

FCC Test Report

Equipment : Wireless-AC1300 Dual Band Gigabit Router
Brand Name : ASUS
Model No. : RT-AC58U, RT-AC58MU, RT-ACRH00, RT-AC1300X
(for marketing, X=0~9 , A-Z, or blank), RT-AC1200X
(for marketing, X=0~9 , A-Z, or blank), RT-AC1300G+,
RT-AC1300GPLUS, RT-AC1300G PLUS,
RT-AC1300UHP, RT-AC1300HP, RT-AC58UHP,
RT-AC58HP, RT-AC53HP, RT-ACRH13,
RT-AC1300GPLUS_B1, RT-AC1200G+ B1
FCC ID : MSQ-RTACRH00
Standard : 47 CFR FCC Part 15.247
Frequency : 2400 MHz – 2483.5 MHz
FCC Classification : DTS
Function : ☒ Point-to-multipoint; ☐ Point-to-point
Applicant / Manufacturer : ASUSTeK Computer Inc
4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan

The product sample received on Jan. 28, 2016 and completely tested on Jul. 25, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Reviewed by:

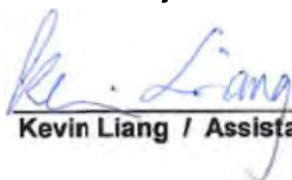

Kevin Liang / Assistant Manager



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Appendix A. Test Result of Emission Bandwidth

Appendix B. Test Result of Maximum Conducted Output Power

Appendix C. Test Result of Power Spectral Density

Appendix D. Test Result of Transmitter Radiated Bandedge Emissions

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Summary of Test Result

Conformance Test Specifications					
Report Clause	Ref. Std. Clause	Description	Measured	Limit	Result
1.1.2	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	[dBuV]: 0.2752730MHz 37.11 (Margin 13.85dB) - AV 40.86 (Margin 20.10dB) - QP	FCC 15.207	Complied
3.2	15.247(a)	DTS Bandwidth	Refer as Appendix A	≥500kHz	Complied
3.3	15.247(b)	Fundamental Emission Output Power	Refer as Appendix B	Power [dBm]:30	Complied
3.4	15.247(e)	Power Spectral Density	Refer as Appendix C	PSD [dBm/3kHz]:8	Complied
3.5	15.247(d)	Test Result of Transmitter Radiated Bandedge Emissions	Non-Restricted Bands: 2399.760 MHz: 32.51 dB Restricted Bands [dBuV/m at 3m]: 2389.072 MHz 72.02 (Margin 1.98 dB) – PK [dBuV/m at 3m]: 2499.600 MHz 52.27 (Margin 1.73 dB) - AV	Non-Restricted Bands:> 30 dBc Bands: FCC 15.209	Complied
3.6	15.247(d)	Transmitter Radiated Unwanted Emissions	Restricted Bands [dBuV/m at 3m]: 7311.000 MHz 47.20 (Margin 6.80dB) - AV 55.38 (Margin 18.62dB) - PK	Non-Restricted Bands:> 30 dBc Restricted Bands: FCC 15.209	Complied



SPORTON INTERNATIONAL INC.
TEL : 886-3-327-3456
FAX : 886-3-327-0973

1 General Description

1.1 Information

1.1.1 RF General Information

Band	Mode	BWch (MHz)	Nss-Min	Nant
2.4G	11b	20	1	2
2.4G	11g	20	1	2
2.4G	HT20	20	1,(M0-15)	2
2.4G	HT40	40	1,(M0-15)	2

Note:

- ♦ 2.4G is the 2.4GHz Band (2.4-2.4835GHz).
- ♦ 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- ♦ 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ BWch is the nominal channel bandwidth.
- ♦ Nss-Min is the minimum number of spatial streams.
- ♦ Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Antenna Category	
☐	Integral antenna (antenna permanently attached)
☐	Temporary RF connector provided
☐	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.
☒	External antenna (dedicated antennas)
☒	Single power level with corresponding antenna(s).
☐	Multiple power level and corresponding antenna(s).

Antenna General Information			
No.	Ant. Cat.	Ant. Type	Gain (dBi)
1	External	Dipole	5.27
2	External	Dipole	4.85

1.1.3 Type of EUT

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

1.1.4 Mode Test Duty Cycle

Operated Mode for Worst Duty Cycle	
☒ Operated test mode for worst duty cycle	
Test Signal Duty Cycle (x)	Power Duty Factor [dB] – (10 log 1/x)
☒ 99.2% - IEEE 802.11b	0.03
☒ 96.0%- IEEE 802.11g	0.18
☒ 98.2%- IEEE 802.11n (HT20)	0.08
☒ 96.6%- IEEE 802.11n (HT40)	0.15

1.1.5 EUT Operational Condition

Supply Voltage	☒ AC mains	☐ DC	
Type of DC Source	☒ External AC adapter	☐ From Host System	☐ Battery

1.2 Testing Applied Standards

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

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2013
- ◆ FCC KDB 558074 D01 v03r05
- ◆ FCC KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location				
☒	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan, R.O.C.		
		TEL : 886-3-327-3456	FAX : 886-3-327-0973	
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Ryan	22°C / 53%	02/06/2016
RF Conducted	TH01-HY	Gary	23.5°C / 65%	26/07/2016
Radiated	03CH03-HY	Thor	24.3°C / 55%	26/07/2016

Test site registered number [553509] with FCC.

1.4 Measurement Uncertainty

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

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

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

Worst Modulation Used for Conformance Testing			
Modulation Mode	Transmit Chains (N _{TX})	Data Rate / MCS	Worst Data Rate / MCS
11b	2	1-11 Mbps	1 Mbps
11g	2	6-54 Mbps	6 Mbps
HT20	2	MCS 0-15	MCS 0
HT40	2	MCS 0-15	MCS 0

Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput). The EUT support HT20 and HT40. Worst modulation mode of Guard Interval (GI) is 800ns.

Note 2: Modulation modes consist below configuration:
11b: IEEE 802.11b, 11g: IEEE 802.11g, HT20/HT40: IEEE 802.11n

Note 3: RF output power specifies that Maximum Average Conducted Output Power.

2.2 Test Channel Mode

Test Software Version	QRCT_3.0.174.0
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Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
2.4G	11b	20	1	2	2412	L	23.5
2.4G	11b	20	1	2	2437	M	24
2.4G	11b	20	1	2	2462	H	20.5
2.4G	11g	20	1	2	2412	L	16.5
2.4G	11g	20	1	2	2437	M	21.5
2.4G	11g	20	1	2	2462	H	16
2.4G	HT20	20	1	2	2412	L	15.5
2.4G	HT20	20	1	2	2437	M	21
2.4G	HT20	20	1	2	2462	H	15.5
2.4G	HT40	40	1	2	2422	L	14.5
2.4G	HT40	40	1	2	2437	M	17.5
2.4G	HT40	40	1	2	2452	H	15.5

Abbreviation Explanation

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Test Cond.	Abbreviation
2.4G	HT20	20	1,(M0-15)	2	2412	L	TN,VN	2.4G;HT20;20;1,(M0-15);2;2412;L;TN,VN
2.4G	HT40	40	1,(M0-15)	2	2437	M	TN,VN	2.4G;HT40;40;1,(M0-15);2;2437;M;TN,VN

Note:

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

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Operating Mode Description
1	EUT with AC Adapter 1
2	EUT with AC Adapter 2
3	EUT with AC Adapter 3
For operating mode 2 is the worst case and it was record in this test report.	

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

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement 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	☐ EUT will be placed in fixed position.		
	☒ EUT will be placed in mobile position and operating multiple positions. EUT shall be performed three orthogonal planes.		
	☐ EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed three orthogonal planes.		
Operating Mode < 1GHz	☒ 1. EUT with AC Adapter 1		
	☒ 2. EUT with AC Adapter 2		
	☒ 3. EUT with AC Adapter 3		
For operating mode 1 is the worst case and it was record in this test report.			
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	
Worst Planes of ANT			V

2.4 Accessories and Support Equipment

Accessories				
AC Adapter 1	Brand Name	DVE	Model Name	DSA-18PFM-12 FUS
	Part Number	4720-01600018-50Z		
	Power Rating	I/P: 100 - 240Vac, 0.6A, O/P: 12Vdc, 1.5A		
	Power Cord	1.45 meter, non-shielded cable, w/o ferrite core		
AC Adapter 2	Brand Name	APD	Model Name	WB-18D12R
	Part Number	4750-02600000-50U		
	Power Rating	I/P: 100 - 240Vac, 0.5A, O/P: 12Vdc, 1.5A		
	Power Cord	1. 5 meter, non-shielded cable, w/o ferrite core		
AC Adapter 3	Brand Name	DVE	Model Name	DSA-18CB-12 FCA
	Part Number	-		
	Power Rating	I/P: 100 - 240Vac, 0.6A, O/P: 12Vdc, 1.5A		
	Power Cord	1. 45 meter, non-shielded cable, w/o ferrite core		
RJ45 Cable	Power Cord	1 meter, non-shielded cable		

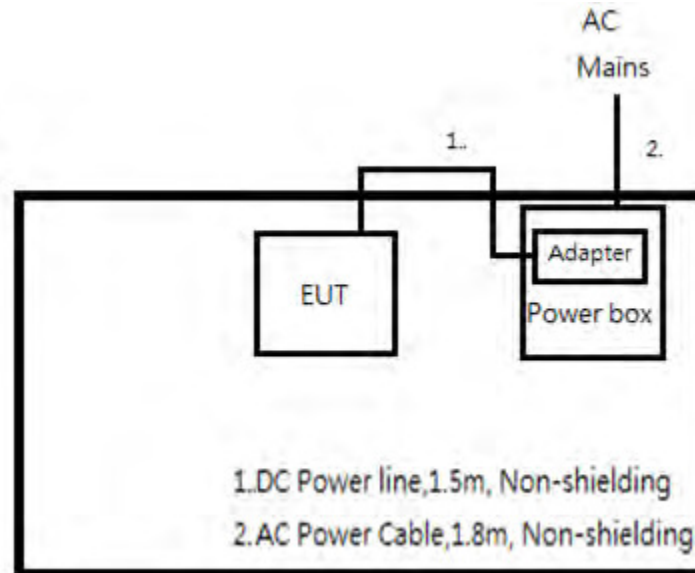
Reminder: Regarding to more detail and other information, please refer to user manual.

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

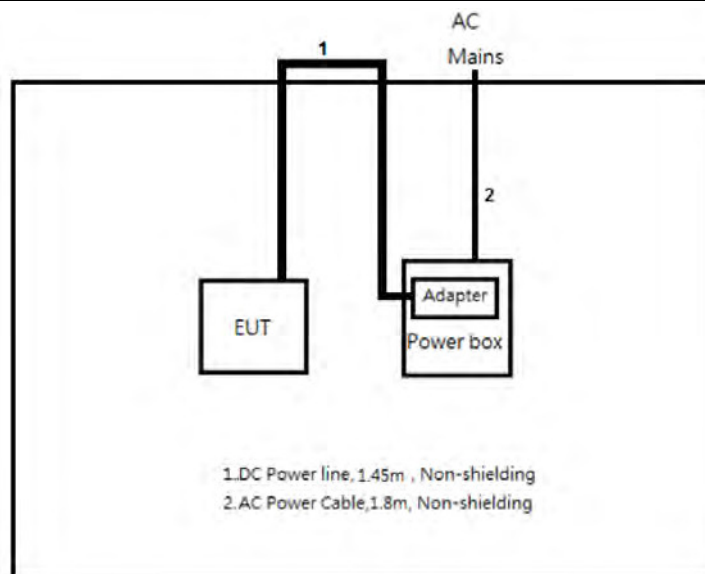
Support Equipment - AC Conduction and Radiated Emission			
No.	Equipment	Brand Name	Model Name
1	-	-	-
2	-	-	-

2.6 Test Setup Diagram

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



Test Setup Diagram –Radiated Emission Test (Mode 1)



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

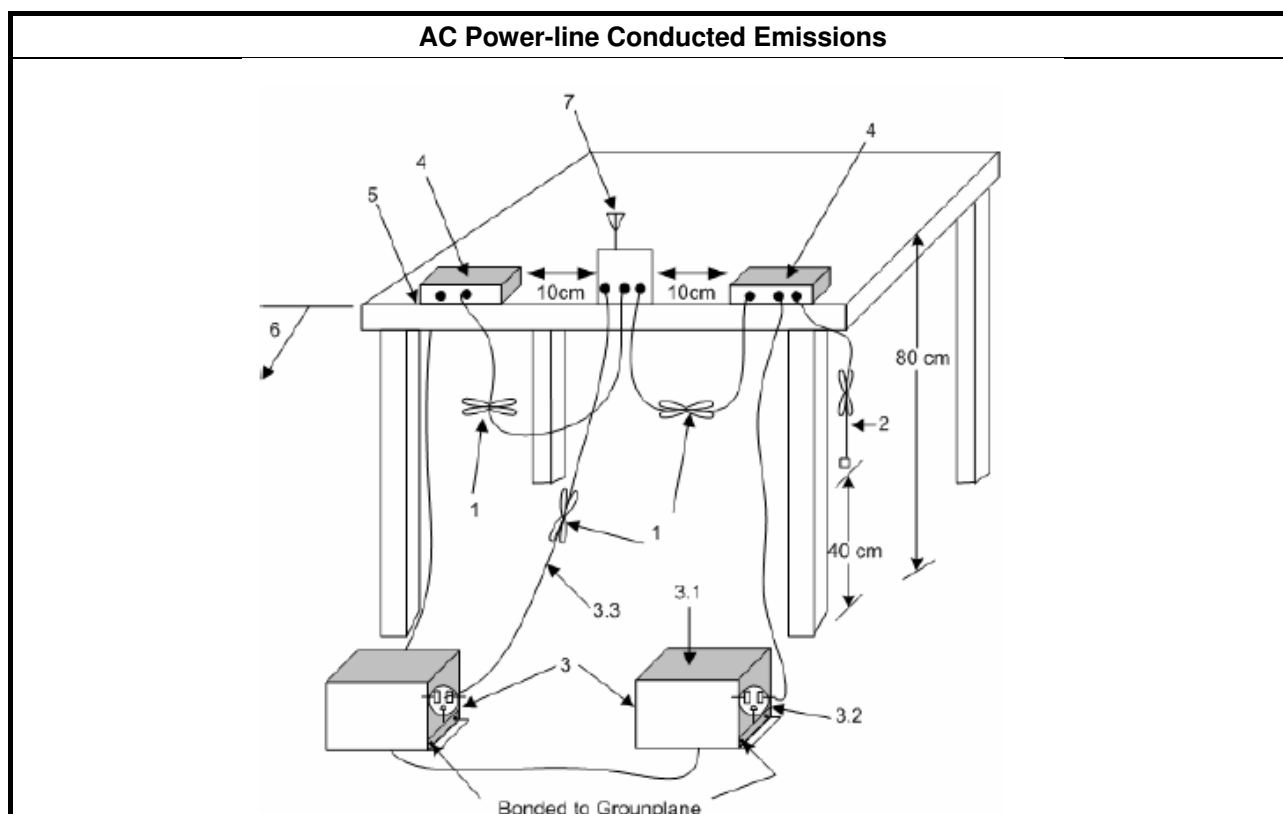
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup





3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix I.

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

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

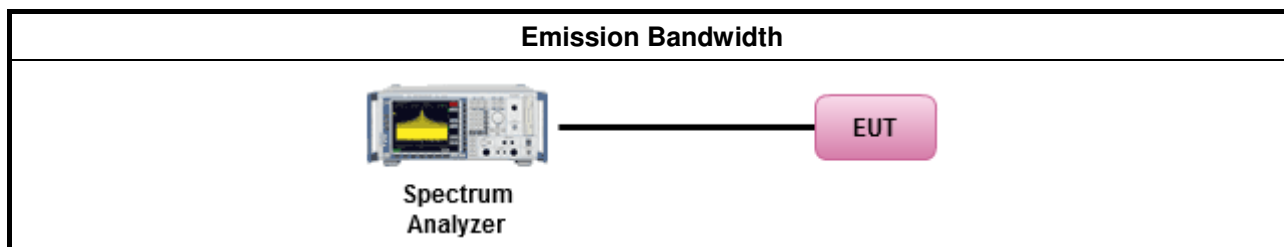
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪	For the emission bandwidth shall be measured using one of the options below:
☒	Refer as FCC KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.
☐	Refer as FCC KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
☒	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix A.

3.3 Fundamental Emission Output Power

3.3.1 Fundamental Emission Output Power Limit

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

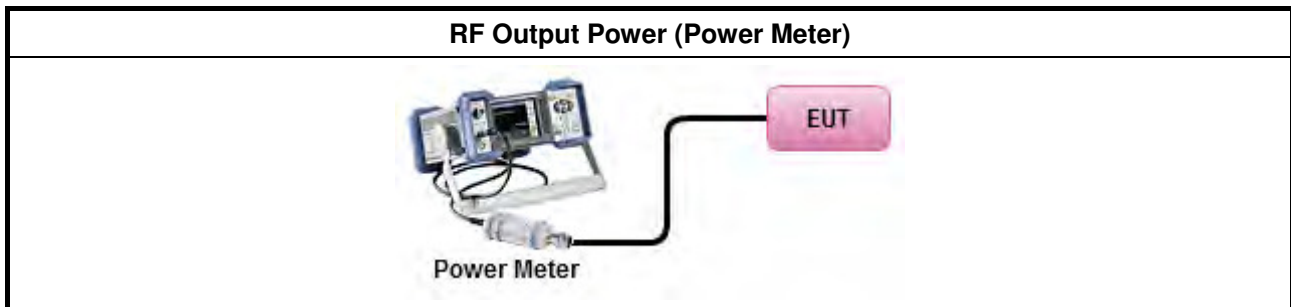
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Peak Conducted Output Power	
☐	Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).
☒	Refer as FCC KDB 558074, clause 9.1.2 Option 2 (peak power meter for VBW ≥ DTS BW)
Maximum Conducted Output Power	
[duty cycle ≥ 98% or external video / power trigger]	
☐	Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).
☐	Refer as FCC KDB 558074, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed)
duty cycle < 98% and average over on/off periods with duty factor	
☐	Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
☐	Refer as FCC KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
RF power meter and average over on/off periods with duty factor or gated trigger	
☒	Refer as FCC KDB 558074, clause 9.2.3 Method AVGPM (using an RF average power meter).
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.	
If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Average Conducted Output Power

Refer as Appendix B.

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit	
▪	Power Spectral Density (PSD) ≤ 8 dBm/3kHz

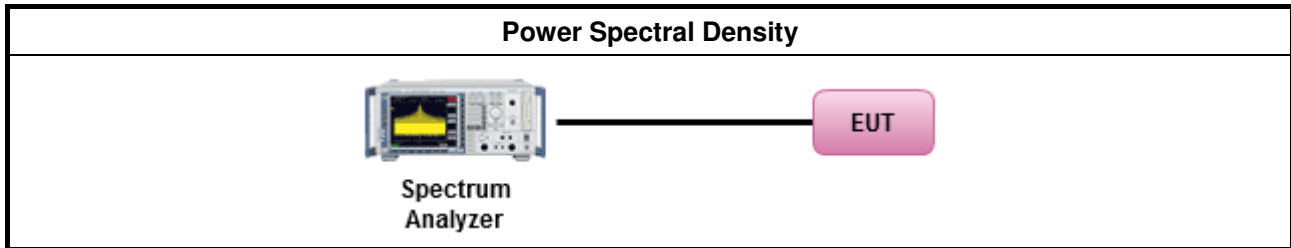
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
▪	Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
☒	Refer as FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak). [duty cycle $\geq 98\%$ or external video / power trigger]
☐	Refer as FCC KDB 558074, clause 10.3 Method AVGPS-1 (spectral trace averaging).
☐	Refer as FCC KDB 558074, clause 10.4 Method AVGPS-2 (slow sweep speed)
	duty cycle $< 98\%$ and average over on/off periods with duty factor
☐	Refer as FCC KDB 558074, clause 10.5 Method AVGPS-1 Alt (spectral trace averaging).
☐	Refer as FCC KDB 558074, clause 10.6 Method AVGPS-2 Alt. (slow sweep speed)
▪	For conducted measurement.
▪	If The EUT supports multiple transmit chains using options given below:
☒	Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the N_{TX} output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
☐	Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
☐	Option 3: Measure and add $10 \log(N)$ dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with $10 \log(N)$. Or each transmit chains shall be add $10 \log(N)$ to compared with the limit.

3.4.4 Test Setup

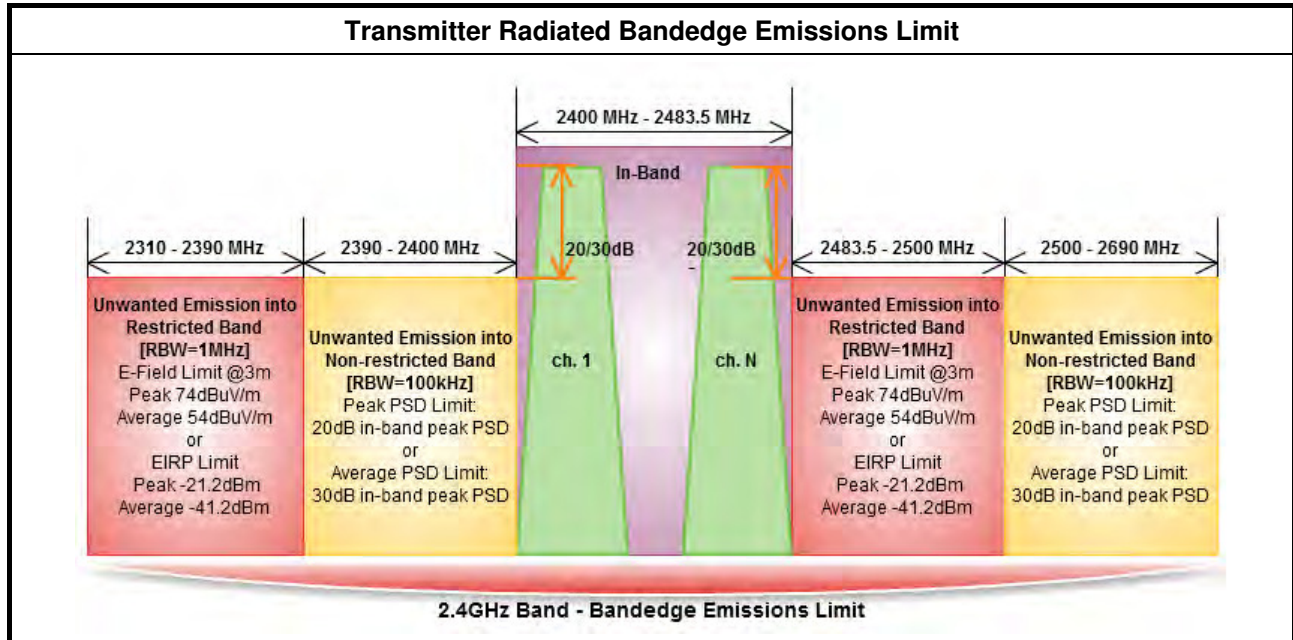


3.4.5 Test Result of Power Spectral Density

Refer as Appendix C.

