



FCC Test Report

Equipment : Wireless Mini PCI
Brand Name : **ADTRAN**
Model No. : XW866G
Part No. : 33500006x-E (x = 0~9, a~z, A~Z, blank, “-” or “+”)
FCC ID : HDC424RG50X
Standard : 47 CFR FCC Part 15.407
RF Specification : Wi-Fi
Operating Band : 5150 MHz – 5250 MHz
5725 MHz – 5850 MHz
FCC Classification : NII
Applicant : Adtran
901 Explorer Blvd., Huntsville, AL 35806, US
Manufacturer : **XAVi Technologies Corporation**
22F., No.69, Sec. 2, Guangfu Rd., Sanchong Dist., New
Taipei City 241, Taiwan (R.O.C.)

The product sample received on Sep. 05, 2016 and completely tested on Dec. 30, 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





Table of Contents

| | | |
|----------|--|-----------|
| 1 | GENERAL DESCRIPTION | 5 |
| 1.1 | Information..... | 5 |
| 1.2 | Testing Applied Standards | 8 |
| 1.3 | Testing Location Information..... | 8 |
| 1.4 | Measurement Uncertainty | 9 |
| 2 | TEST CONFIGURATION OF EUT | 10 |
| 2.1 | The Worst Case Modulation Configuration | 10 |
| 2.2 | Test Channel Mode | 11 |
| 2.3 | The Worst Case Measurement Configuration..... | 13 |
| 2.4 | Accessories and Support Equipment | 14 |
| 2.5 | Test Setup Diagram | 15 |
| 3 | TRANSMITTER TEST RESULT | 18 |
| 3.1 | AC Power-line Conducted Emissions | 18 |
| 3.2 | Emission Bandwidth | 19 |
| 3.3 | Maximum Conducted Output Power | 20 |
| 3.4 | Peak Power Spectral Density..... | 22 |
| 3.5 | Transmitter Bandedge Emissions | 24 |
| 3.6 | Transmitter Unwanted Emissions..... | 27 |
| 3.7 | Frequency Stability | 31 |
| 4 | TEST EQUIPMENT AND CALIBRATION DATA | 32 |

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. Transmitter Bandedge Emissions

Appendix E. Transmitter Unwanted Emissions

Appendix F. Frequency Stability

Appendix G. Test Photos

Photographs of EUT v02



Summary of Test Result

| Conformance Test Specifications | | | |
|---------------------------------|------------------|-----------------------------------|----------|
| Report Clause | Ref. Std. Clause | Description | Result |
| 1.1.3 | 15.203 | Antenna Requirement | Complied |
| 3.1 | 15.207 | AC Power-line Conducted Emissions | Complied |
| 3.2 | 15.407(a) | Emission Bandwidth | Complied |
| 3.3 | 15.407(a) | Maximum Conducted Output Power | Complied |
| 3.4 | 15.407(a) | Peak Power Spectral Density | Complied |
| 3.5 | 15.407(b) | Unwanted Emissions | Complied |
| 3.7 | 15.407(g) | Frequency Stability | 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) | Channel Number | Nss-Min | Nant |
|------|------------------------|------------|----------------|-----------|------|
| 5.2G | 11a | 20 | 36-48 [4] | 1 | 4 |
| 5.2G | HT20 | 20 | 36-48 [4] | 1,(M0-31) | 4 |
| 5.2G | HT40 | 40 | 38-46 [2] | 1,(M0-31) | 4 |
| 5.2G | VHT20 | 20 | 36-48 [4] | 1,(M0-8) | 4 |
| 5.2G | VHT40 | 40 | 38-46 [2] | 1,(M0-9) | 4 |
| 5.2G | VHT80 | 80 | 42 [1] | 1,(M0-9) | 4 |
| 5.2G | VHT20 (Beamforming) | 20 | 36-48 [4] | 1,(M0-8) | 4 |
| 5.2G | VHT40 (Beamforming) | 40 | 38-46 [2] | 1,(M0-9) | 4 |
| 5.2G | VHT80 (Beamforming) | 80 | 42 [1] | 1,(M0-9) | 4 |
| 5.8G | 11a | 20 | 149-165 [5] | 1 | 4 |
| 5.8G | HT20 | 20 | 149-165 [5] | 1,(M0-31) | 4 |
| 5.8G | HT40 | 40 | 151-159 [2] | 1,(M0-31) | 4 |
| 5.8G | VHT20 | 20 | 149-165 [5] | 1,(M0-8) | 4 |
| 5.8G | VHT40 | 40 | 151-159 [2] | 1,(M0-9) | 4 |
| 5.8G | VHT80 | 80 | 155 [1] | 1,(M0-9) | 4 |
| 5.8G | VHT20 (Beamforming) | 20 | 149-165 [5] | 1,(M0-8) | 4 |
| 5.8G | VHT40 (Beamforming) | 40 | 151-159 [2] | 1,(M0-9) | 4 |
| 5.8G | VHT80 (Beamforming) | 80 | 155 [1] | 1,(M0-9) | 4 |

Note:

- 5.2G is the 5.2GHz Band (5.15-5.25GHz).
- 5.8G is the 5.8GHz Band (5.725-5.850GHz).
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 and VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3.



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 type="checkbox"/> | External antenna (dedicated antennas) |
| <input type="checkbox"/> | <input type="checkbox"/> Single power level with corresponding antenna(s). |
| <input type="checkbox"/> | <input type="checkbox"/> Multiple power level and corresponding antenna(s). |

Antenna General Information

| No. | Ant. Cat. | Ant. Type | Model No. | Gain (dBi) |
|-----|-----------|-----------|-----------|------------|
| A | Integral | PCB PIFA | NF5W20B | 3.7 |
| B | Integral | PCB PIFA | NF5W20B | 3.7 |
| C | Integral | PCB PIFA | NF5W20B | 3.7 |
| D | Integral | PCB PIFA | NF5W20B | 3.7 |

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 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 checked="" type="checkbox"/> | Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.: ADTRAN / 424RG |
| <input type="checkbox"/> | Other: |



1.1.5 Mode Test Duty Cycle

| Operated Mode for Worst Duty Cycle | |
|---|---------------------------------------|
| Test Signal Duty Cycle (x) | Power Duty Factor [dB] – (10 log 1/x) |
| <input checked="" type="checkbox"/> 99.1% - IEEE 802.11a | 0.04 |
| <input checked="" type="checkbox"/> 99.1% - IEEE 802.11n (HT20) | 0.04 |
| <input checked="" type="checkbox"/> 97.6% - IEEE 802.11n (HT40) | 0.11 |
| <input checked="" type="checkbox"/> 98.9% - IEEE 802.11ac (VHT20) | 0.05 |
| <input checked="" type="checkbox"/> 97.8% - IEEE 802.11ac (VHT40) | 0.10 |
| <input checked="" type="checkbox"/> 95.3% - IEEE 802.11ac (VHT80) | 0.21 |
| <input checked="" type="checkbox"/> 94.3% - IEEE 802.11ac (VHT20) (Beamforming) | 0.25 |
| <input checked="" type="checkbox"/> 92.5% - IEEE 802.11ac (VHT40) (Beamforming) | 0.34 |
| <input checked="" type="checkbox"/> 87.6% - IEEE 802.11ac (VHT80) (Beamforming) | 0.57 |

1.1.6 EUT Operational Condition

| | | | |
|-------------------|---|---|--|
| Supply Voltage | <input checked="" type="checkbox"/> AC mains | <input type="checkbox"/> DC | |
| Type of DC Source | <input checked="" type="checkbox"/> External AC adapter | <input type="checkbox"/> From Host System | <input type="checkbox"/> Battery |
| Test Voltage | <input checked="" type="checkbox"/> Vnom (120 V) | <input checked="" type="checkbox"/> Vmax (138V) | <input checked="" type="checkbox"/> Vmin (102 V) |
| Test Climatic | <input checked="" type="checkbox"/> Tnom (20°C) | <input checked="" type="checkbox"/> Tmax (50°C) | <input checked="" type="checkbox"/> Tmin (-5°C) |

1.1.7 EUT Operate Information

| Items | Description | | |
|----------------------|--|--------------------------|---------------------|
| Beamforming Function | <input checked="" type="checkbox"/> With beamforming | <input type="checkbox"/> | Without beamforming |
| Operate Condition | <input checked="" type="checkbox"/> Indoor | <input type="checkbox"/> | Outdoor |
| | <input type="checkbox"/> Fixed P2P | <input type="checkbox"/> | Client |
| Operate Mode | <input checked="" type="checkbox"/> Master | | |



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
- KDB 789033 D02 v01r03
- KDB 662911 D01 v02r01
- KDB 644545 D03 v01

1.3 Testing Location Information

| Testing Location | | | | |
|-------------------------------|---------------|---------------|---|----------------------|
| | 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 : 886-3-327-0973 |
| Test Condition | Test Site No. | Test Engineer | Test Environment | Test Date |
| AC Conduction | CO04-HY | Ryan | 23°C / 63% | 23/09/2016 |
| RF Conducted | TH01-HY | Ryan | 22.5°C / 65% | 24/09/2016 |
| RF Conducted (Beamforming) | TH01-HY | Lisa | 24.5°C / 65% | 29/12/2016 |
| Radiated | 03CH09-HY | Thor | 24.6°C / 58% | 14/09/2016 |
| Radiated (Beamforming) | 03CH09-HY | Terry | 24°C / 60% | 30/12/2016 |

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 | ±2.26 dB | |
| Emission bandwidth, 26dB bandwidth | ±1.42 % | |
| RF output power, conducted | ±0.63 dB | |
| Power density, conducted | ±0.81 dB | |
| Unwanted emissions, conducted | 9 – 150 kHz | ±0.38 dB |
| | 0.15 – 30 MHz | ±0.42 dB |
| | 30 – 1000 MHz | ±0.51 dB |
| | 1 – 18 GHz | ±0.67 dB |
| | 18 – 40 GHz | ±0.83 dB |
| | 40 – 200 GHz | N/A |
| All emissions, radiated | 9 – 150 kHz | ±2.49 dB |
| | 0.15 – 30 MHz | ±2.28 dB |
| | 30 – 1000 MHz | ±2.56 dB |
| | 1 – 18 GHz | ±3.59 dB |
| | 18 – 40 GHz | ±3.82 dB |
| | 40 – 200 GHz | N/A |
| Temperature | ±0.8 °C | |
| Humidity | ±3 % | |
| DC and low frequency voltages | ±3 % | |
| Time | ±1.42 % | |
| Duty Cycle | ±1.42 % | |



2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

| Worst Modulation Used for Conformance Testing | | | |
|---|------------------------------------|-----------------|-----------------------|
| Modulation Mode | Transmit Chains (N _{TX}) | Data Rate / MCS | Worst Data Rate / MCS |
| 11a | 4 | 6-54Mbps | 6 Mbps |
| HT20 | 4 | MCS 0-31 | MCS 0 |
| HT40 | 4 | MCS 0-31 | MCS 0 |
| VHT20 | 4 | MCS 0-8 | MCS 0 |
| VHT40 | 4 | MCS 0-9 | MCS 0 |
| VHT80 | 4 | MCS 0-9 | MCS 0 |
| VHT20 (Beamforming) | 4 | MCS 0-8 | MCS 0 |
| VHT40 (Beamforming) | 4 | MCS 0-9 | MCS 0 |
| VHT80 (Beamforming) | 4 | MCS 0-9 | MCS 0 |



2.2 Test Channel Mode

| Test Software Version | | PUTTY/ 0.62.0.0 | | | | | |
|-----------------------|--|-----------------|--|--|--|--|--|
|-----------------------|--|-----------------|--|--|--|--|--|

| Band | Mode | BWch (MHz) | Nss-Min | Nant | Ch. (MHz) | Range | Power Setting |
|------|---------------------|------------|---------|------|-----------|-------|---------------|
| 5.2G | 11a | 20 | 1 | 4 | 5180 | L | 15 |
| 5.2G | 11a | 20 | 1 | 4 | 5200 | M | 19 |
| 5.2G | 11a | 20 | 1 | 4 | 5240 | H | 19 |
| 5.2G | HT20 | 20 | 1,(M0) | 4 | 5180 | L | 14.5 |
| 5.2G | HT20 | 20 | 1,(M0) | 4 | 5200 | M | 19 |
| 5.2G | HT20 | 20 | 1,(M0) | 4 | 5240 | H | 19 |
| 5.2G | HT40 | 40 | 1,(M0) | 4 | 5190 | L | 12.5 |
| 5.2G | HT40 | 40 | 1,(M0) | 4 | 5230 | H | 19 |
| 5.2G | VHT20 | 20 | 1,(M0) | 4 | 5180 | L | 14.5 |
| 5.2G | VHT20 | 20 | 1,(M0) | 4 | 5200 | M | 19 |
| 5.2G | VHT20 | 20 | 1,(M0) | 4 | 5240 | H | 19 |
| 5.2G | VHT40 | 40 | 1,(M0) | 4 | 5190 | L | 12.5 |
| 5.2G | VHT40 | 40 | 1,(M0) | 4 | 5230 | H | 19 |
| 5.2G | VHT80 | 80 | 1,(M0) | 4 | 5210 | S | 12 |
| 5.2G | VHT20 (Beamforming) | 20 | 1,(M0) | 4 | 5180 | L | 15 |
| 5.2G | VHT20 (Beamforming) | 20 | 1,(M0) | 4 | 5200 | M | 15 |
| 5.2G | VHT20 (Beamforming) | 20 | 1,(M0) | 4 | 5240 | H | 15 |
| 5.2G | VHT40 (Beamforming) | 40 | 1,(M0) | 4 | 5190 | L | 13 |
| 5.2G | VHT40 (Beamforming) | 40 | 1,(M0) | 4 | 5230 | H | 15 |
| 5.2G | VHT80 (Beamforming) | 80 | 1,(M0) | 4 | 5210 | S | 12 |



| Band | Mode | BWch (MHz) | Nss-Min | Nant | Ch. (MHz) | Range | Power Setting |
|------|---------------------|------------|---------|------|-----------|-------|---------------|
| 5.8G | 11a | 20 | 1 | 4 | 5745 | L | 19 |
| 5.8G | 11a | 20 | 1 | 4 | 5785 | M | 19 |
| 5.8G | 11a | 20 | 1 | 4 | 5825 | H | 19 |
| 5.8G | HT20 | 20 | 1,(M0) | 4 | 5745 | L | 19 |
| 5.8G | HT20 | 20 | 1,(M0) | 4 | 5785 | M | 19 |
| 5.8G | HT20 | 20 | 1,(M0) | 4 | 5825 | H | 19 |
| 5.8G | HT40 | 40 | 1,(M0) | 4 | 5755 | L | 19 |
| 5.8G | HT40 | 40 | 1,(M0) | 4 | 5795 | H | 19 |
| 5.8G | VHT20 | 20 | 1,(M0) | 4 | 5745 | L | 19 |
| 5.8G | VHT20 | 20 | 1,(M0) | 4 | 5785 | M | 19 |
| 5.8G | VHT20 | 20 | 1,(M0) | 4 | 5825 | H | 19 |
| 5.8G | VHT40 | 40 | 1,(M0) | 4 | 5755 | L | 19 |
| 5.8G | VHT40 | 40 | 1,(M0) | 4 | 5795 | H | 19 |
| 5.8G | VHT80 | 80 | 1,(M0) | 4 | 5775 | S | 18 |
| 5.8G | VHT20 (Beamforming) | 20 | 1,(M0) | 4 | 5745 | L | 15 |
| 5.8G | VHT20 (Beamforming) | 20 | 1,(M0) | 4 | 5785 | M | 15 |
| 5.8G | VHT20 (Beamforming) | 20 | 1,(M0) | 4 | 5825 | H | 15 |
| 5.8G | VHT40 (Beamforming) | 40 | 1,(M0) | 4 | 5755 | L | 15 |
| 5.8G | VHT40 (Beamforming) | 40 | 1,(M0) | 4 | 5795 | H | 15 |
| 5.8G | VHT80 (Beamforming) | 80 | 1,(M0) | 4 | 5775 | S | 15 |

Abbreviation Explanation

| Band | Mode | BWch (MHz) | Nss-Min | Nant | Ch. (MHz) | Range | Test Cond. | Abbreviation |
|------|-------|------------|----------|------|-----------|-------|------------|---------------------------------------|
| 5.2G | VHT40 | 40 | 1,(M0-9) | 4 | 5190 | L | TN,VN | 5.2G;VHT40;40;1,(M0-9);4;5190;L;TN,VN |
| 5.2G | VHT80 | 80 | 1,(M0-9) | 4 | 5210 | S | TN,VN | 5.2G;VHT80;80;1,(M0-9);4;5210;S;TN,VN |

Note:

- Test range channel consist of L (Low Ch.), M (Middle Ch.), H (High Ch.) and S (Single Ch. or Intra- band 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 | Adapter Mode |
| 2 | UPS Mode |

Mode 2 configuration was pretested and found to be the worst case and measured during the test

| The Worst Case Mode for Following Conformance Tests | |
|---|--|
| Tests Item | Emission Bandwidth, Maximum Conducted Output Power, Peak Power Spectral Density, Frequency Stability |
| Test Condition | Conducted measurement at transmit chains |

| The Worst Case Mode for Following Conformance Tests | |
|---|--|
| Tests Item | Transmitter Bandedge Emissions , Transmitter Unwanted Emissions |
| Test Condition | Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type. |
| 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. Adapter Mode <input checked="" type="checkbox"/> 2. UPS Mode |

Mode 2 configuration was pretested and found to be the worst case and measured during the test

| Orthogonal Planes of EUT | X Plane | Y Plane | Z Plane |
|--------------------------|---------|---------|---------|
| | | | |
| Worst Planes of EUT | | V | |



2.4 Support Equipment

| Support Equipment – RF Conducted | | | | |
|----------------------------------|-----------------------|------------|------------------------|--------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| 1 | Notebook | DELL | E5500 | DoC |
| 2 | AC Adapter for NB | DELL | HA65NM130 | DoC |
| 3 | Notebook | DELL | E6400 | DoC |
| 4 | AC Adapter for NB | DELL | HA65NM130 | DoC |
| 5 | Client | - | - | - |
| 6 | AC Adapter for Client | MOSO | MSA-C2500IS12.0-30F-US | - |
| 7 | AC Adapter for EUT | MOSO | MSA-C2500IS12.0-30F-US | - |
| 8 | UPS for EUT | Cyber | CSN27U12V3 | - |

Note: Support equipment No.5, 6, 7 and 8 was provided by customer.

| Support Equipment – AC Conduction | | | | |
|-----------------------------------|--------------------|------------|------------------------|--------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| 1 | AC Adapter for EUT | MOSO | MSA-C2500IS12.0-30F-US | - |
| 2 | UPS for EUT | Cyber | CSN27U12V3 | - |

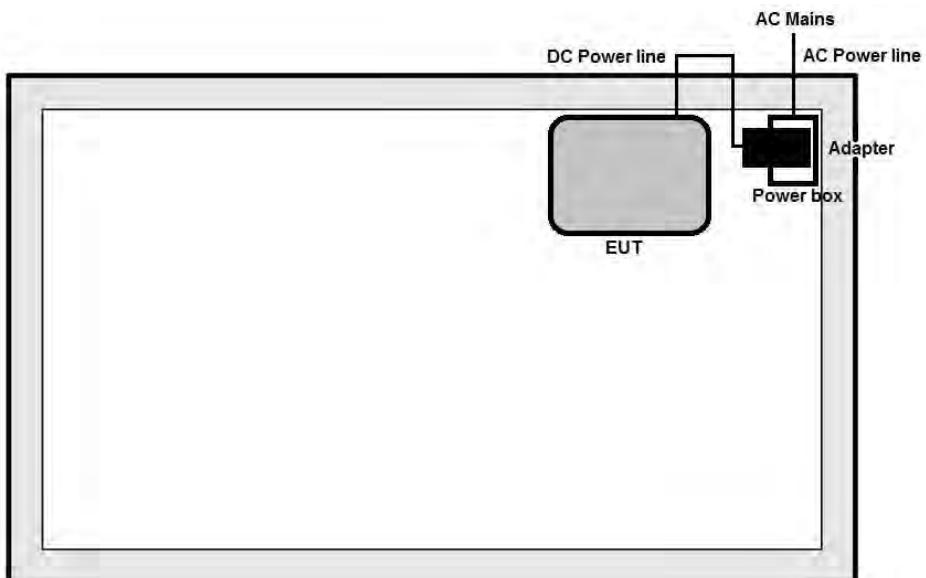
Note: Support equipment No.1 and 2 was provided by customer.

| Support Equipment – Radiated Emission | | | | |
|---------------------------------------|-----------------------|------------|------------------------|--------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| 1 | Notebook | DELL | E5530 | DoC |
| 2 | AC Adapter for NB | DELL | LA65NS2-01 | DoC |
| 3 | Notebook | DELL | E5530 | DoC |
| 4 | AC Adapter for NB | DELL | LA65NS2-01 | DoC |
| 5 | Client | - | - | - |
| 6 | AC Adapter for Client | MOSO | MSA-C2500IS12.0-30F-US | - |
| 7 | AC Adapter for EUT | MOSO | MSA-C2500IS12.0-30F-US | - |
| 8 | UPS for EUT | Cyber | CSN27U12V3 | - |

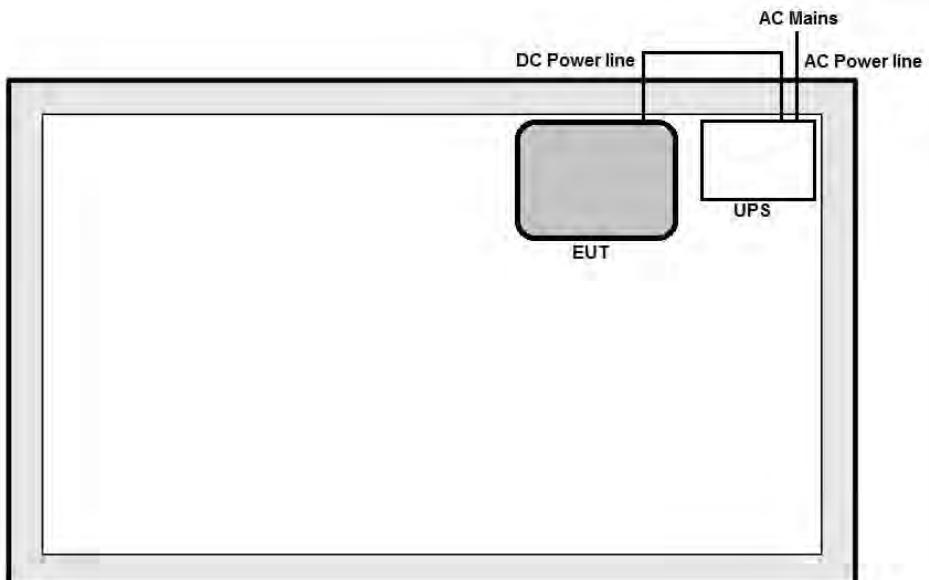
Note: Support equipment No.5, 6, 7 and 8 was provided by customer.

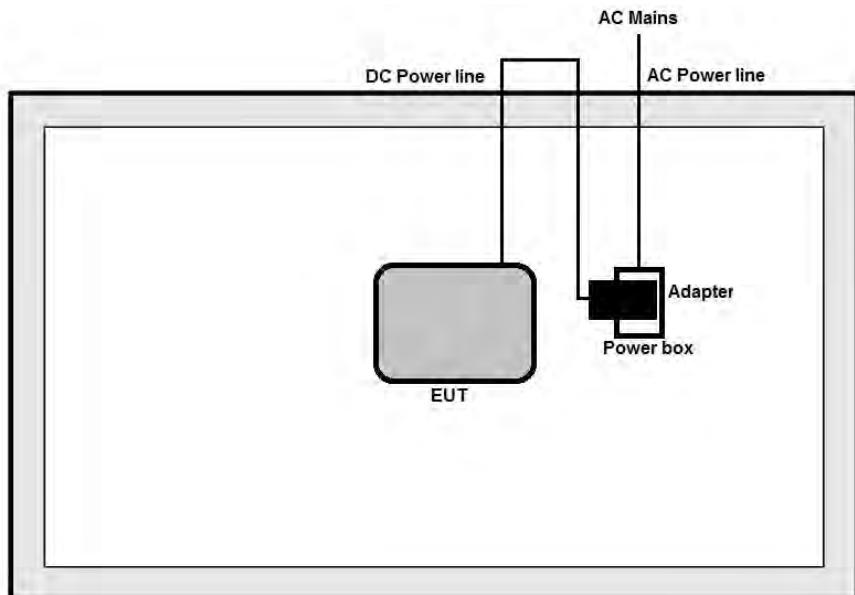
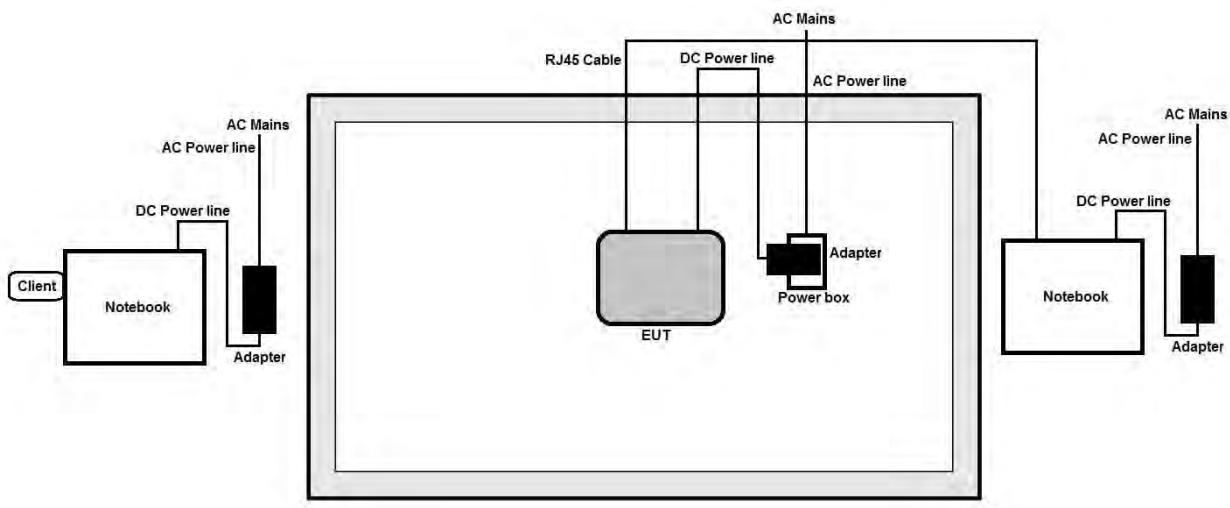
2.5 Test Setup Diagram

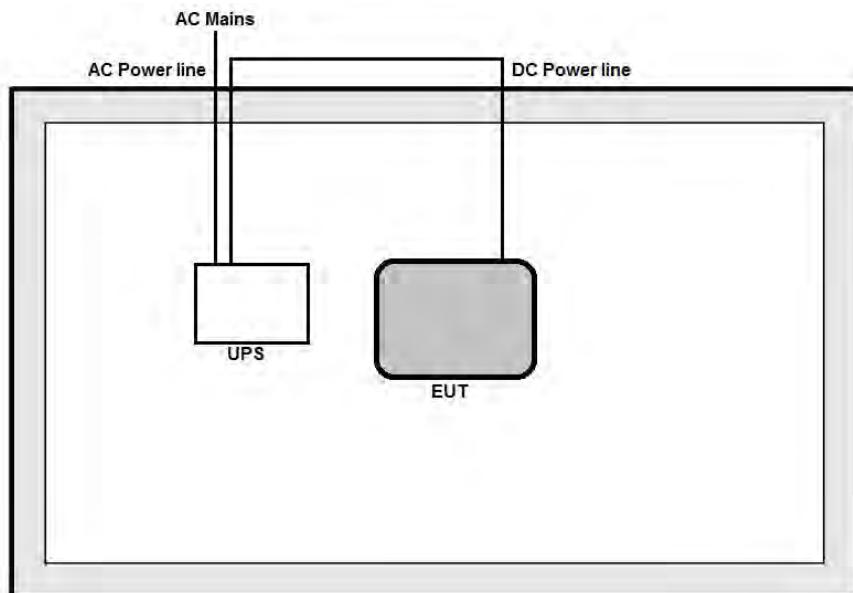
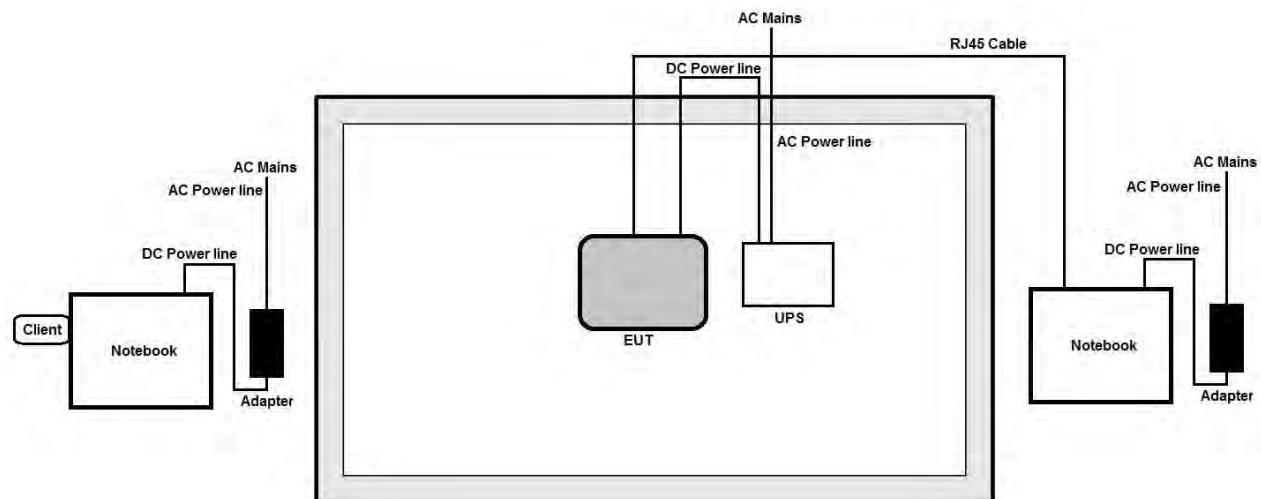
Test Setup Diagram – AC Line Conducted Emission Test (Mode 1)



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



Test Setup Diagram – Radiated Emission Test (Mode 1) (Non-Beamforming)**Test Setup Diagram – Radiated Emission Test (Mode 1) (Beamforming)**

Test Setup Diagram – Radiated Emission Test (Mode 2) (Non-Beamforming)**Test Setup Diagram – Radiated Emission Test (Mode 2) (Beamforming)**

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.

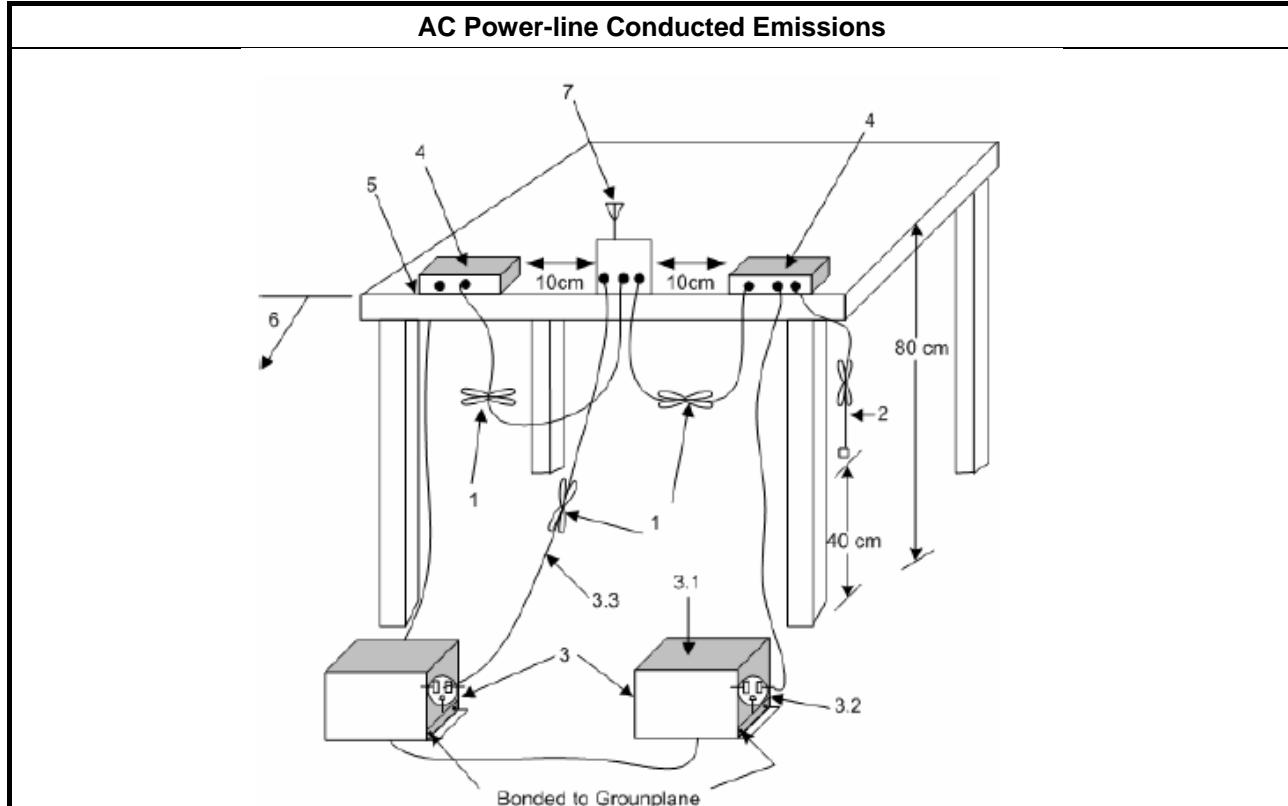
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

| Test Method |
|--|
| <input checked="" type="checkbox"/> 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 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

| Emission Bandwidth Limit | |
|-------------------------------------|---|
| UNII Devices | |
| <input checked="" type="checkbox"/> | For the 5.15-5.25 GHz band, N/A |
| <input type="checkbox"/> | For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. |
| <input type="checkbox"/> | For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. |
| <input checked="" type="checkbox"/> | For the 5.725-5.85 GHz band, 6 dB emission bandwidth \geq 500kHz. |

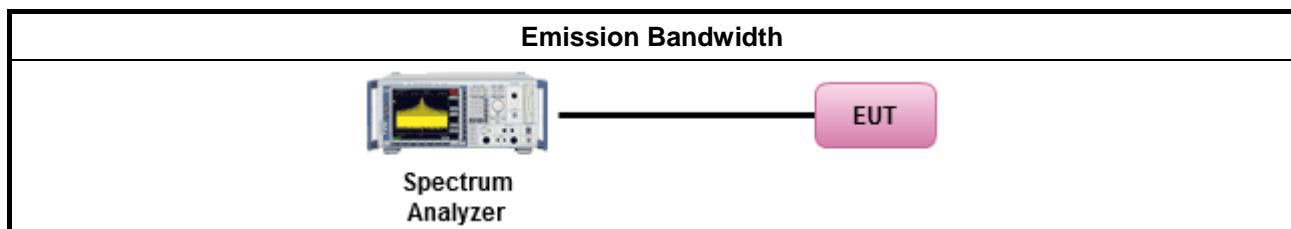
3.2.2 Measuring Instruments

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 KDB 789033, clause C for EBW and clause D for OBW measurement. |
| <input type="checkbox"/> | Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing. |
| <input type="checkbox"/> | Refer as RSS-Gen, clause 6.6 for bandwidth testing. |

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix A



3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

| Maximum Conducted Output Power Limit | |
|---|---|
| UNII Devices | |
| ▪ For the 5.15-5.25 GHz band: | |
| | ▪ Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125 mW [21dBm] |
| | ▪ Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ |
| | ▪ Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$. |
| | ▪ Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$. |
| ▪ For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + $10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$. | |
| ▪ For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + $10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$. | |
| ▪ For the 5.725-5.85 GHz band: | |
| | ▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. |
| | ▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. |
| P_{Out} = maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi. | |

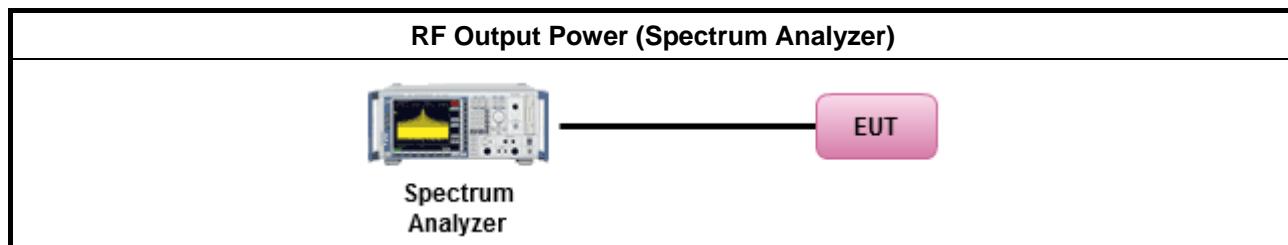
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

| Test Method | |
|--|---|
| ▪ Maximum Conducted Output Power | |
| Duty cycle \geq 98% | <input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging). |
| Duty cycle $<$ 98% | <input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed) |
| Wideband RF power meter and average over on/off periods with duty factor | <input type="checkbox"/> Refer as KDB 789033, clause E Method PM (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 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 Conducted Output Power

Refer as Appendix B



3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

| Peak Power Spectral Density Limit | |
|--|---|
| UNII Devices | |
| ▪ For the 5.15-5.25 GHz band: | |
| | ▪ Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. |
| | ▪ Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. |
| | ▪ Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$. |
| | ▪ Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then PPSD= $11 - (G_{TX} - 6)$. |
| ▪ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then PPSD= $11 - (G_{TX} - 6)$. | |
| ▪ For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then PPSD= $11 - (G_{TX} - 6)$. | |
| ▪ For the 5.725-5.85 GHz band: | |
| | ▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then PPSD= $30 - (G_{TX} - 6)$. |
| | ▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. |
| PPSD = peak power spectral density that the same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz G_{TX} = the maximum transmitting antenna directional gain in dBi. | |

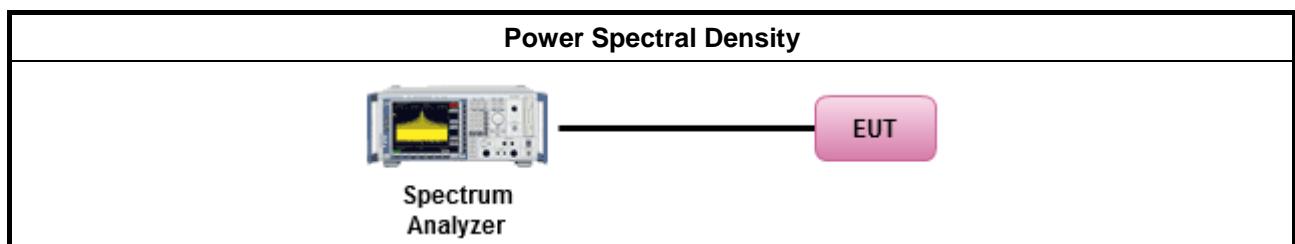
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

| Test Method | |
|---|--|
| <ul style="list-style-type: none">Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options: | |
| <input type="checkbox"/> Refer as KDB 789033, F5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth | |
| Duty cycle \geq 98% | |
| <input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging). | |
| Duty cycle $<$ 98% | |
| <input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed) | |
| <ul style="list-style-type: none">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 checked="" 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. |
| | <ul style="list-style-type: none"><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, |
| | <ul style="list-style-type: none"><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. |
| | <ul style="list-style-type: none">If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$ |

3.4.4 Test Setup

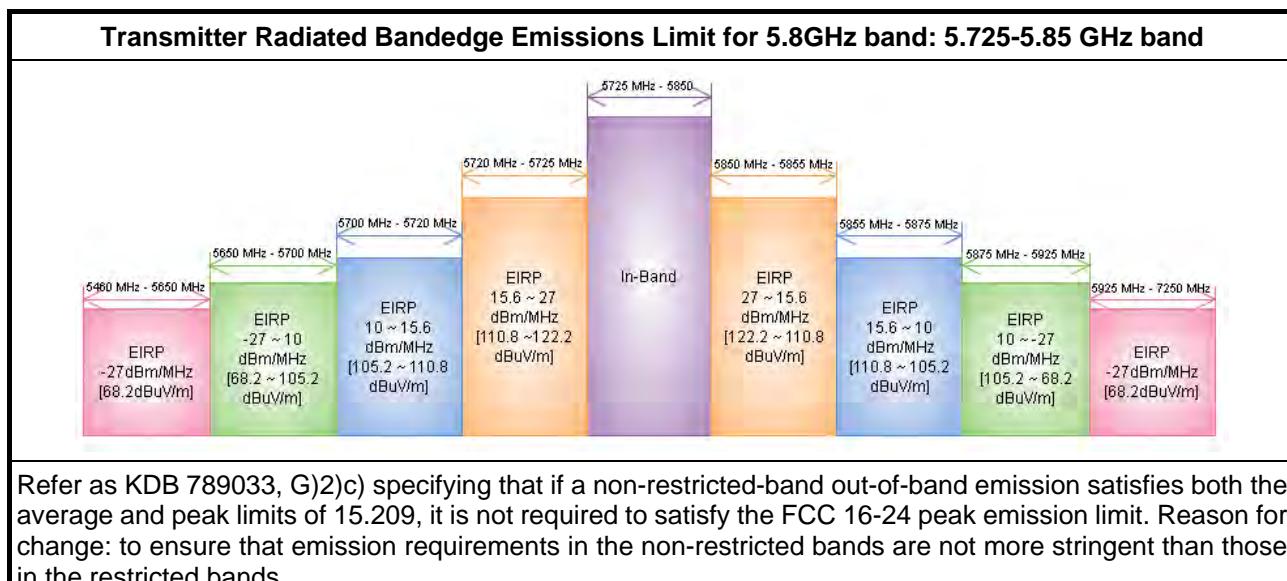
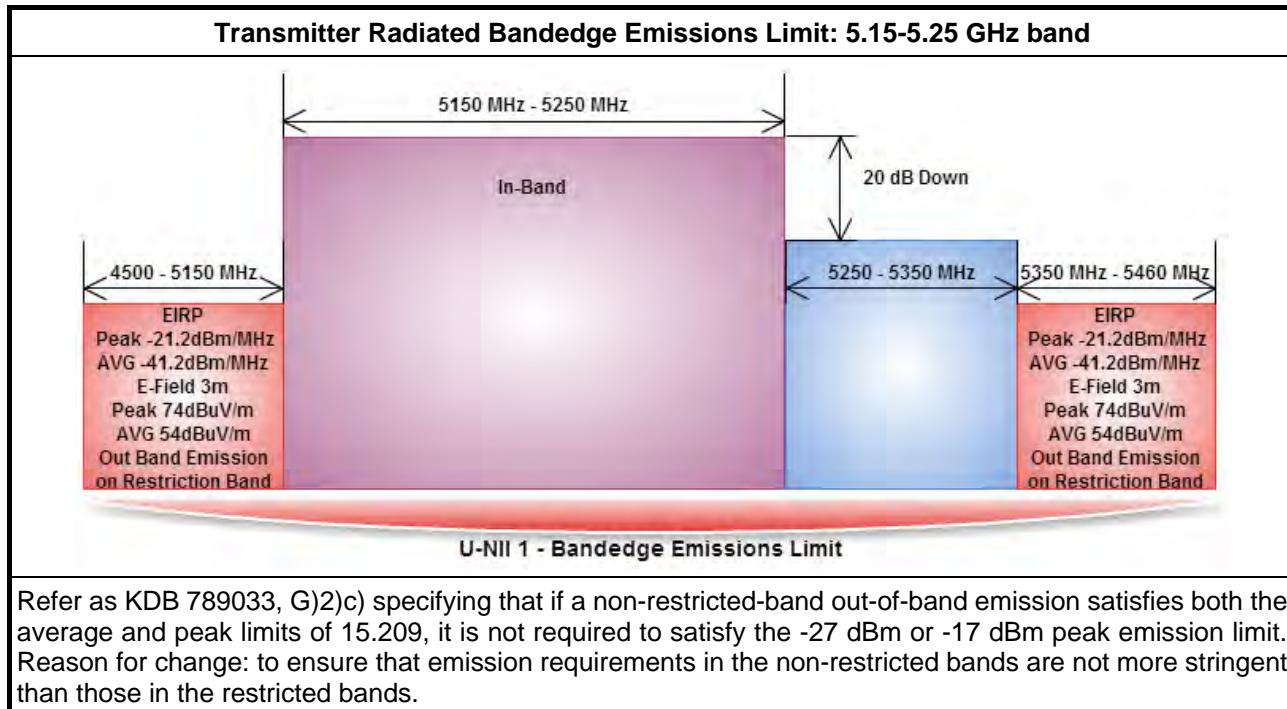


3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix C

3.5 Transmitter 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.

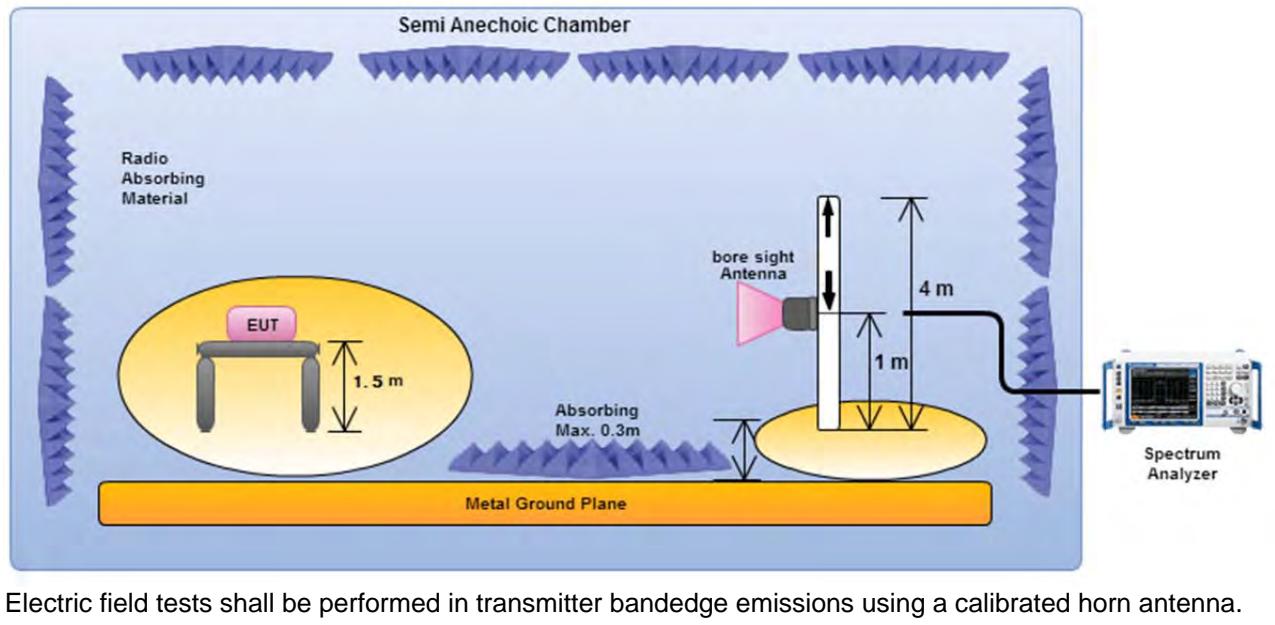


3.5.3 Test Procedures

| 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 6.10.3 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band. |
| <input type="checkbox"/> If EUT operate in adjacent contiguous bands, bandedge testing performed at the lowest frequency channel at lower-band and highest frequency channel at higher-band. Transmitter in-band emissions will consist of adjacent contiguous bands (e.g., IEEE 802.11ac VHT160 The lowest frequency channel at lower-band and highest frequency channel at higher-band in-band emissions will consist of two adjacent contiguous bands.) <input type="checkbox"/> Operating in 5.15-5.25 GHz band (lower-band) and 5.25-5.35 GHz band (higher-band). <input type="checkbox"/> Operating in 5.47-5.725 GHz band (lower-band) and 5.725-5.85 GHz band (higher-band). |
| <input type="checkbox"/> If EUT operate in individual non-contiguous bands, bandedge testing performed at the lowest frequency channel and highest frequency channel within lower-band and higher-band. (e.g., (e.g., IEEE 802.11ac VHT160) <input type="checkbox"/> Operating in 5.25-5.35 GHz band (lower-band) and 5.47-5.725 GHz band (higher-band). <input type="checkbox"/> Operating in 5.15-5.25 GHz band (lower-band) and 5.725-5.85 GHz band (higher-band). |
| <input checked="" type="checkbox"/> For the transmitter unwanted emissions shall be measured using following options below: <input checked="" type="checkbox"/> Refer as KDB 789033, clause G)2) for unwanted emissions into non-restricted bands. <input checked="" type="checkbox"/> Refer as KDB 789033, clause G)1) for unwanted emissions into restricted bands. <input type="checkbox"/> Refer as KDB 789033, G)6) Method AD (Trace Averaging). <input type="checkbox"/> Refer as KDB 789033, G)6) Method VB (Reduced VBW). <input checked="" 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 KDB 789033, clause G)5) measurement procedure peak limit. <input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.2 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 KDB 789033, clause G)3)d) for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz). <input checked="" type="checkbox"/> Refer as ANSI C63.10, clause 6.10 for band-edge testing. <input 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 ANSI C63.10, clause 6.6. Test distance is 3m. |
| <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). Measurements in the bandedge are typically made at a closer distance 3m, because the instrumentation noise floor is typically close to the radiated emission limit. |

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 Transmitter Radiated Bandedge Emissions

Refer as Appendix D



3.6 Transmitter Unwanted Emissions

3.6.1 Transmitter Radiated Unwanted Emissions Limit

| Unwanted emissions below 1 GHz and restricted band emissions above 1GHz 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 above 1GHz Limit | |
|---|--|
| Operating Band | Limit |
| 5.15 - 5.25 GHz | e.i.r.p. -27 dBm [68.2 dBuV/m@3m] |
| 5.25 - 5.35 GHz | e.i.r.p. -27 dBm [68.2 dBuV/m@3m] |
| 5.47 - 5.725 GHz | e.i.r.p. -27 dBm [68.2 dBuV/m@3m] |
| 5.725 - 5.85 GHz | 5.650-5700 GHz: e.i.r.p. -27 ~ 10 dBm [68.2 ~ 105.2 dBuV/m@3m] 5.700-5720 GHz: e.i.r.p. 10 ~ 15.6 dBm [105.2 ~ 110.8 dBuV/m@3m] 5.720-5725 GHz: e.i.r.p. 15.6 ~ 27 dBm [110.8 ~ 122.2 dBuV/m@3m] 5.850-5.855 GHz: e.i.r.p. 27 ~ 15.6 dBm [122.2 ~ 110.8 dBuV/m@3m] 5.855-5.875 GHz: e.i.r.p. 15.6 ~ 10 dBm [110.8 ~ 105.2 dBuV/m@3m] 5.875-5.925 GHz: e.i.r.p. 10 ~ -27 dBm [105.2 ~ 68.2 dBuV/m@3m] Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m] |

Note 1: 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).

3.6.2 Measuring Instruments

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

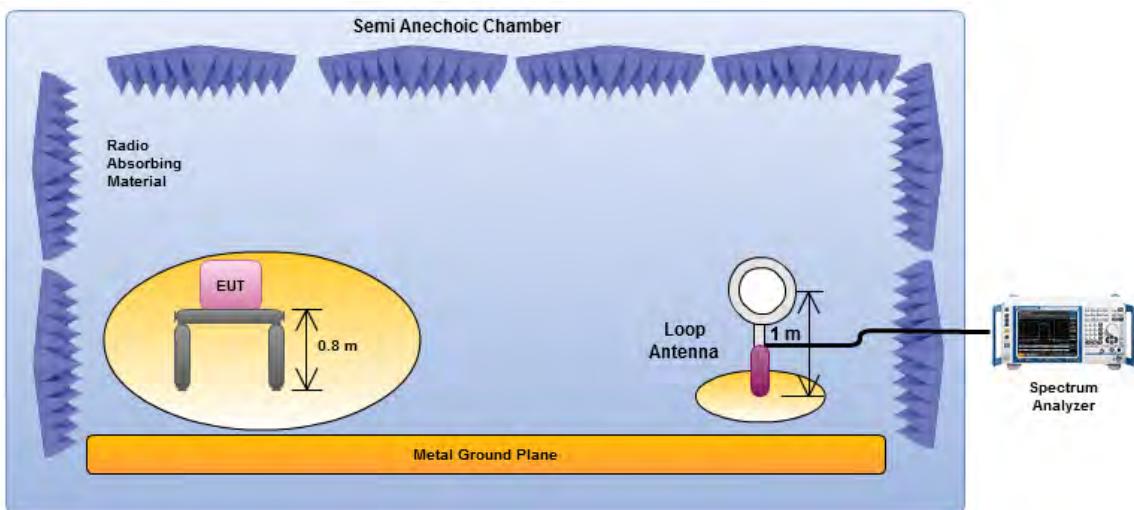


3.6.3 Test Procedures

| 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. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. 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"/> | <input checked="" type="checkbox"/> Refer as KDB 789033, clause G)2) for unwanted emissions into non-restricted bands. |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Refer as KDB 789033, clause G)1) for unwanted emissions into restricted bands. |
| | <input type="checkbox"/> Refer as KDB 789033, G)6) Method AD (Trace Averaging). |
| | <input type="checkbox"/> Refer as KDB 789033, G)6) Method VB (Reduced VBW). |
| | <input checked="" 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 KDB 789033, clause G)5) measurement procedure peak limit. |
| | <input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit. |
| <input checked="" type="checkbox"/> | For radiated measurement. |
| | <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 1GHz. For 1 GHz to 5 GHz, test distance is 3m; For 5 GHz to 40 GHz, 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 20 dB below the permissible value has no need to be reported. |

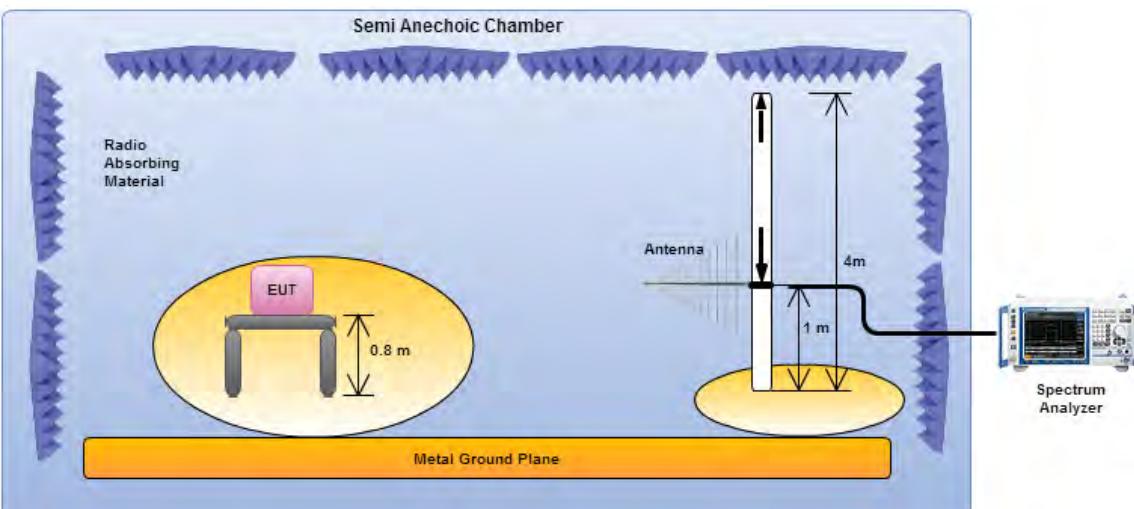
3.6.4 Test Setup

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

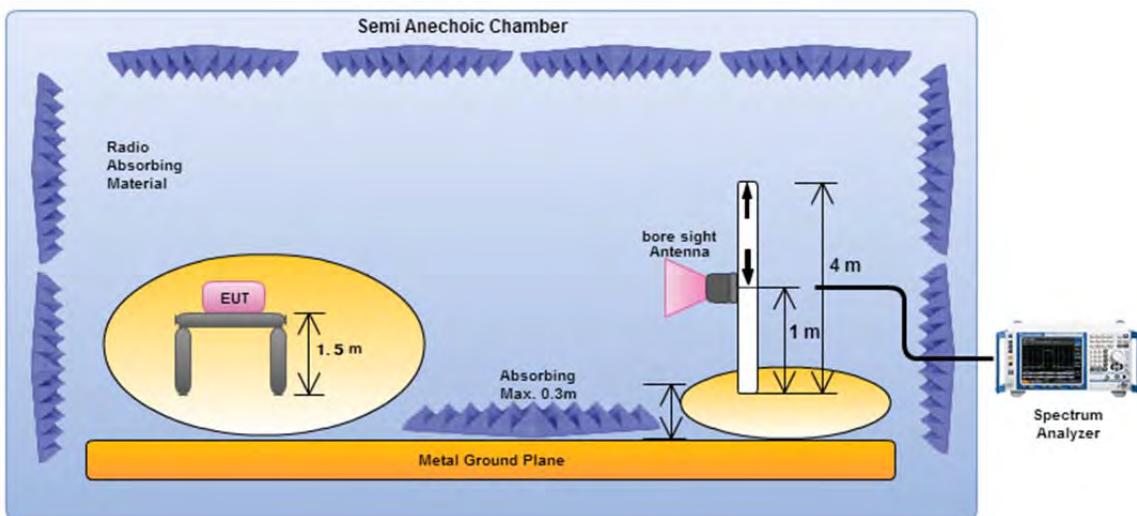


Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna.

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-with Antenna (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 Test Result of Transmitter Radiated Unwanted Emissions

Refer as Appendix E

3.7 Frequency Stability

3.7.1 Frequency Stability Limit

| Frequency Stability Limit | |
|---|--|
| UNII Devices | |
| <ul style="list-style-type: none">In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual. | |
| IEEE Std. 802.11 | |
| <ul style="list-style-type: none">The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz. | |

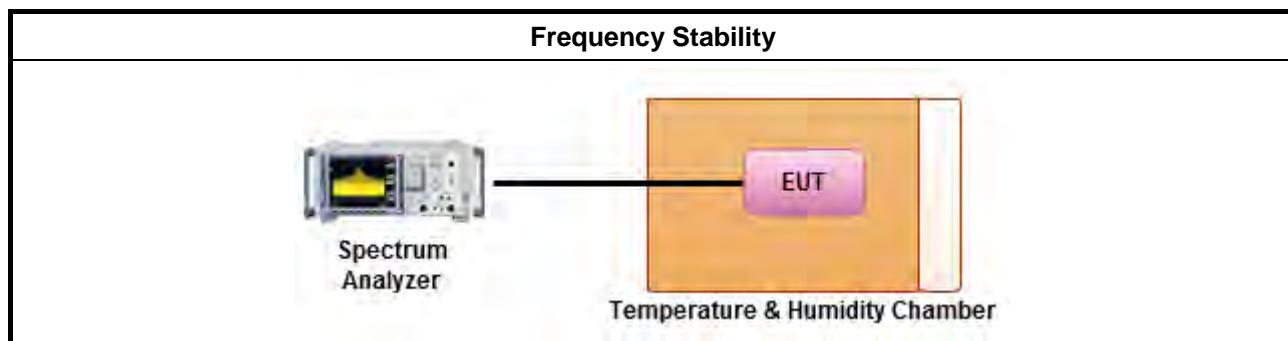
3.7.2 Measuring Instruments

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

3.7.3 Test Procedures

| Test Method | |
|-------------|--|
| | <ul style="list-style-type: none">Refer as ANSI C63.10, clause 6.8 for frequency stability tests |
| | <ul style="list-style-type: none">Frequency stability with respect to ambient temperature |
| | <ul style="list-style-type: none">Frequency stability when varying supply voltage |

3.7.4 Test Setup



3.7.5 Test Result of Frequency Stability

Refer as Appendix F



4 Test Equipment and Calibration Data

< AC Conduction >

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date |
|------------------------|--------------------------------|-----------|----------------|-----------------|------------------|----------------------|
| EMC Receiver | R&S | ESR-3 | 102051 | 9 kHz ~ 3.6 GHz | 19/04/2016 | 18/04/2017 |
| LISN | SCHWARZBECK MESS-ELEKTRONIK | NSLK 8127 | 8127-477 | 9 kHz ~ 30 MHz | 26/01/2016 | 25/01/2017 |
| LISN (Support Unit) | R&S | ENV216 | 101295 | 9 kHz ~ 30 MHz | 04/11/2015 | 03/11/2016 |
| RF Cable-CON | HUBER+SUHNER | RG213/U | 07611832020001 | 9 kHz ~ 30 MHz | 30/10/2015 | 29/10/2016 |
| EMI Filter | LINDGREN | LRE-2030 | 2651 | < 450 Hz | NCR | NCR |

NCR: Non Calibration Require.

