



FCC Test Report

Equipment : 11ac Wireless Dual-Band USB Adapter
Brand Name : EDIMAX
Model No. : EW-7811UTC / EW-7811UAC / EW-7811DAC /
GWU-H811UTC / GWU-H811UAC
FCC ID : NDD9578111305
Standard : 47 CFR FCC Part 15.407
Operating Band : 5150 MHz – 5250 MHz
5725 MHz – 5850 MHz
FCC Classification : UNII
Applicant : EDIMAX TECHNOLOGY CO., LTD.
Manufacturer : No.3,Wu-Chuan 3rd Road,Wu-Ku Industrial Park,
New Taipei City, Taiwan
Function : Outdoor AP; Indoor AP;
 Fixed P2P AP Portable Client
Multiple Listing : Please refer to section 1.1.1

The product sample received on Aug. 15, 2013 and completely tested on Mar. 02, 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	Support Equipment.....	8
1.3	Testing Applied Standards	8
1.4	Testing Location Information	9
1.5	Measurement Uncertainty	10
2	TEST CONFIGURATION OF EUT.....	11
2.1	The Worst Case Modulation Configuration	11
2.2	The Worst Case Power Setting Parameter	11
2.3	The Worst Case Measurement Configuration	12
2.4	Test Setup Diagram	14
3	TRANSMITTER TEST RESULT	17
3.1	AC Power-line Conducted Emissions	17
3.2	Emission Bandwidth	24
3.3	RF Output Power.....	27
3.4	Peak Power Spectral Density.....	31
3.5	Transmitter Bandedge Emissions	35
3.6	Transmitter Unwanted Emissions.....	43
3.7	Frequency Stability	222
4	TEST EQUIPMENT AND CALIBRATION DATA.....	224

APPENDIX A. TEST PHOTOS**APPENDIX B. PHOTOGRAPHS OF EUT**



Summary of Test Result

Conformance Test Specifications			
Report Clause	Ref. Std. Clause	Description	Result
0	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)	RF Output Power (Maximum Conducted Output Power)	Complied
3.4	15.407(a)	Peak Power Spectral Density	Complied
3.5	15.407(b)	Transmitter Bandedge Emissions	Complied
3.6	15.407(b)	Transmitter Unwanted Emissions	Complied
3.7	15.407(g)	Frequency Stability	Complied



Revision History



1 General Description

1.1 Information

1.1.1 Table for Multiple Listing

Brand and models that are exactly the same EUT, products with different models only because of market segmentation.

NO.	Brand Name	Model Name
1	Edimax	EW-7811UTC, EW-7811UAC, EW-7811DAC, GWU-H811UTC, GWU-H811UAC
2	Rosewill	AC600UB (#33-166-105)

1.1.2 RF General Information

RF General Information (5150-5250MHz band)					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	RF Output Power (dBm)
5150-5250	a	5180-5240	36-48 [4]	1	13.44
5150-5250	n (HT20)	5180-5240	36-48 [4]	1	13.94
5150-5250	n (HT40)	5190-5230	38-46 [2]	1	14.96
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	1	13.85
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	1	15.25
5150-5250	ac (VHT80)	5210	48 [1]	1	14.55

Note 1: RF output power specifies that Maximum Conducted Output Power.
 Note 2: 802.11a/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
 Note 3: 802.11ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.

RF General Information (5725-5850MHz band)					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	RF Output Power (dBm)
5725-5850	a	5745-5825	149-165 [5]	1	15.95
5725-5850	n (HT20)	5745-5825	149-165 [5]	1	15.84
5725-5850	n (HT40)	5755-5795	151-159 [2]	1	15.77
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	1	15.99
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	1	15.99
5725-5850	ac (VHT80)	5775	155 [1]	1	13.63

Note 1: RF output power specifies that Maximum Conducted Output Power.
 Note 2: 802.11a/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
 Note 3: 802.11ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.



1.1.3 Antenna Information

Antenna Category	
<input checked="" type="checkbox"/>	Integral antenna (antenna permanently attached)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Temporary RF connector provided
<input type="checkbox"/>	<input type="checkbox"/> No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path.
<input checked="" type="checkbox"/>	External antenna (dedicated antennas)

Antenna General Information					
No.	Ant. Cat.	Ant. Type	Part No.	Gain (dBi)	Model Name
1	External	Dipole	RFA-25-C57F0-70B-10	6.00	EW-7811UAC, GWU-H811UAC
			EDA-1310-25GC1-A2	4.06	
2	Integral	PIFA	ALU120-222026	4.00	EW-7811UTC, GWU-H811UTC
3	External	Directional Antenna	RFA-25-7-ST73F0-10	7.10	EW-7811DAC

NOTE: The RF Conducted performed the worst configuration for higher gain was test in final test report.

1.1.4 Type of EUT

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



1.1.5 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle	
Test Signal Duty Cycle (x)	Power Duty Factor [dB] – (10 log 1/x)
<input type="checkbox"/> Operated normally mode for worst duty cycle	
<input checked="" type="checkbox"/> Operated test mode for worst duty cycle	
<input checked="" type="checkbox"/> 100% - IEEE 802.11a	0
<input checked="" type="checkbox"/> 100% - IEEE 802.11n (HT20)	0
<input checked="" type="checkbox"/> 100% - IEEE 802.11n (HT40)	0
<input checked="" type="checkbox"/> 100% - IEEE 802.11ac (VHT20)	0
<input checked="" type="checkbox"/> 100% - IEEE 802.11ac (VHT40)	0
<input checked="" type="checkbox"/> 100% - IEEE 802.11ac (VHT80)	0

1.1.6 EUT Operational Condition

Supply Voltage	<input type="checkbox"/> AC mains	<input checked="" type="checkbox"/> DC	
Type of DC Source	<input type="checkbox"/> Internal DC supply	<input checked="" type="checkbox"/> From System	<input type="checkbox"/> Battery



1.2 Support Equipment

(For 5150~5250 MHz)

Support Equipment - RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5530	DoC
2	AC Adapter for Notebook	DELL	HA65NM130	DoC

Support Equipment - AC Conduction and Radiated Emission

No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5530	DoC
2	AC Adapter for Notebook	DELL	LA65NS2-01	DoC

(For 5725~5850 MHz)

Support Equipment - RF Conducted

No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5540	DoC
2	AC Adapter for Notebook	DELL	HA65NM130	DoC

Support Equipment - AC Conduction and Radiated Emission

No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5540	DoC
2	AC Adapter for Notebook	DELL	LA65NS2-01	DoC

1.3 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 C63.10-2009
- ANSI C63.10-2013
- FCC KDB 789033 D02 v01
- FCC KDB 644545 D03 v01
- FCC-14-30A1-UNII



1.4 Testing Location Information

Testing Location			
<input checked="" type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.	
	TEL : 886-3-327-3456	FAX : 886-3-327-0973	
Test site registered number [636805] with FCC.			
Test Condition	Test Site No.	Test Engineer	Test Environment
AC Conduction	CO04-HY	Zeus	24°C / 51%
(For 5150~5250 MHz)			
RF Conducted	TH01-HY	Ian	21.9°C / 64%
Radiated Emission	03CH02-HY	Spirit	24°C / 62%
(For 5725~5850 MHz)			
RF Conducted	TH07-HY	Jason	24.5°C / 65%
Radiated Emission	03CH03-HY	Ryan	23°C / 55%



1.5 Measurement Uncertainty

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

Measurement Uncertainty		
Test Item	Uncertainty	
AC power-line conducted emissions	±2.3 dB	
Emission bandwidth, 26dB bandwidth	±0.5%	
RF output power, conducted	±0.1 dB	
Power density, conducted	±0.5 dB	
Unwanted emissions, conducted	9 – 150 kHz	±0.4 dB
	0.15 – 30 MHz	±0.4 dB
	30 – 1000 MHz	±0.6 dB
	1 – 18 GHz	±0.5 dB
	18 – 40 GHz	±0.5 dB
	40 – 200 GHz	N/A
All emissions, radiated	9 – 150 kHz	±2.5 dB
	0.15 – 30 MHz	±2.3 dB
	30 – 1000 MHz	±2.6 dB
	1 – 18 GHz	±3.6 dB
	18 – 40 GHz	±3.8 dB
	40 – 200 GHz	N/A
Temperature	±0.8 °C	
Humidity	±5 %	
DC and low frequency voltages	±0.9%	
Time	±1.4 %	
Duty Cycle	±0.5 %	



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	1	6-54Mbps	6 Mbps
HT20	1	MCS 0-7	MCS 0
HT40	1	MCS 0-7	MCS 0
VHT20	1	MCS 0-8	MCS 0
VHT40	1	MCS 0-9	MCS 0
VHT80	1	MCS 0-9	MCS 0

2.2 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter (5150-5250MHz band)							
Test Software Version	Realtek 11ac 8811A USB WLAN MP_ 0.0033.20130401						
Modulation Mode	N _{TX}	Test Frequency (MHz)					
		5180	5200	5240	5190	5230	5210
		11a	50	47	43	-	-
HT20	1	49	47	47	-	-	-
HT40	1	-	-	-	53	51	-
VHT20	1	49	46	44	-	-	-
VHT40	1	-	-	-	53	51	-
VHT80	1	-	-	-	-	-	49

The Worst Case Power Setting Parameter (5725-5850MHz band)							
Test Software Version	Realtek 11ac 8811A USB WLAN MP_ 0.0033.20130401						
Modulation Mode	N _{TX}	Test Frequency (MHz)					
		5745	5785	5825	5755	5795	5775
11a	1	52	52	50	-	-	-
HT20	1	53	53	51	-	-	-
HT40	1	-	-	-	54	53	-
VHT20	1	53	52	52	-	-	-
VHT40	1	-	-	-	54	53	-
VHT80	1	-	-	-	-	-	49



2.3 The Worst Case Measurement Configuration

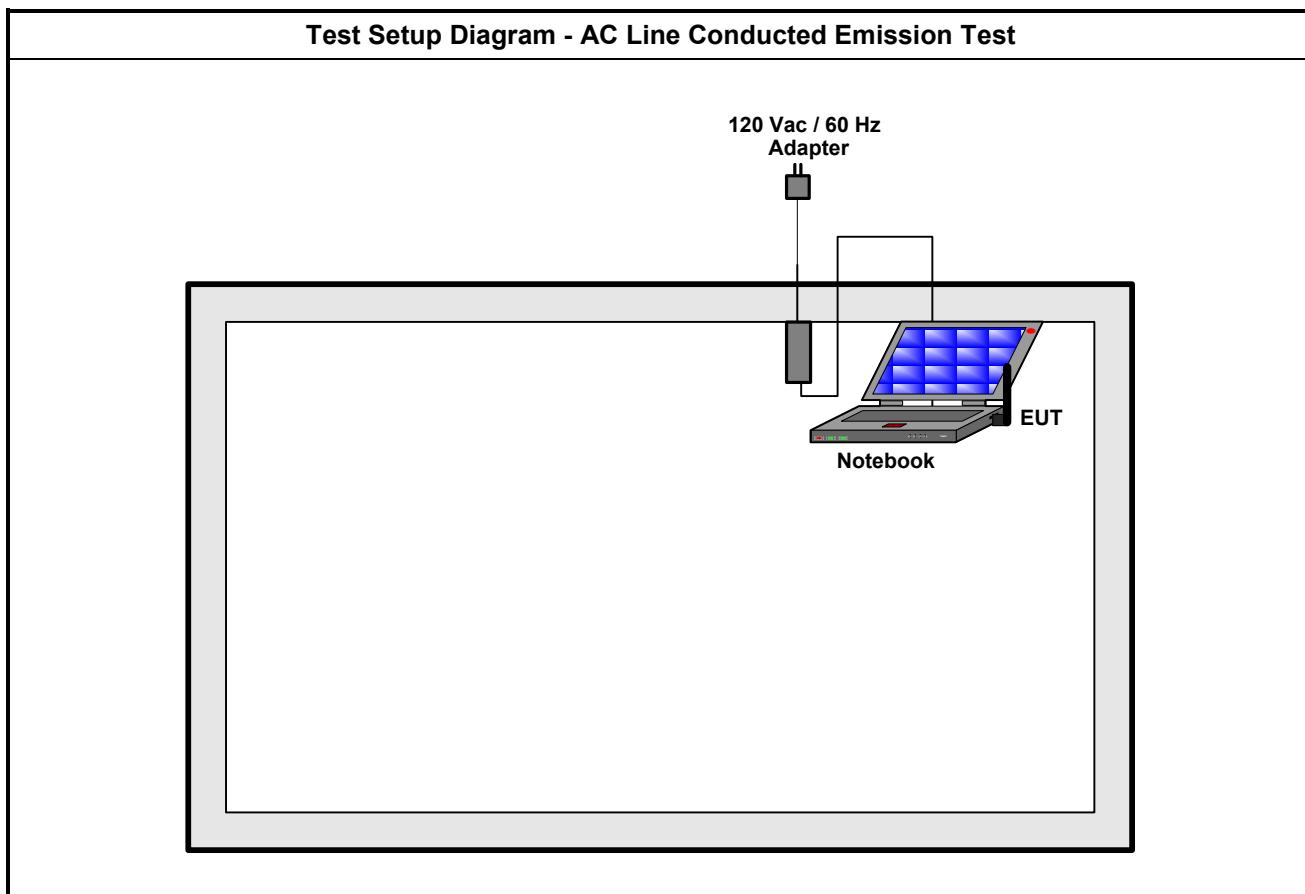
The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Operating Mode Description
1	Model Name EW-7811UAC, GWU-H811UAC (WiFi link)
2	Model Name EW-7811UTC, GWU-H811UTC (WiFi link)
3	Model Name EW-7811DAC (WiFi link)

The Worst Case Mode for Following Conformance Tests	
Tests Item	RF Output Power, Peak Power Spectral Density, Emission Bandwidth, Peak Excursion, Transmitter Conducted Unwanted Emissions Transmitter Conducted Bandedge Emissions
Test Condition	Conducted measurement at transmit chains
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80



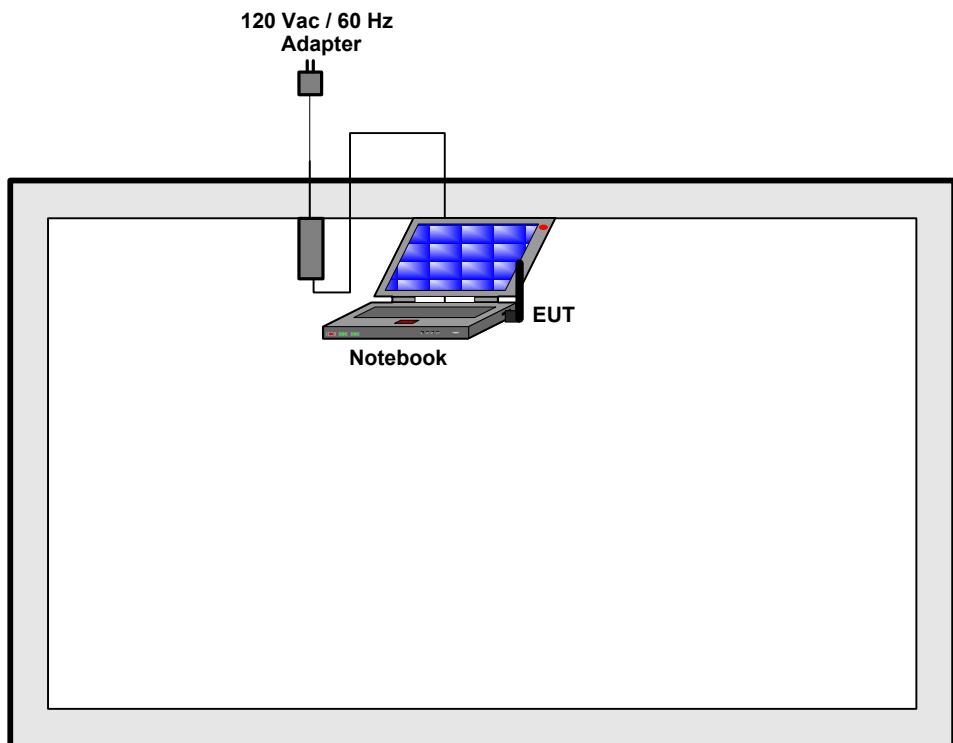
The Worst Case Mode for Following Conformance Tests							
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions						
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing 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. EUT shall be performed three orthogonal planes. <input type="checkbox"/> EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed two or three orthogonal planes.						
Operating Mode	1. Model Name EW-7811UAC, GWU-H811UAC (WiFi link) 2. Model Name EW-7811UTC, GWU-H811UTC (WiFi link) 3. Model Name EW-7811DAC (WiFi link)						
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80						
Orthogonal Planes of EUT	<table><thead><tr><th>X Plane</th><th>Y Plane</th><th>Z Plane</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr></tbody></table>	X Plane	Y Plane	Z Plane			
X Plane	Y Plane	Z Plane					
Worst Planes of EUT	V						

2.4 Test Setup Diagram

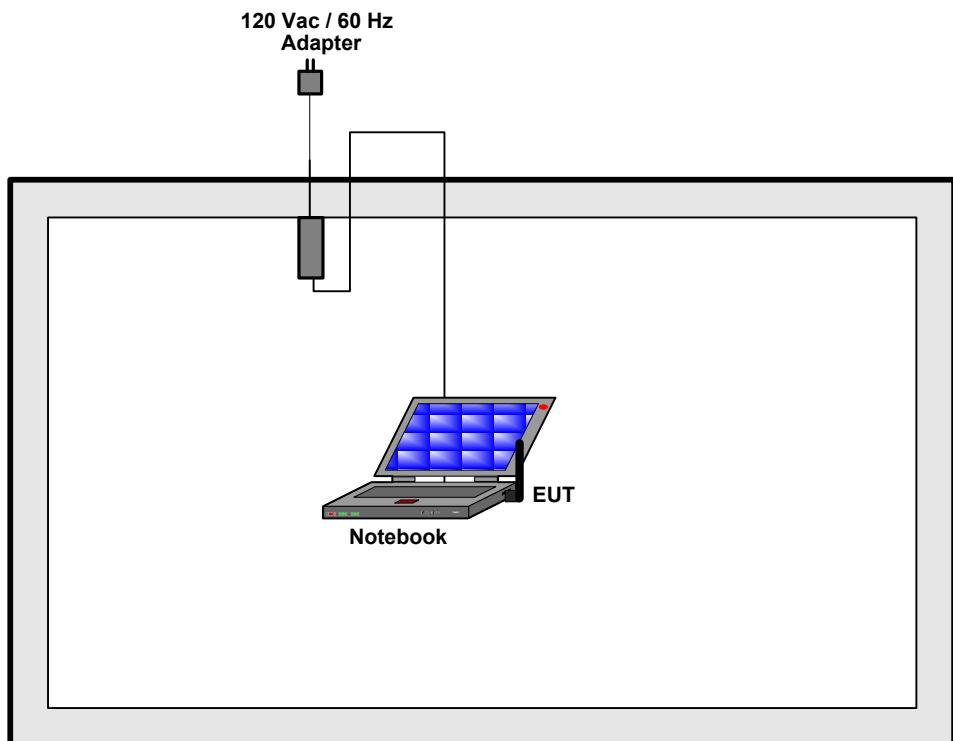


(For 5150~5250 MHz)

Test Setup Diagram - Radiated Below 1GHz Test

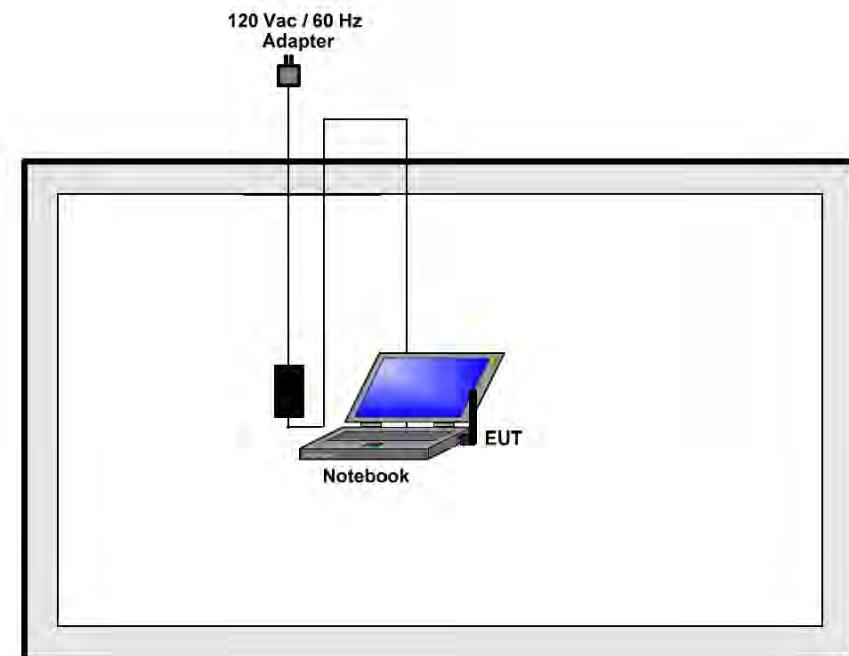


Test Setup Diagram - Radiated Above 1GHz Test



(For 5725~5850 MHz)

Test Setup Diagram - Radiated Test



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.

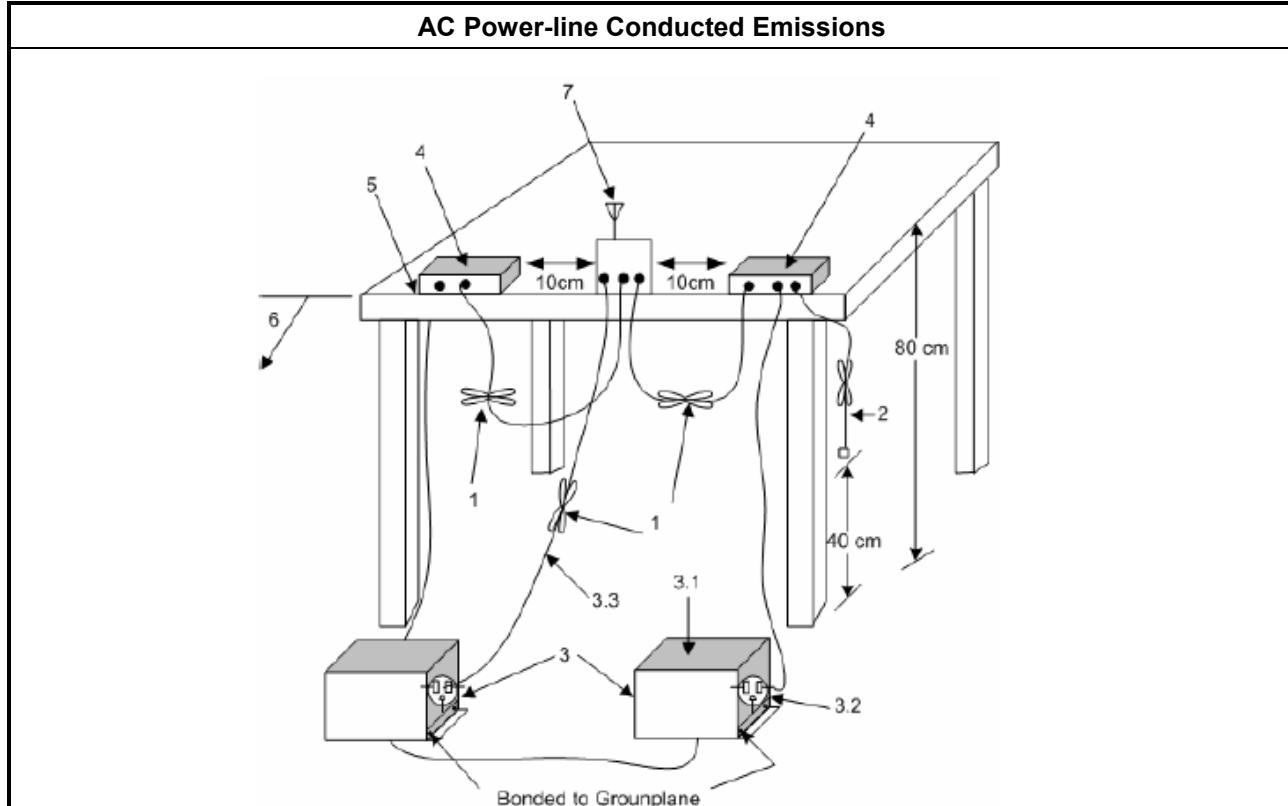
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

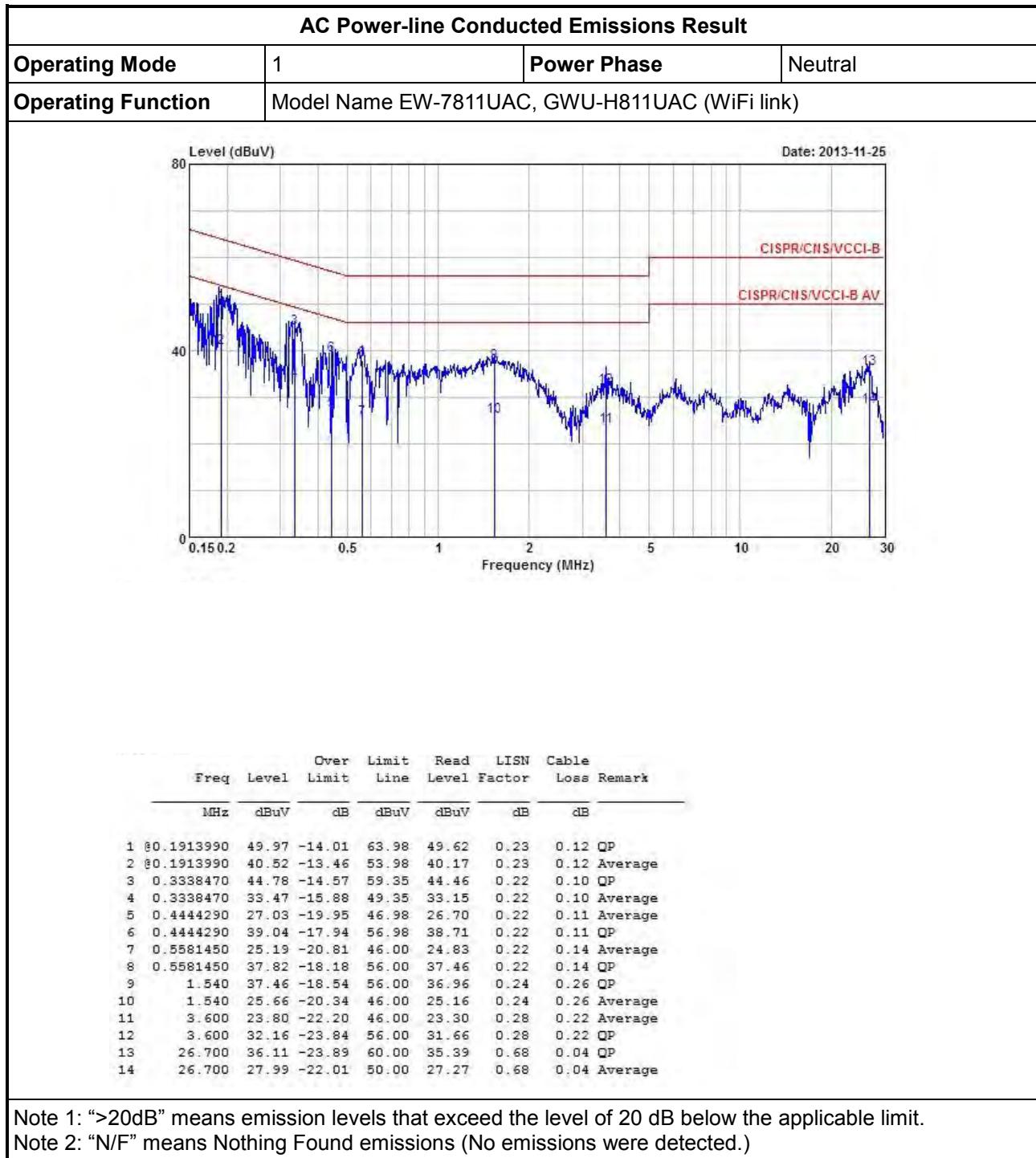
Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

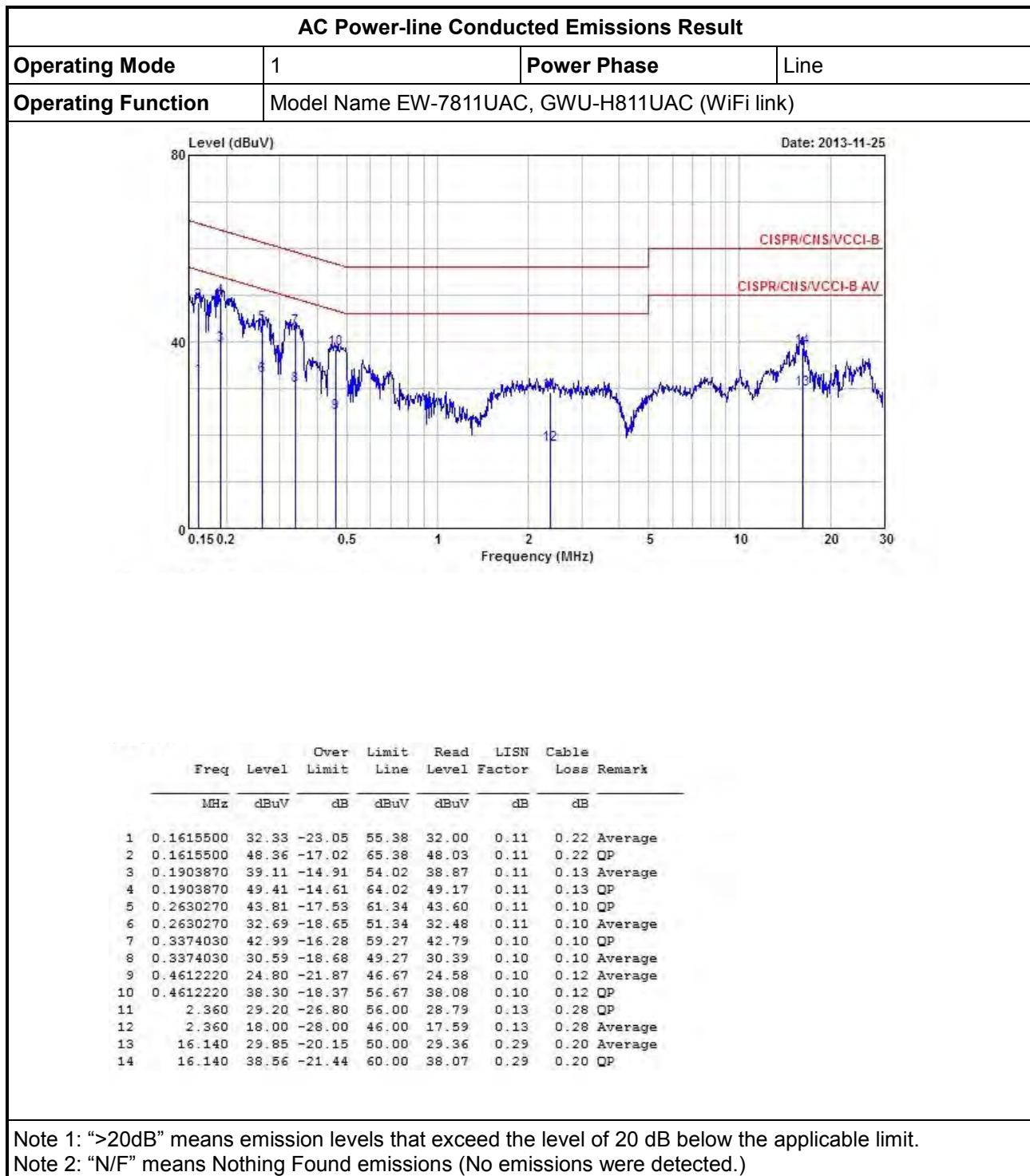
3.1.4 Test Setup

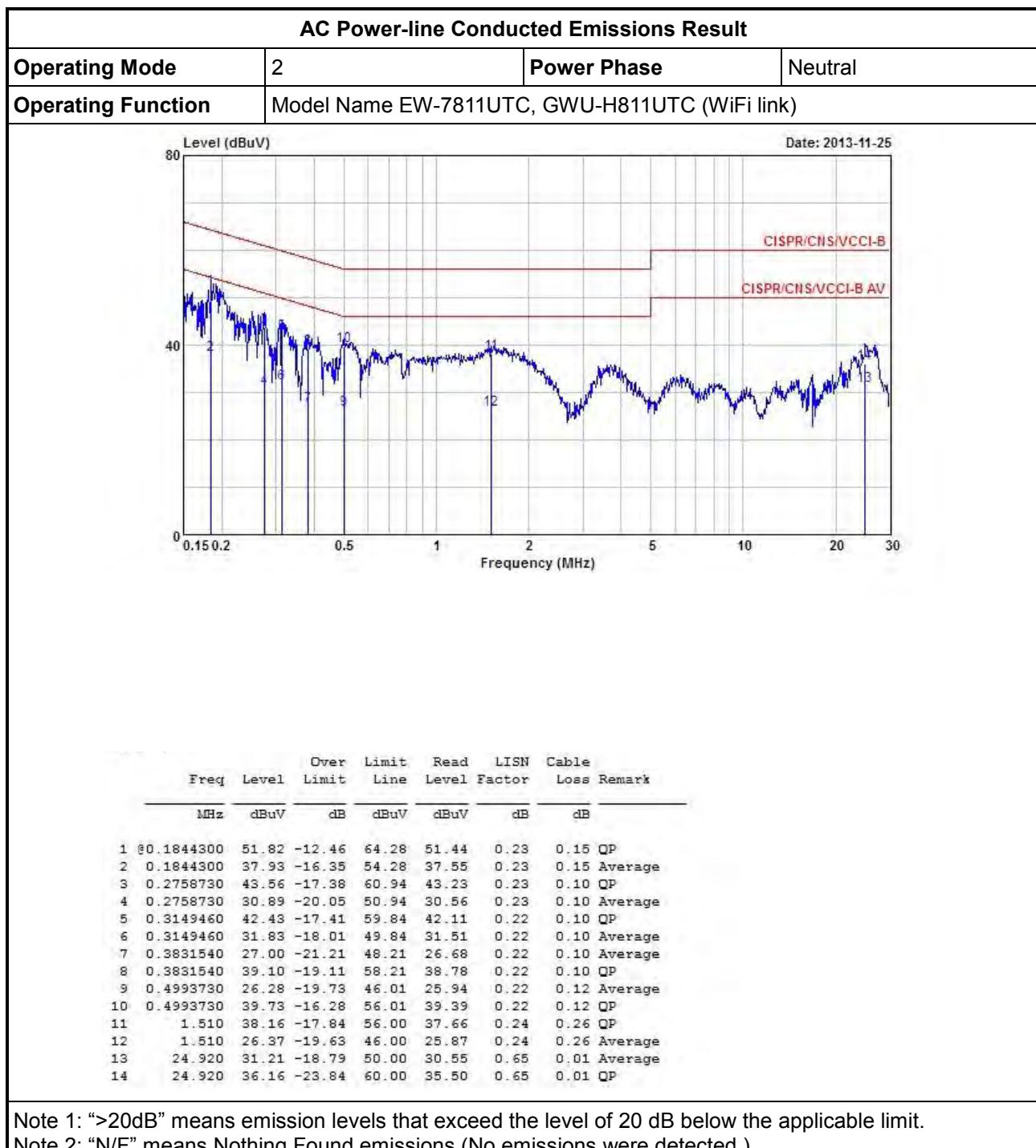




3.1.5 Test Result of AC Power-line Conducted Emissions

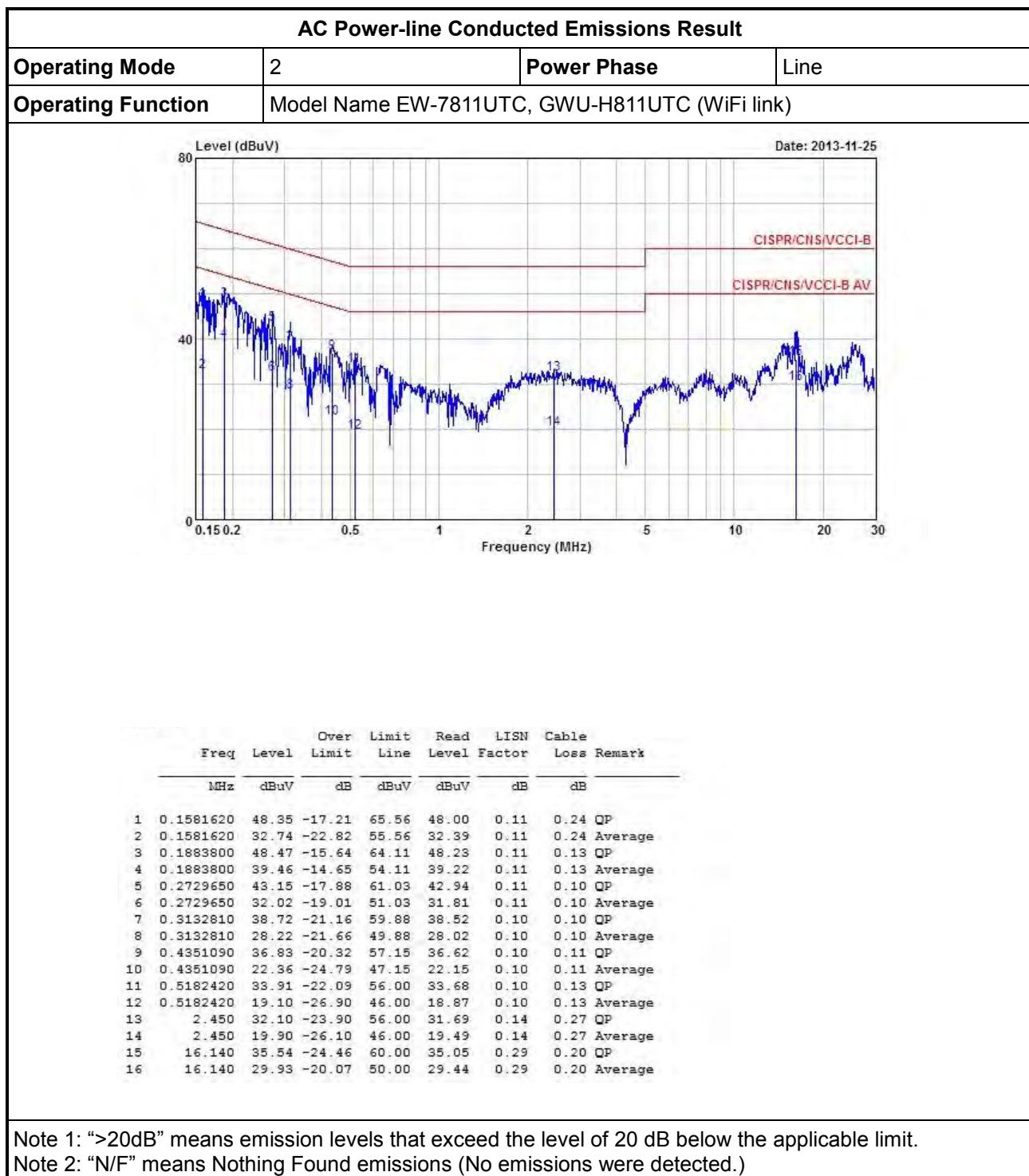


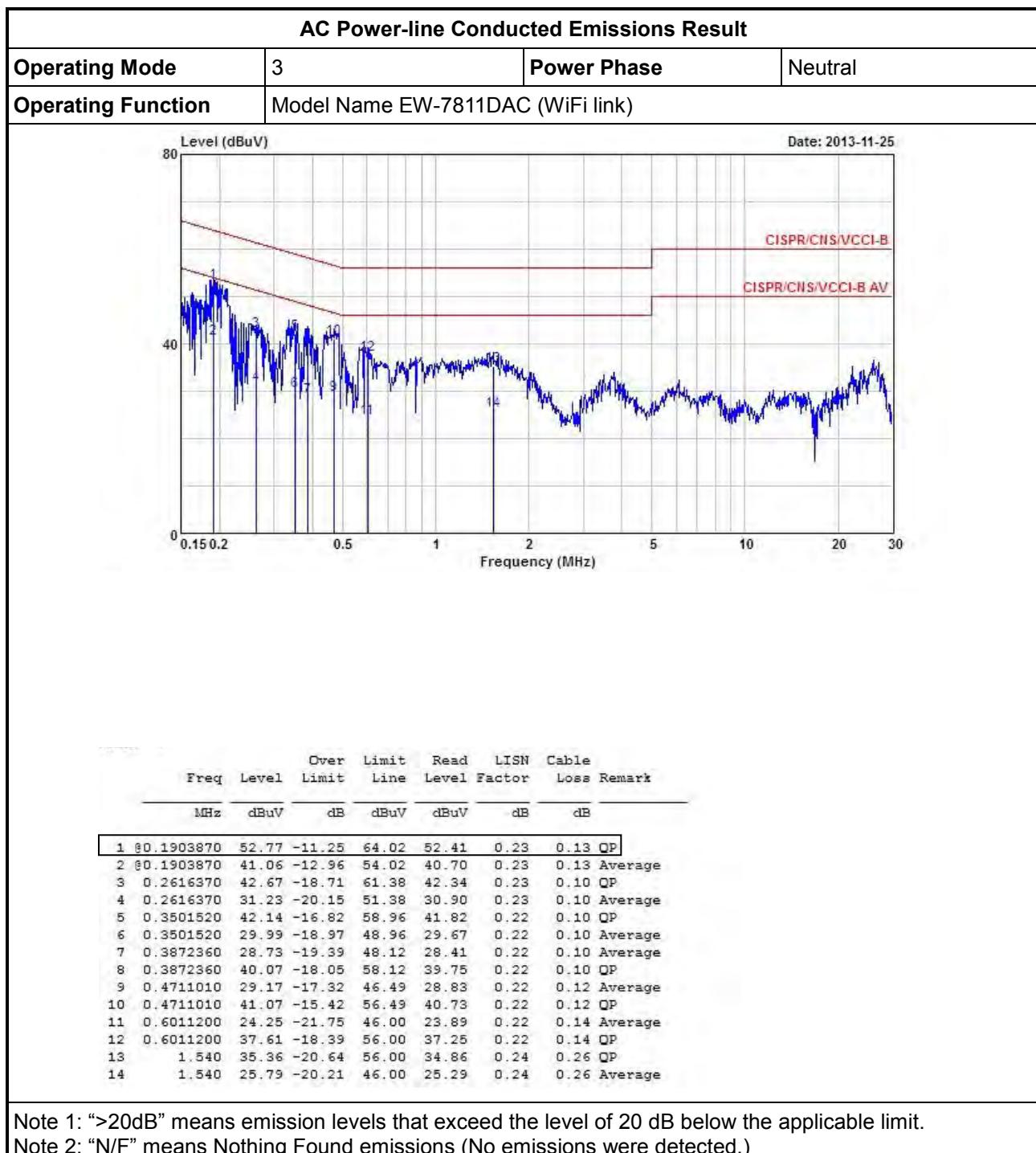




Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

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

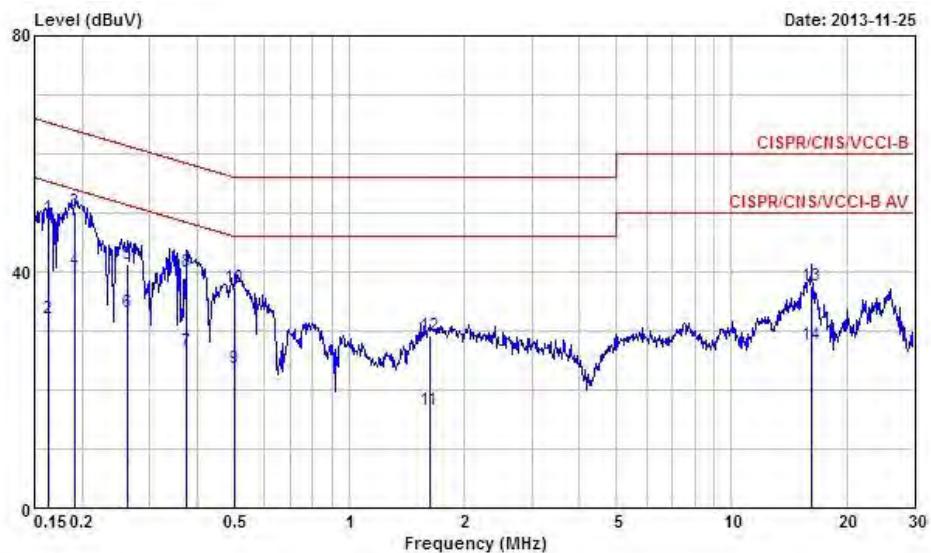






AC Power-line Conducted Emissions Result

Operating Mode	3	Power Phase	Line
Operating Function	Model Name EW-7811DAC (WiFi link)		



Freq	Level	Over	Limit	Read	LISN	Cable
		Limit	Line	Level	Factor	Loss Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB
0.1632710	49.20	-16.10	65.30	48.87	0.11	0.22 QP
0.1632710	32.10	-23.20	55.30	31.77	0.11	0.22 Average
0.1913990	50.16	-13.82	63.98	49.93	0.11	0.12 QP
0.1913990	40.27	-13.71	53.98	40.04	0.11	0.12 Average
0.2630270	41.38	-19.96	61.34	41.17	0.11	0.10 QP
0.2630270	33.05	-18.29	51.34	32.84	0.11	0.10 Average
0.3751190	26.62	-21.77	48.39	26.42	0.10	0.10 Average
0.3751190	40.07	-18.32	58.39	39.87	0.10	0.10 QP
0.5020260	23.60	-22.40	46.00	23.38	0.10	0.12 Average
0.5020260	37.35	-18.65	56.00	37.13	0.10	0.12 QP
1.620	16.67	-29.33	46.00	16.28	0.12	0.27 Average
1.620	29.13	-26.87	56.00	28.74	0.12	0.27 QP
16.230	37.70	-22.30	60.00	37.21	0.29	0.20 QP
16.230	27.66	-22.34	50.00	27.17	0.29	0.20 Average

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



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

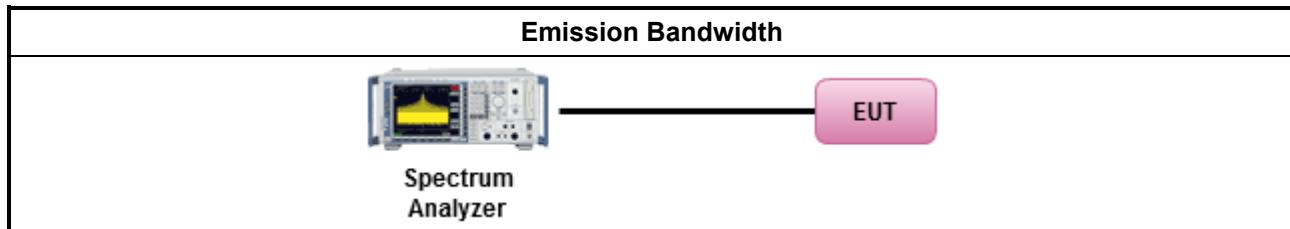
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/>	For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
<input type="checkbox"/>	Refer as IC RSS-Gen, clause 6.6 for bandwidth testing.
<input checked="" type="checkbox"/>	For conducted measurement.
<input checked="" type="checkbox"/>	The EUT supports single transmit chain and measurements performed on this transmit chain.
<input type="checkbox"/>	The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
<input type="checkbox"/>	The EUT supports multiple transmit chains using options given below:
	<input type="checkbox"/> Option 1: Multiple transmit chains measurements need to be performed on one of the active transmit chains (antenna outputs). All measurement had be performed on transmit chains 1.
	<input type="checkbox"/> Option 2: Multiple transmit chains measurements need to be performed on each transmit chains individually (antenna outputs). All measurement had be performed on all transmit chains.

