

FCC Test Report

Equipment : Access Point
Brand Name : UBIQUITI
Model No. : NBE-M5AC-500
FCC ID : SWX-NBEM5AC
Standard : 47 CFR FCC Part 15.247
Operating Band : 5725 MHz – 5850 MHz
Equipment Class : DTS
Applicant : Ubiquiti Networks, Inc.
Manufacturer : 12F, No. 105, Song Ren Rd., Sin Yi District,
Taipei 110, Taiwan

The product sample received on Nov. 05, 2013 and completely tested on Feb. 07, 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

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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]: 0.1834550MHz 25.14 (Margin 29.19dB) - AV 41.20 (Margin 23.13dB) - QP	FCC 15.207	Complied
3.2	15.247(a)	Bandwidth	6dB Bandwidth [MHz] a / n(HT20):16.41 n(HT40):35.64 ac(VHT20):17.58 ac(VHT40):35.64 ac(VHT80): 75.04	≥500kHz	Complied
3.3	15.247(b)	RF Output Power (Maximum Peak Conducted Output Power)	Power [dBm]:27.95	Power [dBm]:30	Complied
3.4	15.247(d)	Power Spectral Density	PSD [dBm/100kHz]:-9.39	PSD [dBm/MHz]:17 replace 8dBm/3kHz	Complied
3.5	15.247(c)	Transmitter Bandedge Emissions	Non-Restricted Bands: 5724.990MHz: 29.44dB	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 1m]:11550MHz 82.53 (Margin 1.01dB) - PK 61.05 (Margin 2.49dB) - AV	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied



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

1 General Description

1.1 Information

1.1.1 RF General Information

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	22.65
5725-5850	n(HT20)	5745-5825	149-165 [5]	2	24.25
5725-5850	n(HT40)	5755-5795	151-159 [2]	2	27.21
5725-5850	ac(VHT20)	5745-5825	149-165 [5]	2	25.46
5725-5850	ac(VHT40)	5755-5795	151-159 [2]	2	25.74
5725-5850	ac(VHT80)	5775	155 [1]	2	27.95

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	Dish	20.00

Reminder: The EUT was pre-tested Antenna Port 1 and Antenna Port 2 for single chain, the worst case was Antenna Port 1. Therefore only the test data recorded in this report.

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)
☒ 98.61% - IEEE 802.11a	1	0.06
☒ 98.52% - IEEE 802.11n (HT20)	2	0.06
☒ 94.73% - IEEE 802.11n (HT40)	2	0.23
☒ 98.52% - IEEE 802.11ac (VHT20)	2	0.06
☒ 98.53% - IEEE 802.11ac (VHT40)	2	0.06
☒ 88.23% - IEEE 802.11ac (VHT80)	2	0.54

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 System (PoE)	☐ Battery

1.2 Accessories

Accessories Information				
PoE	Brand Name	UBIQUITI	Model Name	GP-A240-050G
	Power Rating	I/P: 100-240V ~ 50/60Hz 0.3A; O/P: 24V $\overline{=}$ 0.5A		

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

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 1 st 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		TH01-HY	Cain	24.2°C / 63%
Radiated Emission (Below 1GHz)		03CH03-HY	Leo	22.1°C / 42%
Radiated Emission (Above 1GHz)		03CH03-HY	Allen	21.6°C / 41%

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,M8-15	2	M8-15	MCS 8
HT40,M8-15	2	M8-15	MCS 8
VHT20,M0-8	2	M0-8	MCS 0
VHT40,M0-9	2	M0-9	MCS 0
VHT80,M0-9	2	M0-9	MCS 0

2.2 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter (5725-5850MHz band)							
Test Software Version	Atheros Radio Test 2 (ART2-GUI)_ 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	15	13.5	13	-	-	-
HT20,M8-15	2	13.5	13.5	12.5	-	-	-
HT40,M8-15	2	-	-	-	17	15.5	-
VHT20,M0-8	2	15	13.5	12.5	-	-	-
VHT40,M0-9	2	-	-	-	15.5	15.5	-
VHT80,M0-9	2	-	-	-	-	-	18

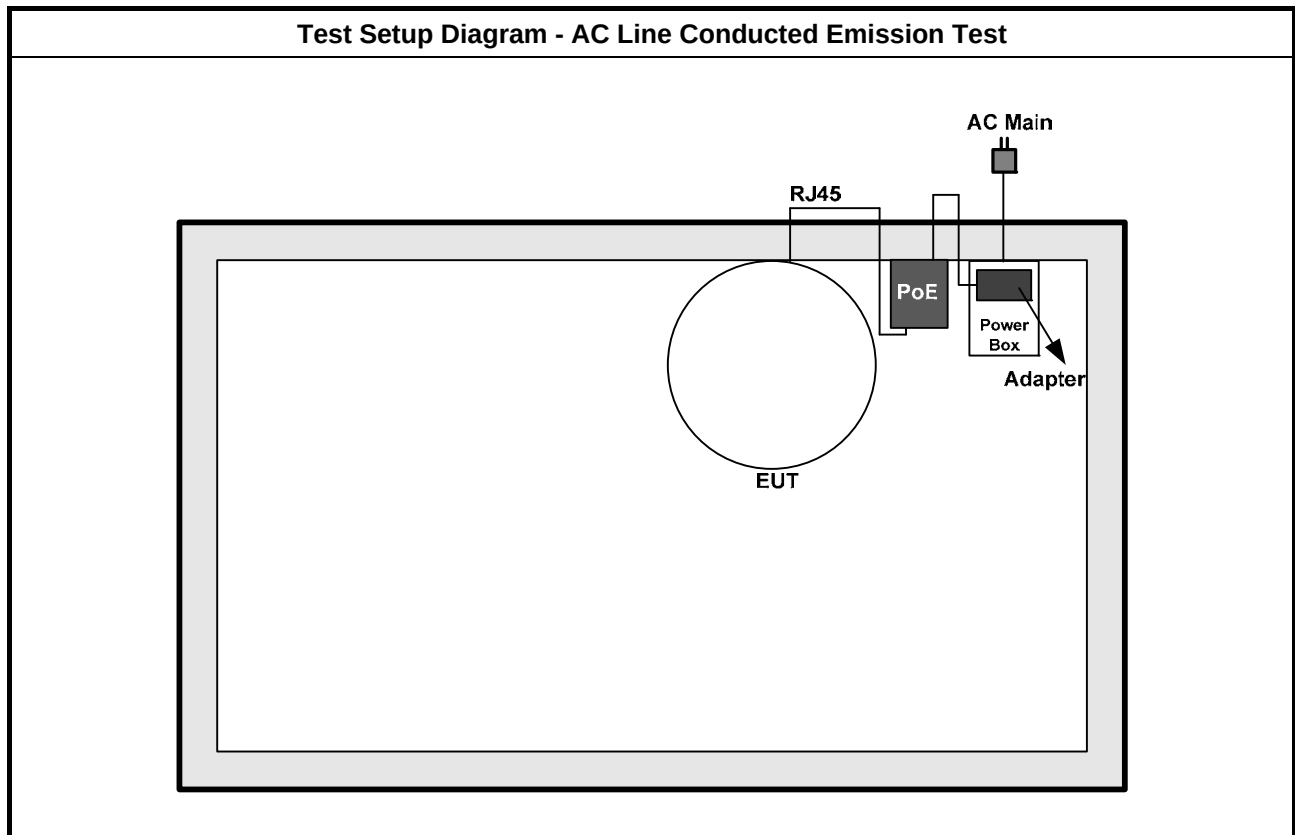
2.3 The Worst Case Measurement Configuration

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	PoE Power & Radio link (WLAN)

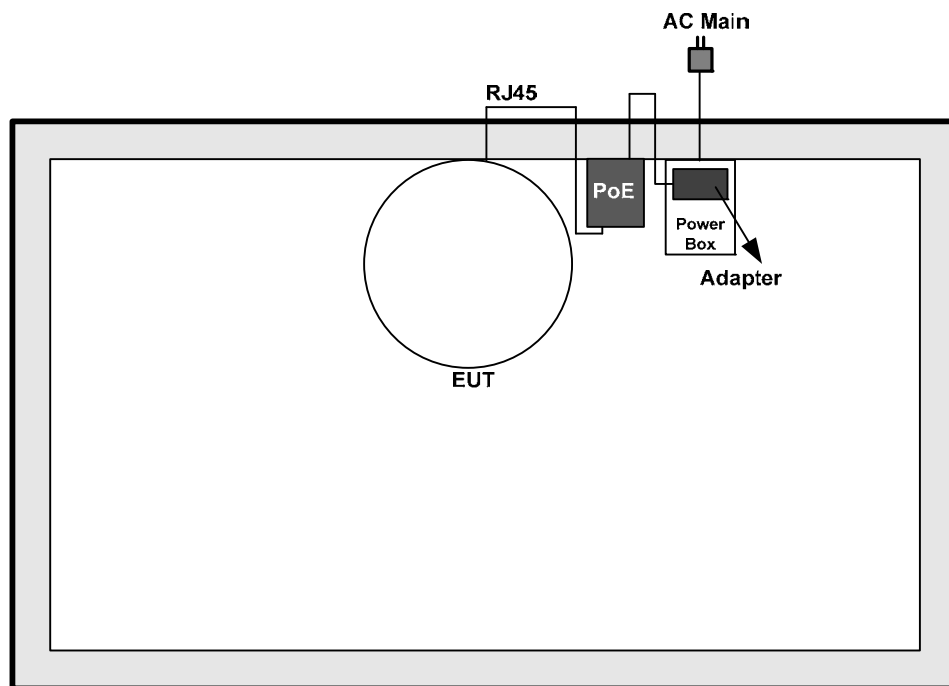
The Worst Case Mode for Following Conformance Tests	
Tests Item	RF Output Power, Power Spectral Density, 6 dB Bandwidth
Test Condition	Conducted measurement at transmit chains
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80

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. The worst planes is Y.
	☐ EUT will be placed in mobile position and operating multiple positions. EUT shall be performed two orthogonal planes.
	☐ 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. Transmitter Mode
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80
Orthogonal Planes of EUT	Y Plane
	

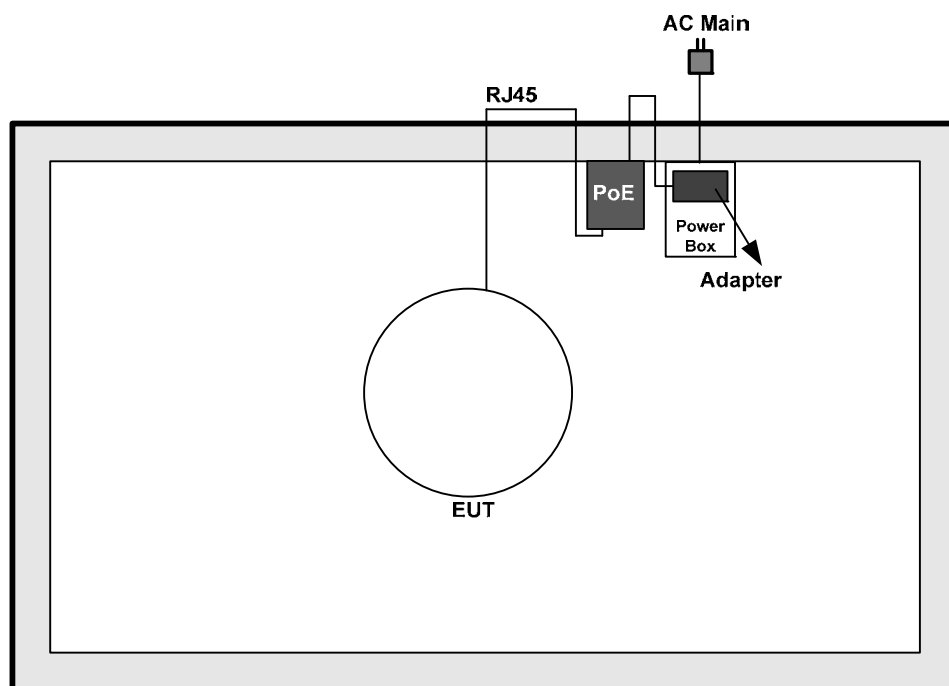
2.4 Test Setup Diagram



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.

