz ~ 40GHz | 04/02/2016 | 03/02/2017 |
| Power Meter | Anritsu | ML2495A | 949003 | 300MHz ~ 40GHz | 04/02/2016 | 03/02/2017 |
| Signal Generator | R&S | SMR40 | 100116 | 10MHz ~ 40GHz | 21/07/2016 | 20/07/2017 |

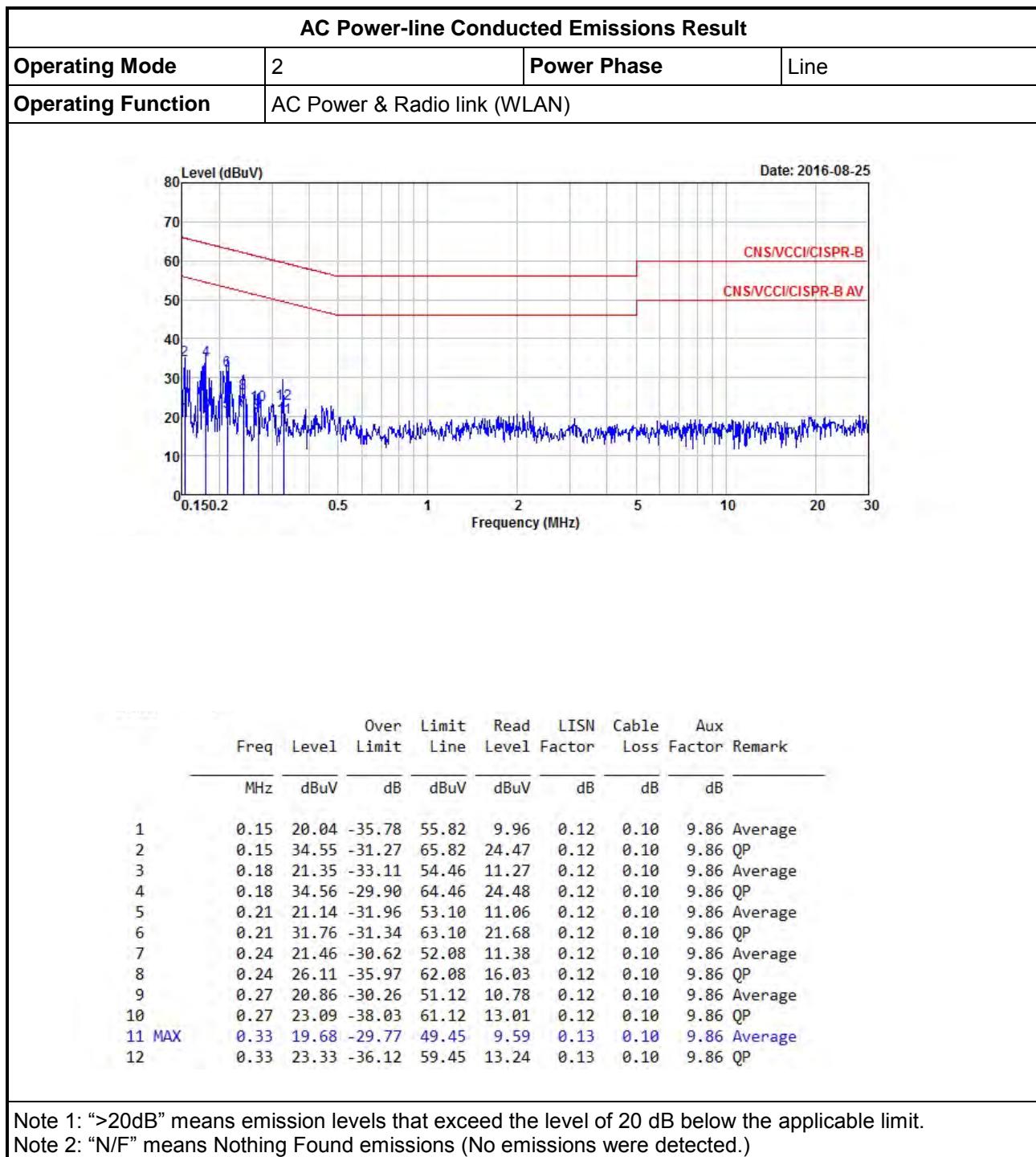
Instrument for Radiated Test

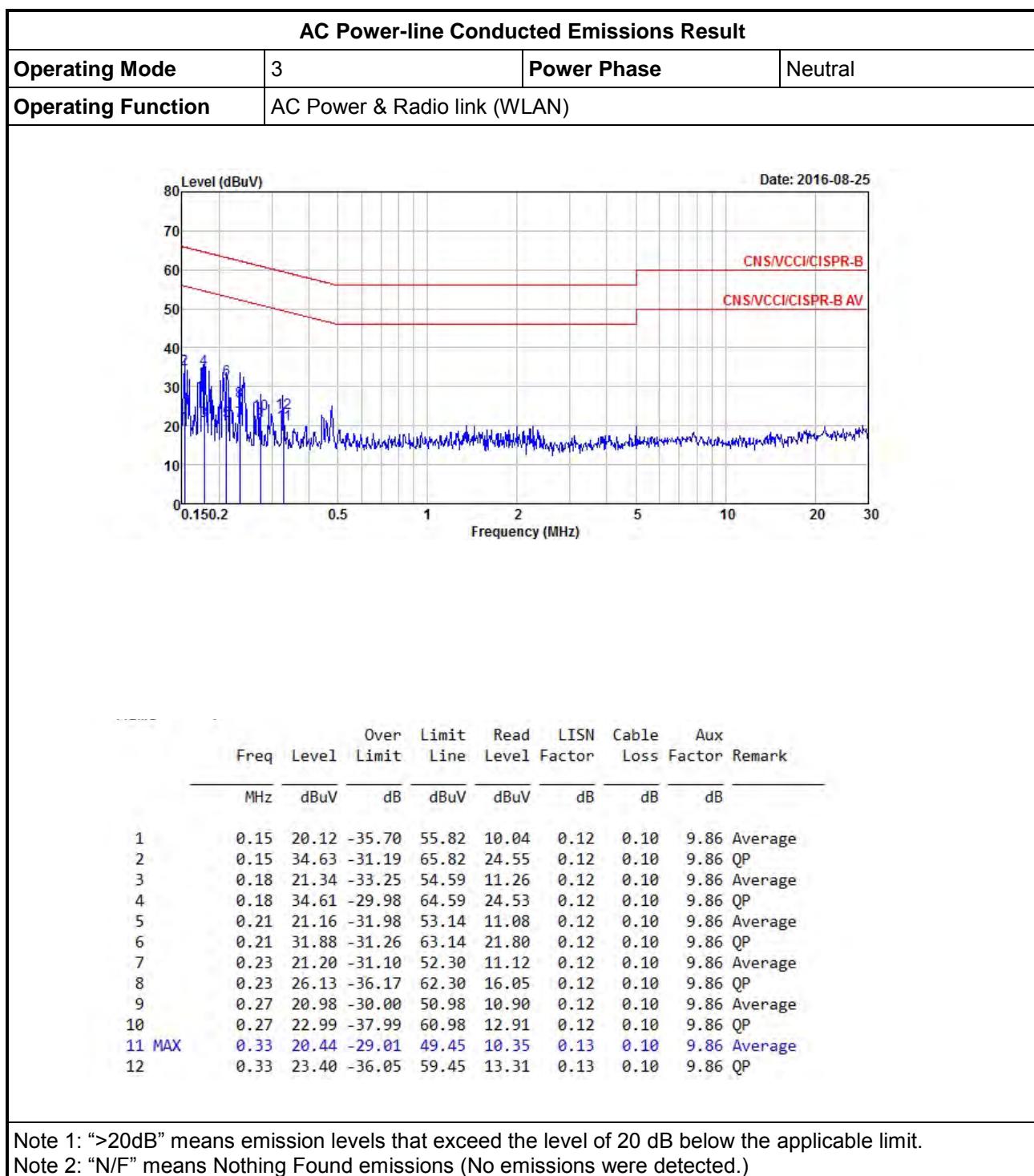
| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Last Cal. | Calibration Due Date |
|--------------------------|-------------------|---------------------|----------------------|--------------------|-----------------------|----------------------|
| Spectrum Analyzer | R&S | FSP 40 | 100593 | 9kHz~40GHz | 19/10/2015 | 18/10/2016 |
| 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH02-HY | 30MHz ~ 1GHz 3m | 03/06/2016 | 02/06/2017 |
| 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH02-HY | 1GHz ~ 18GHz 3m | 03/06/2016 | 02/06/2017 |
| Amplifier | Agilent | 8447D | 2944A11149 | 100kHz ~ 1.3GHz | 01/07/2016 | 30/06/2017 |
| Amplifier | Agilent | 8449B | 3008A02602 | 1GHz ~ 26.5GHz | 04/11/2015 | 03/11/2016 |
| Horn Antenna | SCHWARZBECK | BBHA 9120 D | BBHA 9120 D 01543 | 1GHz ~ 18GHz | 22/04/2016 | 21/04/2017 |
| Horn Antenna | SCHWARZBECK | BBHA9170 | BBHA9170154 | 18GHz ~ 40GHz | 29/01/2016 | 28/01/2017 |
| Bilog Antenna | SCHAFFNER | CBL 6112B | 2723 | 30MHz ~ 1GHz | 05/10/2015 | 04/10/2016 |
| Amplifier | MITEQ | JS44-18004000-33-8P | 1840917 | 18GHz ~ 40GHz | 01/06/2015 | 31/05/2017 |
| Loop Antenna | TESEQ | HLA 6120 | 31244 | 9 kHz~30 MHz | 02/02/2015 | 01/02/2017 |

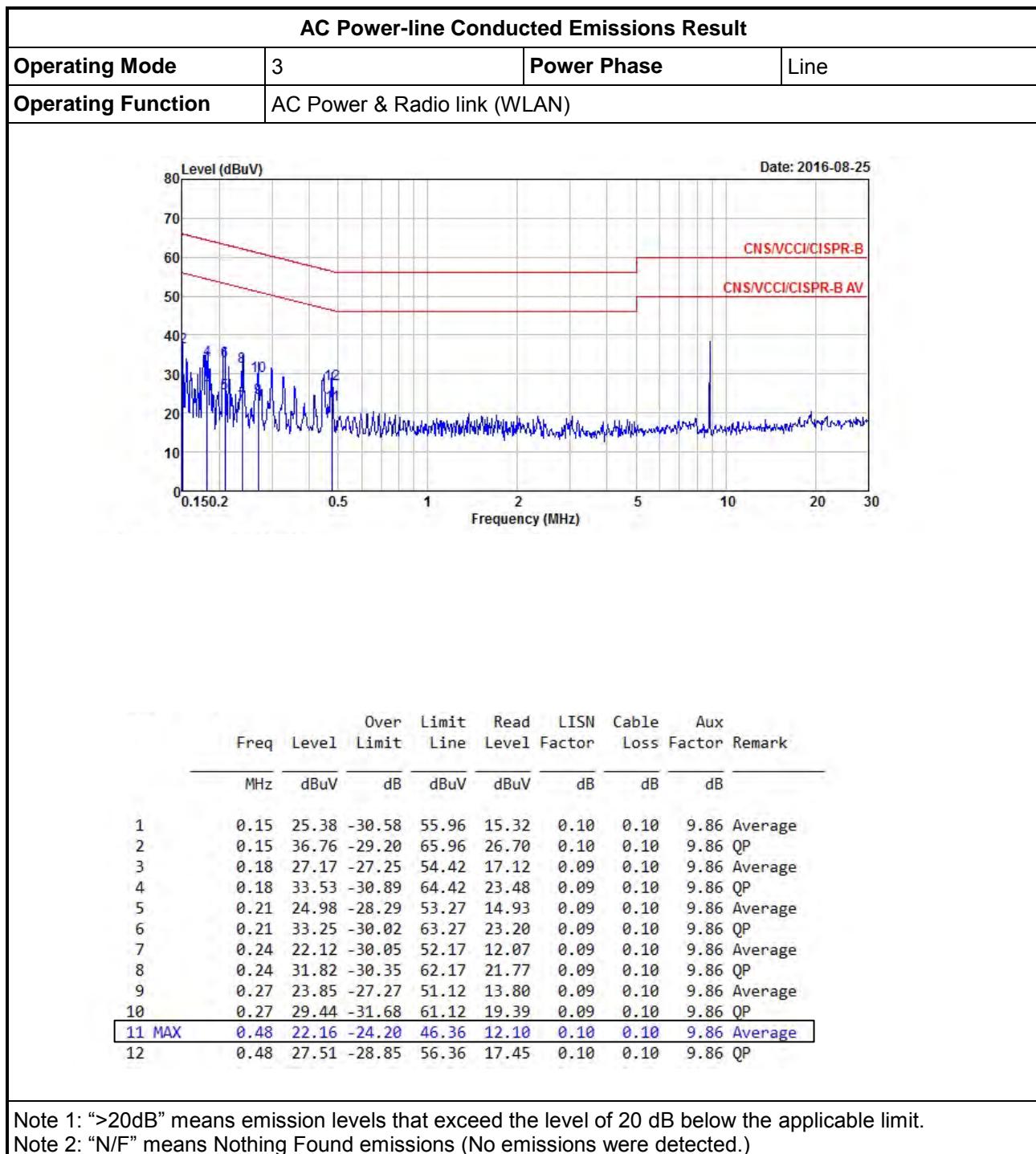










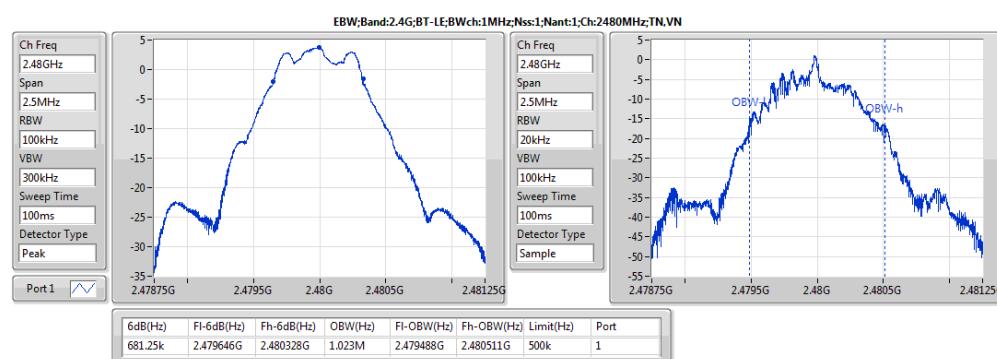
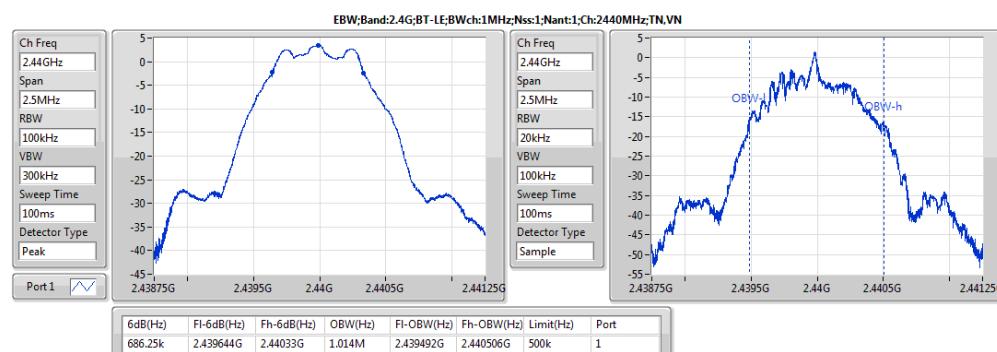
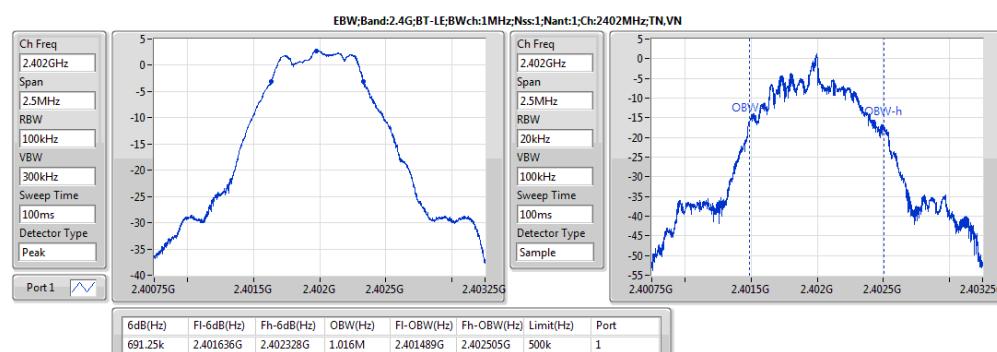


**Summary**

| Mode | Max-N dB (Hz) | Max-OBW (Hz) | ITU-Code | Min-N dB (Hz) | Min-OBW (Hz) |
|------------------|------------------|-----------------|----------|------------------|-----------------|
| 2.4G:BT-LE;1;1;1 | 691.25k | 1.023M | 1M02F1D | 681.25k | 1.014M |

**Result**

| Mode | Result | Limit | P1-N dB (Hz) | P1-OBW (Hz) |
|-------------------------------|--------|-------|-----------------|----------------|
| 2.4G;BT-LE;1;1;1;2402;L;TN,VN | Pass | 500k | 691.25k | 1.016M |
| 2.4G;BT-LE;1;1;1;2440;M;TN,VN | Pass | 500k | 686.25k | 1.014M |
| 2.4G;BT-LE;1;1;1;2480;H;TN,VN | Pass | 500k | 681.25k | 1.023M |

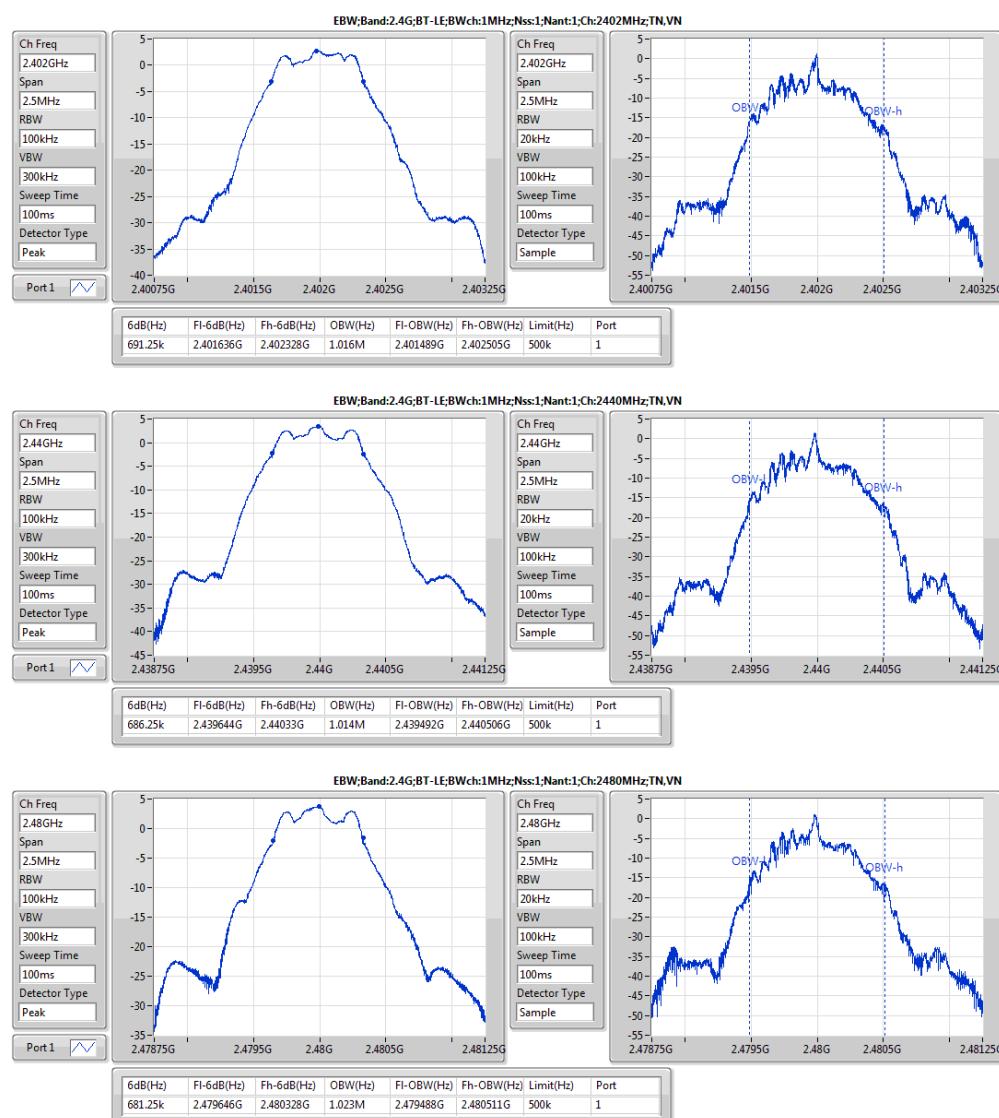


**Summary**

| Mode | Max-N dB (Hz) | Max-OBW (Hz) | ITU-Code | Min-N dB (Hz) | Min-OBW (Hz) |
|------------------|------------------|-----------------|----------|------------------|-----------------|
| 2.4G:BT-LE;1;1;1 | 691.25k | 1.023M | 1M02F1D | 681.25k | 1.014M |

**Result**

| Mode | Result | Limit | P1-N dB (Hz) | P1-OBW (Hz) |
|-------------------------------|--------|-------|-----------------|----------------|
| 2.4G;BT-LE;1;1;1;2402;L;TN,VN | Pass | 500k | 691.25k | 1.016M |
| 2.4G;BT-LE;1;1;1;2440;M;TN,VN | Pass | 500k | 686.25k | 1.014M |
| 2.4G;BT-LE;1;1;1;2480;H;TN,VN | Pass | 500k | 681.25k | 1.023M |





Summary

| Mode | Sum (dBm) | Sum (W) | EIRP (dBm) | EIRP (W) |
|------------------|--------------|------------|---------------|-------------|
| 2.4G:BT-LE;1;1;1 | 3.56 | 0.00227 | 5.56 | 0.0036 |

**Result**

| Mode | Result | DG (dBi) | EIRP (dBm) | EIRP Lim. (dBm) | Sum (dBm) | Sum Lim. (dBm) | P1 (dBm) |
|-------------------------------|--------|-------------|---------------|--------------------|--------------|-------------------|-------------|
| 2.4G:BT-LE;1;1;1;2402;L;TN,VN | Pass | 2.00 | 4.62 | 36.00 | 2.62 | 30.00 | 2.62 |
| 2.4G:BT-LE;1;1;1;2440;M;TN,VN | Pass | 2.00 | 5.27 | 36.00 | 3.27 | 30.00 | 3.27 |
| 2.4G:BT-LE;1;1;1;2480;H;TN,VN | Pass | 2.00 | 5.56 | 36.00 | 3.56 | 30.00 | 3.56 |