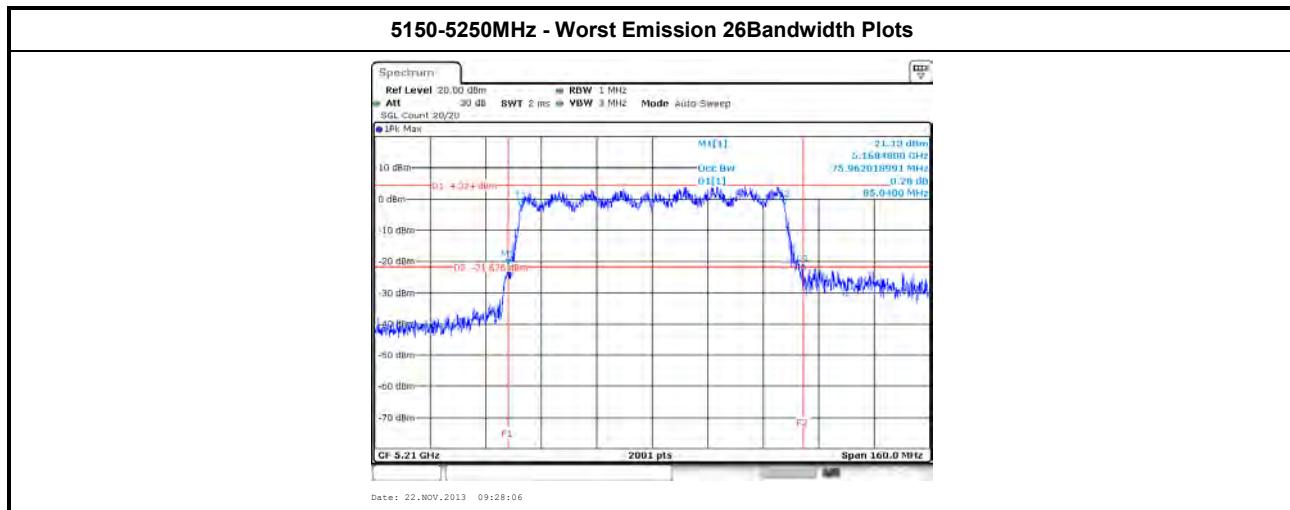


3.2.4 Test Setup



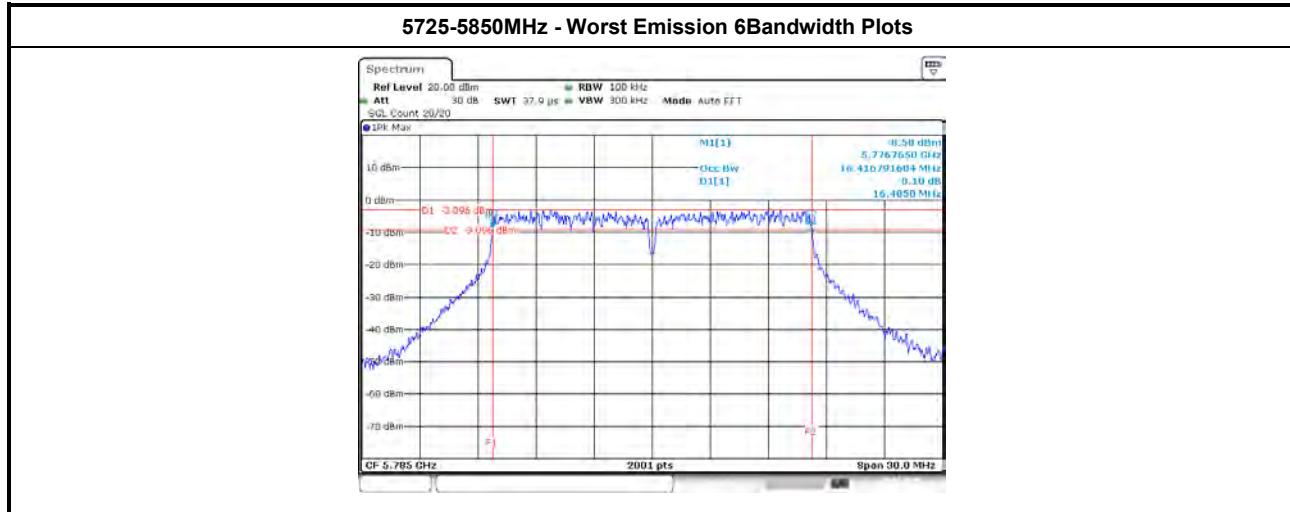
3.2.5 Test Result of Emission Bandwidth

UNII Emission Bandwidth Result (5150-5250MHz band)				
Condition			Emission Bandwidth (MHz)	
Modulation Mode	N _{TX}	Freq. (MHz)	99% Bandwidth	26dB Bandwidth
11a	1	5180	16.84	20.27
11a	1	5200	16.59	20.22
11a	1	5240	16.51	20.15
HT20	1	5180	18.01	21.05
HT20	1	5200	17.89	20.87
HT20	1	5240	17.84	20.72
HT40	1	5190	36.70	44.52
HT40	1	5230	36.86	46.48
VHT20	1	5180	17.74	20.77
VHT20	1	5200	18.01	22.07
VHT20	1	5240	17.71	20.57
VHT40	1	5190	36.98	49.64
VHT40	1	5230	36.90	46.60
VHT80	1	5210	75.96	85.04
Result			Complied	





UNII Emission Bandwidth Result (5725-5850MHz band)				
Condition		Emission Bandwidth (MHz)		
Modulation Mode	N _{TX}	Freq. (MHz)	99% Bandwidth	6dB Bandwidth
11a	1	5745	16.49	16.56
11a	1	5785	16.41	16.48
11a	1	5825	16.47	16.51
HT20	1	5745	17.70	17.80
HT20	1	5785	17.60	17.64
HT20	1	5825	17.69	17.73
HT40	1	5755	36.22	36.48
HT40	1	5795	36.22	36.48
VHT20	1	5745	17.64	17.77
VHT20	1	5785	17.60	17.65
VHT20	1	5825	17.63	17.73
VHT40	1	5755	36.18	36.44
VHT40	1	5795	36.14	36.48
VHT80	1	5775	75.56	76.32
Limit		-		≥ 500 kHz
Result		Complied		





3.3 RF Output Power

3.3.1 RF Output Power Limit

Maximum Conducted Output Power Limit	
UNII Devices	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	
<input type="checkbox"/> 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]	
<input type="checkbox"/> Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$	
<input type="checkbox"/> 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 $P_{Out} = 30 - (G_{TX} - 23)$.	
<input checked="" type="checkbox"/> 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 $P_{Out} = 24 - (G_{TX} - 6)$.	
<input type="checkbox"/> 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 $P_{Out} = 24 - (G_{TX} - 6)$.	
<input type="checkbox"/> 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 $P_{Out} = 24 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	
<input checked="" type="checkbox"/> 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 $P_{Out} = 30 - (G_{TX} - 6)$.	
<input type="checkbox"/> 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.	

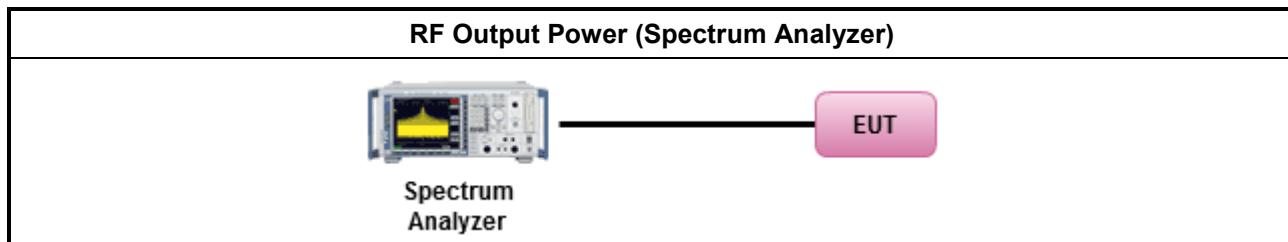
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/> Maximum Conducted Output Power	
	[duty cycle \geq 98% or external video / power trigger]
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle $<$ 98% and average over on/off periods with duty factor
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC 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 FCC KDB 789033, clause E Method PM (using an RF average power meter).
<input checked="" type="checkbox"/> For conducted measurement.	
<input checked="" type="checkbox"/>	The EUT supports single transmit chain and measurements performed on this transmit chain.
<input type="checkbox"/>	The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
<input type="checkbox"/>	The EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
<input type="checkbox"/>	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]) $EIRP_{total} = P_{total} + DG$

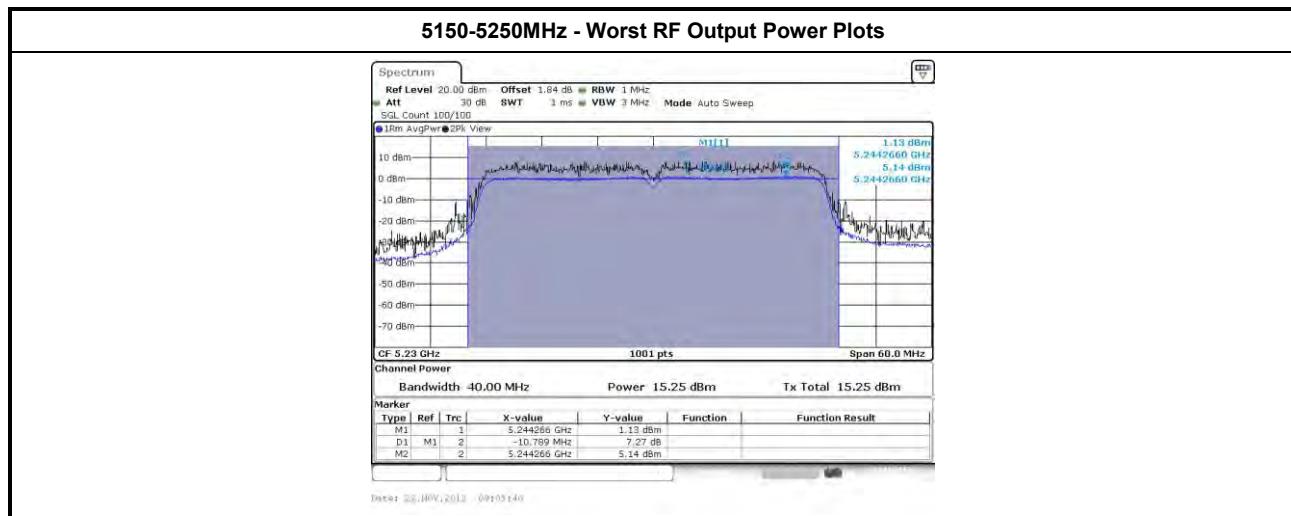
3.3.4 Test Setup





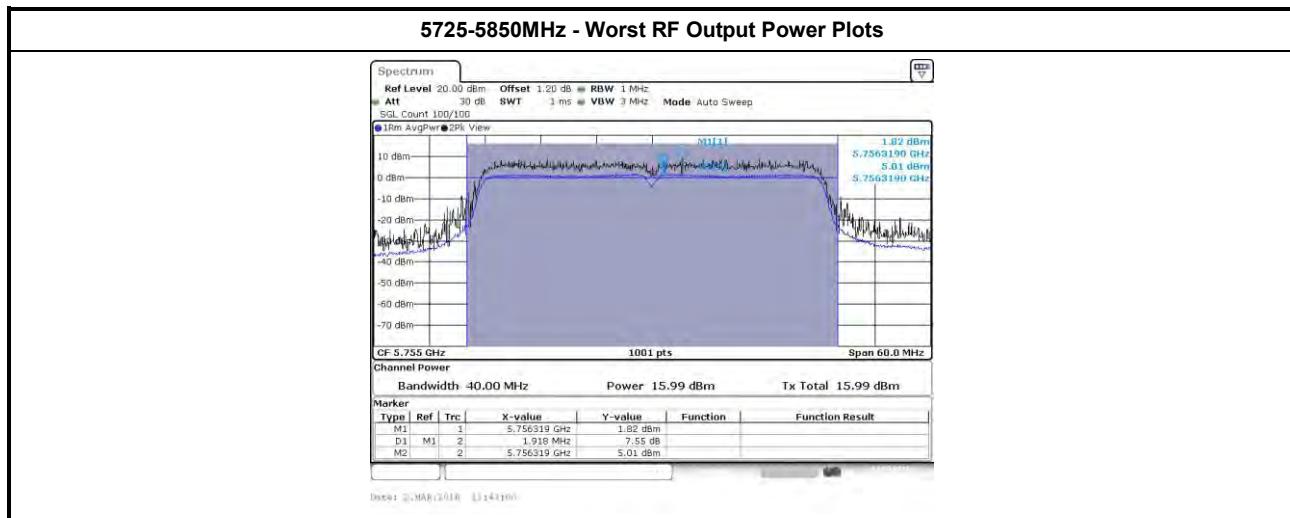
3.3.5 Test Result of Maximum Conducted Output Power

Maximum Conducted Output Power (5150-5250MHz band)					
Modulation Mode	N _{TX}	Freq. (MHz)	Output Power (dBm)	Antenna Gain (dBi)	Power Limit
11a	1	5180	13.13	7.10	22.90
11a	1	5200	13.44	7.10	22.90
11a	1	5240	13.02	7.10	22.90
HT20	1	5180	13.80	7.10	22.90
HT20	1	5200	13.78	7.10	22.90
HT20	1	5240	13.94	7.10	22.90
HT40	1	5190	14.52	7.10	22.90
HT40	1	5230	14.96	7.10	22.90
VHT20	1	5180	13.85	7.10	22.90
VHT20	1	5200	13.51	7.10	22.90
VHT20	1	5240	13.61	7.10	22.90
VHT40	1	5190	15.06	7.10	22.90
VHT40	1	5230	15.25	7.10	22.90
VHT80	1	5210	14.55	7.10	22.90
Result		Complied			





Maximum Conducted Output Power (5725-5850MHz band)					
Modulation Mode	N _{TX}	Freq. (MHz)	Output Power (dBm)	Antenna Gain (dBi)	Power Limit
11a	1	5745	15.95	7.10	28.90
11a	1	5785	15.74	7.10	28.90
11a	1	5825	14.93	7.10	28.90
HT20	1	5745	15.84	7.10	28.90
HT20	1	5785	15.71	7.10	28.90
HT20	1	5825	15.45	7.10	28.90
HT40	1	5755	15.62	7.10	28.90
HT40	1	5795	15.77	7.10	28.90
VHT20	1	5745	15.99	7.10	28.90
VHT20	1	5785	15.68	7.10	28.90
VHT20	1	5825	15.59	7.10	28.90
VHT40	1	5755	15.99	7.10	28.90
VHT40	1	5795	15.95	7.10	28.90
VHT80	1	5775	13.63	7.10	28.90
Result		Complied			





3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	
<input type="checkbox"/> Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$.	
<input type="checkbox"/> Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$.	
<input type="checkbox"/> Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$.	
<input checked="" type="checkbox"/> Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input type="checkbox"/> For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	
<input checked="" type="checkbox"/> Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$.	
<input type="checkbox"/> 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.	

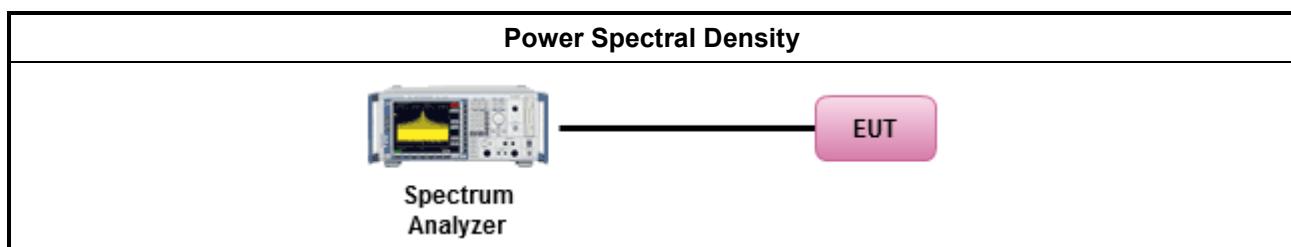
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/> 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 FCC KDB 789033, F)5) 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% or external video / power trigger]	
<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).	
<input type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)	
duty cycle $<$ 98% and average over on/off periods with duty factor	
<input type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).	
<input type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)	
<input checked="" type="checkbox"/> For conducted measurement.	
<input checked="" type="checkbox"/> The EUT supports single transmit chain and measurements performed on this transmit chain.	
<input type="checkbox"/> The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.	
<input type="checkbox"/> The EUT supports multiple transmit chains using options given below:	
<input type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.	
<input type="checkbox"/> Option 2: 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.	
<input type="checkbox"/> 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]) $EIRP_{total} = PPSD_{total} + DG$	
<input type="checkbox"/> Each individually PPSD plots refer as test report clause 3.3.5 with each individually PPSD plots.	

3.4.4 Test Setup





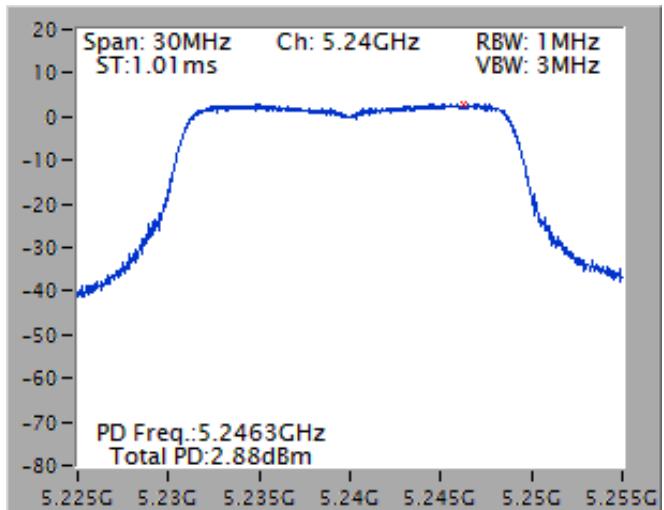
3.4.5 Test Result of Peak Power Spectral Density

Peak Power Spectral Density Result (5150-5250MHz band)					
Modulation Mode	N _{TX}	Freq. (MHz)	Peak Power Spectral Density (dBm)	PSD Limit	Antenna Gain (dBi)
11a	1	5180	2.34	9.90	7.10
11a	1	5200	2.77	9.90	7.10
11a	1	5240	2.21	9.90	7.10
HT20	1	5180	2.79	9.90	7.10
HT20	1	5200	2.77	9.90	7.10
HT20	1	5240	2.88	9.90	7.10
HT40	1	5190	0.61	9.90	7.10
HT40	1	5230	1.02	9.90	7.10
VHT20	1	5180	2.86	9.90	7.10
VHT20	1	5200	2.48	9.90	7.10
VHT20	1	5240	2.55	9.90	7.10
VHT40	1	5190	0.88	9.90	7.10
VHT40	1	5230	1.13	9.90	7.10
VHT80	1	5210	-1.34	9.90	7.10
Result		Complied			

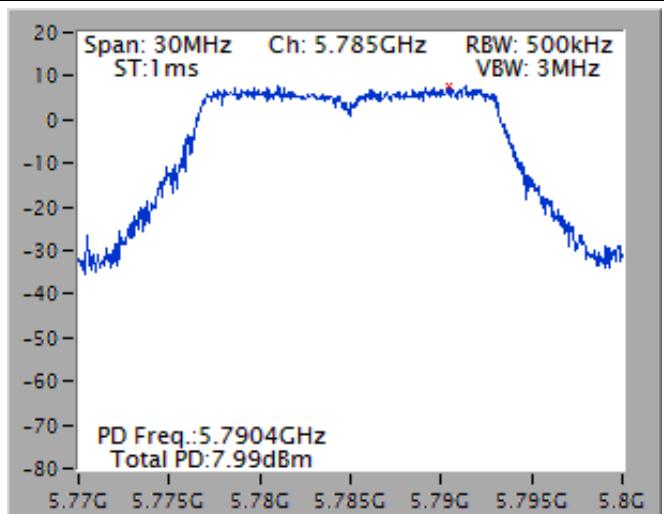
Peak Power Spectral Density Result (5725-5850MHz band)					
Modulation Mode	N _{TX}	Freq. (MHz)	Peak Power Spectral Density (dBm)	PSD Limit (500kHz)	Antenna Gain (dBi)
11a	1	5745	7.65	28.90	7.10
11a	1	5785	7.99	28.90	7.10
11a	1	5825	7.10	28.90	7.10
HT20	1	5745	7.52	28.90	7.10
HT20	1	5785	7.80	28.90	7.10
HT20	1	5825	6.65	28.90	7.10
HT40	1	5755	4.66	28.90	7.10
HT40	1	5795	4.53	28.90	7.10
VHT20	1	5745	7.64	28.90	7.10
VHT20	1	5785	7.79	28.90	7.10
VHT20	1	5825	7.18	28.90	7.10
VHT40	1	5755	4.92	28.90	7.10
VHT40	1	5795	4.65	28.90	7.10
VHT80	1	5775	-0.26	28.90	7.10
Result		Complied			



5150-5250MHz - Worst Power Spectral Density Plots

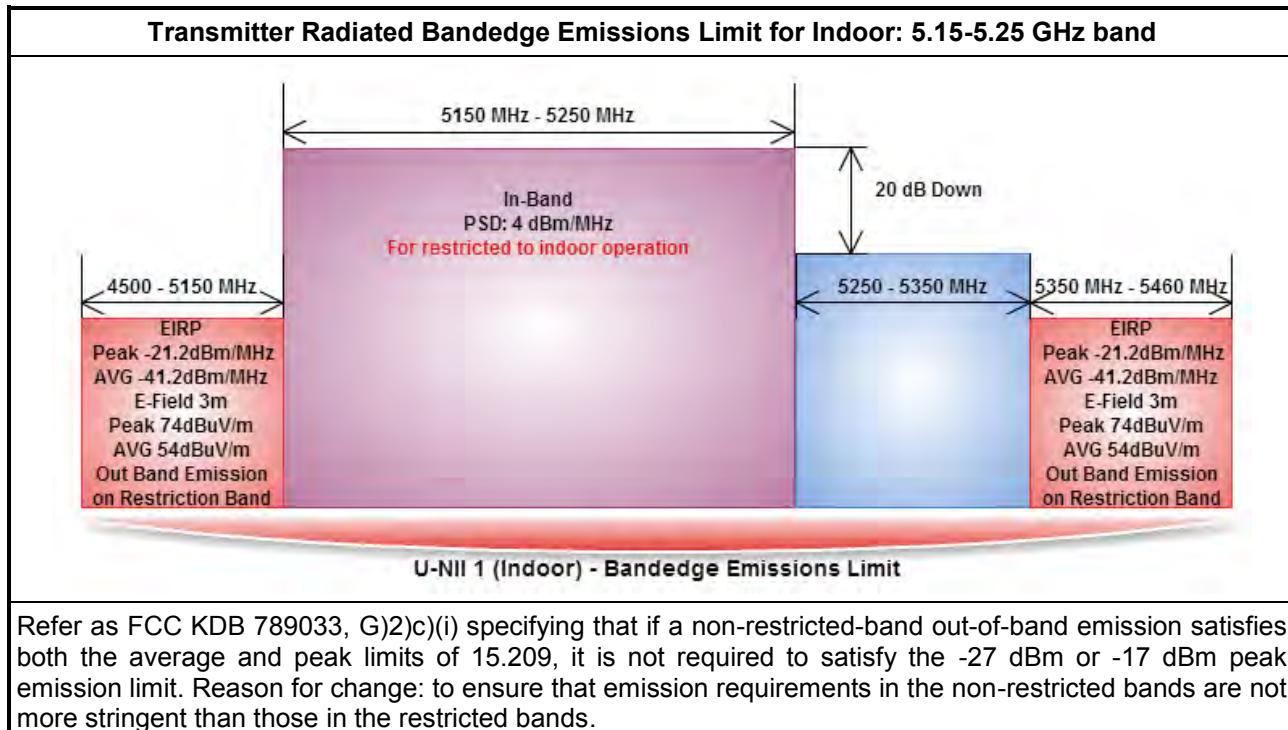


5725-5850MHz - Worst Power Spectral Density Plots



3.5 Transmitter Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit



3.5.2 Measuring Instruments

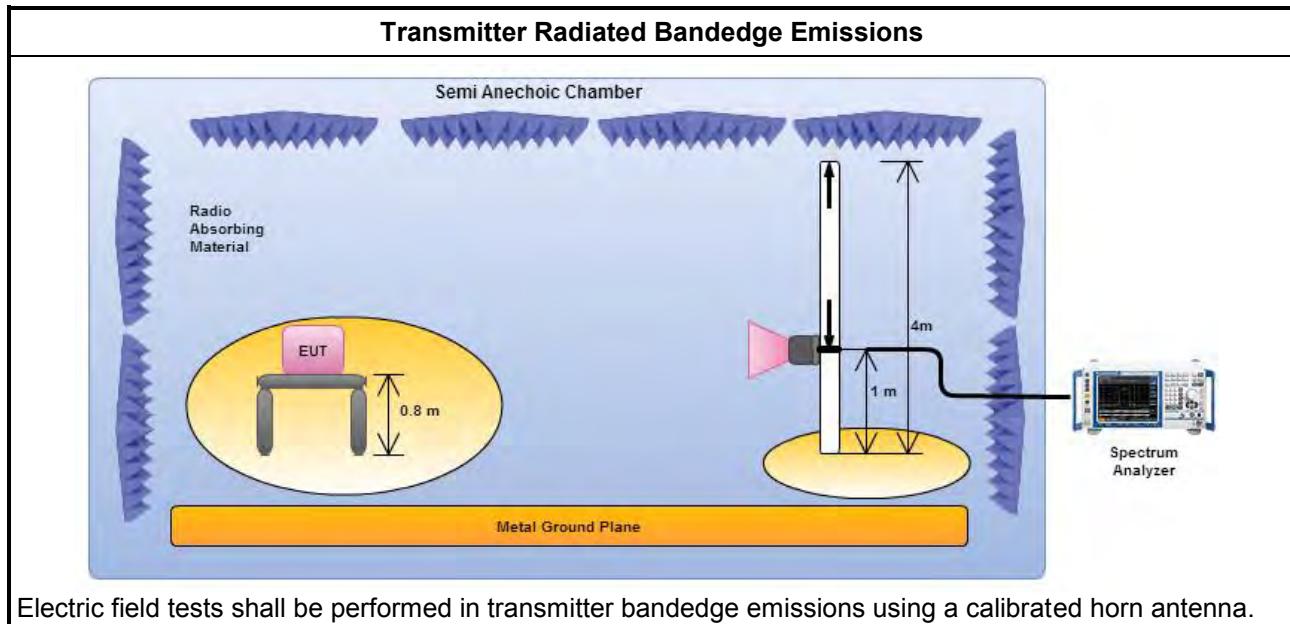
Refer a test equipment and calibration data table in this test report.



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 6.9.2.2 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.) <ul style="list-style-type: none"><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 5.725-5.825 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) <ul style="list-style-type: none"><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 5.725-5.825 GHz band (higher-band).
<input checked="" type="checkbox"/> For the transmitter unwanted emissions shall be measured using following options below: <ul style="list-style-type: none"><input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.<ul style="list-style-type: none"><input type="checkbox"/> Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).<input type="checkbox"/> Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).<input checked="" type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). $VBW \geq 1/T$, where T is pulse time.<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause H)5) measurement procedure peak limit.<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
<input checked="" type="checkbox"/> For the transmitter bandedge emissions shall be measured using following options below: <ul style="list-style-type: none"><input type="checkbox"/> Refer as FCC KDB 789033, clause H)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 6.9.2 for band-edge testing.<input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.3 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 1m.
<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 1m, because the instrumentation noise floor is typically close to the radiated emission limit.

3.5.4 Test Setup



3.5.5 Transmitter Radiated Bandedge Emissions (with Antenna)

Mode 1

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	1	5180	1	5109.80	60.16	83.54	5100.00	55.43	63.54	V
11a	1	5240	1	5123.70	67.20	83.54	5112.90	55.06	63.54	V
HT20,M0-7	1	5180	1	5149.80	69.66	83.54	5150.00	55.60	63.54	V
HT20,M0-7	1	5240	1	5120.10	68.39	83.54	5116.20	54.91	63.54	V
HT40,M0-7	1	5190	1	5146.86	70.91	83.54	5146.97	56.72	63.54	V
HT40,M0-7	1	5230	1	5145.30	67.81	83.54	5149.80	55.07	63.54	V
VHT20,M0-8	1	5180	1	5144.80	68.97	83.54	5149.90	55.65	63.54	V
VHT20,M0-8	1	5240	1	5113.80	67.92	83.54	5117.40	55.09	63.54	V
VHT40,M0-9	1	5190	1	5146.53	73.16	83.54	5149.94	57.90	63.54	V
VHT40,M0-9	1	5230	1	5141.40	68.58	83.54	5105.70	55.07	63.54	V
VHT80,M0-9	1	5210	1	5145.45	70.15	83.54	5148.45	57.15	63.54	V

Note 1: Measurement worst emissions of receive antenna polarization.

**Mode 2**

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	1	5180	1	5126.30	68.09	83.54	5100.00	54.52	63.54	V
11a	1	5240	1	5118.90	67.70	83.54	5134.20	54.72	63.54	V
HT20,M0-7	1	5180	1	5123.50	70.17	83.54	5106.60	54.93	63.54	V
HT20,M0-7	1	5240	1	5140.20	68.05	83.54	5101.80	55.14	63.54	V
HT40,M0-7	1	5190	1	5135.86	68.36	83.54	5149.61	55.06	63.54	V
HT40,M0-7	1	5230	1	5102.10	68.20	83.54	5107.80	54.90	63.54	V
VHT20,M0-8	1	5180	1	5145.80	68.67	83.54	5100.60	54.83	63.54	V
VHT20,M0-8	1	5240	1	5139.00	67.81	83.54	5111.40	54.90	63.54	V
VHT40,M0-9	1	5190	1	5113.53	70.16	83.54	5149.50	57.04	63.54	V
VHT40,M0-9	1	5230	1	5105.40	70.43	83.54	5100.60	56.84	63.54	V
VHT80,M0-9	1	5210	1	5130.30	71.41	83.54	5148.30	58.22	63.54	V

Note 1: Measurement worst emissions of receive antenna polarization.

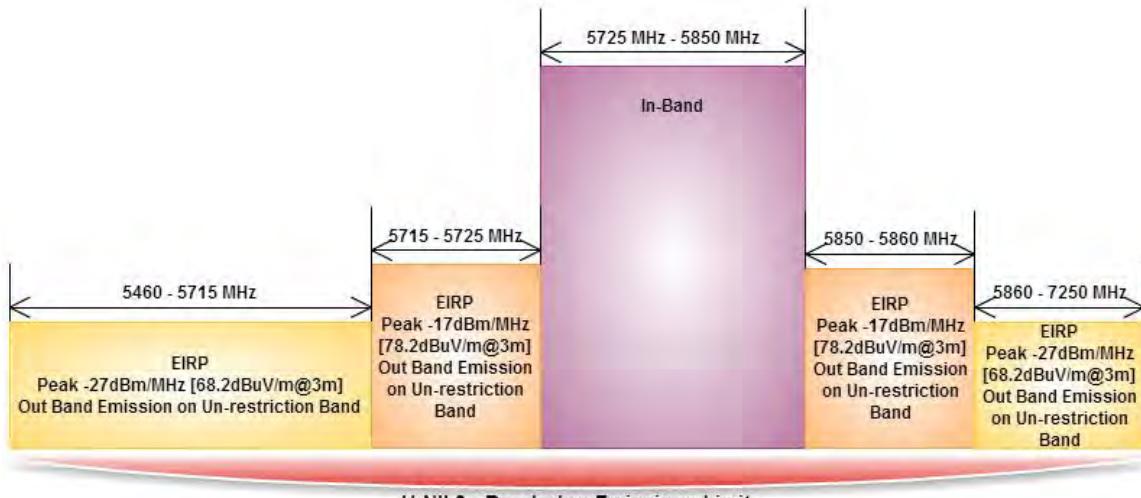
Mode 3

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	1	5180	1	5119.80	67.41	83.54	5100.00	54.55	63.54	H
11a	1	5240	1	5134.50	67.81	83.54	5103.30	54.05	63.54	H
HT20,M0-7	1	5180	1	5122.70	67.37	83.54	5100.30	54.89	63.54	H
HT20,M0-7	1	5240	1	5106.60	67.48	83.54	5106.60	54.85	63.54	H
HT40,M0-7	1	5190	1	5149.94	68.14	83.54	5143.89	54.86	63.54	H
HT40,M0-7	1	5230	1	5113.80	68.35	83.54	5100.90	54.84	63.54	H
VHT20,M0-8	1	5180	1	5100.00	68.06	83.54	5100.70	54.81	63.54	H
VHT20,M0-8	1	5240	1	5130.90	67.53	83.54	5100.90	54.82	63.54	H
VHT40,M0-9	1	5190	1	5144.22	67.71	83.54	5147.85	54.98	63.54	H
VHT40,M0-9	1	5230	1	5110.50	67.94	83.54	5139.00	54.84	63.54	H
VHT80,M0-9	1	5210	1	5120.25	68.28	83.54	5147.70	55.34	63.54	H

Note 1: Measurement worst emissions of receive antenna polarization.

3.5.6 Transmitter Radiated Bandedge Emissions Limit

Transmitter Radiated Bandedge Emissions Limit for 5.8GHz band: 5.725-5.85 GHz band



Refer as FCC KDB 789033, G)2)c)(i) specifying that if a non-restricted-band out-of-band emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm or -17 dBm peak emission limit. Reason for change: to ensure that emission requirements in the non-restricted bands are not more stringent than those in the restricted bands.

3.5.7 Measuring Instruments

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

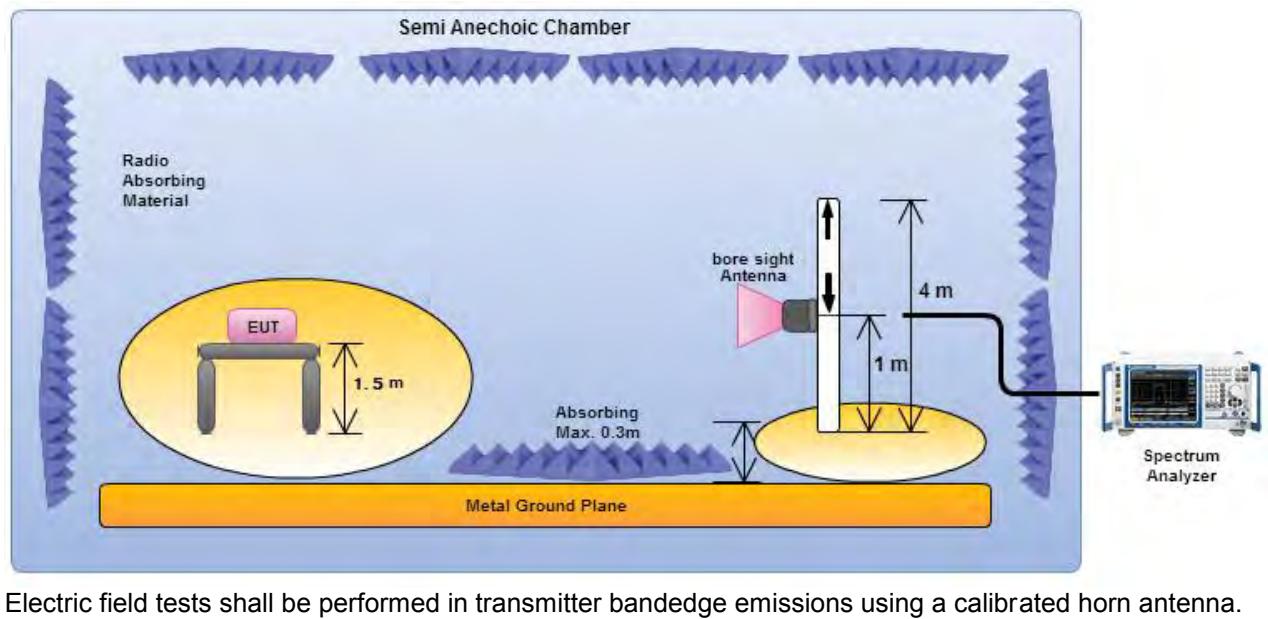


3.5.8 Test Procedures

Test Method
<input checked="" type="checkbox"/> The average emission levels shall be measured in [duty cycle \geq 98 or duty factor].
<input checked="" type="checkbox"/> Refer as ANSI C63.10, clause 6.10 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
<input 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.) <ul style="list-style-type: none"><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) <ul style="list-style-type: none"><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: <ul style="list-style-type: none"><input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.<ul style="list-style-type: none"><input type="checkbox"/> Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).<input type="checkbox"/> Refer as FCC KDB 789033, H)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 FCC KDB 789033, clause H)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: <ul style="list-style-type: none"><input type="checkbox"/> Refer as FCC KDB 789033, clause H)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.

3.5.9 Test Setup

Transmitter Radiated Bandedge Emissions



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

3.5.10 Transmitter Radiated Bandedge Emissions (with Antenna)

Mode 1

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	1	5745	3	5677.510	60.37	68.2	V
11a	1	5825	3	5876.740	59.66	68.2	V
HT20	1	5745	3	5697.460	60.42	68.2	V
HT20	1	5825	3	5863.720	60.04	68.2	V
HT40	1	5755	3	5715.000	65.38	68.2	V
HT40	1	5795	3	5899.300	60.68	68.2	V
VHT20	1	5745	3	5704.390	60.17	68.2	V
VHT20	1	5825	3	5913.280	60.28	68.2	V
VHT40	1	5755	3	5712.400	65.33	68.2	V
VHT40	1	5795	3	5861.800	60.16	68.2	V
VHT80	1	5775	3	5704.540	66.95	68.2	V

Note 1: Measurement worst emissions of receive antenna polarization.

**Mode 2**

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	1	5745	3	5713.630	61.37	68.2	V
11a	1	5825	3	5861.620	61.01	68.2	V
HT20	1	5745	3	5714.995	63.08	68.2	V
HT20	1	5825	3	5882.620	58.96	68.2	V
HT40	1	5755	3	5711.880	61.84	68.2	V
HT40	1	5795	3	5872.600	59.28	68.2	V
VHT20	1	5745	3	5703.970	59.87	68.2	V
VHT20	1	5825	3	5879.050	59.11	68.2	V
VHT40	1	5755	3	5714.480	61.53	68.2	V
VHT40	1	5795	3	5863.600	59.72	68.2	V
VHT80	1	5775	3	5710.480	61.85	68.2	V

Note 1: Measurement worst emissions of receive antenna polarization.

Mode 3

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	1	5745	3	5674.150	60.20	68.2	V
11a	1	5825	3	5905.930	60.47	68.2	V
HT20	1	5745	3	5703.760	61.05	68.2	V
HT20	1	5825	3	5862.880	59.54	68.2	V
HT40	1	5755	3	5681.460	59.59	68.2	V
HT40	1	5795	3	5898.400	59.33	68.2	V
VHT20	1	5745	3	5651.680	60.35	68.2	V
VHT20	1	5825	3	5900.050	59.31	68.2	V
VHT40	1	5755	3	5712.140	62.43	68.2	V
VHT40	1	5795	3	5862.100	59.92	68.2	V
VHT80	1	5775	3	5705.620	65.05	68.2	V

Note 1: Measurement worst emissions of receive antenna polarization.



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	5.715 5.725 GHz: e.i.r.p. -17 dBm [78.2 dBuV/m@3m] 5.85 5.86 GHz: e.i.r.p. -17 dBm [78.2 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.

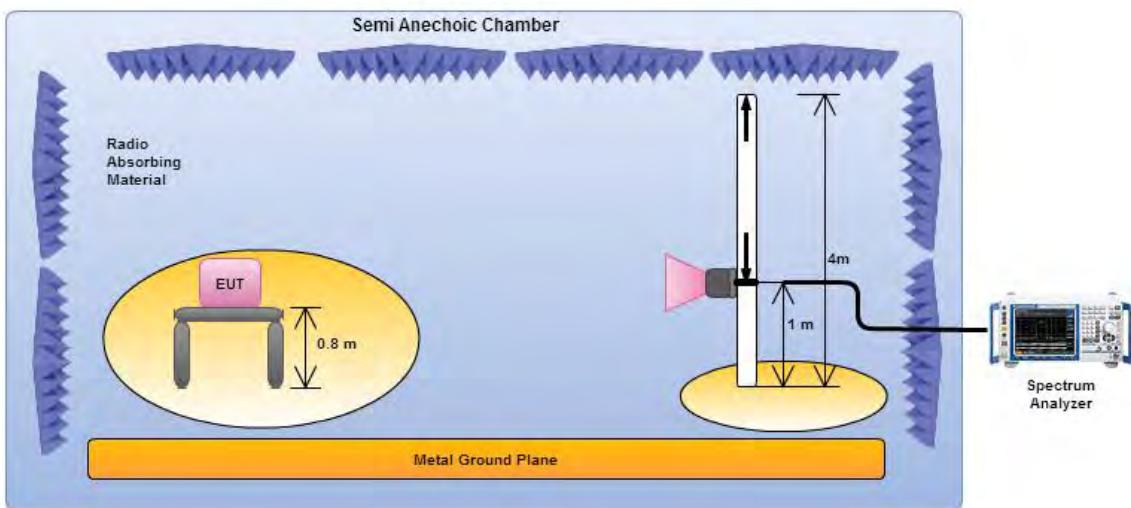


3.6.3 Test Procedures (For 5150-5250MHz)

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"/> Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.
<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.
<input type="checkbox"/> Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).
<input type="checkbox"/> Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).
<input checked="" type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time.
<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause H)5) measurement procedure peak limit.
<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.2 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 1 GHz and test distance is 3m, above 5GHz and test distance is 1m.
<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 Radiated Unwanted Emissions



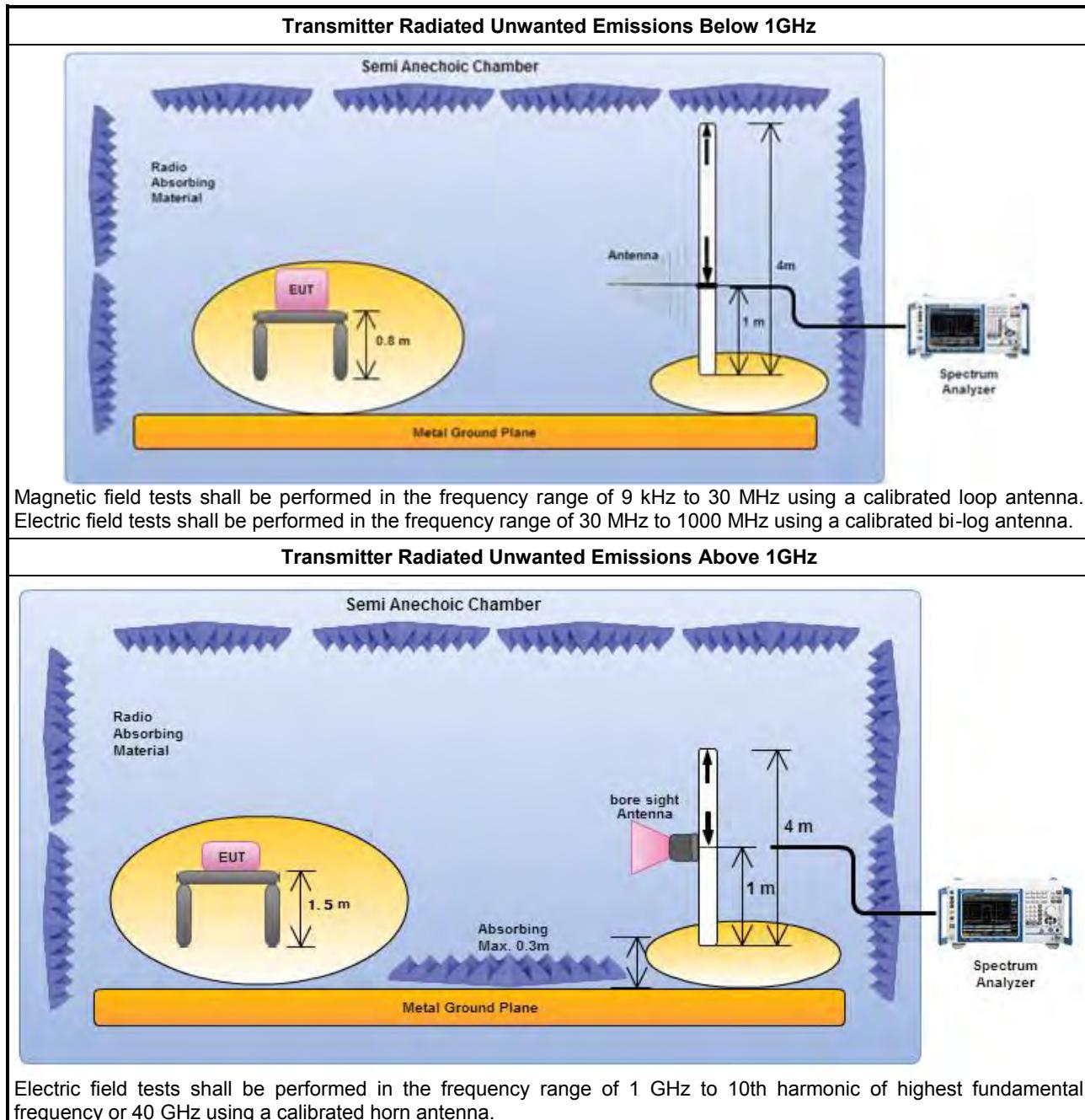
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna and the frequency range of 1 GHz to 40 GHz using a calibrated horn antenna.



3.6.5 Test Procedures (For 5725-5850MHz)

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"/> Refer as FCC KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.
<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause G)1) for unwanted emissions into restricted bands.
<input type="checkbox"/> Refer as FCC KDB 789033, G)6) Method AD (Trace Averaging).
<input type="checkbox"/> Refer as FCC KDB 789033, G)6) Method VB (Reduced VBW).
<input checked="" type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time.
<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
<input checked="" type="checkbox"/> Refer as FCC 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.

3.6.6 Test Setup

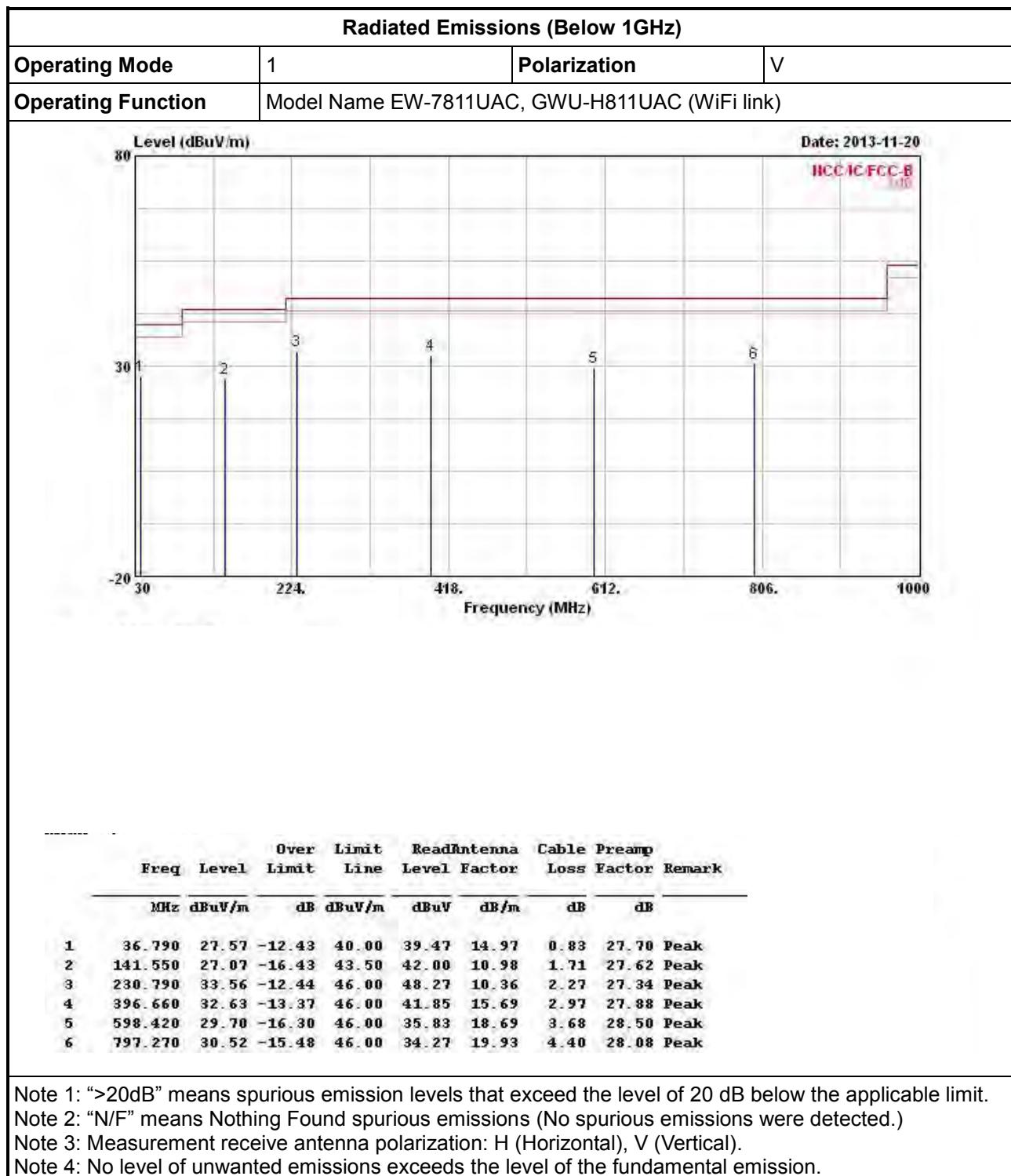


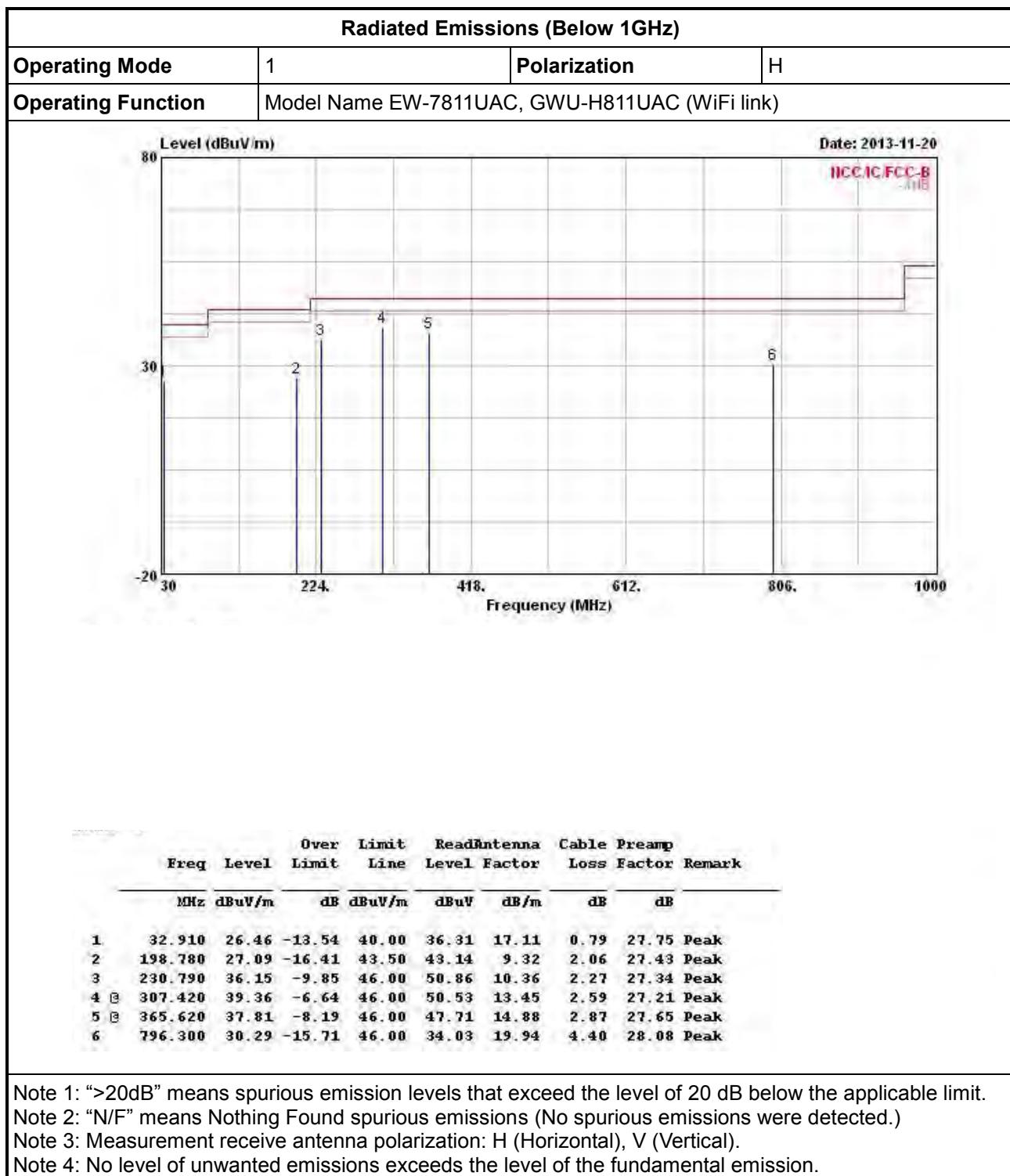
3.6.7 Transmitter Radiated Unwanted Emissions-with Antenna (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.