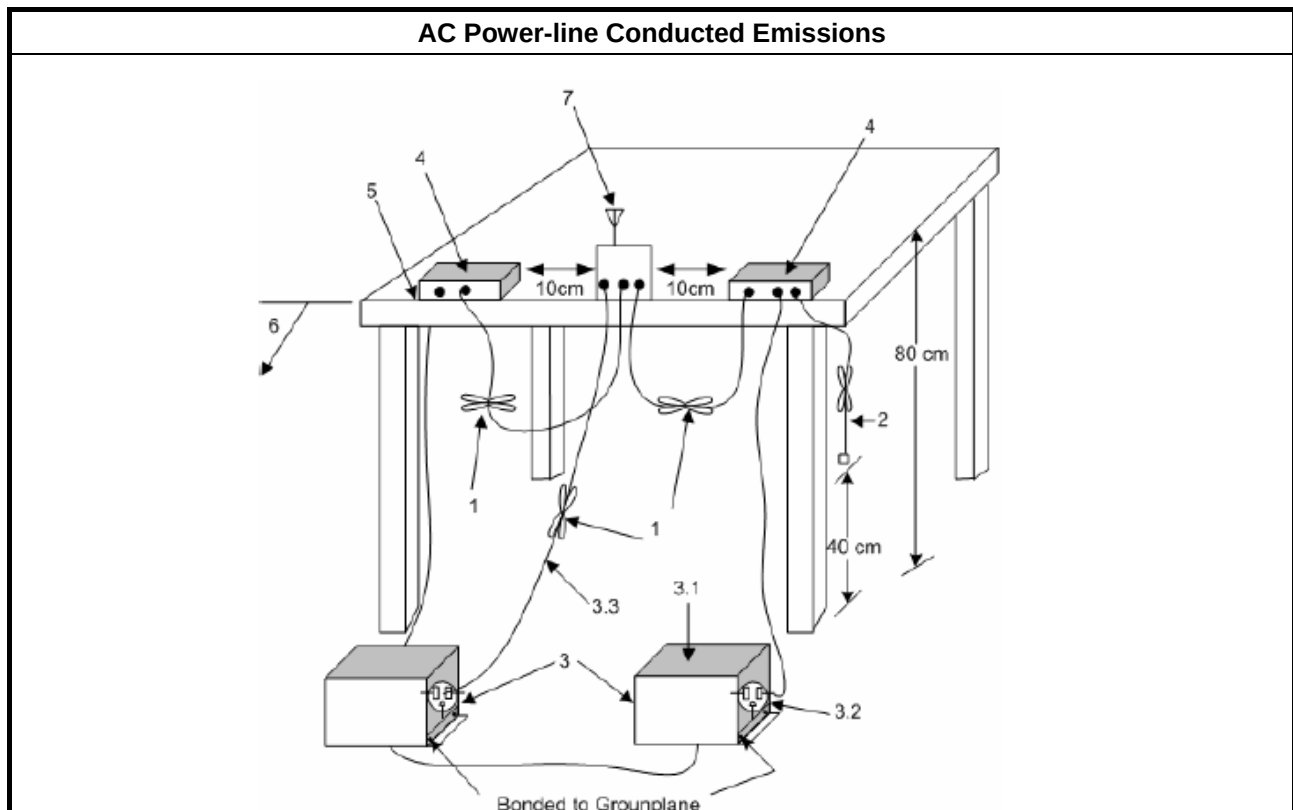
3.1.2 Measuring Instruments

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

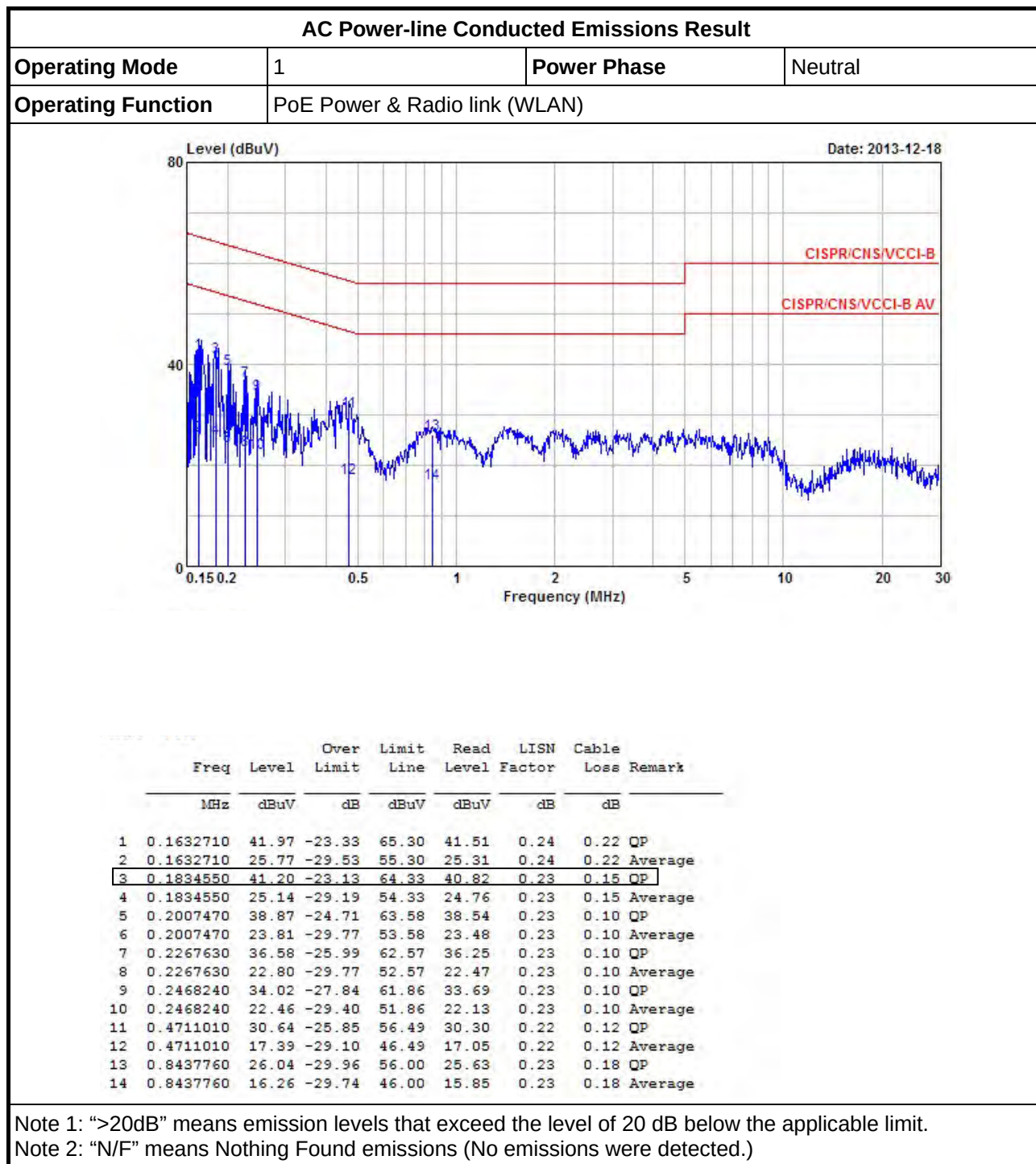
3.1.3 Test Procedures

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

3.1.4 Test Setup

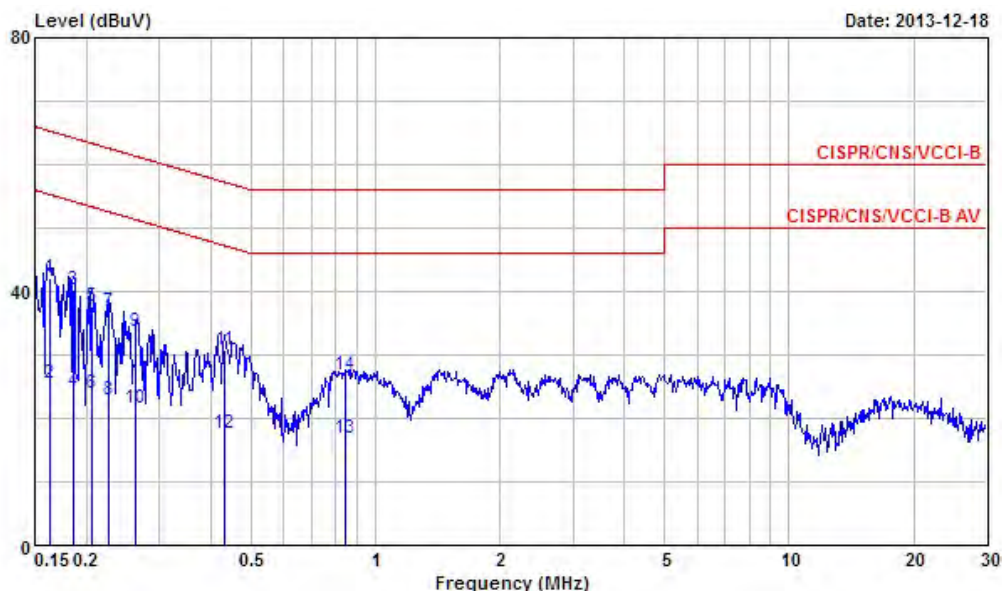


3.1.5 Test Result of AC Power-line Conducted Emissions



AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	PoE Power & Radio link (WLAN)		



	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1632710	41.99	-23.31	65.30	41.66	0.11	0.22	QP
2	0.1632710	25.57	-29.73	55.30	25.24	0.11	0.22	Average
3	0.1863950	40.39	-23.81	64.20	40.14	0.11	0.14	QP
4	0.1863950	24.22	-29.98	54.20	23.97	0.11	0.14	Average
5	0.2061360	37.71	-25.65	63.36	37.50	0.11	0.10	QP
6	0.2061360	24.05	-29.31	53.36	23.84	0.11	0.10	Average
7	0.2267630	36.82	-25.75	62.57	36.61	0.11	0.10	QP
8	0.2267630	22.93	-29.64	52.57	22.72	0.11	0.10	Average
9	0.2630270	33.65	-27.69	61.34	33.44	0.11	0.10	QP
10	0.2630270	21.64	-29.70	51.34	21.43	0.11	0.10	Average
11	0.4328100	30.83	-26.37	57.20	30.62	0.10	0.11	QP
12	0.4328100	17.73	-29.47	47.20	17.52	0.10	0.11	Average
13	0.8437760	16.95	-29.05	46.00	16.66	0.11	0.18	Average
14	0.8437760	26.94	-29.06	56.00	26.65	0.11	0.18	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.)

3.2 6dB Bandwidth

3.2.1 6dB Bandwidth Limit

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

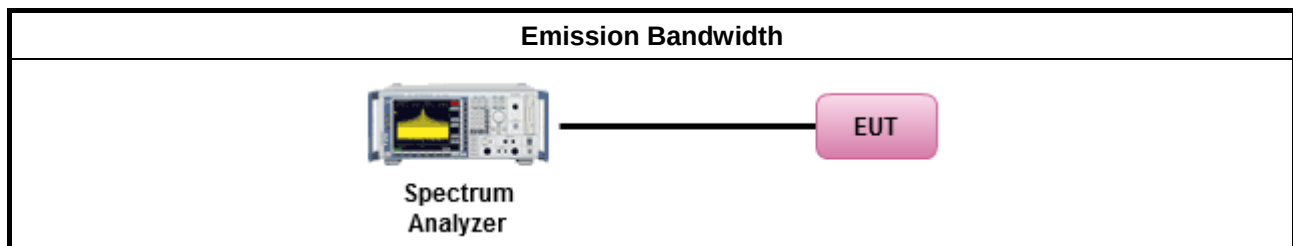
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

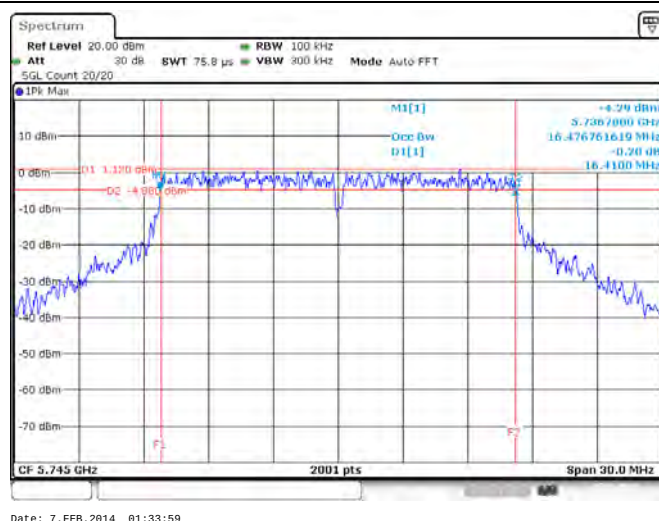
3.2.4 Test Setup



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 2	Chain Port 1	Chain Port 2
11a	1	5745	16.47	-	16.41	-
11a	1	5785	16.53	-	16.50	-
11a	1	5825	16.55	-	16.50	-
HT20,M8-15	2	5745	17.67	17.67	17.71	17.71
HT20,M8-15	2	5785	17.72	17.75	17.73	17.77
HT20,M8-15	2	5825	17.76	17.67	17.77	17.65
HT40,M8-15	2	5755	36.26	36.22	35.64	35.72
HT40,M8-15	2	5795	36.26	36.22	35.68	35.96
VHT20,M0-8	2	5745	17.72	17.69	17.71	17.71
VHT20,M0-8	2	5785	17.73	17.69	17.76	17.64
VHT20,M0-8	2	5825	17.70	17.66	17.71	17.58
VHT40,M0-9	2	5755	36.26	36.26	35.76	35.68
VHT40,M0-9	2	5795	36.26	36.26	35.64	36.08
VHT80,M0-9	2	5775	75.48	75.48	75.04	75.68
Limit			N/A		≥500 kHz	
Result			Complied			
Note 1: N _{TX} = Number of Transmit Chains						

Worst Emission 6dB Bandwidth Plots



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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.	

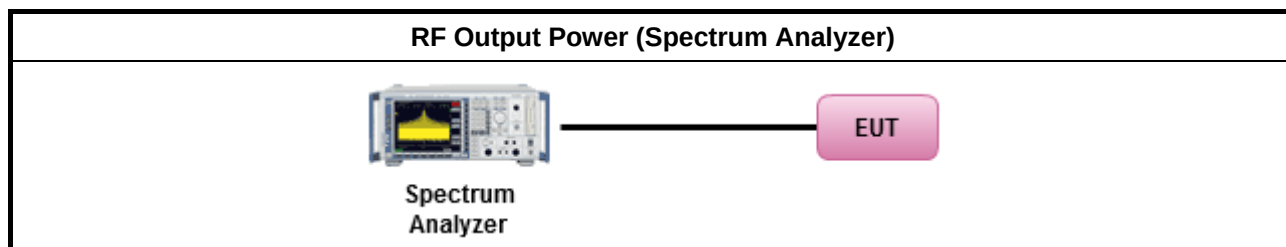
3.3.2 Measuring Instruments

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: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

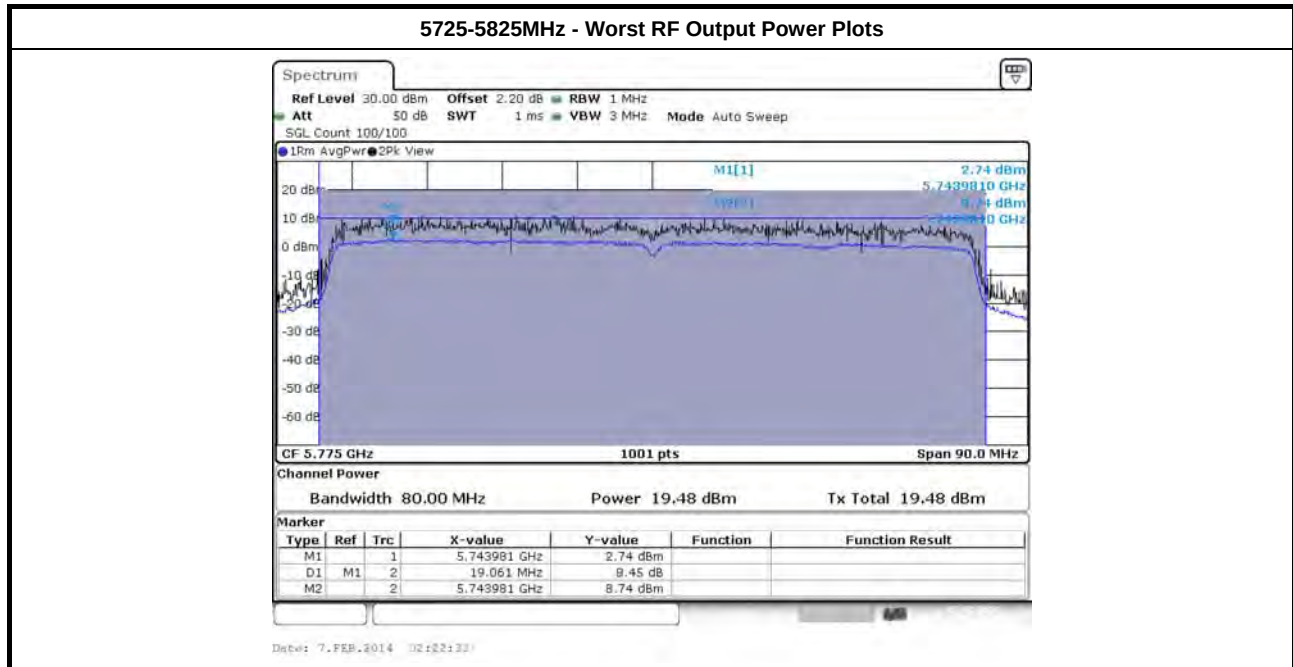


3.3.5 Test Result of Maximum Peak Conducted Output Power

Maximum Peak Conducted Output Power Result								
Condition			RF Output Power (dBm)					
Modulation Mode	NTX	Freq. (MHz)	Chain Port 1	Chain Port 2	Sum Chain	Power Limit	DG (dBi)	EIRP Power
11a	1	5745	22.65	-	22.65	30.00	20.00	42.65
11a	1	5785	21.33	-	21.33	30.00	20.00	41.33
11a	1	5825	20.77	-	20.77	30.00	20.00	40.77
HT20,M8-15	2	5745	20.78	21.21	24.01	30.00	20.00	44.01
HT20,M8-15	2	5785	21.02	21.45	24.25	30.00	20.00	44.25
HT20,M8-15	2	5825	20.18	20.60	23.41	30.00	20.00	43.41
HT40,M8-15	2	5755	24.10	24.29	27.21	30.00	20.00	47.21
HT40,M8-15	2	5795	22.76	22.85	25.82	30.00	20.00	45.82
VHT20,M0-8	2	5745	22.29	22.61	25.46	30.00	20.00	45.46
VHT20,M0-8	2	5785	21.31	21.46	24.40	30.00	20.00	44.40
VHT20,M0-8	2	5825	20.03	20.63	23.35	30.00	20.00	43.35
VHT40,M0-9	2	5755	22.52	22.71	25.63	30.00	20.00	45.63
VHT40,M0-9	2	5795	22.58	22.88	25.74	30.00	20.00	45.74
VHT80,M0-9	2	5775	25.03	24.84	27.95	30.00	20.00	47.95
Result								