3.5 Transmitter Radiated Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit



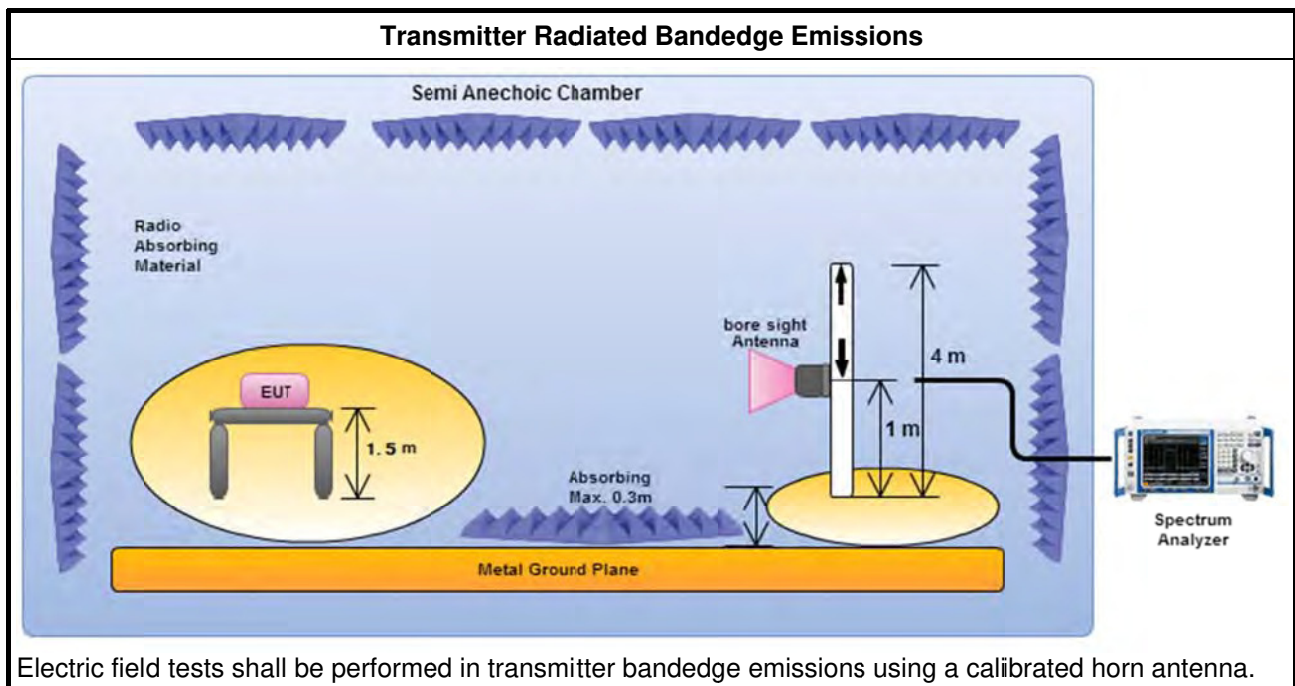
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup





3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix D.

3.6 Transmitter Radiated Unwanted Emissions

3.6.1 Transmitter in Radiated Unwanted Emissions Limit

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

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

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

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

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

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

3.6.2 Measuring Instruments

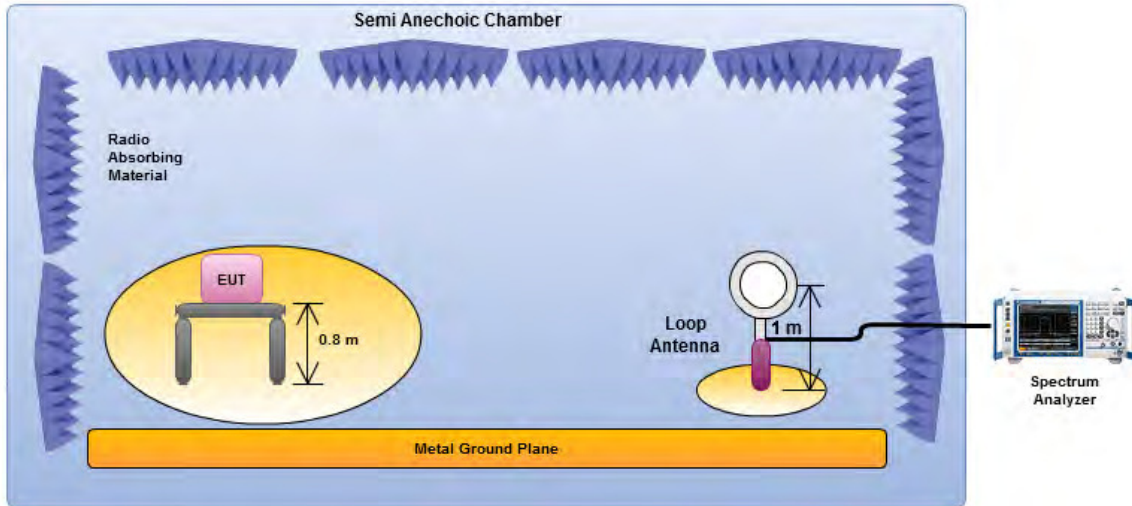
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
☒	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).
☒	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
☒	For the transmitter unwanted emissions shall be measured using following options below:
☒	Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.
☒	Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.
☐	Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq 98\%$)
☐	Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
☒	Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq 1/T$).
☐	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW). VBW $\geq 1/T$, where T is pulse time.
☐	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions.
☒	Refer as FCC KDB 558074, clause 11.3 and 12.2.4 measurement procedure peak limit.
☒	Refer as FCC KDB 558074, clause 12.2.3 measurement procedure Quasi-Peak limit.
☒	For radiated measurement, refer as FCC KDB 558074, clause 12.2.7.
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.
☒	The any unwanted emissions level shall not exceed the fundamental emission level.
☒	All amplitude of spurious emissions that are attenuated by more than 30 dB below the permissible value has no need to be reported.

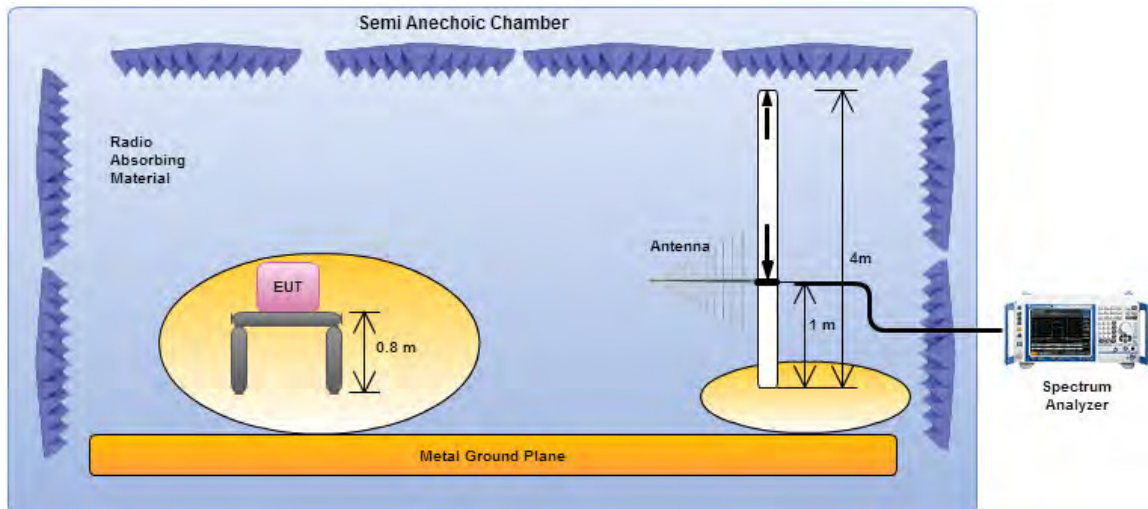
3.6.4 Test Setup

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

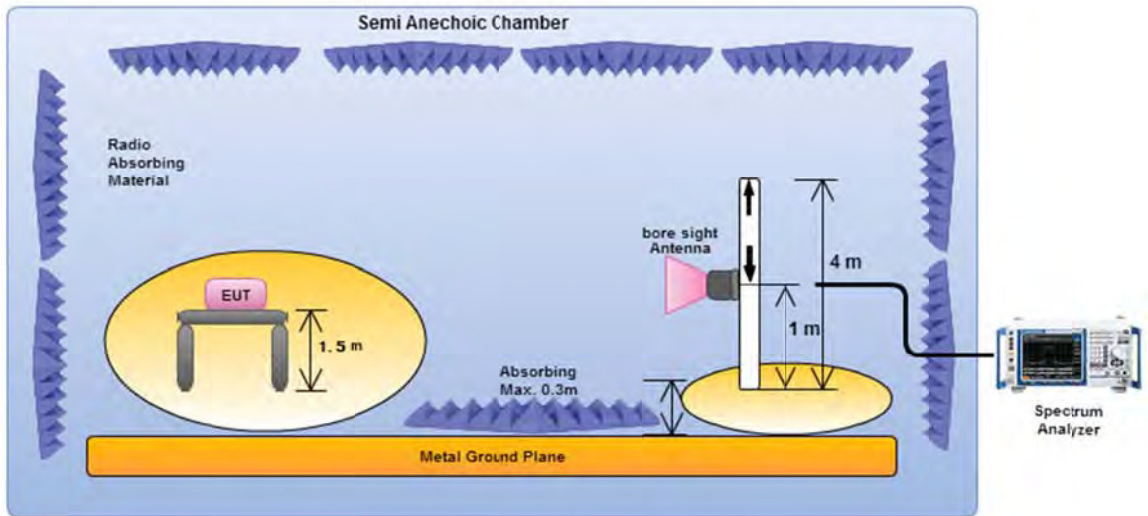


Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna.

Transmitter Radiated Unwanted Emissions (below 1GHz)



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

Transmitter Radiated Unwanted Emissions (above 1GHz)


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

3.6.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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

3.6.6 Transmitter Radiated Unwanted Emissions

Refer as Appendix E.

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Last Cal.	Calibration Due Date
EMC Receiver	KEYSIGHT	N9038A	MY54130031	20Hz ~ 8.4GHz	14/04/2016	13/04/2017
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	26/01/2016	25/01/2017
LISN (Support Unit)	R&S	ENV216	101295	9kHz ~ 30MHz	04/11/2015	03/11/2016
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	30/10/2015	29/10/2016
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	NCR	NCR

Instrument for Conducted Test

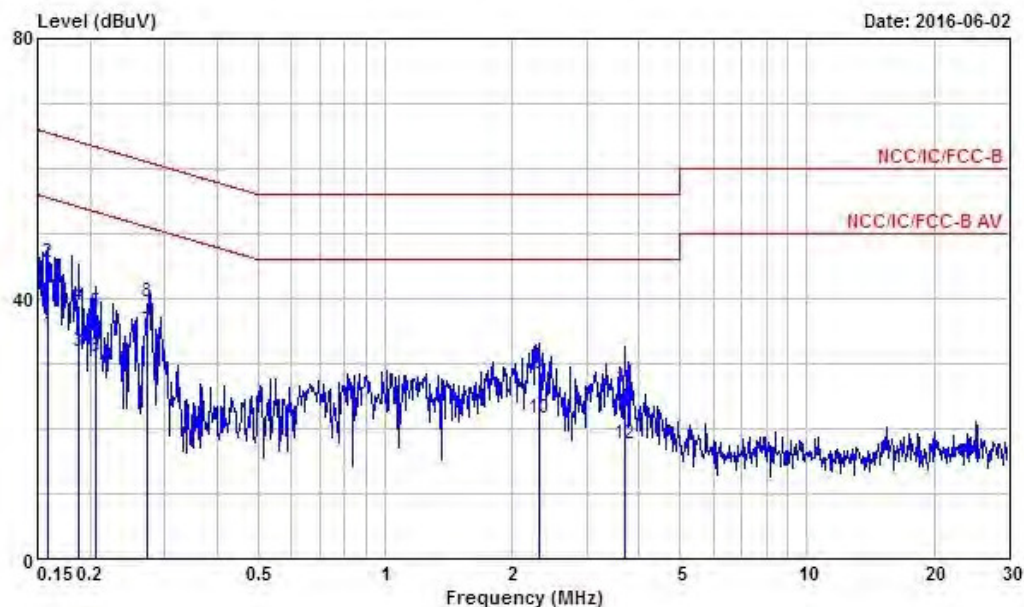
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Last Cal.	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101500	9KHz~40GHz	12/05/2016	11/05/ 2017
Power Sensor	Anritsu	MA2411B	917017	300MHz ~ 40GHz	04/02/2016	03/02/2017
Power Meter	Anritsu	ML2495A	949003	300MHz ~ 40GHz	04/02/2016	03/02/2017
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	28/07/2015	27/07/2016

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Last Cal.	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz 3m	25/04/2016	24/04/2017
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz 3m	30/06/2016	29/06/2017
Amplifier	EMC	EMC9135	980232	9kHz ~ 1.0GHz	29/01/2016	28/01/2017
Amplifier	Agilent	8449B	3008A02096	1GHz ~ 26.5GHz	11/04/2016	10/04/2017
Spectrum	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	04/07/2016	03/07/2017
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL 6111D & MTJ6102	35418	30MHz ~ 1GHz	31/03/2016	30/03/2017
Horn Antenna	SCHWARZBECK	BBHA 9120D	BBHA 9120D 1534	1GHz ~ 18GHz	22/04/2016	21/04/2017
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170614	18GHz ~ 40GHz	04/01/2016	03/01/2017
Amplifier	MITEQ	JS44-18004000-33-8P	1840917	18GHz ~ 40GHz	02/06/2015	01/06/2017
Loop Antenna	ROHDE&SCHWARZ	HFH2-Z2	100330	9 kHz~30 MHz	10/11/2014	09/11/2016

AC Power-line Conducted Emissions Result

Operating Mode	2	Power Phase	Neutral
Operating Function	EUT with AC Adapter 2		



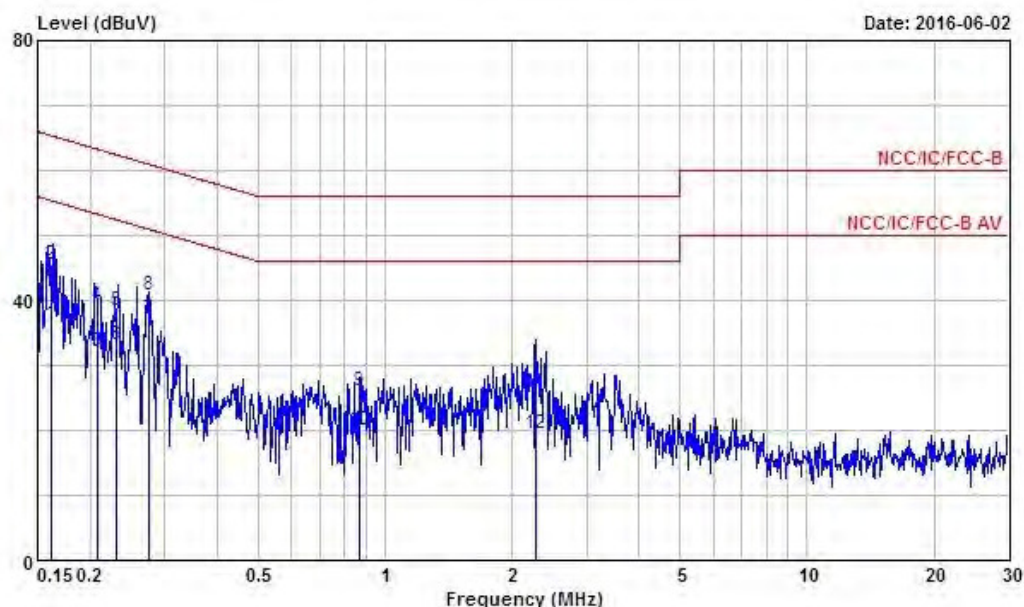
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1589620	34.56	-20.96	55.52	34.23	0.10	0.23	Average
2	0.1589620	45.40	-20.12	65.52	45.07	0.10	0.23	QP
3	0.1873850	31.93	-22.22	54.15	31.54	0.11	0.28	Average
4	0.1873850	38.90	-25.25	64.15	38.51	0.11	0.28	QP
5	0.2061360	37.95	-25.41	63.36	37.55	0.11	0.29	QP
6	0.2061360	31.02	-22.34	53.36	30.62	0.11	0.29	Average
7	0.2728160	34.95	-16.08	51.03	34.63	0.11	0.21	Average
8	0.2728160	39.44	-21.59	61.03	39.12	0.11	0.21	QP
9	2.320	28.34	-27.66	56.00	27.92	0.16	0.26	QP
10	2.320	21.49	-24.51	46.00	21.07	0.16	0.26	Average
11	3.700	26.36	-29.64	56.00	26.06	0.18	0.12	QP
12	3.700	17.76	-28.24	46.00	17.46	0.18	0.12	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.)

AC Power-line Conducted Emissions Result

Operating Mode	2	Power Phase	Line
Operating Function	EUT with AC Adapter 2		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1616710	36.22	-19.16	55.38	35.87	0.11	0.24	Average
2	0.1616710	45.59	-19.79	65.38	45.24	0.11	0.24	QP
3	0.2082460	32.18	-21.09	53.27	31.78	0.11	0.29	Average
4	0.2082460	39.23	-24.04	63.27	38.83	0.11	0.29	QP
5	0.2300500	38.30	-24.15	62.45	37.93	0.11	0.26	QP
6	0.2300500	33.27	-19.18	52.45	32.90	0.11	0.26	Average
7	0.2752730	37.11	-13.85	50.96	36.79	0.11	0.21	Average
8	0.2752730	40.86	-20.10	60.96	40.54	0.11	0.21	QP
9	0.8710300	25.94	-30.06	56.00	25.71	0.13	0.10	QP
10	0.8710300	19.90	-26.10	46.00	19.67	0.13	0.10	Average
11	2.270	25.78	-30.22	56.00	25.37	0.15	0.26	QP
12	2.270	19.57	-26.43	46.00	19.16	0.15	0.26	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.)



Summary

Mode	N dB (Hz)	OBW (Hz)	ITU-Code
2.4G;11b;20;1;2	7.6M	12.869M	12M9G1D
2.4G;11g;20;1;2	16.35M	16.542M	16M5D1D
2.4G;HT20;20;1,(M0-15);2	17.575M	17.766M	17M8D1D
2.4G;HT40;40;1,(M0-15);2	36.3M	36.332M	36M3D1D

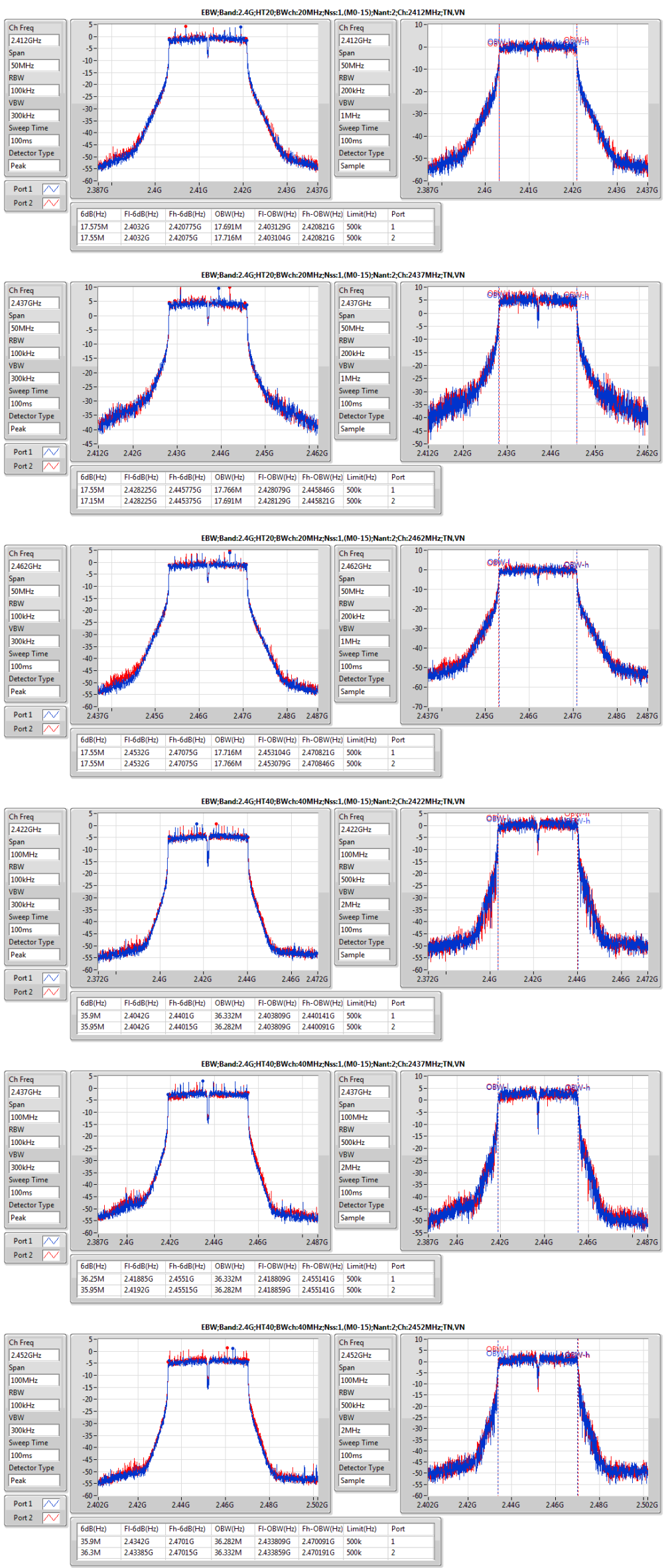
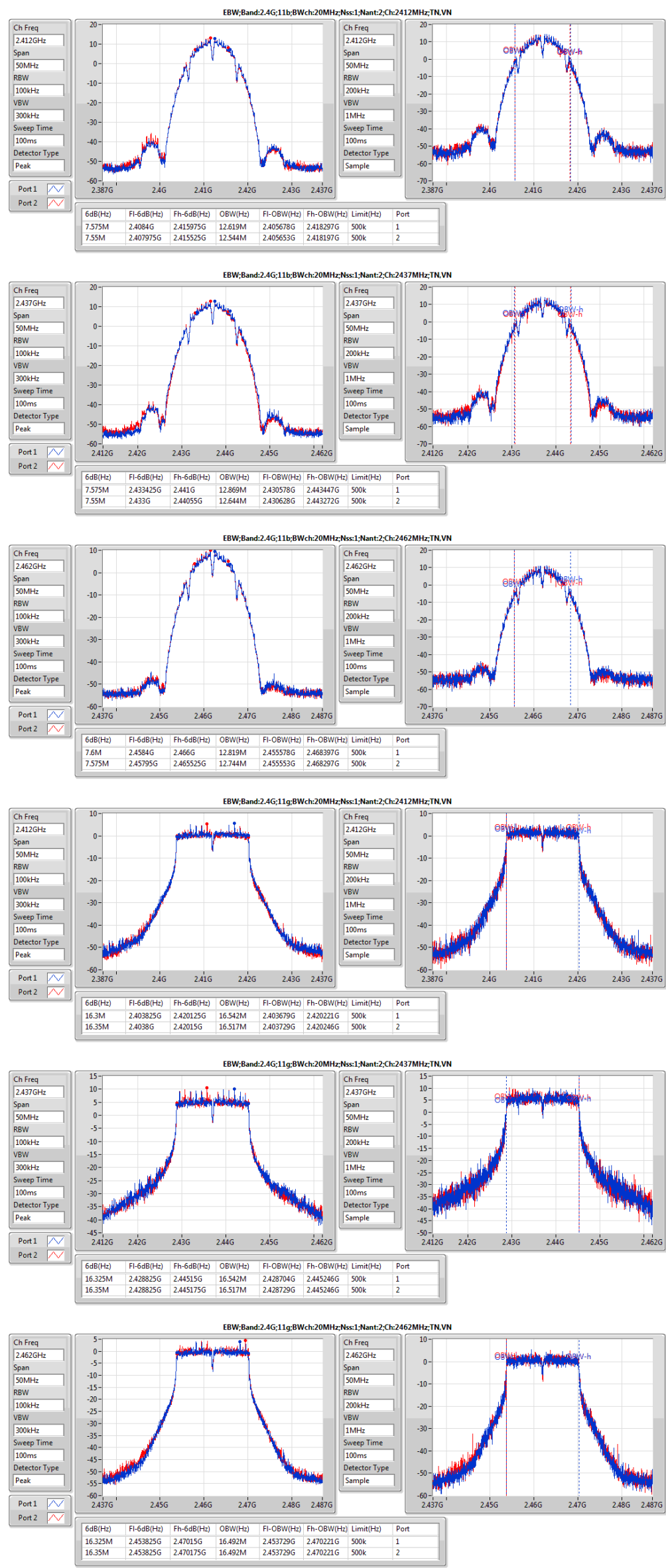
Result