< Conducted Test >

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date |
|----------------------------|--------------|------------------|-------------|------------------|------------------|----------------------|
| Spectrum Analyzer | R&S | FSV 40 | 101013 | 9 kHz ~ 40 GHz | 16/02/2016 | 15/02/2017 |
| Power Sensor | Anritsu | MA2411B | 1027452 | 300 MHz ~ 40 GHz | 22/02/2016 | 21/02/2017 |
| Power Meter | Anritsu | ML2495A | 1124009 | 300 MHz ~ 40 GHz | 22/02/2016 | 21/02/2017 |
| Signal Generator | R&S | SMR40 | 100116 | 10 MHz ~ 40 GHz | 21/07/2016 | 20/07/2017 |
| AC Power Source | G.W | APS-9102 | EL920581 | AC 0V ~ 300V | 04/06/2016 | 03/06/2017 |
| Temp. and Humidity Chamber | Giant Force | GTH-225-20-SP-SD | MAA1112-007 | -20 ~ 100°C | 25/04/2016 | 24/04/2017 |

< Conducted Test for Beamforming >

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date |
|-------------------|--------------|--------------|------------|-------------------|------------------|----------------------|
| Spectrum Analyzer | R&S | FSV 40 | 101013 | 9 kHz ~ 40 GHz | 16/02/2016 | 15/02/2017 |
| Power Sensor | Anritsu | MA2411B | 0917017 | 300 MHz ~ 40 GHz | 04/02/2016 | 03/02/2017 |
| Power Meter | Anritsu | ML2495A | 0949003 | 300 MHz ~ 40 GHz | 04/02/2016 | 03/02/2017 |
| Signal Generator | R&S | SMR40 | 100116 | 10 MHz ~ 40 GHz | 21/07/2016 | 20/07/2017 |
| RF Cable-0.2m | HUBER+SUHNER | SUCOFLEX_104 | MY10710/4 | 30 MHz ~ 26.5 GHz | 02/10/2016 | 01/10/2017 |
| RF Cable-0.2m | HUBER+SUHNER | SUCOFLEX_104 | MY10709/4 | 30 MHz ~ 26.5 GHz | 02/10/2016 | 01/10/2017 |
| RF Cable-0.5m | HUBER+SUHNER | SUCOFLEX_104 | MY10713/4 | 30 MHz ~ 26.5 GHz | 02/10/2016 | 01/10/2017 |
| RF Cable-0.5m | HUBER+SUHNER | SUCOFLEX_104 | MY10714/4 | 30 MHz ~ 26.5 GHz | 02/10/2016 | 01/10/2017 |
| RF Cable-0.5m | HUBER+SUHNER | SUCOFLEX_104 | MY10715/4 | 30 MHz ~ 26.5 GHz | 02/10/2016 | 01/10/2017 |
| RF Cable-0.5m | HUBER+SUHNER | SUCOFLEX_104 | MY10716/4 | 30 MHz ~ 26.5 GHz | 02/10/2016 | 01/10/2017 |
| RF Cable-0.5m | HUBER+SUHNER | SUCOFLEX_104 | MY10717/4 | 30 MHz ~ 26.5 GHz | 02/10/2016 | 01/10/2017 |

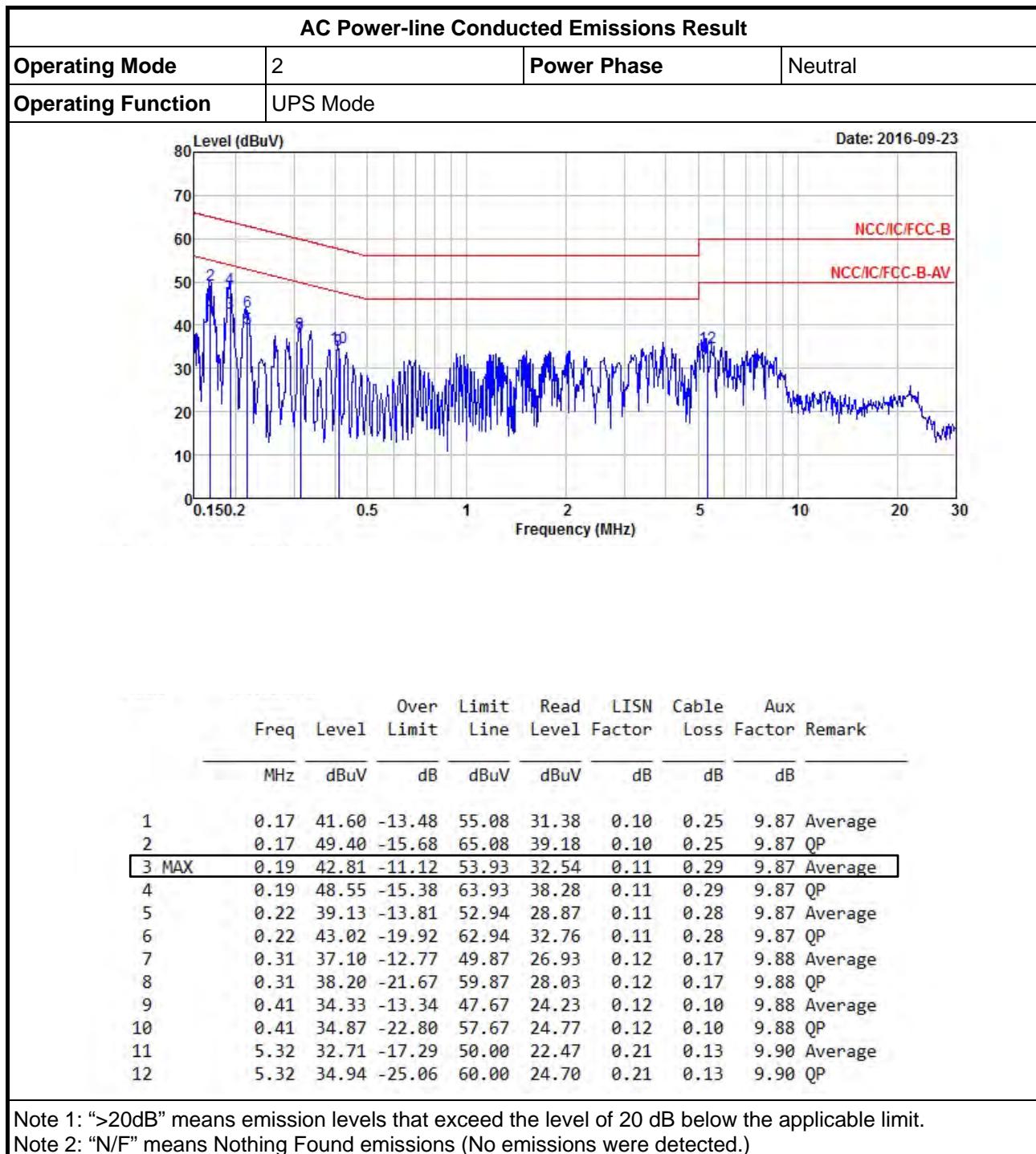


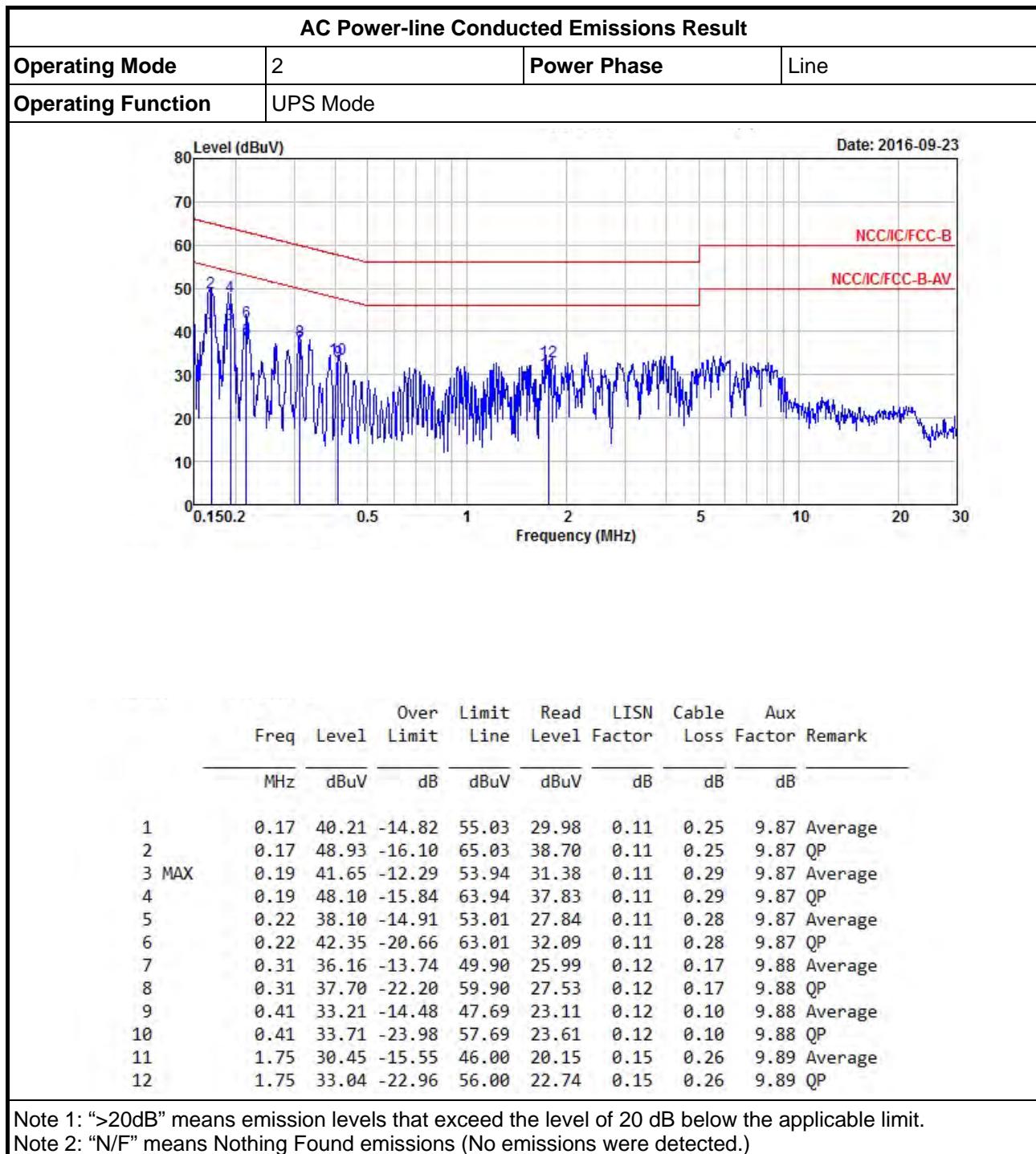
< Radiated Test >

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date |
|--------------------------------|---------------|-------------------------|-----------------|----------------------|------------------|----------------------|
| 3m Semi Anechoic Chamber | TDK | SAC-3M | 03CH09-HY | 30 MHz ~ 1 GHz 3m | 25/04/2016 | 24/04/2017 |
| 3m Semi Anechoic Chamber | TDK | SAC-3M | 03CH09-HY | 1 GHz ~ 18 GHz 3m | 30/06/2016 | 29/06/2017 |
| Amplifier | EMC | EMC9135 | 980232 | 9 kHz ~ 1 GHz | 29/01/2016 | 28/01/2017 |
| Amplifier | Agilent | 8449B | 3008A02096 | 1 GHz ~ 26.5 GHz | 11/04/2016 | 10/04/2017 |
| Amplifier | MITEQ | JS44-18004000-3 3-8P | 1840917 | 18 GHz ~ 40 GHz | 02/06/2015 | 01/06/2017 |
| Spectrum | KEYSIGHT | N9010A | MY54200885 | 10 Hz ~ 44 GHz | 04/07/2016 | 03/07/2017 |
| Bilog Antenna & 5dB Attenuator | TESEQ & MTJ | CBL 6111D & MTJ6102 | 35418 | 30 MHz ~ 1 GHz | 31/03/2016 | 30/03/2017 |
| Horn Antenna | SCHWARZBECK | BBHA 9120D | BBHA 9120D 1534 | 1 GHz ~ 18 GHz | 22/04/2016 | 21/04/2017 |
| Horn Antenna | SCHWARZBECK | BBHA9170 | BBHA9170614 | 18 GHz ~ 40 GHz | 04/01/2016 | 03/01/2017 |
| Loop Antenna | ROHDE&SCHWARZ | HFH2-Z2 | 100330 | 9 kHz ~ 30 MHz | 10/11/2014 | 09/11/2016 |

< Radiated Test for Beamforming>

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date |
|--------------------------------|--------------|---------------------|-----------------|----------------------|------------------|----------------------|
| 3m Semi Anechoic Chamber | TDK | SAC-3M | 03CH09-HY | 30 MHz ~ 1 GHz 3m | 25/04/2016 | 24/04/2017 |
| 3m Semi Anechoic Chamber | TDK | SAC-3M | 03CH09-HY | 1 GHz ~ 18 GHz 3m | 21/06/2016 | 20/06/2017 |
| Amplifier | EMC | EMC9135 | 980232 | 9 kHz ~ 1 GHz | 29/01/2016 | 28/01/2017 |
| Amplifier | Agilent | 8449B | 3008A02096 | 1 GHz ~ 26.5 GHz | 11/04/2016 | 10/04/2017 |
| Spectrum | KEYSIGHT | N9010A | MY54200885 | 10 Hz ~ 44 GHz | 04/07/2016 | 03/07/2017 |
| Bilog Antenna & 5dB Attenuator | TESEQ & MTJ | CBL 6111D & MTJ6102 | 35418 | 30 MHz ~ 1 GHz | 1/10/2016 | 30/09/2017 |
| Horn Antenna | SCHWARZBECK | BBHA 9120D | BBHA 9120D 1534 | 1 GHz ~ 18 GHz | 22/04/2016 | 21/04/2017 |
| Horn Antenna | SCHWARZBECK | BBHA9170 | BBHA9170614 | 18 GHz ~ 40 GHz | 04/01/2016 | 03/01/2017 |
| RF Cable-R03m | Jye Bao | RG142 | CB021 | 9 kHz ~ 1 GHz | 23/07/2016 | 22/07/2017 |
| RF Cable-high | Jye Bao | RG142 | 03CH09-HY | 1 GHz ~ 40 GHz | 23/07/2016 | 22/07/2017 |



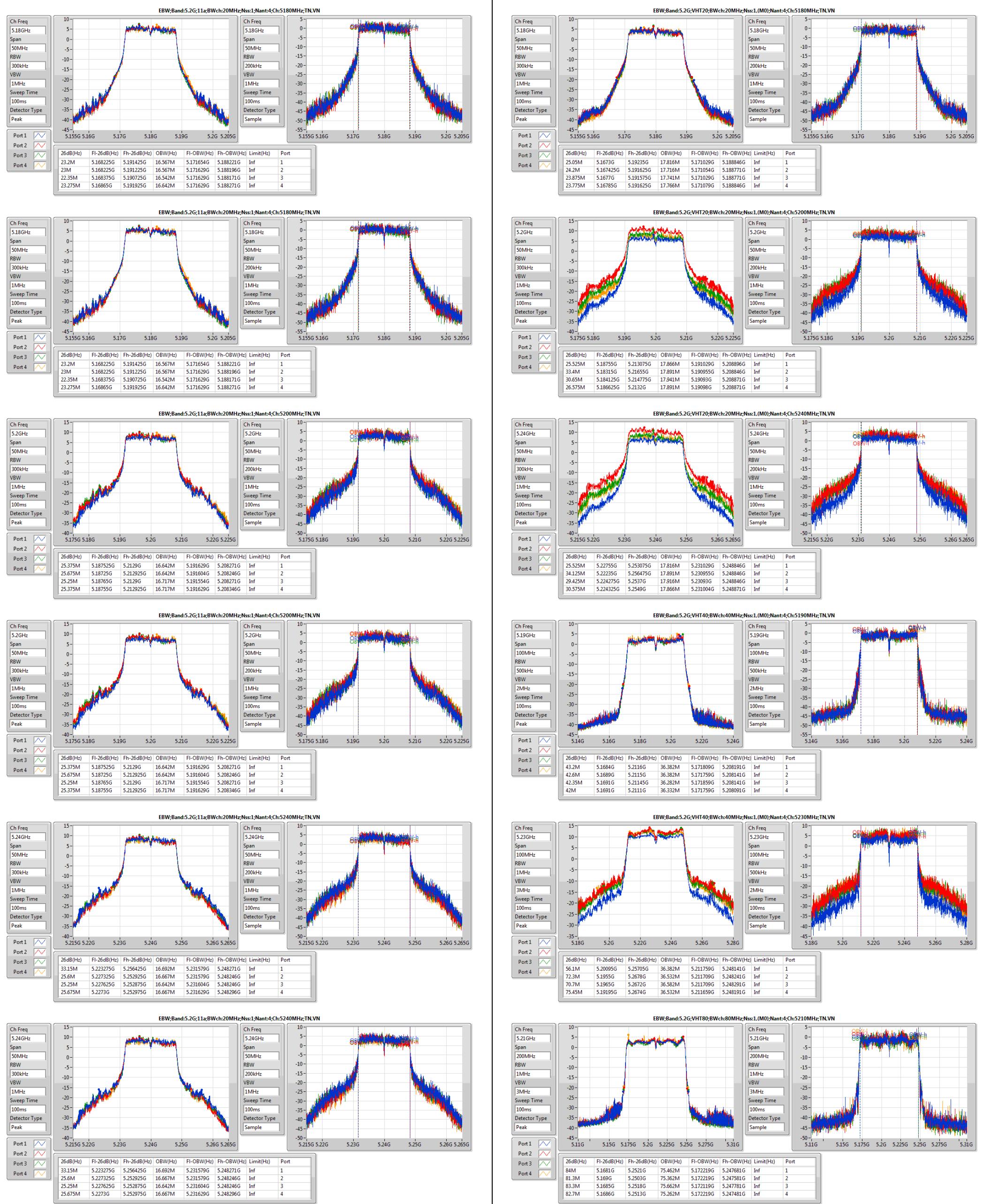


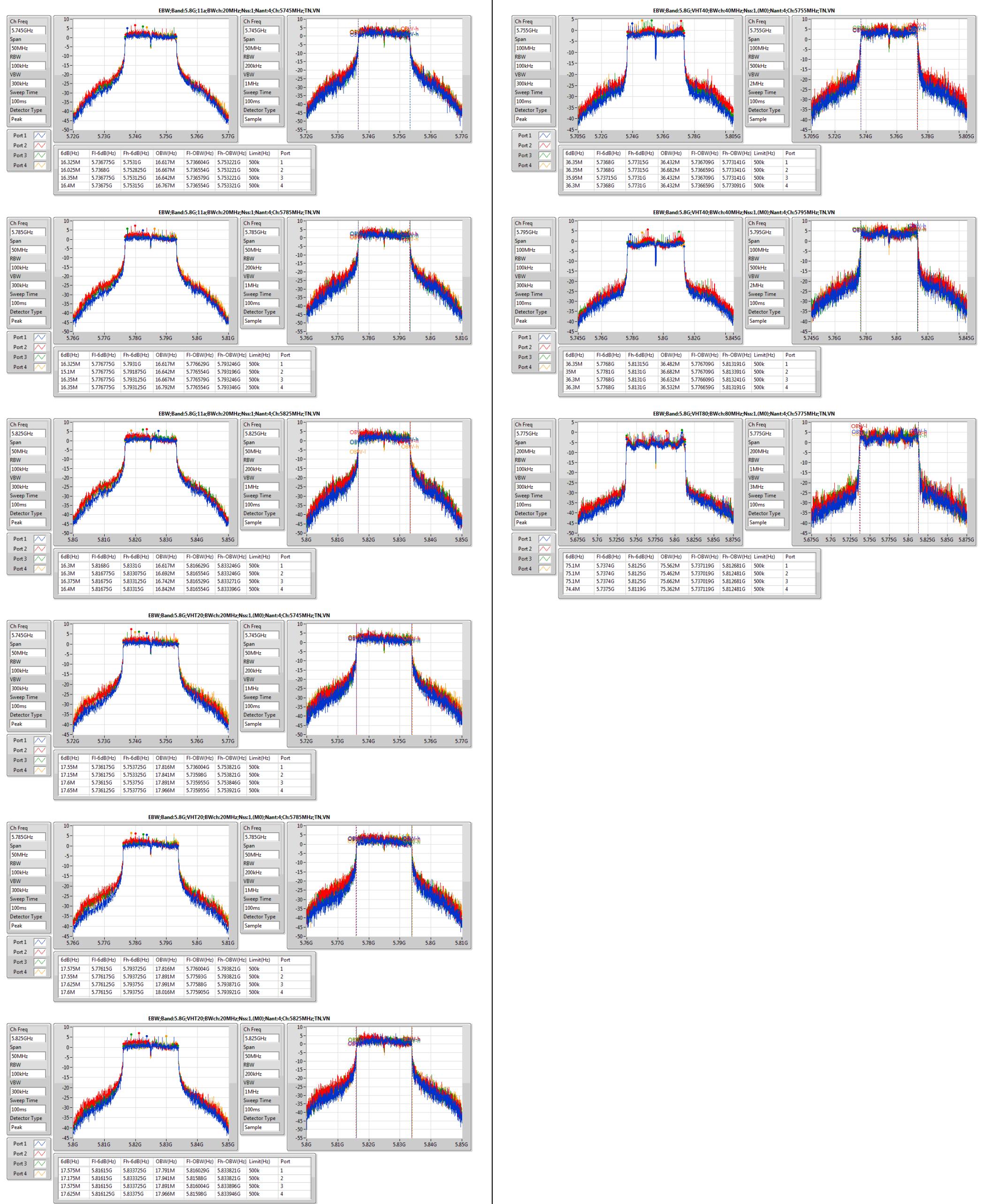
Summary

| Mode | Max-N dB (Hz) | Max-OBW (Hz) | ITU-Code | Min-N dB (Hz) | Min-OBW (Hz) |
|------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.2G;11a;20;1;4 | 33.15M | 16.717M | 16M7D1D | 22.35M | 16.542M |
| 5.2G;VHT20;20;1,(M0);4 | 34.125M | 17.941M | 17M9D1D | 23.775M | 17.716M |
| 5.2G;VHT40;40;1,(M0);4 | 75.45M | 36.582M | 36M6D1D | 42M | 36.282M |
| 5.2G;VHT80;80;1,(M0);4 | 84M | 75.662M | 75M7D1D | 81.3M | 75.262M |
| 5.8G;11a;20;1;4 | 16.4M | 16.842M | 16M8D1D | 15.1M | 16.617M |
| 5.8G;VHT20;20;1,(M0);4 | 17.65M | 18.016M | 18M0D1D | 17.15M | 17.791M |
| 5.8G;VHT40;40;1,(M0);4 | 36.35M | 36.682M | 36M7D1D | 35M | 36.432M |
| 5.8G;VHT80;80;1,(M0);4 | 75.1M | 75.662M | 75M7D1D | 74.4M | 75.362M |

Result

| Mode | Result | Limit | P1-N dB (Hz) | P1-OBW (Hz) | P2-N dB (Hz) | P2-OBW (Hz) | P3-N dB (Hz) | P3-OBW (Hz) | P4-N dB (Hz) | P4-OBW (Hz) |
|-------------------------------------|--------|-------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|
| 5.2G;11a;20;1;4;5180;L;TN,VN | Pass | Inf | 23.2M | 16.567M | 23M | 16.567M | 22.35M | 16.542M | 23.275M | 16.642M |
| 5.2G;11a;20;1;4;5180;L;TN,VN | Pass | Inf | 23.2M | 16.567M | 23M | 16.567M | 22.35M | 16.542M | 23.275M | 16.642M |
| 5.2G;11a;20;1;4;5200;M;TN,VN | Pass | Inf | 25.375M | 16.642M | 25.675M | 16.642M | 25.25M | 16.717M | 25.375M | 16.717M |
| 5.2G;11a;20;1;4;5200;M;TN,VN | Pass | Inf | 25.375M | 16.642M | 25.675M | 16.642M | 25.25M | 16.717M | 25.375M | 16.717M |
| 5.2G;11a;20;1;4;5240;H;TN,VN | Pass | Inf | 33.15M | 16.692M | 25.6M | 16.667M | 25.25M | 16.642M | 25.675M | 16.667M |
| 5.2G;11a;20;1;4;5240;H;TN,VN | Pass | Inf | 33.15M | 16.692M | 25.6M | 16.667M | 25.25M | 16.642M | 25.675M | 16.667M |
| 5.2G;VHT20;20;1;(M0);4;5180;L;TN,VN | Pass | Inf | 25.05M | 17.816M | 24.2M | 17.716M | 23.875M | 17.741M | 23.775M | 17.766M |
| 5.2G;VHT20;20;1;(M0);4;5200;M;TN,VN | Pass | Inf | 25.525M | 17.866M | 33.4M | 17.891M | 30.65M | 17.941M | 26.575M | 17.891M |
| 5.2G;VHT20;20;1;(M0);4;5240;H;TN,VN | Pass | Inf | 25.525M | 17.816M | 34.125M | 17.891M | 29.425M | 17.916M | 30.575M | 17.866M |
| 5.2G;VHT40;40;1;(M0);4;5190;L;TN,VN | Pass | Inf | 43.2M | 36.382M | 42.6M | 36.382M | 42.35M | 36.282M | 42M | 36.332M |
| 5.2G;VHT40;40;1;(M0);4;5230;H;TN,VN | Pass | Inf | 56.1M | 36.382M | 72.3M | 36.532M | 70.7M | 36.582M | 75.45M | 36.532M |
| 5.2G;VHT80;80;1;(M0);4;5210;S;TN,VN | Pass | Inf | 84M | 75.462M | 81.3M | 75.362M | 83.3M | 75.662M | 82.7M | 75.262M |
| 5.8G;11a;20;1;4;5745;L;TN,VN | Pass | 500k | 16.325M | 16.617M | 16.025M | 16.667M | 16.35M | 16.642M | 16.4M | 16.767M |
| 5.8G;11a;20;1;4;5785;M;TN,VN | Pass | 500k | 16.325M | 16.617M | 15.1M | 16.642M | 16.35M | 16.667M | 16.35M | 16.792M |
| 5.8G;11a;20;1;4;5825;H;TN,VN | Pass | 500k | 16.3M | 16.617M | 16.3M | 16.692M | 16.375M | 16.742M | 16.4M | 16.842M |
| 5.8G;VHT20;20;1;(M0);4;5745;L;TN,VN | Pass | 500k | 17.55M | 17.816M | 17.15M | 17.841M | 17.6M | 17.891M | 17.65M | 17.966M |
| 5.8G;VHT20;20;1;(M0);4;5785;M;TN,VN | Pass | 500k | 17.575M | 17.816M | 17.55M | 17.891M | 17.625M | 17.991M | 17.6M | 18.016M |
| 5.8G;VHT20;20;1;(M0);4;5825;H;TN,VN | Pass | 500k | 17.575M | 17.791M | 17.175M | 17.941M | 17.575M | 17.891M | 17.625M | 17.966M |
| 5.8G;VHT40;40;1;(M0);4;5755;L;TN,VN | Pass | 500k | 36.35M | 36.432M | 36.35M | 36.682M | 35.95M | 36.432M | 36.3M | 36.432M |
| 5.8G;VHT40;40;1;(M0);4;5795;H;TN,VN | Pass | 500k | 36.35M | 36.482M | 35M | 36.682M | 36.3M | 36.632M | 36.3M | 36.532M |
| 5.8G;VHT80;80;1;(M0);4;5775;S;TN,VN | Pass | 500k | 75.1M | 75.562M | 75.1M | 75.462M | 75.1M | 75.662M | 74.4M | 75.362M |





Summary

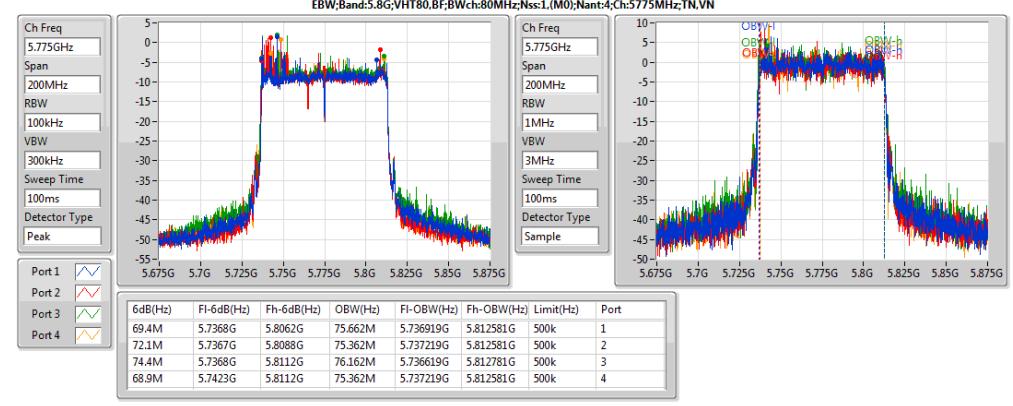
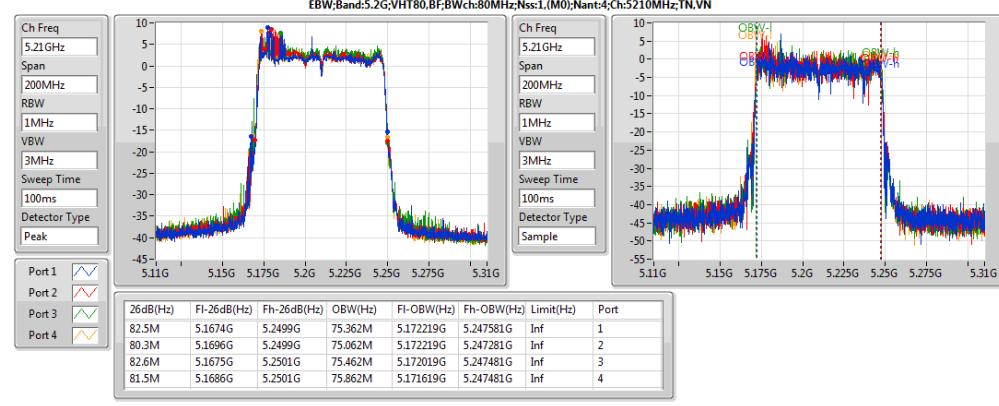
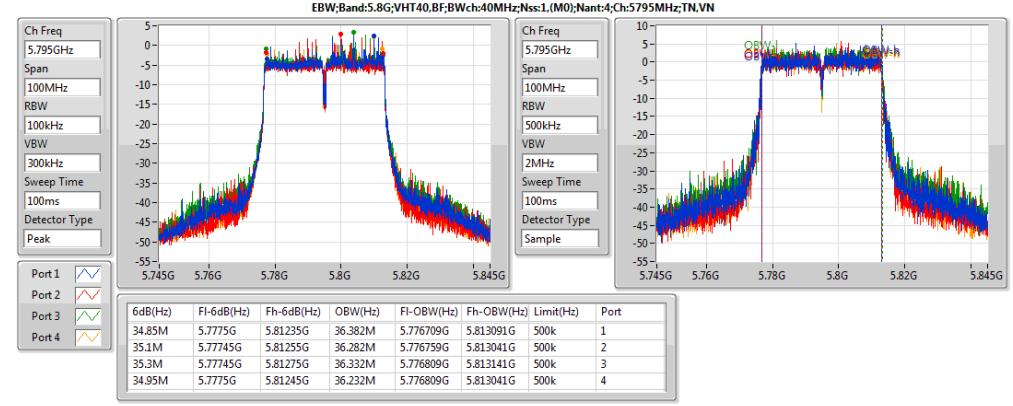
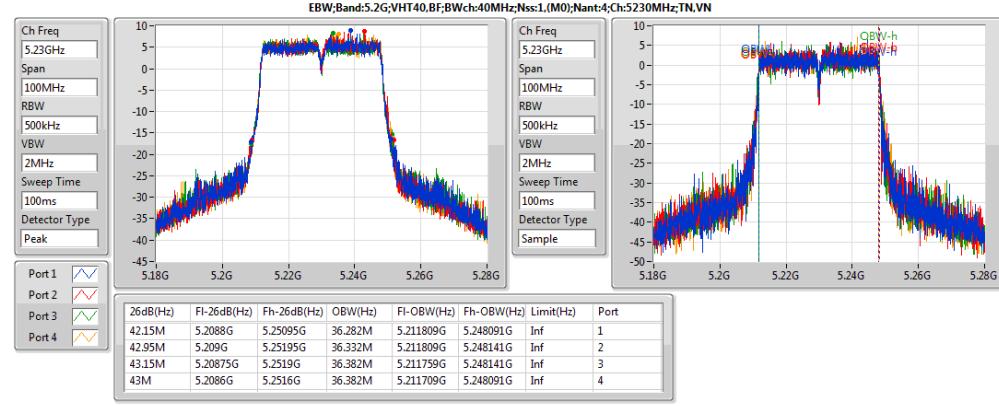
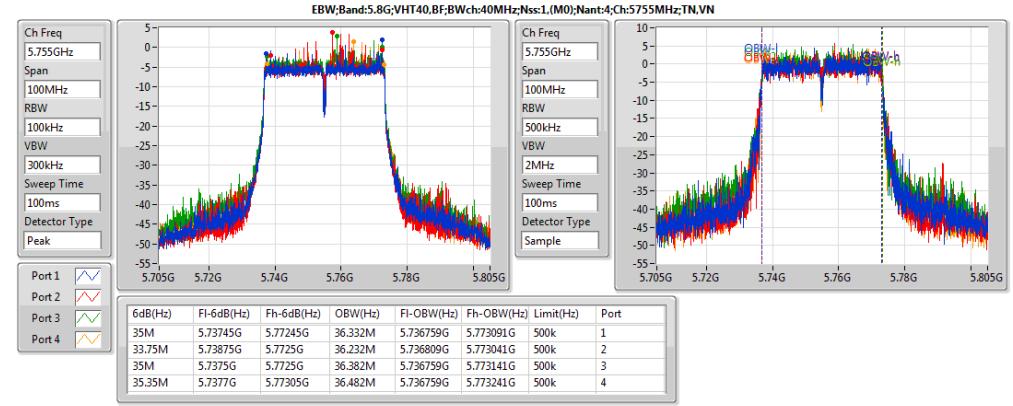
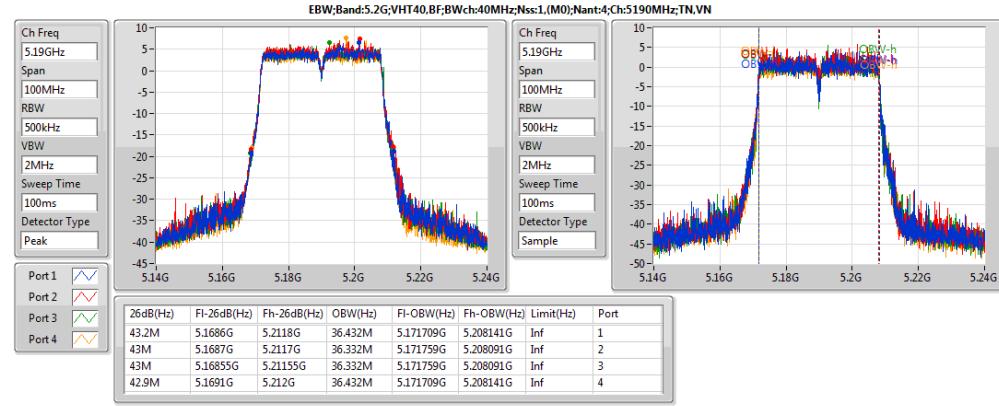
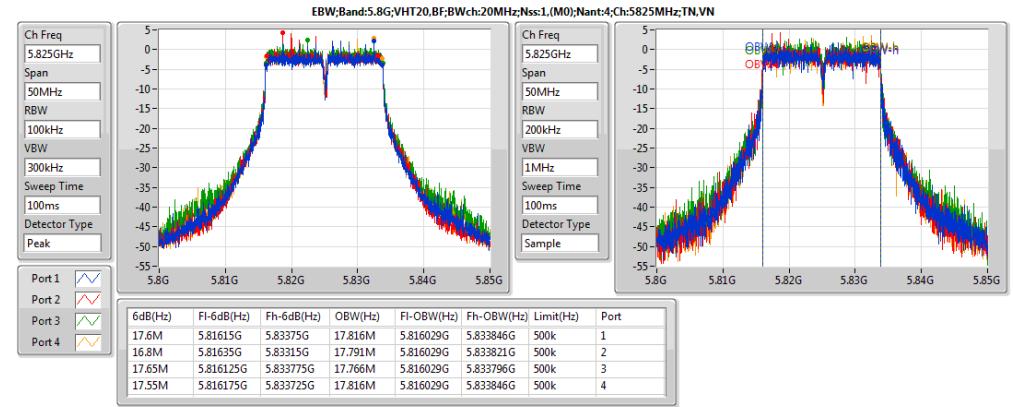
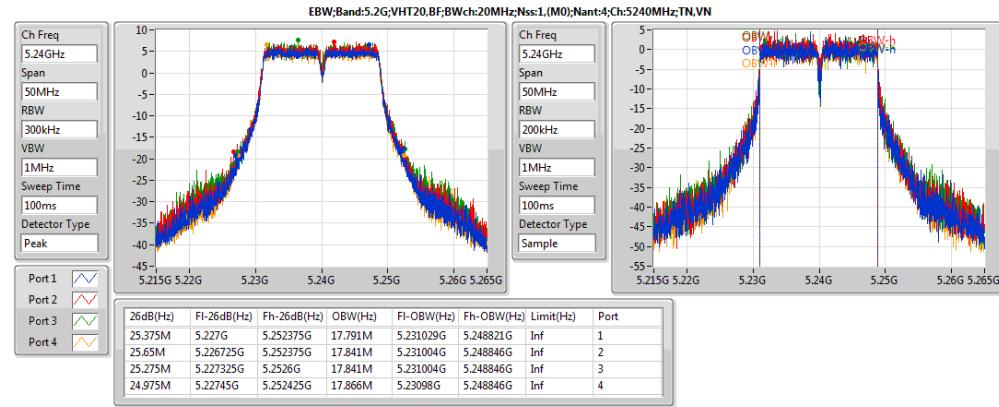
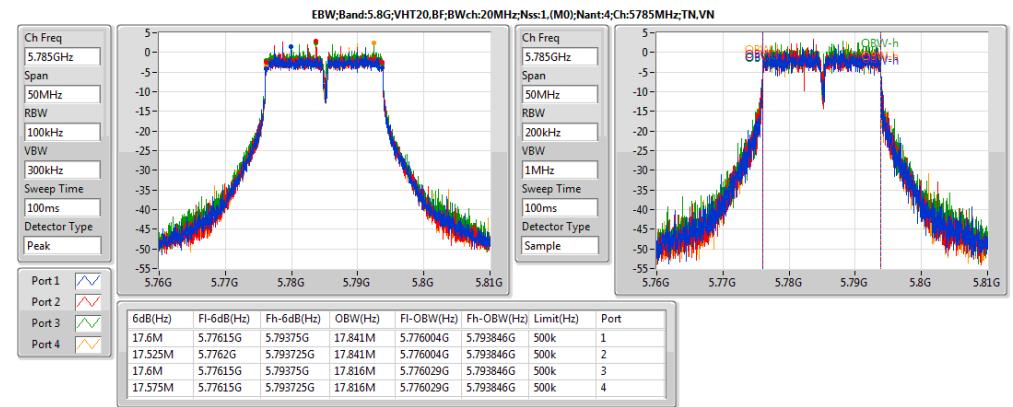
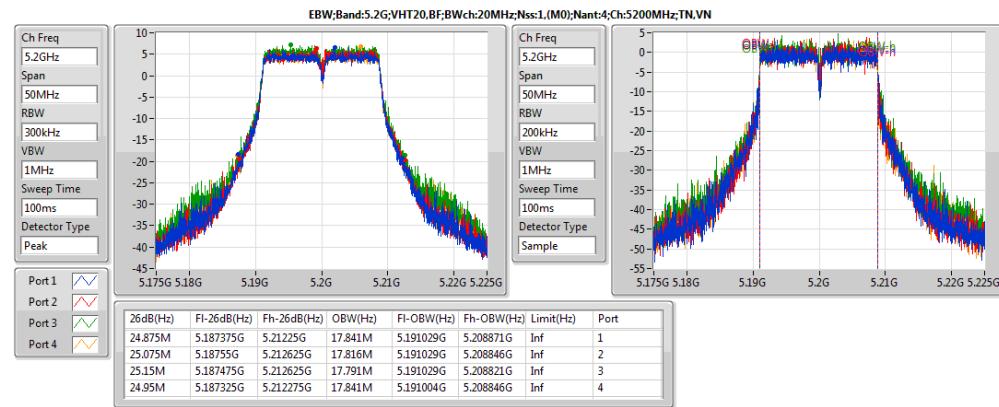
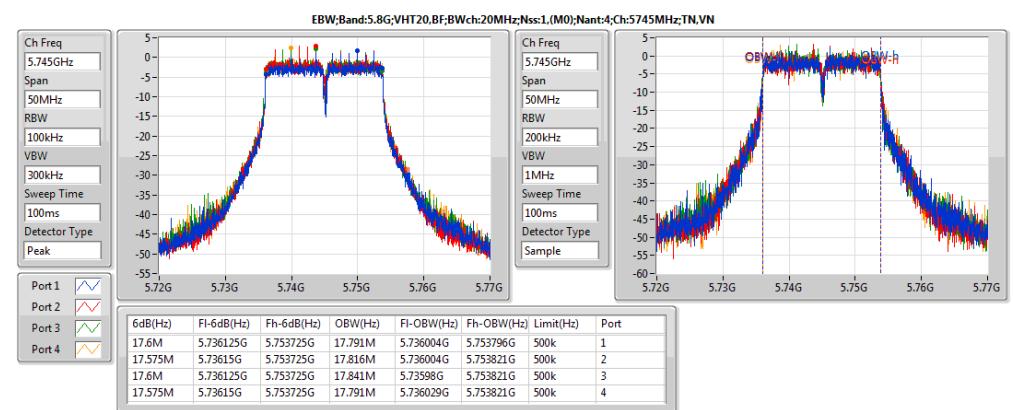
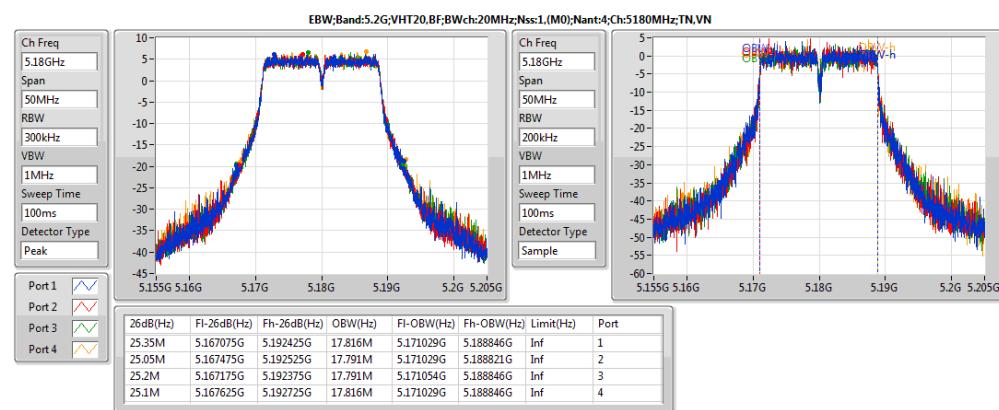
| Mode | Max-N dB (Hz) | Max-OBW (Hz) | ITU-Code | Min-N dB (Hz) | Min-OBW (Hz) |
|---------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.2G;VHT20,BF;20;1,(M0);4 | 25.65M | 17.866M | 17M9D1D | 24.875M | 17.791M |
| 5.2G;VHT40,BF;40;1,(M0);4 | 43.2M | 36.432M | 36M4D1D | 42.15M | 36.282M |
| 5.2G;VHT80,BF;80;1,(M0);4 | 82.6M | 75.862M | 75M9D1D | 80.3M | 75.062M |
| 5.8G;VHT20,BF;20;1,(M0);4 | 17.65M | 17.841M | 17M8D1D | 16.8M | 17.766M |
| 5.8G;VHT40,BF;40;1,(M0);4 | 35.35M | 36.482M | 36M5D1D | 33.75M | 36.232M |
| 5.8G;VHT80,BF;80;1,(M0);4 | 74.4M | 76.162M | 76M2D1D | 68.9M | 75.362M |

Result

| Mode | Result | Limit (Hz) | P1-N dB (Hz) | P1-OBW (Hz) | P2-N dB (Hz) | P2-OBW (Hz) | P3-N dB (Hz) | P3-OBW (Hz) | P4-N dB (Hz) | P4-OBW (Hz) |
|--|--------|------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| 5.2G;VHT20,BF;20;1,(M0);4;5180;L;TN,VN | Pass | Inf | 25.35M | 17.816M | 25.05M | 17.791M | 25.2M | 17.791M | 25.1M | 17.816M |
| 5.2G;VHT20,BF;20;1,(M0);4;5200;M;TN,VN | Pass | Inf | 24.875M | 17.841M | 25.075M | 17.816M | 25.15M | 17.791M | 24.95M | 17.841M |
| 5.2G;VHT20,BF;20;1,(M0);4;5240;H;TN,VN | Pass | Inf | 25.375M | 17.791M | 25.65M | 17.841M | 25.275M | 17.841M | 24.975M | 17.866M |
| 5.2G;VHT40,BF;40;1,(M0);4;5190;L;TN,VN | Pass | Inf | 43.2M | 36.432M | 43M | 36.332M | 43M | 36.332M | 42.9M | 36.432M |
| 5.2G;VHT40,BF;40;1,(M0);4;5230;H;TN,VN | Pass | Inf | 42.15M | 36.282M | 42.95M | 36.332M | 43.15M | 36.382M | 43M | 36.382M |
| 5.2G;VHT80,BF;80;1,(M0);4;5210;S;TN,VN | Pass | Inf | 82.5M | 75.362M | 80.3M | 75.062M | 82.6M | 75.462M | 81.5M | 75.862M |
| 5.8G;VHT20,BF;20;1,(M0);4;5745;L;TN,VN | Pass | 500k | 17.6M | 17.791M | 17.575M | 17.816M | 17.6M | 17.841M | 17.575M | 17.791M |
| 5.8G;VHT20,BF;20;1,(M0);4;5785;M;TN,VN | Pass | 500k | 17.6M | 17.841M | 17.525M | 17.841M | 17.6M | 17.816M | 17.575M | 17.816M |
| 5.8G;VHT20,BF;20;1,(M0);4;5825;H;TN,VN | Pass | 500k | 17.6M | 17.816M | 16.8M | 17.791M | 17.65M | 17.766M | 17.55M | 17.816M |
| 5.8G;VHT40,BF;40;1,(M0);4;5755;L;TN,VN | Pass | 500k | 35M | 36.332M | 33.75M | 36.232M | 35M | 36.382M | 35.35M | 36.482M |
| 5.8G;VHT40,BF;40;1,(M0);4;5795;H;TN,VN | Pass | 500k | 34.85M | 36.382M | 35.1M | 36.282M | 35.3M | 36.332M | 34.95M | 36.232M |
| 5.8G;VHT80,BF;80;1,(M0);4;5775;S;TN,VN | Pass | 500k | 69.4M | 75.662M | 72.1M | 75.362M | 74.4M | 76.162M | 68.9M | 75.362M |



EBW Result (Beamforming)



**Summary**

| Mode | Sum (dBm) | Sum (W) | EIRP (dBm) | EIRP (W) |
|------------------------|--------------|------------|---------------|-------------|
| 5.2G;11a;20;1;4 | 24.68 | 0.29376 | 28.38 | 0.68865 |
| 5.2G;HT20;20;1,(M0);4 | 24.26 | 0.26669 | 27.96 | 0.62517 |
| 5.2G;HT40;40;1,(M0);4 | 24.58 | 0.28708 | 28.28 | 0.67298 |
| 5.2G;VHT20;20;1,(M0);4 | 24.33 | 0.27102 | 28.03 | 0.63533 |
| 5.2G;VHT40;40;1,(M0);4 | 24.79 | 0.3013 | 28.49 | 0.70632 |
| 5.2G;VHT80;80;1,(M0);4 | 18.99 | 0.07925 | 22.69 | 0.18578 |
| 5.8G;11a;20;1;4 | 23.87 | 0.24378 | 27.57 | 0.57148 |
| 5.8G;HT20;20;1,(M0);4 | 24.05 | 0.2541 | 27.75 | 0.59566 |
| 5.8G;HT40;40;1,(M0);4 | 24.44 | 0.27797 | 28.14 | 0.65163 |
| 5.8G;VHT20;20;1,(M0);4 | 24.09 | 0.25645 | 27.79 | 0.60117 |
| 5.8G;VHT40;40;1,(M0);4 | 24.48 | 0.28054 | 28.18 | 0.65766 |
| 5.8G;VHT80;80;1,(M0);4 | 22.98 | 0.19861 | 26.68 | 0.46559 |

Result

| Mode | Result | DG (dBi) | EIRP (dBm) | EIRP Lim. (dBm) | Sum (dBm) | Sum Lim. (dBm) | P1 (dBm) | P2 (dBm) | P3 (dBm) | P4 (dBm) |
|-------------------------------------|--------|-------------|---------------|--------------------|--------------|-------------------|-------------|-------------|-------------|-------------|
| 5.2G;11a;20;1;4:5180;L;TN,VN | Pass | 3.70 | 25.14 | 36.00 | 21.44 | 30.00 | 15.47 | 15.42 | 15.30 | 15.49 |
| 5.2G;11a;20;1;4:5180;L;TN,VN | Pass | 3.70 | 25.14 | 36.00 | 21.44 | 30.00 | 15.47 | 15.42 | 15.30 | 15.49 |
| 5.2G;11a;20;1;4:5200;M;TN,VN | Pass | 3.70 | 28.04 | 36.00 | 24.34 | 30.00 | 17.81 | 18.57 | 18.45 | 18.38 |
| 5.2G;11a;20;1;4:5200;M;TN,VN | Pass | 3.70 | 28.04 | 36.00 | 24.34 | 30.00 | 17.81 | 18.57 | 18.45 | 18.38 |
| 5.2G;11a;20;1;4:5240;H;TN,VN | Pass | 3.70 | 28.38 | 36.00 | 24.68 | 30.00 | 18.88 | 18.79 | 18.58 | 18.38 |
| 5.2G;11a;20;1;4:5240;H;TN,VN | Pass | 3.70 | 28.38 | 36.00 | 24.68 | 30.00 | 18.88 | 18.79 | 18.58 | 18.38 |
| 5.2G;HT20;20;1,(M0):4:5180;L;TN,VN | Pass | 3.70 | 24.61 | 36.00 | 20.91 | 30.00 | 14.70 | 15.25 | 14.67 | 14.91 |
| 5.2G;HT20;20;1,(M0):4:5200;M;TN,VN | Pass | 3.70 | 27.87 | 36.00 | 24.17 | 30.00 | 16.92 | 18.66 | 18.48 | 18.33 |
| 5.2G;HT20;20;1,(M0):4:5240;H;TN,VN | Pass | 3.70 | 27.96 | 36.00 | 24.26 | 30.00 | 17.00 | 18.71 | 18.71 | 18.34 |
| 5.2G;HT40;40;1,(M0):4:5190;L;TN,VN | Pass | 3.70 | 22.95 | 36.00 | 19.25 | 30.00 | 13.01 | 13.46 | 13.03 | 13.41 |
| 5.2G;HT40;40;1,(M0):4:5230;H;TN,VN | Pass | 3.70 | 28.28 | 36.00 | 24.58 | 30.00 | 16.53 | 19.20 | 19.09 | 18.92 |
| 5.2G;VHT20;20;1,(M0):4:5180;L;TN,VN | Pass | 3.70 | 24.63 | 36.00 | 20.93 | 30.00 | 14.63 | 15.17 | 14.76 | 15.05 |
| 5.2G;VHT20;20;1,(M0):4:5200;M;TN,VN | Pass | 3.70 | 27.90 | 36.00 | 24.20 | 30.00 | 17.05 | 18.65 | 18.56 | 18.29 |
| 5.2G;VHT20;20;1,(M0):4:5240;H;TN,VN | Pass | 3.70 | 28.03 | 36.00 | 24.33 | 30.00 | 17.02 | 18.89 | 18.67 | 18.44 |
| 5.2G;VHT40;40;1,(M0):4:5190;L;TN,VN | Pass | 3.70 | 23.06 | 36.00 | 19.36 | 30.00 | 13.27 | 13.66 | 13.03 | 13.38 |
| 5.2G;VHT40;40;1,(M0):4:5230;H;TN,VN | Pass | 3.70 | 28.49 | 36.00 | 24.79 | 30.00 | 17.40 | 19.39 | 18.99 | 19.03 |
| 5.2G;VHT80;80;1,(M0):4:5210;S;TN,VN | Pass | 3.70 | 22.69 | 36.00 | 18.99 | 30.00 | 13.00 | 13.27 | 12.58 | 13.00 |
| 5.8G;11a;20;1;4:5745;L;TN,VN | Pass | 3.70 | 27.57 | 36.00 | 23.87 | 30.00 | 17.24 | 18.26 | 17.95 | 17.91 |
| 5.8G;11a;20;1;4:5785;M;TN,VN | Pass | 3.70 | 27.55 | 36.00 | 23.85 | 30.00 | 17.48 | 18.10 | 17.77 | 17.95 |
| 5.8G;11a;20;1;4:5825;H;TN,VN | Pass | 3.70 | 27.47 | 36.00 | 23.77 | 30.00 | 17.09 | 18.08 | 18.12 | 17.62 |
| 5.8G;HT20;20;1,(M0):4:5745;L;TN,VN | Pass | 3.70 | 27.75 | 36.00 | 24.05 | 30.00 | 17.26 | 18.45 | 18.12 | 18.22 |
| 5.8G;HT20;20;1,(M0):4:5785;M;TN,VN | Pass | 3.70 | 27.54 | 36.00 | 23.84 | 30.00 | 17.14 | 18.18 | 18.01 | 17.88 |
| 5.8G;HT20;20;1,(M0):4:5825;H;TN,VN | Pass | 3.70 | 27.38 | 36.00 | 23.68 | 30.00 | 16.91 | 17.98 | 18.00 | 17.64 |
| 5.8G;HT40;40;1,(M0):4:5755;L;TN,VN | Pass | 3.70 | 28.14 | 36.00 | 24.44 | 30.00 | 17.58 | 18.90 | 18.51 | 18.59 |
| 5.8G;HT40;40;1,(M0):4:5795;H;TN,VN | Pass | 3.70 | 28.01 | 36.00 | 24.31 | 30.00 | 17.67 | 18.65 | 18.28 | 18.49 |
| 5.8G;VHT20;20;1,(M0):4:5745;L;TN,VN | Pass | 3.70 | 27.78 | 36.00 | 24.08 | 30.00 | 17.27 | 18.32 | 18.22 | 18.34 |
| 5.8G;VHT20;20;1,(M0):4:5785;M;TN,VN | Pass | 3.70 | 27.79 | 36.00 | 24.09 | 30.00 | 17.27 | 18.54 | 18.24 | 18.14 |
| 5.8G;VHT20;20;1,(M0):4:5825;H;TN,VN | Pass | 3.70 | 27.48 | 36.00 | 23.78 | 30.00 | 17.16 | 18.20 | 17.92 | 17.69 |
| 5.8G;VHT40;40;1,(M0):4:5755;L;TN,VN | Pass | 3.70 | 28.18 | 36.00 | 24.48 | 30.00 | 17.88 | 18.84 | 18.52 | 18.54 |
| 5.8G;VHT40;40;1,(M0):4:5795;H;TN,VN | Pass | 3.70 | 28.04 | 36.00 | 24.34 | 30.00 | 17.74 | 18.66 | 18.47 | 18.37 |
| 5.8G;VHT80;80;1,(M0):4:5775;S;TN,VN | Pass | 3.70 | 26.68 | 36.00 | 22.98 | 30.00 | 16.37 | 17.23 | 17.25 | 16.91 |

Summary

| Mode | Sum (dBm) | Sum (W) | EIRP (dBm) | EIRP (W) |
|---------------------------|--------------|------------|---------------|-------------|
| 5.2G;VHT20,BF;20;1,(M0);4 | 20.50 | 0.1122 | 30.22 | 1.05196 |
| 5.2G;VHT40,BF;40;1,(M0);4 | 20.46 | 0.11117 | 30.18 | 1.04232 |
| 5.2G;VHT80,BF;80;1,(M0);4 | 17.10 | 0.05129 | 26.82 | 0.48084 |
| 5.8G;VHT20,BF;20;1,(M0);4 | 19.40 | 0.0871 | 29.12 | 0.81658 |
| 5.8G;VHT40,BF;40;1,(M0);4 | 20.08 | 0.10186 | 29.80 | 0.95499 |
| 5.8G;VHT80,BF;80;1,(M0);4 | 19.08 | 0.08091 | 28.80 | 0.75858 |

Result

| Mode | Result | DG (dBi) | Sum (dBm) | Sum Lim. (dBm) | EIRP (dBm) | EIRP Lim. (dBm) | P1 (dBm) | P2 (dBm) | P3 (dBm) | P4 (dBm) |
|--|--------|-------------|--------------|-------------------|---------------|--------------------|-------------|-------------|-------------|-------------|
| 5.2G;VHT20,BF;20;1,(M0);4:5180:L;TN,VN | Pass | 9.72 | 19.86 | 26.28 | 29.58 | 36.00 | 13.70 | 13.99 | 13.79 | 13.86 |
| 5.2G;VHT20,BF;20;1,(M0);4:5200:M;TN,VN | Pass | 9.72 | 20.50 | 26.28 | 30.22 | 36.00 | 14.32 | 14.11 | 14.88 | 14.57 |
| 5.2G;VHT20,BF;20;1,(M0);4:5240:H;TN,VN | Pass | 9.72 | 20.38 | 26.28 | 30.10 | 36.00 | 14.36 | 14.56 | 14.06 | 14.45 |
| 5.2G;VHT40,BF;40;1,(M0);4:5190:L;TN,VN | Pass | 9.72 | 18.68 | 26.28 | 28.40 | 36.00 | 12.71 | 12.65 | 12.89 | 12.39 |
| 5.2G;VHT40,BF;40;1,(M0);4:5230:H;TN,VN | Pass | 9.72 | 20.46 | 26.28 | 30.18 | 36.00 | 14.88 | 14.60 | 14.06 | 14.15 |
| 5.2G;VHT80,BF;80;1,(M0);4:5210:S;TN,VN | Pass | 9.72 | 17.10 | 26.28 | 26.82 | 36.00 | 10.75 | 11.53 | 10.95 | 11.04 |
| 5.8G;VHT20,BF;20;1,(M0);4:5745:L;TN,VN | Pass | 9.72 | 19.37 | 26.28 | 29.09 | 36.00 | 13.25 | 13.42 | 13.35 | 13.35 |
| 5.8G;VHT20,BF;20;1,(M0);4:5785:M;TN,VN | Pass | 9.72 | 19.40 | 26.28 | 29.12 | 36.00 | 12.69 | 13.69 | 13.77 | 13.30 |
| 5.8G;VHT20,BF;20;1,(M0);4:5825:H;TN,VN | Pass | 9.72 | 19.23 | 26.28 | 28.95 | 36.00 | 12.94 | 13.23 | 13.49 | 13.18 |
| 5.8G;VHT40,BF;40;1,(M0);4:5755:L;TN,VN | Pass | 9.72 | 19.40 | 26.28 | 29.12 | 36.00 | 13.21 | 13.18 | 13.19 | 13.89 |
| 5.8G;VHT40,BF;40;1,(M0);4:5795:H;TN,VN | Pass | 9.72 | 20.08 | 26.28 | 29.80 | 36.00 | 13.26 | 13.97 | 14.85 | 14.00 |
| 5.8G;VHT80,BF;80;1,(M0);4:5775:S;TN,VN | Pass | 9.72 | 19.08 | 26.28 | 28.80 | 36.00 | 12.39 | 13.32 | 13.58 | 12.86 |

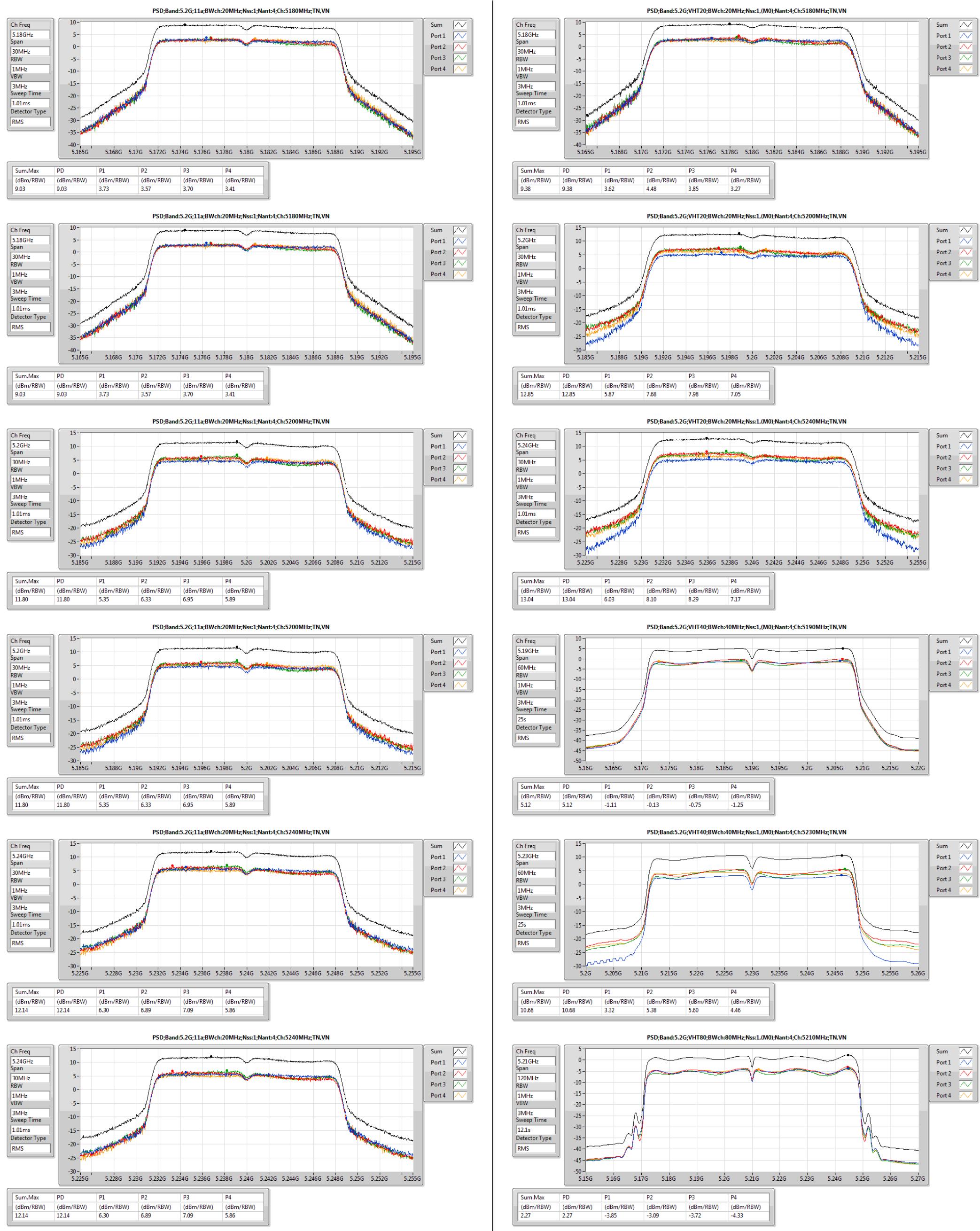


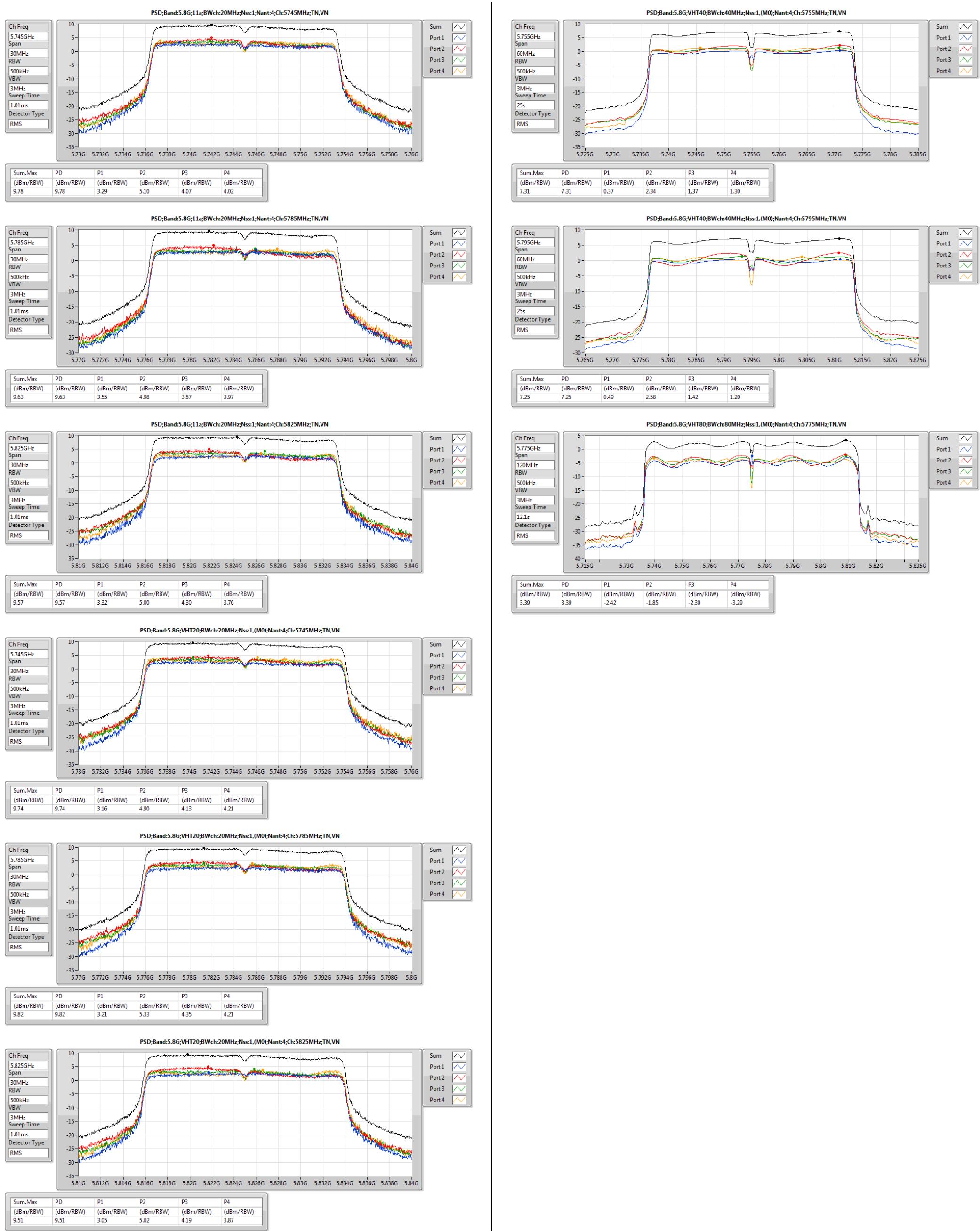
Summary

| Mode | PD (dBm/RBW) | EIRP.PD (dBm/RBW) |
|------------------------|-----------------|----------------------|
| 5.2G;11a;20;1;4 | 12.14 | 21.86 |
| 5.2G;VHT20;20;1,(M0);4 | 13.04 | 22.76 |
| 5.2G;VHT40;40;1,(M0);4 | 10.68 | 20.40 |
| 5.2G;VHT80;80;1,(M0);4 | 2.27 | 11.99 |
| 5.8G;11a;20;1;4 | 9.78 | 19.50 |
| 5.8G;VHT20;20;1,(M0);4 | 9.82 | 19.54 |
| 5.8G;VHT40;40;1,(M0);4 | 7.31 | 17.03 |
| 5.8G;VHT80;80;1,(M0);4 | 3.39 | 13.11 |

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) | P2 (dBm/RBW) | P3 (dBm/RBW) | P4 (dBm/RBW) |
|-------------------------------------|--------|------------------|-----------------|--------------|-------------|----------------------|-----------------|-----------------------|----------------------|------------------------------|-----------------|-----------------|-----------------|-----------------|
| 5.2G;11a;20;1;4;5180;L;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 9.03 | 9.03 | 13.28 | 18.75 | Inf | 3.73 | 3.57 | 3.70 | 3.41 |
| 5.2G;11a;20;1;4;5180;L;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 9.03 | 9.03 | 13.28 | 18.75 | Inf | 3.73 | 3.57 | 3.70 | 3.41 |
| 5.2G;11a;20;1;4;5200;M;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 11.80 | 11.80 | 13.28 | 21.52 | Inf | 5.35 | 6.33 | 6.95 | 5.89 |
| 5.2G;11a;20;1;4;5200;M;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 11.80 | 11.80 | 13.28 | 21.52 | Inf | 5.35 | 6.33 | 6.95 | 5.89 |
| 5.2G;11a;20;1;4;5240;H;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 12.14 | 12.14 | 13.28 | 21.86 | Inf | 6.30 | 6.89 | 7.09 | 5.86 |
| 5.2G;11a;20;1;4;5240;H;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 12.14 | 12.14 | 13.28 | 21.86 | Inf | 6.30 | 6.89 | 7.09 | 5.86 |
| 5.2G;VHT20;20;1,(M0);4;5180;L;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 9.38 | 9.38 | 13.28 | 19.10 | Inf | 3.62 | 4.48 | 3.85 | 3.27 |
| 5.2G;VHT20;20;1,(M0);4;5200;M;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 12.85 | 12.85 | 13.28 | 22.57 | Inf | 5.87 | 7.68 | 7.98 | 7.05 |
| 5.2G;VHT20;20;1,(M0);4;5240;H;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 13.04 | 13.04 | 13.28 | 22.76 | Inf | 6.03 | 8.10 | 8.29 | 7.17 |
| 5.2G;VHT40;40;1,(M0);4;5190;L;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 5.12 | 5.12 | 13.28 | 14.84 | Inf | -1.11 | -0.13 | -0.75 | -1.25 |
| 5.2G;VHT40;40;1,(M0);4;5230;H;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 10.68 | 10.68 | 13.28 | 20.40 | Inf | 3.32 | 5.38 | 5.60 | 4.46 |
| 5.2G;VHT80;80;1,(M0);4;5210;S;TN,VN | Pass | 1M | 1M | 0.00 | 9.72 | 2.27 | 2.27 | 13.28 | 11.99 | Inf | -3.85 | -3.09 | -3.72 | -4.33 |
| 5.8G;11a;20;1;4;5745;L;TN,VN | Pass | 500k | 500k | 0.00 | 9.72 | 9.78 | 9.78 | 26.28 | 19.50 | 32.28 | 3.29 | 5.10 | 4.07 | 4.02 |
| 5.8G;11a;20;1;4;5785;M;TN,VN | Pass | 500k | 500k | 0.00 | 9.72 | 9.63 | 9.63 | 26.28 | 19.35 | 32.28 | 3.55 | 4.98 | 3.87 | 3.97 |
| 5.8G;11a;20;1;4;5825;H;TN,VN | Pass | 500k | 500k | 0.00 | 9.72 | 9.57 | 9.57 | 26.28 | 19.29 | 32.28 | 3.32 | 5.00 | 4.30 | 3.76 |
| 5.8G;VHT20;20;1,(M0);4;5745;L;TN,VN | Pass | 500k | 500k | 0.00 | 9.72 | 9.74 | 9.74 | 26.28 | 19.46 | 32.28 | 3.16 | 4.90 | 4.13 | 4.21 |
| 5.8G;VHT20;20;1,(M0);4;5785;M;TN,VN | Pass | 500k | 500k | 0.00 | 9.72 | 9.82 | 9.82 | 26.28 | 19.54 | 32.28 | 3.21 | 5.33 | 4.35 | 4.21 |
| 5.8G;VHT20;20;1,(M0);4;5825;H;TN,VN | Pass | 500k | 500k | 0.00 | 9.72 | 9.51 | 9.51 | 26.28 | 19.23 | 32.28 | 3.05 | 5.02 | 4.19 | 3.87 |
| 5.8G;VHT40;40;1,(M0);4;5755;L;TN,VN | Pass | 500k | 500k | 0.00 | 9.72 | 7.31 | 7.31 | 26.28 | 17.03 | 32.28 | 0.37 | 2.34 | 1.37 | 1.30 |
| 5.8G;VHT40;40;1,(M0);4;5795;H;TN,VN | Pass | 500k | 500k | 0.00 | 9.72 | 7.25 | 7.25 | 26.28 | 16.97 | 32.28 | 0.49 | 2.58 | 1.42 | 1.20 |
| 5.8G;VHT80;80;1,(M0);4;5775;S;TN,VN | Pass | 500k | 500k | 0.00 | 9.72 | 3.39 | 3.39 | 26.28 | 13.11 | 32.28 | -2.42 | -1.85 | -2.30 | -3.29 |





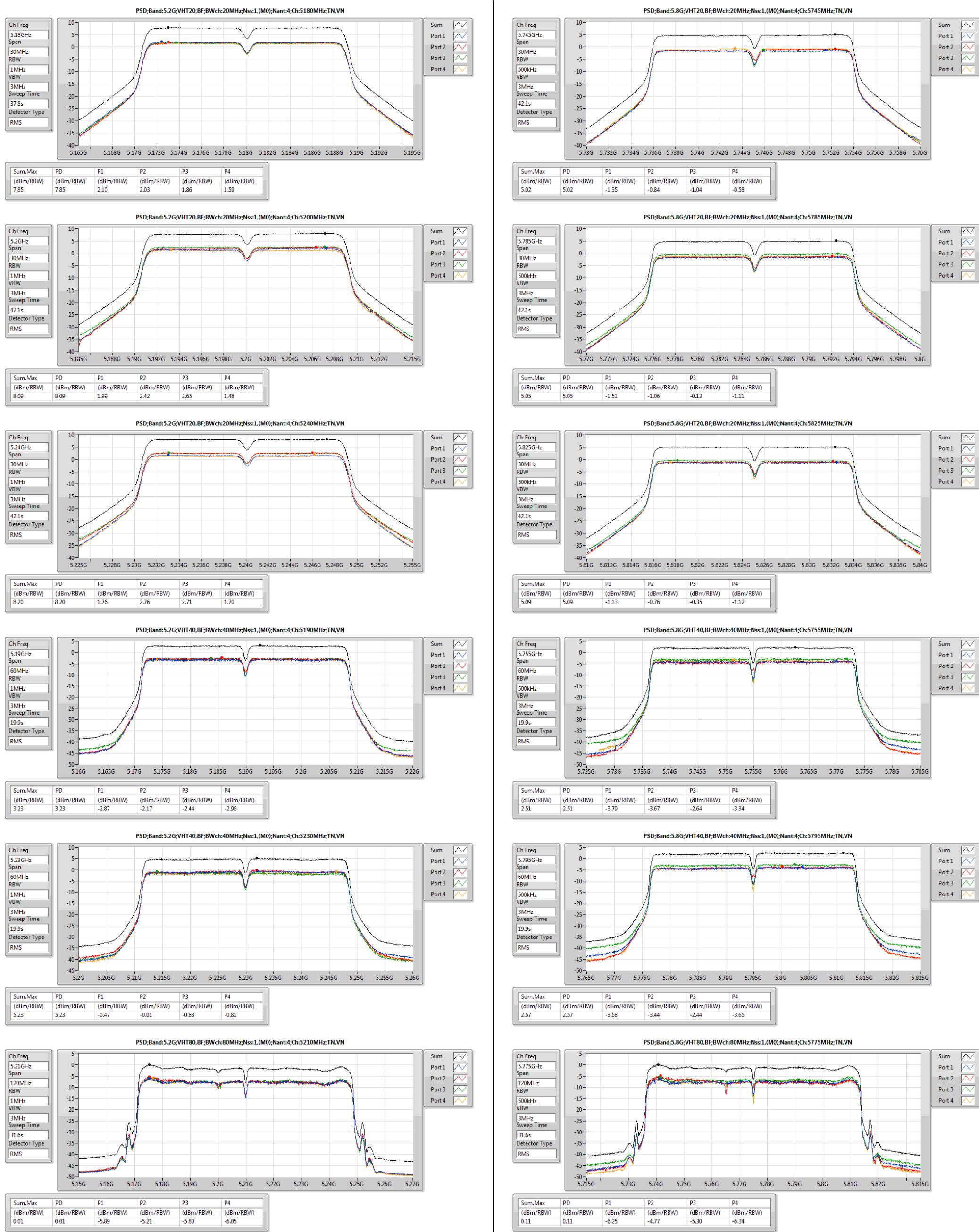


Summary

| Mode | PD (dBm/RBW) | EIRP.PD (dBm/RBW) |
|---------------------------|-----------------|----------------------|
| 5.2G;VHT20,BF;20;1,(M0);4 | 8.20 | 17.92 |
| 5.2G;VHT40,BF;40;1,(M0);4 | 5.23 | 14.95 |
| 5.2G;VHT80,BF;80;1,(M0);4 | 0.01 | 9.73 |
| 5.8G;VHT20,BF;20;1,(M0);4 | 5.09 | 14.81 |
| 5.8G;VHT40,BF;40;1,(M0);4 | 2.57 | 12.29 |
| 5.8G;VHT80,BF;80;1,(M0);4 | 0.11 | 9.83 |

Result

| Mode | Result | DG (dBi) | PD (dBm/RBW) | PD.Limit (dBm/RBW) | EIRP.PD (dBm/RBW) | EIRP.PD.Li m (dBm/RBW) | P1 (dBm/RBW) | P2 (dBm/RBW) | P3 (dBm/RBW) | P4 (dBm/RBW) |
|--|--------|-------------|-----------------|-----------------------|----------------------|------------------------------|-----------------|-----------------|-----------------|-----------------|
| 5.2G;VHT20,BF;20;1,(M0);4;5180;L;TN,VN | Pass | 9.72 | 7.85 | 13.28 | 17.57 | Inf | 2.10 | 2.03 | 1.86 | 1.59 |
| 5.2G;VHT20,BF;20;1,(M0);4;5200;M;TN,VN | Pass | 9.72 | 8.09 | 13.28 | 17.81 | Inf | 1.99 | 2.42 | 2.65 | 1.48 |
| 5.2G;VHT20,BF;20;1,(M0);4;5240;H;TN,VN | Pass | 9.72 | 8.20 | 13.28 | 17.92 | Inf | 1.76 | 2.76 | 2.71 | 1.70 |
| 5.2G;VHT40,BF;40;1,(M0);4;5190;L;TN,VN | Pass | 9.72 | 3.23 | 13.28 | 12.95 | Inf | -2.87 | -2.17 | -2.44 | -2.96 |
| 5.2G;VHT40,BF;40;1,(M0);4;5230;H;TN,VN | Pass | 9.72 | 5.23 | 13.28 | 14.95 | Inf | -0.47 | -0.01 | -0.83 | -0.81 |
| 5.2G;VHT80,BF;80;1,(M0);4;5210;S;TN,VN | Pass | 9.72 | 0.01 | 13.28 | 9.73 | Inf | -5.89 | -5.21 | -5.80 | -6.05 |
| 5.8G;VHT20,BF;20;1,(M0);4;5745;L;TN,VN | Pass | 9.72 | 5.02 | 26.28 | 14.74 | Inf | -1.35 | -0.84 | -1.04 | -0.58 |
| 5.8G;VHT20,BF;20;1,(M0);4;5785;M;TN,VN | Pass | 9.72 | 5.05 | 26.28 | 14.77 | Inf | -1.51 | -1.06 | -0.13 | -1.11 |
| 5.8G;VHT20,BF;20;1,(M0);4;5825;H;TN,VN | Pass | 9.72 | 5.09 | 26.28 | 14.81 | Inf | -1.13 | -0.76 | -0.35 | -1.12 |
| 5.8G;VHT40,BF;40;1,(M0);4;5755;L;TN,VN | Pass | 9.72 | 2.51 | 26.28 | 12.23 | Inf | -3.79 | -3.67 | -2.64 | -3.34 |
| 5.8G;VHT40,BF;40;1,(M0);4;5795;H;TN,VN | Pass | 9.72 | 2.57 | 26.28 | 12.29 | Inf | -3.68 | -3.44 | -2.44 | -3.65 |
| 5.8G;VHT80,BF;80;1,(M0);4;5775;S;TN,VN | Pass | 9.72 | 0.11 | 26.28 | 9.83 | Inf | -6.25 | -4.77 | -5.30 | -6.34 |

PSD Result (Beamforming)
Appendix C




Transmitter Radiated Bandedge Emissions (Non-Beamforming)

Appendix D

Transmitter Radiated Bandedge Emissions (with Antenna)

| U-NII 5150-5250MHz Transmitter Radiated Bandedge (with Antenna) | | | | | | | | | | |
|---|-----------------|-------------|----------------------|----------------|-------------------|-------------------|----------------|-------------------|-------------------|------|
| 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. |
| 11a | 4 | 5180 | 3 | 5149.900 | 65.85 | 74 | 5149.800 | 53.00 | 54 | H |
| 11a | 4 | 5240 | 3 | 5140.800 | 60.20 | 74 | 5400.000 | 49.95 | 54 | H |
| VHT20 | 4 | 5180 | 3 | 5149.000 | 65.75 | 74 | 5150.000 | 51.62 | 54 | H |
| VHT20 | 4 | 5240 | 3 | 5399.393 | 60.37 | 74 | 5399.993 | 49.60 | 54 | H |
| VHT40 | 4 | 5190 | 3 | 5143.560 | 64.21 | 74 | 5146.640 | 52.96 | 54 | H |
| VHT40 | 4 | 5230 | 3 | 5148.000 | 63.16 | 74 | 5149.800 | 52.11 | 54 | H |
| VHT80 | 4 | 5210 | 3 | 5147.400 | 72.07 | 74 | 5147.400 | 52.68 | 54 | H |

Note 1: Measurement worst emissions of receive antenna polarization.