Summary

| Mode | Sum (dBm) | Sum (W) | EIRP (dBm) | EIRP (W) |
|------------------|--------------|------------|---------------|-------------|
| 2.4G:BT-LE;1:1;1 | 2.80 | 0.00191 | 4.80 | 0.00302 |

**Result**

| Mode | Result | DG (dBi) | EIRP (dBm) | EIRP Lim. (dBm) | Sum (dBm) | Sum Lim. (dBm) | P1 (dBm) |
|-------------------------------|--------|-------------|---------------|--------------------|--------------|-------------------|-------------|
| 2.4G:BT-LE;1;1;1;2402;L;TN,VN | Pass | 2.00 | 3.96 | 36.00 | 1.96 | 30.00 | 1.96 |
| 2.4G:BT-LE;1;1;1;2440;M;TN,VN | Pass | 2.00 | 4.58 | 36.00 | 2.58 | 30.00 | 2.58 |
| 2.4G:BT-LE;1;1;1;2480;H;TN,VN | Pass | 2.00 | 4.80 | 36.00 | 2.80 | 30.00 | 2.80 |

**Summary**

| Mode | Sum (dBm) | Sum (W) | EIRP (dBm) | EIRP (W) |
|------------------|--------------|------------|---------------|-------------|
| 2.4G:BT-LE;1:1:1 | 3.56 | 0.00227 | 5.36 | 0.00344 |

**Result**

| Mode | Result | DG (dBi) | EIRP (dBm) | EIRP Lim. (dBm) | Sum (dBm) | Sum Lim. (dBm) | P1 (dBm) |
|-------------------------------|--------|-------------|---------------|--------------------|--------------|-------------------|-------------|
| 2.4G:BT-LE;1;1;1;2402;L;TN,VN | Pass | 1.80 | 4.42 | 36.00 | 2.62 | 30.00 | 2.62 |
| 2.4G:BT-LE;1;1;1;2440;M;TN,VN | Pass | 1.80 | 5.07 | 36.00 | 3.27 | 30.00 | 3.27 |
| 2.4G:BT-LE;1;1;1;2480;H;TN,VN | Pass | 1.80 | 5.36 | 36.00 | 3.56 | 30.00 | 3.56 |

**Summary**

| Mode | Sum (dBm) | Sum (W) | EIRP (dBm) | EIRP (W) |
|------------------|--------------|------------|---------------|-------------|
| 2.4G:BT-LE;1:1;1 | 2.80 | 0.00191 | 4.60 | 0.00288 |

Result

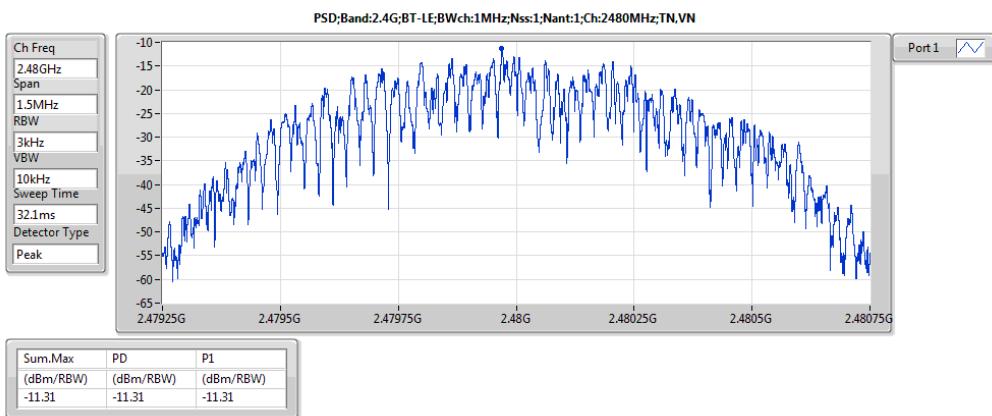
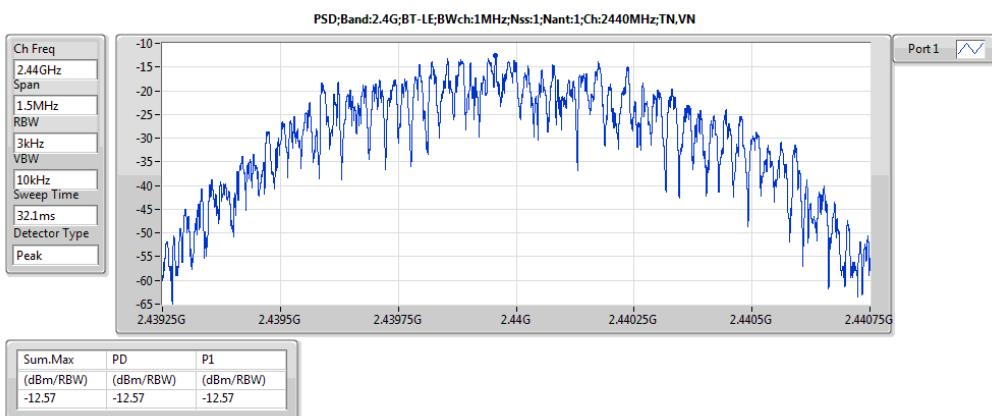
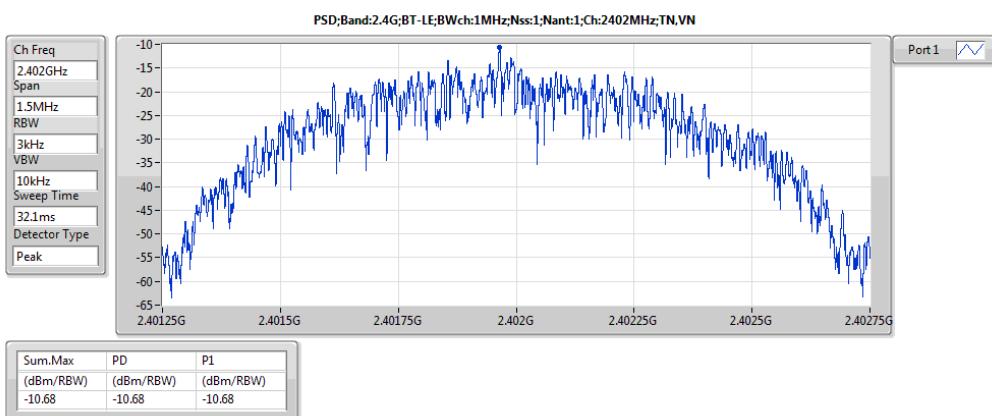
| Mode | Result | DG (dBi) | EIRP (dBm) | EIRP Lim. (dBm) | Sum (dBm) | Sum Lim. (dBm) | P1 (dBm) |
|-------------------------------|--------|-------------|---------------|--------------------|--------------|-------------------|-------------|
| 2.4G:BT-LE;1;1;1;2402;L;TN,VN | Pass | 1.80 | 3.76 | 36.00 | 1.96 | 30.00 | 1.96 |
| 2.4G:BT-LE;1;1;1;2440;M;TN,VN | Pass | 1.80 | 4.38 | 36.00 | 2.58 | 30.00 | 2.58 |
| 2.4G:BT-LE;1;1;1;2480;H;TN,VN | Pass | 1.80 | 4.60 | 36.00 | 2.80 | 30.00 | 2.80 |

**Summary**

| Mode | PD (dBm/RBW) | EIRP.PD (dBm/RBW) |
|------------------|-----------------|----------------------|
| 2.4G:BT-LE;1;1;1 | -10.68 | -8.68 |

Result

| Mode | Result | Meas.RBW (Hz) | Lim.RBW (Hz) | BWCF (dB) | DG (dBi) | Sum.Max (dBm/RBW) | PD (dBm/RBW) | PD.Limit (dBm/RBW) | EIRP.PD (dBm/RBW) | EIRP.PD.Li m (dBm/RBW) | P1 (dBm/RBW) |
|-------------------------------|--------|------------------|-----------------|--------------|-------------|----------------------|-----------------|-----------------------|----------------------|------------------------------|-----------------|
| 2.4G;BT-LE;1;1;1;2402;L;TN,VN | Pass | 3k | 3k | 0.00 | 2.00 | -10.68 | -10.68 | 8.00 | -8.68 | Inf | -10.68 |
| 2.4G;BT-LE;1;1;1;2440;M;TN,VN | Pass | 3k | 3k | 0.00 | 2.00 | -12.57 | -12.57 | 8.00 | -10.57 | Inf | -12.57 |
| 2.4G;BT-LE;1;1;1;2480;H;TN,VN | Pass | 3k | 3k | 0.00 | 2.00 | -11.31 | -11.31 | 8.00 | -9.31 | Inf | -11.31 |



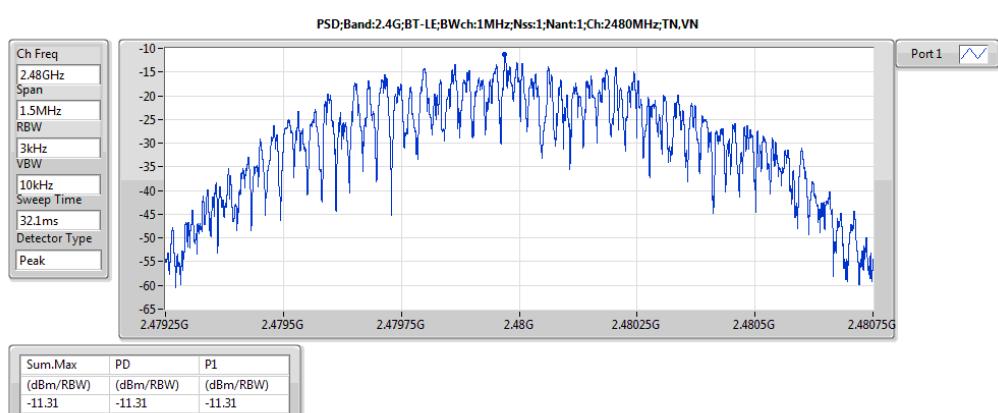
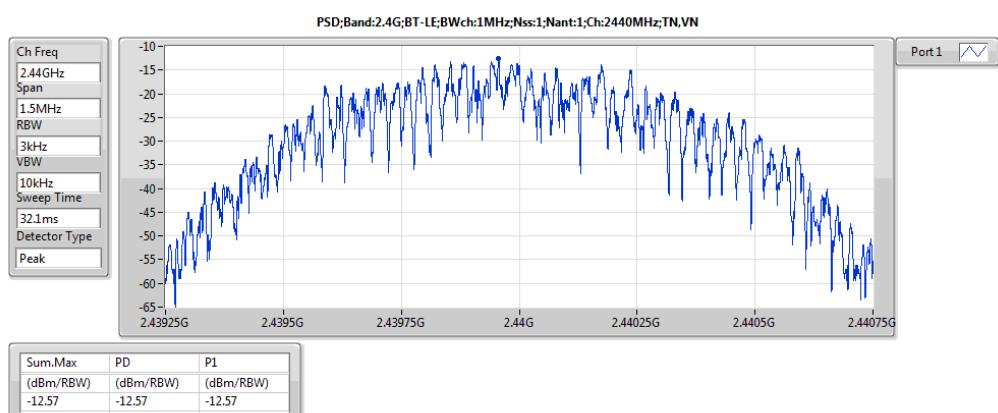
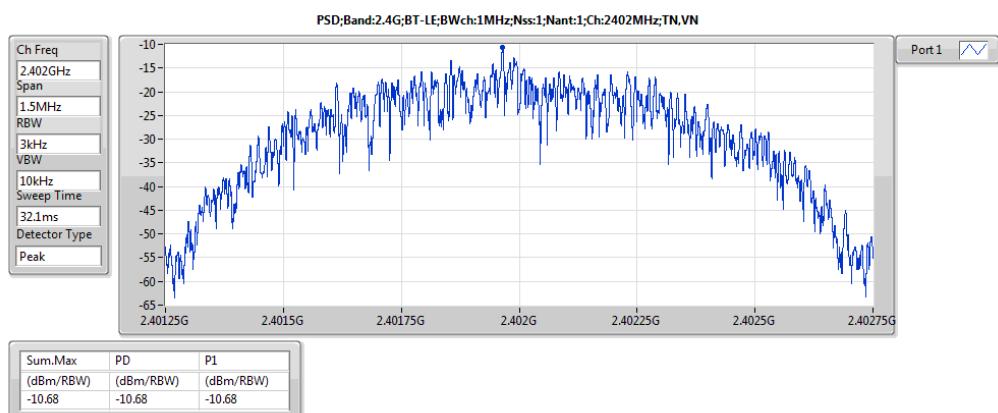


Summary

| Mode | PD (dBm/RBW) | EIRP.PD (dBm/RBW) |
|------------------|-----------------|----------------------|
| 2.4G:BT-LE;1;1;1 | -10.68 | -8.88 |

Result

| Mode | Result | Meas.RBW (Hz) | Lim.RBW (Hz) | BWCF (dB) | DG (dBi) | Sum.Max (dBm/RBW) | PD (dBm/RBW) | PD.Limit (dBm/RBW) | EIRP.PD (dBm/RBW) | EIRP.PD.Li m (dBm/RBW) | P1 (dBm/RBW) |
|-------------------------------|--------|------------------|-----------------|--------------|-------------|----------------------|-----------------|-----------------------|----------------------|------------------------------|-----------------|
| 2.4G;BT-LE;1;1;1;2402;L;TN,VN | Pass | 3k | 3k | 0.00 | 1.80 | -10.68 | -10.68 | 8.00 | -8.88 | Inf | -10.68 |
| 2.4G;BT-LE;1;1;1;2440;M;TN,VN | Pass | 3k | 3k | 0.00 | 1.80 | -12.57 | -12.57 | 8.00 | -10.77 | Inf | -12.57 |
| 2.4G;BT-LE;1;1;1;2480;H;TN,VN | Pass | 3k | 3k | 0.00 | 1.80 | -11.31 | -11.31 | 8.00 | -9.51 | Inf | -11.31 |



**Mode 1_PIFA Ant. Mode**

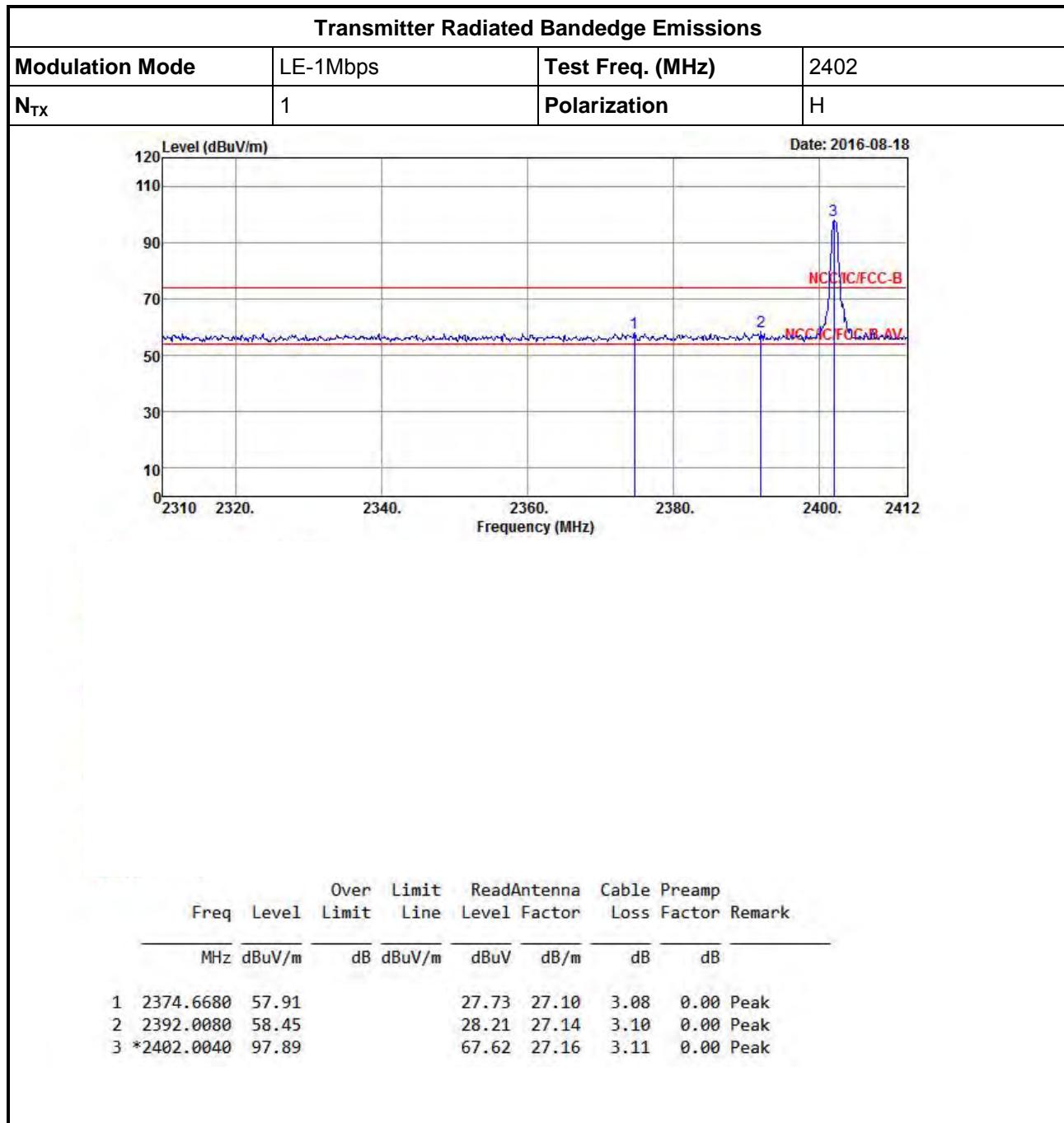
| 2400-2483.5MHz Transmitter Radiated Bandedge Emissions (Non-restricted Band) | | | | | | | | |
|--|-----------------|------------------|-------------------------------|-------------|--------------------------------|----------------|------------|------|
| Modulation | N _{TX} | Test Freq. (MHz) | In-band PSD [i] (dBuV/100kHz) | Freq. (MHz) | Out-band PSD [o] (dBuV/100kHz) | [i] – [o] (dB) | Limit (dB) | Pol. |
| LE-1Mbps | 1 | 2402 | 97.89 | 2392.008 | 58.45 | 39.44 | 20 | H |
| LE-1Mbps | 1 | 2480 | 99.27 | 2505.360 | 59.37 | 39.90 | 20 | H |

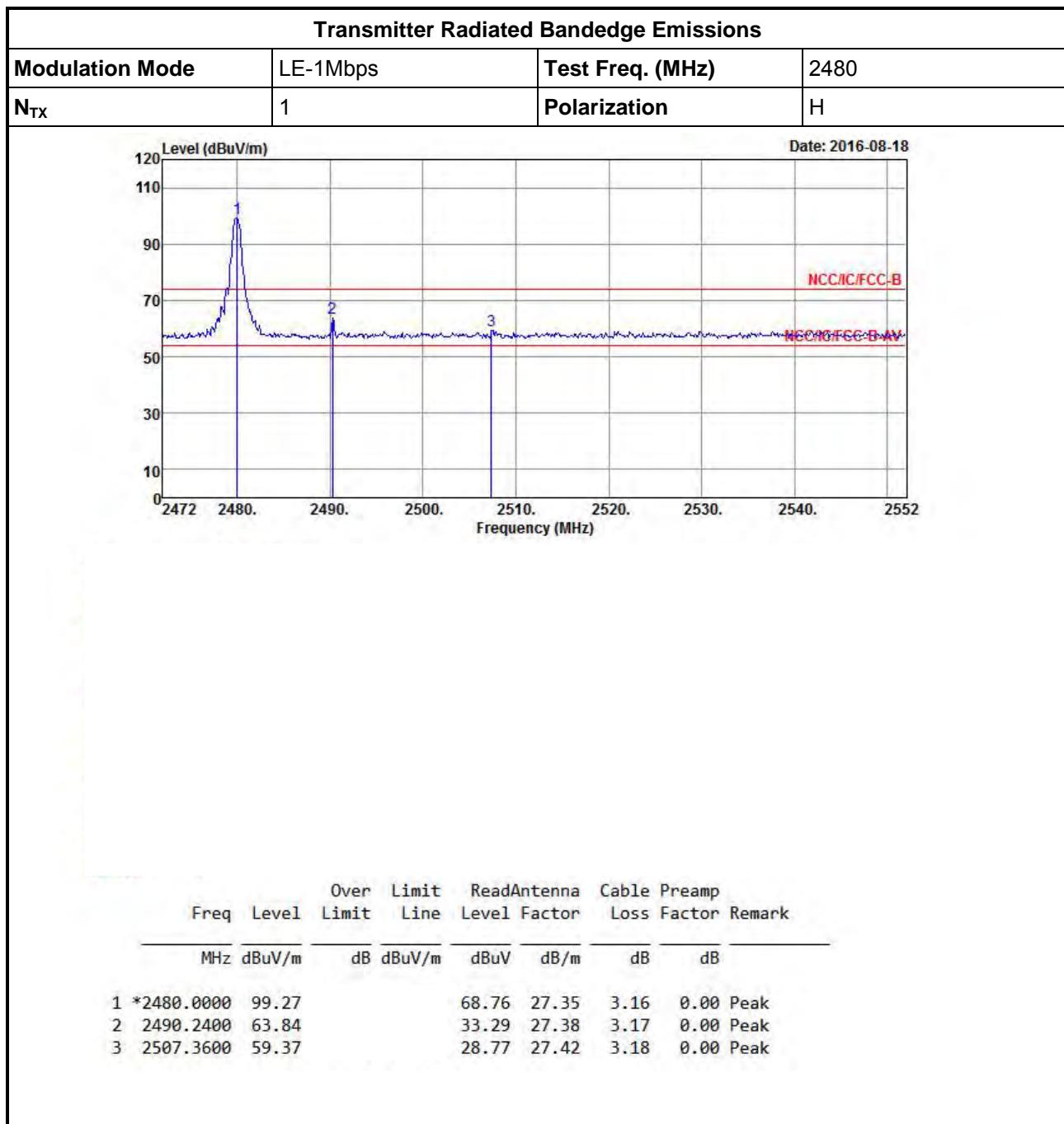
Note 1: Measurement worst emissions of receive antenna polarization