Mode	Result	Limit	P1-N dB (Hz)	P1-OBW (Hz)	P2-N dB (Hz)	P2-OBW (Hz)
2.4G;11b;20;1;2;2412;L;TN,VN	Pass	500k	7.575M	12.619M	7.55M	12.544M
2.4G;11b;20;1;2;2437;M;TN,VN	Pass	500k	7.575M	12.869M	7.55M	12.644M
2.4G;11b;20;1;2;2462;H;TN,VN	Pass	500k	7.6M	12.819M	7.575M	12.744M
2.4G;11g;20;1;2;2412;L;TN,VN	Pass	500k	16.3M	16.542M	16.35M	16.517M
2.4G;11g;20;1;2;2437;M;TN,VN	Pass	500k	16.325M	16.542M	16.35M	16.517M
2.4G;11g;20;1;2;2462;H;TN,VN	Pass	500k	16.325M	16.492M	16.35M	16.492M
2.4G;HT20;20;1,(M0-15);2;2412;L;TN,VN	Pass	500k	17.575M	17.691M	17.55M	17.716M
2.4G;HT20;20;1,(M0-15);2;2437;M;TN,VN	Pass	500k	17.55M	17.766M	17.15M	17.691M
2.4G;HT20;20;1,(M0-15);2;2462;H;TN,VN	Pass	500k	17.55M	17.716M	17.55M	17.766M
2.4G;HT40;40;1,(M0-15);2;2422;L;TN,VN	Pass	500k	35.9M	36.332M	35.95M	36.282M
2.4G;HT40;40;1,(M0-15);2;2437;M;TN,VN	Pass	500k	36.25M	36.332M	35.95M	36.282M
2.4G;HT40;40;1,(M0-15);2;2452;H;TN,VN	Pass	500k	35.9M	36.282M	36.3M	36.332M



EBW Result

Appendix A





Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
2.4G;11b;20;1;2	25.66	0.36813	30.93	1.2388
2.4G;11g;20;1;2	24.30	0.26915	29.57	0.90573
2.4G;HT20;20;1,(M0-15);2	23.99	0.25061	29.26	0.84333
2.4G;HT40;40;1,(M0-15);2	20.03	0.10069	25.30	0.33884

Result

Mode	Result	DG (dBi)	EIRP (dBm)	EIRP Lim. (dBm)	Sum (dBm)	Sum Lim. (dBm)	P1 (dBm)	P2 (dBm)
2.4G;11b;20;1;2;2412;L;TN,VN	Pass	5.27	30.93	36.00	25.66	30.00	22.57	22.72
2.4G;11b;20;1;2;2437;M;TN,VN	Pass	5.27	30.78	36.00	25.51	30.00	22.50	22.49
2.4G;11b;20;1;2;2462;H;TN,VN	Pass	5.27	27.52	36.00	22.25	30.00	19.07	19.39
2.4G;11g;20;1;2;2412;L;TN,VN	Pass	5.27	24.89	36.00	19.62	30.00	16.65	16.58
2.4G;11g;20;1;2;2437;M;TN,VN	Pass	5.27	29.57	36.00	24.30	30.00	21.24	21.33
2.4G;11g;20;1;2;2462;H;TN,VN	Pass	5.27	24.05	36.00	18.78	30.00	15.60	15.93
2.4G;HT20;20;1,(M0-15);2;2412;L;TN,VN	Pass	5.27	24.01	36.00	18.74	30.00	15.72	15.73
2.4G;HT20;20;1,(M0-15);2;2437;M;TN,VN	Pass	5.27	29.26	36.00	23.99	30.00	20.89	21.07
2.4G;HT20;20;1,(M0-15);2;2462;H;TN,VN	Pass	5.27	23.74	36.00	18.47	30.00	15.31	15.60
2.4G;HT40;40;1,(M0-15);2;2422;L;TN,VN	Pass	5.27	22.83	36.00	17.56	30.00	14.51	14.59
2.4G;HT40;40;1,(M0-15);2;2437;M;TN,VN	Pass	5.27	25.30	36.00	20.03	30.00	17.05	17.00
2.4G;HT40;40;1,(M0-15);2;2452;H;TN,VN	Pass	5.27	23.39	36.00	18.12	30.00	14.89	15.33

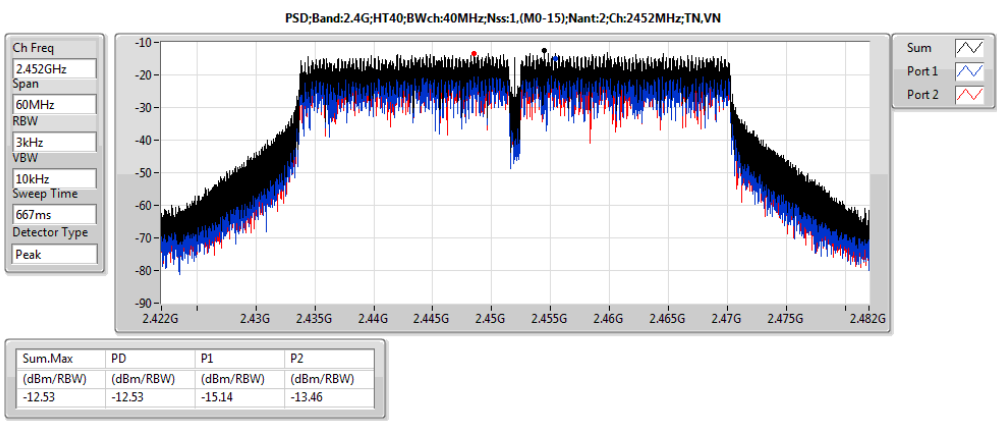
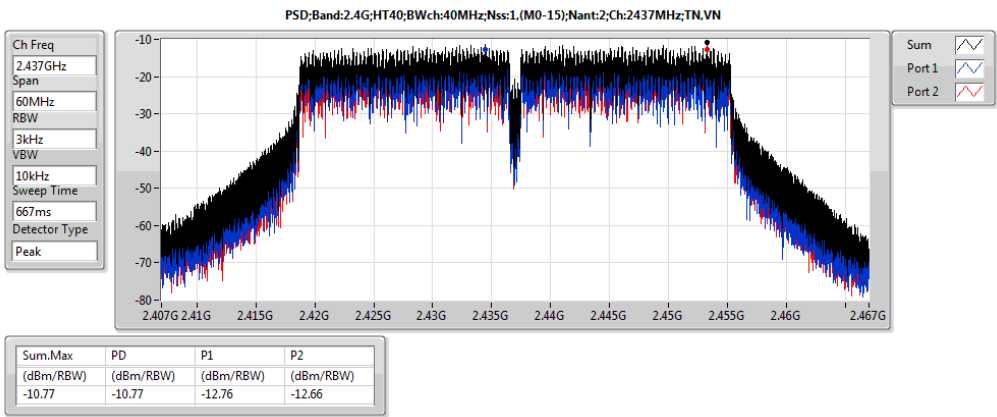
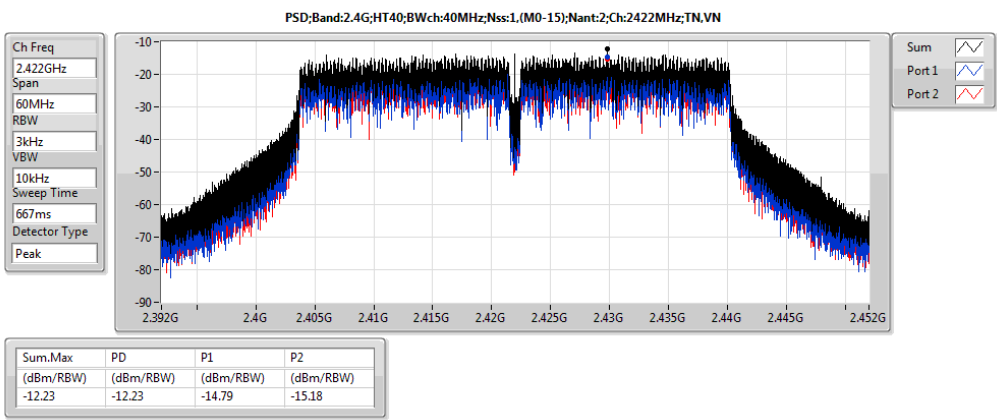
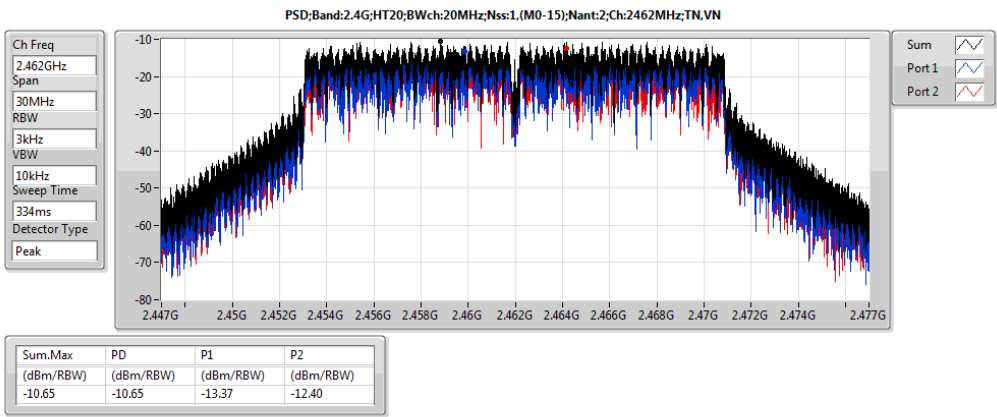
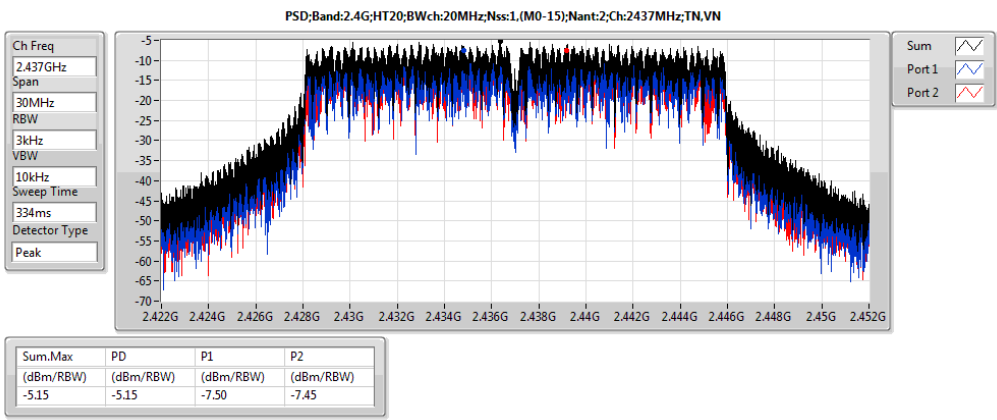
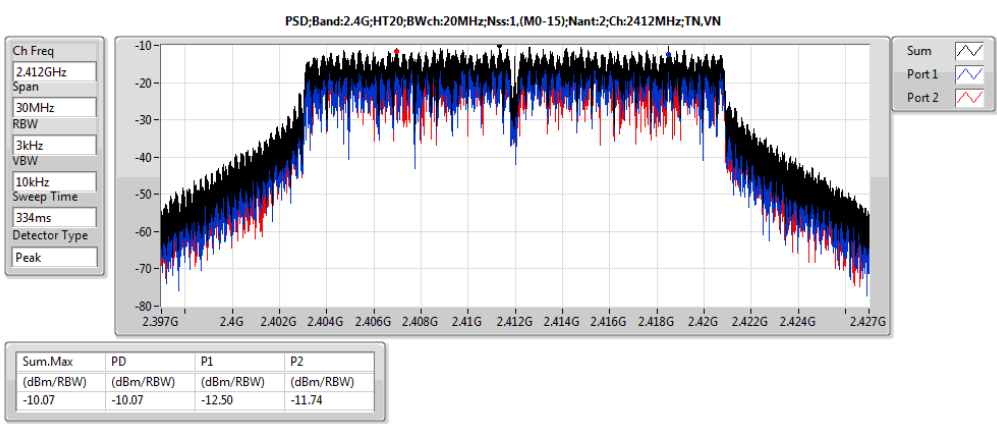
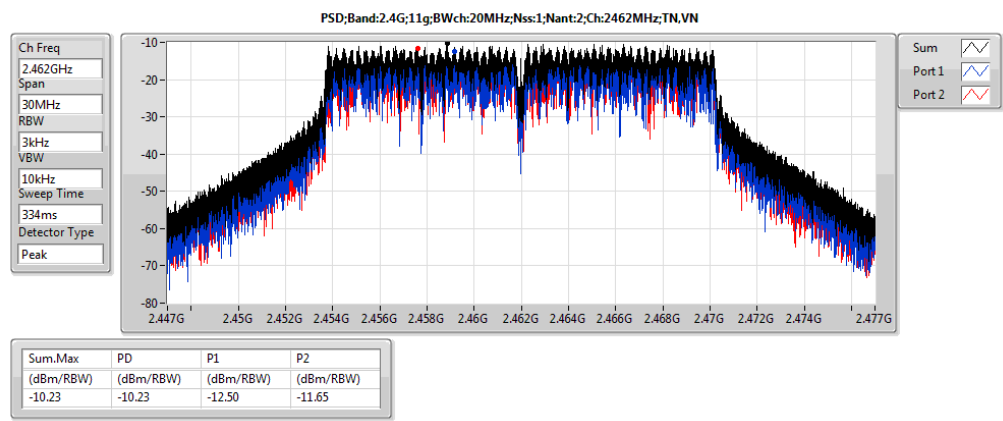
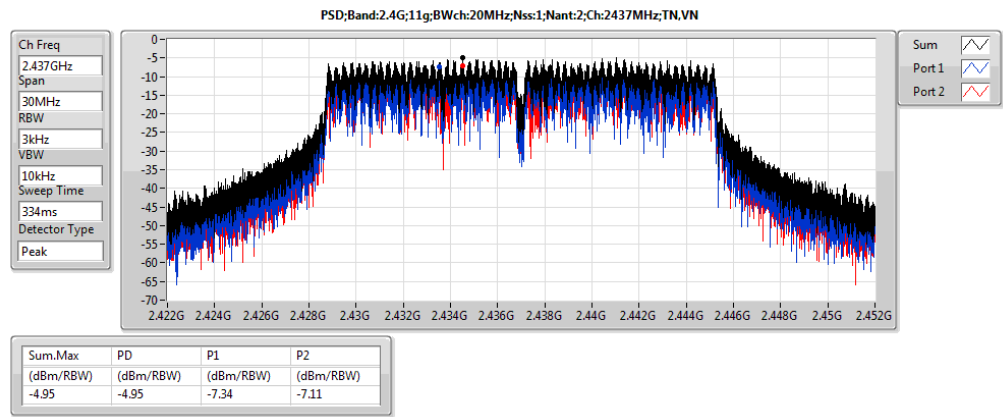
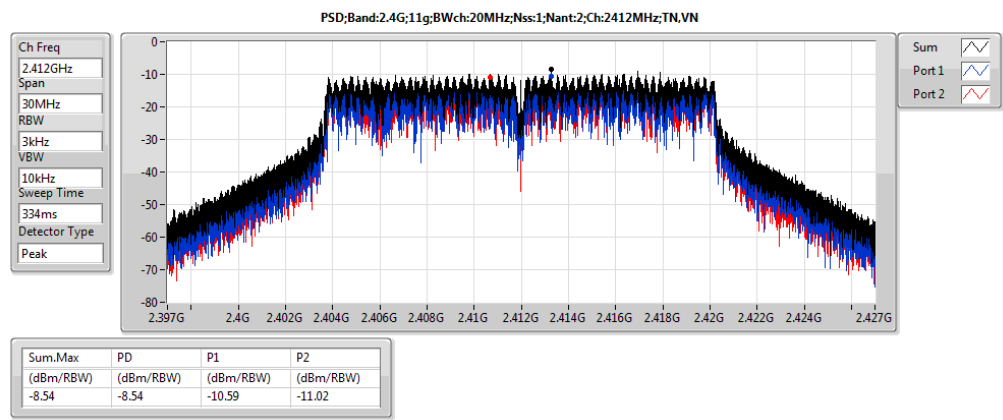
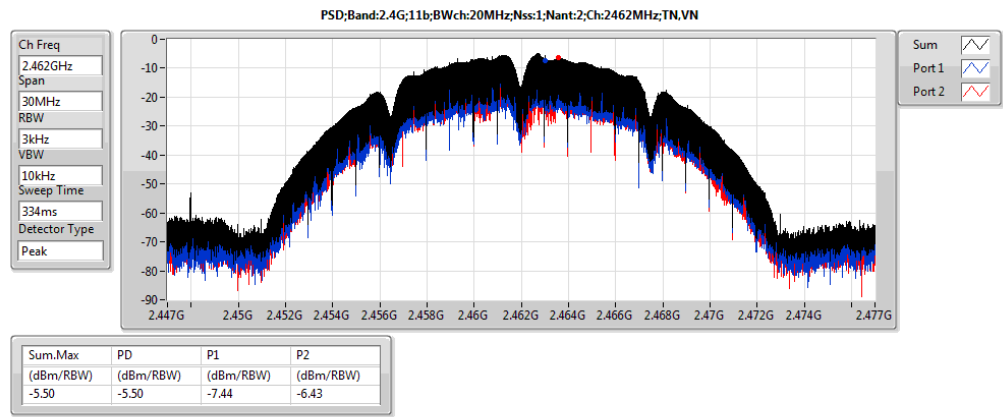
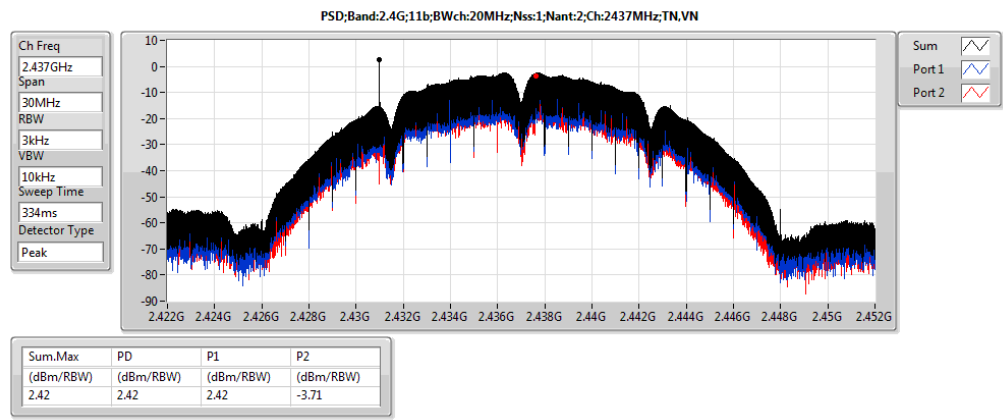
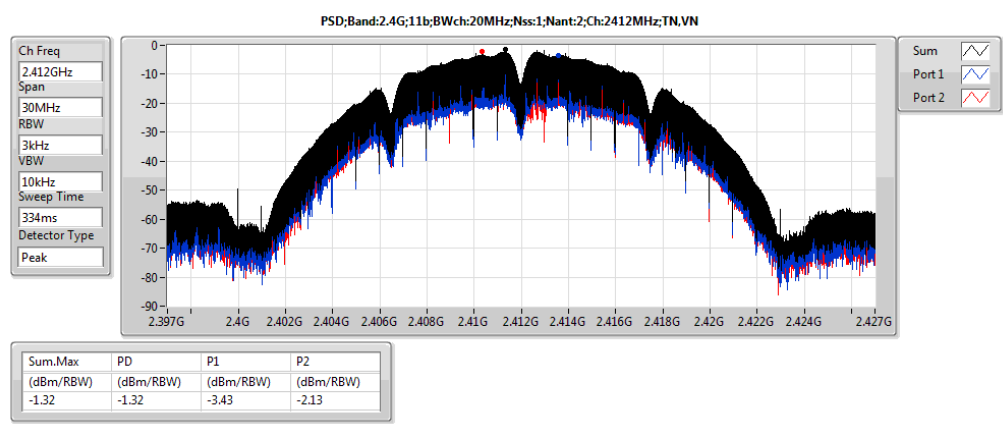


Summary

Mode	PD (dBm/RBW)	EIRP.PD (dBm/RBW)
2.4G;11b;20;1;2	2.42	10.49
2.4G;11g;20;1;2	-4.95	3.12
2.4G;HT20;20;1,(M0-15);2	-5.15	2.93
2.4G;HT40;40;1,(M0-15);2	-10.77	-2.70

Result

Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	BWCF (dB)	DG (dBi)	Sum.Max (dBm/RBW)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	EIRP.PD (dBm/RBW)	EIRP.PD.Li m (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)
2.4G;11b;20;1;2;2412;L;TN,VN	Pass	3k	3k	0.00	8.07	-1.32	-1.32	8.00	6.75	Inf	-3.43	-2.13
2.4G;11b;20;1;2;2437;M;TN,VN	Pass	3k	3k	0.00	8.07	2.42	2.42	8.00	10.49	Inf	2.42	-3.71
2.4G;11b;20;1;2;2462;H;TN,VN	Pass	3k	3k	0.00	8.07	-5.50	-5.50	8.00	2.58	Inf	-7.44	-6.43
2.4G;11g;20;1;2;2412;L;TN,VN	Pass	3k	3k	0.00	8.07	-8.54	-8.54	8.00	-0.47	Inf	-10.59	-11.02
2.4G;11g;20;1;2;2437;M;TN,VN	Pass	3k	3k	0.00	8.07	-4.95	-4.95	8.00	3.12	Inf	-7.34	-7.11
2.4G;11g;20;1;2;2462;H;TN,VN	Pass	3k	3k	0.00	8.07	-10.23	-10.23	8.00	-2.15	Inf	-12.50	-11.65
2.4G;HT20;20;1,(M0-15);2;2412;L;TN,VN	Pass	3k	3k	0.00	8.07	-10.07	-10.07	8.00	-2.00	Inf	-12.50	-11.74
2.4G;HT20;20;1,(M0-15);2;2437;M;TN,VN	Pass	3k	3k	0.00	8.07	-5.15	-5.15	8.00	2.93	Inf	-7.50	-7.45
2.4G;HT20;20;1,(M0-15);2;2462;H;TN,VN	Pass	3k	3k	0.00	8.07	-10.65	-10.65	8.00	-2.57	Inf	-13.37	-12.40
2.4G;HT40;40;1,(M0-15);2;2422;L;TN,VN	Pass	3k	3k	0.00	8.07	-12.23	-12.23	8.00	-4.15	Inf	-14.79	-15.18
2.4G;HT40;40;1,(M0-15);2;2437;M;TN,VN	Pass	3k	3k	0.00	8.07	-10.77	-10.77	8.00	-2.70	Inf	-12.76	-12.66
2.4G;HT40;40;1,(M0-15);2;2452;H;TN,VN	Pass	3k	3k	0.00	8.07	-12.53	-12.53	8.00	-4.45	Inf	-15.14	-13.46



2400-2483.5MHz Transmitter Radiated Bandedge Emissions (Non-restricted Band)

Modulation	N _{TX}	Test Freq. (MHz)	In-band PSD [i] (dBuV/100kHz)	Freq. (MHz)	Out-band PSD [o] (dBuV/100kHz)	[i] – [o] (dB)	Limit (dB)	Pol.
11b	2	2412	114.22	2397.584	64.03	50.19	30	V
11b	2	2462	112.68	2501.000	51.17	61.51	30	V
11g	2	2412	107.96	2399.936	73.88	34.08	30	V
11g	2	2462	107.34	2505.400	48.85	58.49	30	V
HT20	2	2412	107.54	2399.936	67.81	39.73	30	V
HT20	2	2462	106.86	2529.000	49.34	57.52	30	V
HT40	2	2422	102.13	2399.760	69.62	32.51	30	V
HT40	2	2452	104.32	2501.360	50.25	54.07	30	V

