FCC Test Report

Equipment	:	**D-Link DWA-172 Wireless AC600 Dual Band High-Gain USB Adapter**
Brand Name	:	**D-LINK**
Model No.	:	**DWA-172**
FCC ID	:	**KA2WA172A1**
Standard	:	**47 CFR FCC Part 15.247**
Operating Band	:	**5725 MHz – 5850 MHz**
FCC Classification	:	**DTS**
Applicant Manufacturer	:	**D-Link Corporation** No. 289, Xinhu 3rd Rd., Neihu District, Taipei City 11494, Taiwan

The product sample received on Nov. 21, 2013 and completely tested on Jan. 13, 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

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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]: 0.1873850MHz 52.44 (Margin 11.71dB) – QP 40.35 (Margin 13.80dB) - AV	FCC 15.207	Complied
3.2	15.247(a)	6dB Bandwidth	6dB Bandwidth [MHz] 20M:16.42 / 40M:36.44 80M: 76.40	≥500kHz	Complied
3.3	15.247(b)	RF Output Power (Maximum Peak Conducted Output Power)	Power [dBm]: 19.63	Power [dBm]:30	Complied
3.4	15.247(d)	Power Spectral Density	PSD [dBm/100kHz]:-15.22	PSD [dBm/3kHz]:8	Complied
3.5	15.247(c)	Transmitter Radiated Bandedge Emissions	Non-Restricted Bands: 5722.70MHz: 21.53 dB	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]: 32.910MHz 33.77 (Margin 6.23dB) - Peak	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied

Revision History

Report No.	Version	Description	Issued Date
FR3N1935AI	Rev. 02	Initial issue of report	Apr. 28, 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	19.63
5725-5850	n(HT20)	5745-5825	149-165 [5]	1	19.59
5725-5850	n(HT40)	5755-5795	151-159 [2]	1	19.18
5725-5850	ac(VHT20)	5745-5825	149-165 [5]	1	17.45
5725-5850	ac(VHT40)	5755-5795	151-159 [2]	1	17.18
5725-5850	ac(VHT80)	5775	155 [1]	1	17.19
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.					

1.1.2 Antenna Information

Antenna Category			
☒	External antenna (dedicated antennas)		
	☒	Single power level with corresponding antenna(s).	
	☐	Multiple power level and corresponding antenna(s).	
	☐	RF connector provided	
		☐	Unique antenna connector. (e.g., MMCX, U.FL, IPX, and RP-SMA, RP-N type…)
		☐	Standard antenna connector. (e.g., SMA, N, BNC, and TNC type…)

Antenna General Information			
No.	**Ant. Cat.**	**Ant. Type**	**Gain (dBi)**
1	External	Dipole	3.0

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)	**Power Duty Factor [dB] – (10 log 1/x)**
☒ 100% - IEEE 802.11a	0
☒ 100% - IEEE 802.11n (HT20)	0
☒ 100% - IEEE 802.11n (HT40)	0
☒ 100% - IEEE 802.11ac (VHT20)	0
☒ 100% - IEEE 802.11ac (VHT40)	0
☒ 100% - IEEE 802.11ac (VHT80)	0

1.1.5 EUT Operational Condition

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

1.2 Support Equipment

Support Equipment - AC Conduction Test				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NoteBook PC	DELL	E5430	DoC

Support Equipment - RF Conducted Test				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NoteBook PC	DELL	E5520	DoC

Support Equipment - Radiated Emission Test				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NoteBook PC	DELL	E5530	DoC

1.3 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2009
- FCC KDB 558074
- 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	24°C / 51%
RF Conducted	TH06-HY	Wei	24.3°C / 62%
Radiated Emission	03CH02-HY	Daniel	21.3°C / 53%

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	Realtek 11ac8811A USB WLAN MP Diagnostic Program_0.0041.20130606						
Modulation Mode	**N_{TX}**	**Test Frequency (MHz)**					
		NCB: 20MHz			**NCB: 40MHz**		**NCB: 80MHz**
		5745	**5785**	**5825**	**5755**	**5795**	**5775**
11a,6-54Mbps	1	48	48	48	-	-	-
HT20,M0-7	1	48	48	49	-	-	-
HT40,M0-7	1	-	-	-	49	49	-
VHT20,M0-8	1	44	44	44	-	-	-
VHT40,M0-9	1	-	-	-	46	46	-
VHT80,M0-9	1	-	-	-	-	-	45

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 (WiFi link)

Note: The antenna of the EUT can be set to horizontal or vertical direction. The worse Polarity is horizontal in this report.

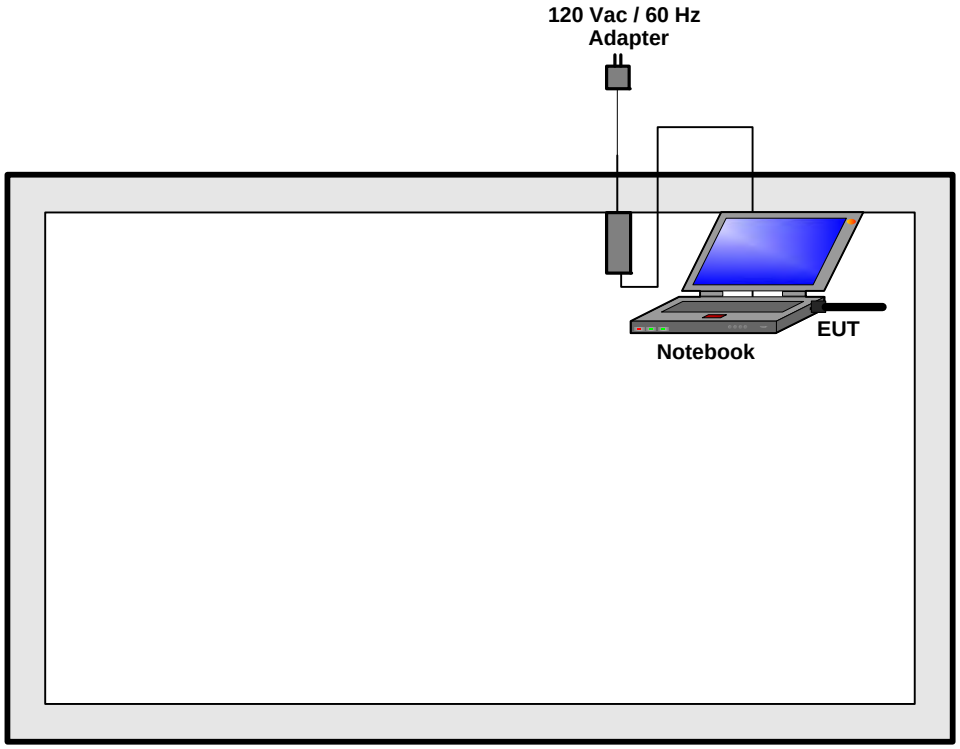
The Worst Case Mode for Following Conformance Tests	
Tests Item	RF Output Power, Power Spectral Density, 6 dB Bandwidth
Test Condition	Conducted measurement at transmit chains
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80

The Worst Case Mode for Following Conformance Tests		
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions	
Test Condition	Radiated measurement 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 two orthogonal planes. The worst planes is X.	
	☐ 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 (WiFi link)	
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80	
Orthogonal Planes of EUT	**X Plane**	**Y Plane**

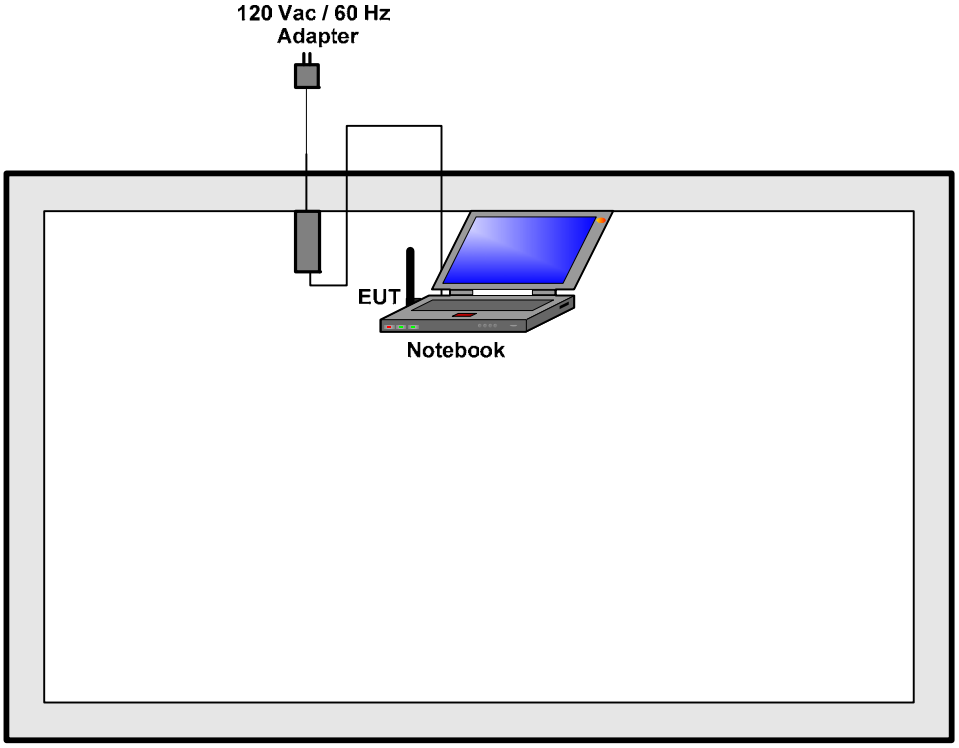
Note: The antenna of the EUT can be set to horizontal or vertical direction. The worse Polarity is vertical in this report.

2.4 Test Setup Diagram

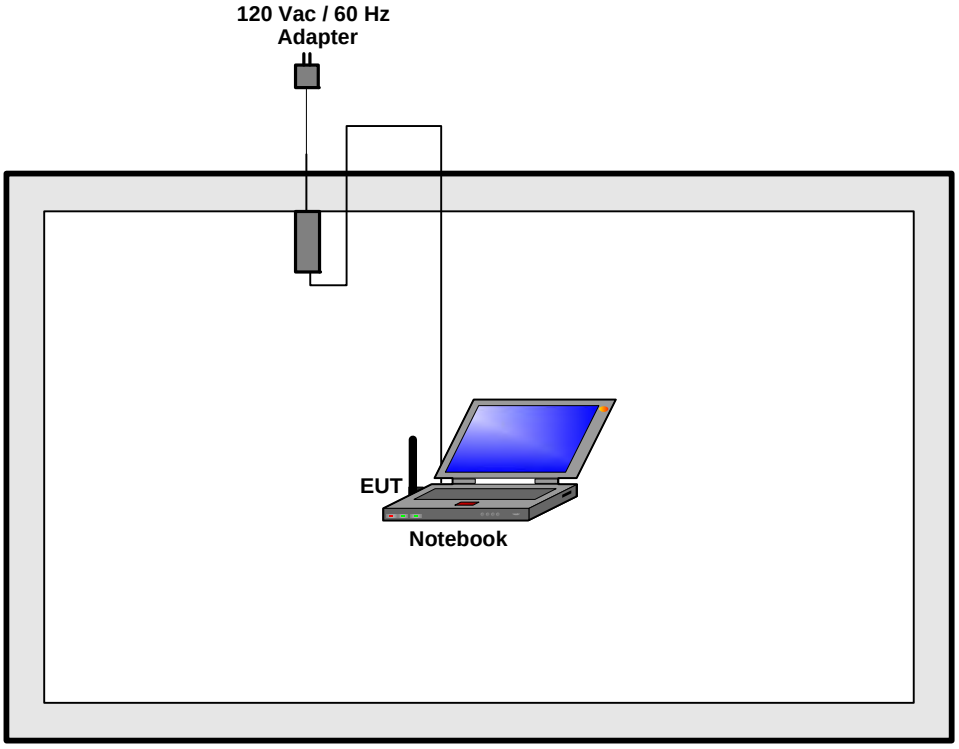
Test Setup Diagram – AC Line Conducted Emission Test



Test Setup Diagram - Radiated Test (9kHz~1GHz)



Test Setup Diagram - Radiated Test (Above 1GHz)



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

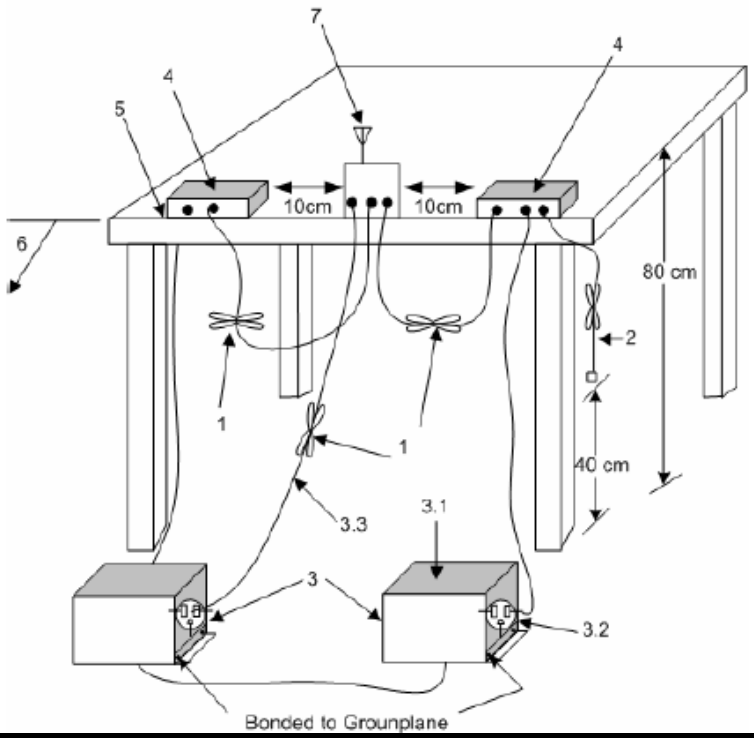
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

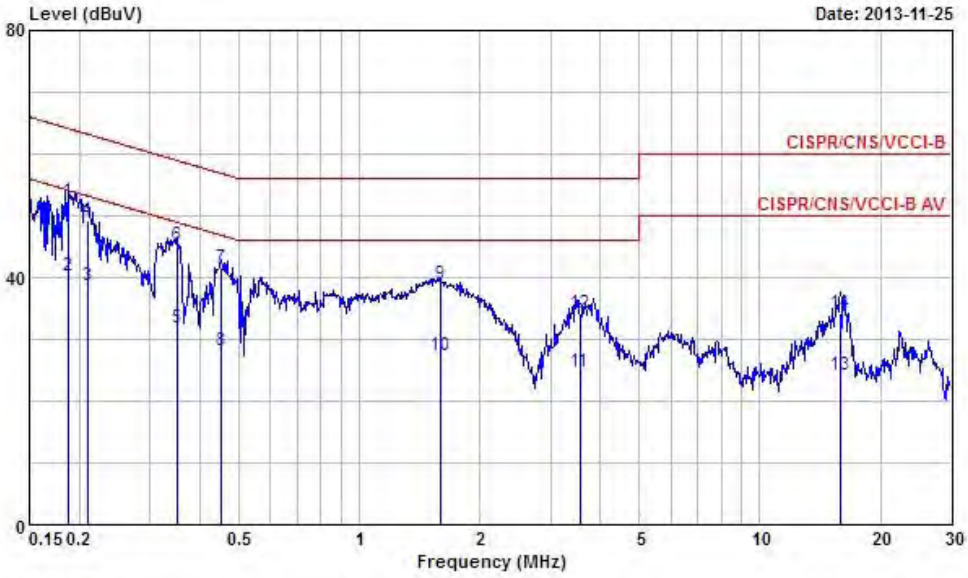
3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