3.3.6 Test Result of Maximum Conducted Output Power

Maximum Conducted Output Power Result								
Condition			RF Output Power (dBm)					
Modulation Mode	NTX	Freq. (MHz)	Chain Port 1	Chain Port 2	Sum Chain	Power Limit	DG (dBi)	EIRP Power
11a	1	5745	17.67	-	17.67	30.00	20.00	37.67
11a	1	5785	16.43	-	16.43	30.00	20.00	36.43
11a	1	5825	15.86	-	15.86	30.00	20.00	35.86
HT20,M8-15	2	5745	15.77	16.22	19.02	30.00	20.00	39.02
HT20,M8-15	2	5785	16.18	16.40	19.31	30.00	20.00	39.31
HT20,M8-15	2	5825	15.21	15.55	18.40	30.00	20.00	38.40
HT40,M8-15	2	5755	18.92	19.07	22.01	30.00	20.00	42.01
HT40,M8-15	2	5795	17.63	17.77	20.72	30.00	20.00	40.72
VHT20,M0-8	2	5745	17.45	17.70	20.59	30.00	20.00	40.59
VHT20,M0-8	2	5785	16.36	16.45	19.42	30.00	20.00	39.42
VHT20,M0-8	2	5825	15.21	15.59	18.42	30.00	20.00	38.42
VHT40,M0-9	2	5755	17.44	17.57	20.52	30.00	20.00	40.52
VHT40,M0-9	2	5795	17.52	17.85	20.70	30.00	20.00	40.70
VHT80,M0-9	2	5775	20.02	19.84	22.95	30.00	20.00	42.95
Result								



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) $\leq$ 8 dBm/3kHz

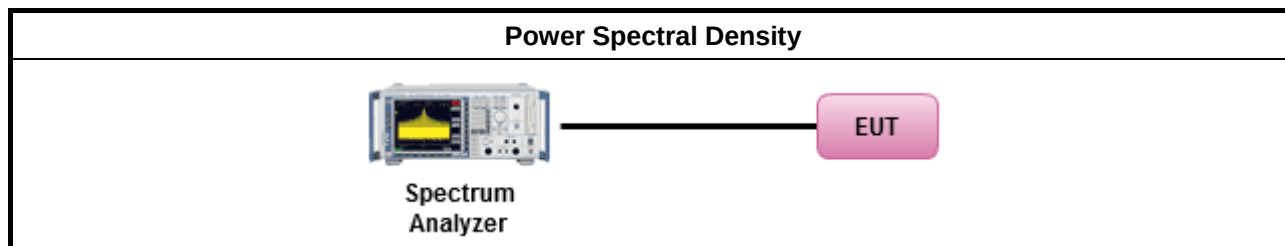
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

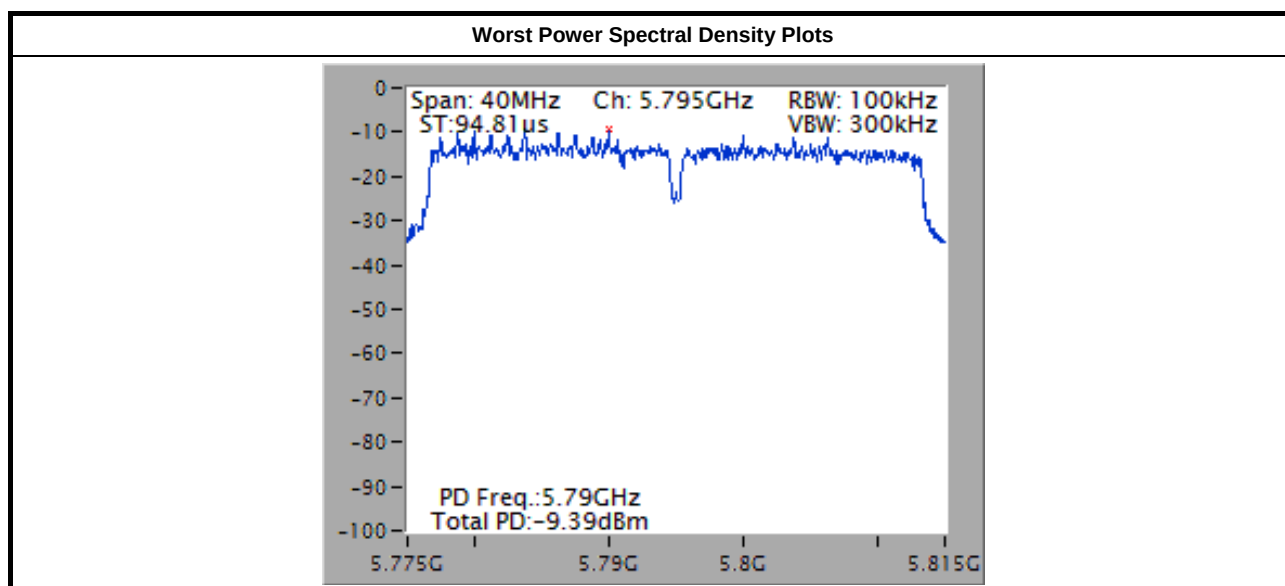
Test Method	
☒	Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
☒	Refer as FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz;detector=peak).. [duty cycle $\geq$ 98% or external video / power trigger]
☒	Refer as FCC KDB 558074, clause 10.3 Method AVGPS-1 (spectral trace averaging).
☐	Refer as FCC KDB 558074, clause 10.4 Method AVGPS-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 AVGPS-2 (spectral trace averaging).
☐	Refer as FCC KDB 558074, clause 10.6 Method AVGPS-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



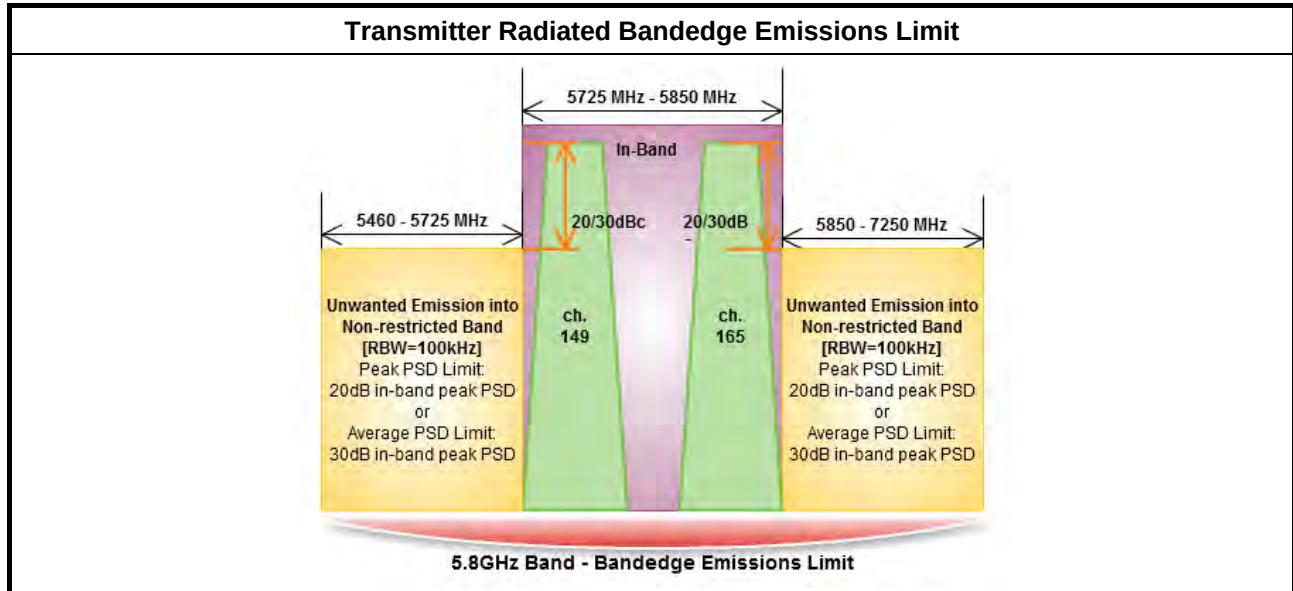
3.4.5 Test Result of Power Spectral Density

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	-12.17	8.00
11a	1	5785	-12.58	8.00
11a	1	5825	-13.23	8.00
HT20,M8-15	2	5745	-11.43	8.00
HT20,M8-15	2	5785	-10.82	8.00
HT20,M8-15	2	5825	-11.85	8.00
HT40,M8-15	2	5755	-9.60	8.00
HT40,M8-15	2	5795	-9.39	8.00
VHT20,M0-8	2	5745	-9.42	8.00
VHT20,M0-8	2	5785	-10.39	8.00
VHT20,M0-8	2	5825	-10.67	8.00
VHT40,M0-9	2	5755	-10.67	8.00
VHT40,M0-9	2	5795	-10.92	8.00
VHT80,M0-9	2	5775	-10.64	8.00
Result			Complied	



3.5 Transmitter Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit



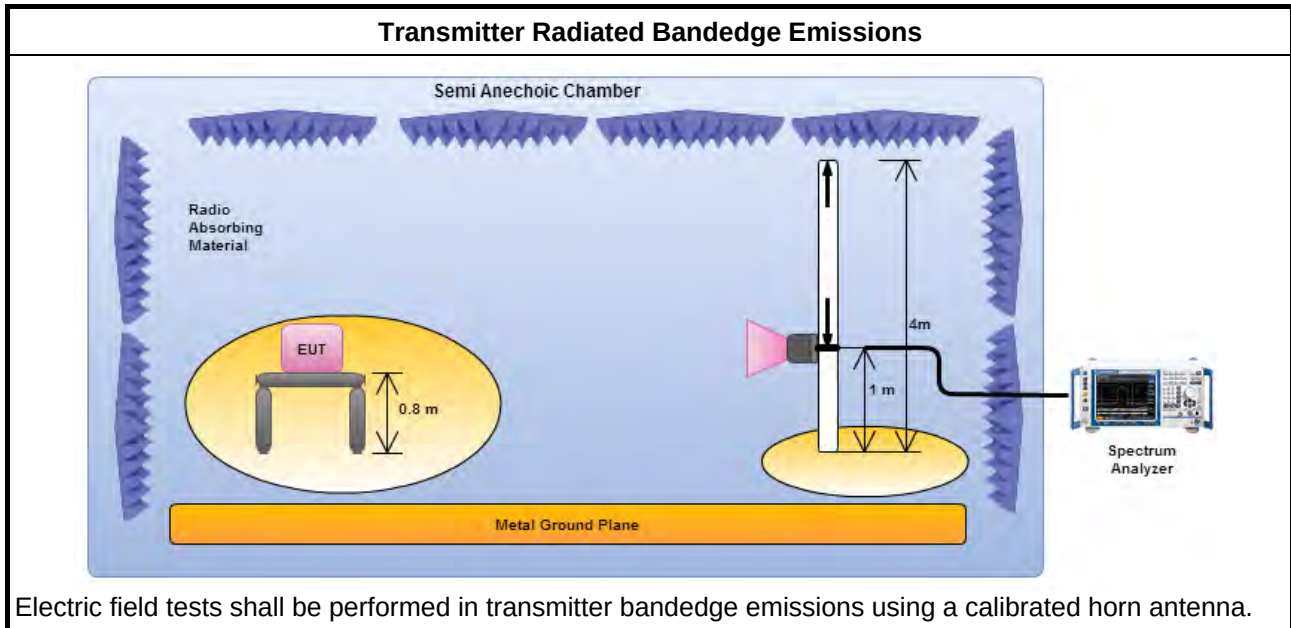
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method	
☒	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 $\geq 98\%$)
☐	Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
☐	Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq 1/T$).
☒	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq 1/T$, 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



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	134.47	5724.060	87.60	46.87	20	V
11a	1	5825	132.26	5852.070	82.17	50.09	20	V
HT20,M8-15	2	5720	133.81	5723.780	85.19	48.62	20	V
HT20,M8-15	2	5825	132.86	5854.270	82.33	50.53	20	V
HT40,M8-15	2	5710	133.88	5725.000	98.69	35.19	20	V
HT40,M8-15	2	5795	131.70	5867.800	82.29	49.41	20	V
VHT20,M0-8	2	5720	135.25	5725.000	87.80	47.45	20	V
VHT20,M0-8	2	5825	132.80	5862.410	82.68	50.12	20	V
VHT40,M0-9	2	5710	131.14	5725.000	94.99	36.15	20	V
VHT40,M0-9	2	5795	131.08	5869.900	82.01	49.07	20	V
VHT80,M0-9	2	5775	131.78	5724.990	102.34	29.44	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.

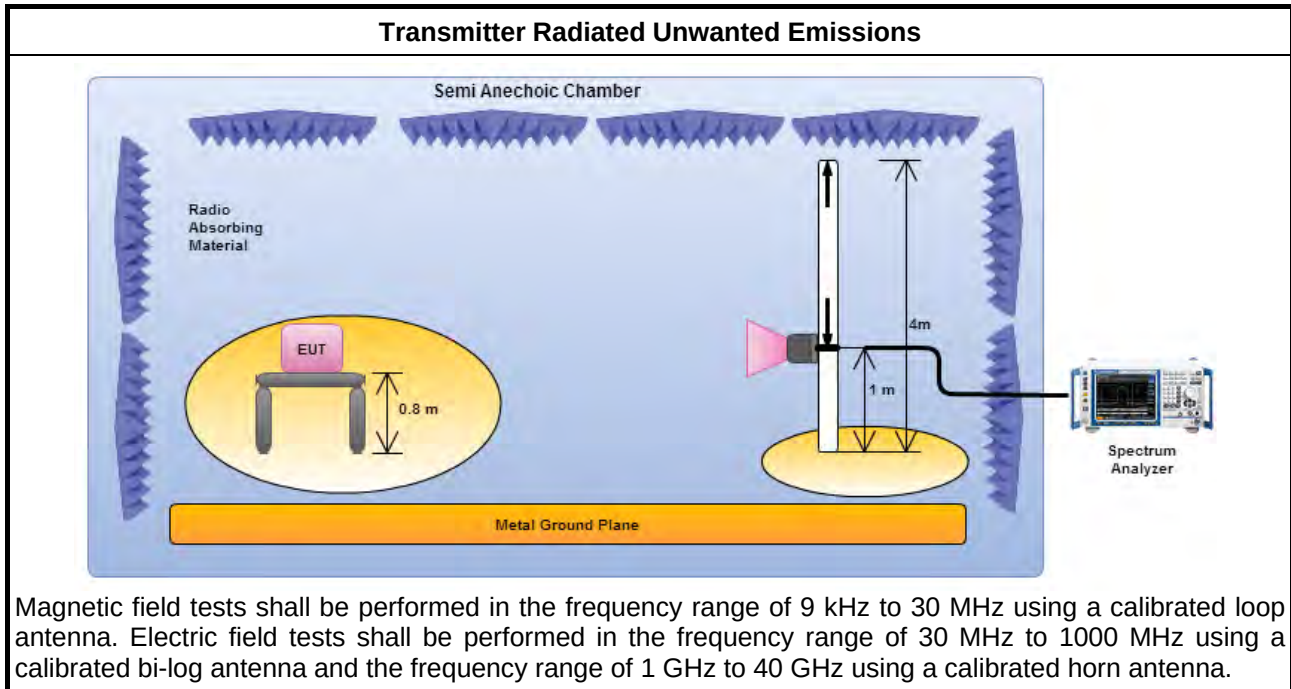
3.6.2 Measuring Instruments

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 $\geq 98\%$)
☐	Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
☐	Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq 1/T$).
☒	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq 1/T$, 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.