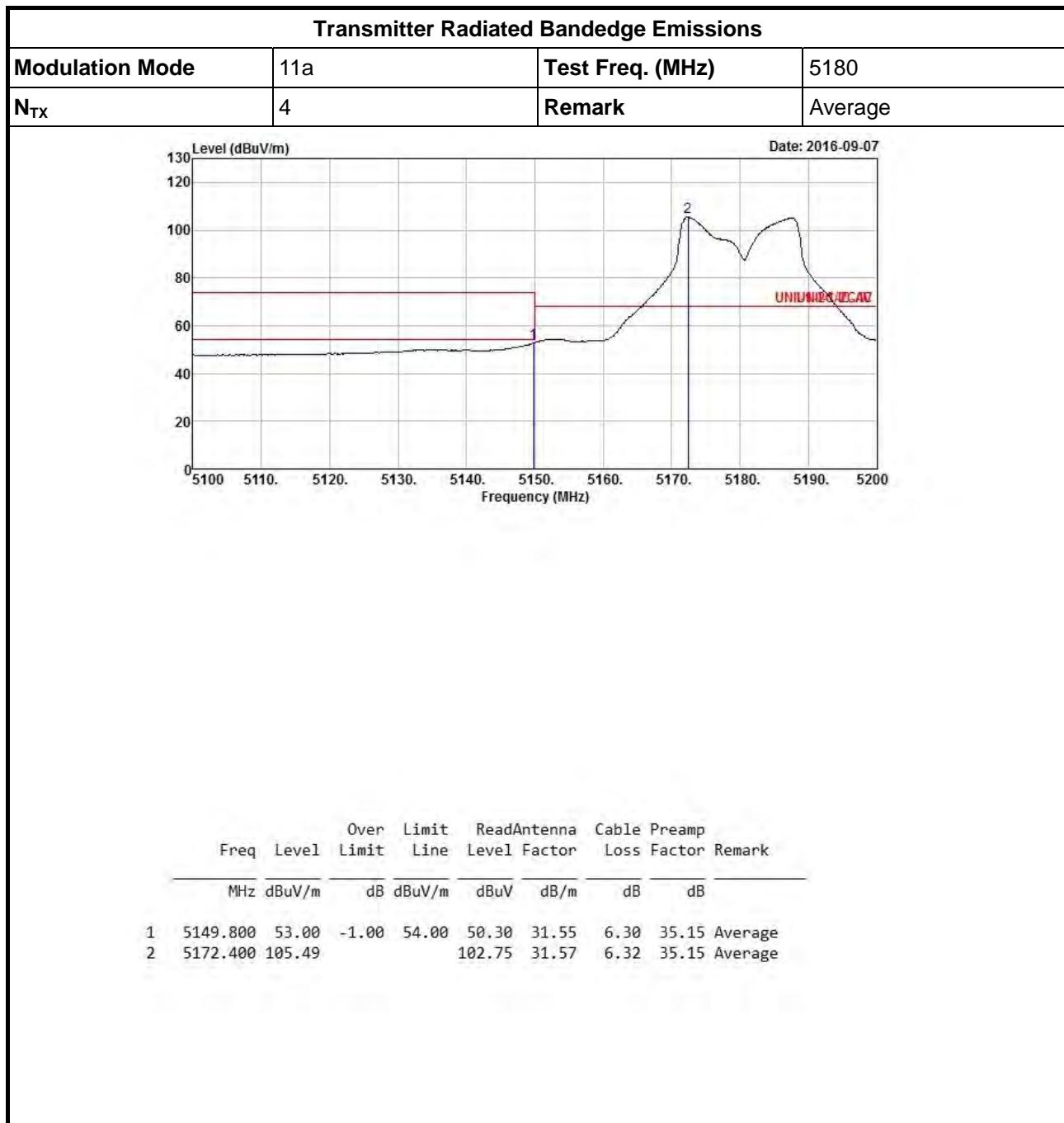
| U-NII 5725-5850MHz Transmitter Radiated Bandedge (with Antenna) | | | | | | | |
|---|-----------------|-------------|----------------------|----------------|-------------------|-------------------|------|
| Modulation Mode | N _{TX} | Freq. (MHz) | Measure Distance (m) | Freq. (MHz) PK | Level (dBuV/m) PK | Limit (dBuV/m) PK | Pol. |
| 11a | 4 | 5745 | 3 | 5626.820 | 61.15 | 68.2 | H |
| 11a | 4 | 5825 | 3 | 5942.170 | 60.93 | 68.2 | H |
| VHT20 | 4 | 5745 | 3 | 5644.500 | 60.02 | 68.2 | H |
| VHT20 | 4 | 5825 | 3 | 5937.040 | 60.26 | 68.2 | H |
| VHT40 | 4 | 5755 | 3 | 5635.540 | 60.95 | 68.2 | H |
| VHT40 | 4 | 5795 | 3 | 5938.120 | 61.10 | 68.2 | H |
| VHT80 | 4 | 5775 | 3 | 5649.050 | 64.61 | 68.2 | H |

Note 1: Measurement worst emissions of receive antenna polarization.



Transmitter Radiated Bandedge Emissions (Non-Beamforming)

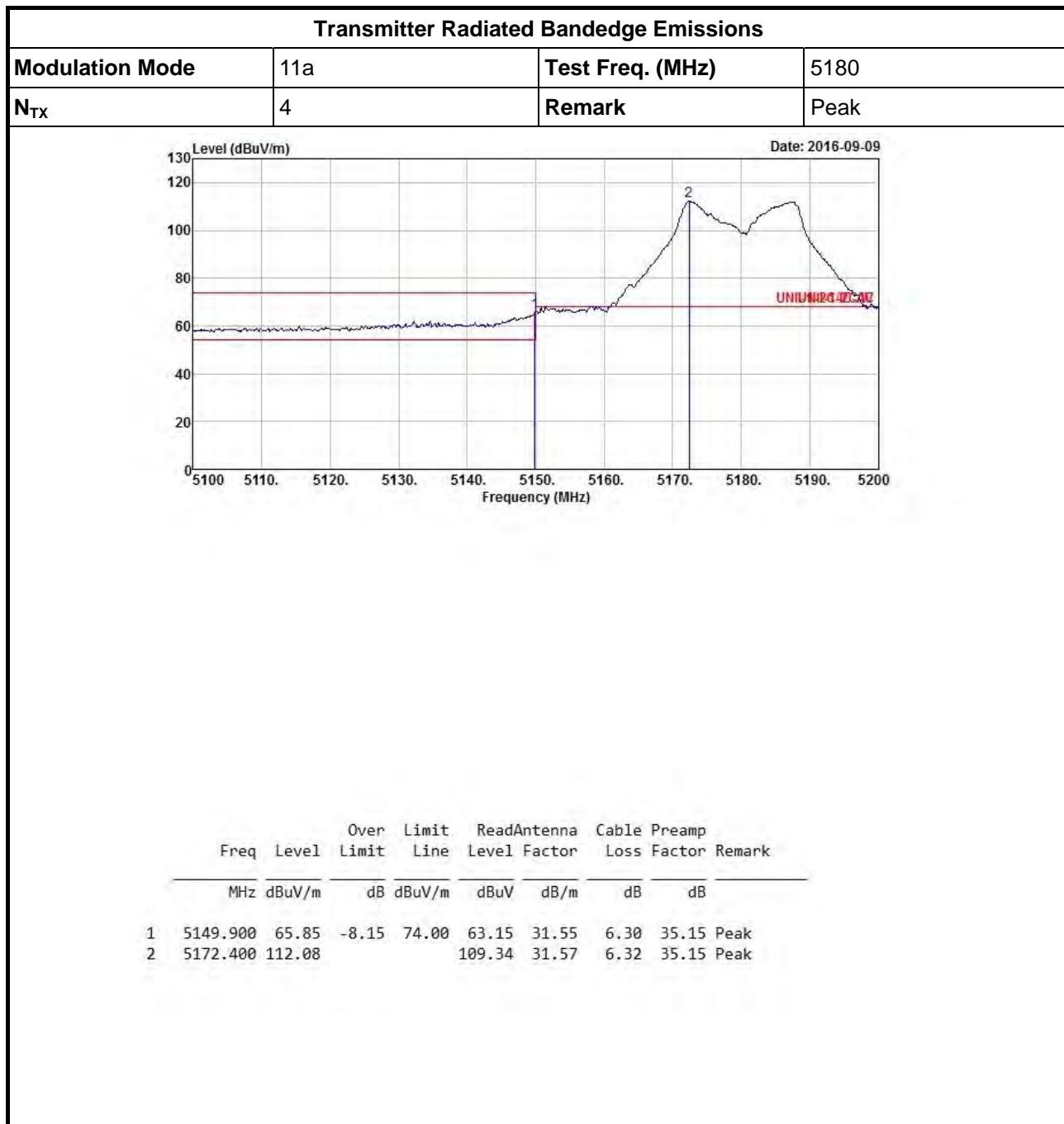
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

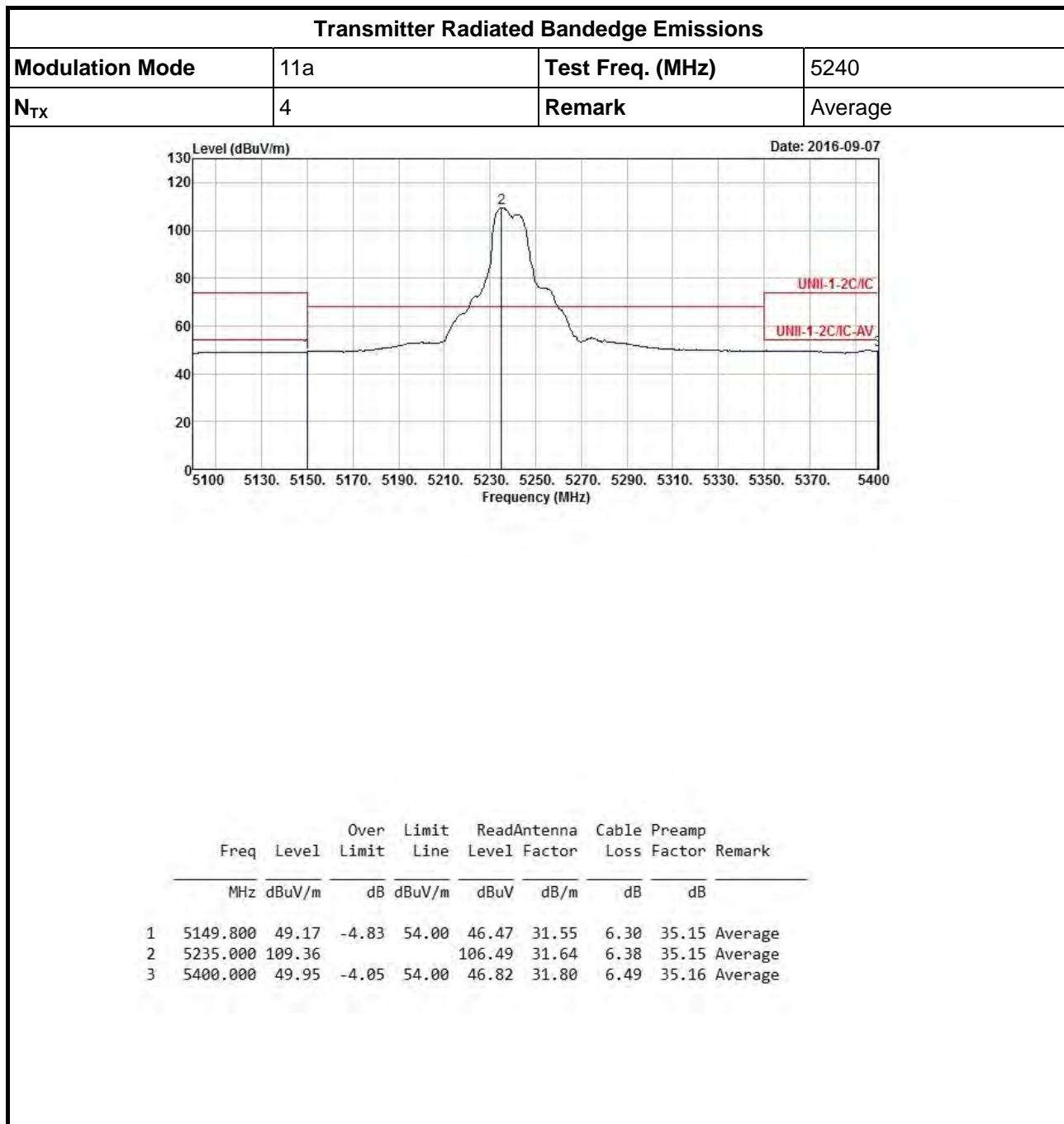
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

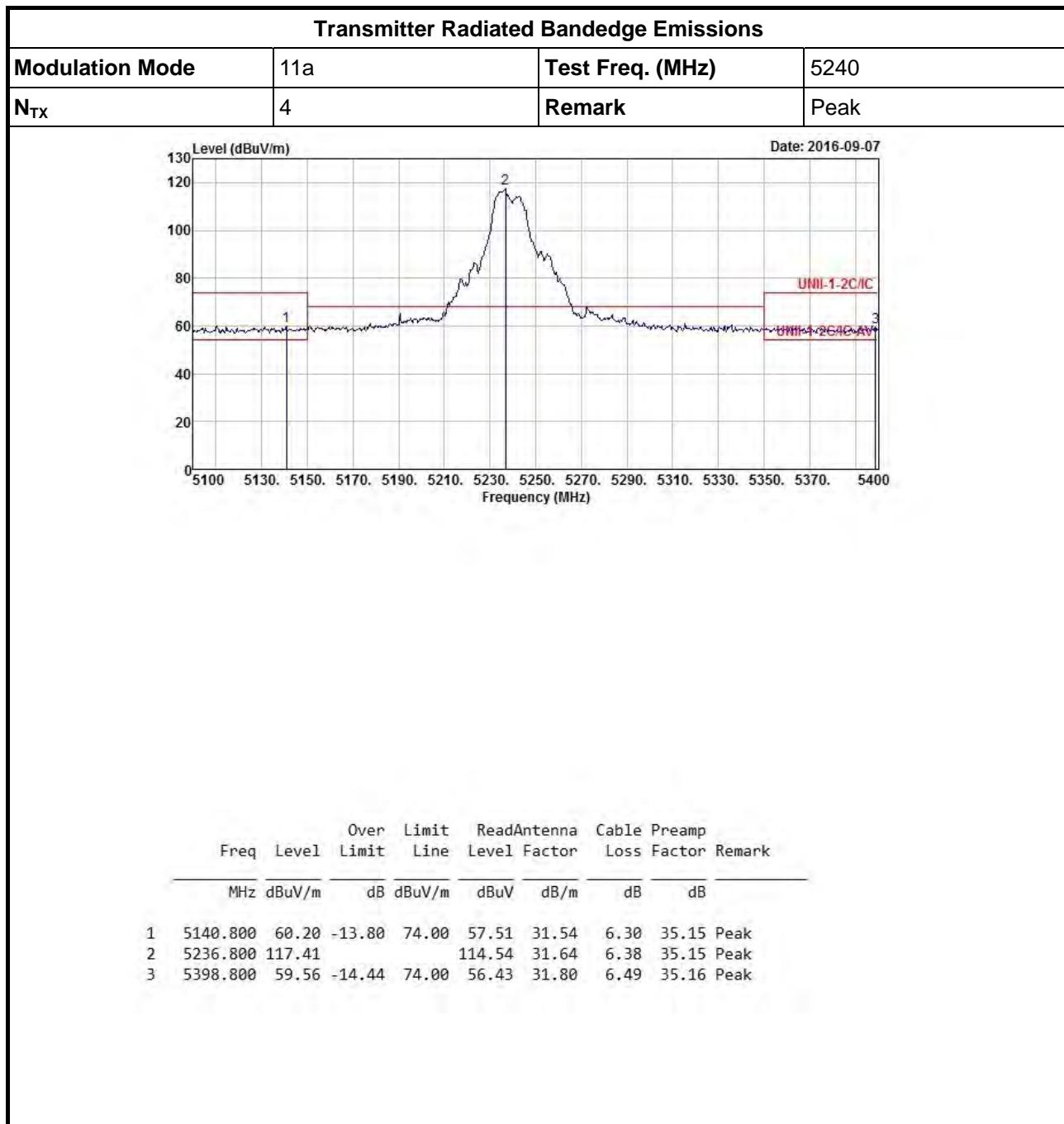
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

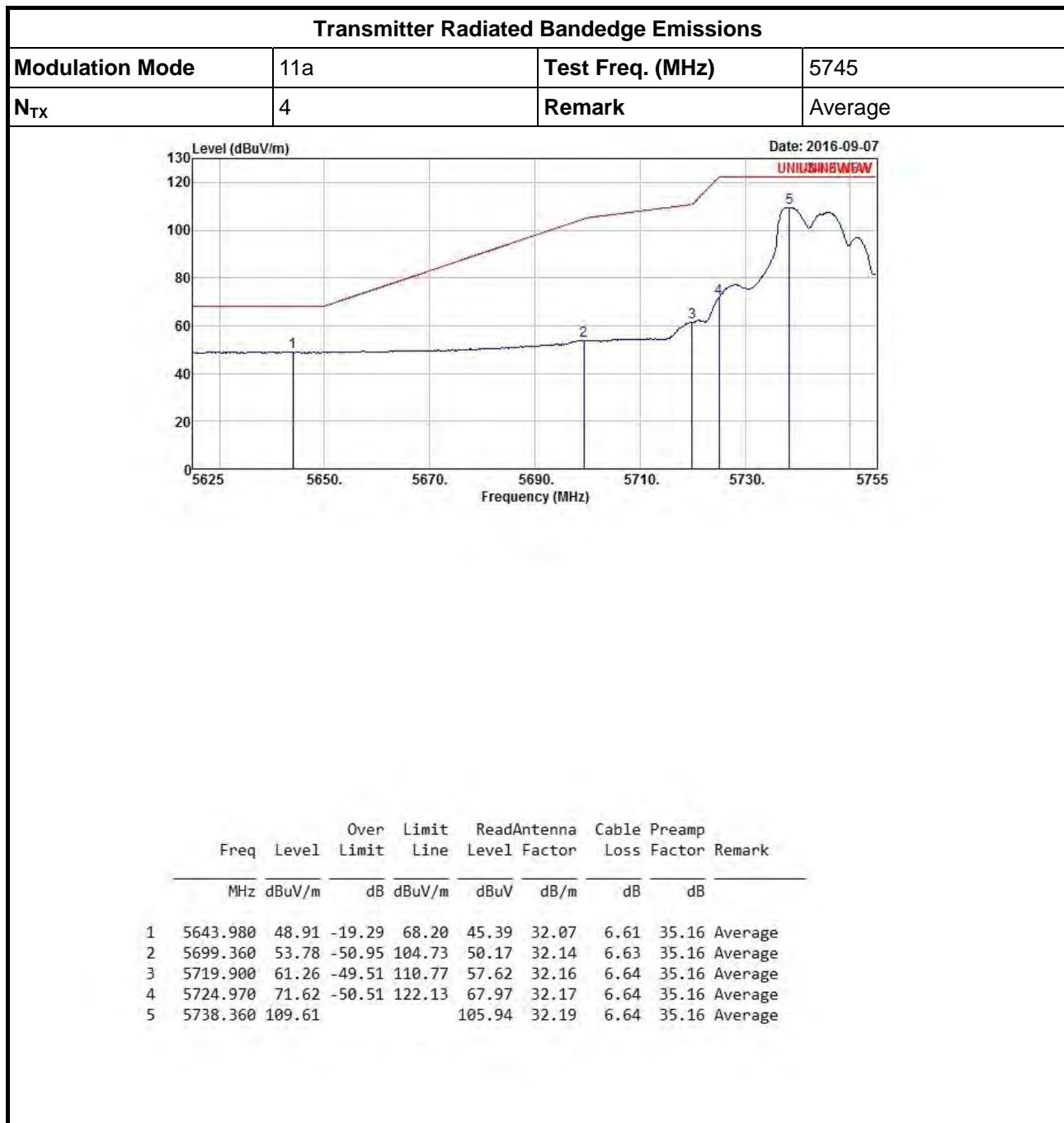
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

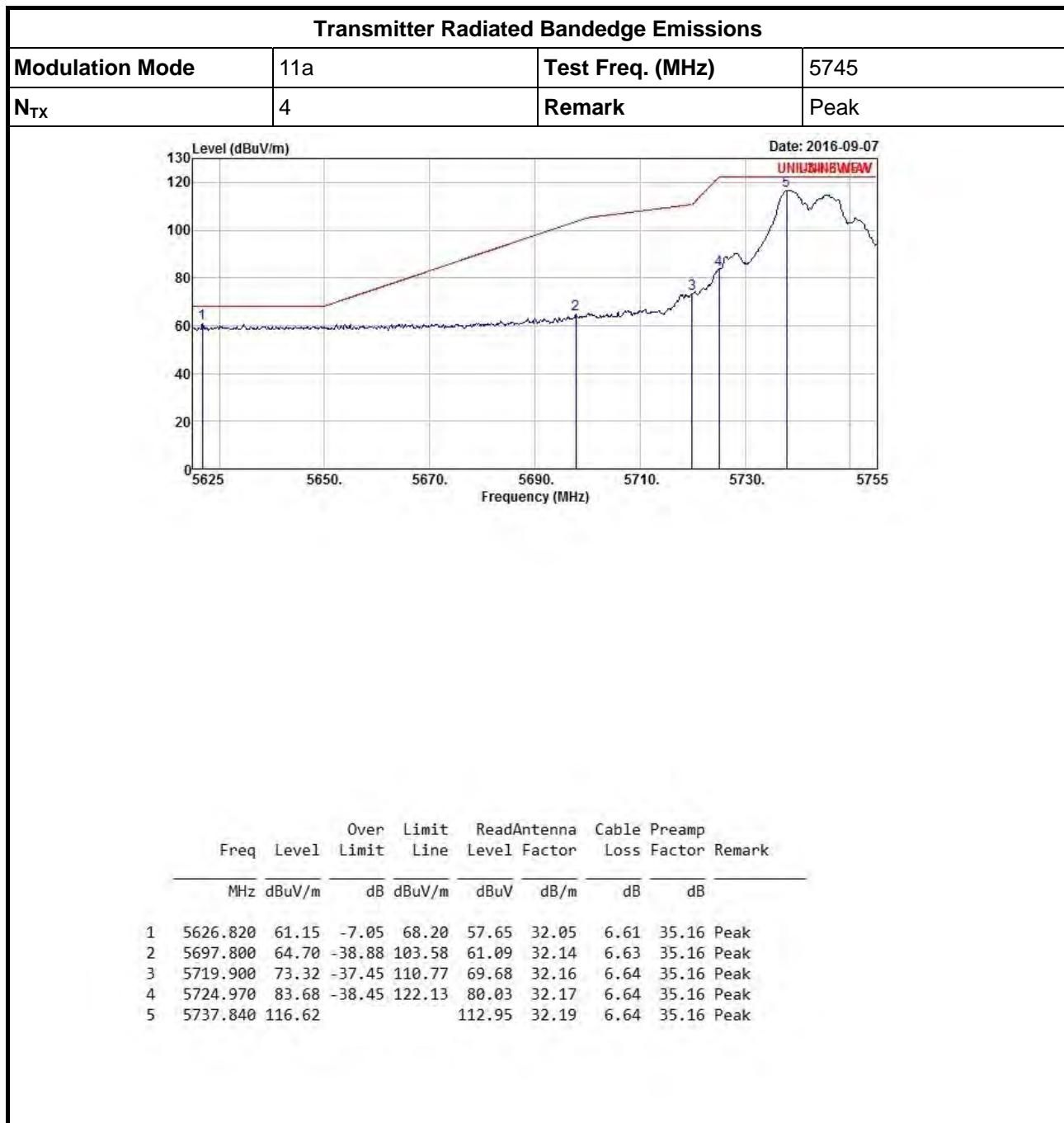
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

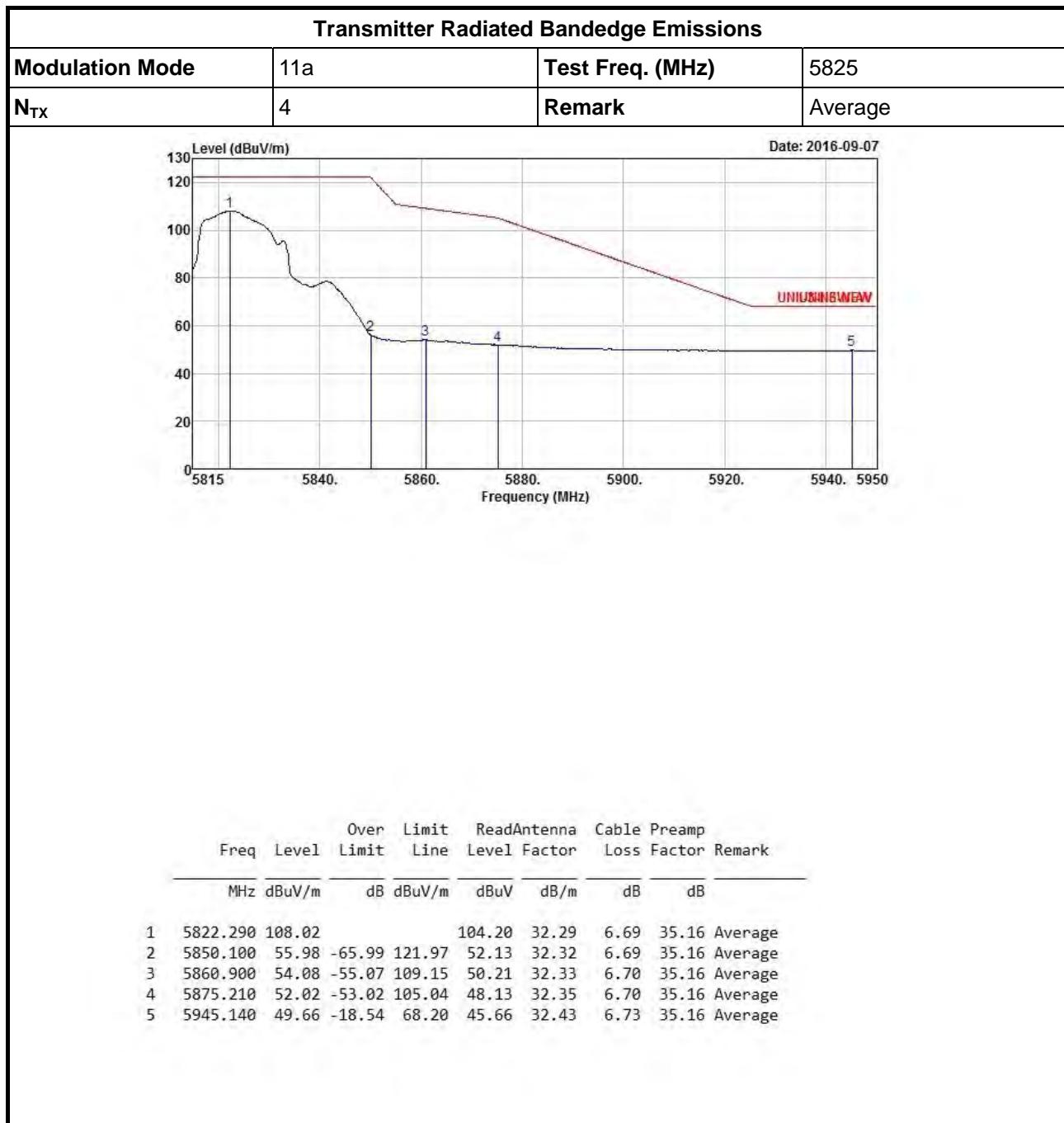
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

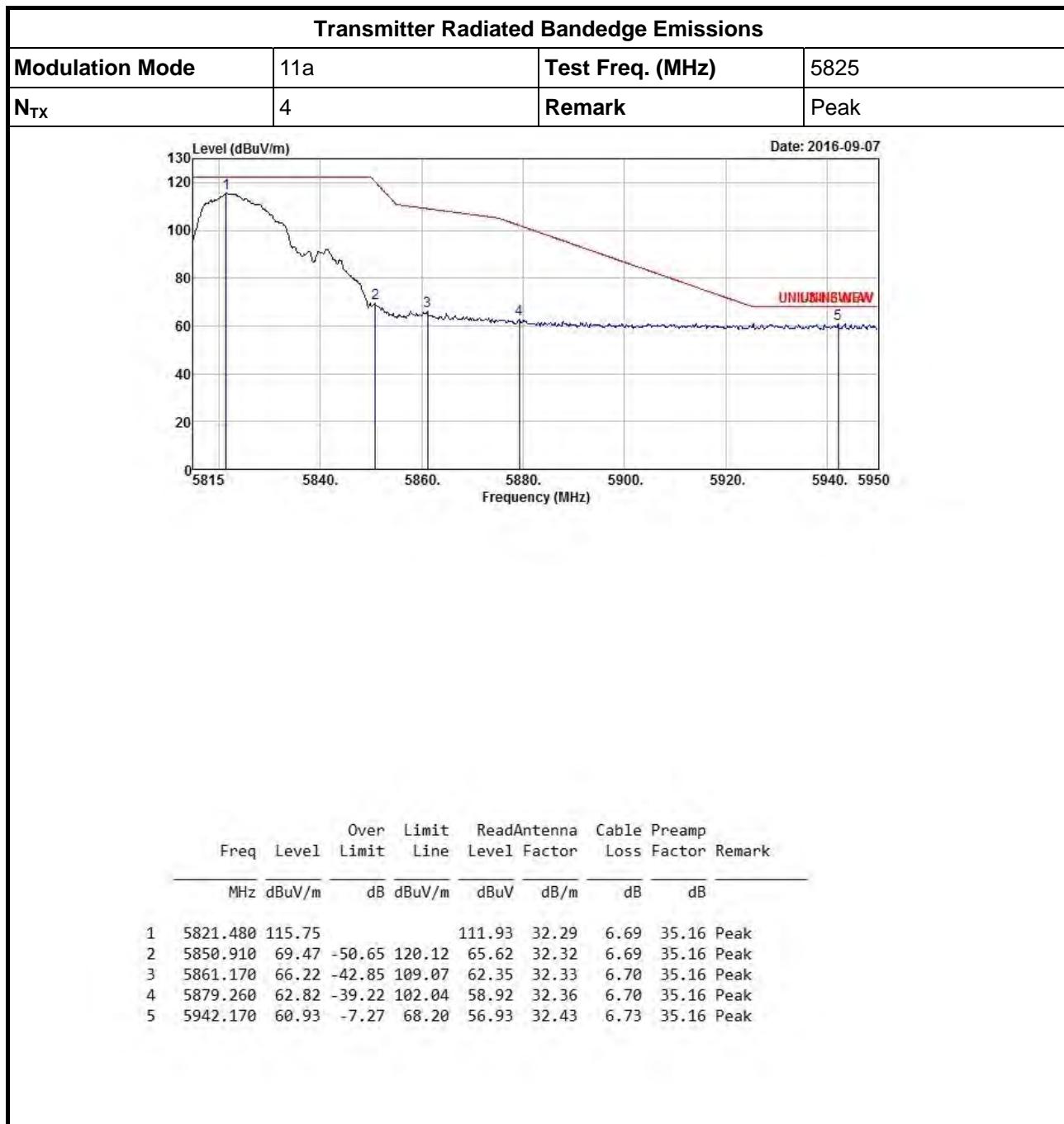
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

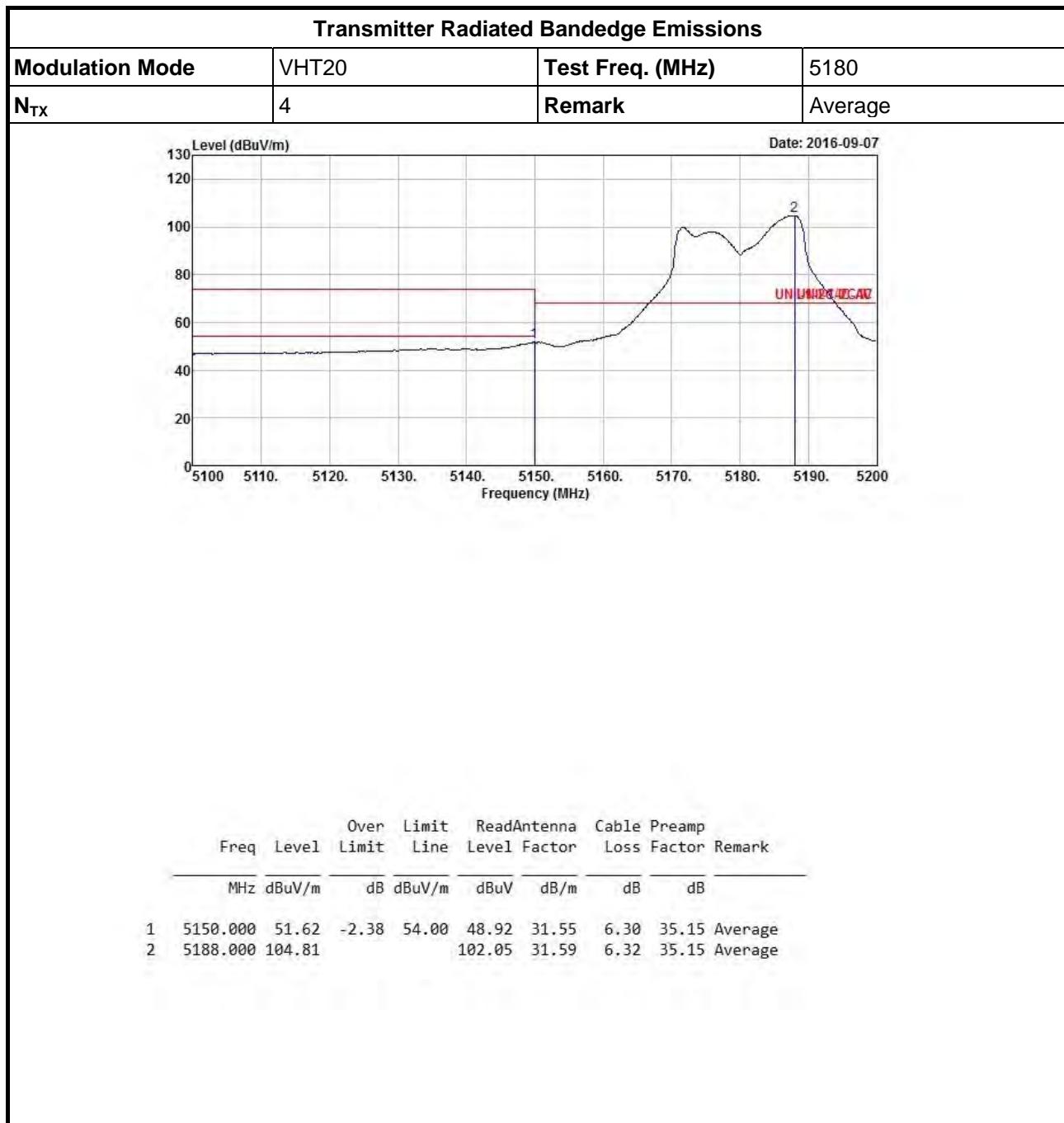
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

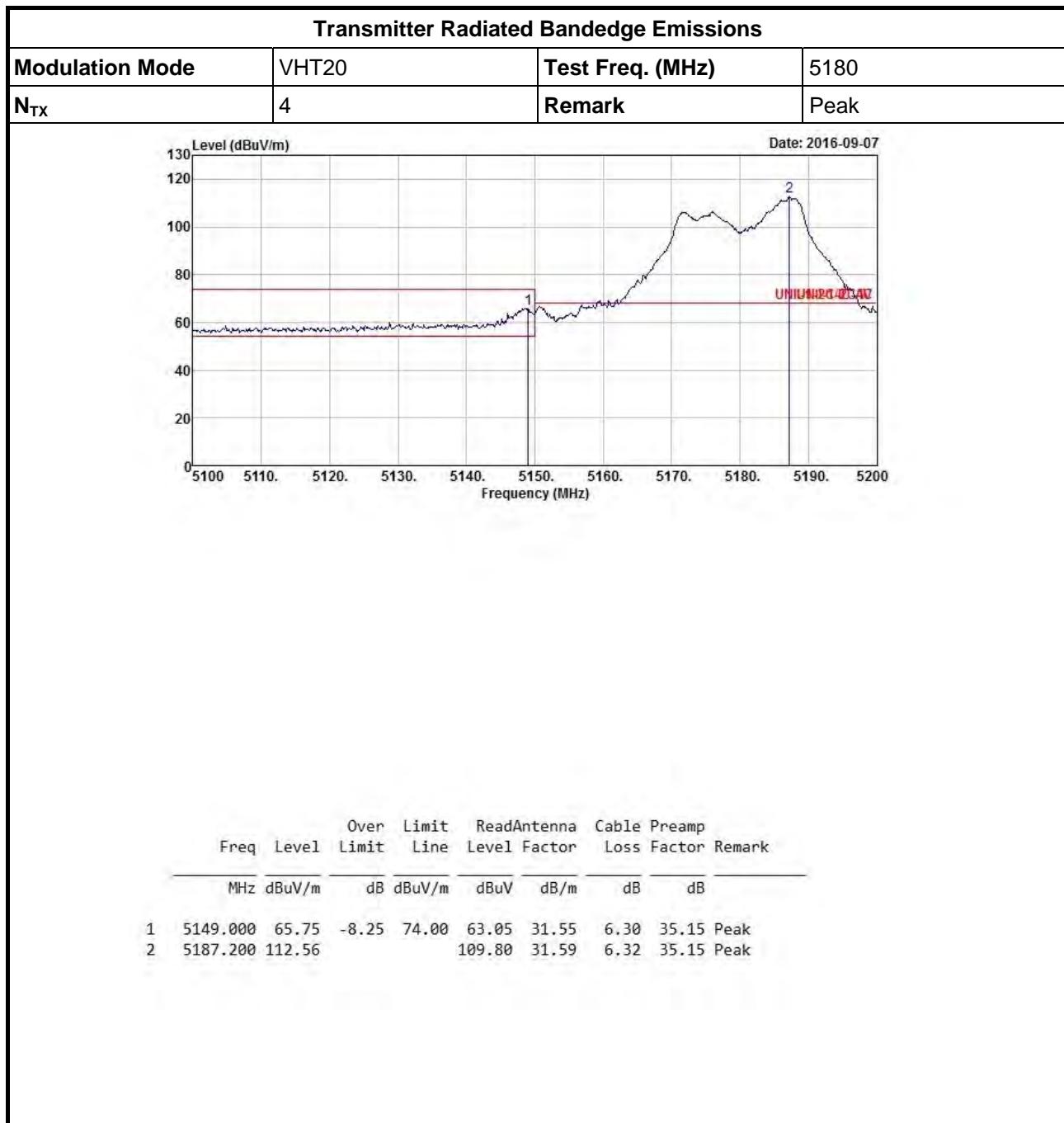
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

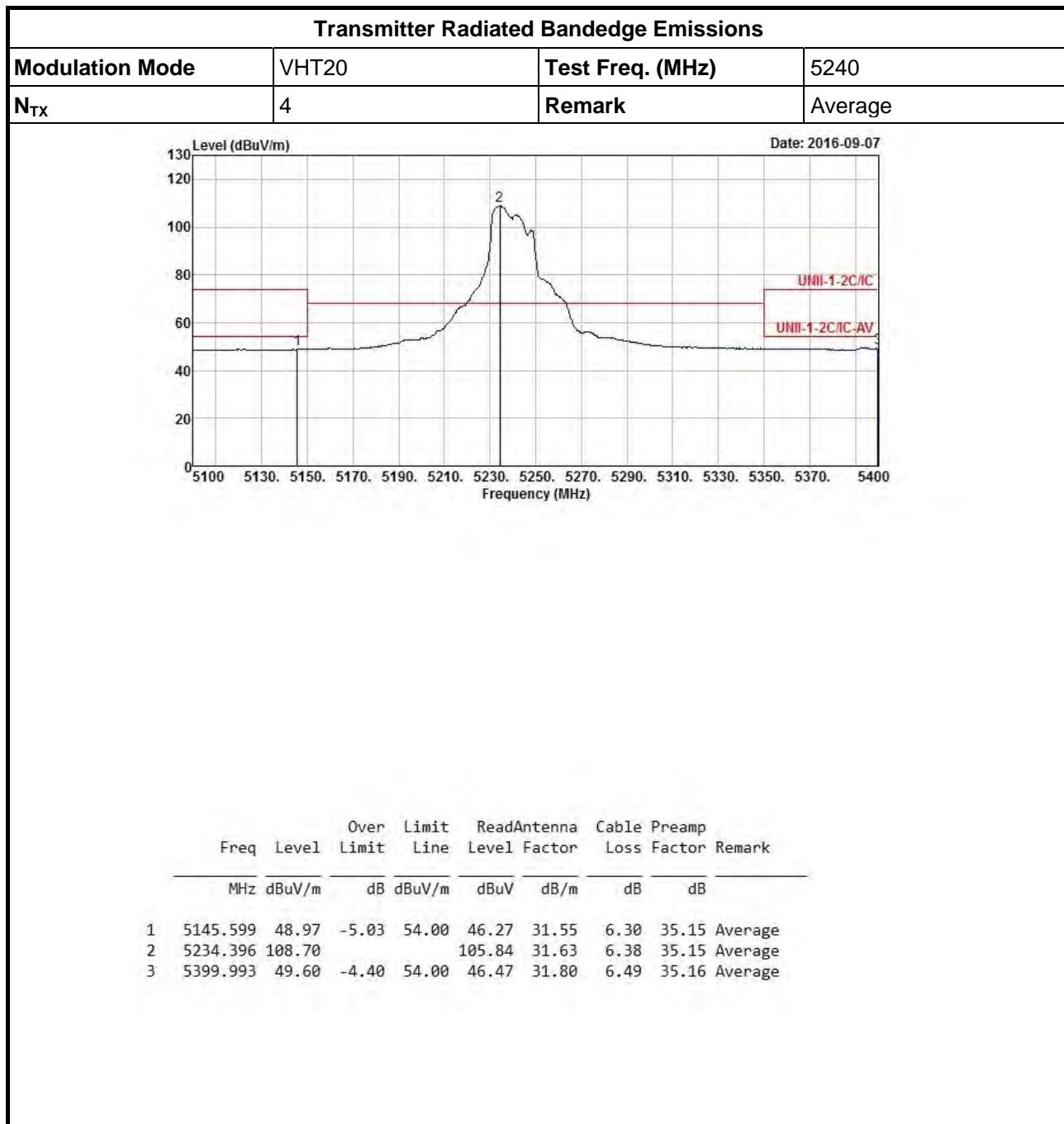
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

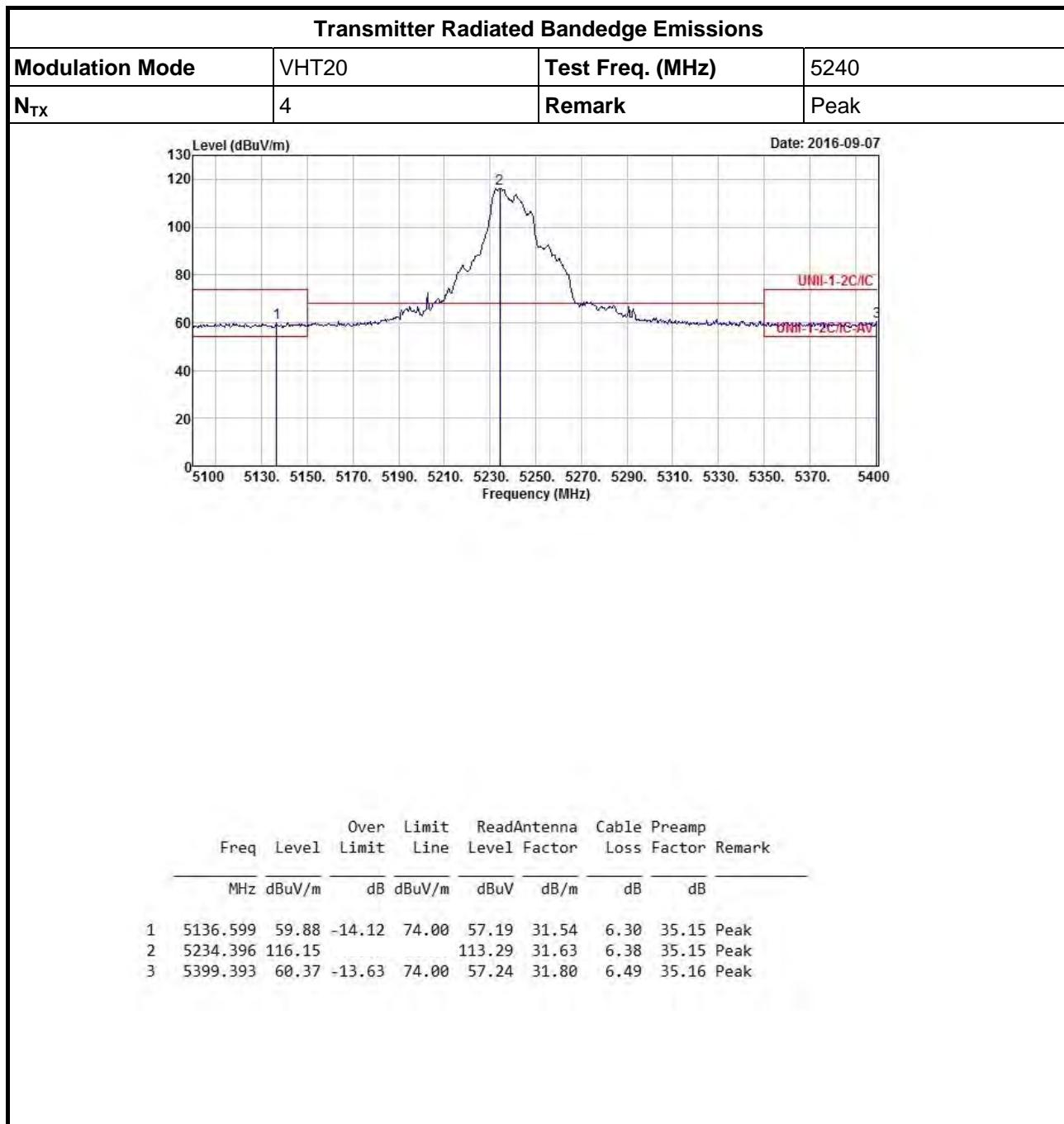
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

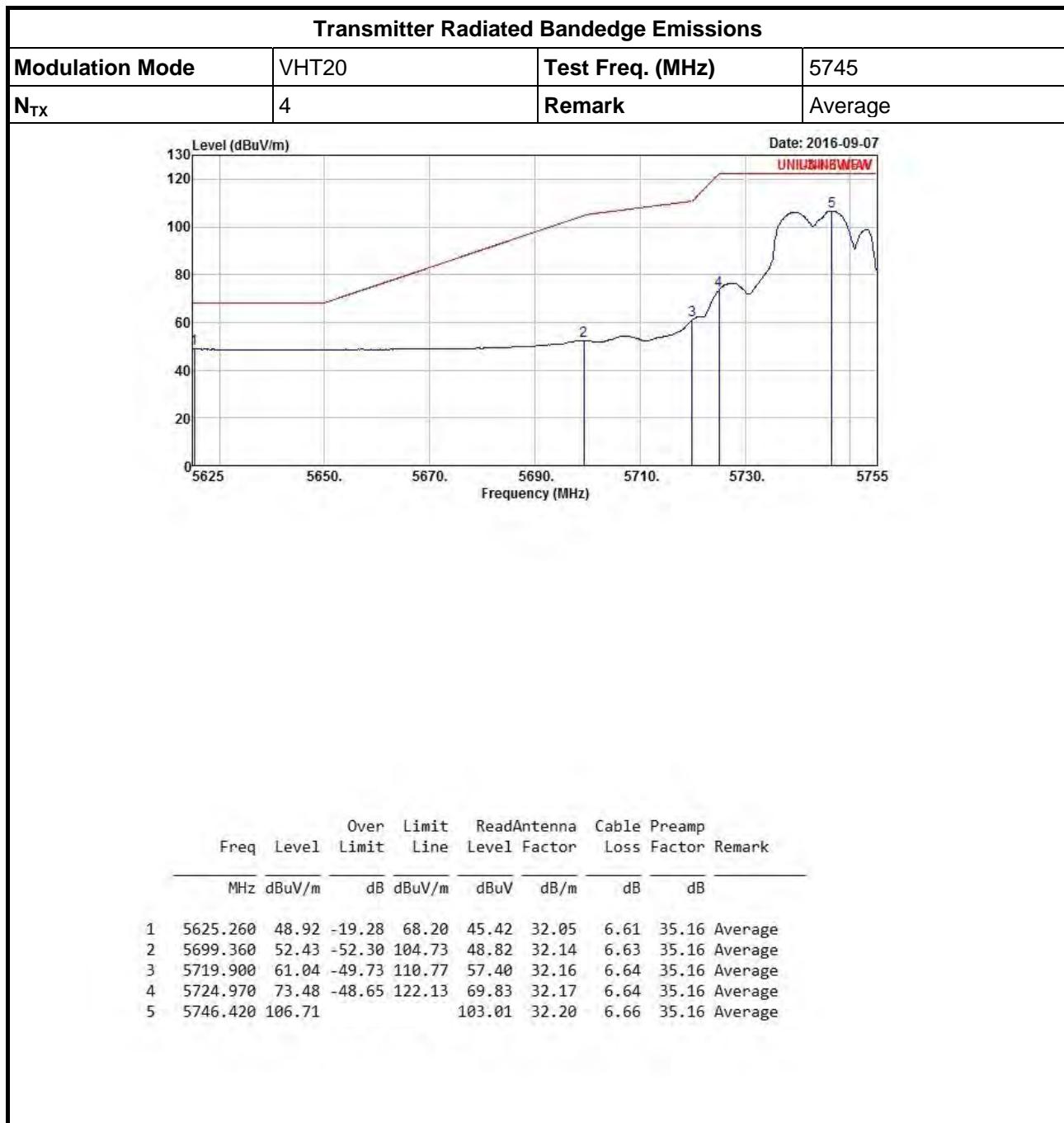
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

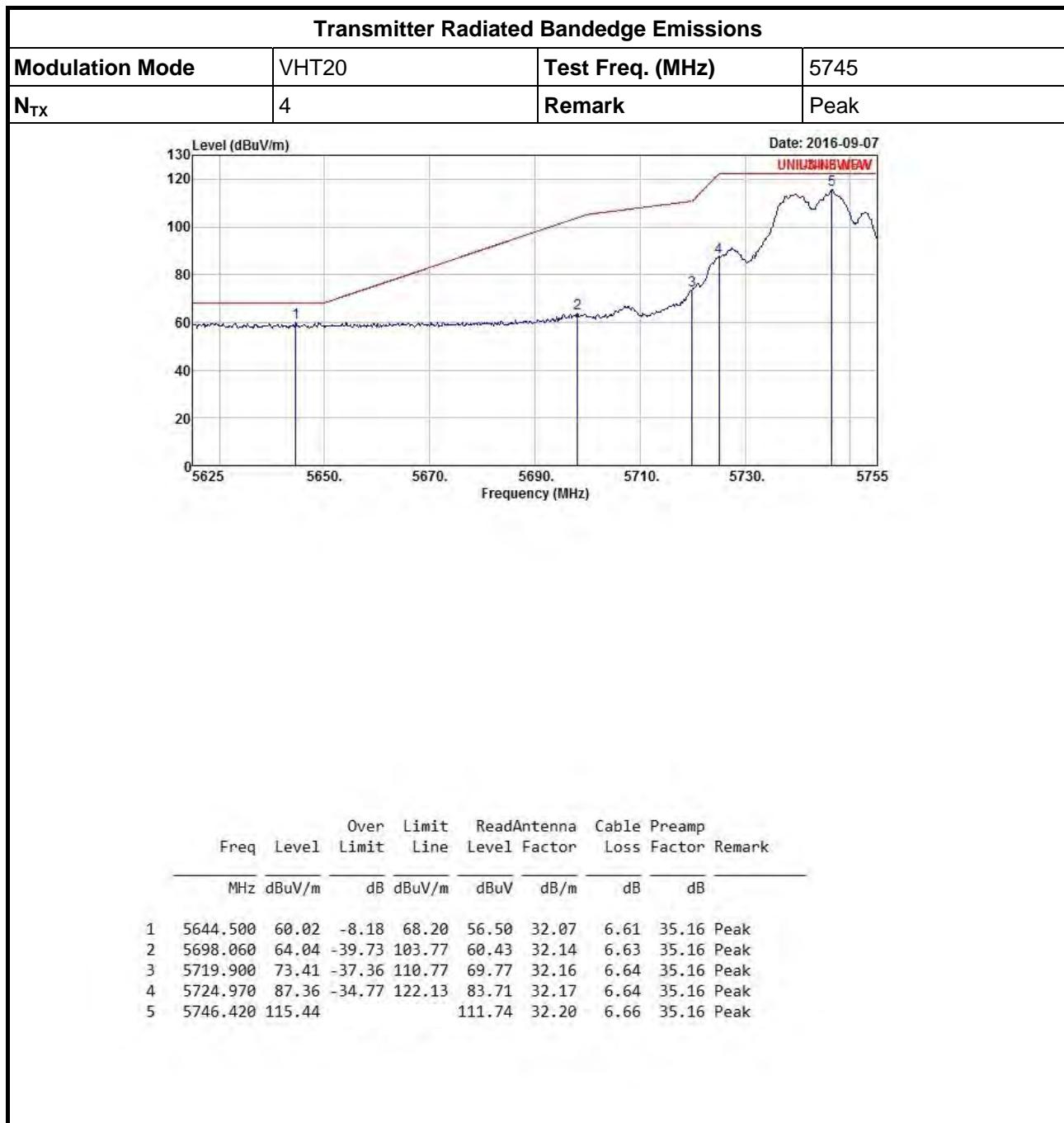
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

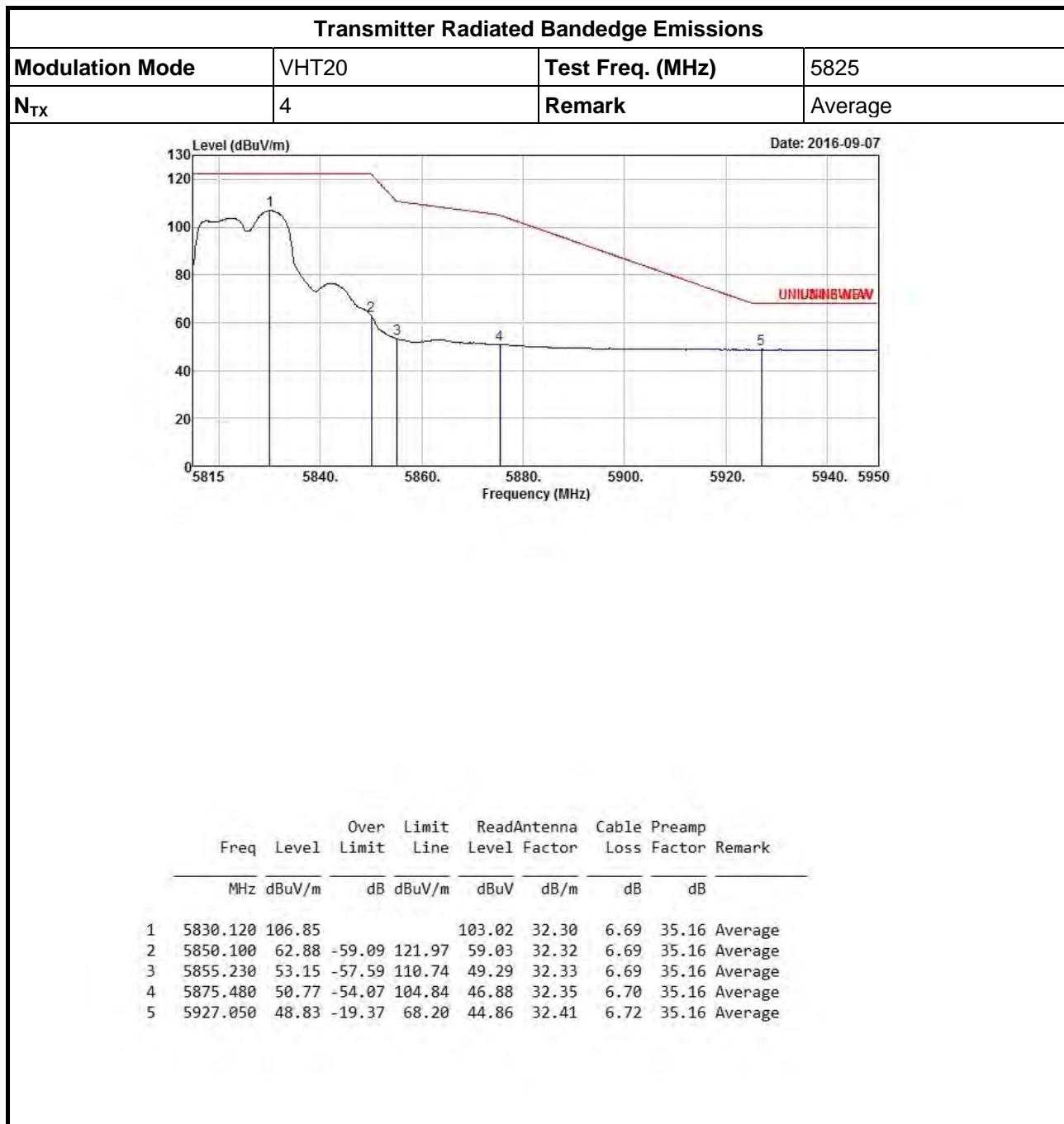
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

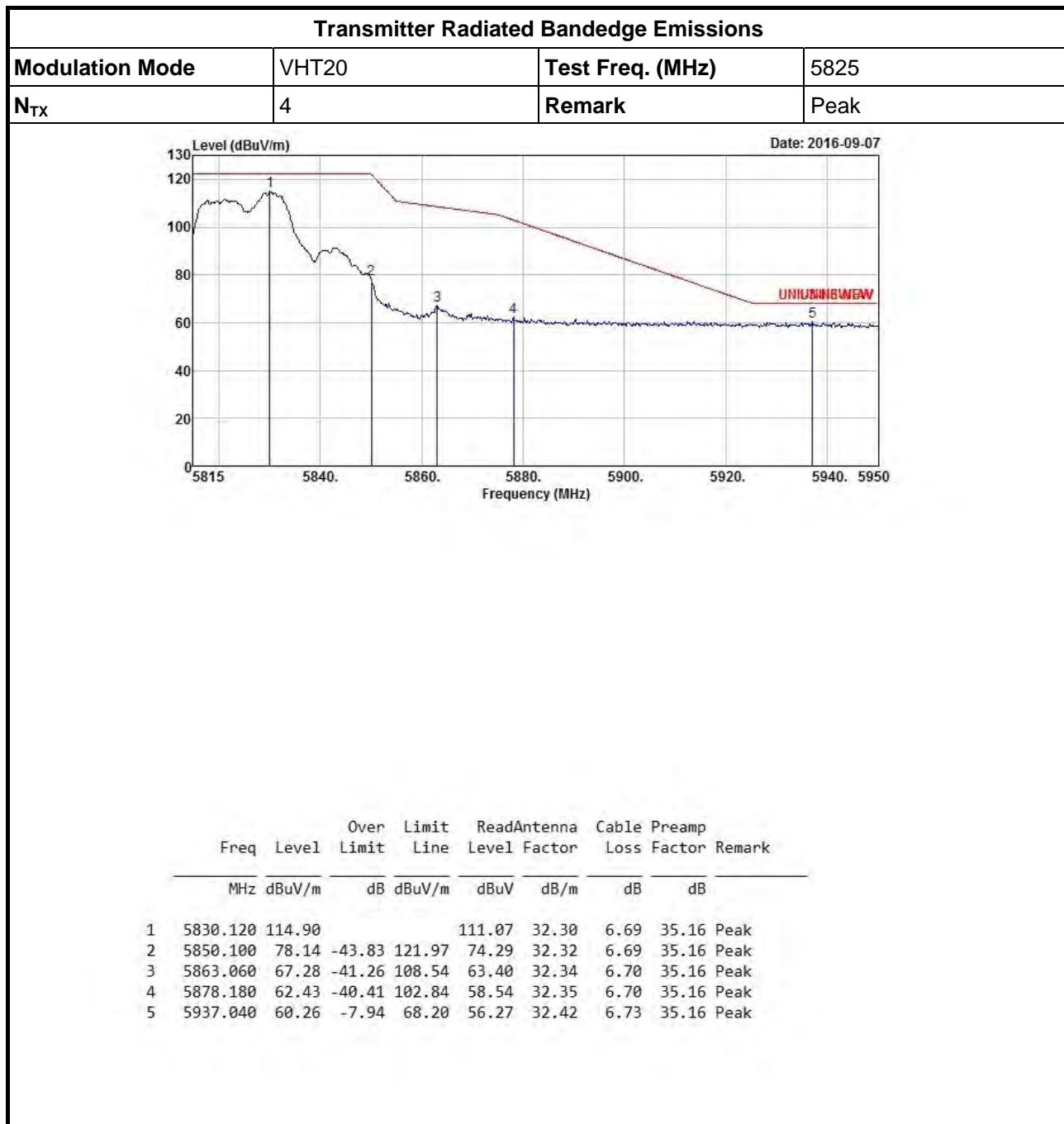
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

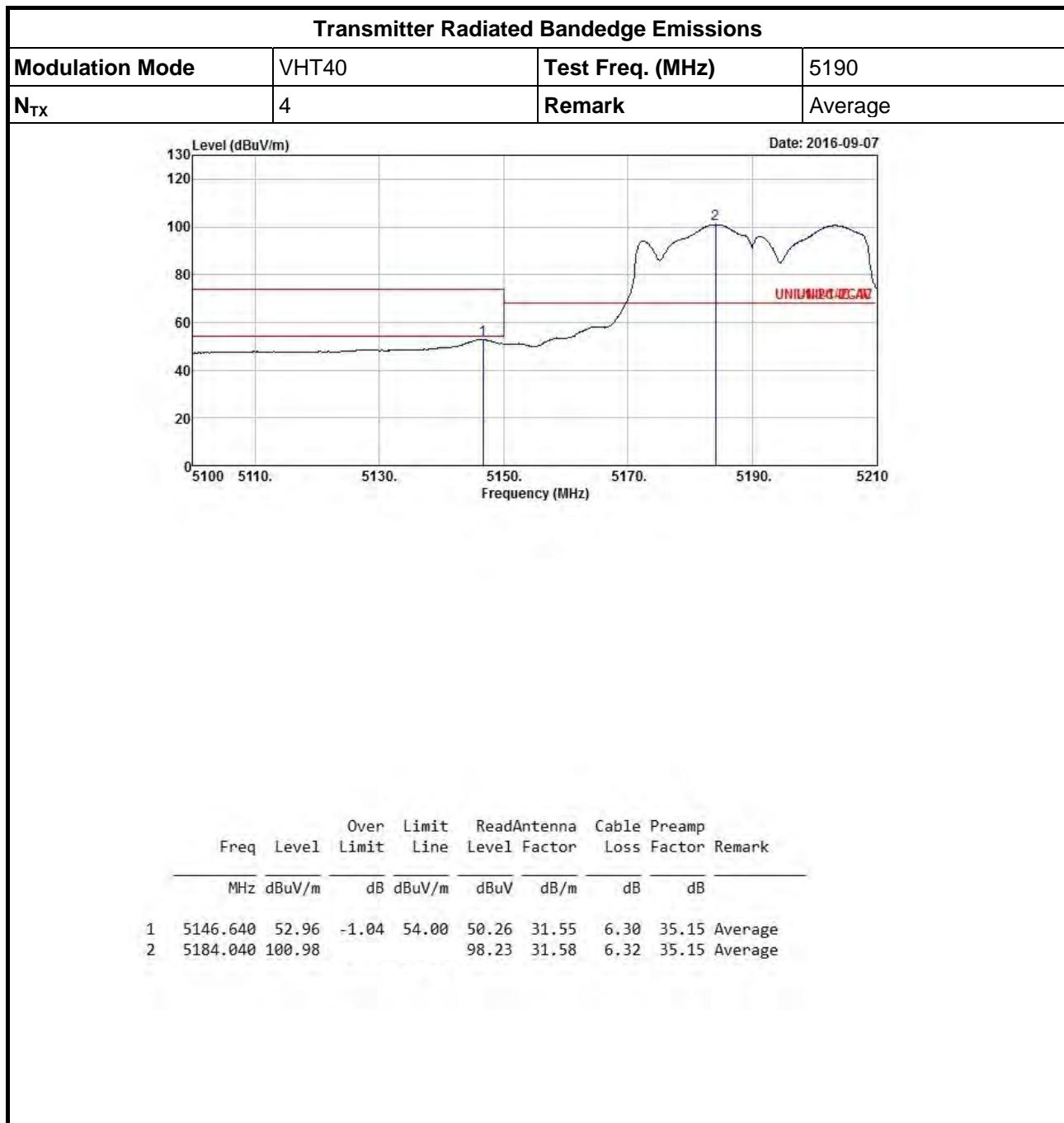
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

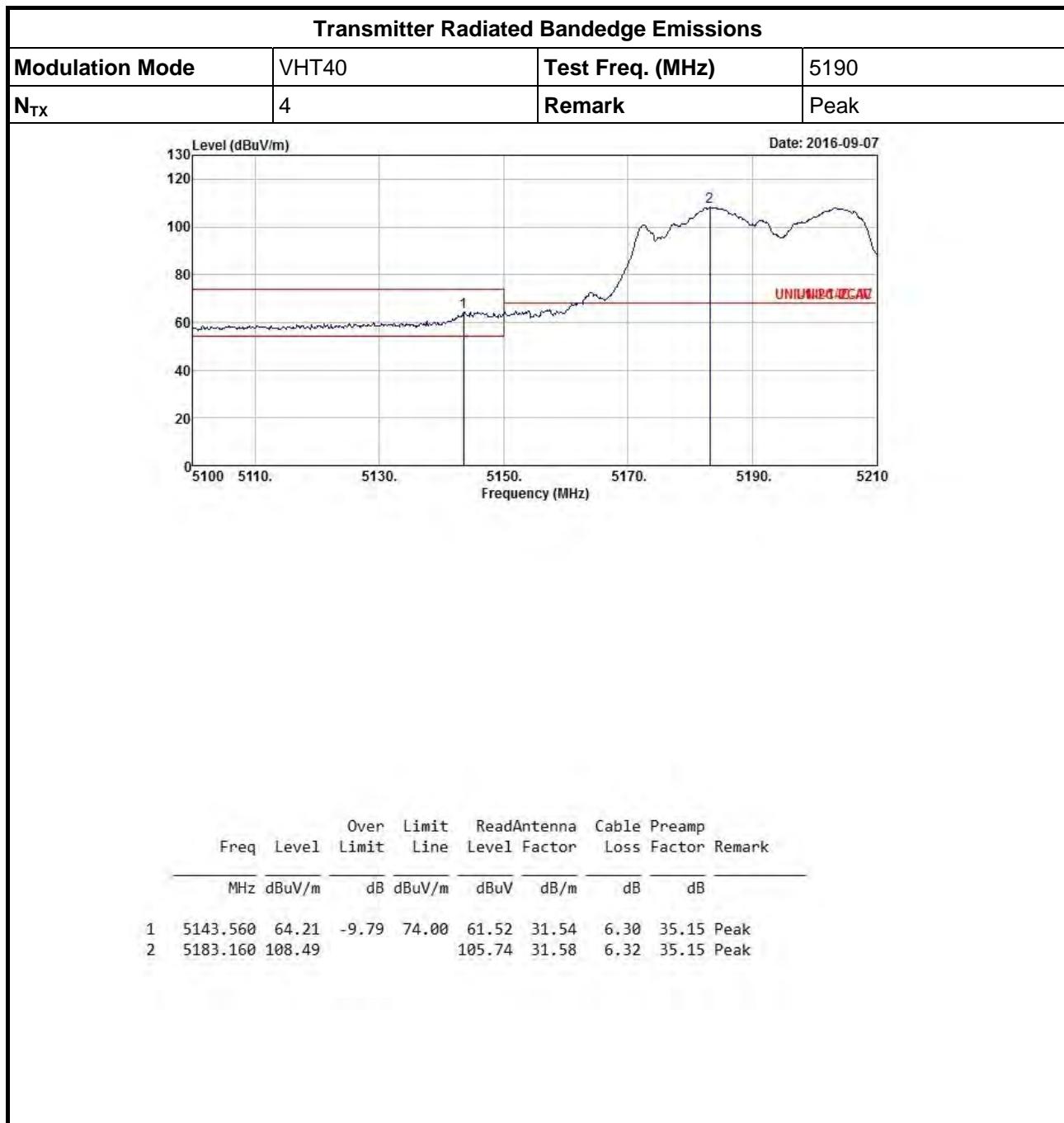
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