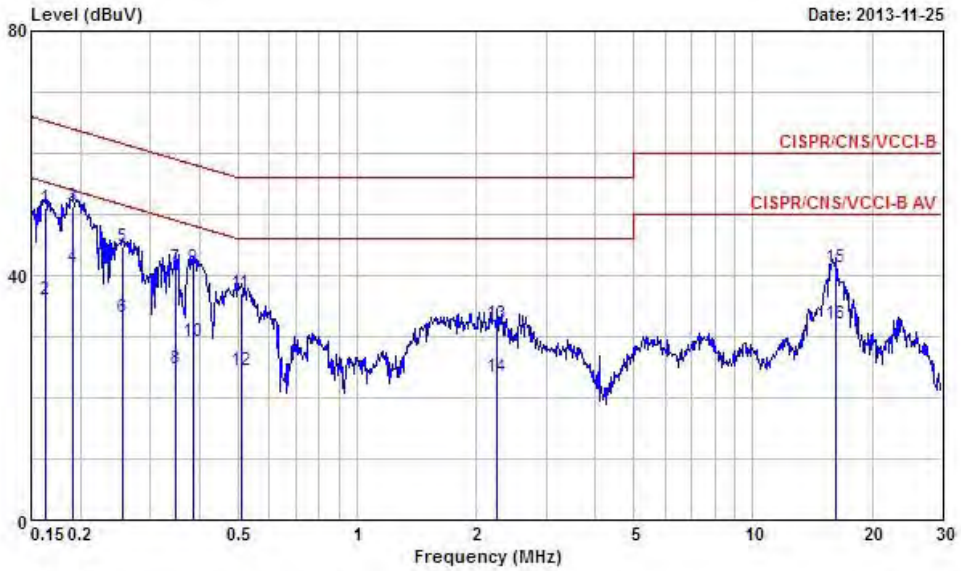
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	EUT with Notebook (WiFi link)		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	@0.1873850	52.44	-11.71	64.15	52.07	0.23	0.14	QP
2	0.1873850	40.35	-13.80	54.15	39.98	0.23	0.14	Average
3	0.2105510	38.64	-14.54	53.18	38.31	0.23	0.10	Average
4	0.2105510	49.27	-13.91	63.18	48.94	0.23	0.10	QP
5	0.3501520	31.72	-17.24	48.96	31.40	0.22	0.10	Average
6	0.3501520	45.24	-13.72	58.96	44.92	0.22	0.10	QP
7	0.4515500	41.70	-15.15	56.85	41.37	0.22	0.11	QP
8	0.4515500	28.05	-18.80	46.85	27.72	0.22	0.11	Average
9	1.590	39.07	-16.93	56.00	38.56	0.24	0.27	QP
10	1.590	27.45	-18.55	46.00	26.94	0.24	0.27	Average
11	3.550	24.66	-21.34	46.00	24.16	0.28	0.22	Average
12	3.550	34.23	-21.77	56.00	33.73	0.28	0.22	QP
13	15.890	24.25	-25.75	50.00	23.54	0.51	0.20	Average
14	15.890	34.17	-25.83	60.00	33.46	0.51	0.20	QP

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 (WiFi link)		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1632710	50.97	-14.33	65.30	50.64	0.11	0.22	QP
2	0.1632710	36.13	-19.17	55.30	35.80	0.11	0.22	Average
3	0.1903870	51.21	-12.81	64.02	50.97	0.11	0.13	QP
4	0.1903870	41.27	-12.75	54.02	41.03	0.11	0.13	Average
5	0.2547970	44.67	-16.93	61.60	44.46	0.11	0.10	QP
6	0.2547970	33.16	-18.44	51.60	32.95	0.11	0.10	Average
7	0.3464610	41.30	-17.75	59.05	41.10	0.10	0.10	QP
8	0.3464610	24.69	-24.36	49.05	24.49	0.10	0.10	Average
9	0.3872360	41.33	-16.79	58.12	41.13	0.10	0.10	QP
10	0.3872360	29.27	-18.85	48.12	29.07	0.10	0.10	Average
11	0.5100690	37.09	-18.91	56.00	36.86	0.10	0.13	QP
12	0.5100690	24.53	-21.47	46.00	24.30	0.10	0.13	Average
13	2.260	32.07	-23.93	56.00	31.66	0.13	0.28	QP
14	2.260	23.39	-22.61	46.00	22.98	0.13	0.28	Average
15	16.230	41.23	-18.77	60.00	40.74	0.29	0.20	QP
16	16.230	32.06	-17.94	50.00	31.57	0.29	0.20	Average

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

3.2 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

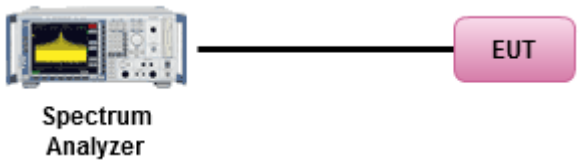
Refer a test equipment and calibration data table in this test report.

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 7.1 Option 1 for 6 dB bandwidth measurement.	
	☐	Refer as FCC KDB 558074, clause 7.2 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

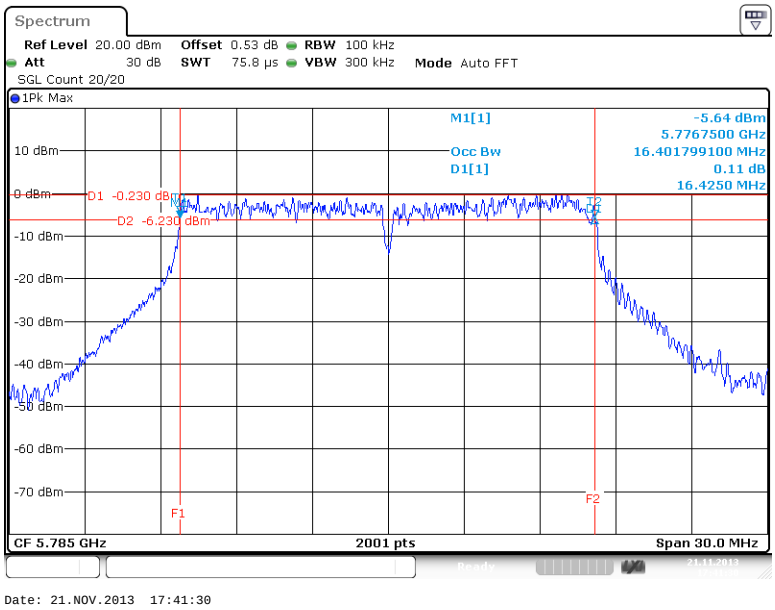
Emission Bandwidth



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
11a	1	5745	16.49	16.47
11a	1	5785	16.40	16.42
11a	1	5825	16.43	16.47
HT20	1	5745	17.66	17.70
HT20	1	5785	17.61	17.71
HT20	1	5825	17.64	17.70
HT40	1	5755	36.18	36.48
HT40	1	5795	36.18	36.44
VHT20	1	5745	17.63	17.70
VHT20	1	5785	17.64	17.79
VHT20	1	5825	17.67	17.68
VHT40	1	5755	36.26	36.48
VHT40	1	5795	36.22	36.48
VHT80	1	5775	75.56	76.40
Limit			N/A	≥500 kHz
Result			Complied	
Note 1: N_{TX} = Number of Transmit Chains				

Worst Emission 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

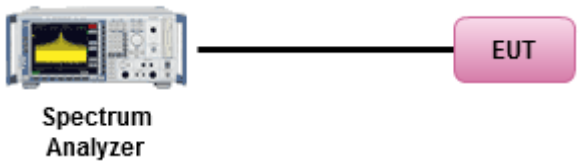
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method		
☒	Maximum Peak Conducted Output Power	
	☐	Refer as FCC KDB 558074, clause 8.1.1 Option 1 (RBW ≥ EBW method).
	☒	Refer as FCC KDB 558074, clause 8.1.2 Option 2 (integrated band power method).
	☐	Refer as FCC KDB 558074, clause 8.1.3 Option 2 (peak power meter for VBW ≥ DTS BW)
☒	Maximum Conducted (Average) Output Power	
	☐	Refer as FCC KDB 558074, clause 8.2.1 Option 1 (spectral trace averaging).
	☒	Refer as FCC KDB 558074, clause 8.2.2 Option 2 (slow sweep speed).
	☐	Refer as FCC KDB 558074, clause 8.2.3 Option 3 (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)



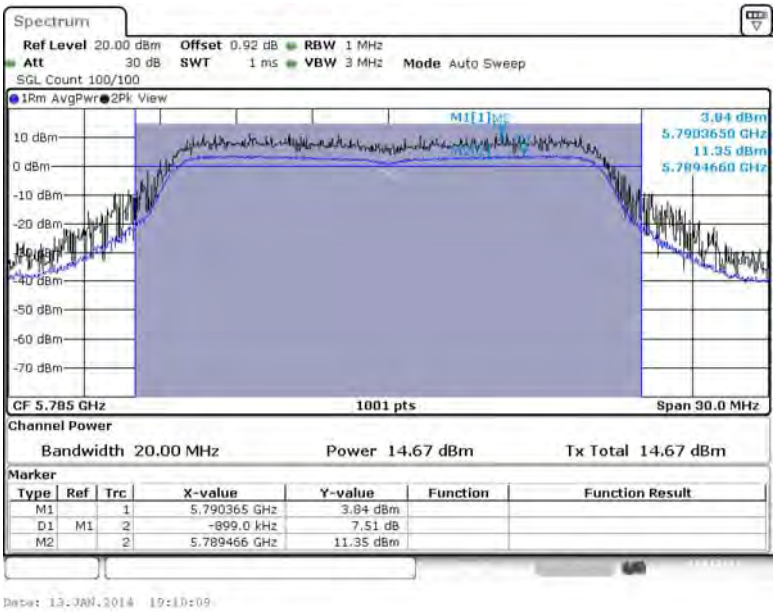
3.3.5 Test Result of Maximum Peak Conducted Output Power

Maximum Peak Conducted Output Power Result							
Condition			RF Output Power (dBm)				
Modulation Mode	N_{TX}	Freq. (MHz)	Output Power	Power Limit	Antenna Gain (dBi)	EIRP Power	EIRP Limit
11a	1	5745	19.40	30.00	3.0	22.40	36
11a	1	5785	19.63	30.00	3.0	22.63	36
11a	1	5825	19.14	30.00	3.0	22.14	36
HT20	1	5745	19.50	30.00	3.0	22.50	36
HT20	1	5785	19.59	30.00	3.0	22.59	36
HT20	1	5825	19.25	30.00	3.0	22.25	36
HT40	1	5755	19.18	30.00	3.0	22.18	36
HT40	1	5795	19.07	30.00	3.0	22.07	36
VHT20	1	5745	17.35	30.00	3.0	20.35	36
VHT20	1	5785	17.38	30.00	3.0	20.38	36
VHT20	1	5825	17.45	30.00	3.0	20.45	36
VHT40	1	5755	17.18	30.00	3.0	20.18	36
VHT40	1	5795	17.14	30.00	3.0	20.14	36
VHT80	1	5775	17.19	30.00	3.0	20.19	36
Result			Complied				

3.3.6 Test Result of Maximum Conducted Output Power

Maximum Conducted Output Power							
Condition			RF Output Power (dBm)				
Modulation Mode	N_{TX}	Freq. (MHz)	Output Power	Power Limit	Antenna Gain (dBi)	EIRP Power	EIRP Limit
11a	1	5745	14.45	30.00	3.0	17.45	36
11a	1	5785	14.67	30.00	3.0	17.67	36
11a	1	5825	14.36	30.00	3.0	17.36	36
HT20	1	5745	14.33	30.00	3.0	17.33	36
HT20	1	5785	14.28	30.00	3.0	17.28	36
HT20	1	5825	14.10	30.00	3.0	17.10	36
HT40	1	5755	14.23	30.00	3.0	17.23	36
HT40	1	5795	14.19	30.00	3.0	17.19	36
VHT20	1	5745	12.16	30.00	3.0	15.16	36
VHT20	1	5785	12.31	30.00	3.0	15.31	36
VHT20	1	5825	12.28	30.00	3.0	15.28	36
VHT40	1	5755	12.34	30.00	3.0	15.34	36
VHT40	1	5795	12.27	30.00	3.0	15.27	36
VHT80	1	5775	12.23	30.00	3.0	15.23	36
Result			Complied				

Worst RF Output Power Plots



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

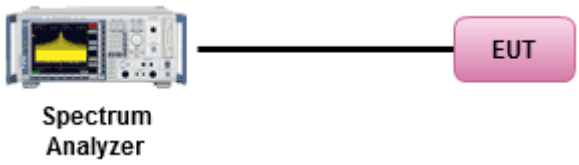
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method			
☒	Power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the power spectral density. In addition, the use of a peak PSD procedure will always result in a "worst-case" measured level for comparison to the limit. Therefore, whenever the DTS bandwidth exceeds 500 kHz, it is acceptable to utilize the peak PSD procedure to demonstrate compliance to the PSD limit, regardless of how the fundamental output power was measured. For the power spectral density shall be measured using below options:		
	☒	Refer as FCC KDB 558074, clause 9.1 Option 1 - (RBW≥3kHz; sweep=auto, detector=peak).	
	☐	Refer as FCC KDB 558074, clause 9.2 Option 2 - (RBW≥3kHz; sweep=auto, average=100).	
	☐	Refer as FCC KDB 558074, clause 9.3 Option 3 - (RBW≥3kHz; slow sweep speed).	
	☐	Refer as FCC KDB 558074, clause 9.4 Alternative 1 (average PSD; Add 10log (1/duty cycle).	
	☐	RBW>3kHz, add the bandwidth correction factor (BWCF) adjusting in PSD per 3kHz.	
☒	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

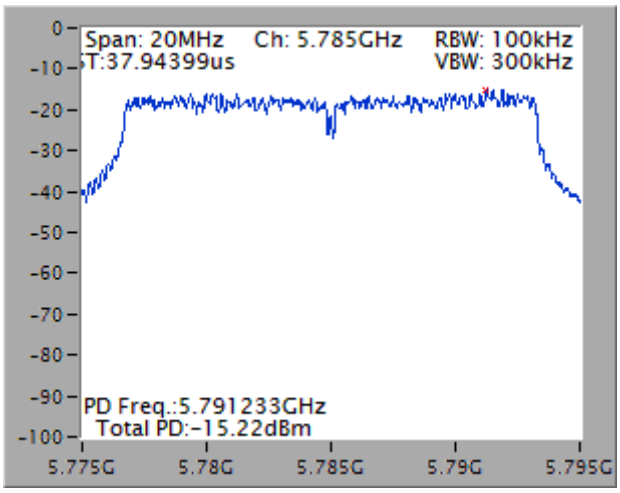
Power Spectral Density



3.4.5 Test Result of Power Spectral Density

Power Spectral Density Result				
Modulation Mode	**N_{TX}**	**Freq. (MHz)**	**Power Spectral Density (dBm/100kHz)**	**PSD Limit (dBm/3kHz)**
11a	1	5745	-15.25	8
11a	1	5785	-15.22	8
11a	1	5825	-15.40	8
HT20	1	5745	-15.76	8
HT20	1	5785	-15.87	8
HT20	1	5825	-15.86	8
HT40	1	5755	-19.28	8
HT40	1	5795	-19.41	8
VHT20	1	5745	-18.31	8
VHT20	1	5785	-18.18	8
VHT20	1	5825	-18.04	8
VHT40	1	5755	-20.27	8
VHT40	1	5795	-20.39	8
VHT80	1	5775	-22.91	8
Result			**Complied**	