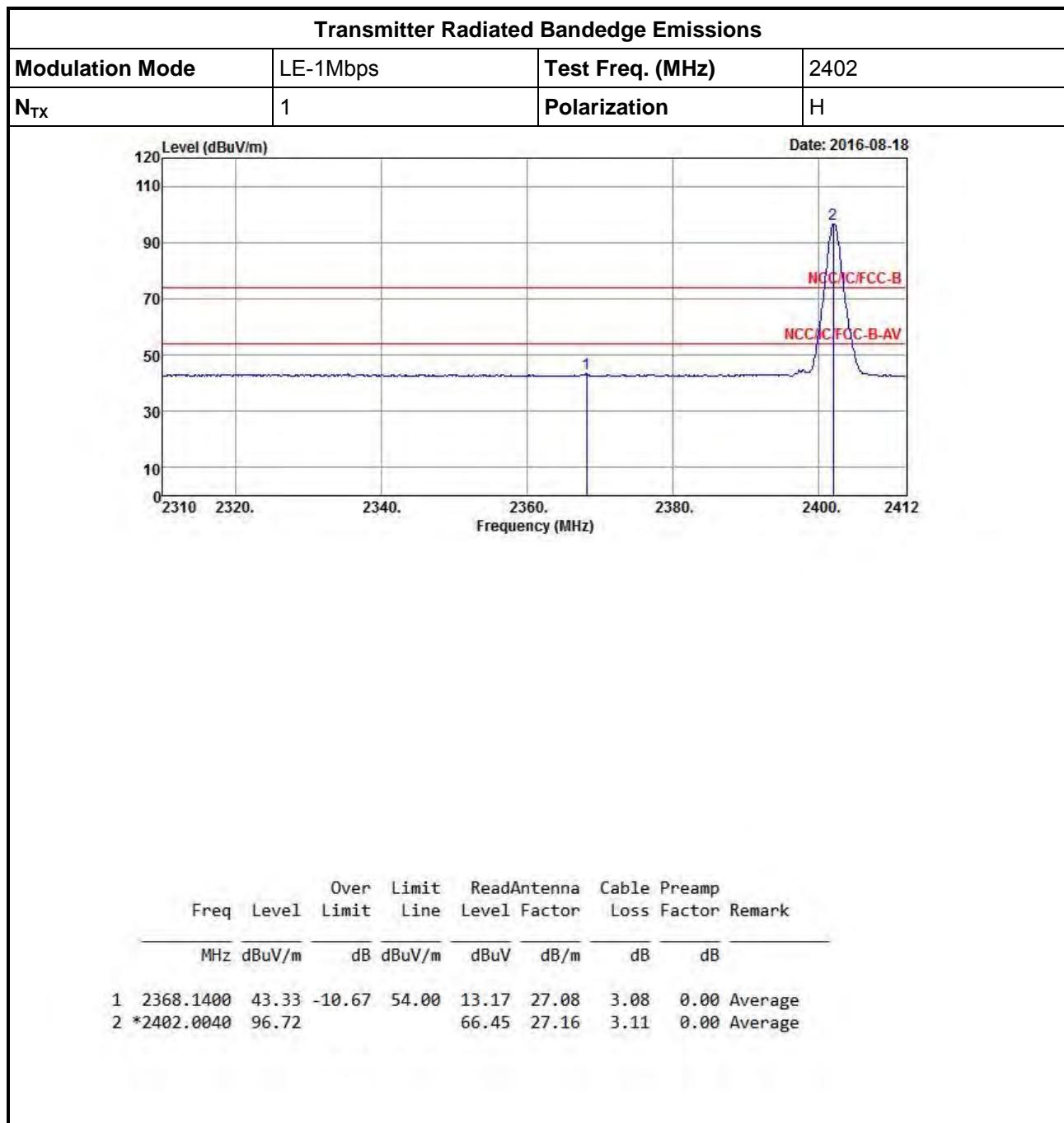
| 2400-2483.5MHz Transmitter Radiated Bandedge Emissions (Restricted Band) | | | | | | | | | | |
|--|-----------------|-------------|----------------------|----------------|-------------------|-------------------|----------------|-------------------|-------------------|------|
| Modulation Mode | N _{TX} | Freq. (MHz) | Measure Distance (m) | Freq. (MHz) PK | Level (dBuV/m) PK | Limit (dBuV/m) PK | Freq. (MHz) AV | Level (dBuV/m) AV | Limit (dBuV/m) AV | Pol. |
| LE-1Mbps | 1 | 2402 | 3 | 2368.140 | 59.54 | 74 | 2368.140 | 43.33 | 54 | H |
| LE-1Mbps | 1 | 2480 | 3 | 2490.240 | 64.09 | 74 | 2490.240 | 45.82 | 54 | H |

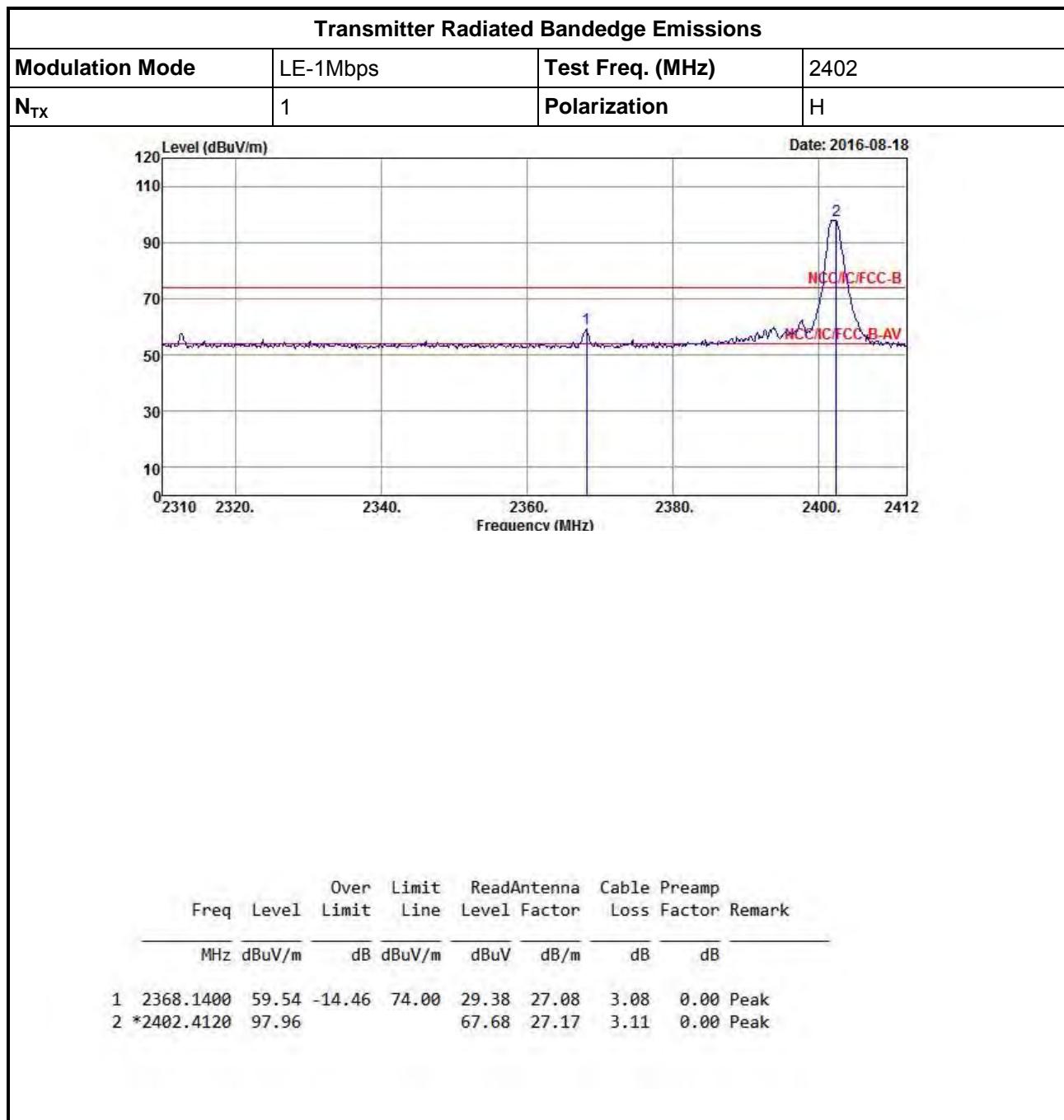
Note 1: Measurement worst emissions of receive antenna polarization.

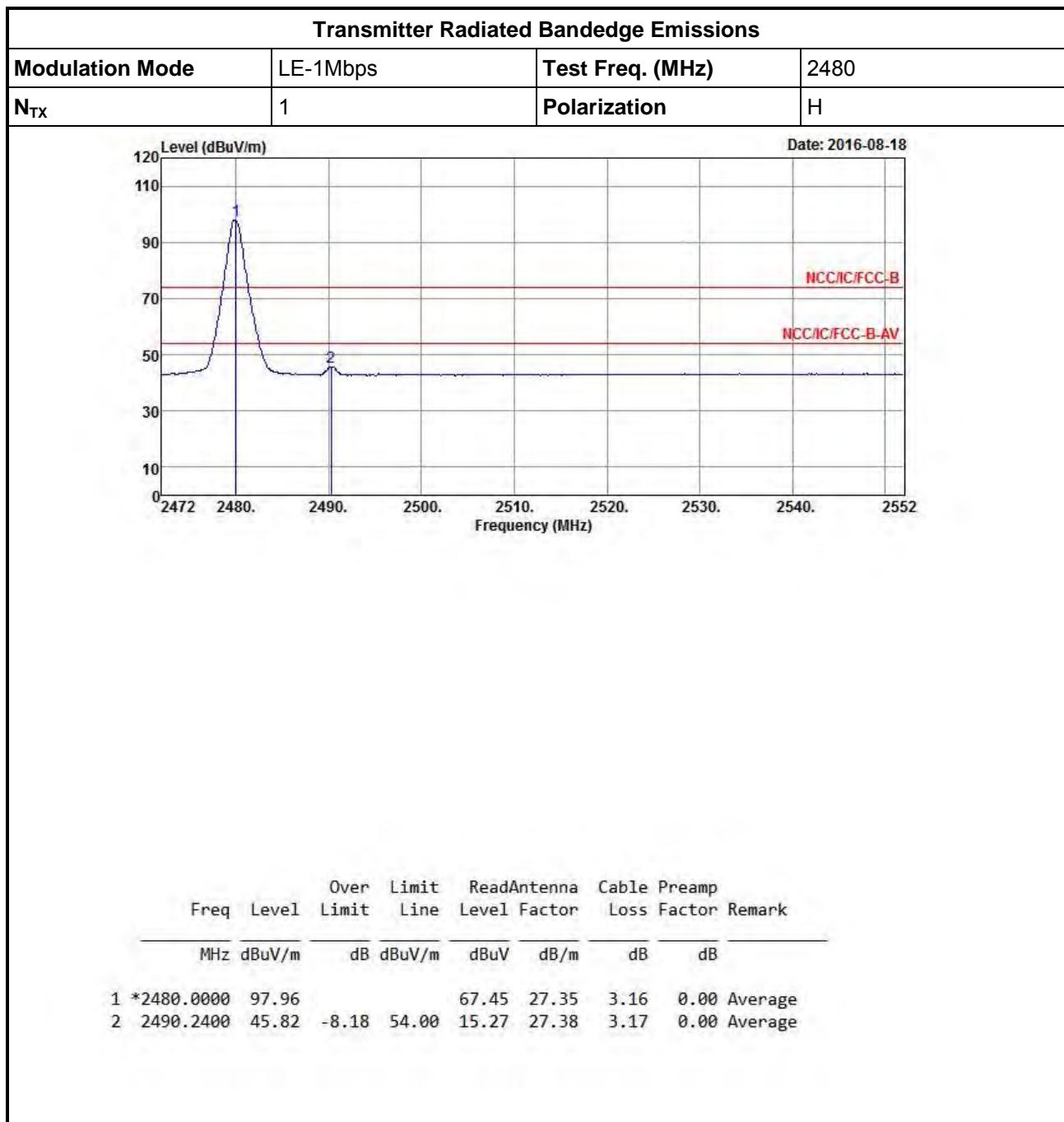
Note 2: Average emission setting: RBW=1MHz; VBW \geq 1/T, where T is "Pulse On Time", e.g., LE VBW \geq 1/625us, VBW=3kHz.

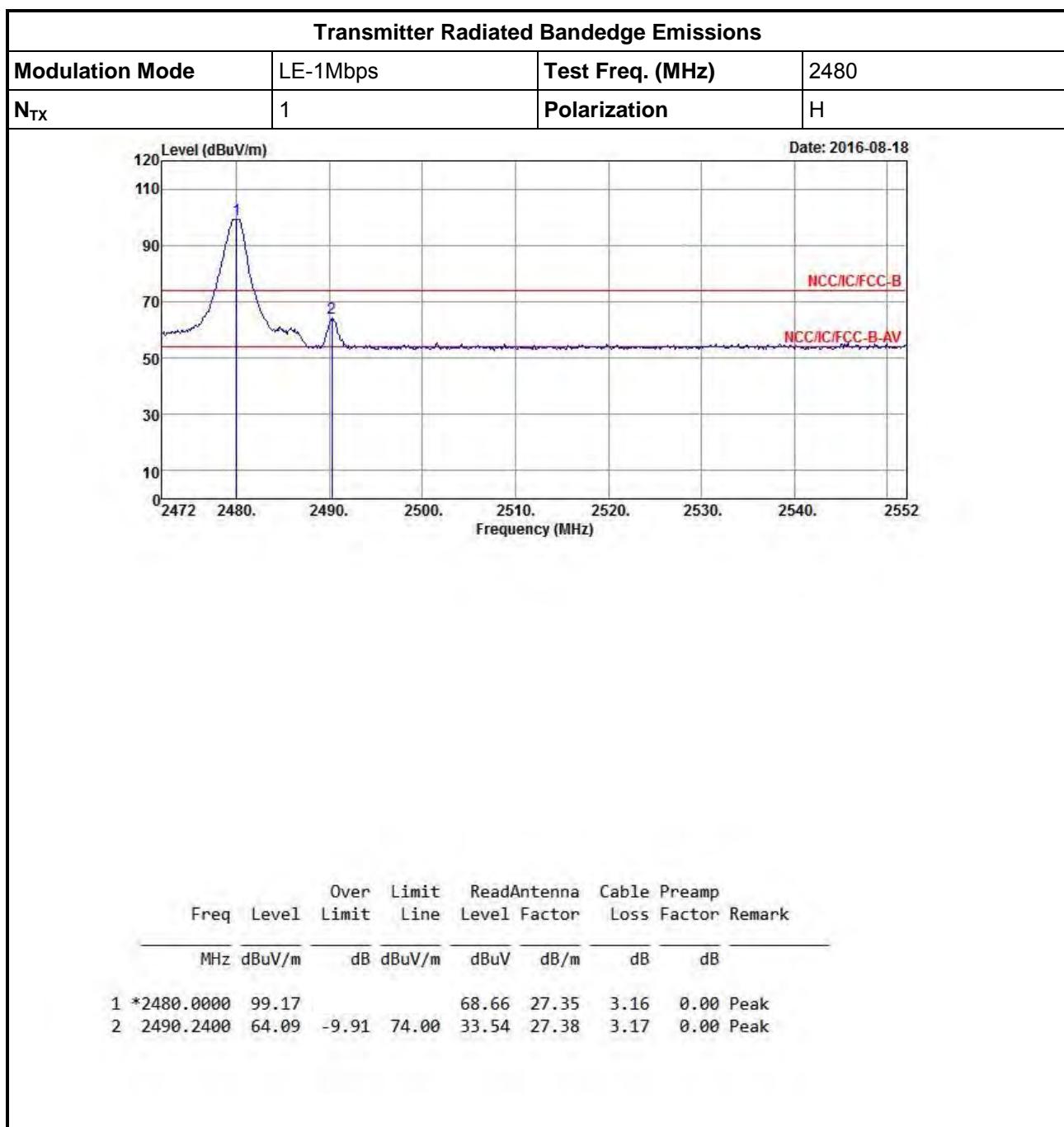
**Transmitter Radiated Bandedge Emissions (Non-restricted Band) PIFA Ant. Mode**



**Transmitter Radiated Bandedge Emissions (Restricted Band) PIFA Ant. Mode**









Transmitter Radiated Bandedge Emissions (For Dipole)

Appendix D

Mode 2_Dipole 1 Ant. Mode

| 2400-2483.5MHz Transmitter Radiated Bandedge Emissions (Non-restricted Band) | | | | | | | | |
|--|-----------------|------------------|-------------------------------|-------------|--------------------------------|----------------|------------|------|
| Modulation | N _{TX} | Test Freq. (MHz) | In-band PSD [i] (dBuV/100kHz) | Freq. (MHz) | Out-band PSD [o] (dBuV/100kHz) | [i] – [o] (dB) | Limit (dB) | Pol. |
| LE-1Mbps | 1 | 2402 | 98.38 | 2397.516 | 59.51 | 38.87 | 20 | V |
| LE-1Mbps | 1 | 2480 | 98.01 | 2500.832 | 59.06 | 38.95 | 20 | V |

Note 1: Measurement worst emissions of receive antenna polarization

| 2400-2483.5MHz Transmitter Radiated Bandedge Emissions (Restricted Band) | | | | | | | | | | |
|--|-----------------|-------------|----------------------|----------------|-------------------|-------------------|----------------|-------------------|-------------------|------|
| Modulation Mode | N _{TX} | Freq. (MHz) | Measure Distance (m) | Freq. (MHz) PK | Level (dBuV/m) PK | Limit (dBuV/m) PK | Freq. (MHz) AV | Level (dBuV/m) AV | Limit (dBuV/m) AV | Pol. |
| LE-1Mbps | 1 | 2402 | 3 | 2367.936 | 62.24 | 74 | 2367.936 | 43.58 | 54 | V |
| LE-1Mbps | 1 | 2480 | 3 | 2490.172 | 64.27 | 74 | 2490.172 | 46.00 | 54 | V |

Note 1: Measurement worst emissions of receive antenna polarization.

Note 2: Average emission setting: RBW=1MHz; VBW \geq 1/T, where T is "Pulse On Time", e.g., LE VBW \geq 1/625us, VBW=3kHz.

Mode 3_Dipole 2 Ant. Mode

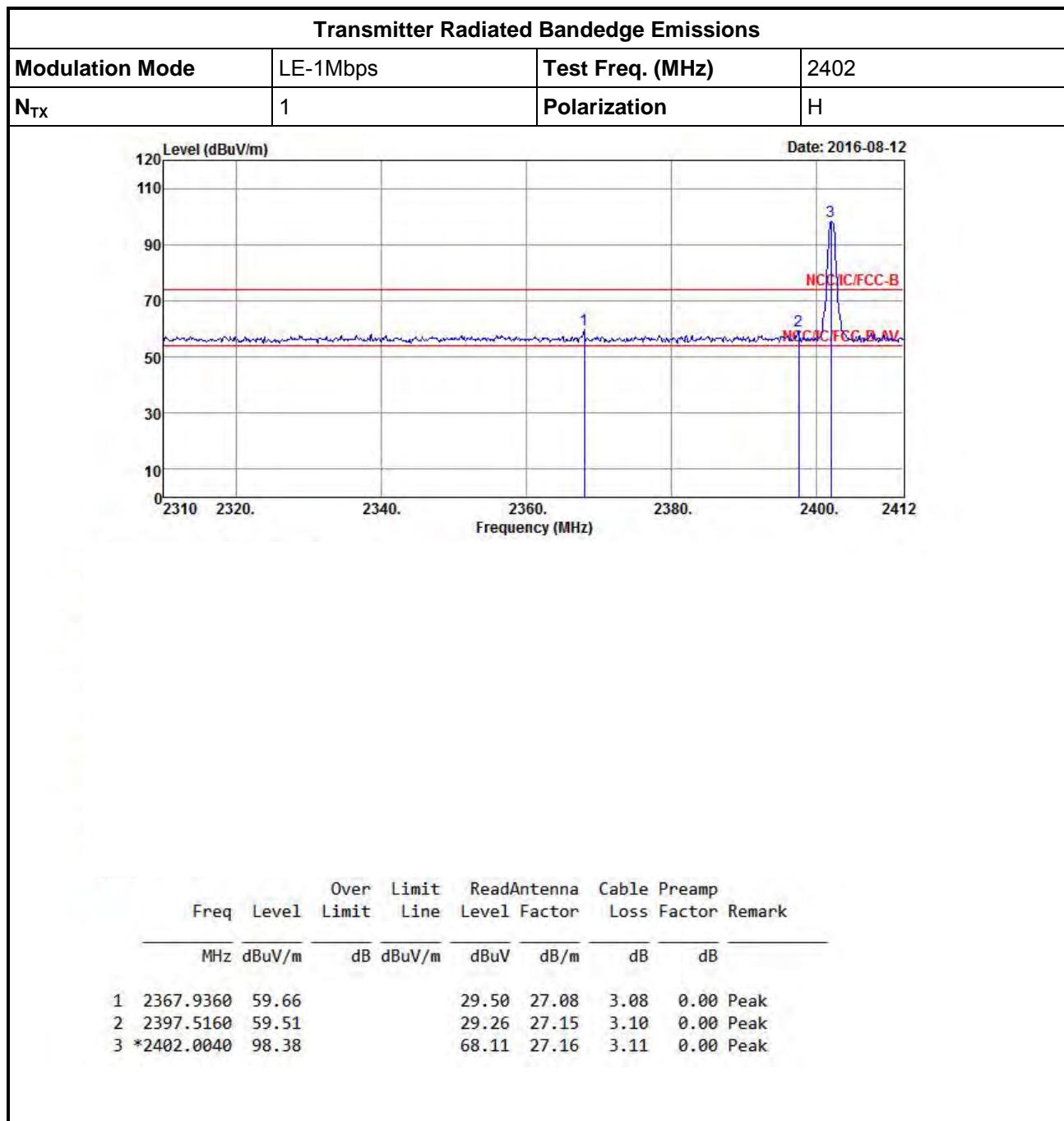
| 2400-2483.5MHz Transmitter Radiated Bandedge Emissions (Non-restricted Band) | | | | | | | | |
|--|-----------------|------------------|-------------------------------|-------------|--------------------------------|----------------|------------|------|
| Modulation | N _{TX} | Test Freq. (MHz) | In-band PSD [i] (dBuV/100kHz) | Freq. (MHz) | Out-band PSD [o] (dBuV/100kHz) | [i] – [o] (dB) | Limit (dB) | Pol. |
| LE-1Mbps | 1 | 2402 | 99.81 | 2397.924 | 60.71 | 39.10 | 20 | V |
| LE-1Mbps | 1 | 2480 | 92.77 | 2528.384 | 59.01 | 33.76 | 20 | V |

Note 1: Measurement worst emissions of receive antenna polarization

| 2400-2483.5MHz Transmitter Radiated Bandedge Emissions (Restricted Band) | | | | | | | | | | |
|--|-----------------|-------------|----------------------|----------------|-------------------|-------------------|----------------|-------------------|-------------------|------|
| Modulation Mode | N _{TX} | Freq. (MHz) | Measure Distance (m) | Freq. (MHz) PK | Level (dBuV/m) PK | Limit (dBuV/m) PK | Freq. (MHz) AV | Level (dBuV/m) AV | Limit (dBuV/m) AV | Pol. |
| LE-1Mbps | 1 | 2402 | 3 | 2368.140 | 63.76 | 74 | 2368.140 | 44.02 | 54 | V |
| LE-1Mbps | 1 | 2480 | 3 | 2490.664 | 63.70 | 74 | 2490.500 | 45.79 | 54 | V |

Note 1: Measurement worst emissions of receive antenna polarization.