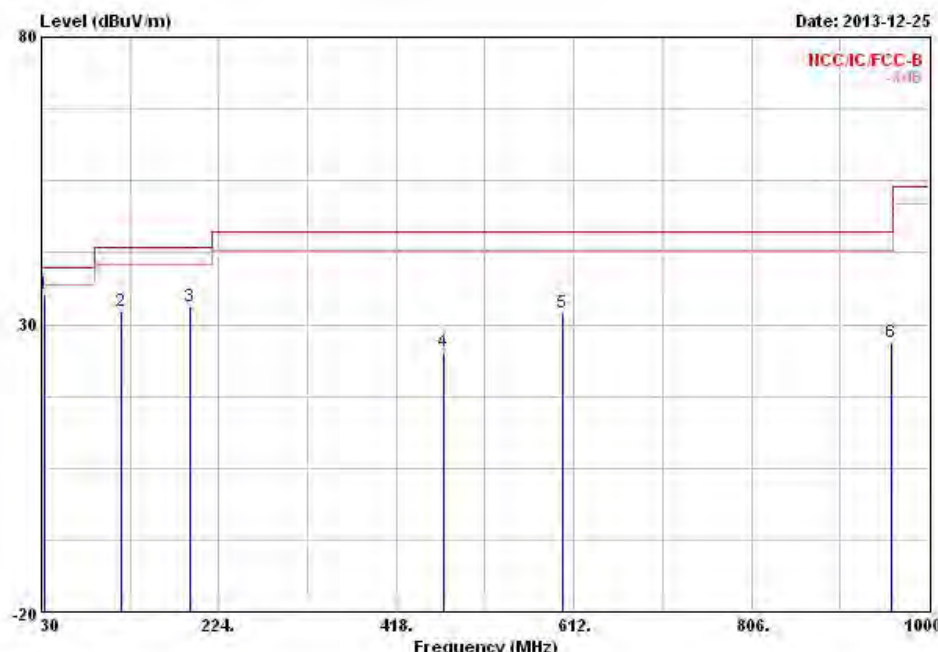
3.6.4 Test Setup



3.6.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

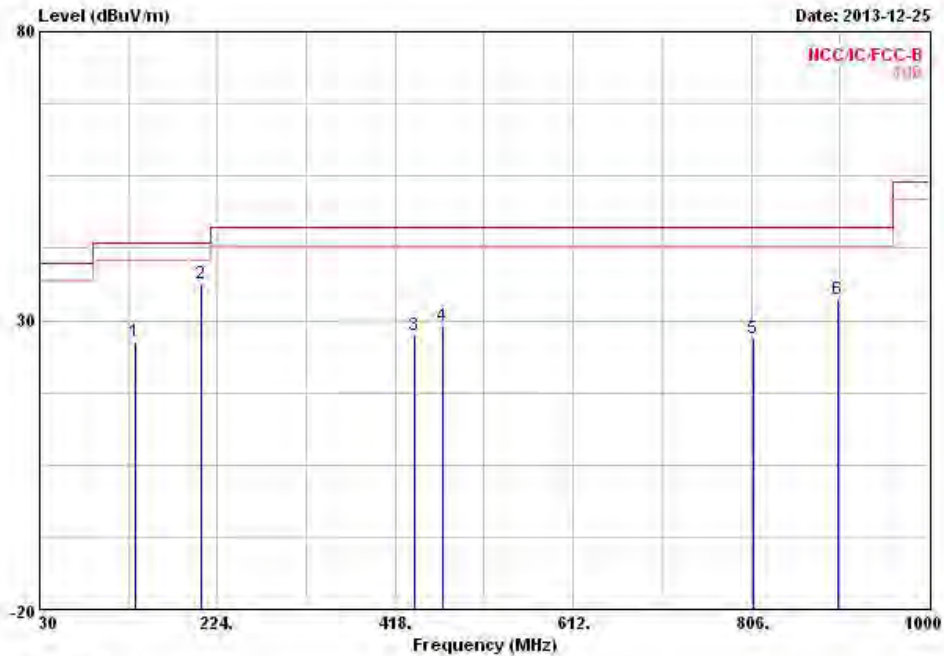
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.6.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Transmitter Radiated Unwanted Emissions (Below 1GHz)																																																																																																													
Operating Mode	1				Polarization				V																																																																																																				
Operating Function	Transmitter Mode																																																																																																												
Level (dBuV/m)  Date: 2013-12-25 HCC/IC/FCC-B -4dB <table><tr><th></th><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th></th><th>Ant</th><th>Table</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>Limit</th><th>Line</th><th>Level</th><th>Loss</th><th>Factor</th><th>Remark</th><th>Pos</th><th>Pos</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dB</th><th>dBuV/m</th><th>dBuV</th><th>dB/m</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>32.910</td><td>35.38</td><td>-4.62</td><td>40.00</td><td>44.87</td><td>17.22</td><td>0.90</td><td>27.61 Peak</td><td>---</td><td>---</td></tr><tr><td>2</td><td>117.300</td><td>32.30</td><td>-11.20</td><td>43.50</td><td>45.60</td><td>12.26</td><td>1.76</td><td>27.32 Peak</td><td>---</td><td>---</td></tr><tr><td>3</td><td>191.990</td><td>33.00</td><td>-10.50</td><td>43.50</td><td>48.62</td><td>9.13</td><td>2.28</td><td>27.03 Peak</td><td>---</td><td>---</td></tr><tr><td>4</td><td>470.380</td><td>25.13</td><td>-20.87</td><td>46.00</td><td>32.32</td><td>16.92</td><td>3.61</td><td>27.72 Peak</td><td>---</td><td>---</td></tr><tr><td>5</td><td>599.390</td><td>31.93</td><td>-14.07</td><td>46.00</td><td>37.33</td><td>18.44</td><td>4.15</td><td>27.99 Peak</td><td>---</td><td>---</td></tr><tr><td>6</td><td>959.260</td><td>26.79</td><td>-19.21</td><td>46.00</td><td>27.57</td><td>21.24</td><td>5.36</td><td>27.38 Peak</td><td>---</td><td>---</td></tr></table>												Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp		Ant	Table		MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark	Pos	Pos		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	1	32.910	35.38	-4.62	40.00	44.87	17.22	0.90	27.61 Peak	---	---	2	117.300	32.30	-11.20	43.50	45.60	12.26	1.76	27.32 Peak	---	---	3	191.990	33.00	-10.50	43.50	48.62	9.13	2.28	27.03 Peak	---	---	4	470.380	25.13	-20.87	46.00	32.32	16.92	3.61	27.72 Peak	---	---	5	599.390	31.93	-14.07	46.00	37.33	18.44	4.15	27.99 Peak	---	---	6	959.260	26.79	-19.21	46.00	27.57	21.24	5.36	27.38 Peak	---	---
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp		Ant	Table																																																																																																			
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark	Pos	Pos																																																																																																			
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg																																																																																																			
1	32.910	35.38	-4.62	40.00	44.87	17.22	0.90	27.61 Peak	---	---																																																																																																			
2	117.300	32.30	-11.20	43.50	45.60	12.26	1.76	27.32 Peak	---	---																																																																																																			
3	191.990	33.00	-10.50	43.50	48.62	9.13	2.28	27.03 Peak	---	---																																																																																																			
4	470.380	25.13	-20.87	46.00	32.32	16.92	3.61	27.72 Peak	---	---																																																																																																			
5	599.390	31.93	-14.07	46.00	37.33	18.44	4.15	27.99 Peak	---	---																																																																																																			
6	959.260	26.79	-19.21	46.00	27.57	21.24	5.36	27.38 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	Transmitter Mode		



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	134.760	26.44	-17.06	43.50	39.89	11.88	1.92	27.25	Peak	---	---
2	206.540	36.26	-7.24	43.50	51.50	9.37	2.37	26.98	Peak	---	---
3	439.340	27.50	-18.50	46.00	35.31	16.28	3.46	27.55	Peak	---	---
4	470.380	29.07	-16.93	46.00	36.26	16.92	3.61	27.72	Peak	---	---
5	808.910	26.82	-19.18	46.00	29.88	19.80	4.92	27.78	Peak	---	---
6	901.060	33.54	-12.46	46.00	35.37	20.53	5.19	27.55	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.)

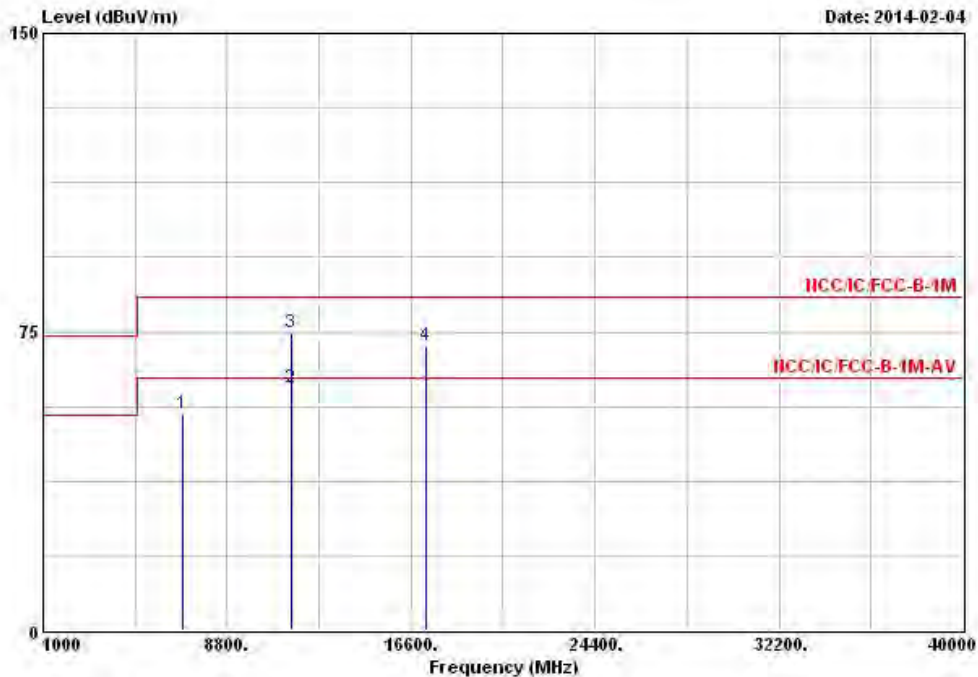
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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	H



	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	6888.000	54.32			43.61	36.31	6.96	32.56	Peak	---	---
2	11490.000	60.84	-2.70	63.54	43.07	40.07	10.04	32.34	Average	---	---
3	11490.000	74.61	-8.93	83.54	56.84	40.07	10.04	32.34	Peak	---	---
4	17235.000	71.44			47.42	43.81	11.59	31.38	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.)

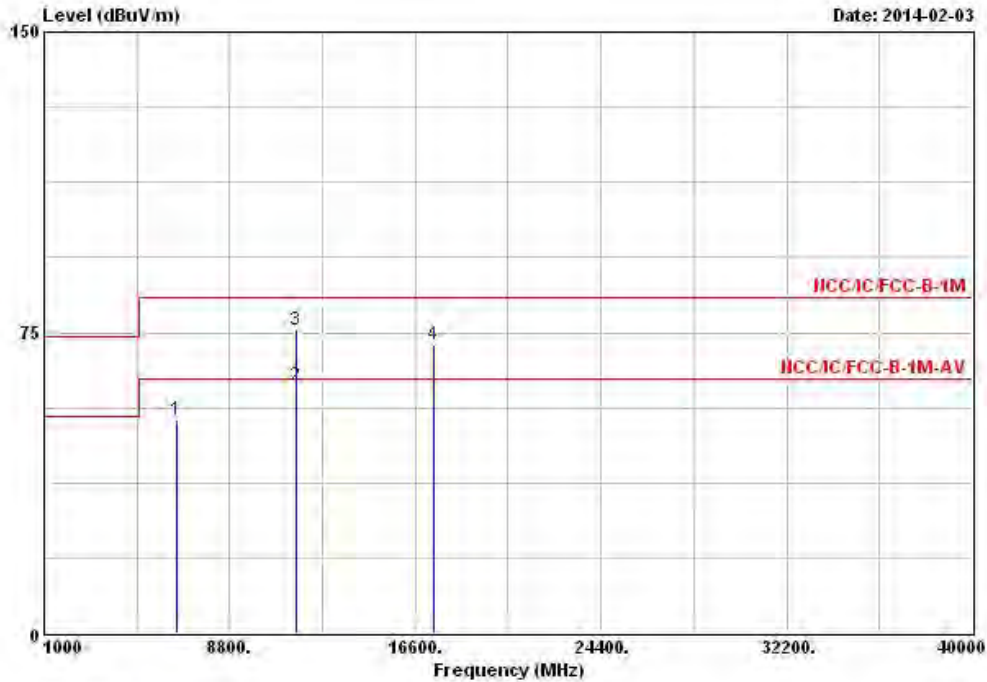
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (142.84 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	ReadAntenna 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	6540.000	53.27			43.61	35.48	6.67	32.49	Peak	---	---
2	11570.000	61.69	-1.85	63.54	43.96	40.04	10.04	32.35	Average	---	---
3	11570.000	75.63	-7.91	83.54	57.90	40.04	10.04	32.35	Peak	---	---
4	17355.000	71.85			46.60	44.81	11.85	31.41	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.)

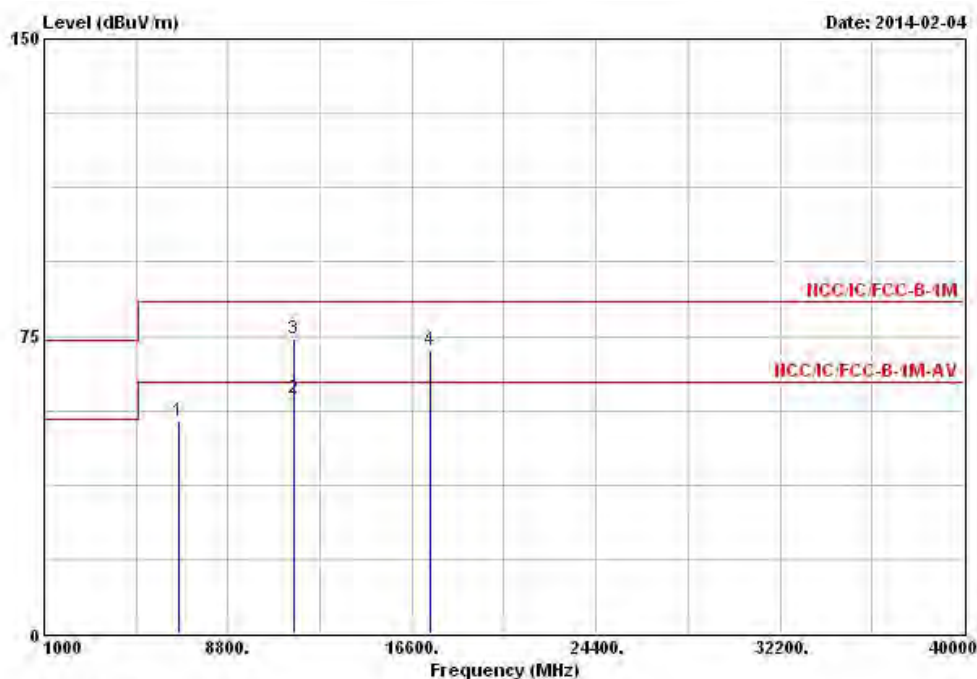
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (141.11 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	ReadAntenna 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	6726.000	53.75			43.51	35.94	6.83	32.53	Peak	---	---
2	11570.000	59.52	-4.02	63.54	41.79	40.04	10.04	32.35	Average	---	---
3	11570.000	74.38	-9.16	83.54	56.65	40.04	10.04	32.35	Peak	---	---
4	17355.000	71.69			46.44	44.81	11.85	31.41	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.)