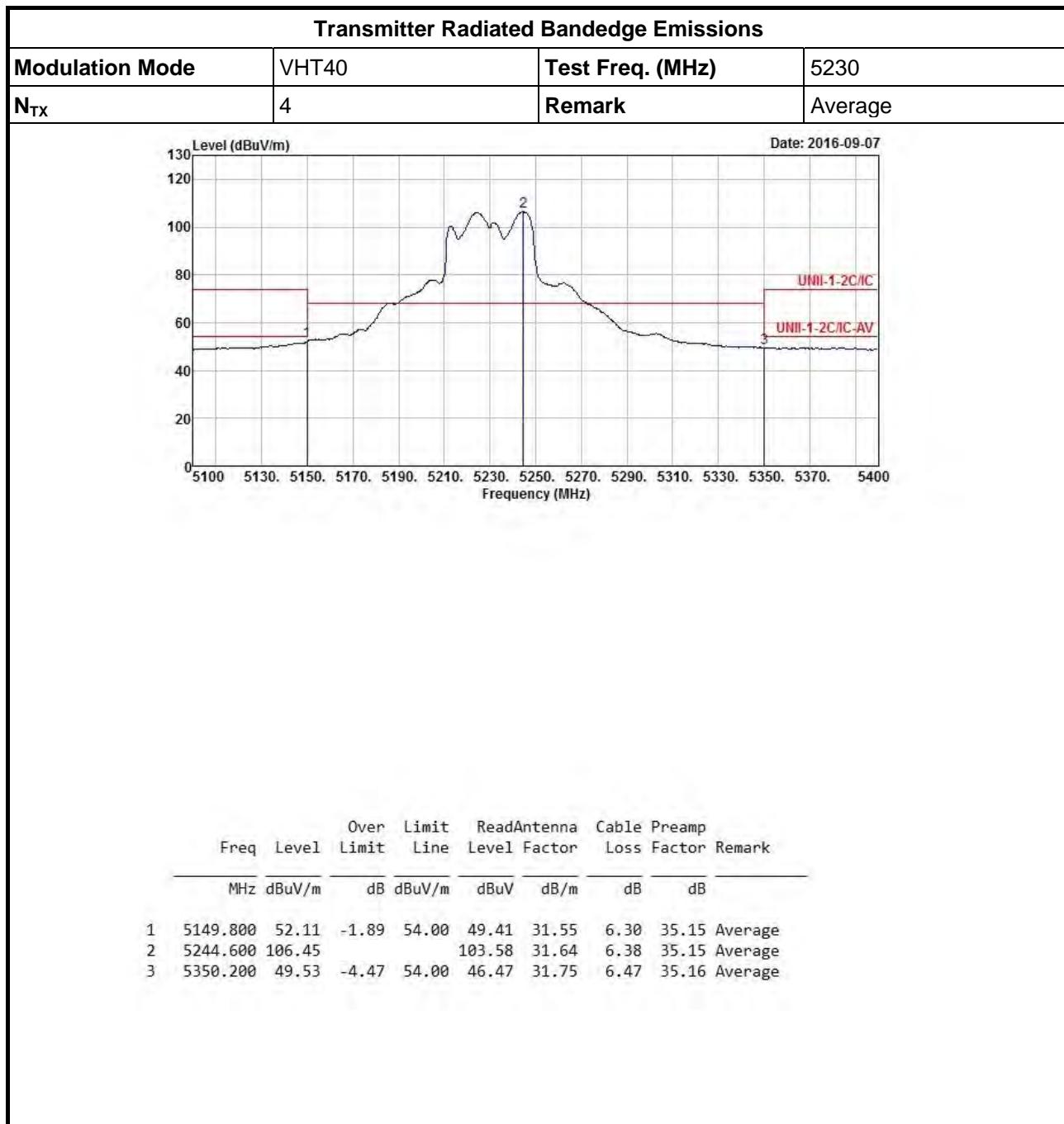
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

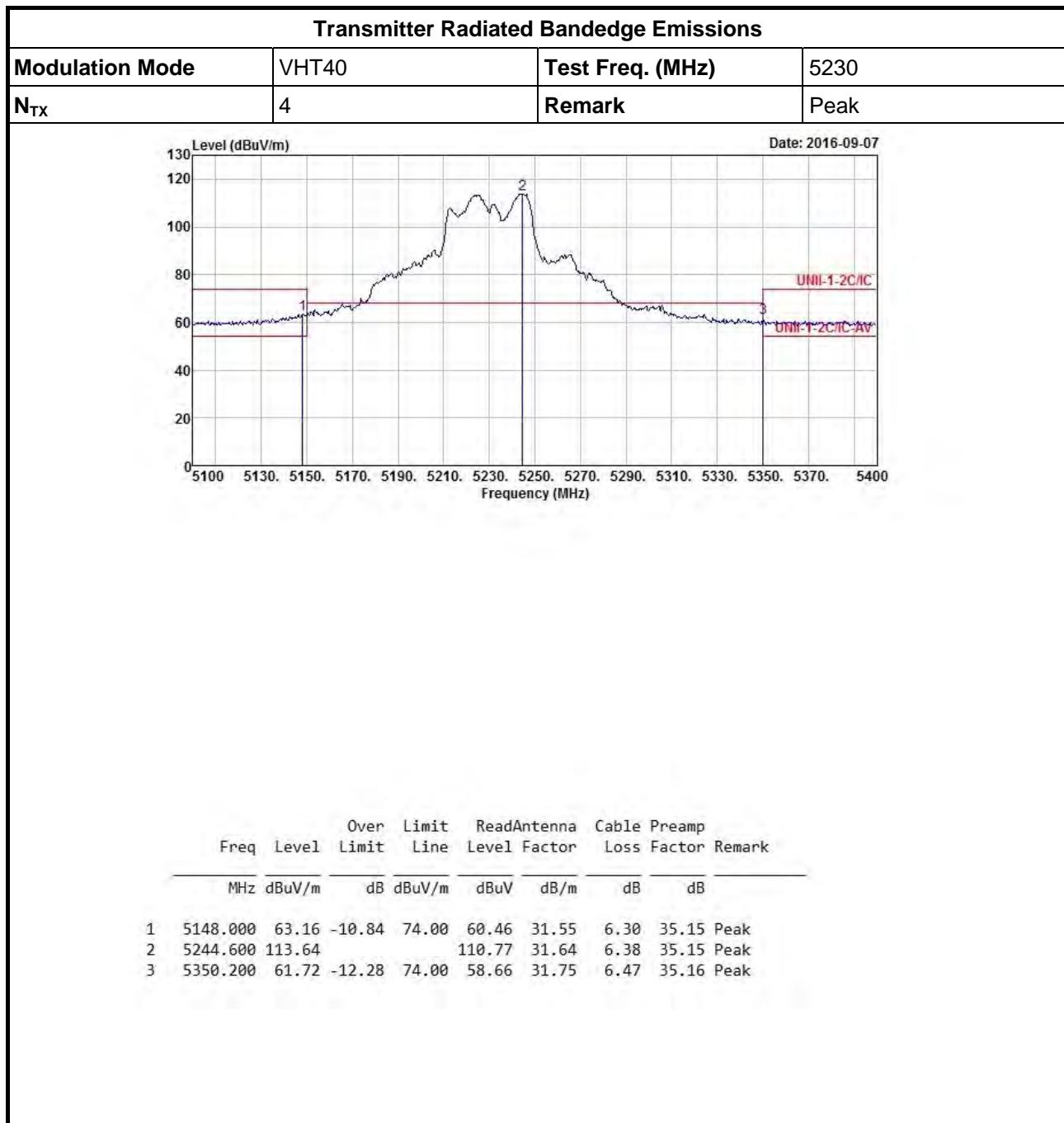
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

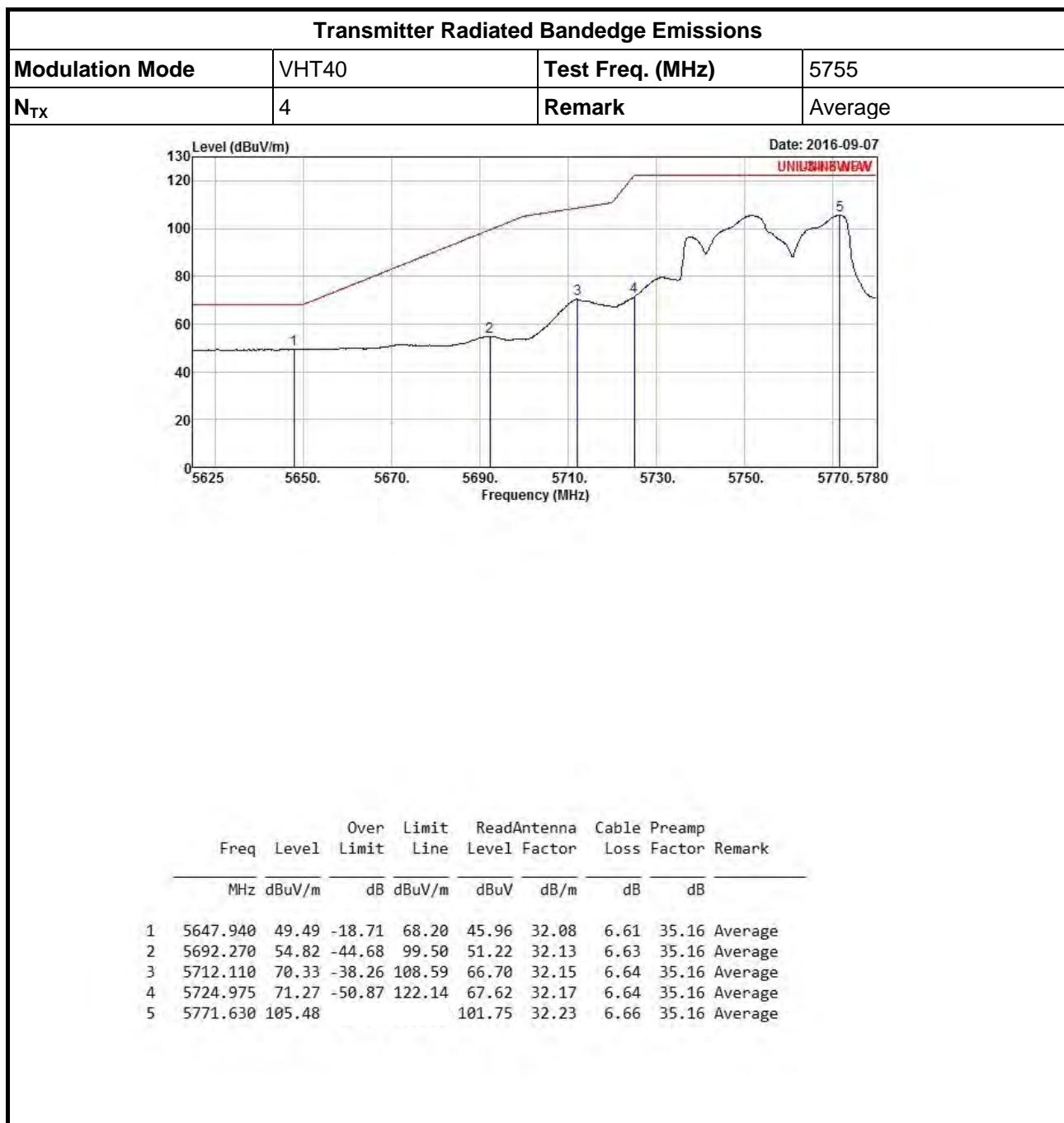
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

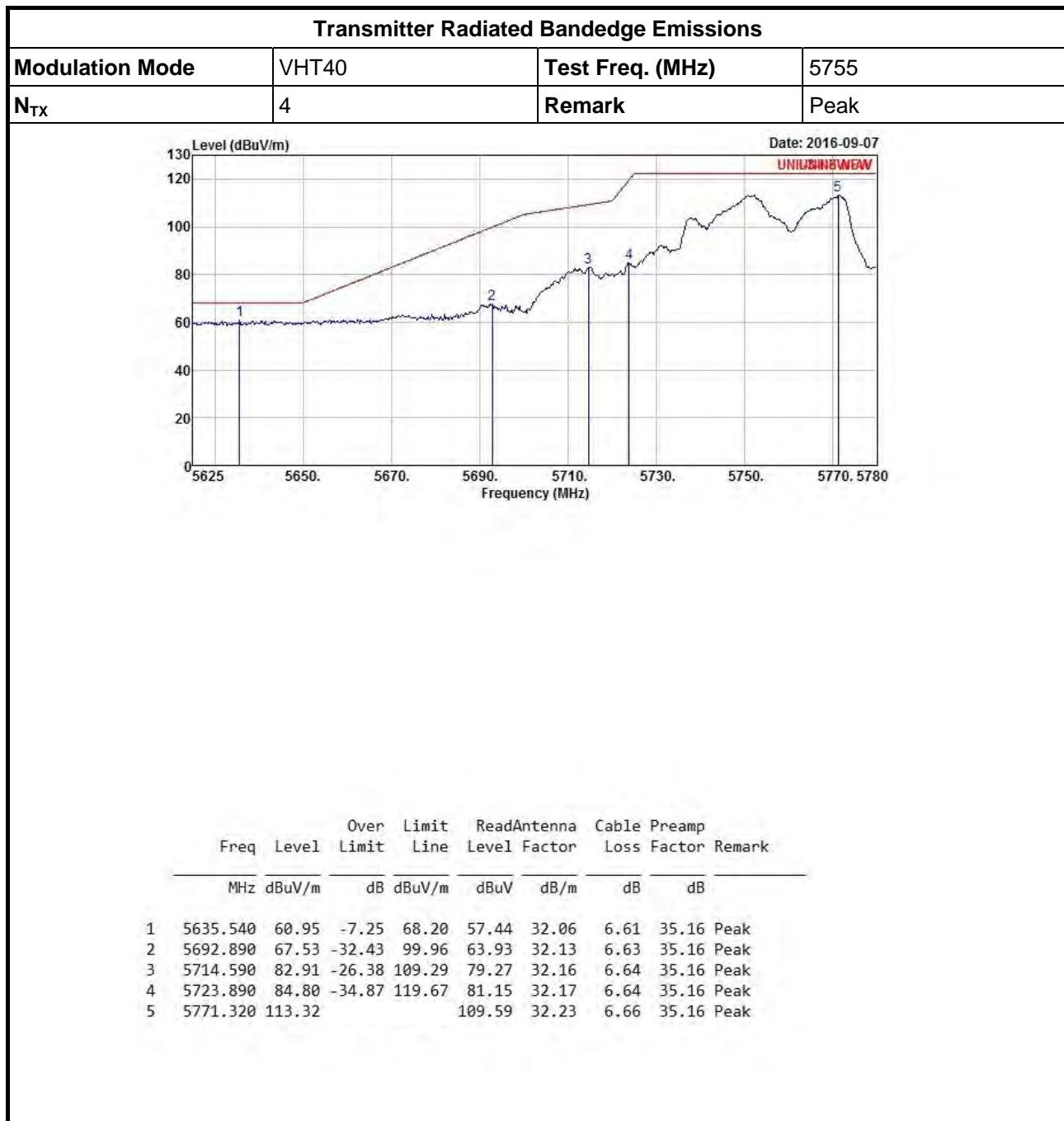
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

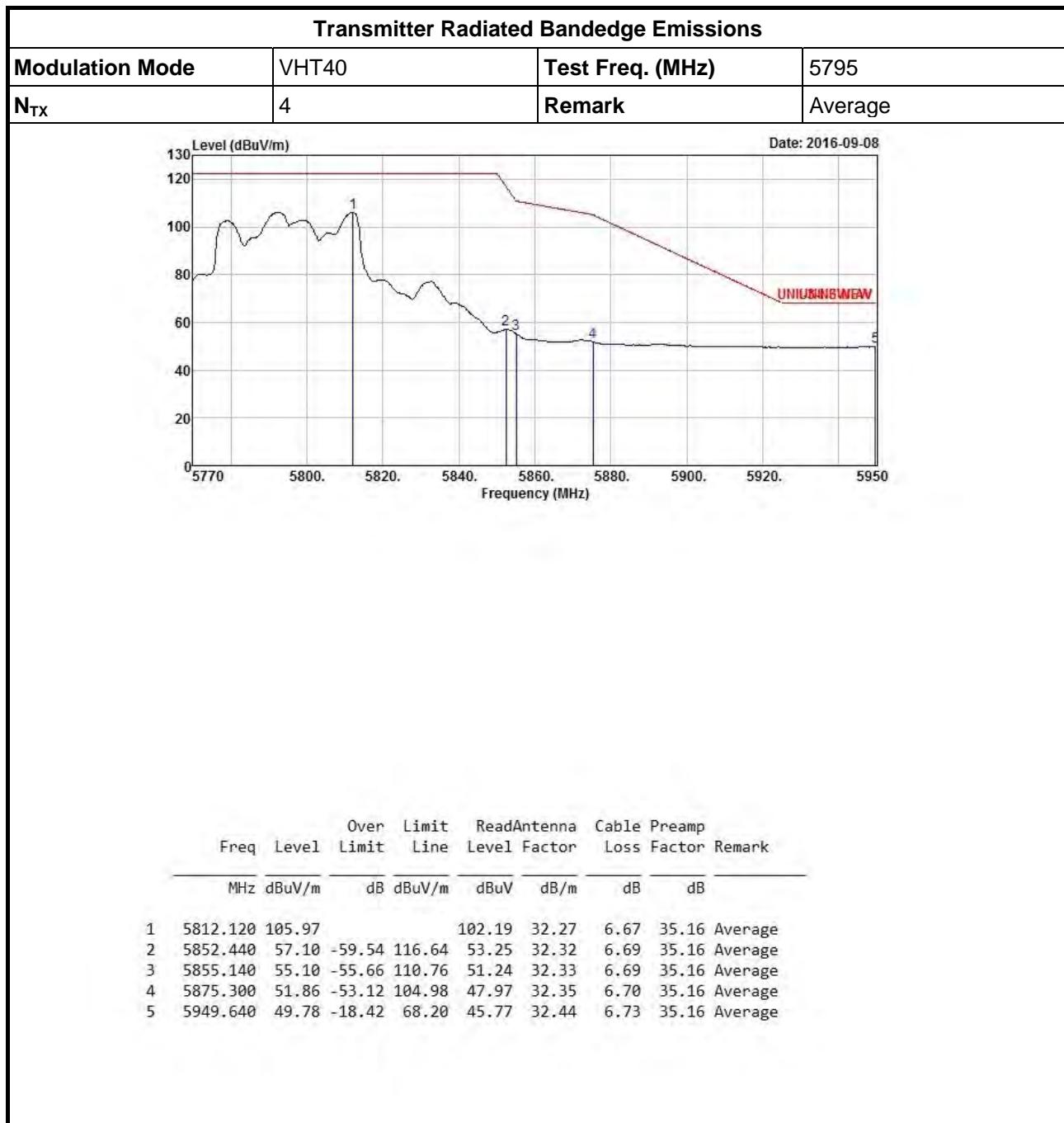
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

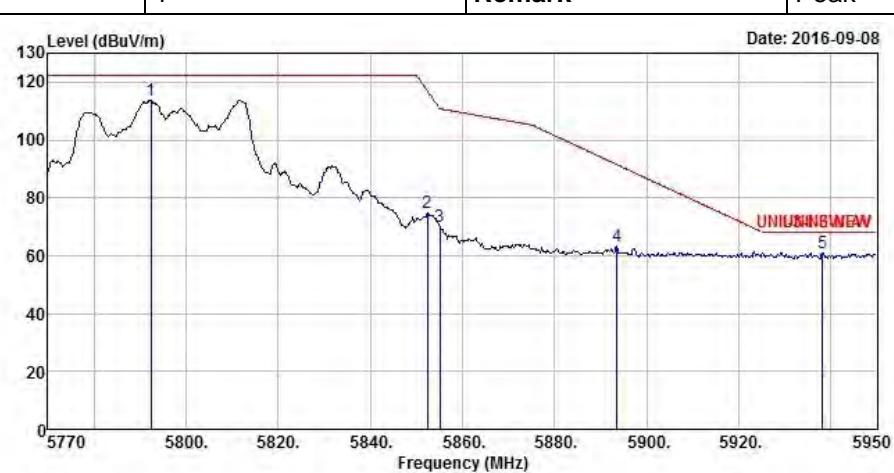
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

Appendix D

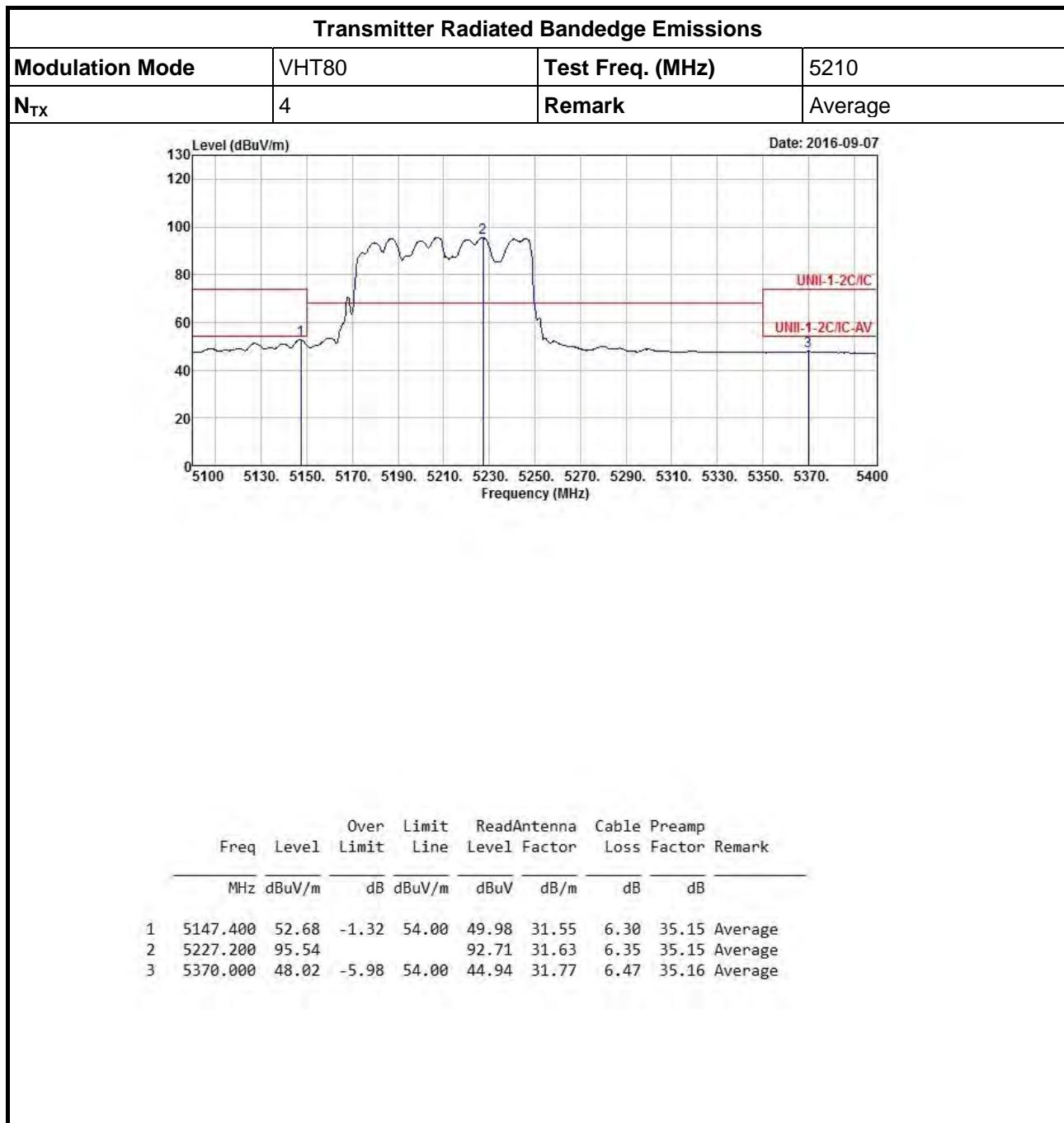


| Freq | Level | Over Limit | | ReadAntenna | | Cable Loss | Preamp Factor | Remark |
|--------|--------|------------|--------|-------------|--------|------------|---------------|--------|
| | | Limit | Line | Level | Factor | | | |
| MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 92.320 | 113.90 | | | 110.14 | 32.25 | 6.67 | 35.16 | Peak |
| 92.440 | 74.89 | -41.75 | 116.64 | 71.04 | 32.32 | 6.69 | 35.16 | Peak |
| 95.140 | 69.99 | -40.77 | 110.76 | 66.13 | 32.33 | 6.69 | 35.16 | Peak |
| 93.480 | 63.53 | -27.96 | 91.49 | 59.62 | 32.37 | 6.70 | 35.16 | Peak |
| 98.120 | 61.10 | -7.10 | 68.20 | 57.10 | 32.43 | 6.73 | 35.16 | Peak |



Transmitter Radiated Bandedge Emissions (Non-Beamforming)

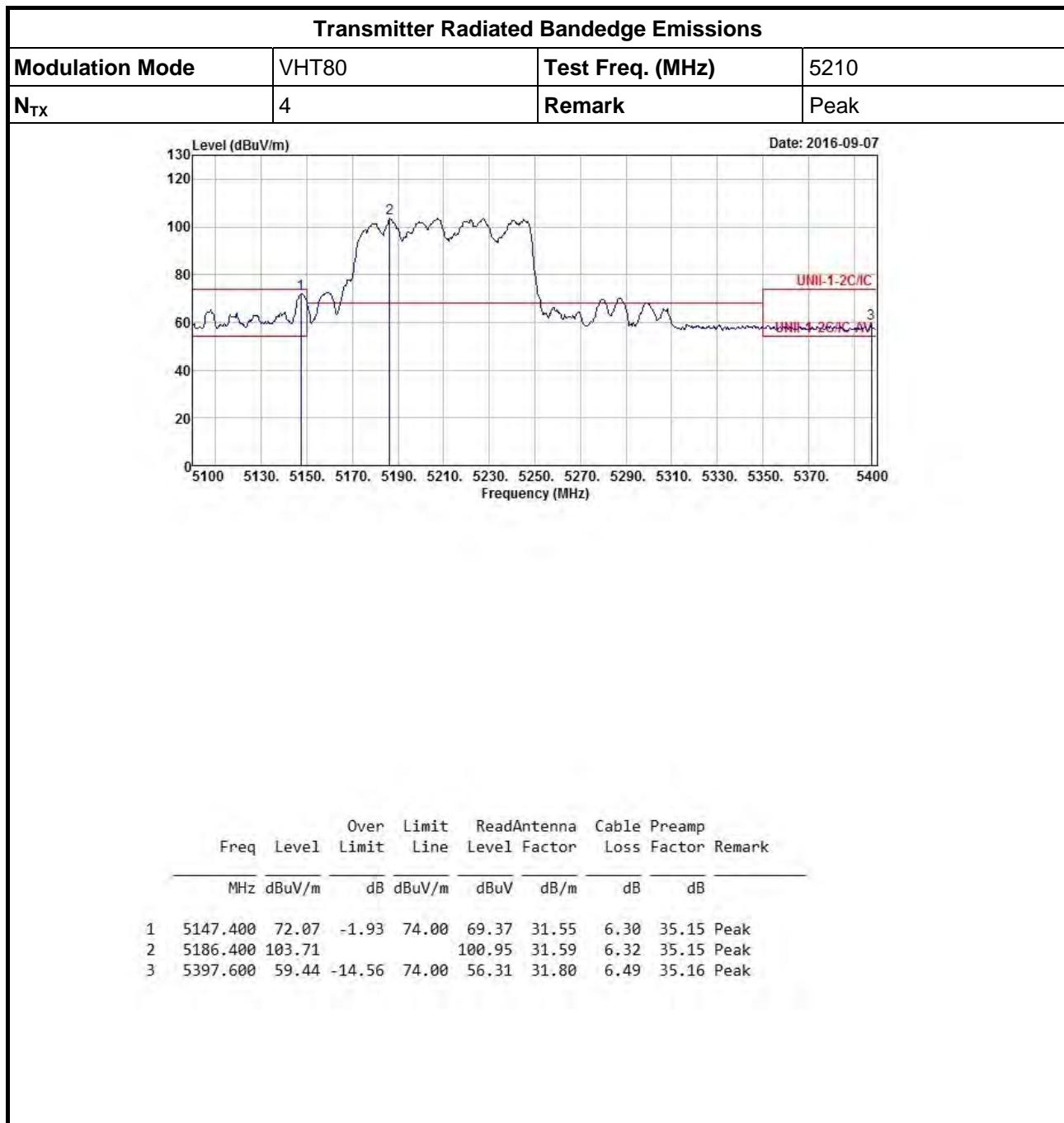
Appendix D





Transmitter Radiated Bandedge Emissions (Non-Beamforming)

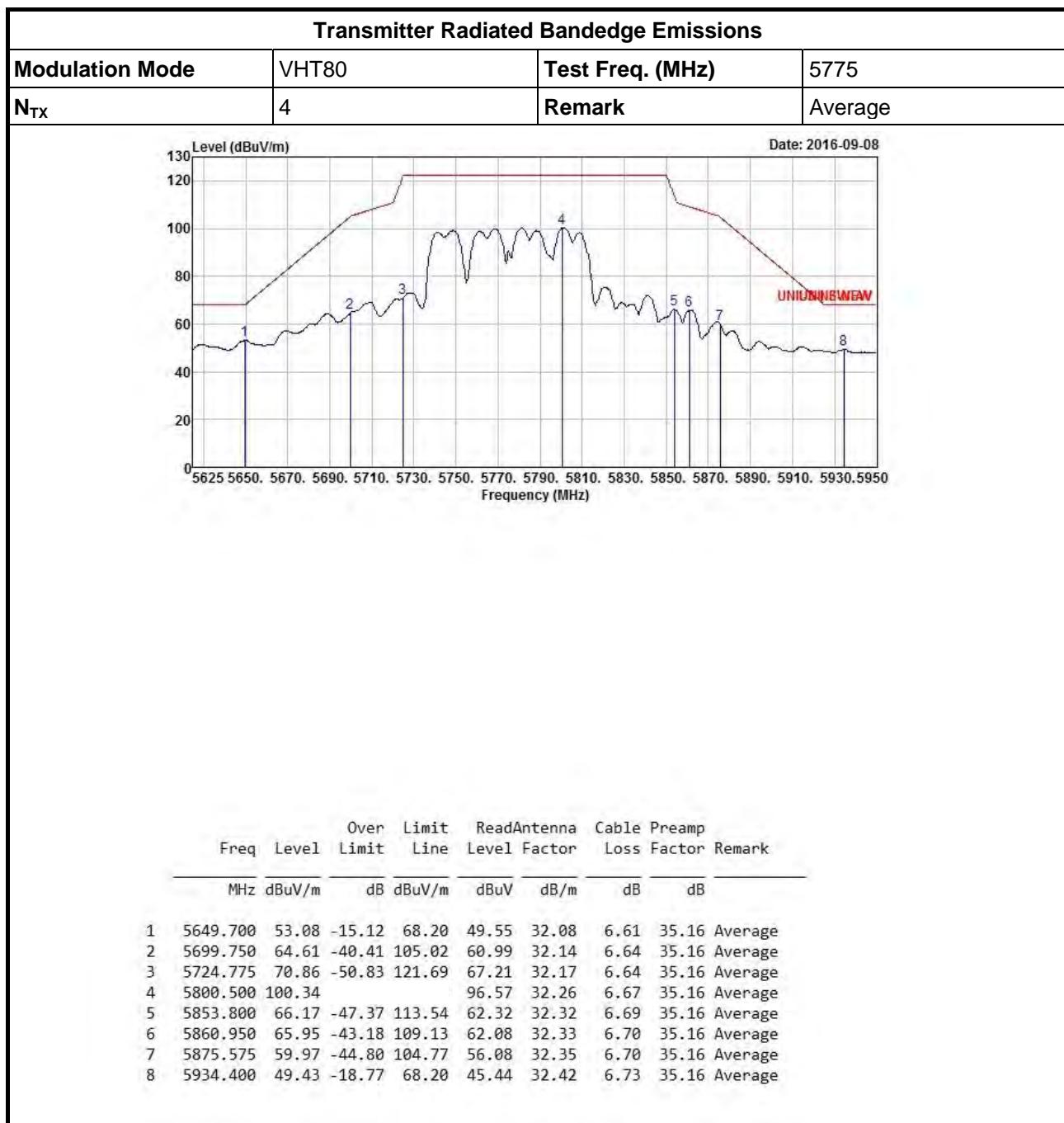
Appendix D





**Transmitter Radiated Bandedge Emissions
(Non-Beamforming)**

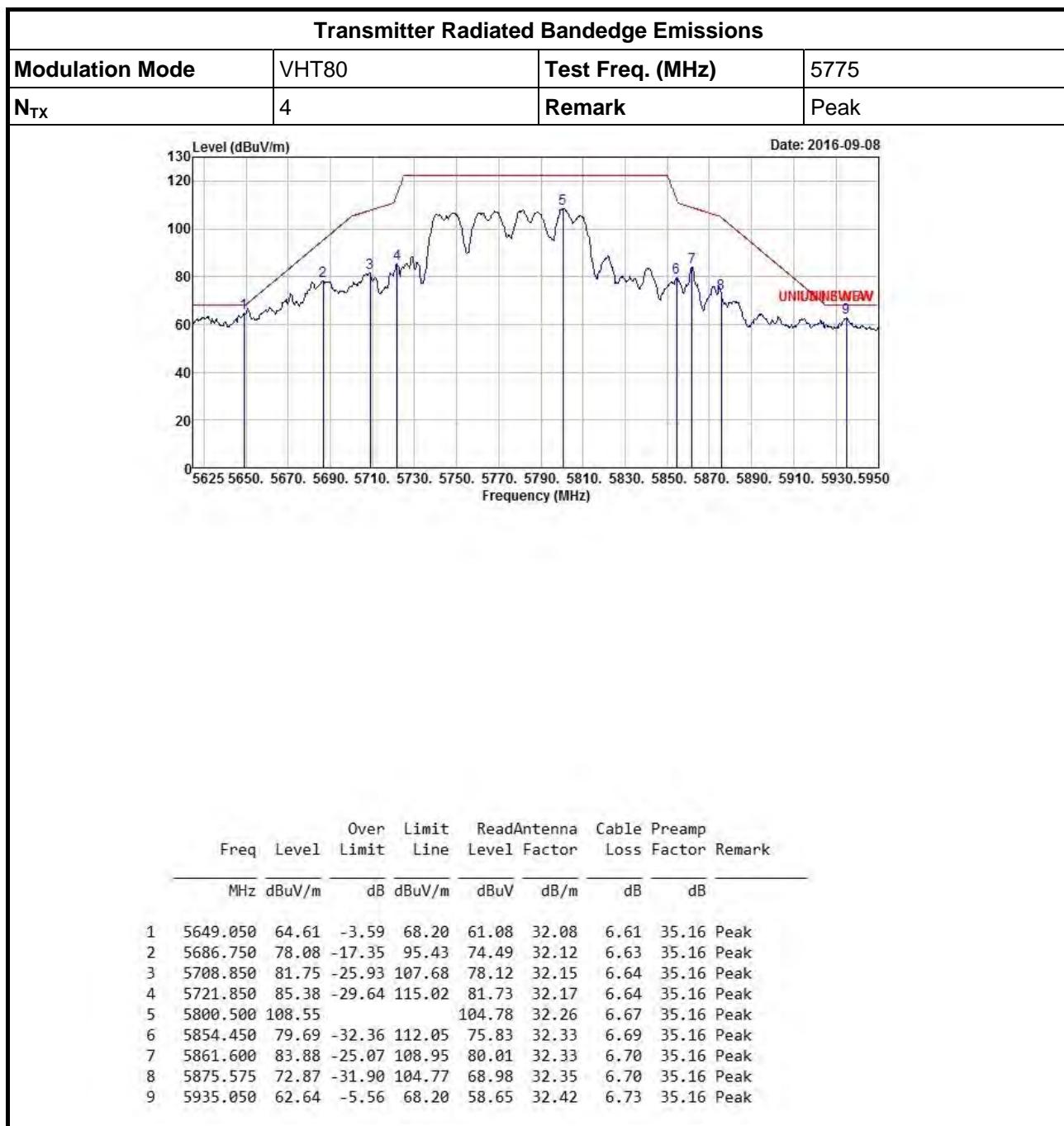
Appendix D





**Transmitter Radiated Bandedge Emissions
(Non-Beamforming)**

Appendix D



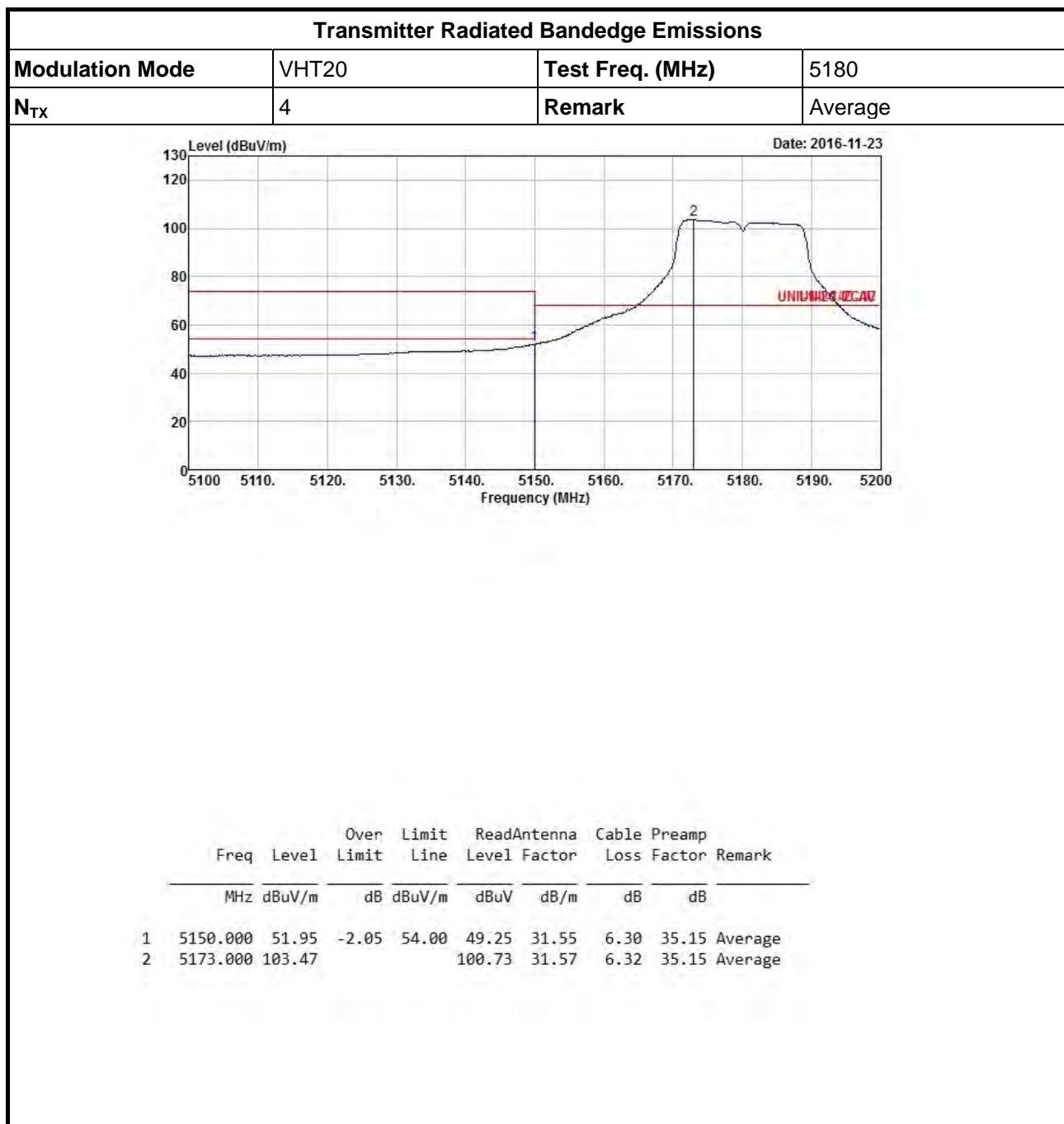
**Transmitter Radiated Bandedge Emissions (with Antenna)**

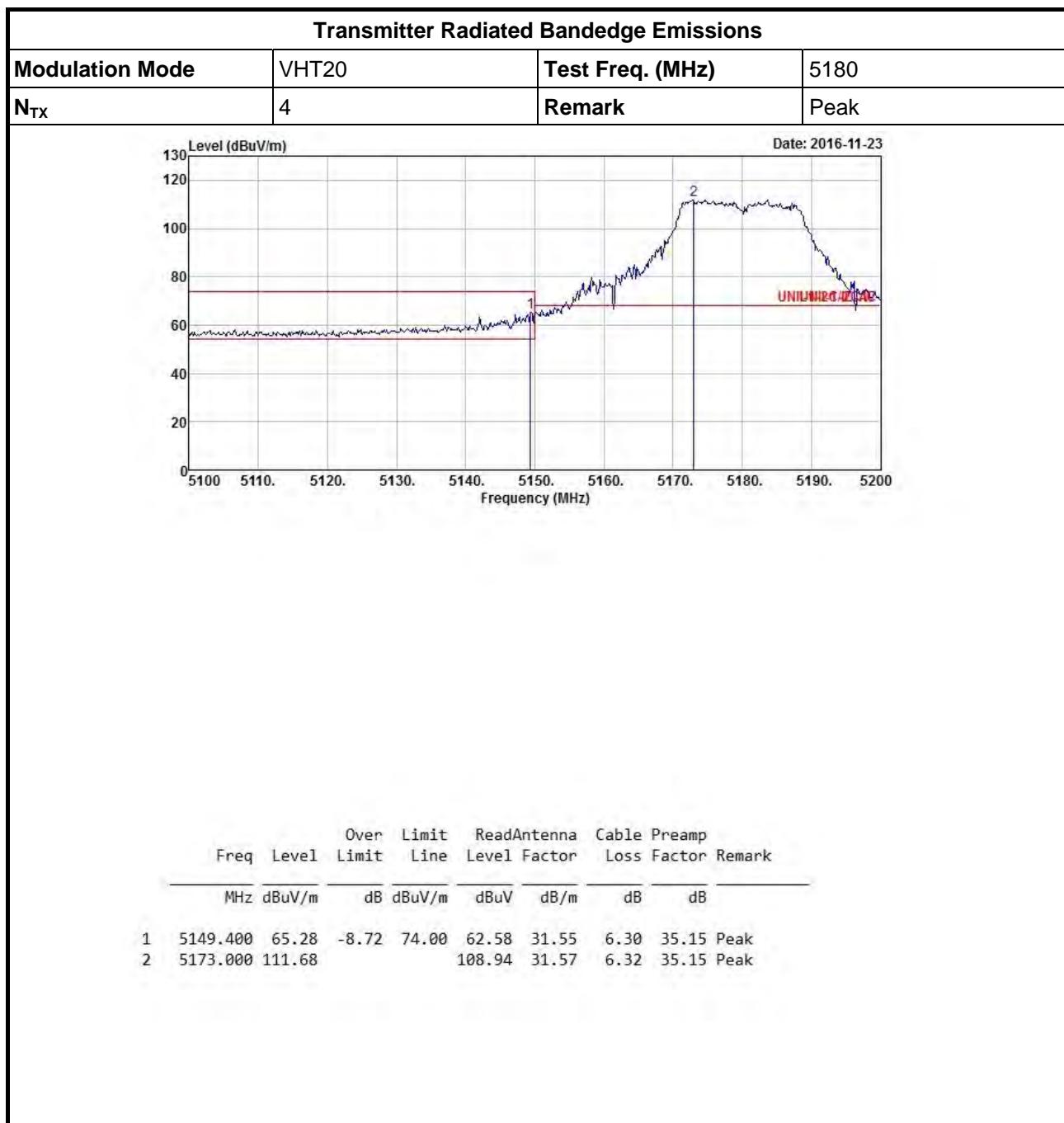
| U-NII 5150-5250MHz Transmitter Radiated Bandedge (with Antenna) | | | | | | | | | | |
|---|-----------------|-------------|----------------------|----------------|-------------------|-------------------|----------------|-------------------|-------------------|------|
| Modulation Mode | N _{TX} | Freq. (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. |
| VHT20 (Beamforming) | 4 | 5180 | 3 | 5149.400 | 65.28 | 74 | 5150.000 | 51.95 | 54 | H |
| VHT20 (Beamforming) | 4 | 5240 | 3 | 5128.800 | 57.22 | 74 | 5400.000 | 47.14 | 54 | H |
| VHT40 (Beamforming) | 4 | 5190 | 3 | 5147.080 | 71.09 | 74 | 5149.940 | 52.92 | 54 | H |
| VHT40 (Beamforming) | 4 | 5230 | 3 | 5146.200 | 58.89 | 74 | 5149.800 | 47.54 | 54 | H |
| VHT80 (Beamforming) | 4 | 5210 | 3 | 5144.400 | 68.47 | 74 | 5149.200 | 52.43 | 54 | H |

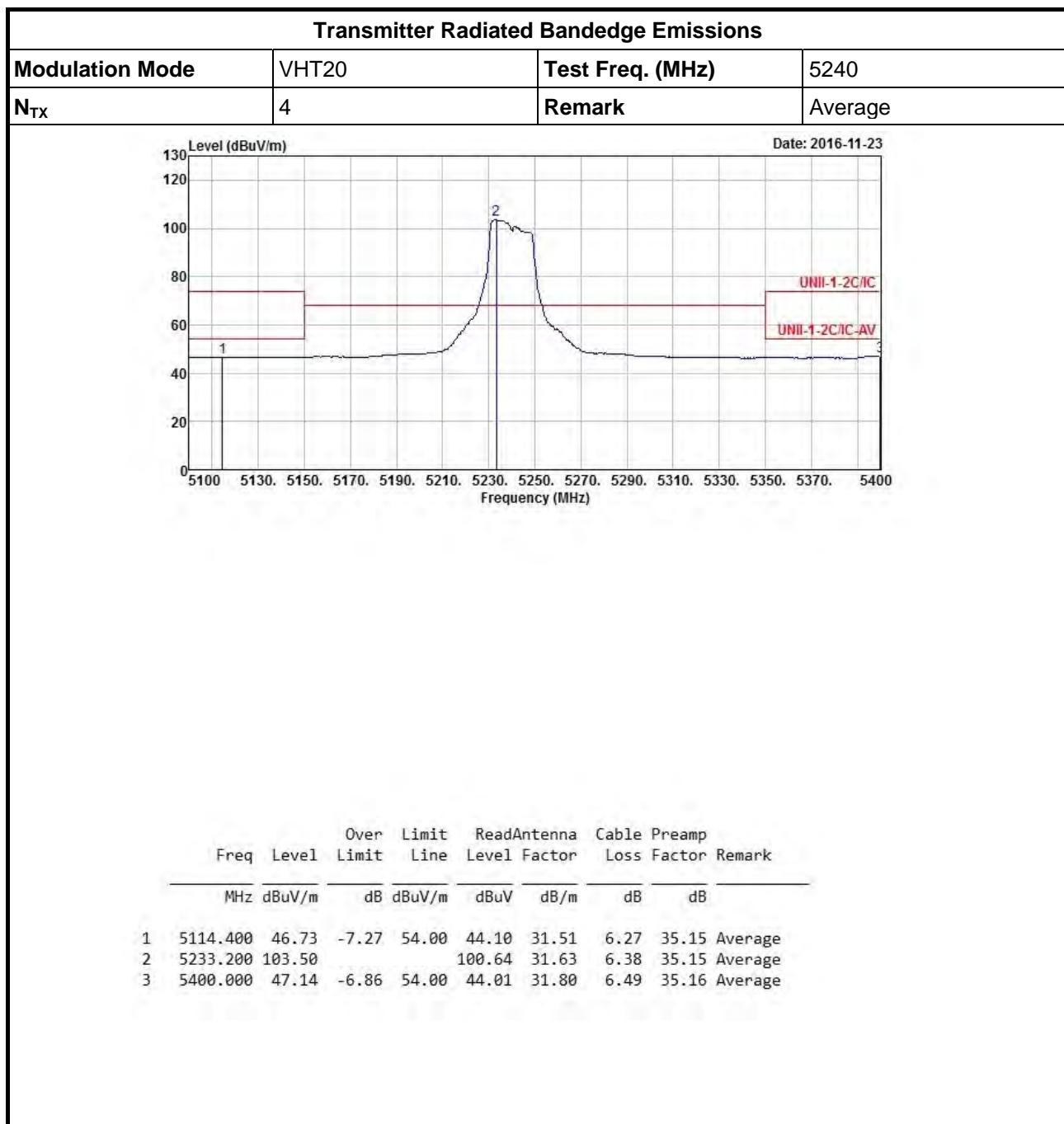
Note 1: Measurement worst emissions of receive antenna polarization.

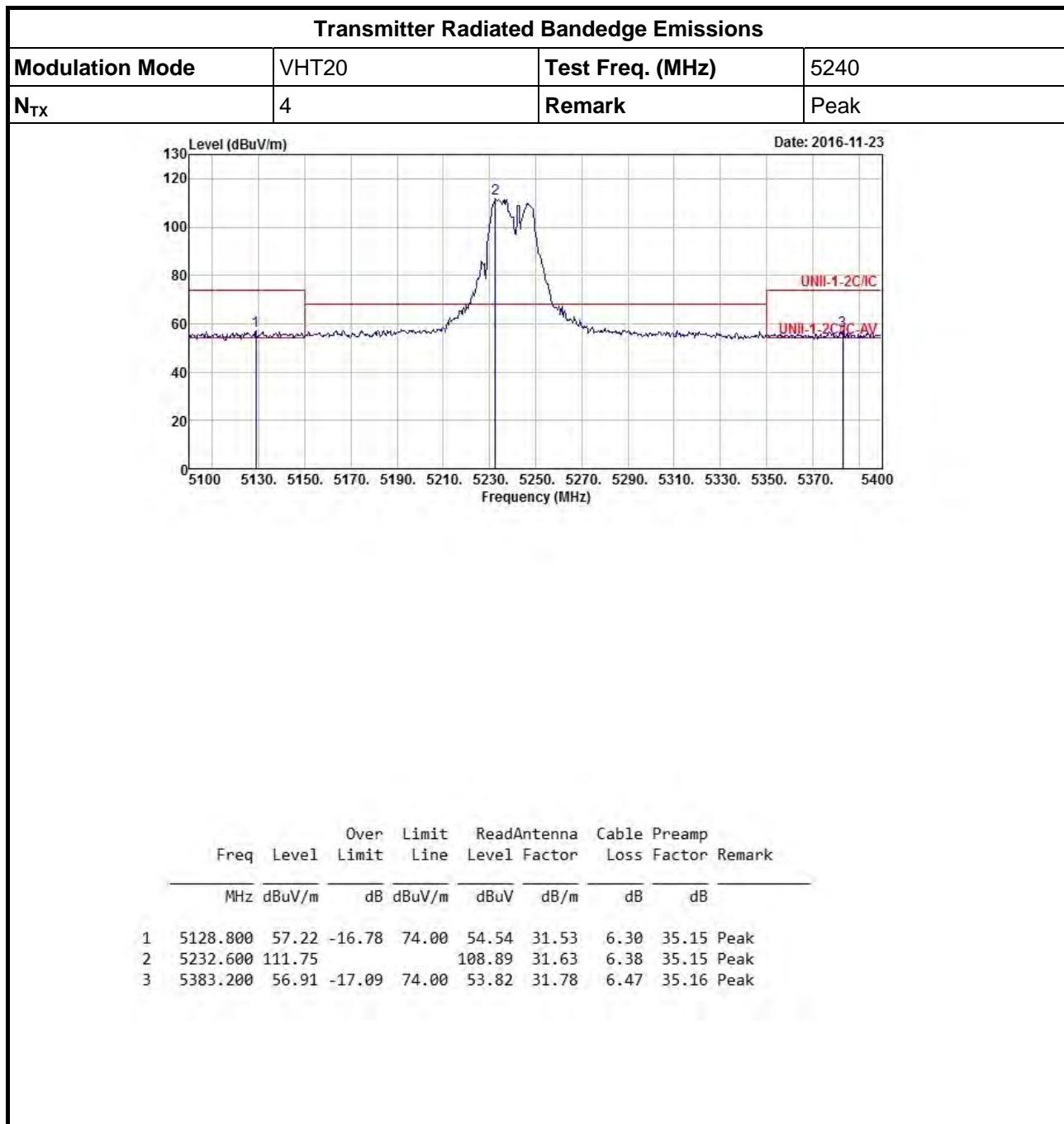
| U-NII 5725-5850MHz Transmitter Radiated Bandedge (with Antenna) | | | | | | | |
|---|-----------------|-------------|----------------------|----------------|-------------------|-------------------|------|
| Modulation Mode | N _{TX} | Freq. (MHz) | Measure Distance (m) | Freq. (MHz) PK | Level (dBuV/m) PK | Limit (dBuV/m) PK | Pol. |
| VHT20 (Beamforming) | 4 | 5745 | 3 | 5737.840 | 11.99 | 122.2 | H |
| VHT20 (Beamforming) | 4 | 5825 | 3 | 5830.390 | 115.48 | 122.2 | H |
| VHT40 (Beamforming) | 4 | 5755 | 3 | 5627.480 | 58.89 | 68.2 | H |
| VHT40 (Beamforming) | 4 | 5795 | 3 | 5802.400 | 113.31 | 122.2 | H |
| VHT80 (Beamforming) | 4 | 5775 | 3 | 5942.200 | 58.52 | 68.2 | H |

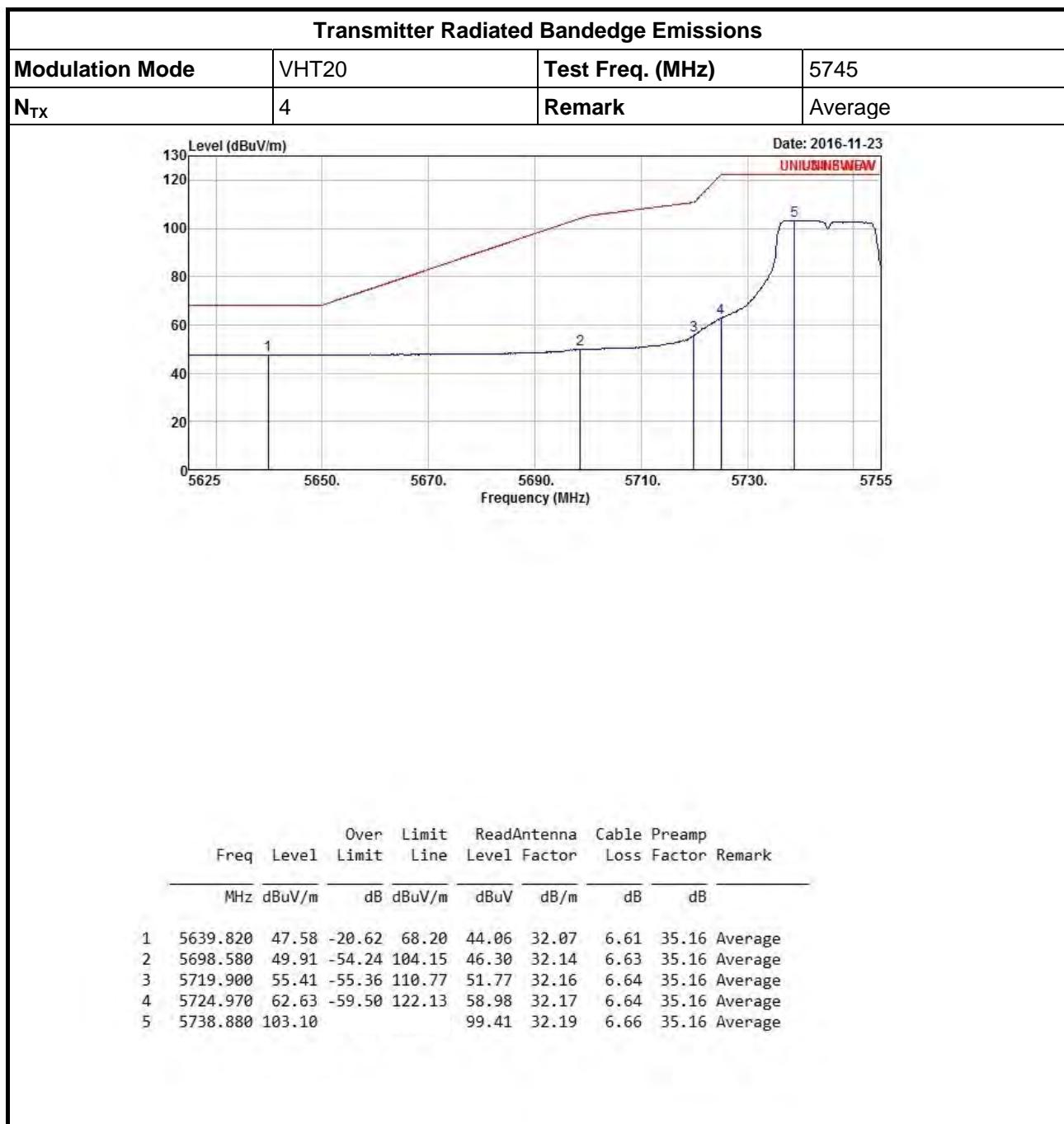
Note 1: Measurement worst emissions of receive antenna polarization.













Transmitter Radiated Bandedge Emissions

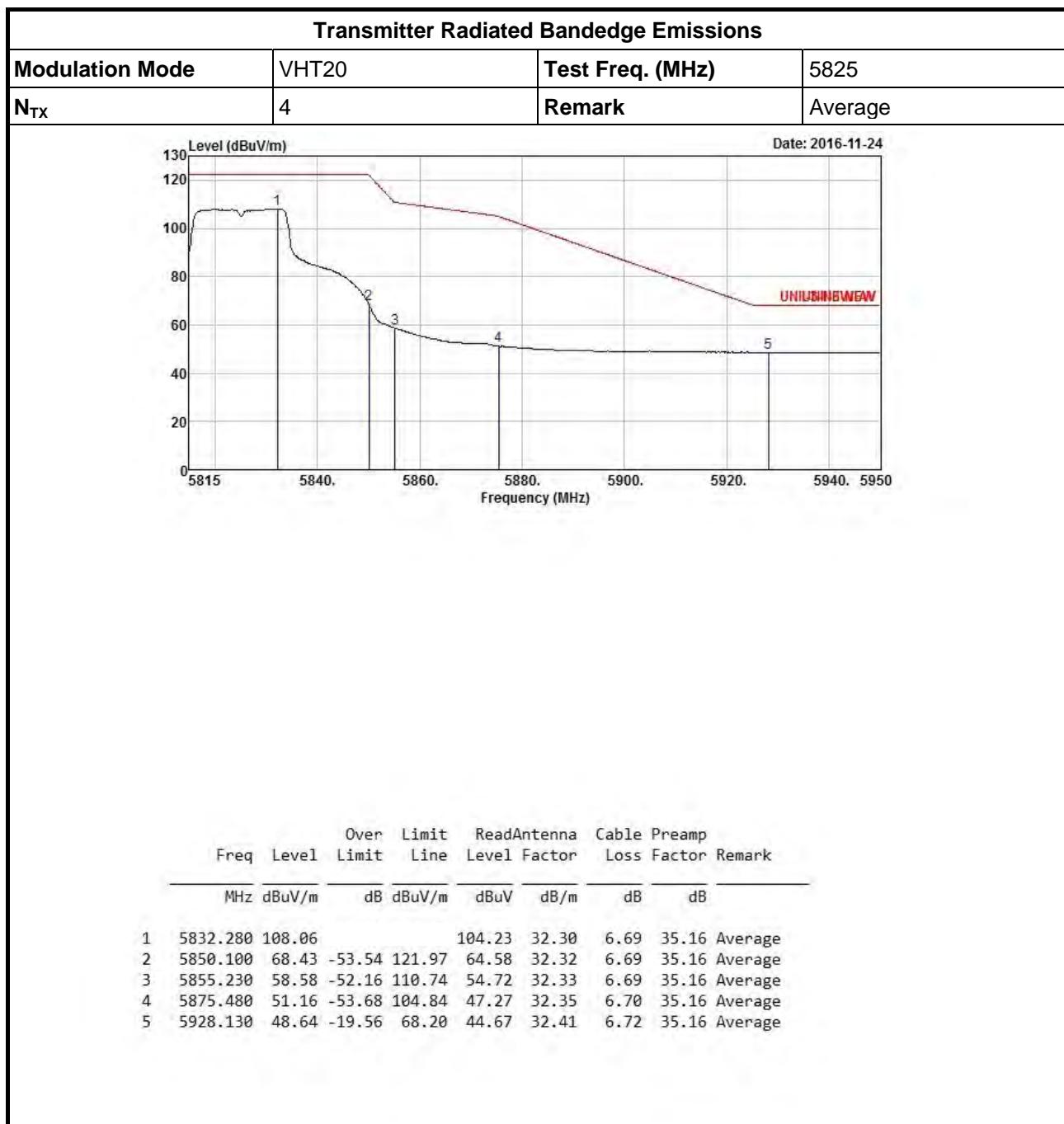
| | | | |
|------------------------|-------|-------------------------|------|
| Modulation Mode | VHT20 | Test Freq. (MHz) | 5745 |
| N_{TX} | 4 | Remark | Peak |

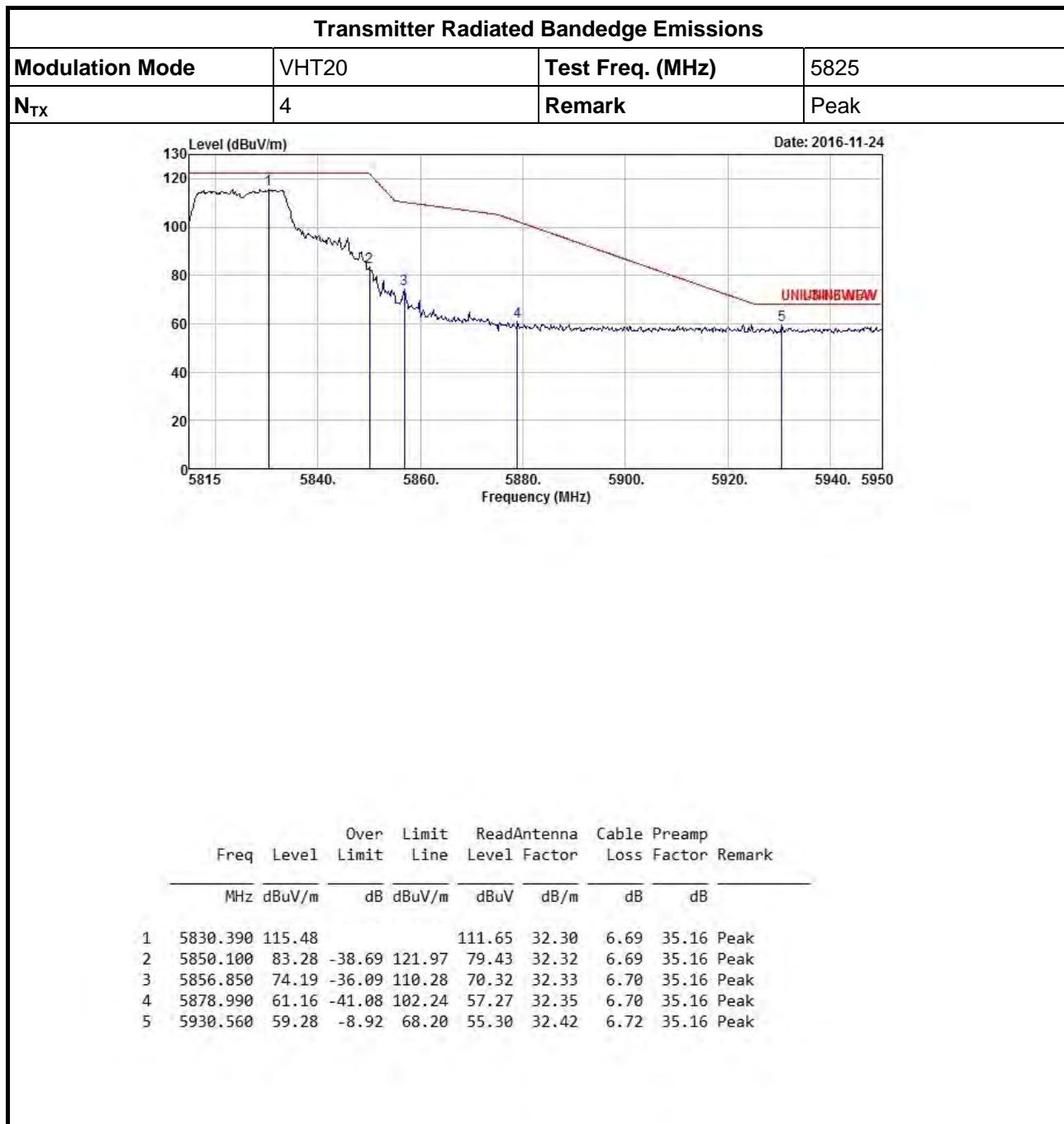
Date: 2016-11-23

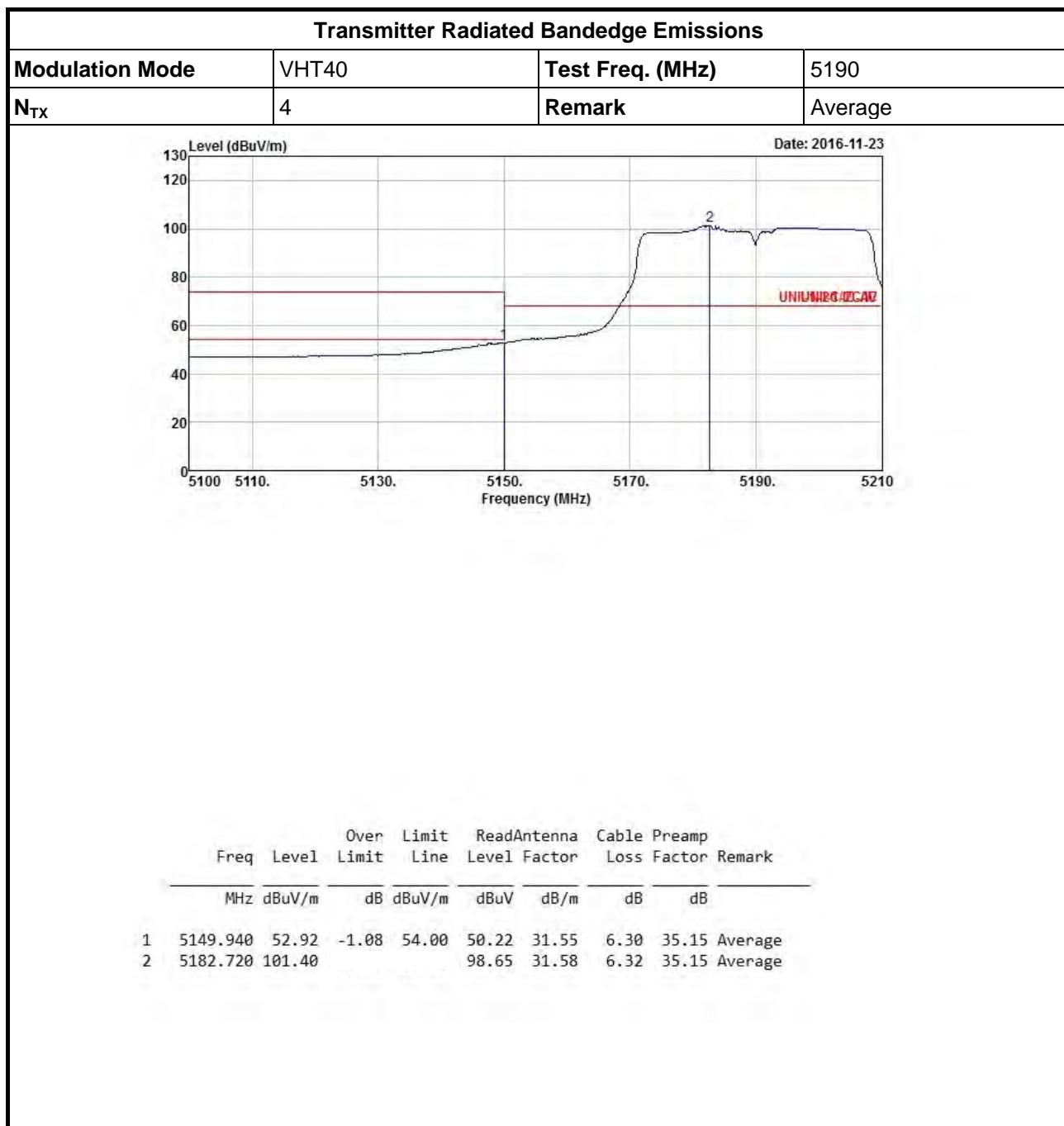
Level (dBuV/m)

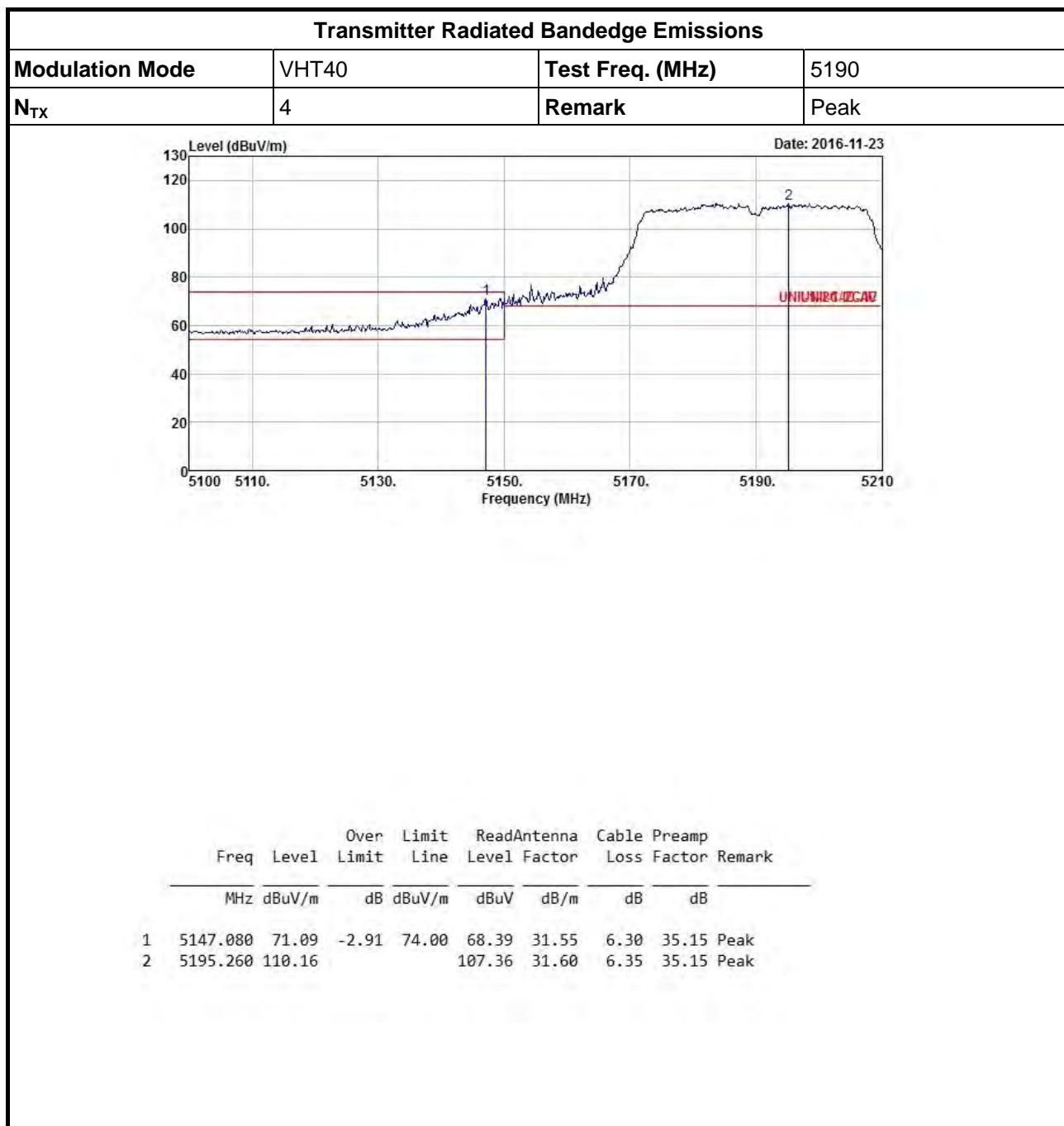
Frequency (MHz)

