FCC Test Report

Equipment	:	**11ac Wireless Travel Router**
Brand Name	:	**EDIMAX**
Model No.	:	**BR-6288ACL / GR-288ACL**
FCC ID	:	**NDD9562881314**
Standard	:	**47 CFR FCC Part 15.247**
Operating Band	:	**5725 MHz – 5850 MHz**
Equipment Class	:	**DTS**
Applicant **Manufacturer**	:	**EDIMAX TECHNOLOGY CO., LTD.** No.3,Wu-Chuan 3rd Road,Wu-Ku Industrial Park, New Taipei City, Taiwan

The product sample received on Dec. 09, 2013 and completely tested on Jan. 10, 2014. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2009 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:

Wayne Hsu / Assistant Manager

Testing Laboratory
1190

Table of Contents

1 GENERAL DESCRIPTION 5

1.1 Information 5
1.2 Support Equipment 7
1.3 Testing Applied Standards 7
1.4 Testing Location Information 7
1.5 Measurement Uncertainty 8

2 TEST CONFIGURATION OF EUT 9

2.1 The Worst Case Modulation Configuration 9
2.2 The Worst Case Power Setting Parameter 9
2.3 The Worst Case Measurement Configuration 10
2.4 Test Setup Diagram 11

3 TRANSMITTER TEST RESULT 13

3.1 AC Power-line Conducted Emissions 13
3.2 6dB Bandwidth 16
3.3 RF Output Power 18
3.4 Power Spectral Density 22
3.5 Transmitter Bandedge Emissions 24
3.6 Transmitter Unwanted Emissions 28

4 TEST EQUIPMENT AND CALIBRATION DATA 61

APPENDIX A. TEST PHOTOS

APPENDIX B. PHOTOGRAPHS OF EUT

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]: 0.1934380MHz 40.94 (Margin 12.95dB) - AV 51.09 (Margin 12.80dB) - QP	FCC 15.207	Complied
3.2	15.247(a)	Bandwidth	6dB Bandwidth [MHz] a/n(HT20):16.35 n(HT40):35.52 ac(VHT20):17.58 ac(VHT40):35.52 ac(VHT80): 72.72	≥500kHz	Complied
3.3	15.247(b)	RF Output Power (Maximum Peak Conducted Output Power)	Power [dBm]:22.28	Power [dBm]:30	Complied
3.4	15.247(d)	Power Spectral Density	PSD [dBm/100kHz]:-10.84	PSD [dBm/MHz]:17 replace 8dBm/3kHz	Complied
3.5	15.247(c)	Transmitter Bandedge Emissions	Non-Restricted Bands: 5852.700MHz: 21.60dB	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied
3.6	15.247(c)	Transmitter Radiated Unwanted Emissions	Restricted Bands [dBuV/m at 3m]: 17355MHz 59.86 (Margin 3.68dB) - AV 72.88 (Margin 10.66dB) - PK	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied

Revision History

Report No.	Version	Description	Issued Date
FR3D0957AI	Rev. 01	Initial issue of report	Feb. 07, 2014

1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information					
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	23.06
5725-5850	n(HT20)	5745-5825	149-165 [5]	1	23.28
5725-5850	n(HT40)	5755-5795	151-159 [2]	1	21.98
5725-5850	ac(VHT20)	5745-5825	149-165 [5]	1	22.87
5725-5850	ac(VHT40)	5755-5795	151-159 [2]	1	22.29
5725-5850	ac(VHT80)	5775	155 [1]	1	21.75

Note 1: RF output power specifies that Maximum Peak 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.
Note 4: Co-location, Co-location is generally defined as simultaneously transmitting (co-transmitting) antennas within 20 cm of each other. (i.e., EUT has simultaneously co-transmitting that operating 2.4GHz and 5GHz.)

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.

Antenna General Information			
No.	**Ant. Cat.**	**Ant. Type**	**Gain (dBi)**
1	Integral	PIFA	2.67

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 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle		
☐ Operated normally mode for worst duty cycle		
☒ Operated test mode for worst duty cycle		
Test Signal Duty Cycle (x)	**N_{TX}**	**Power Duty Factor [dB] – (10 log 1/x)**
☒ 93.46% - IEEE 802.11a	1	0.29
☒ 95.10% - IEEE 802.11n (HT20)	1	0.22
☒ 90.12% - IEEE 802.11n (HT40)	1	0.45
☒ 93.15% - IEEE 802.11ac (VHT20)	1	0.31
☒ 82.93% - IEEE 802.11ac (VHT40)	1	0.81
☒ 80.43% - IEEE 802.11ac (VHT80)	1	0.95

Note 1: RF Output Power Plots w/o Duty Factor

1.1.5 EUT Operational Condition

Supply Voltage	☐ AC mains	☒ DC	☐ System
Type of DC Source	☐ Internal DC supply	☒ From Host	☐ Battery

1.2 Support Equipment

Support Equipment			
No.	**Equipment**	**Brand Name**	**Model Name**
1	Notebook	DELL	E5530

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
- FCC KDB 558074
- FCC KDB 789033
- FCC KDB 644545 D01
- FCC KDB 644545 D02
- FCC KDB 662911

1.4 Testing Location Information

Testing Location					
☒	HWA YA	ADD :	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.		
		TEL :	886-3-327-3456	FAX :	886-3-327-0973

Test Condition	Test Site No.	Test Engineer	Test Environment
AC Conduction	CO04-HY	Zeus	23°C / 58%
RF Conducted	TH01-HY	Sky	22.3°C / 61%
Radiated Emission	03CH02-HY	Daniel	23°C / 58%

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		±2.26 dB
Emission bandwidth, 6dB bandwidth		±1.42 %
RF output power, conducted		±0.63 dB
Power density, conducted		±0.81 dB
Unwanted emissions, conducted	9 – 150 kHz	±0.38 dB
	0.15 – 30 MHz	±0.42 dB
	30 – 1000 MHz	±0.51 dB
	1 – 18 GHz	±0.67 dB
	18 – 40 GHz	±0.83 dB
	40 – 200 GHz	N/A
All emissions, radiated	9 – 150 kHz	±2.49 dB
	0.15 – 30 MHz	±2.28 dB
	30 – 1000 MHz	±2.56 dB
	1 – 18 GHz	±3.59 dB
	18 – 40 GHz	±3.82 dB
	40 – 200 GHz	N/A
Temperature		±0.8 °C
Humidity		±3 %
DC and low frequency voltages		±3 %
Time		±1.42 %
Duty Cycle		±1.42 %

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

Worst Modulation Used for Conformance Testing			
Modulation Mode	**Transmit Chains (N_{TX})**	**Data Rate / MCS**	**Worst Data Rate / MCS**
11a,6-54Mbps	1	6-54Mbps	6 Mbps
HT20,M0-7	1	M0-7	MCS 0
HT40,M0-7	1	M0-7	MCS 0
VHT20,M0-8	1	M0-8	MCS 0
VHT40,M0-9	1	M0-9	MCS 0
VHT80,M0-9	1	M0-9	MCS 0

2.2 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter (5725-5850MHz band)							
Test Software Version	RTL819x_2.3						
Modulation Mode	**N_{TX}**	**Test Frequency (MHz)**					
		NCB: 20MHz			**NCB: 40MHz**		**NCB: 80MHz**
		5745	**5785**	**5825**	**5755**	**5795**	**5775**
11a,6-54Mbps	1	40	35	34	-	-	-
HT20,M0-7	1	40	37	35	-	-	-
HT40,M0-7	1	-	-	-	37	37	-
VHT20,M0-8	1	40	35	32	-	-	-
VHT40,M0-9	1	-	-	-	37	37	-
VHT80,M0-9	1	-	-	-	-	-	37

2.3 The Worst Case Measurement Configuration

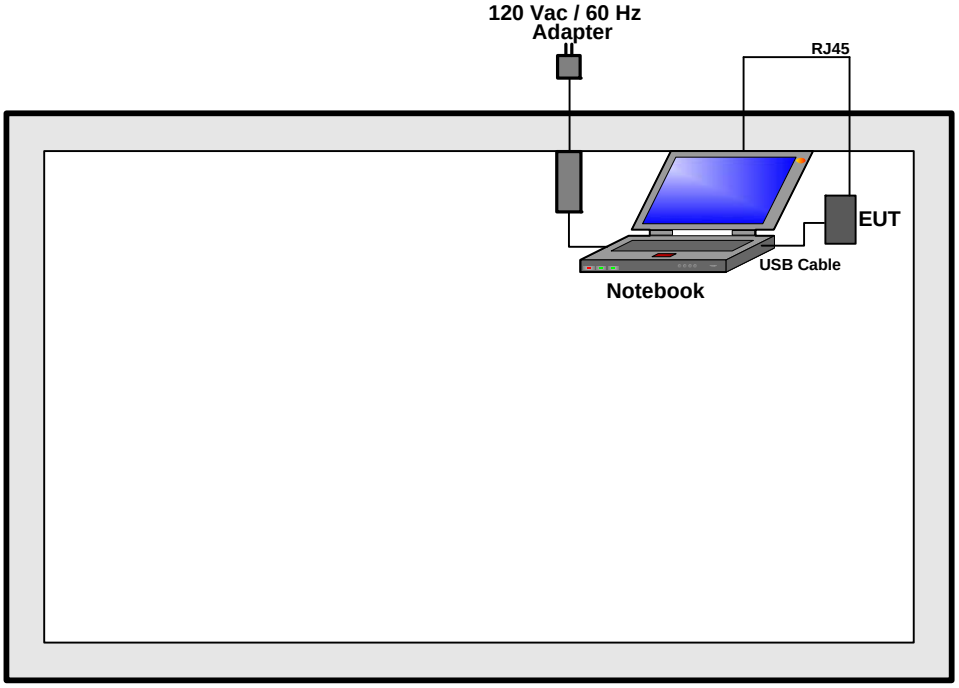
The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Operating Mode Description
1	EUT with Notebook via USB cable

The Worst Case Mode for Following Conformance Tests	
Tests Item	RF Output Power, Power Spectral Density, 6 dB Bandwidth
Test Condition	Conducted measurement at transmit chains
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80

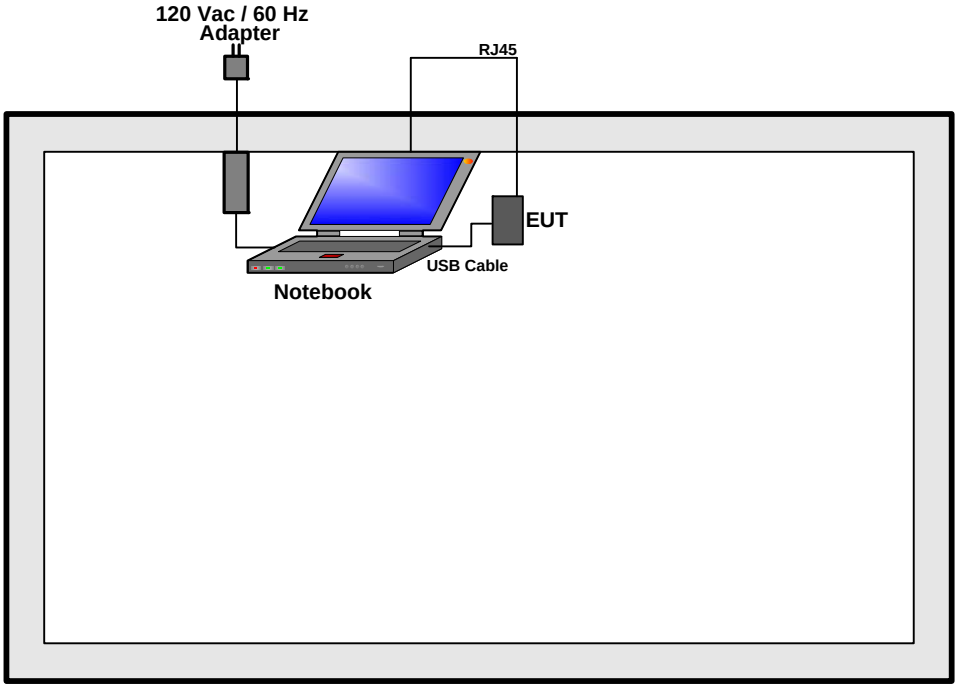
The Worst Case Mode for Following Conformance Tests			
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions		
Test Condition	Radiated measurement		
User Position	☐ EUT will be placed in fixed position.		
	☒ EUT will be placed in mobile position and operating multiple positions. EUT shall be performed two orthogonal planes. The worst planes is Z.		
	☐ 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. EUT with Notebook via USB cable		
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**

2.4 Test Setup Diagram

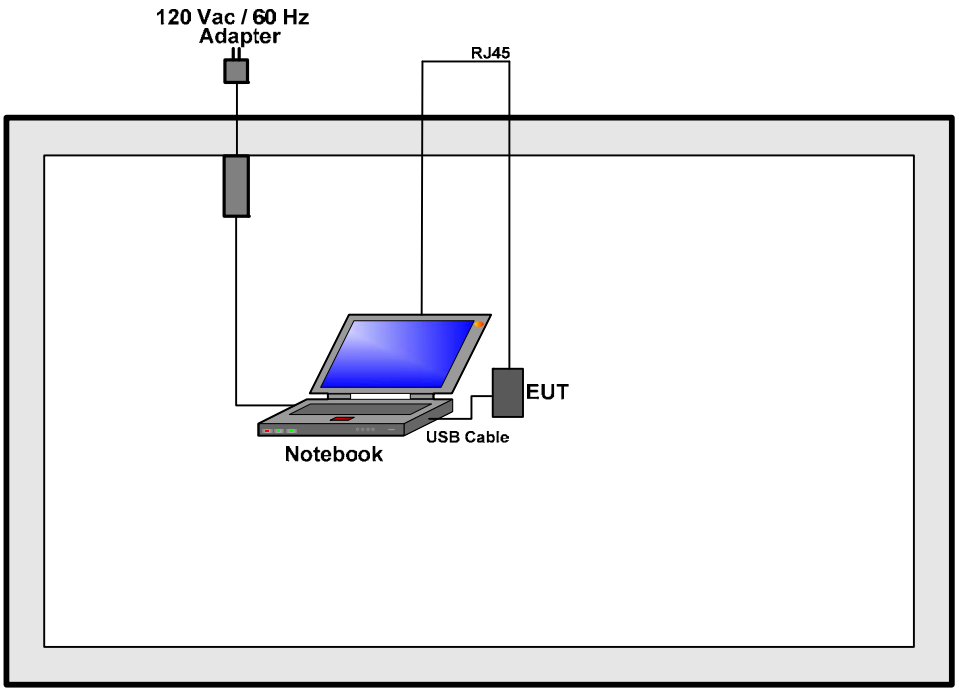
Test Setup Diagram - AC Line Conducted Emission Test



Test Setup Diagram - Radiated Emission Below 1GHz Test



Test Setup Diagram - Radiated Emission Above 1GHz 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

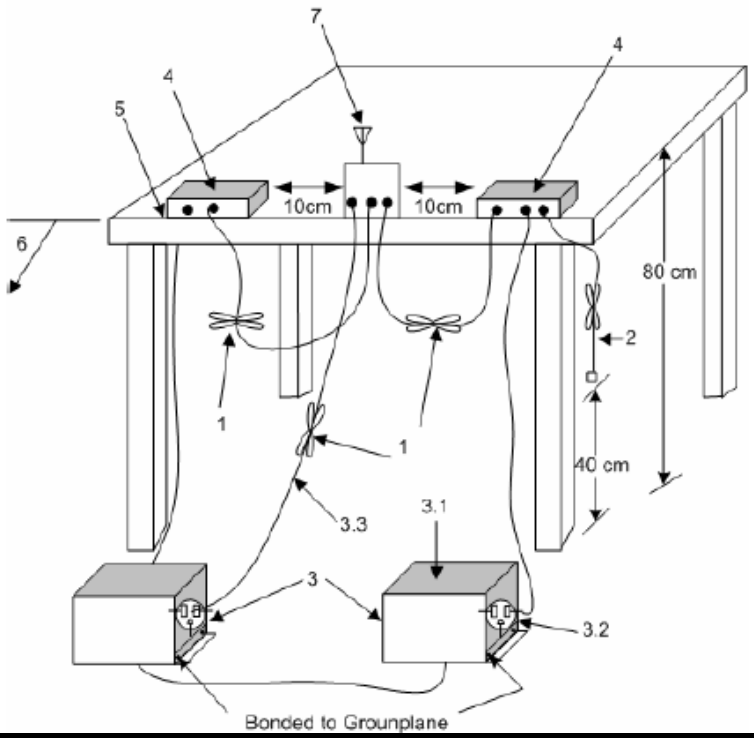
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10-2009, clause 6.2 for AC power-line conducted emissions.