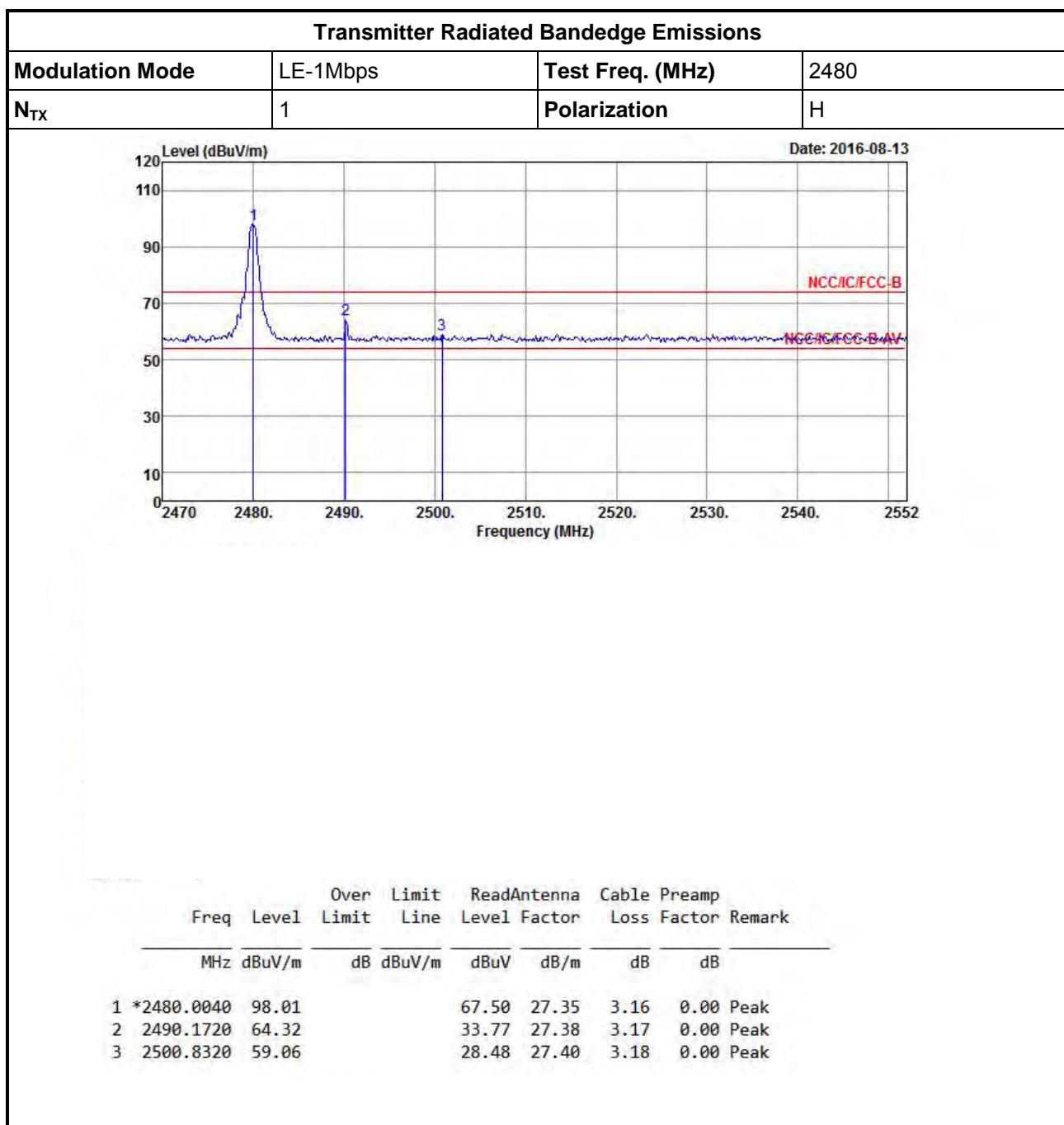
Note 2: Average emission setting: RBW=1MHz; VBW \geq 1/T, where T is "Pulse On Time", e.g., LE VBW \geq 1/625us, VBW=3kHz.

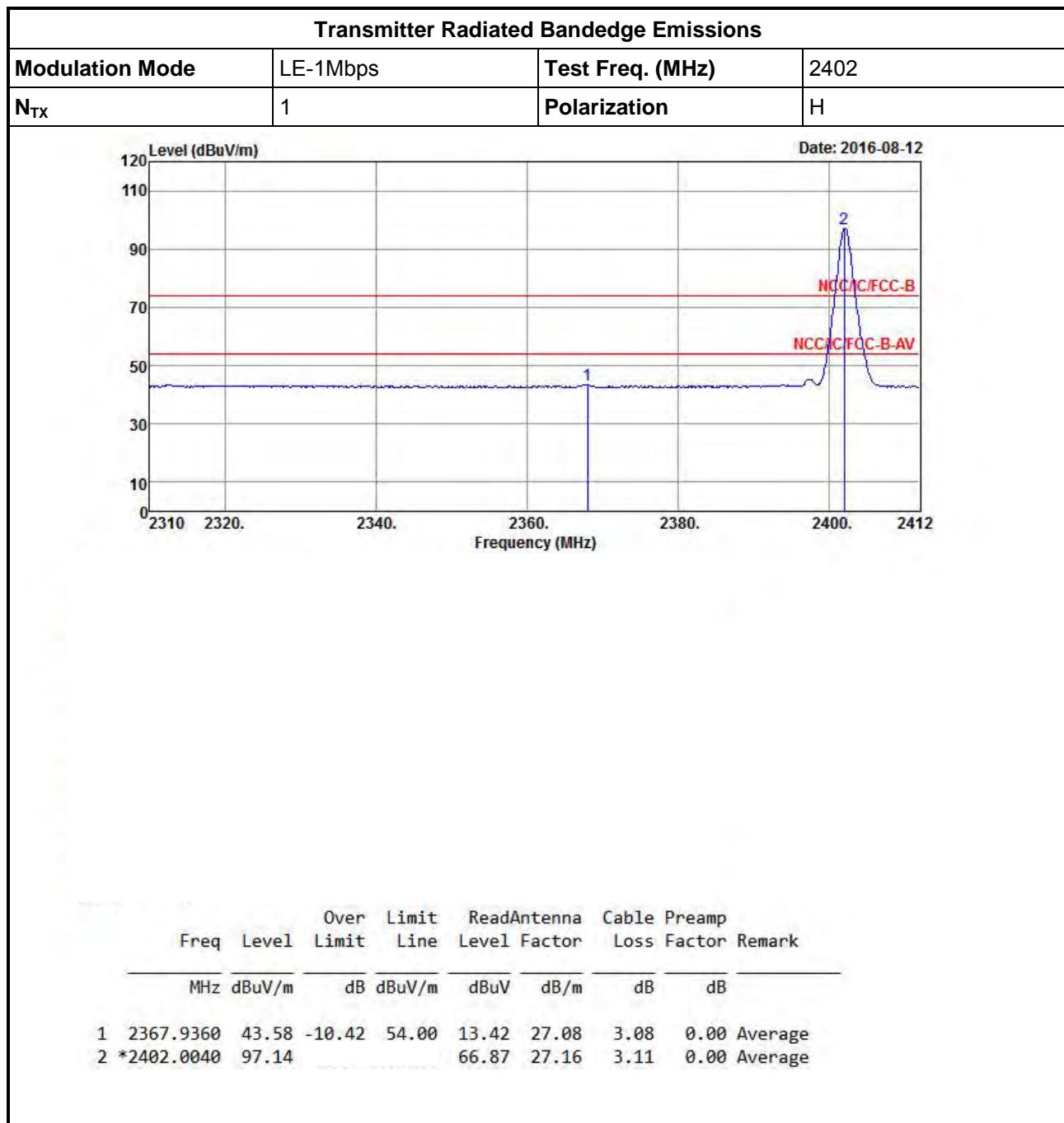
**Transmitter Radiated Bandedge Emissions (Non-restricted Band) Dipole 1 Ant. Mode**

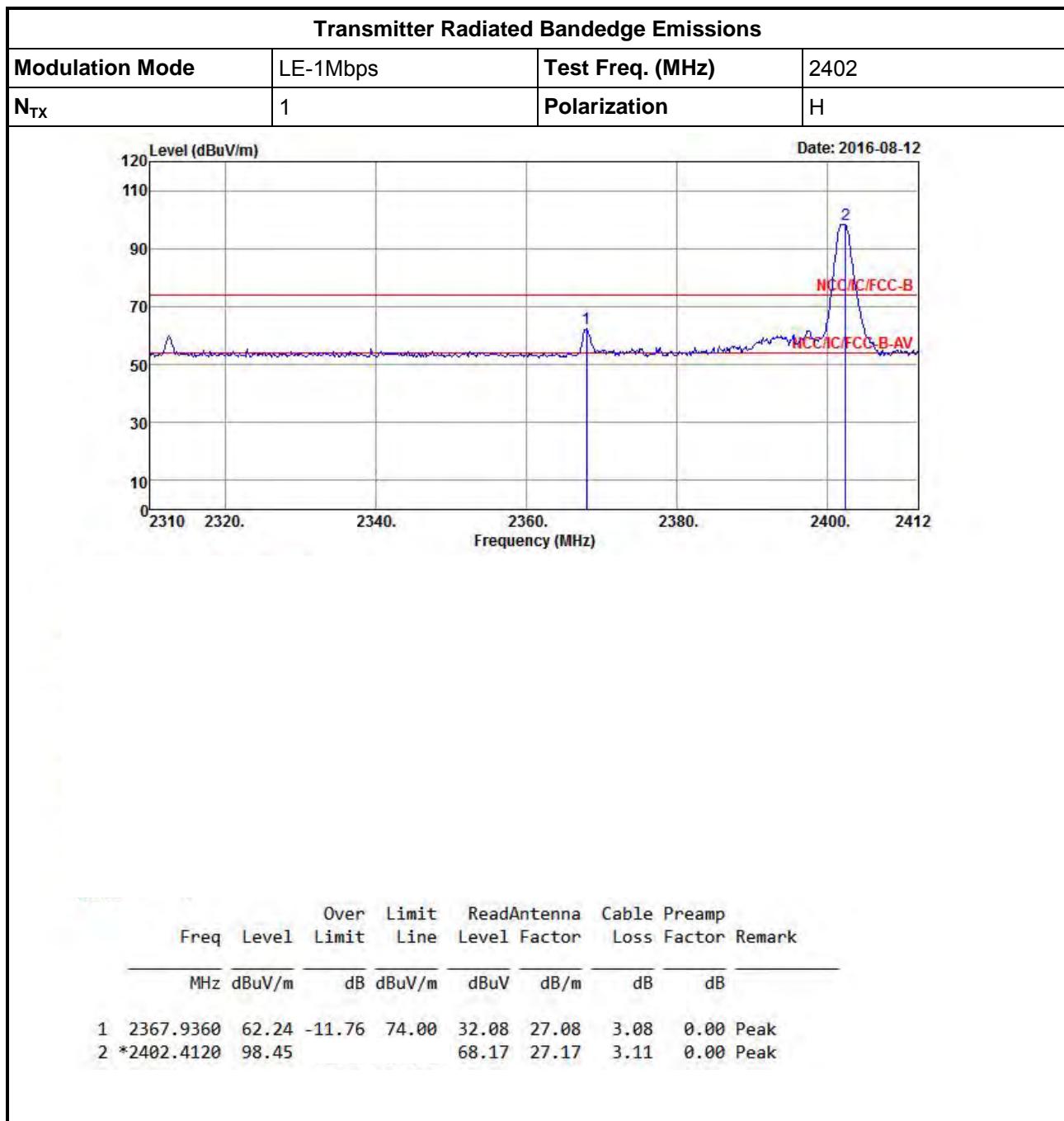


Transmitter Radiated Bandedge Emissions (For Dipole)

Appendix D



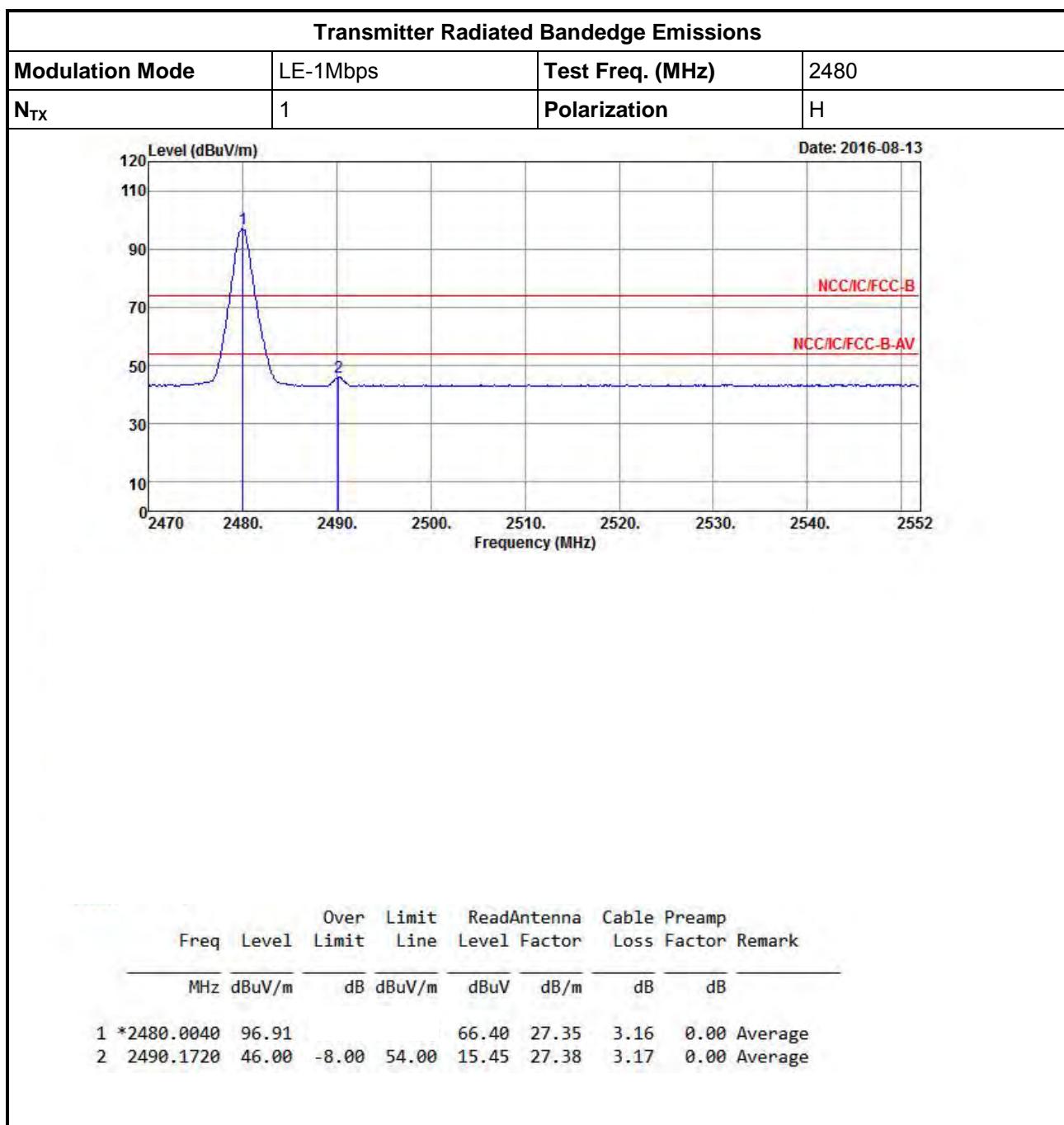
**Transmitter Radiated Bandedge Emissions (Restricted Band) Dipole 1 Ant. Mode**

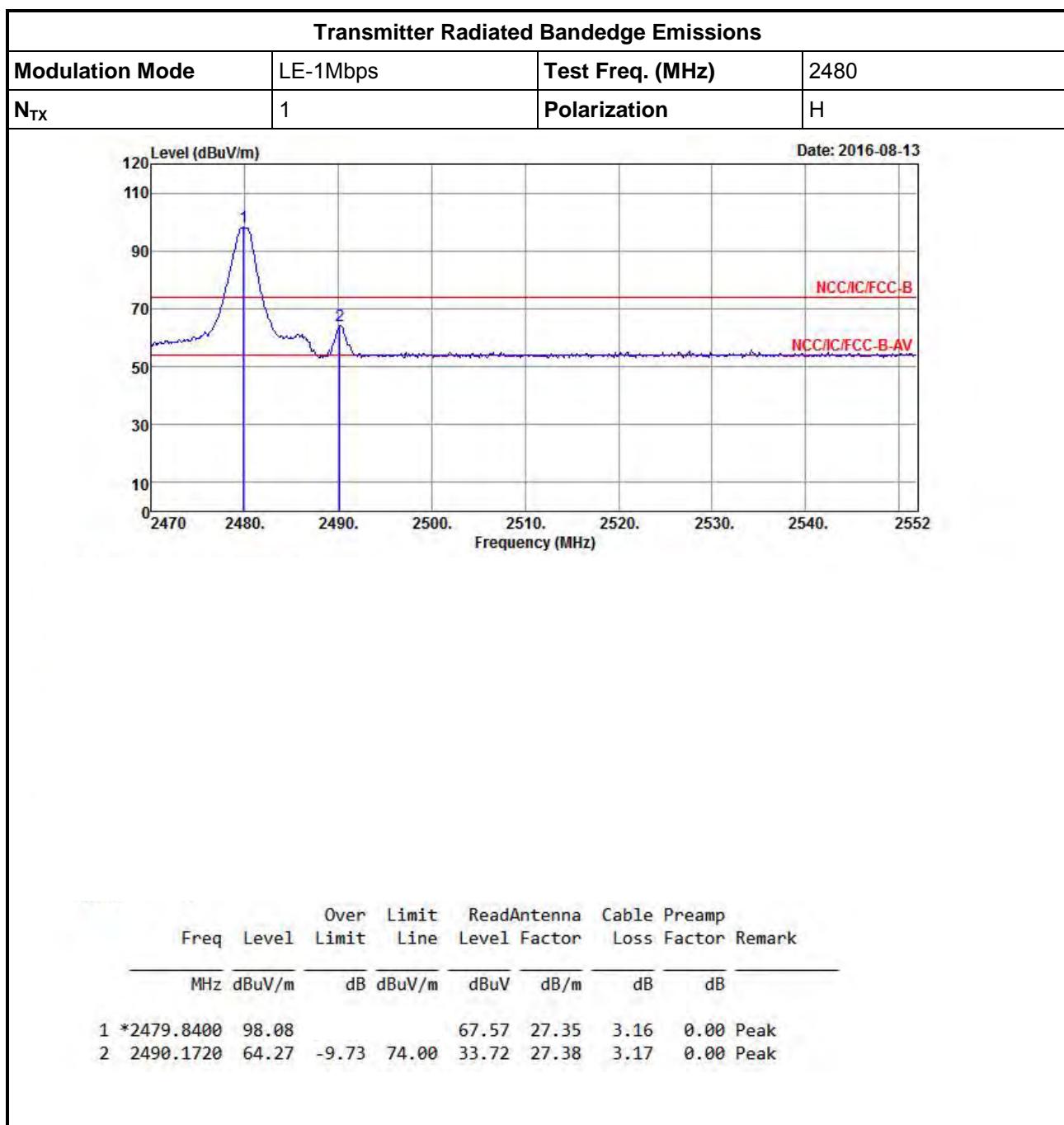




Transmitter Radiated Bandedge Emissions (For Dipole)

