FCC Test Report

Equipment	:	**AC1900 Wireless Dual Band Gigabit Router**
Brand Name	:	**TP-LINK**
Model No.	:	**Archer C9**
FCC ID	:	**TE7C9V2**
Standard	:	**47 CFR FCC Part 15.247**
Operating Band	:	**5725 MHz – 5850 MHz**
Equipment Class	:	**DTS**
Applicant Manufacturer	:	**TP-LINK TECHNOLOGIES CO., LTD.** Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China

The product sample received on Aug. 05, 2015 and completely tested on Sep. 16, 2015. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Reviewed by:

Kevin Liang / Assistant Manager

Testing Laboratory
1190

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APPENDIX A. TEST PHOTOS

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Summary of Test Result

Conformance Test Specifications					
Report Clause	**Ref. Std. Clause**	**Description**	**Measured**	**Limit**	**Result**
1.1.2	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	[dBuV]: 0.1730690MHz 41.70(Margin 13.11dB) - AV 57.37 (Margin 7.44dB) - QP	FCC 15.207	Complied
3.2	15.247(a)	6 dB Bandwidth	6dB Bandwidth [MHz] **(non-beamforming)** a/n(HT20):16.35 n(HT40):36.28 ac(VHT20):17.58 ac(VHT40):35.76 ac(VHT80): 74.80 **(beamforming)** ac(VHT20):17.61 ac(VHT40):36.36 ac(VHT80): 75.12	≥500kHz	Complied
3.3	15.247(b)	RF Output Power (Maximum Conducted Output Power)	**(non-beamforming)** Power [dBm]:29.95 **(beamforming)** Power [dBm]:29.42	Power [dBm]:30	Complied
3.4	15.247(e)	Power Spectral Density	PSD [dBm/100kHz]: **(non-beamforming)**:-2.32 **(beamforming)**:0.32	PSD [dBm/3kHz]:8	Complied
3.5	15.247(d)	Transmitter Bandedge Emissions	Non-Restricted Bands: **(non-beamforming)** 5724.520MHz: 30.22dB **(beamforming)** 5723.200MHz: 30.14dB	Non-Restricted Bands: > 30 dBc Restricted Bands: FCC 15.209	Complied
3.6	15.247(d)	Transmitter Radiated Unwanted Emissions	Restricted Bands [dBuV/m at 3m]: 47.460MHz 36.89 (Margin 3.11dB) - QP	Non-Restricted Bands: > 30 dBc Restricted Bands: FCC 15.209	Complied

Revision History

Report No.	Version	Description	Issued Date
FR580516AI	Rev. 01	Initial issue of report	Nov. 12, 2015

1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information (non-beamforming)						
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N_{TX})	RF Output Power (dBm)	Co-location
5725-5850	a	5745-5825	149-165 [5]	3	29.95	Yes
5725-5850	n (HT20)	5745-5825	149-165 [5]	3	29.94	Yes
5725-5850	n (HT40)	5755-5795	151-159 [2]	3	29.81	Yes
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	3	29.91	Yes
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	3	29.77	Yes
5725-5850	ac (VHT80)	5775	155 [1]	3	27.45	Yes

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

RF General Information (beamforming)					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N_{TX})	RF Output Power (dBm)
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	3	29.34
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	3	29.68
5725-5850	ac (VHT80)	5775	155 [1]	3	26.72

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

1.1.2 Antenna Information

Antenna Category	
☐	Integral antenna (antenna permanently attached)
	☐ Temporary RF connector provided
	☐ No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path.
☒	External antenna (dedicated antennas)
	☐ Single power level with corresponding antenna(s).
	☒ Multiple power level and corresponding antenna(s).

Antenna General Information (non-beamforming)				
No.	**Ant. Cat.**	**Ant. Type**	**Ant. Connector**	**Gain (dBi)**
1	External	Dipole	Reverse SMA	1.62
2	External	Dipole	Reverse SMA	1.62
3	External	Dipole	Reverse SMA	1.62
Remark: 11a/n/ac only includes 3TX to emission. IEEE 802.11n/ac has the CDD function.				

Antenna General Information (beamforming)				
No.	**Ant. Cat.**	**Ant. Type**	**Ant. Connector**	**Gain (dBi)**
1	External	Dipole	Reverse SMA	6.39
2	External	Dipole	Reverse SMA	6.39
3	External	Dipole	Reverse SMA	6.39
Remark: 11a/n/ac only includes 3TX to emission. IEEE 802.11n/ac has the CDD function.				

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 (non-beamforming)	
☐ 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)**
☒ 100.00% - IEEE 802.11a	0.00
☒ 100.00% - IEEE 802.11n (HT20)	0.00
☒ 100.00% - IEEE 802.11n (HT40)	0.00
☒ 100.00% - IEEE 802.11ac (VHT20)	0.00
☒ 100.00% - IEEE 802.11ac (VHT40)	0.00
☒ 100.00% - IEEE 802.11ac (VHT80)	0.00

Operated Mode for Worst Duty Cycle (beamforming)	
☐ 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)**
☒ 100.00% - IEEE 802.11ac (VHT20)	0.00
☒ 100.00% - IEEE 802.11ac (VHT40)	0.00
☒ 100.00% - IEEE 802.11ac (VHT80)	0.00

1.1.5 EUT Operational Condition

Supply Voltage	☒ AC mains	☐ DC	
Type of DC Source	☐ Internal DC supply	☒ External AC adapter	☐ Battery

1.2 Accessories and Support Equipment

Accessories Information				
AC Adapter	Brand Name	TEN PAO	Model Name	S048CU1200330
	Power Rating	I/P:100 - 240Vac, 1.5A, O/P:12Vdc, 3.3A		
	Power Cord	1.5meter, non-shielded cable, w/o ferrite core		

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

(non-beamforming)

Support Equipment - RF Conducted				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E5540	DoC
2	Adapter for Notebook	DELL	HA65NM130	DoC

(beamforming)

Support Equipment - RF Conducted				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E5540	DoC
2	Adapter for Notebook	DELL	HA65NM130	DoC
3	PC	HP	Z201	NA

Note：The PC provides is by customer.

Support Equipment - AC Conduction and Radiated Emission				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook (Remote)	DELL	E5530	DoC
2	Adapter for Notebook (Remote)	DELL	LA65NS2-01	DoC
3	PC (Remote)	HP	Z201	NA

Note：The PC provides is by customer.

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 C63.10-2013
- FCC KDB 558074
- FCC KDB 789033 D01 v01r04
- FCC KDB 644545 D01 v01r02
- FCC KDB 662911 D01 v02r01

1.4 Testing Location Information

Testing Location					
☒	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973			
Test site registered number [636805] with FCC.					
Test Condition		**Test Site No.**	**Test Engineer**	**Test Environment**	
AC Conduction		CO04-HY	Zeus	22℃ / 62%	
RF Conducted		TH06-HY	Leo	25.4℃ / 63% (non-beamforming)	
RF Conducted		TH06-HY	Rory	22.8℃ / 63% (beamforming)	
Radiated Emission		03CH03-HY	Hunter	26°C / 64.1%	

1.5 Measurement Uncertainty

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

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

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

Worst Modulation Used for Conformance Testing (non-beamforming)			
Modulation Mode	**Transmit Chains (N_{TX})**	**Data Rate / MCS**	**Worst Data Rate / MCS**
11a	3	6-54Mbps	6 Mbps
HT20	3	MCS 0-23	MCS 0
HT40	3	MCS 0-23	MCS 0
VHT20	3	MCS 0-8	MCS 0
VHT40	3	MCS 0-9	MCS 0
VHT80	3	MCS 0-9	MCS 0