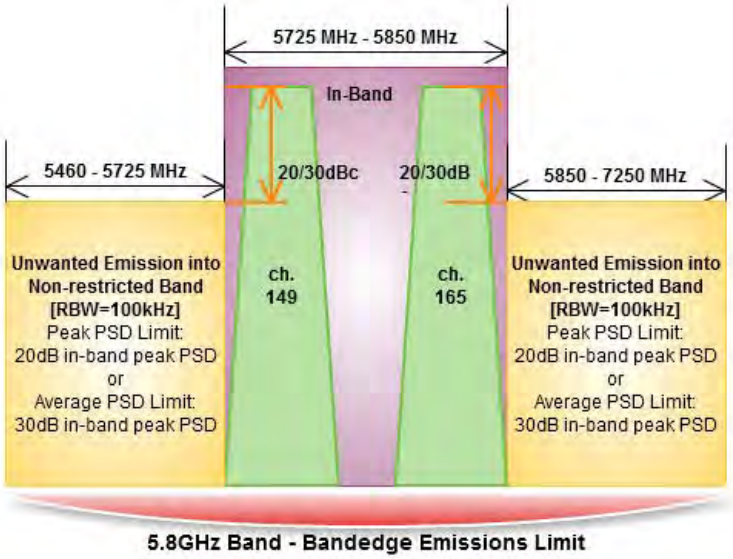
Worst Power Spectral Density Plots



3.5 Transmitter Radiated Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit

Transmitter Radiated Bandedge Emissions Limit



3.5.2 Measuring Instruments

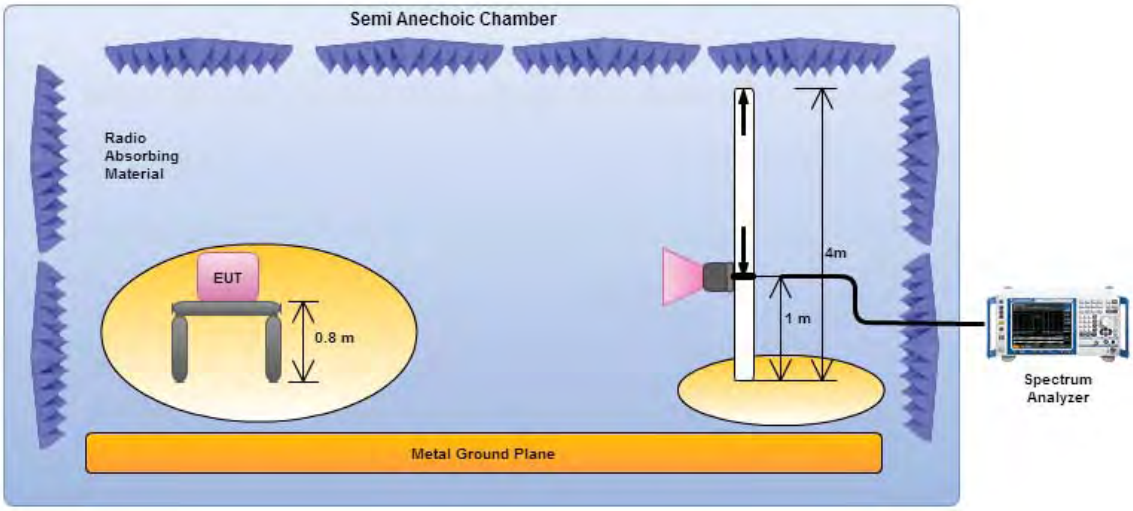
Refer a test equipment and calibration data table in this test report.

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.		

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	5745	113.33	5724.34	83.72	29.61	20	V
11a	1	5825	113.69	5850.53	75.64	38.05	20	V
HT20	1	5745	115.26	5724.974	88.96	26.30	20	V
HT20	1	5825	114.09	5850.00	79.06	35.03	20	V
HT40	1	5755	111.13	5722.70	89.60	21.53	20	V
HT40	1	5795	111.44	5851.90	76.15	35.29	20	V
VHT20	1	5745	109.90	5724.97	71.76	38.14	20	V
VHT20	1	5825	115.04	5850.09	81.49	33.55	20	V
VHT40	1	5755	111.61	5722.70	89.34	22.27	20	V
VHT40	1	5795	110.80	5852.60	75.79	35.01	20	V
VHT80	1	5775	108.55	5720.91	84.90	23.65	20	V
Note 1: Measurement worst emissions of receive antenna polarization								

3.6 Transmitter Radiated 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

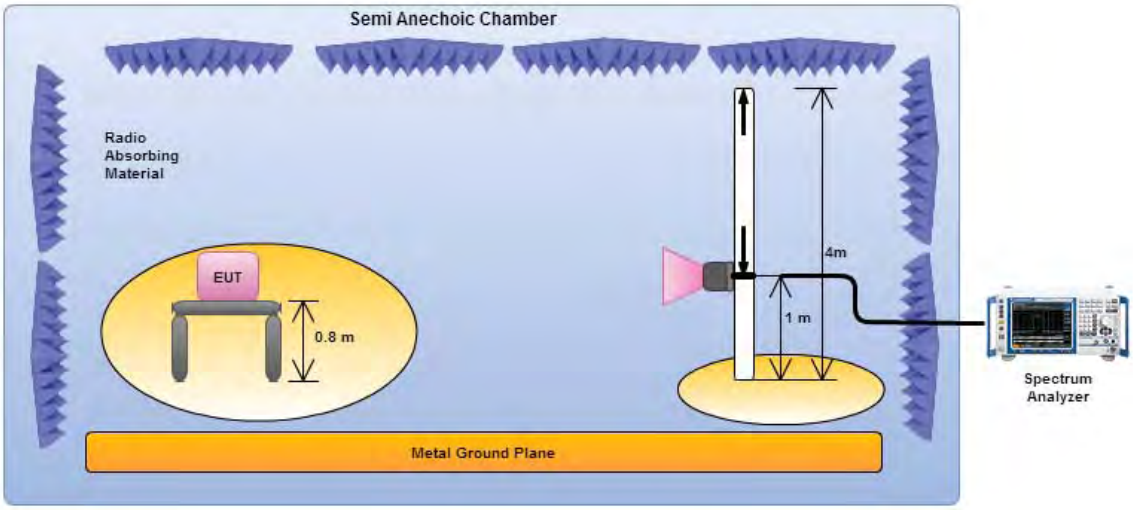
Refer a test equipment and calibration data table in this test report.

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 1 GHz and test distance is 3m, above 5GHz and 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



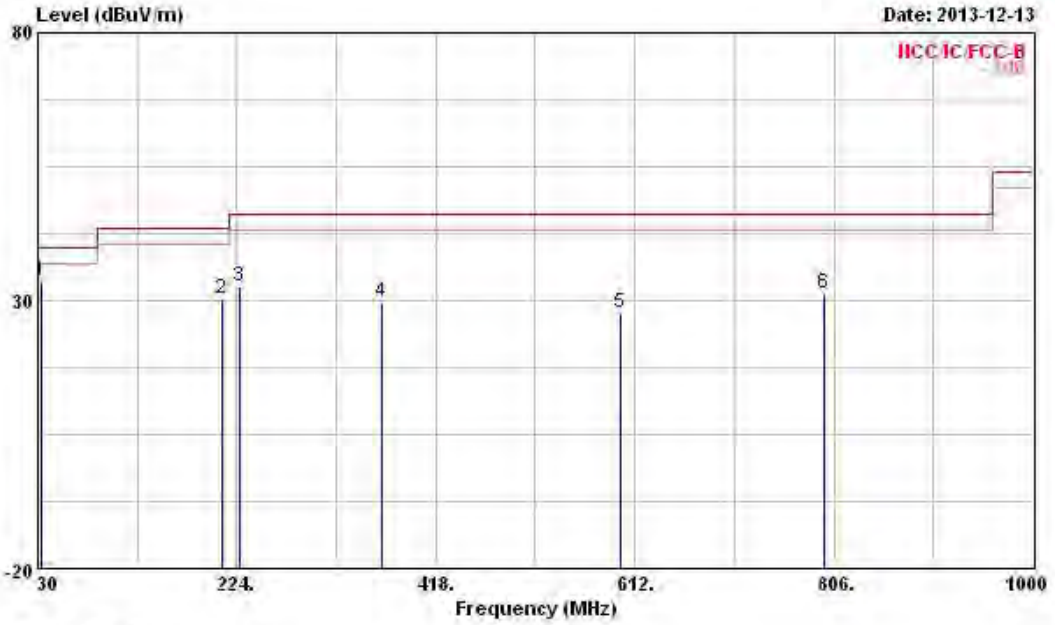
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna and the frequency range of 1 GHz to 40 GHz using a calibrated horn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

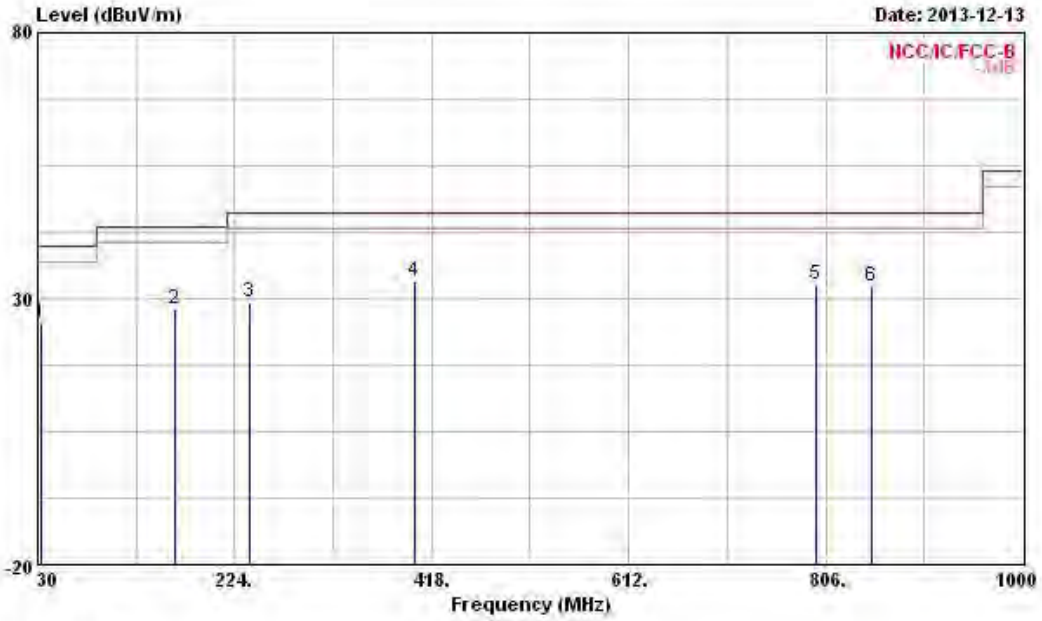
Radiated Emissions (Below 1GHz)			
Operating Mode	1	**Polarization**	V
Operating Function	EUT with Notebook (WiFi link)		



	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 @	32.910	33.77	-6.23	40.00	43.62	17.11	0.79	27.75	Peak	---	---
2	210.420	30.17	-13.33	43.50	46.23	9.20	2.14	27.40	Peak	---	---
3	226.910	32.69	-13.31	46.00	47.84	9.96	2.24	27.35	Peak	---	---
4	365.620	29.64	-16.36	46.00	39.54	14.88	2.87	27.65	Peak	---	---
5	598.420	27.67	-18.33	46.00	33.80	18.69	3.68	28.50	Peak	---	---
6	796.300	31.46	-14.54	46.00	35.20	19.94	4.40	28.08	Peak	---	---

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

Radiated Emissions (Below 1GHz)			
Operating Mode	1	**Polarization**	H
Operating Function	EUT with Notebook (WiFi link)		

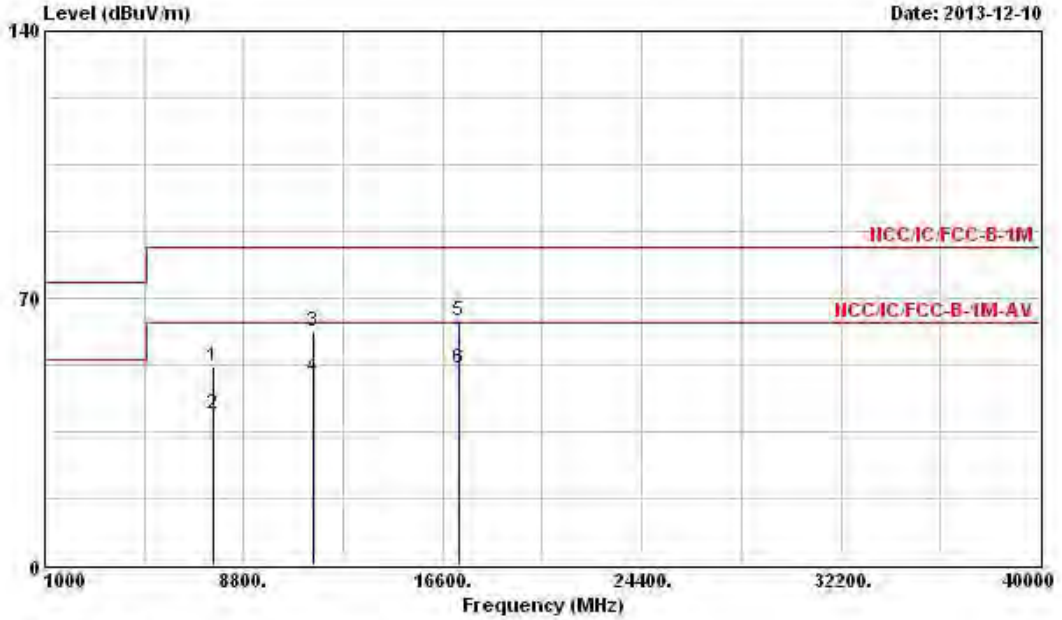


	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	32.910	25.36	-14.64	40.00	35.21	17.11	0.79	27.75	Peak	---	---
2	164.830	27.90	-15.60	43.50	43.67	9.95	1.82	27.54	Peak	---	---
3	238.550	29.23	-16.77	46.00	42.80	11.43	2.32	27.32	Peak	---	---
4	400.540	33.43	-12.57	46.00	42.47	15.89	2.98	27.91	Peak	---	---
5	796.300	32.58	-13.42	46.00	36.32	19.94	4.40	28.08	Peak	---	---
6	851.590	32.14	-13.86	46.00	35.17	20.36	4.52	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).
Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

3.6.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)

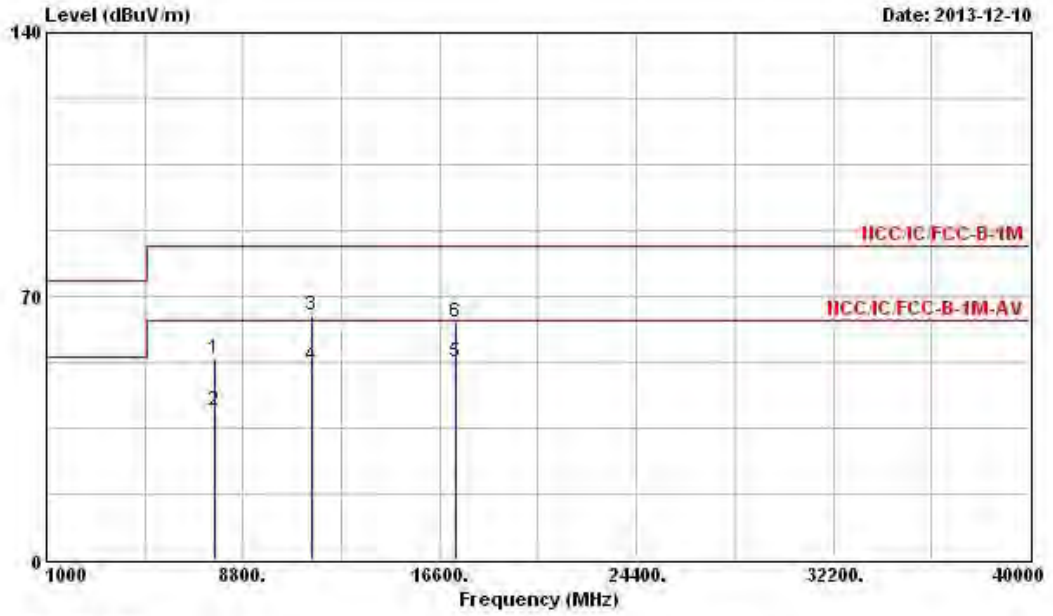
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	V



	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	7588.000	52.26	-31.28	83.54	44.12	37.52	5.64	35.02	Peak	---	---
2	7588.000	39.42	-24.12	63.54	31.28	37.52	5.64	35.02	Average	---	---
3	11490.000	61.12	-22.42	83.54	50.03	39.17	6.36	34.44	Peak	---	---
4	11490.000	49.42	-14.12	63.54	38.33	39.17	6.36	34.44	Average	---	---
5	17235.000	64.08	-19.46	83.54	45.30	43.68	8.96	33.86	Peak	---	---
6	17235.000	51.73	-11.81	63.54	32.95	43.68	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 (125.14 dBuV/m).