3.6.8 Transmitter Radiated Unwanted Emissions (Below 1GHz)

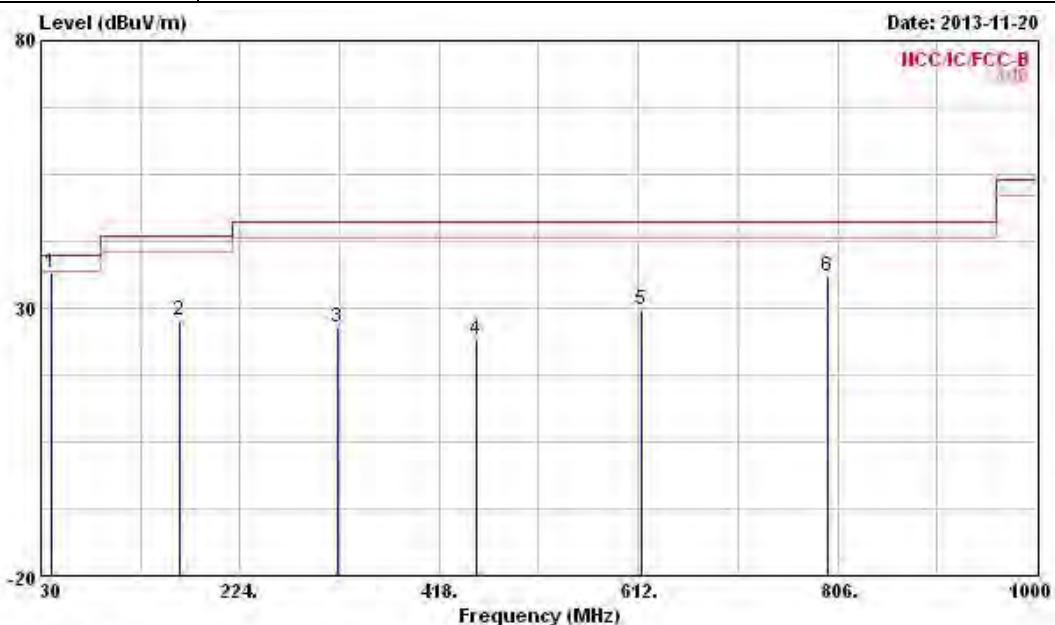






Radiated Emissions (Below 1GHz)

Operating Mode	2	Polarization	V
Operating Function	Model Name EW-7811UTC, GWU-H811UTC (WiFi link)		



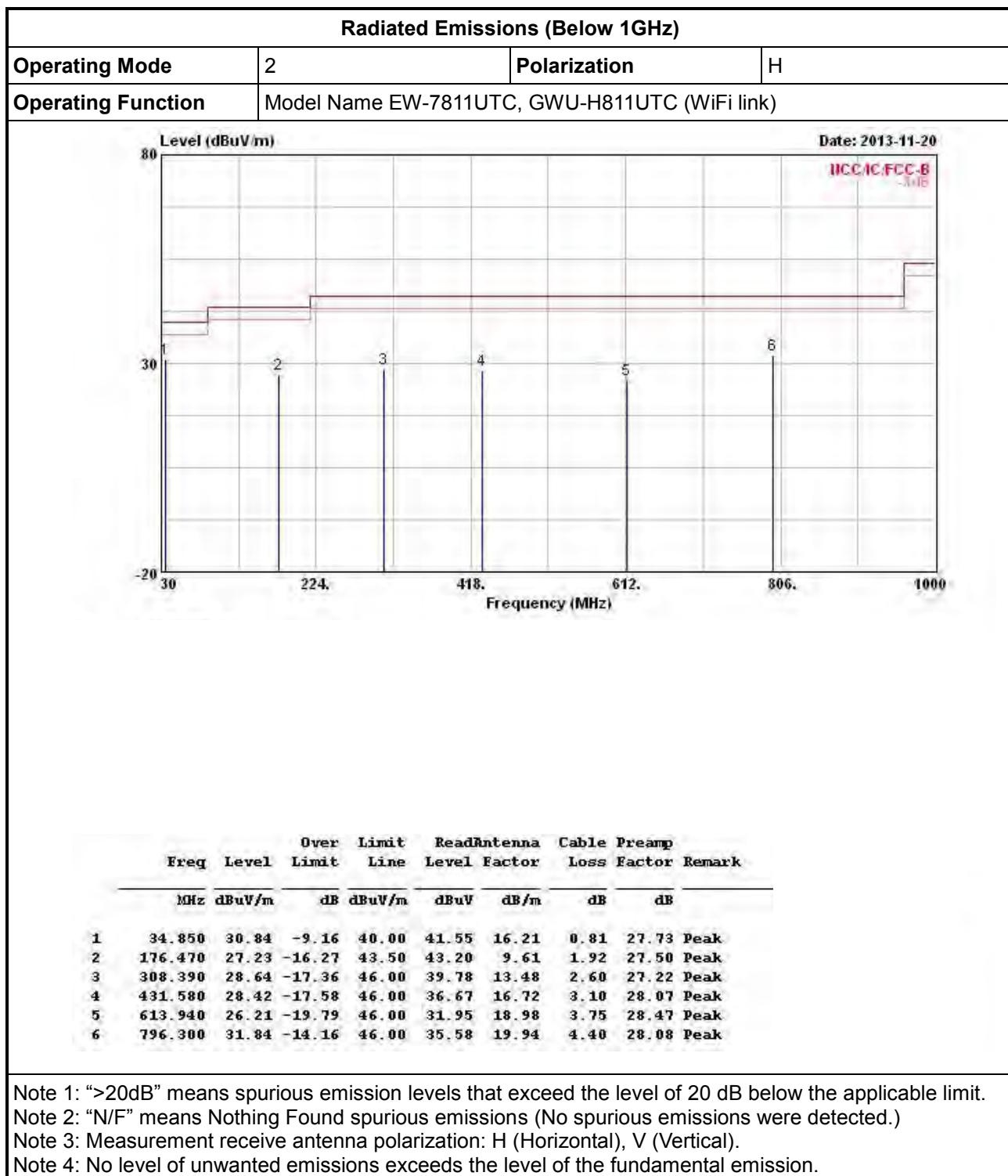
Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark
		Limit	Line	Level	Factor	Loss	Factor	
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1.8	39.700	36.64	-3.36	40.00	50.33	13.10	0.87	27.66 Peak
2	164.830	27.61	-15.89	43.50	43.38	9.95	1.82	27.54 Peak
3	319.060	26.33	-19.67	46.00	37.26	13.72	2.65	27.30 Peak
4	454.860	24.23	-21.77	46.00	32.19	17.04	3.19	28.19 Peak
5	614.910	29.69	-16.31	46.00	35.42	18.99	3.75	28.47 Peak
6	797.270	36.07	-9.93	46.00	39.82	19.93	4.40	28.08 Peak

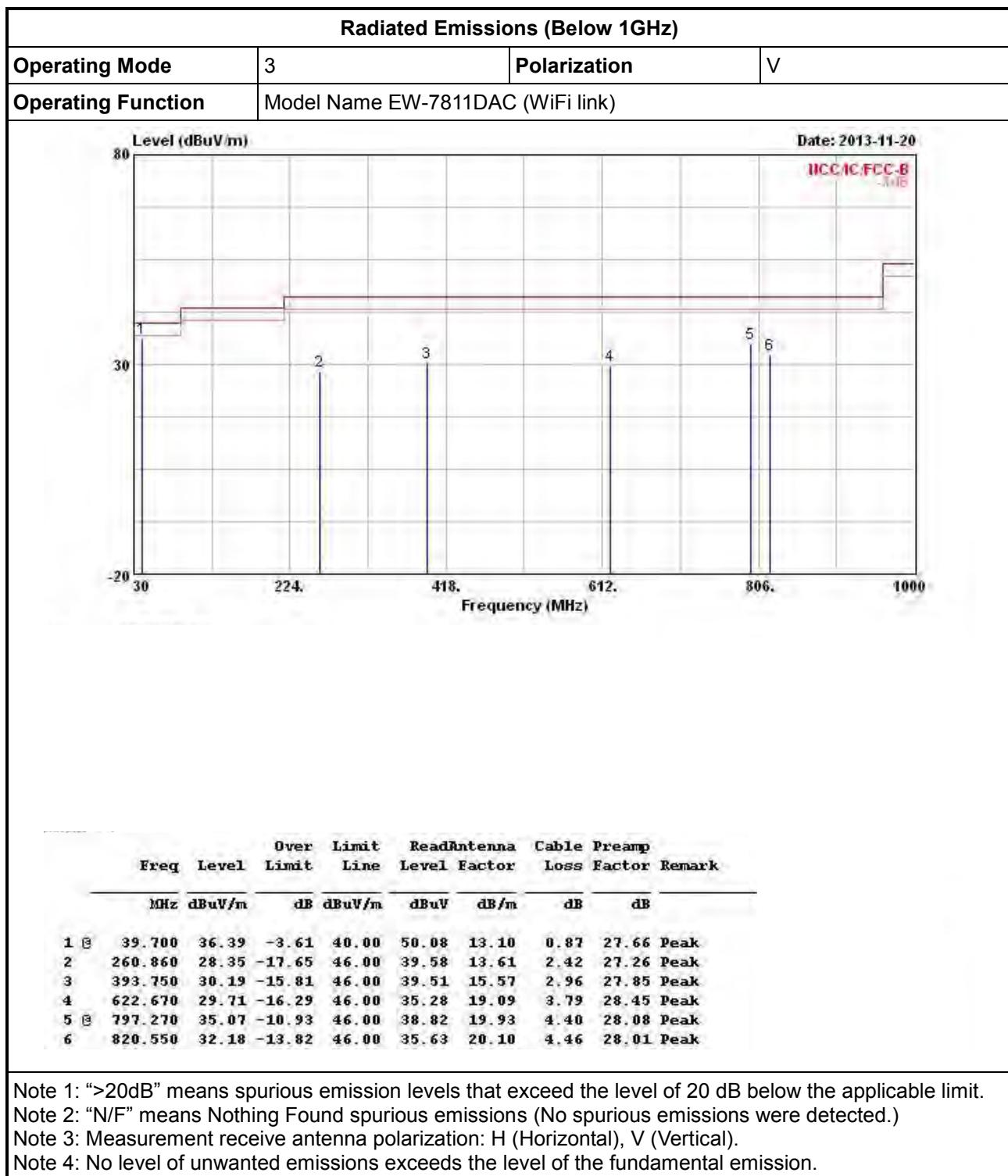
Note 1: >20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

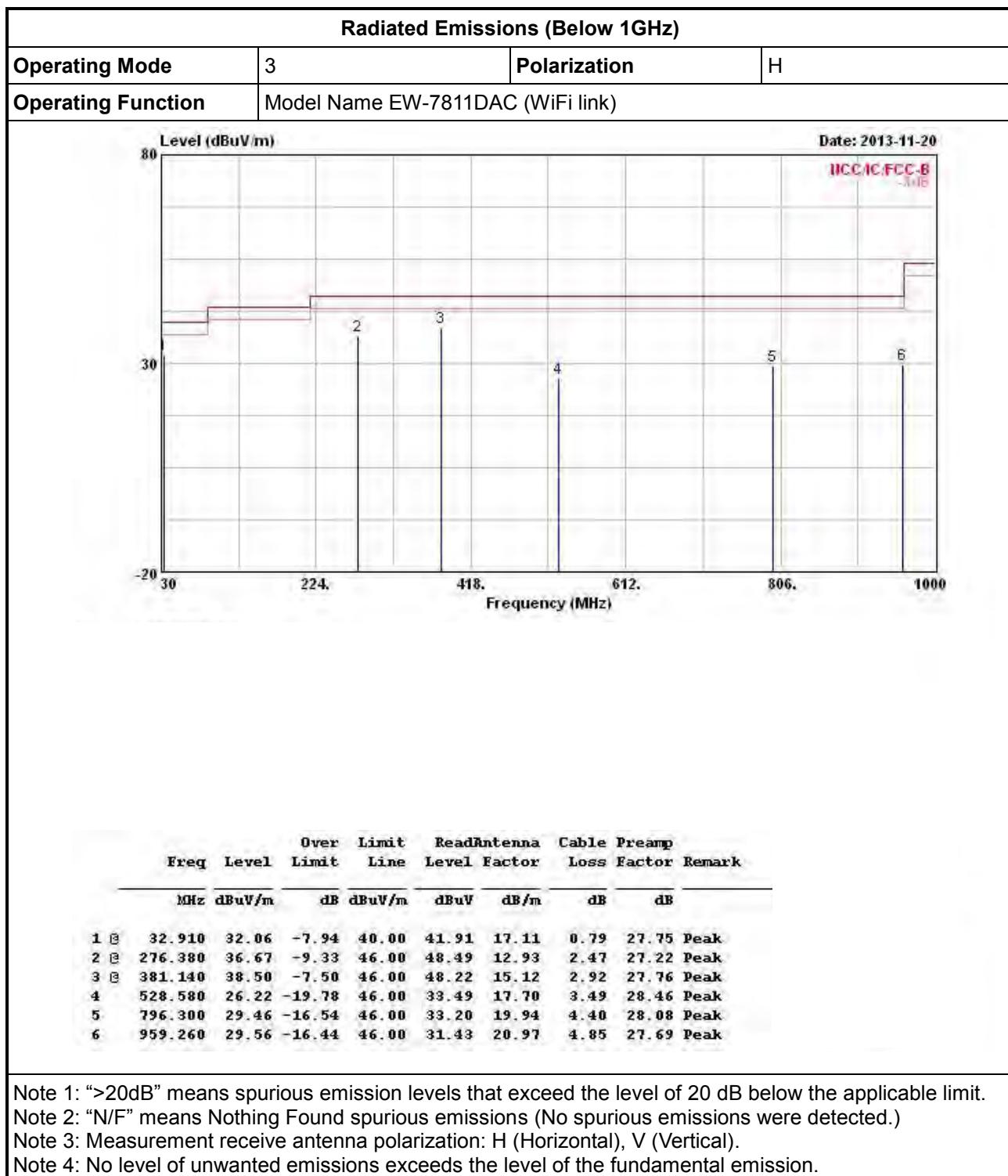
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.









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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

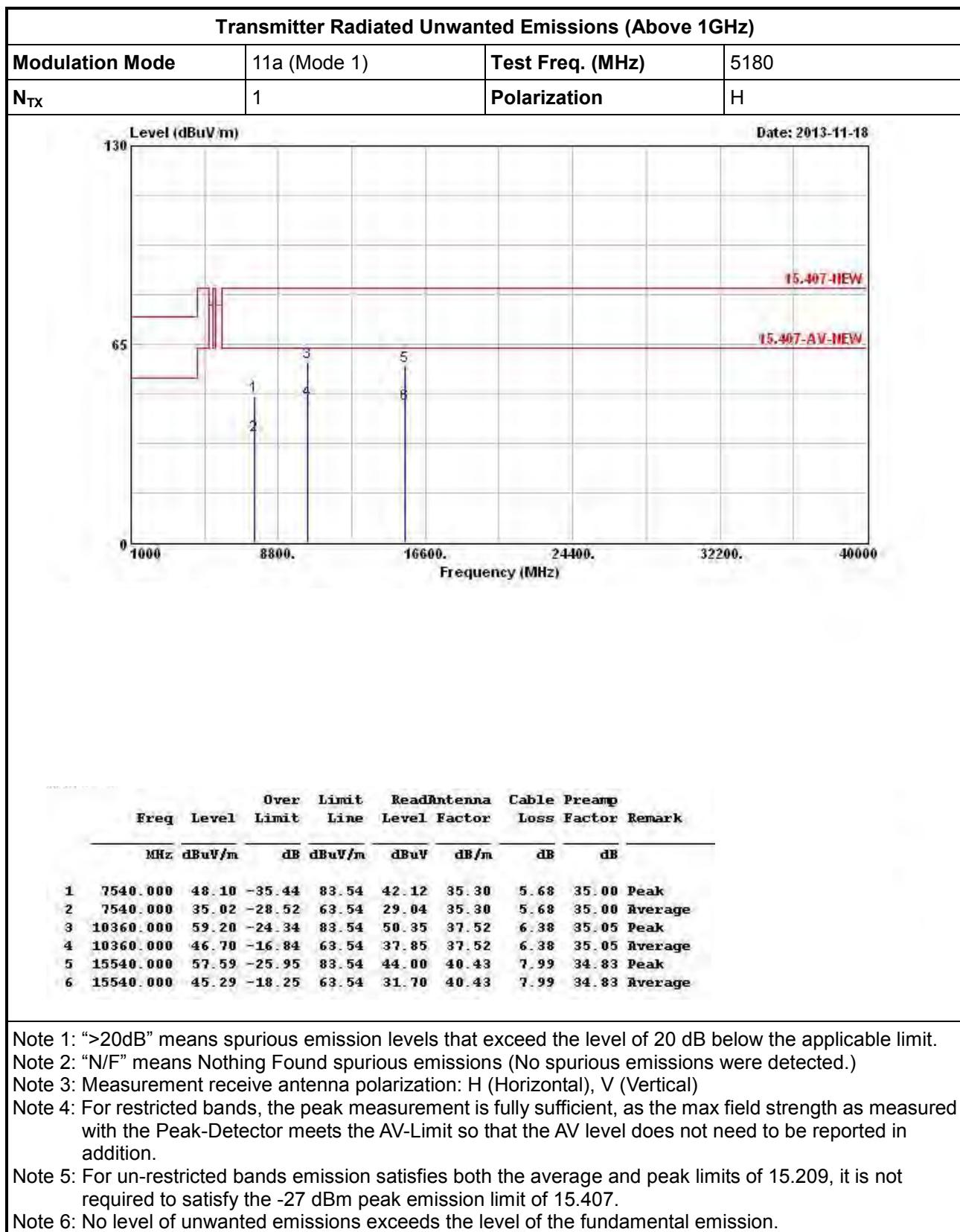
Modulation Mode	11a (Mode 1)	Test Freq. (MHz)	5180
N _{TX}	1	Polarization	V

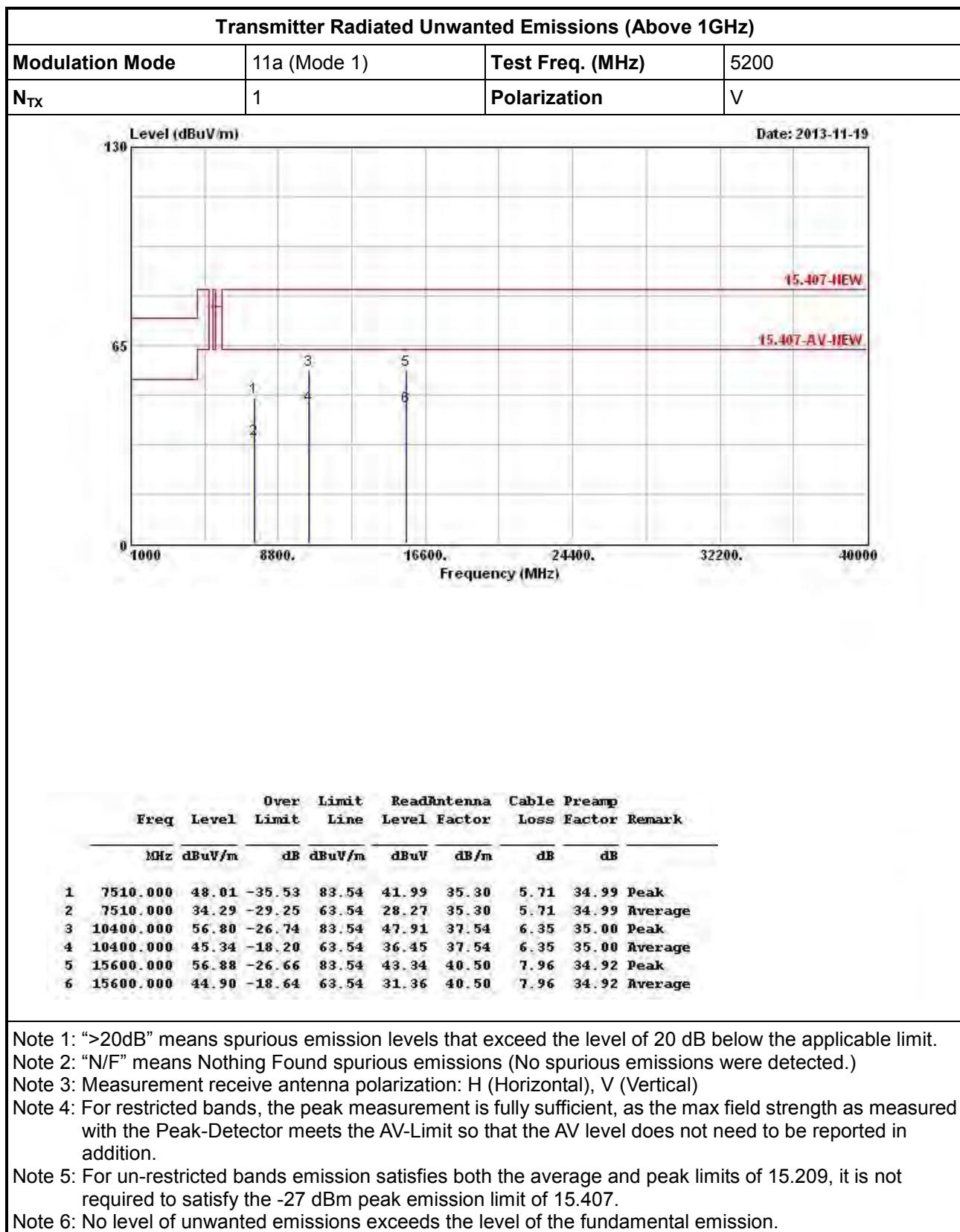
Level (dB_{UV}/m) Date: 2013-11-18

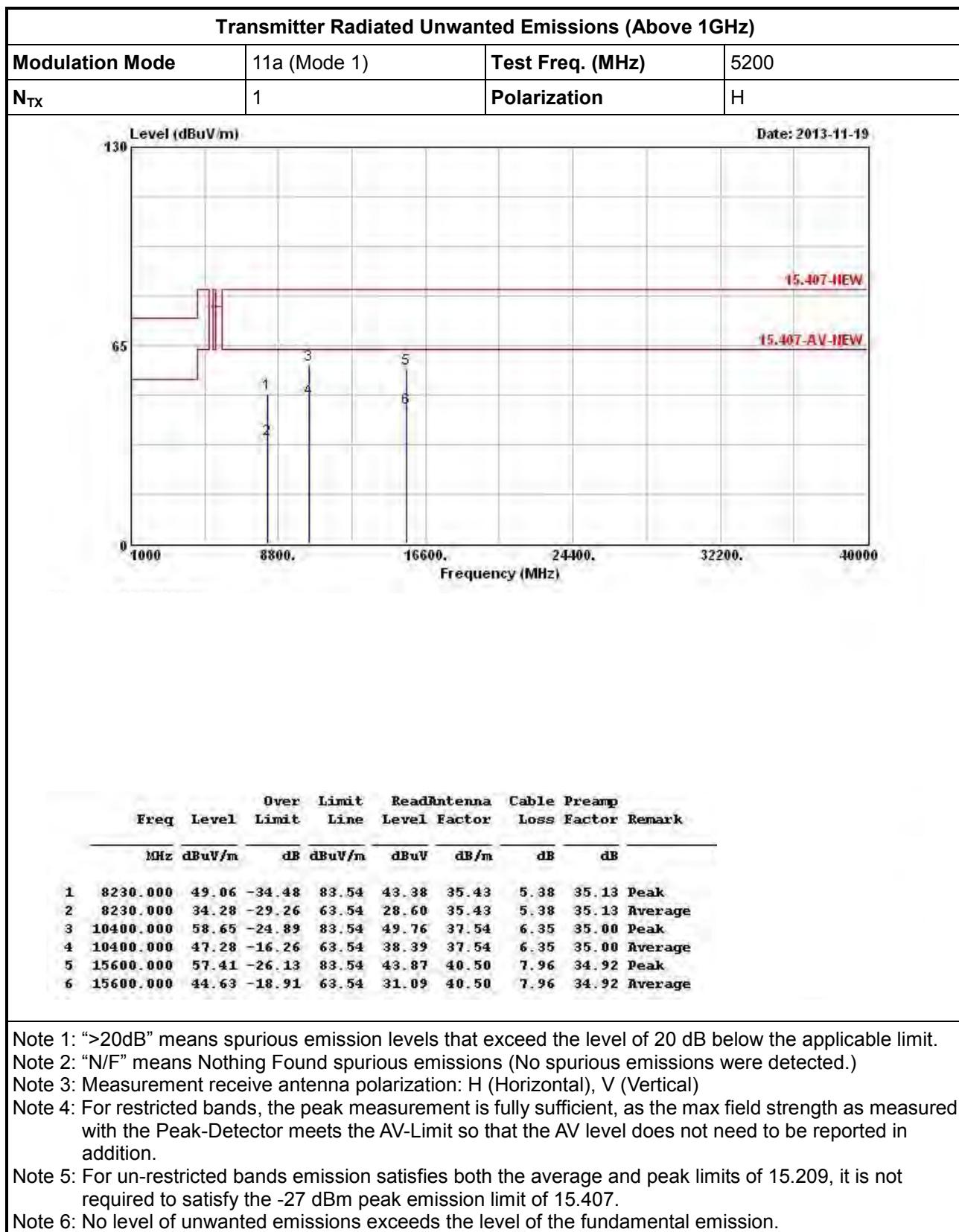
Frequency (MHz)

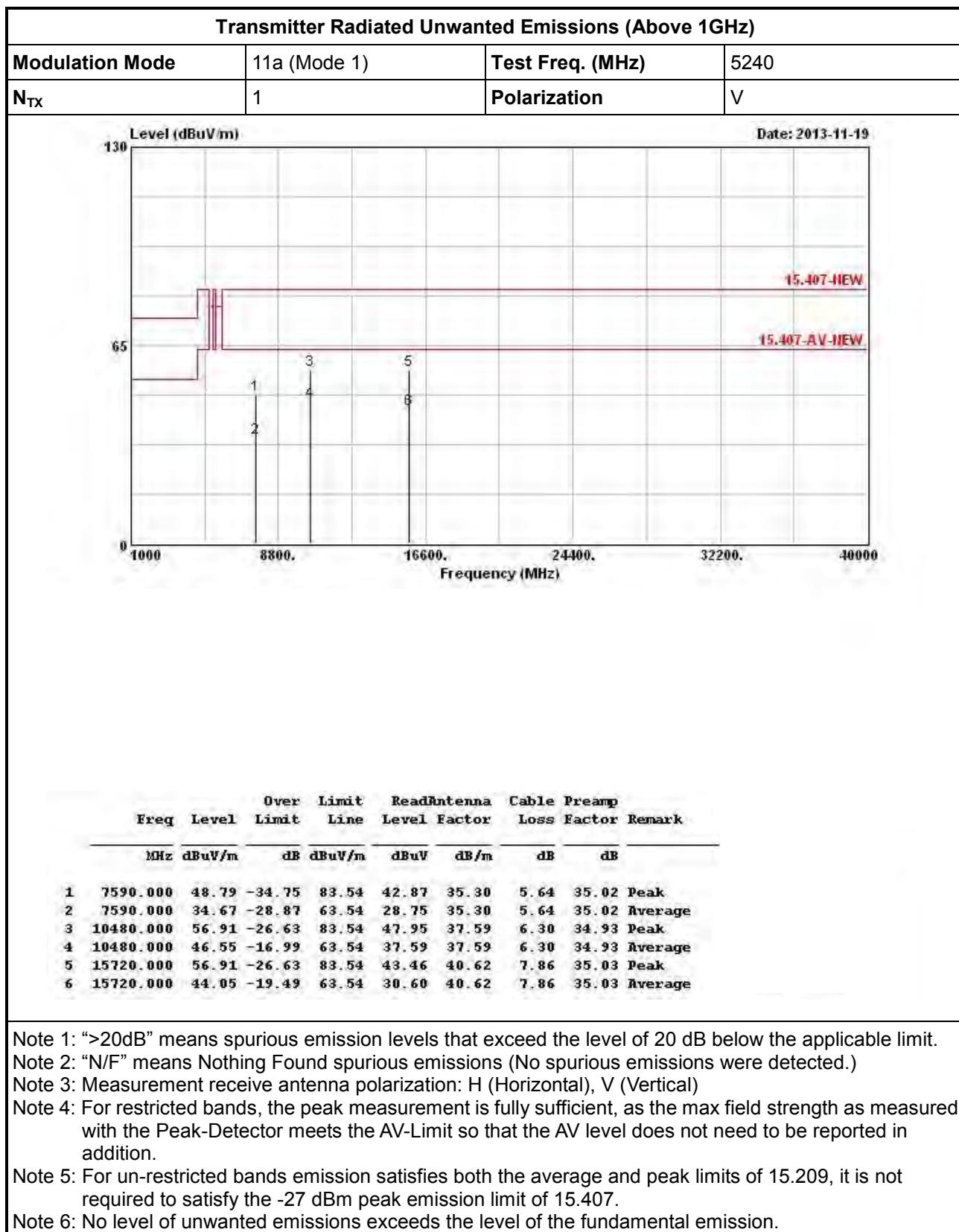
Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark
		Limit	Line	Antenna	Level	Factor	Loss	
MHz	dB _{UV} /m	dB	dB _{UV} /m	dB _{UV}	dB/m	dB	dB	
1	7590.000	48.56	-34.98	83.54	42.64	35.30	5.64	35.02 Peak
2	7590.000	35.33	-28.21	63.54	29.41	35.30	5.64	35.02 Average
3	10360.000	57.53	-26.01	83.54	48.68	37.52	6.38	35.05 Peak
4	10360.000	44.90	-18.64	63.54	36.05	37.52	6.38	35.05 Average
5	15540.000	59.83	-23.71	83.54	46.24	40.43	7.99	34.83 Peak
6	15540.000	45.47	-18.07	63.54	31.88	40.43	7.99	34.83 Average

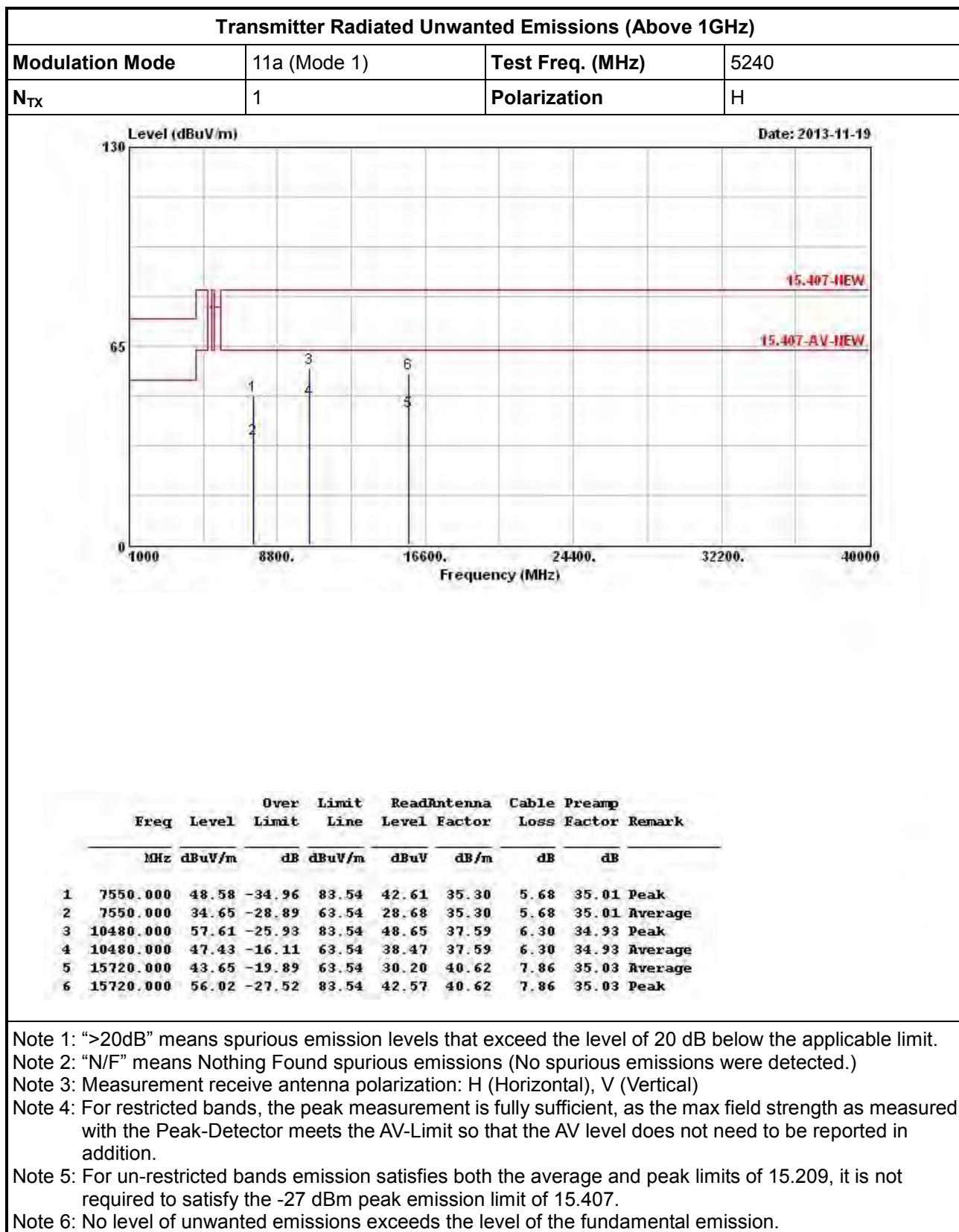
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
 Note 4: For restricted 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.