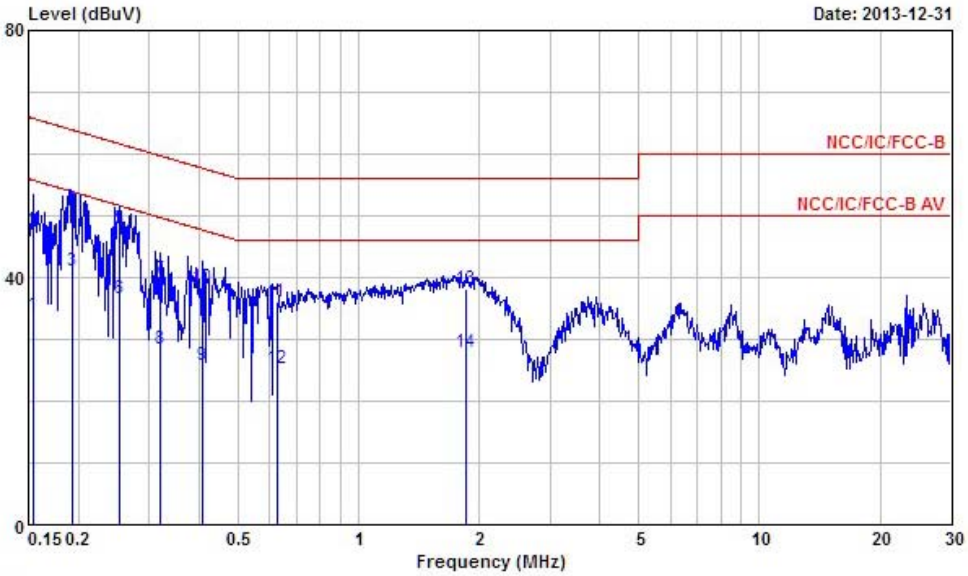
3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

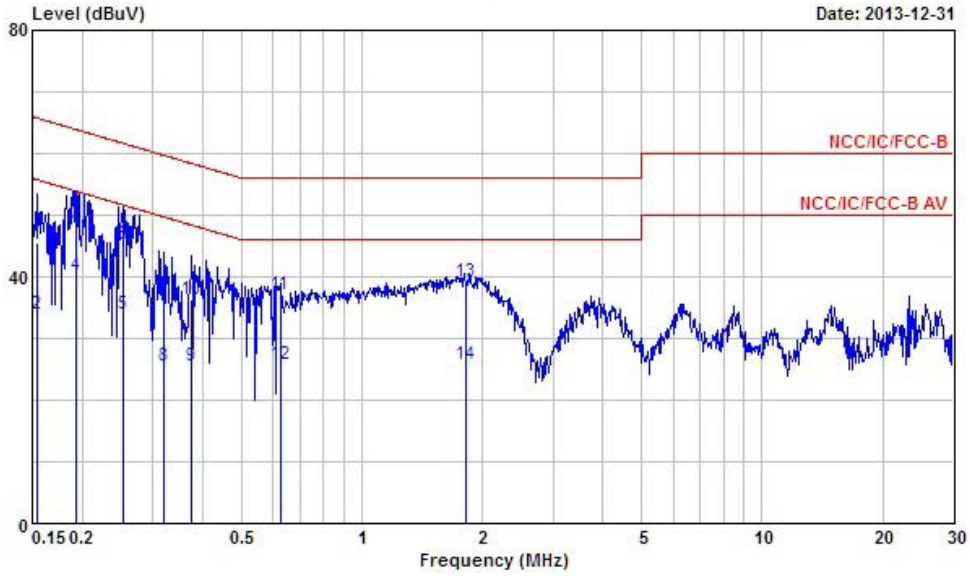
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	EUT with Notebook via USB cable		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1540270	33.96	-21.82	55.78	33.47	0.24	0.25	Average
2	0.1540270	47.24	-18.54	65.78	46.75	0.24	0.25	QP
3	@0.1934380	40.94	-12.95	53.89	40.59	0.23	0.12	Average
4	@0.1934380	51.09	-12.80	63.89	50.74	0.23	0.12	QP
5	0.2521110	47.88	-13.81	61.69	47.55	0.23	0.10	QP
6	0.2521110	36.55	-15.14	51.69	36.22	0.23	0.10	Average
7	0.3199920	39.66	-20.05	59.71	39.34	0.22	0.10	QP
8	0.3199920	28.50	-21.21	49.71	28.18	0.22	0.10	Average
9	0.4083060	25.80	-21.88	47.68	25.48	0.22	0.10	Average
10	0.4083060	38.39	-19.29	57.68	38.07	0.22	0.10	QP
11	0.6238330	35.98	-20.02	56.00	35.61	0.22	0.15	QP
12	0.6238330	25.27	-20.73	46.00	24.90	0.22	0.15	Average
13	1.860	38.11	-17.89	56.00	37.57	0.25	0.29	QP
14	1.860	27.89	-18.11	46.00	27.35	0.25	0.29	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	1	**Power Phase**	Line
Operating Function	EUT with Notebook via USB cable		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1540270	45.60	-20.18	65.78	45.24	0.11	0.25	QP
2	0.1540270	33.88	-21.90	55.78	33.52	0.11	0.25	Average
3	0.1934380	48.62	-15.27	63.89	48.39	0.11	0.12	QP
4	0.1934380	40.39	-13.50	53.89	40.16	0.11	0.12	Average
5	0.2521110	33.91	-17.78	51.69	33.70	0.11	0.10	Average
6	0.2521110	45.18	-16.51	61.69	44.97	0.11	0.10	QP
7	0.3199920	35.96	-23.75	59.71	35.76	0.10	0.10	QP
8	0.3199920	25.46	-24.25	49.71	25.26	0.10	0.10	Average
9	0.3751190	25.50	-22.89	48.39	25.30	0.10	0.10	Average
10	0.3751190	36.26	-22.13	58.39	36.06	0.10	0.10	QP
11	0.6238330	37.05	-18.95	56.00	36.80	0.10	0.15	QP
12	0.6238330	25.86	-20.14	46.00	25.61	0.10	0.15	Average
13	1.810	39.15	-16.85	56.00	38.73	0.13	0.29	QP
14	1.810	25.88	-20.12	46.00	25.46	0.13	0.29	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 6dB Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
☒ 6 dB bandwidth ≥ 500 kHz.

3.2.2 Measuring Instruments

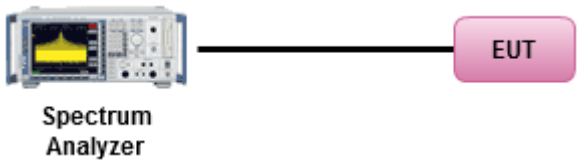
Refer a test equipment and calibration data table in this test report.

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.	
☒	For conducted measurement.		
	☒	The EUT supports single transmit chain and measurements performed on this transmit chain.	
	☐	The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.	
	☐	The EUT supports multiple transmit chains using options given below:	
		☒	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.
		☐	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

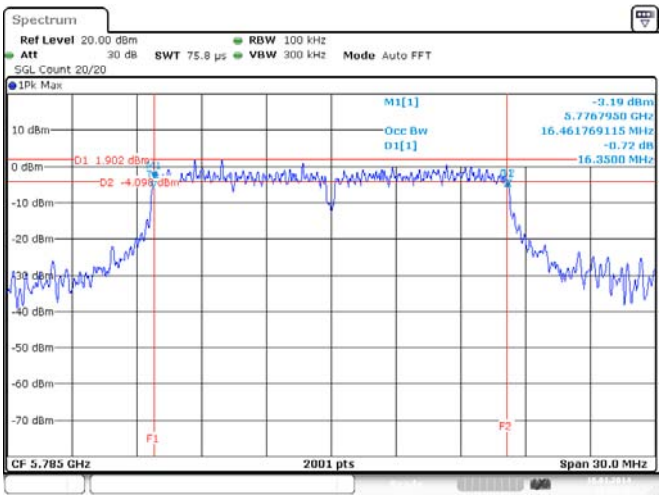
Emission Bandwidth



3.2.5 Test Result of Emission Bandwidth

Emission Bandwidth Result				
Condition			Emission Bandwidth (MHz)	
Modulation Mode	N_{TX}	Freq. (MHz)	99% Bandwidth	6dB Bandwidth
			Chain Port 1	Chain Port 1
11a	1	5745	17.16	16.42
11a	1	5785	16.46	16.35
11a	1	5825	16.49	16.47
HT20,M0-7	1	5745	18.36	17.71
HT20,M0-7	1	5785	17.66	17.62
HT20,M0-7	1	5825	17.66	17.71
HT40,M0-7	1	5755	36.26	35.68
HT40,M0-7	1	5795	36.34	35.52
VHT20,M0-8	1	5745	18.00	17.64
VHT20,M0-8	1	5785	17.66	17.70
VHT20,M0-8	1	5825	17.69	17.58
VHT40,M0-9	1	5755	36.26	35.52
VHT40,M0-9	1	5795	36.38	35.68
VHT80,M0-9	1	5775	75.56	72.72
Limit			N/A	≥500 kHz
Result			Complied	
Note 1: N_{TX} = Number of Transmit Chains				

Worst Emission 6dB Bandwidth Plots



3.3 RF Output Power

3.3.1 RF Output Power Limit

RF Output Power Limit		
Maximum Peak Conducted Output Power or Maximum Conducted Output Power Limit		
☒	5725-5850 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 $P_{Out} = 30$ dBm
e.i.r.p. Power Limit:		
☒	5725-5850 MHz Band	
	☒	Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	☐	Point-to-point systems (P2P): N/A
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

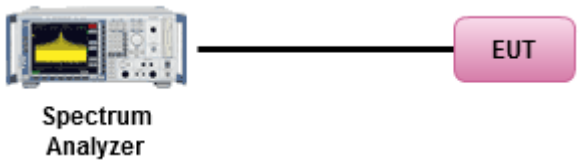
Refer a test equipment and calibration data table in this test report.

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 (integrated band power method).
	☐ Refer as FCC KDB 558074, clause 9.1.3 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.
	☒ The EUT supports single transmit chain and measurements performed on this transmit chain.
	☐ The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
	☐ 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: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

RF Output Power (Spectrum Analyzer)



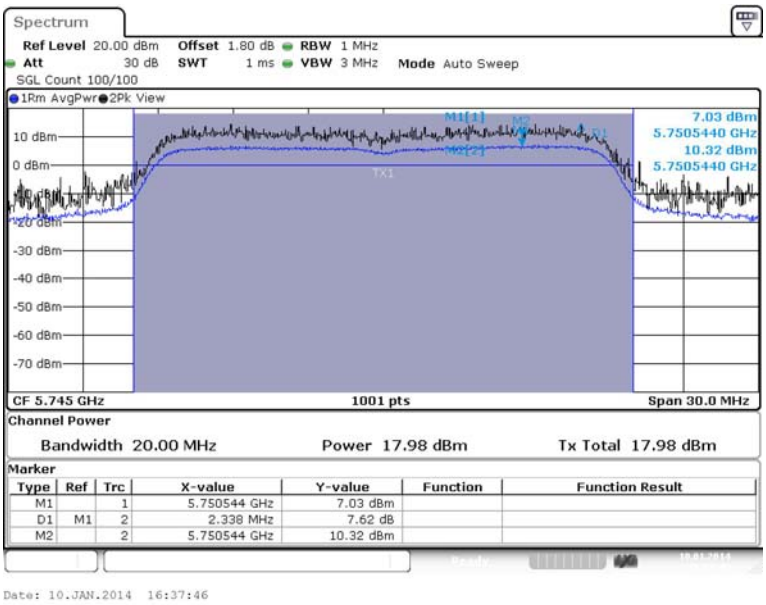
3.3.5 Test Result of Maximum Peak Conducted Output Power

Maximum Peak Conducted Output Power Result							
Condition			RF Output Power (dBm)				
Modulation Mode	N_{TX}	Freq. (MHz)	Chain Port 1	Power Limit	DG (dBi)	EIRP Power	EIRP Limit
11a	1	5745	23.06	30.00	2.67	25.73	36.00
11a	1	5785	21.83	30.00	2.67	24.50	36.00
11a	1	5825	22.18	30.00	2.67	24.85	36.00
HT20,M0-7	1	5745	23.28	30.00	2.67	25.95	36.00
HT20,M0-7	1	5785	21.91	30.00	2.67	24.58	36.00
HT20,M0-7	1	5825	21.53	30.00	2.67	24.20	36.00
HT40,M0-7	1	5755	21.51	30.00	2.67	24.18	36.00
HT40,M0-7	1	5795	21.98	30.00	2.67	24.65	36.00
VHT20,M0-8	1	5745	22.87	30.00	2.67	25.54	36.00
VHT20,M0-8	1	5785	21.89	30.00	2.67	24.56	36.00
VHT20,M0-8	1	5825	21.61	30.00	2.67	24.28	36.00
VHT40,M0-9	1	5755	21.65	30.00	2.67	24.32	36.00
VHT40,M0-9	1	5795	22.29	30.00	2.67	24.96	36.00
VHT80,M0-9	1	5775	21.75	30.00	2.67	24.42	36.00
Result							

3.3.6 Test Result of Maximum Conducted Output Power

Maximum Conducted Output Power Result							
Condition			RF Output Power (dBm)				
Modulation Mode	N_{TX}	Freq. (MHz)	Chain Port 1	Power Limit	DG (dBi)	EIRP Power	EIRP Limit
11a	1	5745	18.02	30.00	2.67	20.69	36.00
11a	1	5785	16.88	30.00	2.67	19.55	36.00
11a	1	5825	17.26	30.00	2.67	19.93	36.00
HT20,M0-7	1	5745	18.20	30.00	2.67	20.87	36.00
HT20,M0-7	1	5785	17.13	30.00	2.67	19.80	36.00
HT20,M0-7	1	5825	16.79	30.00	2.67	19.46	36.00
HT40,M0-7	1	5755	16.44	30.00	2.67	19.11	36.00
HT40,M0-7	1	5795	16.99	30.00	2.67	19.66	36.00
VHT20,M0-8	1	5745	18.03	30.00	2.67	20.70	36.00
VHT20,M0-8	1	5785	17.12	30.00	2.67	19.79	36.00
VHT20,M0-8	1	5825	16.85	30.00	2.67	19.52	36.00
VHT40,M0-9	1	5755	17.01	30.00	2.67	19.68	36.00
VHT40,M0-9	1	5795	17.53	30.00	2.67	20.20	36.00
VHT80,M0-9	1	5775	16.95	30.00	2.67	19.62	36.00
Result							

5725-5825MHz - Worst RF Output Power Plots



Note 1: RF Output Power Plots w/o Duty Factor

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

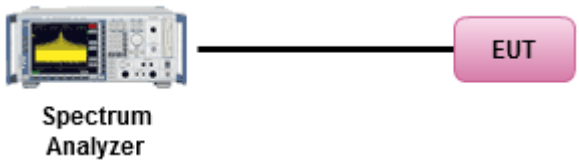
Refer a test equipment and calibration data table in this test report.