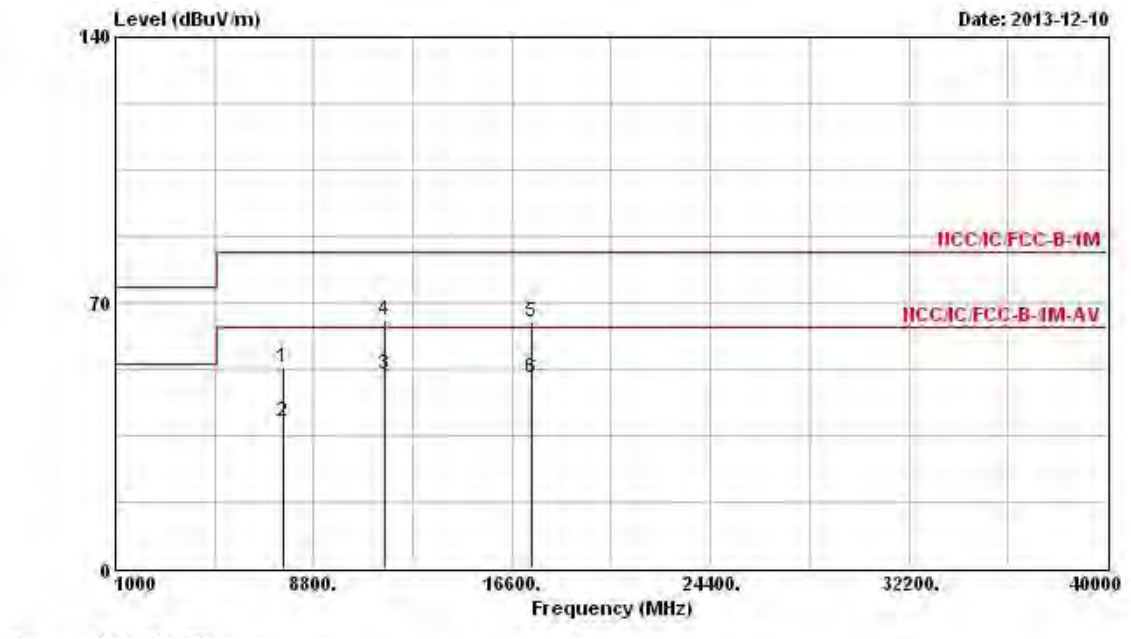
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	H



	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	7698.000	53.32	-30.22	83.54	45.30	37.54	5.54	35.06	Peak	---	---
2	7698.000	39.75	-23.79	63.54	31.73	37.54	5.54	35.06	Average	---	---
3	11490.000	65.08	-18.46	83.54	53.99	39.17	6.36	34.44	Peak	---	---
4	11490.000	51.45	-12.09	63.54	40.36	39.17	6.36	34.44	Average	---	---
5	17235.000	52.39	-11.15	63.54	33.61	43.68	8.96	33.86	Average	---	---
6	17235.000	63.08	-20.46	83.54	44.30	43.68	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 (125.14 dBuV/m).

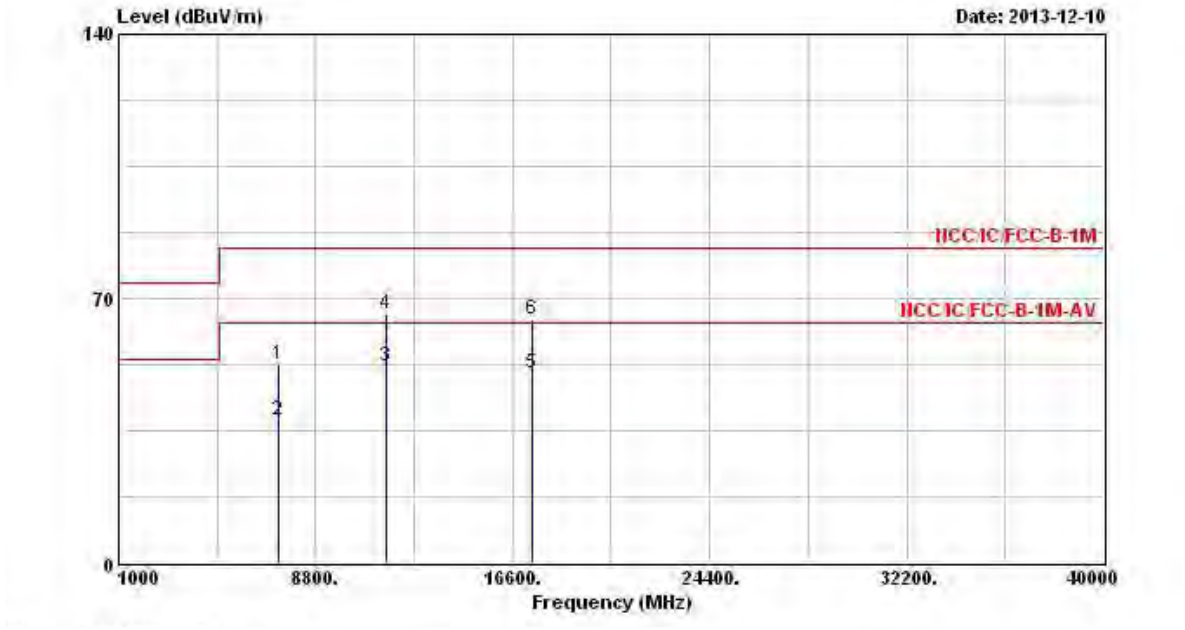
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	V



	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	7616.000	53.07	-30.47	83.54	44.96	37.52	5.61	35.02	Peak	---	---
2	7616.000	38.57	-24.97	63.54	30.46	37.52	5.61	35.02	Average	---	---
3	11570.000	51.13	-12.41	63.54	40.03	39.19	6.44	34.53	Average	---	---
4	11570.000	65.20	-18.34	83.54	54.10	39.19	6.44	34.53	Peak	---	---
5	17385.000	64.91	-18.63	83.54	45.01	44.76	8.93	33.79	Peak	---	---
6	17385.000	50.37	-13.17	63.54	30.47	44.76	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 (123.05 dBuV/m).

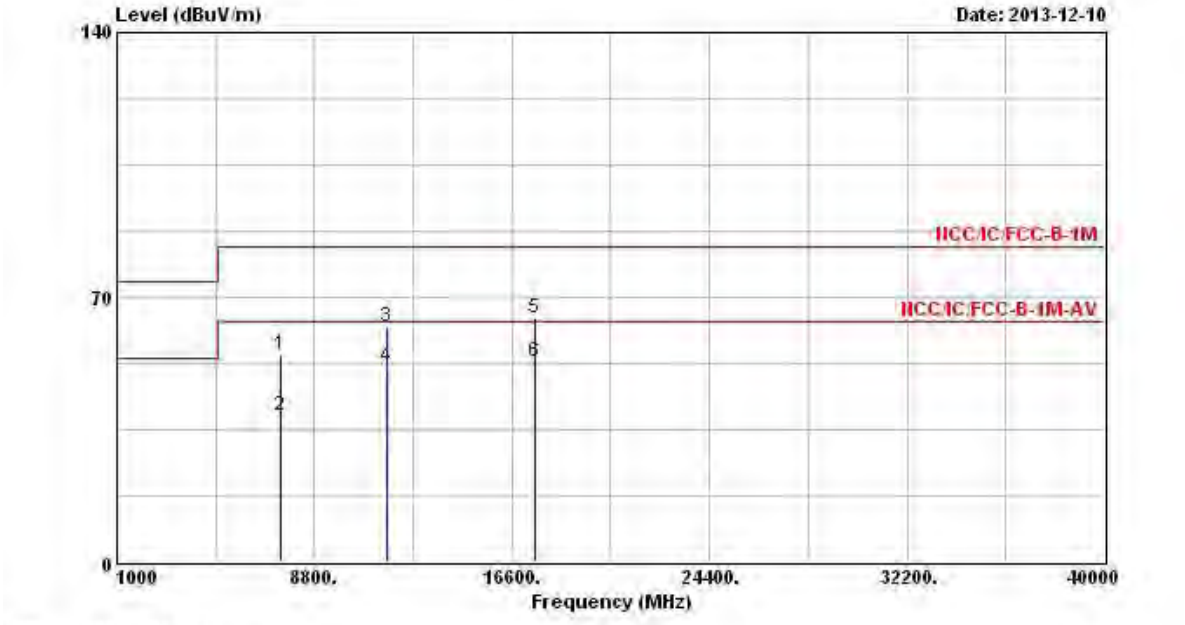
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	H



	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	7348.000	52.40	-31.14	83.54	44.71	37.13	5.52	34.96	Peak	---	---
2	7348.000	37.79	-25.75	63.54	30.10	37.13	5.52	34.96	Average	---	---
3	11570.000	52.18	-11.36	63.54	41.08	39.19	6.44	34.53	Average	---	---
4	11570.000	65.72	-17.82	83.54	54.62	39.19	6.44	34.53	Peak	---	---
5	17385.000	50.27	-13.27	63.54	30.37	44.76	8.93	33.79	Average	---	---
6	17385.000	64.47	-19.07	83.54	44.57	44.76	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 (123.05 dBuV/m).

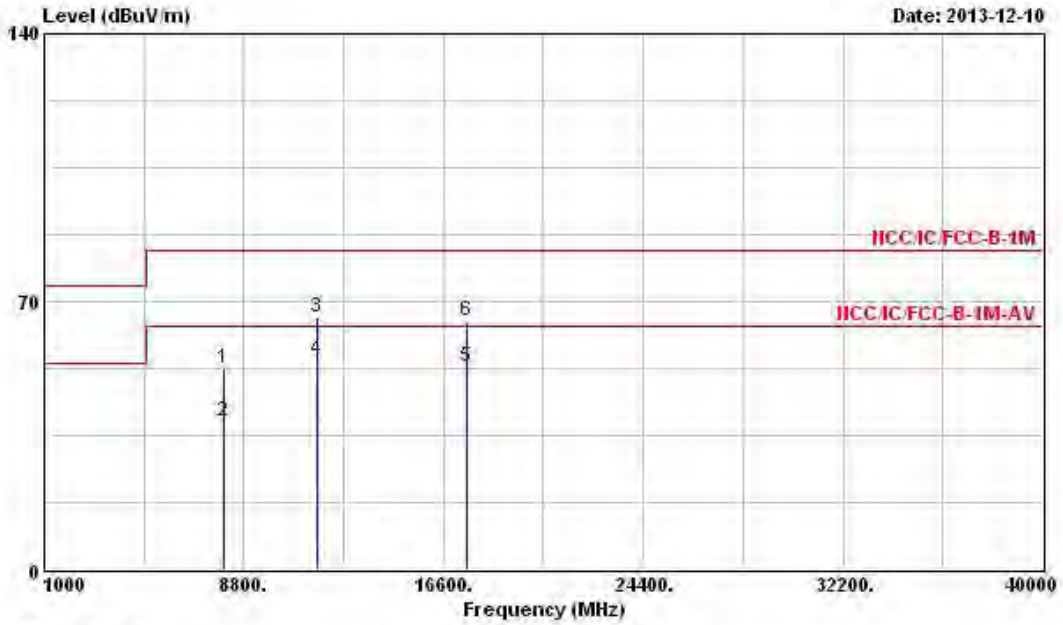
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	V



	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	7456.000	54.68	-28.86	83.54	46.58	37.42	5.66	34.98	Peak	---	---
2	7456.000	38.80	-24.74	63.54	30.70	37.42	5.66	34.98	Average	---	---
3	11650.000	62.17	-21.37	83.54	51.06	39.17	6.52	34.58	Peak	---	---
4	11650.000	51.44	-12.10	63.54	40.33	39.17	6.52	34.58	Average	---	---
5	17475.000	64.58	-18.96	83.54	44.05	45.36	8.92	33.75	Peak	---	---
6	17475.000	52.84	-10.70	63.54	32.31	45.36	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 (124.87 dBuV/m).

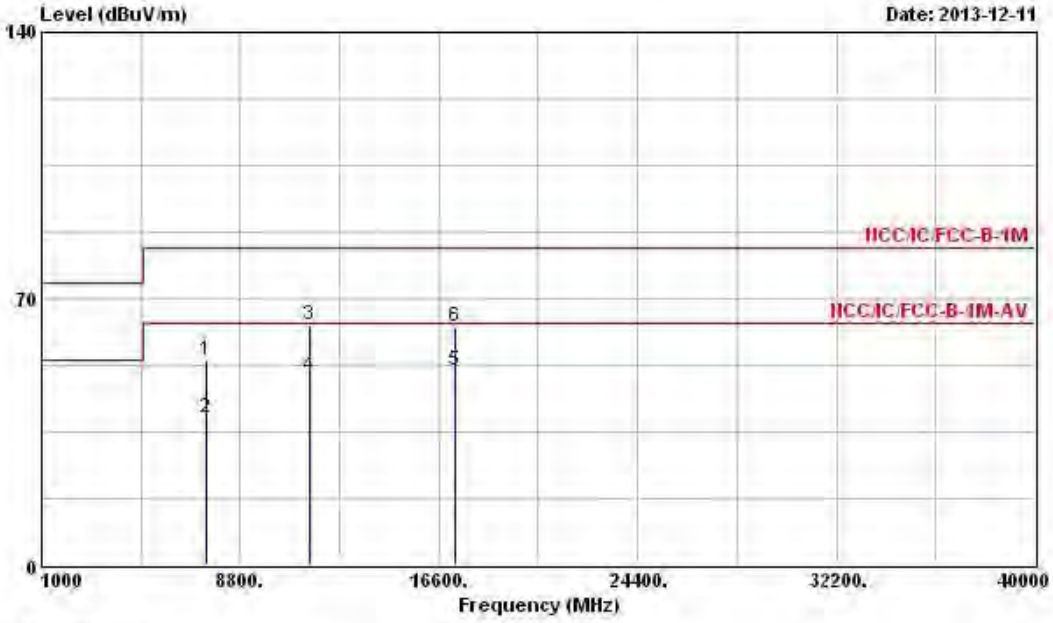
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	H



	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	8028.000	52.40	-31.14	83.54	44.64	37.60	5.32	35.16	Peak	---	---
2	8028.000	38.88	-24.66	63.54	31.12	37.60	5.32	35.16	Average	---	---
3	11650.000	65.77	-17.77	83.54	54.66	39.17	6.52	34.58	Peak	---	---
4	11650.000	54.99	-8.55	63.54	43.88	39.17	6.52	34.58	Average	---	---
5	17475.000	52.95	-10.59	63.54	32.42	45.36	8.92	33.75	Average	---	---
6	17475.000	65.12	-18.42	83.54	44.59	45.36	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 (124.87 dBuV/m).