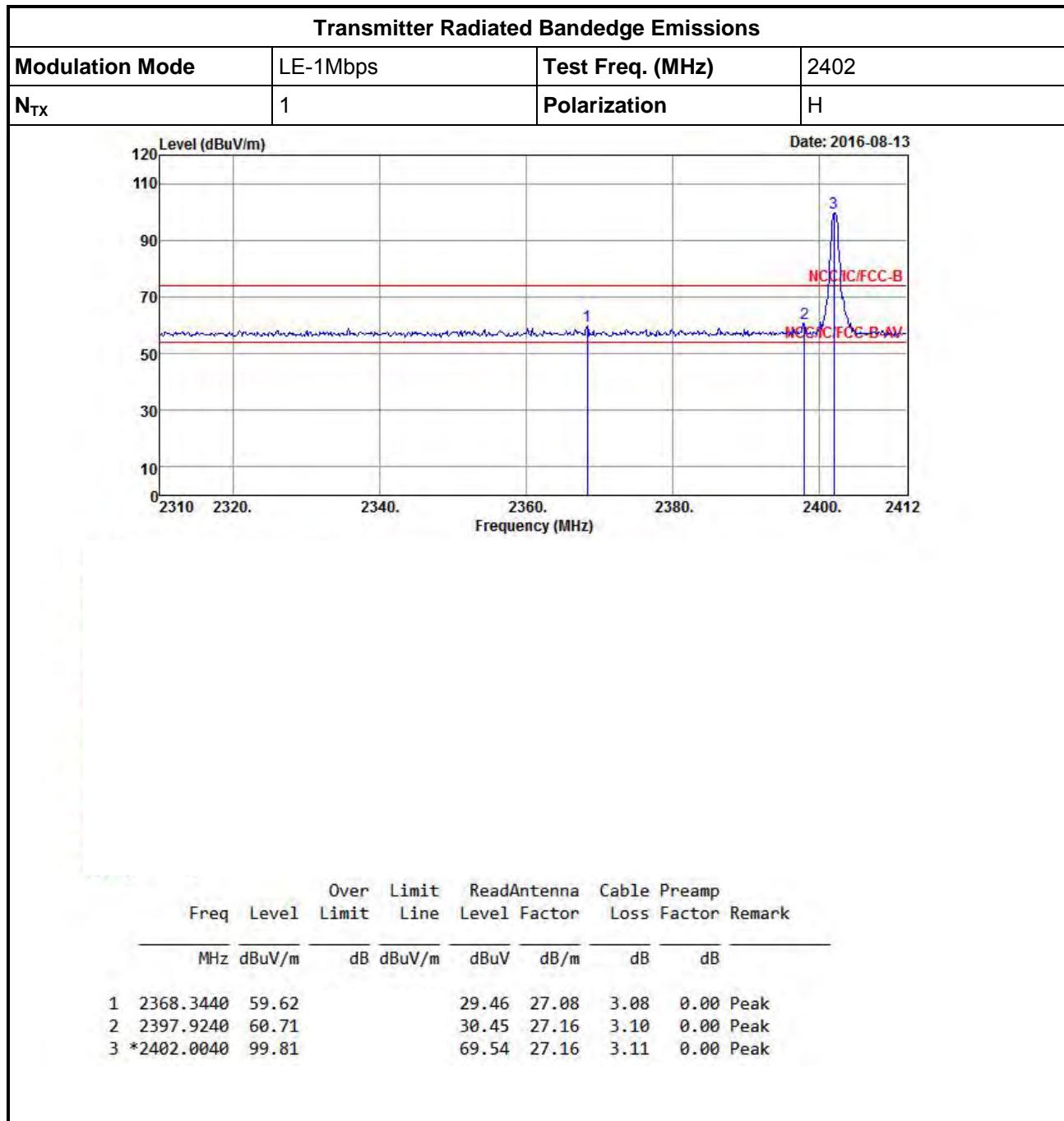
Appendix D

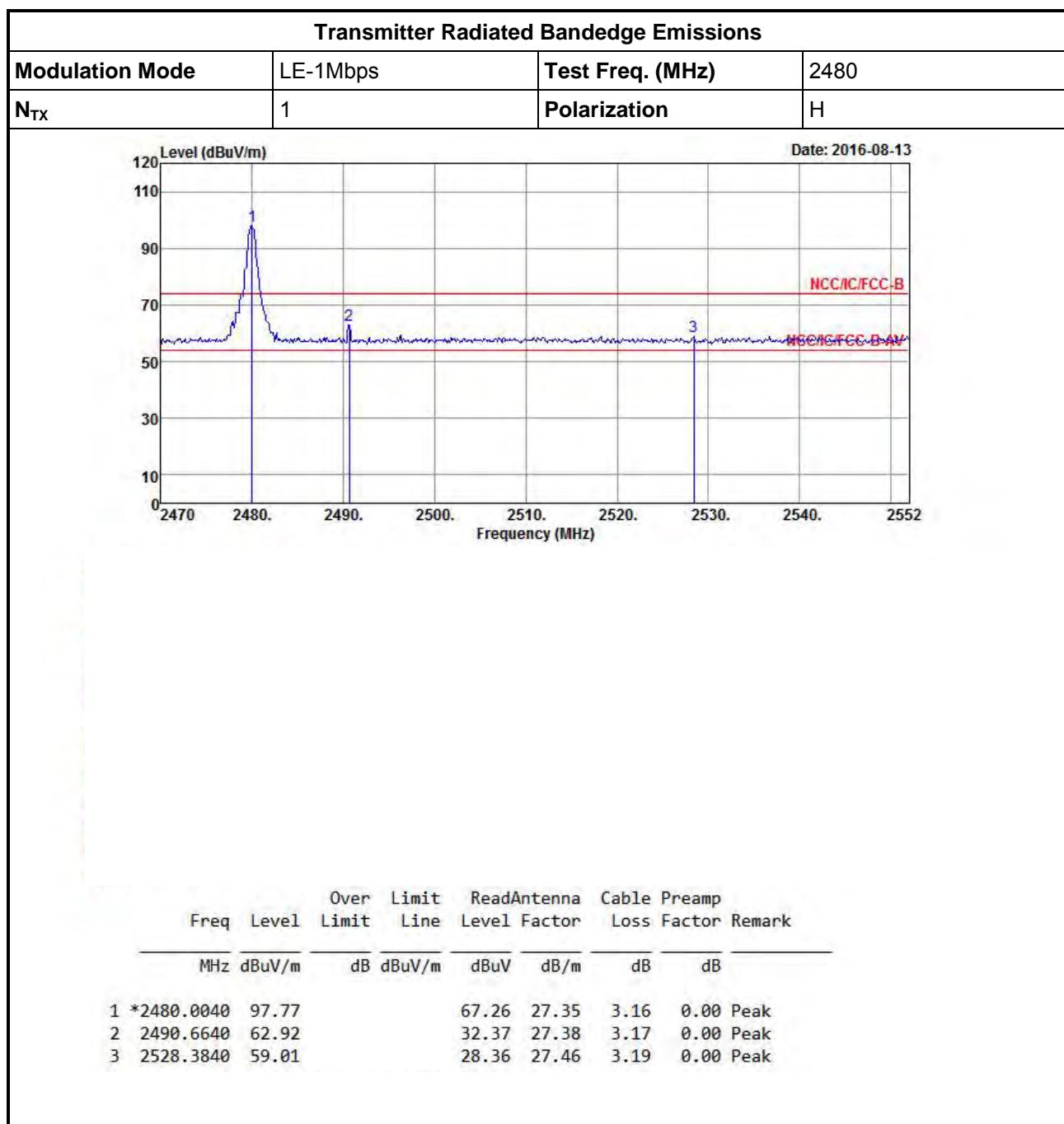






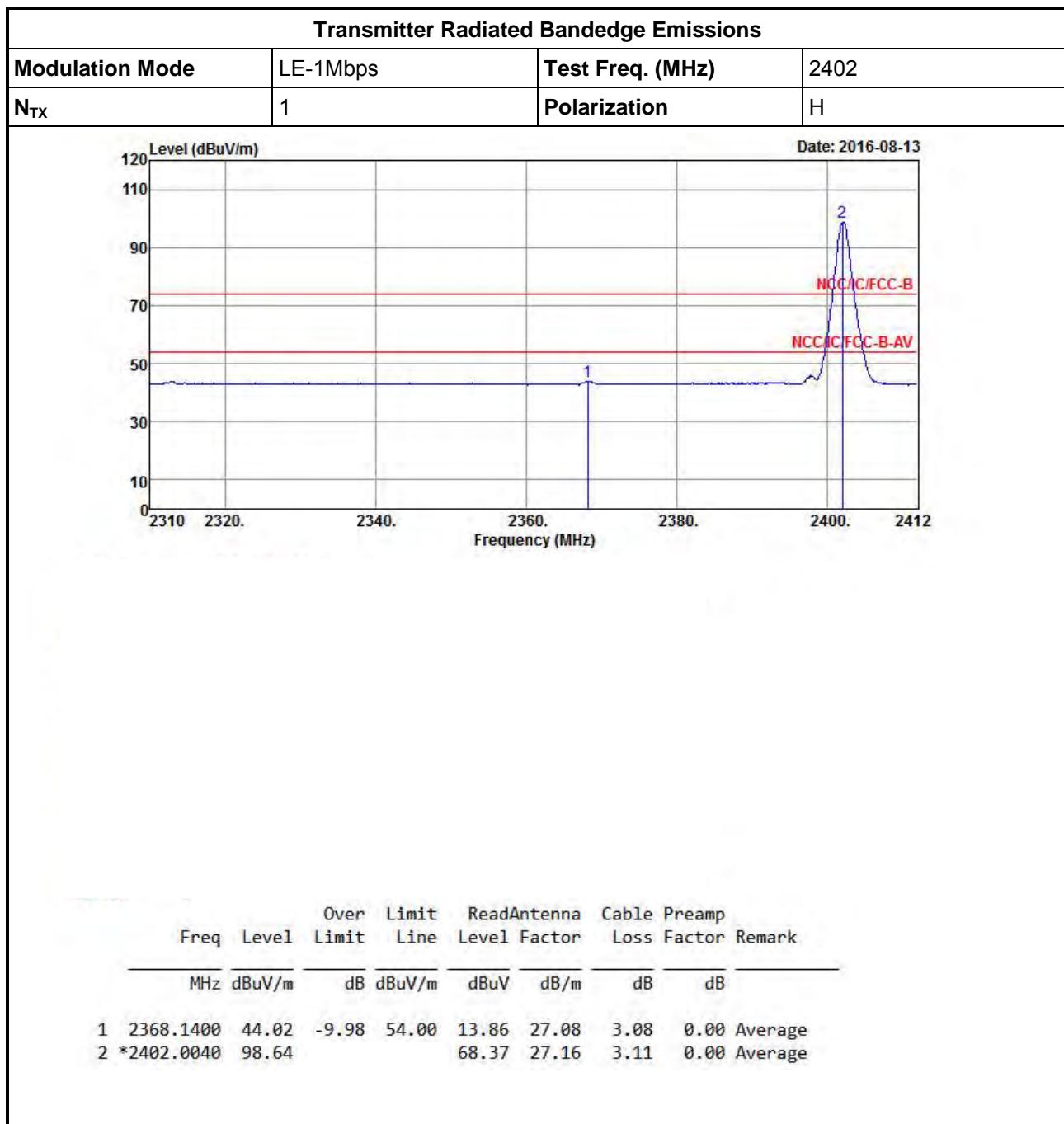
Transmitter Radiated Bandedge Emissions (Non-restricted Band) Dipole 2 Ant. Mode

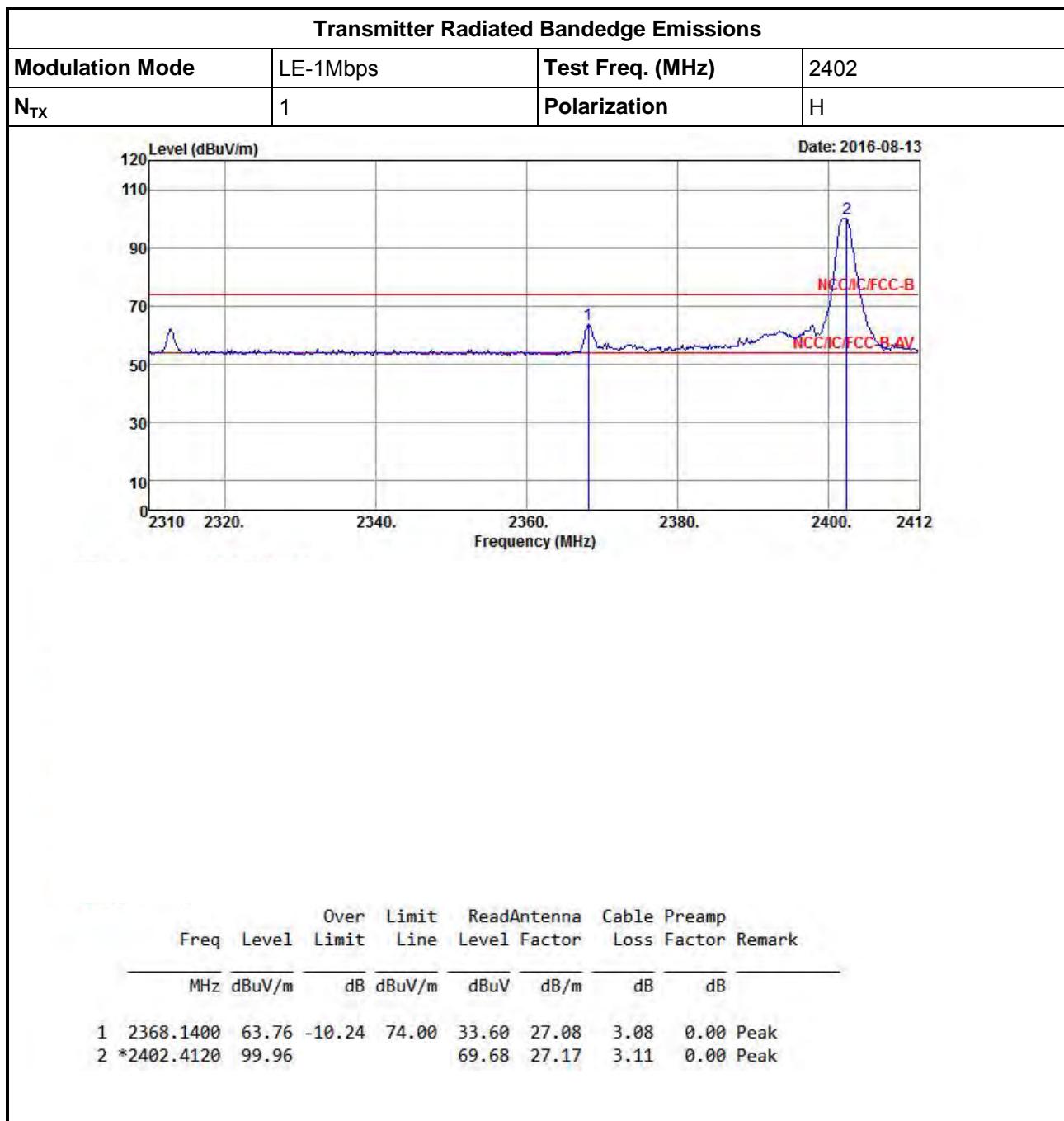


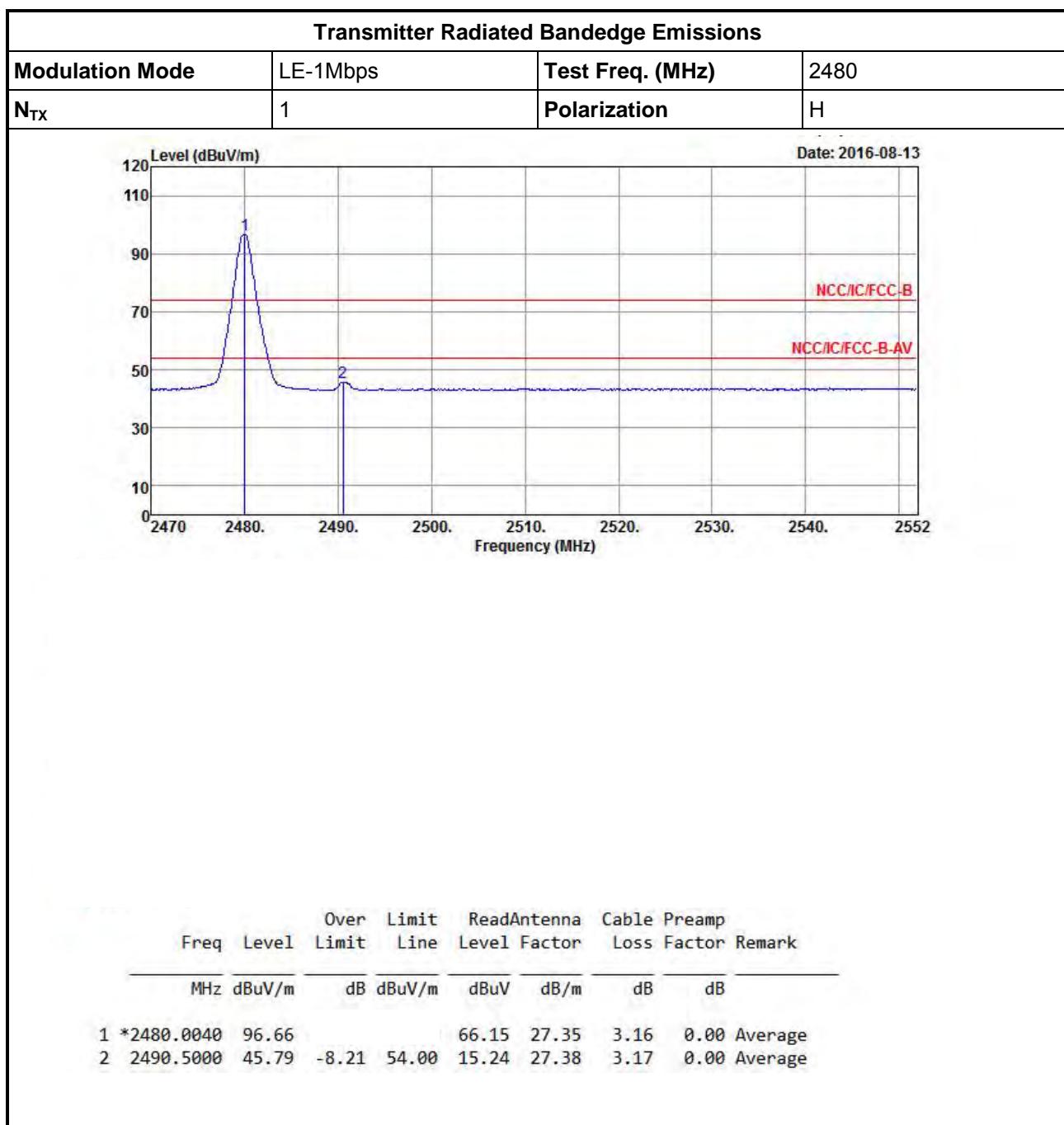


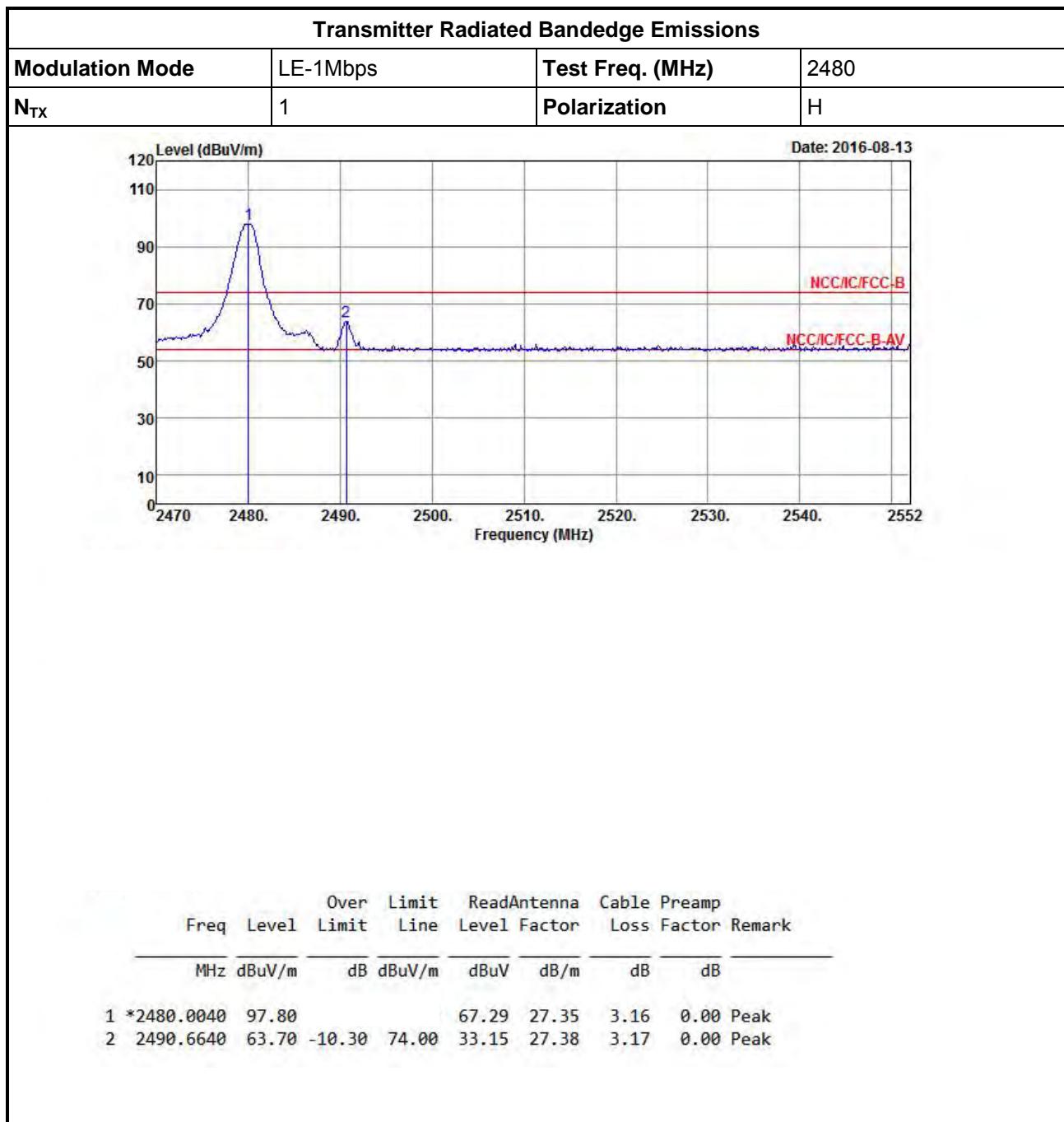


Transmitter Radiated Bandedge Emissions (Restricted Band) Dipole 2 Ant. Mode











Transmitter Radiated Unwanted Emissions (Below 1GHz)

Radiated Unwanted Emissions (Below 1GHz)

| | | | |
|--------------------|----------------|--------------|---|
| Operating Mode | 1 | Polarization | V |
| Operating Function | PIFA Ant. Mode | | |

Date: 2016-08-19

Level (dBuV/m)

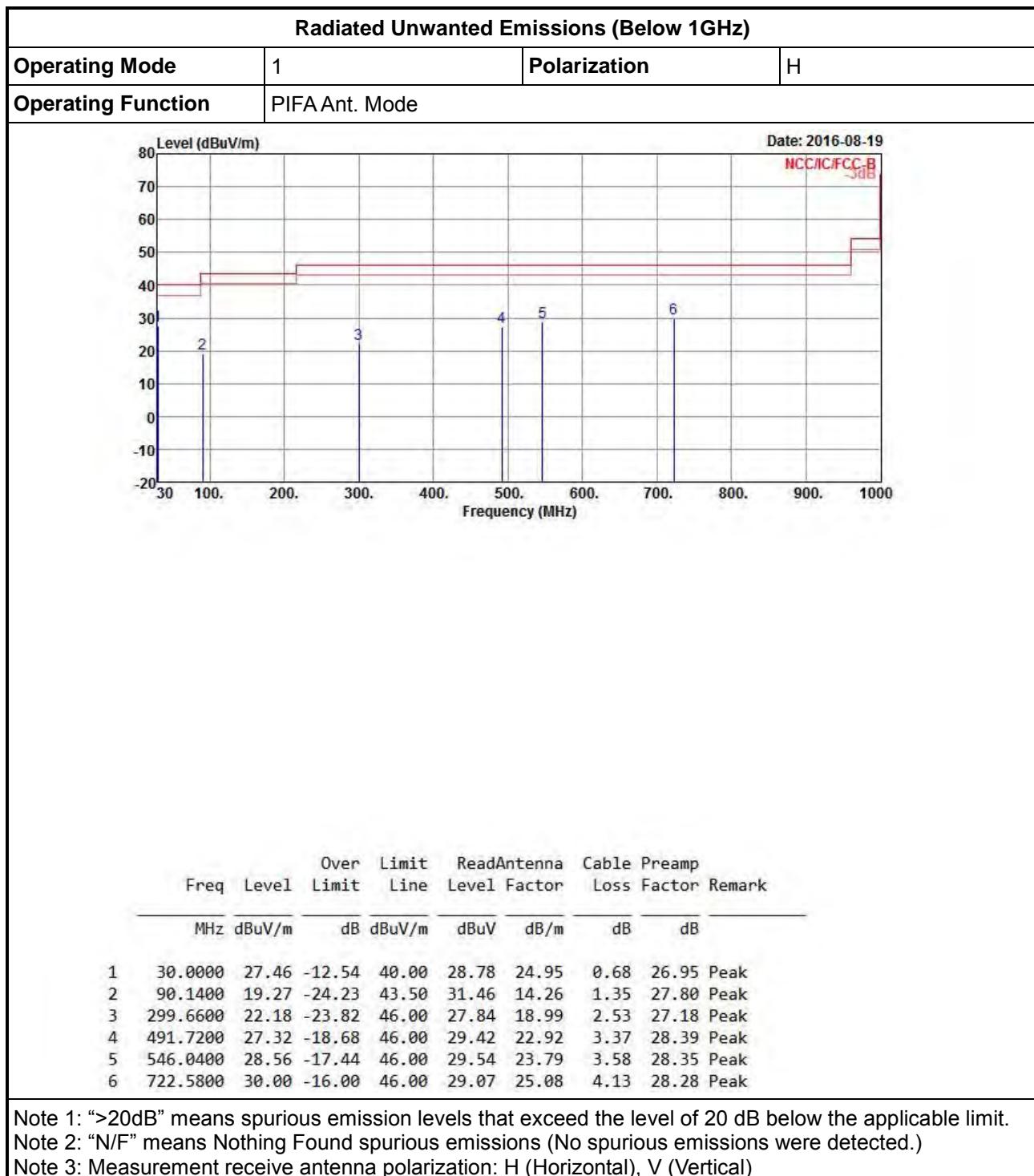
Frequency (MHz)