Worst Modulation Used for Conformance Testing (beamforming)			
Modulation Mode	**Transmit Chains (N_{TX})**	**Data Rate / MCS**	**Worst Data Rate / MCS**
VHT20	3	MCS 0-8	MCS 0
VHT40	3	MCS 0-9	MCS 0
VHT80	3	MCS 0-9	MCS 0

2.2 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter (5725-5850MHz band) (non-beamforming)							
Test Software Version	MTool_2.0.1.1						
Modulation Mode	N_{TX}	Test Frequency (MHz)					
		NCB: 20MHz			NCB: 40MHz		NCB: 80MHz
		5745	5785	5825	5755	5795	5775
11a	3	97	98	99	-	-	-
HT20	3	97	98	96	-	-	-
HT40	3	-	-	-	90	99	-
VHT20	3	97	98	96	-	-	-
VHT40	3	-	-	-	90	98	-
VHT80	3	-	-	-	-	-	89

The Worst Case Power Setting Parameter (5725-5850MHz band) (beamforming)							
Test Software Version	DOS						
Modulation Mode	N_{TX}	Test Frequency (MHz)					
		NCB: 20MHz			NCB: 40MHz		NCB: 80MHz
		5745	5785	5825	5755	5795	5775
VHT20	3	97	97	97	-	-	-
VHT40	3	-	-	-	90	97	-
VHT80	3	-	-	-	-	-	86

2.3 The Worst Case Measurement Configuration

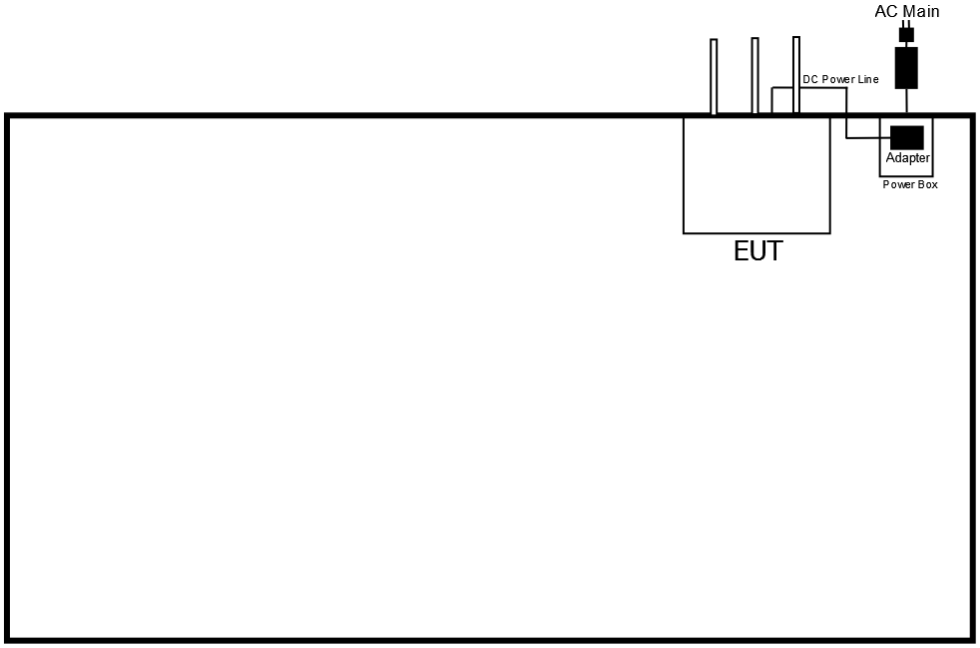
The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Operating Mode Description
1	Adapter Mode and Transmit (non-beamforming)
2	Adapter Mode and Transmit (beamforming)

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

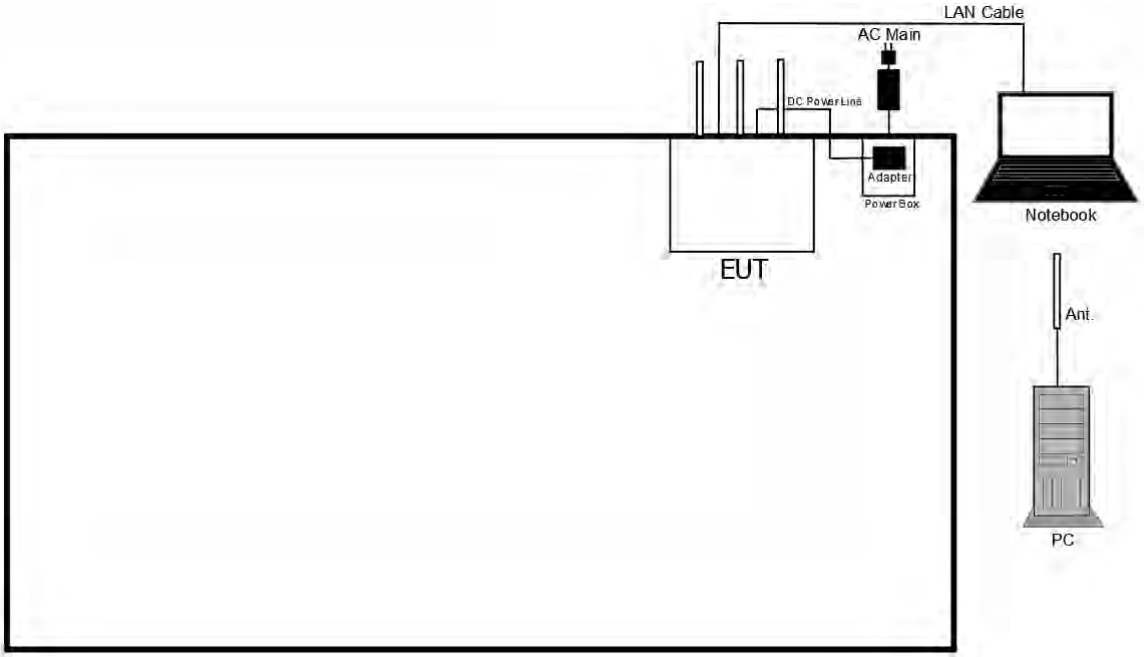
The Worst Case Mode for Following Conformance Tests			
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions		
Test Condition	Radiated measurement		
User Position	☐ EUT will be placed in fixed position.		
	☒ EUT will be placed in mobile position and operating multiple positions. EUT shall be performed three orthogonal planes.		
	☐ EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions.		
Operating Mode	Operating Mode Description		
1	Adapter Mode and Transmit (non-beamforming)		
2	Adapter Mode and Transmit (beamforming)		
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
Worst Planes of EUT		V	

2.4 Test Setup Diagram

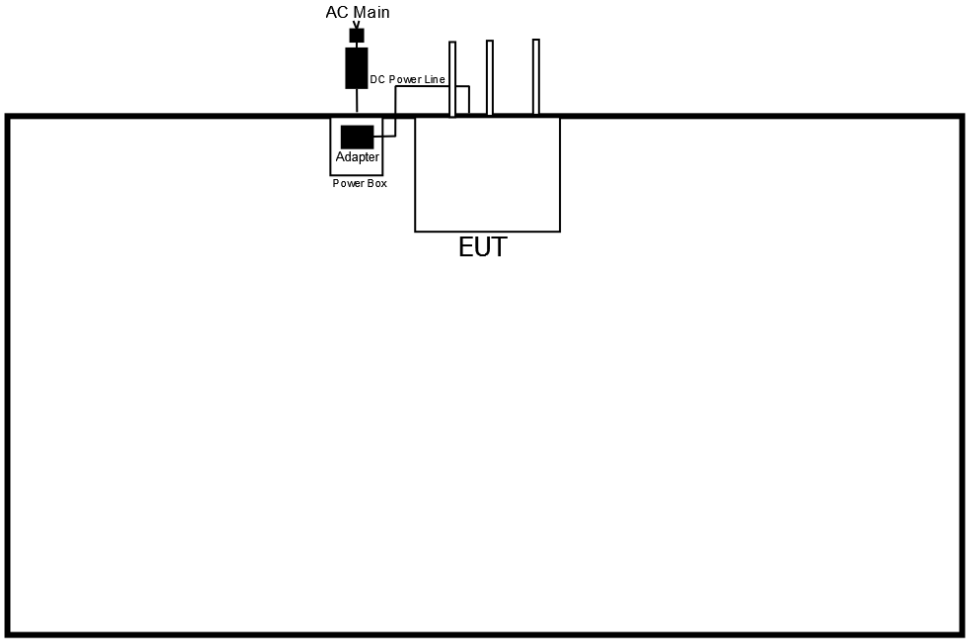
Test Setup Diagram – AC Line Conducted Emission Test - Mode 1