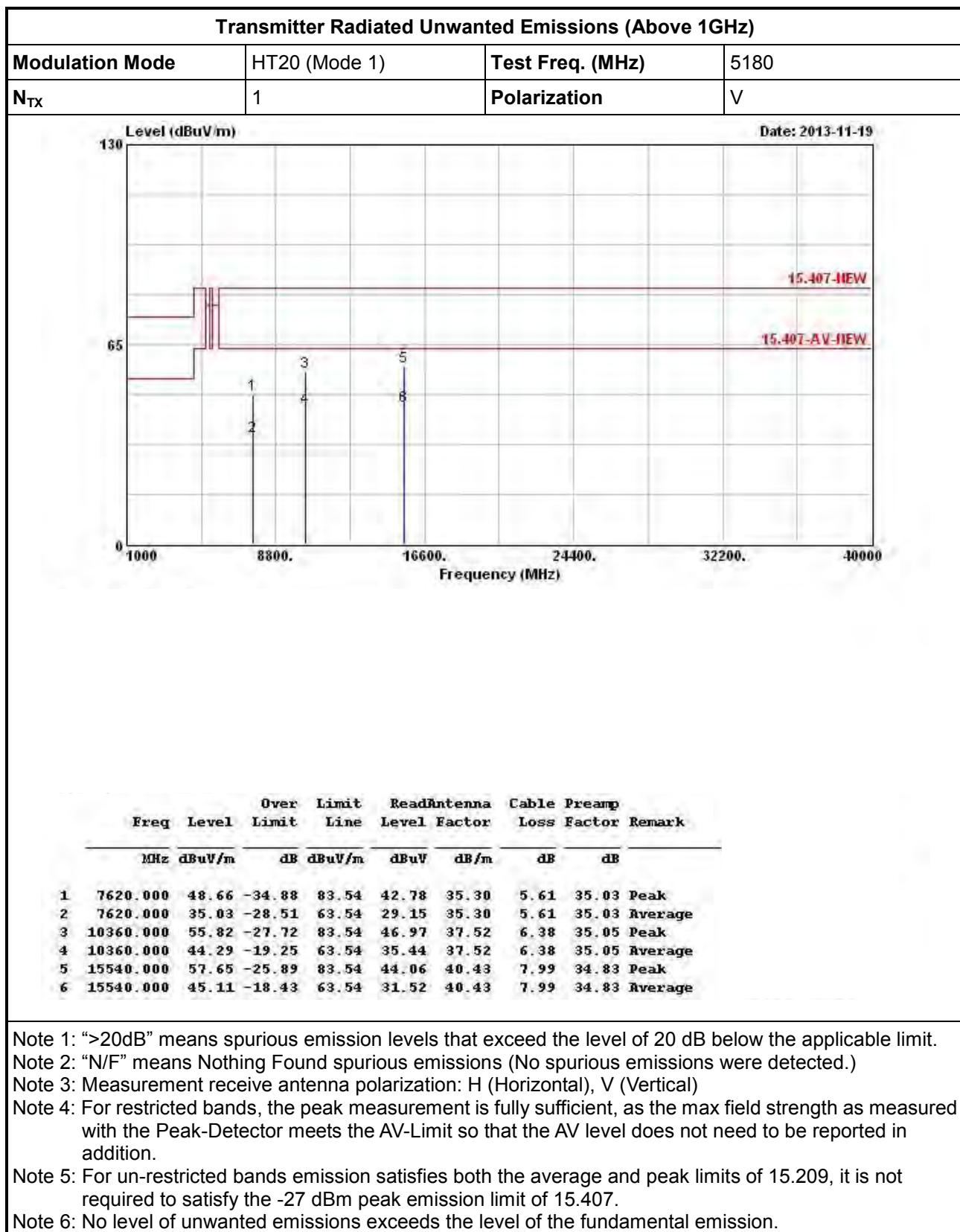


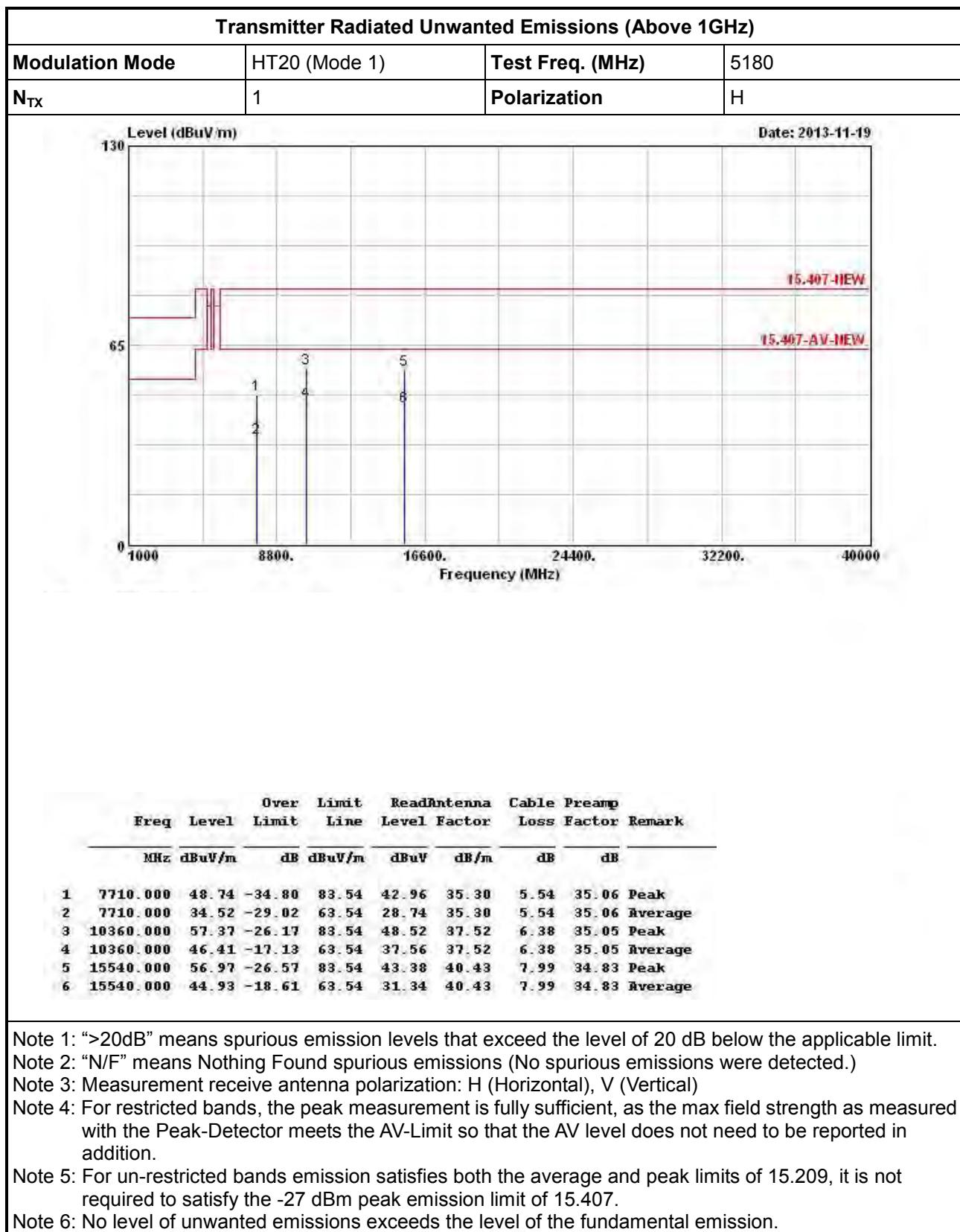


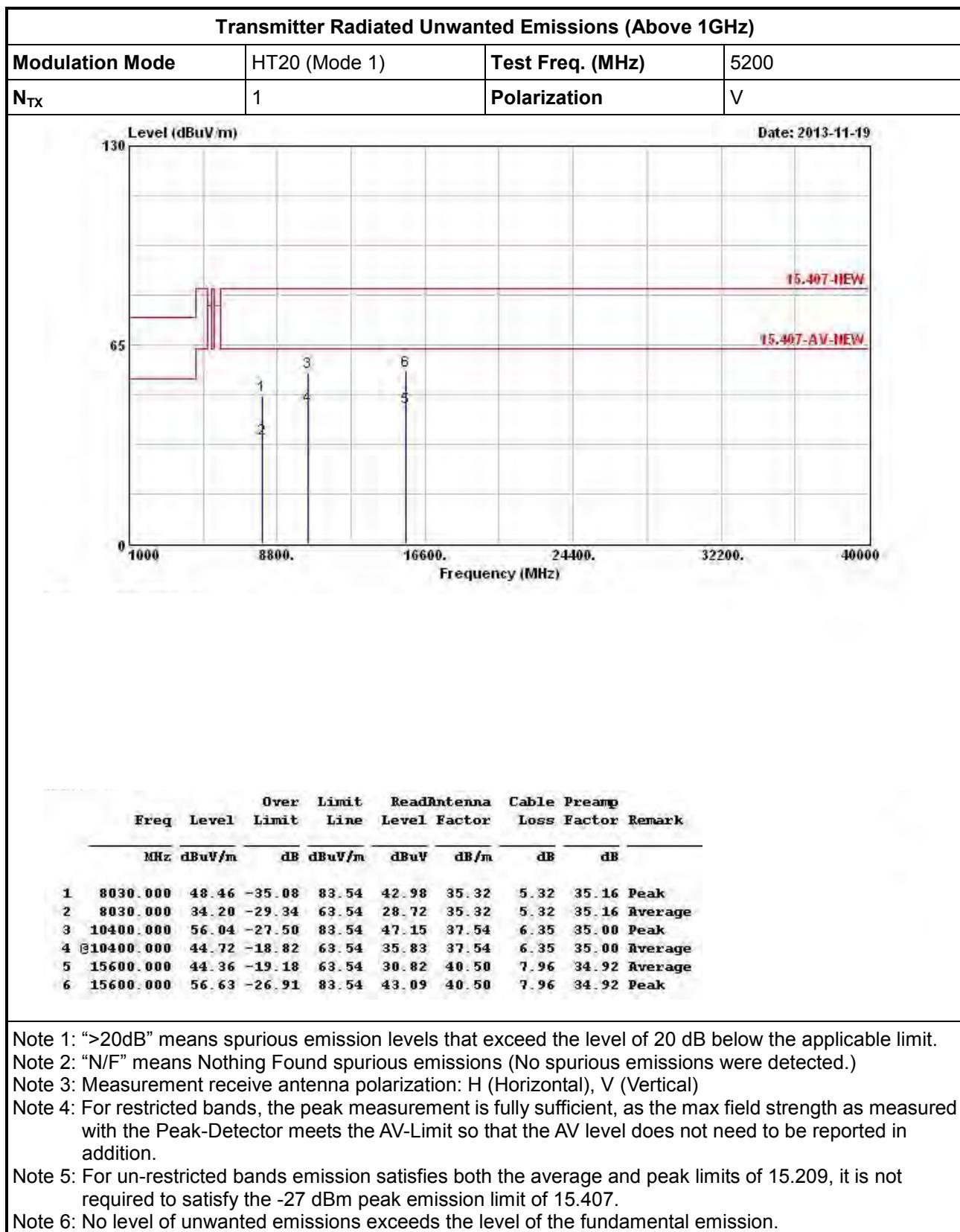


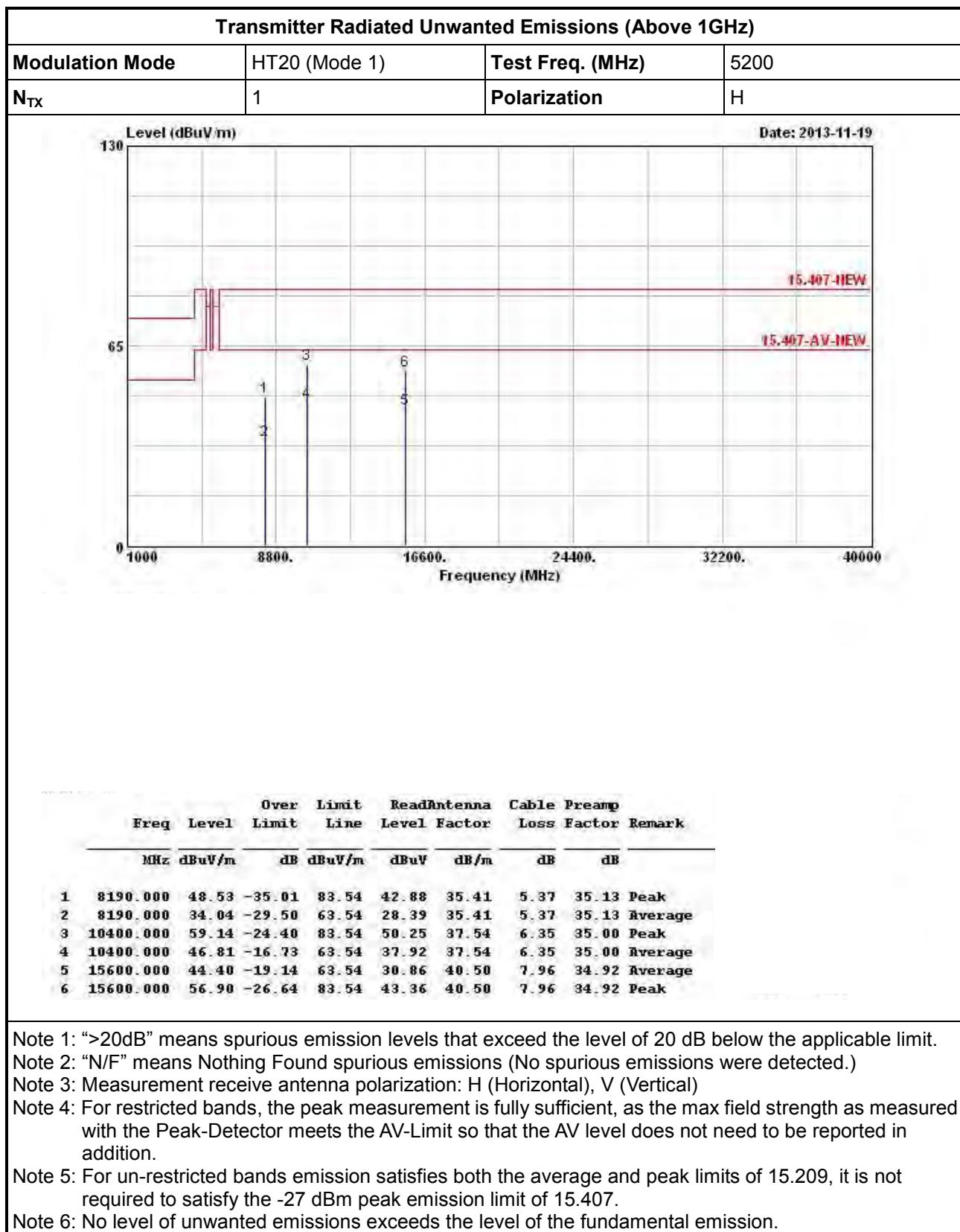


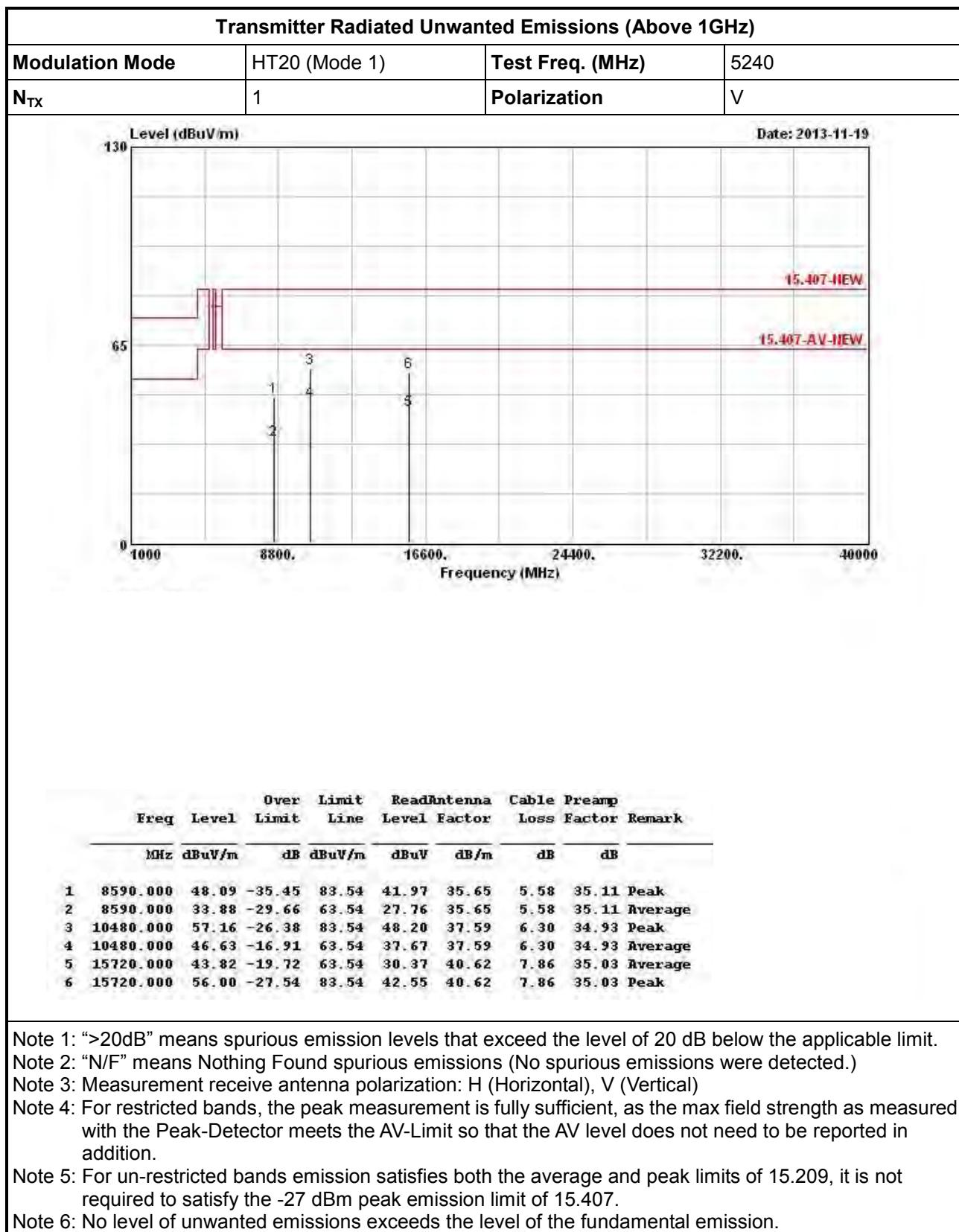


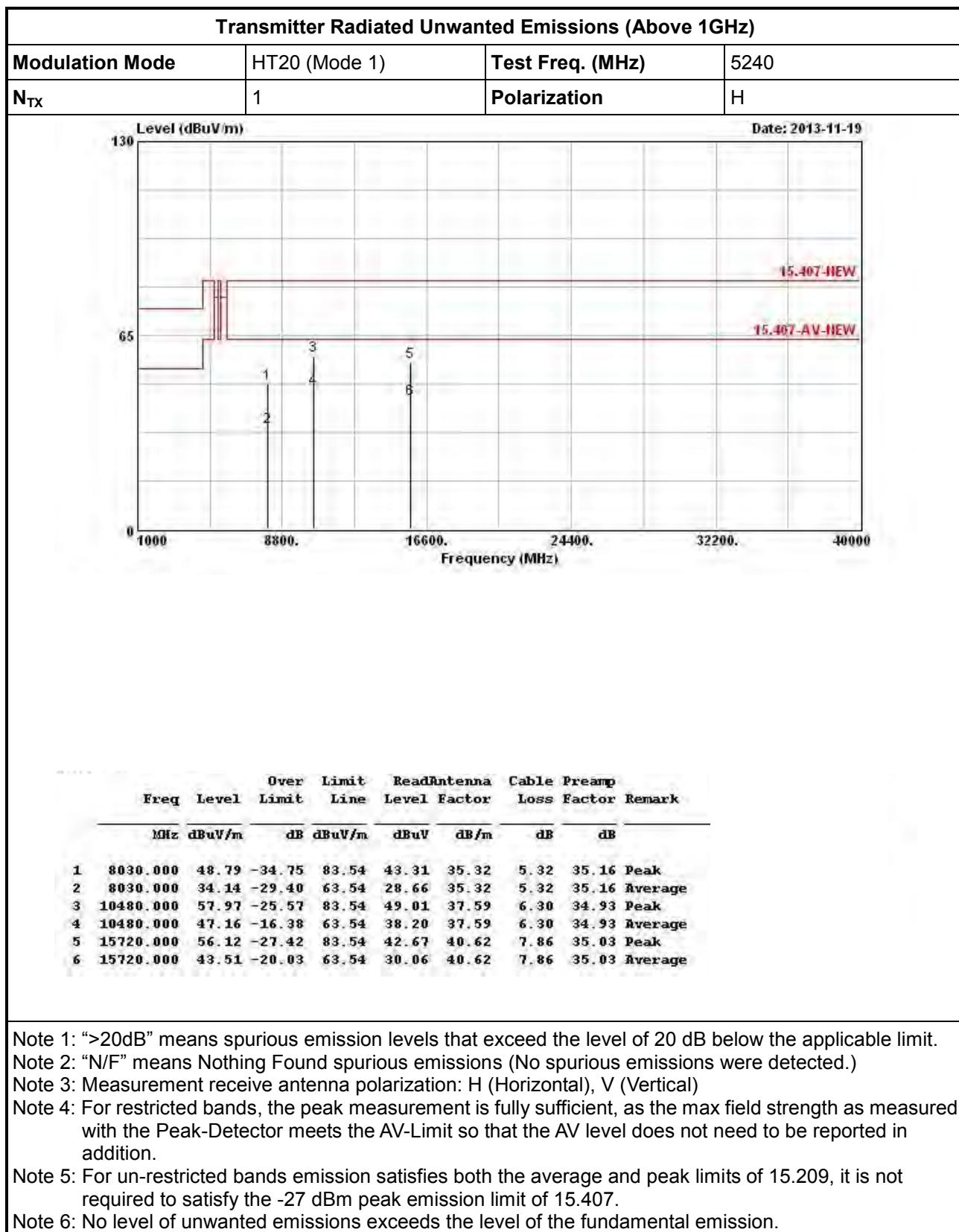












Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

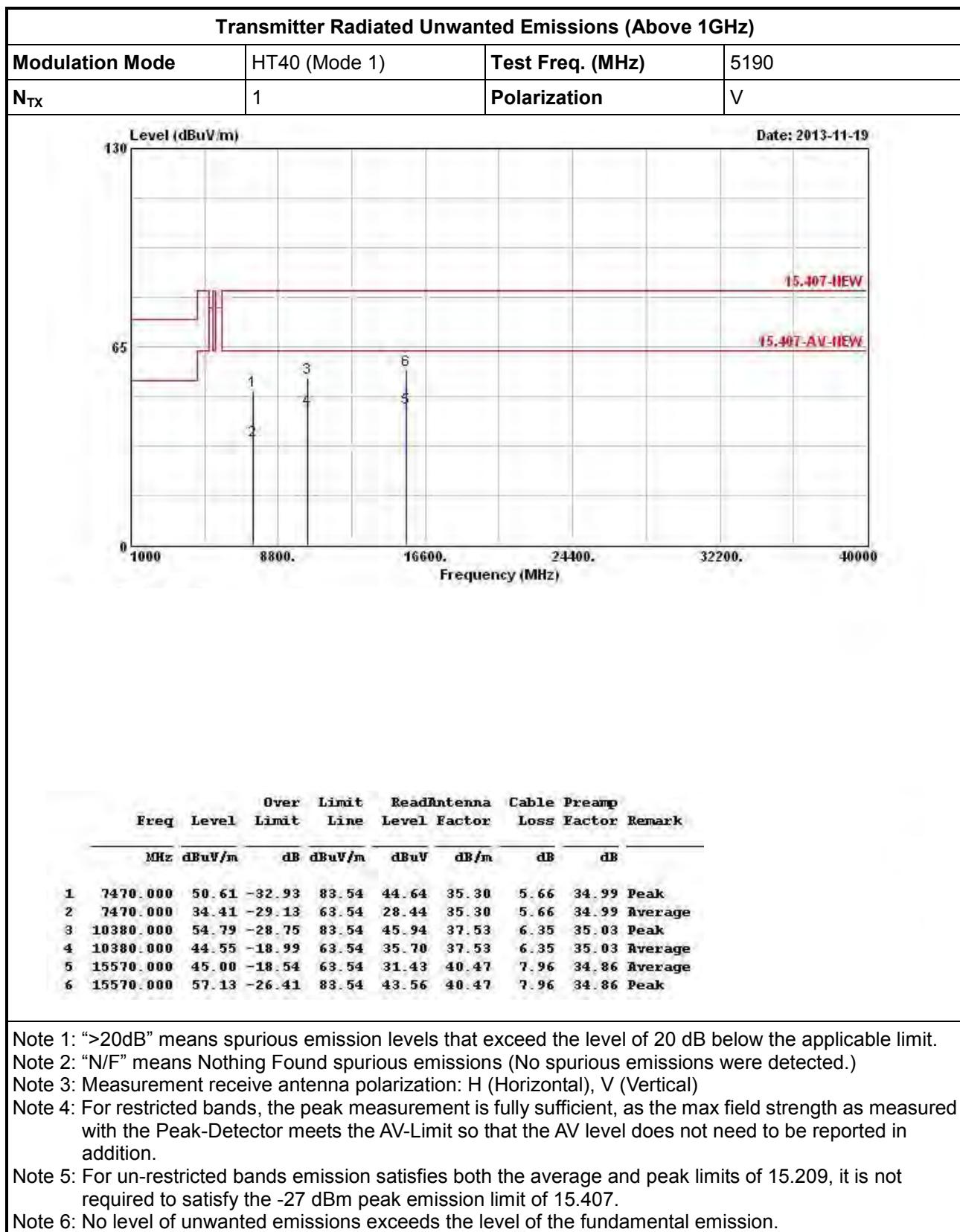
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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.

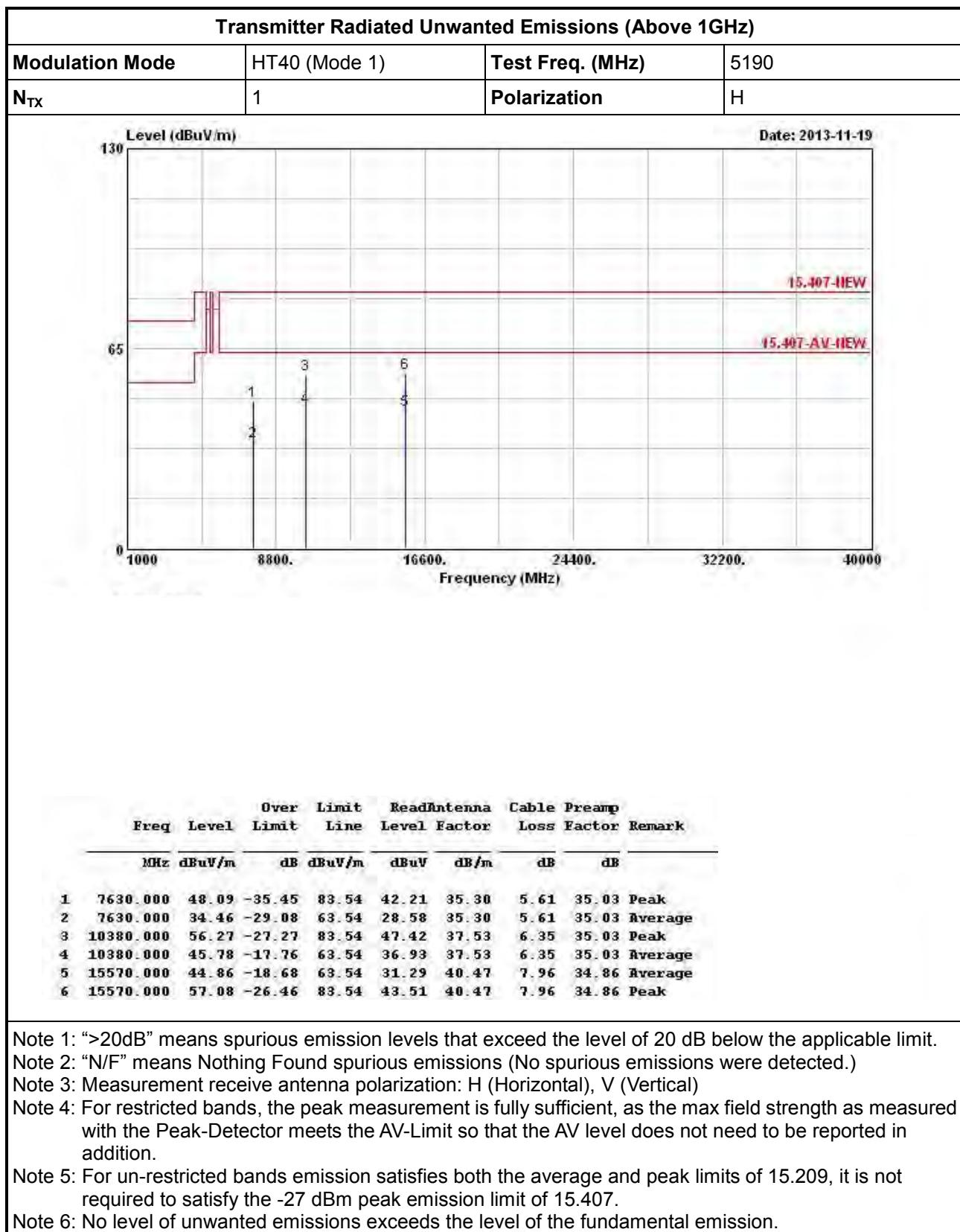
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

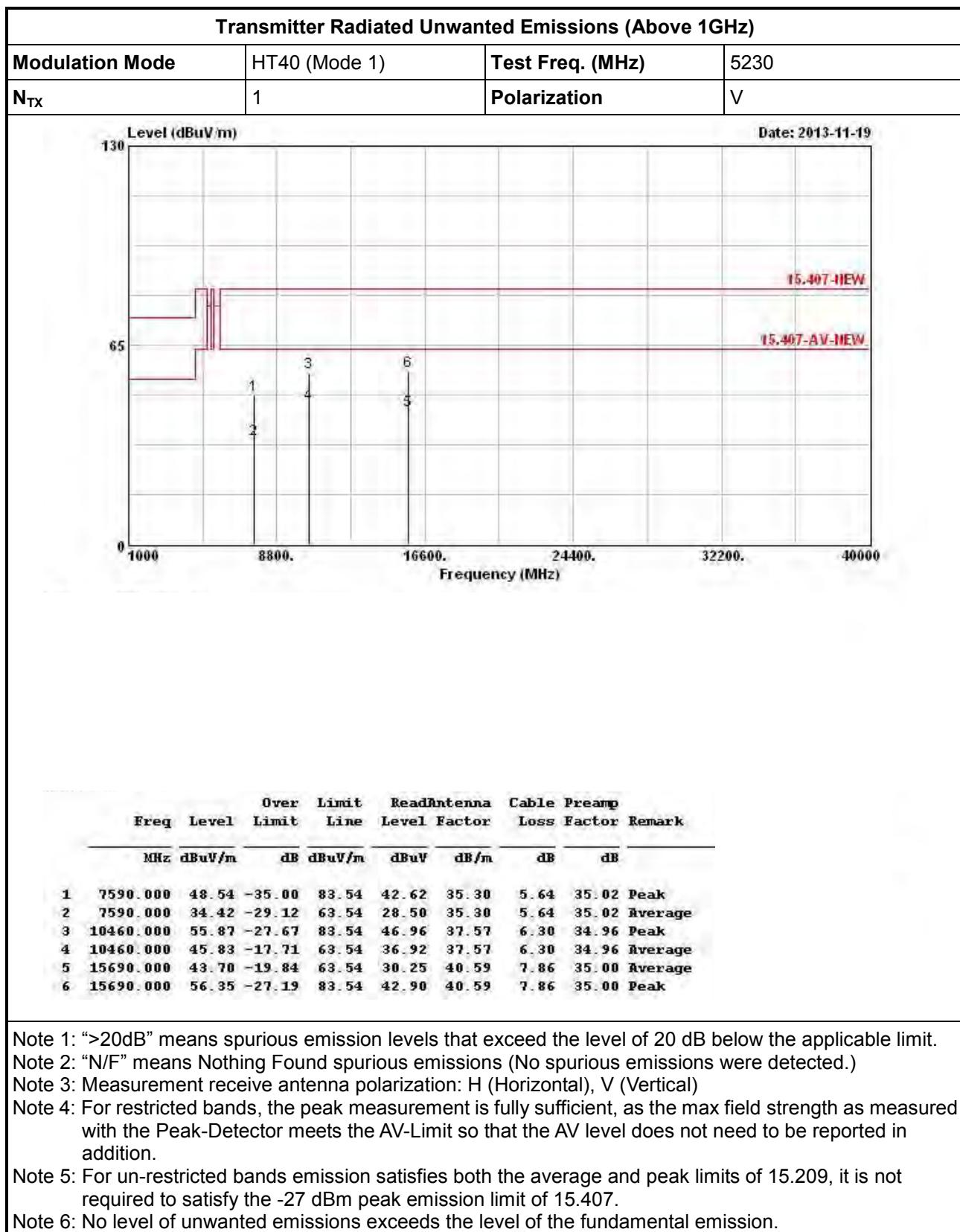
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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.

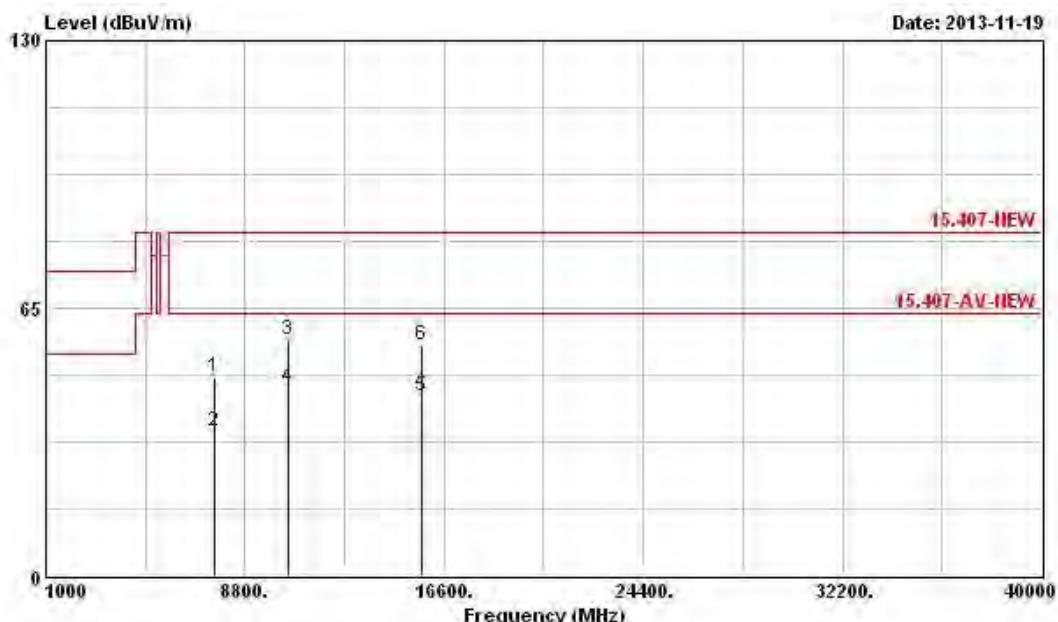






Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40 (Mode 1)	Test Freq. (MHz)	5230
N _{TX}	1	Polarization	H



Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark
		Limit	Line	Antenna	Level	Factor	Loss	
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 7620.000	48.24	-35.30	83.54	42.36	35.30	5.61	35.03	Peak
2 7620.000	34.91	-28.63	63.54	29.03	35.30	5.61	35.03	Average
3 10460.000	57.10	-26.44	83.54	48.19	37.57	6.30	34.96	Peak
4 10460.000	45.91	-17.63	63.54	37.00	37.57	6.30	34.96	Average
5 15690.000	43.68	-19.86	63.54	30.23	40.59	7.86	35.00	Average
6 15690.000	55.91	-27.63	83.54	42.46	40.59	7.86	35.00	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.

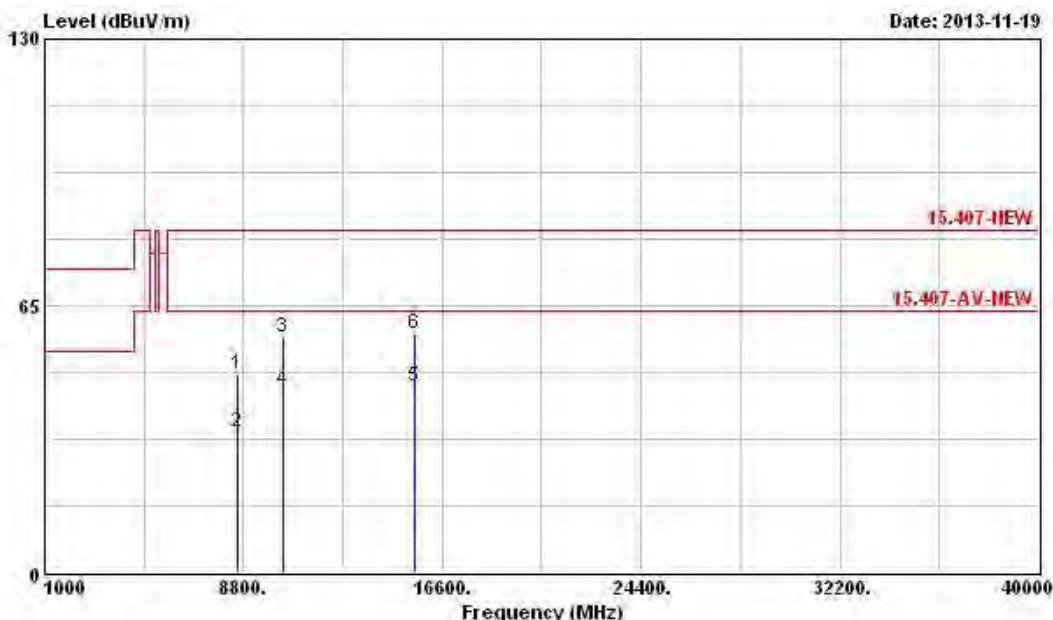
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20 (Mode 1)	Test Freq. (MHz)	5180
N_{TX}	1	Polarization	V



Freq	Level	Over Limit		ReadAntenna		Cable Loss	Preamp Factor	Remark
		Line	Level	Factor				
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
50.000	48.37	-35.17	83.54	42.30	35.63	5.54	35.10	Peak
50.000	34.24	-29.30	63.54	28.17	35.63	5.54	35.10	Average
50.000	57.39	-26.15	83.54	48.54	37.52	6.38	35.05	Peak
50.000	44.66	-18.88	63.54	35.81	37.52	6.38	35.05	Average
40.000	45.38	-18.16	63.54	31.79	40.43	7.99	34.83	Average
40.000	58.33	-25.21	83.54	44.74	40.43	7.99	34.83	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.

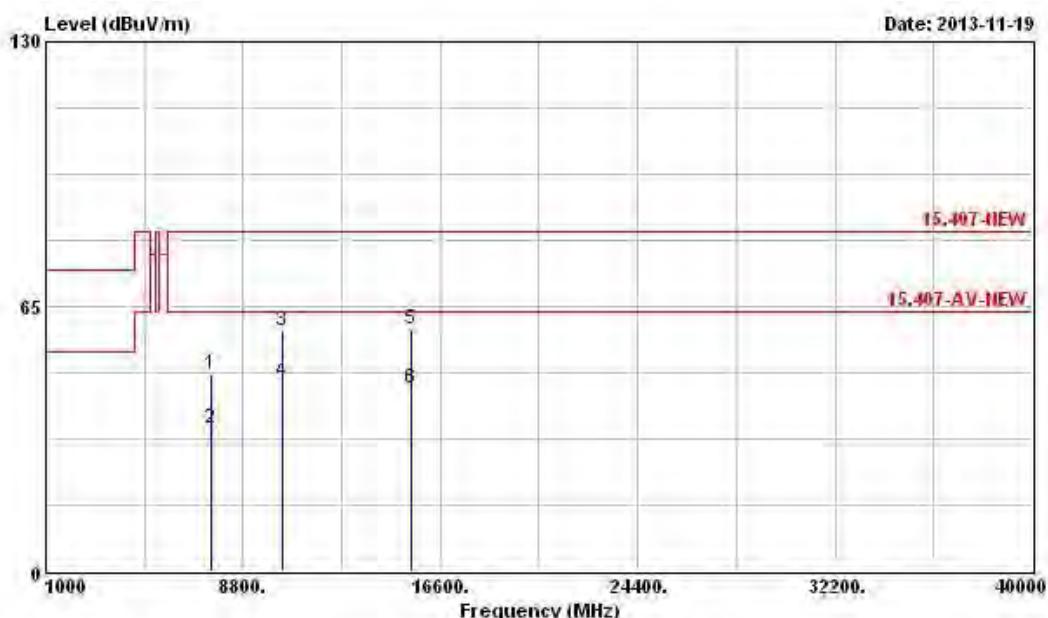
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20 (Mode 1)	Test Freq. (MHz)	5180
N _{TX}	1	Polarization	H



Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark
		MHz	dBuV/m	dB	Line	Level	Factor	
1 7540.000	48.47	-35.07	83.54	42.49	35.30	5.68	35.00	Peak
2 7540.000	34.92	-28.62	63.54	28.94	35.30	5.68	35.00	Average
3 10360.000	59.09	-24.45	83.54	50.24	37.52	6.38	35.05	Peak
4 10360.000	46.72	-16.82	63.54	37.87	37.52	6.38	35.05	Average
5 15460.000	59.32	-24.22	83.54	45.74	40.30	8.01	34.73	Peak
6 15460.000	45.11	-18.43	63.54	31.53	40.30	8.01	34.73	Average

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.

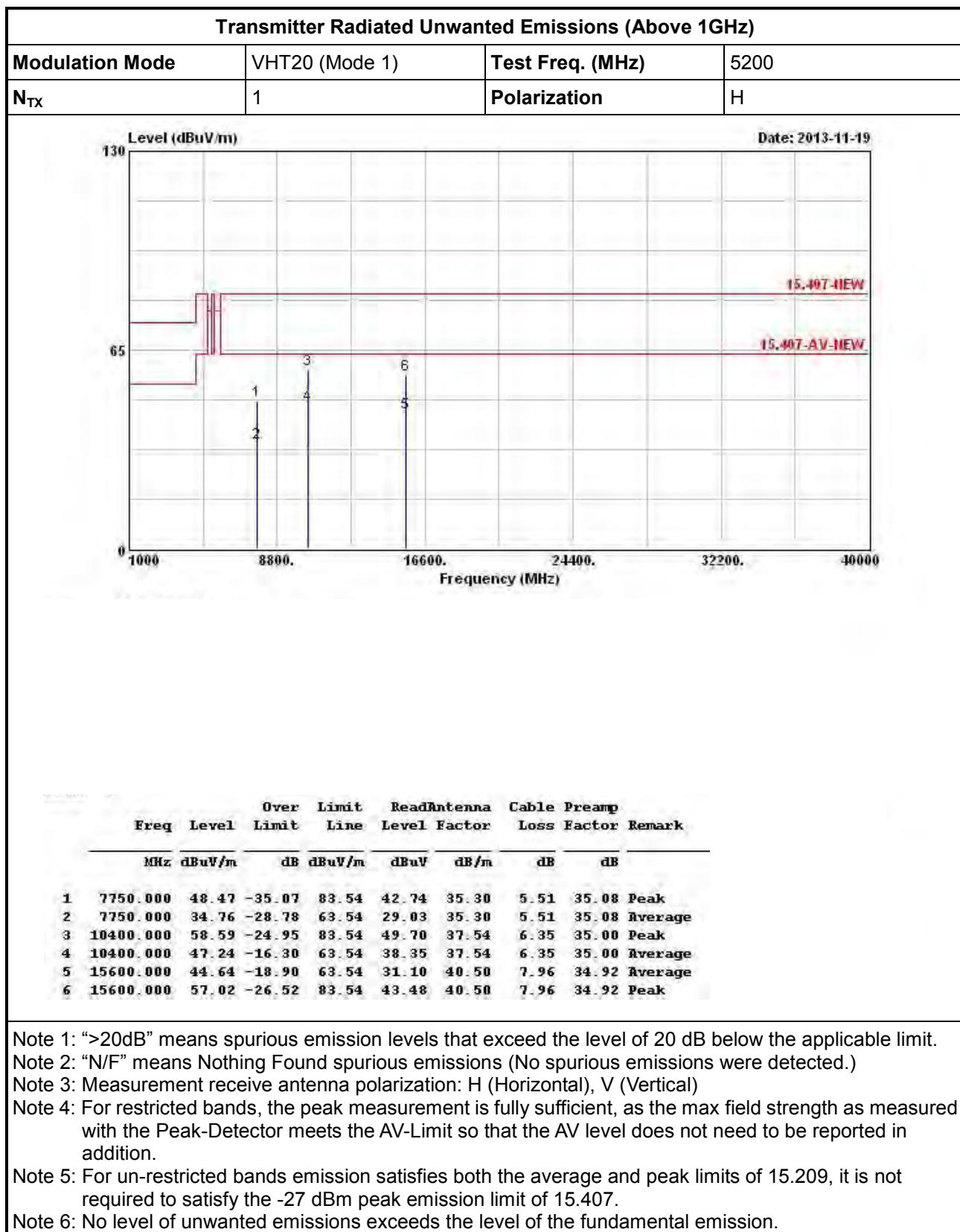


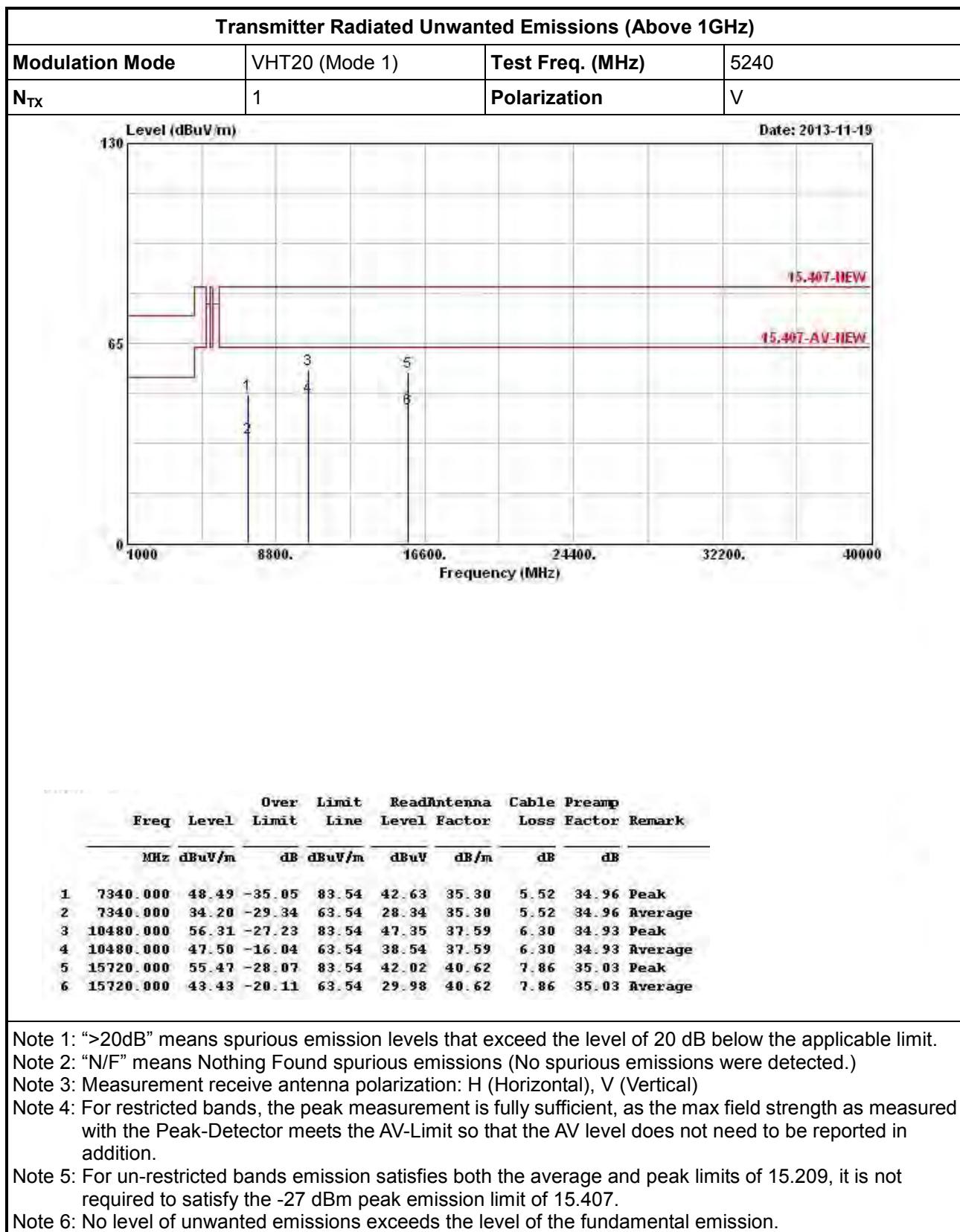
Transmitter Radiated Unwanted Emissions (Above 1GHz)

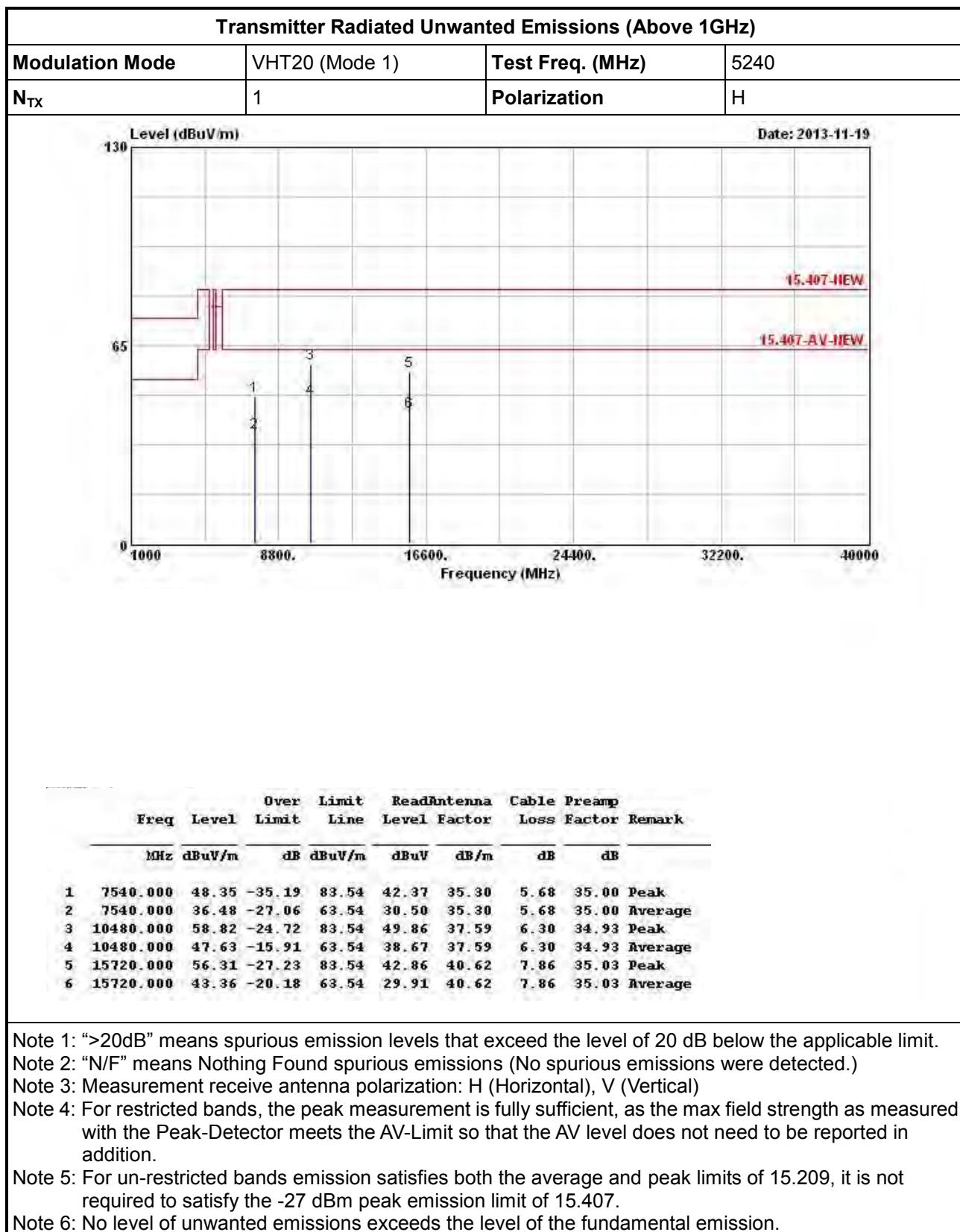
Modulation Mode	VHT20 (Mode 1)		Test Freq. (MHz)	5200		
N _{TX}	1		Polarization	V		
Level (dBuV/m)				Date: 2013-11-19		
				15.407-HEW		
0	1000	8300.	16600.	24400.	32200.	40000
Frequency (MHz)						

Freq	Level	Over	Limit	Read	Rntenna	Cable	Preamp	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	
1	7540.000	48.17	-35.37	83.54	42.19	35.30	5.68	35.00 Peak
2	7540.000	34.71	-28.83	63.54	28.73	35.30	5.68	35.00 Average
3	10400.000	56.79	-26.75	83.54	47.90	37.54	6.35	35.00 Peak
4	10400.000	45.78	-17.76	63.54	36.89	37.54	6.35	35.00 Average
5	15600.000	44.73	-18.81	63.54	31.19	40.50	7.96	34.92 Average
6	15600.000	58.08	-25.46	83.54	44.54	40.50	7.96	34.92 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.

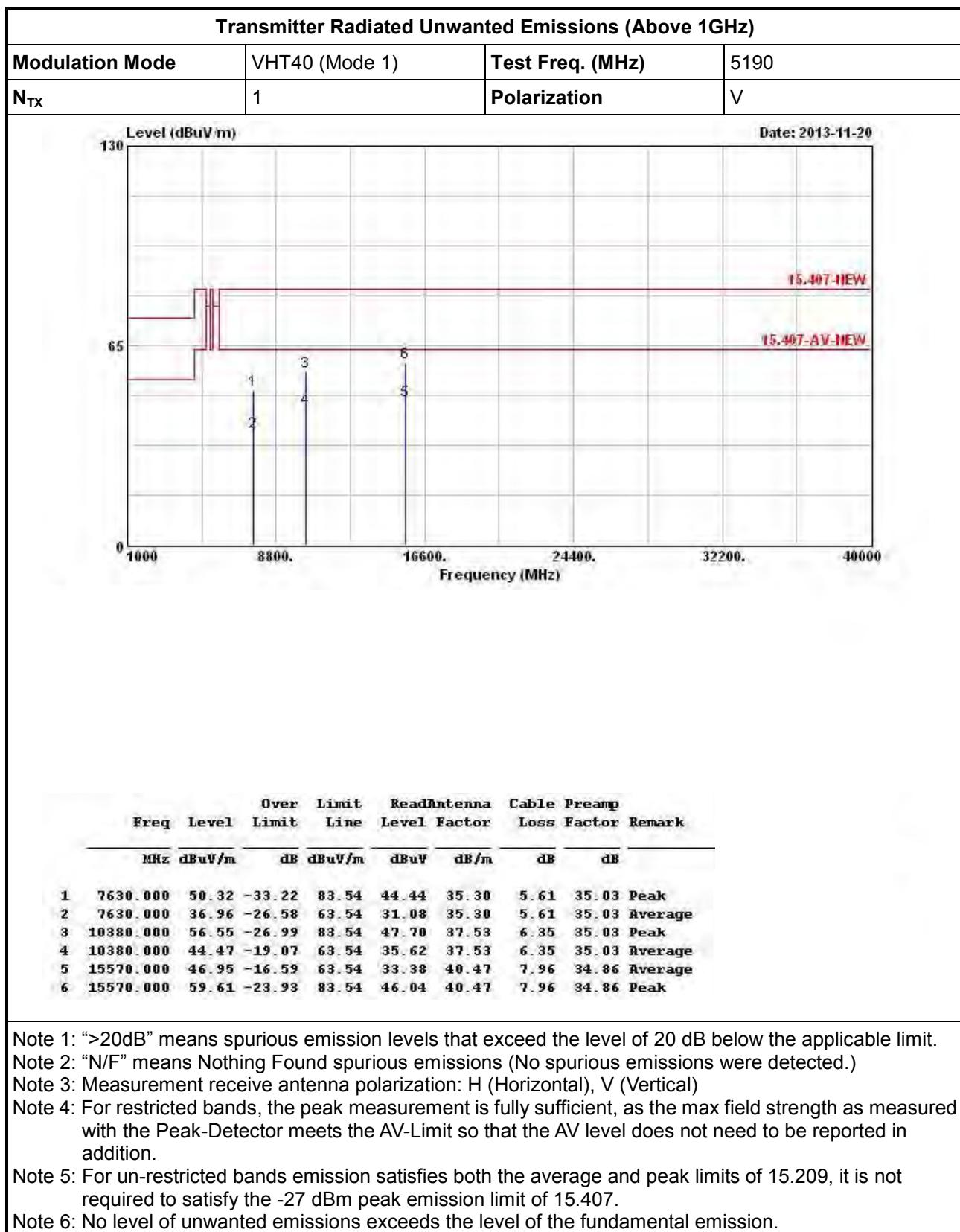
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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.

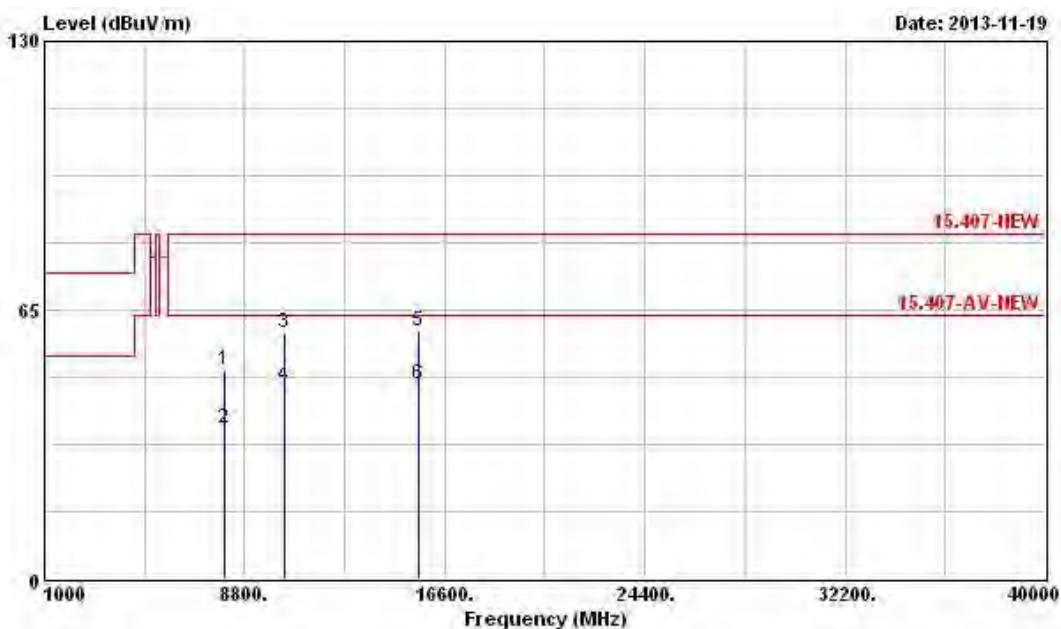
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.





Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40 (Mode 1)	Test Freq. (MHz)	5190
N _{TX}	1	Polarization	H



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 8030.000	50.46	-33.08	83.54	44.98	35.32	5.32	35.16	Peak
2 8030.000	36.48	-27.06	63.54	31.00	35.32	5.32	35.16	Average
3 10380.000	59.46	-24.08	83.54	50.61	37.53	6.35	35.03	Peak
4 10380.000	46.82	-16.72	63.54	37.97	37.53	6.35	35.03	Average
5 15570.000	59.68	-23.86	83.54	46.11	40.47	7.96	34.86	Peak
6 15570.000	46.93	-16.61	63.54	33.36	40.47	7.96	34.86	Average

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

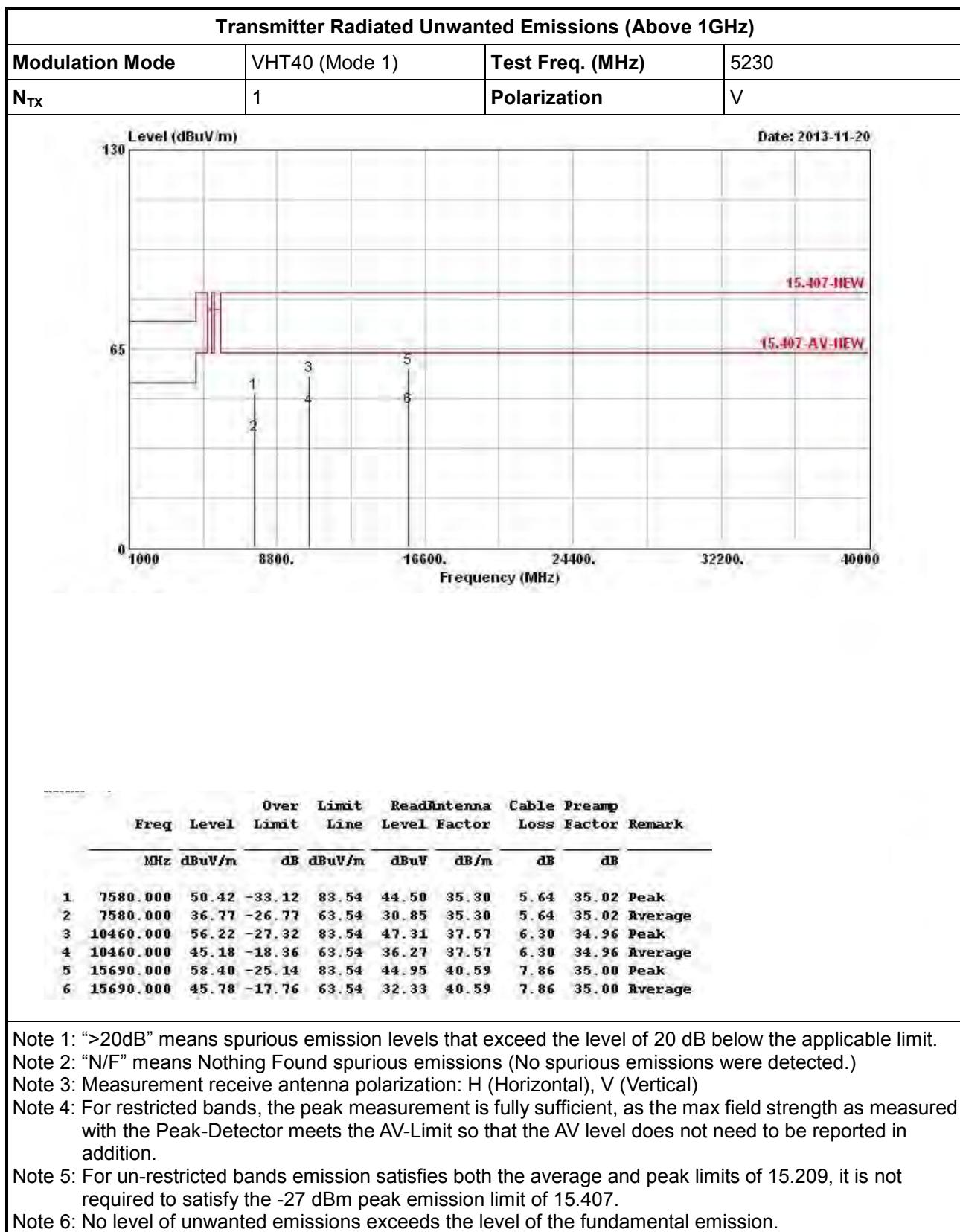
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

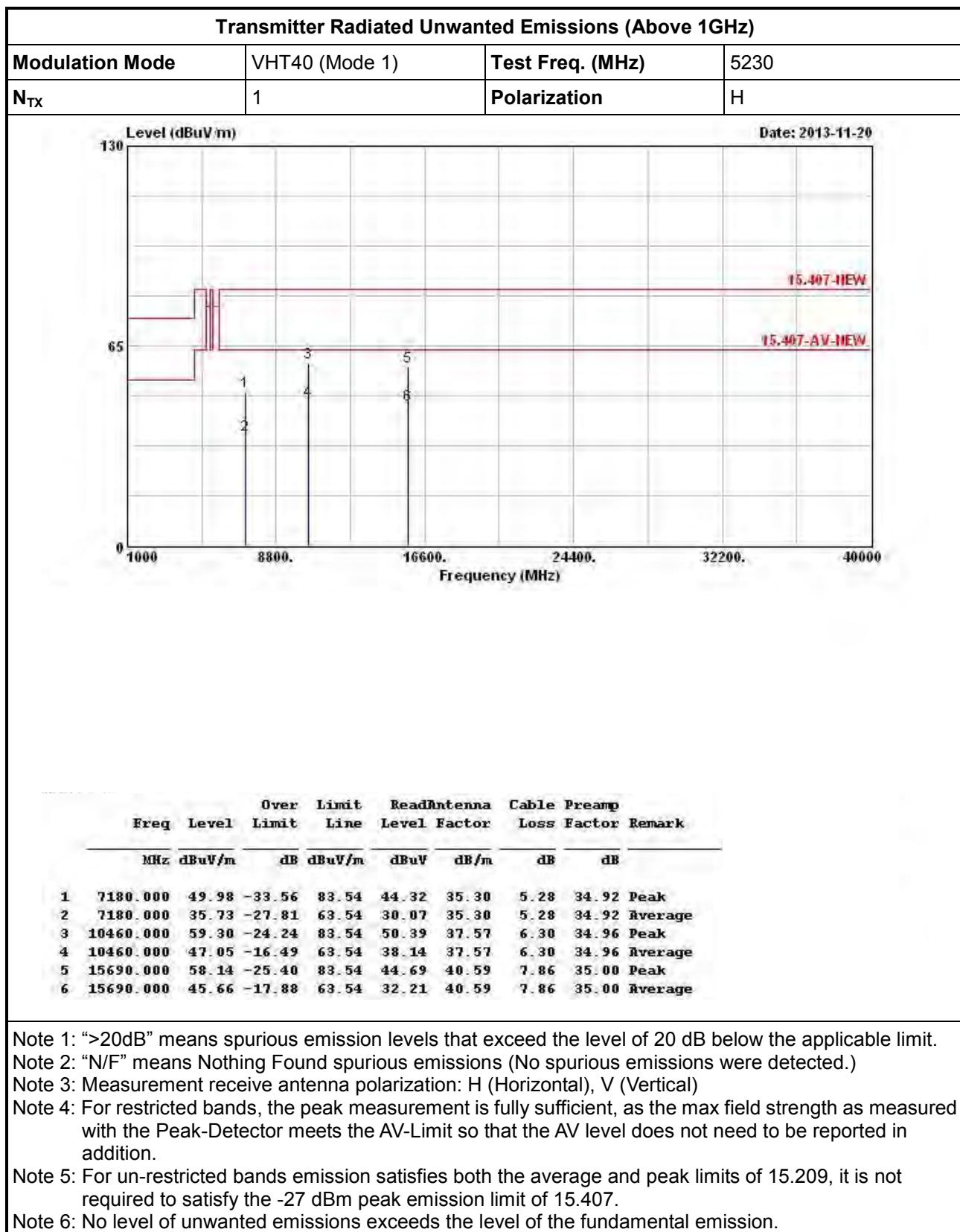
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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.