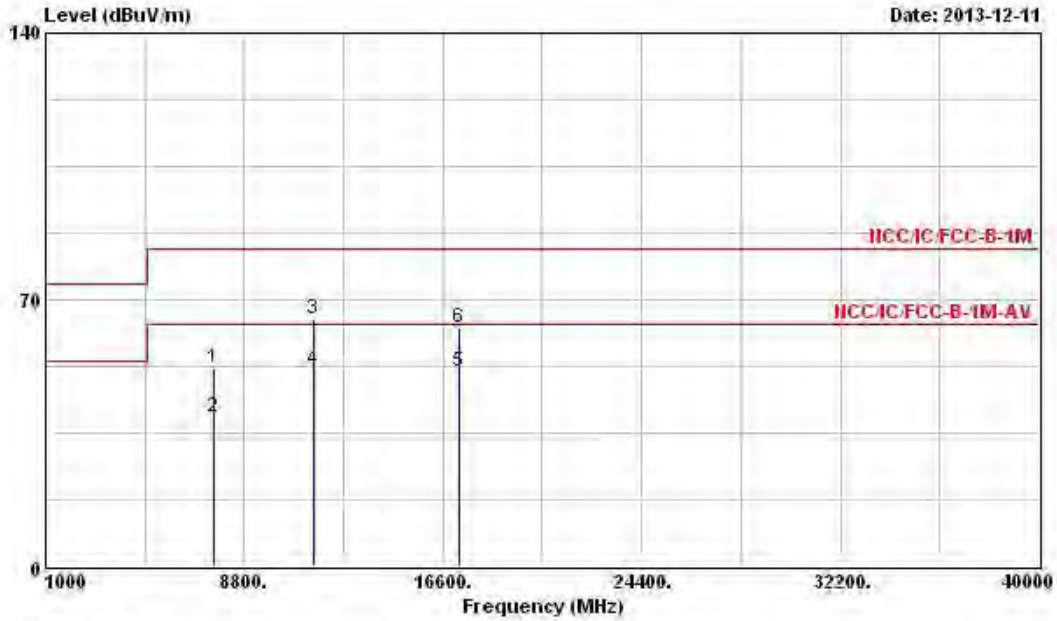
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	V



	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	7456.000	54.08	-29.46	83.54	45.98	37.42	5.66	34.98	Peak	---	---
2	7456.000	38.78	-24.76	63.54	30.68	37.42	5.66	34.98	Average	---	---
3	11490.000	63.03	-20.51	83.54	51.94	39.17	6.36	34.44	Peak	---	---
4	11490.000	49.84	-13.70	63.54	38.75	39.17	6.36	34.44	Average	---	---
5	17235.000	51.09	-12.45	63.54	32.31	43.68	8.96	33.86	Average	---	---
6	17235.000	62.68	-20.86	83.54	43.90	43.68	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 (125.69 dBuV/m).

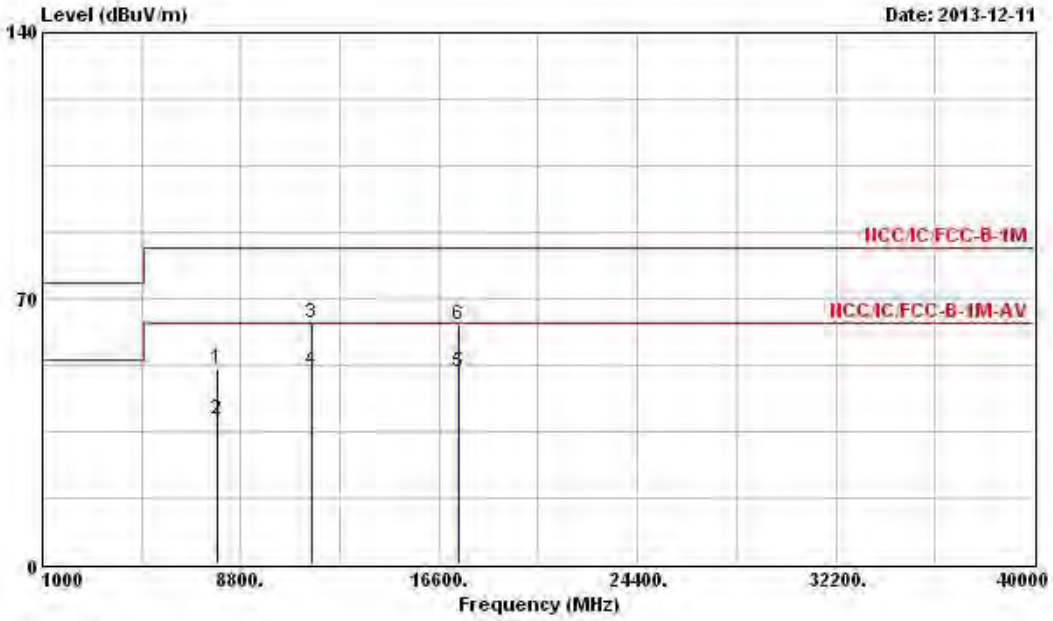
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	H



	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	7632.000	52.00	-31.54	83.54	43.89	37.53	5.61	35.03	Peak	---	---
2	7632.000	39.05	-24.49	63.54	30.94	37.53	5.61	35.03	Average	---	---
3	11490.000	64.71	-18.83	83.54	53.62	39.17	6.36	34.44	Peak	---	---
4	11490.000	51.56	-11.98	63.54	40.47	39.17	6.36	34.44	Average	---	---
5	17235.000	50.90	-12.64	63.54	32.12	43.68	8.96	33.86	Average	---	---
6	17235.000	62.86	-20.68	83.54	44.08	43.68	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 (125.69 dBuV/m).

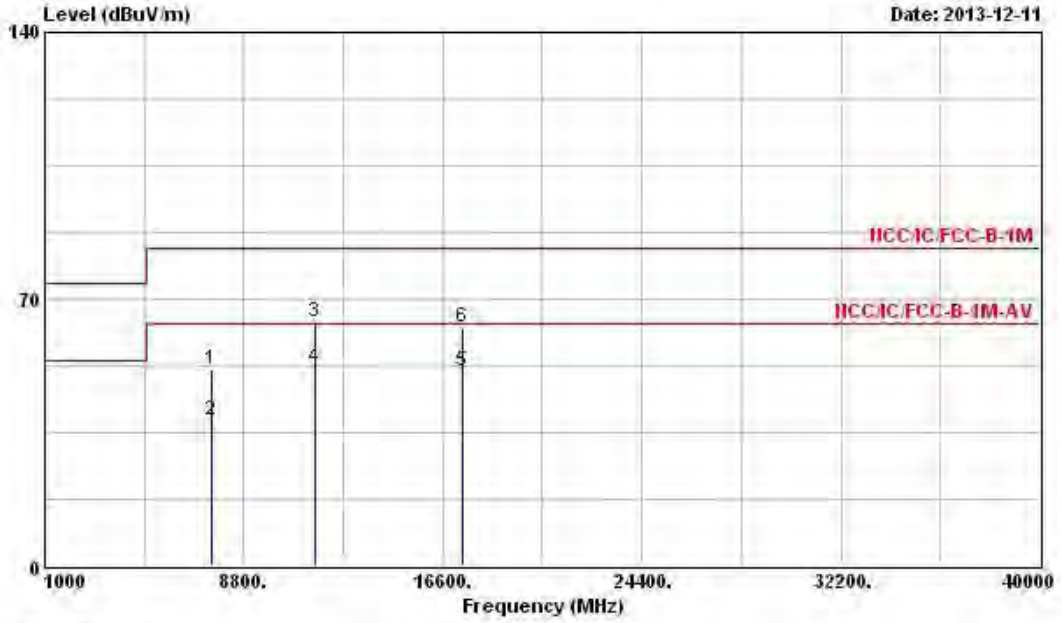
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	V



	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	7912.000	51.59	-31.95	83.54	43.76	37.58	5.38	35.13	Peak	---	---
2	7912.000	38.02	-25.52	63.54	30.19	37.58	5.38	35.13	Average	---	---
3	11570.000	63.52	-20.02	83.54	52.42	39.19	6.44	34.53	Peak	---	---
4	11570.000	51.18	-12.36	63.54	40.08	39.19	6.44	34.53	Average	---	---
5	17355.000	50.64	-12.90	63.54	30.99	44.52	8.94	33.81	Average	---	---
6	17355.000	63.08	-20.46	83.54	43.43	44.52	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 (126.06 dBuV/m).

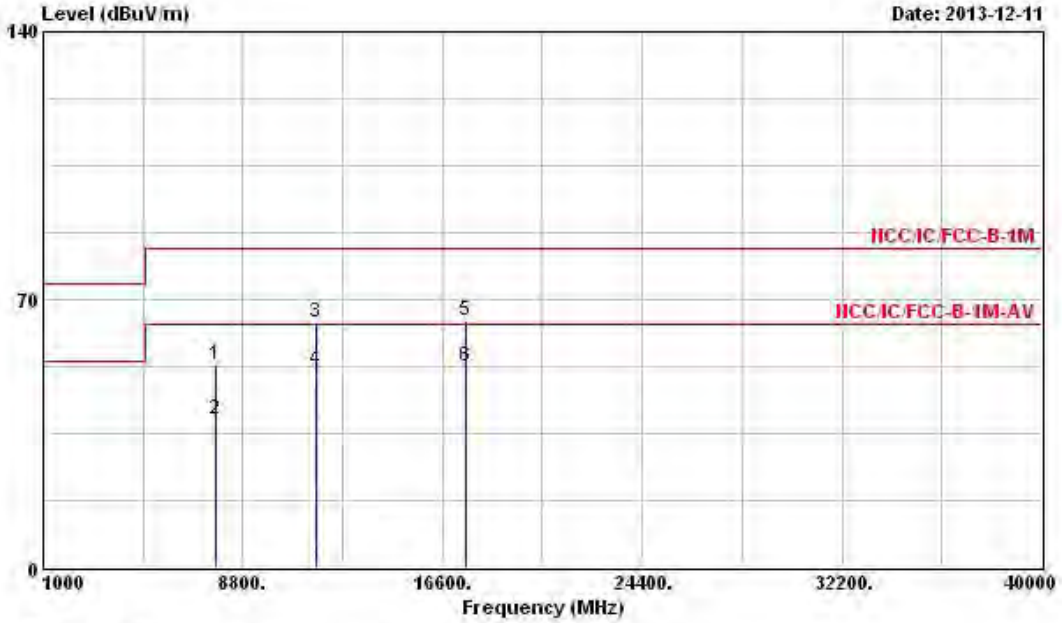
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	H



	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	7516.000	51.39	-32.15	83.54	43.18	37.50	5.71	35.00	Peak	---	---
2	7516.000	38.06	-25.48	63.54	29.85	37.50	5.71	35.00	Average	---	---
3	11570.000	63.79	-19.75	83.54	52.69	39.19	6.44	34.53	Peak	---	---
4	11570.000	52.15	-11.39	63.54	41.05	39.19	6.44	34.53	Average	---	---
5	17355.000	50.98	-12.56	63.54	31.33	44.52	8.94	33.81	Average	---	---
6	17355.000	62.51	-21.03	83.54	42.86	44.52	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 (126.06 dBuV/m).

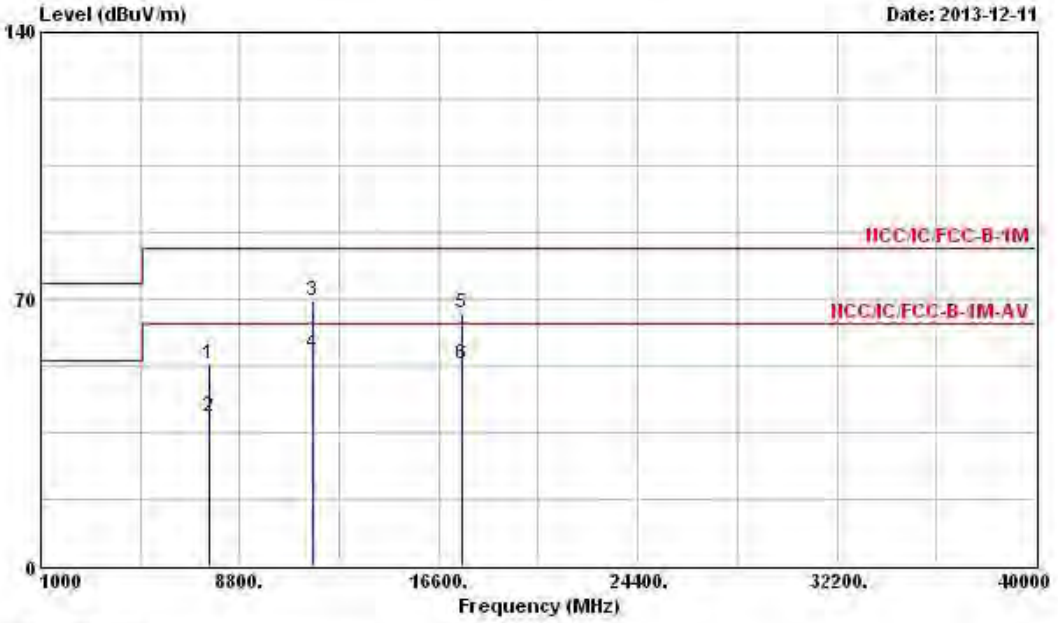
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	V



	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	7720.000	52.86	-30.68	83.54	44.85	37.54	5.54	35.07	Peak	---	---
2	7720.000	38.61	-24.93	63.54	30.60	37.54	5.54	35.07	Average	---	---
3	11650.000	64.23	-19.31	83.54	53.12	39.17	6.52	34.58	Peak	---	---
4	11650.000	51.41	-12.13	63.54	40.30	39.17	6.52	34.58	Average	---	---
5	17475.000	64.63	-18.91	83.54	44.10	45.36	8.92	33.75	Peak	---	---
6	17475.000	52.64	-10.90	63.54	32.11	45.36	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 (125.12 dBuV/m).