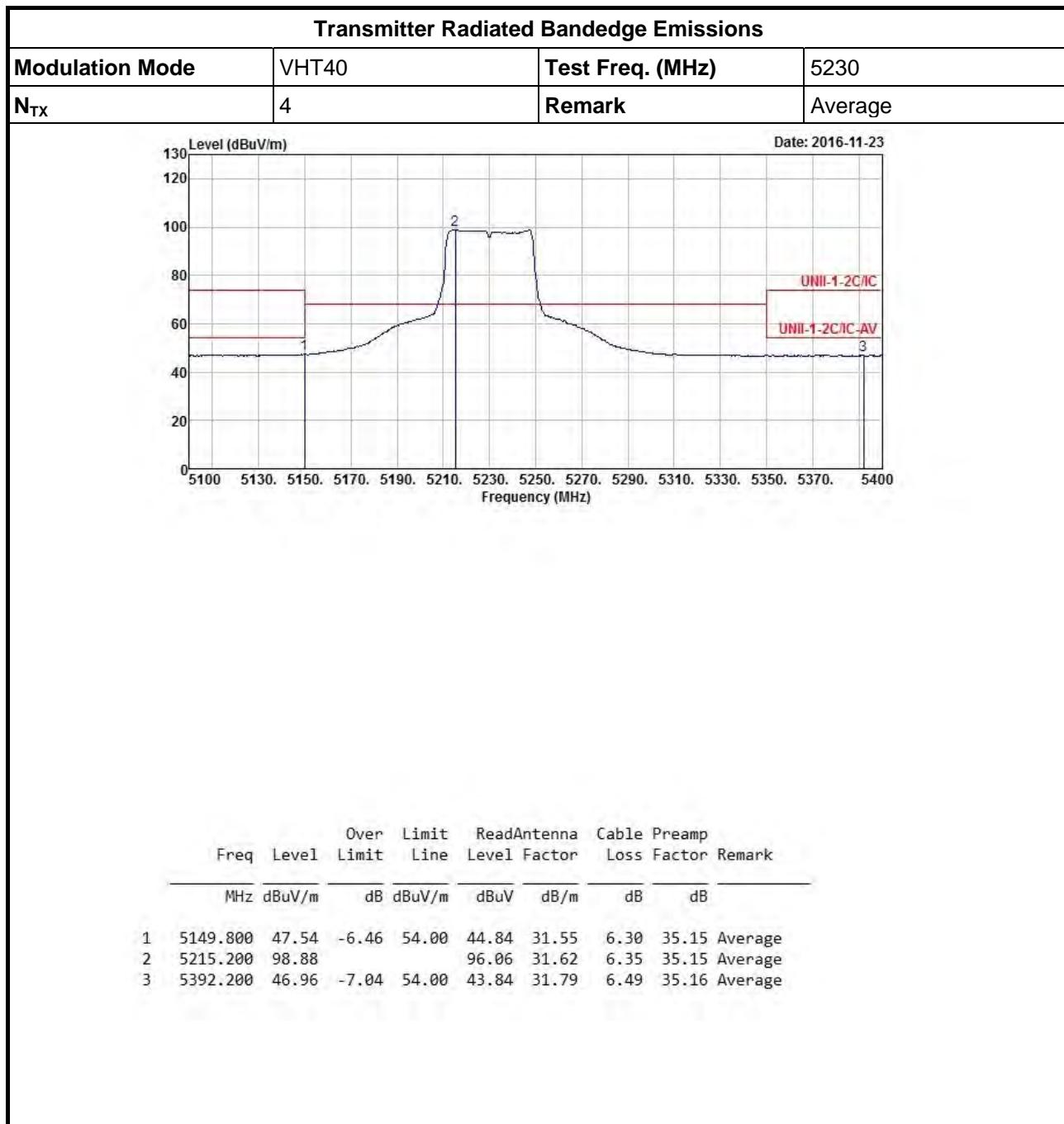
| Freq | Level | Over Limit | | Read | Antenna | Cable | Preamp | Remark |
|------|----------|------------|--------|--------|---------|-------|--------|------------|
| | | Limit | Line | | | | | |
| MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 5643.980 | 57.97 | -10.23 | 68.20 | 54.45 | 32.07 | 6.61 | 35.16 Peak |
| 2 | 5694.680 | 60.21 | -41.07 | 101.28 | 56.61 | 32.13 | 6.63 | 35.16 Peak |
| 3 | 5719.900 | 67.34 | -43.43 | 110.77 | 63.70 | 32.16 | 6.64 | 35.16 Peak |
| 4 | 5722.760 | 78.79 | -38.30 | 117.09 | 75.14 | 32.17 | 6.64 | 35.16 Peak |
| 5 | 5737.840 | 111.99 | | | 108.32 | 32.19 | 6.64 | 35.16 Peak |

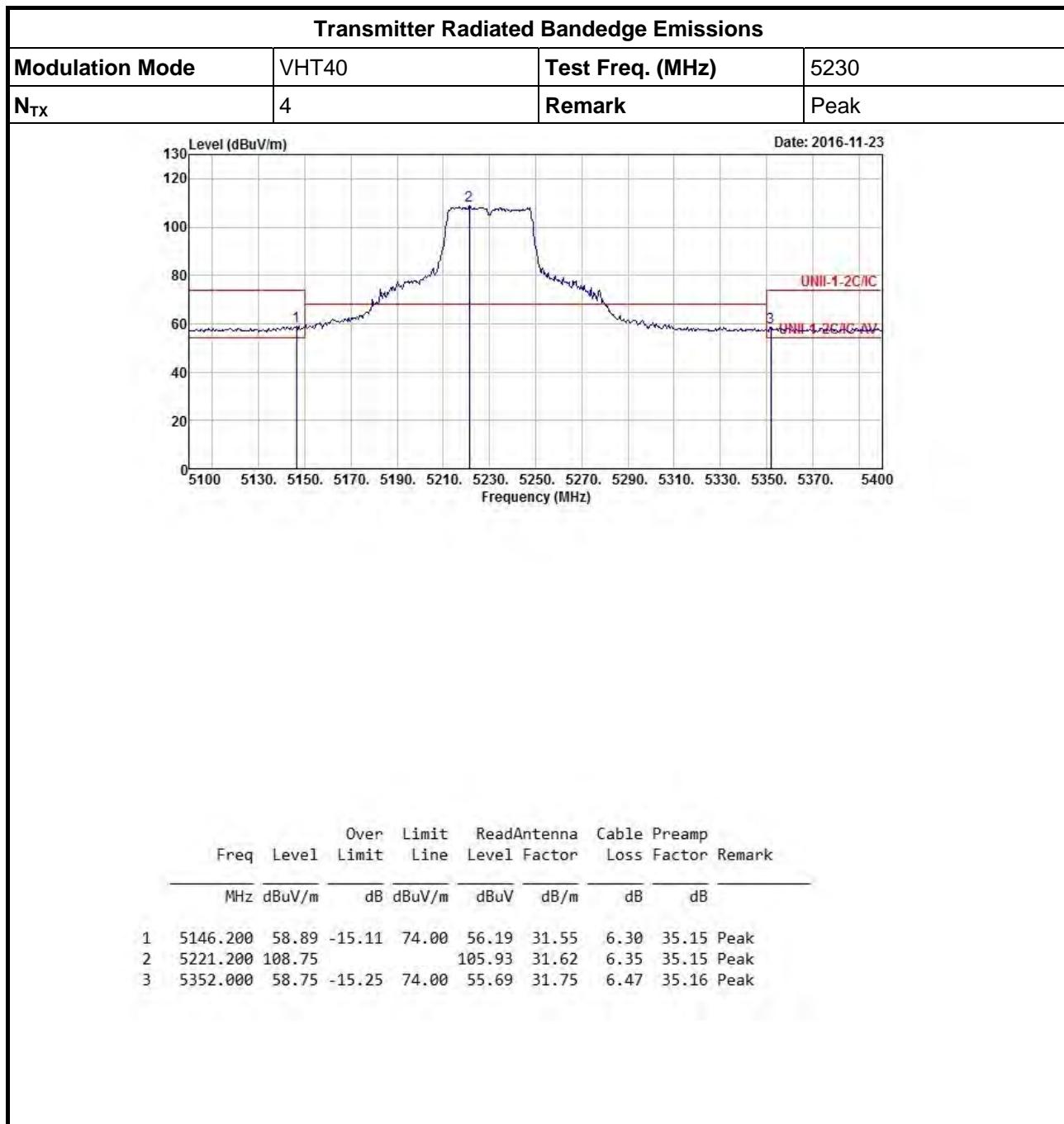














Transmitter Radiated Bandedge Emissions

| | | | |
|------------------------|-------|-------------------------|---------|
| Modulation Mode | VHT40 | Test Freq. (MHz) | 5755 |
| N_{TX} | 4 | Remark | Average |

Date: 2016-11-24

Level (dBuV/m)

Frequency (MHz)

| 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 | 5642.670 | 47.52 | -20.68 | 68.20 | 44.00 | 32.07 | 6.61 | 35.16 Average |
| 2 | 5699.710 | 51.41 | -53.58 | 104.99 | 47.79 | 32.14 | 6.64 | 35.16 Average |
| 3 | 5719.860 | 62.86 | -47.90 | 110.76 | 59.22 | 32.16 | 6.64 | 35.16 Average |
| 4 | 5724.820 | 64.75 | -57.04 | 121.79 | 61.10 | 32.17 | 6.64 | 35.16 Average |
| 5 | 5772.560 | 101.90 | | | 98.17 | 32.23 | 6.66 | 35.16 Average |

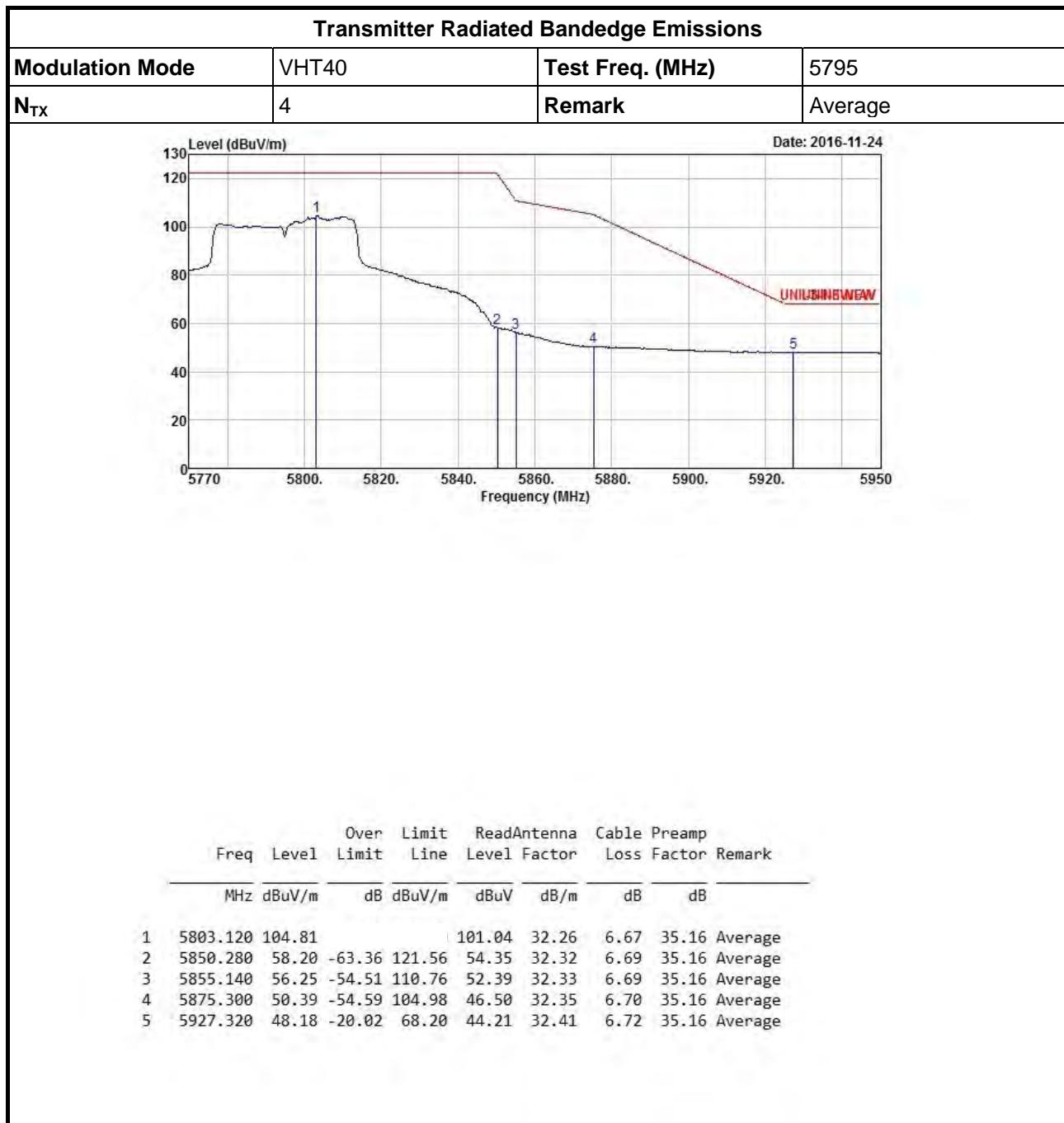


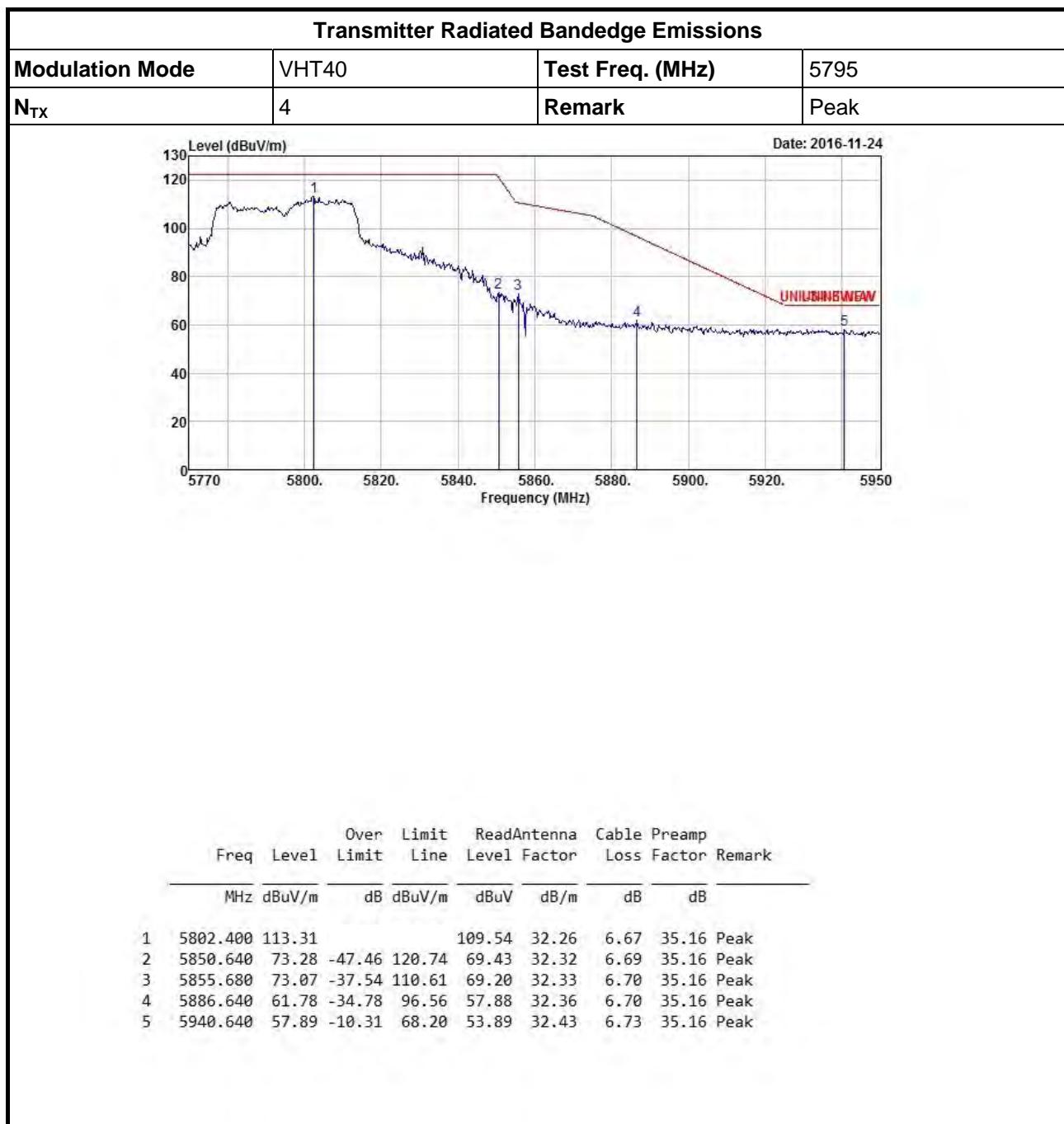
Transmitter Radiated Bandedge Emissions

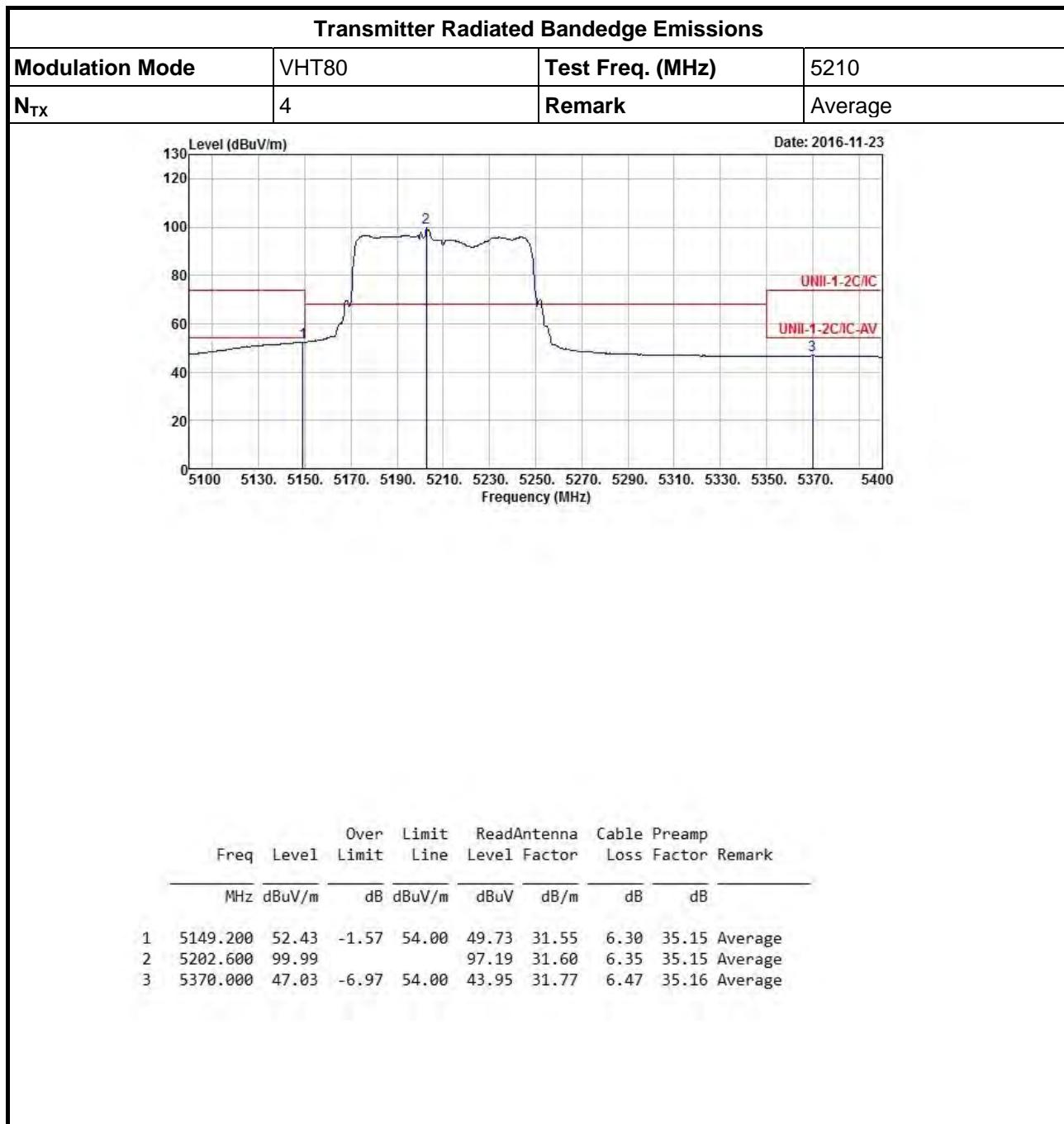
| | | | |
|-----------------|-------|------------------|------|
| Modulation Mode | VHT40 | Test Freq. (MHz) | 5755 |
| N _{TX} | 4 | Remark | Peak |

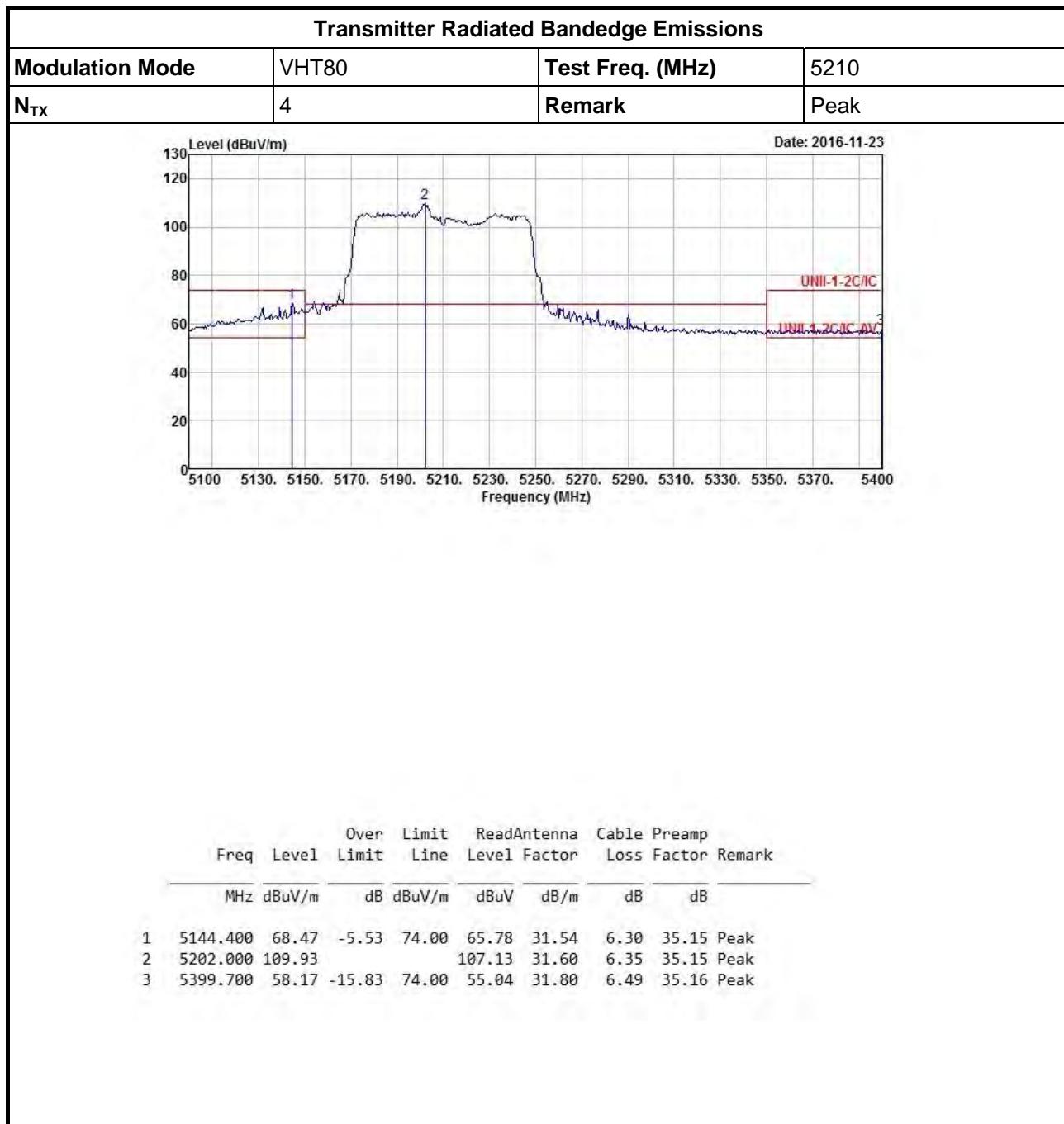
Date: 2016-11-24

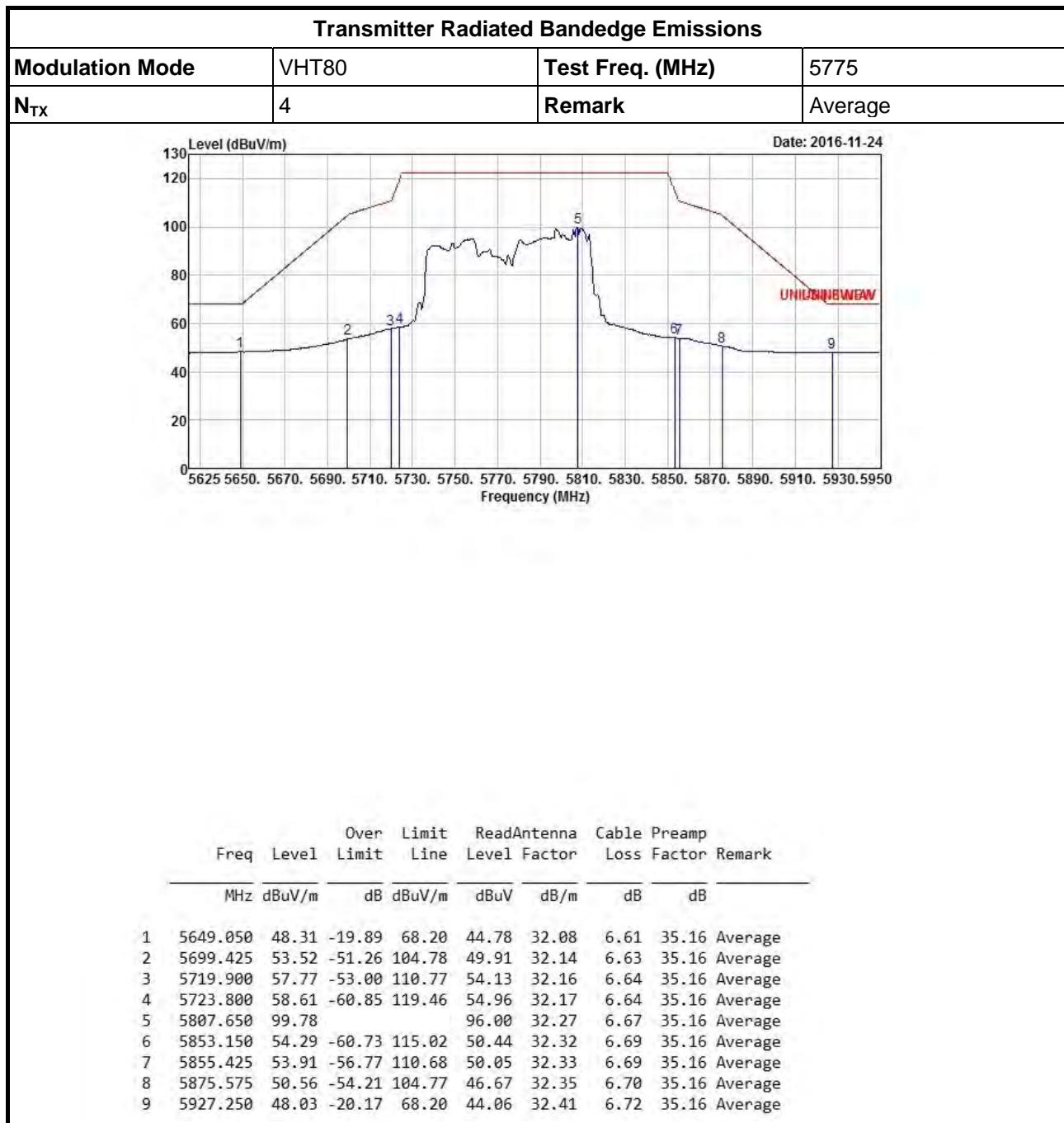
| Freq | Level | Over Limit | | Read | Antenna | Cable | Preamp | Remark |
|------|----------|------------|--------|--------|---------|-------|--------|------------|
| | | MHz | dBuV/m | | | | | |
| 1 | 5627.480 | 58.89 | -9.31 | 68.20 | 55.39 | 32.05 | 6.61 | 35.16 Peak |
| 2 | 5699.400 | 61.33 | -43.43 | 104.76 | 57.72 | 32.14 | 6.63 | 35.16 Peak |
| 3 | 5719.240 | 78.72 | -31.87 | 110.59 | 75.08 | 32.16 | 6.64 | 35.16 Peak |
| 4 | 5721.720 | 79.17 | -35.55 | 114.72 | 75.52 | 32.17 | 6.64 | 35.16 Peak |
| 5 | 5748.380 | 109.63 | | | 105.93 | 32.20 | 6.66 | 35.16 Peak |

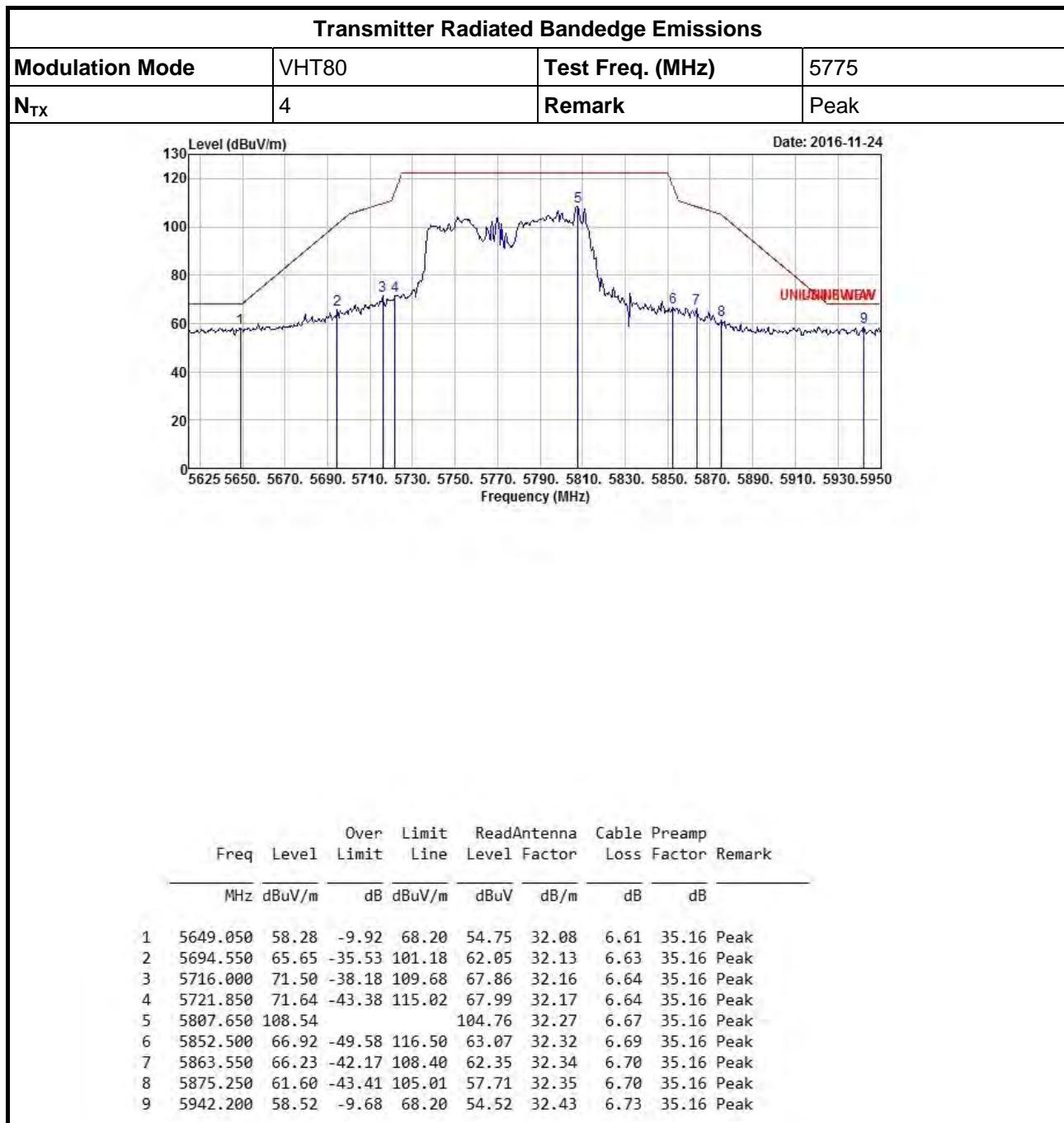












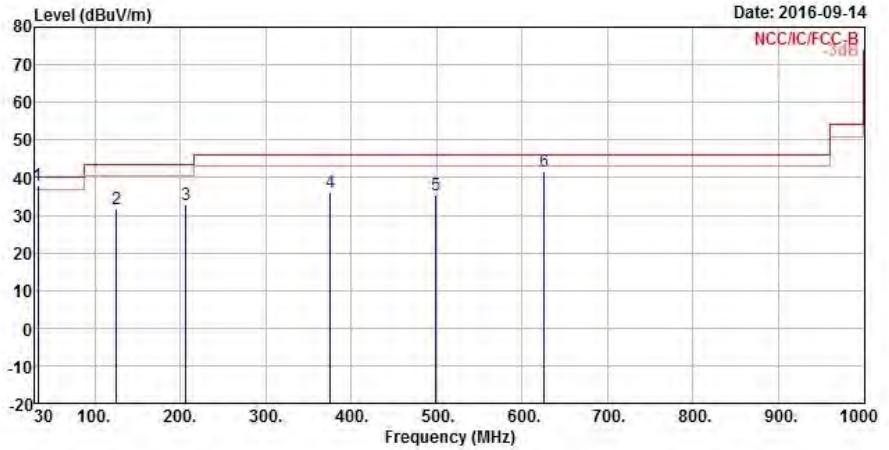


Transmitter Radiated Unwanted Emissions (Non-Beamforming)

Appendix E

Transmitter Radiated Unwanted Emissions (Below 1GHz)

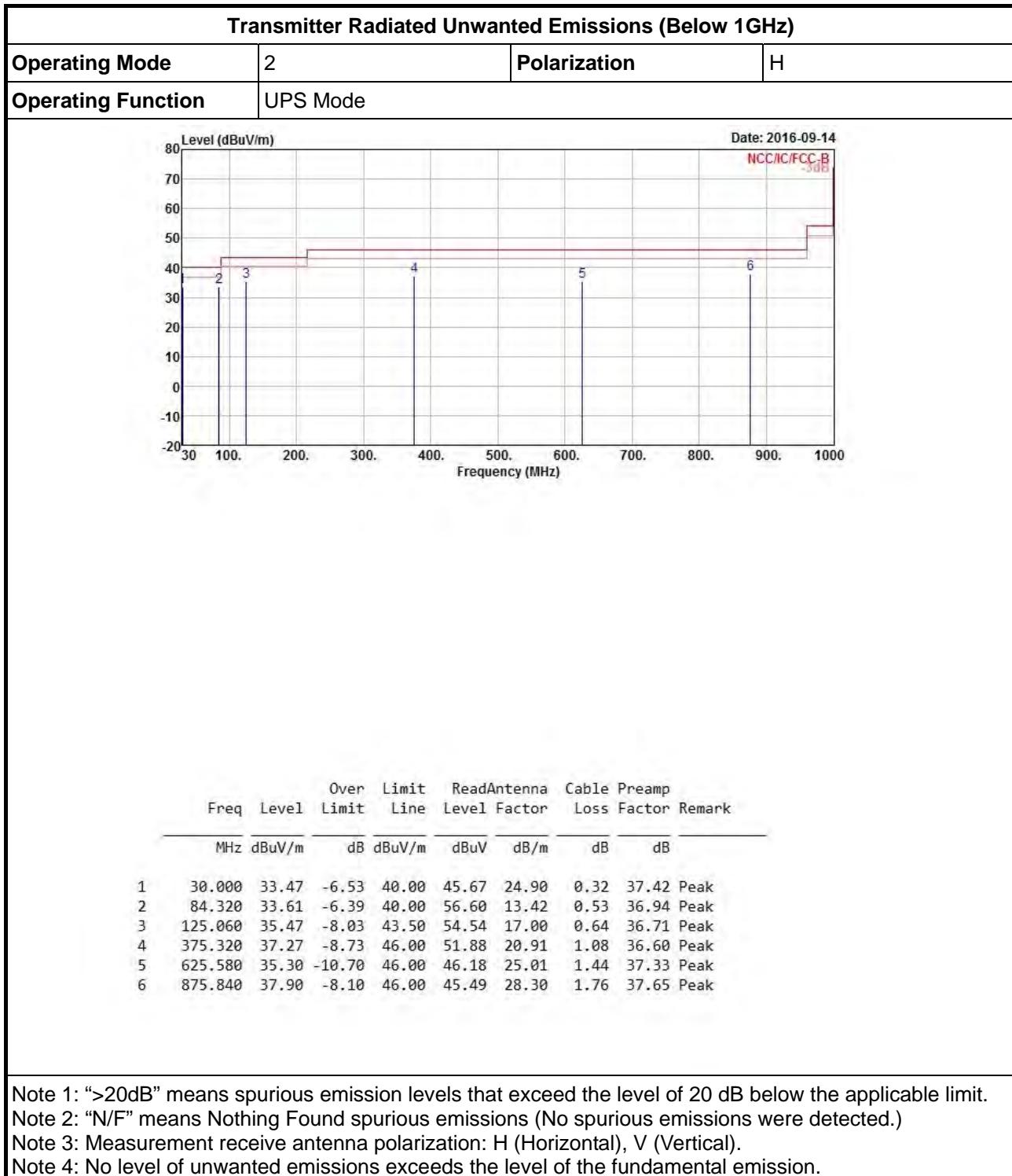
Transmitter Radiated Unwanted Emissions (Below 1GHz)

| Operating Mode | 2 | Polarization | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|----------|--------------|------------|--------|-------|---------|------------|--------|--------|---------|-------|--------|--|--|-----|--------|----|--------|------|-------|--------|------|--------|--------|---|--------|-------|-------|-------|-------|-------|------|-------|----|--|---|---------|-------|--------|-------|-------|-------|------|-------|------|--|---|---------|-------|--------|-------|-------|-------|------|-------|------|--|---|---------|-------|-------|-------|-------|-------|------|-------|------|--|---|---------|-------|--------|-------|-------|-------|------|-------|------|--|---|---------|-------|-------|-------|-------|-------|------|-------|------|--|
| Operating Function | UPS Mode | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table><thead><tr><th></th><th>Freq</th><th>Level</th><th>Over Limit</th><th>Limit</th><th>Read</th><th>Antenna</th><th>Cable</th><th>Preamp</th><th></th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dB</th><th>dBuV/m</th><th>Line</th><th>Level</th><th>Factor</th><th>Loss</th><th>Factor</th><th>Remark</th></tr></thead><tbody><tr><td>1</td><td>33.880</td><td>37.98</td><td>-2.02</td><td>40.00</td><td>52.21</td><td>22.80</td><td>0.34</td><td>37.37</td><td>QP</td><td></td></tr><tr><td>2</td><td>125.060</td><td>31.66</td><td>-11.84</td><td>43.50</td><td>50.73</td><td>17.00</td><td>0.64</td><td>36.71</td><td>Peak</td><td></td></tr><tr><td>3</td><td>206.540</td><td>32.65</td><td>-10.85</td><td>43.50</td><td>52.94</td><td>15.30</td><td>0.80</td><td>36.39</td><td>Peak</td><td></td></tr><tr><td>4</td><td>375.320</td><td>36.04</td><td>-9.96</td><td>46.00</td><td>50.65</td><td>20.91</td><td>1.08</td><td>36.60</td><td>Peak</td><td></td></tr><tr><td>5</td><td>499.480</td><td>35.52</td><td>-10.48</td><td>46.00</td><td>47.92</td><td>23.29</td><td>1.29</td><td>36.98</td><td>Peak</td><td></td></tr><tr><td>6</td><td>625.580</td><td>41.80</td><td>-4.20</td><td>46.00</td><td>52.68</td><td>25.01</td><td>1.44</td><td>37.33</td><td>Peak</td><td></td></tr></tbody></table> | | | | | Freq | Level | Over Limit | Limit | Read | Antenna | Cable | Preamp | | | MHz | dBuV/m | dB | dBuV/m | Line | Level | Factor | Loss | Factor | Remark | 1 | 33.880 | 37.98 | -2.02 | 40.00 | 52.21 | 22.80 | 0.34 | 37.37 | QP | | 2 | 125.060 | 31.66 | -11.84 | 43.50 | 50.73 | 17.00 | 0.64 | 36.71 | Peak | | 3 | 206.540 | 32.65 | -10.85 | 43.50 | 52.94 | 15.30 | 0.80 | 36.39 | Peak | | 4 | 375.320 | 36.04 | -9.96 | 46.00 | 50.65 | 20.91 | 1.08 | 36.60 | Peak | | 5 | 499.480 | 35.52 | -10.48 | 46.00 | 47.92 | 23.29 | 1.29 | 36.98 | Peak | | 6 | 625.580 | 41.80 | -4.20 | 46.00 | 52.68 | 25.01 | 1.44 | 37.33 | Peak | |
| | Freq | Level | Over Limit | Limit | Read | Antenna | Cable | Preamp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MHz | dBuV/m | dB | dBuV/m | Line | Level | Factor | Loss | Factor | Remark | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 33.880 | 37.98 | -2.02 | 40.00 | 52.21 | 22.80 | 0.34 | 37.37 | QP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 125.060 | 31.66 | -11.84 | 43.50 | 50.73 | 17.00 | 0.64 | 36.71 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 206.540 | 32.65 | -10.85 | 43.50 | 52.94 | 15.30 | 0.80 | 36.39 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 375.320 | 36.04 | -9.96 | 46.00 | 50.65 | 20.91 | 1.08 | 36.60 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 499.480 | 35.52 | -10.48 | 46.00 | 47.92 | 23.29 | 1.29 | 36.98 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 625.580 | 41.80 | -4.20 | 46.00 | 52.68 | 25.01 | 1.44 | 37.33 | Peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>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: No level of unwanted emissions exceeds the level of the fundamental emission.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Transmitter Radiated Unwanted Emissions (Non-Beamforming)

Appendix E

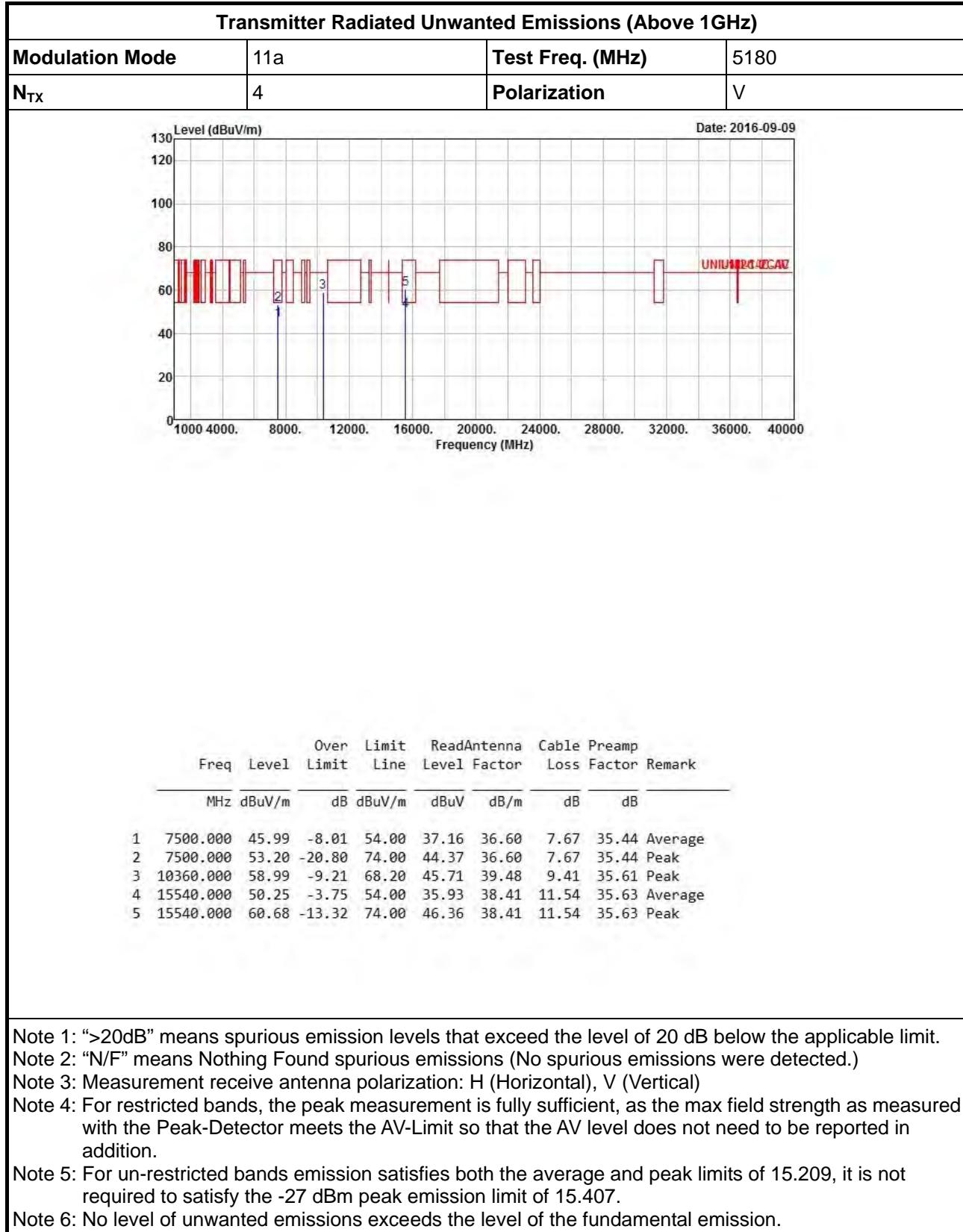




Transmitter Radiated Unwanted Emissions (Non-Beamforming)

Appendix E

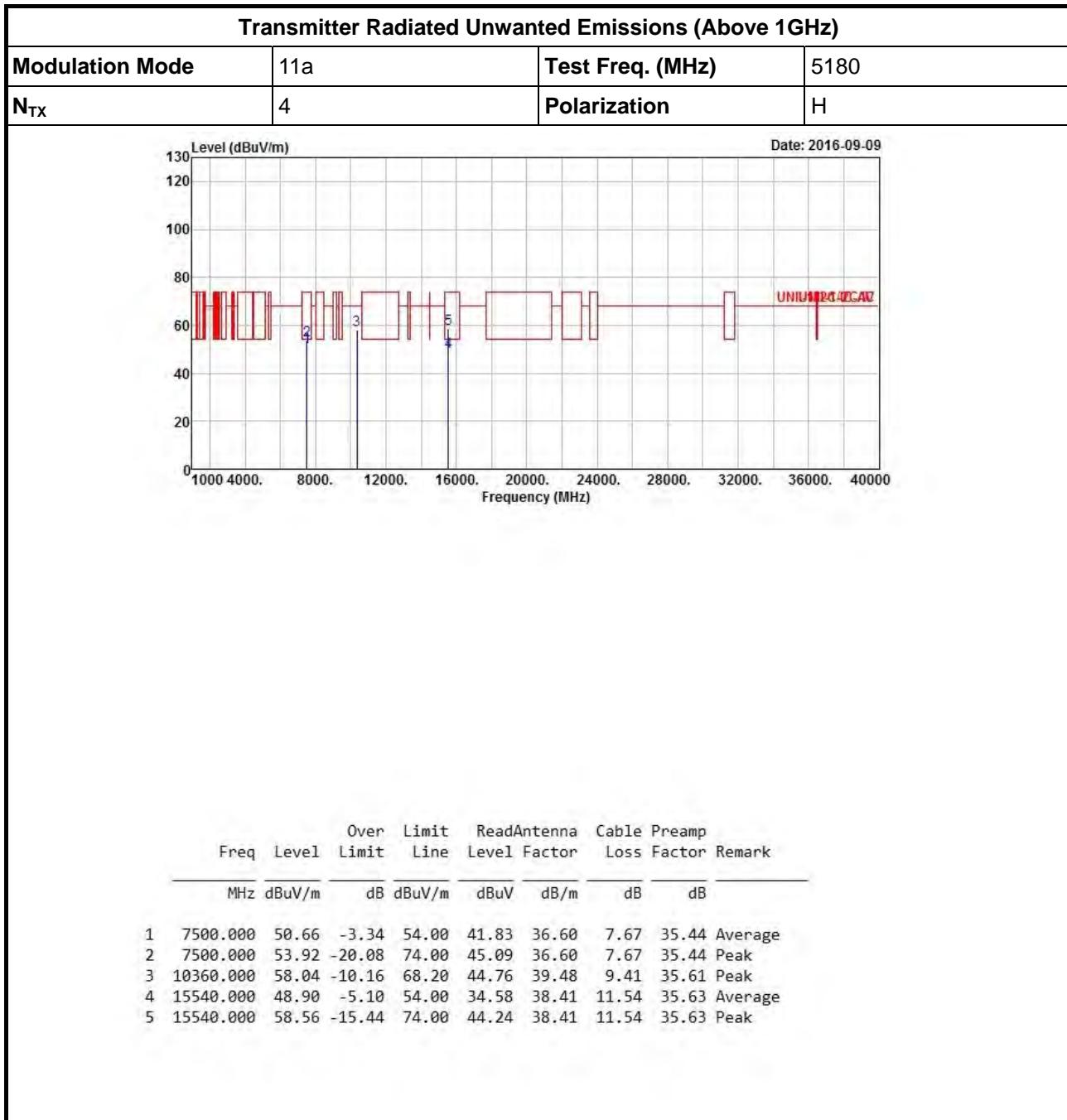
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5150-5250MHz





**Transmitter Radiated Unwanted Emissions
(Non-Beamforming)**

Appendix E



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.

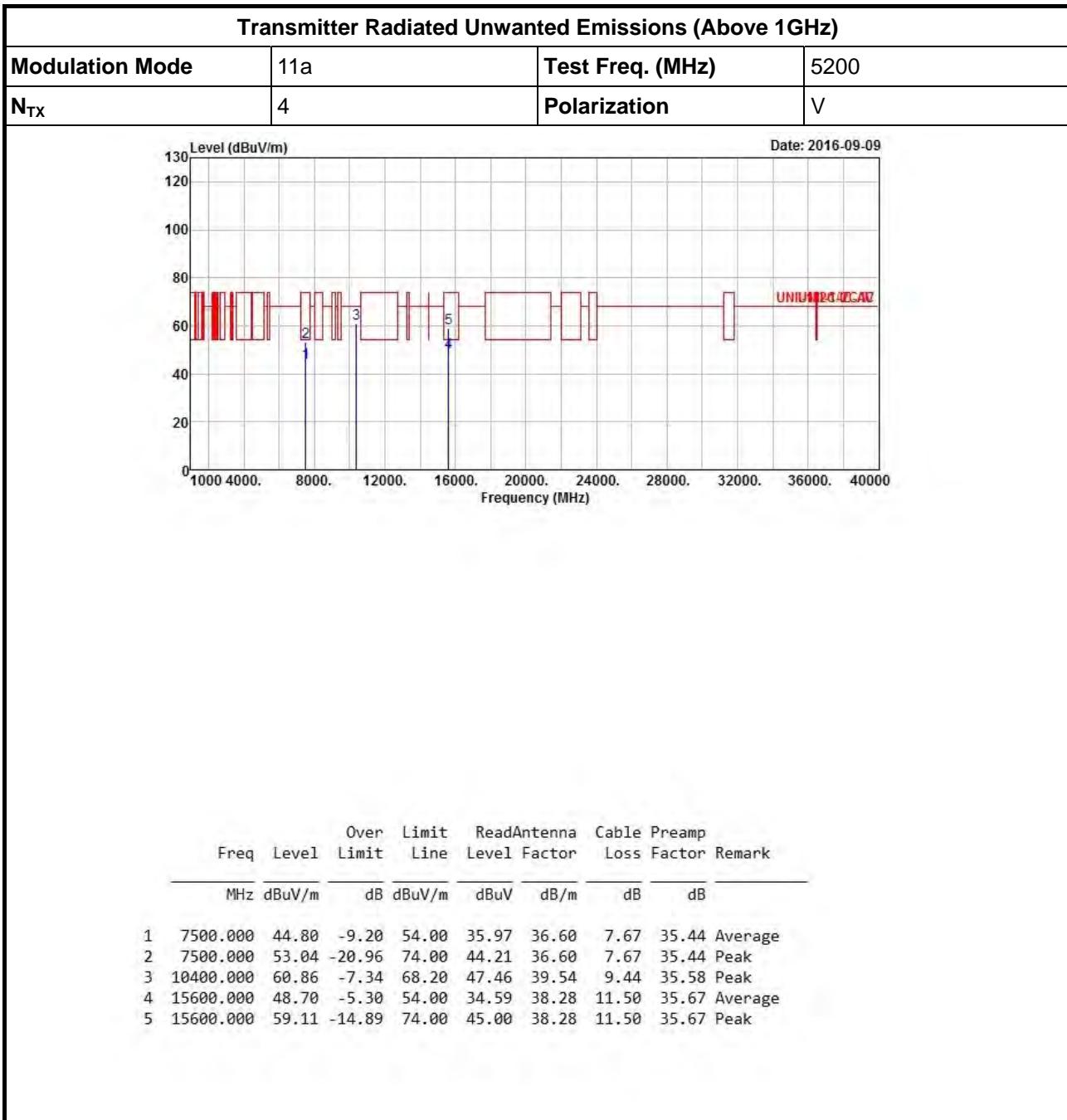
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



**Transmitter Radiated Unwanted Emissions
(Non-Beamforming)**

Appendix E



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.

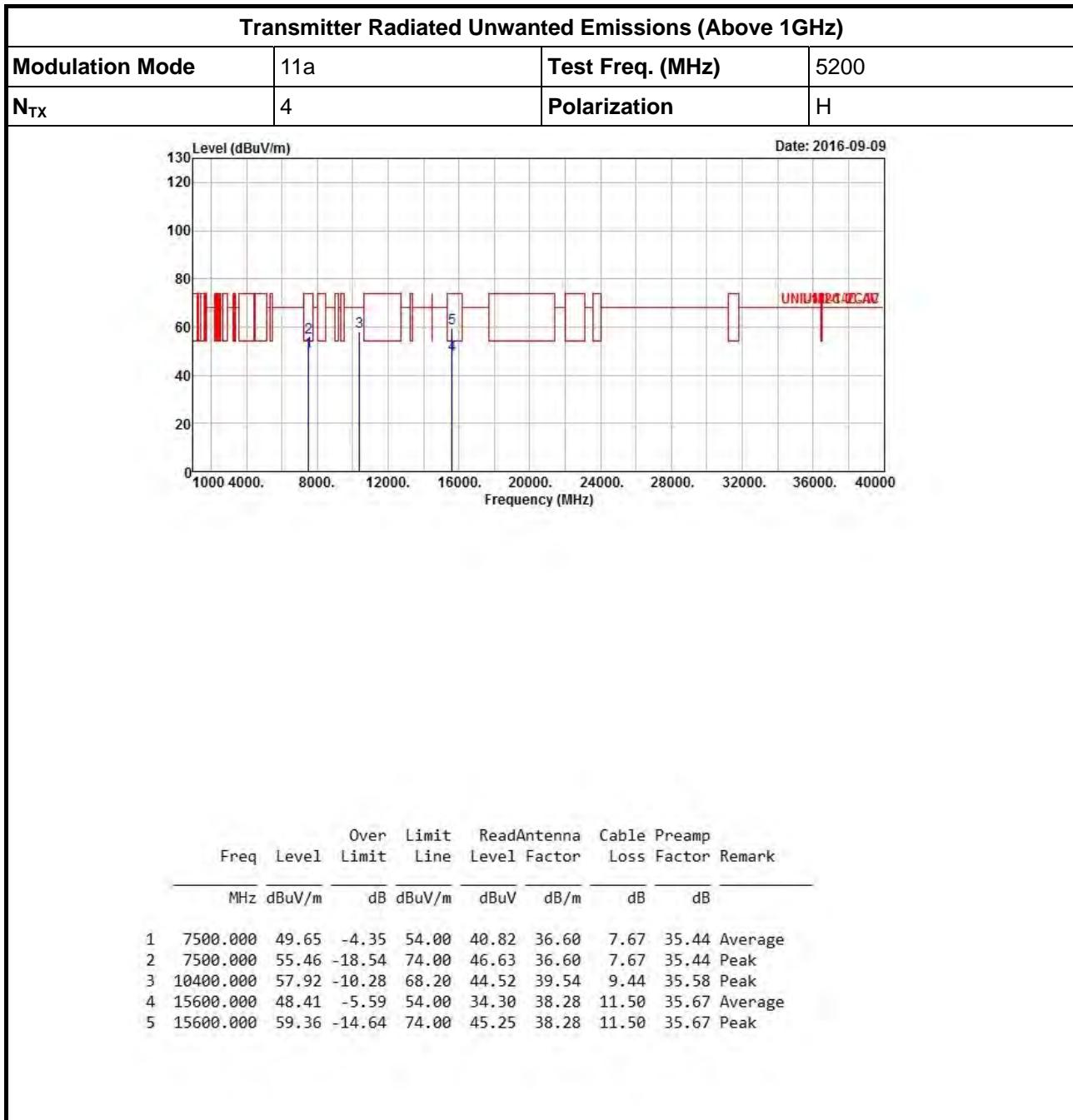
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



**Transmitter Radiated Unwanted Emissions
(Non-Beamforming)**

Appendix E



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.

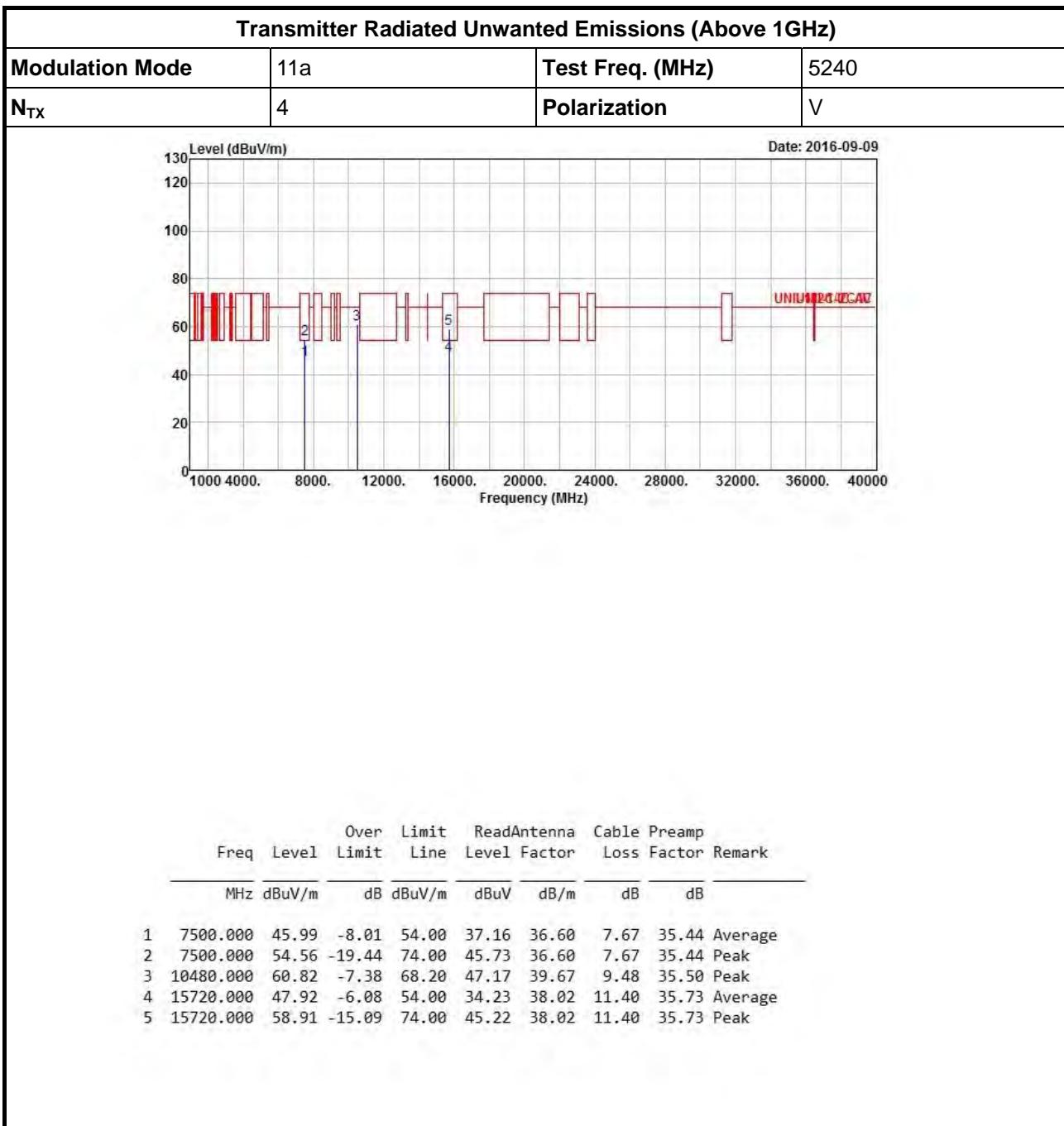
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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**Transmitter Radiated Unwanted Emissions
(Non-Beamforming)**

Appendix E



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

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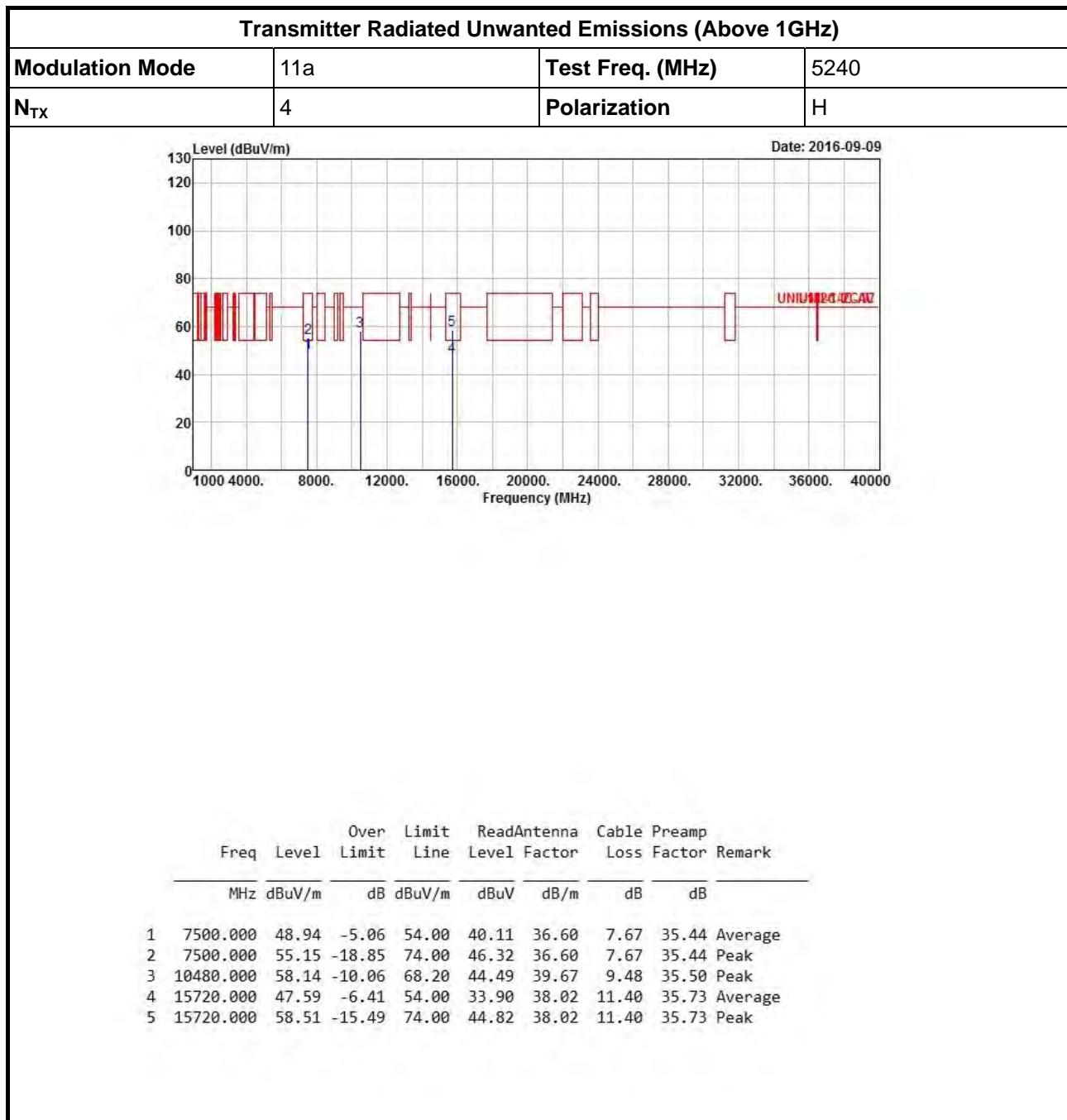
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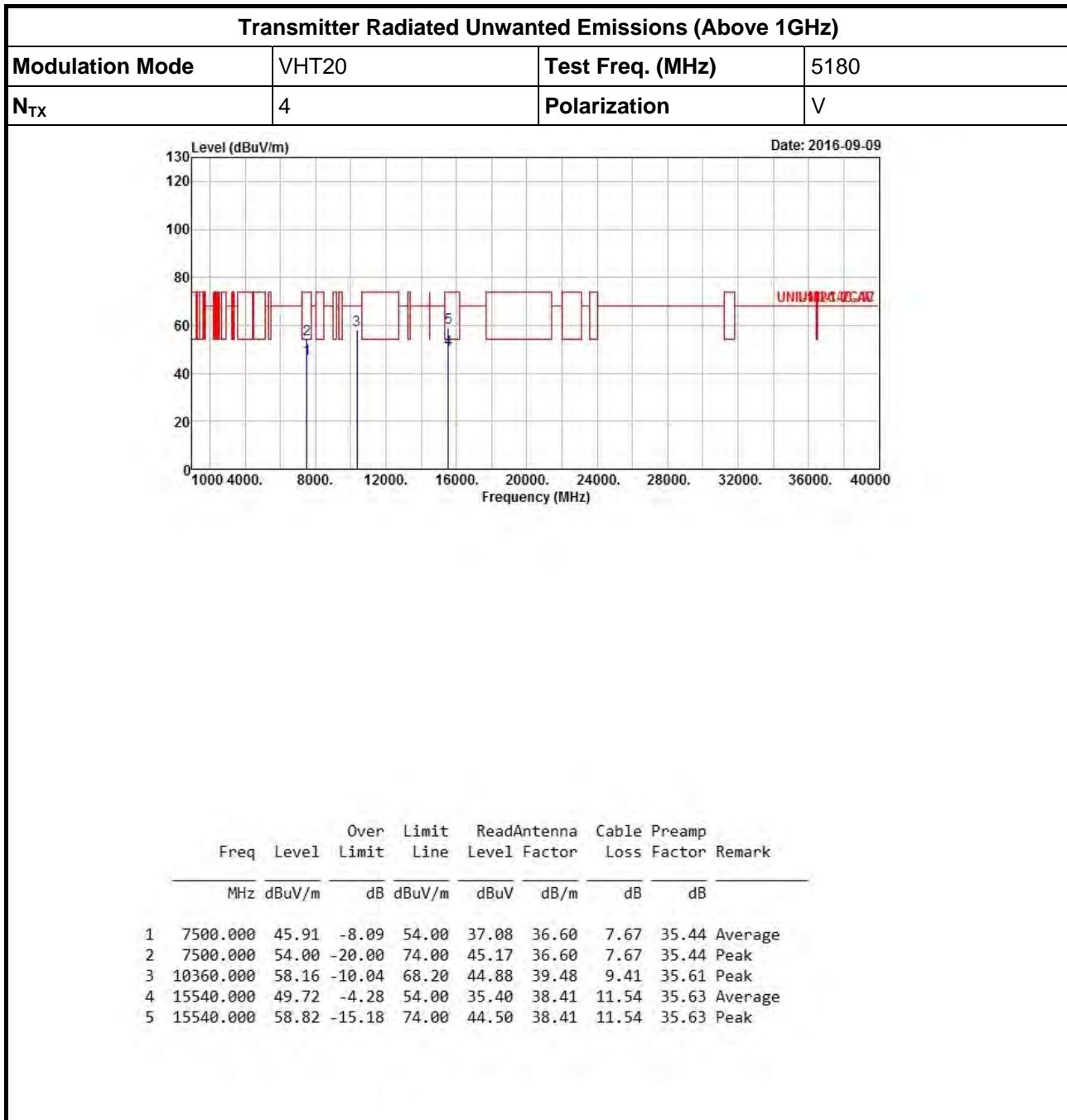
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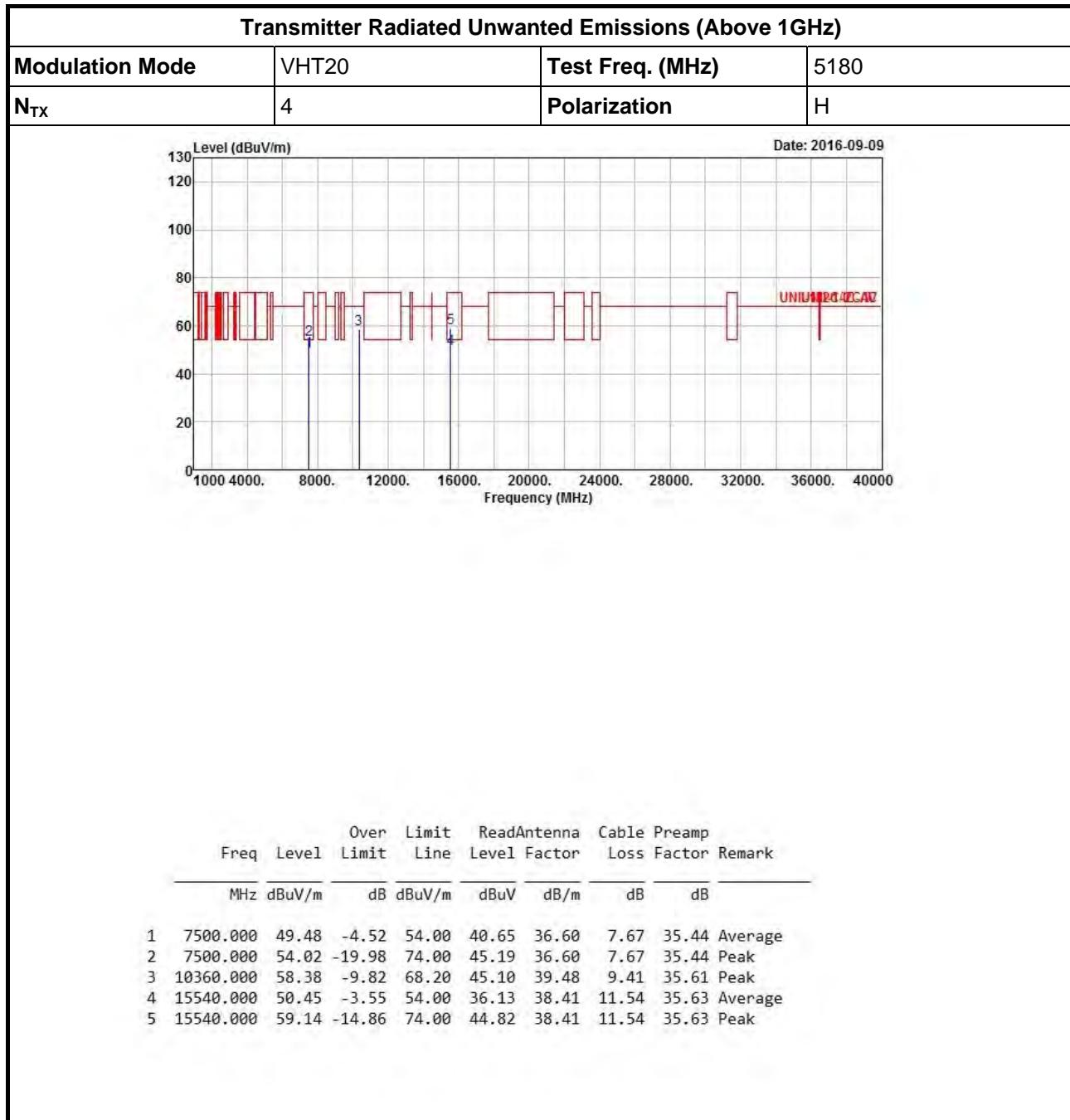
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Appendix E