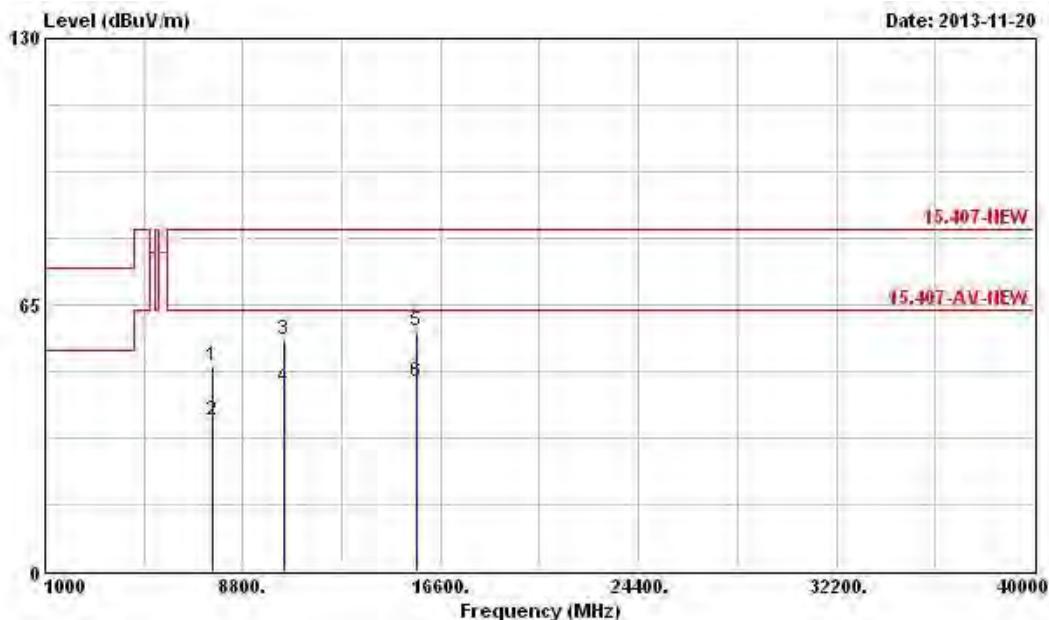
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.







Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT80 (Mode 1)	Test Freq. (MHz)	5210
N _{TX}	1	Polarization	V



Freq	Level	Over Limit		Line	ReadAntenna		Cable Preamp		Remark
		Limit	Line		Level	Factor	Loss	Factor	
MHz	dBuV/m	dB	dBuV/m		dBuV	dB/m	dB	dB	
0.000	50.23	-33.31	83.54	44.35	35.30	5.61	35.03	Peak	
0.000	36.95	-26.59	63.54	31.07	35.30	5.61	35.03	Average	
0.000	56.40	-27.14	83.54	47.52	37.55	6.33	35.00	Peak	
0.000	44.91	-18.63	63.54	36.03	37.55	6.33	35.00	Average	
0.000	58.62	-24.92	83.54	45.10	40.54	7.92	34.94	Peak	
0.000	46.10	-17.44	63.54	32.58	40.54	7.92	34.94	Average	

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

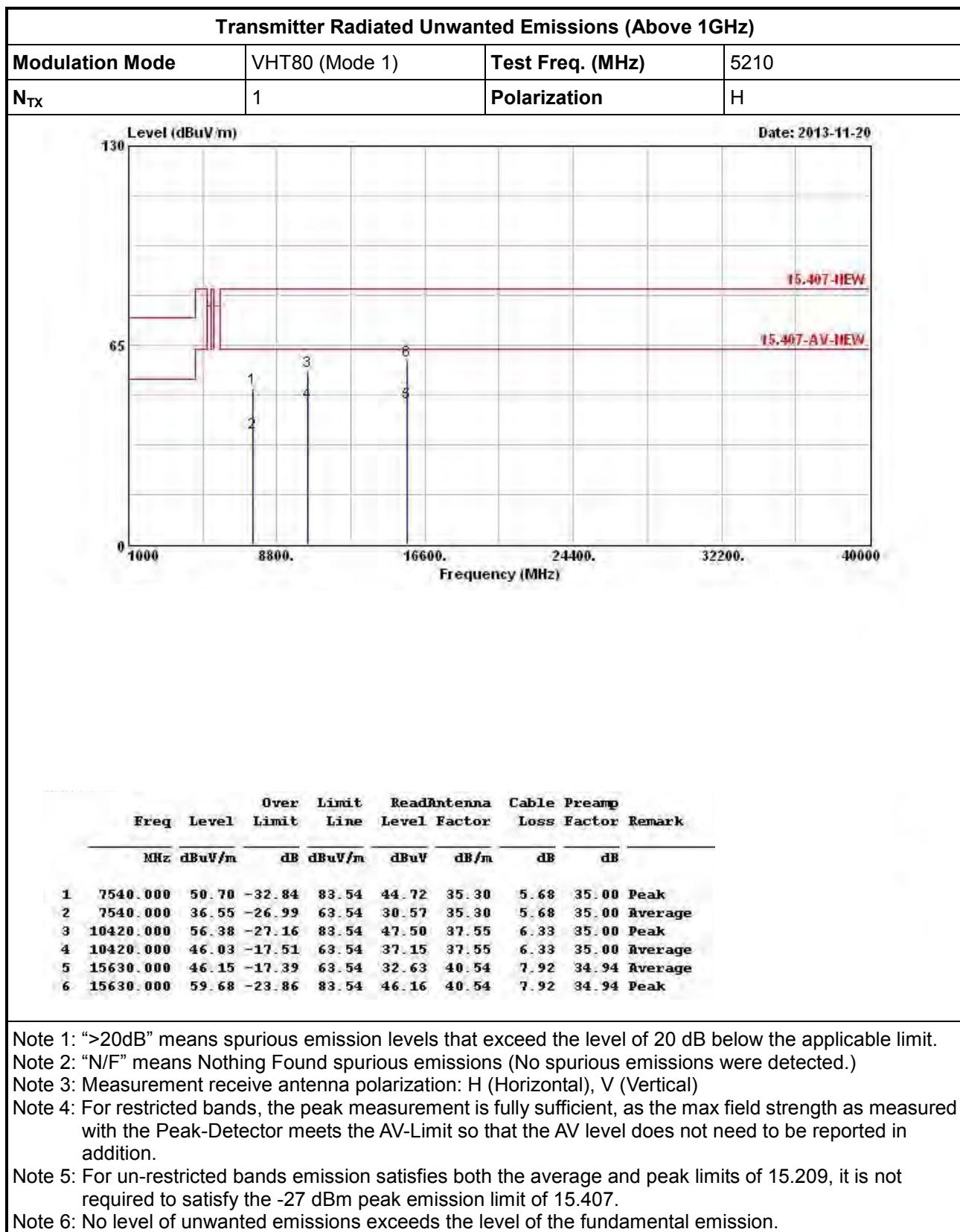
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

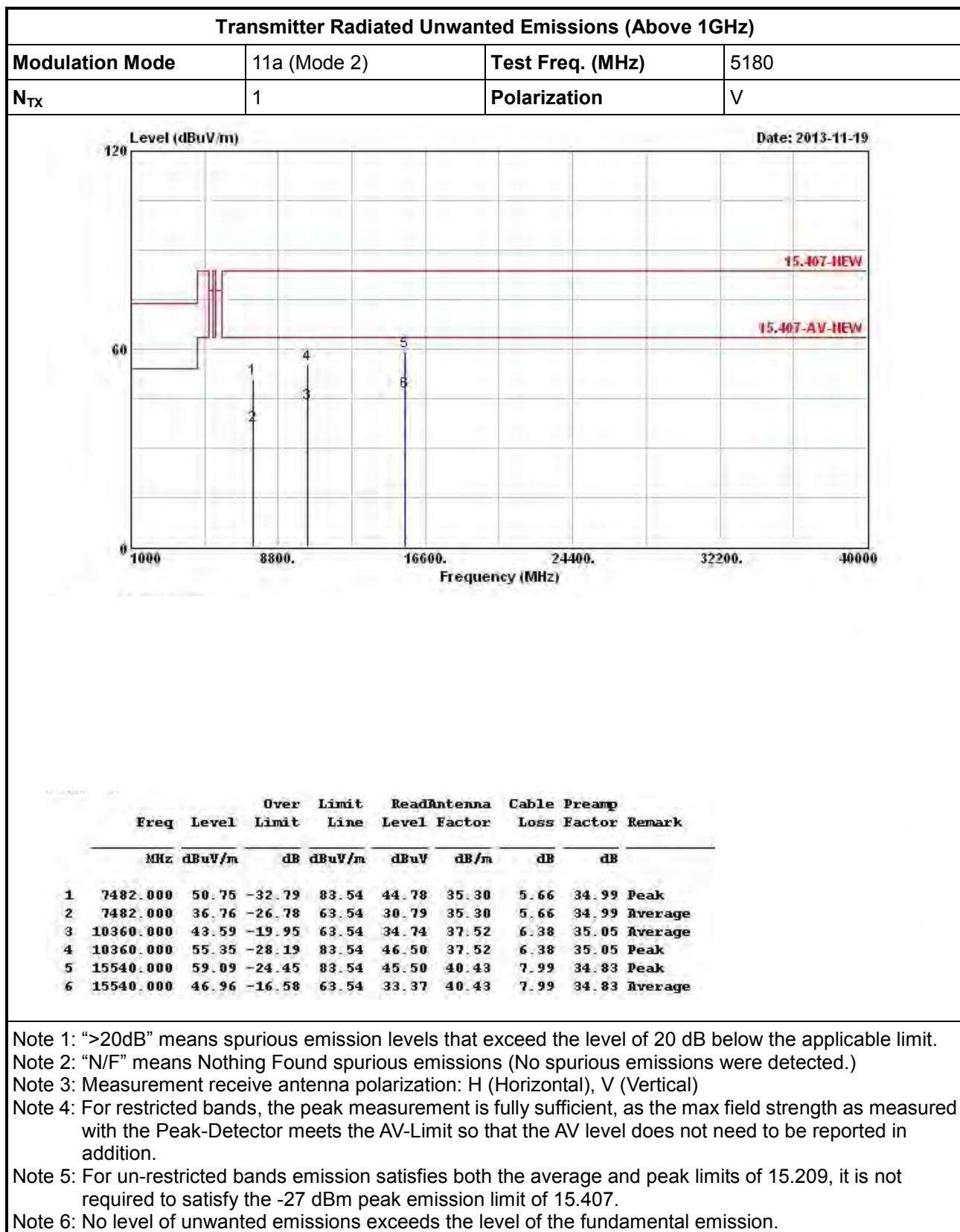
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

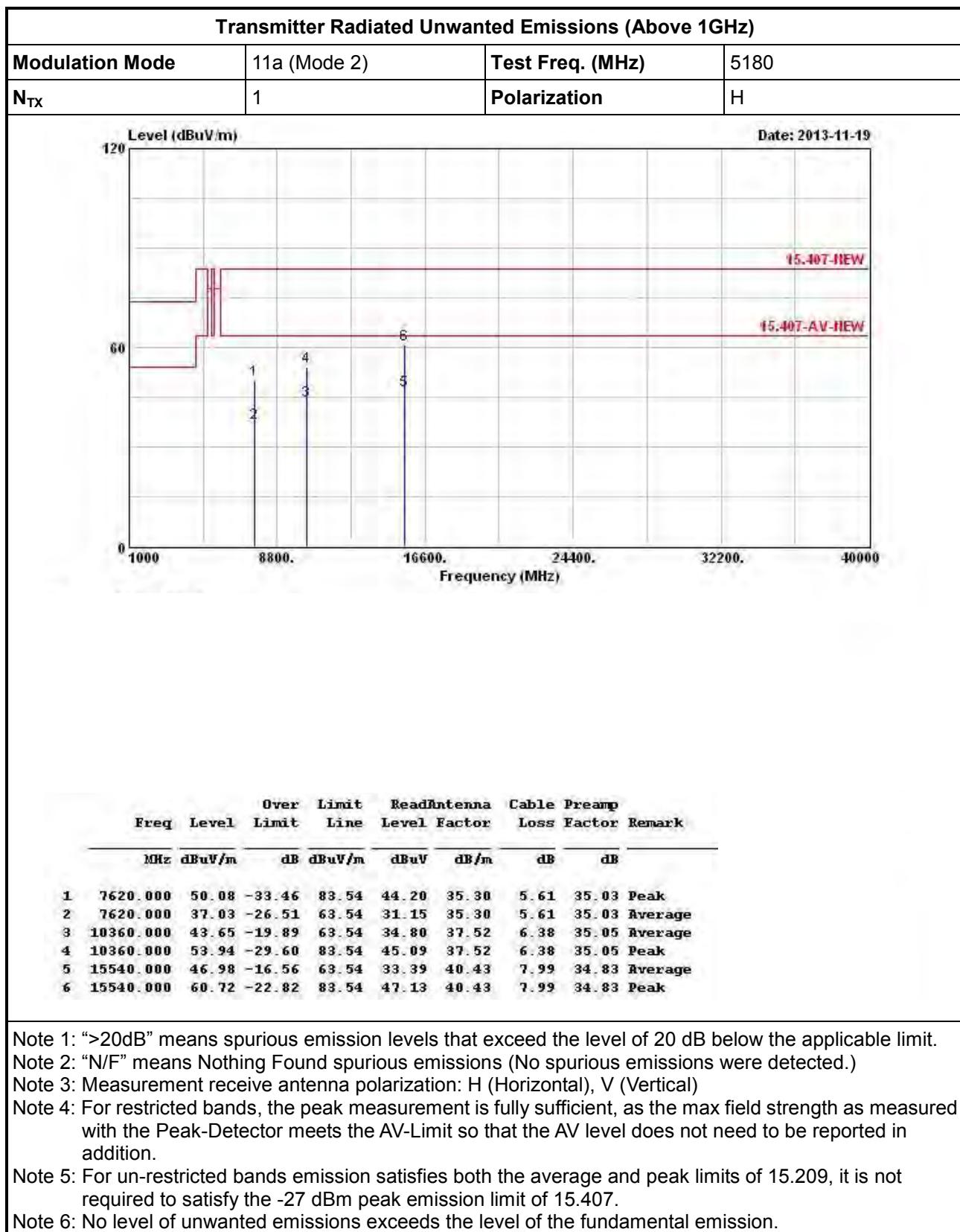
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

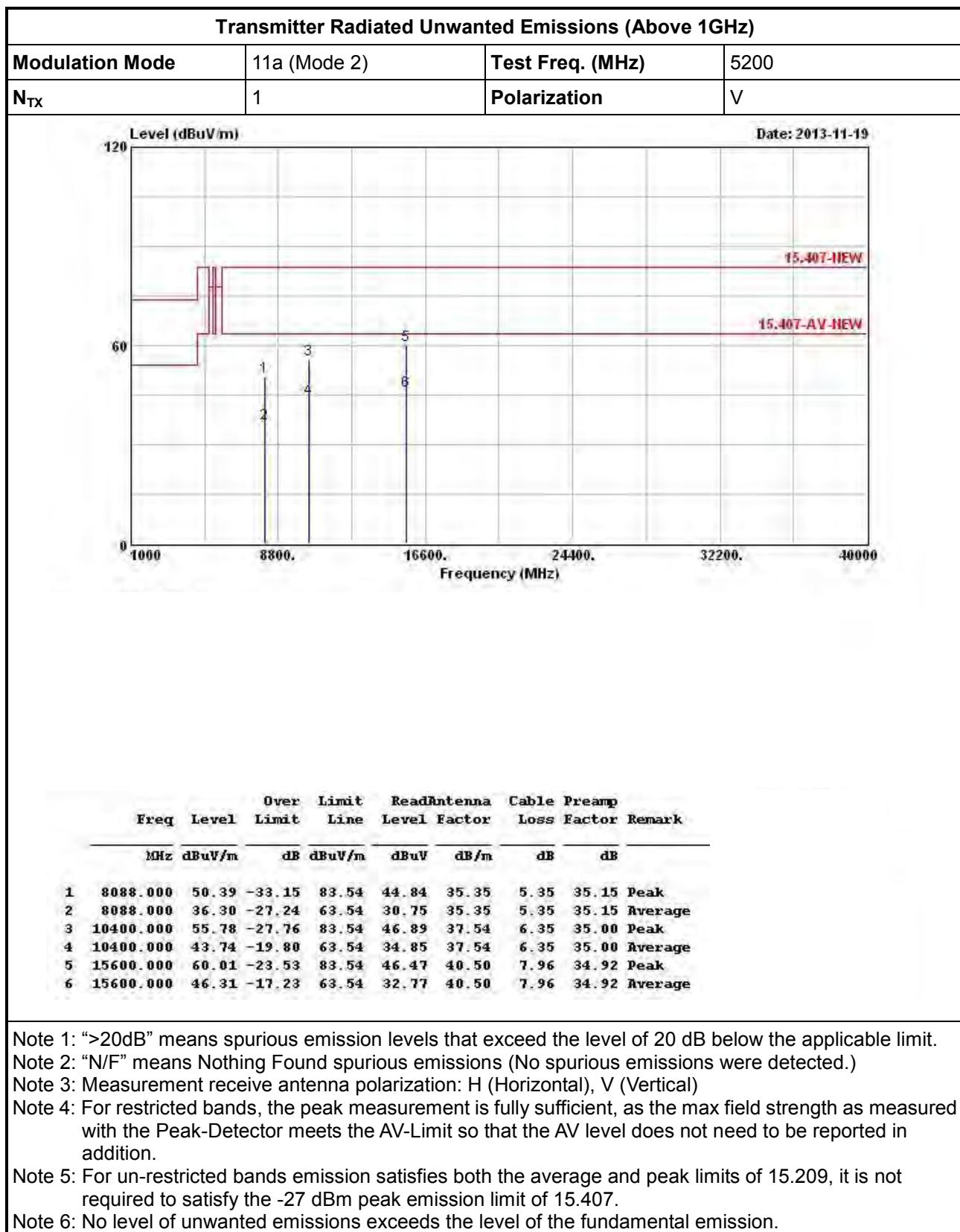
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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





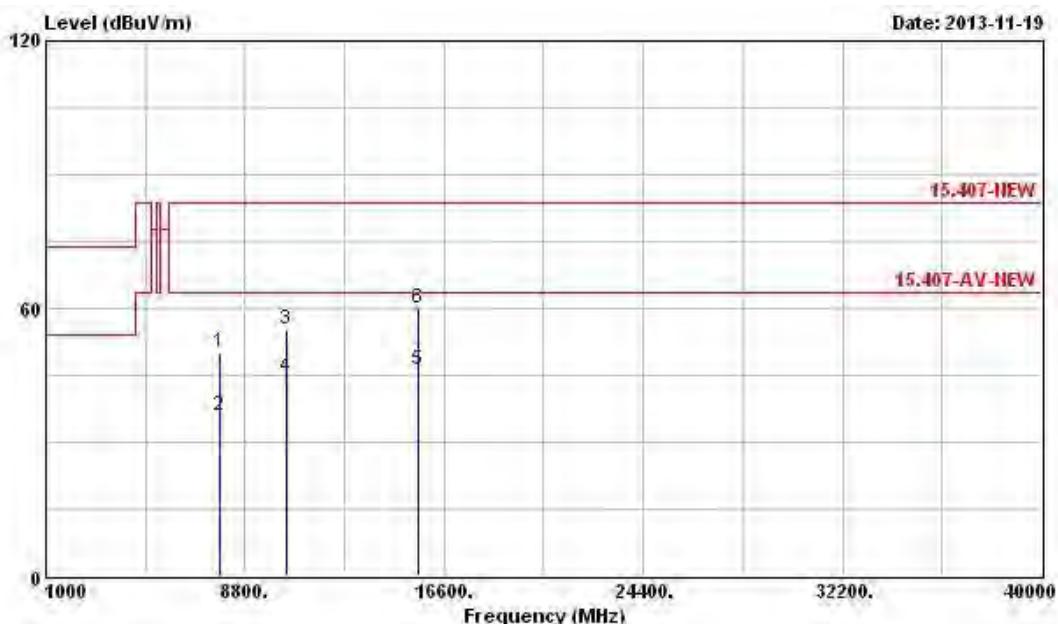






Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a (Mode 2)	Test Freq. (MHz)	5200
N_{TX}	1	Polarization	H



Freq	Level	Over	Limit	Line	Read	Antenna	Cable	Preamp
		Limit	Line	Level	Factor	Loss	Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
7812.000	50.32	-33.22	83.54	44.67	35.30	5.44	35.09	Peak
7812.000	35.81	-27.73	63.54	30.16	35.30	5.44	35.09	Average
10400.000	55.36	-28.18	83.54	46.47	37.54	6.35	35.00	Peak
10400.000	44.59	-18.95	63.54	35.70	37.54	6.35	35.00	Average
15600.000	46.34	-17.20	63.54	32.80	40.50	7.96	34.92	Average
15600.000	60.04	-23.50	83.54	46.50	40.50	7.96	34.92	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.

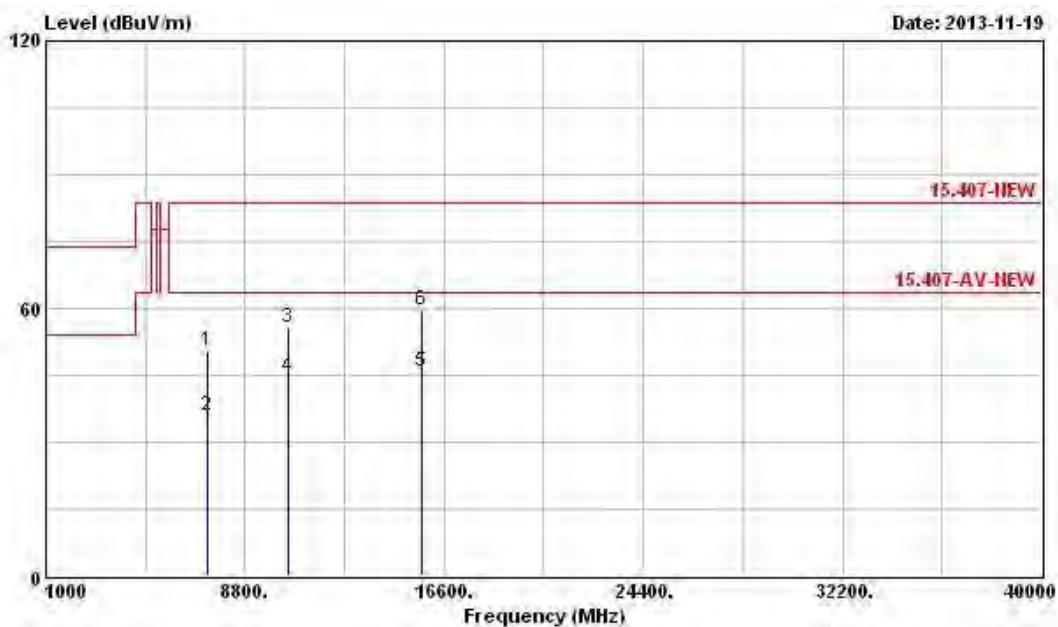
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission required to satisfy the 27 dB(A) peak emission limit of 6.407.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a (Mode 2)	Test Freq. (MHz)	5240
N_{TX}	1	Polarization	V



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	
20.000	50.34	-33.20	83.54	44.53	35.30	5.47	34.96	Peak
20.000	35.81	-27.73	63.54	30.00	35.30	5.47	34.96	Average
30.000	55.65	-27.89	83.54	46.69	37.59	6.30	34.93	Peak
30.000	44.48	-19.06	63.54	35.52	37.59	6.30	34.93	Average
20.000	45.62	-17.92	63.54	32.17	40.62	7.86	35.03	Average
20.000	59.41	-24.13	83.54	45.96	40.62	7.86	35.03	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.

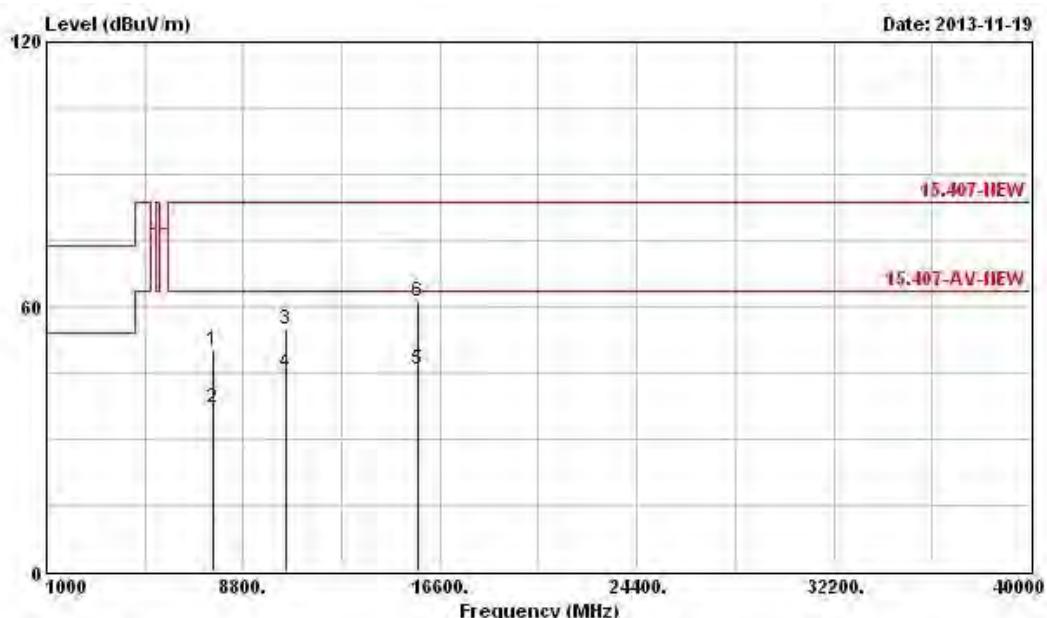
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a (Mode 2)	Test Freq. (MHz)	5240
N _{TX}	1	Polarization	H



Freq	Level	Over	Limit	Read	Intenna	Cable	Preamp	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	
1. 7620.000	50.25	-33.29	83.54	44.37	35.30	5.61	35.03	Peak
2. 7620.000	37.02	-26.52	63.54	31.14	35.30	5.61	35.03	Average
3. 10480.000	54.88	-28.66	83.54	45.92	37.59	6.30	34.93	Peak
4. 10480.000	45.19	-18.35	63.54	36.23	37.59	6.30	34.93	Average
5. 15700.000	45.64	-17.90	63.54	32.17	40.61	7.86	35.00	Average
6. 15700.000	61.13	-22.41	83.54	47.66	40.61	7.86	35.00	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.

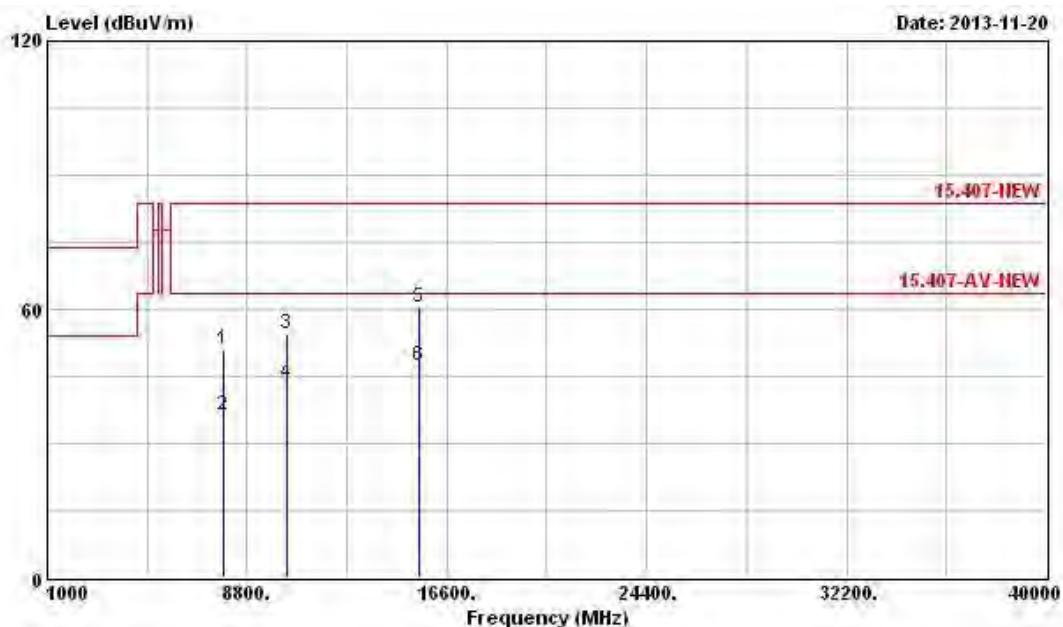
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20 (Mode 2)	Test Freq. (MHz)	5180
N _{TX}	1	Polarization	V



Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark
		Limit	Line	Antenna	Level	Factor	Loss	
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 7886.980	50.88	-32.66	83.54	45.32	35.30	5.38	35.12	Peak
2 7886.980	36.40	-27.14	63.54	30.84	35.30	5.38	35.12	Average
3 10360.000	54.46	-29.08	83.54	45.61	37.52	6.38	35.05	Peak
4 10360.000	43.45	-20.09	63.54	34.60	37.52	6.38	35.05	Average
5 15540.000	60.59	-22.95	83.54	47.00	40.43	7.99	34.83	Peak
6 15540.000	47.39	-16.15	63.54	33.80	40.43	7.99	34.83	Average

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

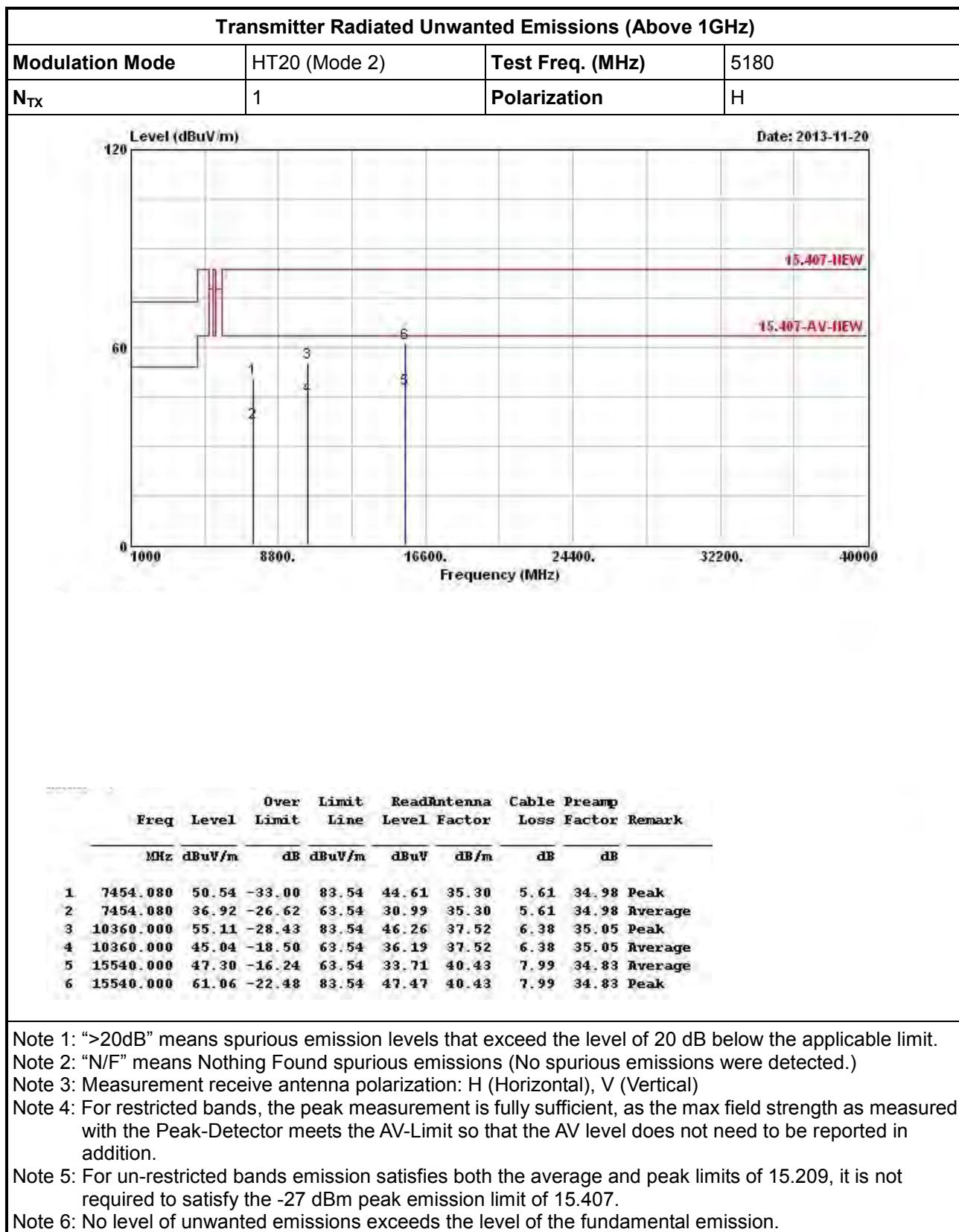
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

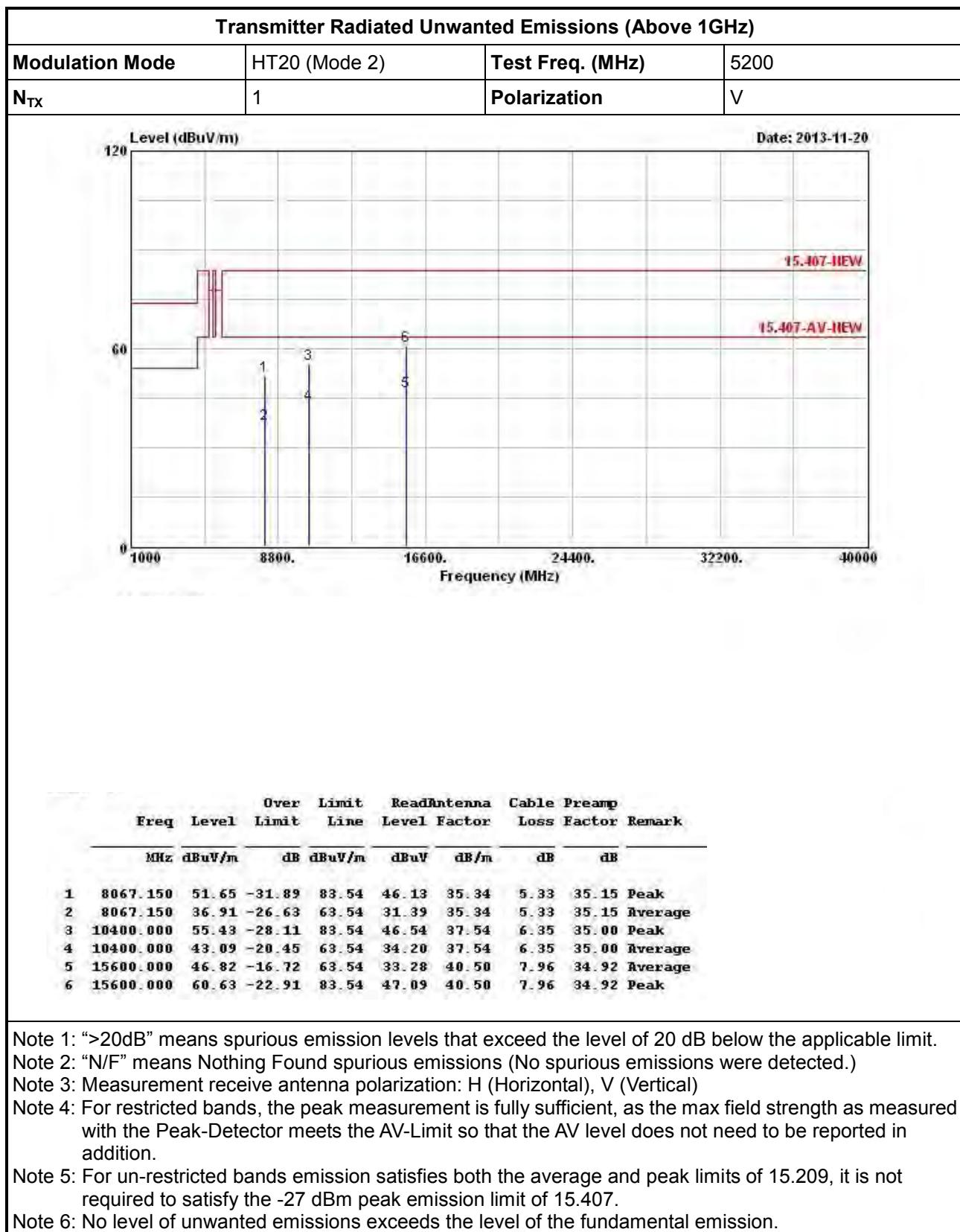
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

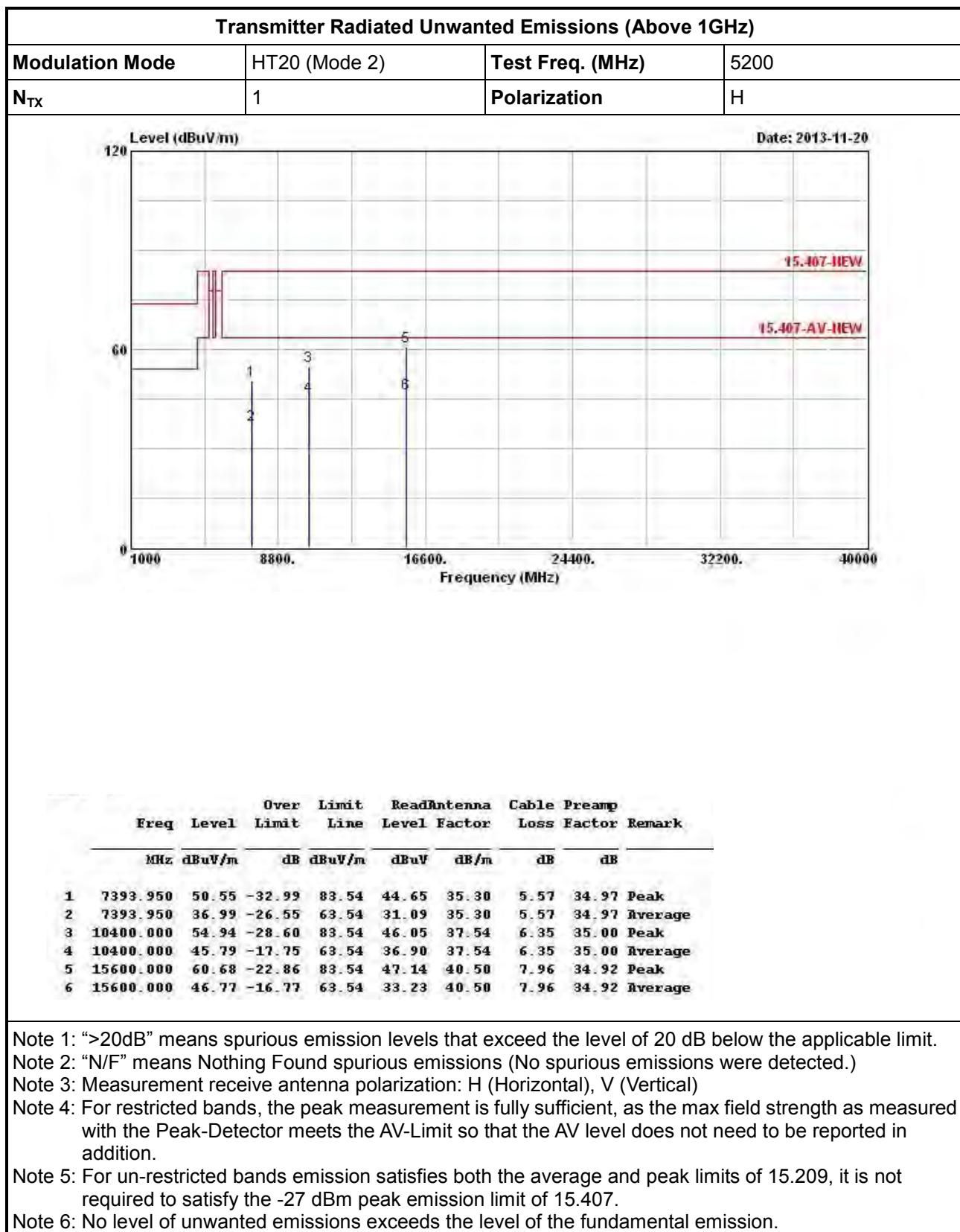
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

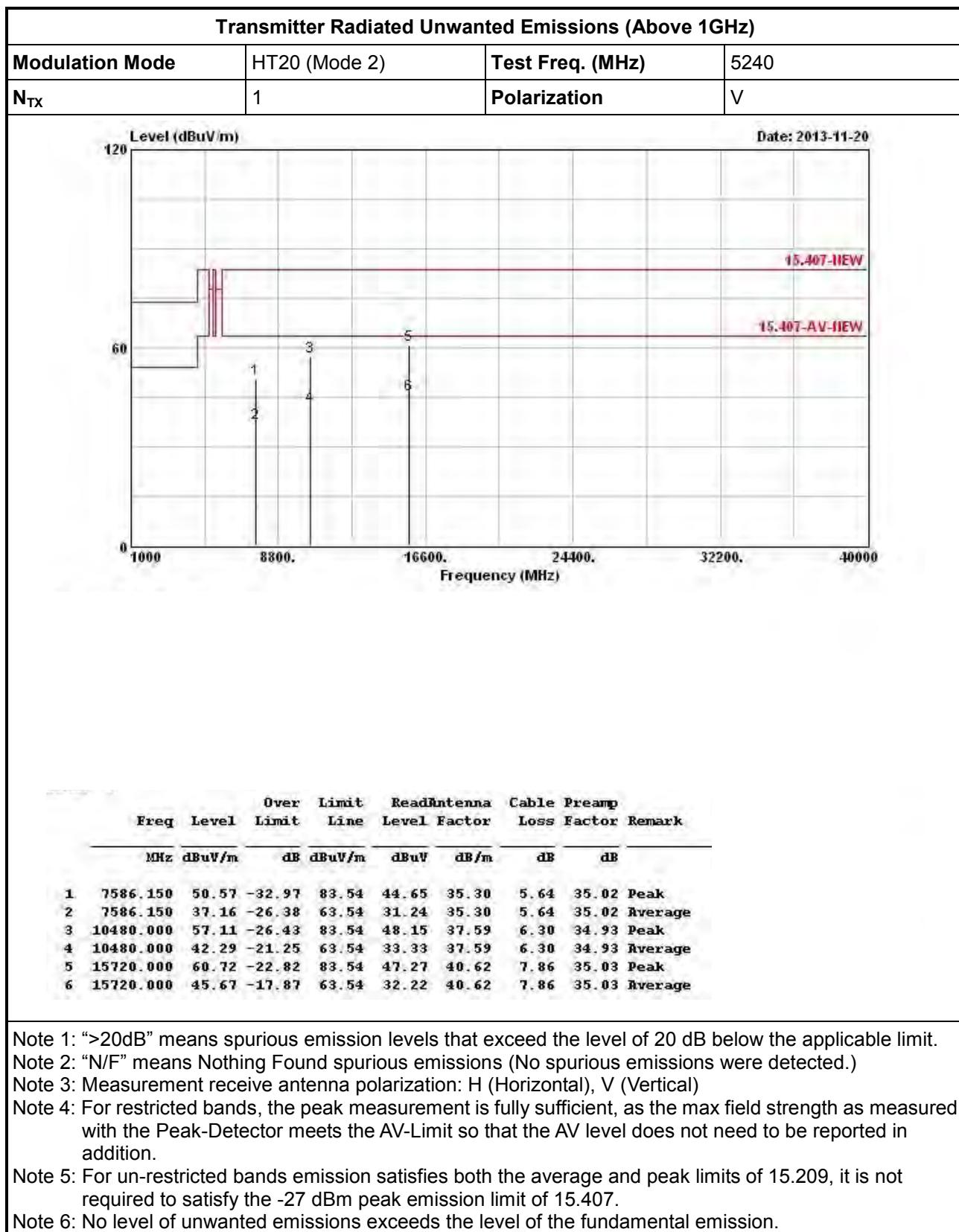
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

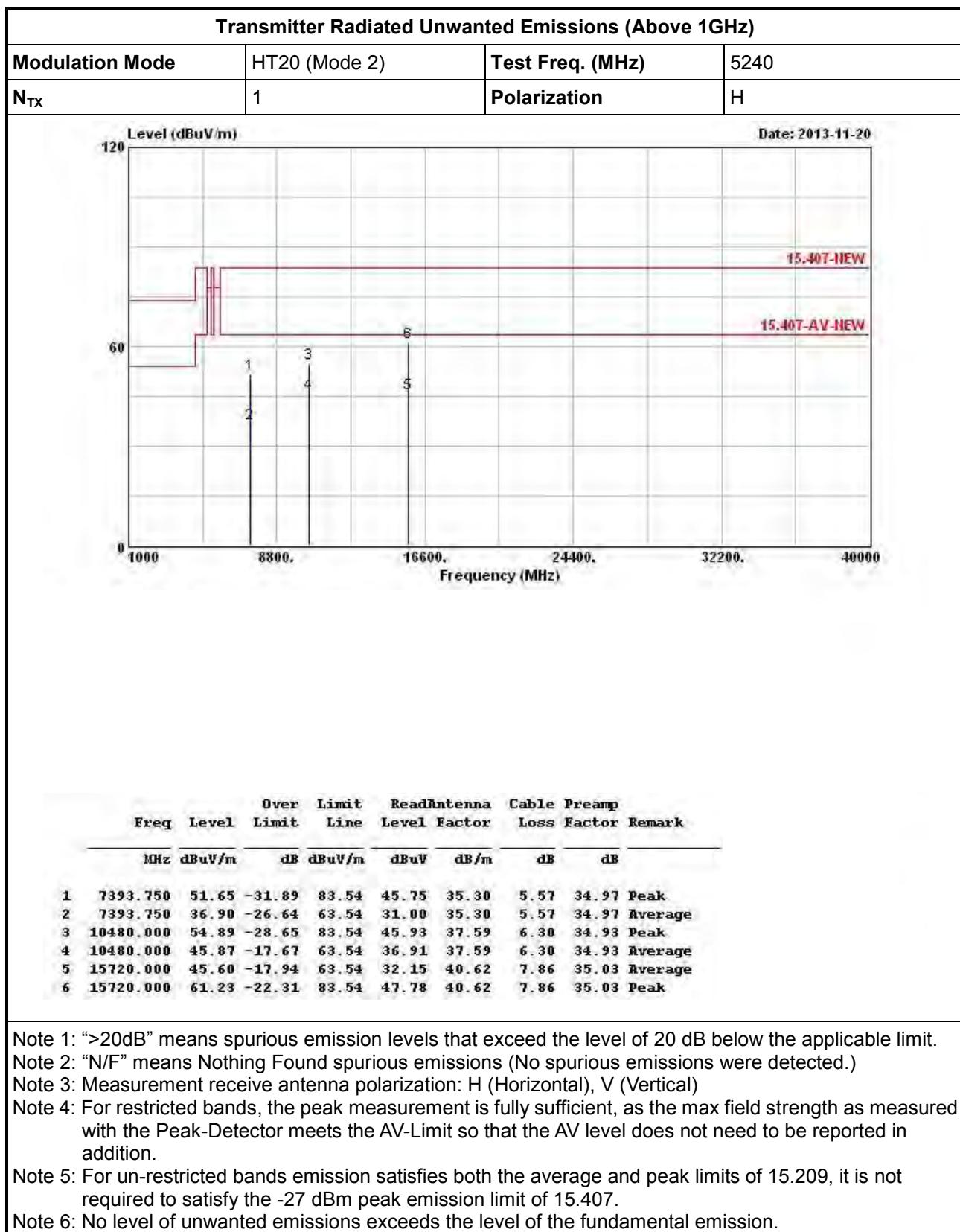
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