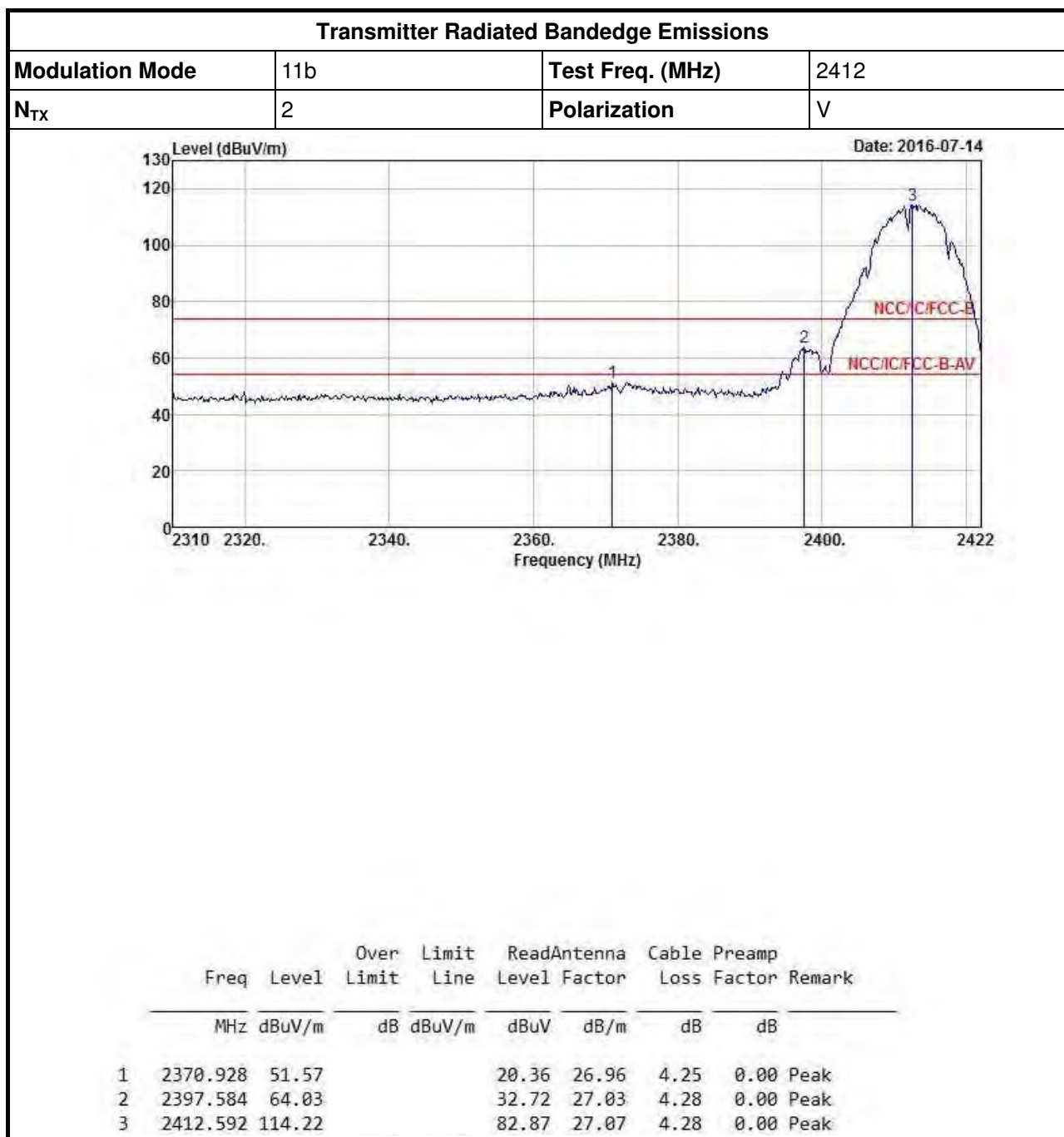
Note 1: Measurement worst emissions of receive antenna polarization

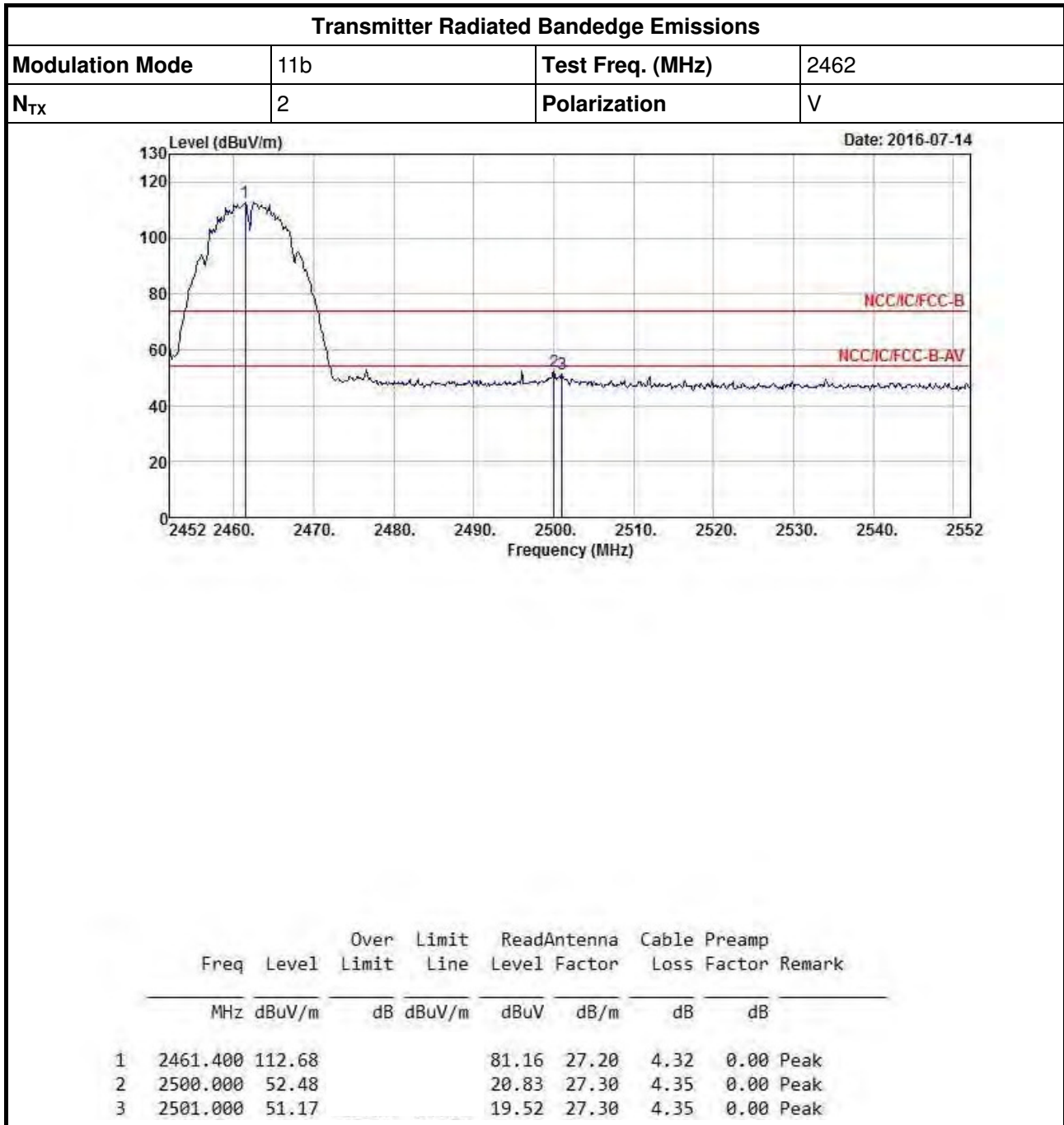
2400-2483.5MHz Transmitter Radiated Bandedge Emissions (Restricted Band)

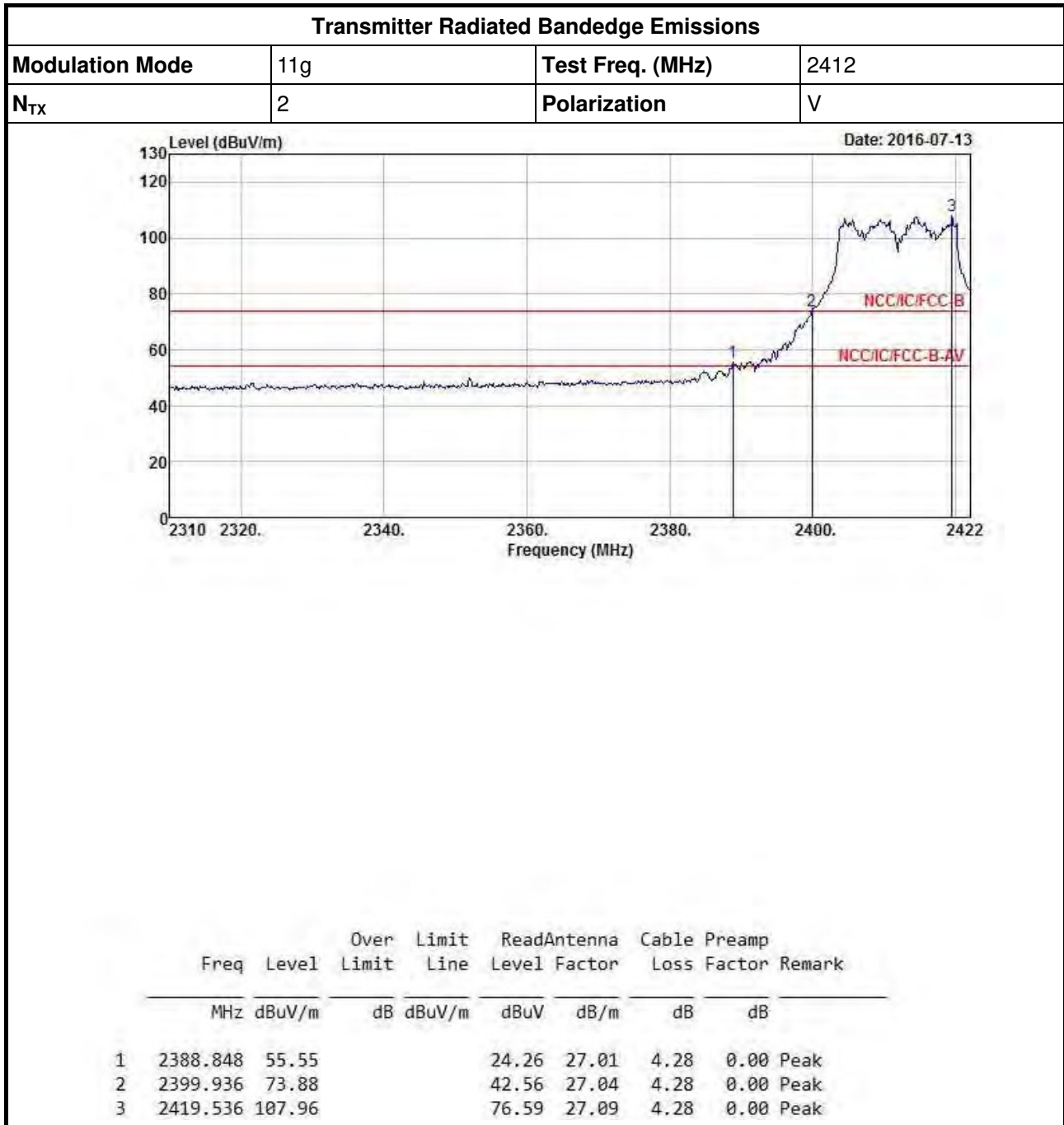
Modulation Mode	N _{TX}	Freq. (MHz)	Measure Distance (m)	Freq. (MHz) PK	Level (dBuV/m) PK	Limit (dBuV/m) PK	Freq. (MHz) AV	Level (dBuV/m) AV	Limit (dBuV/m) AV	Pol.
11b	2	2412	3	2372.720	61.64	74	2372.720	51.77	54	V
11b	2	2462	3	2499.600	61.54	74	2499.600	52.27	54	V
11g	2	2412	3	2389.072	72.02	74	2389.296	51.75	54	V
11g	2	2462	3	2484.800	68.52	74	2495.800	51.88	54	V
HT20	2	2412	3	2389.968	65.71	74	2389.968	51.87	54	V
HT20	2	2462	3	2496.200	60.85	74	2495.800	51.50	54	V
HT40	2	2422	3	2388.936	65.39	74	2388.408	51.81	54	V
HT40	2	2452	3	2484.560	62.49	74	2495.840	52.12	54	V

Note 1: Measurement worst emissions of receive antenna polarization.

1. Transmitter Radiated Bandedge Emissions (Non-restricted Band)

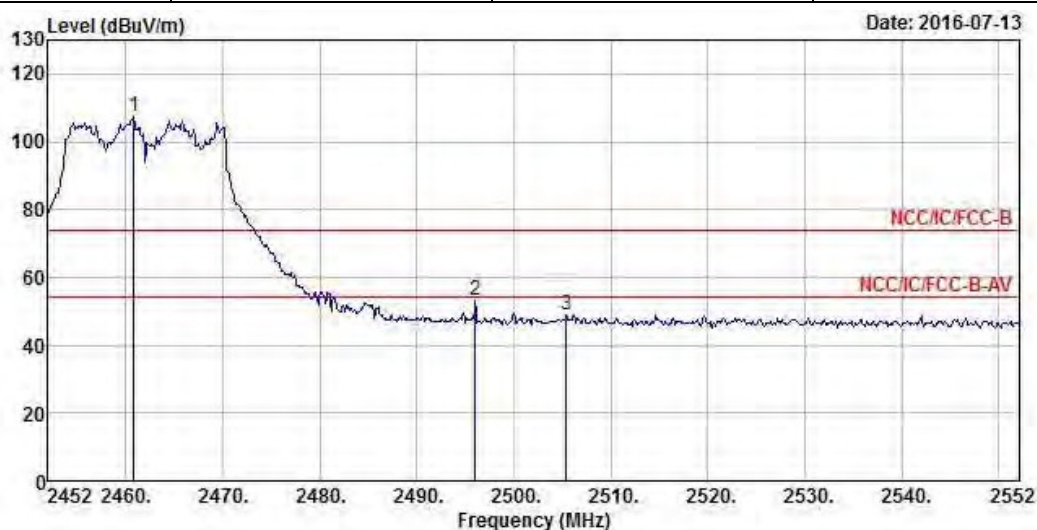






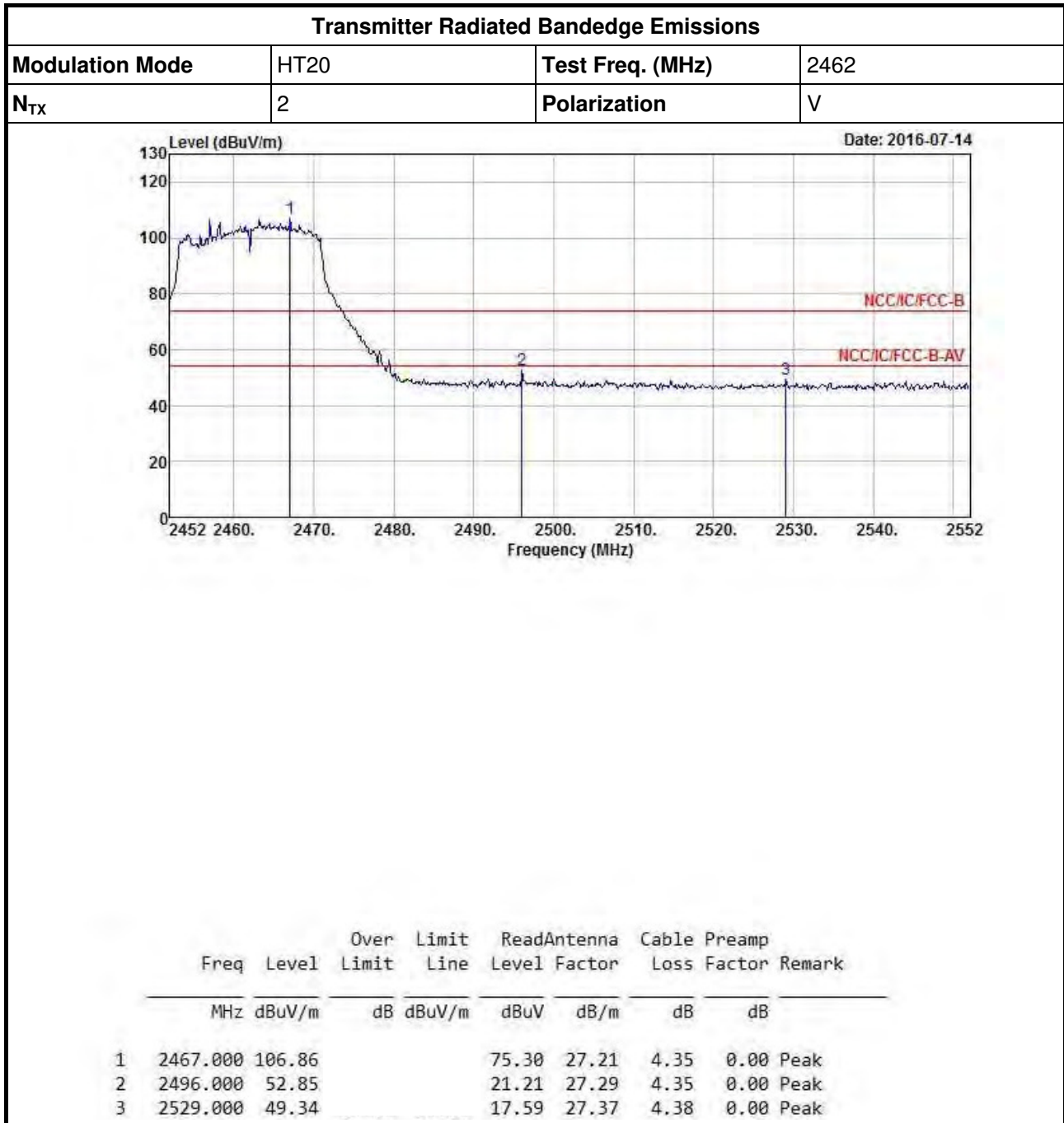
Transmitter Radiated Bandedge Emissions

Modulation Mode	11g	Test Freq. (MHz)	2462
N _{TX}	2	Polarization	V



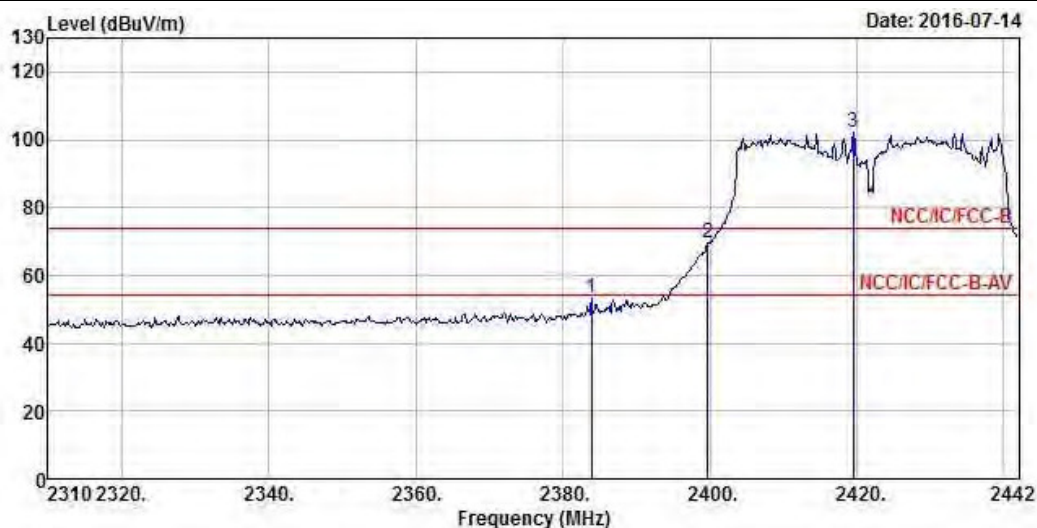
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	Factor	Loss	Factor	Remark
	MHz	dBuV/m		dBuV/m	dBuV	dB/m		dB	dB	
1	2460.800	107.34			75.82	27.20	4.32	0.00	0.00	Peak
2	2496.000	53.14			21.50	27.29	4.35	0.00	0.00	Peak
3	2505.400	48.85			17.16	27.31	4.38	0.00	0.00	Peak





Transmitter Radiated Bandedge Emissions

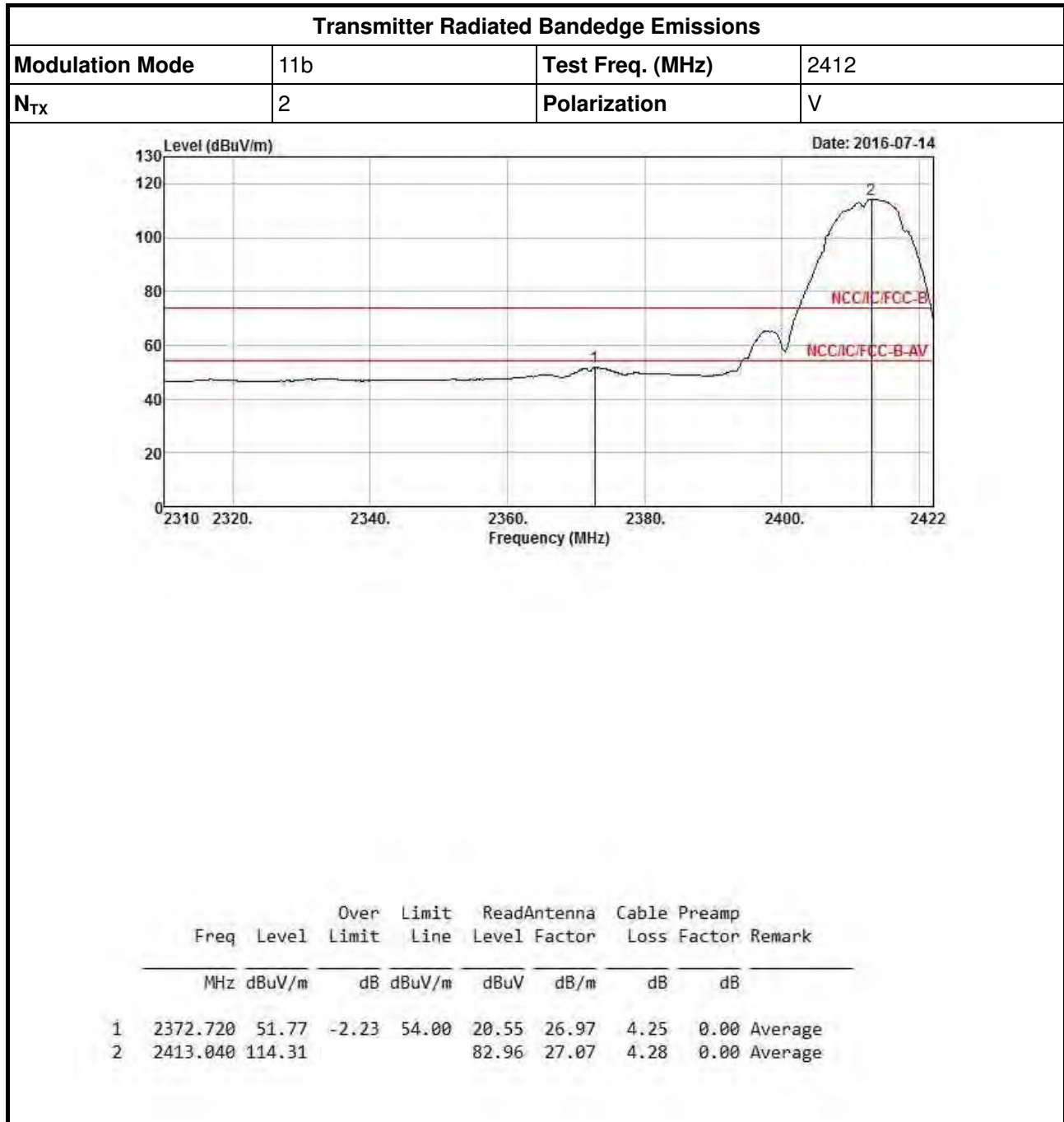
Modulation Mode	HT40	Test Freq. (MHz)	2422
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2383.920	53.16			21.91	27.00	4.25	0.00 Peak
2	2399.760	69.62			38.30	27.04	4.28	0.00 Peak
3	2419.560	102.13			70.76	27.09	4.28	0.00 Peak