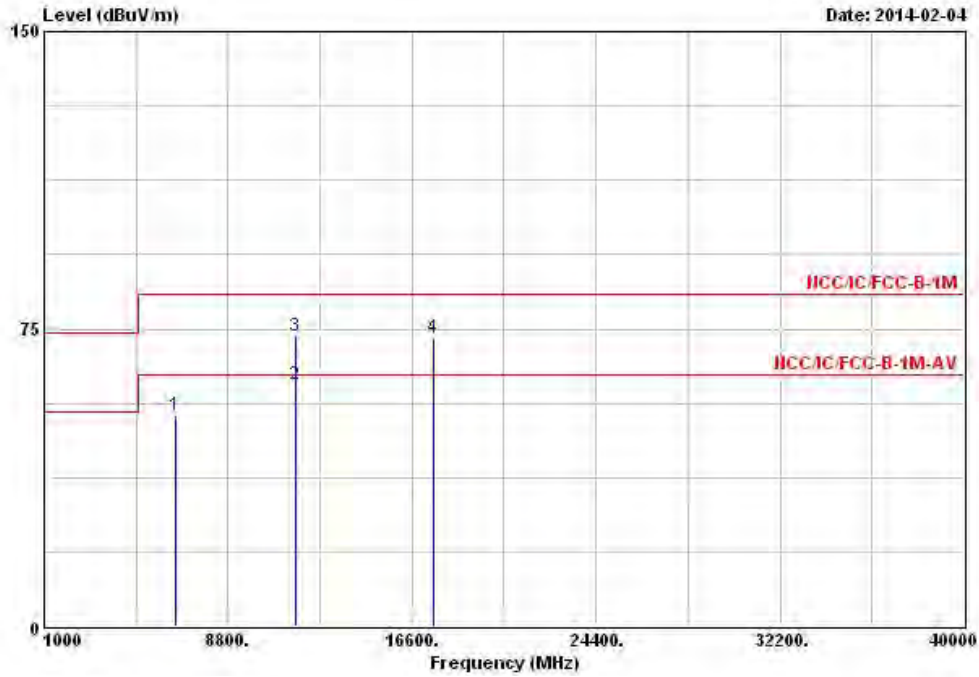
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (141.11 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	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	6594.000	53.30			43.49	35.61	6.70	32.50	Peak	---	---
2	11650.000	61.09	-2.45	63.54	43.43	39.99	10.03	32.36	Average	---	---
3	11650.000	73.18	-10.36	83.54	55.52	39.99	10.03	32.36	Peak	---	---
4	17475.000	72.69			46.22	45.81	12.11	31.45	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.)

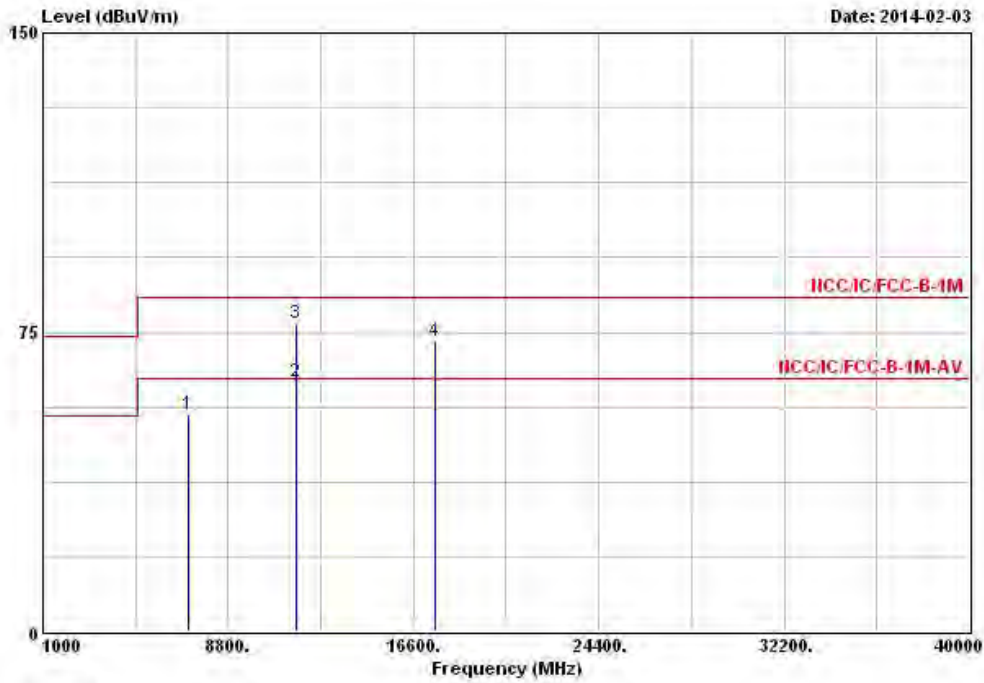
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (140.90 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	ReadAntenna 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	7140.000	54.50			43.19	36.79	7.14	32.62	Peak	---	---
2	11650.000	62.51	-1.03	63.54	44.85	39.99	10.03	32.36	Average	---	---
3	11650.000	77.08	-6.46	83.54	59.42	39.99	10.03	32.36	Peak	---	---
4	17475.000	72.76			46.29	45.81	12.11	31.45	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.)

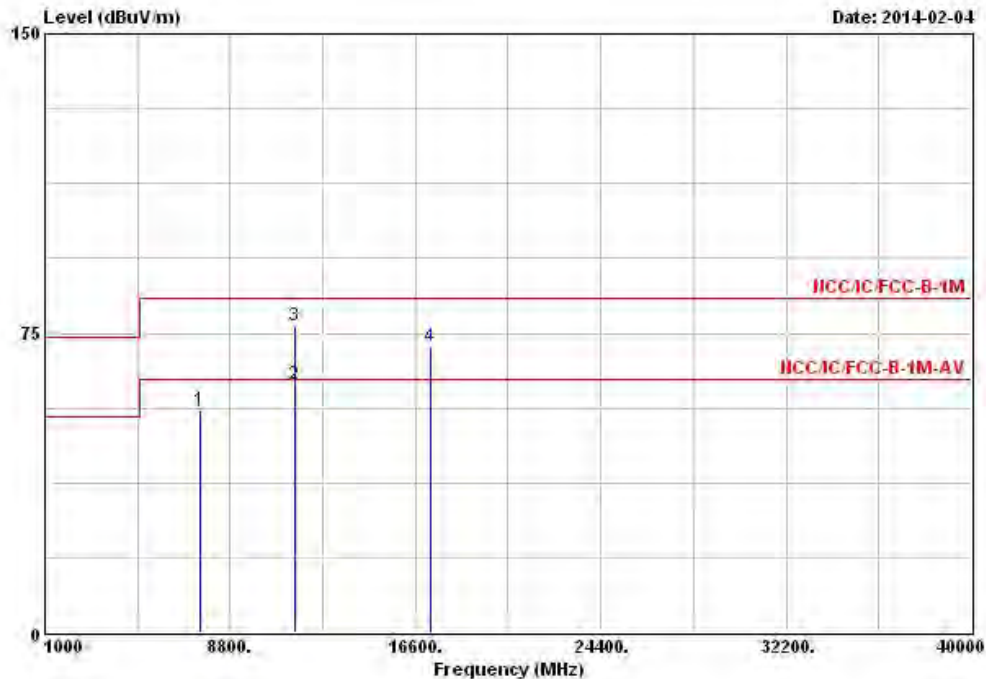
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (140.90dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5745
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	7500.000	55.60			43.59	37.30	7.43	32.72	Peak	---	---
2	11490.000	62.00	-1.54	63.54	44.23	40.07	10.04	32.34	Average	---	---
3	11490.000	76.98	-6.56	83.54	59.21	40.07	10.04	32.34	Peak	---	---
4	17235.000	71.48			47.46	43.81	11.59	31.38	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.)

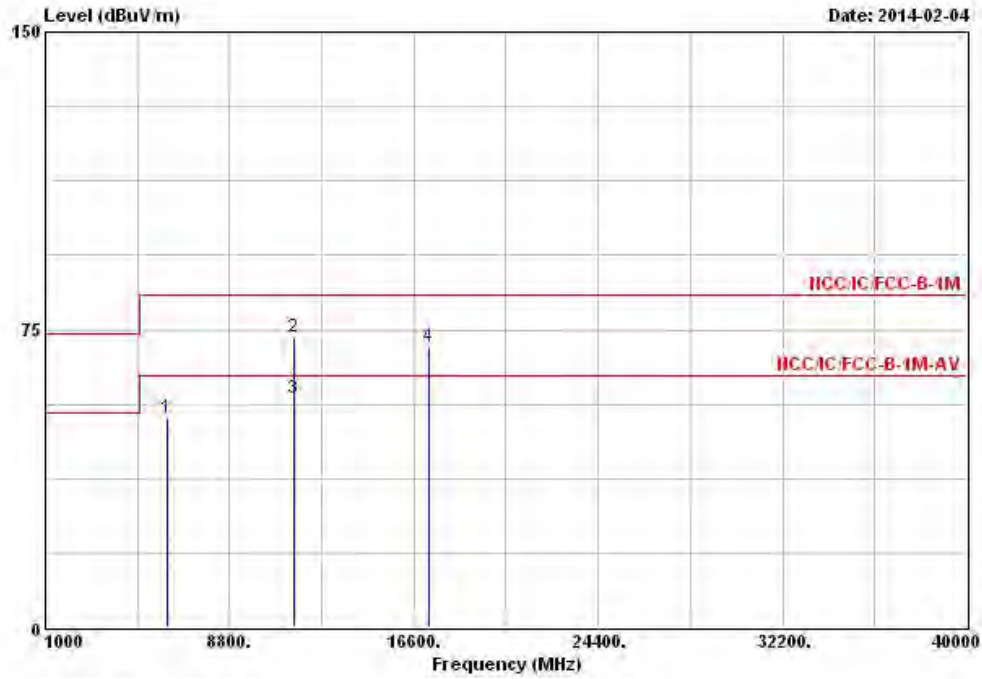
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (142.65 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5745
N _{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	6156.000	52.68			43.38	35.12	6.63	32.45	Peak	---	---
2	11490.000	73.21	-10.33	83.54	55.44	40.07	10.04	32.34	Peak	---	---
3	11490.000	57.87	-5.67	63.54	40.10	40.07	10.04	32.34	Average	---	---
4	17235.000	70.77			46.75	43.81	11.59	31.38	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.)

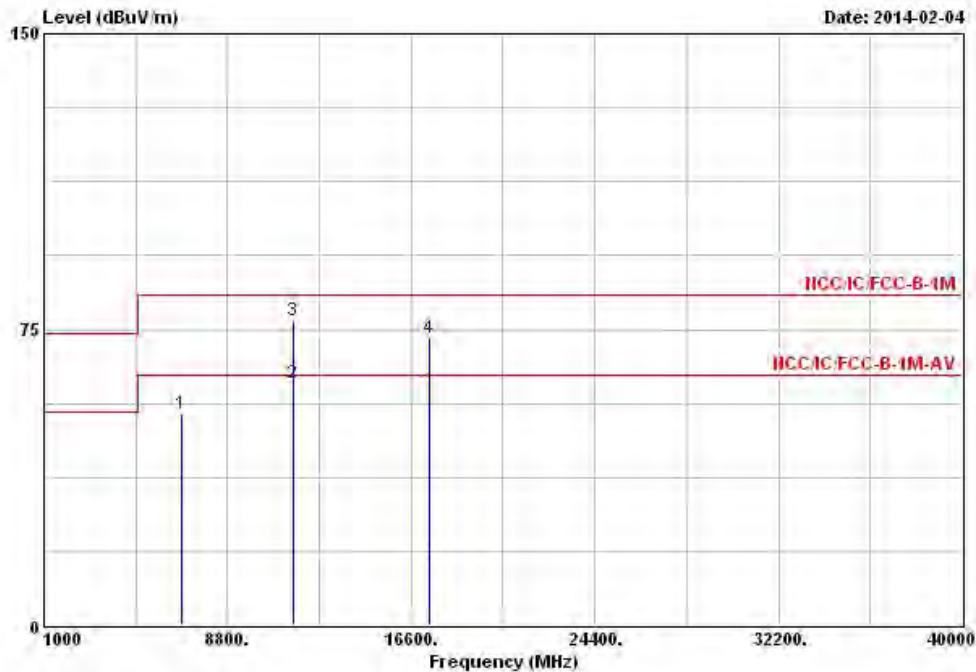
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (142.65 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5785
N_{TX}	2	Polarization	V



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp		Rnt	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	6822.000	53.77			43.28	36.14	6.89	32.54	Peak	---
2	11570.000	61.53	-2.01	63.54	43.80	40.04	10.04	32.35	Average	---
3	11570.000	77.29	-6.25	83.54	59.56	40.04	10.04	32.35	Peak	---
4	17355.000	72.71			47.46	44.81	11.85	31.41	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.)

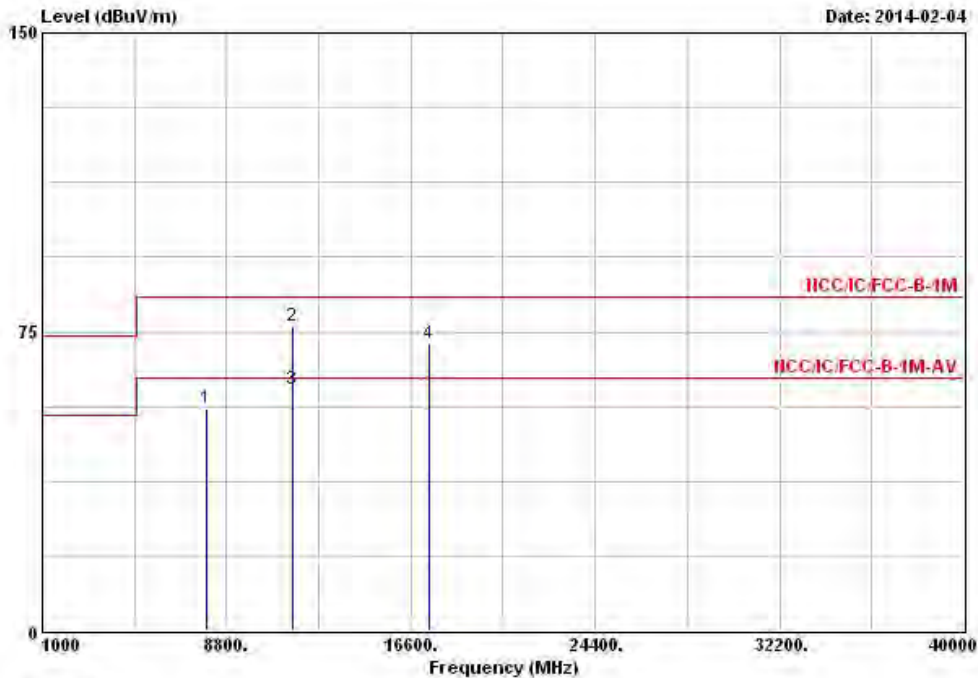
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (142.13 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5785
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	7920.000	55.84			42.76	37.72	8.14	32.78	Peak	---	---
2	11570.000	76.33	-7.21	83.54	58.60	40.04	10.04	32.35	Peak	---	---
3	11570.000	60.58	-2.96	63.54	42.85	40.04	10.04	32.35	Average	---	---
4	17355.000	72.07			46.82	44.81	11.85	31.41	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.)