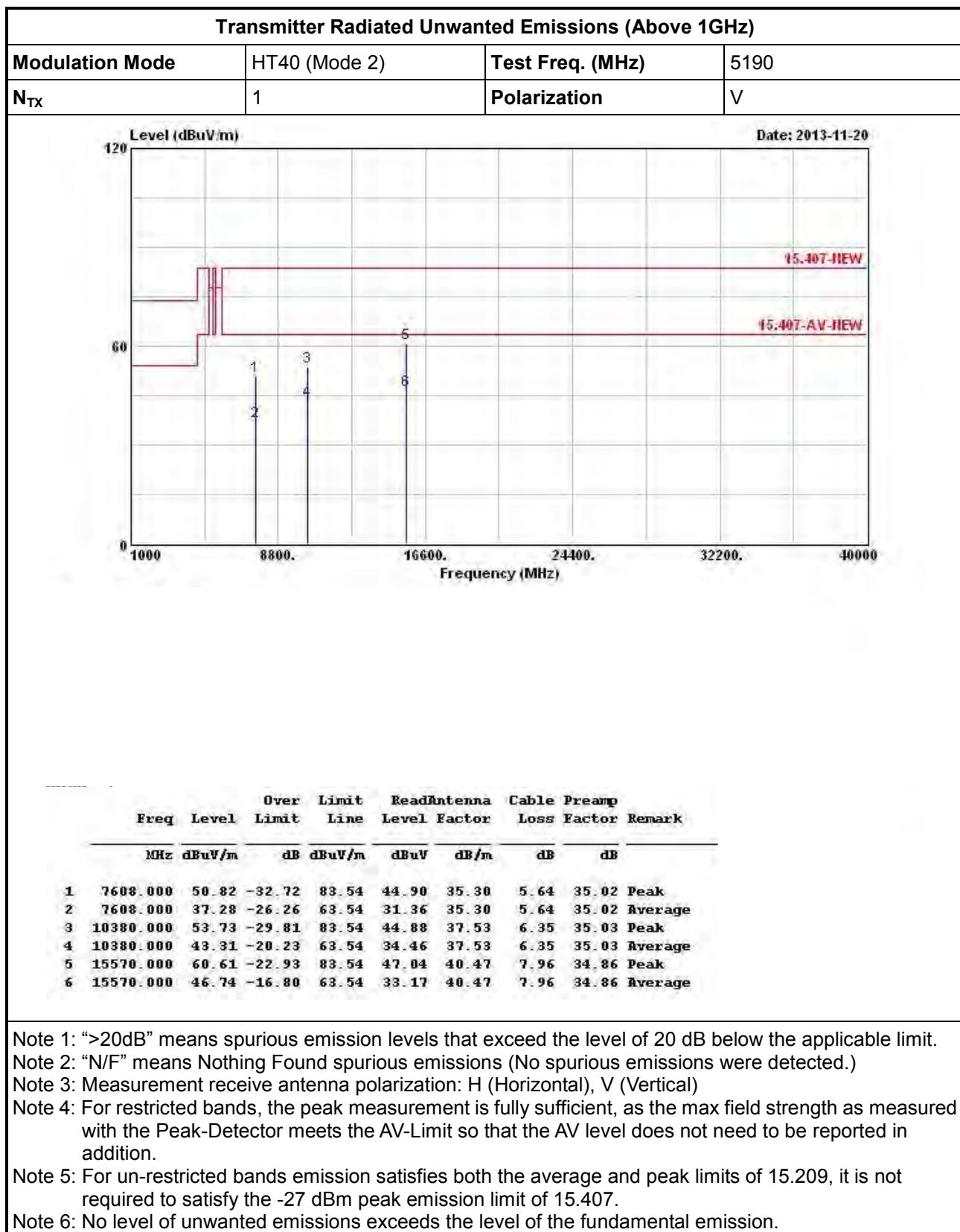


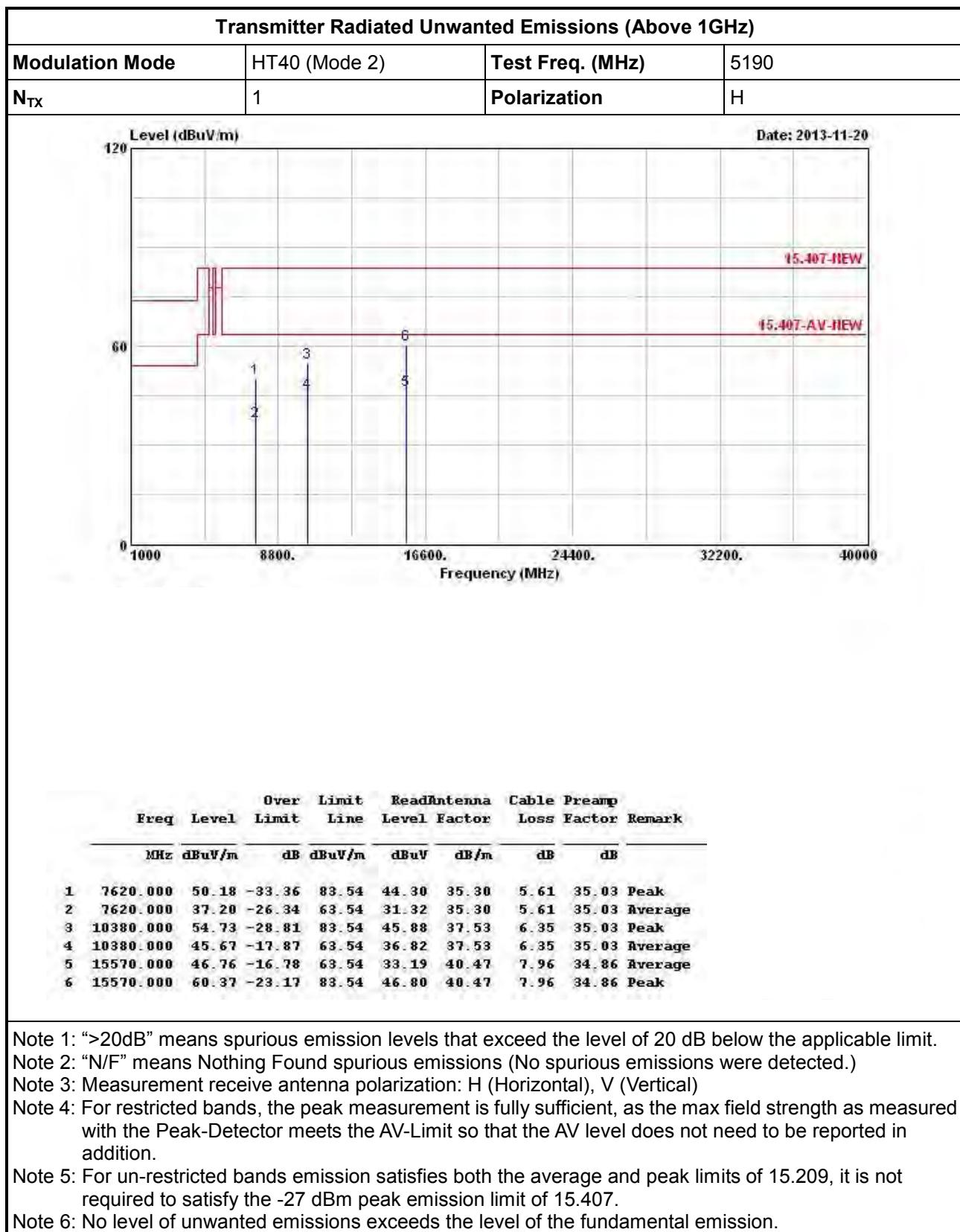


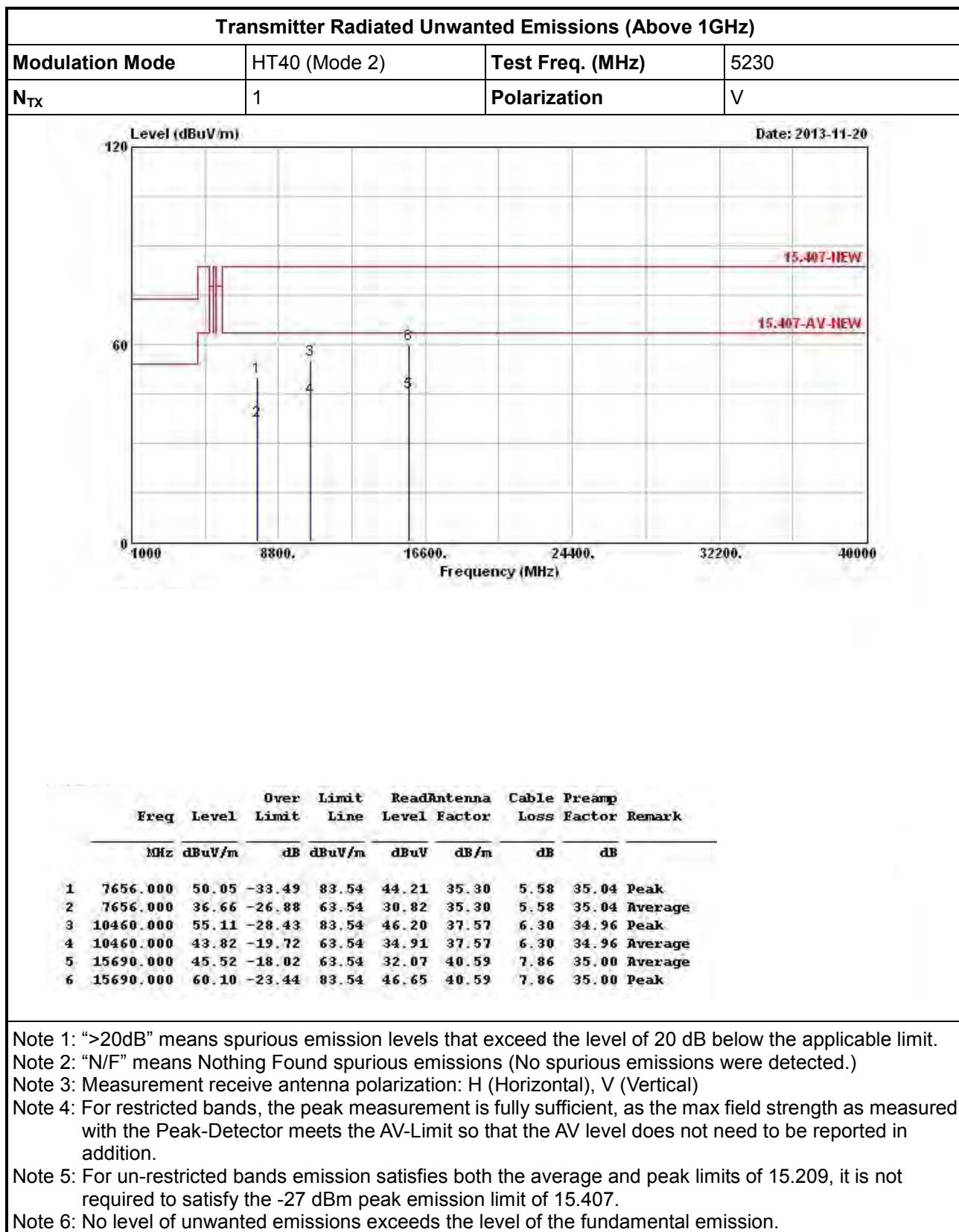


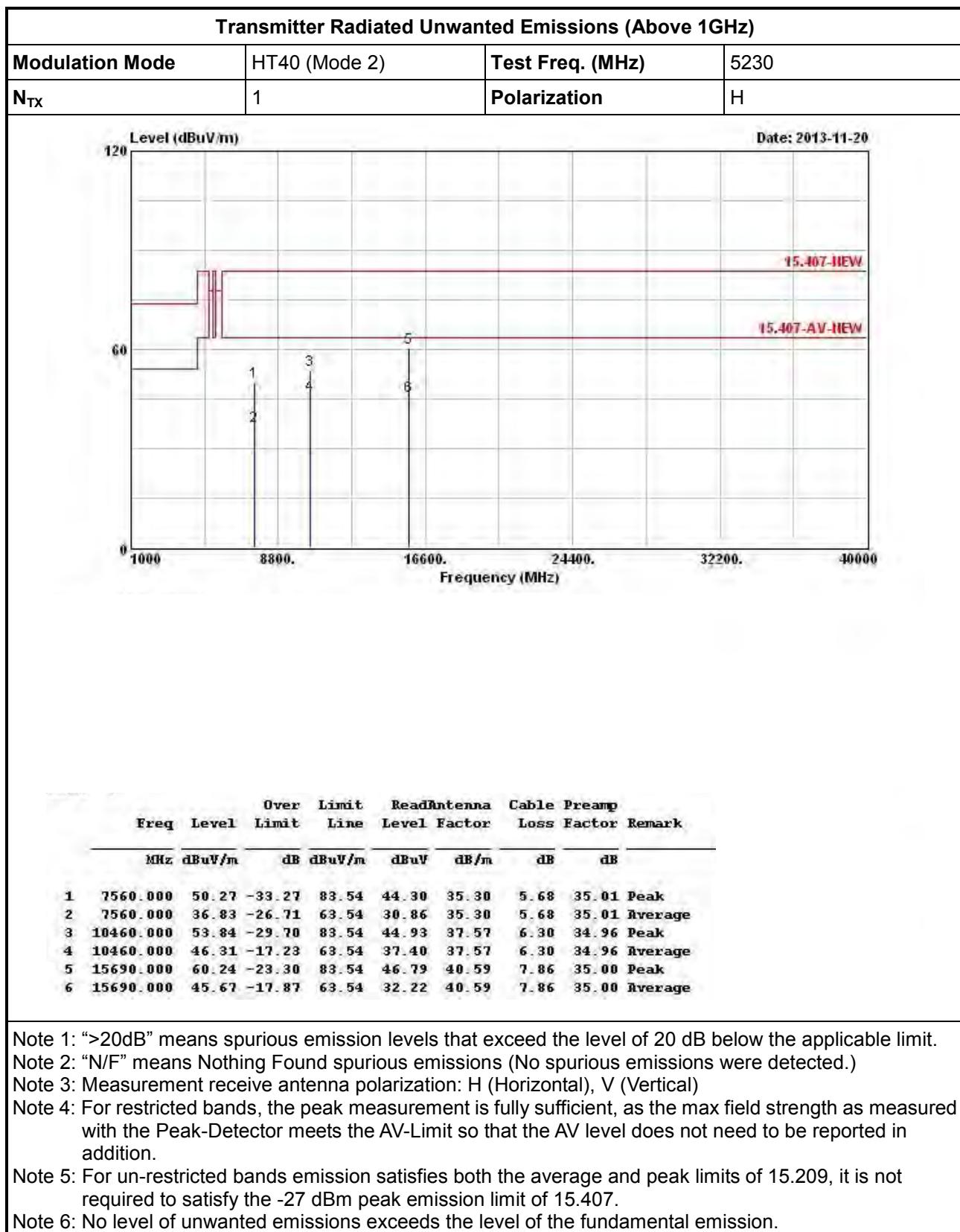








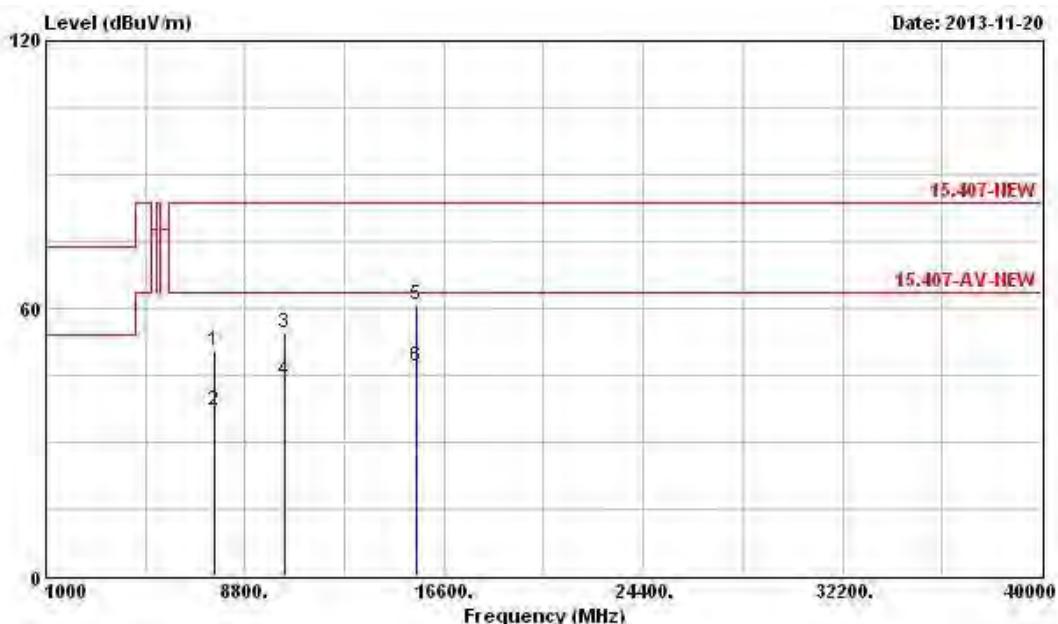






Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20 (Mode 2)	Test Freq. (MHz)	5180
N_{TX}	1	Polarization	V



Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	
		Limit	Line	Level	Factor	Loss	Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 7608.000	50.57	-32.97	83.54	44.65	35.30	5.64	35.02	Peak
2 7608.000	37.14	-26.40	63.54	31.22	35.30	5.64	35.02	Average
3 10360.000	54.56	-28.98	83.54	45.71	37.52	6.38	35.05	Peak
4 10360.000	43.98	-19.56	63.54	35.13	37.52	6.38	35.05	Average
5 15540.000	60.66	-22.88	83.54	47.07	40.43	7.99	34.83	Peak
6 15540.000	47.05	-16.49	63.54	33.46	40.43	7.99	34.83	Average

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

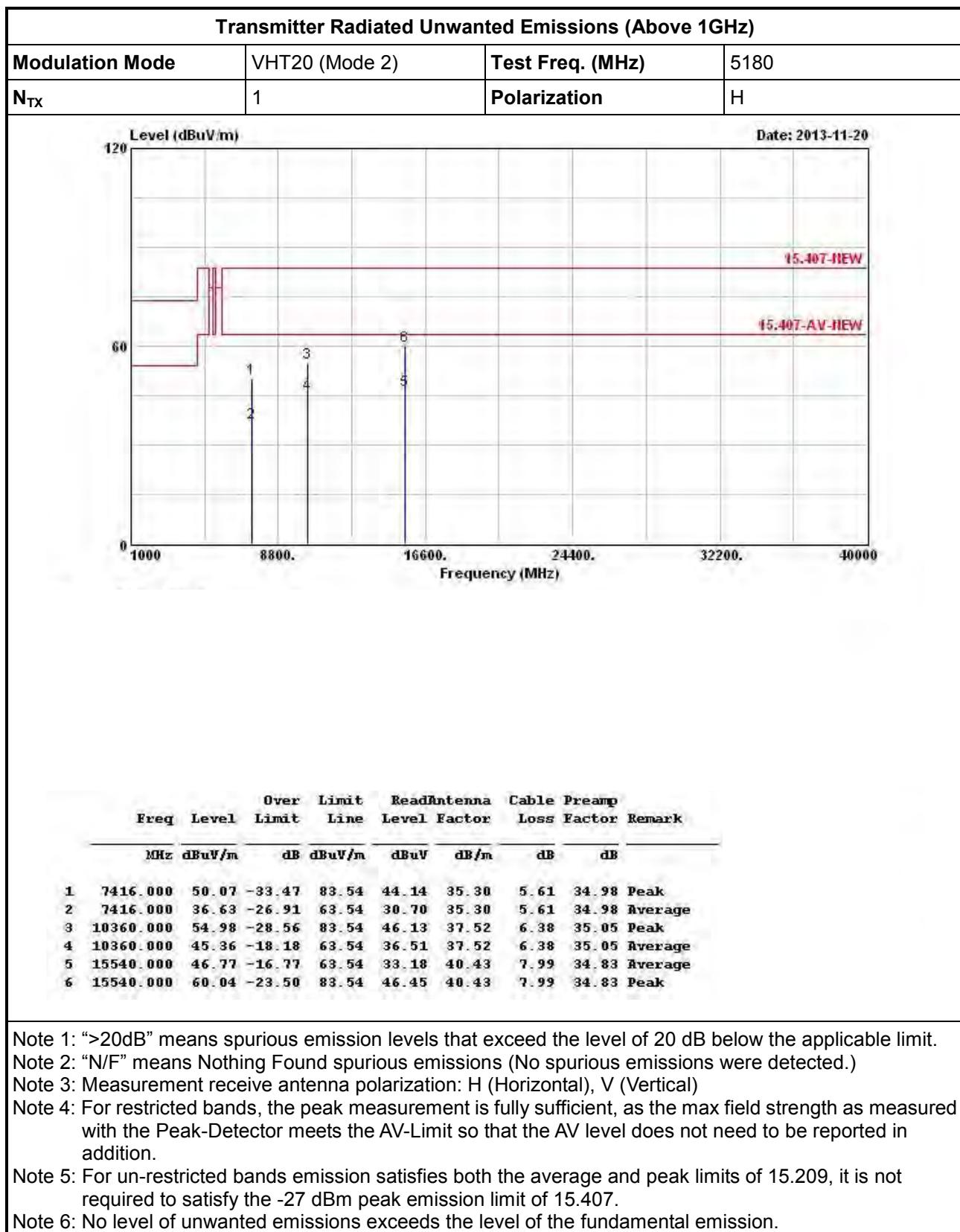
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

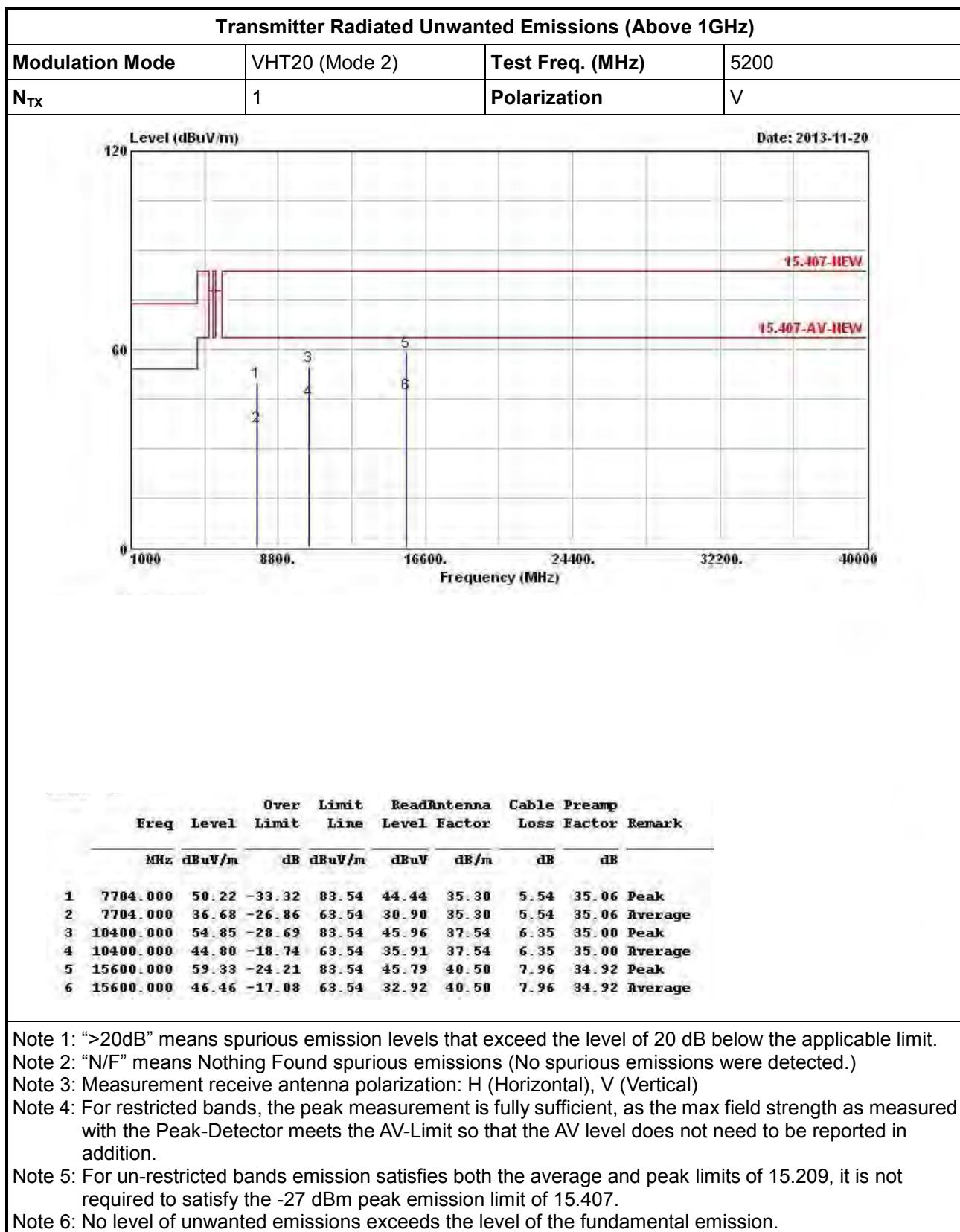
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

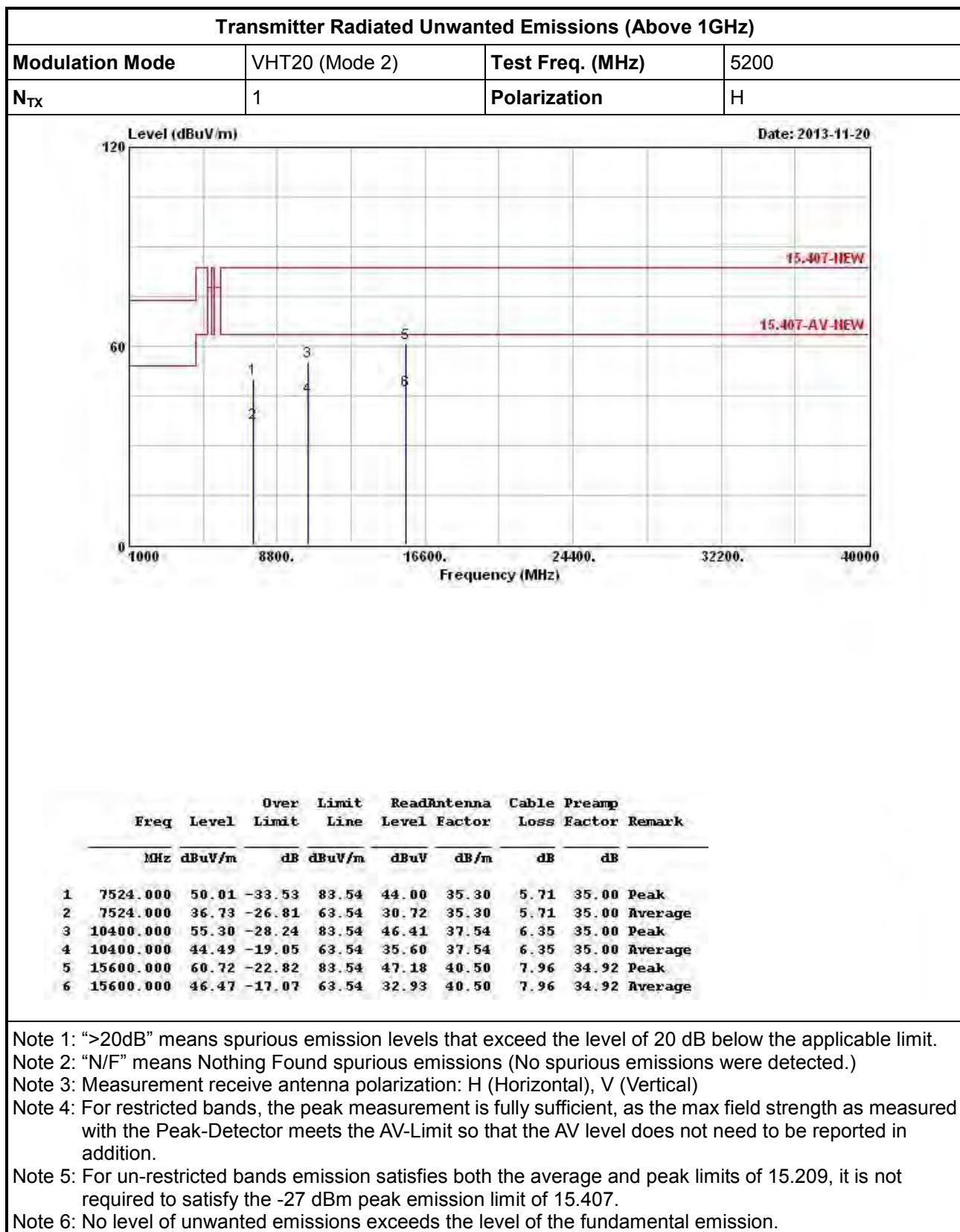
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

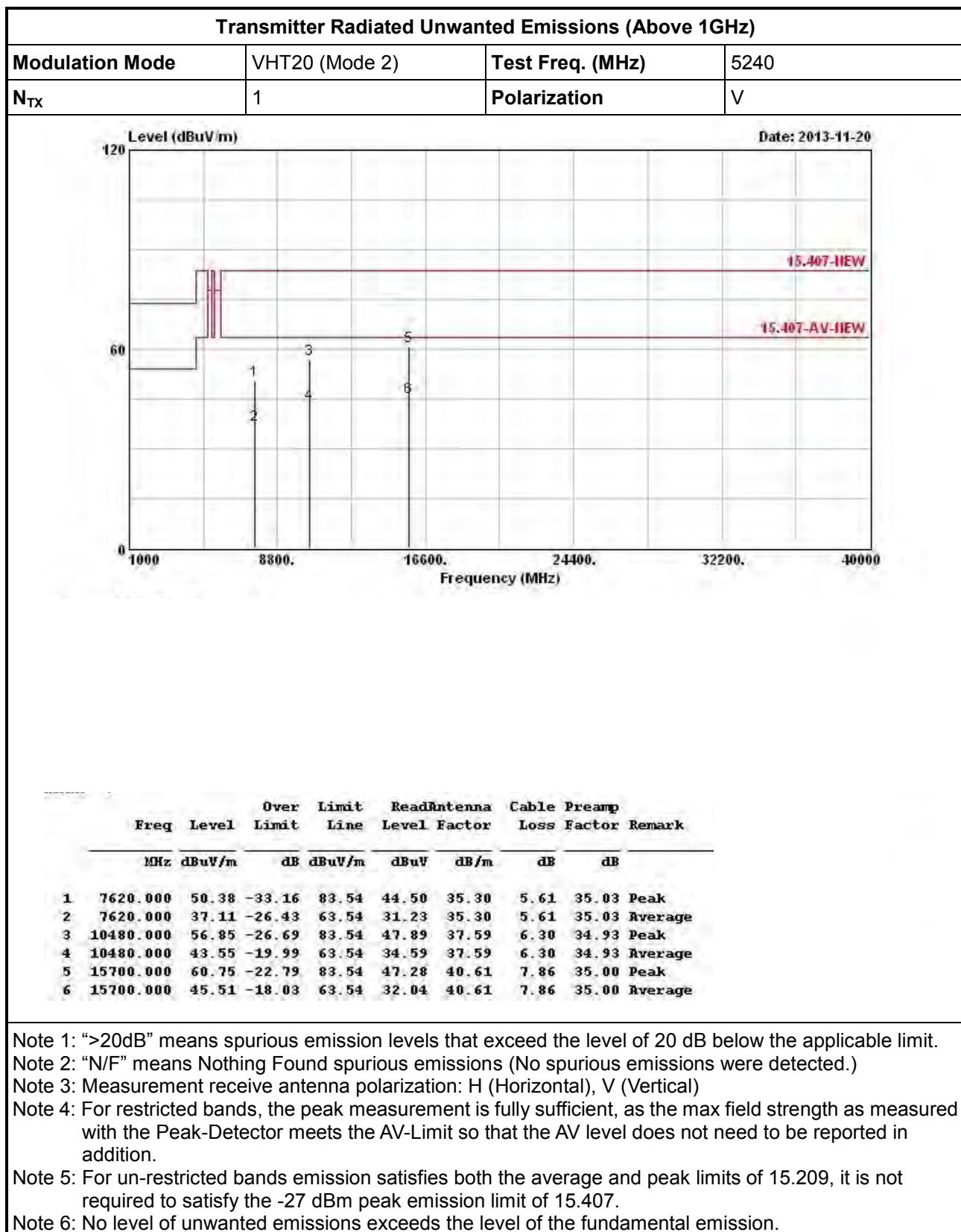
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

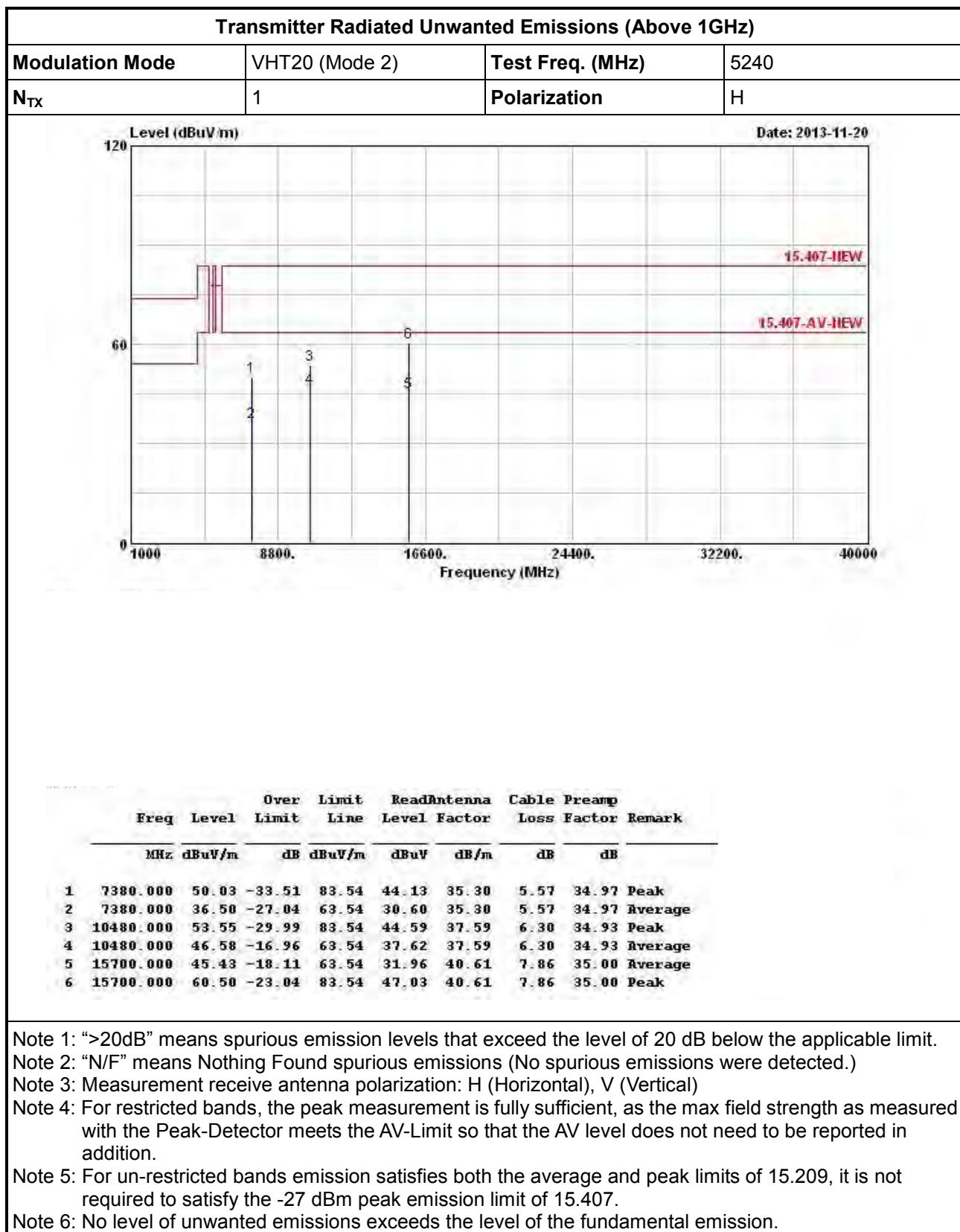
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.







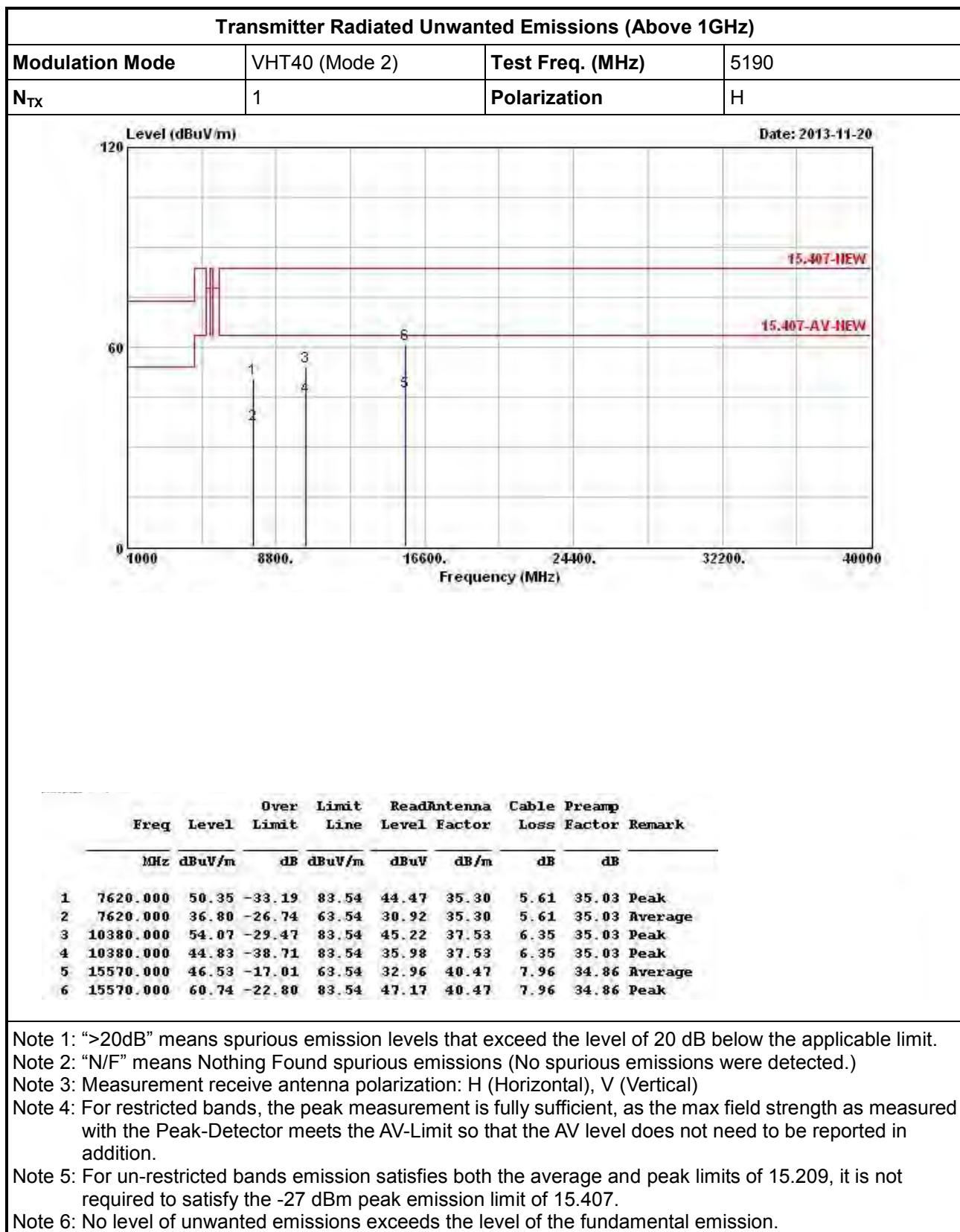


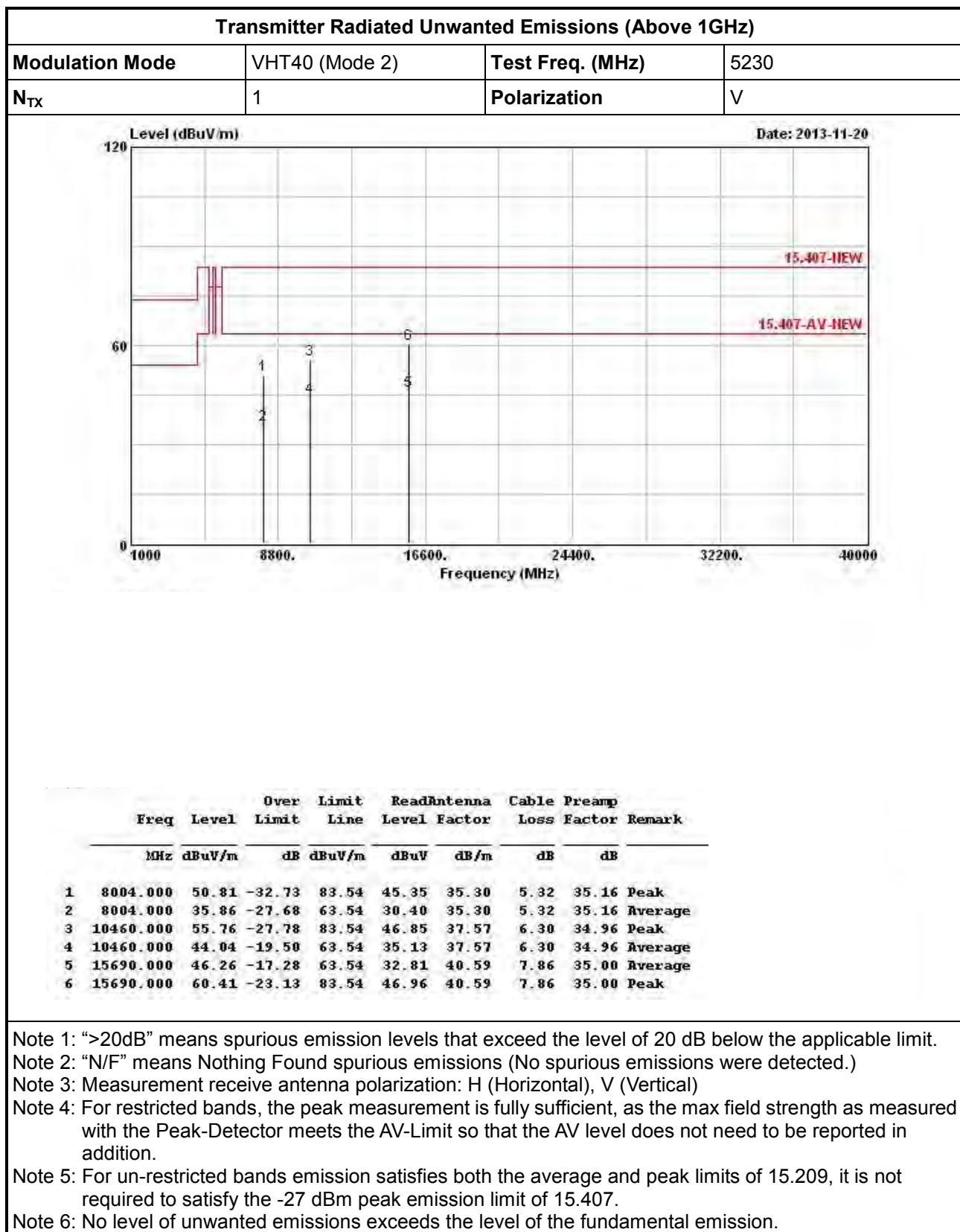


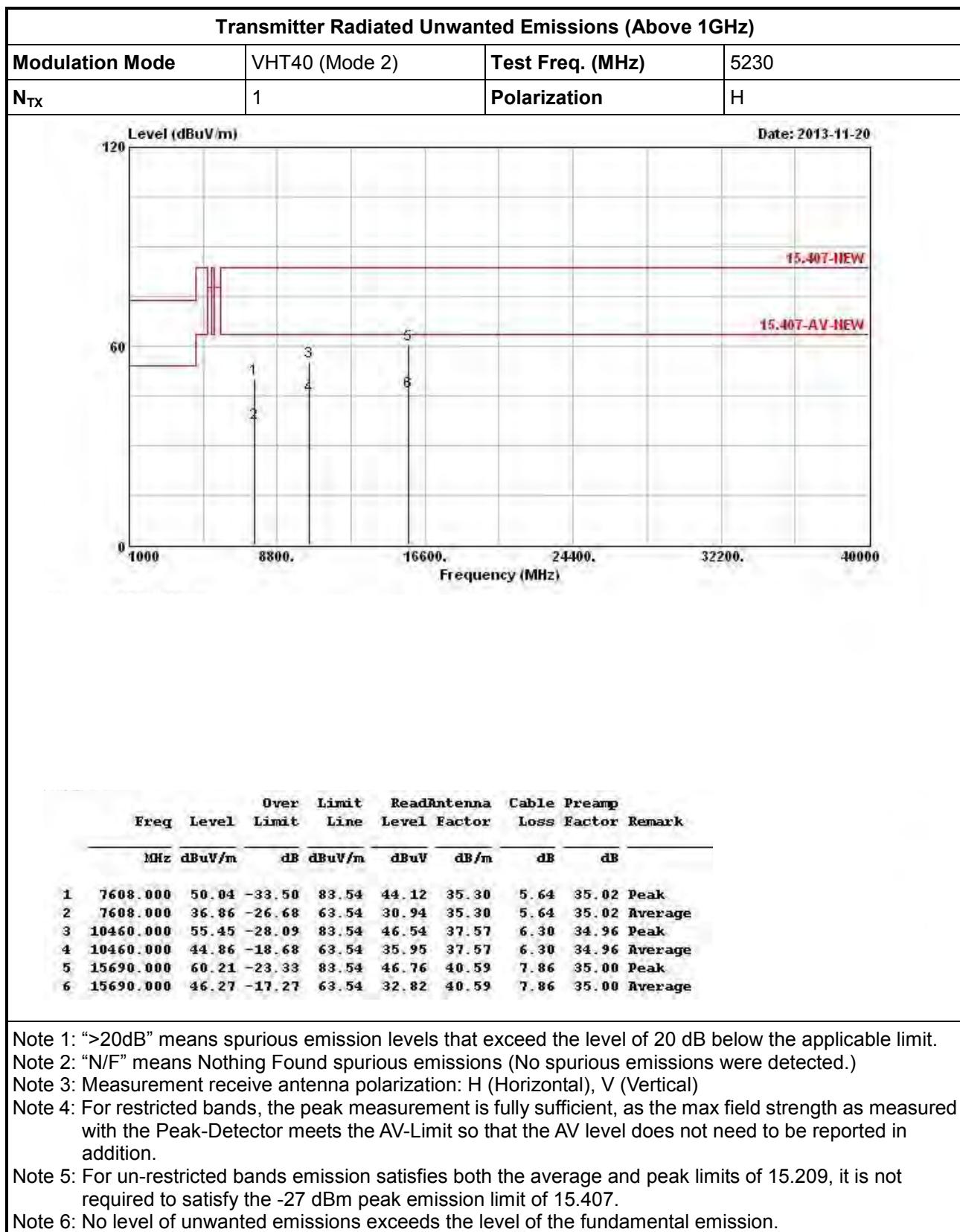


Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40 (Mode 2)	Test Freq. (MHz)	5190																																																																								
N _{TX}	1	Polarization	V																																																																								
Level (dBuV/m)			Date: 2013-11-20																																																																								
<table border="1"> <thead> <tr> <th>Freq</th> <th>Level</th> <th>Over Limit</th> <th>Line</th> <th>Read</th> <th>Antenna</th> <th>Cable</th> <th>Preamp</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>MHz</td> <td>dBuV/m</td> <td>dB</td> <td>dBuV/m</td> <td>dBuV</td> <td>dB/m</td> <td>dB</td> <td>dB</td> <td></td> </tr> <tr> <td>1</td> <td>7524.000</td> <td>50.36</td> <td>-33.18</td> <td>83.54</td> <td>44.35</td> <td>35.30</td> <td>5.71</td> <td>35.00 Peak</td> </tr> <tr> <td>2</td> <td>7524.000</td> <td>36.62</td> <td>-26.92</td> <td>63.54</td> <td>30.61</td> <td>35.30</td> <td>5.71</td> <td>35.00 Average</td> </tr> <tr> <td>3</td> <td>10380.000</td> <td>53.79</td> <td>-29.75</td> <td>83.54</td> <td>44.94</td> <td>37.53</td> <td>6.35</td> <td>35.03 Peak</td> </tr> <tr> <td>4</td> <td>10380.000</td> <td>42.50</td> <td>-21.04</td> <td>63.54</td> <td>33.65</td> <td>37.53</td> <td>6.35</td> <td>35.03 Average</td> </tr> <tr> <td>5</td> <td>15570.000</td> <td>60.41</td> <td>-23.13</td> <td>83.54</td> <td>46.84</td> <td>40.47</td> <td>7.96</td> <td>34.86 Peak</td> </tr> <tr> <td>6</td> <td>15570.000</td> <td>46.56</td> <td>-16.98</td> <td>63.54</td> <td>32.99</td> <td>40.47</td> <td>7.96</td> <td>34.86 Average</td> </tr> </tbody> </table>				Freq	Level	Over Limit	Line	Read	Antenna	Cable	Preamp	Remark	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		1	7524.000	50.36	-33.18	83.54	44.35	35.30	5.71	35.00 Peak	2	7524.000	36.62	-26.92	63.54	30.61	35.30	5.71	35.00 Average	3	10380.000	53.79	-29.75	83.54	44.94	37.53	6.35	35.03 Peak	4	10380.000	42.50	-21.04	63.54	33.65	37.53	6.35	35.03 Average	5	15570.000	60.41	-23.13	83.54	46.84	40.47	7.96	34.86 Peak	6	15570.000	46.56	-16.98	63.54	32.99	40.47	7.96	34.86 Average
Freq	Level	Over Limit	Line	Read	Antenna	Cable	Preamp	Remark																																																																			
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB																																																																				
1	7524.000	50.36	-33.18	83.54	44.35	35.30	5.71	35.00 Peak																																																																			
2	7524.000	36.62	-26.92	63.54	30.61	35.30	5.71	35.00 Average																																																																			
3	10380.000	53.79	-29.75	83.54	44.94	37.53	6.35	35.03 Peak																																																																			
4	10380.000	42.50	-21.04	63.54	33.65	37.53	6.35	35.03 Average																																																																			
5	15570.000	60.41	-23.13	83.54	46.84	40.47	7.96	34.86 Peak																																																																			
6	15570.000	46.56	-16.98	63.54	32.99	40.47	7.96	34.86 Average																																																																			
<p>Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.</p> <p>Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)</p> <p>Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)</p> <p>Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.</p> <p>Note 5: For un-restricted bands 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.</p> <p>Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.</p>																																																																											