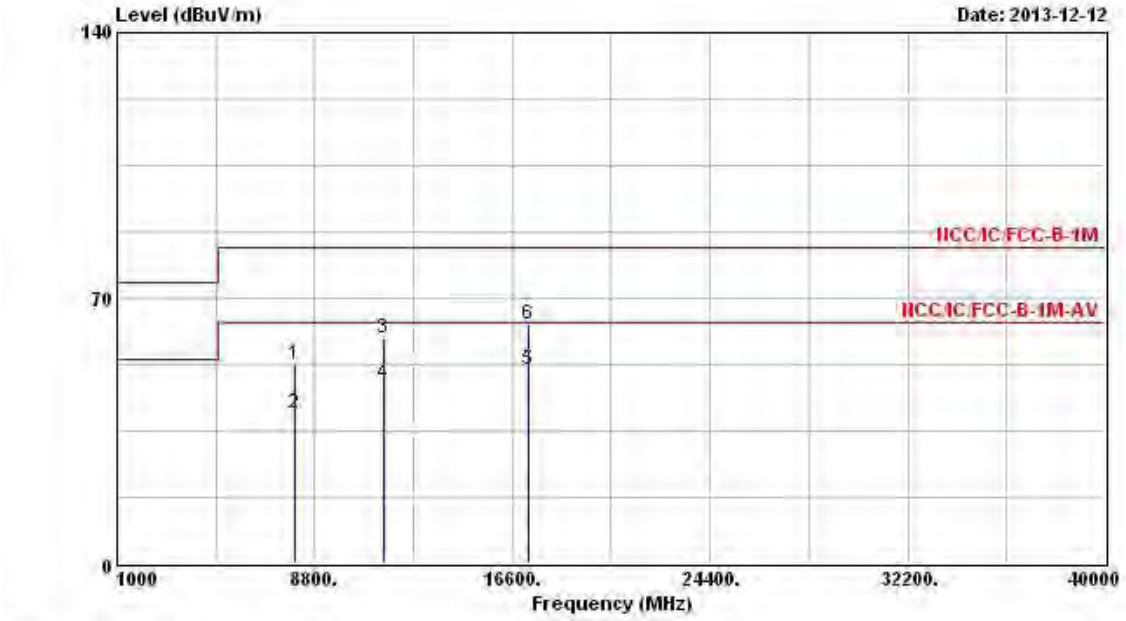
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	H



	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	52.85	-30.69	83.54	44.71	37.52	5.64	35.02	Peak	---	---
2	7588.000	39.25	-24.29	63.54	31.11	37.52	5.64	35.02	Average	---	---
3	11650.000	69.65	-13.89	83.54	58.54	39.17	6.52	34.58	Peak	---	---
4	11650.000	55.50	-8.04	63.54	44.39	39.17	6.52	34.58	Average	---	---
5	17475.000	66.31	-17.23	83.54	45.78	45.36	8.92	33.75	Peak	---	---
6	17475.000	52.75	-10.79	63.54	32.22	45.36	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 (125.12 dBuV/m).

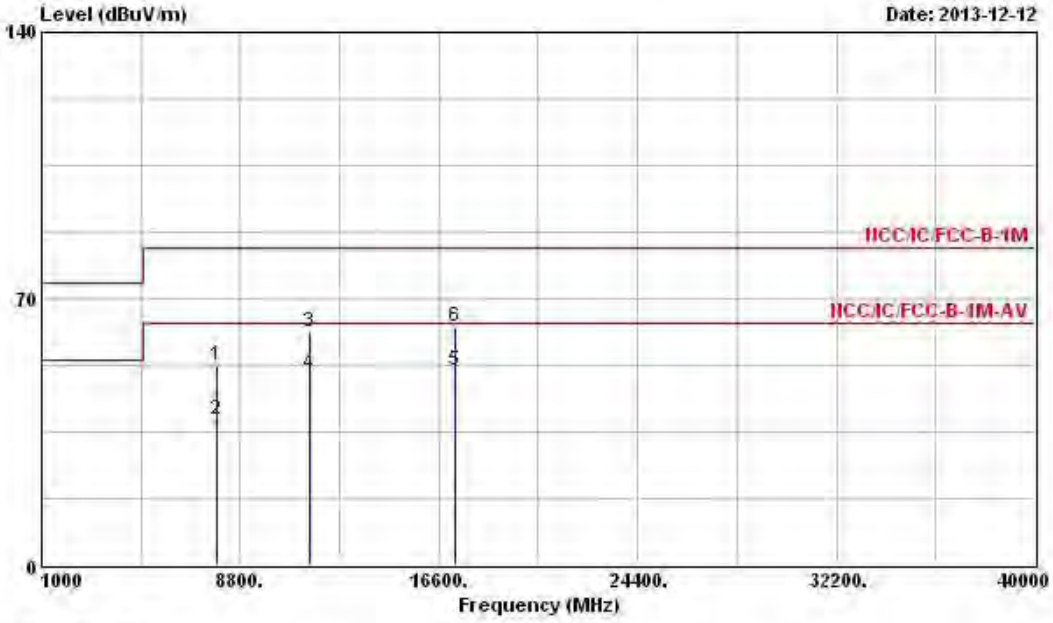
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT40	**Test Freq. (MHz)**	5755
N_{TX}	1	**Polarization**	V



	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	8006.000	52.39	-31.15	83.54	44.63	37.60	5.32	35.16	Peak	---	---
2	8006.000	39.58	-23.96	63.54	31.82	37.60	5.32	35.16	Average	---	---
3	11510.000	59.29	-24.25	83.54	48.21	39.20	6.36	34.48	Peak	---	---
4	11510.000	47.42	-16.12	63.54	36.34	39.20	6.36	34.48	Average	---	---
5	17265.000	50.90	-12.64	63.54	31.87	43.92	8.95	33.84	Average	---	---
6	17265.000	63.05	-20.49	83.54	44.02	43.92	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 (123.34 dBuV/m).

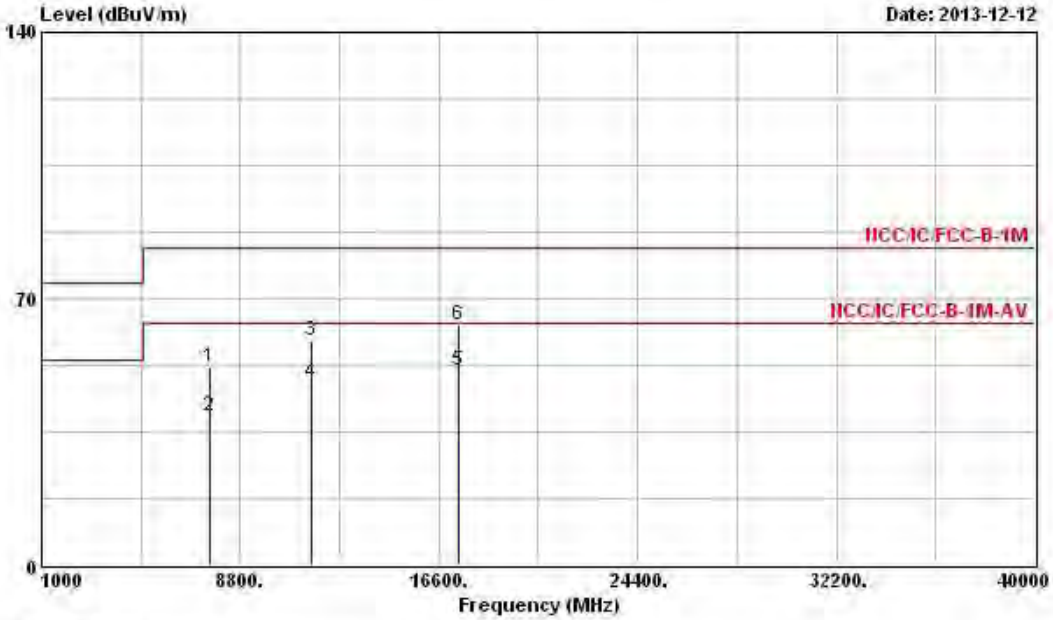
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT40	**Test Freq. (MHz)**	5755
N_{TX}	1	**Polarization**	H



	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	7852.000	52.52	-31.02	83.54	44.65	37.57	5.41	35.11	Peak	---	---
2	7852.000	38.13	-25.41	63.54	30.26	37.57	5.41	35.11	Average	---	---
3	11510.000	61.06	-22.48	83.54	49.98	39.20	6.36	34.48	Peak	---	---
4	11510.000	50.37	-13.17	63.54	39.29	39.20	6.36	34.48	Average	---	---
5	17265.000	50.92	-12.62	63.54	31.89	43.92	8.95	33.84	Average	---	---
6	17265.000	62.66	-20.88	83.54	43.63	43.92	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 (123.34 dBuV/m).

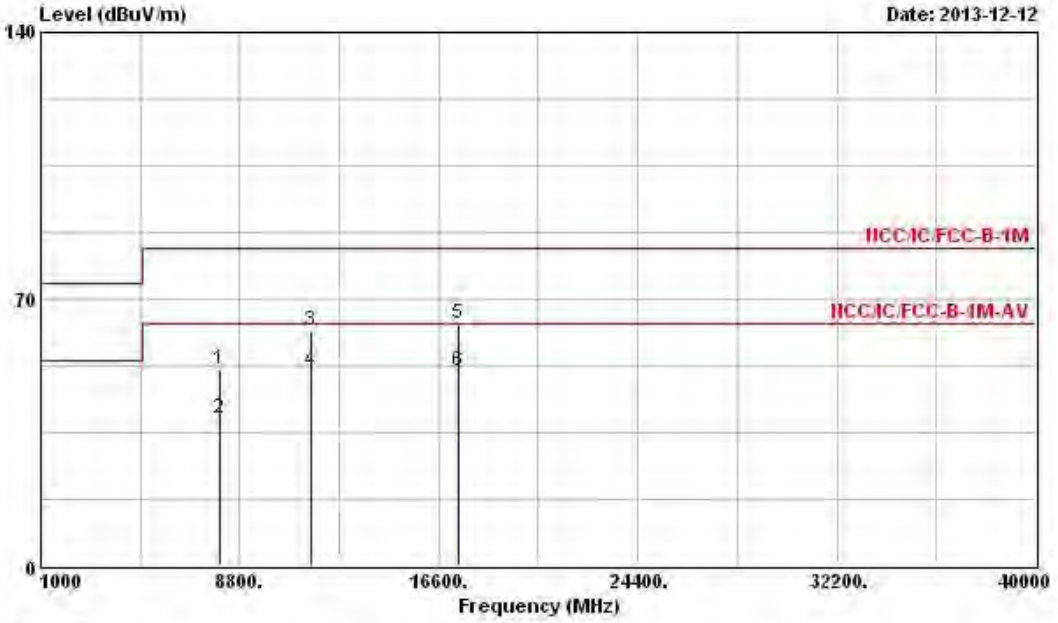
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT40	**Test Freq. (MHz)**	5795
N_{TX}	1	**Polarization**	V



	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	7588.000	52.15	-31.39	83.54	44.01	37.52	5.64	35.02	Peak	---	---
2	7588.000	39.04	-24.50	63.54	30.90	37.52	5.64	35.02	Average	---	---
3	11590.000	58.85	-24.69	83.54	47.72	39.18	6.48	34.53	Peak	---	---
4	11590.000	47.85	-15.69	63.54	36.72	39.18	6.48	34.53	Average	---	---
5	17385.000	51.15	-12.39	63.54	31.25	44.76	8.93	33.79	Average	---	---
6	17385.000	62.96	-20.58	83.54	43.06	44.76	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 (123.69 dBuV/m).

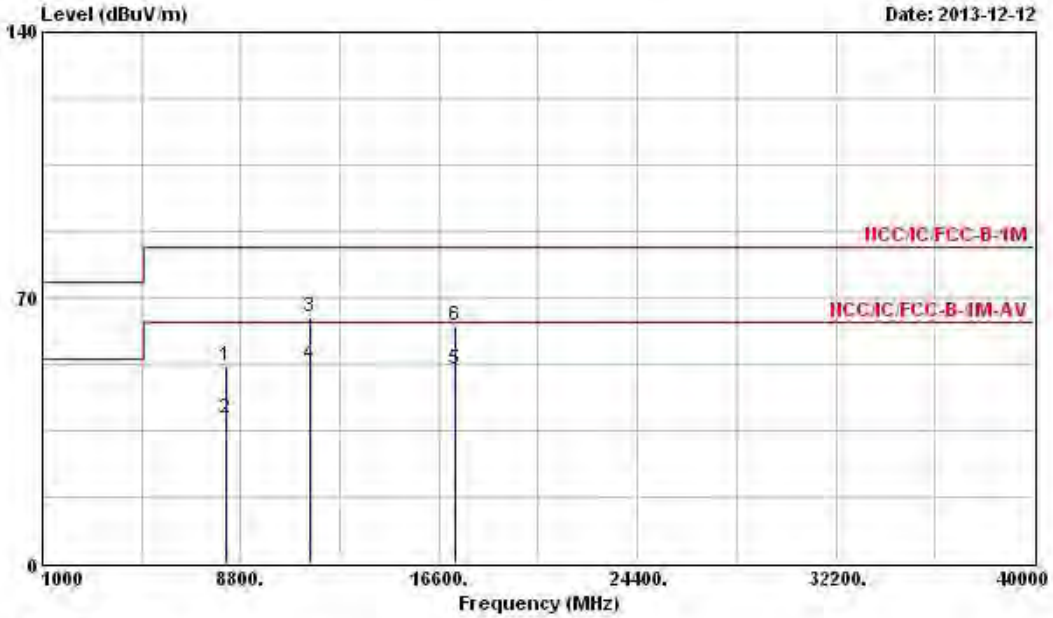
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT40	**Test Freq. (MHz)**	5795
N_{TX}	1	**Polarization**	H



	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	8028.000	51.79	-31.75	83.54	44.03	37.60	5.32	35.16	Peak	---	---
2	8028.000	38.58	-24.96	63.54	30.82	37.60	5.32	35.16	Average	---	---
3	11590.000	61.88	-21.66	83.54	50.75	39.18	6.48	34.53	Peak	---	---
4	11590.000	51.26	-12.28	63.54	40.13	39.18	6.48	34.53	Average	---	---
5	17385.000	63.49	-20.05	83.54	43.59	44.76	8.93	33.79	Peak	---	---
6	17385.000	51.20	-12.34	63.54	31.30	44.76	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 (123.69 dBuV/m).

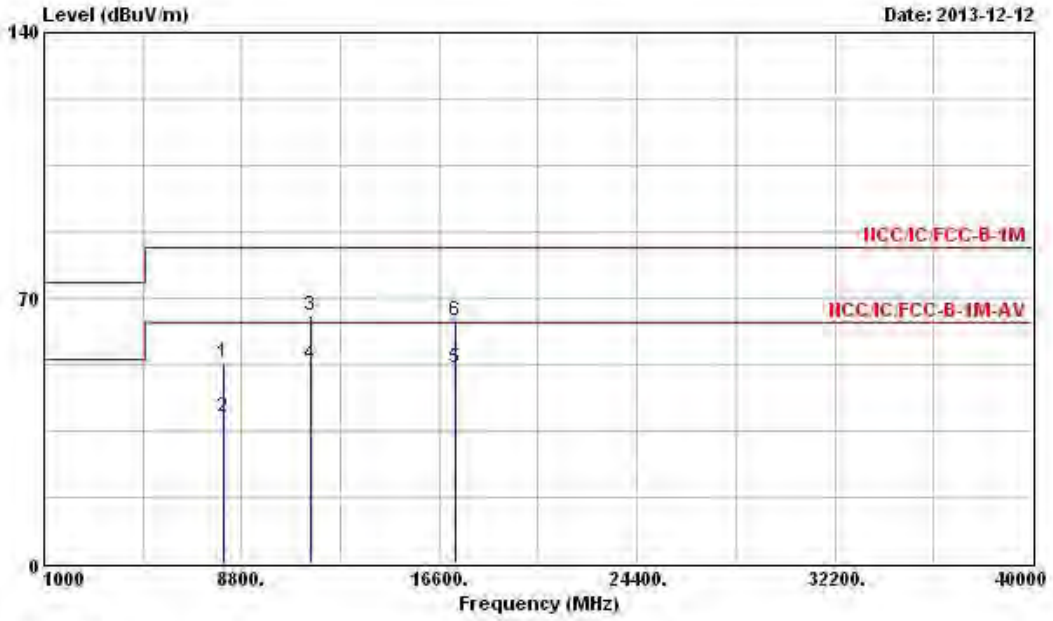
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	V



	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	8210.000	52.19	-31.35	83.54	44.34	37.60	5.38	35.13	Peak	---	---
2	8210.000	38.16	-25.38	63.54	30.31	37.60	5.38	35.13	Average	---	---
3	11490.000	64.83	-18.71	83.54	53.74	39.17	6.36	34.44	Peak	---	---
4	11490.000	52.41	-11.13	63.54	41.32	39.17	6.36	34.44	Average	---	---
5	17235.000	51.25	-12.29	63.54	32.47	43.68	8.96	33.86	Average	---	---
6	17235.000	62.54	-21.00	83.54	43.76	43.68	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 (121.04 dBuV/m).