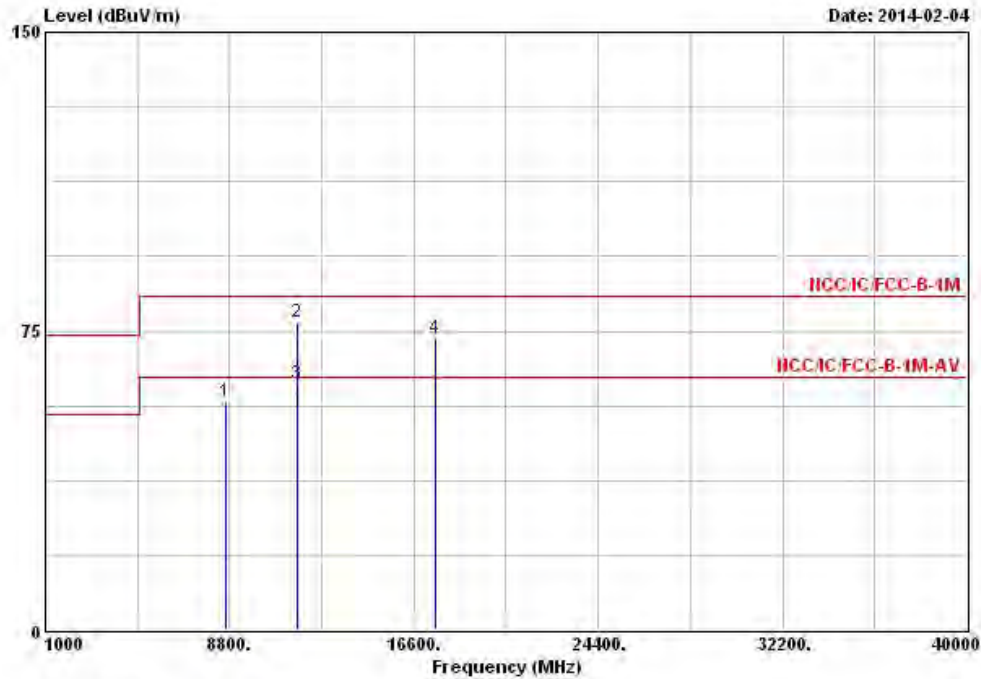
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (142.13 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5825
N_{TX}	2	Polarization	V



	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor		Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8640.000	57.22			43.61	38.54	7.93	32.86	Peak	---	---
2	11650.000	77.12	-6.42	83.54	59.46	39.99	10.03	32.36	Peak	---	---
3	11650.000	61.96	-1.58	63.54	44.30	39.99	10.03	32.36	Average	---	---
4	17475.000	73.05			46.58	45.81	12.11	31.45	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.)

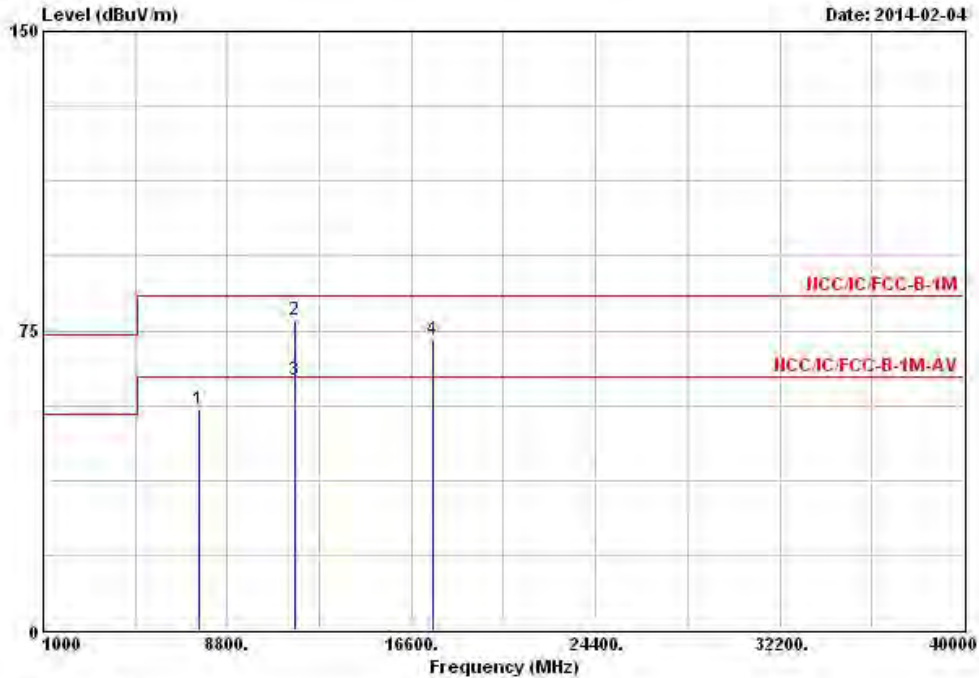
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (141.13 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5825
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	55.11			42.78	37.43	7.64	32.74	Peak	---	---
2	11650.000	77.76	-5.78	83.54	60.10	39.99	10.03	32.36	Peak	---	---
3	11650.000	62.43	-1.11	63.54	44.77	39.99	10.03	32.36	Average	---	---
4	17475.000	72.65			46.18	45.81	12.11	31.45	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.)

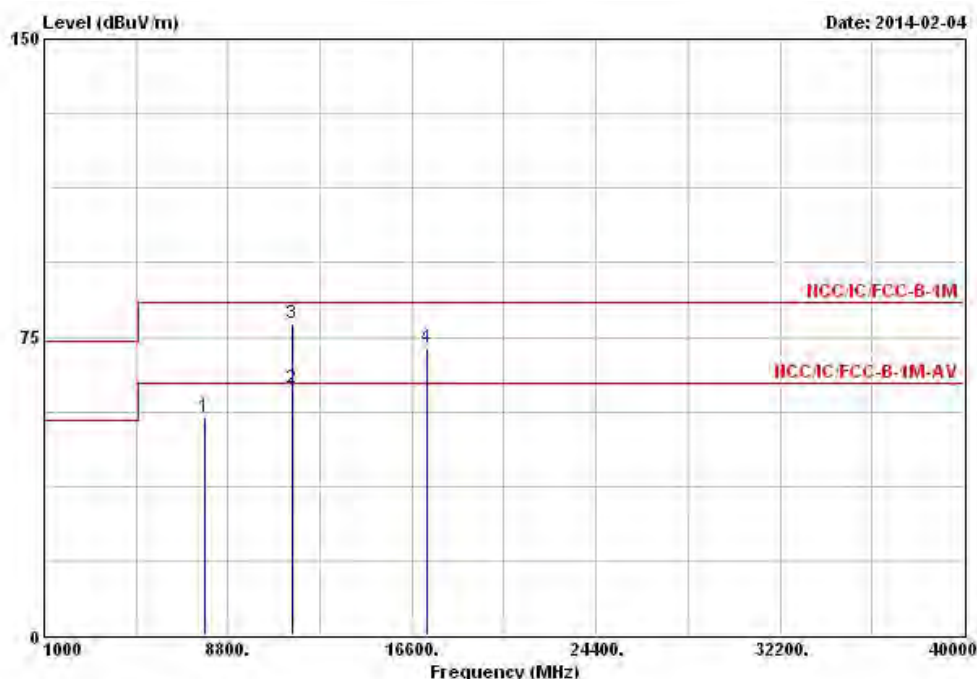
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (141.13 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5755
N _{TX}	2	Polarization	V



	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp		Rnt	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7780.000	55.00			42.25	37.58	7.93	32.76	Peak	---	---
2	11510.000	62.33	-1.21	63.54	44.53	40.10	10.04	32.34	Average	---	---
3	11510.000	78.43	-5.11	83.54	60.63	40.10	10.04	32.34	Peak	---	---
4	17265.000	72.21			47.83	44.09	11.68	31.39	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.)

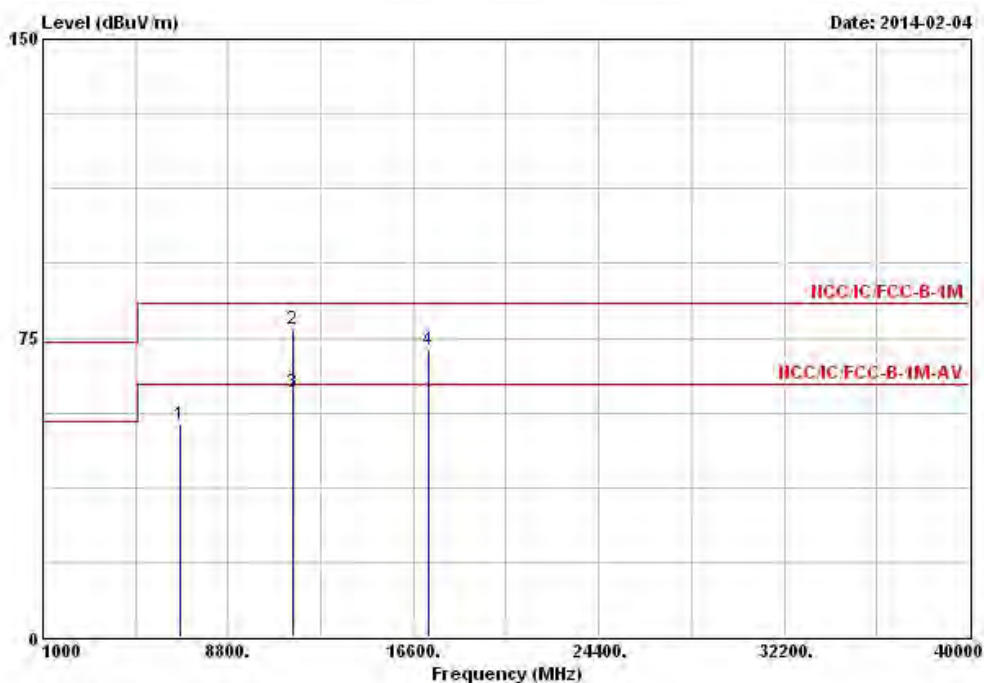
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (141.76 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5755
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	6750.000	53.09			42.81	35.98	6.83	32.53	Peak	---	---
2	11510.000	77.13	-6.41	83.54	59.33	40.10	10.04	32.34	Peak	---	---
3	11510.000	61.44	-2.10	63.54	43.64	40.10	10.04	32.34	Average	---	---
4	17265.000	71.75			47.37	44.09	11.68	31.39	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.)

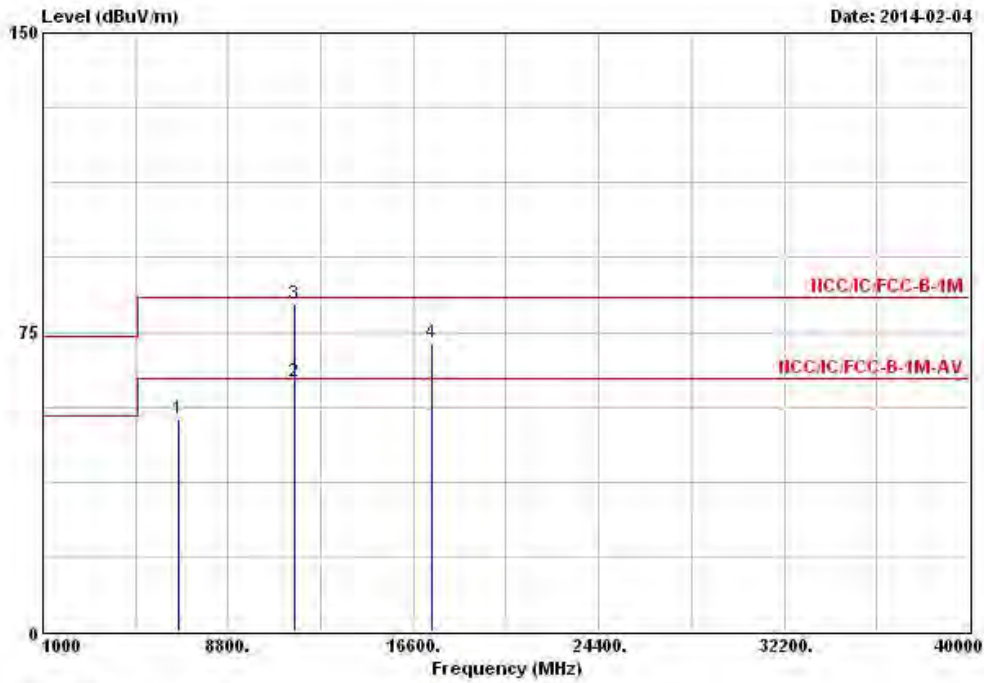
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (141.76 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5795
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	6726.000	53.37			43.13	35.94	6.83	32.53	Peak	---	---
2	11590.000	62.50	-1.04	63.54	44.79	40.03	10.03	32.35	Average	---	---
3	11590.000	82.00	-1.54	83.54	64.29	40.03	10.03	32.35	Peak	---	---
4	17385.000	72.49			46.88	45.10	11.94	31.43	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.)

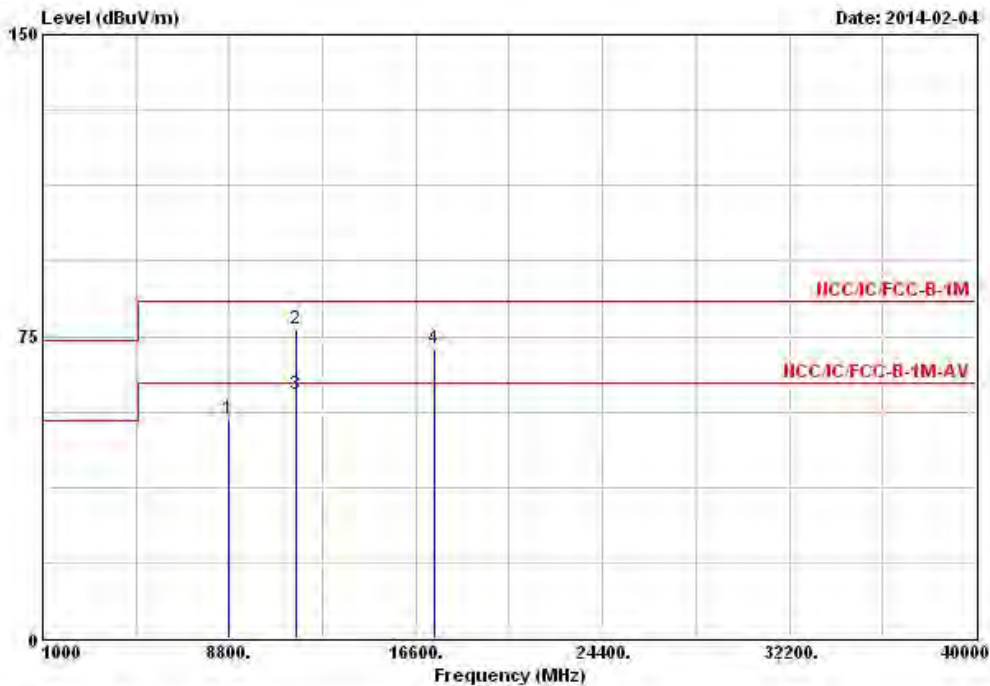
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (142.58 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5795
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	8772.000	54.60			41.24	38.38	7.88	32.90	Peak	---	---
2	11590.000	76.66	-6.88	83.54	58.95	40.03	10.03	32.35	Peak	---	---
3	11590.000	60.59	-2.95	63.54	42.88	40.03	10.03	32.35	Average	---	---
4	17385.000	71.82			46.21	45.10	11.94	31.43	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.)