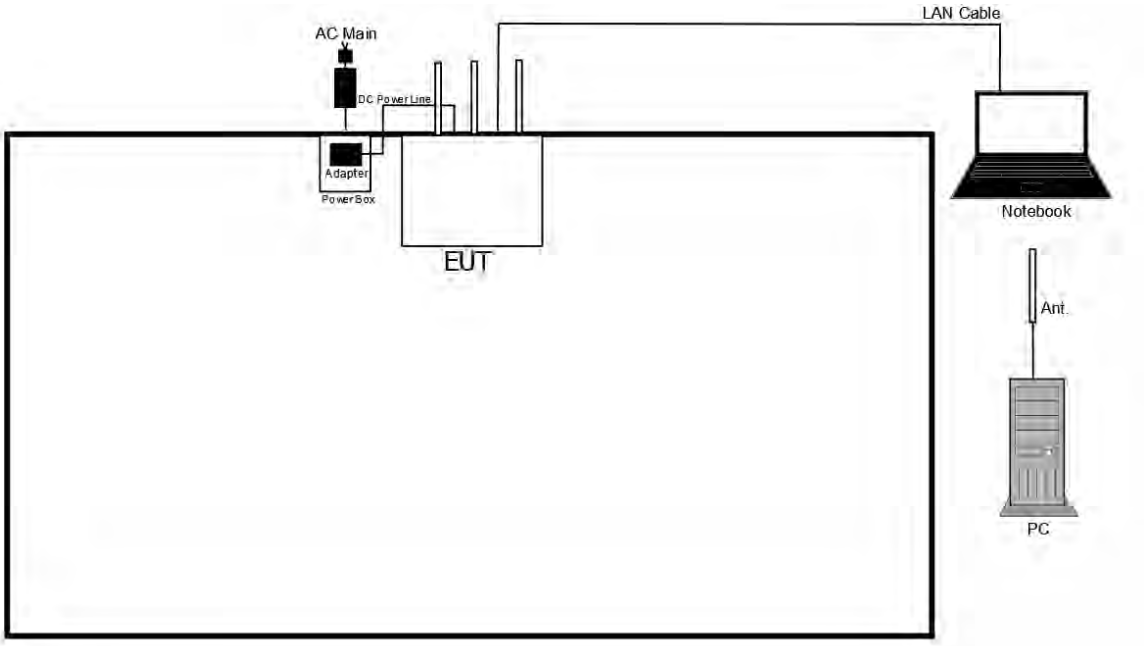
Test Setup Diagram – AC Line Conducted Emission Test - Mode 2



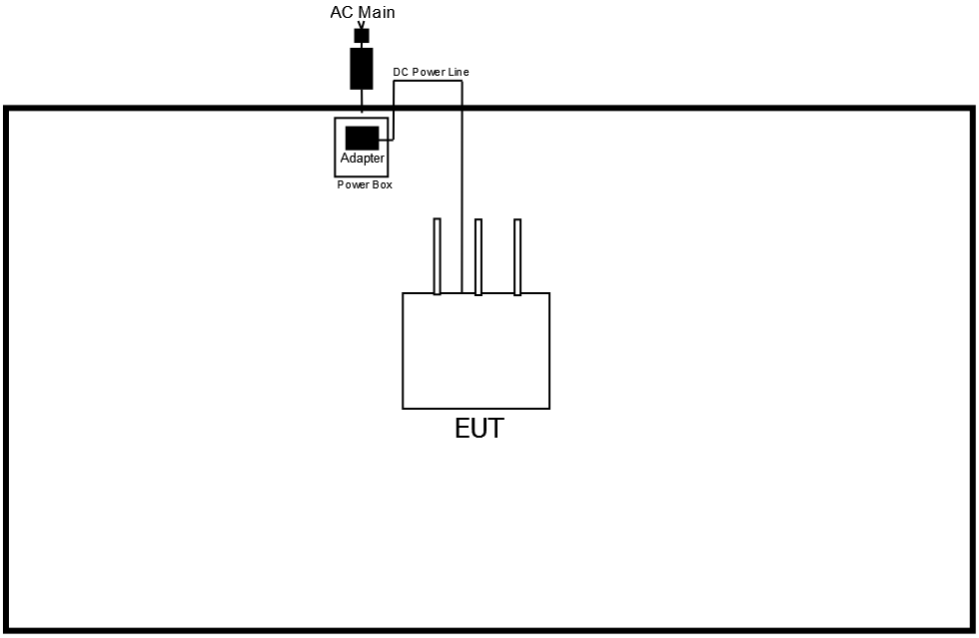
Test Setup Diagram - Radiated Emission (Below 1GHz) - Mode 1



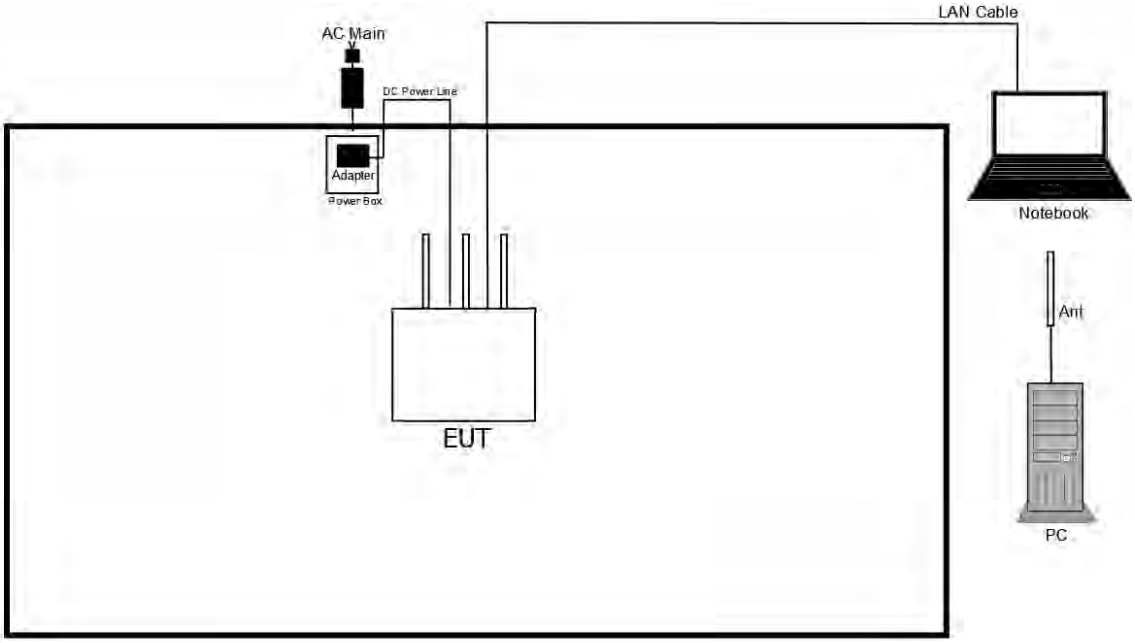
Test Setup Diagram - Radiated Emission (Below 1GHz) - Mode 2