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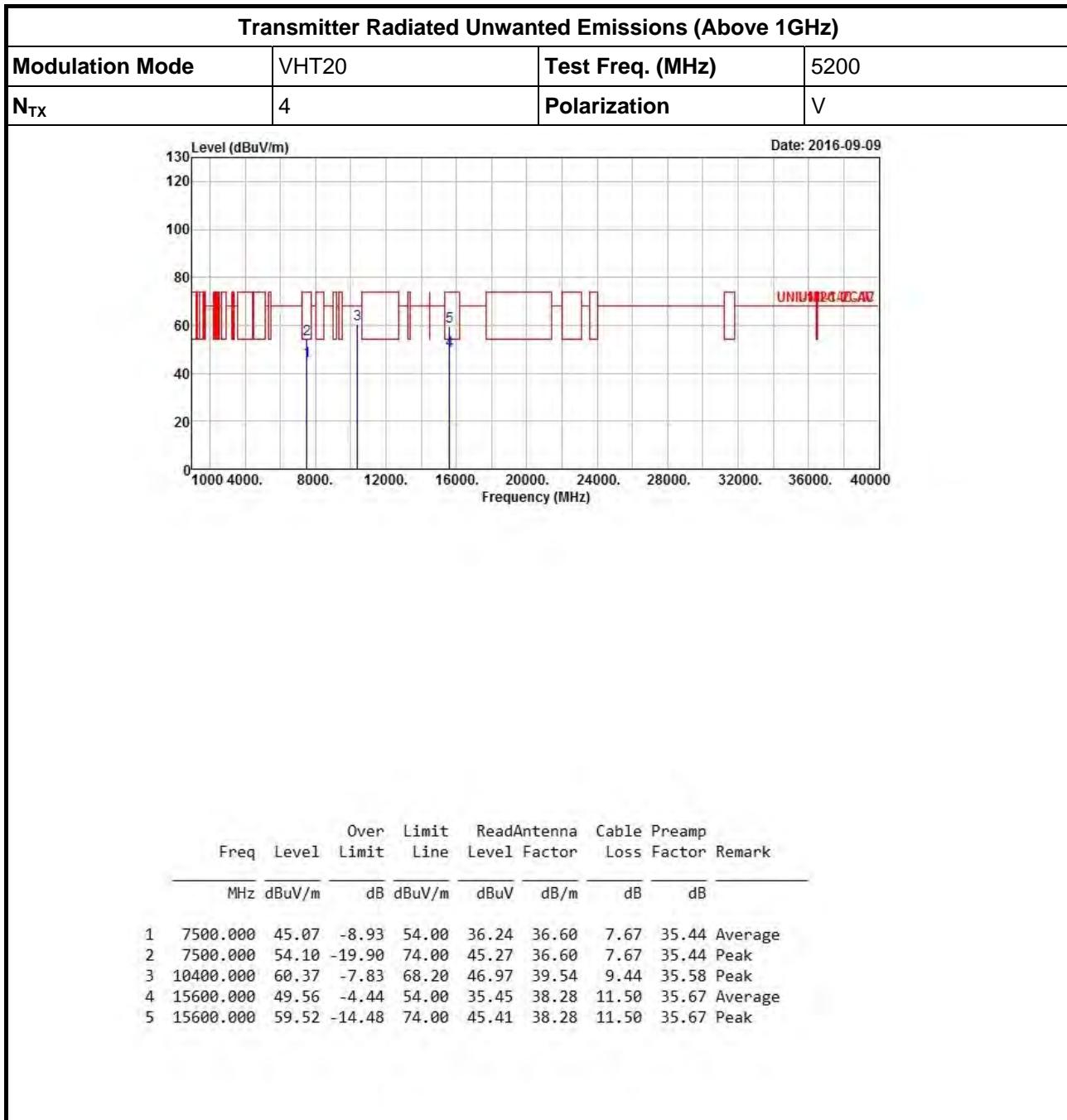
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Appendix E



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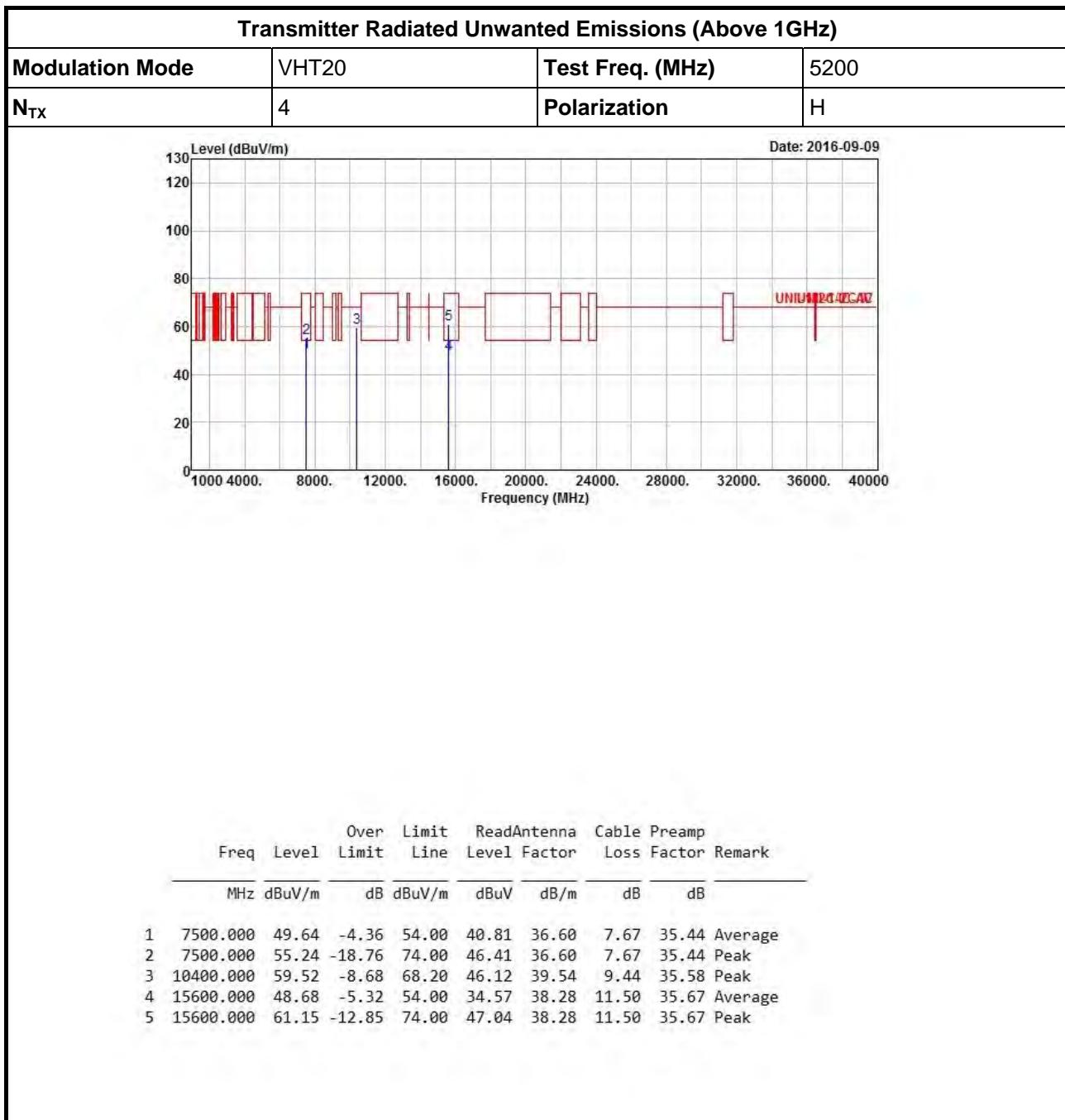
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(Non-Beamforming)**

Appendix E



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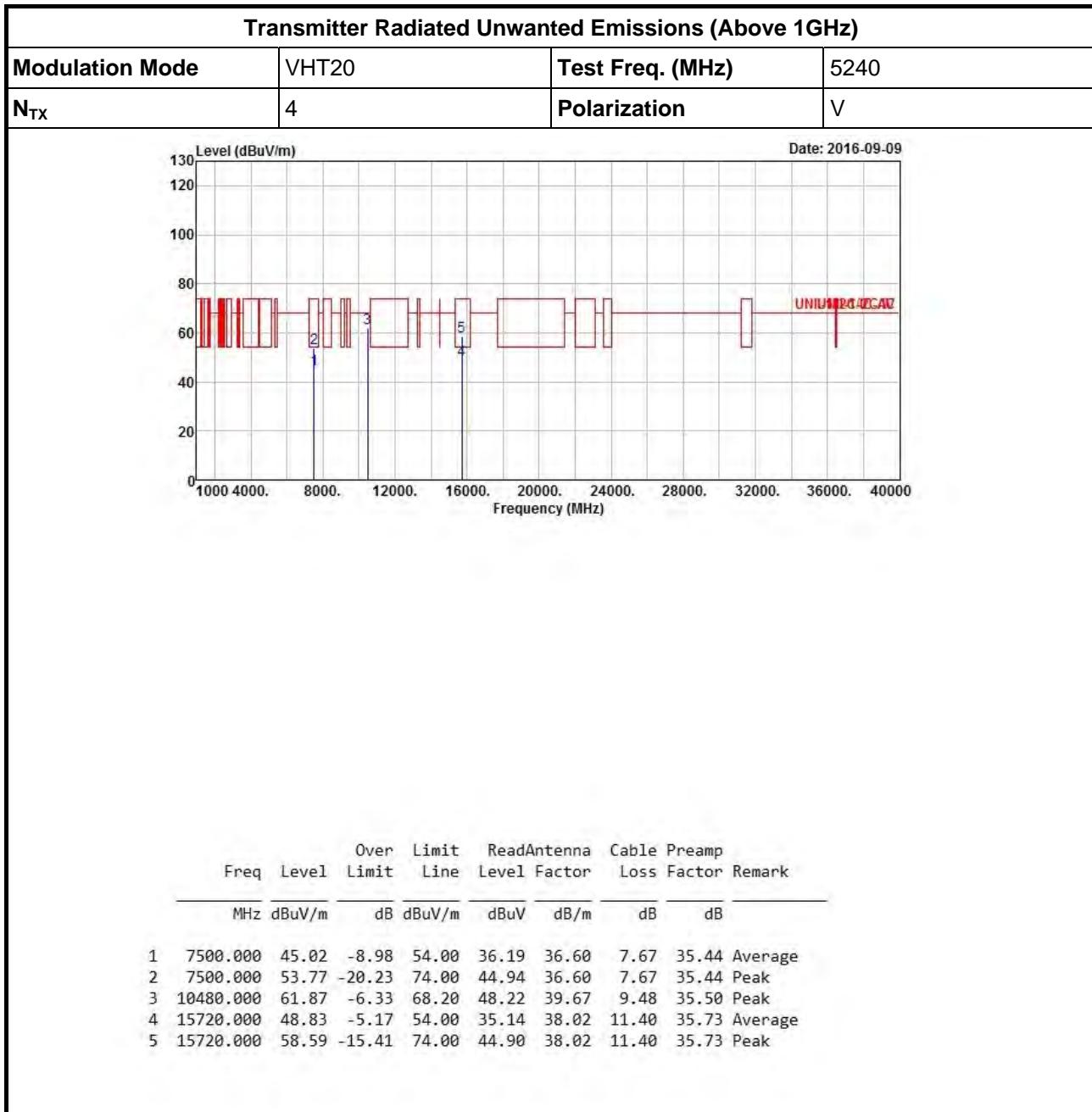
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Transmitter Radiated Unwanted Emissions (Non-Beamforming)

Appendix E



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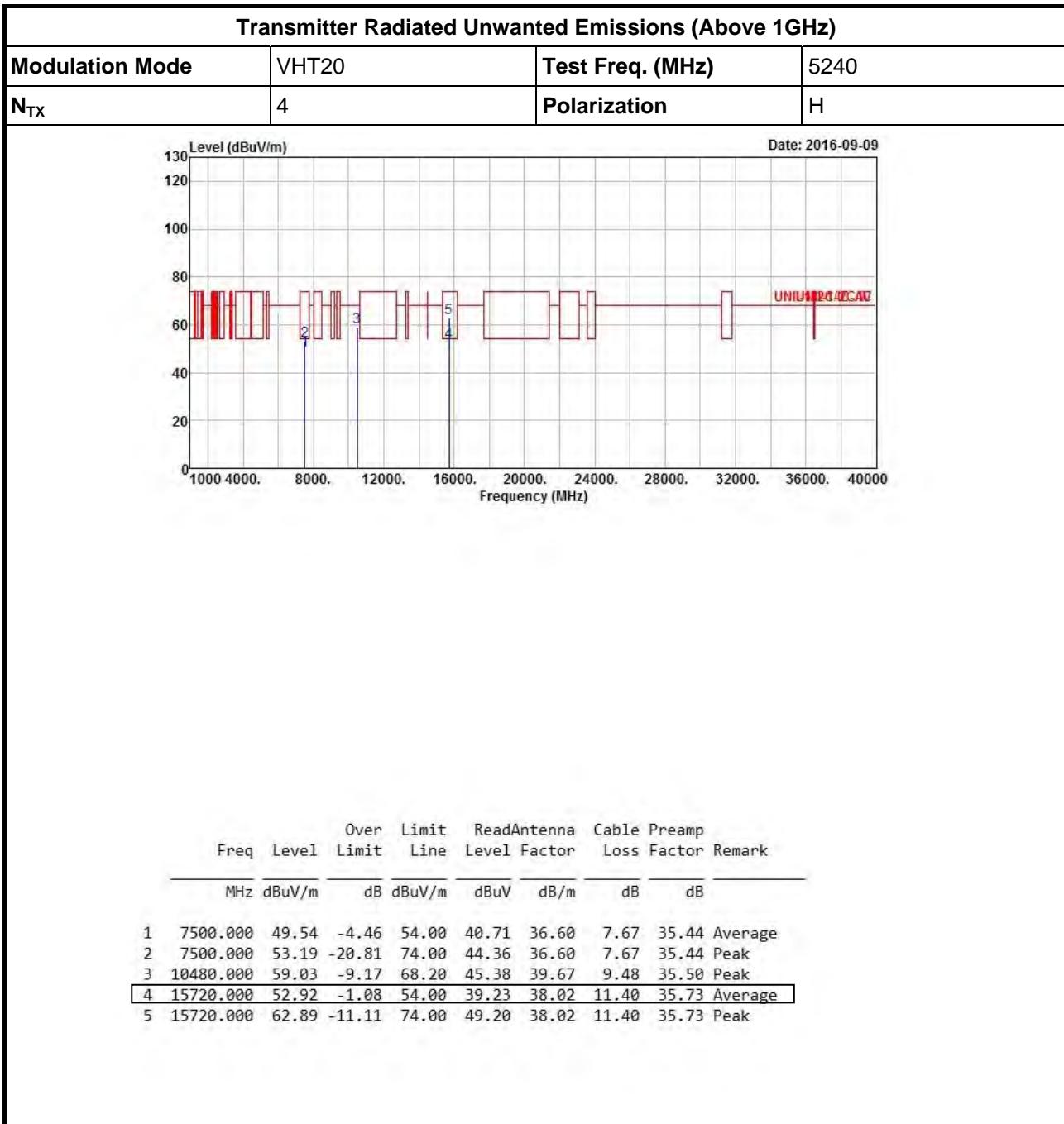
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Appendix E



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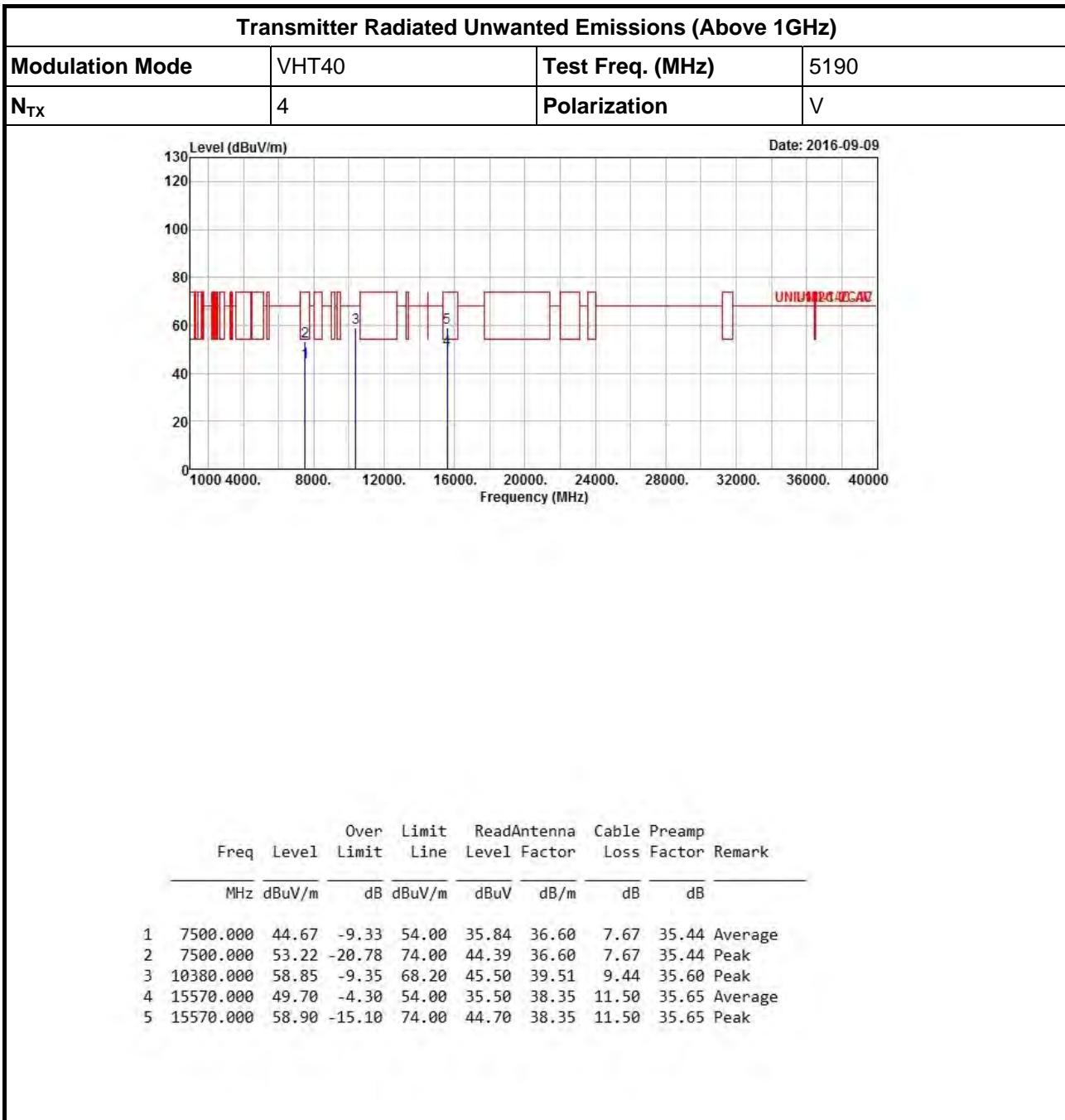
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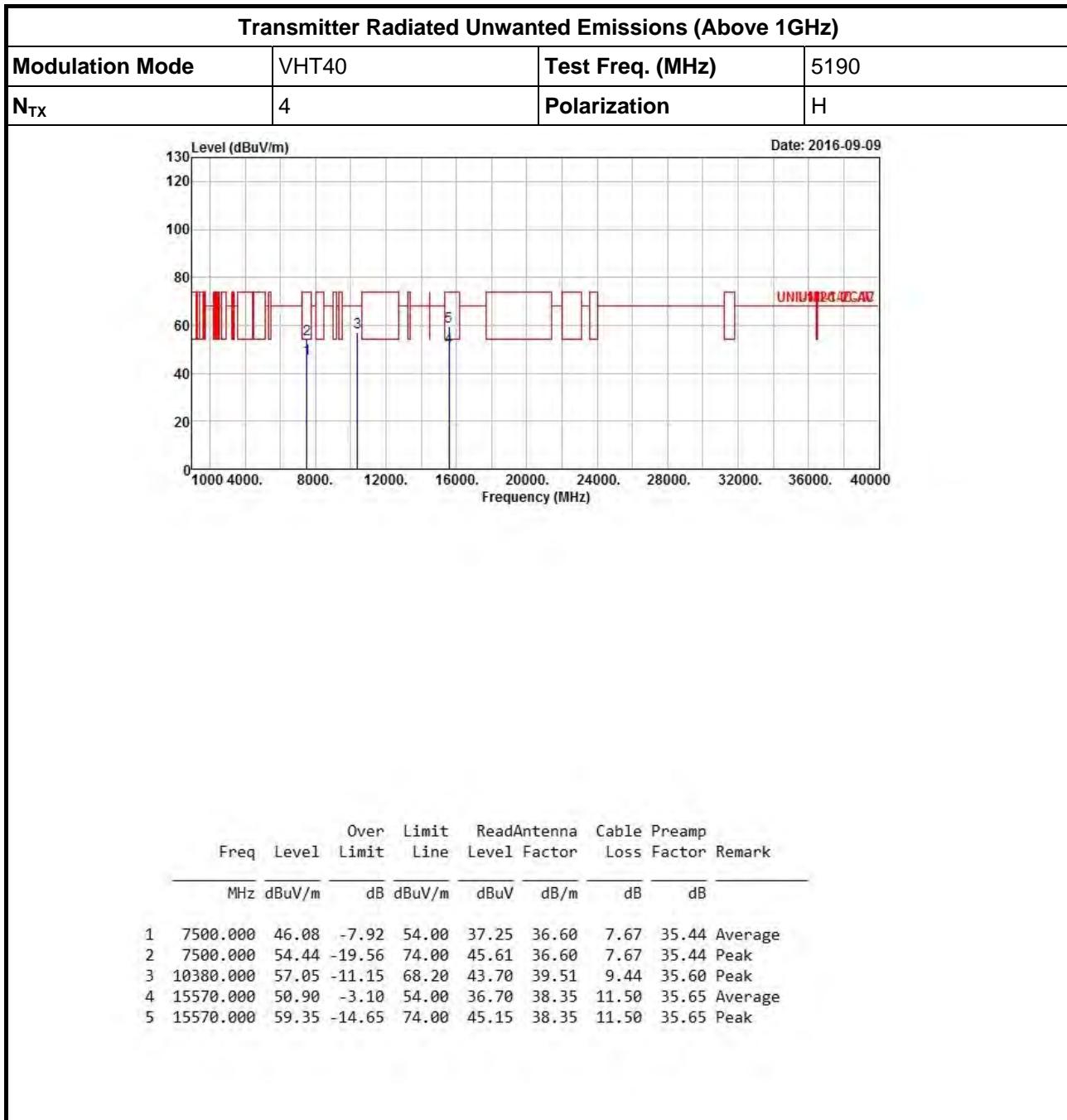
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Appendix E



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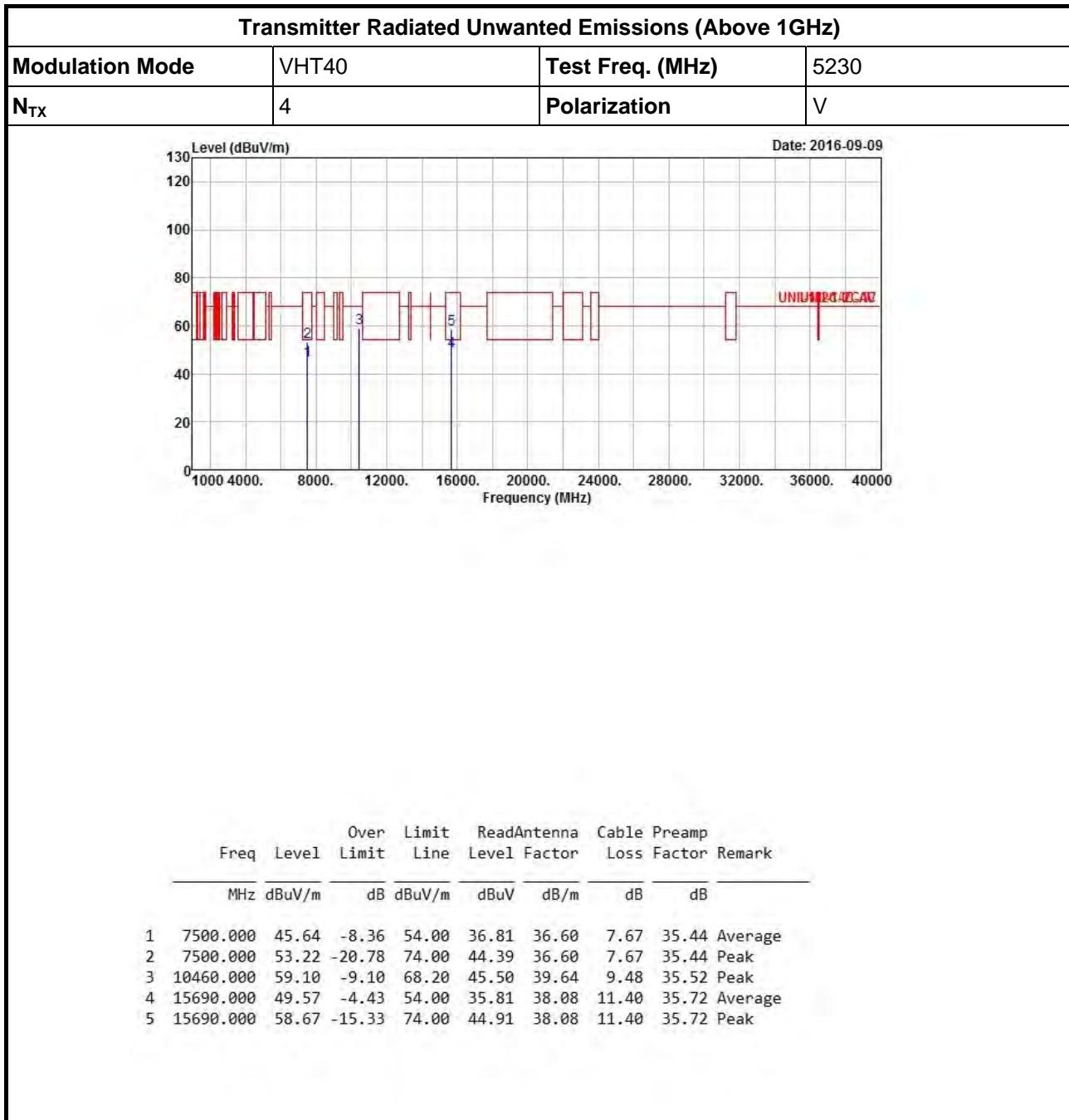
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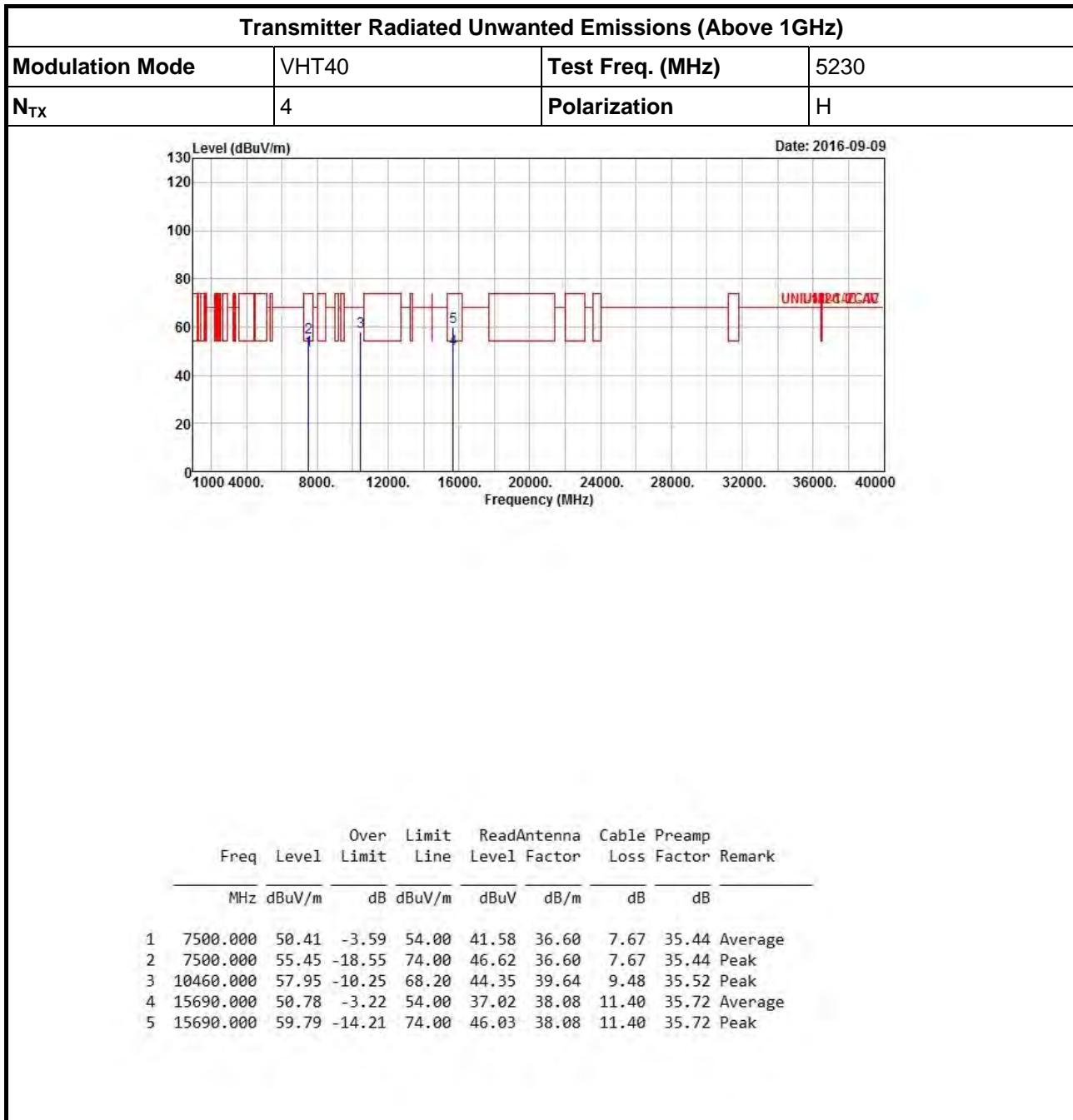
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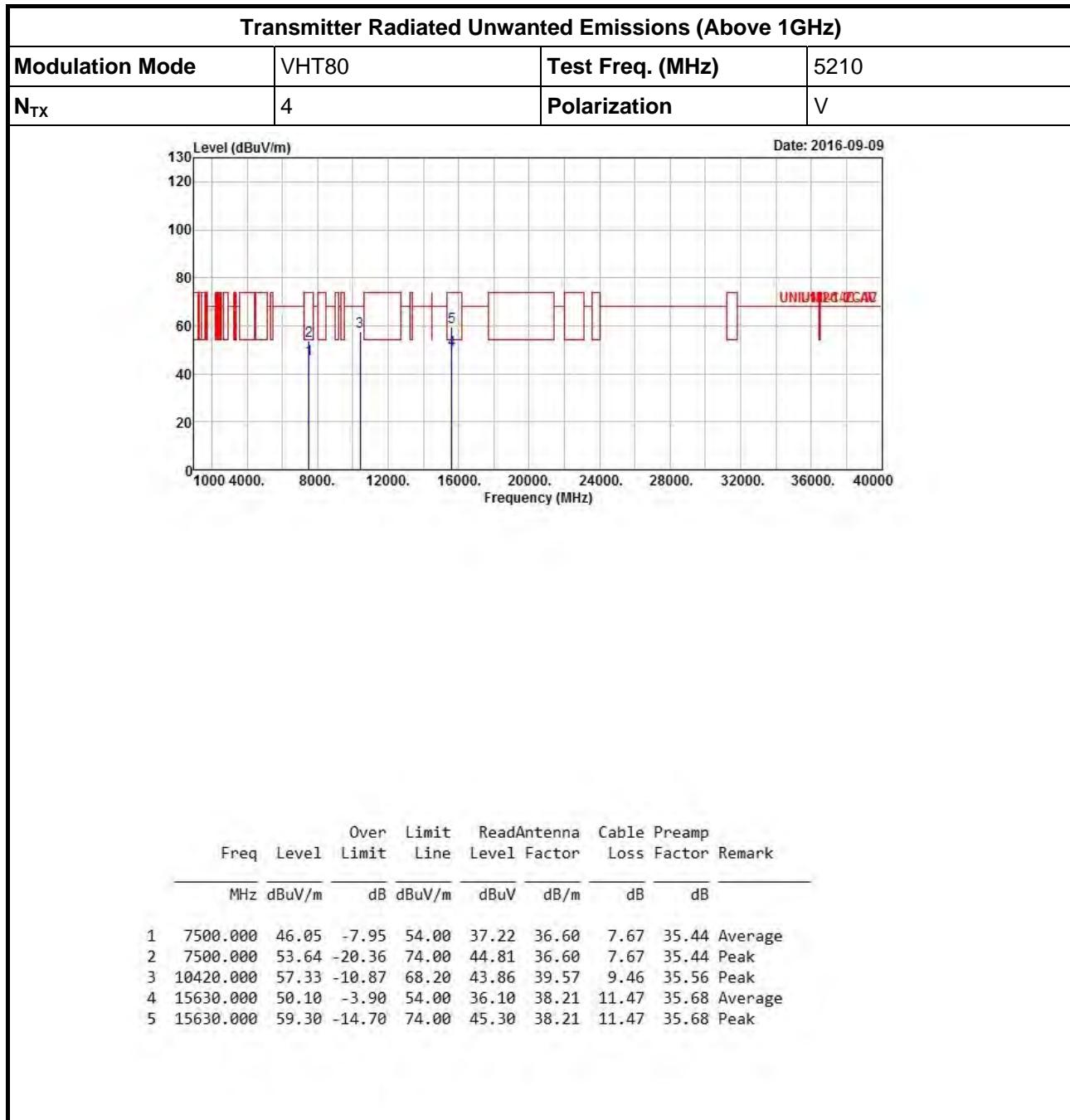
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Appendix E



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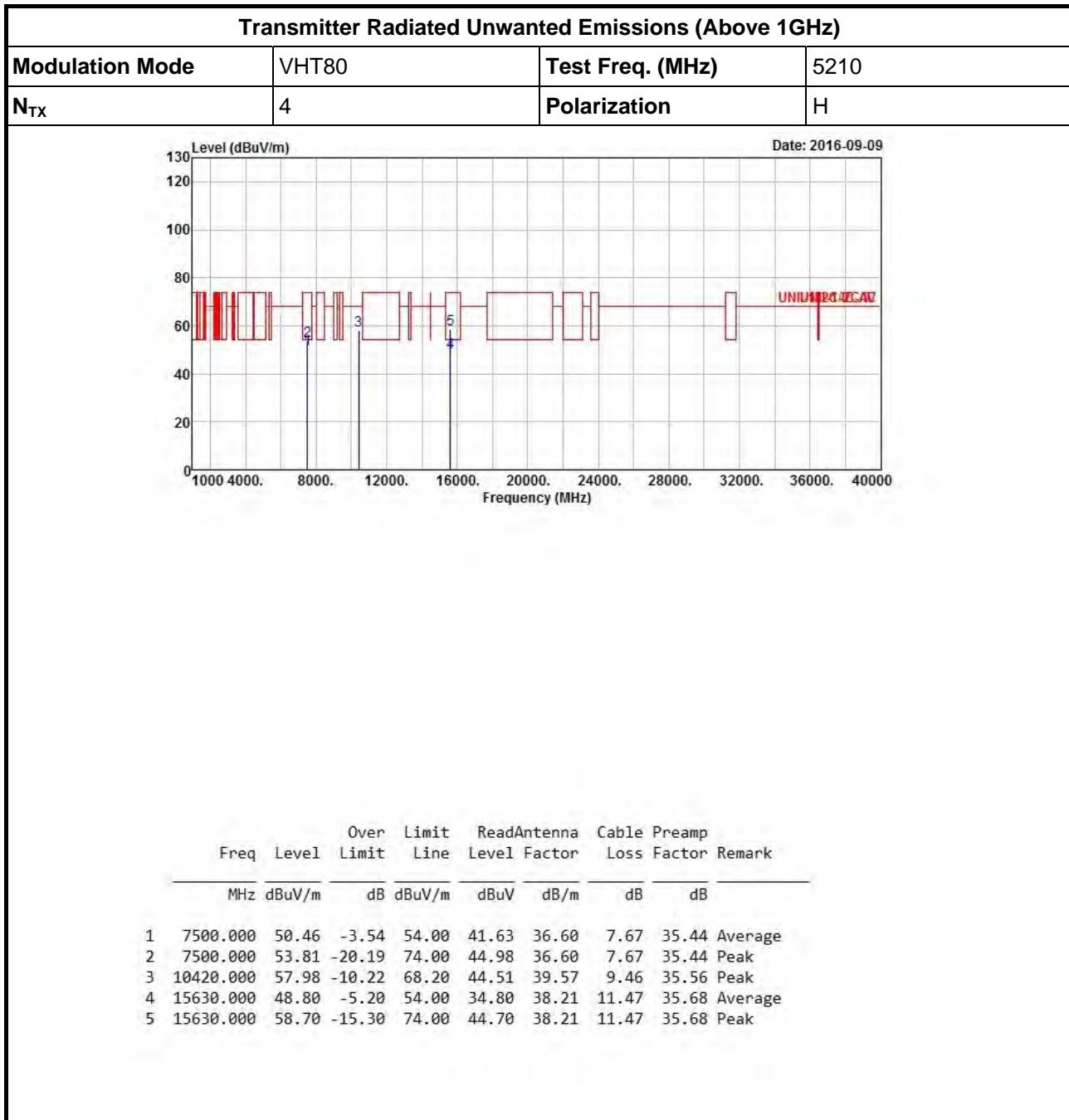
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Transmitter Radiated Unwanted Emissions (Non-Beamforming)

Appendix E



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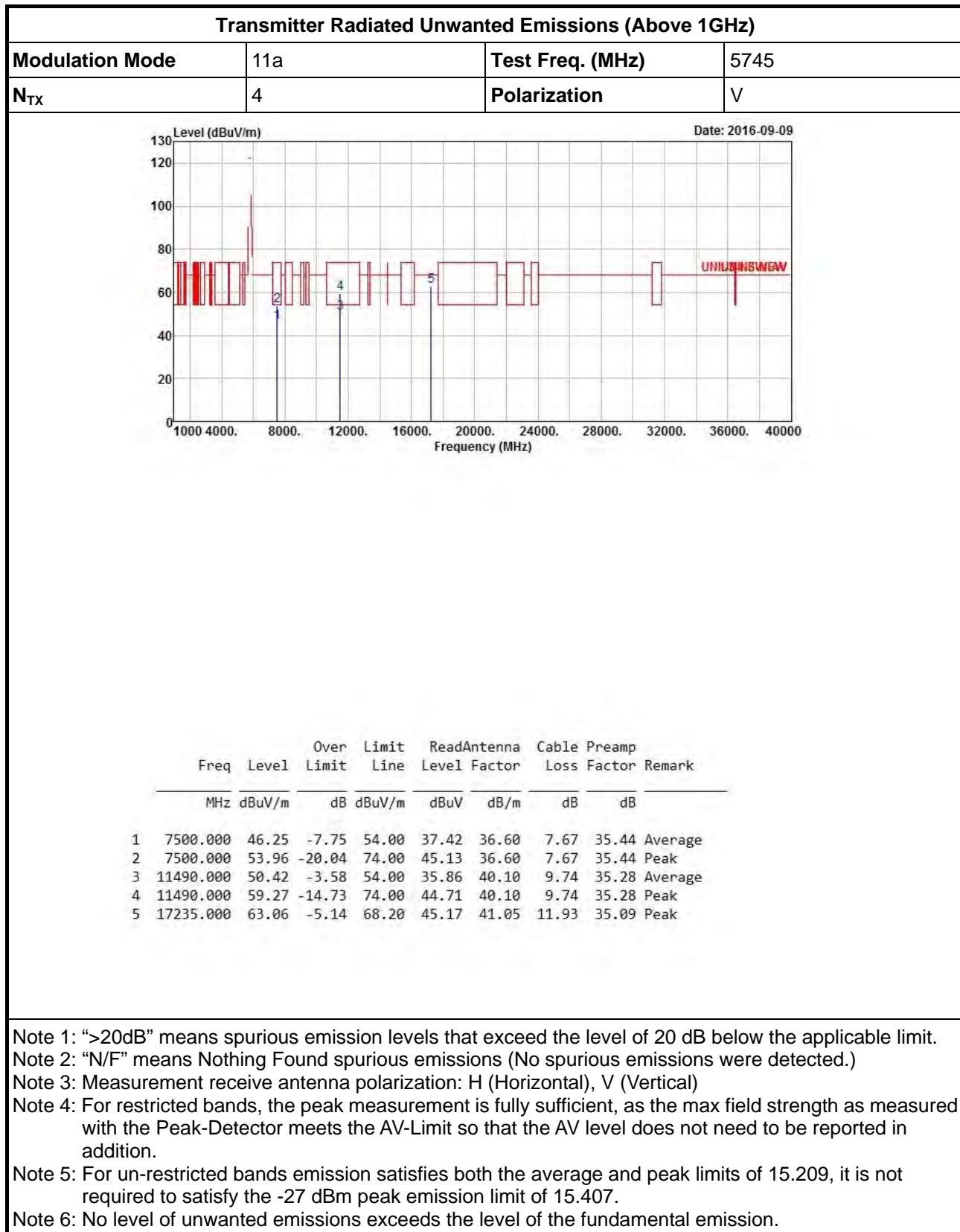
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**Transmitter Radiated Unwanted Emissions
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Appendix E

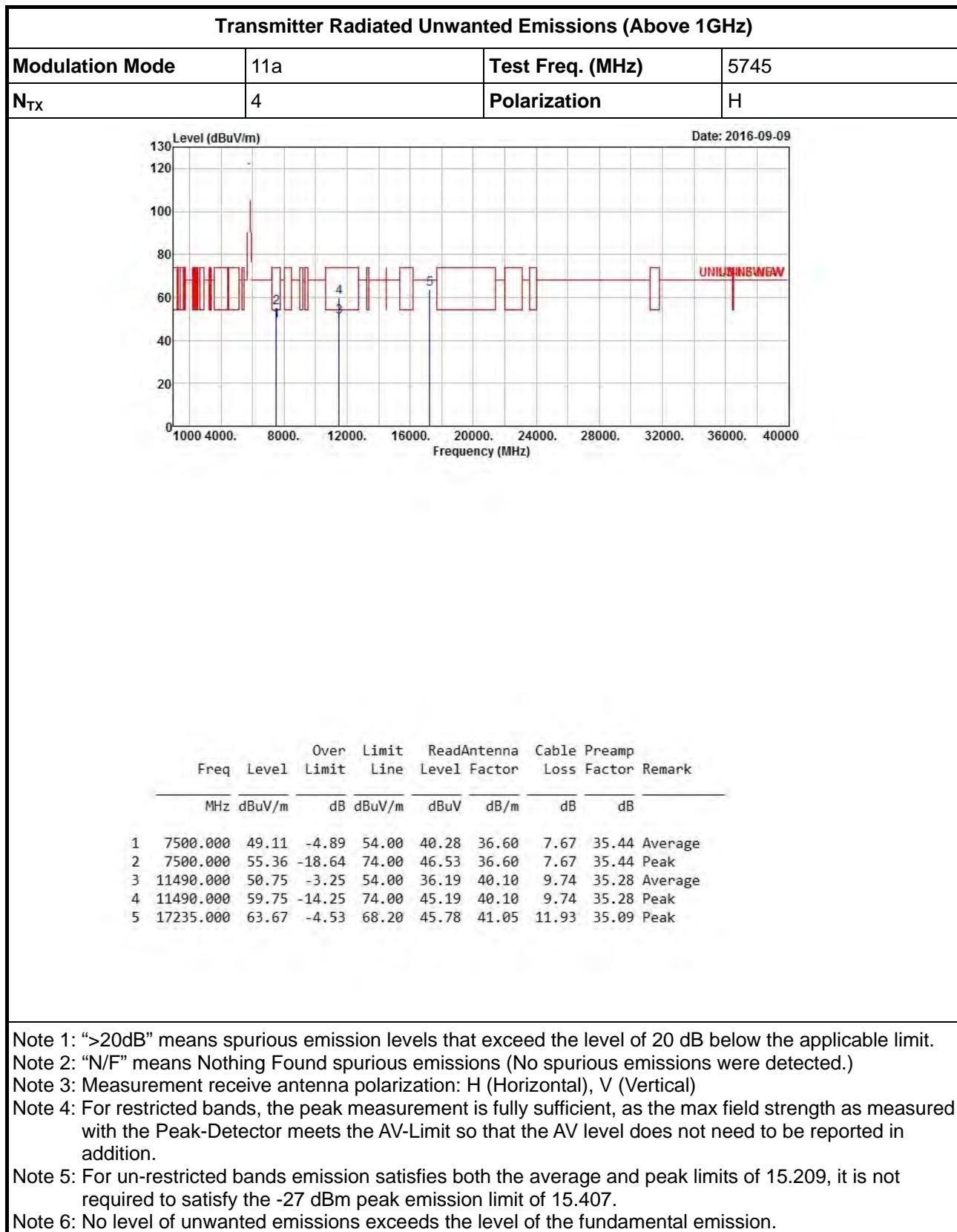
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz





**Transmitter Radiated Unwanted Emissions
(Non-Beamforming)**

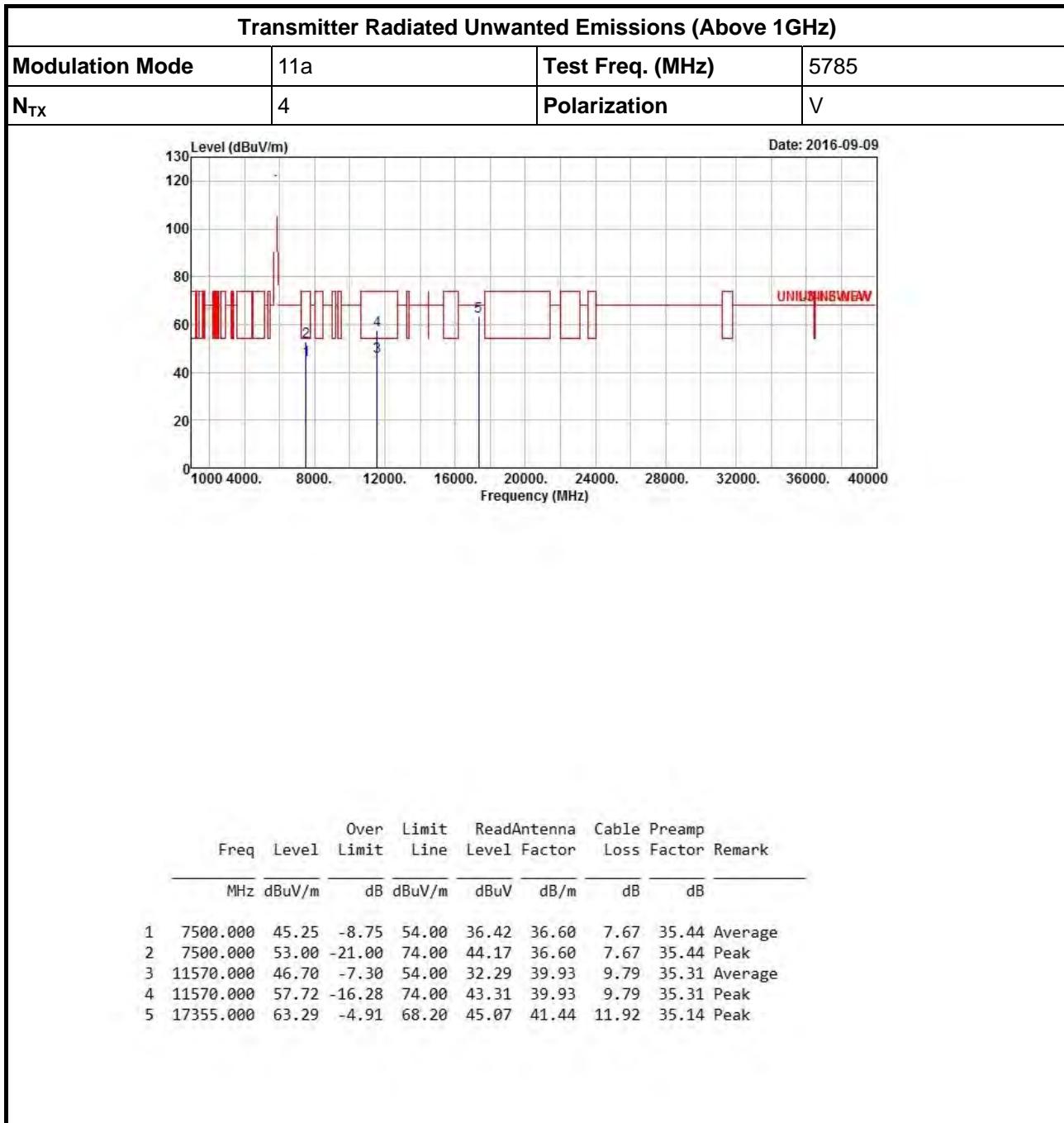
Appendix E





**Transmitter Radiated Unwanted Emissions
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Appendix E



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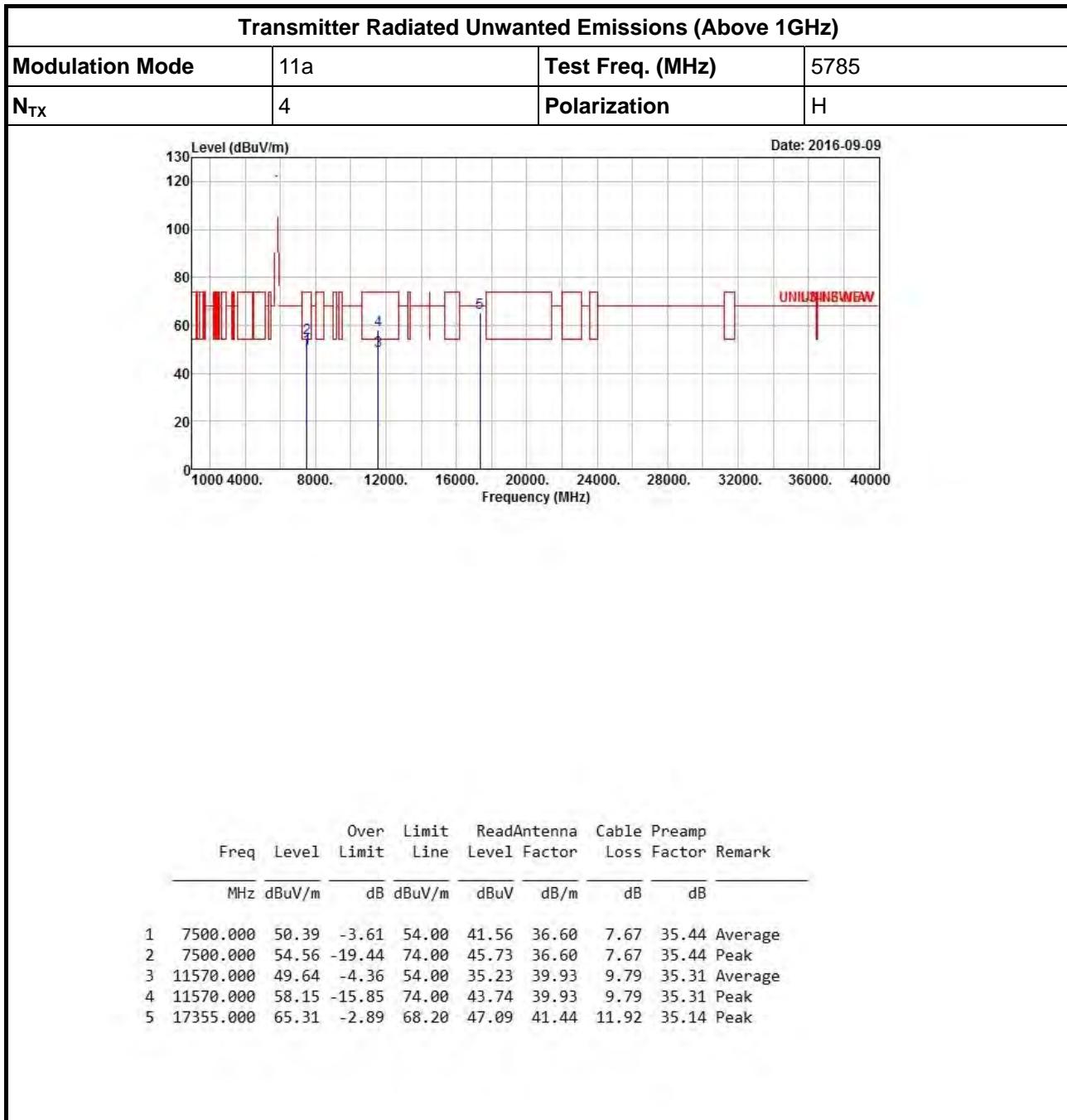
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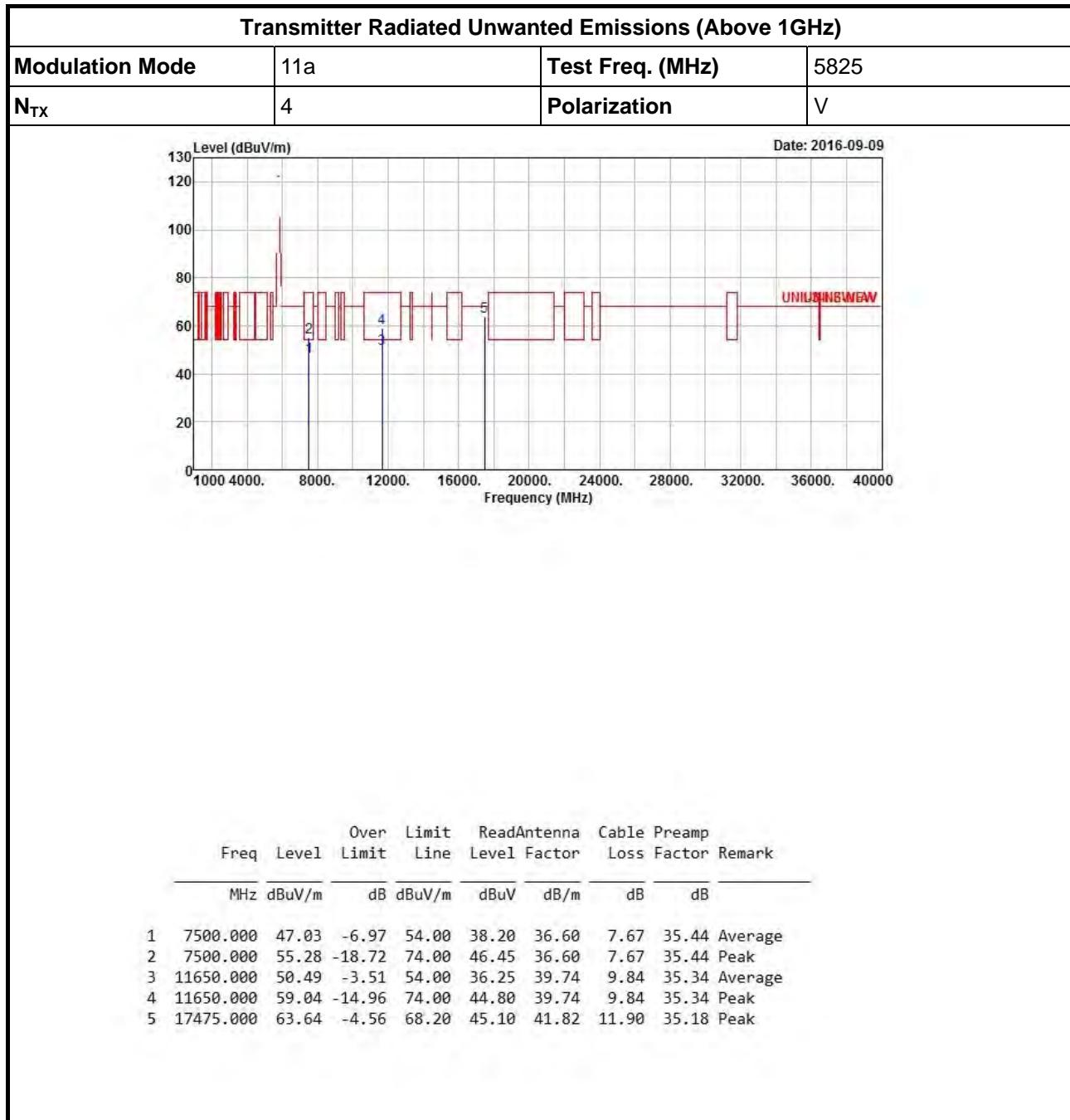
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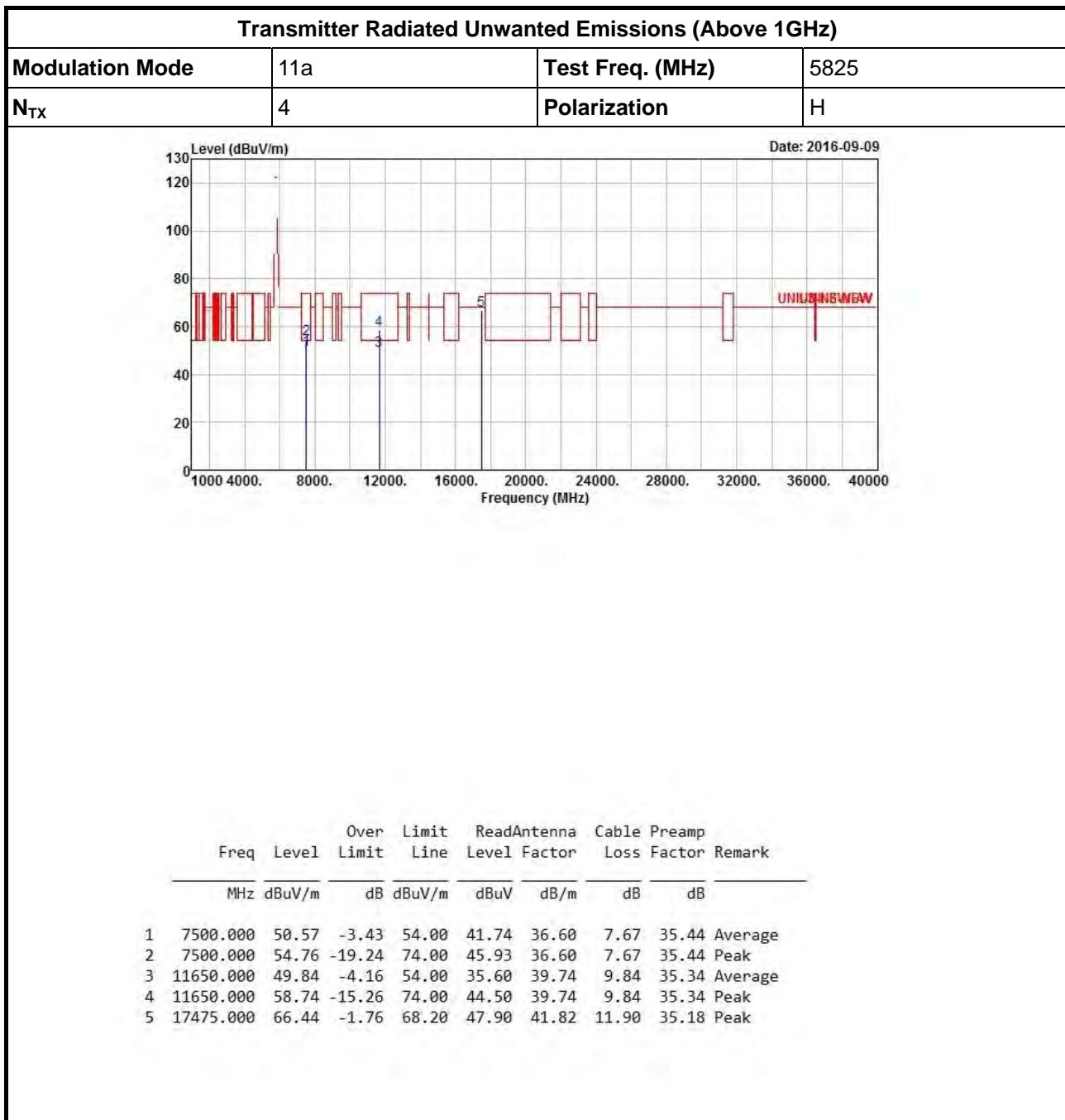
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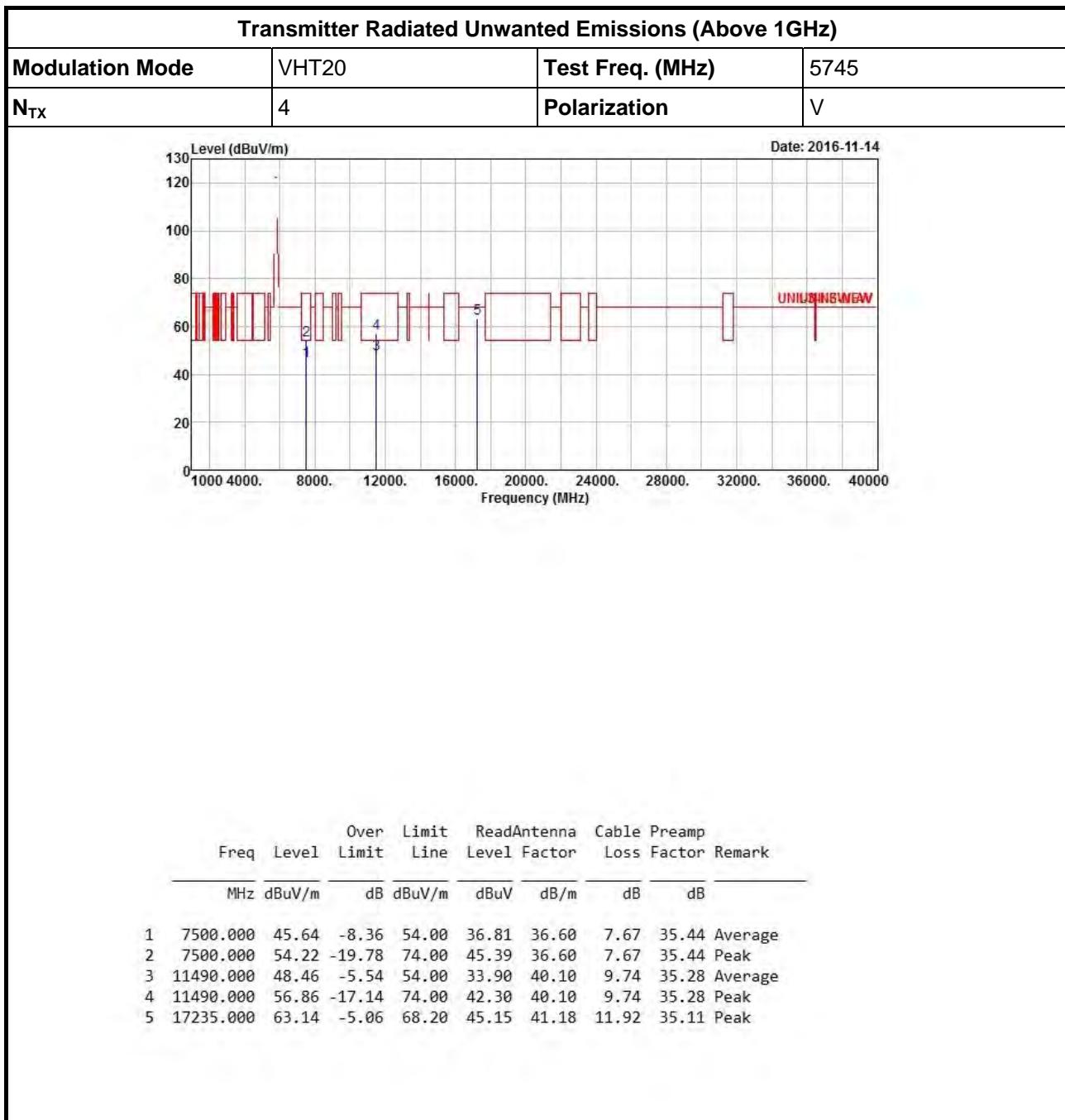
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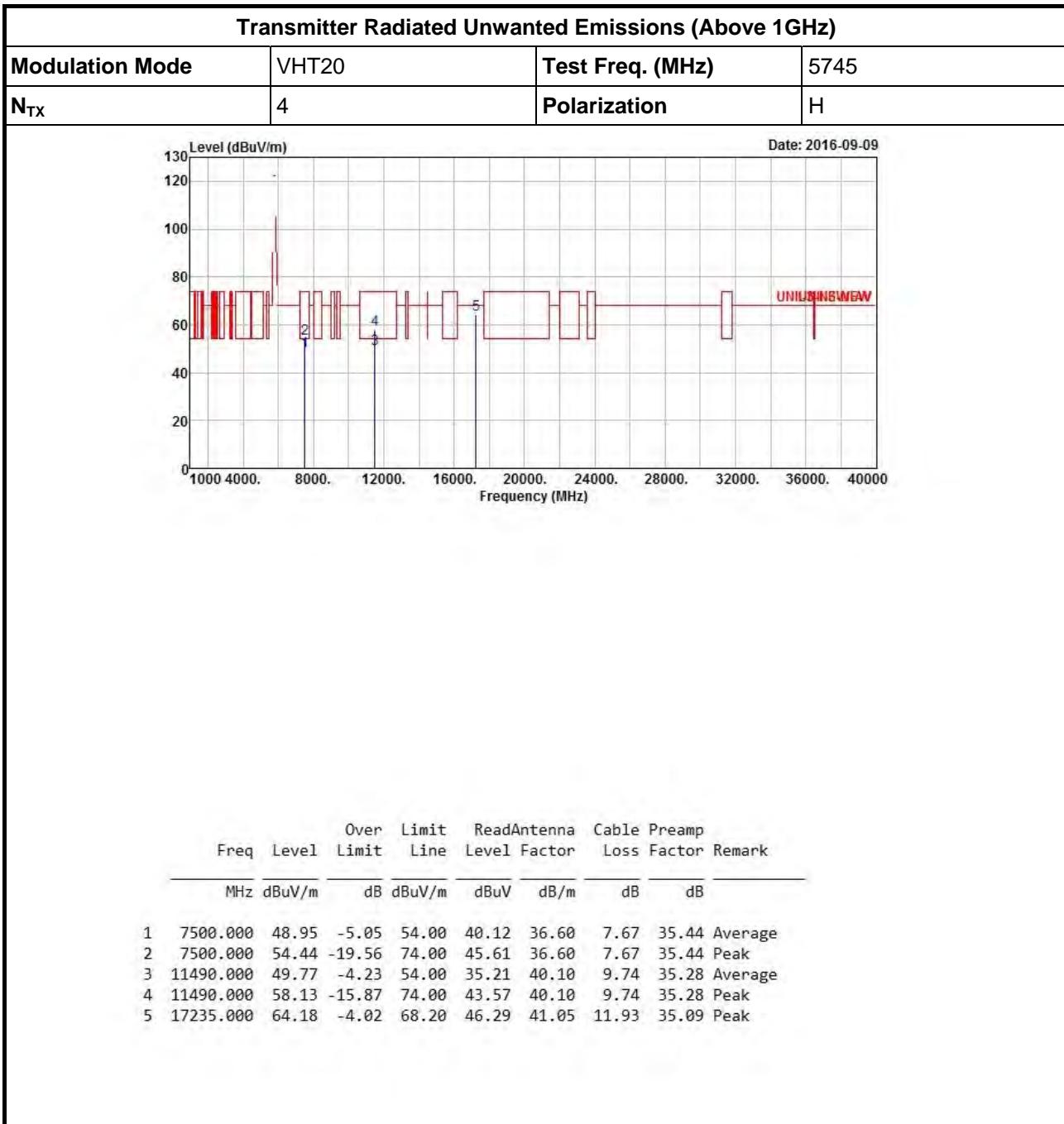
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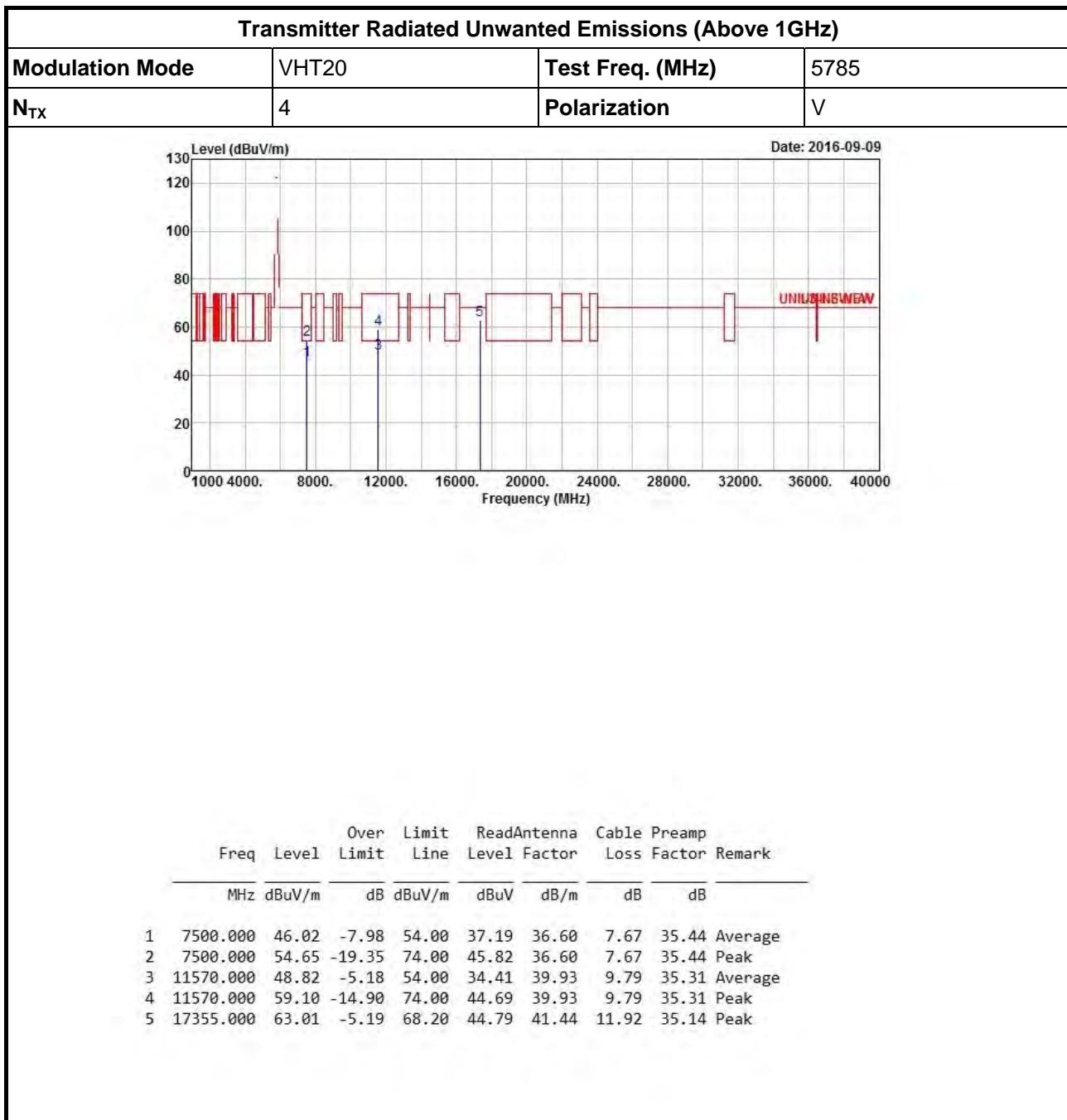
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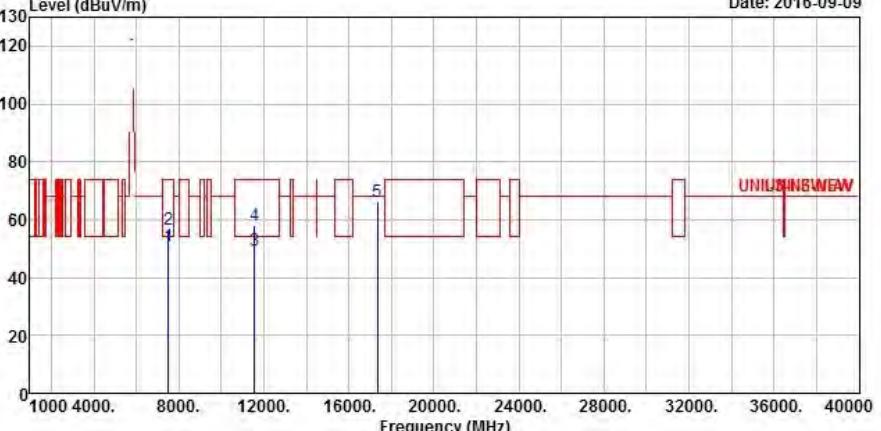
Transmitter Radiated Unwanted Emissions (Non-Beamforming)