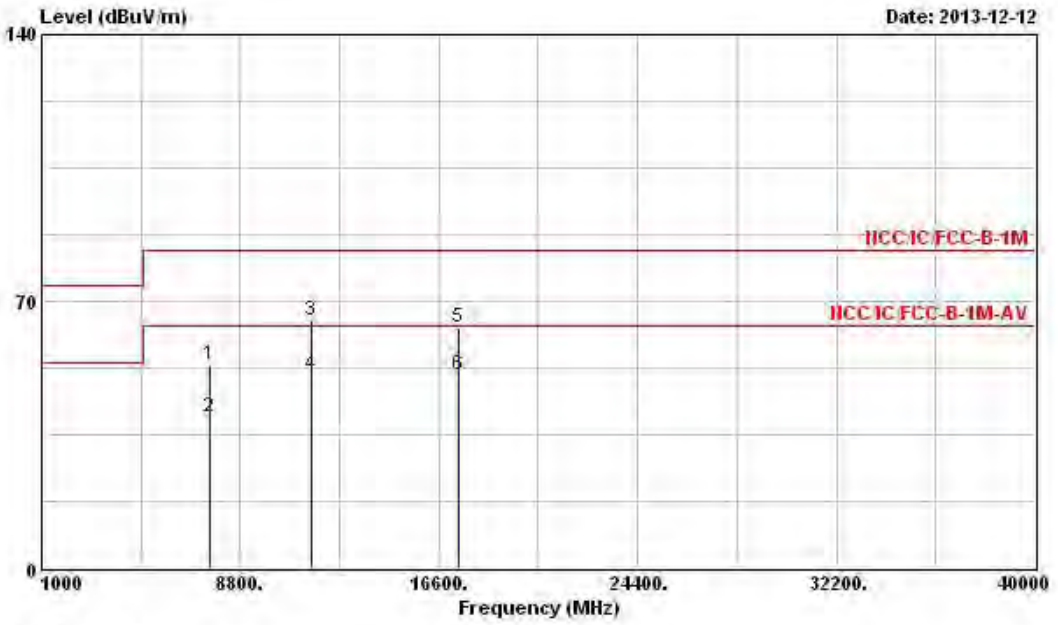
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5745
N_{TX}	1	**Polarization**	H



	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	8061.000	52.86	-30.68	83.54	45.08	37.60	5.33	35.15	Peak	---	---
2	8061.000	38.69	-24.85	63.54	30.91	37.60	5.33	35.15	Average	---	---
3	11490.000	65.31	-18.23	83.54	54.22	39.17	6.36	34.44	Peak	---	---
4	11490.000	52.50	-11.04	63.54	41.41	39.17	6.36	34.44	Average	---	---
5	17235.000	51.50	-12.04	63.54	32.72	43.68	8.96	33.86	Average	---	---
6	17235.000	64.08	-19.46	83.54	45.30	43.68	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 (121.04 dBuV/m).

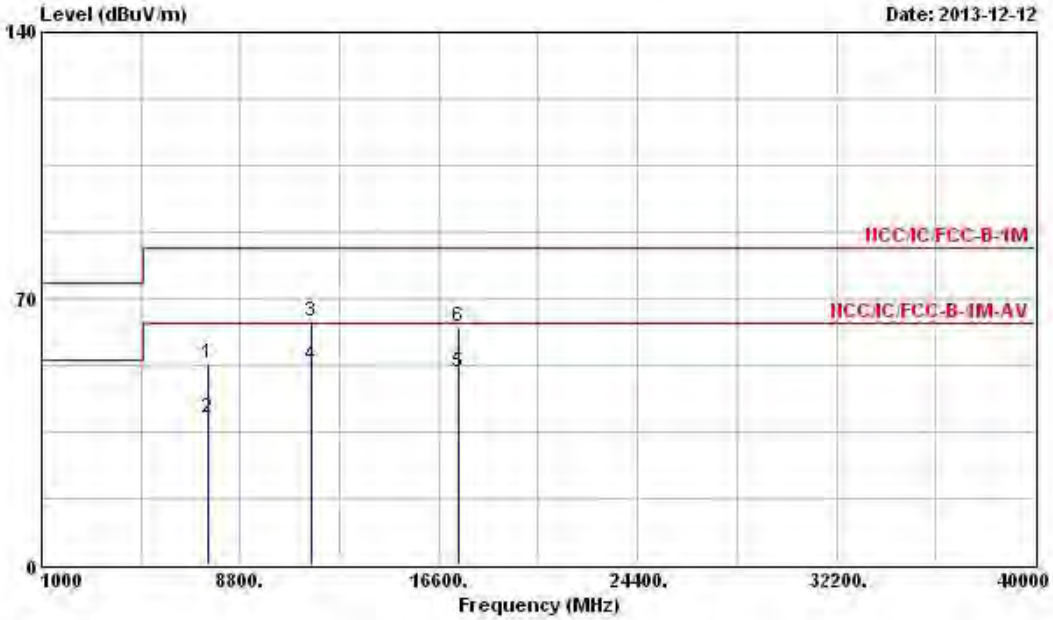
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	V



	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	7610.000	53.52	-30.02	83.54	45.38	37.52	5.64	35.02	Peak	---	---
2	7610.000	39.42	-24.12	63.54	31.28	37.52	5.64	35.02	Average	---	---
3	11570.000	65.16	-18.38	83.54	54.06	39.19	6.44	34.53	Peak	---	---
4	11570.000	50.52	-13.02	63.54	39.42	39.19	6.44	34.53	Average	---	---
5	17355.000	62.93	-20.61	83.54	43.28	44.52	8.94	33.81	Peak	---	---
6	17355.000	50.79	-12.75	63.54	31.14	44.52	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 (126.33 dBuV/m).

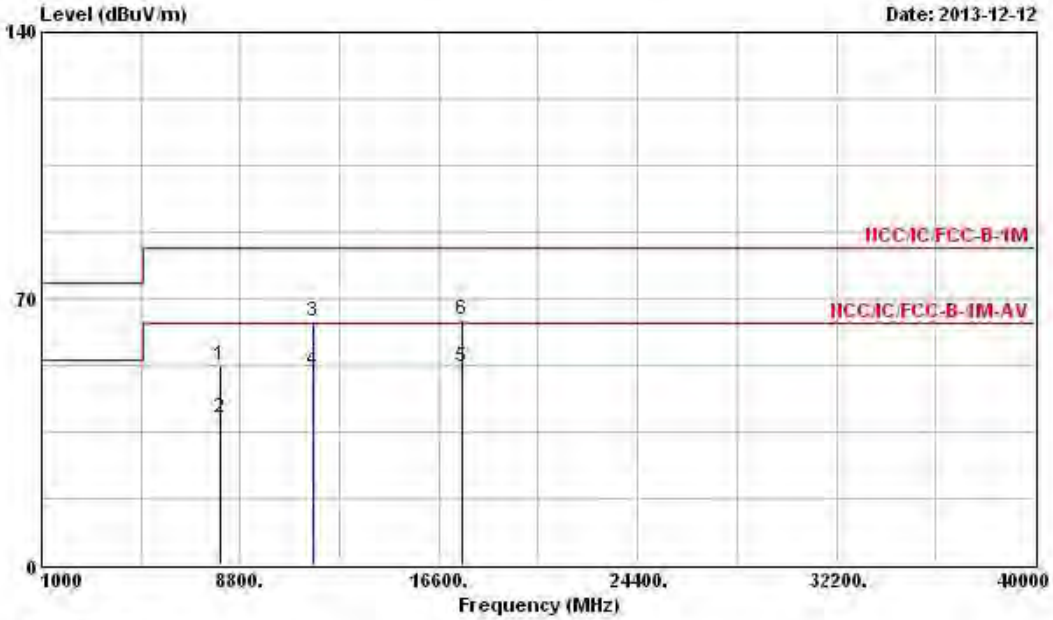
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5785
N_{TX}	1	**Polarization**	H



	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	7566.000	52.84	-30.70	83.54	44.66	37.51	5.68	35.01	Peak	---	---
2	7566.000	38.67	-24.87	63.54	30.49	37.51	5.68	35.01	Average	---	---
3	11570.000	63.83	-19.71	83.54	52.73	39.19	6.44	34.53	Peak	---	---
4	11570.000	52.35	-11.19	63.54	41.25	39.19	6.44	34.53	Average	---	---
5	17355.000	50.78	-12.76	63.54	31.13	44.52	8.94	33.81	Average	---	---
6	17355.000	62.55	-20.99	83.54	42.90	44.52	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 (126.33 dBuV/m).

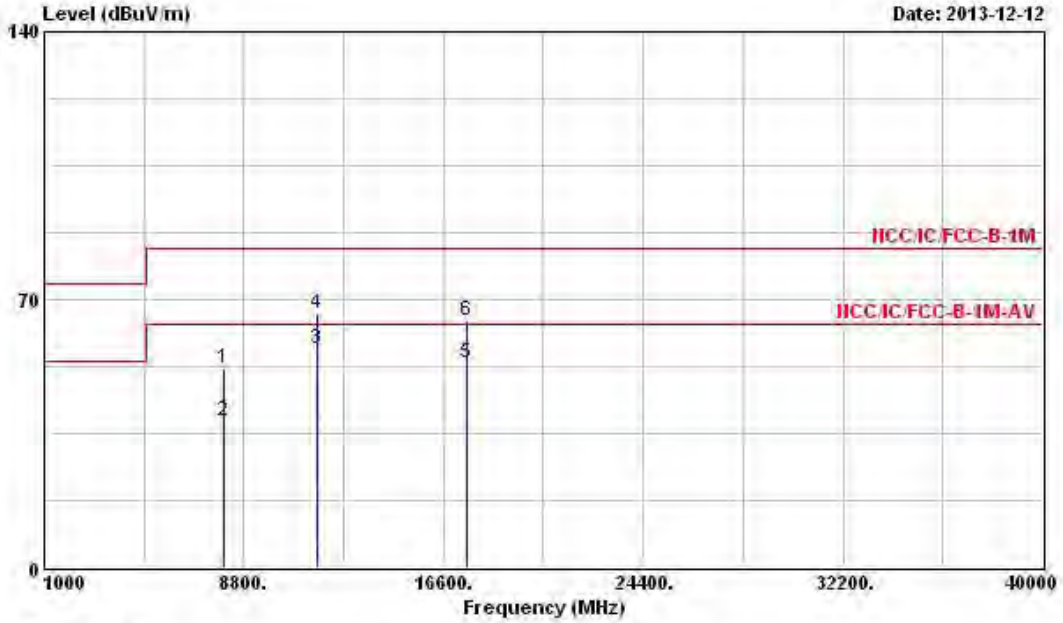
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	V



	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	8038.000	52.29	-31.25	83.54	44.53	37.60	5.32	35.16	Peak	---	---
2	8038.000	38.75	-24.79	63.54	30.99	37.60	5.32	35.16	Average	---	---
3	11650.000	63.86	-19.68	83.54	52.75	39.17	6.52	34.58	Peak	---	---
4	11650.000	51.20	-12.34	63.54	40.09	39.17	6.52	34.58	Average	---	---
5	17475.000	52.22	-11.32	63.54	31.69	45.36	8.92	33.75	Average	---	---
6	17475.000	64.49	-19.05	83.54	43.96	45.36	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 (126.08 dBuV/m).

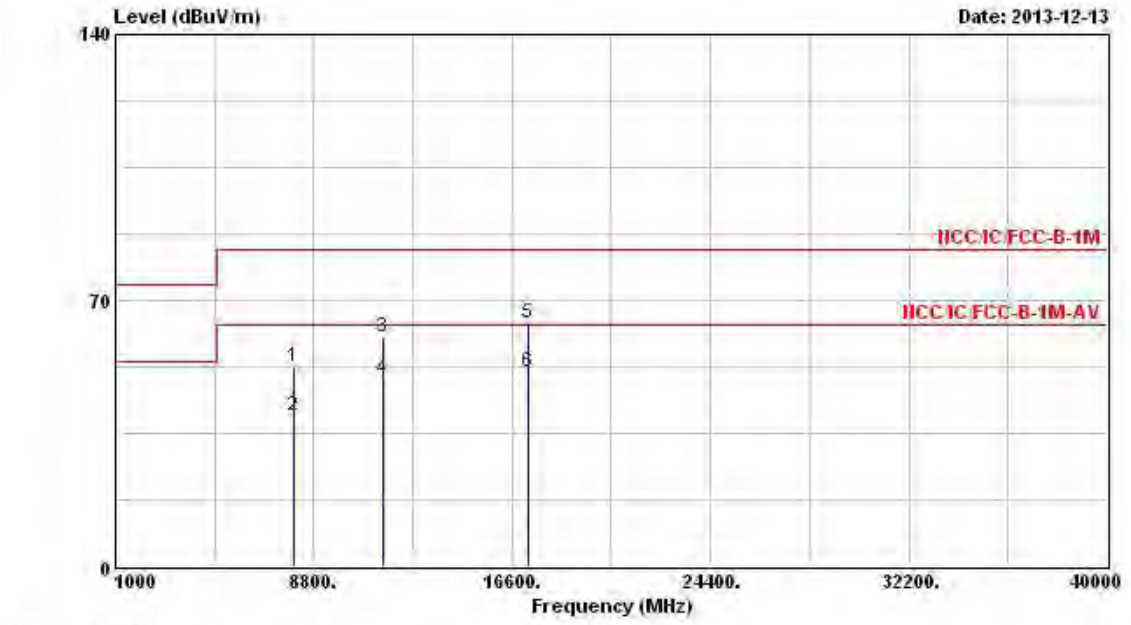
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5825
N_{TX}	1	**Polarization**	H



	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	8006.000	52.02	-31.52	83.54	44.26	37.60	5.32	35.16	Peak	---	---
2	8006.000	38.39	-25.15	63.54	30.63	37.60	5.32	35.16	Average	---	---
3	11650.000	57.05	-6.49	63.54	45.94	39.17	6.52	34.58	Average	---	---
4	11650.000	66.47	-17.07	83.54	55.36	39.17	6.52	34.58	Peak	---	---
5	17475.000	53.63	-9.91	63.54	33.10	45.36	8.92	33.75	Average	---	---
6	17475.000	64.66	-18.88	83.54	44.13	45.36	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 (126.08 dBuV/m).