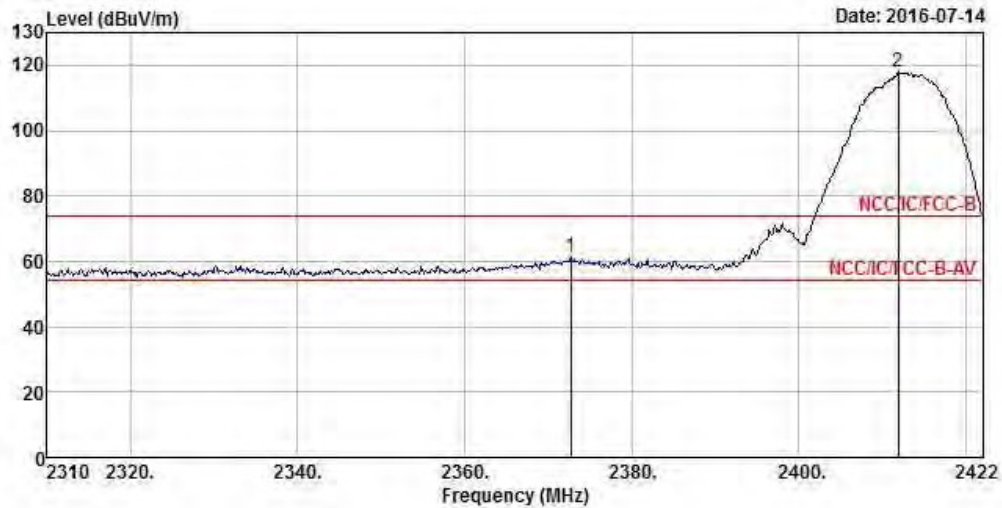


2. Transmitter Radiated Bandedge Emissions (Restricted Band)

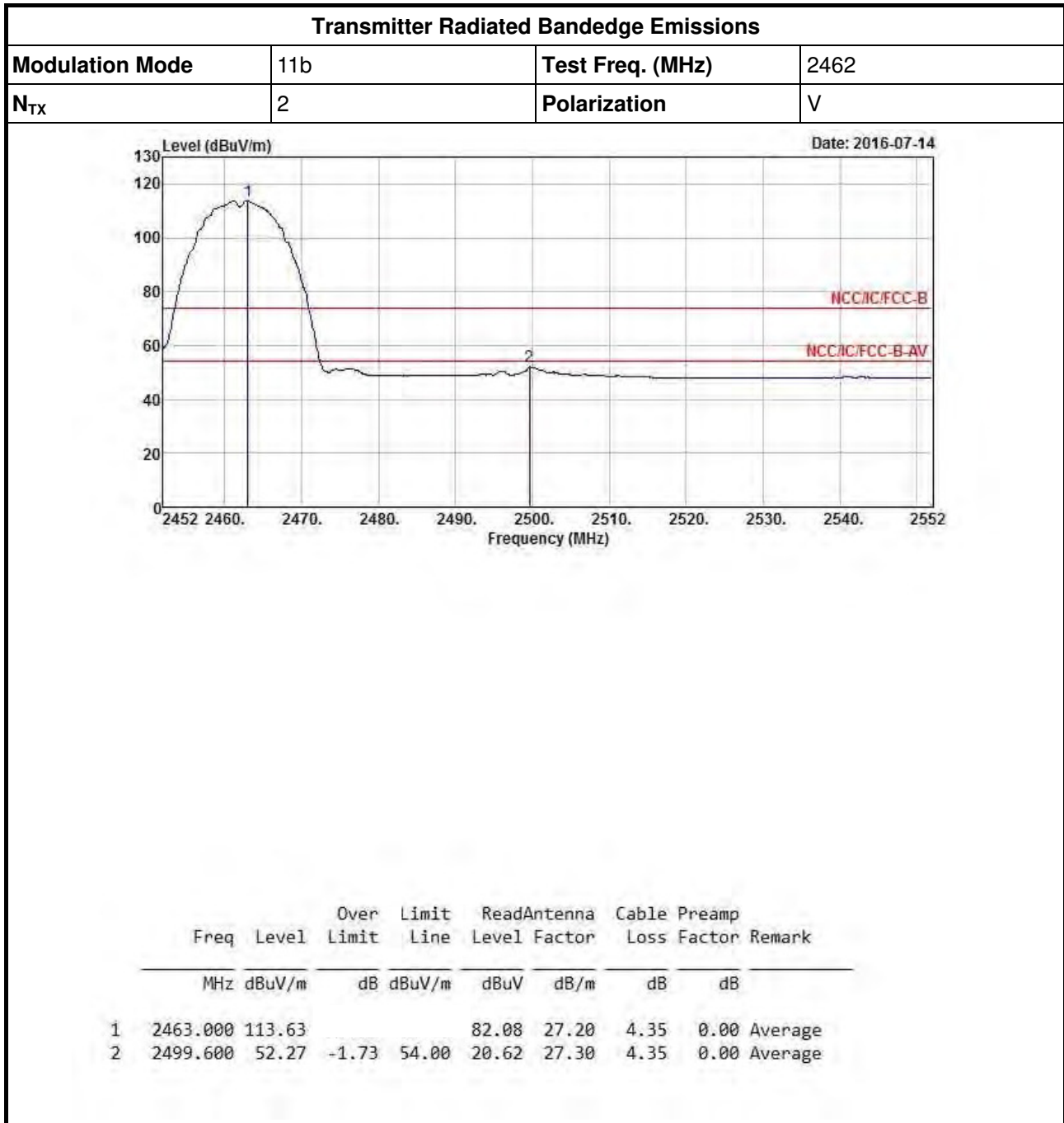


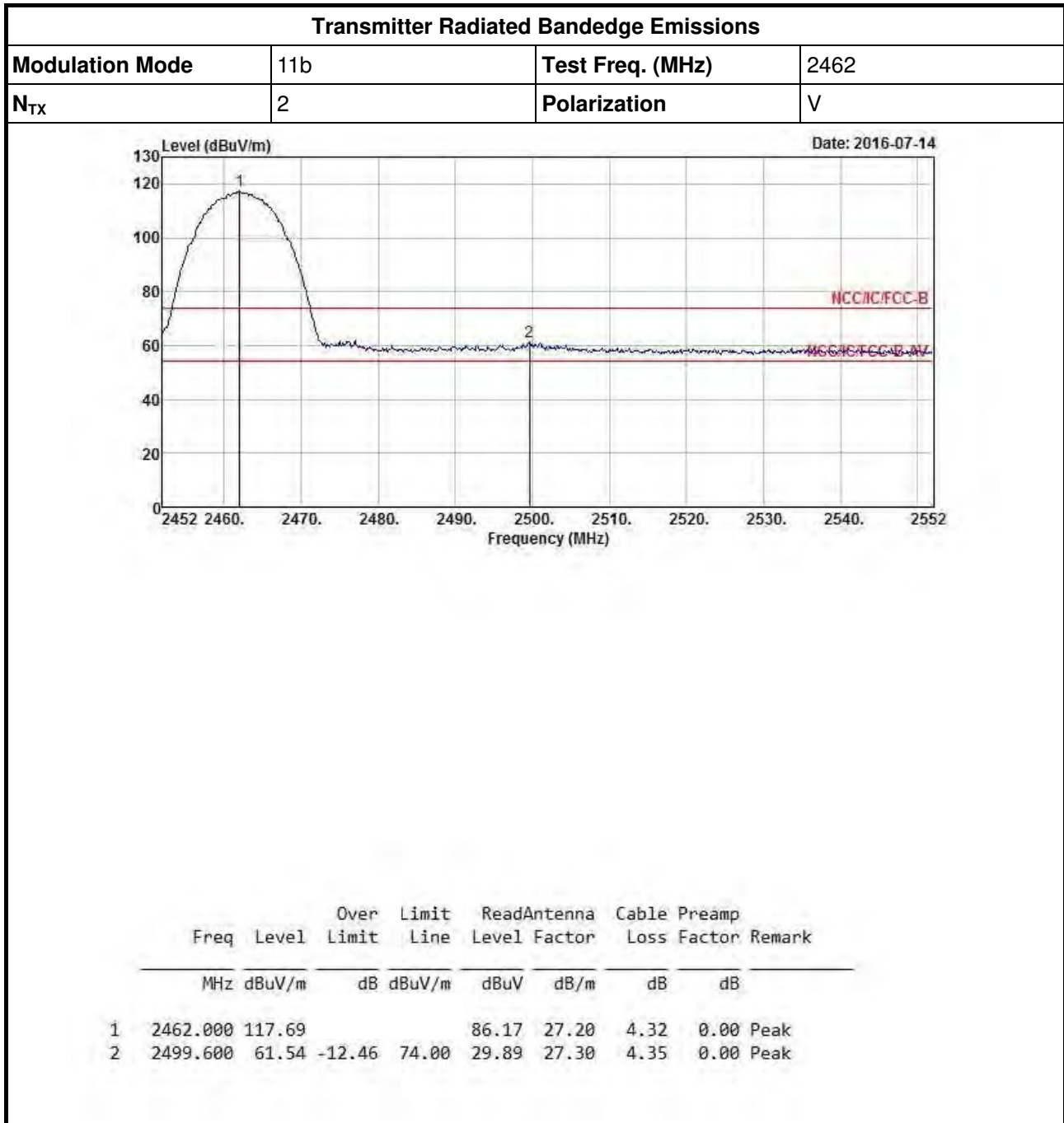
Transmitter Radiated Bandedge Emissions

Modulation Mode	11b	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	V



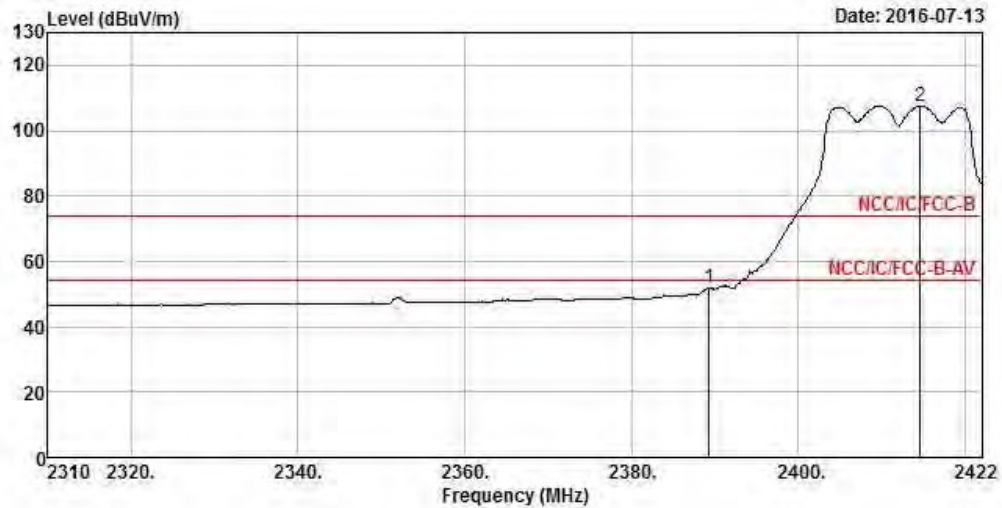
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2372.720	61.64	-12.36	74.00	30.42	26.97	4.25	0.00 Peak
2	2411.920	117.79			86.44	27.07	4.28	0.00 Peak





Transmitter Radiated Bandedge Emissions

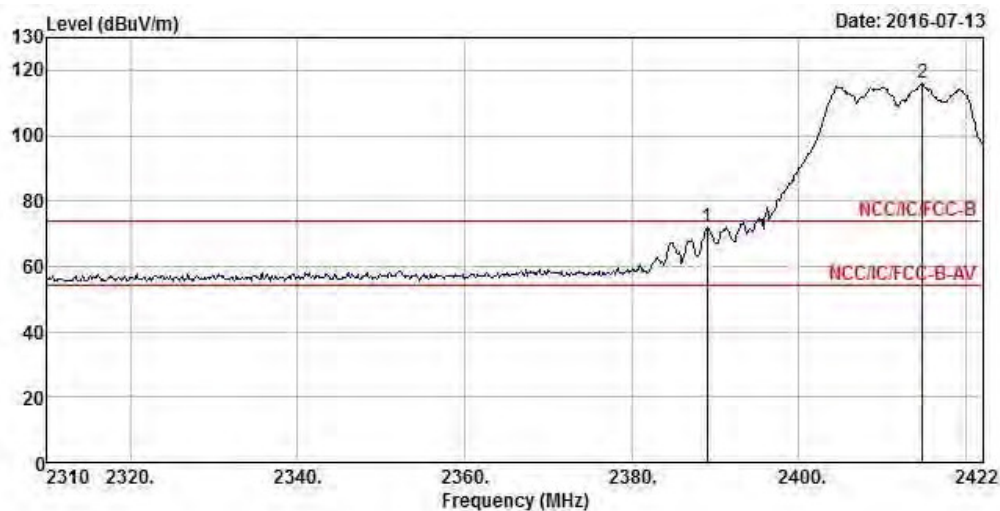
Modulation Mode	11g	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2389.296	51.75	-2.25	54.00	20.46	27.01	4.28	0.00 Average
2	2414.608	107.45			76.09	27.08	4.28	0.00 Average

Transmitter Radiated Bandedge Emissions

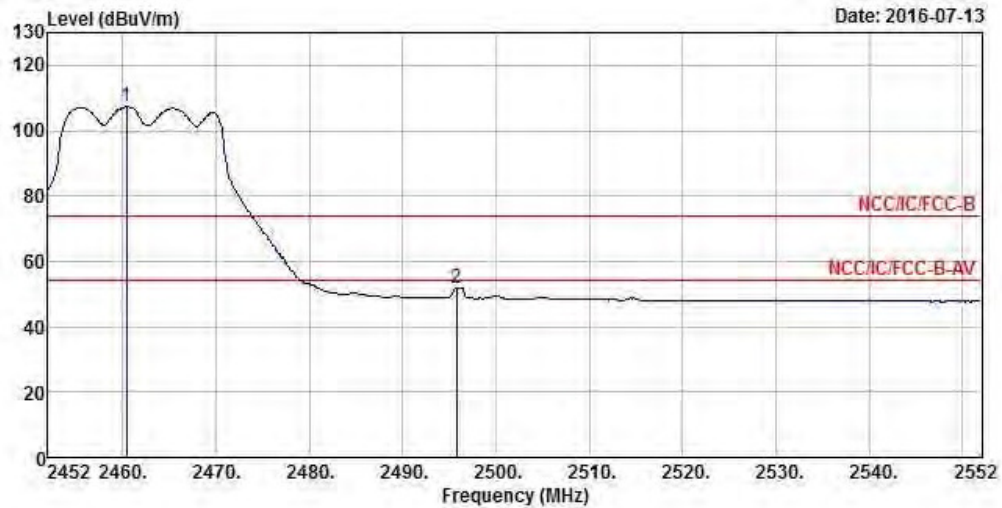
Modulation Mode	11g	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	V



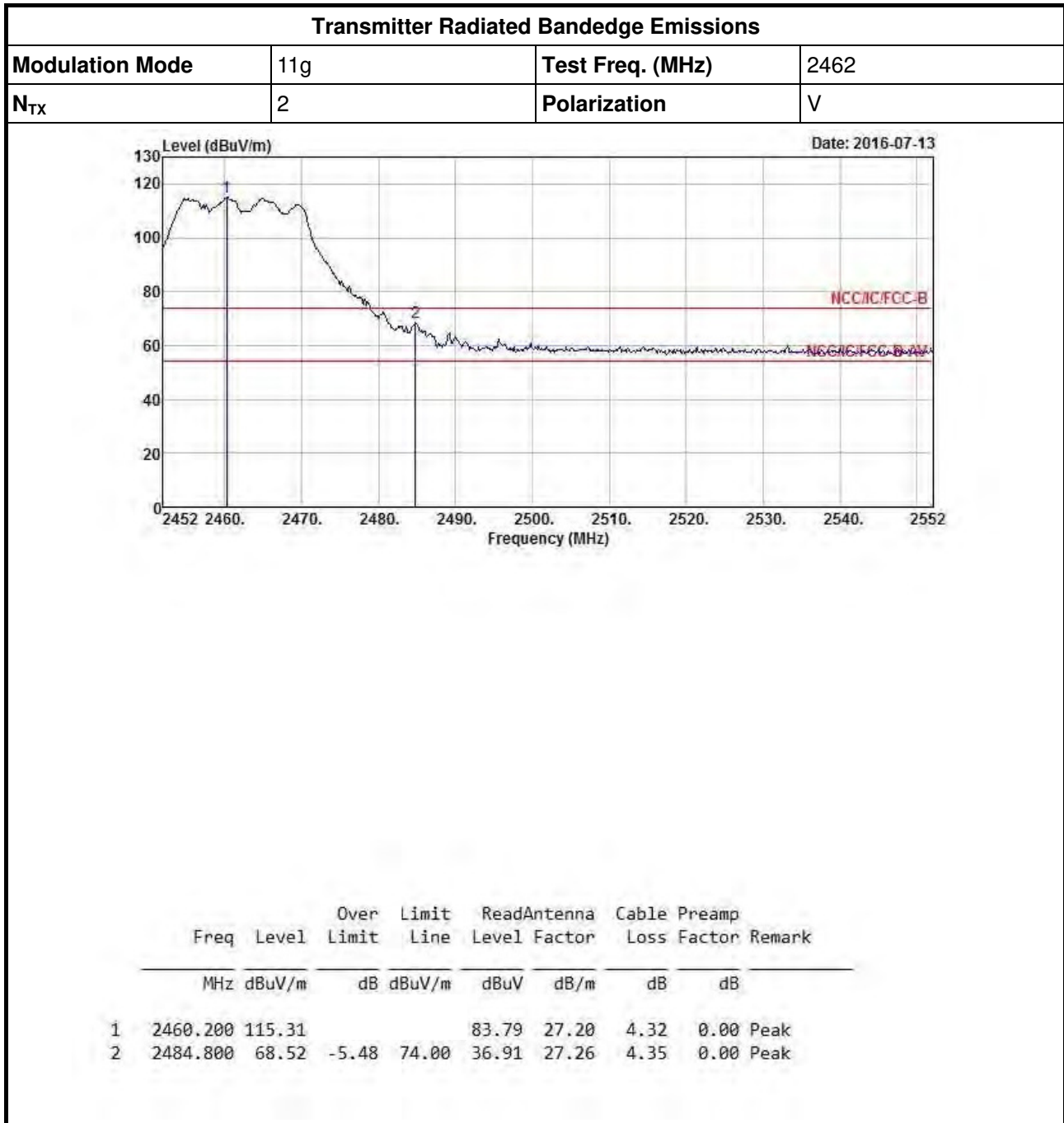
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2389.072	72.02	-1.98	74.00	40.73	27.01	4.28	0.00 Peak
2	2414.832	115.91			84.55	27.08	4.28	0.00 Peak

Transmitter Radiated Bandedge Emissions

Modulation Mode	11g	Test Freq. (MHz)	2462
N _{TX}	2	Polarization	V

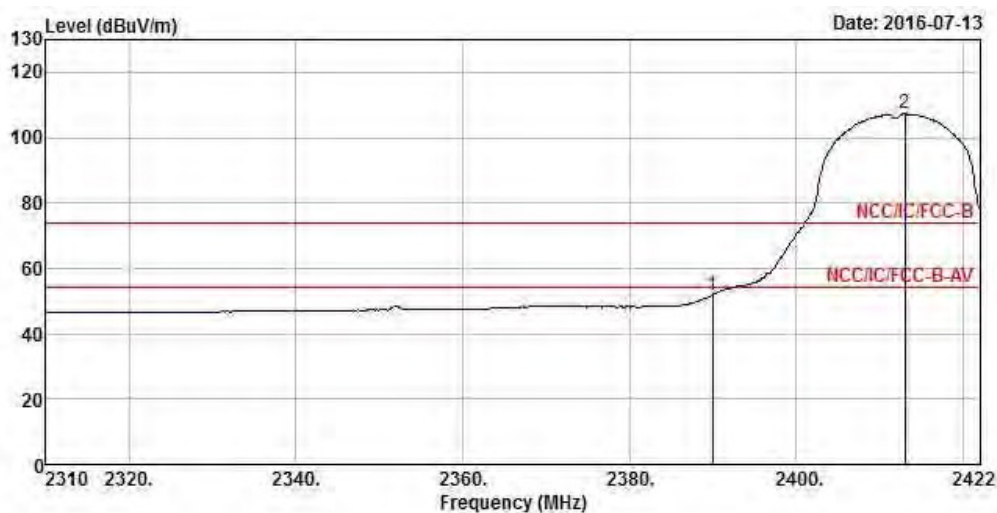


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2460.400	107.25			75.73	27.20	4.32	0.00 Average
2	2495.800	51.88	-2.12	54.00	20.24	27.29	4.35	0.00 Average



Transmitter Radiated Bandedge Emissions

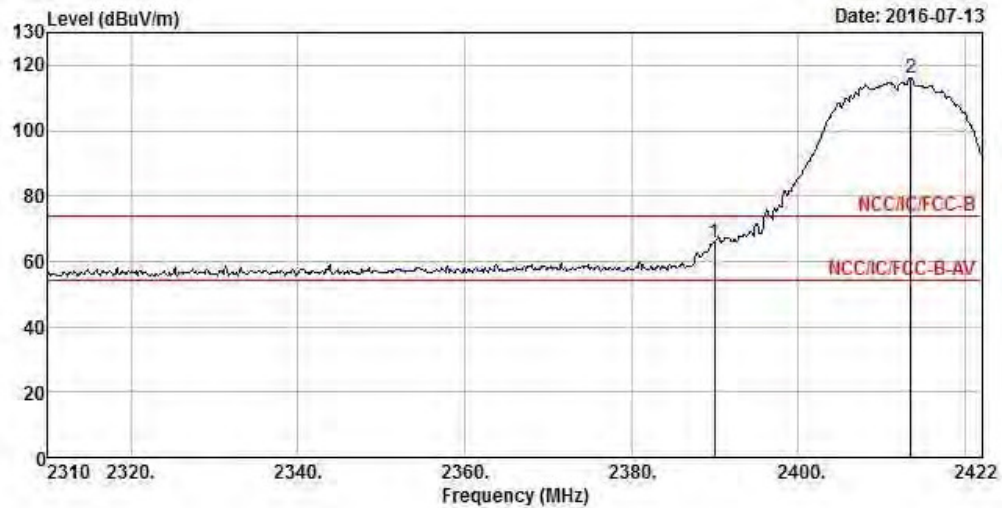
Modulation Mode	HT20	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Factor	Loss Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2389.968	51.87	-2.13	54.00	20.58	27.01	4.28	0.00 Average
2	2413.040	107.28			75.93	27.07	4.28	0.00 Average