Appendix E

Transmitter Radiated Unwanted Emissions (Above 1GHz)

| | | | |
|------------------------|-------|-------------------------|------|
| Modulation Mode | VHT20 | Test Freq. (MHz) | 5785 |
| N_{TX} | 4 | Polarization | H |

Date: 2016-09-09



| Freq MHz | Level dBuV/m | Over Limit | | Read Level dBuV | Antenna Factor | Cable Loss dB | Preamp Factor | Remark |
|-------------|-----------------|---------------|----------------|-----------------------|-------------------|---------------------|------------------|---------|
| | | Limit dB | Line dBuV/m | | | | | |
| 7500.000 | 50.62 | -3.38 | 54.00 | 41.79 | 36.60 | 7.67 | 35.44 | Average |
| 7500.000 | 56.52 | -17.48 | 74.00 | 47.69 | 36.60 | 7.67 | 35.44 | Peak |
| 11570.000 | 49.56 | -4.44 | 54.00 | 35.15 | 39.93 | 9.79 | 35.31 | Average |
| 11570.000 | 58.08 | -15.92 | 74.00 | 43.67 | 39.93 | 9.79 | 35.31 | Peak |
| 17355.000 | 66.01 | -2.19 | 68.20 | 47.79 | 41.44 | 11.92 | 35.14 | Peak |

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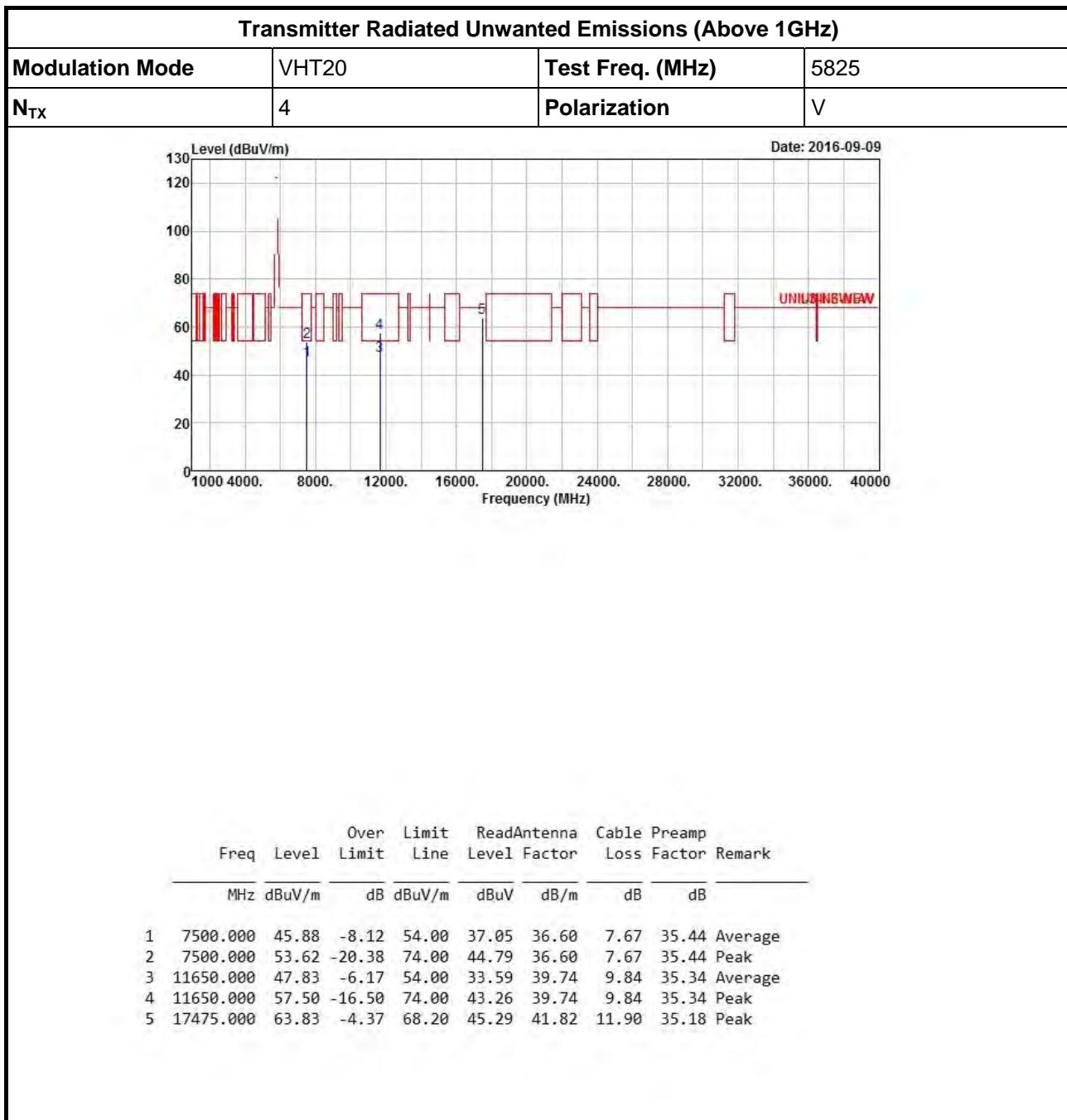
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Appendix E



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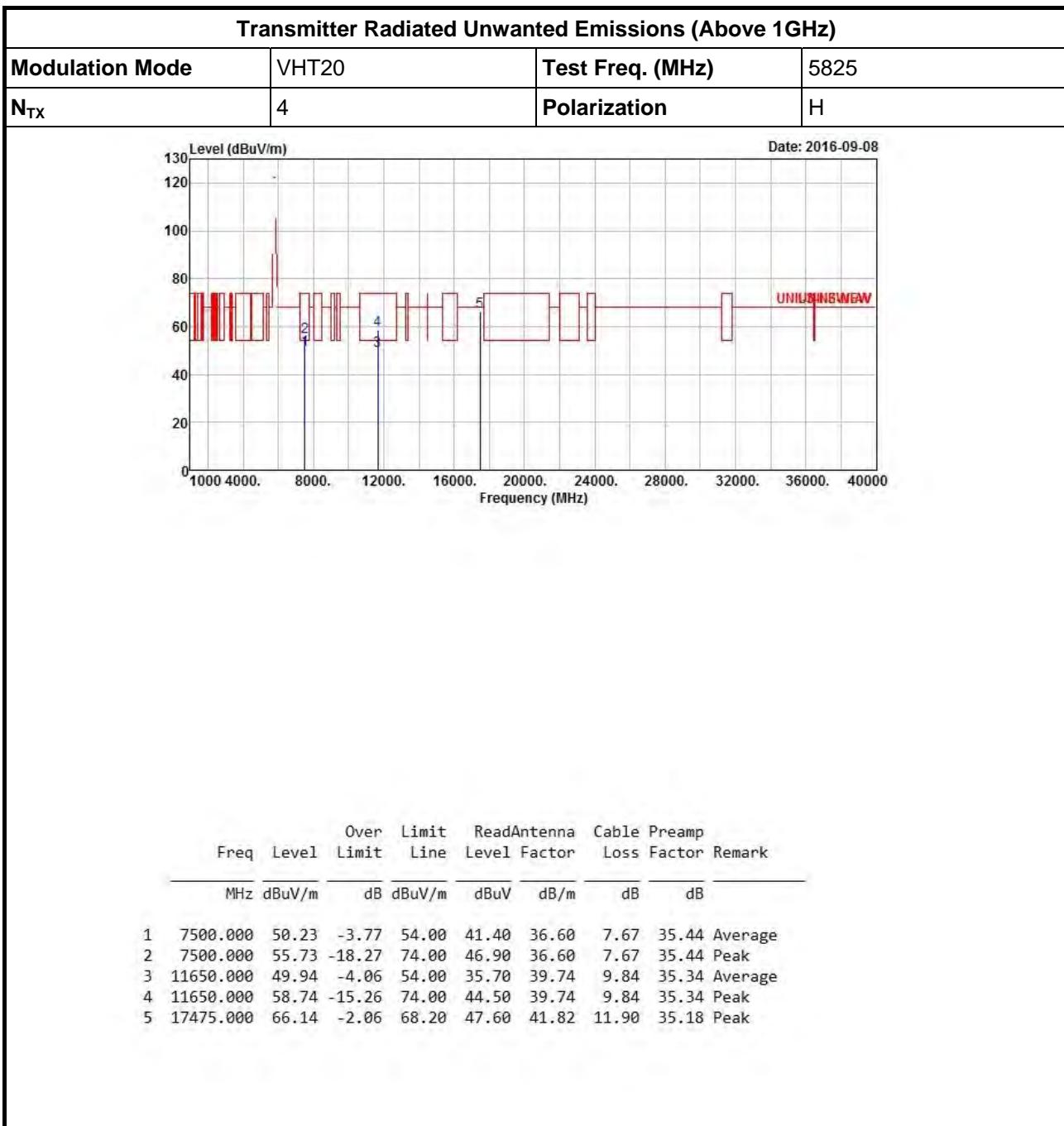
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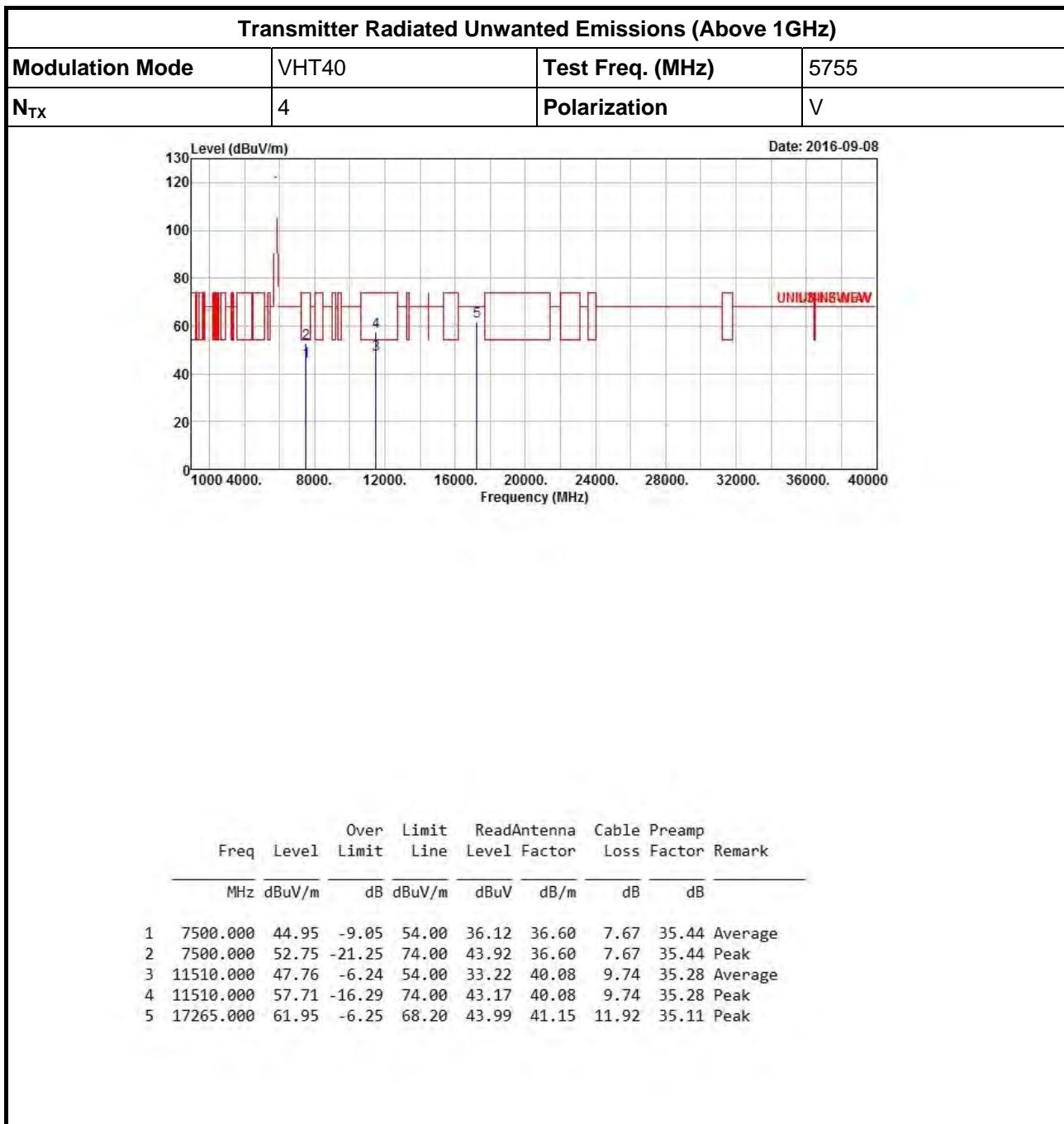
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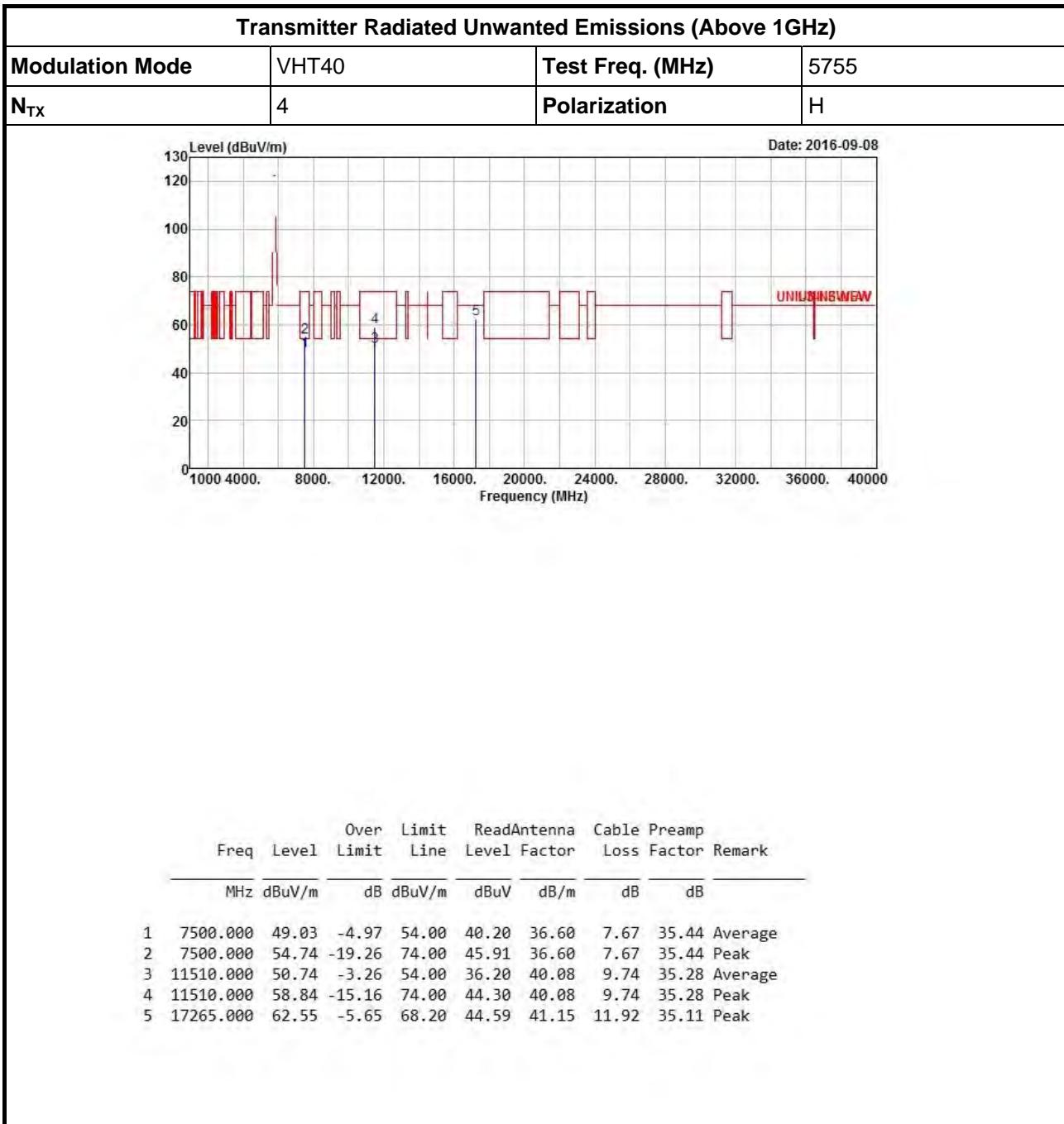
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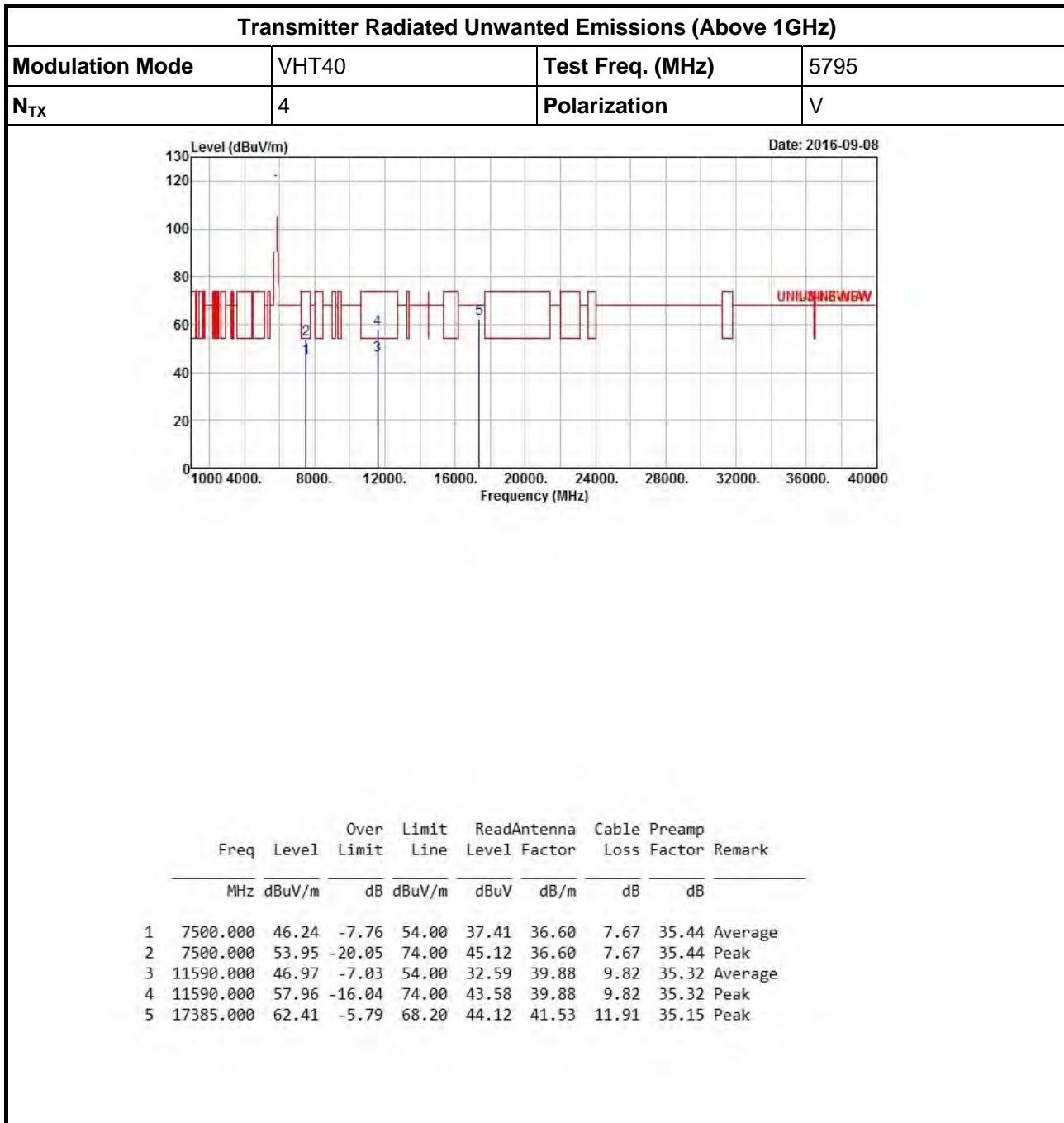
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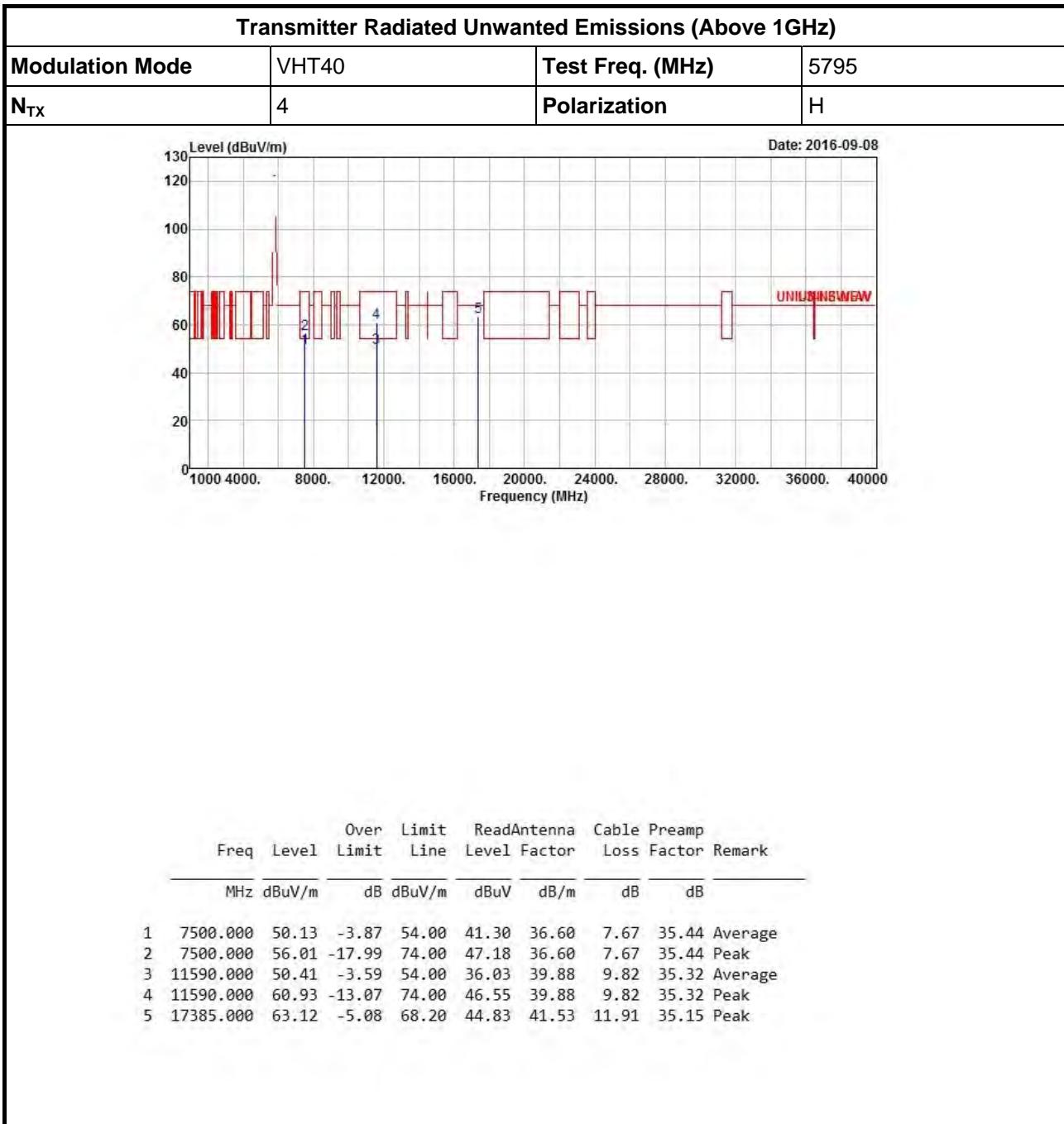
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



**Transmitter Radiated Unwanted Emissions
(Non-Beamforming)**

Appendix E



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.

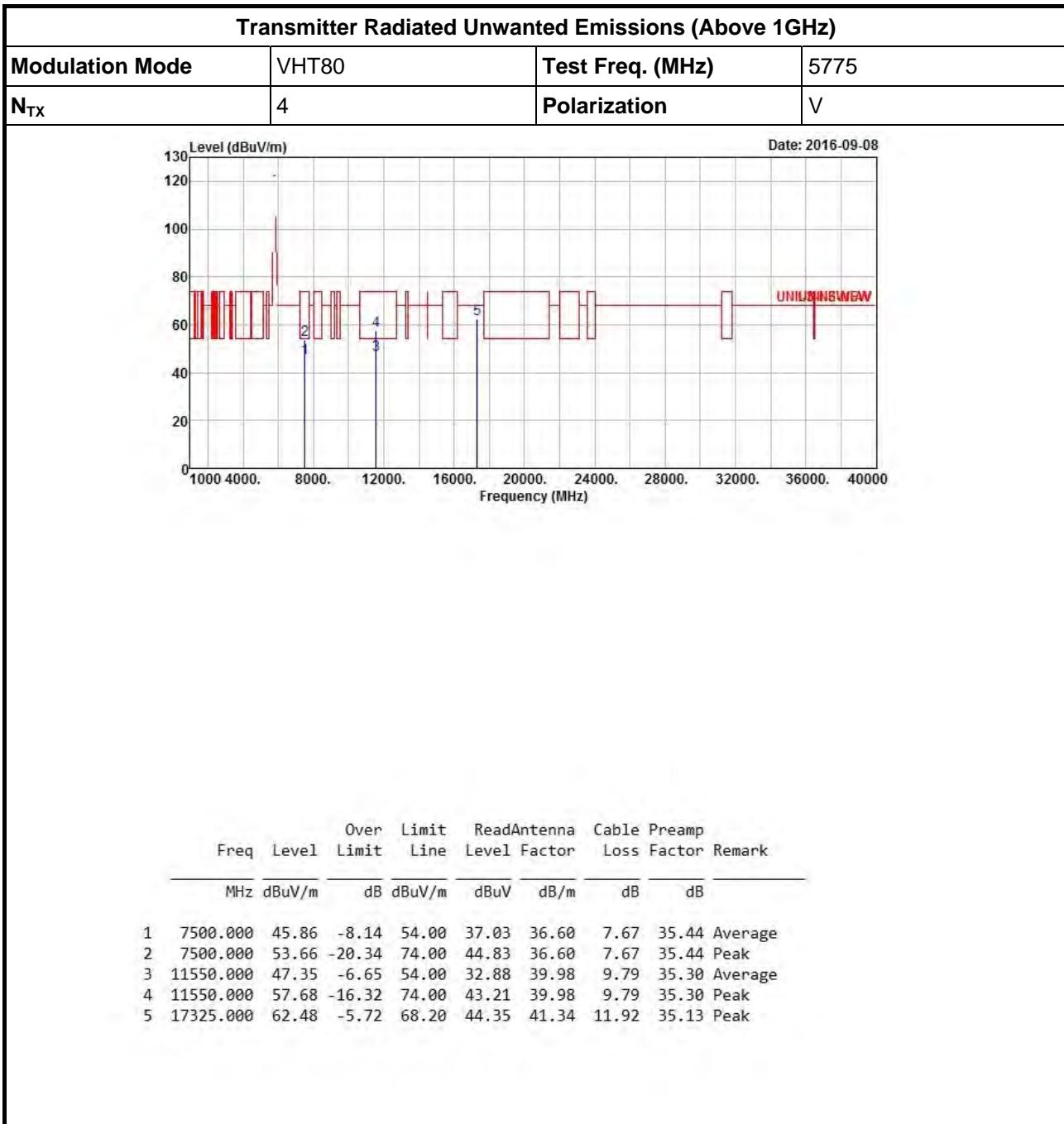
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



**Transmitter Radiated Unwanted Emissions
(Non-Beamforming)**

Appendix E



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.

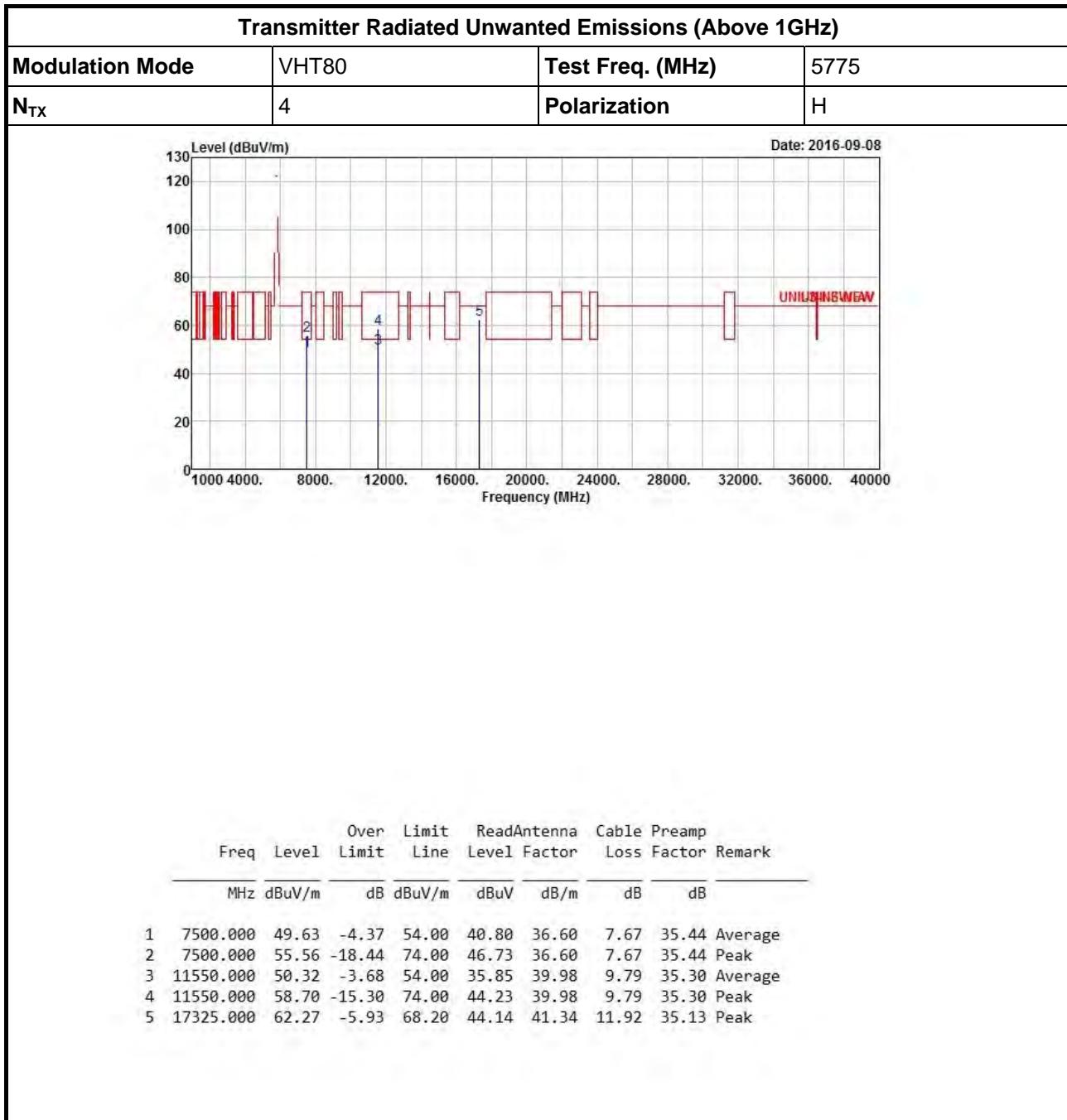
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



**Transmitter Radiated Unwanted Emissions
(Non-Beamforming)**

Appendix E



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)

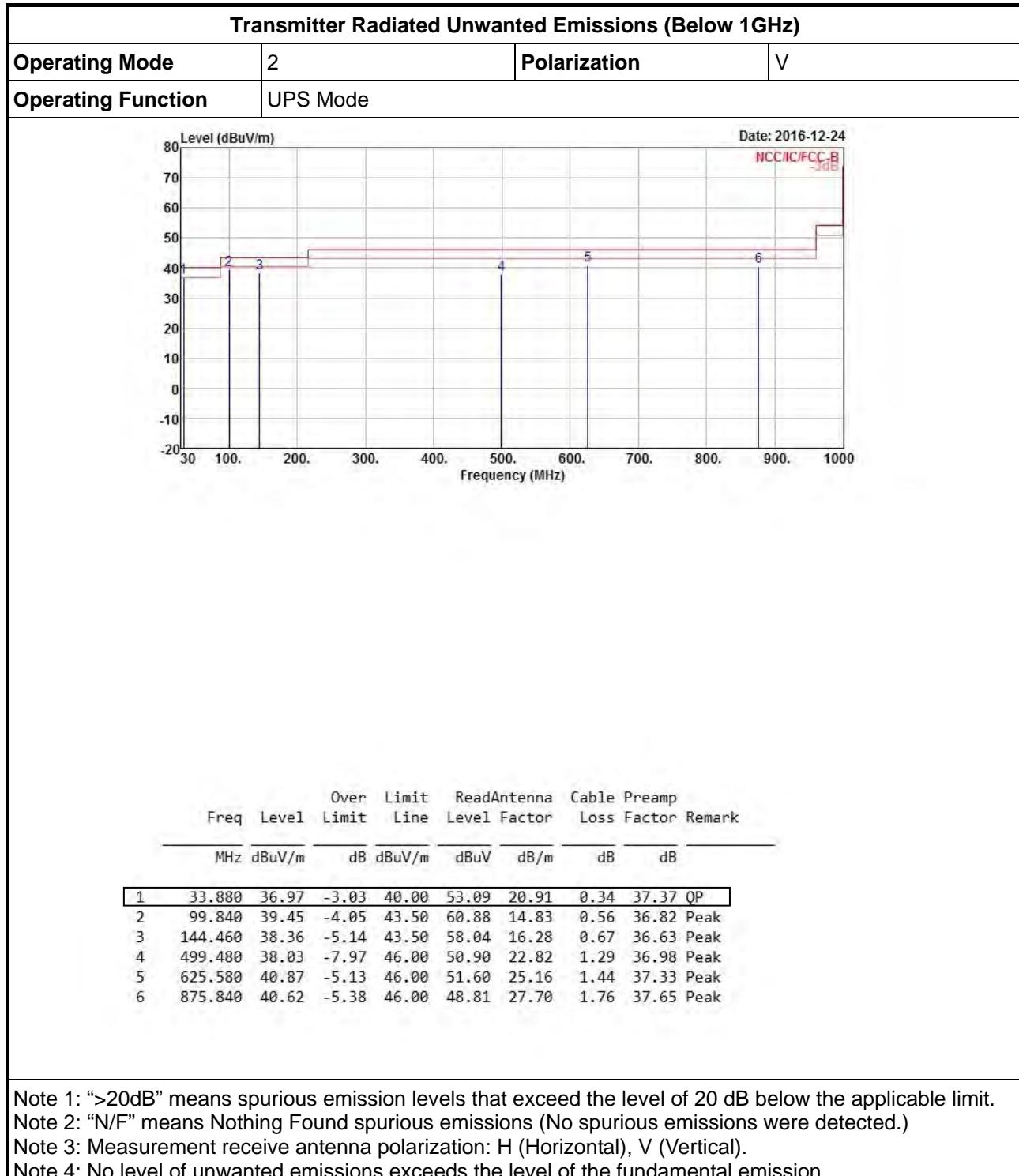
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

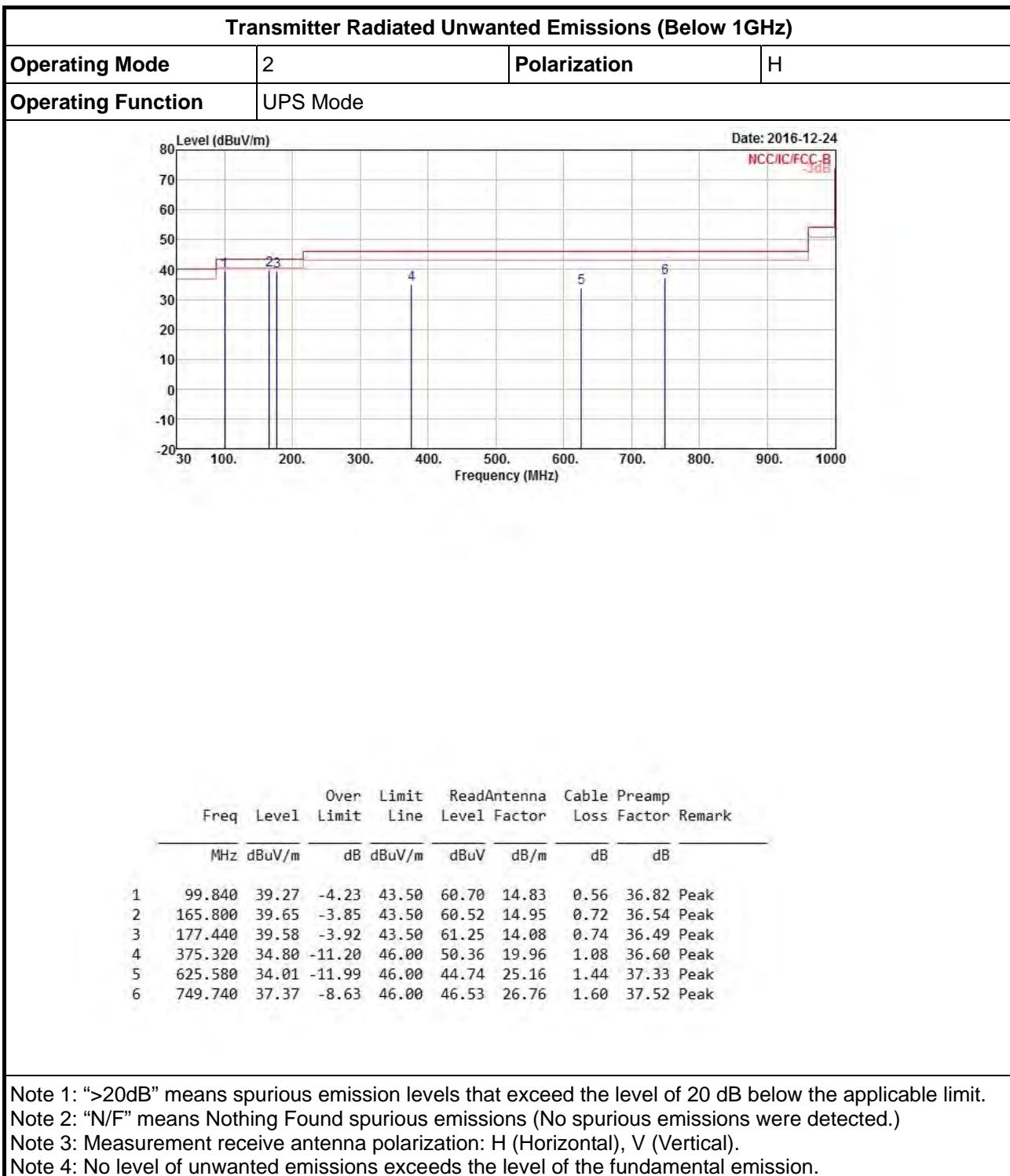
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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

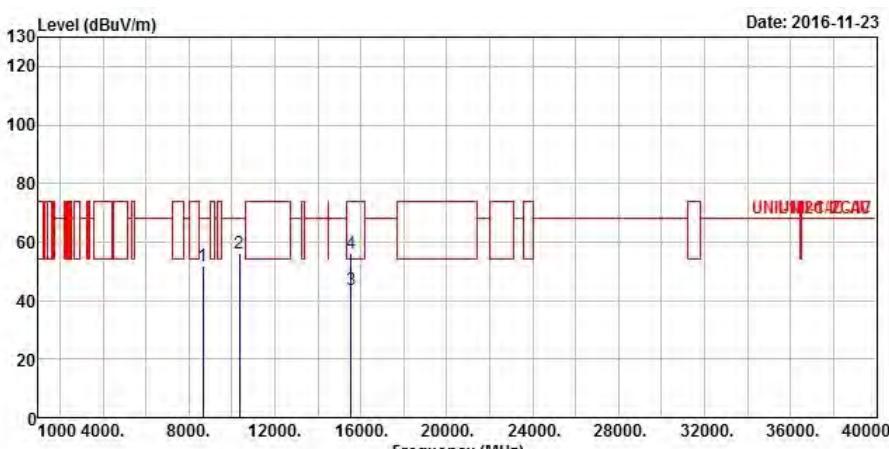


Transmitter Radiated Unwanted Emissions (Below 1GHz)

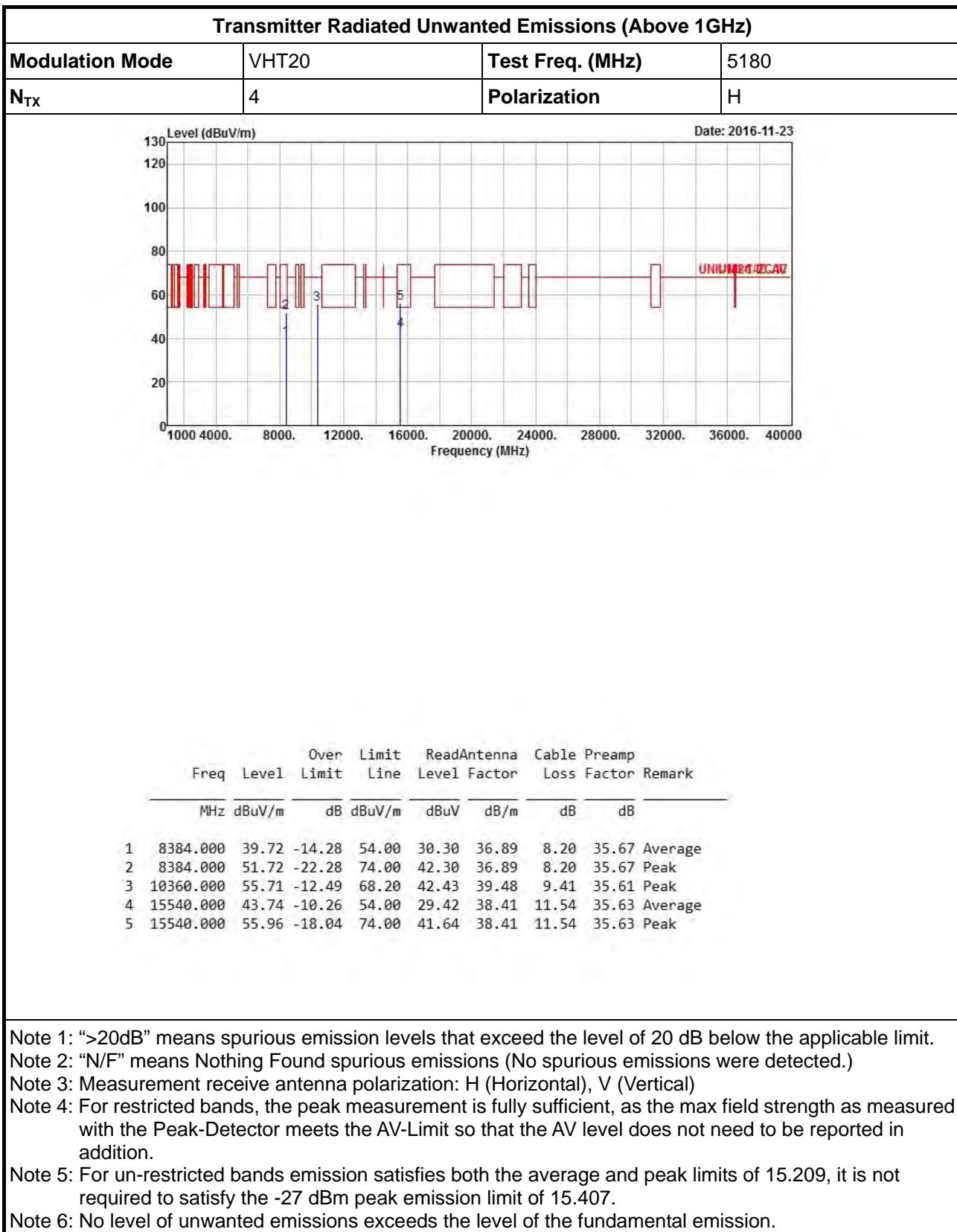


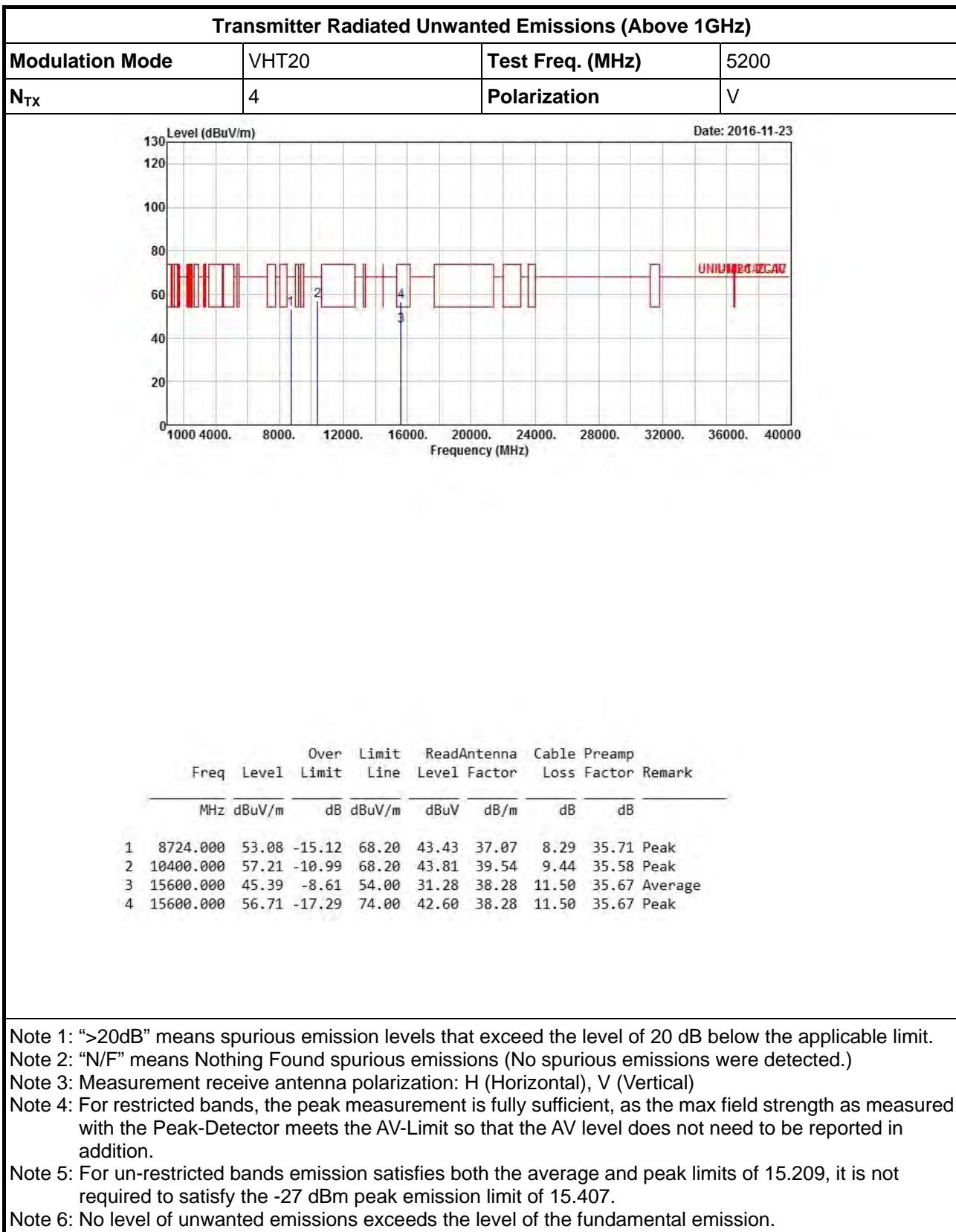


Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5150-5250MHz

| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | | | | | | | |
|--|-----------|------------|--------|------------------|--------|--------|--------|--------|------------------|
| Modulation Mode | VHT20 | | | Test Freq. (MHz) | 5180 | | | | |
| N _{TX} | 4 | | | Polarization | V | | | | |
| Level (dBuV/m) | | | | | | | | | Date: 2016-11-23 |
| 1000 | 4000. | 8000. | 12000. | 16000. | 20000. | 24000. | 28000. | 32000. | 36000. 40000 |
| Frequency (MHz) | | | | | | | | | |
|  | | | | | | | | | |
| Freq | Level | Over Limit | Line | ReadAntenna | Cable | Preamp | | | |
| MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | | | |
| 1 | 8644.000 | 51.94 | -16.26 | 68.20 | 42.39 | 36.97 | 8.28 | 35.70 | Peak |
| 2 | 10360.000 | 56.25 | -11.95 | 68.20 | 42.97 | 39.48 | 9.41 | 35.61 | Peak |
| 3 | 15540.000 | 43.72 | -10.28 | 54.00 | 29.40 | 38.41 | 11.54 | 35.63 | Average |
| 4 | 15540.000 | 56.36 | -17.64 | 74.00 | 42.04 | 38.41 | 11.54 | 35.63 | 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 emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
 Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.





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

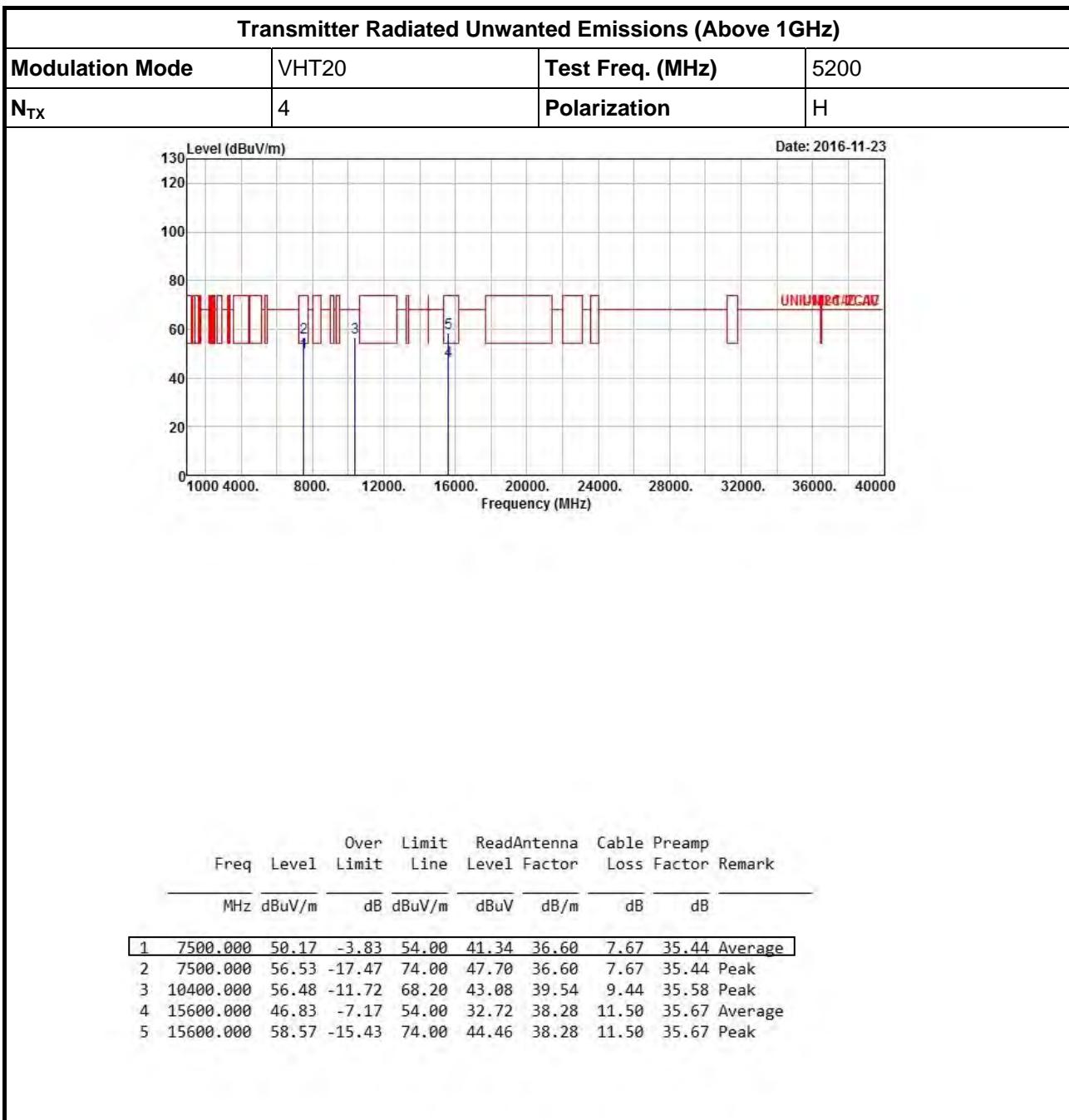
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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 emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



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

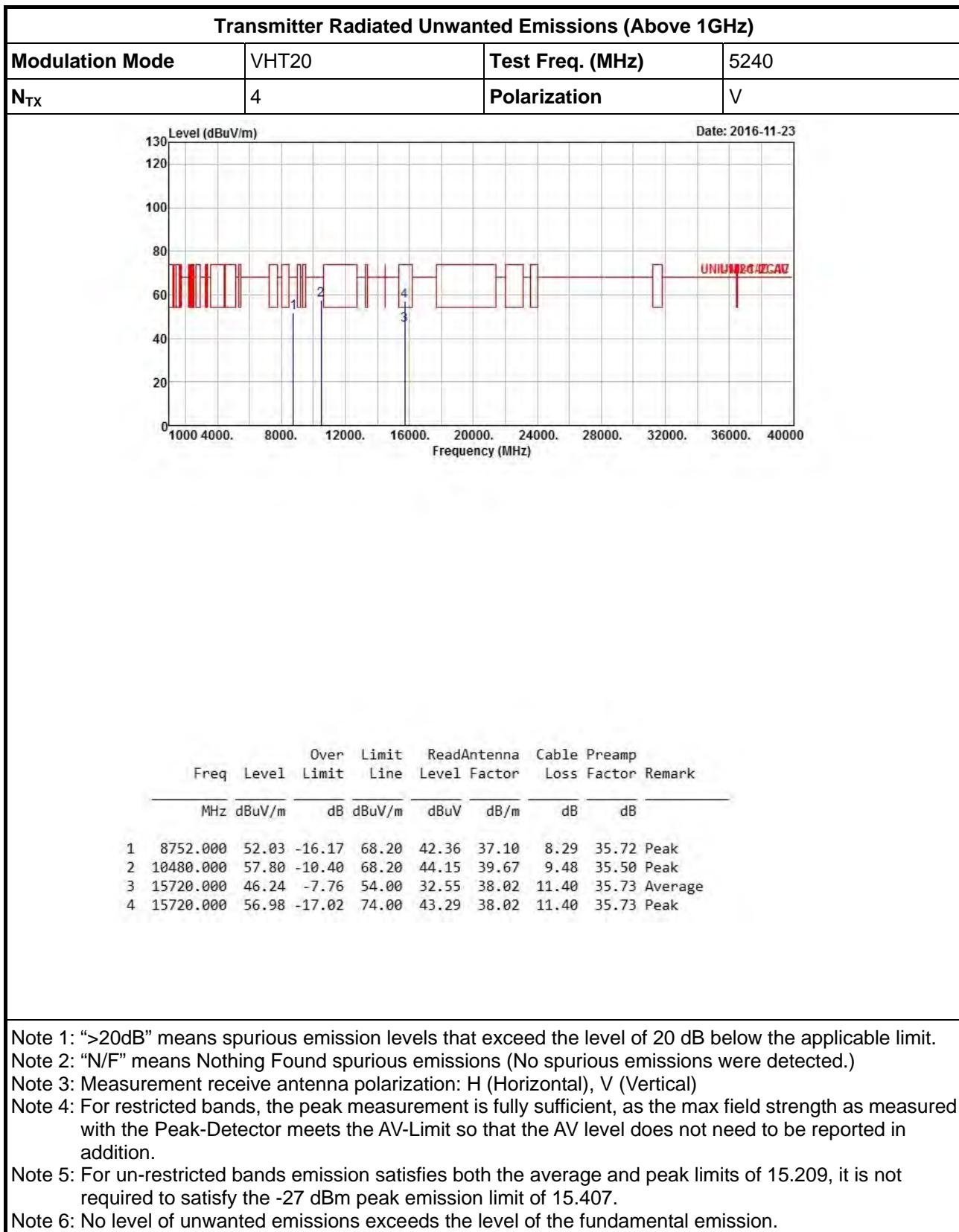
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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 emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



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

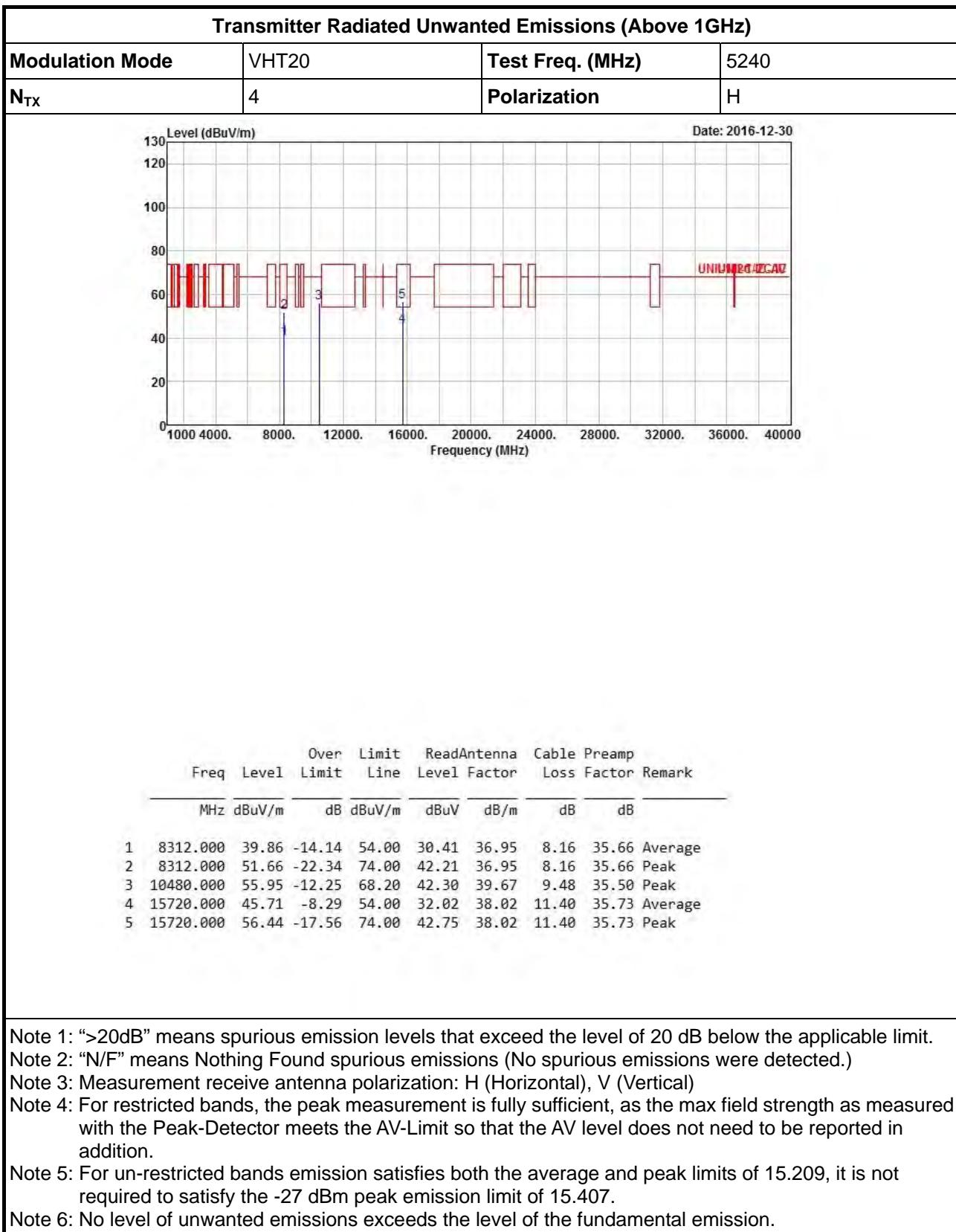
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

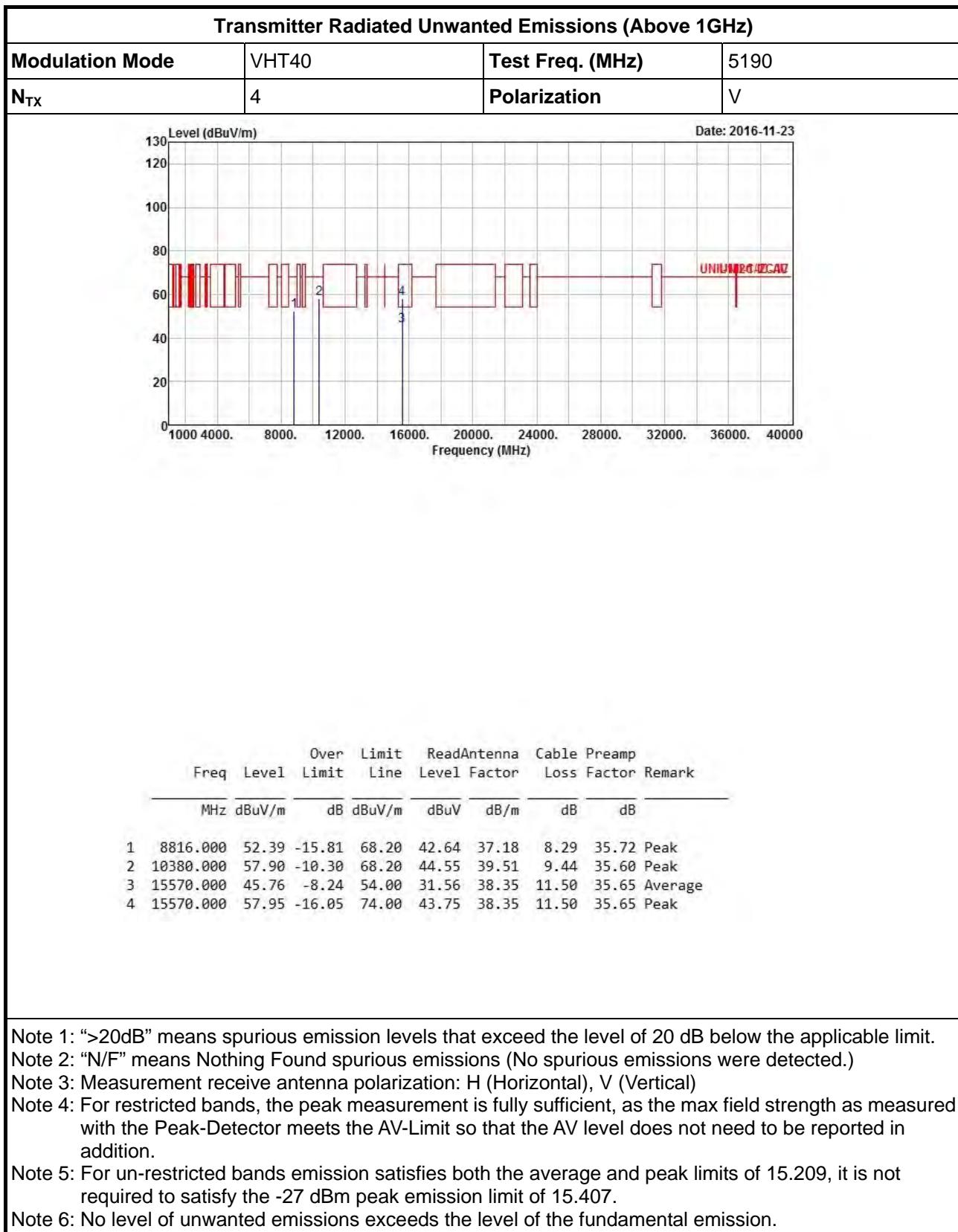
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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