Test Setup Diagram - Radiated Emission (Above 1GHz) - Mode 1



Test Setup Diagram - Radiated Emission (Above 1GHz) - Mode 2



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

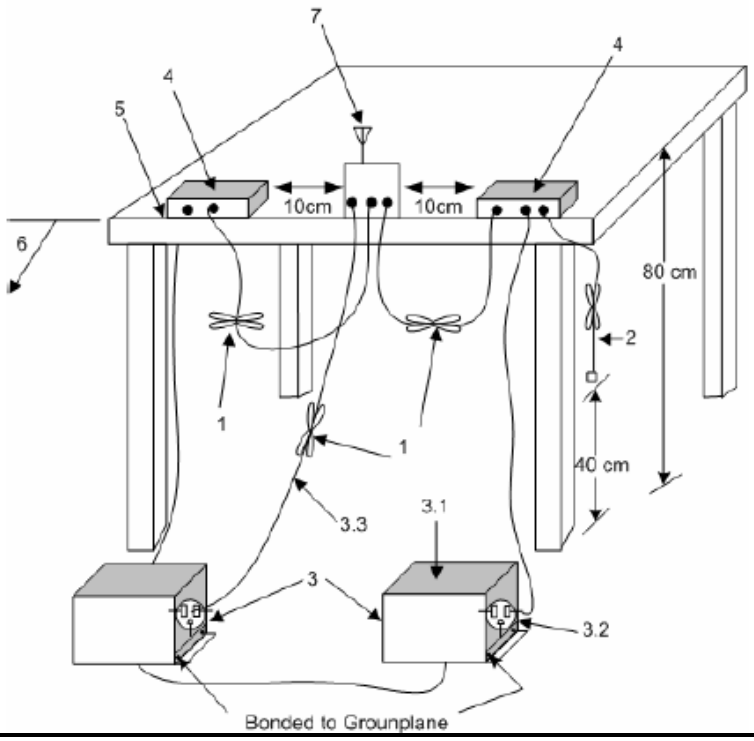
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

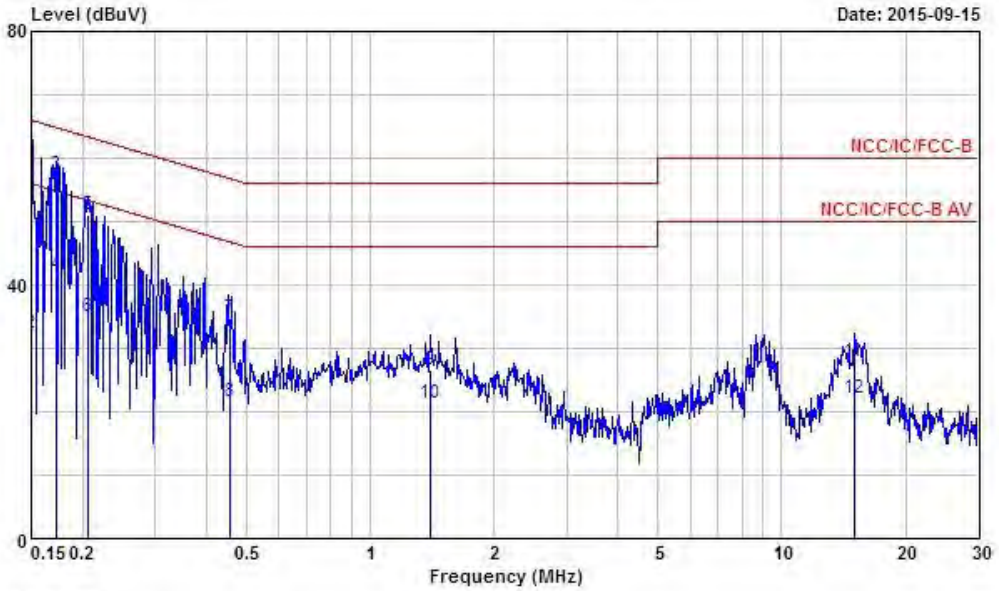
3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

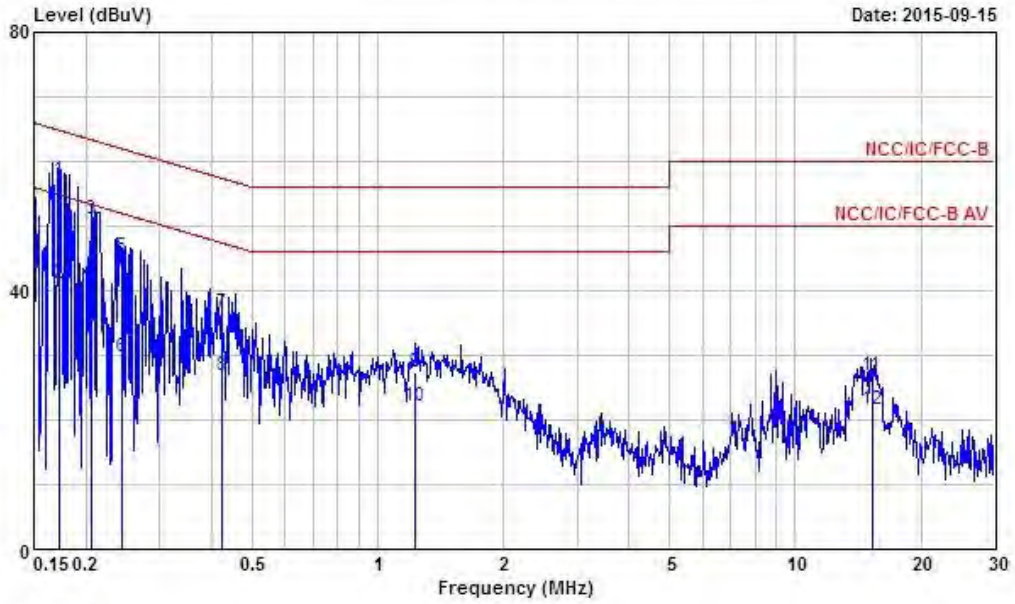
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	Adapter Mode and Transmit (non-beamforming)		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1500000	55.30	-10.70	66.00	55.23	0.07	0.00	QP
2	0.1500000	32.34	-23.66	56.00	32.27	0.07	0.00	Average
3	0.1730690	57.37	-7.44	64.81	57.30	0.07	0.00	QP
4	0.1730690	41.70	-13.11	54.81	41.63	0.07	0.00	Average
5	0.2061360	51.10	-12.26	63.36	51.03	0.07	0.00	QP
6	0.2061360	34.88	-18.48	53.36	34.81	0.07	0.00	Average
7	0.4547500	34.61	-22.18	56.79	34.54	0.07	0.00	QP
8	0.4547500	21.68	-25.11	46.79	21.61	0.07	0.00	Average
9	1.400	26.60	-29.40	56.00	26.51	0.09	0.00	QP
10	1.400	21.39	-24.61	46.00	21.30	0.09	0.00	Average
11	14.998	27.99	-32.01	60.00	27.66	0.33	0.00	QP
12	14.998	22.20	-27.80	50.00	21.87	0.33	0.00	Average