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 ≥ 98% or external video / power trigger]		
	☒	Refer as FCC KDB 558074, clause 10.3 Method AVGPSD-1 (spectral trace averaging).	
	☐	Refer as FCC KDB 558074, clause 10.4 Method AVGPSD-1 Alt. (slow sweep speed)	
	duty cycle < 98% and average over on/off periods with duty factor		
	☐	Refer as FCC KDB 558074, clause 10.5 Method AVGPSD-2 (spectral trace averaging).	
	☐	Refer as FCC KDB 558074, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)	
☒	For conducted measurement.		
	☒	The EUT supports single transmit chain and measurements performed on this transmit chain.	
	☐	The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.	
	☐	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 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

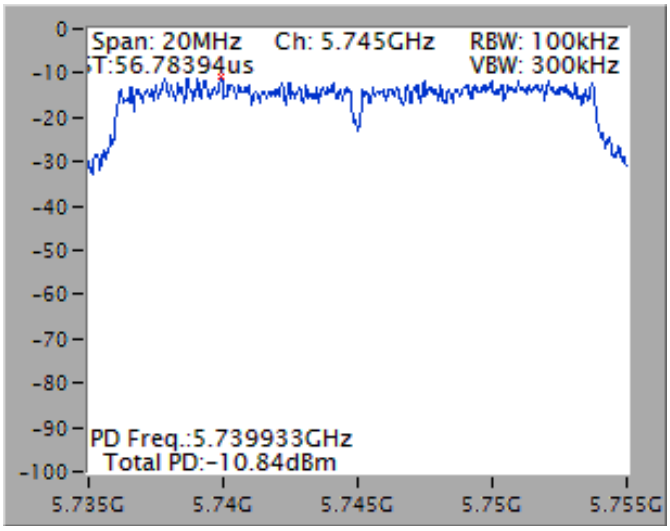
Power Spectral Density



3.4.5 Test Result of Power Spectral Density

Power Spectral Density Result				
Condition			Power Spectral Density	
Modulation Mode	N_{TX}	Freq. (MHz)	Power Spectral Density (dBm/100kHz)	Power Limit (dBm/3kHz)
11a	1	5745	-11.18	8.00
11a	1	5785	-13.41	8.00
11a	1	5825	-12.58	8.00
HT20,M0-7	1	5745	-10.84	8.00
HT20,M0-7	1	5785	-12.51	8.00
HT20,M0-7	1	5825	-11.13	8.00
HT40,M0-7	1	5755	-12.78	8.00
HT40,M0-7	1	5795	-12.50	8.00
VHT20,M0-8	1	5745	-12.05	8.00
VHT20,M0-8	1	5785	-13.10	8.00
VHT20,M0-8	1	5825	-13.39	8.00
VHT40,M0-9	1	5755	-14.31	8.00
VHT40,M0-9	1	5795	-15.27	8.00
VHT80,M0-9	1	5775	-14.20	8.00
Result			Complied	

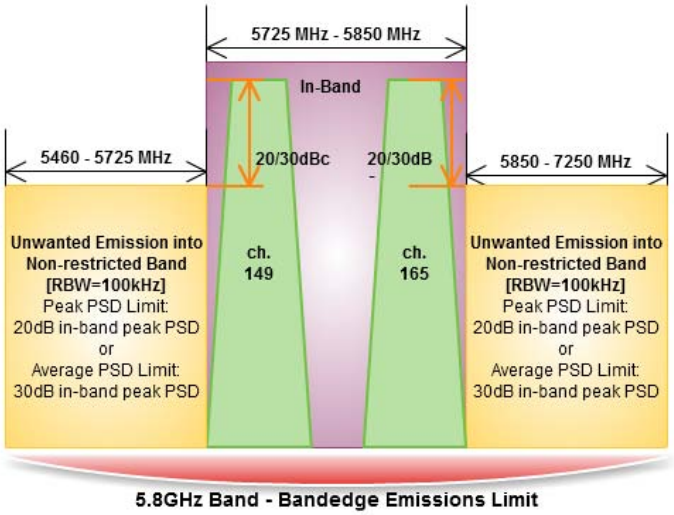
Worst Power Spectral Density Plots



3.5 Transmitter Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit

Transmitter Radiated Bandedge Emissions Limit



3.5.2 Measuring Instruments

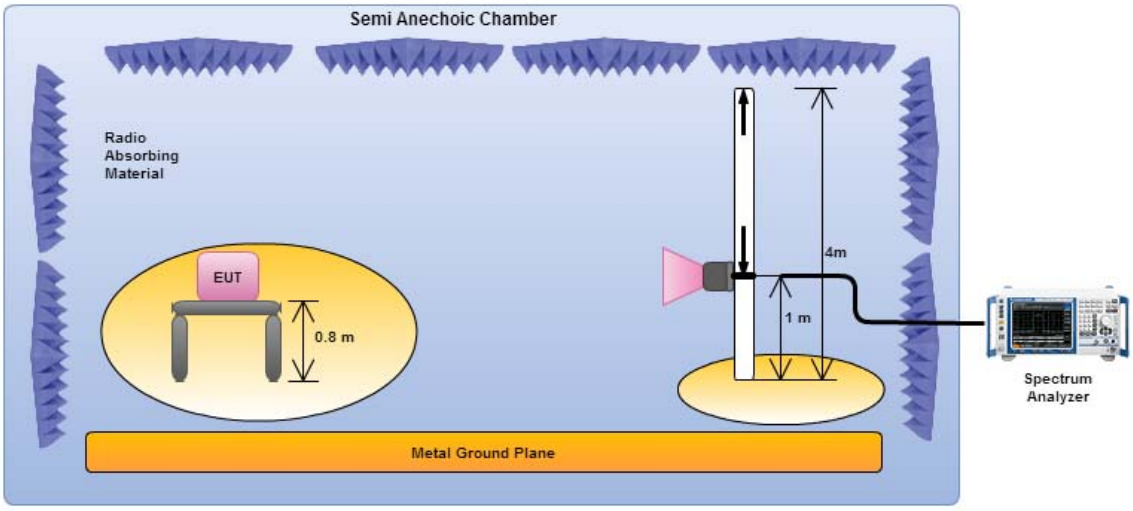
Refer a test equipment and calibration data table in this test report.

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 6.9.2.2 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 ≥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≥1/T).
		☒	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐	Refer as ANSI C63.10, clause 4.2.3.2.4 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 6.9.2 for band-edge testing.	
	☐	Refer as ANSI C63.10, clause 6.9.3 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 1m.		
☒	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

Transmitter Radiated Bandedge Emissions



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

3.5.5 Transmitter Radiated Bandedge Emissions

5725-5850MHz Transmitter Radiated Bandedge Emissions								
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.**
11a	1	5720	110.38	5724.970	81.12	29.26	20	V
11a	1	5825	110.41	5853.230	79.89	30.52	20	V
HT20,M0-7	1	5720	110.73	5724.970	85.16	25.57	20	V
HT20,M0-7	1	5825	110.53	5850.150	81.68	28.85	20	V
HT40,M0-7	1	5710	106.06	5724.600	80.71	25.35	20	V
HT40,M0-7	1	5795	108.72	5852.700	86.88	21.84	20	V
VHT20,M0-8	1	5720	109.52	5724.970	81.49	28.03	20	V
VHT20,M0-8	1	5825	110.24	5850.090	80.94	29.30	20	V
VHT40,M0-9	1	5710	106.22	5724.700	81.50	24.72	20	V
VHT40,M0-9	1	5795	108.89	5852.700	87.29	21.60	20	V
VHT80,M0-9	1	5775	103.72	5852.660	77.00	26.72	20	V
Note 1: Measurement worst emissions of receive antenna polarization								

3.6 Transmitter Unwanted Emissions

3.6.1 Transmitter 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

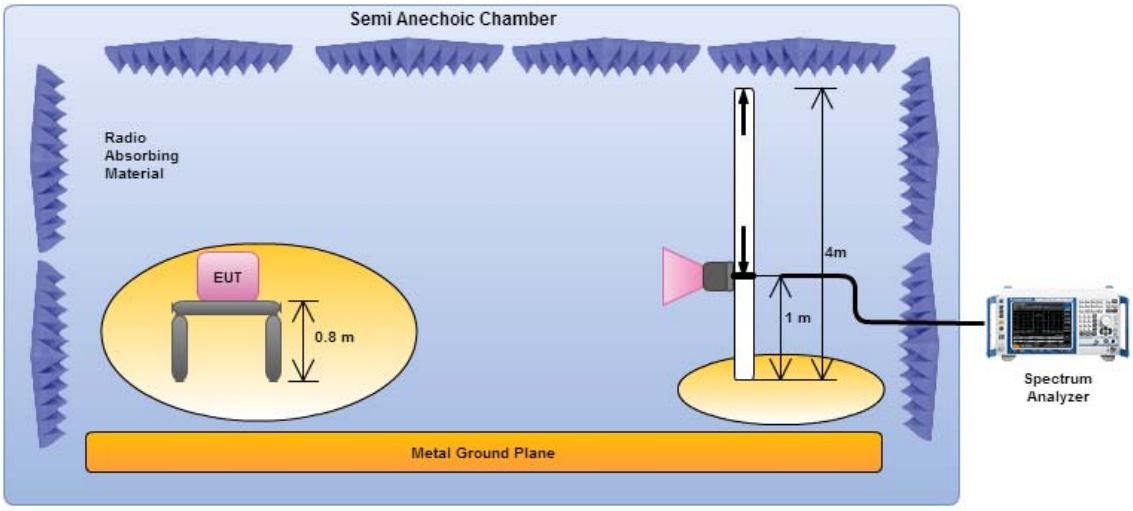
Refer a test equipment and calibration data table in this test report.

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 ≥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≥1/T).
		☒	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐	Refer as ANSI C63.10, clause 4.2.3.2.4 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 1GHz. For 1 GHz to 5 GHz, test distance is 3m; For 5 GHz to 40 GHz, test distance is 1m.	
☒	The any unwanted emissions level shall not exceed the fundamental emission level.		
☒	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



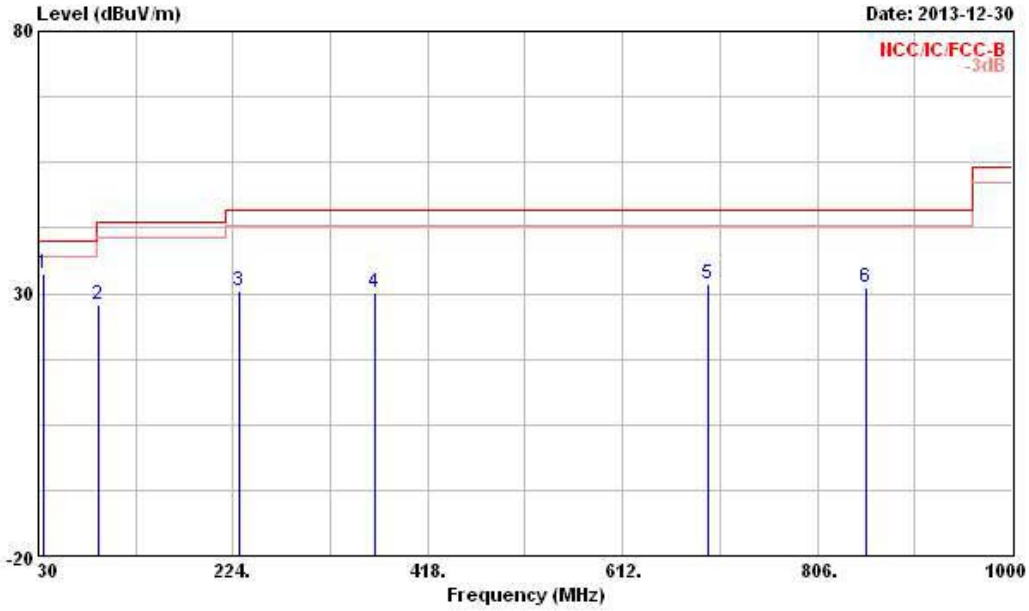
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna and the frequency range of 1 GHz to 40 GHz using a calibrated horn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

3.6.5 Transmitter Radiated Unwanted Emissions (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.

3.6.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

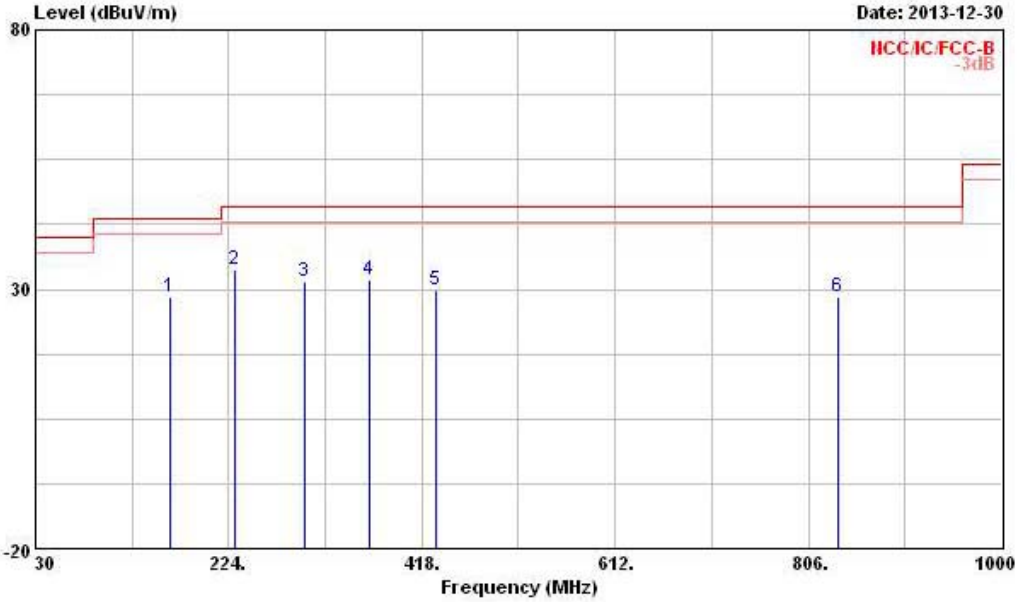
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	1	**Polarization**	V
Operating Function	EUT with Notebook via USB cable		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	34.850	33.61	-6.39	40.00	44.32	16.21	0.81	27.73	Peak	---	---
2	90.140	27.88	-15.62	43.50	45.57	8.68	1.34	27.71	Peak	---	---
3	230.790	30.63	-15.37	46.00	45.34	10.36	2.27	27.34	Peak	---	---
4	365.620	30.24	-15.76	46.00	40.14	14.88	2.87	27.65	Peak	---	---
5	696.390	31.80	-14.20	46.00	37.10	18.99	4.02	28.31	Peak	---	---
6	854.500	31.04	-14.96	46.00	34.05	20.37	4.53	27.91	Peak	---	---