2 3 4 5 6

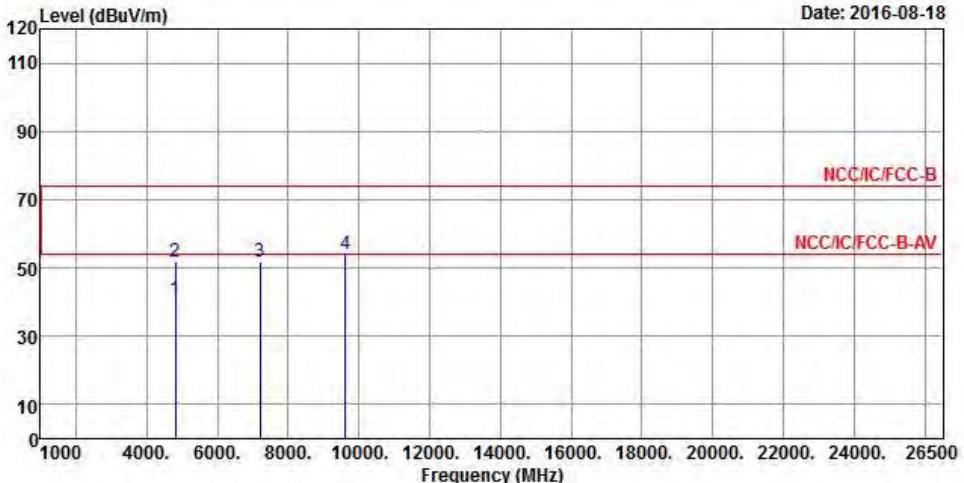
1

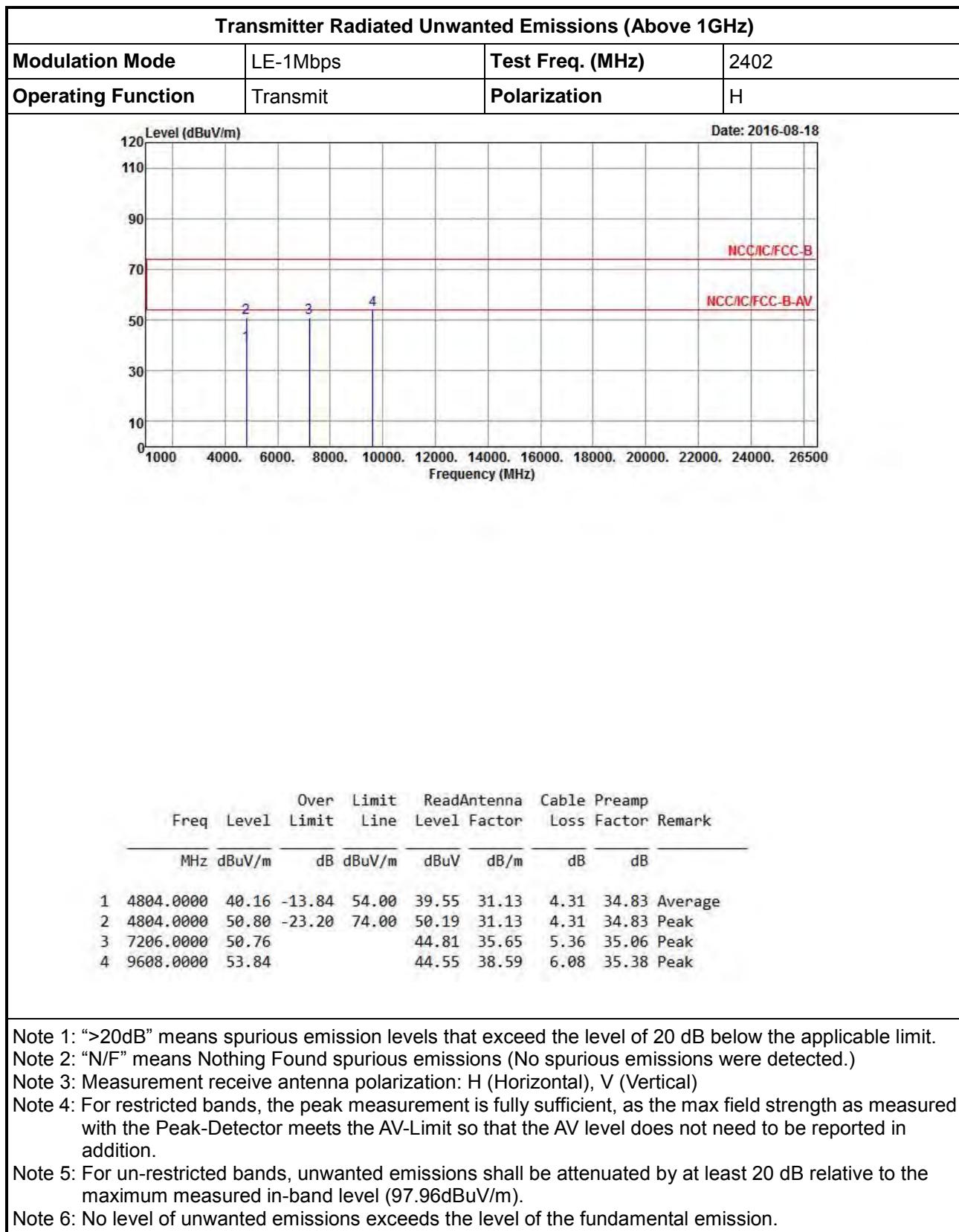
NCC/C/IC/FCC-B/BBE

| Freq | Level | Over | Limit | Read | Antenna | Cable | Preamp | |
|------|----------|-------|--------|---------|--------------|-------|--------|------------|
| | | Line | Limit | Antenna | Level Factor | Loss | Factor | Remark |
| MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 30.0000 | 26.88 | -13.12 | 40.00 | 28.20 | 24.95 | 0.68 | 26.95 Peak |
| 2 | 92.0800 | 21.30 | -22.20 | 43.50 | 33.05 | 14.68 | 1.40 | 27.83 Peak |
| 3 | 171.6200 | 19.92 | -23.58 | 43.50 | 30.29 | 15.21 | 1.93 | 27.51 Peak |
| 4 | 431.5800 | 26.40 | -19.60 | 46.00 | 29.20 | 22.07 | 3.16 | 28.03 Peak |
| 5 | 705.1200 | 29.27 | -16.73 | 46.00 | 28.61 | 24.92 | 4.11 | 28.37 Peak |
| 6 | 901.0600 | 32.19 | -13.81 | 46.00 | 27.94 | 26.63 | 5.20 | 27.58 Peak |



Transmitter Radiated Unwanted Emissions (Above 1GHz)

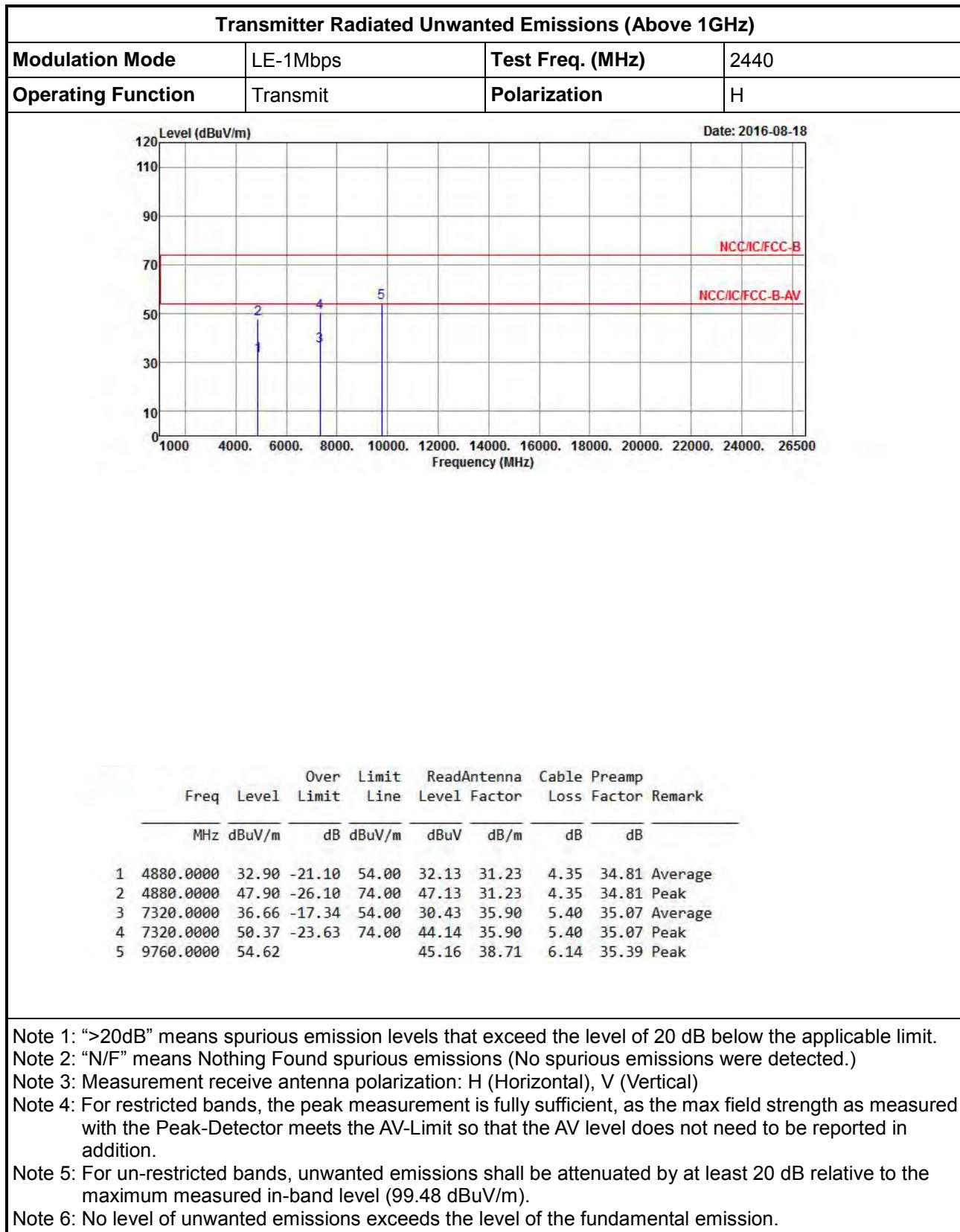
| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------|------------|--------|------------------|---------|-------|--------|-------|---------|------|-------|------------|-------|------|---------|-------|--------|--|--|-----|--------|----|--------|------|------|----|----|--|--|---|-----------|-------|--------|-------|-------|-------|------|-------|---------|---|-----------|-------|--------|-------|-------|-------|------|-------|------|---|-----------|-------|--|--|-------|-------|------|-------|------|---|-----------|-------|--|--|-------|-------|------|-------|------|
| Modulation Mode | | LE-1Mbps | | Test Freq. (MHz) | | 2402 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Function | | Transmit | | Polarization | | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date: 2016-08-18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Freq</th> <th style="text-align: center;">Level</th> <th style="text-align: center;">Over Limit</th> <th style="text-align: center;">Limit</th> <th style="text-align: center;">Read</th> <th style="text-align: center;">Antenna</th> <th style="text-align: center;">Cable</th> <th style="text-align: center;">Preamp</th> <th colspan="2"></th> </tr> <tr> <th style="text-align: center;">MHz</th> <th style="text-align: center;">dBuV/m</th> <th style="text-align: center;">dB</th> <th style="text-align: center;">dBuV/m</th> <th style="text-align: center;">dBuV</th> <th style="text-align: center;">dB/m</th> <th style="text-align: center;">dB</th> <th style="text-align: center;">dB</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">4804.0000</td> <td style="text-align: center;">40.92</td> <td style="text-align: center;">-13.08</td> <td style="text-align: center;">54.00</td> <td style="text-align: center;">40.31</td> <td style="text-align: center;">31.13</td> <td style="text-align: center;">4.31</td> <td style="text-align: center;">34.83</td> <td>Average</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">4804.0000</td> <td style="text-align: center;">51.86</td> <td style="text-align: center;">-22.14</td> <td style="text-align: center;">74.00</td> <td style="text-align: center;">51.25</td> <td style="text-align: center;">31.13</td> <td style="text-align: center;">4.31</td> <td style="text-align: center;">34.83</td> <td>Peak</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">7206.0000</td> <td style="text-align: center;">51.73</td> <td></td> <td></td> <td style="text-align: center;">45.78</td> <td style="text-align: center;">35.65</td> <td style="text-align: center;">5.36</td> <td style="text-align: center;">35.06</td> <td>Peak</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">9608.0000</td> <td style="text-align: center;">53.86</td> <td></td> <td></td> <td style="text-align: center;">44.57</td> <td style="text-align: center;">38.59</td> <td style="text-align: center;">6.08</td> <td style="text-align: center;">35.38</td> <td>Peak</td> </tr> </tbody> </table> | | | | | | | | | | Freq | Level | Over Limit | Limit | Read | Antenna | Cable | Preamp | | | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | | 1 | 4804.0000 | 40.92 | -13.08 | 54.00 | 40.31 | 31.13 | 4.31 | 34.83 | Average | 2 | 4804.0000 | 51.86 | -22.14 | 74.00 | 51.25 | 31.13 | 4.31 | 34.83 | Peak | 3 | 7206.0000 | 51.73 | | | 45.78 | 35.65 | 5.36 | 35.06 | Peak | 4 | 9608.0000 | 53.86 | | | 44.57 | 38.59 | 6.08 | 35.38 | Peak |
| Freq | Level | Over Limit | Limit | Read | Antenna | Cable | Preamp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 4804.0000 | 40.92 | -13.08 | 54.00 | 40.31 | 31.13 | 4.31 | 34.83 | Average | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 4804.0000 | 51.86 | -22.14 | 74.00 | 51.25 | 31.13 | 4.31 | 34.83 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 7206.0000 | 51.73 | | | 45.78 | 35.65 | 5.36 | 35.06 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 9608.0000 | 53.86 | | | 44.57 | 38.59 | 6.08 | 35.38 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.</p> <p>Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)</p> <p>Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)</p> <p>Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.</p> <p>Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (97.96 dBuV/m).</p> <p>Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

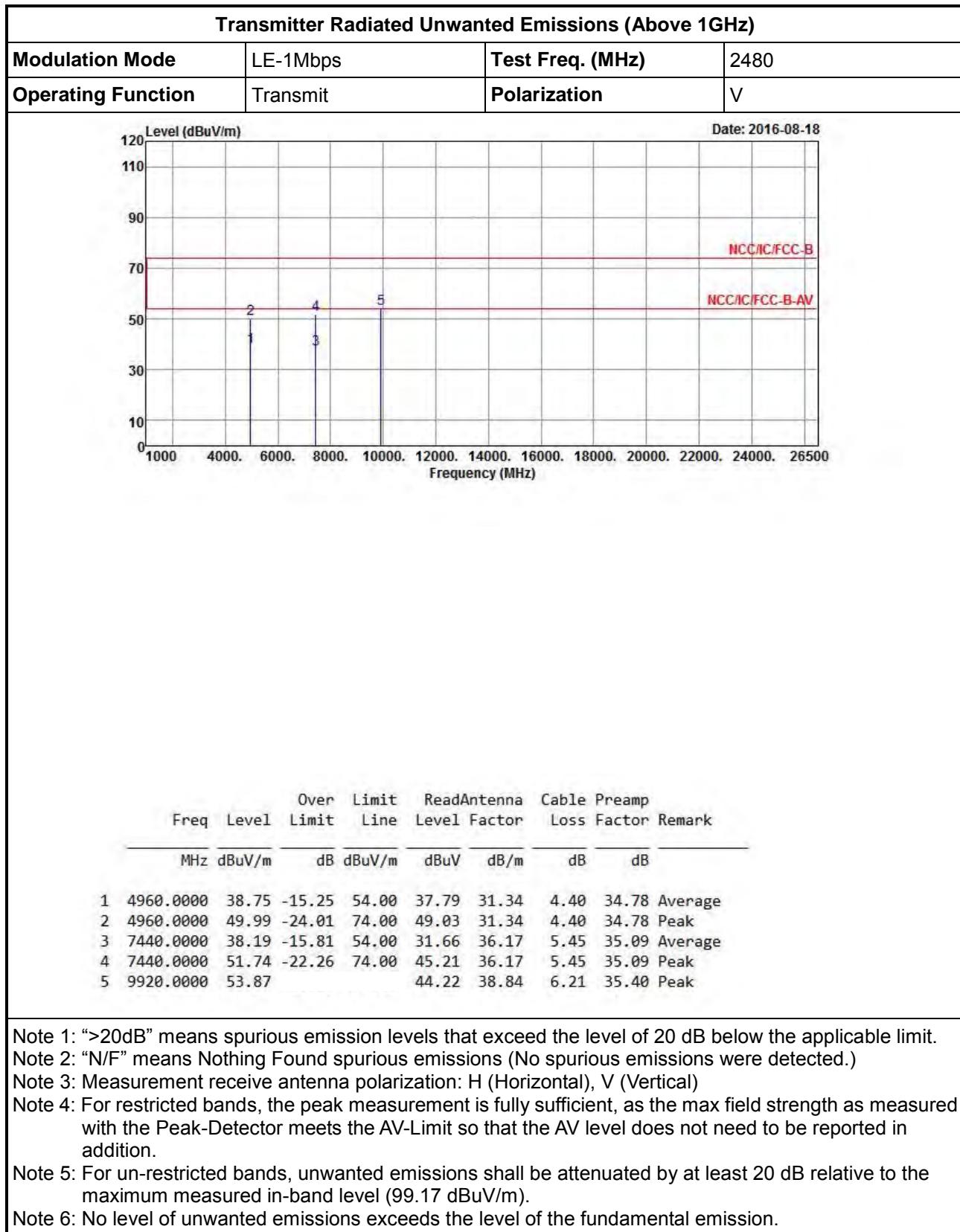


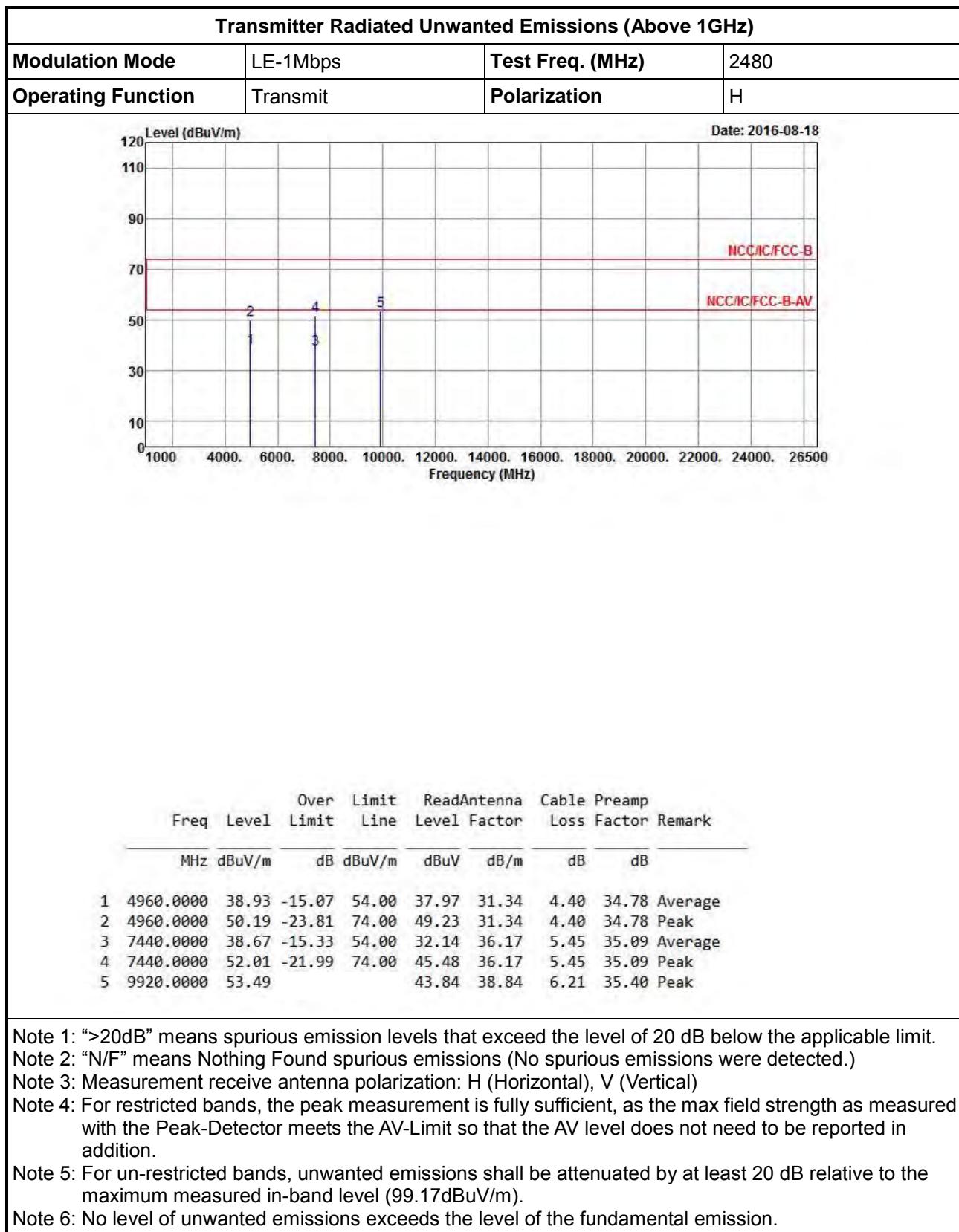


| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------|----------|--------|------------------|---------|-------|--------|--------|------------------|------|-------|------|-------|------|---------|-------|--------|--------|--|-------|------|-------|--------|------|--------|-----|--------|----|--------|------|------|----|----|--|--|
| Modulation Mode | | LE-1Mbps | | Test Freq. (MHz) | | 2440 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Function | | Transmit | | Polarization | | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Level (dBuV/m) | | | | | | | | | Date: 2016-08-18 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Freq</th> <th rowspan="2">Level</th> <th>Over</th> <th>Limit</th> <th>Read</th> <th>Antenna</th> <th>Cable</th> <th>Preamp</th> <th colspan="2" rowspan="2">Remark</th> </tr> <tr> <th>Limit</th> <th>Line</th> <th>Level</th> <th>Factor</th> <th>Loss</th> <th>Factor</th> </tr> </thead> <tbody> <tr> <td>MHz</td> <td>dBuV/m</td> <td>dB</td> <td>dBuV/m</td> <td>dBuV</td> <td>dB/m</td> <td>dB</td> <td>dB</td> <td colspan="2"></td> </tr> </tbody> </table> | | | | | | | | | | Freq | Level | Over | Limit | Read | Antenna | Cable | Preamp | Remark | | Limit | Line | Level | Factor | Loss | Factor | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | |
| Freq | Level | Over | Limit | Read | Antenna | Cable | Preamp | Remark | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Limit | Line | Level | Factor | Loss | Factor | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 4880.0000 | 33.83 | -20.17 | 54.00 | 33.06 | 31.23 | 4.35 | 34.81 | Average | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 4880.0000 | 48.41 | -25.59 | 74.00 | 47.64 | 31.23 | 4.35 | 34.81 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 7320.0000 | 36.74 | -17.26 | 54.00 | 30.51 | 35.90 | 5.40 | 35.07 | Average | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 7320.0000 | 50.44 | -23.56 | 74.00 | 44.21 | 35.90 | 5.40 | 35.07 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 9760.0000 | 54.02 | | | 44.56 | 38.71 | 6.14 | 35.39 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition. Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (99.48 dBuV/m). Note 6: No level of unwanted emissions exceeds the level of the fundamental emission. | | | | | | | | | |