Transmitter Radiated Bandedge Emissions

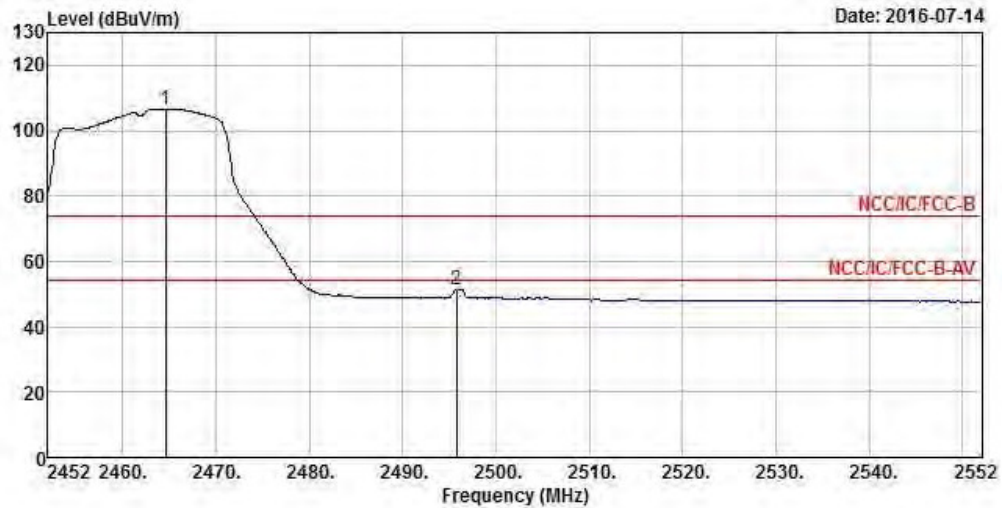
Modulation Mode	HT20	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2389.968	65.71	-8.29	74.00	34.42	27.01	4.28	0.00 Peak
2	2413.488	116.25			84.89	27.08	4.28	0.00 Peak

Transmitter Radiated Bandedge Emissions

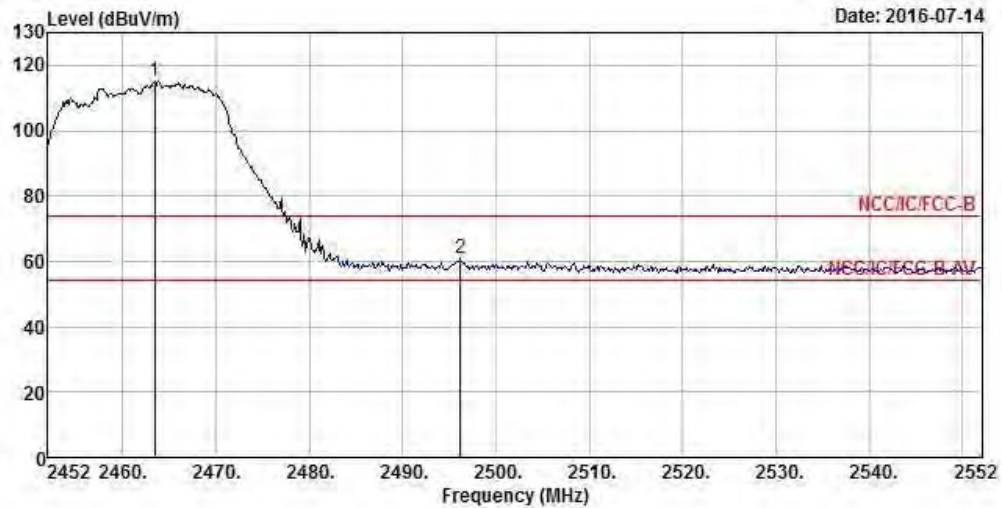
Modulation Mode	HT20	Test Freq. (MHz)	2462
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2464.600	106.56			75.00	27.21	4.35	0.00 Average
2	2495.800	51.50	-2.50	54.00	19.86	27.29	4.35	0.00 Average

Transmitter Radiated Bandedge Emissions

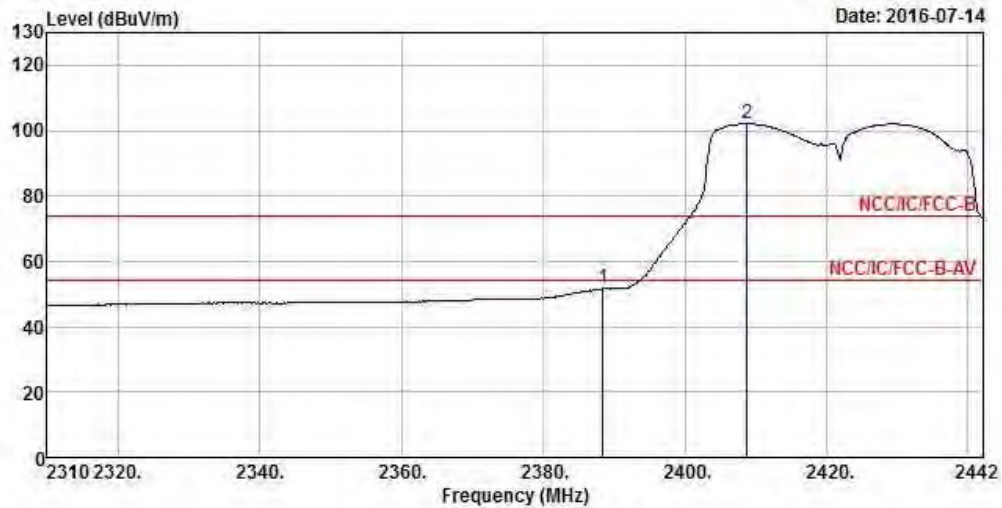
Modulation Mode	HT20	Test Freq. (MHz)	2462
N _{TX}	2	Polarization	V



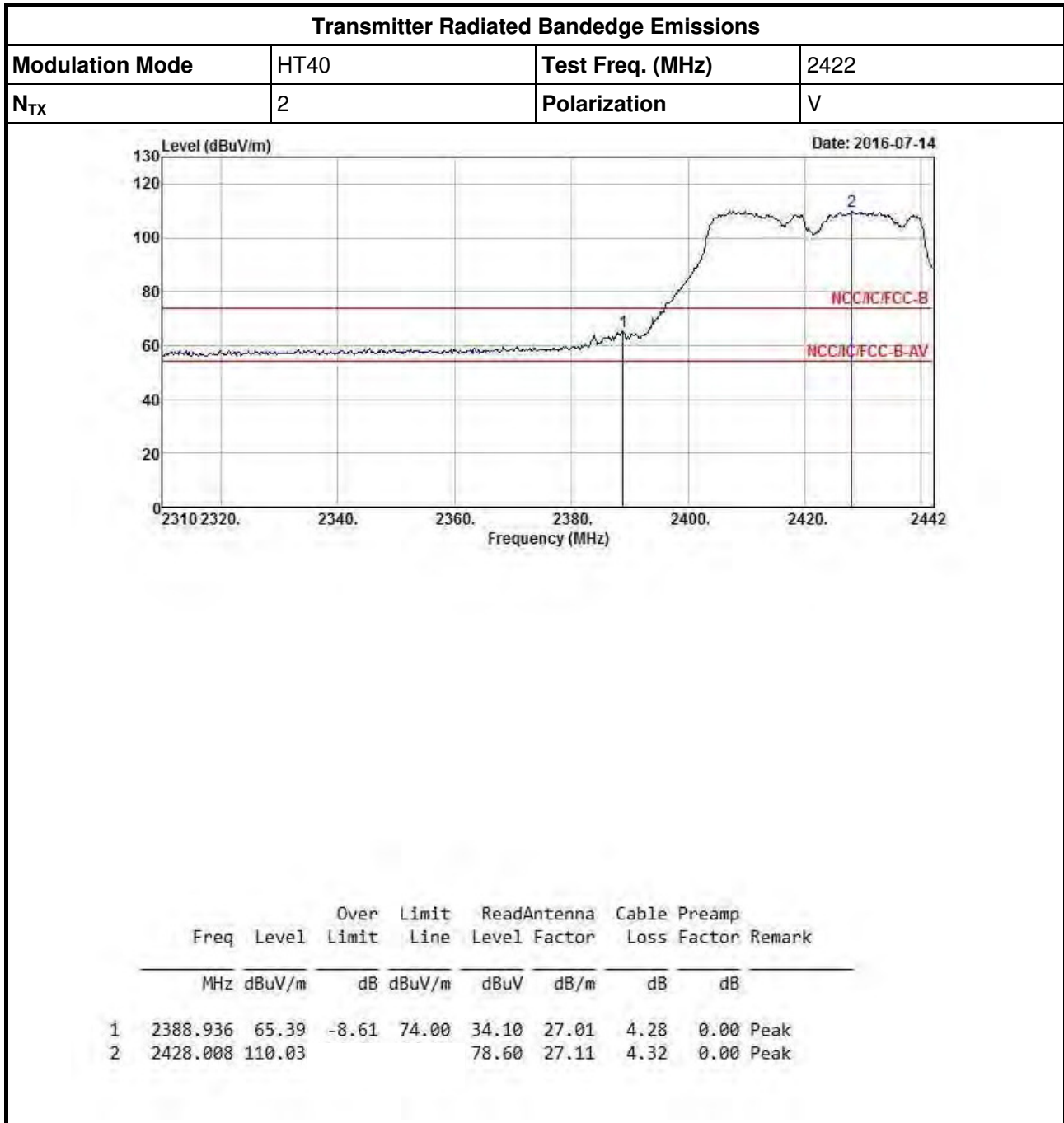
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	Loss Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2463.400	115.27			83.72	27.20	4.35	0.00 Peak
2	2496.200	60.85	-13.15	74.00	29.21	27.29	4.35	0.00 Peak

Transmitter Radiated Bandedge Emissions

Modulation Mode	HT40	Test Freq. (MHz)	2422
N _{TX}	2	Polarization	V

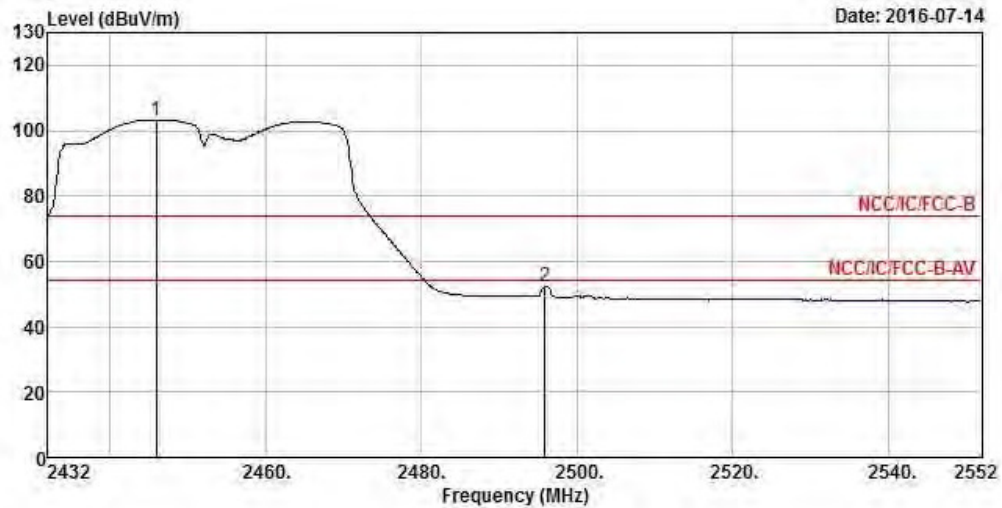


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2388.408	51.81	-2.19	54.00	20.52	27.01	4.28	0.00 Average
2	2408.736	102.10			70.76	27.06	4.28	0.00 Average

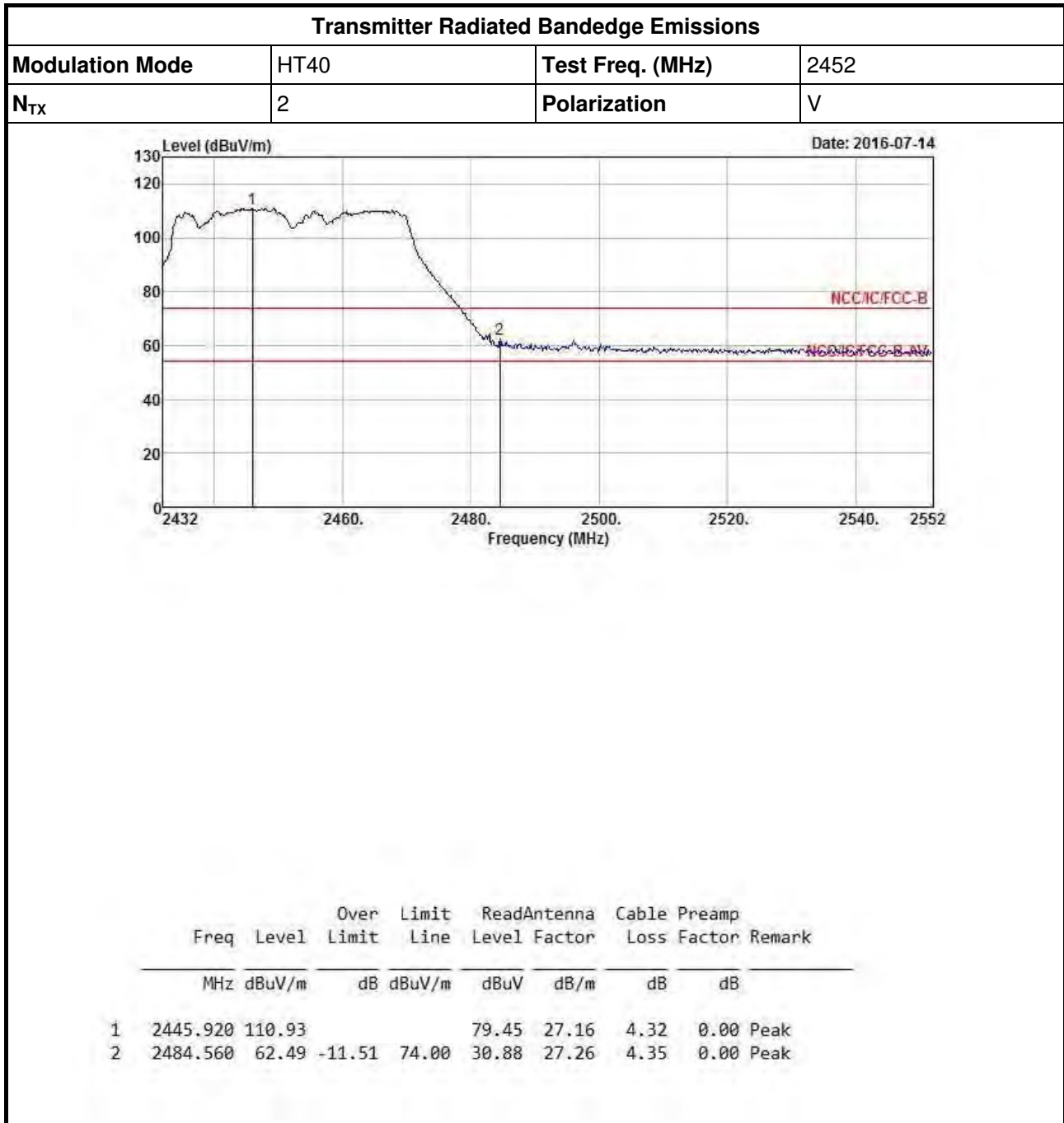


Transmitter Radiated Bandedge Emissions

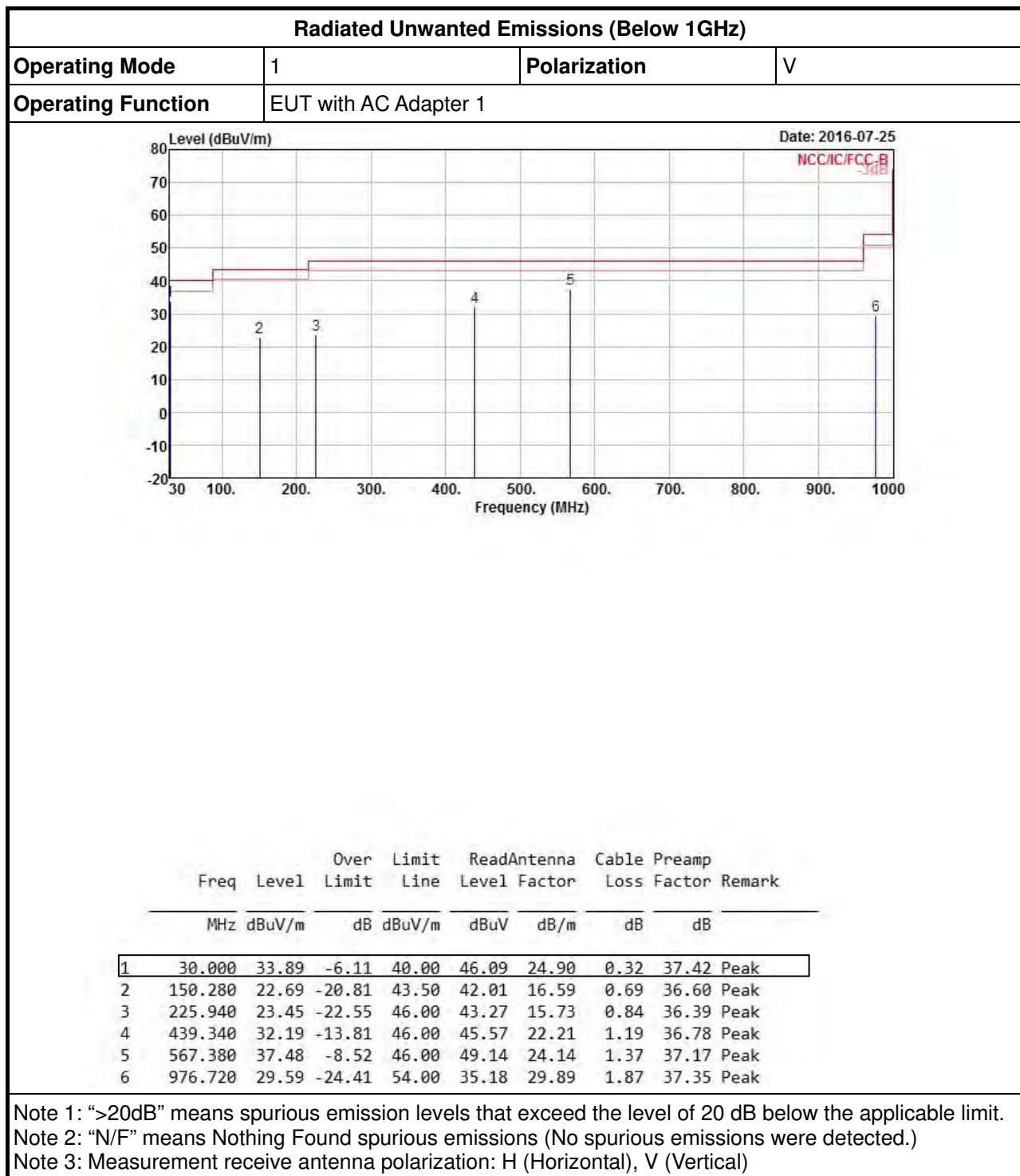
Modulation Mode	HT40	Test Freq. (MHz)	2452
N _{TX}	2	Polarization	V

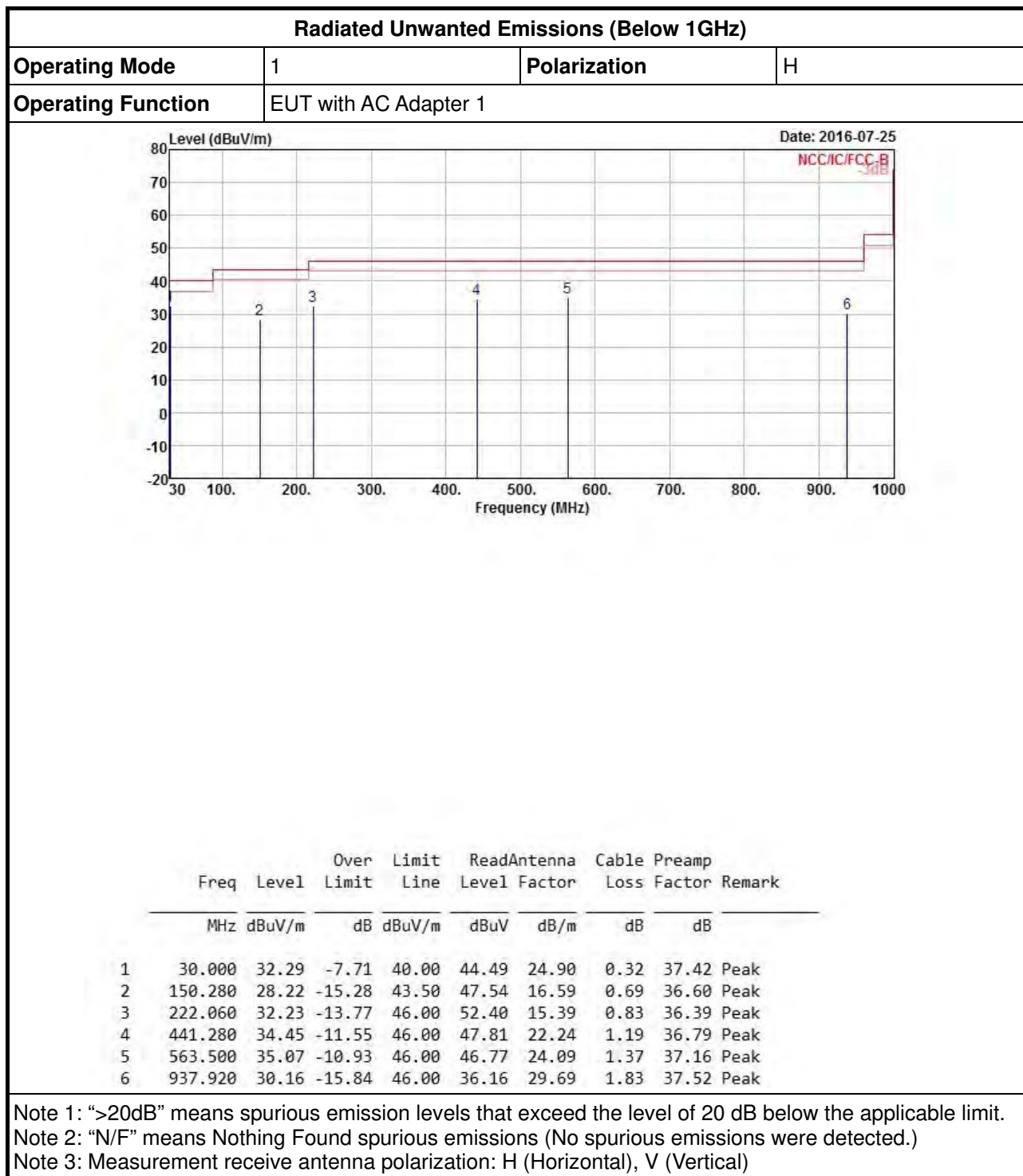


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2445.920	103.36			71.88	27.16	4.32	0.00 Average
2	2495.840	52.12	-1.88	54.00	20.48	27.29	4.35	0.00 Average