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

Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	1	**Polarization**	H
Operating Function	EUT with Notebook via USB cable		

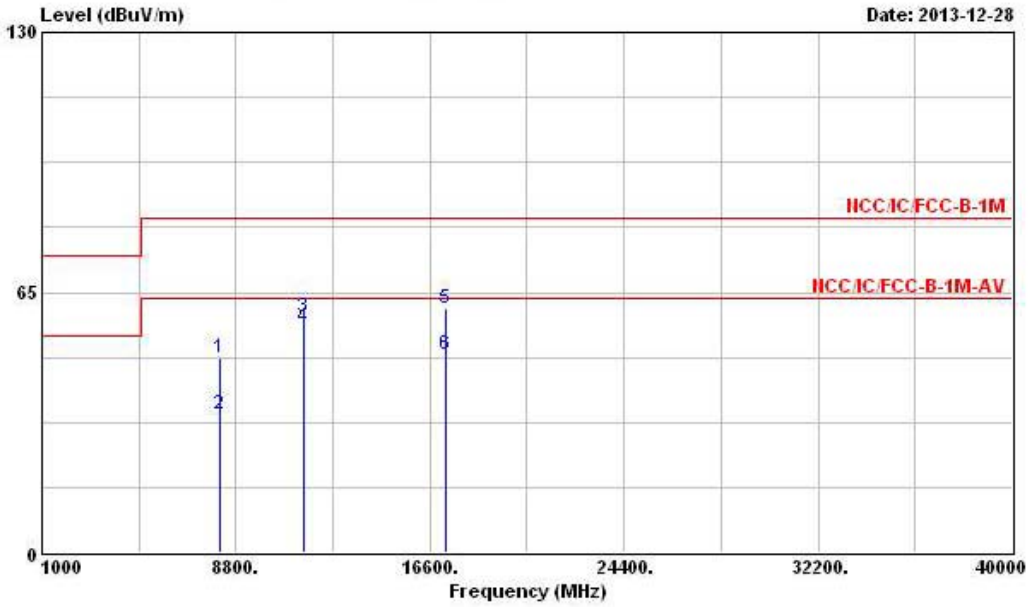


	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	164.830	28.43	-15.07	43.50	44.20	9.95	1.82	27.54	Peak	---	---
2	230.790	33.79	-12.21	46.00	48.50	10.36	2.27	27.34	Peak	---	---
3	299.660	31.32	-14.68	46.00	42.67	13.25	2.55	27.15	Peak	---	---
4	365.620	31.85	-14.15	46.00	41.75	14.88	2.87	27.65	Peak	---	---
5	431.580	30.00	-16.00	46.00	38.25	16.72	3.10	28.07	Peak	---	---
6	835.100	28.58	-17.42	46.00	31.82	20.23	4.49	27.96	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)

3.6.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)

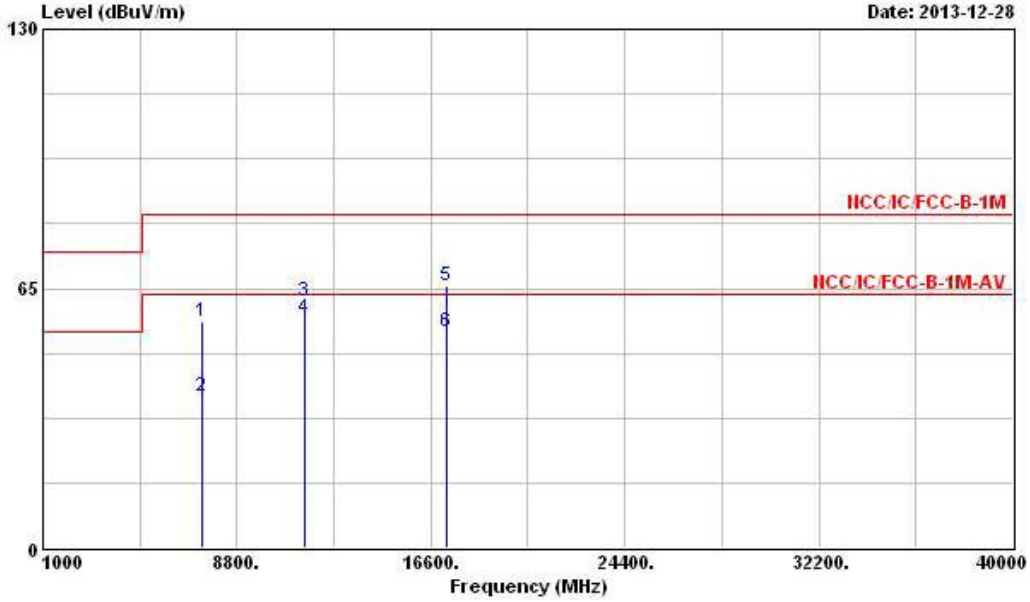
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8160.000	48.62	-34.92	83.54	42.44	35.95	5.37	35.14	Peak	---	---
2	8160.000	34.63	-28.91	63.54	28.45	35.95	5.37	35.14	Average	---	---
3	11490.000	58.62	-24.92	83.54	47.52	39.18	6.36	34.44	Peak	---	---
4	@11490.000	56.12	-7.42	63.54	45.02	39.18	6.36	34.44	Average	---	---
5	17235.000	60.89	-22.65	83.54	44.10	41.69	8.96	33.86	Peak	---	---
6	17235.000	49.48	-14.06	63.54	32.69	41.69	8.96	33.86	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (116.24 dBuV/m).

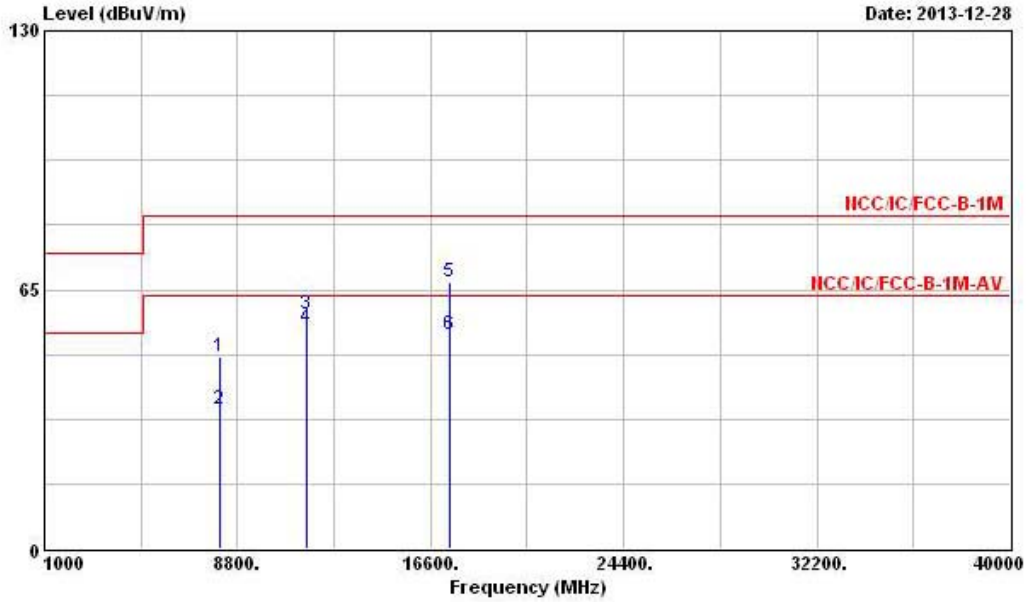
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7374.000	56.74	-26.80	83.54	50.42	35.77	5.52	34.97	Peak	---	---
2	7374.000	37.82	-25.72	63.54	31.50	35.77	5.52	34.97	Average	---	---
3	11490.000	61.89	-21.65	83.54	50.79	39.18	6.36	34.44	Peak	---	---
4	@11490.000	57.36	-6.18	63.54	46.26	39.18	6.36	34.44	Average	---	---
5	17235.000	65.67	-17.87	83.54	48.88	41.69	8.96	33.86	Peak	---	---
6	17235.000	53.93	-9.61	63.54	37.14	41.69	8.96	33.86	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (116.24 dBuV/m).

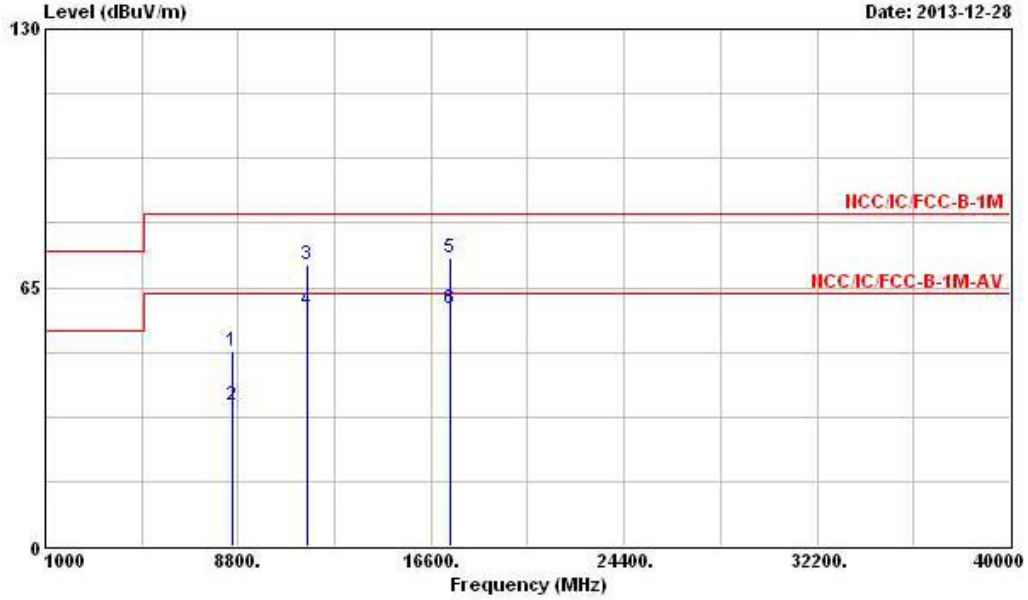
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8084.000	48.24	-35.30	83.54	42.20	35.84	5.35	35.15	Peak	---	---
2	8084.000	34.94	-28.60	63.54	28.90	35.84	5.35	35.15	Average	---	---
3	11570.000	59.02	-24.52	83.54	47.87	39.24	6.44	34.53	Peak	---	---
4	11570.000	55.30	-8.24	63.54	44.15	39.24	6.44	34.53	Average	---	---
5	17355.000	66.93	-16.61	83.54	50.02	41.78	8.94	33.81	Peak	---	---
6	17355.000	53.84	-9.70	63.54	36.93	41.78	8.94	33.81	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (118.19 dBuV/m).

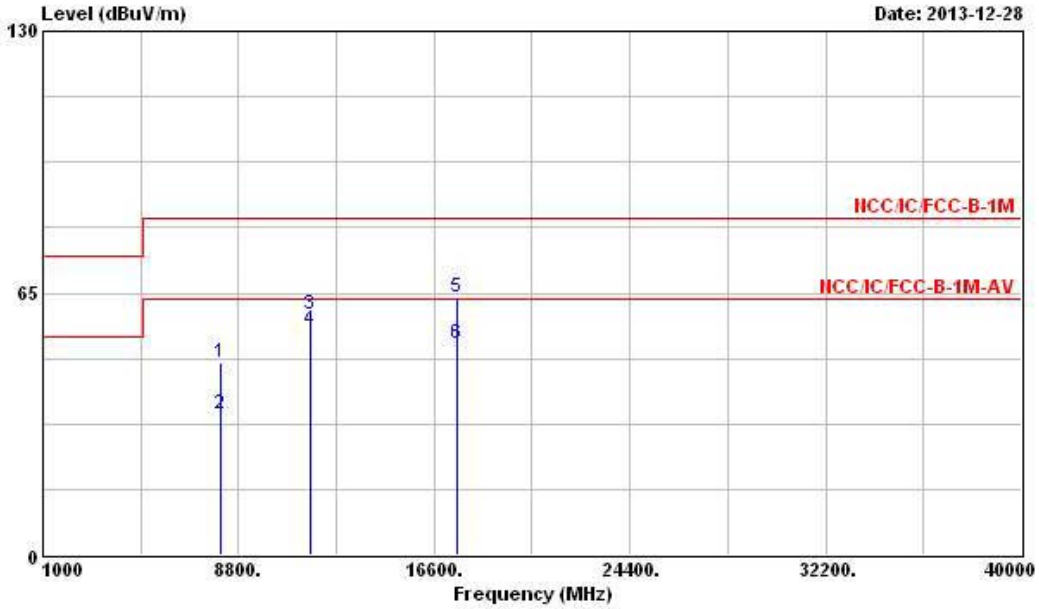
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8534.000	48.99	-34.55	83.54	42.07	36.52	5.50	35.10	Peak	---	---
2	8534.000	35.25	-28.29	63.54	28.33	36.52	5.50	35.10	Average	---	---
3	11570.000	70.68	-12.86	83.54	59.53	39.24	6.44	34.53	Peak	---	---
4	@11570.000	59.25	-4.29	63.54	48.10	39.24	6.44	34.53	Average	---	---
5	17355.000	72.26	-11.28	83.54	55.35	41.78	8.94	33.81	Peak	---	---
6	@17355.000	59.83	-3.71	63.54	42.92	41.78	8.94	33.81	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (118.19 dBuV/m).

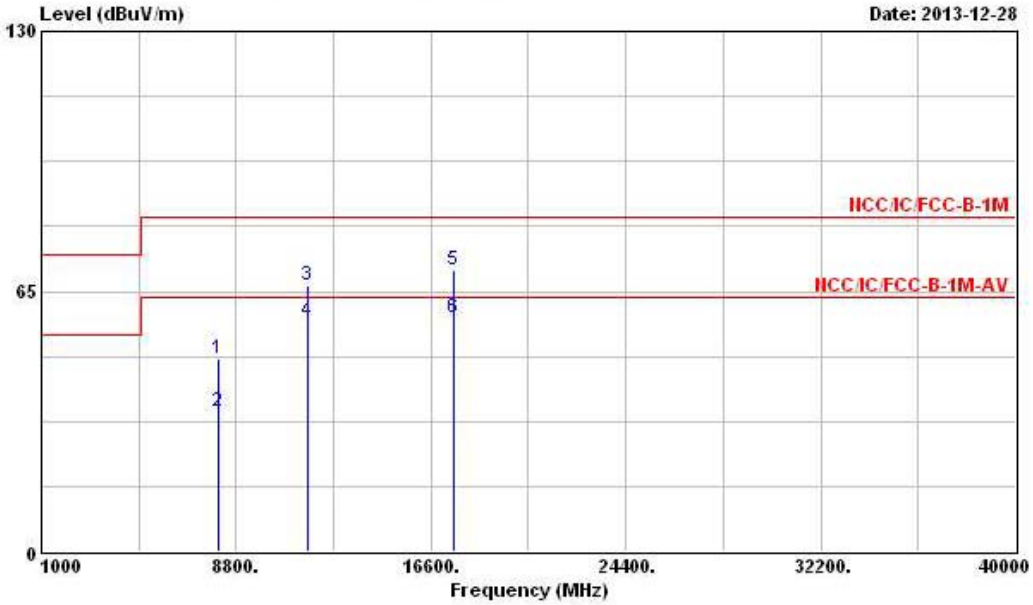
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8062.000	47.95	-35.59	83.54	41.99	35.78	5.33	35.15	Peak	---	---
2	8062.000	34.88	-28.66	63.54	28.92	35.78	5.33	35.15	Average	---	---
3	11650.000	59.64	-23.90	83.54	48.42	39.28	6.52	34.58	Peak	---	---
4	@11650.000	56.04	-7.50	63.54	44.82	39.28	6.52	34.58	Average	---	---
5	17475.000	64.12	-19.42	83.54	47.08	41.87	8.92	33.75	Peak	---	---
6	17475.000	52.43	-11.11	63.54	35.39	41.87	8.92	33.75	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (115.94 dBuV/m).