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

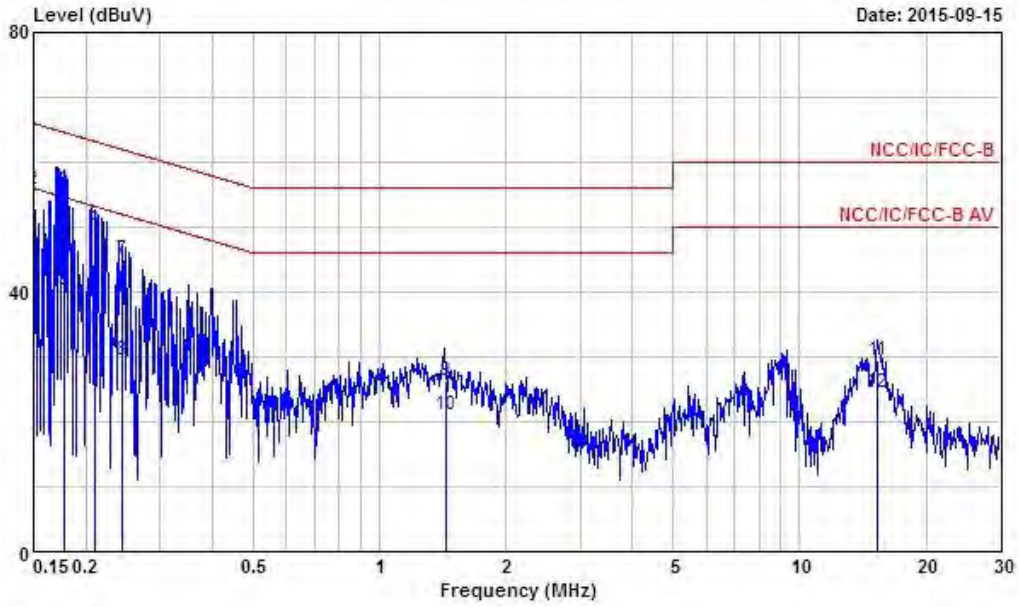
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line
Operating Function	Adapter Mode and Transmit (non-beamforming)		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1727680	57.07	-7.76	64.83	57.02	0.05	0.00	QP
2	0.1727680	40.96	-13.87	54.83	40.91	0.05	0.00	Average
3	0.2061360	50.99	-12.37	63.36	50.93	0.06	0.00	QP
4	0.2061360	34.37	-18.99	53.36	34.31	0.06	0.00	Average
5	0.2429810	45.22	-16.77	61.99	45.16	0.06	0.00	QP
6	0.2429810	29.81	-22.18	51.99	29.75	0.06	0.00	Average
7	0.4215300	36.52	-20.90	57.42	36.45	0.07	0.00	QP
8	0.4215300	26.72	-20.70	47.42	26.65	0.07	0.00	Average
9	1.226	27.35	-28.65	56.00	27.26	0.09	0.00	QP
10	1.226	22.10	-23.90	46.00	22.01	0.09	0.00	Average
11	15.262	26.86	-33.14	60.00	26.55	0.31	0.00	QP
12	15.262	21.45	-28.55	50.00	21.14	0.31	0.00	Average

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

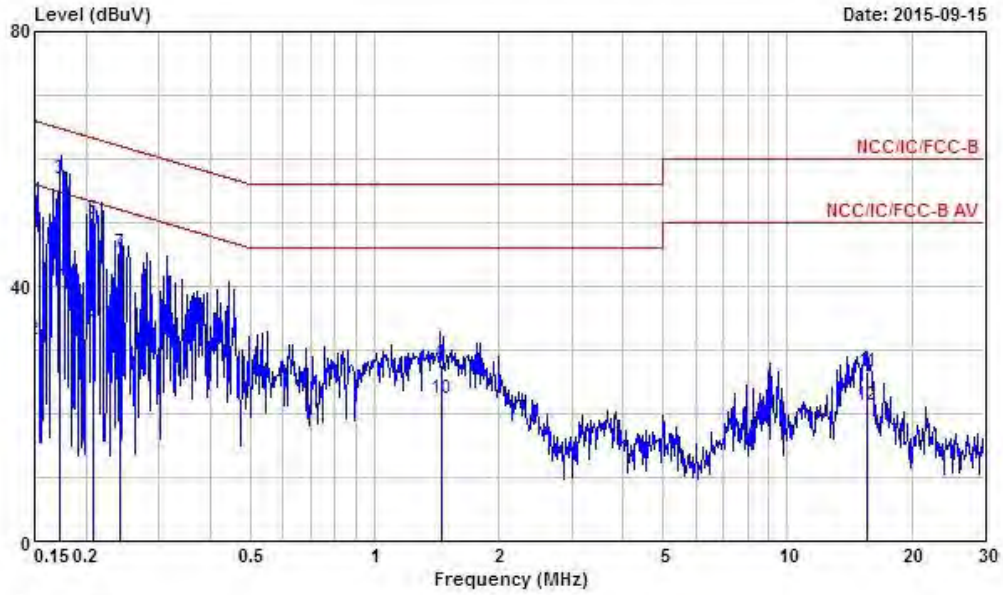
AC Power-line Conducted Emissions Result			
Operating Mode	2	**Power Phase**	Neutral
Operating Function	Adapter Mode and Transmit (beamforming)		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1500000	32.78	-23.22	56.00	32.71	0.07	0.00	Average
2	0.1500000	55.81	-10.19	66.00	55.74	0.07	0.00	QP
3	0.1767400	40.15	-14.49	54.64	40.08	0.07	0.00	Average
4	0.1767400	56.18	-8.46	64.64	56.11	0.07	0.00	QP
5	0.2105360	50.39	-12.79	63.18	50.32	0.07	0.00	QP
6	0.2105360	34.24	-18.94	53.18	34.17	0.07	0.00	Average
7	0.2436010	45.03	-16.94	61.97	44.96	0.07	0.00	QP
8	0.2436010	29.44	-22.53	51.97	29.37	0.07	0.00	Average
9	1.443	26.45	-29.55	56.00	26.35	0.10	0.00	QP
10	1.443	21.16	-24.84	46.00	21.06	0.10	0.00	Average
11	15.352	29.59	-30.41	60.00	29.25	0.34	0.00	QP
12	15.352	24.38	-25.62	50.00	24.04	0.34	0.00	Average

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

AC Power-line Conducted Emissions Result			
Operating Mode	2	**Power Phase**	Line
Operating Function	Adapter Mode and Transmit (beamforming)		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1500000	55.76	-10.24	66.00	55.71	0.05	0.00	QP
2	0.1500000	31.53	-24.47	56.00	31.48	0.05	0.00	Average
3	0.1731880	56.93	-7.88	64.81	56.87	0.06	0.00	QP
4	0.1731880	41.13	-13.68	54.81	41.07	0.06	0.00	Average
5	0.2085070	50.62	-12.64	63.26	50.56	0.06	0.00	QP
6	0.2085070	34.58	-18.68	53.26	34.52	0.06	0.00	Average
7	0.2413320	45.22	-16.83	62.05	45.16	0.06	0.00	QP
8	0.2413320	29.51	-22.54	52.05	29.45	0.06	0.00	Average
9	1.459	27.50	-28.50	56.00	27.41	0.09	0.00	QP
10	1.459	22.44	-23.56	46.00	22.35	0.09	0.00	Average
11	15.623	26.55	-33.45	60.00	26.24	0.31	0.00	QP
12	15.623	21.43	-28.57	50.00	21.12	0.31	0.00	Average

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

3.2 6dB Bandwidth

3.2.1 6dB Bandwidth Limit

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

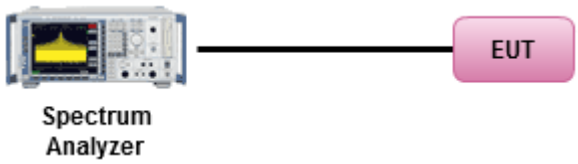
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method			
☒	For the emission bandwidth shall be measured using one of the options below:		
	☒	Refer as FCC KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.	
	☐	Refer as FCC KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.	
	☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.	
☒	For conducted measurement.		
	☐	The EUT supports single transmit chain and measurements performed on this transmit chain1.	
	☐	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