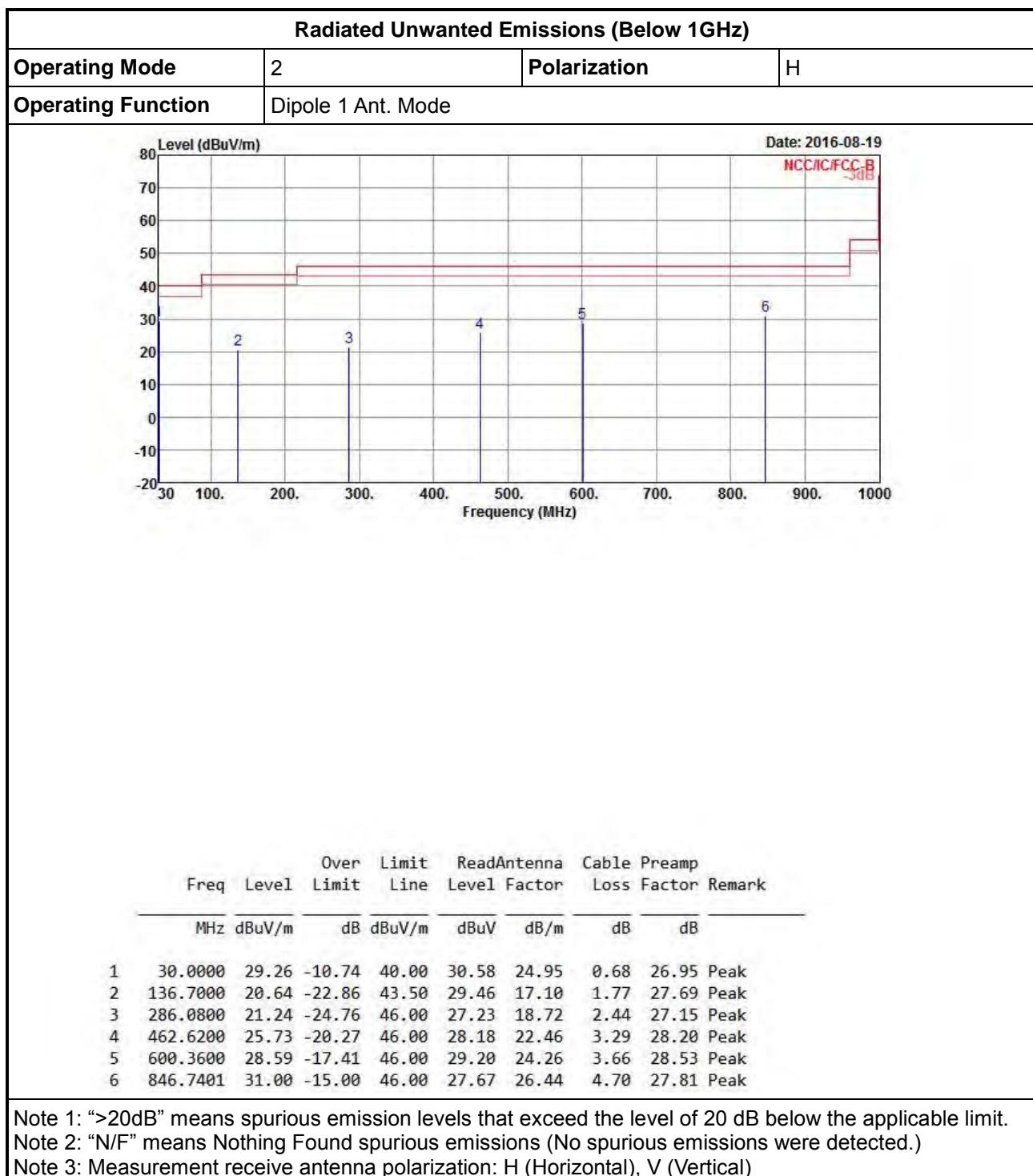




Transmitter Radiated Unwanted Emissions (Below 1GHz)

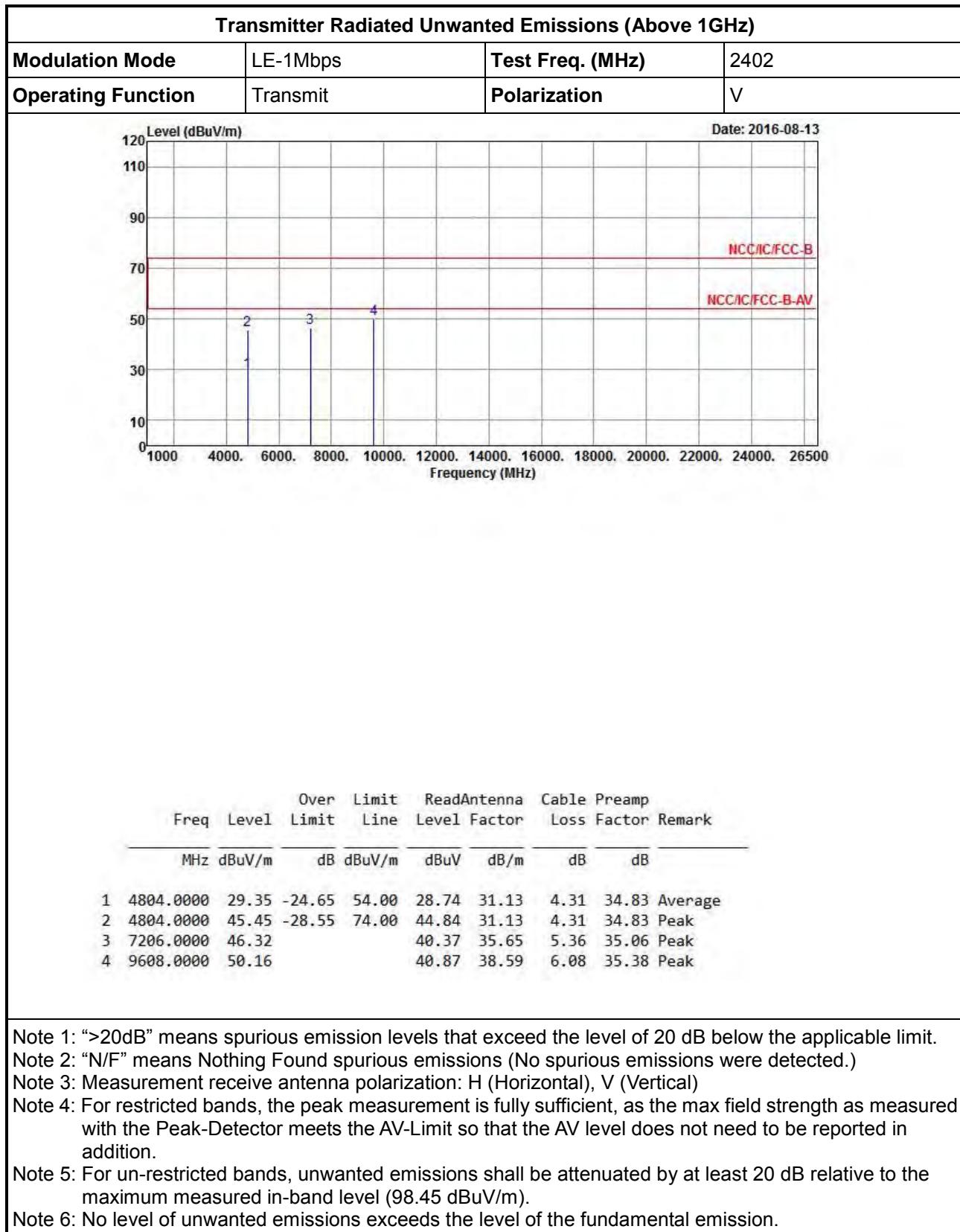
| Radiated Unwanted Emissions (Below 1GHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------|--|--------|--------------|---------|-------|--------|--------|------------------|------|-------|------|-------|------|---------|-------|--------|--------|------|-------|-------|--------|------|--------|-----|--------|----|--------|------|------|----|----|--|
| Operating Mode | | 2 | | Polarization | | V | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Function | | Dipole 1 Ant. Mode | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Level (dBuV/m) | | | | | | | | | Date: 2016-08-19 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <p>Red bars represent measured levels. Blue lines represent limits. The plot shows a significant emission peak around 941.8 MHz.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th rowspan="2">Freq</th> <th rowspan="2">Level</th> <th>Over</th> <th>Limit</th> <th>Read</th> <th>Antenna</th> <th>Cable</th> <th>Preamp</th> <th rowspan="2">Remark</th> </tr> <tr> <th>Line</th> <th>Limit</th> <th>Level</th> <th>Factor</th> <th>Loss</th> <th>Factor</th> </tr> </thead> <tbody> <tr> <td>MHz</td> <td>dBuV/m</td> <td>dB</td> <td>dBuV/m</td> <td>dBuV</td> <td>dB/m</td> <td>dB</td> <td>dB</td> <td></td> </tr> </tbody> </table> | | | | | | | | | | Freq | Level | Over | Limit | Read | Antenna | Cable | Preamp | Remark | Line | Limit | Level | Factor | Loss | Factor | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| Freq | Level | Over | Limit | Read | Antenna | Cable | Preamp | Remark | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Line | Limit | Level | Factor | Loss | Factor | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 30.0000 | 26.62 | -13.38 | 40.00 | 27.94 | 24.95 | 0.68 | 26.95 | Peak | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 125.0600 | 21.33 | -22.17 | 43.50 | 29.75 | 17.69 | 1.66 | 27.77 | Peak | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 256.9800 | 20.49 | -25.51 | 46.00 | 27.17 | 18.16 | 2.25 | 27.09 | Peak | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 381.1400 | 25.52 | -20.48 | 46.00 | 29.14 | 21.25 | 2.85 | 27.72 | Peak | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 615.8800 | 29.08 | -16.92 | 46.00 | 29.50 | 24.38 | 3.69 | 28.49 | Peak | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 941.8000 | 32.29 | -13.71 | 46.00 | 27.85 | 26.94 | 4.85 | 27.35 | Peak | | | | | | | | | | | | | | | | | | | | | | | | |

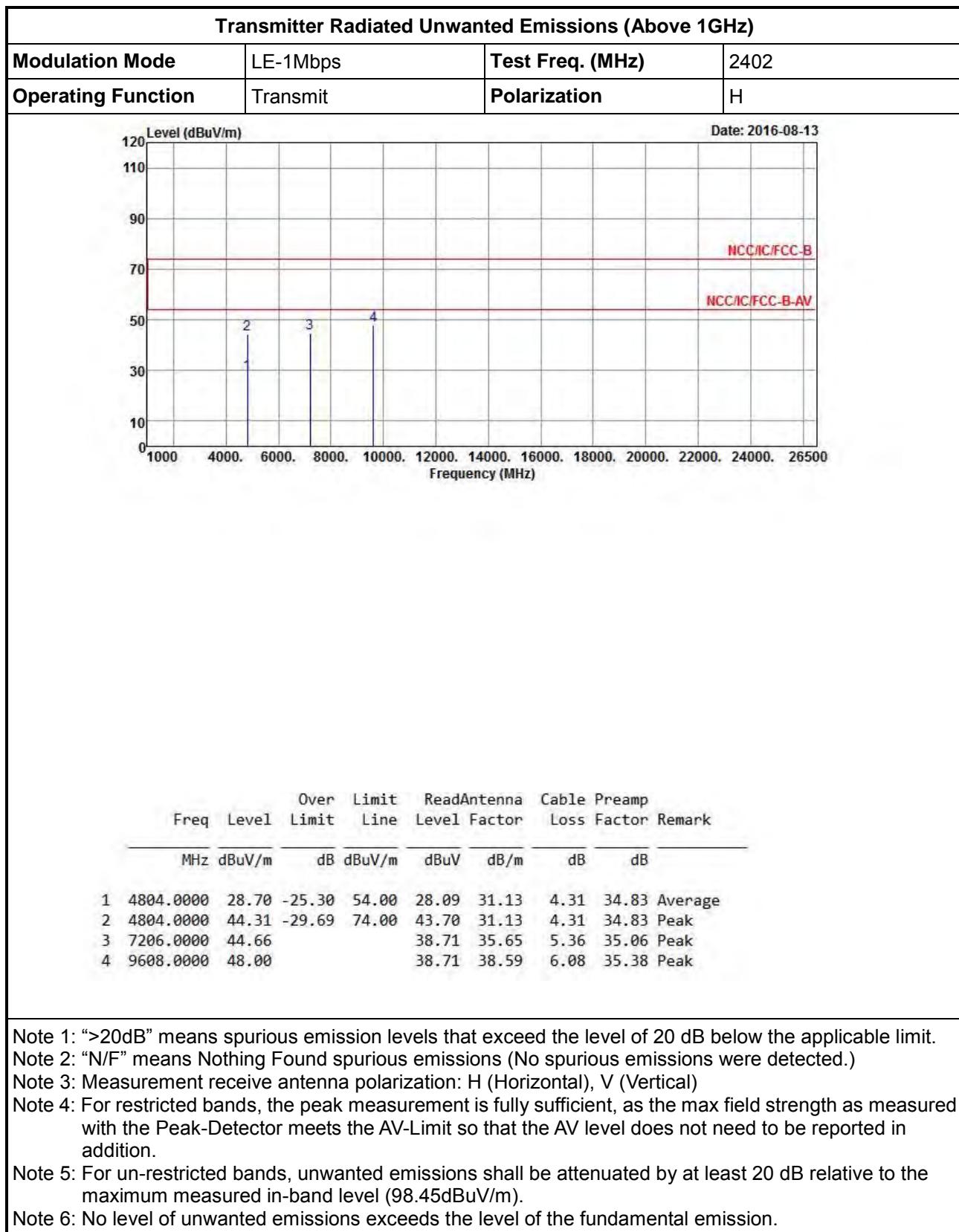
 | | | | | | | | || Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit. | | | | | | | | | |
| Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) | | | | | | | | | |
| Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) | | | | | | | | | |