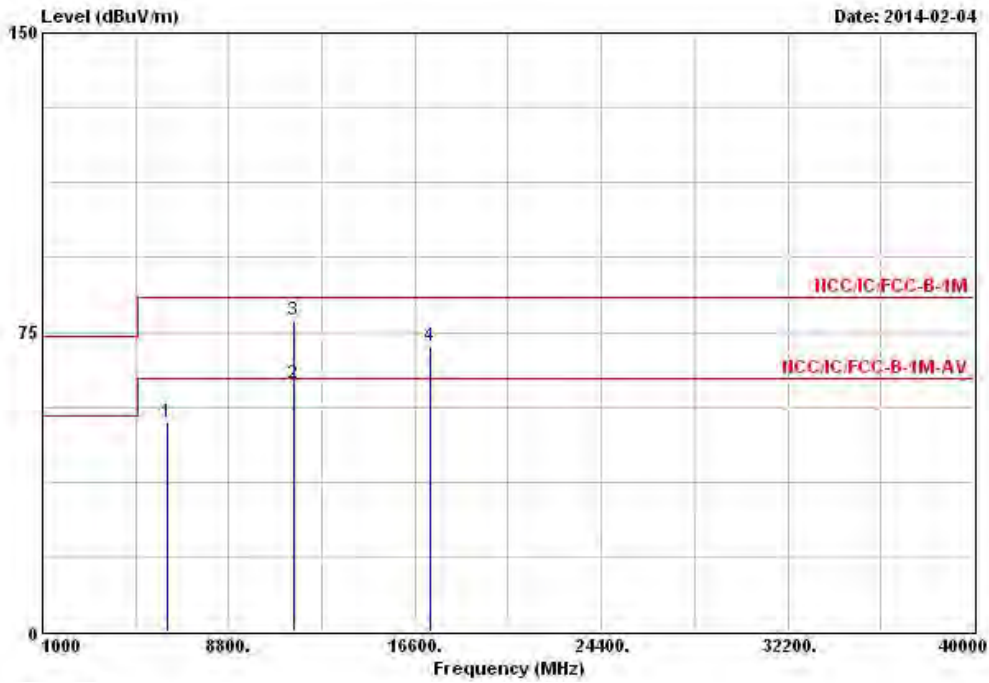
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (142.58 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5745
N _{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	6246.000	52.27			42.90	35.20	6.63	32.46	Peak	---	---
2	11490.000	62.34	-1.20	63.54	44.57	40.07	10.04	32.34	Average	---	---
3	11490.000	77.93	-5.61	83.54	60.16	40.07	10.04	32.34	Peak	---	---
4	17235.000	71.60			47.58	43.81	11.59	31.38	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.)

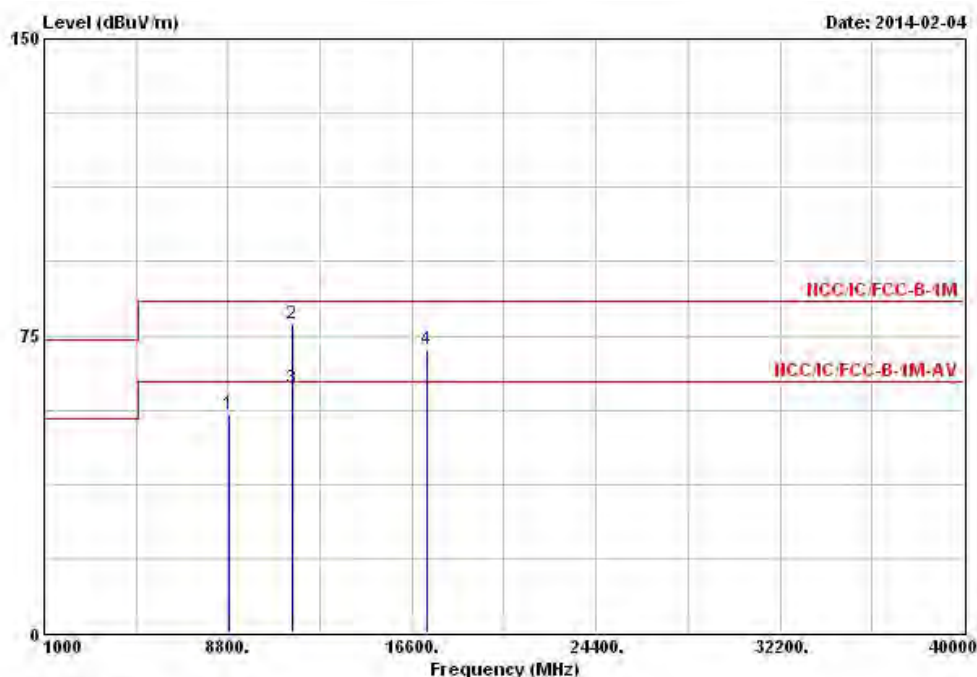
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (140.43 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5745
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	8826.000	55.34			42.10	38.32	7.84	32.92 Peak	---	---
2	11490.000	78.13	-5.41	83.54	60.36	40.07	10.04	32.34 Peak	---	---
3	11490.000	61.92	-1.62	63.54	44.15	40.07	10.04	32.34 Average	---	---
4	17235.000	71.34			47.32	43.81	11.59	31.38 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.)

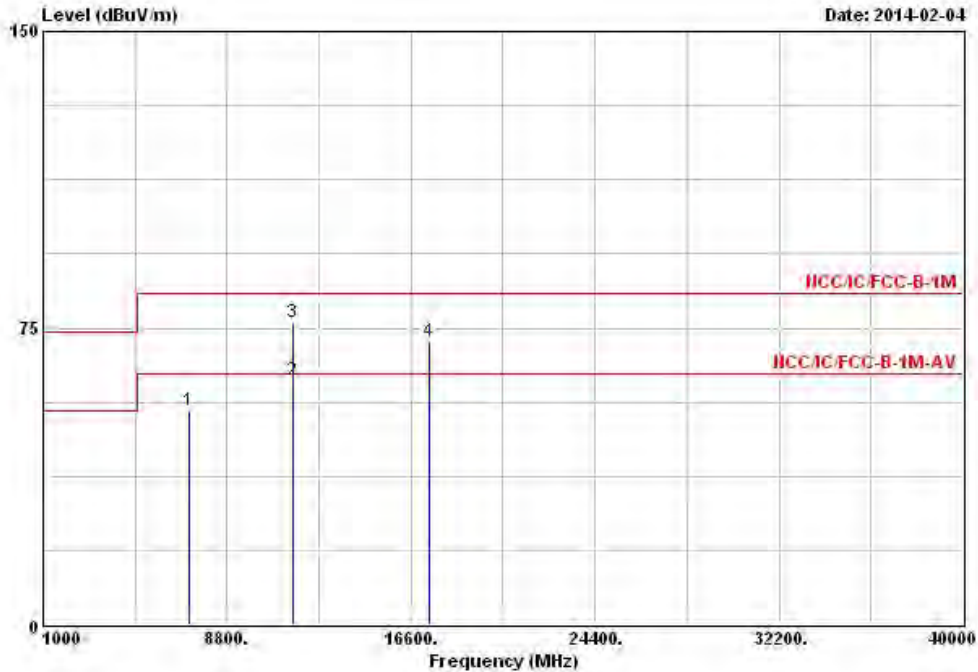
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (140.43 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5785
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	7194.000	54.25			42.82	36.87	7.20	32.64	Peak	---	---
2	11570.000	61.70	-1.84	63.54	43.97	40.04	10.04	32.35	Average	---	---
3	11570.000	76.60	-6.94	83.54	58.87	40.04	10.04	32.35	Peak	---	---
4	17355.000	71.74			46.49	44.81	11.85	31.41	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.)

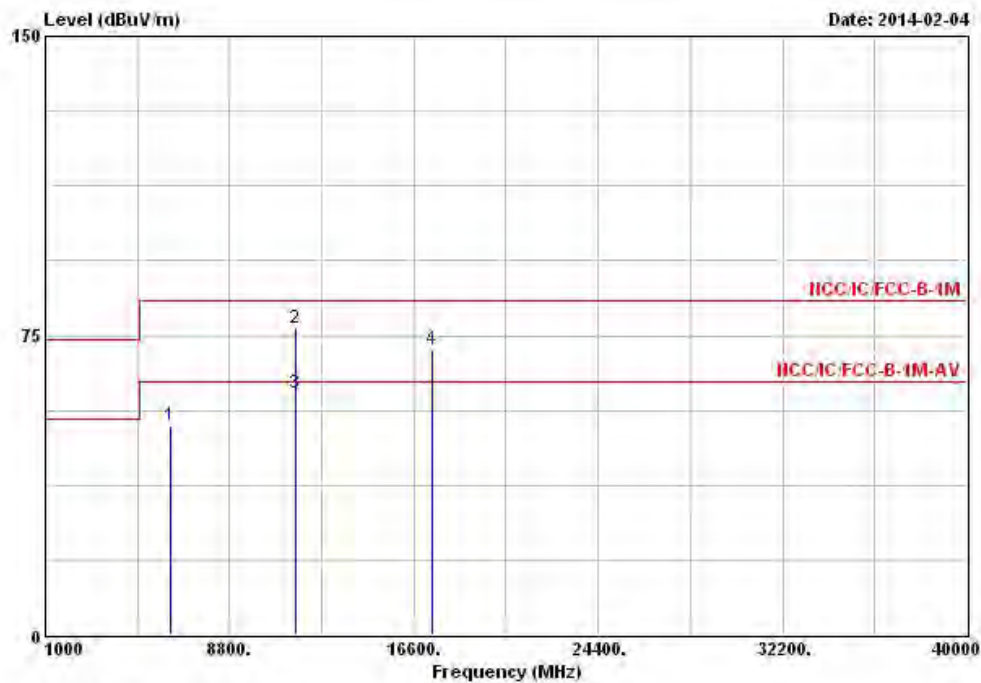
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (144.08 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5785
N_{TX}	2	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	6288.000	52.26			42.86	35.23	6.63	32.46	Peak	---	---
2	11570.000	76.88	-6.66	83.54	59.15	40.04	10.04	32.35	Peak	---	---
3	11570.000	60.72	-2.82	63.54	42.99	40.04	10.04	32.35	Average	---	---
4	17355.000	71.58			46.33	44.81	11.85	31.41	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.)

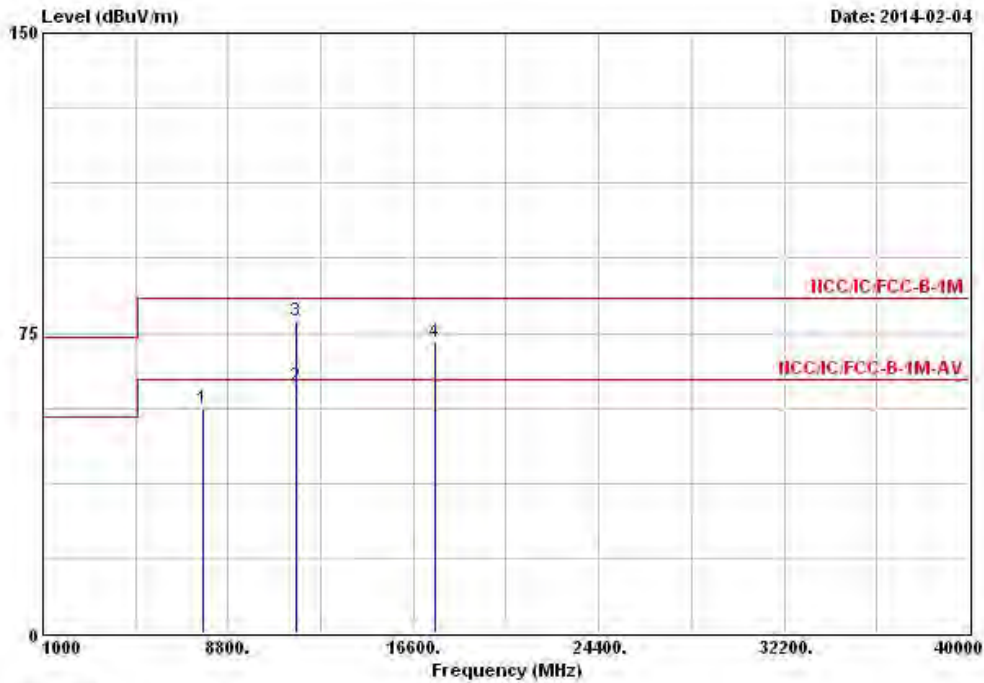
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (144.08 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5825
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	7770.000	55.98			43.24	37.57	7.93	32.76	Peak	---	---
2	11650.000	61.70	-1.84	63.54	44.04	39.99	10.03	32.36	Average	---	---
3	11650.000	77.99	-5.55	83.54	60.33	39.99	10.03	32.36	Peak	---	---
4	17475.000	72.69			46.22	45.81	12.11	31.45	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.)

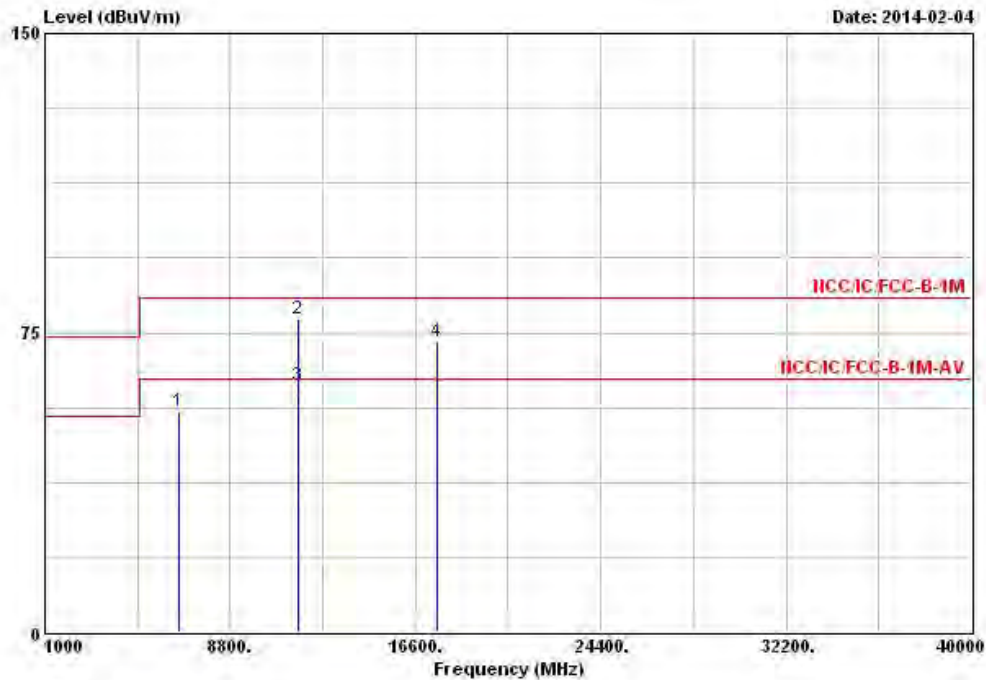
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (142.03 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5825
N_{TX}	2	Polarization	H



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	6662.000	55.21			45.18	35.77	6.77	32.51 Peak	---	---
2	11650.000	78.47	-5.07	83.54	60.81	39.99	10.03	32.36 Peak	---	---
3	11650.000	61.90	-1.64	63.54	44.24	39.99	10.03	32.36 Average	---	---
4	17475.000	72.82			46.35	45.81	12.11	31.45 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.)

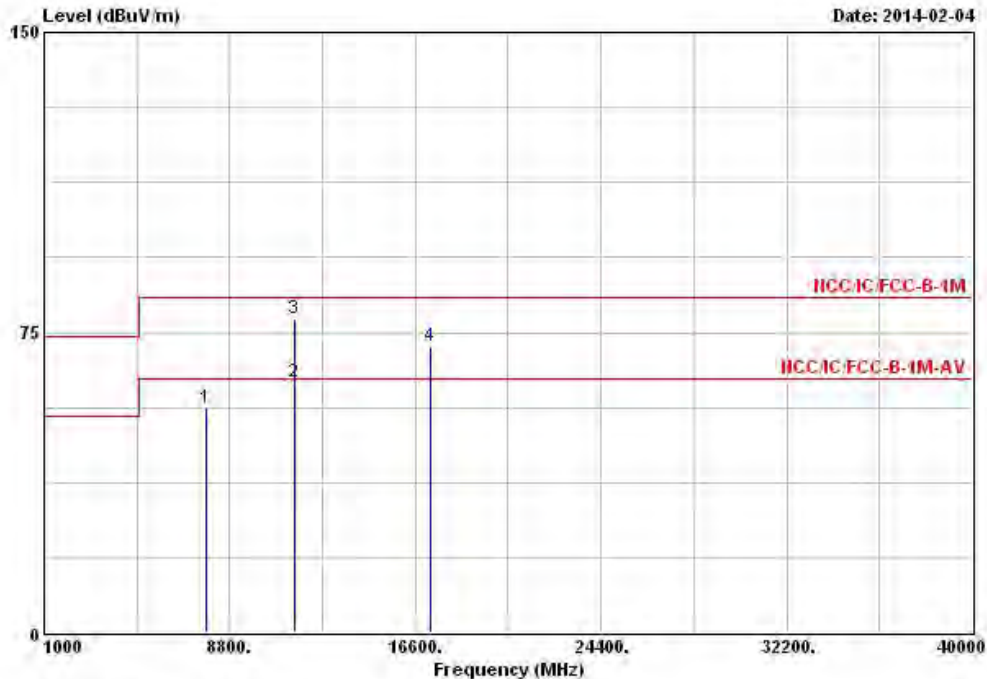
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (142.03 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40	Test Freq. (MHz)	5755
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	7788.000	55.91			43.16	37.58	7.93	32.76	Peak	---	---
2	11510.000	62.40	-1.14	63.54	44.60	40.10	10.04	32.34	Average	---	---
3	11510.000	78.50	-5.04	83.54	60.70	40.10	10.04	32.34	Peak	---	---
4	17265.000	71.38			47.00	44.09	11.68	31.39	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.)