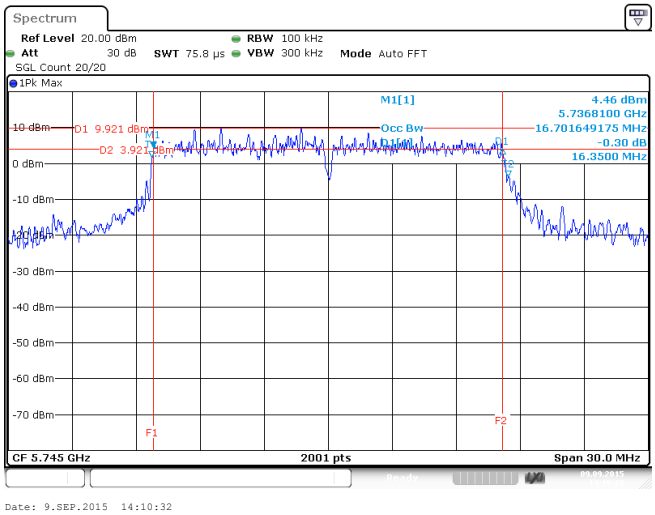
Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

UNII Emission Bandwidth Result (5725-5850MHz band) (non-beamforming)								
Condition			Emission Bandwidth (MHz)					
Modulation Mode	N_{TX}	Freq. (MHz)	99% Bandwidth(MHz)			6dB Bandwidth(MHz)		
			Chain Port 1	Chain Port 2	Chain Port 3	Chain Port 1	Chain Port 2	Chain Port 3
11a	3	5745	16.64	16.55	16.70	16.56	16.50	16.35
11a	3	5785	16.67	16.62	16.64	16.54	16.53	16.48
11a	3	5825	16.88	16.70	17.24	16.50	16.59	16.53
HT20	3	5745	17.72	17.67	17.81	17.68	17.70	17.74
HT20	3	5785	17.82	17.73	17.85	17.74	17.55	17.77
HT20	3	5825	17.75	17.72	17.76	17.68	17.58	17.79
HT40	3	5755	36.26	36.18	36.26	36.36	36.36	36.36
HT40	3	5795	36.34	36.30	36.46	36.48	36.44	36.28
VHT20	3	5745	17.75	17.69	17.79	17.73	17.64	17.70
VHT20	3	5785	17.75	17.72	17.81	17.58	17.73	17.65
VHT20	3	5825	17.72	17.69	17.78	17.64	17.70	17.79
VHT40	3	5755	36.26	36.22	36.26	36.32	36.32	36.32
VHT40	3	5795	36.34	36.30	36.46	35.76	36.32	36.32
VHT80	3	5775	75.48	75.48	75.56	75.04	76.32	74.80
Limit			-			≥ 500 kHz		
Result			Complied					

UNII Emission Bandwidth Result (5725-5850MHz band) (beamforming)								
Condition			Emission Bandwidth (MHz)					
Modulation Mode	N_{TX}	Freq. (MHz)	99% Bandwidth(MHz)			6dB Bandwidth(MHz)		
			Chain Port 1	Chain Port 2	Chain Port 3	Chain Port 1	Chain Port 2	Chain Port 3
VHT20	3	5745	17.75	17.72	17.72	17.71	17.67	17.68
VHT20	3	5785	17.82	17.76	17.75	17.68	17.77	17.61
VHT20	3	5825	17.76	17.73	17.67	17.68	17.70	17.76
VHT40	3	5755	36.26	36.26	36.22	36.36	36.36	36.44
VHT40	3	5795	36.38	36.34	36.34	36.36	36.36	36.40
VHT80	3	5775	75.56	75.64	75.40	76.40	75.12	75.84
Limit			-			≥ 500 kHz		
Result			Complied					

5725-5850MHz - Worst Emission 6Bandwidth Plots (non-beamforming)



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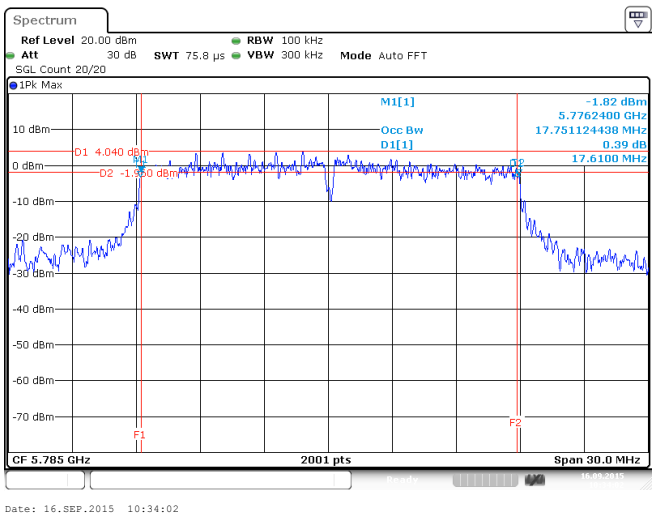
5725-5850MHz - Worst Emission 6Bandwidth Plots (beamforming)



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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

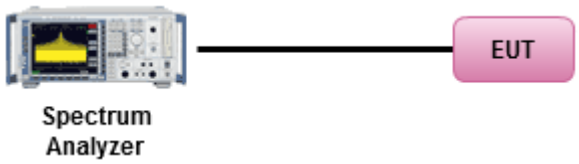
Refer a test equipment and calibration data table in this test report.

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 9.1.3 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 chain1.
	☐ 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 Directional Gain for Power Measurement

Directional Gain (DG) Result (non-beamforming)					
Transmit Chains No.		1	2	3	-
Maximum G_{ANT} (dBi)		1.62	1.62	1.62	-
Modulation Mode	**DG (dBi) (See the Note 3)**	**N_{TX}**	**N_{SS} (Min.)**	**STBC**	**Array Gain (dB)**
11a	1.62	3	1	-	0.00
HT20	1.62	3	1	-	0.00
HT40	1.62	3	1	-	0.00
VHT20	1.62	3	1	-	0.00
VHT40	1.62	3	1	-	0.00
VHT80	1.62	3	1	-	0.00

Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain = G_{ANT} + 10 log(N_{TX})
All transmit signals are completely uncorrelated, Directional Gain = G_{ANT}
Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain =10 log[$(10^{G1/20} + \ldots + 10^{GN/20})^2 / N_{TX}$]
All transmit signals are completely uncorrelated, Directional Gain = 10 log[$(10^{G1/10} + \ldots + 10^{GN/10})/N_{TX}$]
Note 3: For Spatial Multiplexing, Directional Gain (DG) = G_{ANT} + 10 log(N_{TX}/N_{SS}),
where Nss = the number of independent spatial streams data.
Note 4: For CDD transmissions, directional gain is calculated as power measurements:
Directional Gain (DG) = G_{ANT} + Array Gain, where Array Gain is as follows:
Array Gain = 0 dB (i.e., no array gain) for $N_{TX} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{TX};

Directional Gain (DG) Result (beamforming)					
Transmit Chains No.		1	2	3	-
Maximum G_{ANT} (dBi)		6.39	6.39	6.39	-
Modulation Mode	**DG (dBi) (See the Note 3)**	**N_{TX}**	**N_{SS} (Min.)**	**STBC**	**Array Gain (dB)**
VHT20	6.39	3	1	-	0.00
VHT40	6.39	3	1	-	0.00
VHT80	6.39	3	1	-	0.00

Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain = G_{ANT} + 10 log(N_{TX})
All transmit signals are completely uncorrelated, Directional Gain = G_{ANT}
Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:
Any transmit signals are correlated, Directional Gain =10 log[$(10^{G1/20} + \ldots + 10^{GN/20})^2 / N_{TX}$]
All transmit signals are completely uncorrelated, Directional Gain = 10 log[$(10^{G1/10} + \ldots + 10^{GN/10})/N_{TX}$]
Note 3: For Spatial Multiplexing, Directional Gain (DG) = G_{ANT} + 10 log(N_{TX}/N_{SS}),
where Nss = the number of independent spatial streams data.
Note 4: For CDD transmissions, directional gain is calculated as power measurements:
Directional Gain (DG) = G_{ANT} + Array Gain, where Array Gain is as follows:
Array Gain = 0 dB (i.e., no array gain) for $N_{TX} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{TX};

3.3.6 Test Result of Maximum Conducted Output Power

Maximum Conducted Output Power (5725-5850MHz band) (non-beamforming)								
Modulation Mode	N_{TX}	Freq. (MHz)	Output Power (dBm)				Antenna Gain (dBi)	Power Limit
			Chain Port 1	Chain Port 2	Chain Port 3	Sum Chain		
11a	3	5745	25.14	24.58	25.13	29.73	1.62	30.00
11a	3	5785	25.09	25.01	24.98	29.80	1.62	30.00
11a	3	5825	25.19	25.16	25.18	29.95	1.62	30.00
HT20	3	5745	25.11	24.40	24.96	29.61	1.62	30.00
HT20	3	5785	25.21	25.17	25.14	29.94	1.62	30.00
HT20	3	5825	24.41	24.36	24.51	29.20	1.62	30.00
HT40	3	5755	23.16	22.85	23.09	27.81	1.62	30.00
HT40	3	5795	24.92	24.89	25.05	29.73	1.62	30.00
VHT20	3	5745	24.95	24.49	24.97	29.58	1.62	30.00
VHT20	3	5785	25.18	25.14	25.10	29.91	1.62	30.00
VHT20	3	5825	24.35	24.35	24.51	29.18	1.62	30.00
VHT40	3	5755	23.21	22.66	23.22	27.81	1.62	30.00
VHT40	3	5795	24.91	25.05	25.03	29.77	1.62	30.00
VHT80	3	5775	22.67	22.32	23.01	27.45	1.62	30.00
Result			Complied					

Maximum Conducted Output Power (5725-5850MHz band) (beamforming)								
Modulation Mode	N_{TX}	Freq. (MHz)	Output Power (dBm)				Antenna Gain (dBi)	Power Limit
			Chain Port 1	Chain Port 2	Chain Port 3	Sum Chain		
VHT20	3	5745	24.87	24.05	24.75	29.34	6.39	29.61
VHT20	3	5785	24.91	24.17	24.60	29.34	6.39	29.61
VHT20	3	5825	24.83	24.12	24.60	29.30	6.39	29.61
VHT40	3	5755	23.27	22.49	22.95	27.68	6.39	29.61
VHT40	3	5795	24.98	24.41	24.56	29.42	6.39	29.61
VHT80	3	5775	22.10	21.64	22.10	26.72	6.39	29.61
Result			Complied					

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

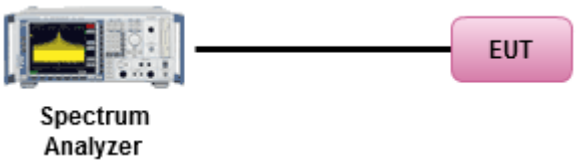
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

3.4.4 Test Setup

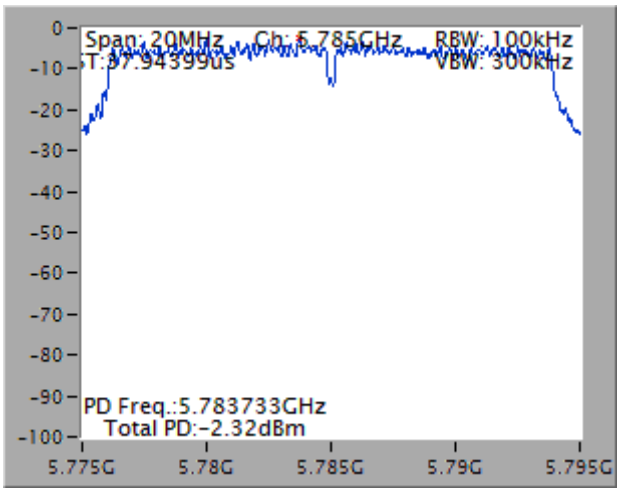
Power Spectral Density


3.4.5 Test Result of Power Spectral Density

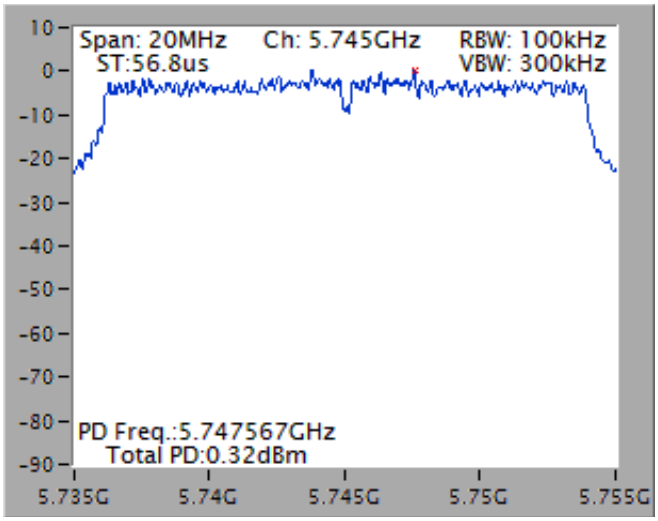
Peak Power Spectral Density Result (5725-5850MHz band) (non-beamforming)					
Modulation Mode	**N_{TX}**	**Freq. (MHz)**	**Peak Power Spectral Density (dBm/100kHz)**	**PSD Limit (3kHz)**	**Direct Gain (dBi)**
11a	**3**	5745	-3.24	8.00	6.39
11a	**3**	5785	-3.55	8.00	6.39
11a	**3**	5825	-3.25	8.00	6.39
HT20	**3**	5745	-3.27	8.00	6.39
HT20	**3**	5785	-3.39	8.00	6.39
HT20	**3**	5825	-4.23	8.00	6.39
HT40	**3**	5755	-4.65	8.00	6.39
HT40	**3**	5795	-4.24	8.00	6.39
VHT20	**3**	5745	-3.12	8.00	6.39
VHT20	**3**	5785	-2.32	8.00	6.39
VHT20	**3**	5825	-4.10	8.00	6.39
VHT40	**3**	5755	-4.64	8.00	6.39
VHT40	**3**	5795	-3.15	8.00	6.39
VHT80	**3**	5775	-12.14	8.00	6.39
Result			**Complied**		

Peak Power Spectral Density Result (5725-5850MHz band) (beamforming)					
Modulation Mode	**N_{TX}**	**Freq. (MHz)**	**Peak Power Spectral Density (dBm/100kHz)**	**PSD Limit (3kHz)**	**Direct Gain (dBi)**
VHT20	**3**	5745	0.32	8.00	6.39
VHT20	**3**	5785	-0.83	8.00	6.39
VHT20	**3**	5825	-0.91	8.00	6.39
VHT40	**3**	5755	-5.38	8.00	6.39
VHT40	**3**	5795	-2.97	8.00	6.39
VHT80	**3**	5775	-7.72	8.00	6.39
Result			**Complied**		

5725-5850MHz - Worst Power Spectral Density Plots (non-beamforming)



5725-5850MHz - Worst Power Spectral Density Plots (beamforming)