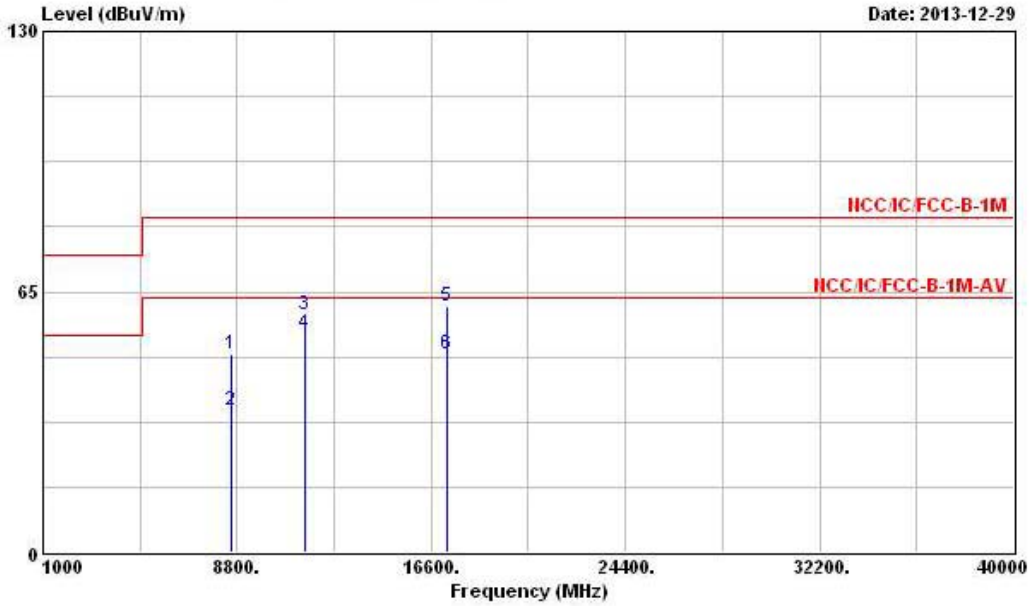
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8072.000	47.96	-35.58	83.54	41.97	35.81	5.33	35.15	Peak	---	---
2	8072.000	34.91	-28.63	63.54	28.92	35.81	5.33	35.15	Average	---	---
3	11650.000	66.64	-16.90	83.54	55.42	39.28	6.52	34.58	Peak	---	---
4	@11650.000	57.69	-5.85	63.54	46.47	39.28	6.52	34.58	Average	---	---
5	17475.000	70.43	-13.11	83.54	53.39	41.87	8.92	33.75	Peak	---	---
6	@17475.000	58.47	-5.07	63.54	41.43	41.87	8.92	33.75	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (115.94 dBuV/m).

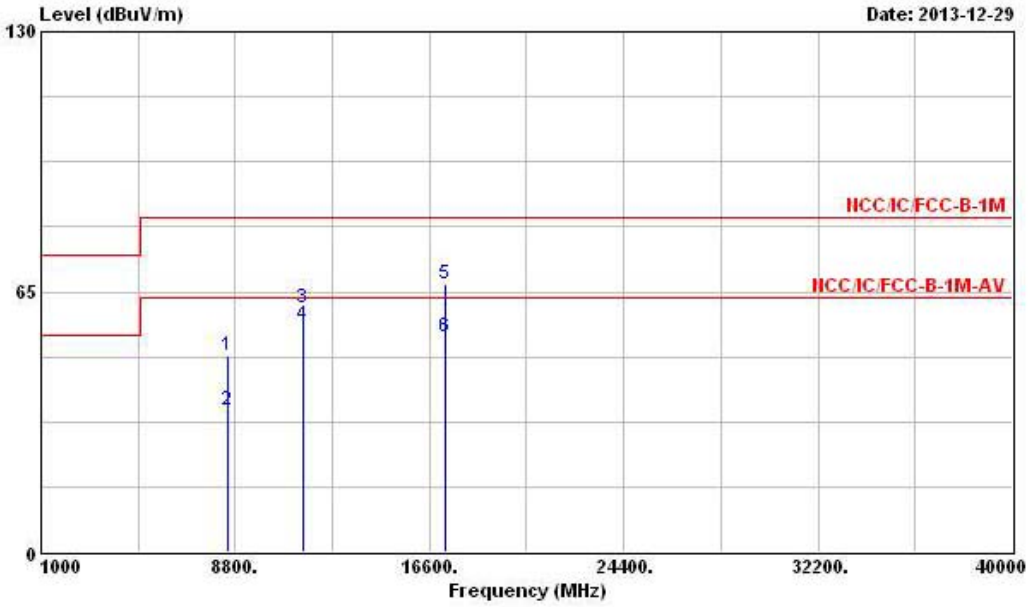
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8578.000	49.43	-34.11	83.54	42.45	36.55	5.54	35.11	Peak	---	---
2	8578.000	35.46	-28.08	63.54	28.48	36.55	5.54	35.11	Average	---	---
3	11490.000	59.41	-24.13	83.54	48.31	39.18	6.36	34.44	Peak	---	---
4	11490.000	54.69	-8.85	63.54	43.59	39.18	6.36	34.44	Average	---	---
5	17235.000	61.32	-22.22	83.54	44.53	41.69	8.96	33.86	Peak	---	---
6	17235.000	49.45	-14.09	63.54	32.66	41.69	8.96	33.86	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (116.61 dBuV/m).

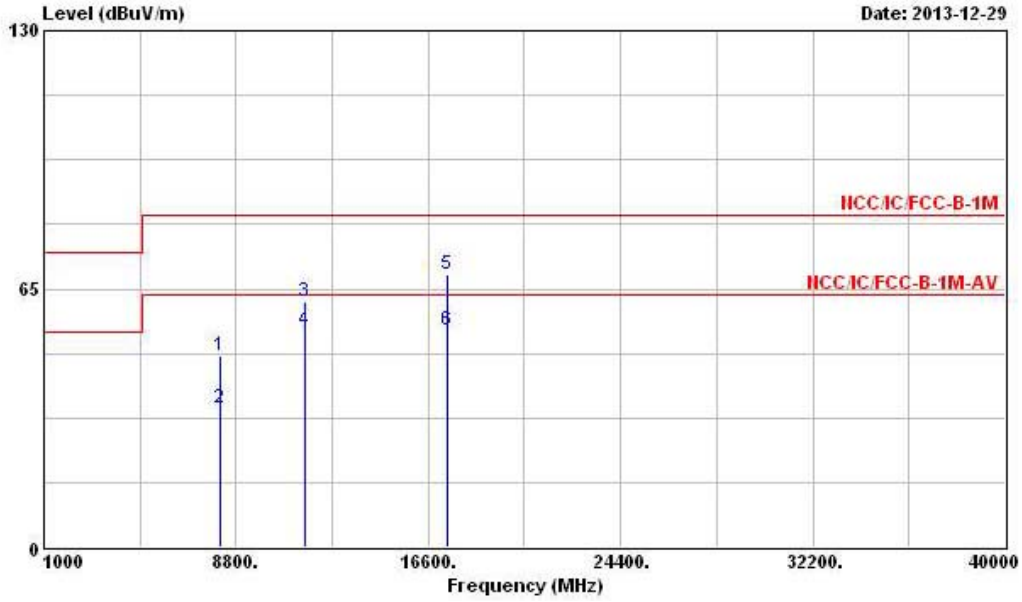
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8512.000	49.20	-34.34	83.54	42.29	36.51	5.50	35.10	Peak	---	---
2	8512.000	35.46	-28.08	63.54	28.55	36.51	5.50	35.10	Average	---	---
3	11490.000	60.95	-22.59	83.54	49.85	39.18	6.36	34.44	Peak	---	---
4	@11490.000	56.48	-7.06	63.54	45.38	39.18	6.36	34.44	Average	---	---
5	17235.000	67.11	-16.43	83.54	50.32	41.69	8.96	33.86	Peak	---	---
6	17235.000	53.86	-9.68	63.54	37.07	41.69	8.96	33.86	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (116.61 dBuV/m).

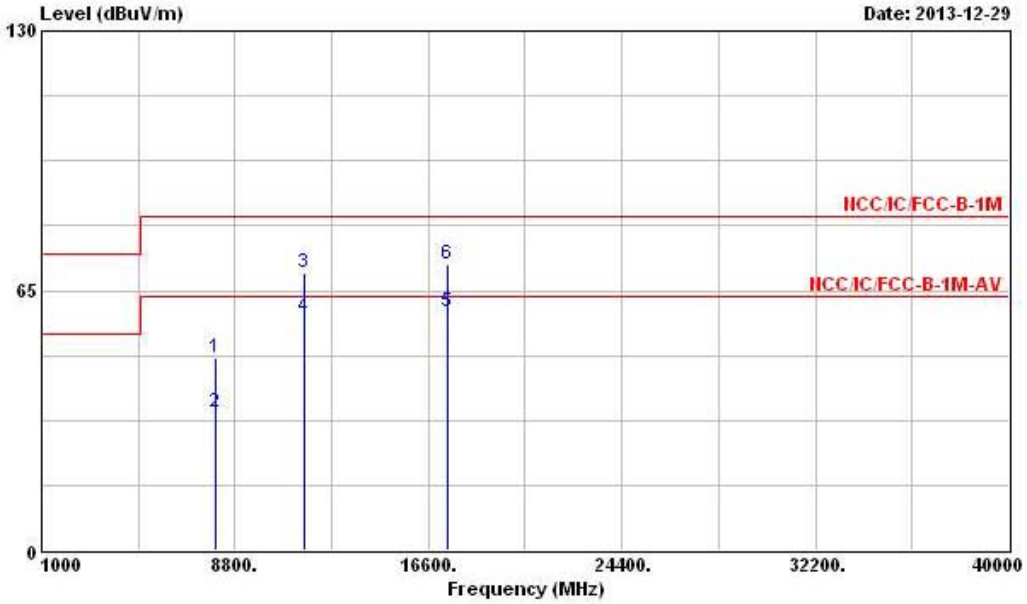
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8182.000	48.16	-35.38	83.54	41.94	35.98	5.37	35.13	Peak	---	---
2	8182.000	34.82	-28.72	63.54	28.60	35.98	5.37	35.13	Average	---	---
3	11570.000	61.75	-21.79	83.54	50.60	39.24	6.44	34.53	Peak	---	---
4	11570.000	54.56	-8.98	63.54	43.41	39.24	6.44	34.53	Average	---	---
5	17355.000	68.47	-15.07	83.54	51.56	41.78	8.94	33.81	Peak	---	---
6	17355.000	54.72	-8.82	63.54	37.81	41.78	8.94	33.81	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (119.21 dBuV/m).

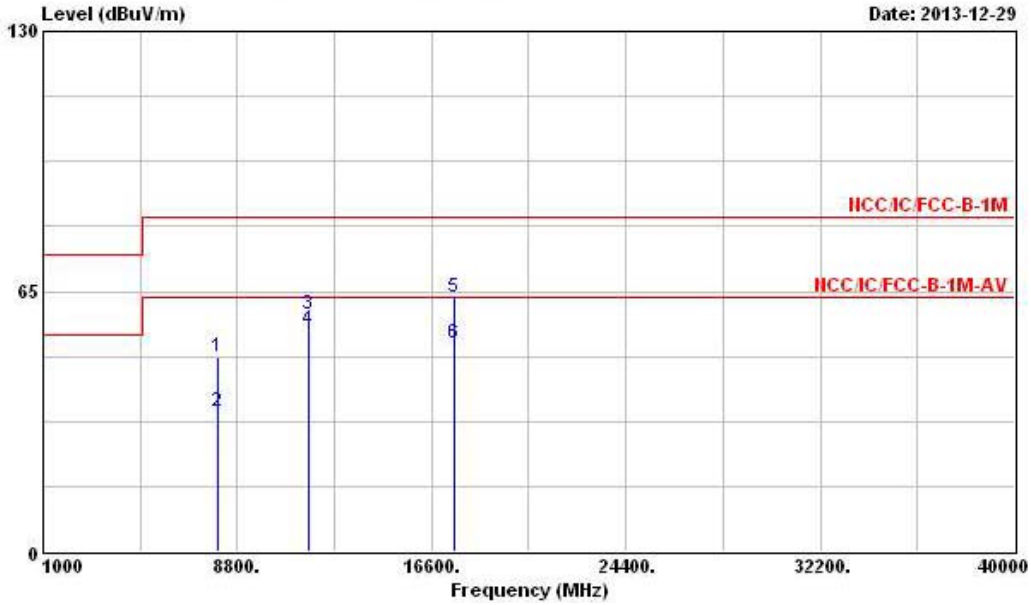
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8018.000	48.13	-35.41	83.54	42.24	35.73	5.32	35.16	Peak	---	---
2	8018.000	34.67	-28.87	63.54	28.78	35.73	5.32	35.16	Average	---	---
3	11570.000	69.27	-14.27	83.54	58.12	39.24	6.44	34.53	Peak	---	---
4	@11570.000	58.35	-5.19	63.54	47.20	39.24	6.44	34.53	Average	---	---
5	@17355.000	59.70	-3.84	63.54	42.79	41.78	8.94	33.81	Average	---	---
6	17355.000	71.68	-11.86	83.54	54.77	41.78	8.94	33.81	Peak	---	---

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (119.21 dBuV/m).

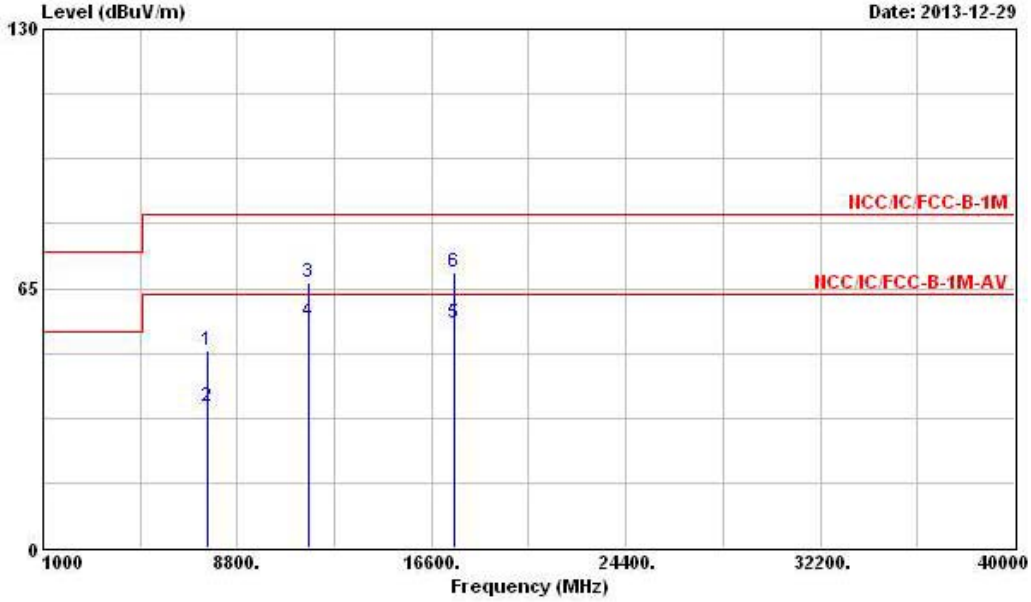
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8028.000	48.58	-34.96	83.54	42.69	35.73	5.32	35.16	Peak	---	---
2	8028.000	34.83	-28.71	63.54	28.94	35.73	5.32	35.16	Average	---	---
3	11650.000	59.31	-24.23	83.54	48.09	39.28	6.52	34.58	Peak	---	---
4	11650.000	55.57	-7.97	63.54	44.35	39.28	6.52	34.58	Average	---	---
5	17475.000	63.62	-19.92	83.54	46.58	41.87	8.92	33.75	Peak	---	---
6	17475.000	51.82	-11.72	63.54	34.78	41.87	8.92	33.75	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (116.46 dBuV/m).