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

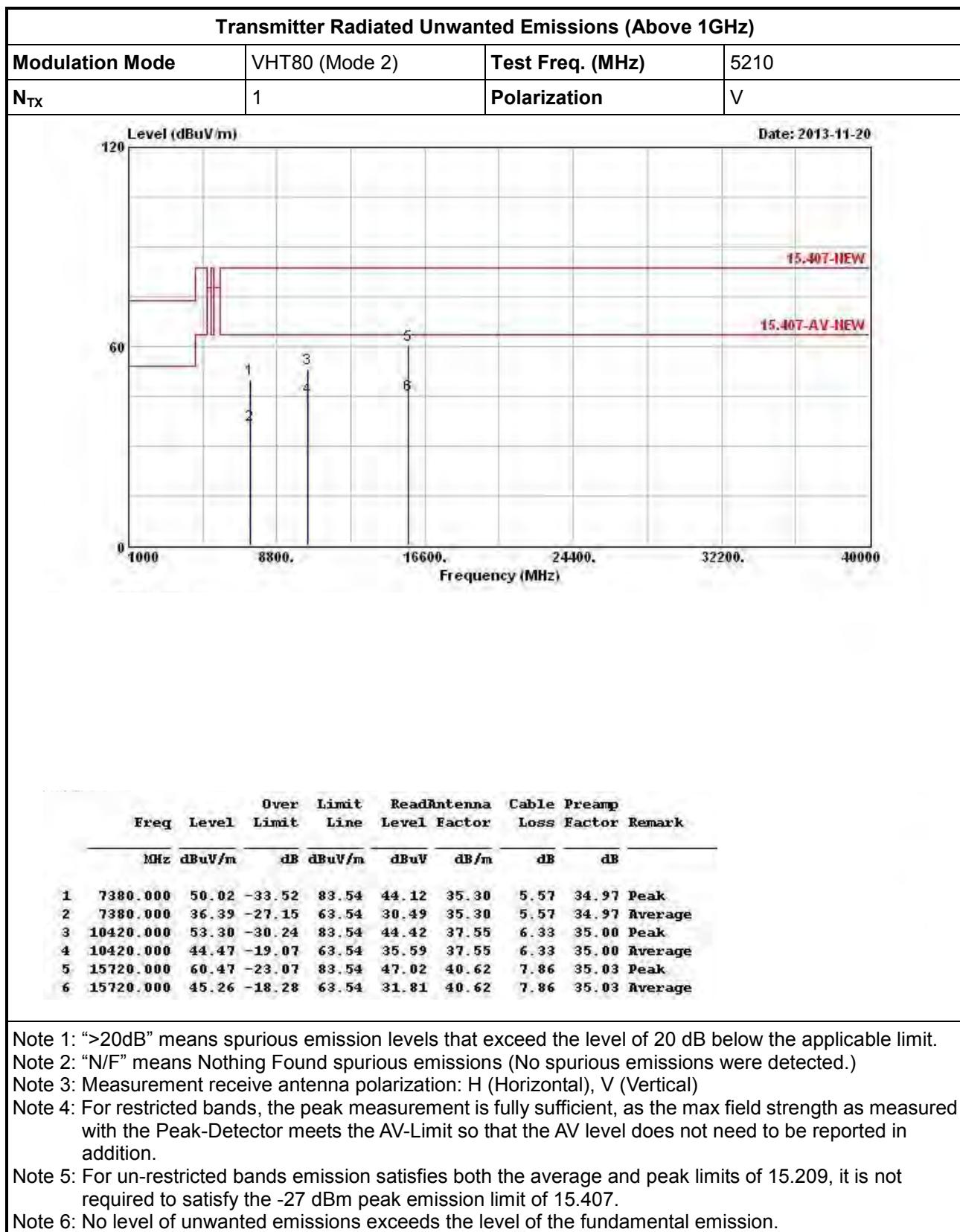
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

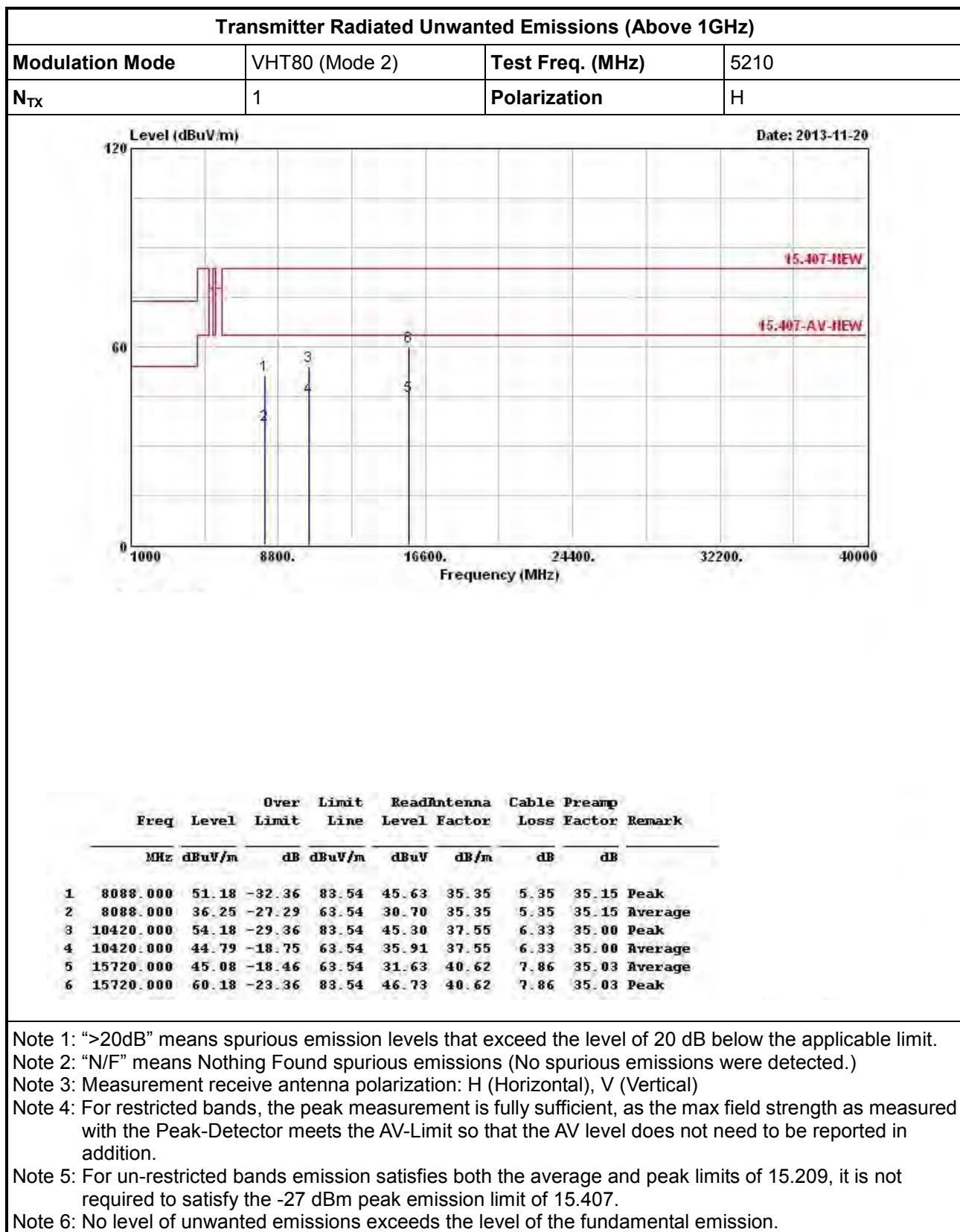
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

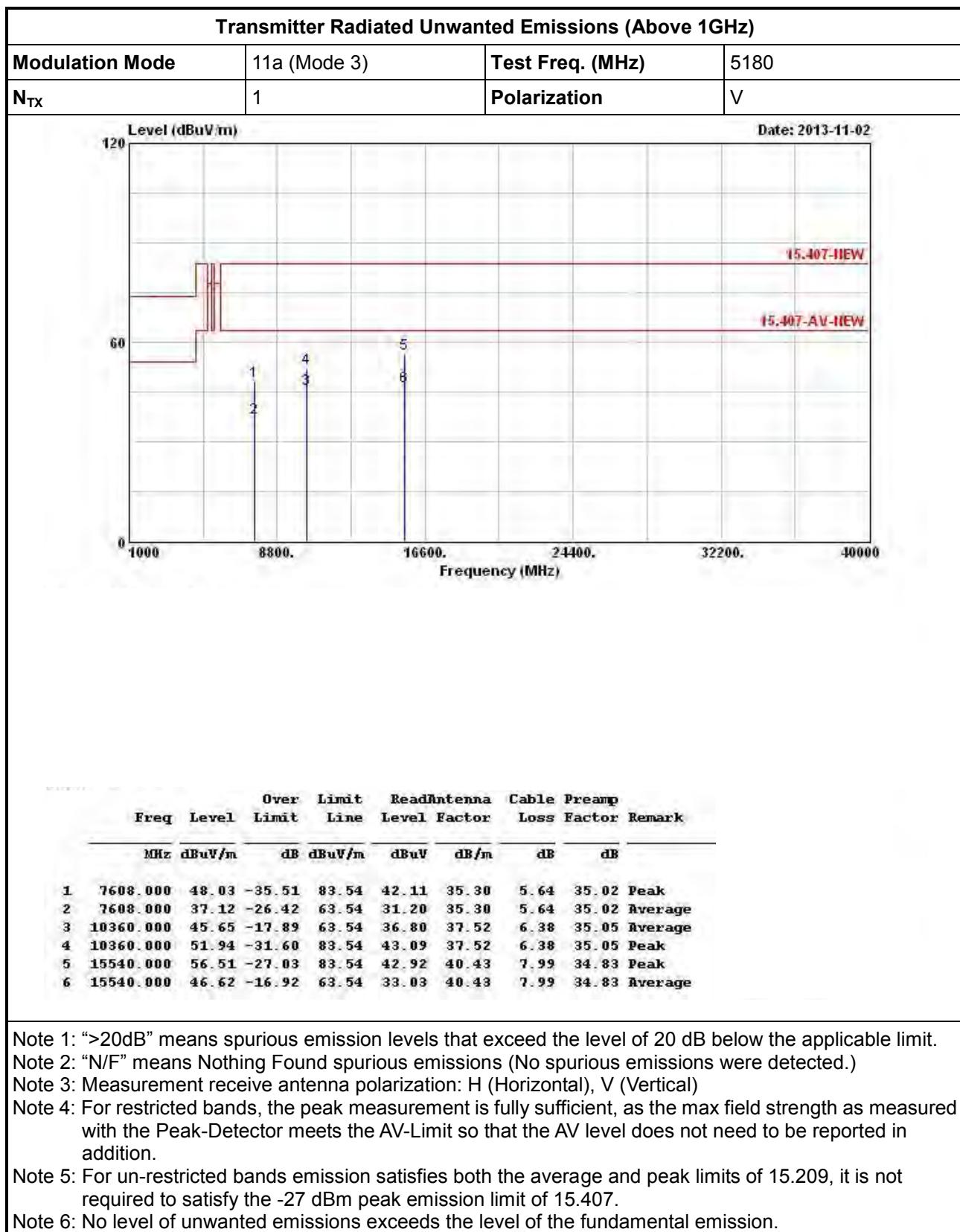
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

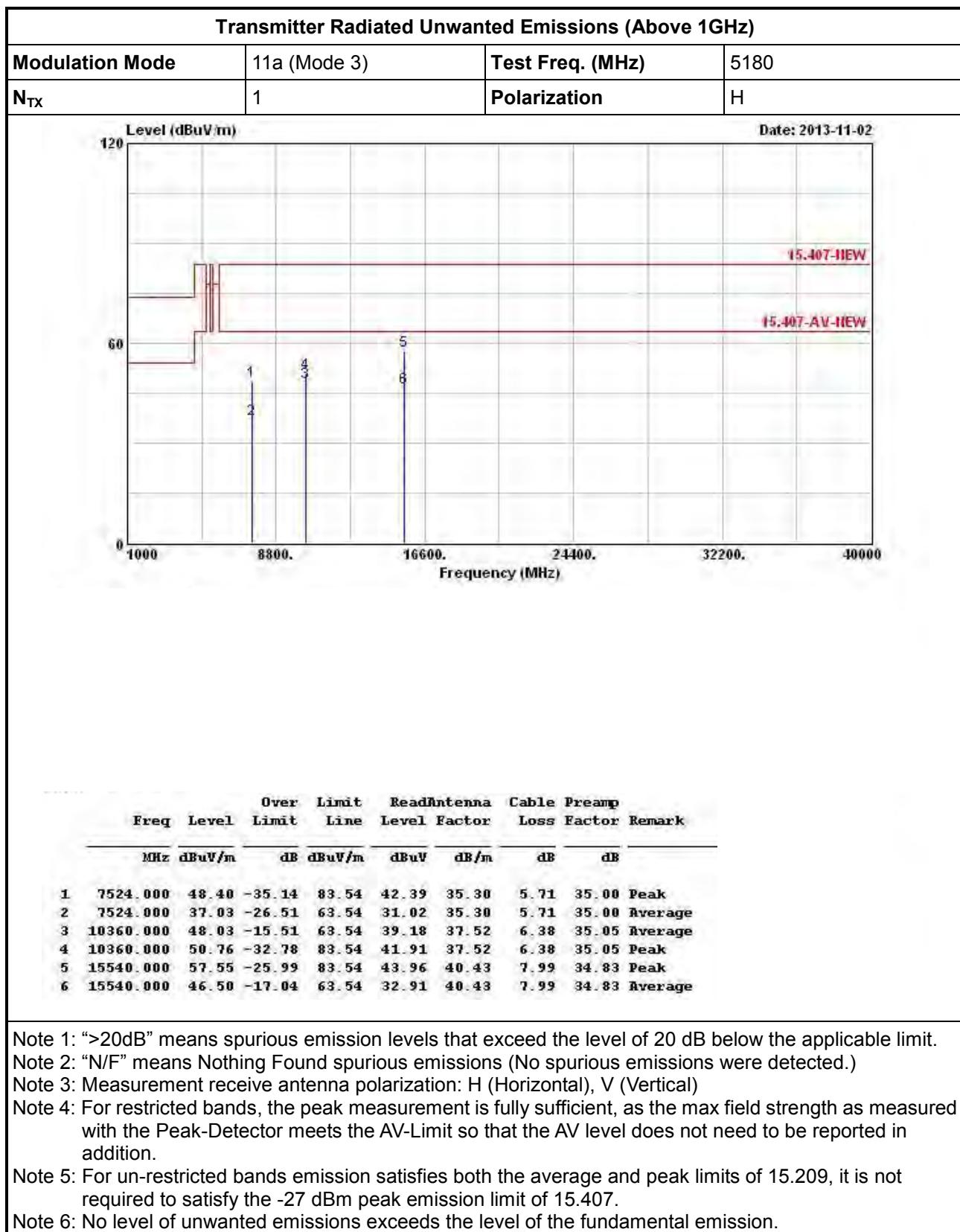
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

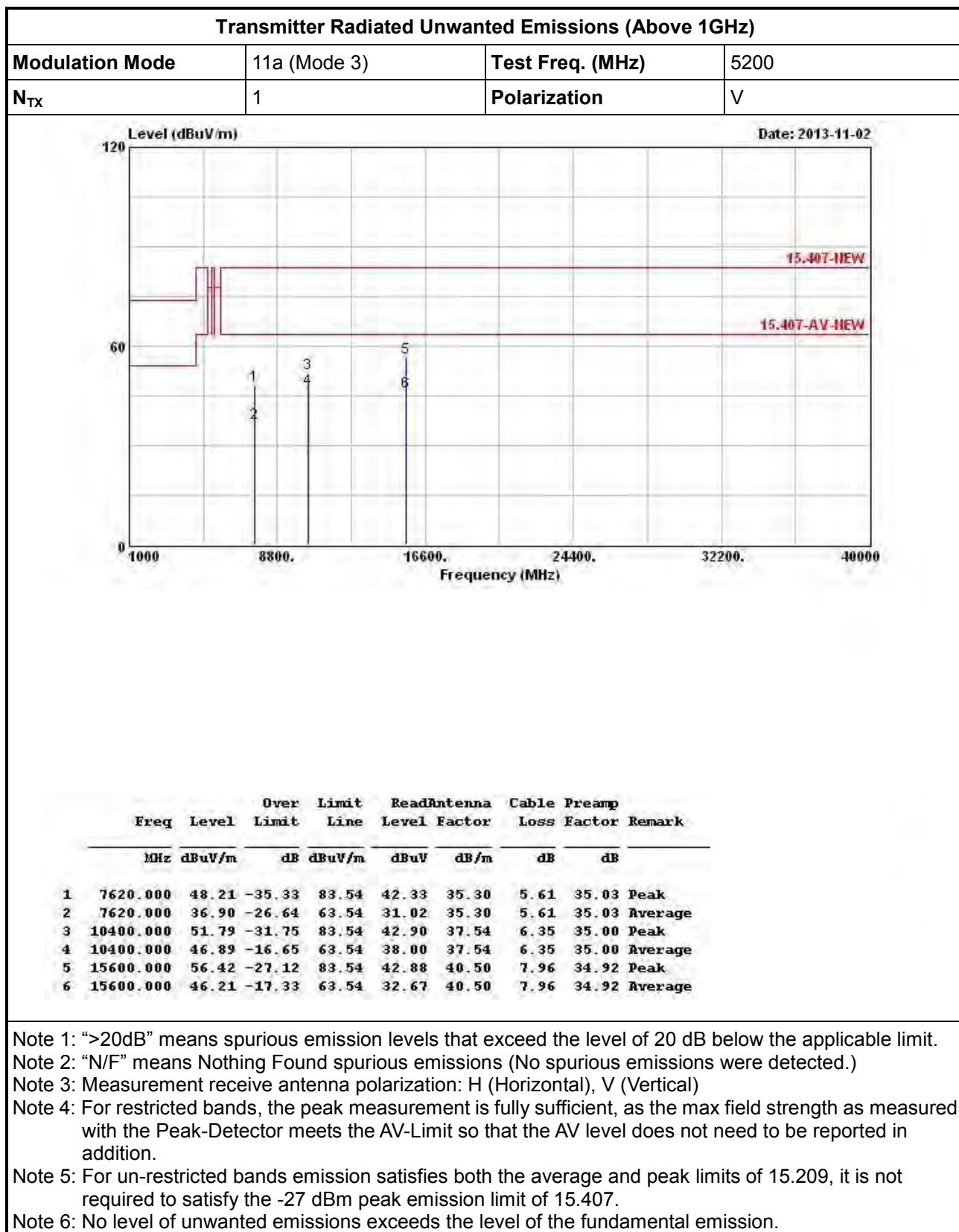
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

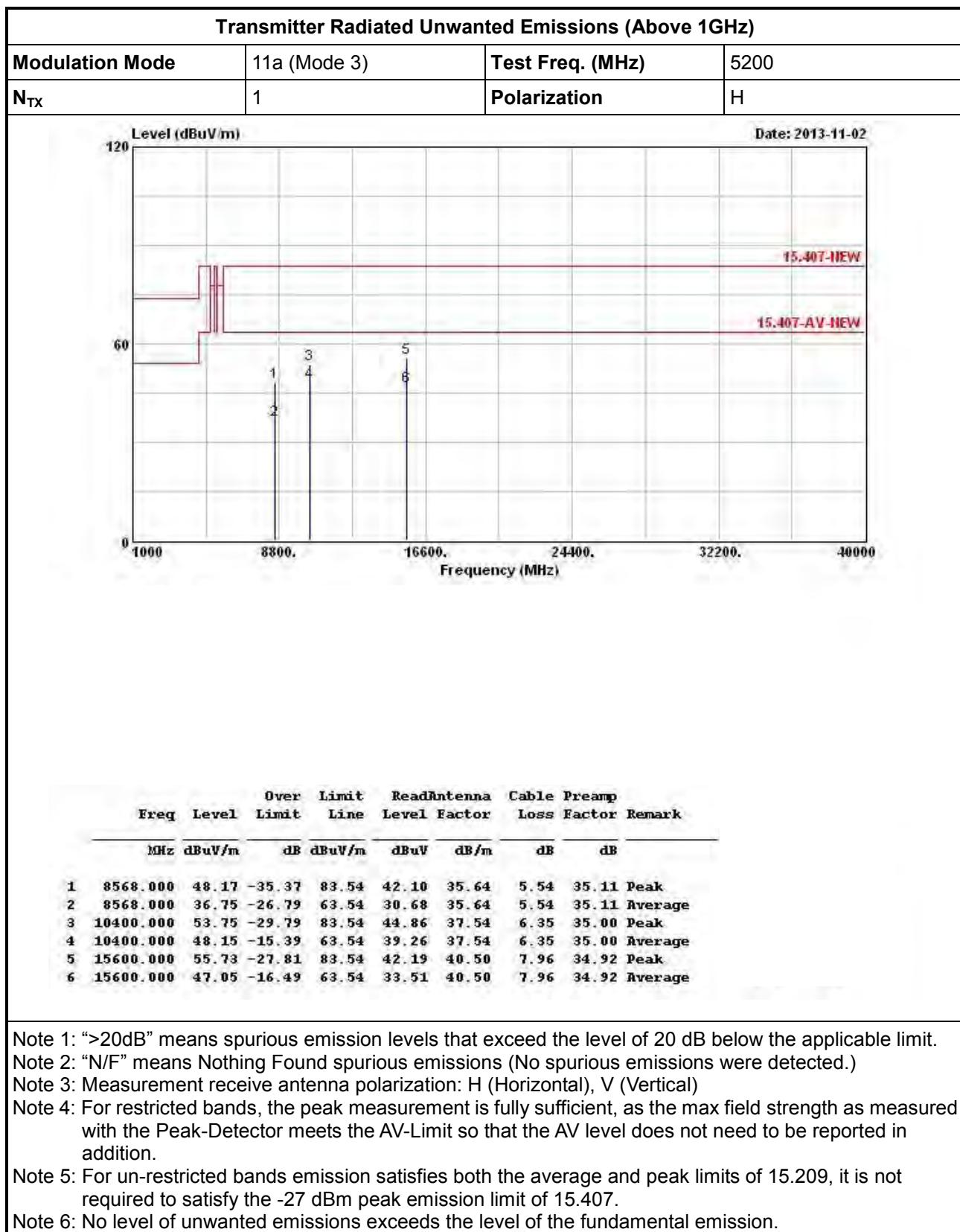


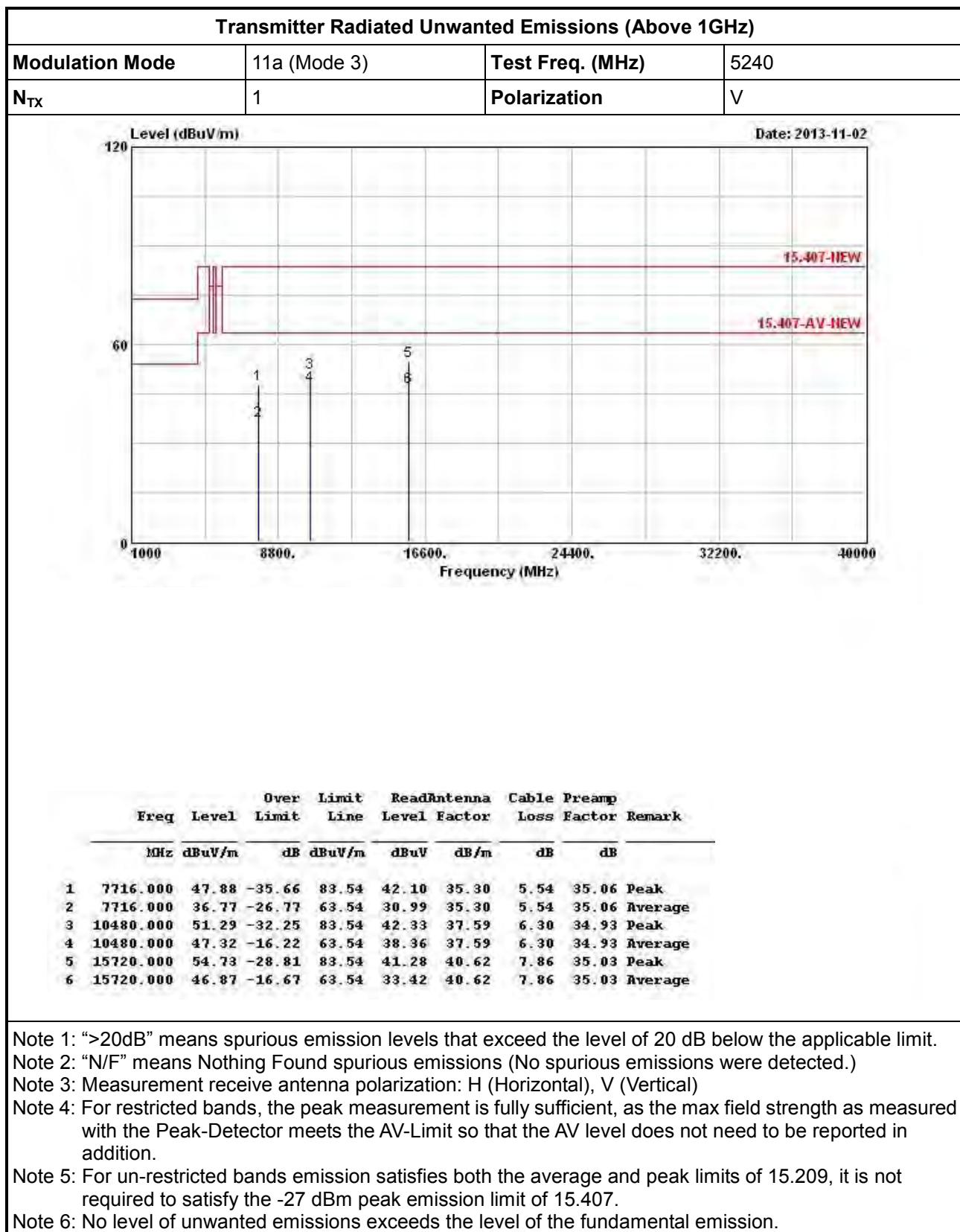








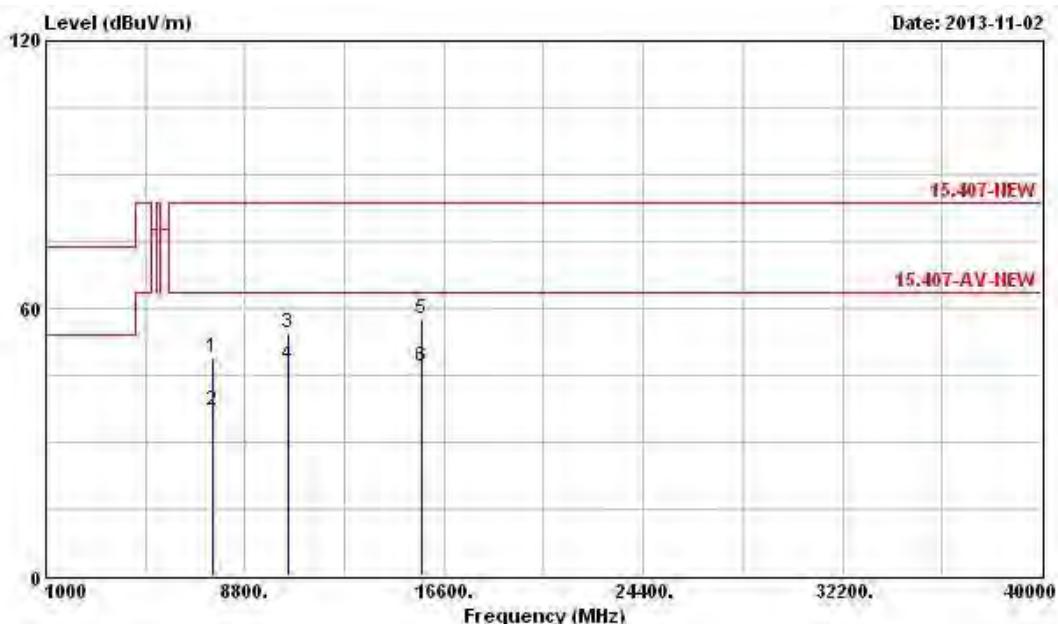






Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a (Mode 3)	Test Freq. (MHz)	5240
N_{TX}	1	Polarization	H



Freq	Level	Over	Limit	ReadAntenna		Cable	Preamp	Remark
		Limit	Line	Level	Factor	Loss	Factor	
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
60.000	48.95	-34.59	83.54	42.98	35.30	5.68	35.01	Peak
50.000	37.08	-26.46	63.54	31.11	35.30	5.68	35.01	Average
30.000	54.65	-28.89	83.54	45.69	37.59	6.30	34.93	Peak
30.000	47.45	-16.09	63.54	38.49	37.59	6.30	34.93	Average
20.000	57.56	-25.98	83.54	44.11	40.62	7.86	35.03	Peak
20.000	47.09	-16.45	63.54	33.64	40.62	7.86	35.03	Average

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

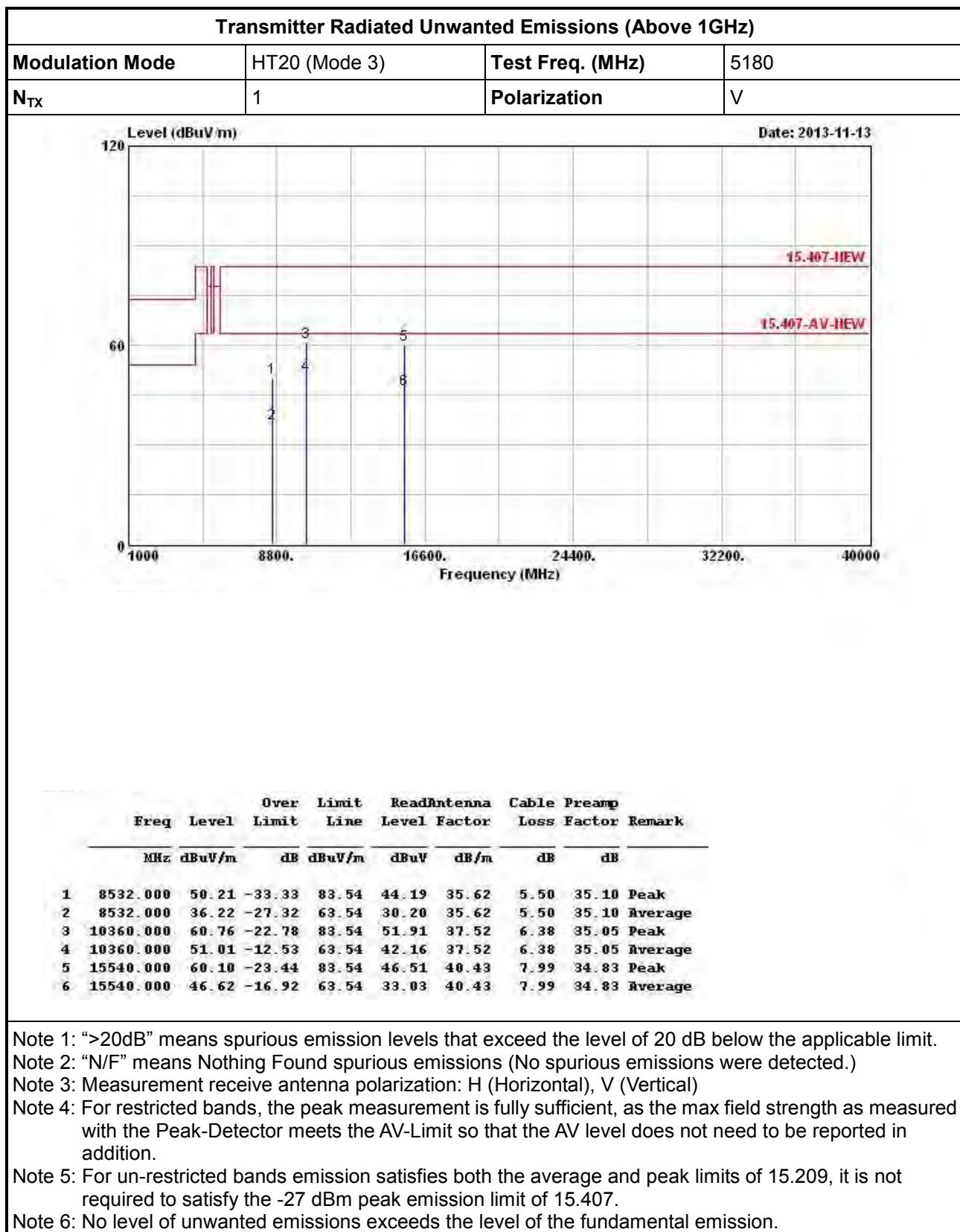
Note 2: "N/F" means **Nothing Found** spurious emissions (No spurious emissions were detected.)

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

Note 3: Measured right 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.

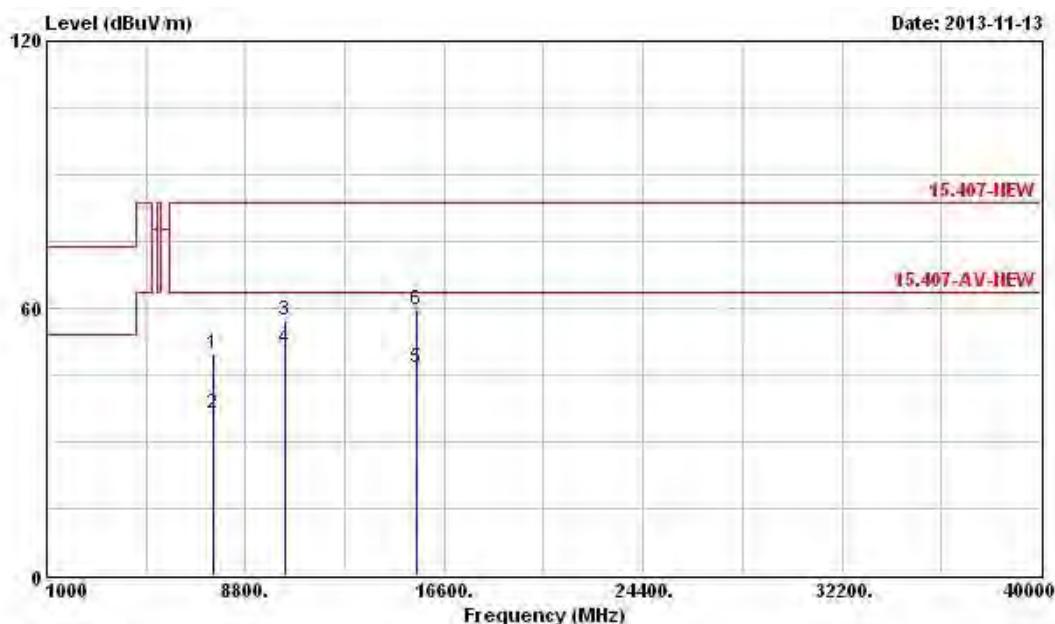
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission required to satisfy the 27 dB(A) peak emission limit of 6.407.





Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20 (Mode 3)	Test Freq. (MHz)	5180
N _{TX}	1	Polarization	H



Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark
		MHz	dBuV/m	dB	Line	dBuV	dB/m	
1	7560.000	49.82	-33.72	83.54	43.85	35.30	5.68	35.01 Peak
2	7560.000	36.46	-27.08	63.54	30.49	35.30	5.68	35.01 Average
3	10360.000	57.33	-26.21	83.54	48.48	37.52	6.38	35.05 Peak
4	10360.000	50.79	-12.75	63.54	41.94	37.52	6.38	35.05 Average
5	15540.000	46.56	-16.98	63.54	32.97	40.43	7.99	34.83 Average
6	15540.000	59.50	-24.04	83.54	45.91	40.43	7.99	34.83 Peak

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

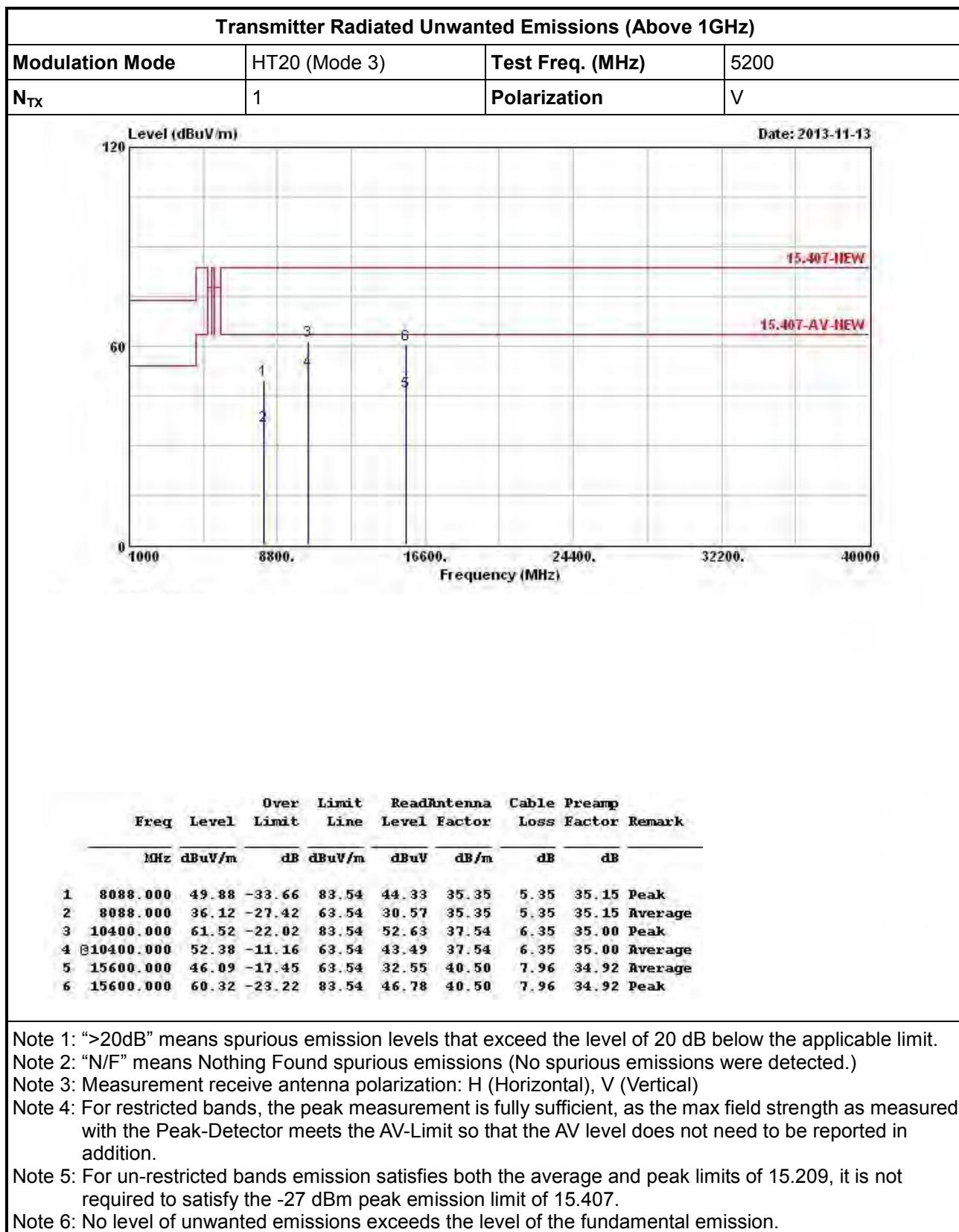
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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.

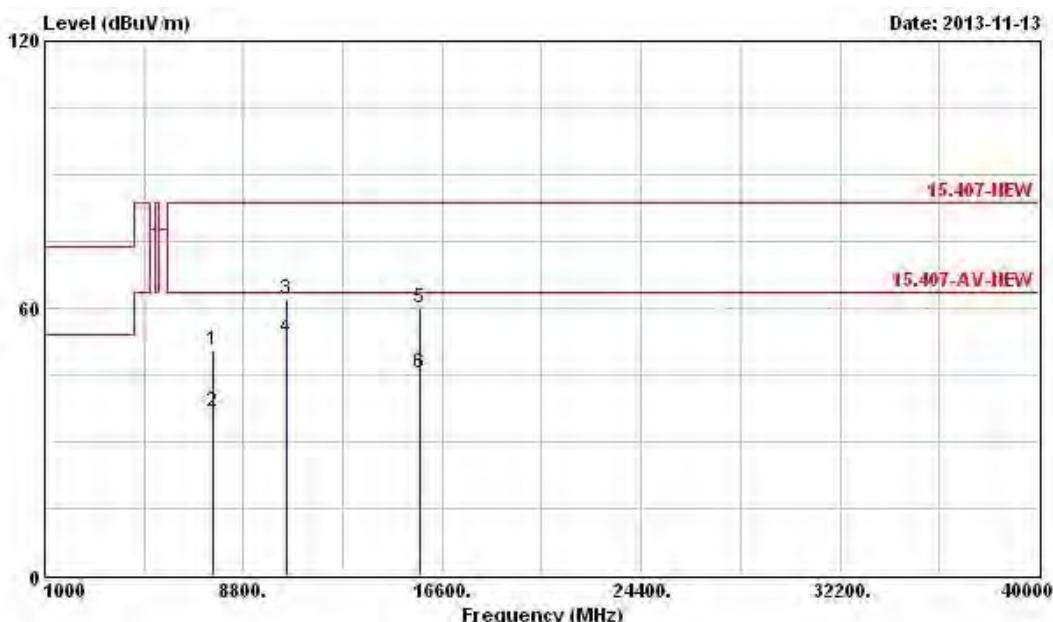
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.







Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20 (Mode 3)	Test Freq. (MHz)	5240
N _{TX}	1	Polarization	V



Freq	Level	Limit	Over	Limit	Read	Antenna	Cable	Preamp
			Line	Level	Factor	Loss	Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 7608.000	50.59	-32.95	83.54	44.67	35.30	5.64	35.02	Peak
2 7608.000	36.76	-26.78	63.54	30.84	35.30	5.64	35.02	Average
3 10480.000	62.04	-21.50	83.54	53.08	37.59	6.30	34.93	Peak
4 10480.000	53.12	-10.42	63.54	44.16	37.59	6.30	34.93	Average
5 15720.000	59.98	-23.56	83.54	46.53	40.62	7.86	35.03	Peak
6 15720.000	45.42	-18.12	63.54	31.97	40.62	7.86	35.03	Average

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

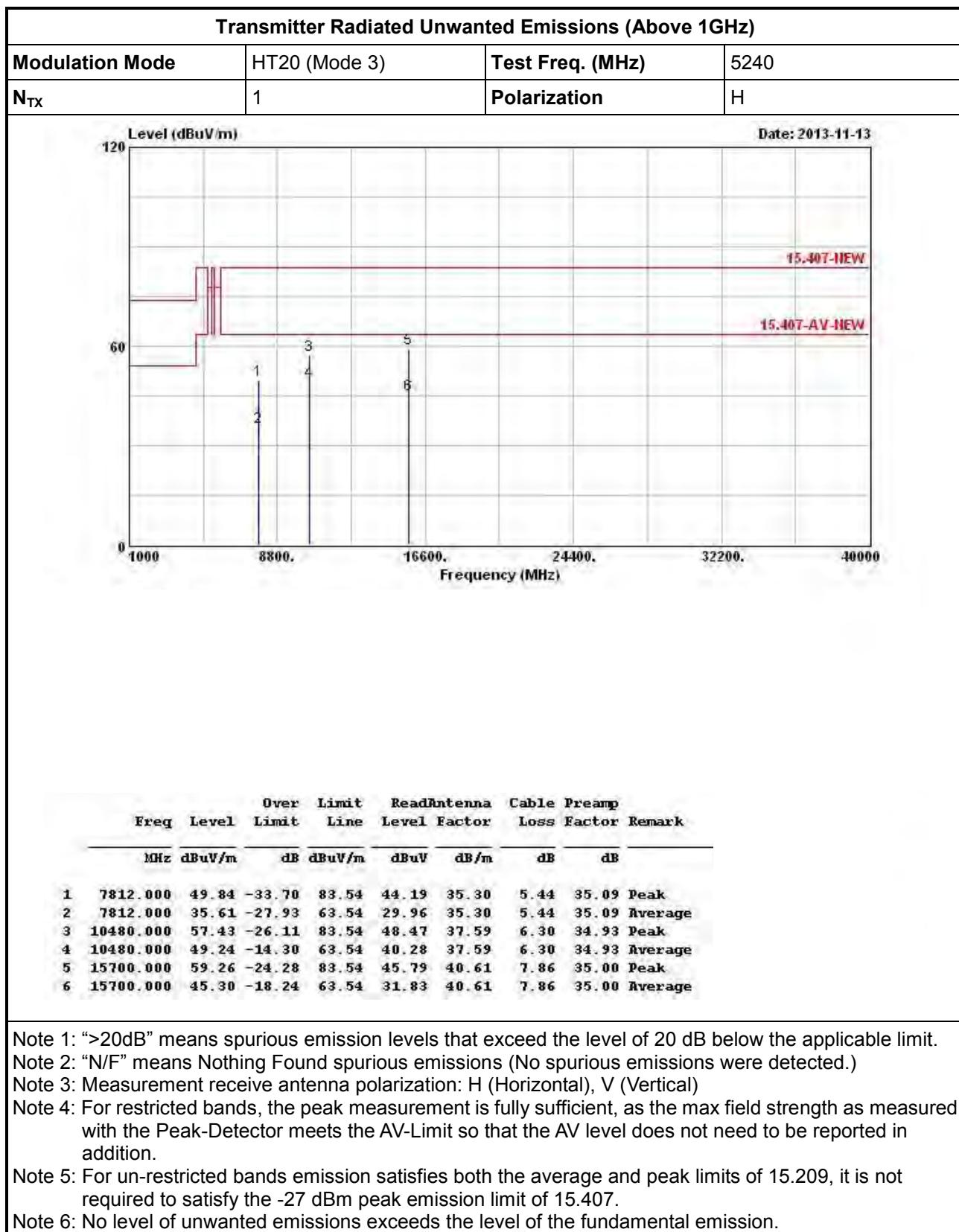
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

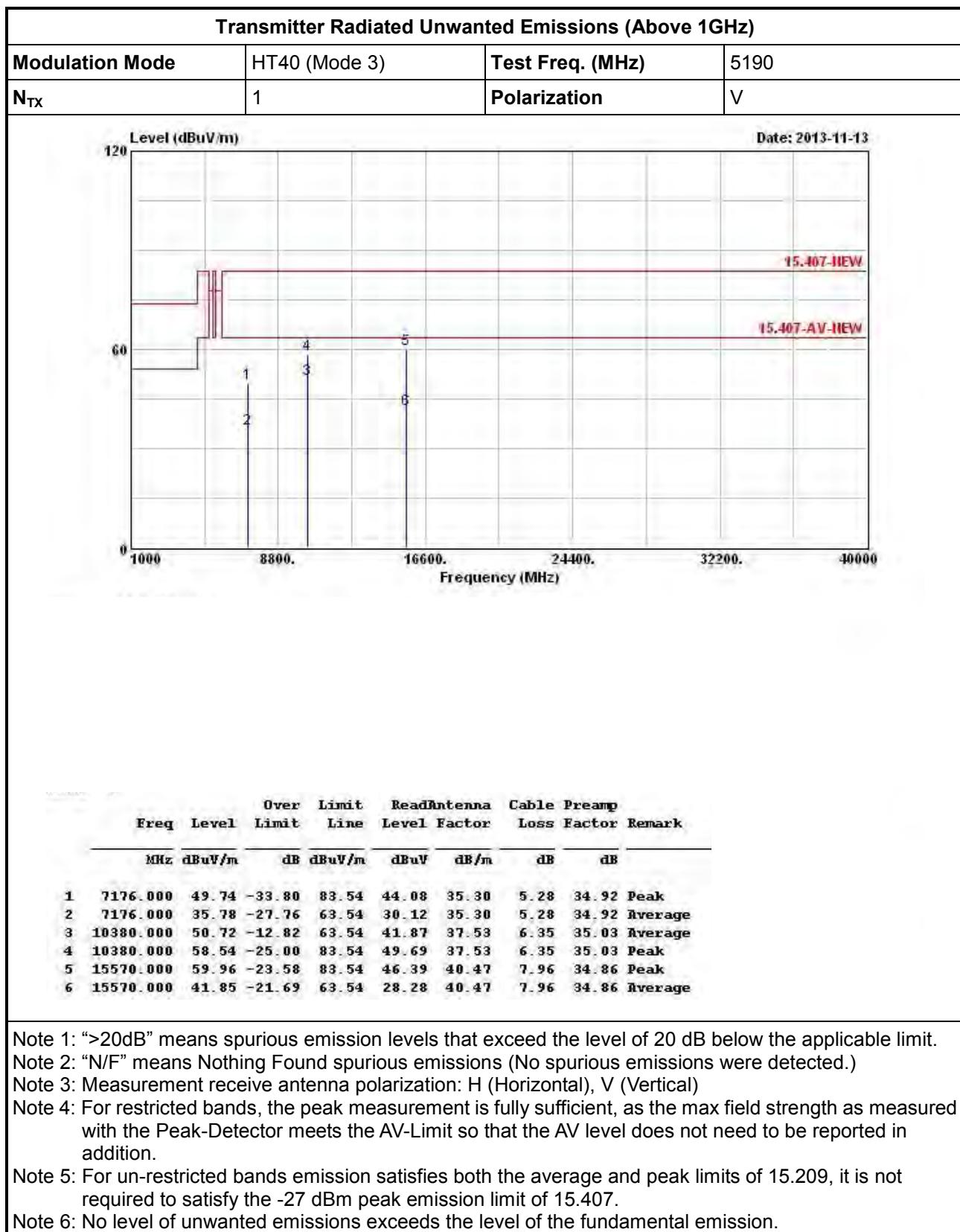
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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.