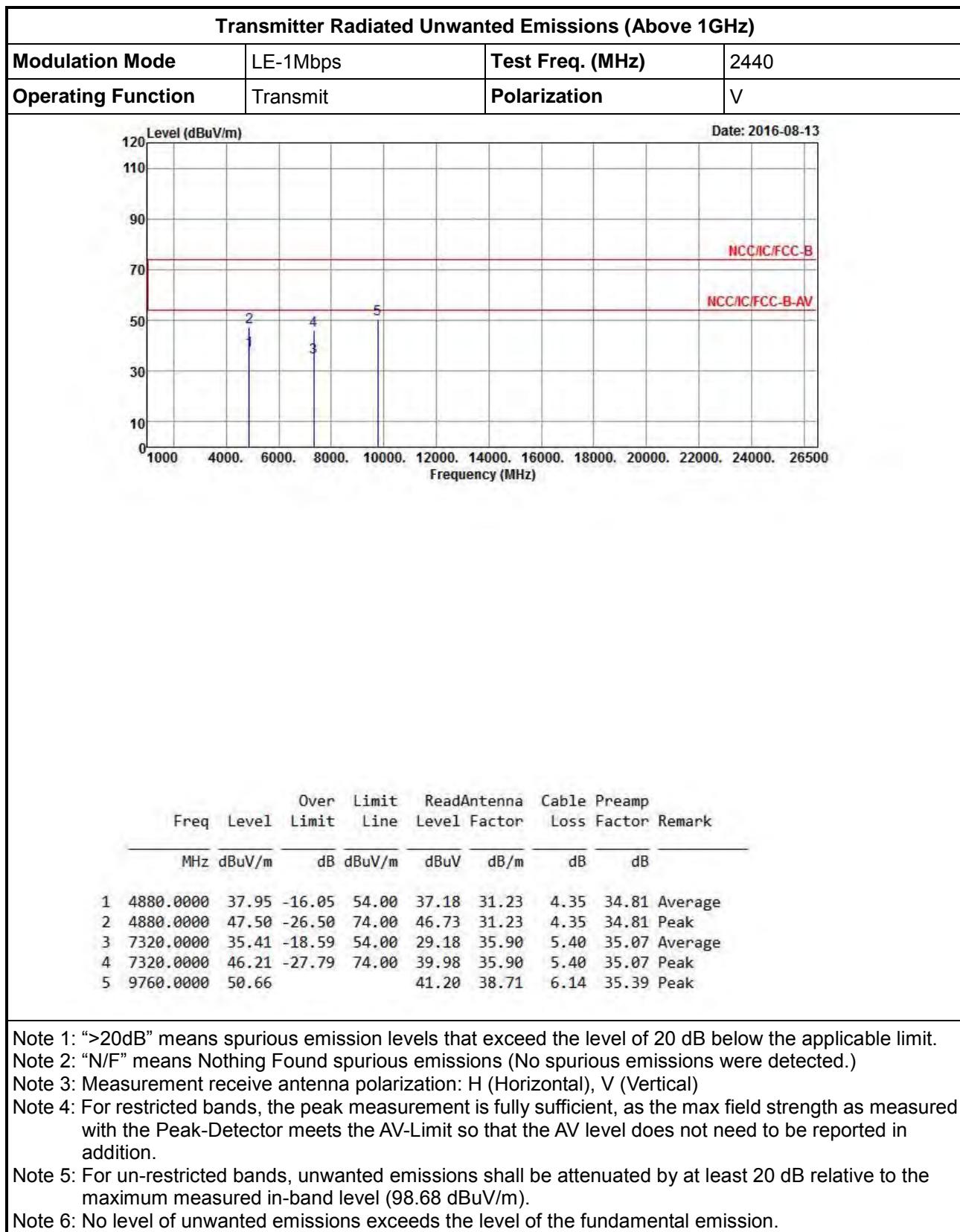


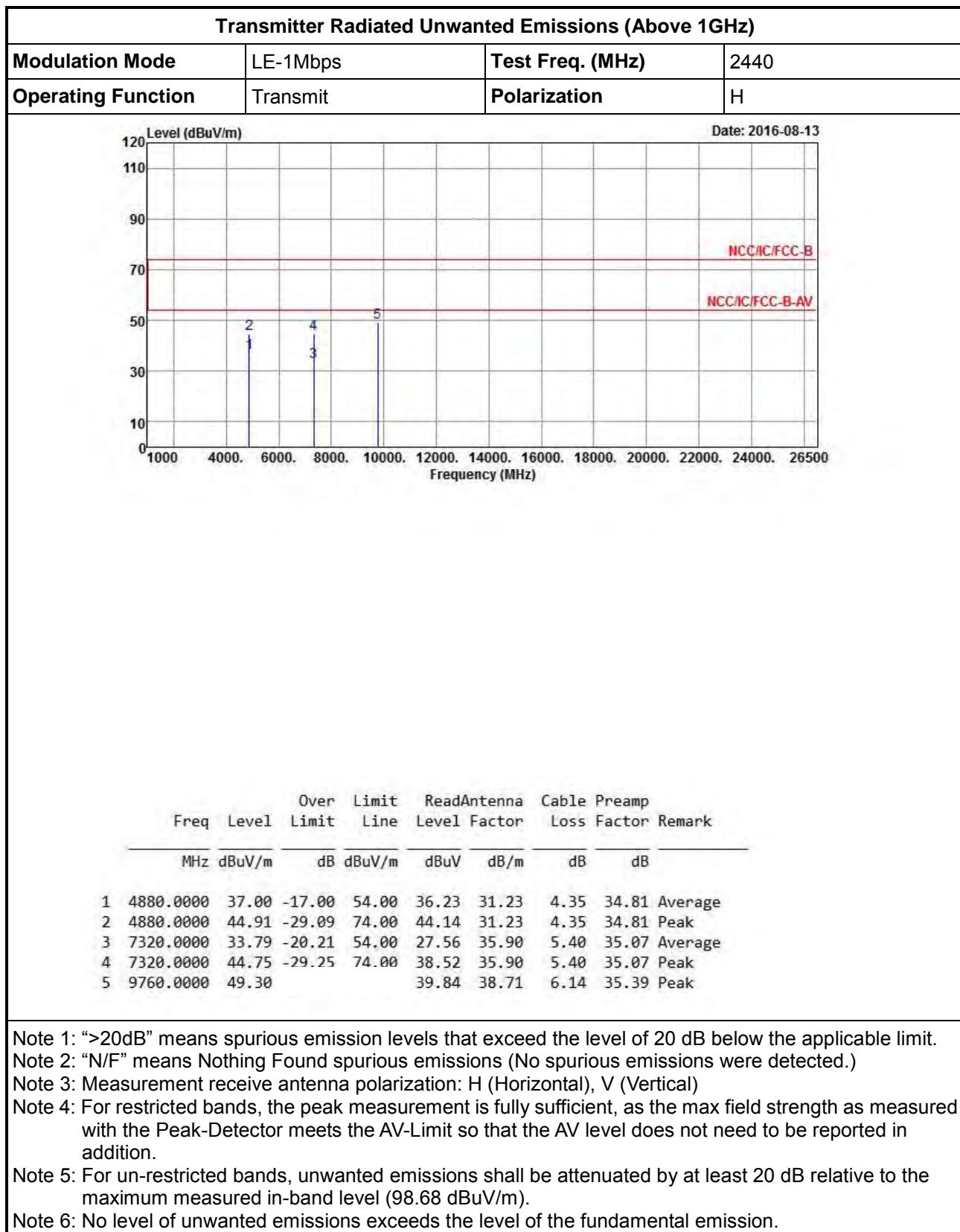


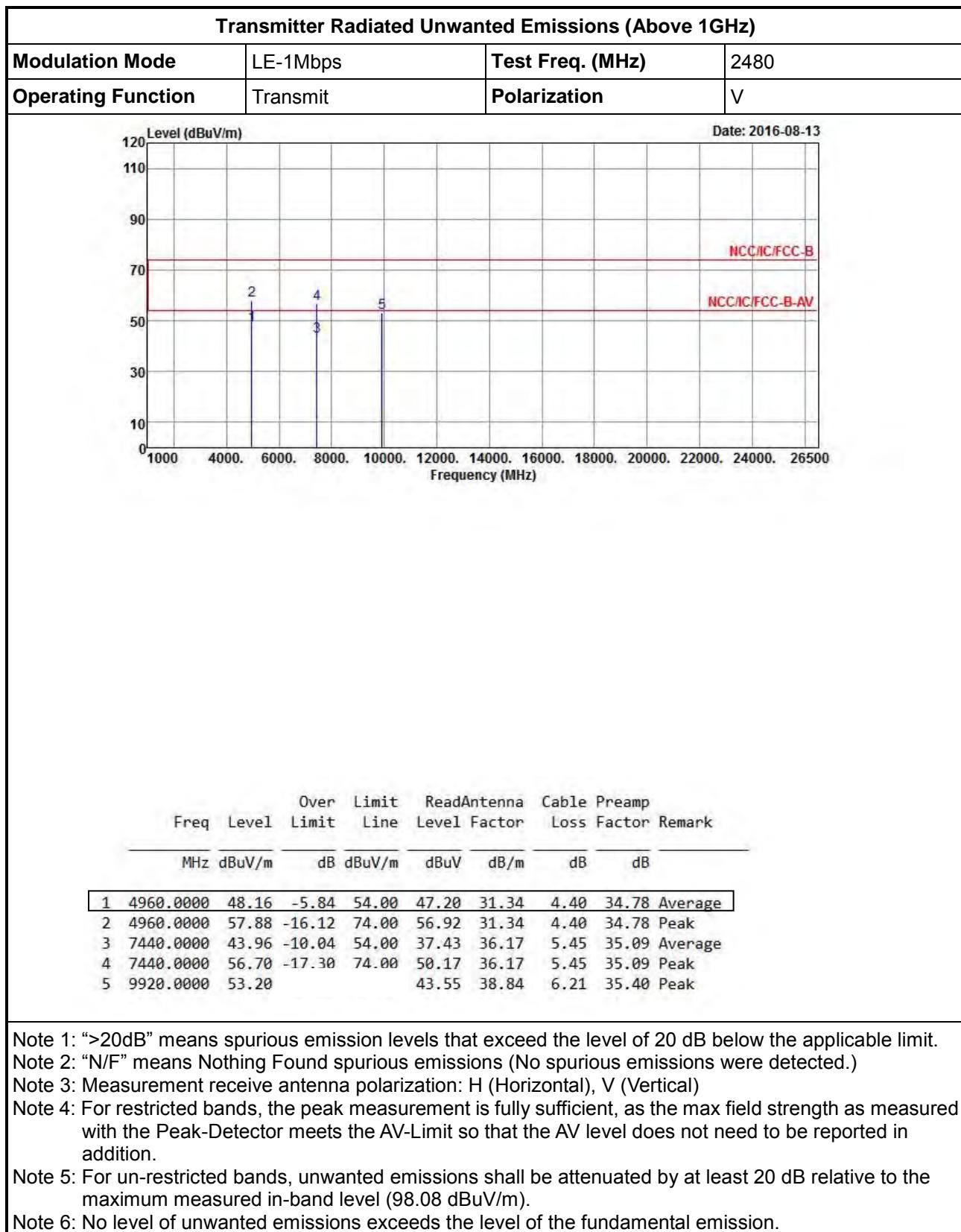
Transmitter Radiated Unwanted Emissions (Above 1GHz)

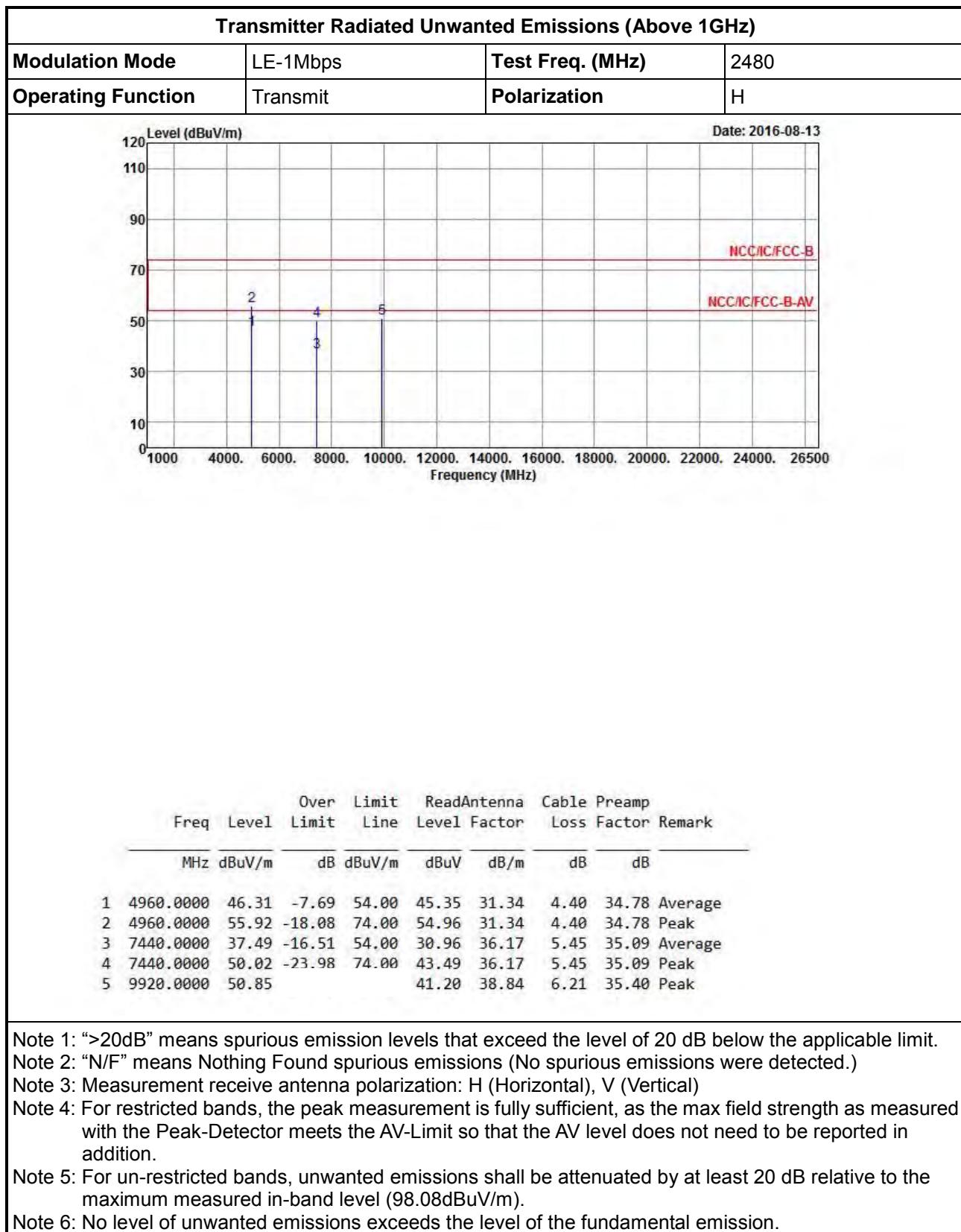










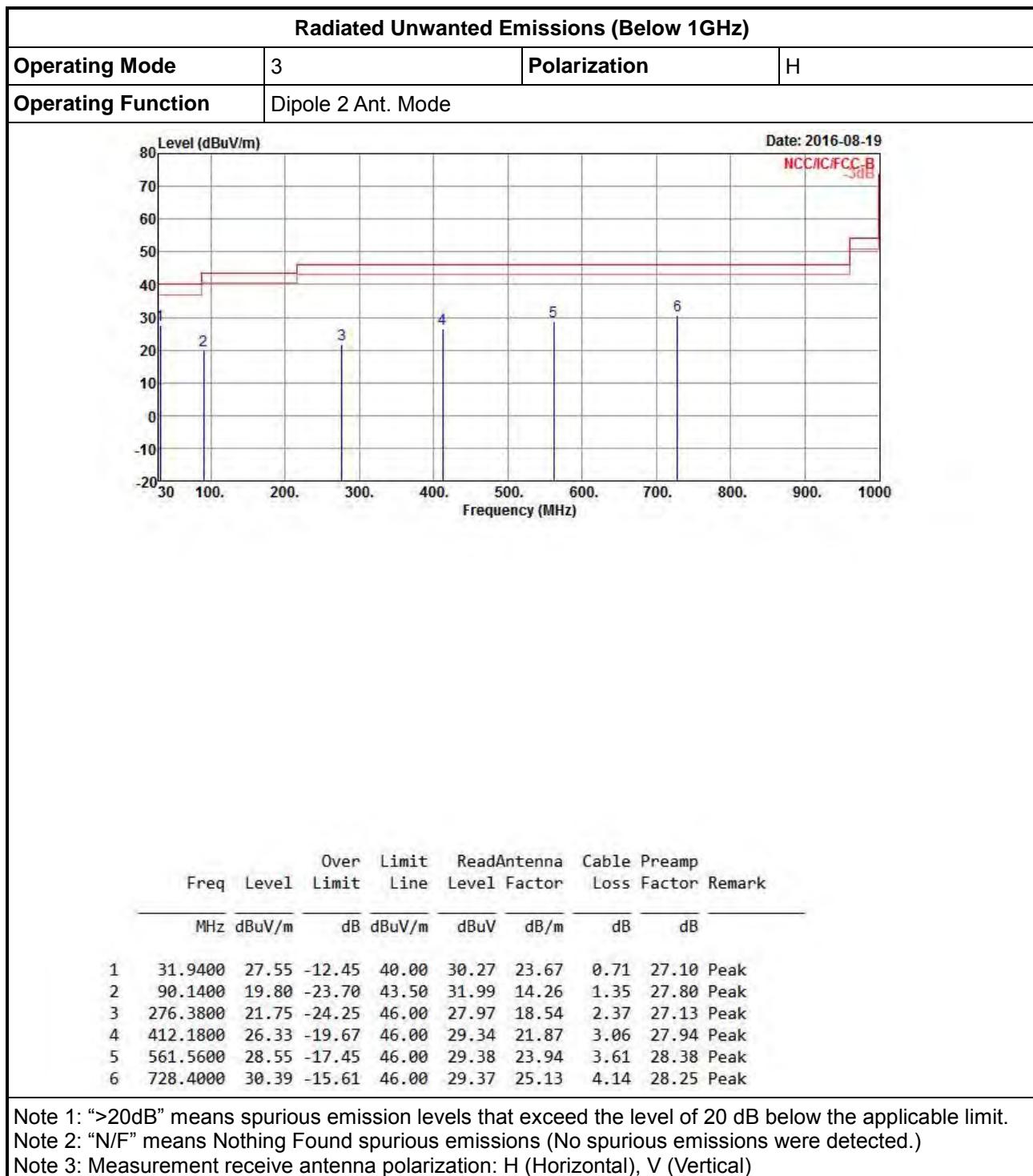




Transmitter Radiated Unwanted Emissions (Below 1GHz)

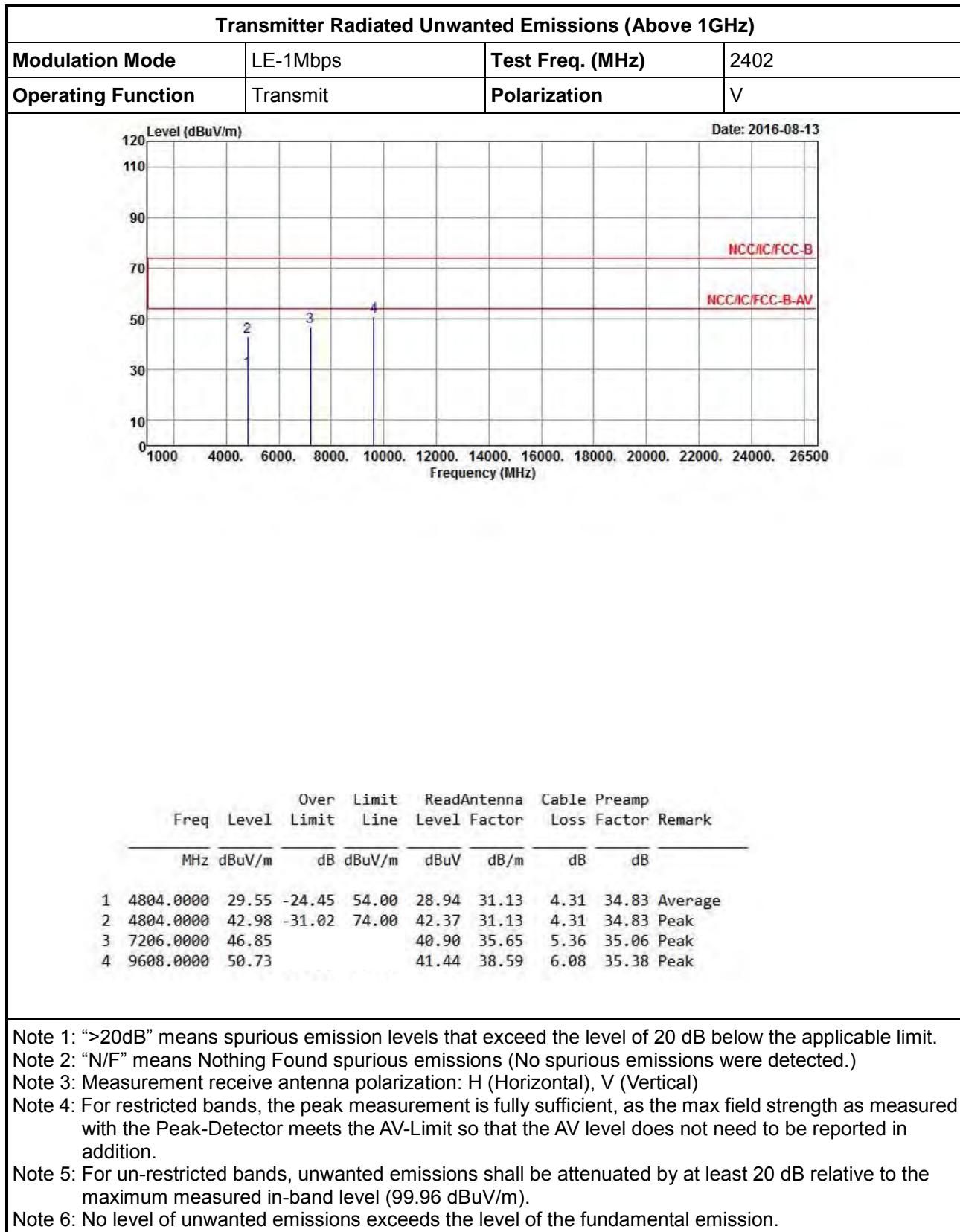
| Radiated Unwanted Emissions (Below 1GHz) | | | | | | | | | | | | | | | |
|--|----------|--------------------|--------|--------------|-------|-------|------|-------|-----------|--|--|--|--|--|--|
| Operating Mode | | 3 | | Polarization | | V | | | | | | | | | |
| Operating Function | | Dipole 2 Ant. Mode | | | | | | | | | | | | | |
| Date: 2016-08-19 NCC/C/IC/FCC-B | | | | | | | | | | | | | | | |
| Level (dBuV/m) | | | | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | |
| 70 | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | |
| -10 | | | | | | | | | | | | | | | |
| -20 | | | | | | | | | | | | | | | |
| 30 | 100. | 200. | 300. | 400. | 500. | 600. | 700. | 800. | 900. 1000 | | | | | | |
| Frequency (MHz) | | | | | | | | | | | | | | | |
| 2 | 30.0000 | 27.19 | -12.81 | 40.00 | 28.51 | 24.95 | 0.68 | 26.95 | Peak | | | | | | |
| 3 | 57.1600 | 23.36 | -16.64 | 40.00 | 37.67 | 12.46 | 1.14 | 27.91 | Peak | | | | | | |
| 4 | 144.4600 | 20.34 | -23.16 | 43.50 | 29.73 | 16.50 | 1.75 | 27.64 | Peak | | | | | | |
| 5 | 388.9000 | 24.86 | -21.14 | 46.00 | 28.27 | 21.46 | 2.91 | 27.78 | Peak | | | | | | |
| 6 | 613.9400 | 28.63 | -17.37 | 46.00 | 29.07 | 24.37 | 3.69 | 28.50 | Peak | | | | | | |
| 6 | 776.9000 | 29.73 | -16.27 | 46.00 | 27.94 | 25.62 | 4.28 | 28.11 | Peak | | | | | | |

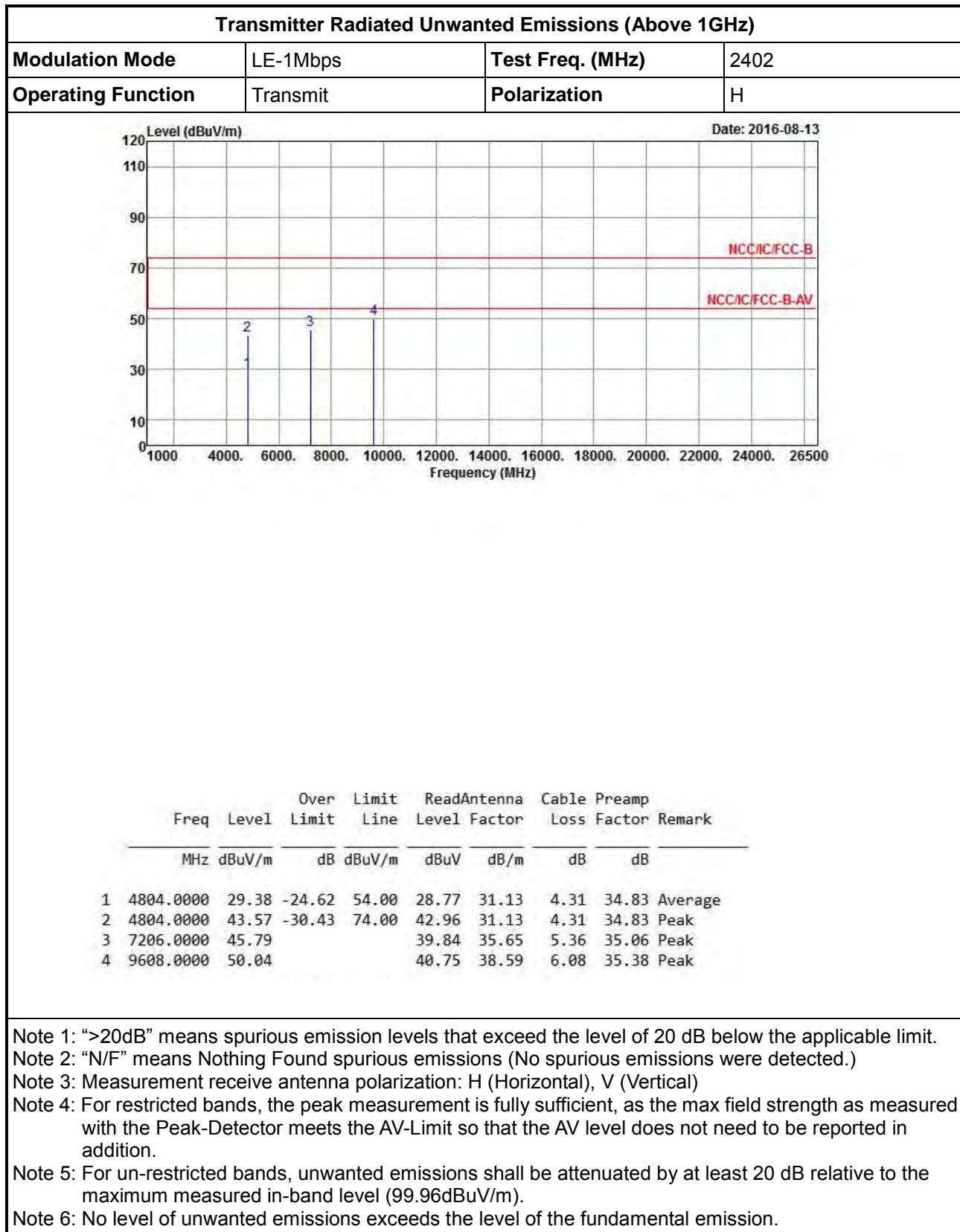
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)





Transmitter Radiated Unwanted Emissions (Above 1GHz)







| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------|-------|--------|------------------|---------|-------|--------|--------|------------------|------|-------|------|-------|------|---------|-------|--------|--------|-------|------|-------|--------|------|--------|-----|--------|----|--------|------|------|----|----|--|
| Modulation Mode | LE-1Mbps | | | Test Freq. (MHz) | | 2440 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Function | Transmit | | | Polarization | | V | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Level (dBuV/m) | | | | | | | | | Date: 2016-08-13 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th rowspan="2">Freq</th> <th rowspan="2">Level</th> <th>Over</th> <th>Limit</th> <th>Read</th> <th>Antenna</th> <th>Cable</th> <th>Preamp</th> <th rowspan="2">Remark</th> </tr> <tr> <th>Limit</th> <th>Line</th> <th>Level</th> <th>Factor</th> <th>Loss</th> <th>Factor</th> </tr> </thead> <tbody> <tr> <td>MHz</td> <td>dBuV/m</td> <td>dB</td> <td>dBuV/m</td> <td>dBuV</td> <td>dB/m</td> <td>dB</td> <td>dB</td> <td></td> </tr> </tbody> </table> | | | | | | | | | | Freq | Level | Over | Limit | Read | Antenna | Cable | Preamp | Remark | Limit | Line | Level | Factor | Loss | Factor | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| Freq | Level | Over | Limit | Read | Antenna | Cable | Preamp | Remark | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Limit | Line | Level | Factor | Loss | Factor | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 4880.0000 | 29.17 | -24.83 | 54.00 | 28.40 | 31.23 | 4.35 | 34.81 | Average | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 4880.0000 | 42.07 | -31.93 | 74.00 | 41.30 | 31.23 | 4.35 | 34.81 | Peak | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 7320.0000 | 34.10 | -19.90 | 54.00 | 27.87 | 35.90 | 5.40 | 35.07 | Average | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 7320.0000 | 47.59 | -26.41 | 74.00 | 41.36 | 35.90 | 5.40 | 35.07 | Peak | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 9760.0000 | 50.63 | | | 41.17 | 38.71 | 6.14 | 35.39 | Peak | | | | | | | | | | | | | | | | | | | | | | | | |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (97.17 dBuV/m).

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