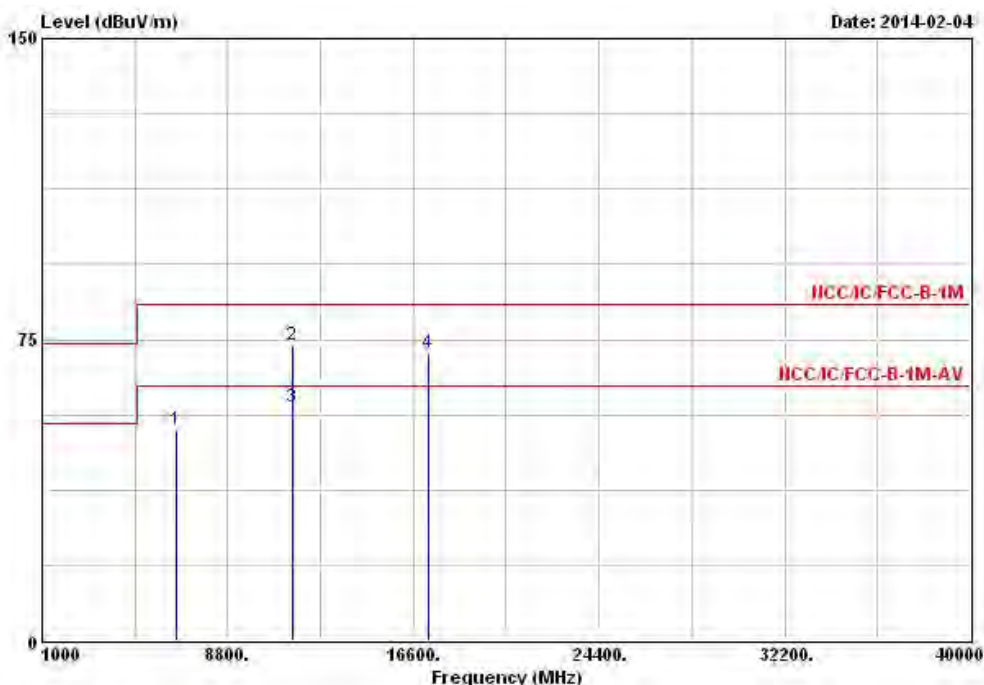
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (141.61 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40	Test Freq. (MHz)	5755
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	6672.000	52.33			42.26	35.81	6.77	32.51	Peak	---	---
2	11510.000	73.41	-10.13	83.54	55.61	40.10	10.04	32.34	Peak	---	---
3	11510.000	58.17	-5.37	63.54	40.37	40.10	10.04	32.34	Average	---	---
4	17265.000	71.46			47.08	44.09	11.68	31.39	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.)

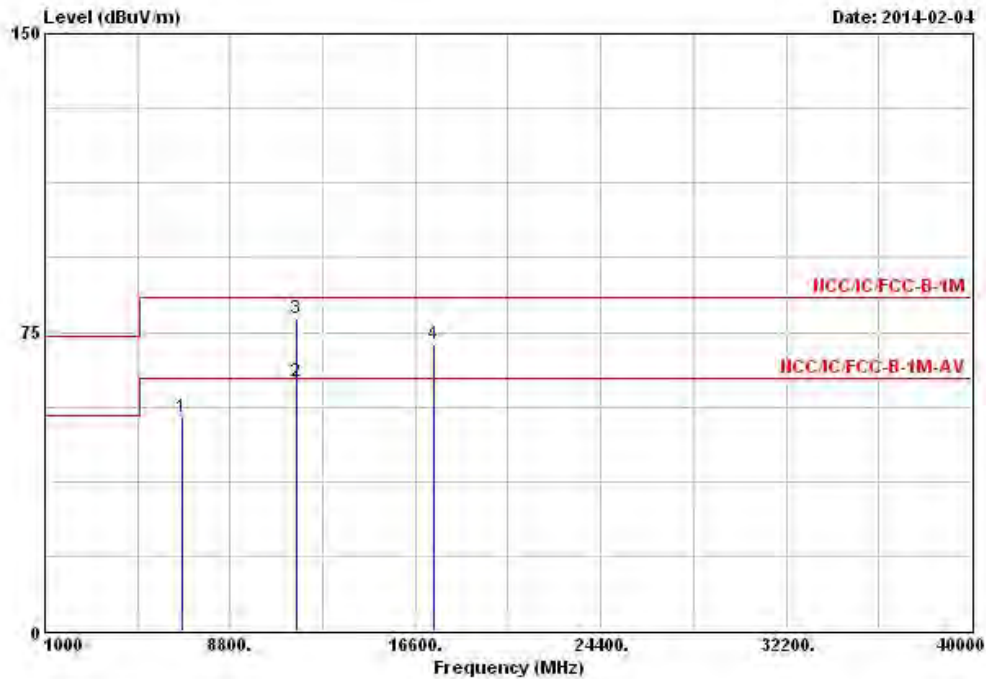
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (141.61 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40	Test Freq. (MHz)	5795
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	Read Antenna 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	6810.000	53.72			43.23	36.14	6.89	32.54	Peak	---	---
2	11590.000	62.52	-1.02	63.54	44.81	40.03	10.03	32.35	Average	---	---
3	11590.000	78.52	-5.02	83.54	60.81	40.03	10.03	32.35	Peak	---	---
4	17385.000	72.01			46.40	45.10	11.94	31.43	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.)

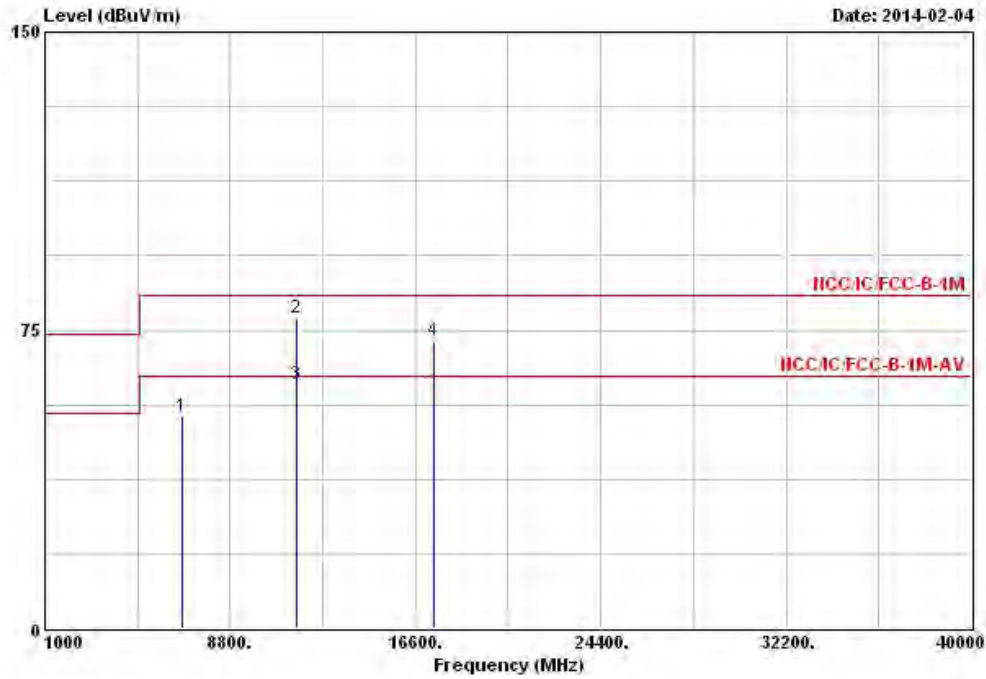
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (140.63 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40	Test Freq. (MHz)	5795
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	6750.000	53.37			43.09	35.98	6.83	32.53	Peak	---	---
2	11590.000	77.92	-5.62	83.54	60.21	40.03	10.03	32.35	Peak	---	---
3	11590.000	61.31	-2.23	63.54	43.60	40.03	10.03	32.35	Average	---	---
4	17385.000	72.27			46.66	45.10	11.94	31.43	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.)

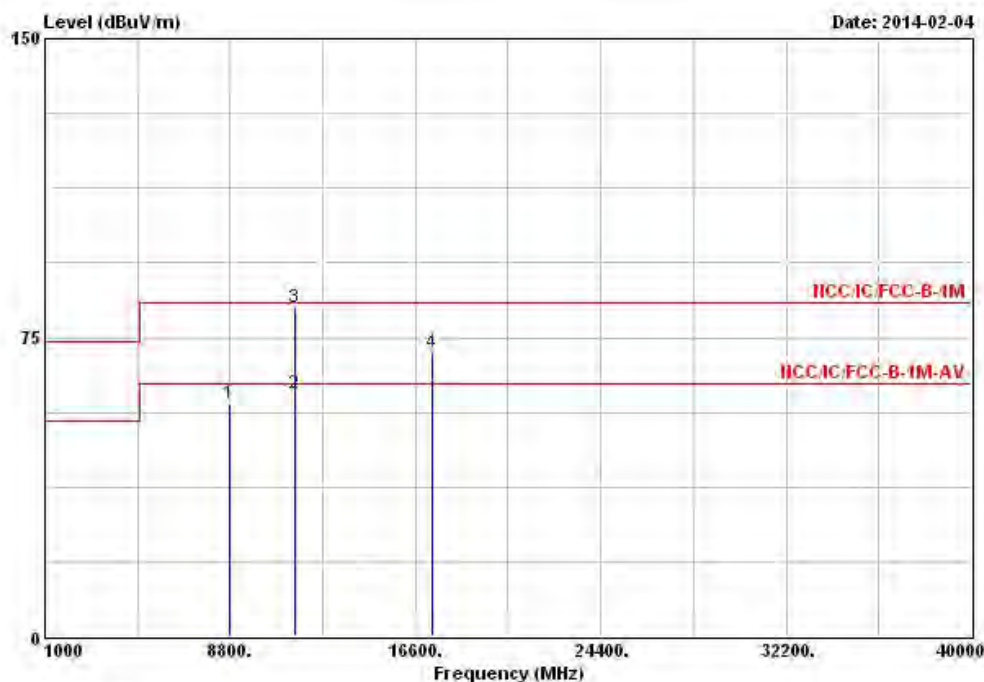
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (140.63 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT80	Test Freq. (MHz)	5775
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	8754.000	58.51			45.13	38.40	7.88	32.90	Peak	---	---
2	11550.000	61.05	-2.49	63.54	43.30	40.06	10.04	32.35	Average	---	---
3	11550.000	82.53	-1.01	83.54	64.78	40.06	10.04	32.35	Peak	---	---
4	17325.000	70.97			46.01	44.52	11.85	31.41	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.)

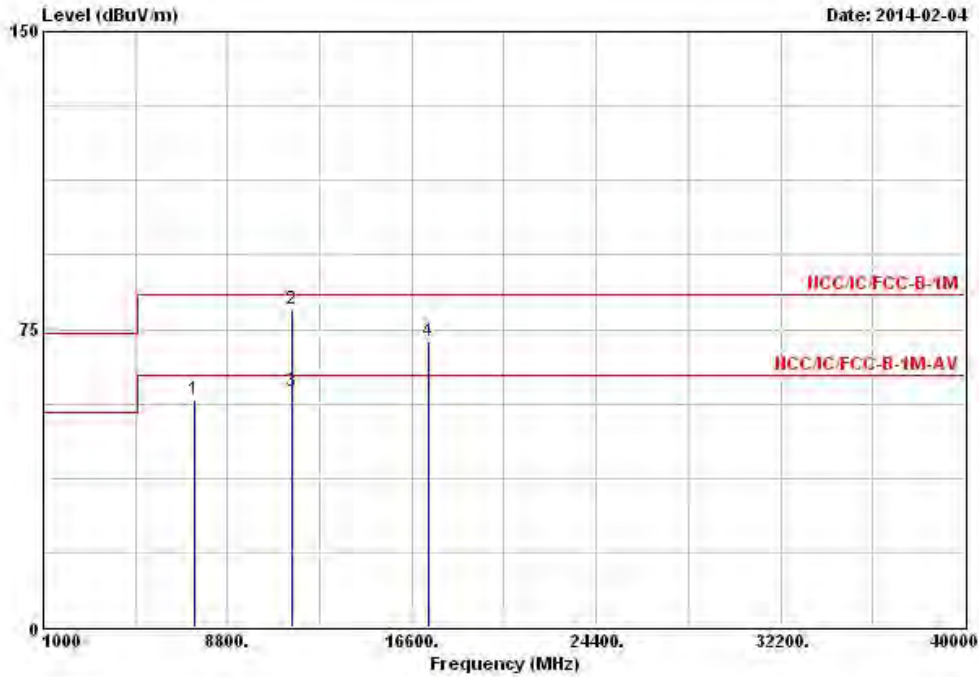
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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 (141.77 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT80	Test Freq. (MHz)	5775
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	7398.000	57.45			45.64	37.16	7.34	32.69	Peak	---	---
2	11550.000	79.91	-3.63	83.54	62.16	40.06	10.04	32.35	Peak	---	---
3	11550.000	59.53	-4.01	63.54	41.78	40.06	10.04	32.35	Average	---	---
4	17325.000	72.13			47.17	44.52	11.85	31.41	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 (141.77 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. 25, 2014	Conducted (TH01-HY)
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jul. 16, 2013	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Jun. 27, 2013	Conducted (TH01-HY)
RF Cable-2m	HUBER+SUHNER	SUCOFLEX_104	SN 345673/4	30MHz ~ 26.5GHz	Dec. 02, 2013	Conducted (TH01-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	03CH03-HY	30MHz ~ 1GHz 3m	Nov. 30, 2013	Radiation (03CH03-HY)
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	May. 03, 2013	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1GHz ~ 26.5GHz	Aug. 20, 2013	Radiation (03CH03-HY)
Spectrum	R&S	FSP40	100004	9kHz ~ 40GHz	Mar. 11, 2013	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 21, 2013	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	May 31, 2013	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15GHz ~ 40GHz	Jan. 10, 2014	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Jan. 17, 2013	Radiation (03CH03-HY)
RF Cable-high	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz ~ 40GHz	Dec. 11, 2013	Radiation (03CH03-HY)
Turn Table	EM Electronics	EM Electronics	060615	0 ~ 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	MF	MF-7802	MF780208179	1 ~ 4 m	N/A	Radiation (03CH03-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	EM	EM18G40G	060604	18GHz ~ 40GHz	Oct. 17, 2013	Radiation (03CH03-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9kHz ~ 30MHz	Dec. 02, 2012	Radiation (03CH03-HY)

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