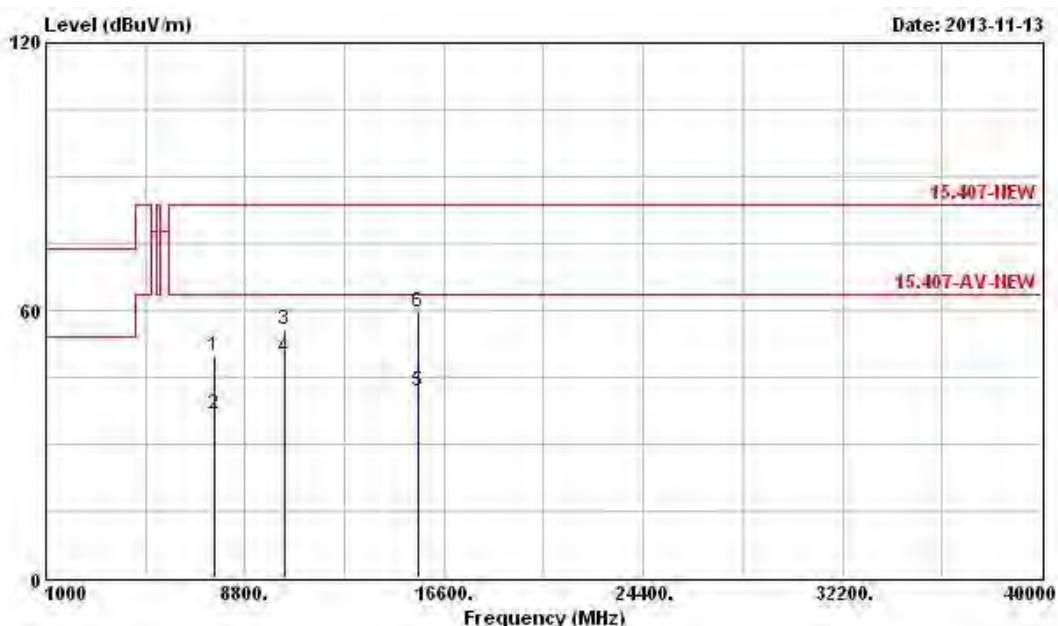






Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40 (Mode 3)	Test Freq. (MHz)	5190
N_{TX}	1	Polarization	H



Freq	Level	Over Limit		ReadAntenna		Cable Loss	Preamp Factor	Remark
		MHz	dBuV/m	dB	dBuV/m			
1	7608.000	49.84	-33.70	83.54	43.92	35.30	5.64	35.02 Peak
2	7608.000	36.76	-26.78	63.54	30.84	35.30	5.64	35.02 Average
3	10380.000	55.75	-27.79	83.54	46.90	37.53	6.35	35.03 Peak
4	10380.000	49.47	-14.07	63.54	40.62	37.53	6.35	35.03 Average
5	15570.000	41.86	-21.68	63.54	28.29	40.47	7.96	34.86 Average
6	15570.000	59.78	-23.76	83.54	46.21	40.47	7.96	34.86 Peak

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

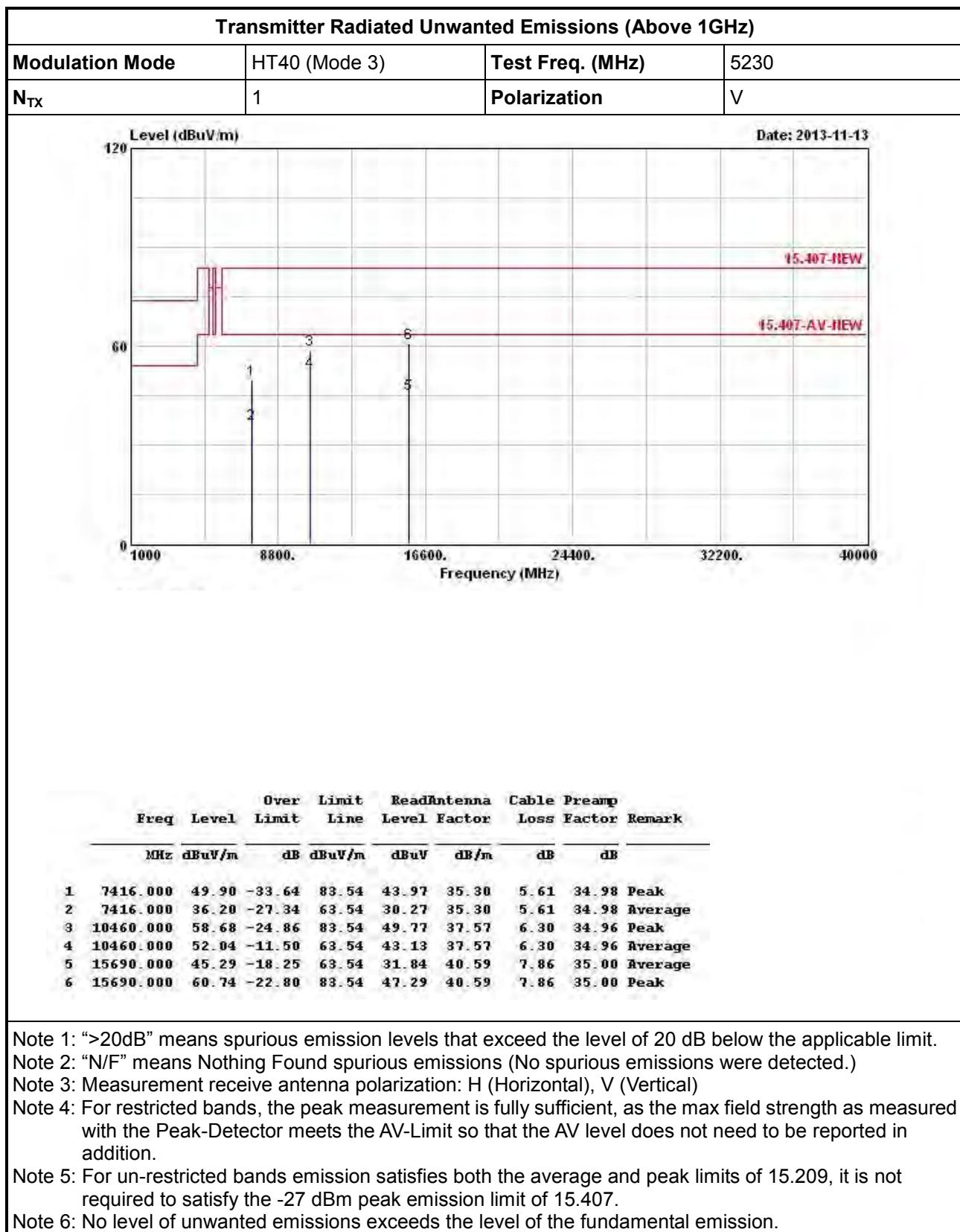
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

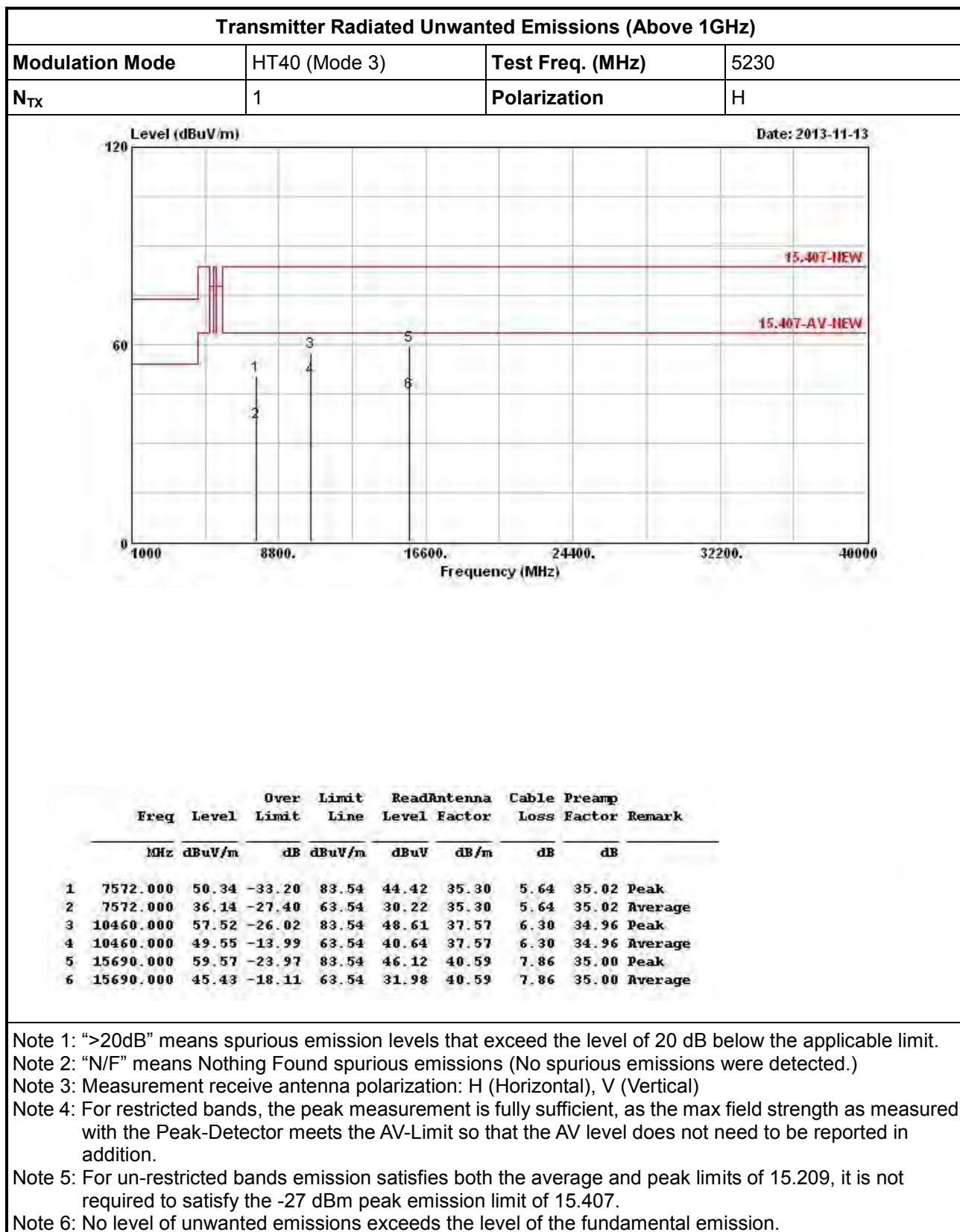
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

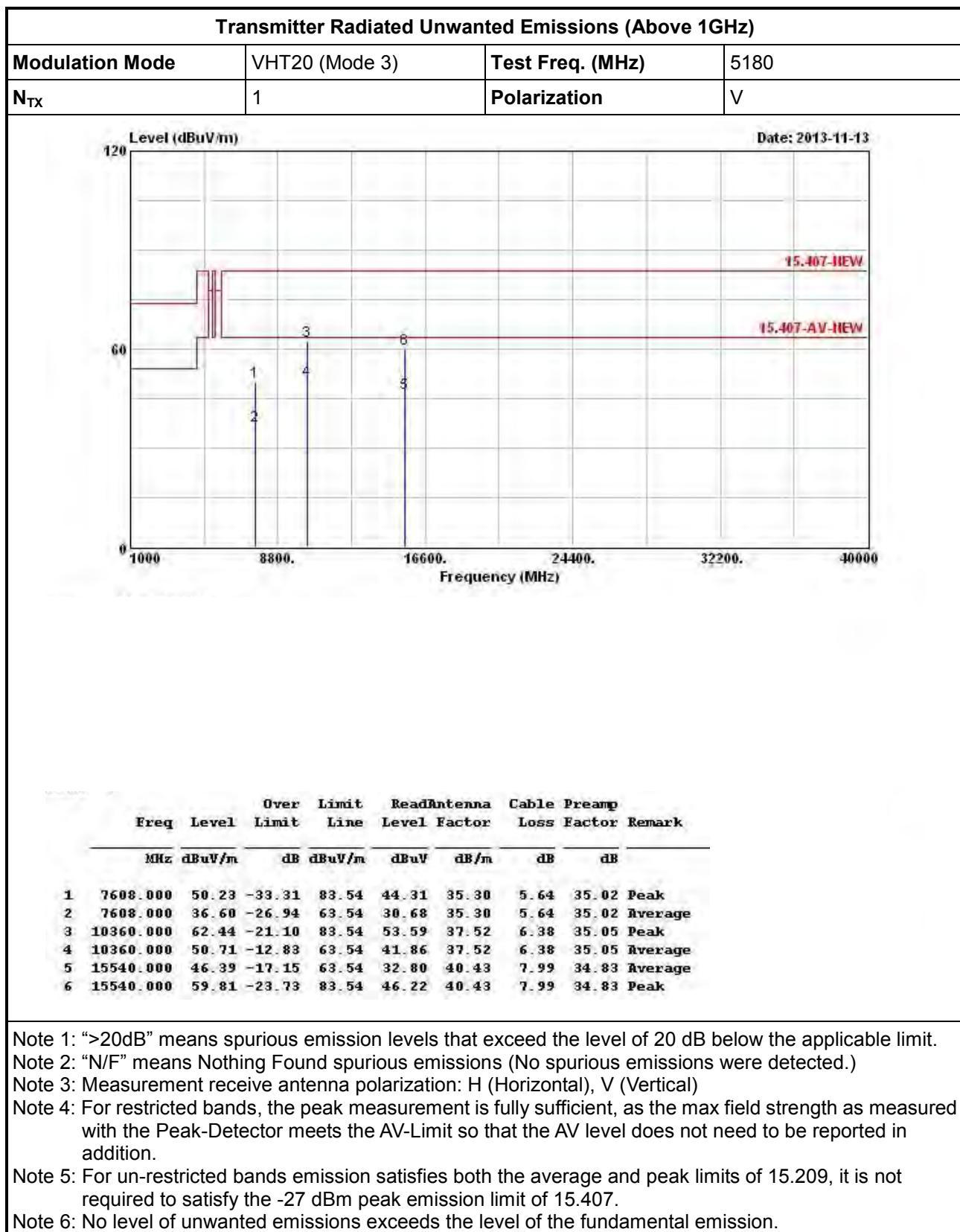
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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.

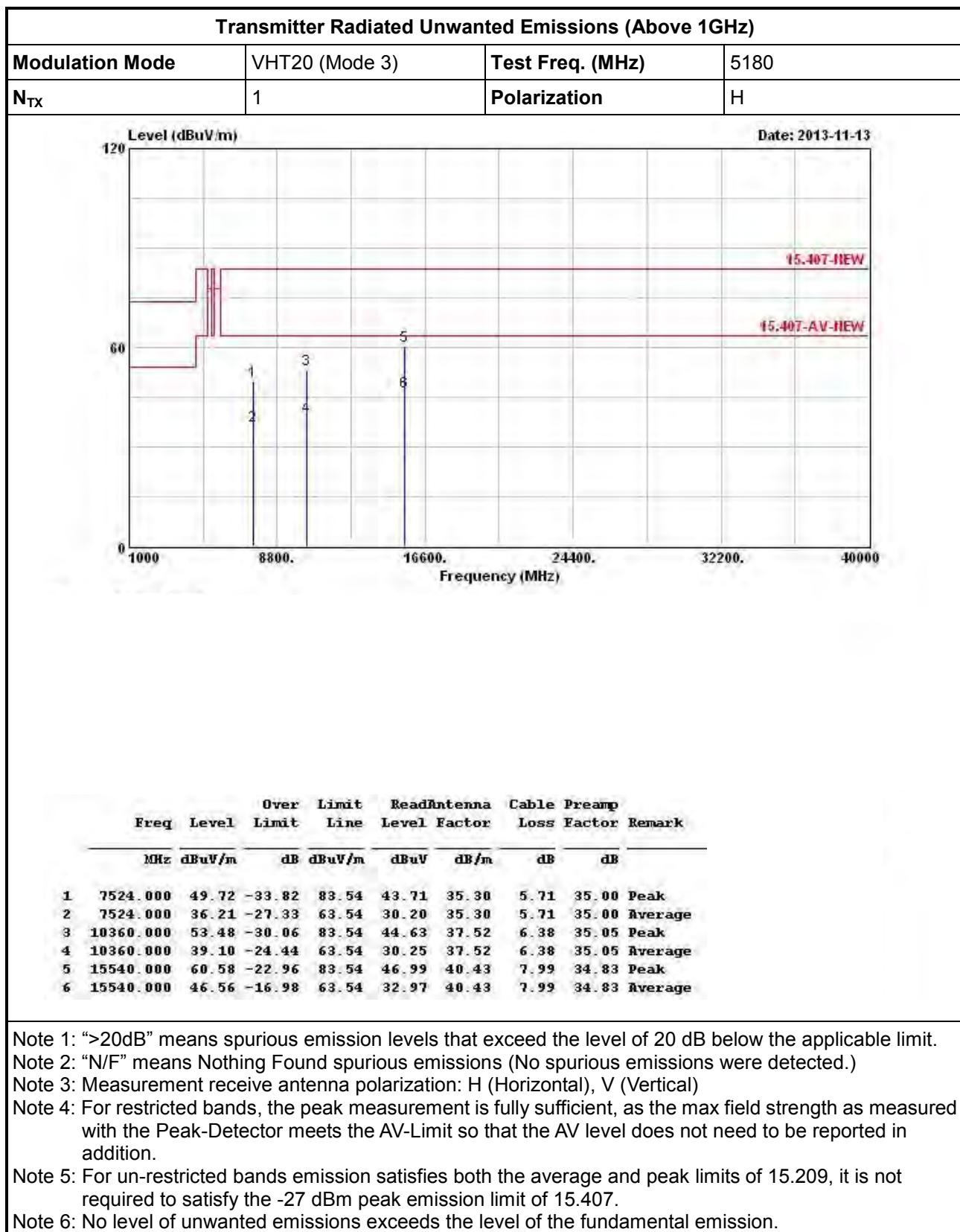
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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.

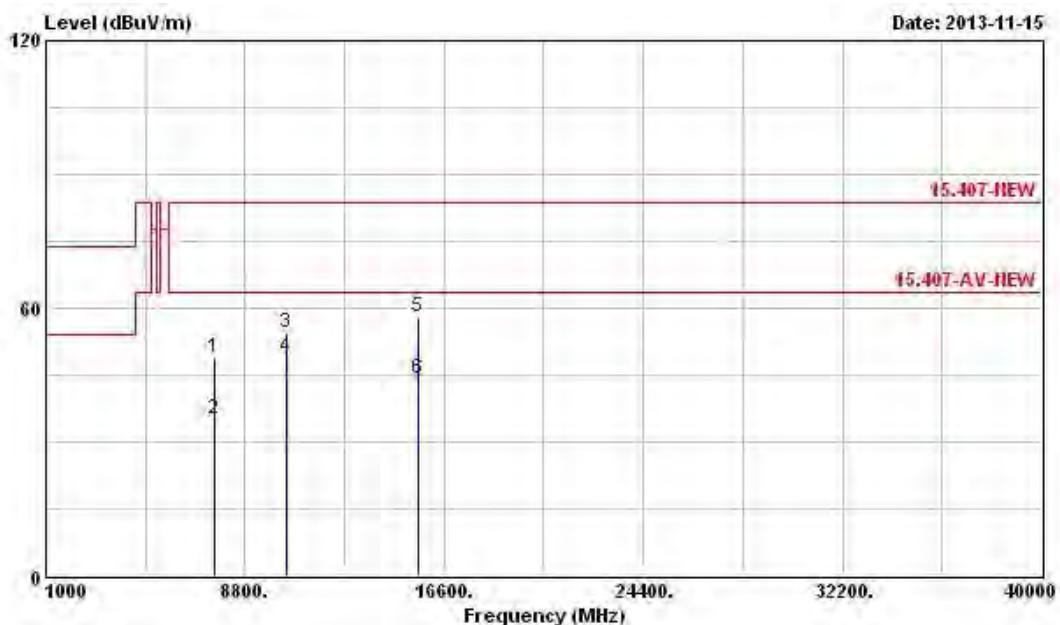
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.





Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20 (Mode 3)	Test Freq. (MHz)	5200
N _{TX}	1	Polarization	V



Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark
		Limit	Line	Antenna	Cable	Preamp		
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 7608.000	48.90	-34.64	83.54	42.98	35.30	5.64	35.02	Peak
2 7608.000	35.15	-28.39	63.54	29.23	35.30	5.64	35.02	Average
3 10400.000	54.59	-28.95	83.54	45.70	37.54	6.35	35.00	Peak
4 10400.000	48.93	-14.61	63.54	40.04	37.54	6.35	35.00	Average
5 15600.000	57.97	-25.57	83.54	44.43	40.50	7.96	34.92	Peak
6 15600.000	44.21	-19.33	63.54	30.67	40.50	7.96	34.92	Average

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

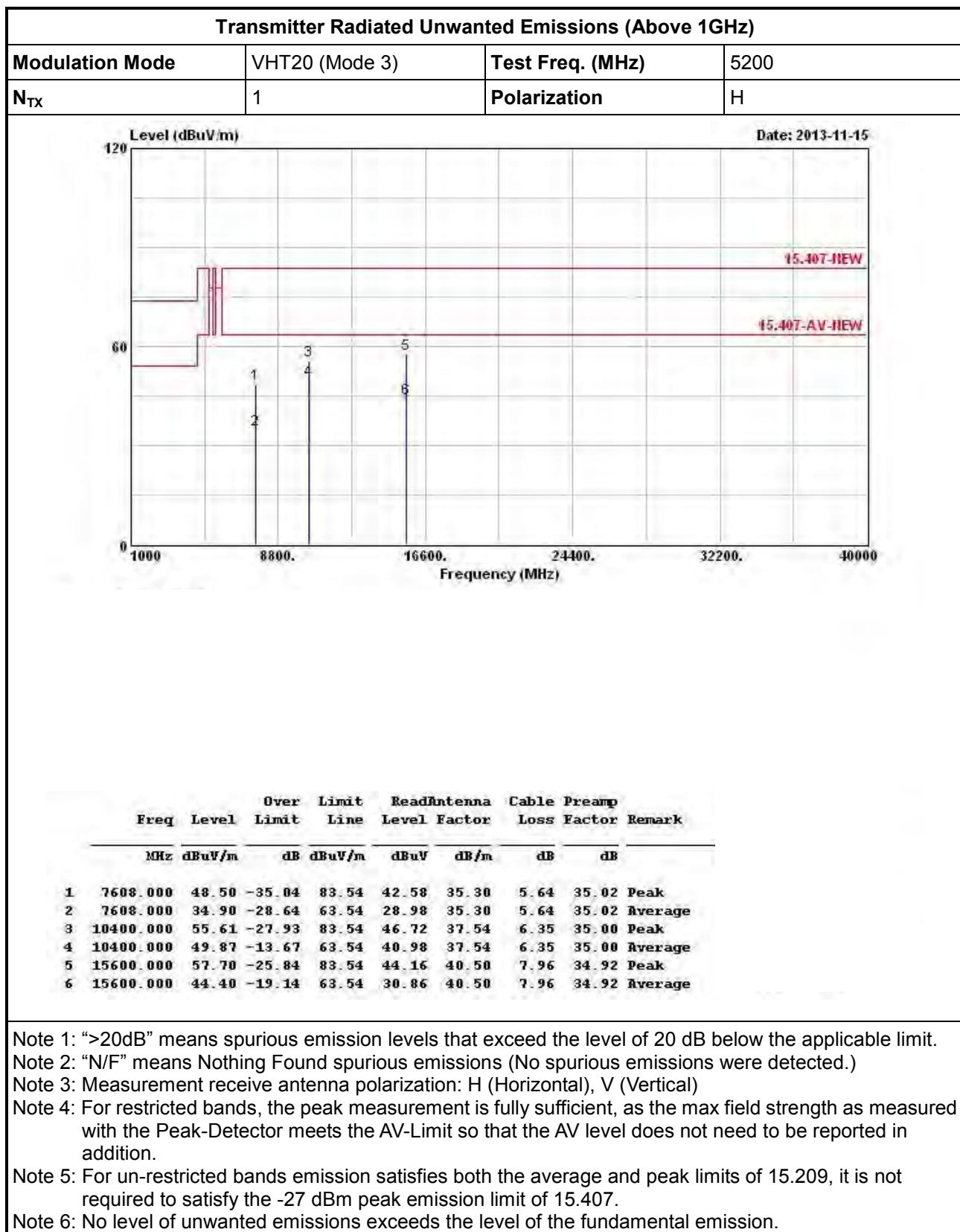
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

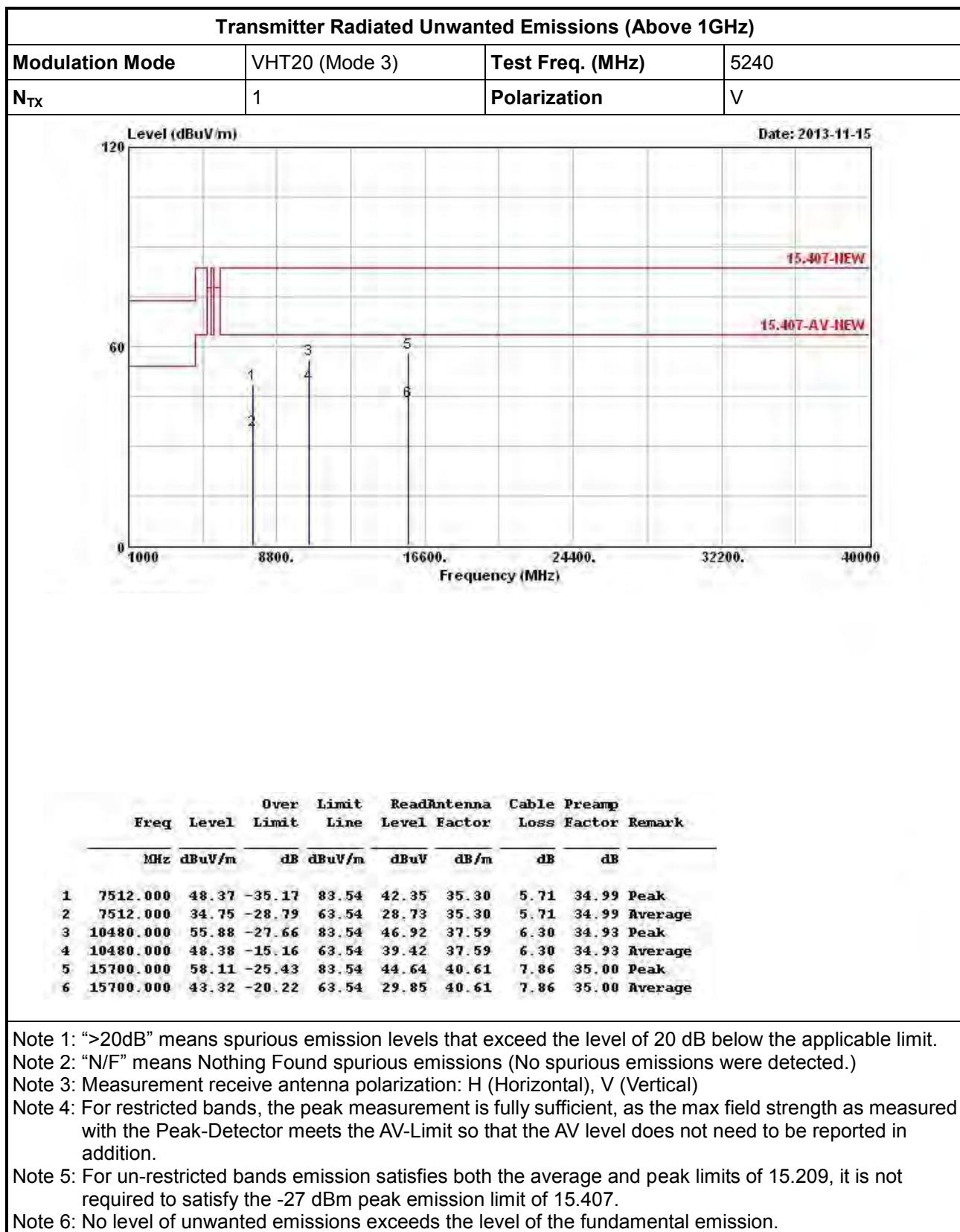
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

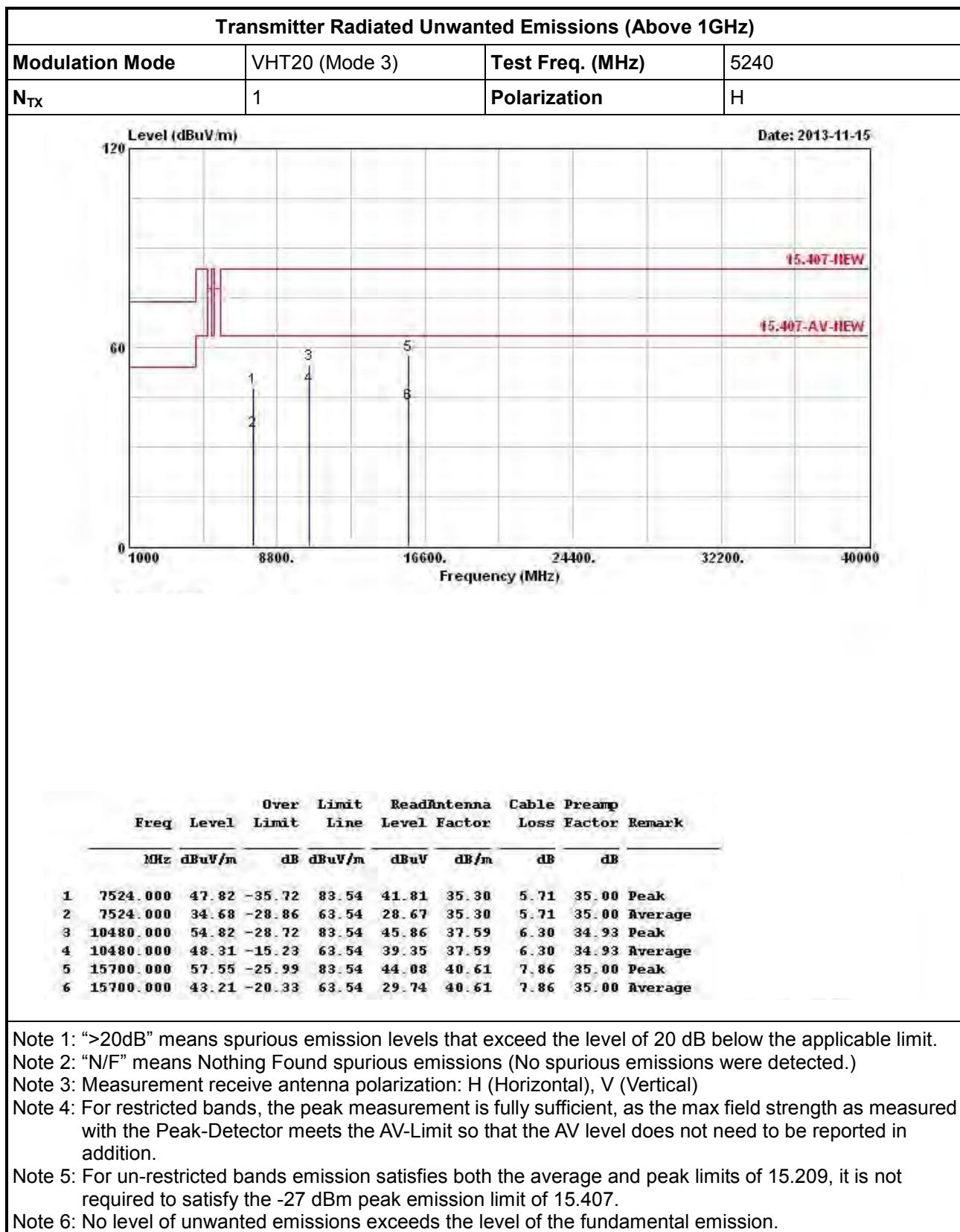
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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.



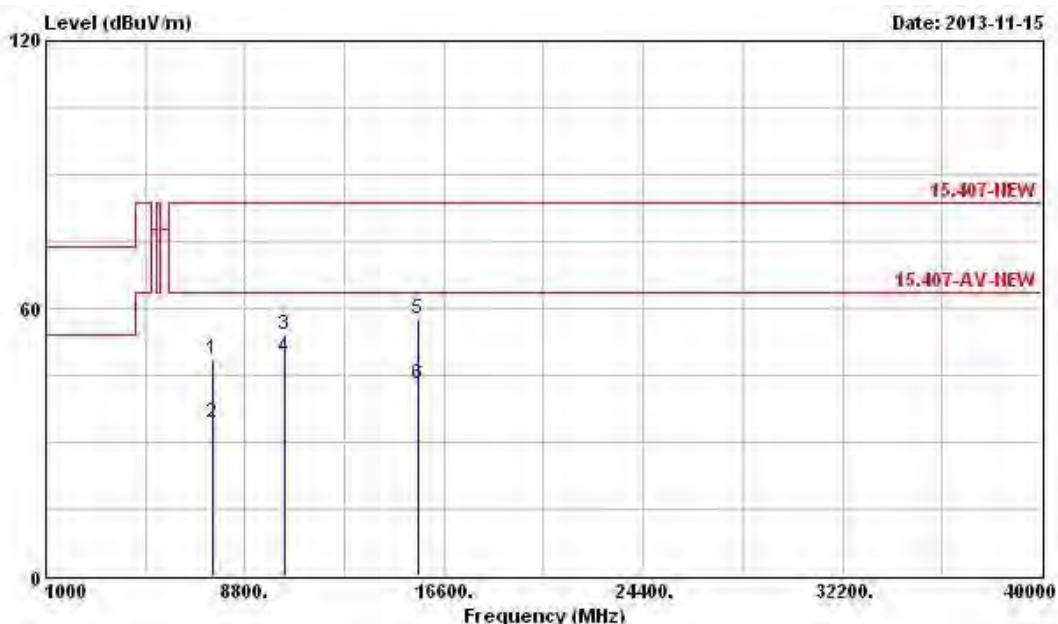






Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40 (Mode 3)	Test Freq. (MHz)	5190
N_{TX}	1	Polarization	V



Freq	Level	Over	Limit	ReadAntenna		Cable	Preamp	Remark
		Limit	Line	Level	Factor	Loss	Factor	
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
24.000	48.46	-35.08	83.54	42.45	35.30	5.71	35.00	Peak
24.000	34.48	-29.06	63.54	28.47	35.30	5.71	35.00	Average
30.000	54.18	-29.36	83.54	45.33	37.53	6.35	35.03	Peak
30.000	49.02	-14.52	63.54	40.17	37.53	6.35	35.03	Average
70.000	57.77	-25.77	83.54	44.20	40.47	7.96	34.86	Peak
70.000	43.22	-20.32	63.54	29.65	40.47	7.96	34.86	Average

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

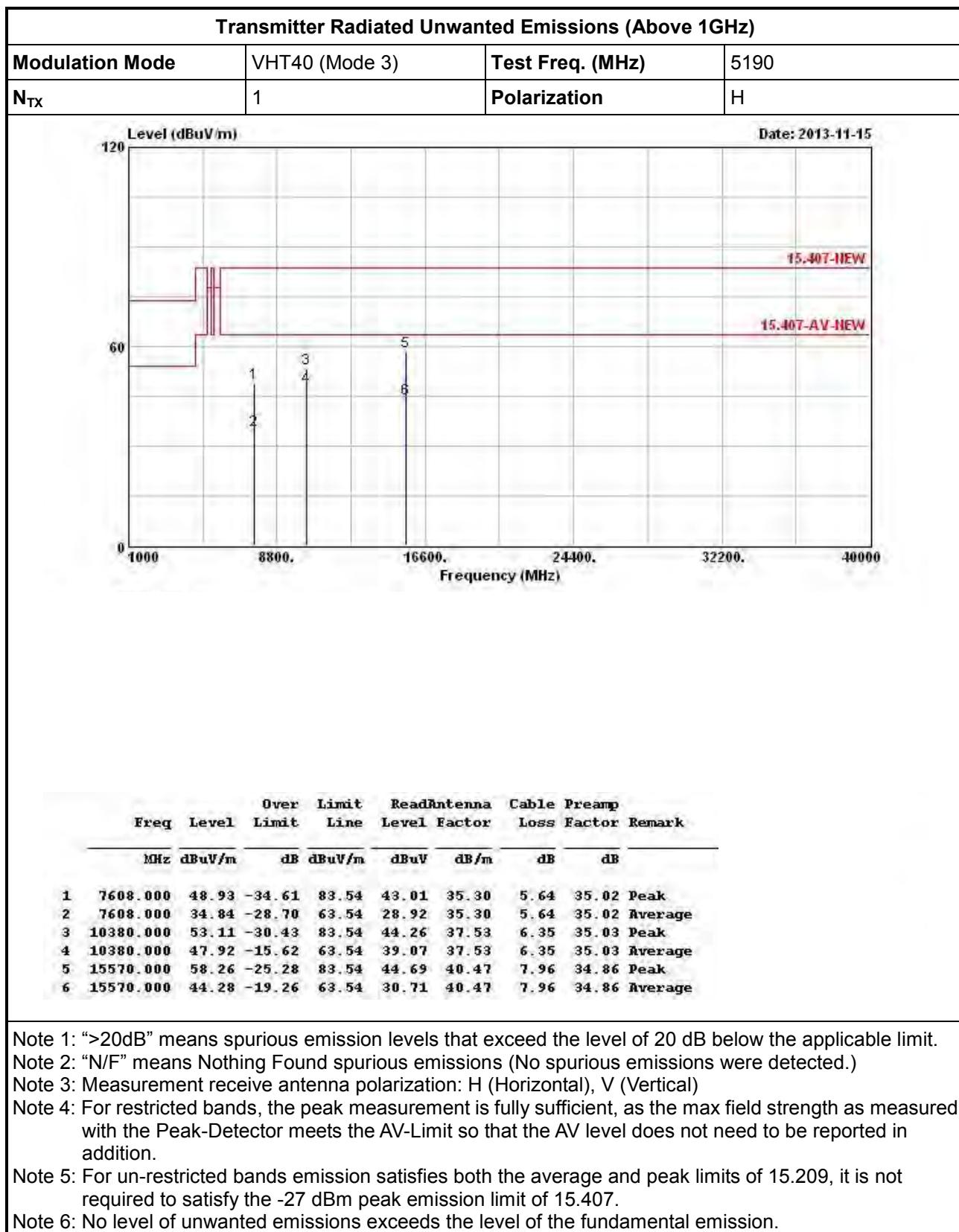
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

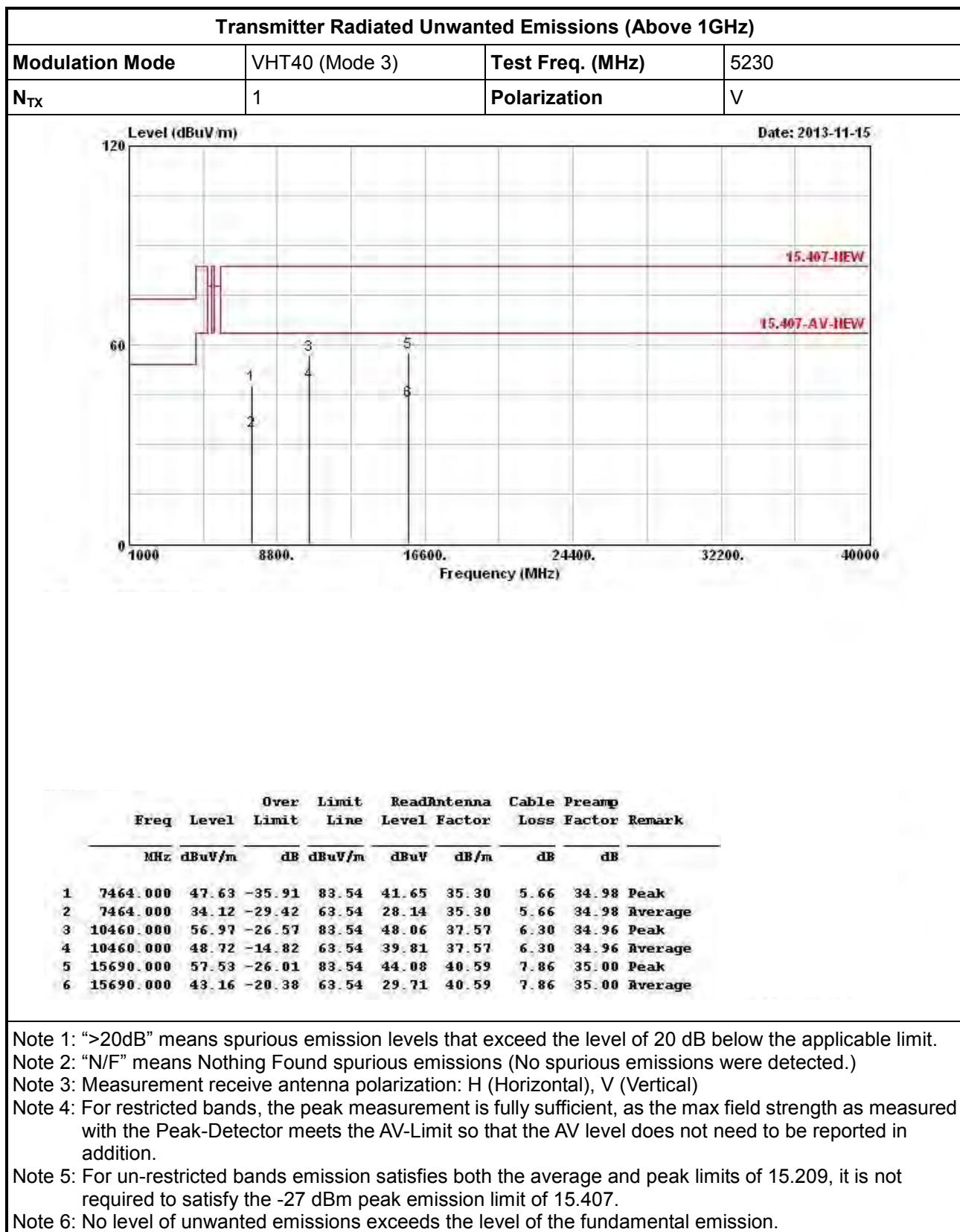
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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.

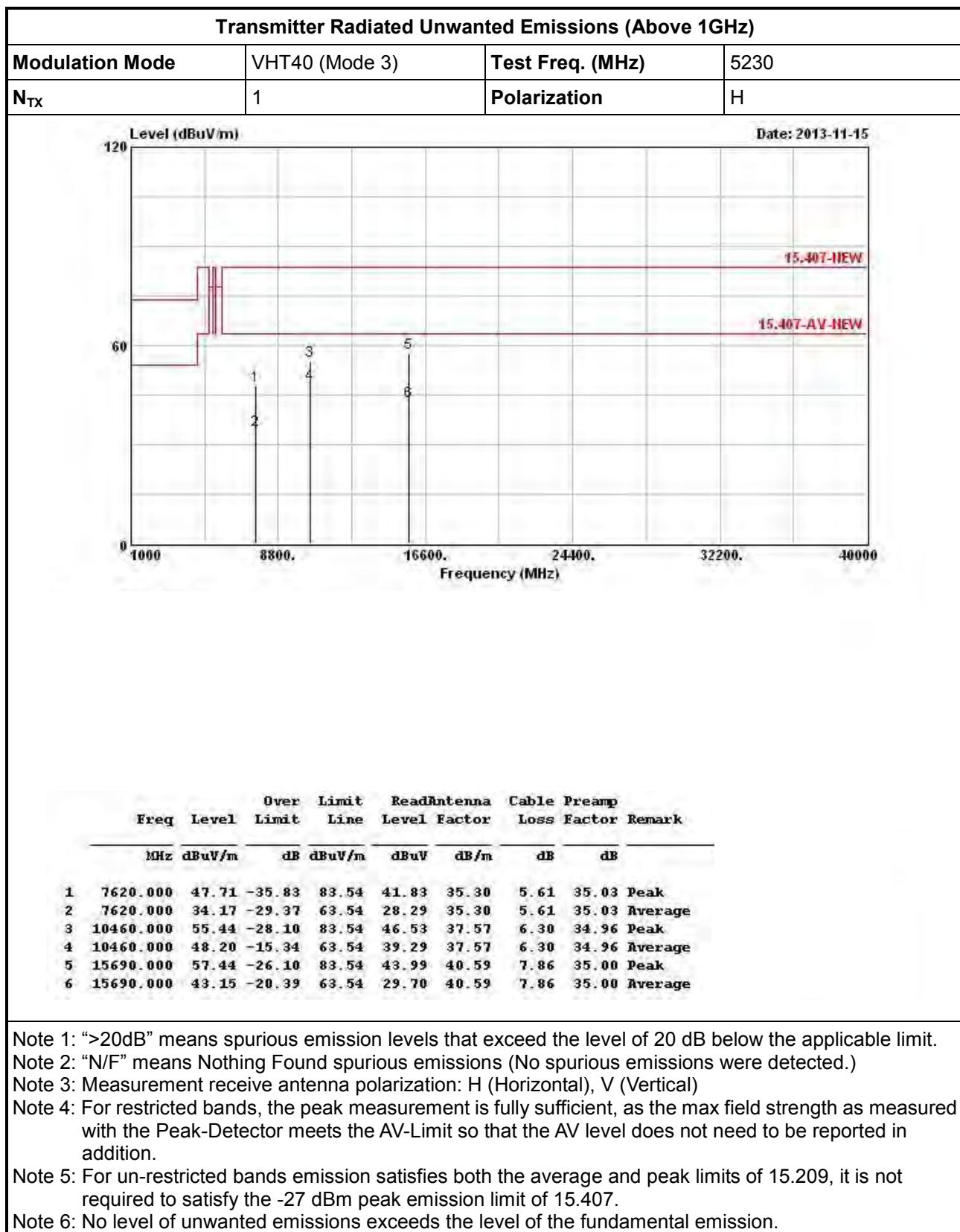
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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.

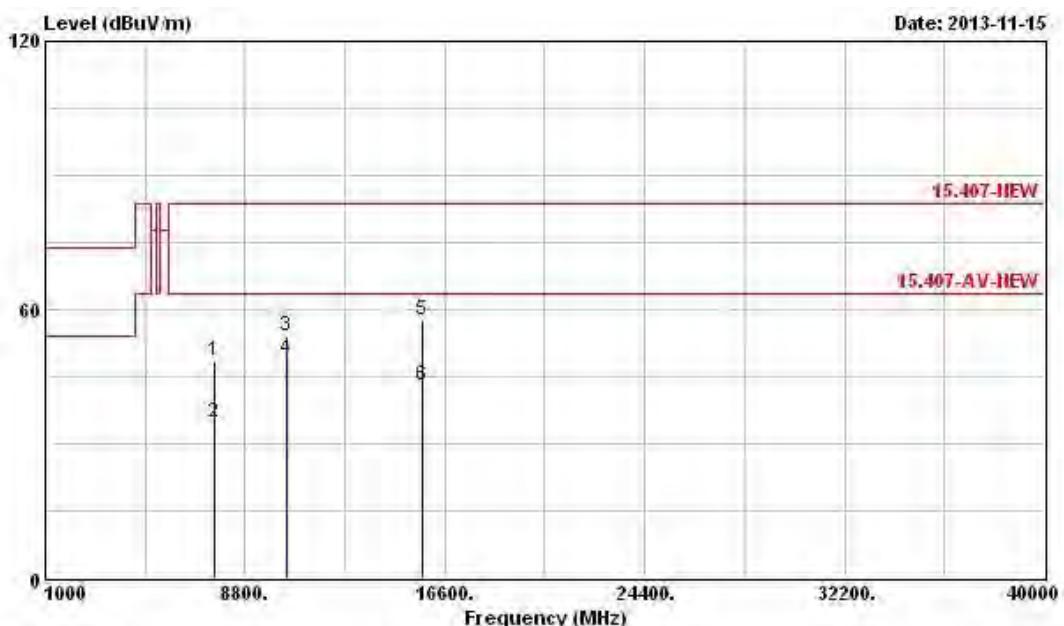
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

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



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT80 (Mode 3)	Test Freq. (MHz)	5210
N _{TX}	1	Polarization	V



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 7608.000	48.58	-34.96	83.54	42.66	35.30	5.64	35.02	Peak
2 7608.000	34.83	-28.71	63.54	28.91	35.30	5.64	35.02	Average
3 10420.000	54.14	-29.40	83.54	45.26	37.55	6.33	35.00	Peak
4 10420.000	49.00	-14.54	63.54	40.12	37.55	6.33	35.00	Average
5 15720.000	57.59	-25.95	83.54	44.14	40.62	7.86	35.03	Peak
6 15720.000	42.92	-20.62	63.54	29.47	40.62	7.86	35.03	Average

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.