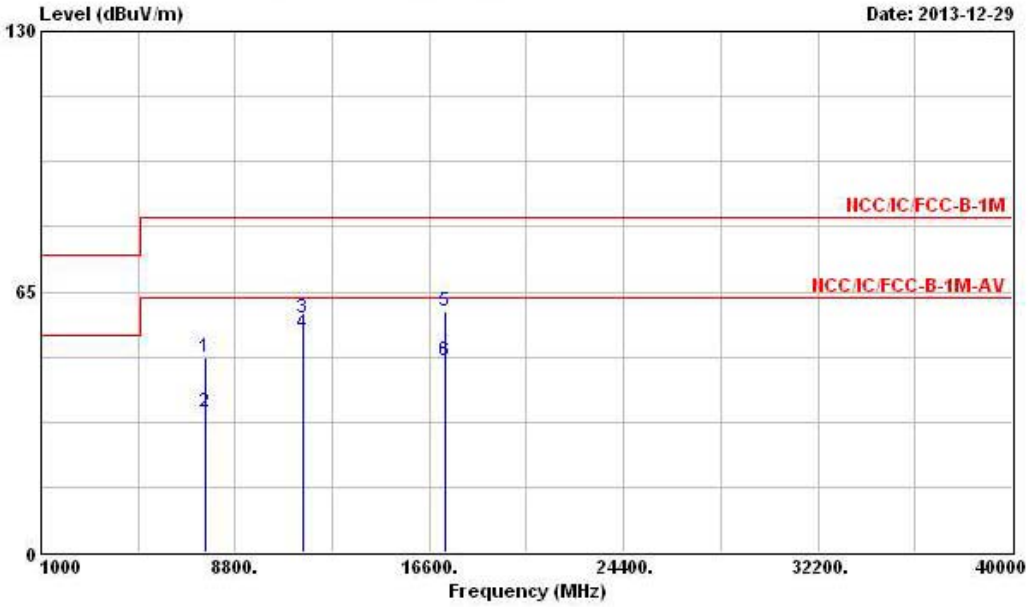
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7588.000	49.53	-34.01	83.54	43.21	35.70	5.64	35.02	Peak	---	---
2	7588.000	35.32	-28.22	63.54	29.00	35.70	5.64	35.02	Average	---	---
3	11650.000	66.49	-17.05	83.54	55.27	39.28	6.52	34.58	Peak	---	---
4	@11650.000	56.85	-6.69	63.54	45.63	39.28	6.52	34.58	Average	---	---
5	@17475.000	56.45	-7.09	63.54	39.41	41.87	8.92	33.75	Average	---	---
6	17475.000	69.24	-14.30	83.54	52.20	41.87	8.92	33.75	Peak	---	---

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (116.46 dBuV/m).

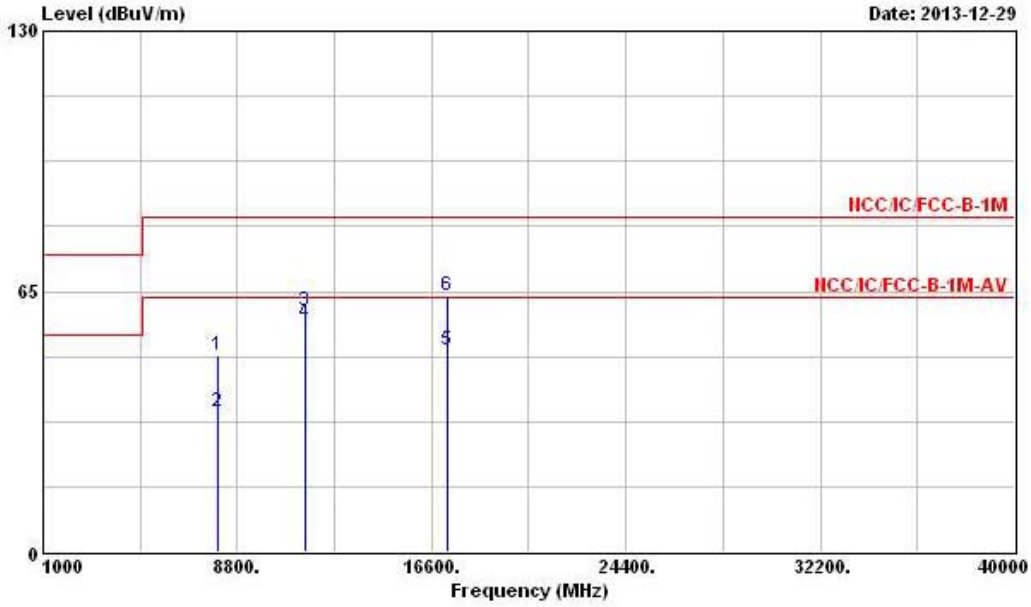
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT40	**Test Freq. (MHz)**	5755
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7588.000	48.58	-34.96	83.54	42.26	35.70	5.64	35.02	Peak	---	---
2	7588.000	35.11	-28.43	63.54	28.79	35.70	5.64	35.02	Average	---	---
3	11510.000	58.50	-25.04	83.54	47.42	39.20	6.36	34.48	Peak	---	---
4	11510.000	54.76	-8.78	63.54	43.68	39.20	6.36	34.48	Average	---	---
5	17265.000	60.22	-23.32	83.54	43.40	41.71	8.95	33.84	Peak	---	---
6	17265.000	47.53	-16.01	63.54	30.71	41.71	8.95	33.84	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (112.70 dBuV/m).

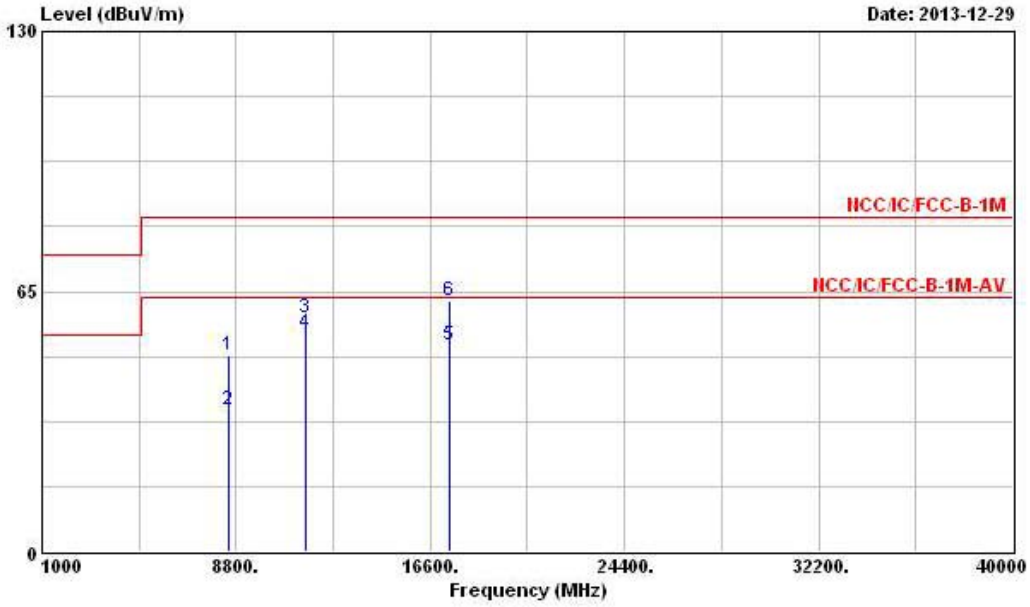
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT40	**Test Freq. (MHz)**	5755
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8028.000	49.11	-34.43	83.54	43.22	35.73	5.32	35.16	Peak	---	---
2	8028.000	34.85	-28.69	63.54	28.96	35.73	5.32	35.16	Average	---	---
3	11510.000	60.17	-23.37	83.54	49.09	39.20	6.36	34.48	Peak	---	---
4	@11510.000	56.97	-6.57	63.54	45.89	39.20	6.36	34.48	Average	---	---
5	17265.000	50.28	-13.26	63.54	33.46	41.71	8.95	33.84	Average	---	---
6	17265.000	64.05	-19.49	83.54	47.23	41.71	8.95	33.84	Peak	---	---

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (112.70 dBuV/m).

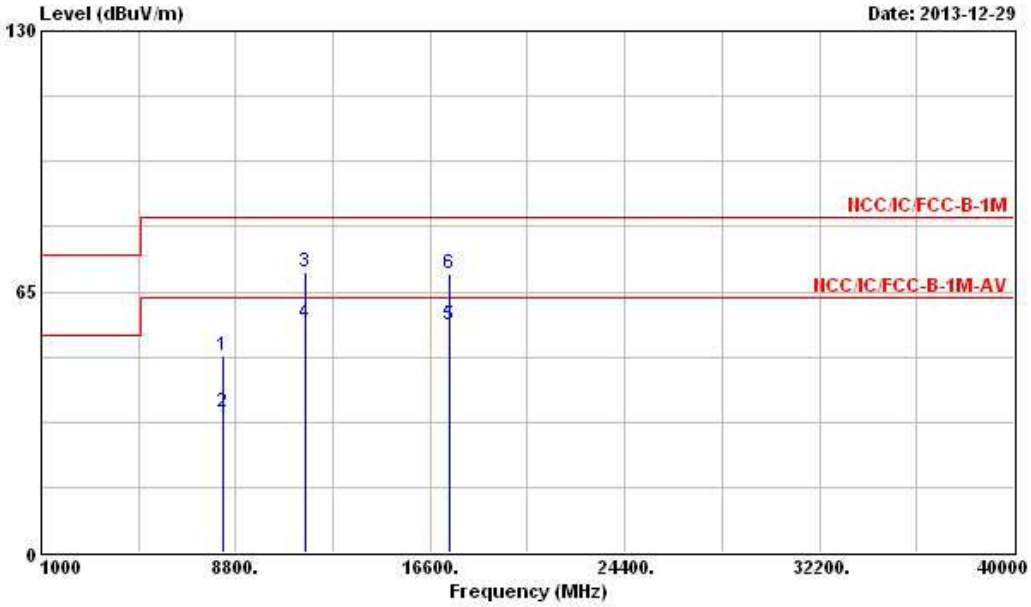
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT40	**Test Freq. (MHz)**	5795
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8512.000	48.98	-34.56	83.54	42.07	36.51	5.50	35.10	Peak	---	---
2	8512.000	35.17	-28.37	63.54	28.26	36.51	5.50	35.10	Average	---	---
3	11590.000	58.55	-24.99	83.54	47.35	39.25	6.48	34.53	Peak	---	---
4	11590.000	54.71	-8.83	63.54	43.51	39.25	6.48	34.53	Average	---	---
5	17385.000	51.61	-11.93	63.54	34.66	41.81	8.93	33.79	Average	---	---
6	17385.000	62.74	-20.80	83.54	45.79	41.81	8.93	33.79	Peak	---	---

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (114.74 dBuV/m).

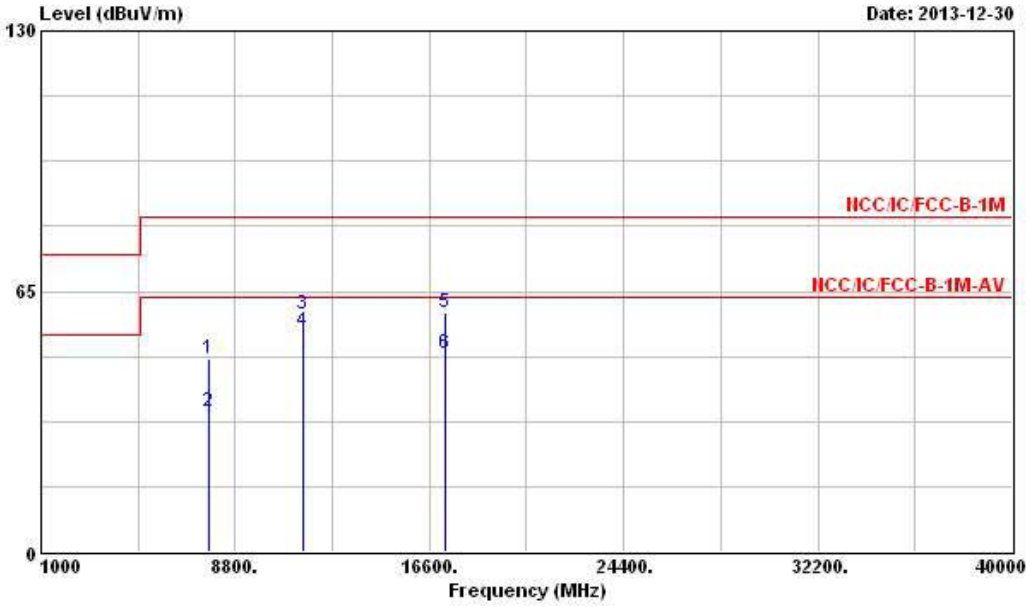
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT40	**Test Freq. (MHz)**	5795
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8270.000	48.82	-34.72	83.54	42.41	36.14	5.39	35.12	Peak	---	---
2	8270.000	34.87	-28.67	63.54	28.46	36.14	5.39	35.12	Average	---	---
3	11590.000	69.80	-13.74	83.54	58.60	39.25	6.48	34.53	Peak	---	---
4	@11590.000	57.14	-6.40	63.54	45.94	39.25	6.48	34.53	Average	---	---
5	@17385.000	56.60	-6.94	63.54	39.65	41.81	8.93	33.79	Average	---	---
6	17385.000	69.65	-13.89	83.54	52.70	41.81	8.93	33.79	Peak	---	---

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (114.74 dBuV/m).