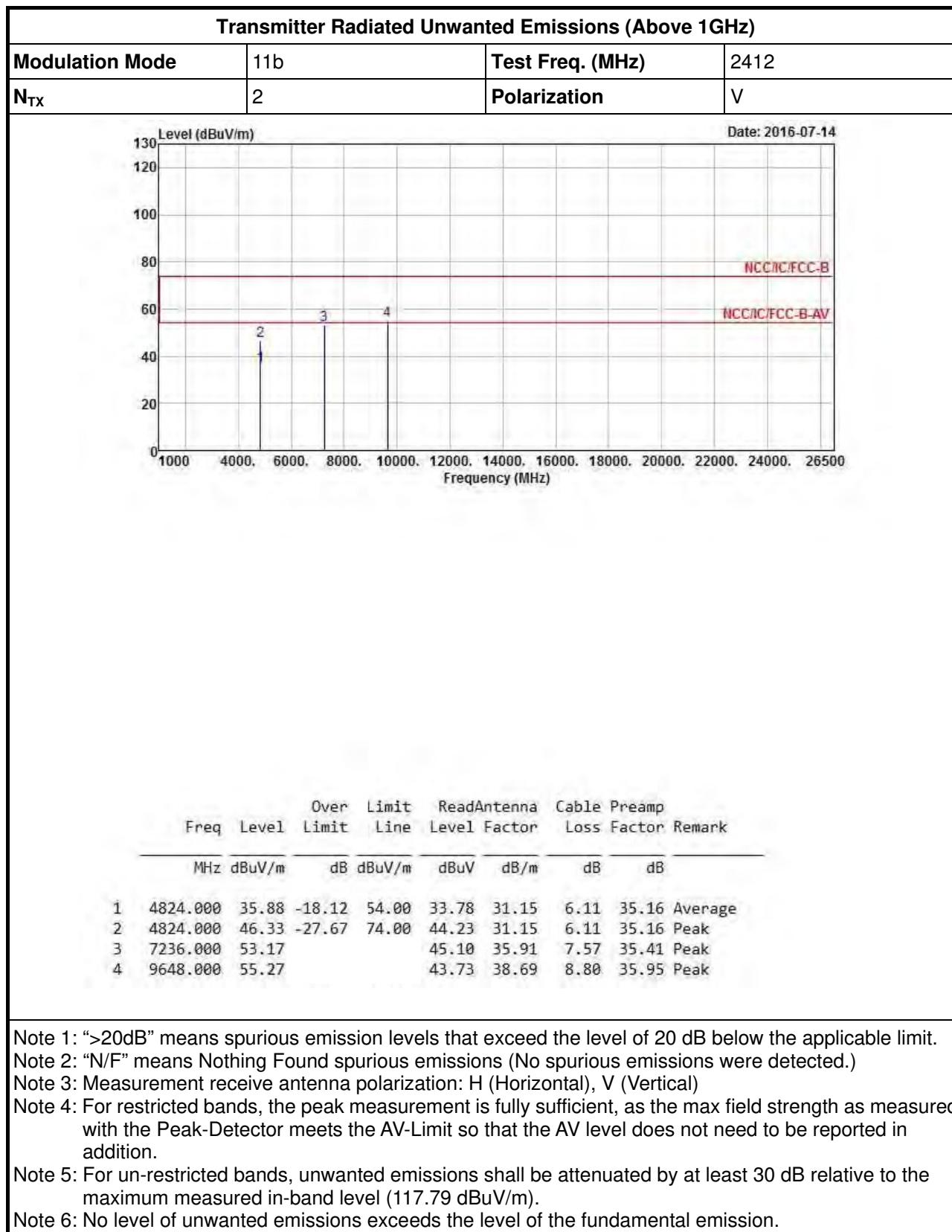


1. Transmitter Radiated Unwanted Emissions (Below 1GHz)



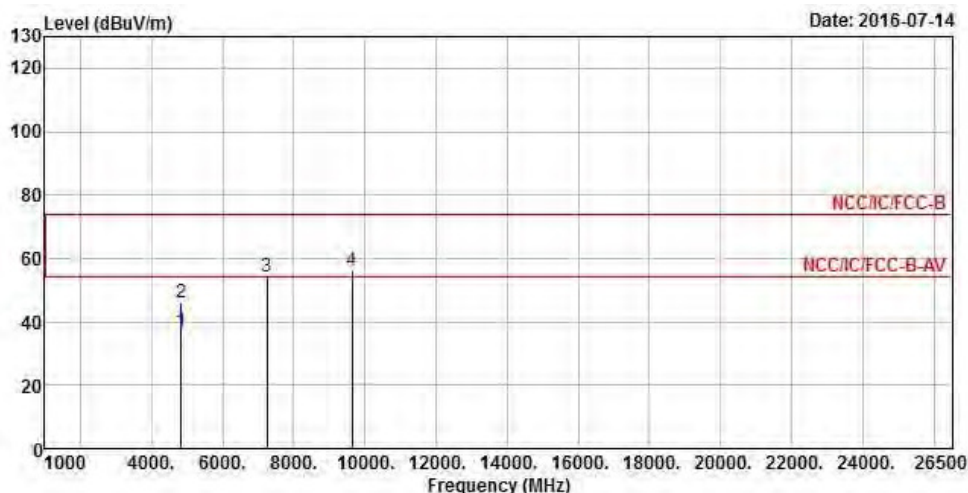


2. Transmitter Radiated Unwanted Emissions (Above 1GHz)



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11b	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4824.000	36.70	-17.30	54.00	34.60	31.15	6.11	35.16 Average
2	4824.000	46.17	-27.83	74.00	44.07	31.15	6.11	35.16 Peak
3	7236.000	54.07			46.00	35.91	7.57	35.41 Peak
4	9648.000	56.15			44.61	38.69	8.80	35.95 Peak

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

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

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

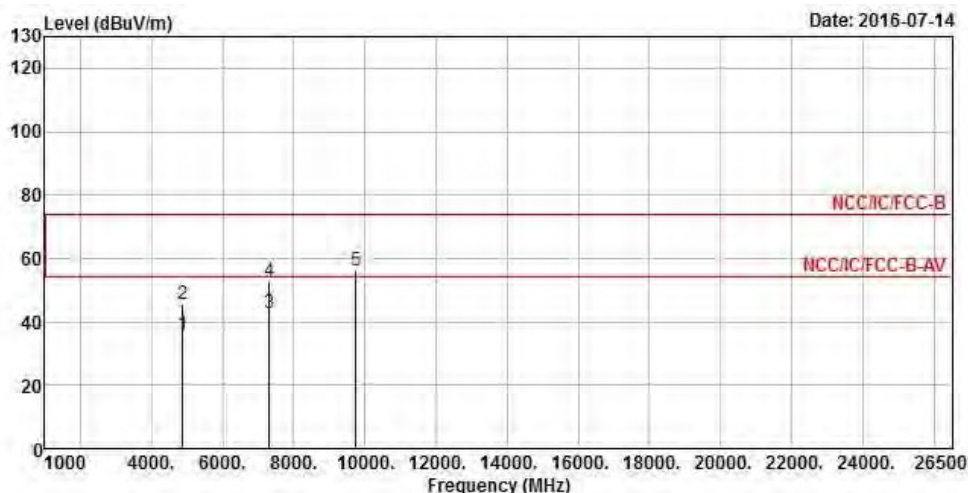
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (117.79dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11b	Test Freq. (MHz)	2437
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4874.000	35.85	-18.15	54.00	33.66	31.22	6.13	35.16 Average
2	4874.000	45.62	-28.38	74.00	43.43	31.22	6.13	35.16 Peak
3	7311.000	42.53	-11.47	54.00	34.24	36.11	7.60	35.42 Average
4	7311.000	52.95	-21.05	74.00	44.66	36.11	7.60	35.42 Peak
5	9748.000	55.92			44.23	38.75	8.89	35.95 Peak

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

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

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

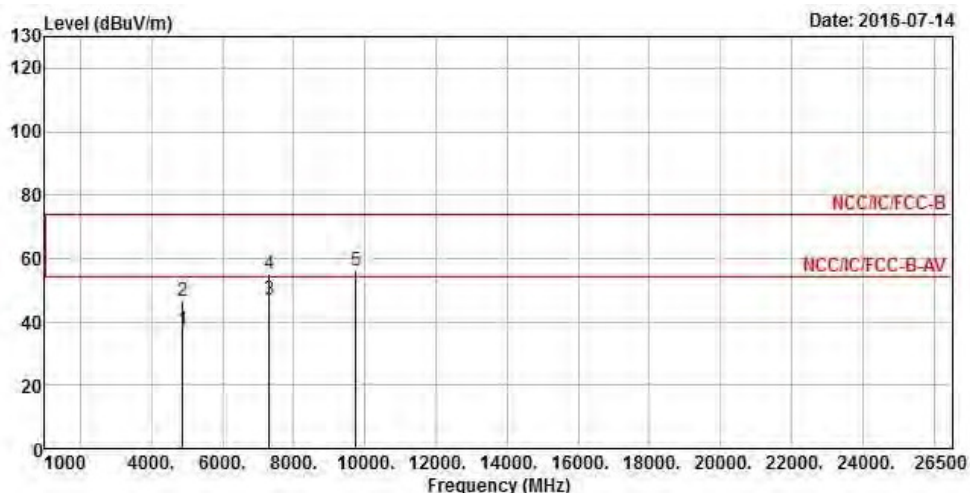
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (117.87 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11b	Test Freq. (MHz)	2437
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4874.000	37.46	-16.54	54.00	35.27	31.22	6.13	35.16 Average
2	4874.000	46.68	-27.32	74.00	44.49	31.22	6.13	35.16 Peak
3	7311.000	47.20	-6.80	54.00	38.91	36.11	7.60	35.42 Average
4	7311.000	55.38	-18.62	74.00	47.09	36.11	7.60	35.42 Peak
5	9748.000	56.05			44.36	38.75	8.89	35.95 Peak

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

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

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

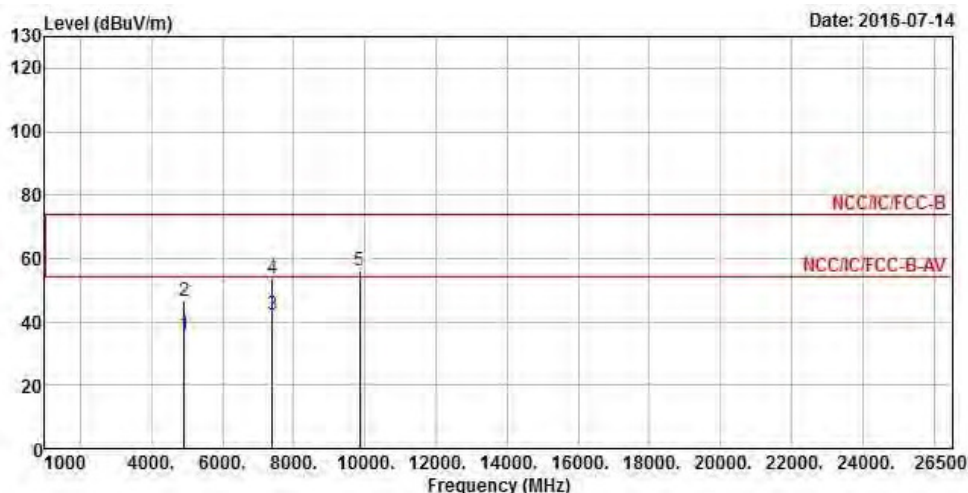
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (117.87 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11b	Test Freq. (MHz)	2462
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4924.000	35.94	-18.06	54.00	33.63	31.29	6.17	35.15 Average
2	4924.000	46.56	-27.44	74.00	44.25	31.29	6.17	35.15 Peak
3	7386.000	42.10	-11.90	54.00	33.60	36.30	7.63	35.43 Average
4	7386.000	53.75	-20.25	74.00	45.25	36.30	7.63	35.43 Peak
5	9848.000	55.98			44.10	38.81	9.03	35.96 Peak

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

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

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

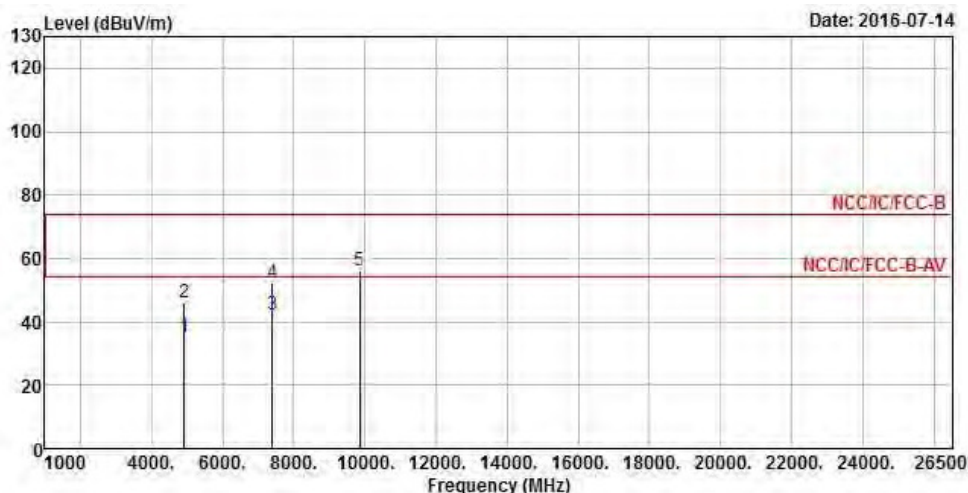
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least **30** dB relative to the maximum measured in-band level (117.69 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11b	Test Freq. (MHz)	2462
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4924.000	34.91	-19.09	54.00	32.60	31.29	6.17	35.15 Average
2	4924.000	46.17	-27.83	74.00	43.86	31.29	6.17	35.15 Peak
3	7386.000	42.02	-11.98	54.00	33.52	36.30	7.63	35.43 Average
4	7386.000	52.20	-21.80	74.00	43.70	36.30	7.63	35.43 Peak
5	9848.000	56.19			44.31	38.81	9.03	35.96 Peak

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

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

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

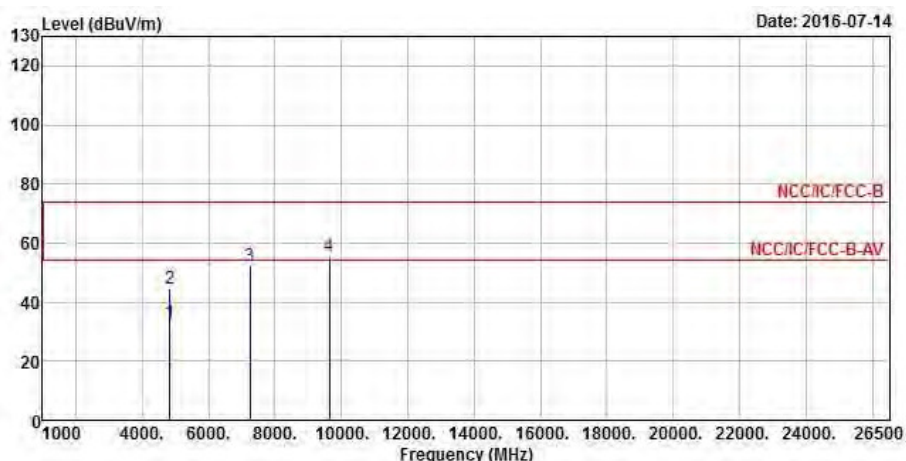
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (117.69dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11g	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4824.000	33.30	-20.70	54.00	31.20	31.15	6.11	35.16 Average
2	4824.000	44.68	-29.32	74.00	42.58	31.15	6.11	35.16 Peak
3	7236.000	52.20			44.13	35.91	7.57	35.41 Peak
4	9648.000	55.83			44.29	38.69	8.80	35.95 Peak

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

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

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

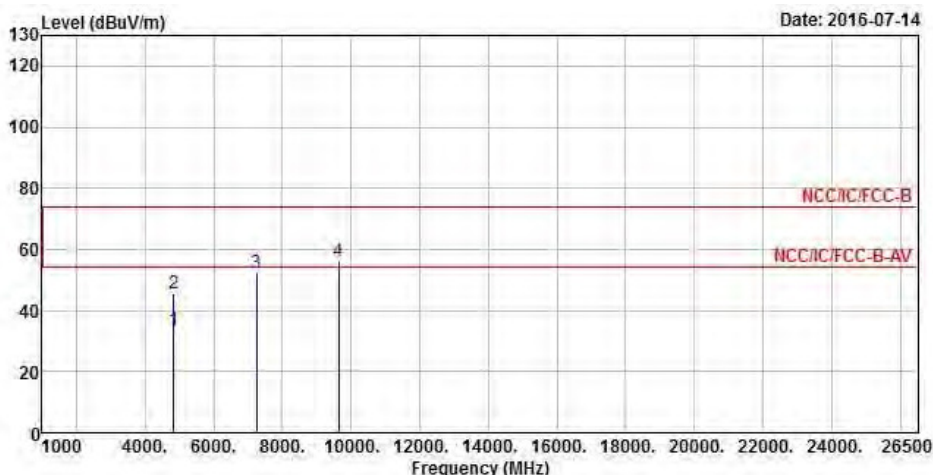
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (115.91dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11g	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4824.000	33.34	-20.66	54.00	31.24	31.15	6.11	35.16 Average
2	4824.000	45.55	-28.45	74.00	43.45	31.15	6.11	35.16 Peak
3	7236.000	52.35			44.28	35.91	7.57	35.41 Peak
4	9648.000	56.14			44.60	38.69	8.80	35.95 Peak

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

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

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

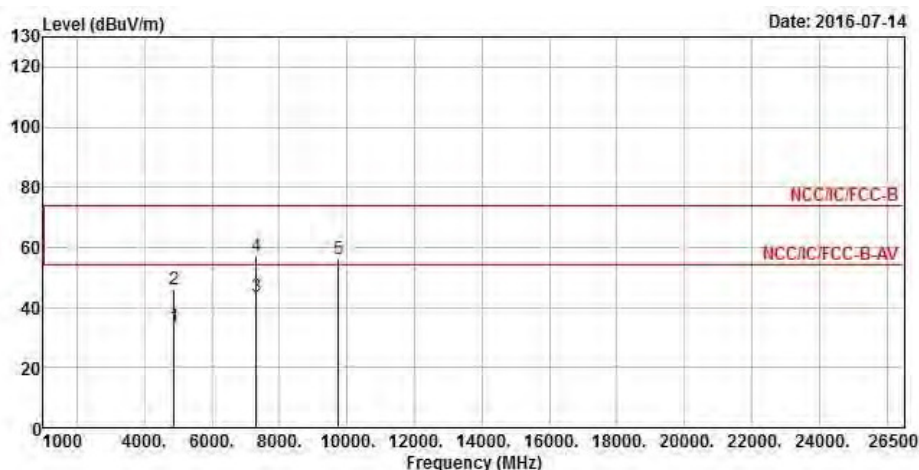
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (115.91 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11g	Test Freq. (MHz)	2437
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4874.000	33.69	-20.31	54.00	31.50	31.22	6.13	35.16 Average
2	4874.000	45.97	-28.03	74.00	43.78	31.22	6.13	35.16 Peak
3	7311.000	43.45	-10.55	54.00	35.16	36.11	7.60	35.42 Average
4	7311.000	56.90	-17.10	74.00	48.61	36.11	7.60	35.42 Peak
5	9748.000	55.98			44.29	38.75	8.89	35.95 Peak

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

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

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

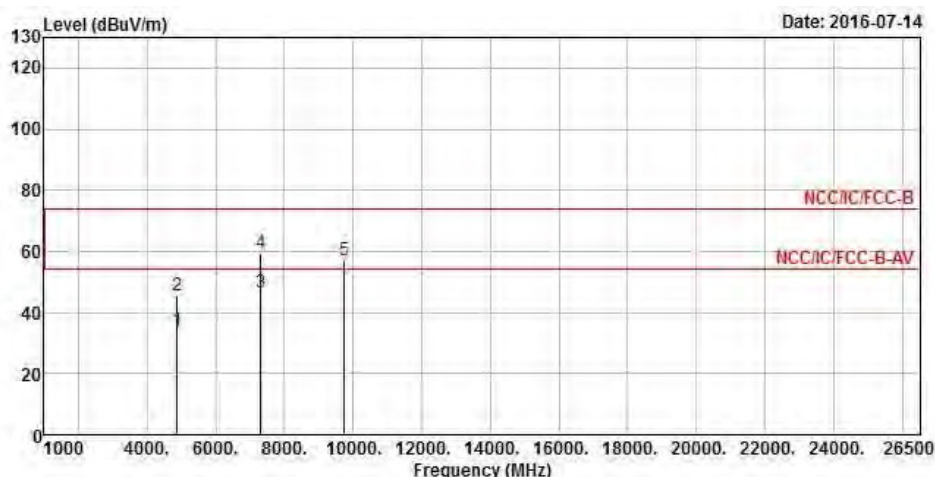
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (120.19 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11g	Test Freq. (MHz)	2437
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4874.000	33.90	-20.10	54.00	31.71	31.22	6.13	35.16 Average
2	4874.000	45.61	-28.39	74.00	43.42	31.22	6.13	35.16 Peak
3	7311.000	46.40	-7.60	54.00	38.11	36.11	7.60	35.42 Average
4	7311.000	59.31	-14.69	74.00	51.02	36.11	7.60	35.42 Peak
5	9748.000	57.12			45.43	38.75	8.89	35.95 Peak

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

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

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

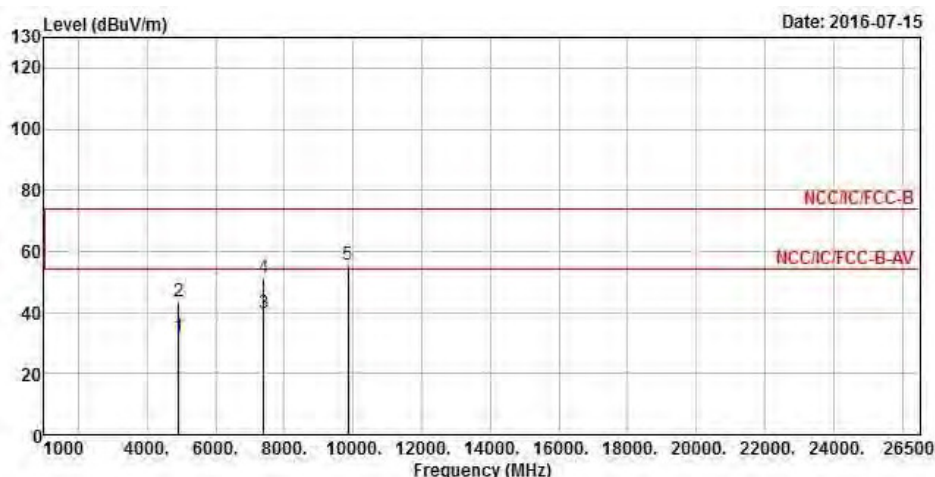
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (120.19 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11g	Test Freq. (MHz)	2462
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4924.000	32.02	-21.98	54.00	29.71	31.29	6.17	35.15 Average
2	4924.000	43.76	-30.24	74.00	41.45	31.29	6.17	35.15 Peak
3	7386.000	39.65	-14.35	54.00	31.15	36.30	7.63	35.43 Average
4	7386.000	51.52	-22.48	74.00	43.02	36.30	7.63	35.43 Peak
5	9848.000	55.55			43.67	38.81	9.03	35.96 Peak

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

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

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

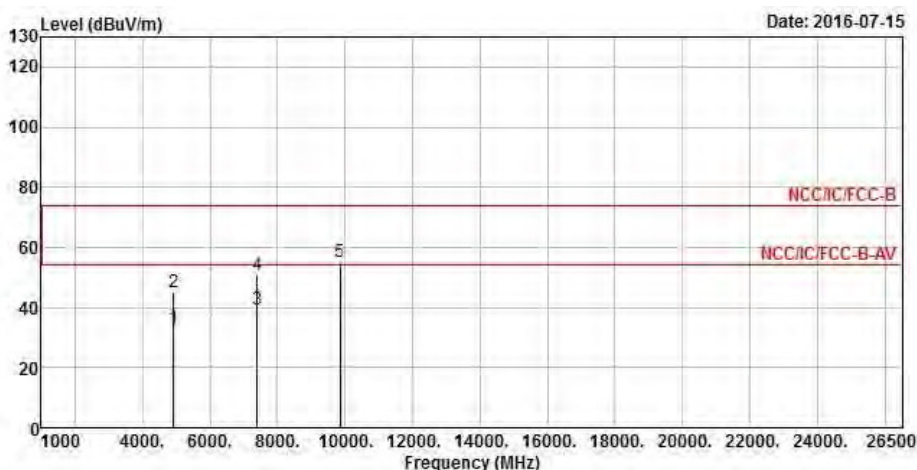
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (115.31 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11g	Test Freq. (MHz)	2462
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4924.000	33.16	-20.84	54.00	30.85	31.29	6.17	35.15	Average
2	4924.000	44.98	-29.02	74.00	42.67	31.29	6.17	35.15	Peak
3	7386.000	39.35	-14.65	54.00	30.85	36.30	7.63	35.43	Average
4	7386.000	50.78	-23.22	74.00	42.28	36.30	7.63	35.43	Peak
5	9848.000	55.25			43.37	38.81	9.03	35.96	Peak