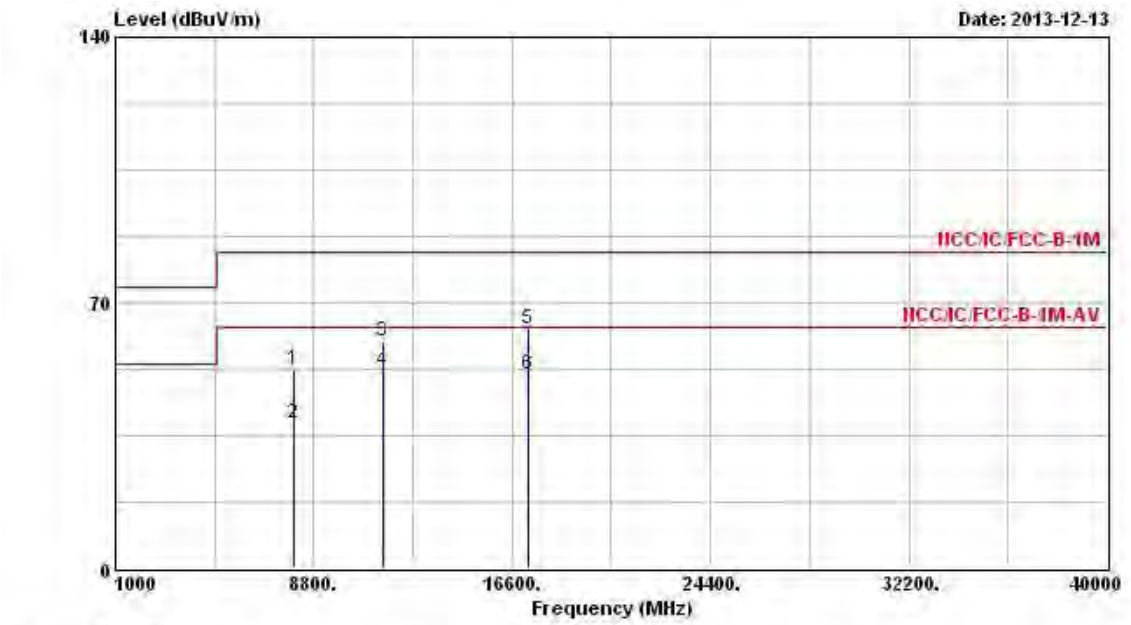
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5755
N_{TX}	1	**Polarization**	V



	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	8028.000	52.73	-30.81	83.54	44.97	37.60	5.32	35.16	Peak	---	---
2	8028.000	39.70	-23.84	63.54	31.94	37.60	5.32	35.16	Average	---	---
3	11510.000	60.12	-23.42	83.54	49.04	39.20	6.36	34.48	Peak	---	---
4	11510.000	49.28	-14.26	63.54	38.20	39.20	6.36	34.48	Average	---	---
5	17265.000	63.88	-19.66	83.54	44.85	43.92	8.95	33.84	Peak	---	---
6	17265.000	50.96	-12.58	63.54	31.93	43.92	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 (123.31 dBuV/m).

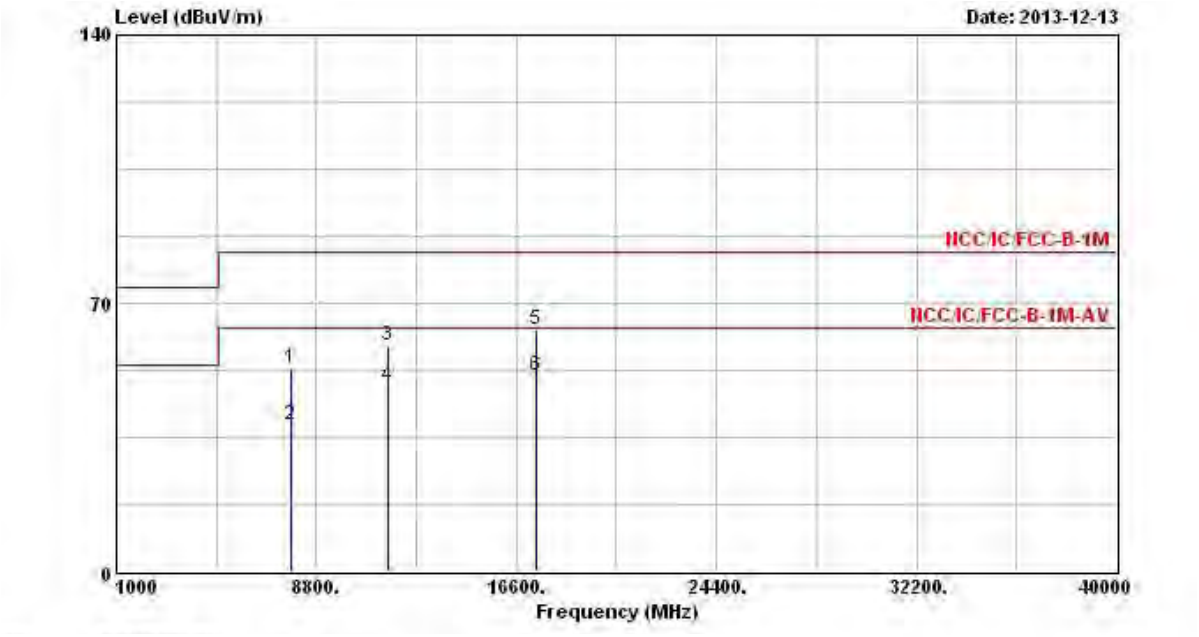
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5755
N_{TX}	1	**Polarization**	H



	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	52.51	-31.03	83.54	44.75	37.60	5.32	35.16	Peak	---	---
2	8028.000	38.26	-25.28	63.54	30.50	37.60	5.32	35.16	Average	---	---
3	11510.000	59.91	-23.63	83.54	48.83	39.20	6.36	34.48	Peak	---	---
4	11510.000	51.86	-11.68	63.54	40.78	39.20	6.36	34.48	Average	---	---
5	17265.000	62.99	-20.55	83.54	43.96	43.92	8.95	33.84	Peak	---	---
6	17265.000	51.18	-12.36	63.54	32.15	43.92	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 (123.31 dBuV/m).

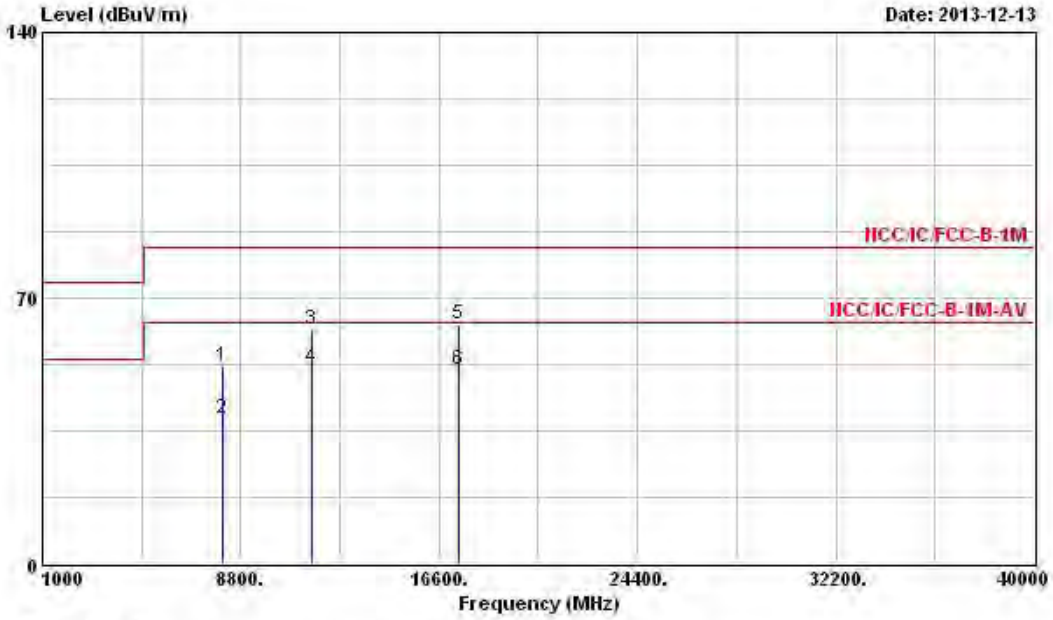
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5795
N_{TX}	1	**Polarization**	V



	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	7786.000	52.91	-30.63	83.54	44.95	37.56	5.48	35.08	Peak	---	---
2	7786.000	38.25	-25.29	63.54	30.29	37.56	5.48	35.08	Average	---	---
3	11590.000	58.94	-24.60	83.54	47.81	39.18	6.48	34.53	Peak	---	---
4	11590.000	48.30	-15.24	63.54	37.17	39.18	6.48	34.53	Average	---	---
5	17385.000	63.11	-20.43	83.54	43.21	44.76	8.93	33.79	Peak	---	---
6	17385.000	50.99	-12.55	63.54	31.09	44.76	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 (122.49 dBuV/m).

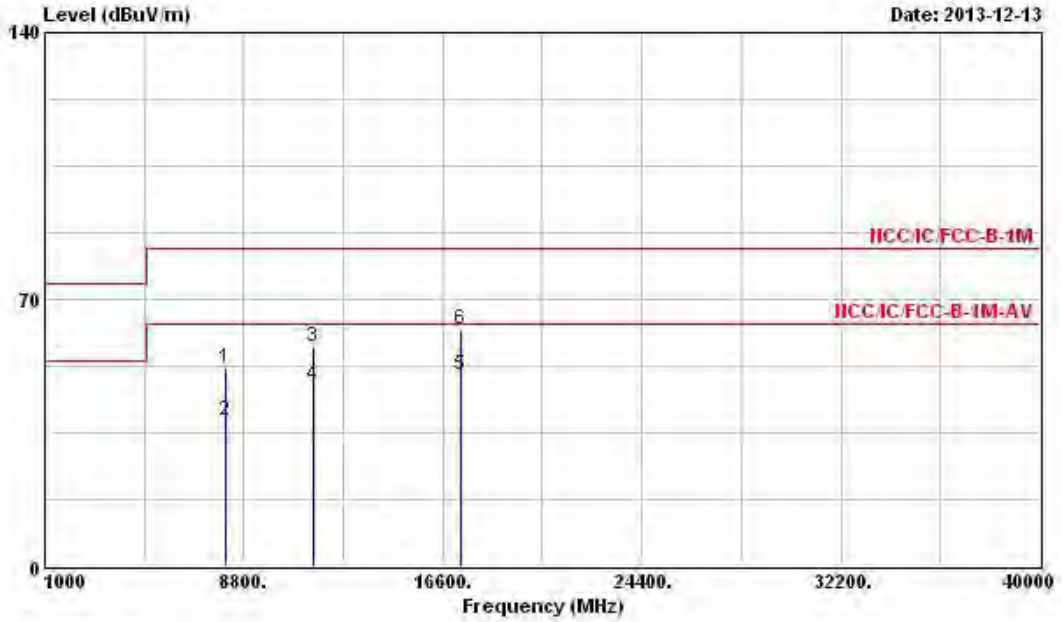
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5795
N_{TX}	1	**Polarization**	H



	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	8072.000	52.21	-31.33	83.54	44.43	37.60	5.33	35.15	Peak	---	---
2	8072.000	38.40	-25.14	63.54	30.62	37.60	5.33	35.15	Average	---	---
3	11590.000	61.54	-22.00	83.54	50.41	39.18	6.48	34.53	Peak	---	---
4	11590.000	51.42	-12.12	63.54	40.29	39.18	6.48	34.53	Average	---	---
5	17385.000	63.19	-20.35	83.54	43.29	44.76	8.93	33.79	Peak	---	---
6	17385.000	51.06	-12.48	63.54	31.16	44.76	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 (122.49 dBuV/m).

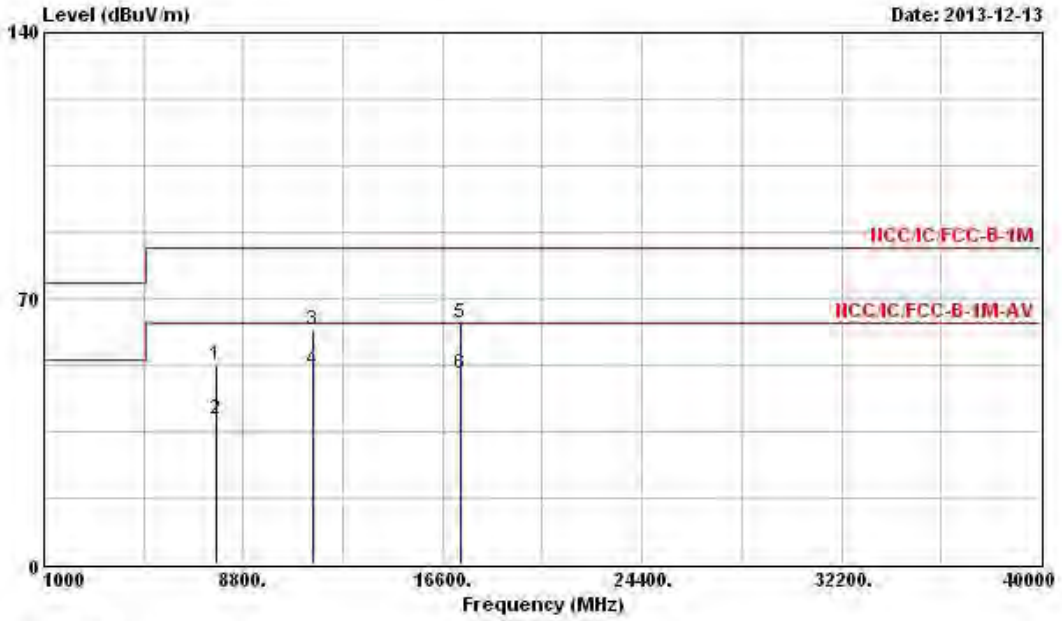
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5775
N_{TX}	1	**Polarization**	V



	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	52.14	-31.40	83.54	44.36	37.60	5.33	35.15	Peak	---	---
2	8072.000	38.33	-25.21	63.54	30.55	37.60	5.33	35.15	Average	---	---
3	11550.000	57.64	-25.90	83.54	46.52	39.19	6.44	34.51	Peak	---	---
4	11550.000	47.41	-16.13	63.54	36.29	39.19	6.44	34.51	Average	---	---
5	17325.000	50.29	-13.25	63.54	30.89	44.28	8.94	33.82	Average	---	---
6	17325.000	62.31	-21.23	83.54	42.91	44.28	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 (120.23 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	7742.000	52.72	-30.82	83.54	44.73	37.55	5.51	35.07	Peak	---	---
2	7742.000	38.08	-25.46	63.54	30.09	37.55	5.51	35.07	Average	---	---
3	11550.000	61.49	-22.05	83.54	50.37	39.19	6.44	34.51	Peak	---	---
4	11550.000	51.27	-12.27	63.54	40.15	39.19	6.44	34.51	Average	---	---
5	17325.000	63.51	-20.03	83.54	44.11	44.28	8.94	33.82	Peak	---	---
6	17325.000	50.32	-13.22	63.54	30.92	44.28	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 (120.23 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	101013	9KHz~40GHz	Jan. 29, 2013	Conducted (TH06-HY)
RF Cable-2m	HUBER+SUHNER	SUCOFLEX_104	SN 345673/4	30MHz ~ 26.5GHz	Dec. 04, 2012 Dec. 02, 2013	Conducted (TH06-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
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)
Spectrum Analyzer	R&S	FSP40	100593	9kHz ~ 40GHz	Oct. 03, 2013	Radiation (03CH02-HY)
Bilog Antenna	SCHAFFNER	CBL61128	2723	30MHz ~ 2GHz	Oct. 10, 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)
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.