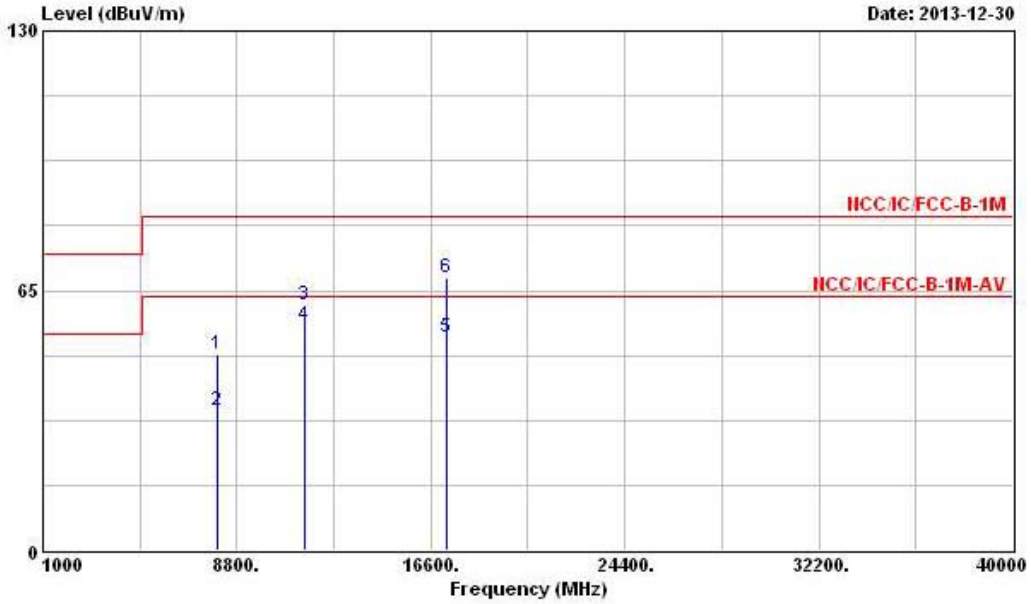
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7732.000	48.04	-35.50	83.54	41.90	35.70	5.51	35.07	Peak	---	---
2	7732.000	34.79	-28.75	63.54	28.65	35.70	5.51	35.07	Average	---	---
3	11490.000	59.13	-24.41	83.54	48.03	39.18	6.36	34.44	Peak	---	---
4	11490.000	54.87	-8.67	63.54	43.77	39.18	6.36	34.44	Average	---	---
5	17235.000	59.88	-23.66	83.54	43.09	41.69	8.96	33.86	Peak	---	---
6	17235.000	49.38	-14.16	63.54	32.59	41.69	8.96	33.86	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (115.49 dBuV/m).

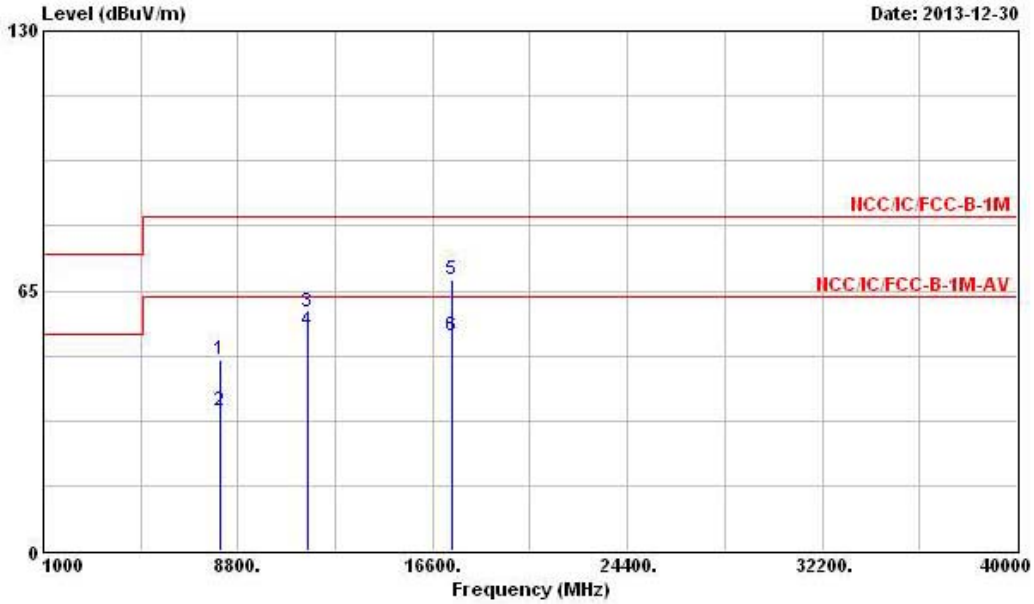
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8028.000	48.83	-34.71	83.54	42.94	35.73	5.32	35.16	Peak	---	---
2	8028.000	34.75	-28.79	63.54	28.86	35.73	5.32	35.16	Average	---	---
3	11490.000	61.54	-22.00	83.54	50.44	39.18	6.36	34.44	Peak	---	---
4	@11490.000	56.36	-7.18	63.54	45.26	39.18	6.36	34.44	Average	---	---
5	17235.000	53.49	-10.05	63.54	36.70	41.69	8.96	33.86	Average	---	---
6	17235.000	68.31	-15.23	83.54	51.52	41.69	8.96	33.86	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (115.49 dBuV/m).

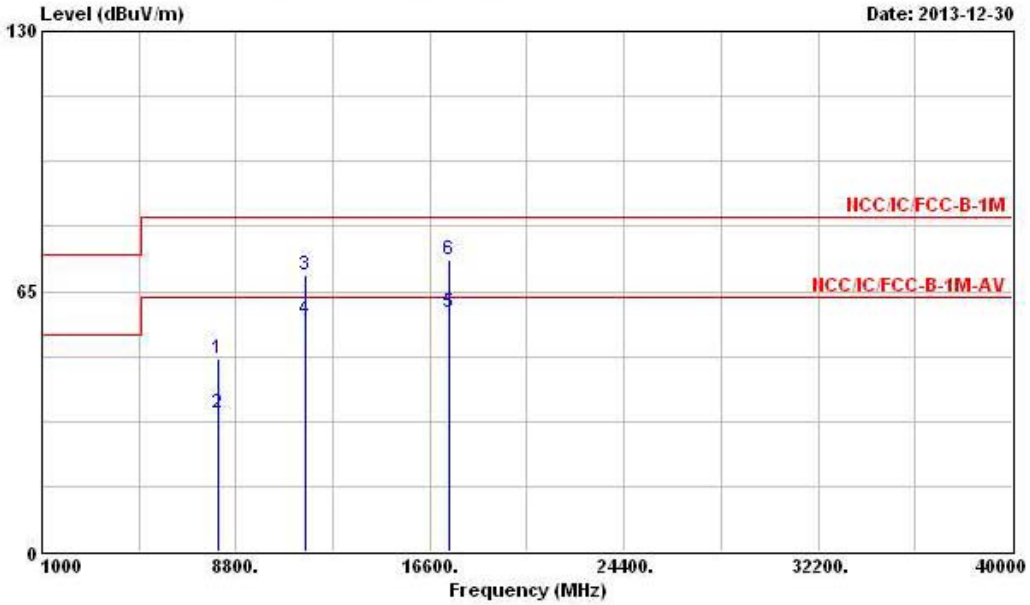
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8072.000	47.78	-35.76	83.54	41.79	35.81	5.33	35.15	Peak	---	---
2	8072.000	34.96	-28.58	63.54	28.97	35.81	5.33	35.15	Average	---	---
3	11570.000	59.57	-23.97	83.54	48.42	39.24	6.44	34.53	Peak	---	---
4	11570.000	54.87	-8.67	63.54	43.72	39.24	6.44	34.53	Average	---	---
5	17355.000	67.76	-15.78	83.54	50.85	41.78	8.94	33.81	Peak	---	---
6	17355.000	53.50	-10.04	63.54	36.59	41.78	8.94	33.81	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (118.46 dBuV/m).

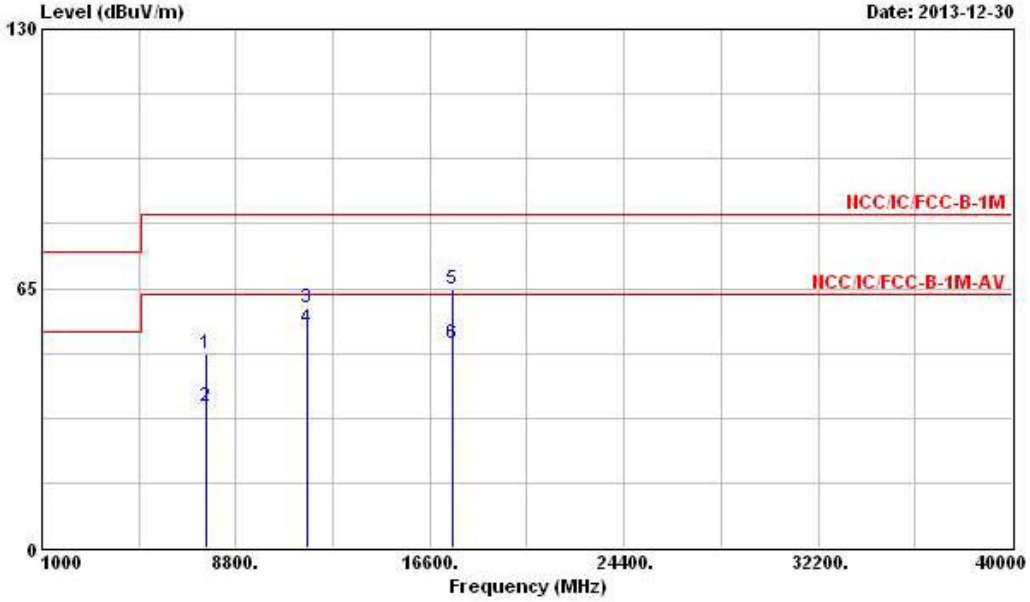
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8072.000	48.15	-35.39	83.54	42.16	35.81	5.33	35.15	Peak	---	---
2	8072.000	34.32	-29.22	63.54	28.33	35.81	5.33	35.15	Average	---	---
3	11570.000	68.96	-14.58	83.54	57.81	39.24	6.44	34.53	Peak	---	---
4	@11570.000	57.94	-5.60	63.54	46.79	39.24	6.44	34.53	Average	---	---
5	@17355.000	59.86	-3.68	63.54	42.95	41.78	8.94	33.81	Average	---	---
6	17355.000	72.88	-10.66	83.54	55.97	41.78	8.94	33.81	Peak	---	---

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (118.46 dBuV/m).

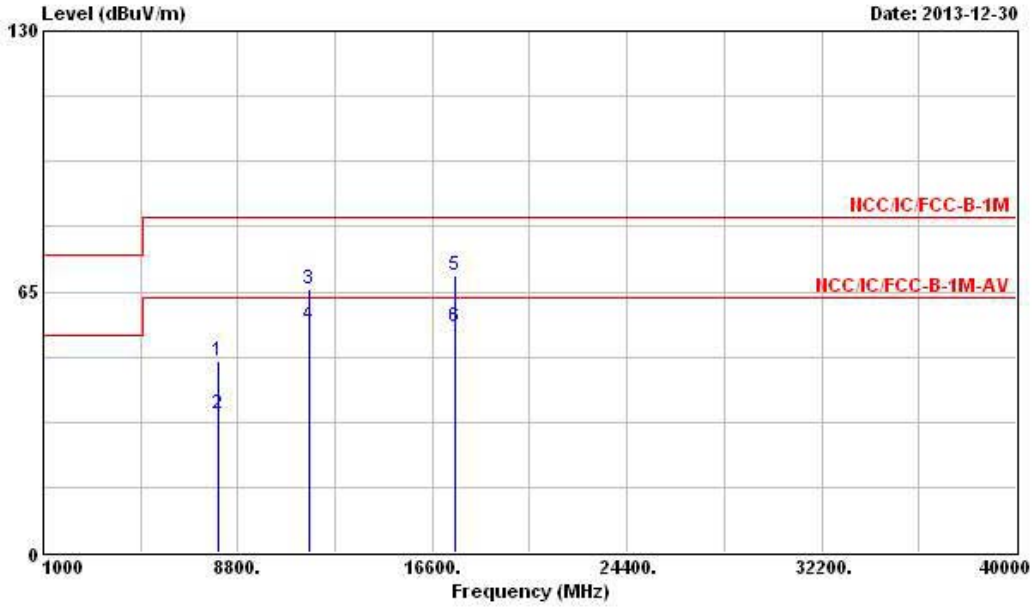
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7594.000	48.75	-34.79	83.54	42.43	35.70	5.64	35.02	Peak	---	---
2	7594.000	35.20	-28.34	63.54	28.88	35.70	5.64	35.02	Average	---	---
3	11650.000	60.19	-23.35	83.54	48.97	39.28	6.52	34.58	Peak	---	---
4	11650.000	55.07	-8.47	63.54	43.85	39.28	6.52	34.58	Average	---	---
5	17475.000	64.73	-18.81	83.54	47.69	41.87	8.92	33.75	Peak	---	---
6	17475.000	51.01	-12.53	63.54	33.97	41.87	8.92	33.75	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (115.67 dBuV/m).

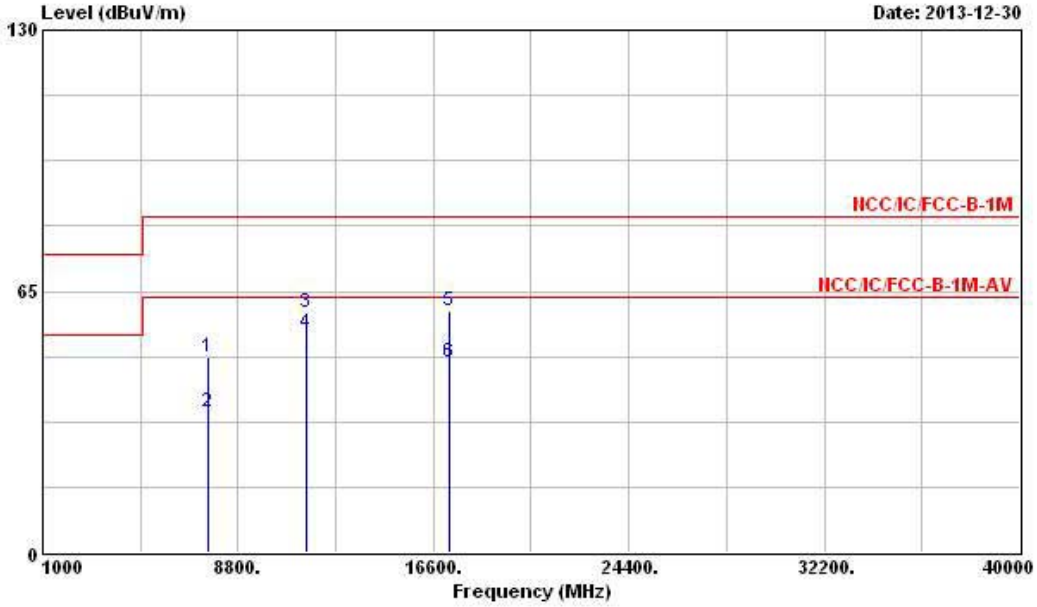
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8028.000	47.90	-35.64	83.54	42.01	35.73	5.32	35.16	Peak	---	---
2	8028.000	34.70	-28.84	63.54	28.81	35.73	5.32	35.16	Average	---	---
3	11650.000	65.57	-17.97	83.54	54.35	39.28	6.52	34.58	Peak	---	---
4	@11650.000	56.84	-6.70	63.54	45.62	39.28	6.52	34.58	Average	---	---
5	17475.000	69.23	-14.31	83.54	52.19	41.87	8.92	33.75	Peak	---	---
6	@17475.000	56.23	-7.31	63.54	39.19	41.87	8.92	33.75	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (115.67 dBuV/m).