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

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

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

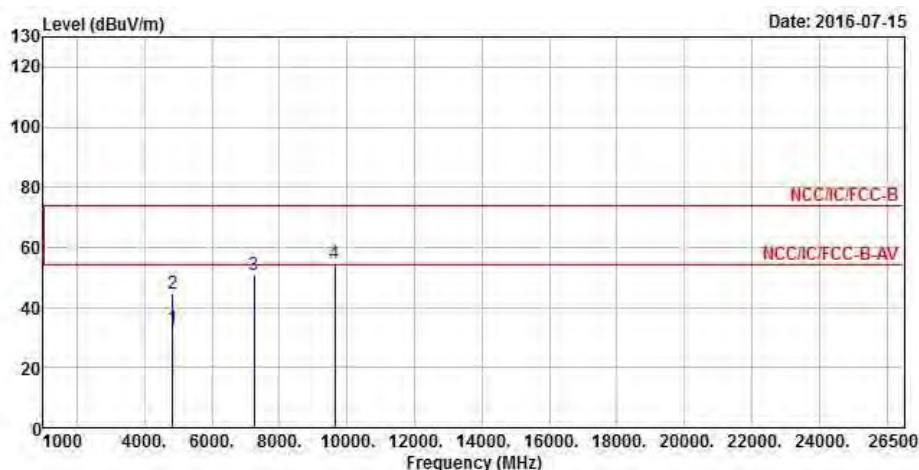
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (115.31 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.000	32.95	-21.05	54.00	30.85	31.15	6.11	35.16	Average
2	4824.000	44.80	-29.20	74.00	42.70	31.15	6.11	35.16	Peak
3	7236.000	50.88			42.81	35.91	7.57	35.41	Peak
4	9648.000	54.82			43.28	38.69	8.80	35.95	Peak

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

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

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

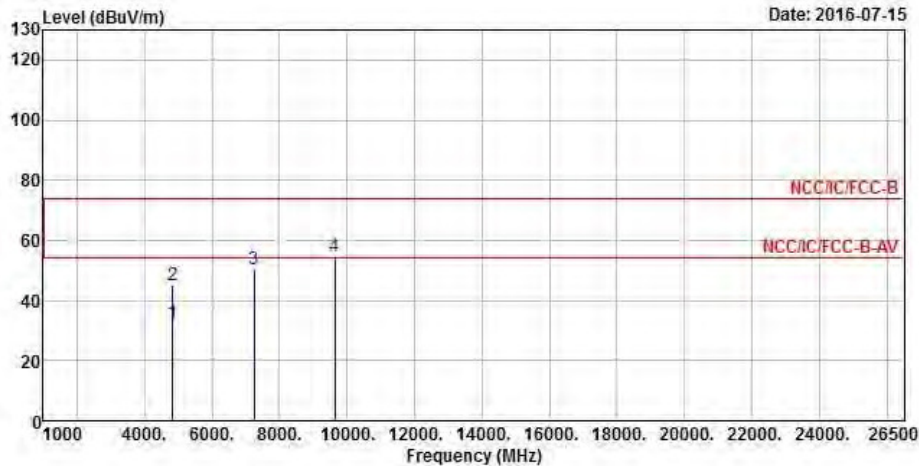
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (116.25 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.000	32.77	-21.23	54.00	30.67	31.15	6.11	35.16	Average
2	4824.000	44.90	-29.10	74.00	42.80	31.15	6.11	35.16	Peak
3	7236.000	50.57			42.50	35.91	7.57	35.41	Peak
4	9648.000	54.49			42.95	38.69	8.80	35.95	Peak

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

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

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

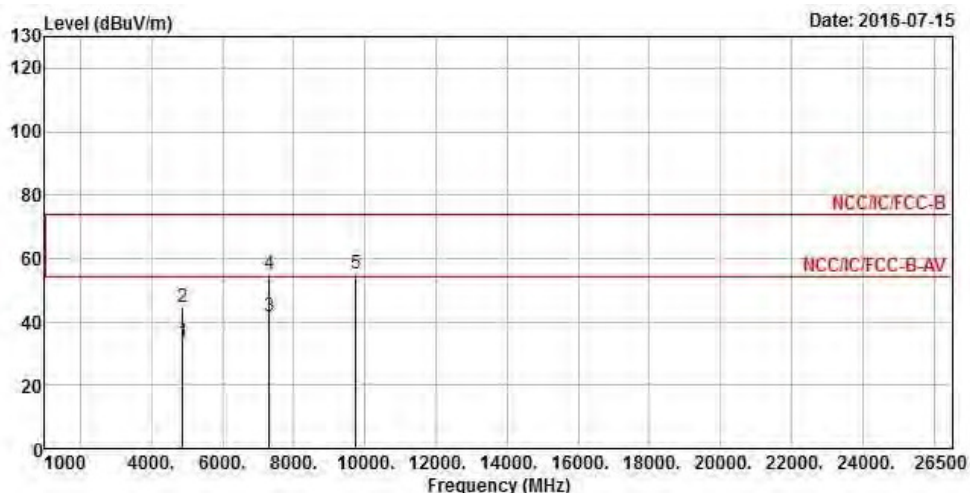
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (116.25 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	2437
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4874.000	33.45	-20.55	54.00	31.26	31.22	6.13	35.16 Average
2	4874.000	44.75	-29.25	74.00	42.56	31.22	6.13	35.16 Peak
3	7311.000	41.74	-12.26	54.00	33.45	36.11	7.60	35.42 Average
4	7311.000	55.01	-18.99	74.00	46.72	36.11	7.60	35.42 Peak
5	9748.000	54.98			43.29	38.75	8.89	35.95 Peak

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

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

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

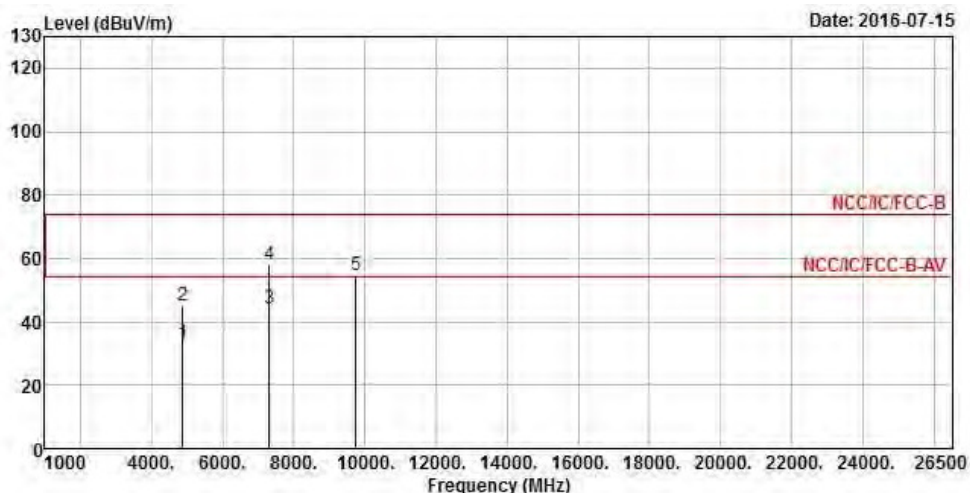
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (119.65 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	2437
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4874.000	32.87	-21.13	54.00	30.68	31.22	6.13	35.16 Average
2	4874.000	44.90	-29.10	74.00	42.71	31.22	6.13	35.16 Peak
3	7311.000	44.14	-9.86	54.00	35.85	36.11	7.60	35.42 Average
4	7311.000	58.17	-15.83	74.00	49.88	36.11	7.60	35.42 Peak
5	9748.000	54.55			42.86	38.75	8.89	35.95 Peak

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

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

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

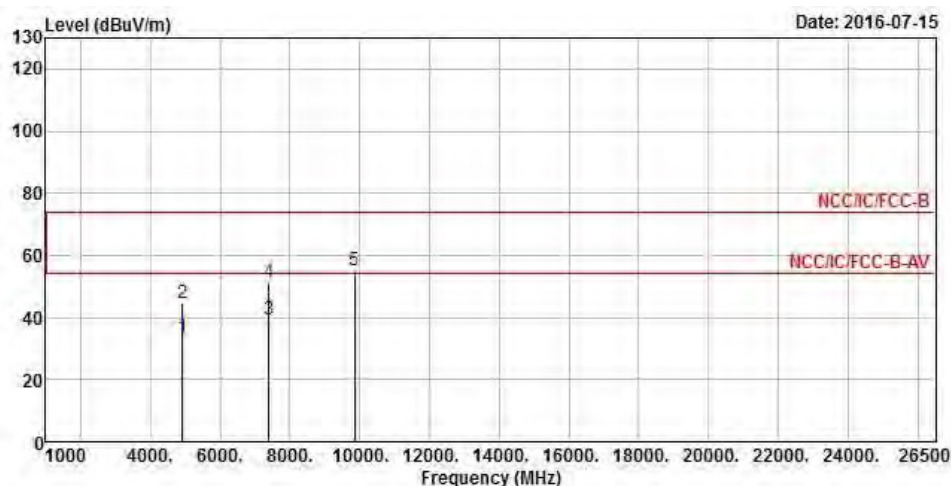
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (119.65 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	2462
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4924.000	33.46	-20.54	54.00	31.15	31.29	6.17	35.15	Average
2	4924.000	44.80	-29.20	74.00	42.49	31.29	6.17	35.15	Peak
3	7386.000	39.31	-14.69	54.00	30.81	36.30	7.63	35.43	Average
4	7386.000	51.56	-22.44	74.00	43.06	36.30	7.63	35.43	Peak
5	9848.000	55.37			43.49	38.81	9.03	35.96	Peak

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

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

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

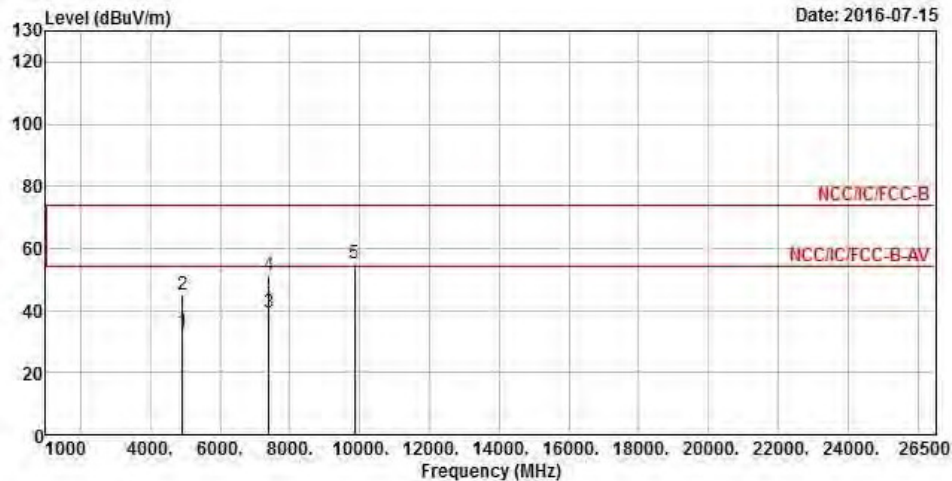
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (115.27 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	2462
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4924.000	33.19	-20.81	54.00	30.88	31.29	6.17	35.15	Average
2	4924.000	45.01	-28.99	74.00	42.70	31.29	6.17	35.15	Peak
3	7386.000	39.27	-14.73	54.00	30.77	36.30	7.63	35.43	Average
4	7386.000	51.23	-22.77	74.00	42.73	36.30	7.63	35.43	Peak
5	9848.000	55.09			43.21	38.81	9.03	35.96	Peak

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

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

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

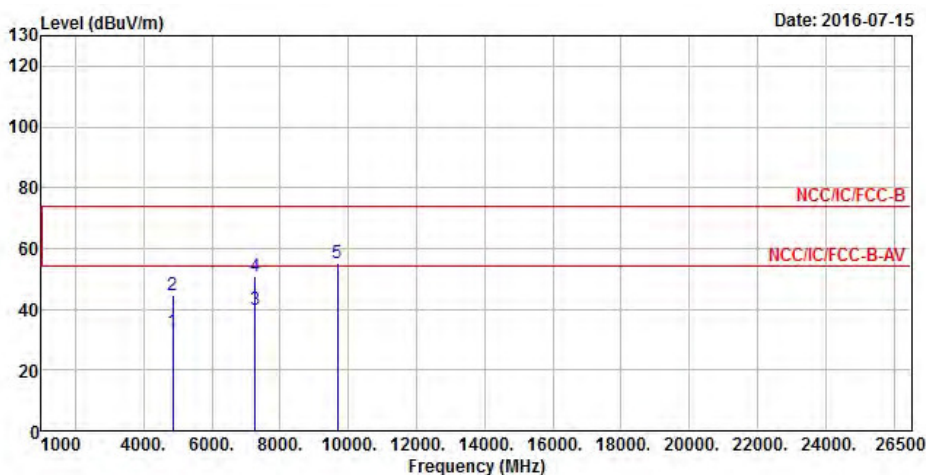
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (115.27 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	2422
N _{TX}	2	Polarization	V



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor
			dB	dBuV/m	dBuV	dB/m	dB	dB
1	4844.000	32.84	-21.16	54.00	30.69	31.18	6.13	35.16
2	4844.000	44.52	-29.48	74.00	42.37	31.18	6.13	35.16
3	7266.000	39.61	-14.39	54.00	31.45	35.99	7.59	35.42
4	7266.000	50.61	-23.39	74.00	42.45	35.99	7.59	35.42
5	9688.000	55.35			43.75	38.71	8.84	35.95
								Peak

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

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

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

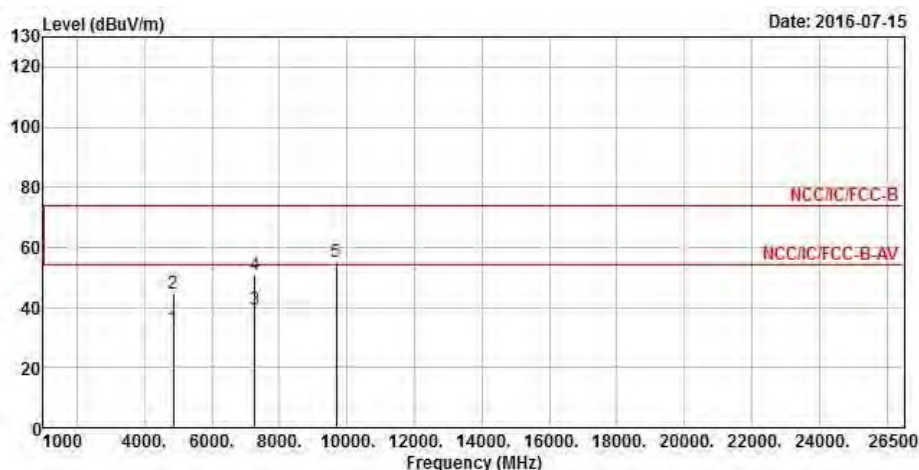
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (110.03dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	2422
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4844.000	32.94	-21.06	54.00	30.79	31.18	6.13	35.16 Average
2	4844.000	44.84	-29.16	74.00	42.69	31.18	6.13	35.16 Peak
3	7266.000	39.15	-14.85	54.00	30.99	35.99	7.59	35.42 Average
4	7266.000	50.97	-23.03	74.00	42.81	35.99	7.59	35.42 Peak
5	9688.000	54.99			43.39	38.71	8.84	35.95 Peak

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

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

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

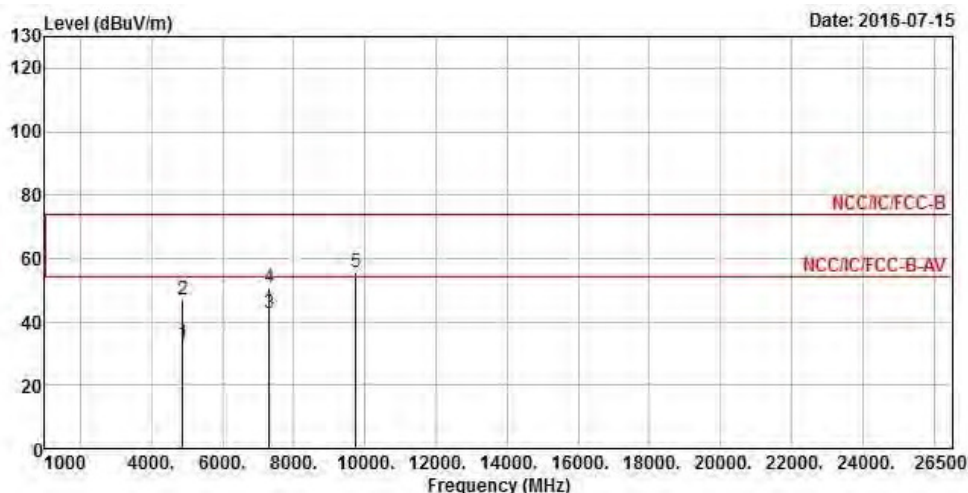
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (110.03 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	2437
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4874.000	33.31	-20.69	54.00	31.12	31.22	6.13	35.16 Average
2	4874.000	47.23	-26.77	74.00	45.04	31.22	6.13	35.16 Peak
3	7311.000	42.59	-11.41	54.00	34.30	36.11	7.60	35.42 Average
4	7311.000	51.09	-22.91	74.00	42.80	36.11	7.60	35.42 Peak
5	9748.000	55.67			43.98	38.75	8.89	35.95 Peak

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

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

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

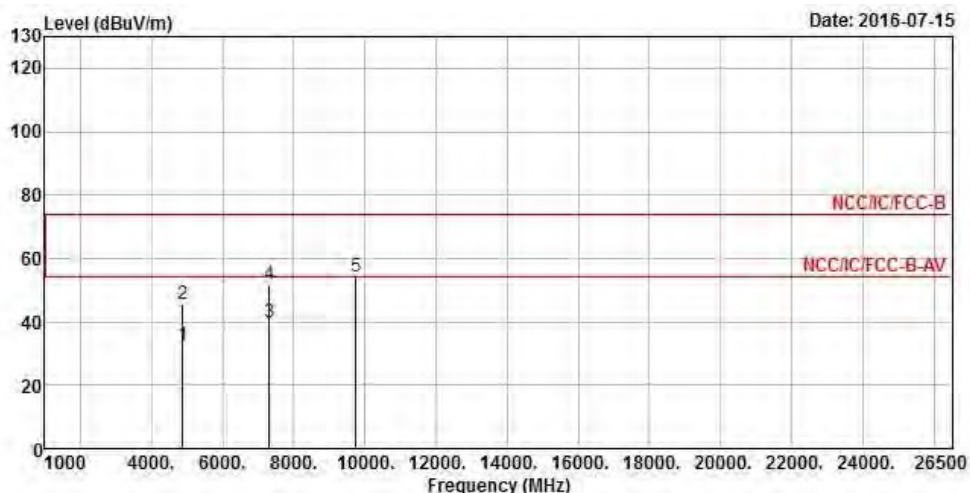
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (113.61dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	2437
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	Loss Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4874.000	32.81	-21.19	54.00	30.62	31.22	6.13	35.16 Average
2	4874.000	45.39	-28.61	74.00	43.20	31.22	6.13	35.16 Peak
3	7311.000	39.91	-14.09	54.00	31.62	36.11	7.60	35.42 Average
4	7311.000	51.78	-22.22	74.00	43.49	36.11	7.60	35.42 Peak
5	9748.000	54.38			42.69	38.75	8.89	35.95 Peak

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

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

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

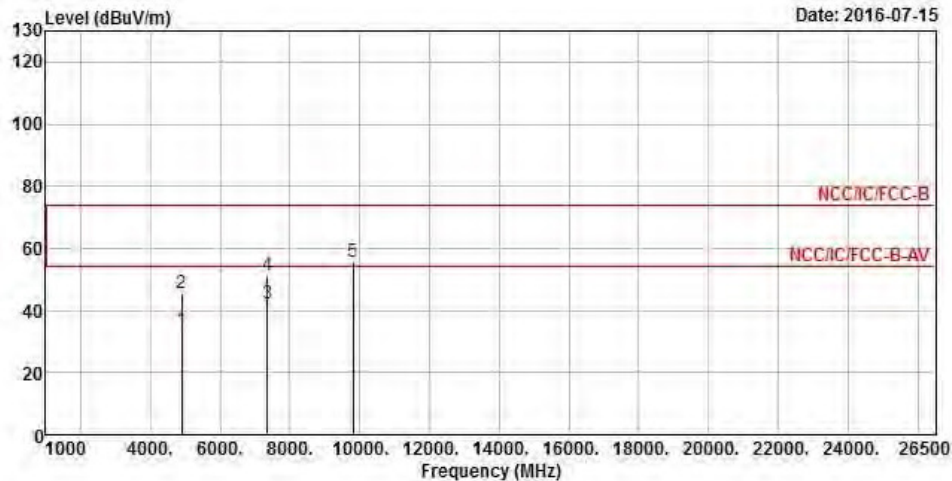
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (113.61 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	2452
N _{TX}	2	Polarization	V



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	4904.000	33.64	-20.36	54.00	31.37	31.27	6.15	35.15 Average
2	4904.000	45.63	-28.37	74.00	43.36	31.27	6.15	35.15 Peak
3	7356.000	42.12	-11.88	54.00	33.71	36.23	7.61	35.43 Average
4	7356.000	51.26	-22.74	74.00	42.85	36.23	7.61	35.43 Peak
5	9808.000	55.41			43.60	38.78	8.99	35.96 Peak

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

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

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

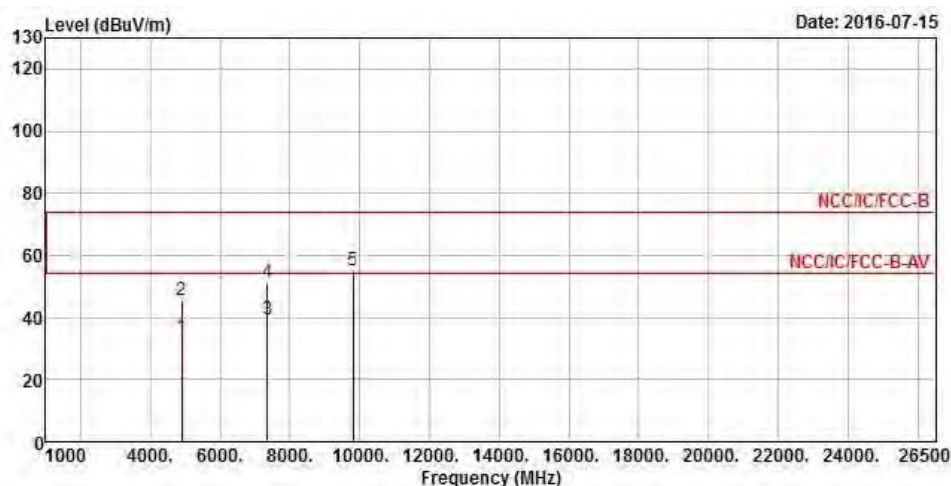
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (110.93 dBuV/m).

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	2452
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4904.000	33.35	-20.65	54.00	31.08	31.27	6.15	35.15	Average
2	4904.000	45.76	-28.24	74.00	43.49	31.27	6.15	35.15	Peak
3	7356.000	39.33	-14.67	54.00	30.92	36.23	7.61	35.43	Average
4	7356.000	51.26	-22.74	74.00	42.85	36.23	7.61	35.43	Peak
5	9808.000	55.11			43.30	38.78	8.99	35.96	Peak

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

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

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

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

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (110.93 dBuV/m).

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