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

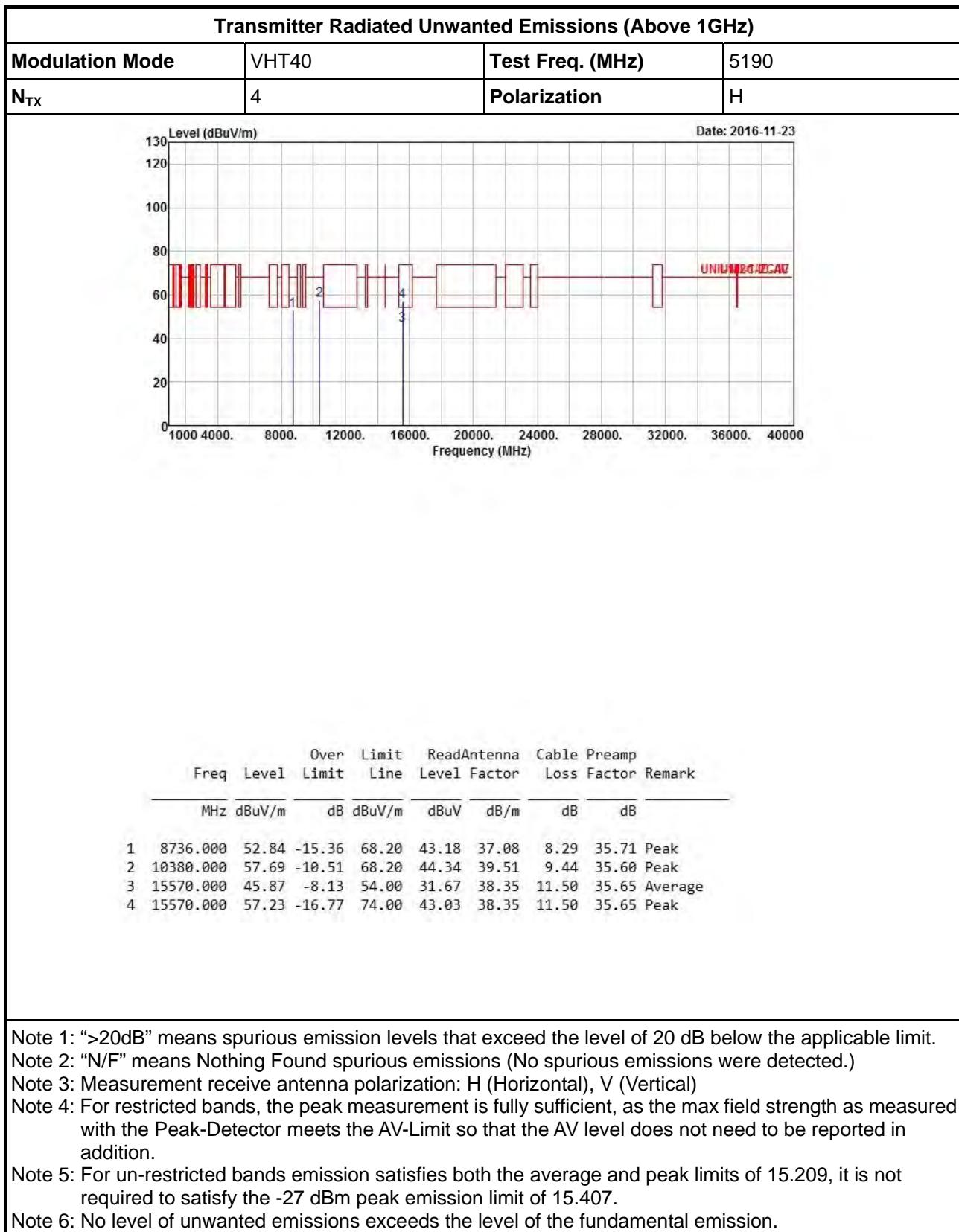
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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 emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



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

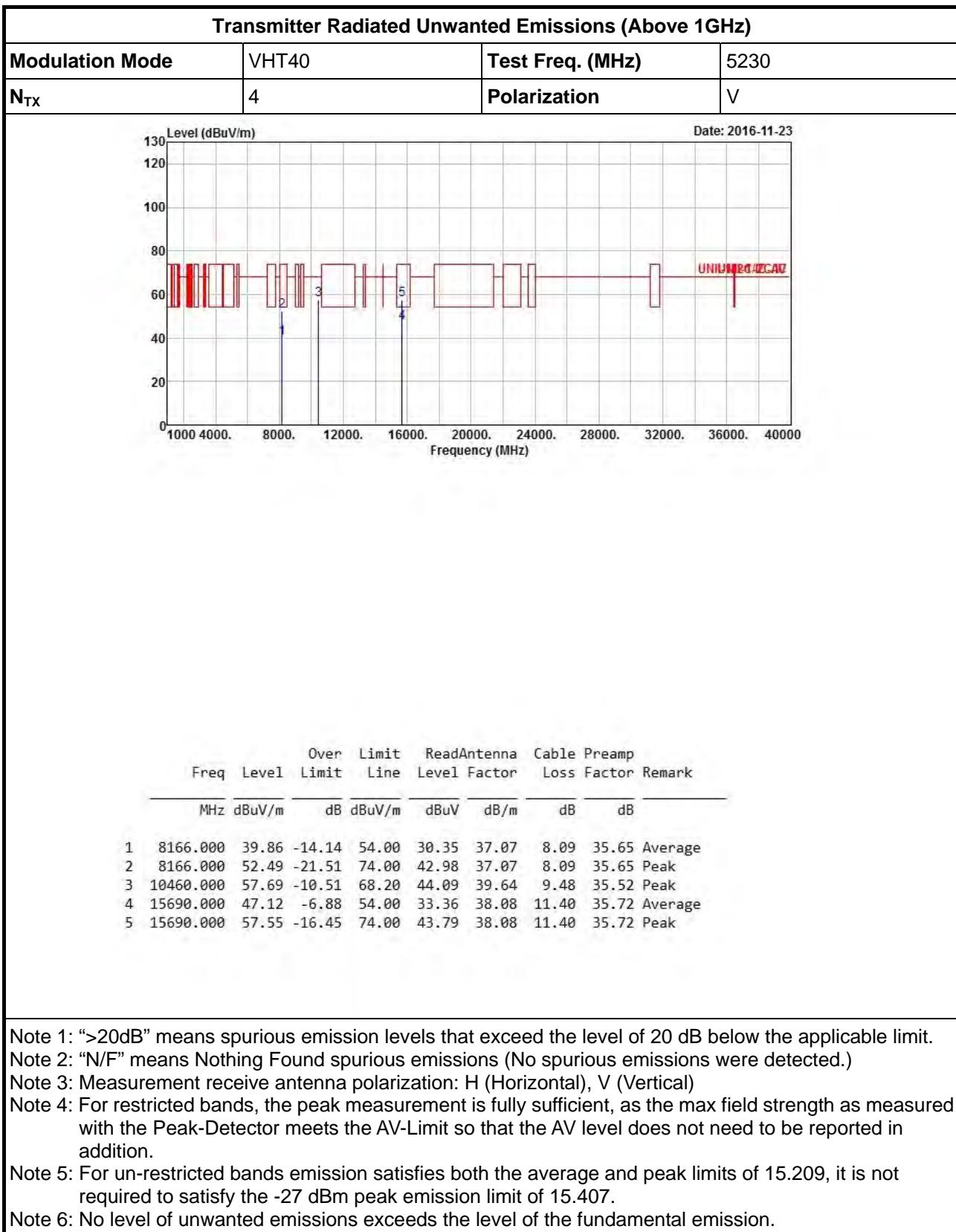
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

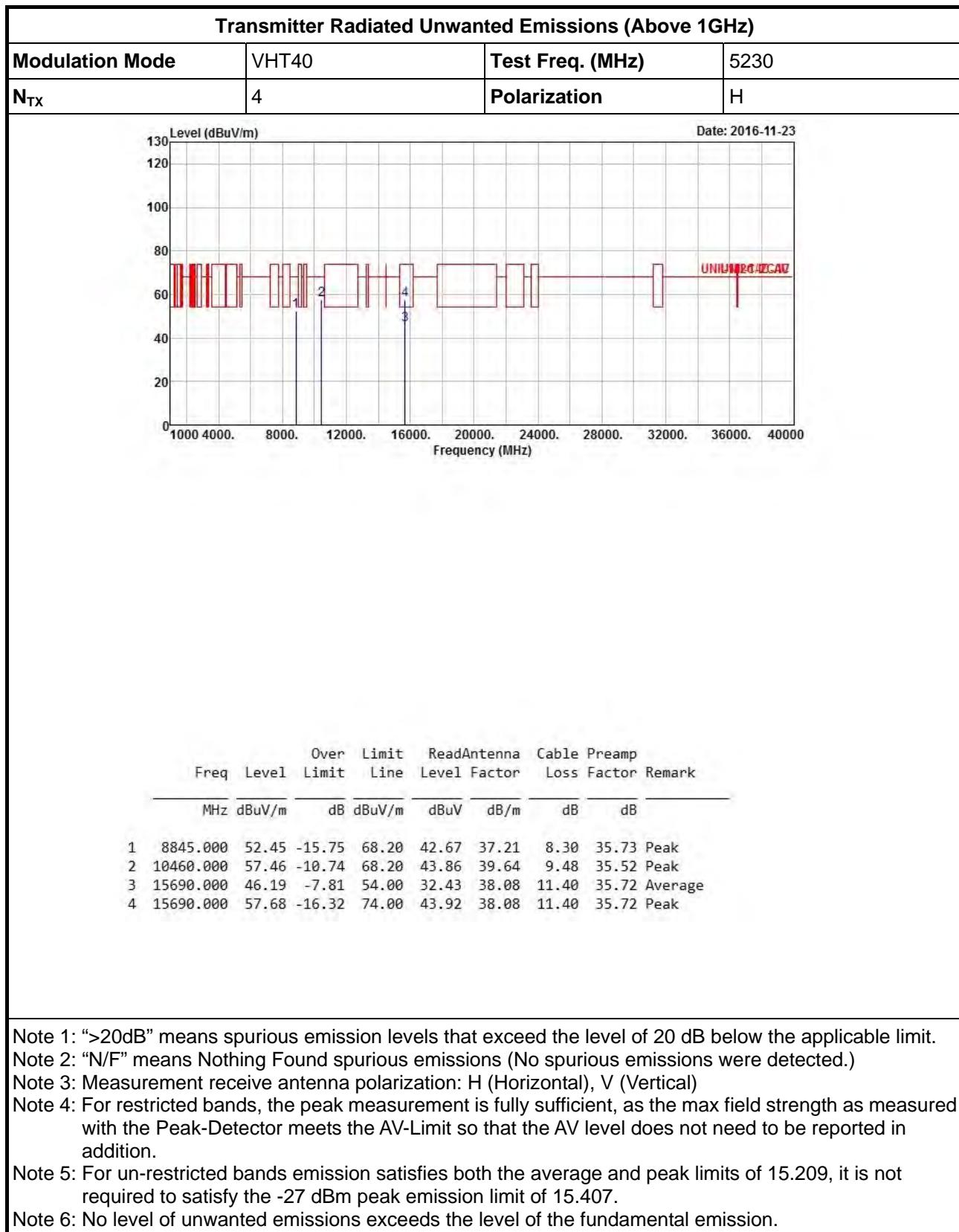
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

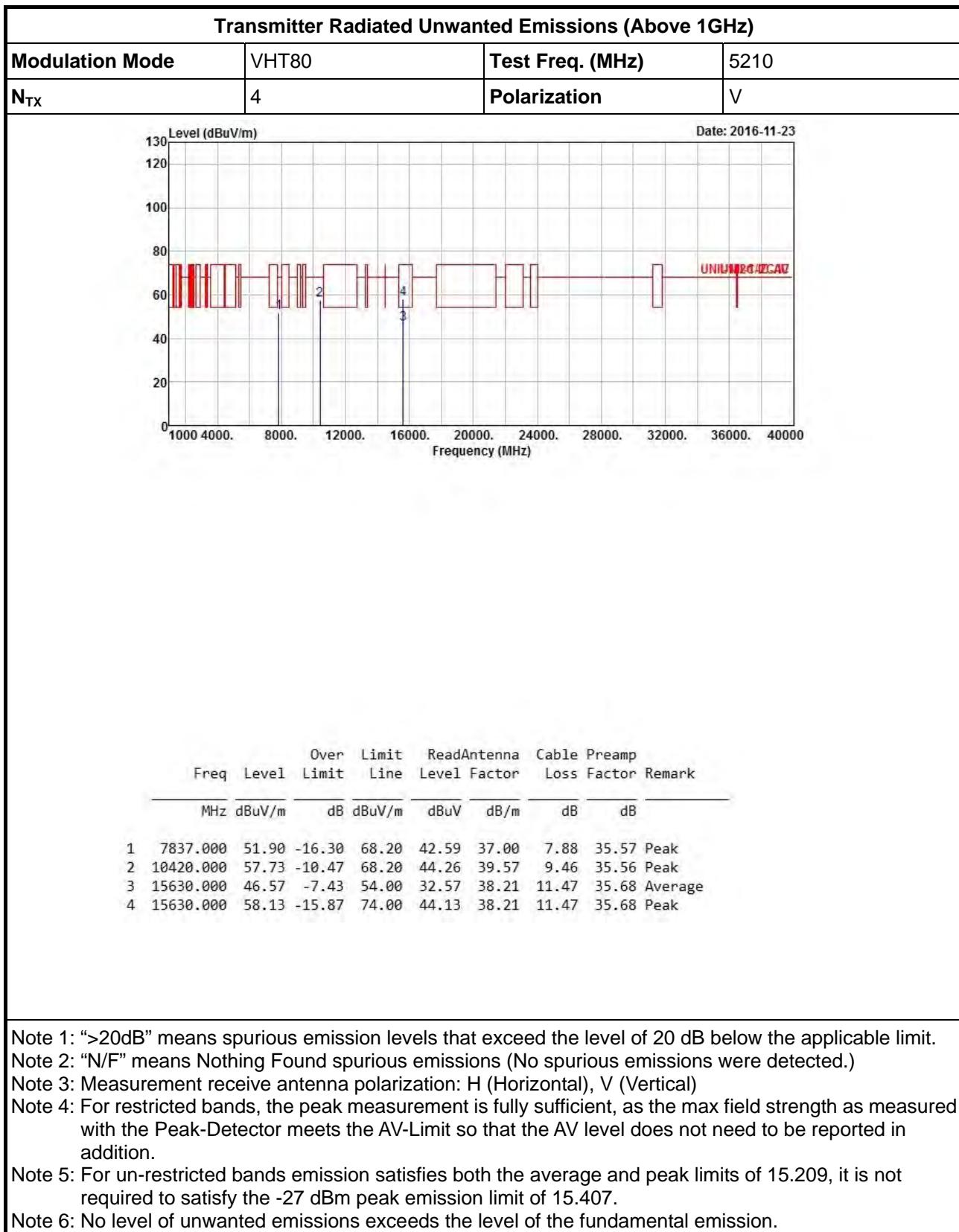
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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







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

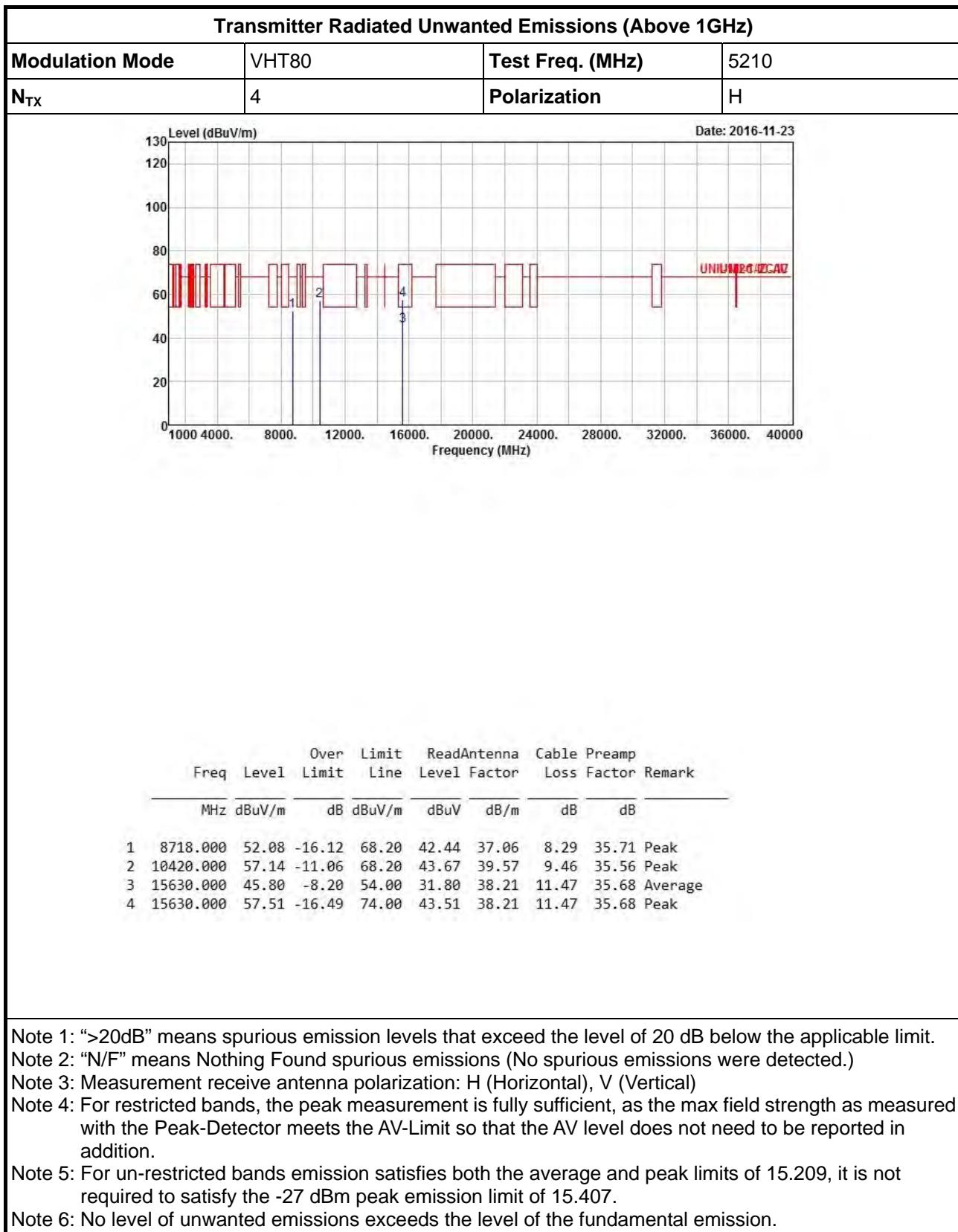
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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 emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



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

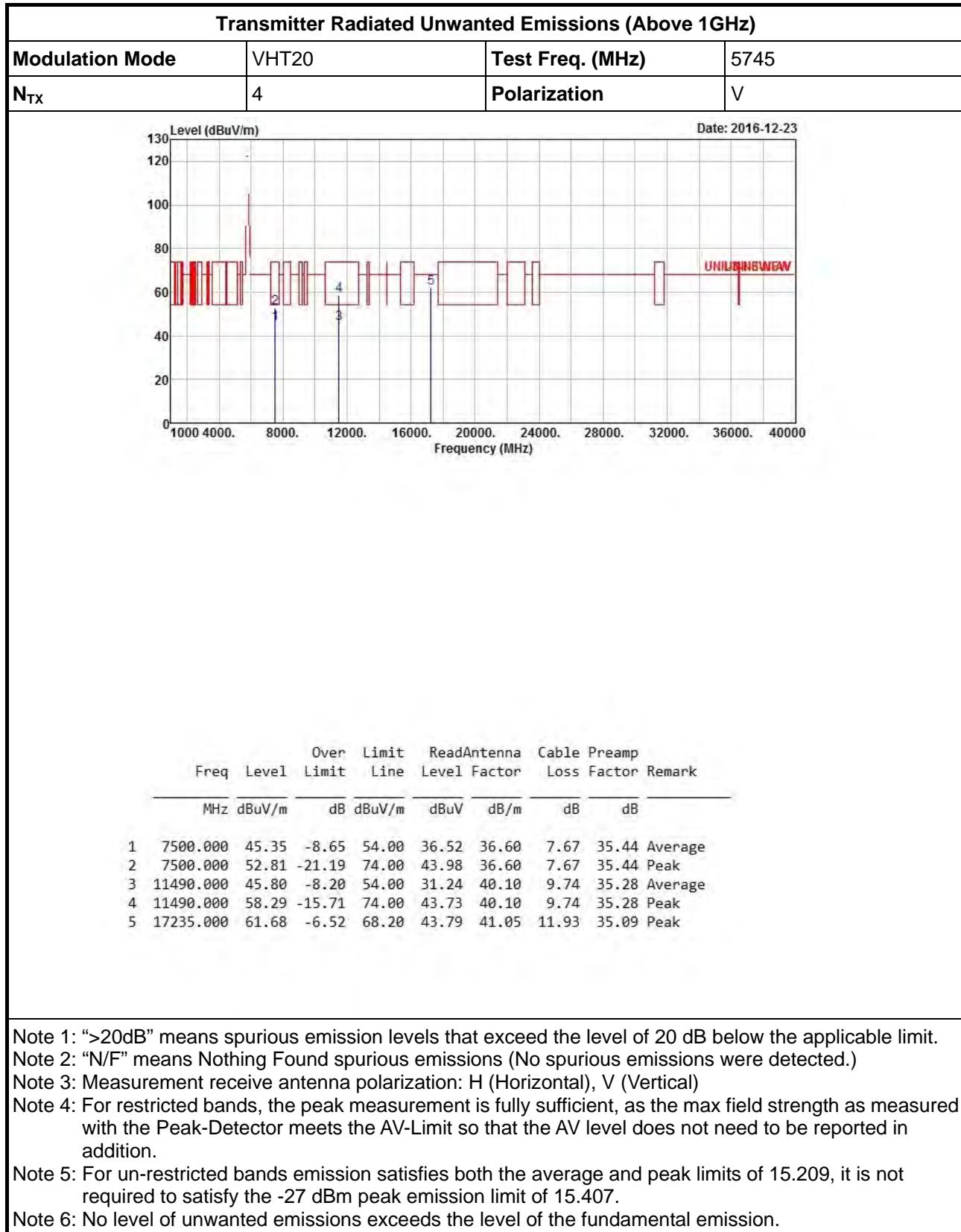
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

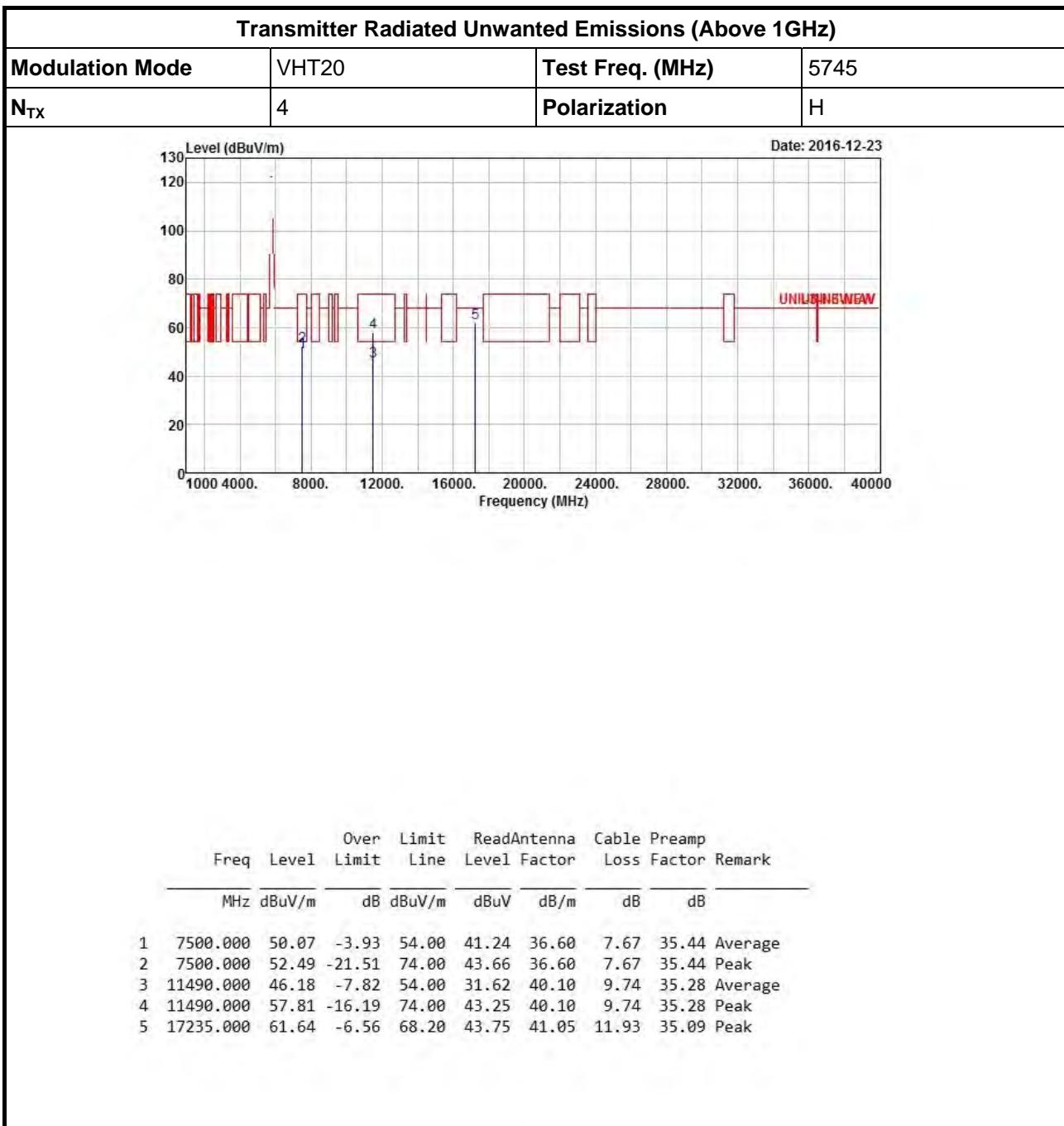
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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

Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz




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

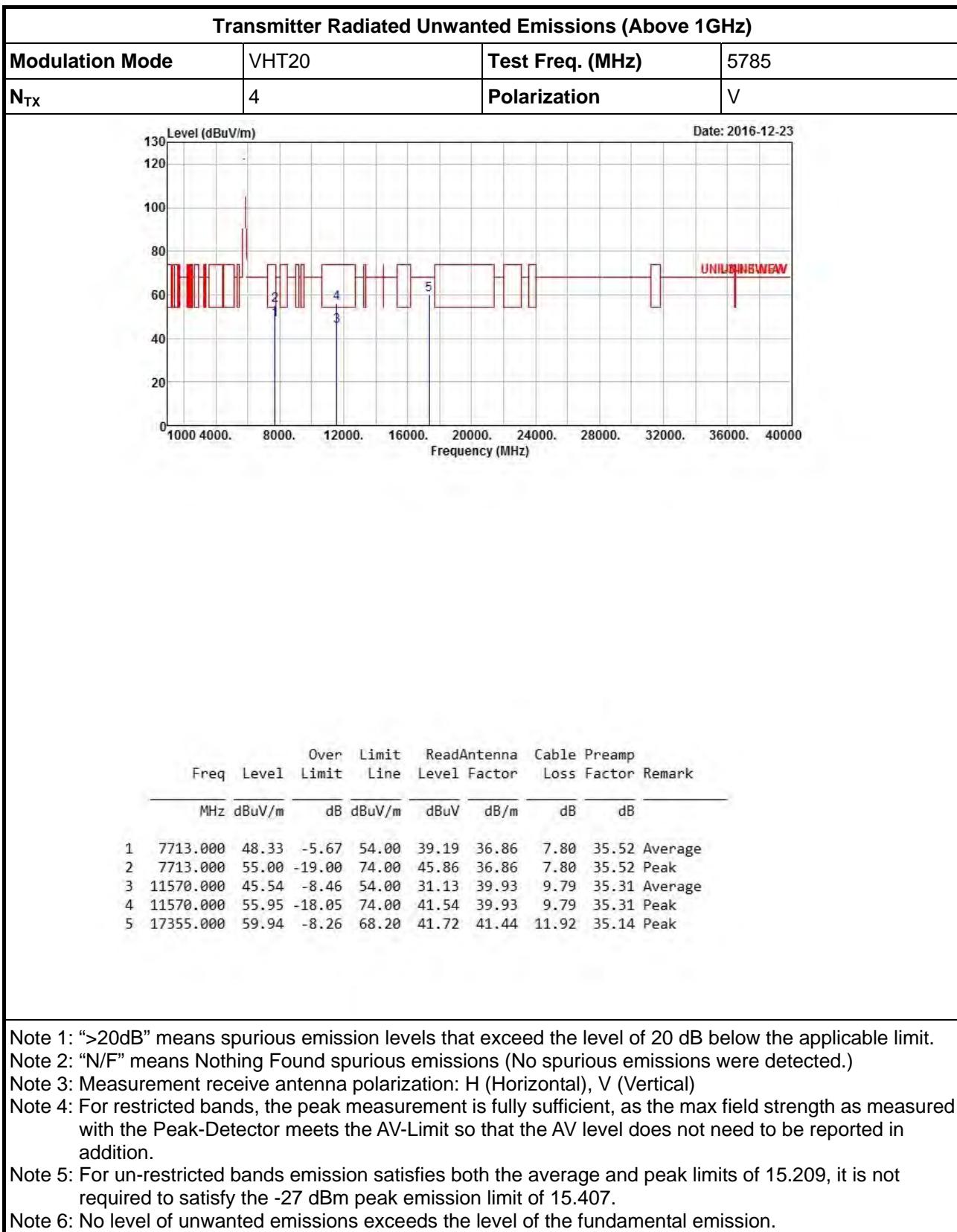
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

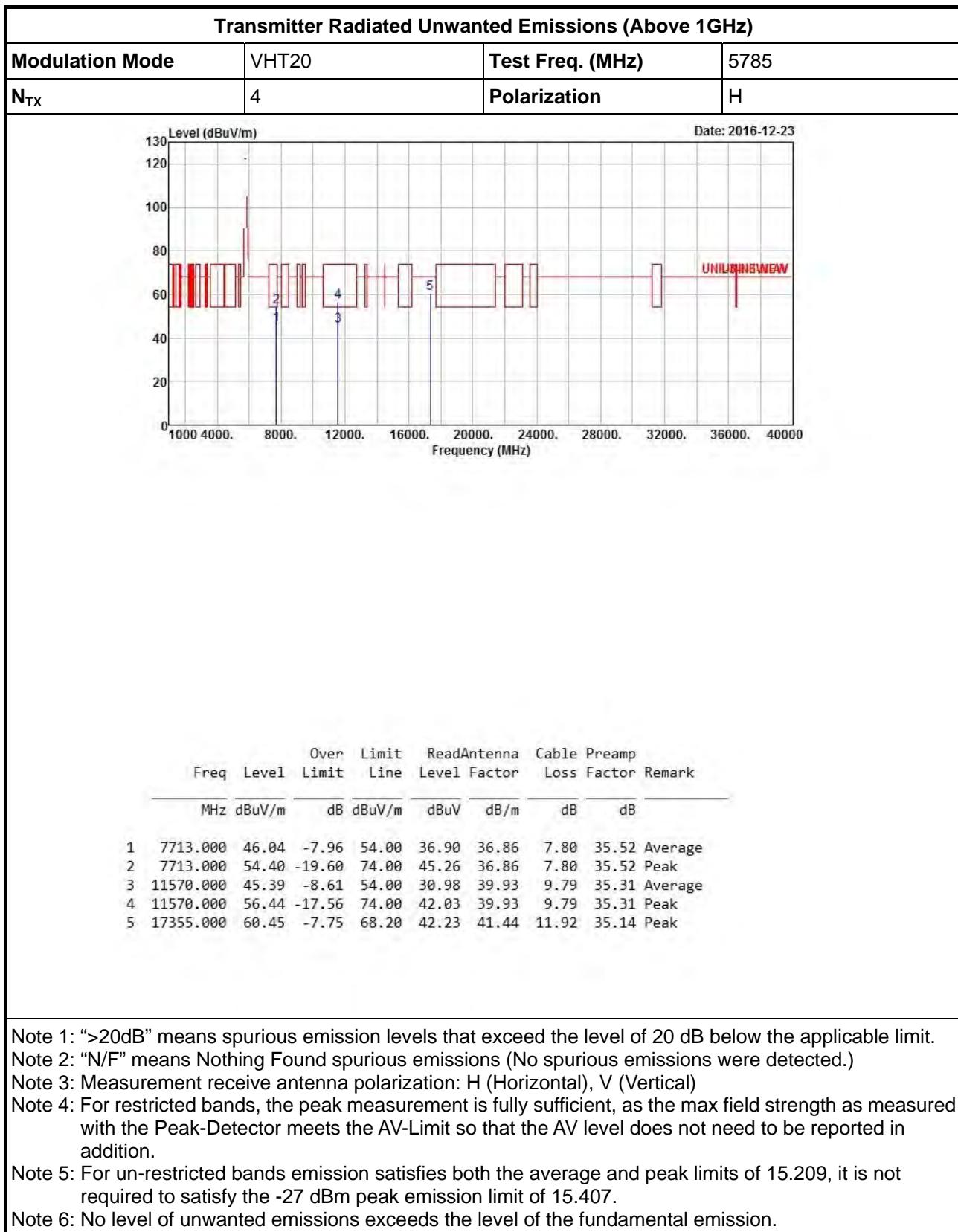
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

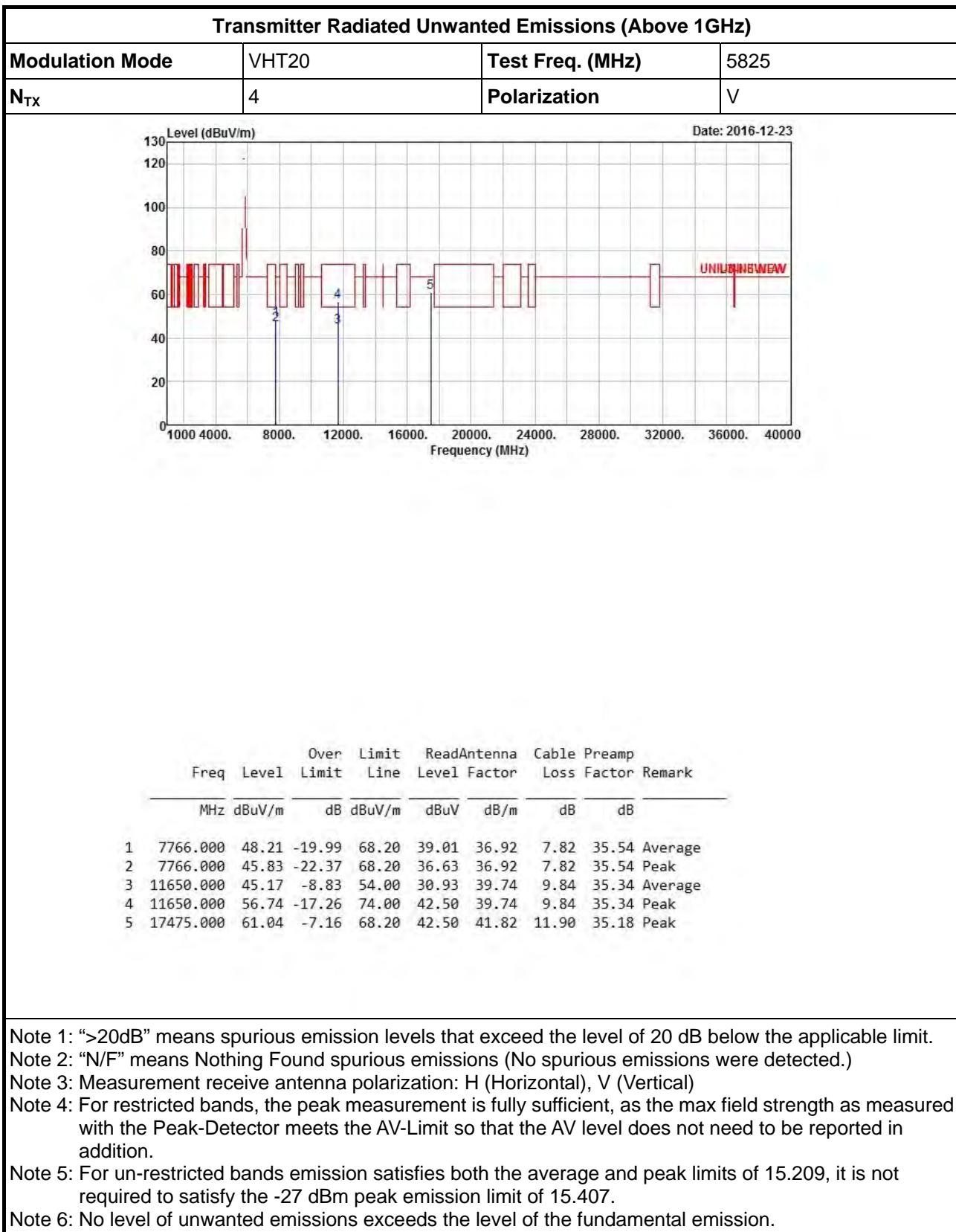
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

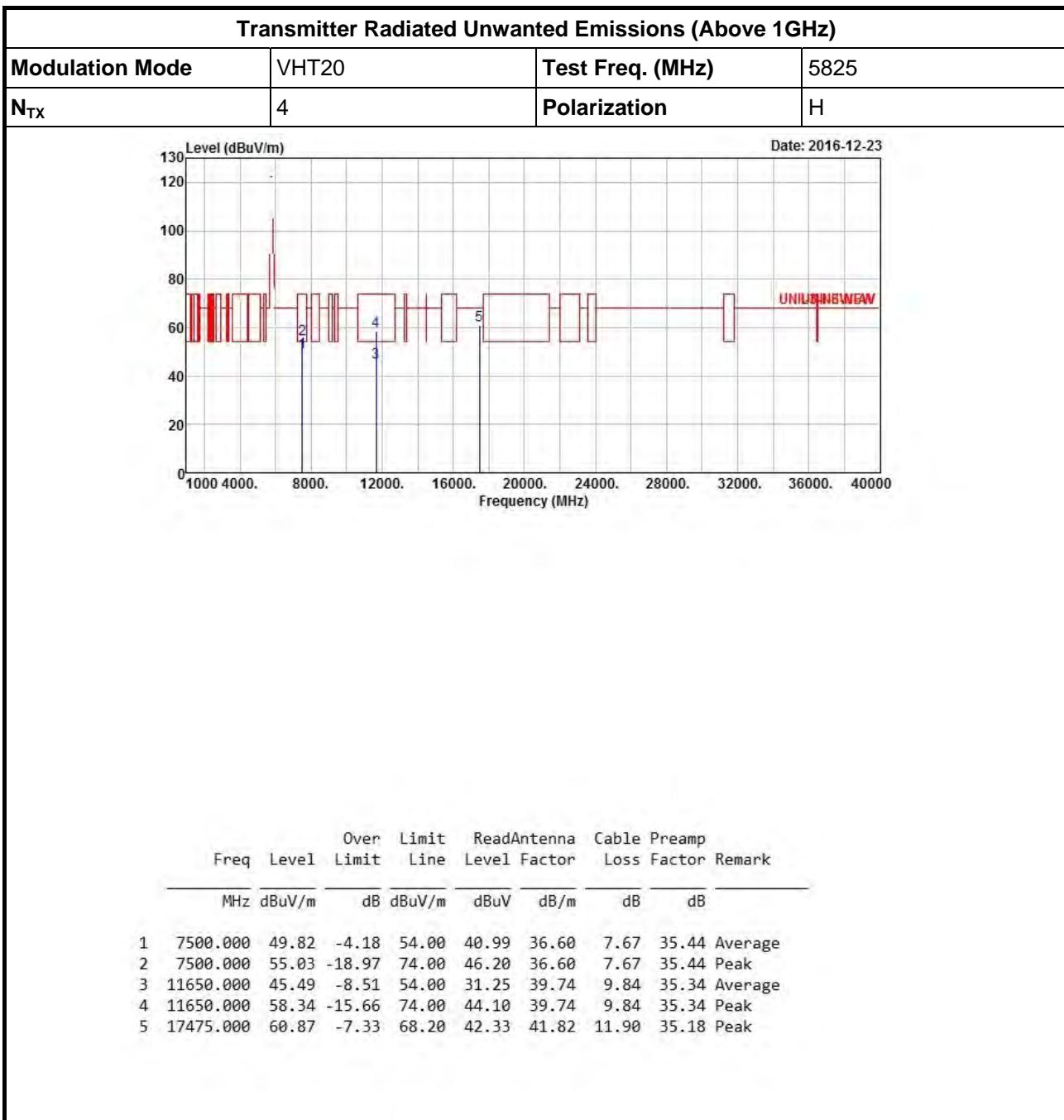
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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









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

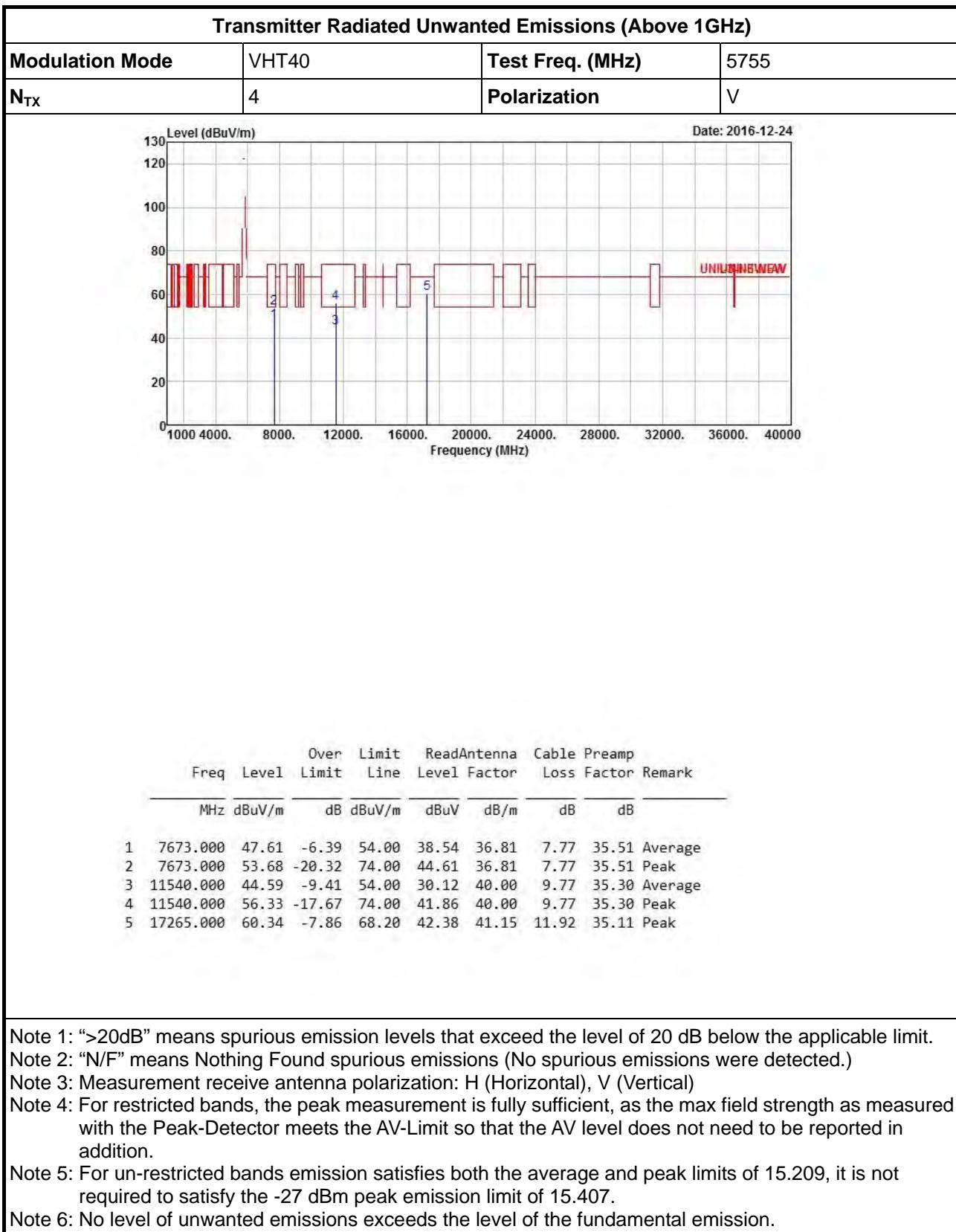
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

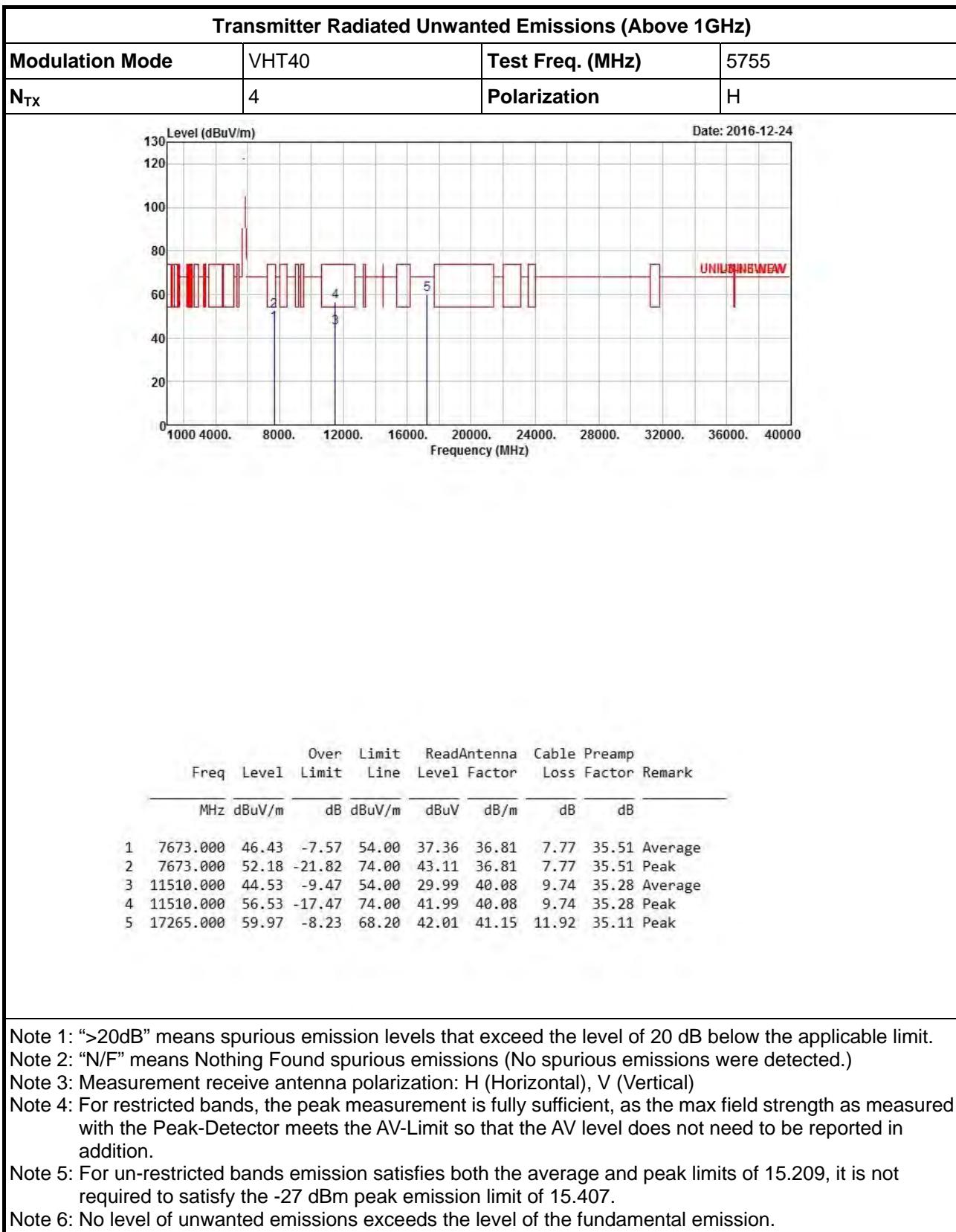
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

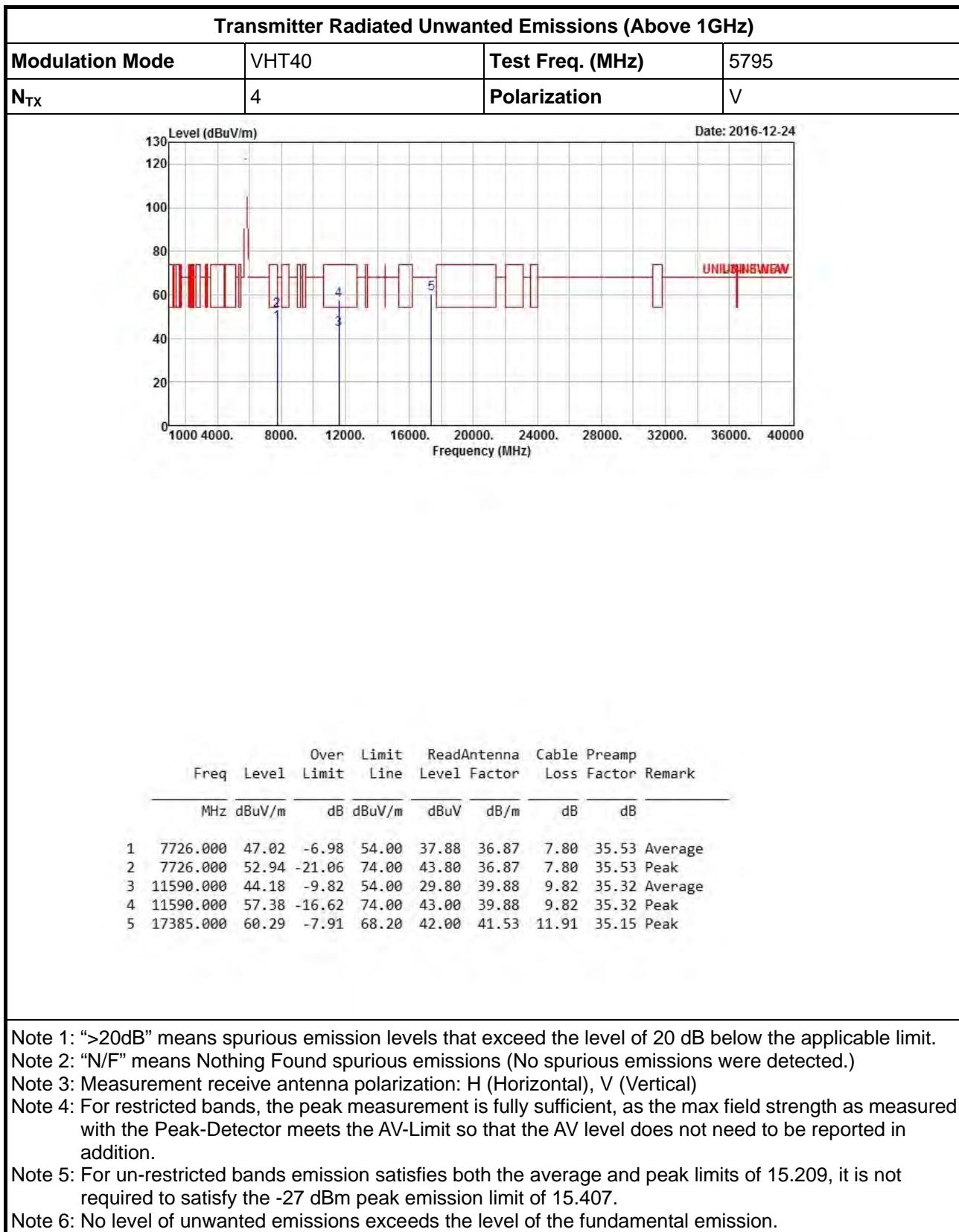
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

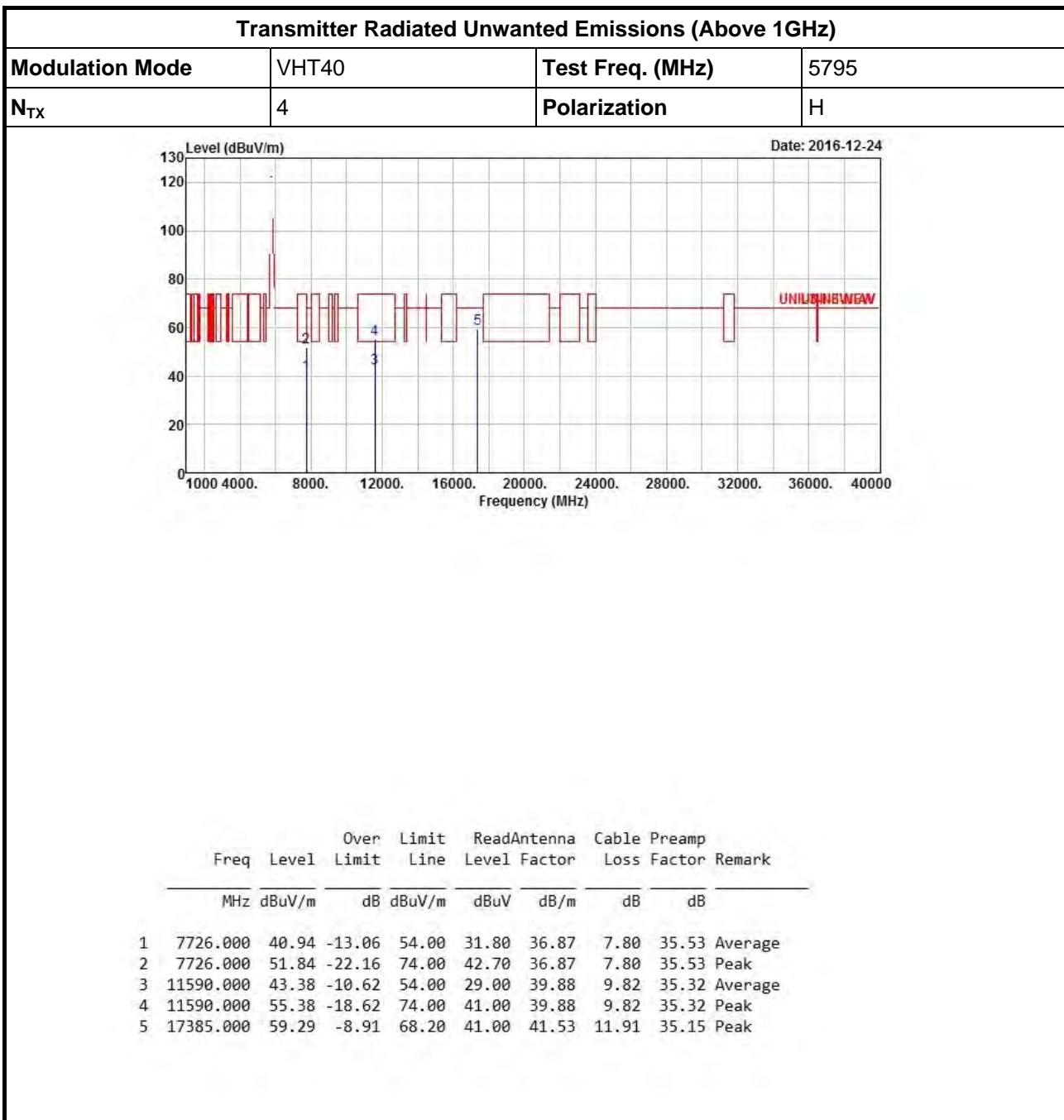
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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









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

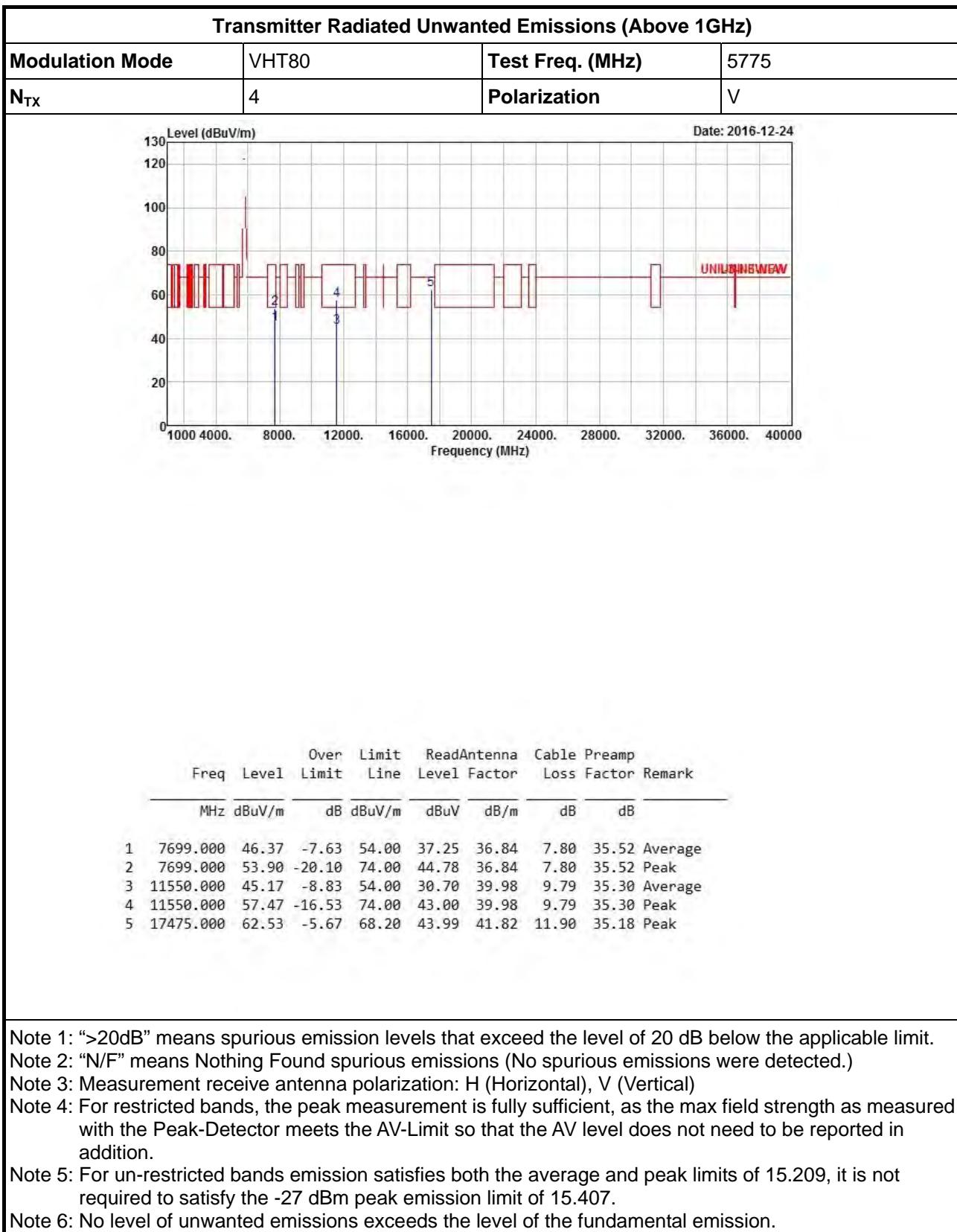
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

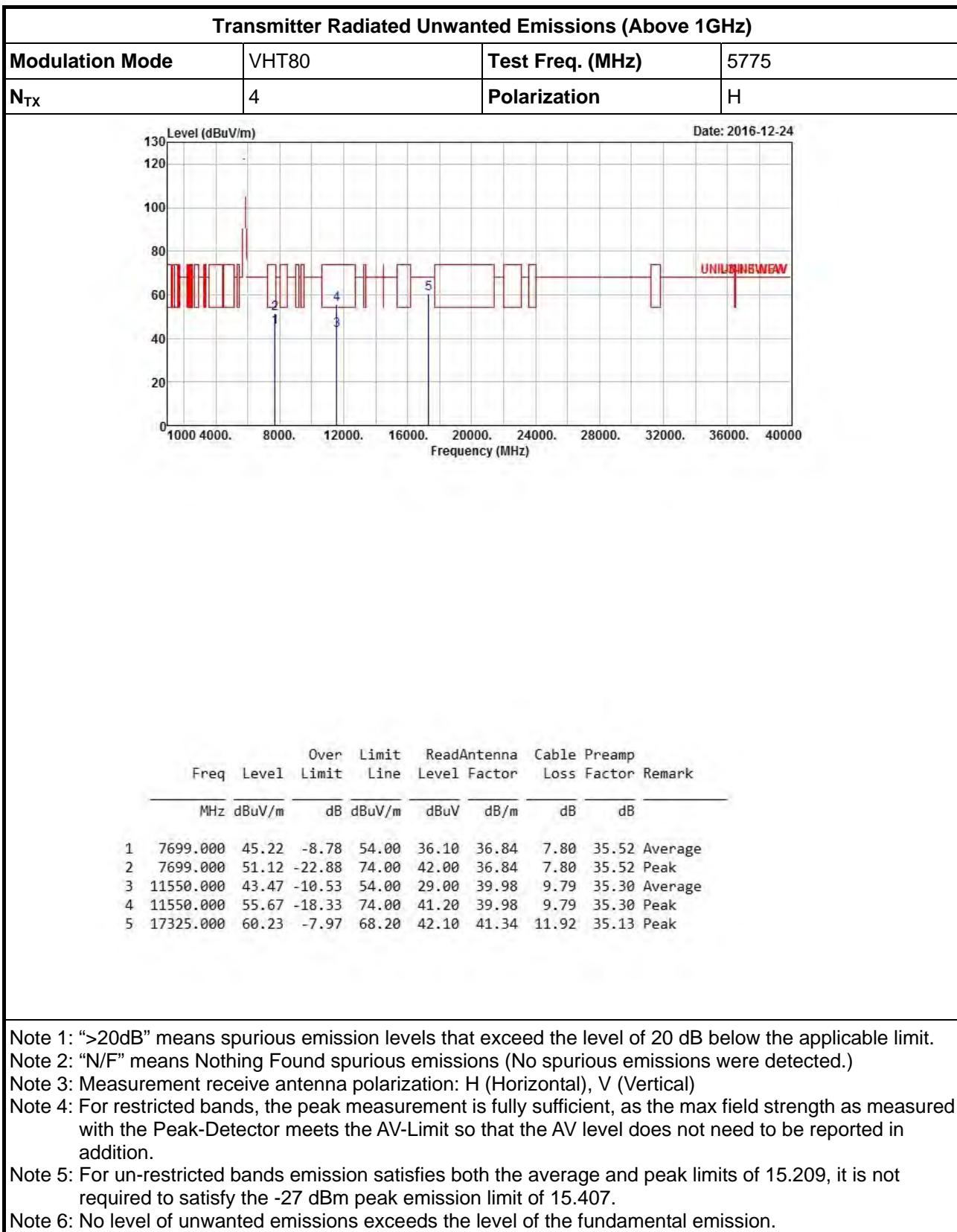
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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





**Summary**

| Mode | Result | Ch (Hz) | Center (Hz) | Fl (Hz) | Fh (Hz) | ppm | Limit (ppm) | Port | Remark |
|-------------------------------|--------|------------|----------------|------------|------------|-------|----------------|------|--------|
| 5.2G;11a;20;1;4;5200;M;T40;VN | Pass | 5.2G | 5.19995093G | NaN | NaN | 9.437 | 20 | 1 | 5 min |

Result

| Mode | Result | Ch (Hz) | Center (Hz) | Fl (Hz) | Fh (Hz) | ppm | Limit (ppm) | Port | Remark |
|-------------------------------|--------|------------|----------------|------------|------------|-------|----------------|------|--------|
| 5.2G;11a;20;1;4;5200;M;TN,VN | Pass | 5.2G | 5.199964G | NaN | NaN | 6.923 | 20 | 1 | 0 min |
| 5.2G;11a;20;1;4;5200;M;TN,VN | Pass | 5.2G | 5.19996405G | NaN | NaN | 6.913 | 20 | 1 | 2 min |
| 5.2G;11a;20;1;4;5200;M;TN,VN | Pass | 5.2G | 5.19996393G | NaN | NaN | 6.937 | 20 | 1 | 5 min |
| 5.2G;11a;20;1;4;5200;M;TN,VN | Pass | 5.2G | 5.19996395G | NaN | NaN | 6.932 | 20 | 1 | 10 min |
| 5.2G;11a;20;1;4;5200;M;TN,VL | Pass | 5.2G | 5.199964G | NaN | NaN | 6.922 | 20 | 1 | 0 min |
| 5.2G;11a;20;1;4;5200;M;TN,VL | Pass | 5.2G | 5.19996394G | NaN | NaN | 6.934 | 20 | 1 | 2 min |
| 5.2G;11a;20;1;4;5200;M;TN,VL | Pass | 5.2G | 5.19996408G | NaN | NaN | 6.909 | 20 | 1 | 5 min |
| 5.2G;11a;20;1;4;5200;M;TN,VL | Pass | 5.2G | 5.19996404G | NaN | NaN | 6.915 | 20 | 1 | 10 min |
| 5.2G;11a;20;1;4;5200;M;TN,VH | Pass | 5.2G | 5.19996388G | NaN | NaN | 6.945 | 20 | 1 | 0 min |
| 5.2G;11a;20;1;4;5200;M;TN,VH | Pass | 5.2G | 5.19996386G | NaN | NaN | 6.949 | 20 | 1 | 2 min |
| 5.2G;11a;20;1;4;5200;M;TN,VH | Pass | 5.2G | 5.19996383G | NaN | NaN | 6.956 | 20 | 1 | 5 min |
| 5.2G;11a;20;1;4;5200;M;TN,VH | Pass | 5.2G | 5.19996374G | NaN | NaN | 6.973 | 20 | 1 | 10 min |
| 5.2G;11a;20;1;4;5200;M;T50,VN | Pass | 5.2G | 5.19996122G | NaN | NaN | 7.458 | 20 | 1 | 0 min |
| 5.2G;11a;20;1;4;5200;M;T50,VN | Pass | 5.2G | 5.19996114G | NaN | NaN | 7.473 | 20 | 1 | 2 min |
| 5.2G;11a;20;1;4;5200;M;T50,VN | Pass | 5.2G | 5.19996107G | NaN | NaN | 7.486 | 20 | 1 | 5 min |
| 5.2G;11a;20;1;4;5200;M;T50,VN | Pass | 5.2G | 5.19996114G | NaN | NaN | 7.474 | 20 | 1 | 10 min |
| 5.2G;11a;20;1;4;5200;M;T40,VN | Pass | 5.2G | 5.19995093G | NaN | NaN | 9.436 | 20 | 1 | 0 min |
| 5.2G;11a;20;1;4;5200;M;T40,VN | Pass | 5.2G | 5.19995096G | NaN | NaN | 9.431 | 20 | 1 | 2 min |
| 5.2G;11a;20;1;4;5200;M;T40,VN | Pass | 5.2G | 5.19995093G | NaN | NaN | 9.437 | 20 | 1 | 5 min |
| 5.2G;11a;20;1;4;5200;M;T40,VN | Pass | 5.2G | 5.199951G | NaN | NaN | 9.422 | 20 | 1 | 10 min |
| 5.2G;11a;20;1;4;5200;M;T30,VN | Pass | 5.2G | 5.19995418G | NaN | NaN | 8.812 | 20 | 1 | 0 min |
| 5.2G;11a;20;1;4;5200;M;T30,VN | Pass | 5.2G | 5.19995417G | NaN | NaN | 8.814 | 20 | 1 | 2 min |
| 5.2G;11a;20;1;4;5200;M;T30,VN | Pass | 5.2G | 5.1999542G | NaN | NaN | 8.807 | 20 | 1 | 5 min |
| 5.2G;11a;20;1;4;5200;M;T30,VN | Pass | 5.2G | 5.19995412G | NaN | NaN | 8.824 | 20 | 1 | 10 min |
| 5.2G;11a;20;1;4;5200;M;T20,VN | Pass | 5.2G | 5.19996379G | NaN | NaN | 6.964 | 20 | 1 | 0 min |
| 5.2G;11a;20;1;4;5200;M;T20,VN | Pass | 5.2G | 5.19996376G | NaN | NaN | 6.969 | 20 | 1 | 2 min |
| 5.2G;11a;20;1;4;5200;M;T20,VN | Pass | 5.2G | 5.19996372G | NaN | NaN | 6.976 | 20 | 1 | 5 min |
| 5.2G;11a;20;1;4;5200;M;T20,VN | Pass | 5.2G | 5.19996385G | NaN | NaN | 6.951 | 20 | 1 | 10 min |
| 5.2G;11a;20;1;4;5200;M;T10,VN | Pass | 5.2G | 5.19997706G | NaN | NaN | 4.412 | 20 | 1 | 0 min |
| 5.2G;11a;20;1;4;5200;M;T10,VN | Pass | 5.2G | 5.19997704G | NaN | NaN | 4.415 | 20 | 1 | 2 min |
| 5.2G;11a;20;1;4;5200;M;T10,VN | Pass | 5.2G | 5.1999771G | NaN | NaN | 4.403 | 20 | 1 | 5 min |
| 5.2G;11a;20;1;4;5200;M;T10,VN | Pass | 5.2G | 5.19997692G | NaN | NaN | 4.439 | 20 | 1 | 10 min |
| 5.2G;11a;20;1;4;5200;M;T0,VN | Pass | 5.2G | 5.19999751G | NaN | NaN | 0.478 | 20 | 1 | 0 min |
| 5.2G;11a;20;1;4;5200;M;T0,VN | Pass | 5.2G | 5.19999737G | NaN | NaN | 0.505 | 20 | 1 | 2 min |
| 5.2G;11a;20;1;4;5200;M;T0,VN | Pass | 5.2G | 5.19999752G | NaN | NaN | 0.477 | 20 | 1 | 5 min |
| 5.2G;11a;20;1;4;5200;M;T0,VN | Pass | 5.2G | 5.1999973G | NaN | NaN | 0.518 | 20 | 1 | 10 min |
| 5.2G;11a;20;1;4;5200;M;T-5,VN | Pass | 5.2G | 5.20000699G | NaN | NaN | 1.344 | 20 | 1 | 0 min |
| 5.2G;11a;20;1;4;5200;M;T-5,VN | Pass | 5.2G | 5.20000687G | NaN | NaN | 1.322 | 20 | 1 | 2 min |
| 5.2G;11a;20;1;4;5200;M;T-5,VN | Pass | 5.2G | 5.20000684G | NaN | NaN | 1.315 | 20 | 1 | 5 min |
| 5.2G;11a;20;1;4;5200;M;T-5,VN | Pass | 5.2G | 5.20000681G | NaN | NaN | 1.31 | 20 | 1 | 10 min |