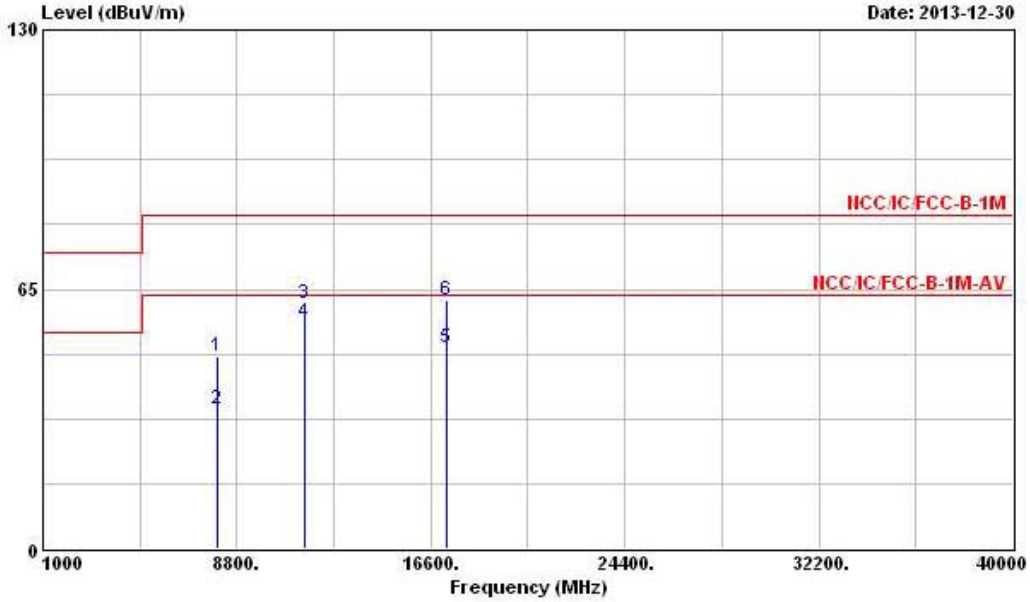
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5755
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7588.000	48.64	-34.90	83.54	42.32	35.70	5.64	35.02	Peak	---	---
2	7588.000	35.05	-28.49	63.54	28.73	35.70	5.64	35.02	Average	---	---
3	11510.000	59.56	-23.98	83.54	48.48	39.20	6.36	34.48	Peak	---	---
4	11510.000	54.63	-8.91	63.54	43.55	39.20	6.36	34.48	Average	---	---
5	17265.000	60.04	-23.50	83.54	43.22	41.71	8.95	33.84	Peak	---	---
6	17265.000	47.37	-16.17	63.54	30.55	41.71	8.95	33.84	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (112.62 dBuV/m).

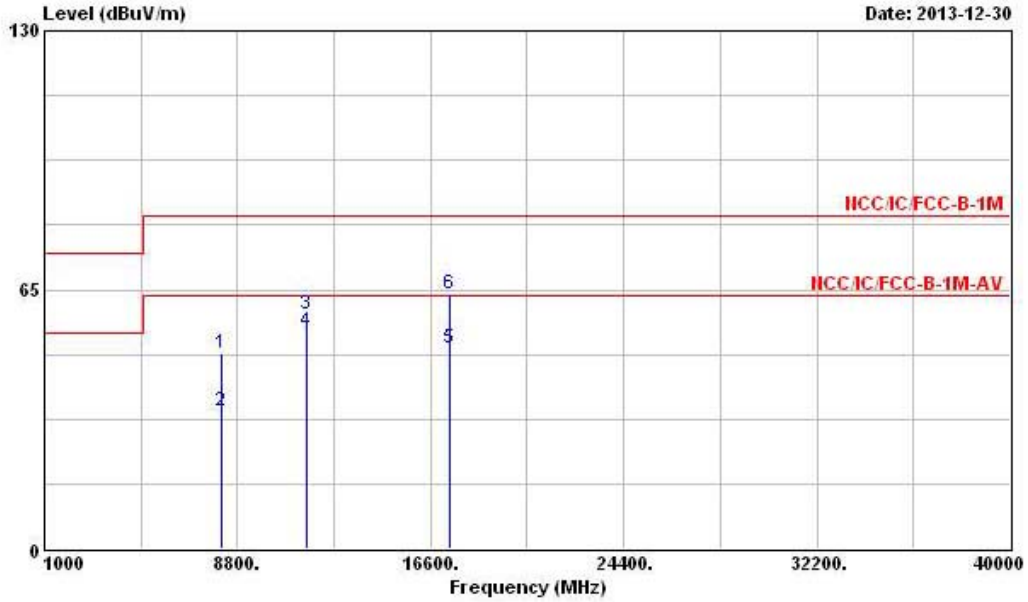
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5755
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8028.000	48.19	-35.35	83.54	42.30	35.73	5.32	35.16	Peak	---	---
2	8028.000	34.77	-28.77	63.54	28.88	35.73	5.32	35.16	Average	---	---
3	11510.000	61.29	-22.25	83.54	50.21	39.20	6.36	34.48	Peak	---	---
4	@11510.000	56.78	-6.76	63.54	45.70	39.20	6.36	34.48	Average	---	---
5	17265.000	50.45	-13.09	63.54	33.63	41.71	8.95	33.84	Average	---	---
6	17265.000	62.23	-21.31	83.54	45.41	41.71	8.95	33.84	Peak	---	---

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (112.62 dBuV/m).

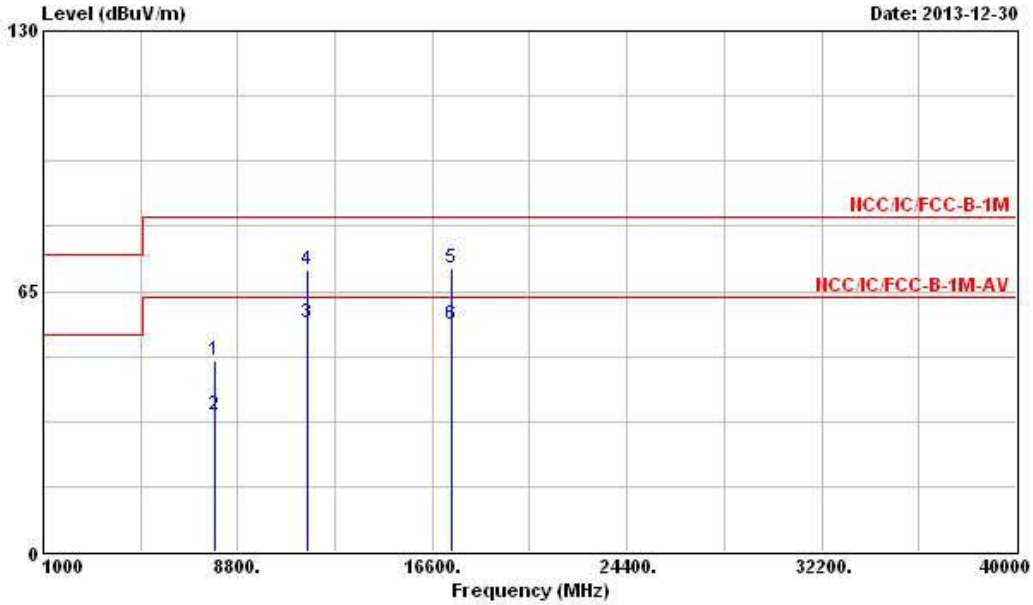
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5795
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8160.000	48.85	-34.69	83.54	42.67	35.95	5.37	35.14	Peak	---	---
2	8160.000	34.55	-28.99	63.54	28.37	35.95	5.37	35.14	Average	---	---
3	11590.000	58.75	-24.79	83.54	47.55	39.25	6.48	34.53	Peak	---	---
4	11590.000	54.44	-9.10	63.54	43.24	39.25	6.48	34.53	Average	---	---
5	17385.000	50.33	-13.21	63.54	33.38	41.81	8.93	33.79	Average	---	---
6	17385.000	63.82	-19.72	83.54	46.87	41.81	8.93	33.79	Peak	---	---

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (114.84 dBuV/m).

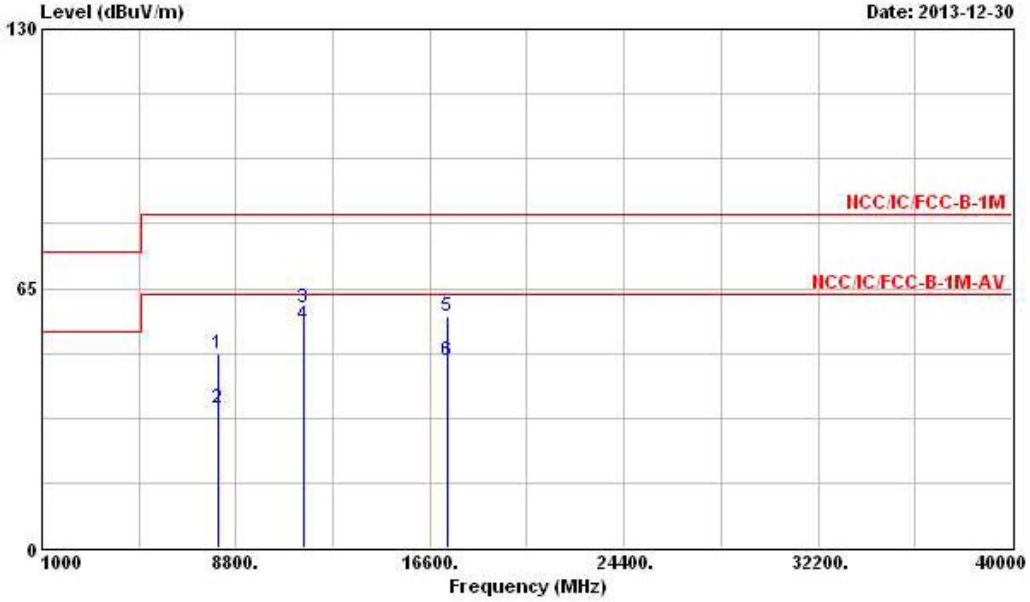
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5795
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7852.000	47.70	-35.84	83.54	41.70	35.70	5.41	35.11	Peak	---	---
2	7852.000	34.31	-29.23	63.54	28.31	35.70	5.41	35.11	Average	---	---
3	@11590.000	57.09	-6.45	63.54	45.89	39.25	6.48	34.53	Average	---	---
4	11590.000	70.24	-13.30	83.54	59.04	39.25	6.48	34.53	Peak	---	---
5	17385.000	70.66	-12.88	83.54	53.71	41.81	8.93	33.79	Peak	---	---
6	@17385.000	56.84	-6.70	63.54	39.89	41.81	8.93	33.79	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (114.84 dBuV/m).

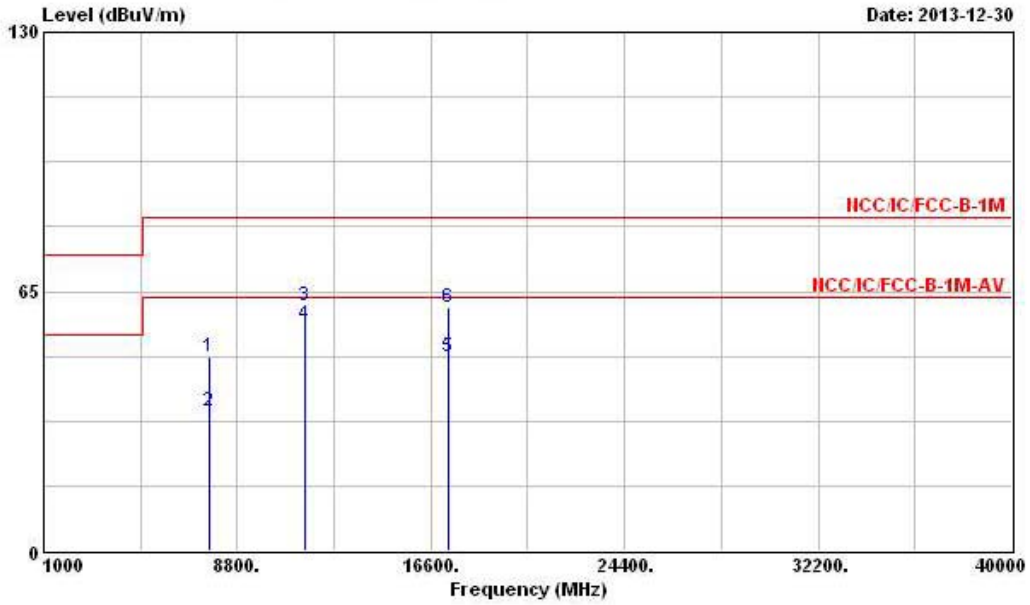
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5775
N_{TX}	1	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8072.000	48.44	-35.10	83.54	42.45	35.81	5.33	35.15	Peak	---	---
2	8072.000	34.78	-28.76	63.54	28.79	35.81	5.33	35.15	Average	---	---
3	11550.000	60.27	-23.27	83.54	49.11	39.23	6.44	34.51	Peak	---	---
4	@11550.000	55.87	-7.67	63.54	44.71	39.23	6.44	34.51	Average	---	---
5	17325.000	58.13	-25.41	83.54	41.26	41.75	8.94	33.82	Peak	---	---
6	17325.000	46.73	-16.81	63.54	29.86	41.75	8.94	33.82	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, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (109.91 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5775
N_{TX}	1	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7698.000	48.67	-34.87	83.54	42.49	35.70	5.54	35.06	Peak	---	---
2	7698.000	34.74	-28.80	63.54	28.56	35.70	5.54	35.06	Average	---	---
3	11550.000	61.19	-22.35	83.54	50.03	39.23	6.44	34.51	Peak	---	---
4	@11550.000	56.52	-7.02	63.54	45.36	39.23	6.44	34.51	Average	---	---
5	17325.000	48.58	-14.96	63.54	31.71	41.75	8.94	33.82	Average	---	---
6	17325.000	61.03	-22.51	83.54	44.16	41.75	8.94	33.82	Peak	---	---

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (109.91 dBuV/m).

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz ~ 2.75GHz	Mar. 26, 2013	Conduction (CO04-HY)
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 21, 2013	Conduction (CO04-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	7.61183201e+012	9kHz ~ 30MHz	Oct. 30, 2013	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSV 40	100305	9KHz~40GHz	Feb. 06, 2013	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP-SD	MAA1112-007	-20 ~ 100℃	Nov. 20, 2013	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Jun. 27, 2013	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP40	100593	9kHz ~ 40GHz	Oct. 03, 2013	Radiation (03CH02-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz ~ 1GHz 3m	May 11, 2013	Radiation (03CH02-HY)
Amplifier	Agilent	8447D	2944A11146	100kHz ~ 1.3GHz	Jul. 17, 2013	Radiation (03CH02-HY)
Amplifier	Agilent	8449B	3008A02373	1GHz ~ 26.5GHz	Aug. 28, 2013	Radiation (03CH02-HY)
Horn Antenna	ETS-LINDGREN	3115	6744	1GHz ~ 18GHz	Mar. 18, 2013	Radiation (03CH02-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15GHz ~ 40GHz	Jan. 08, 2013	Radiation (03CH02-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Nov. 09, 2013	Radiation (03CH02-HY)
RF Cable-high	SUHNER	SUCOFLEX106	03CH02-HY	1GHz ~ 40GHz	Mar. 05, 2013	Radiation (03CH02-HY)
Bilog Antenna	SCHAFFNER	CBL61128	2723	30MHz ~ 2GHz	Oct. 10, 2013	Radiation (03CH02-HY)
Turn Table	Chaintek Instruments	3000	MF7802058	0~ 360 degree	N/A	Radiation (03CH02-HY)
Antenna Mast	MF	MF7802	MF780208205	1 ~ 4 m	N/A	Radiation (03CH02-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5GHz ~ 40GHz	Apr. 19, 2013	Radiation (03CH02-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz - 30 MHz	Dec. 02, 2012	Radiation (03CH02-HY)

Note: Calibration Interval of instruments listed above is two year.