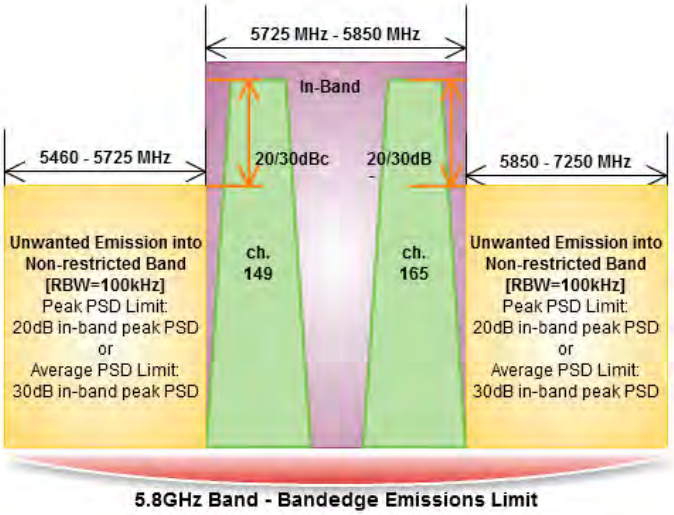


Note: 15.2dBm has been offset for 3kHz data.

3.5 Transmitter Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit

Transmitter Radiated Bandedge Emissions Limit



3.5.2 Measuring Instruments

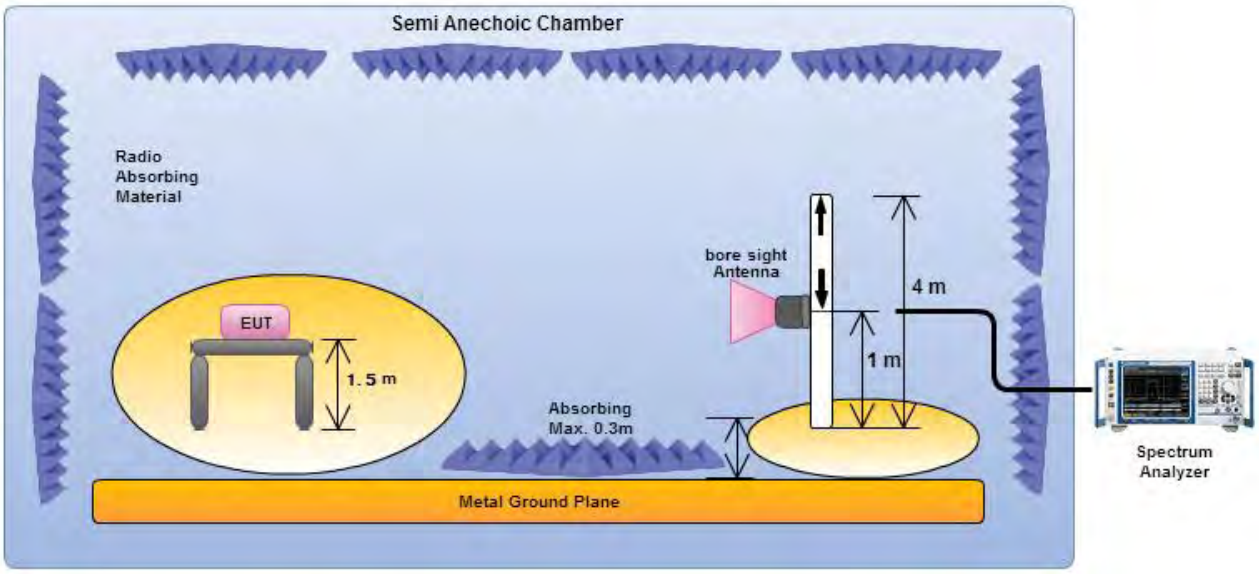
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method			
☒	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].		
☒	Refer as ANSI C63.10, clause 6.10 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.		
☒	For the transmitter unwanted emissions shall be measured using following options below:		
	☒	Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.	
	☒	Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.	
		☒	Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle ≥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 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐	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 3m.		
☒	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 30 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements). Measurements in the bandedge are typically made at a closer distance 3m, because the instrumentation noise floor is typically close to the radiated emission limit.		

3.5.4 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 (non-beamforming)								
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	3	5745	119.01	5724.520	88.79	30.22	30	V
11a	3	5825	118.99	5850.000	75.36	43.63	30	V
HT20	3	5745	119.10	5724.790	88.29	30.81	30	V
HT20	3	5825	116.68	5850.200	82.13	34.55	30	V
HT40	3	5755	109.96	5724.900	79.69	30.27	30	V
HT40	3	5795	114.46	5852.300	74.54	39.92	30	V
VHT20	3	5745	117.19	5724.520	86.72	30.47	30	V
VHT20	3	5825	117.52	5850.200	80.98	36.54	30	V
VHT40	3	5755	112.61	5724.200	81.91	30.70	30	V
VHT40	3	5795	114.80	5852.300	74.63	40.17	30	V
VHT80	3	5775	109.08	5850.200	74.84	34.24	30	V
Note 1: Measurement worst emissions of receive antenna polarization								

5725-5850MHz Transmitter Radiated Bandedge Emissions (beamforming)								
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.
VHT20	3	5745	115.88	5723.920	85.30	30.58	30	V
VHT20	3	5825	114.87	5850.280	74.89	39.98	30	V
VHT40	3	5755	110.94	5723.200	80.80	30.14	30	V
VHT40	3	5795	114.06	5852.500	74.60	39.46	30	V
VHT80	3	5775	106.78	5850.620	70.57	36.21	30	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 30 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

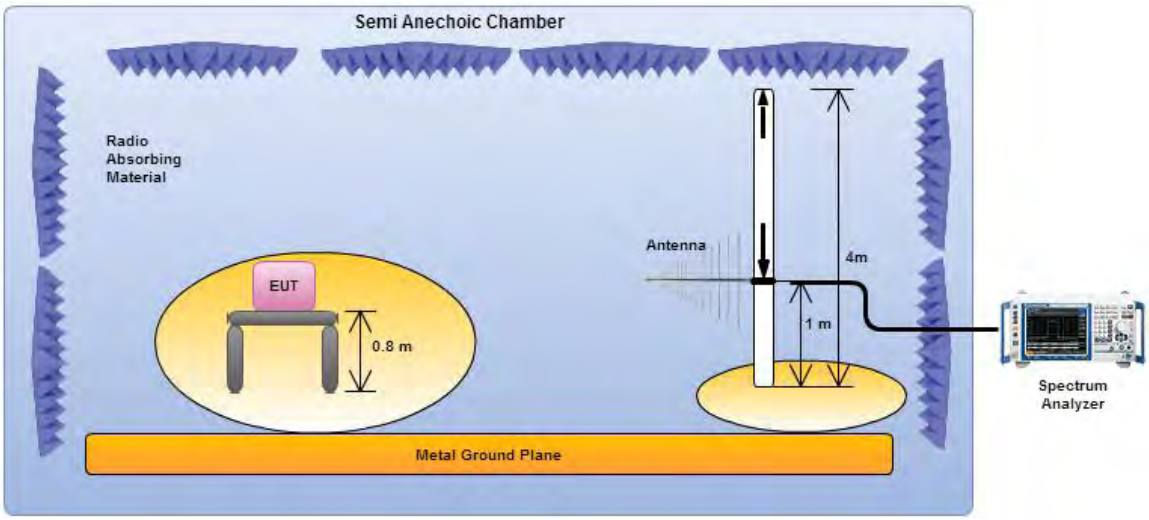
Refer a test equipment and calibration data table in this test report.

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 30 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 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☒	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 3m.	
☒	The any unwanted emissions level shall not exceed the fundamental emission level.		
☒	All amplitude of spurious emissions that are attenuated by more than 30 dB below the permissible value has no need to be reported.		

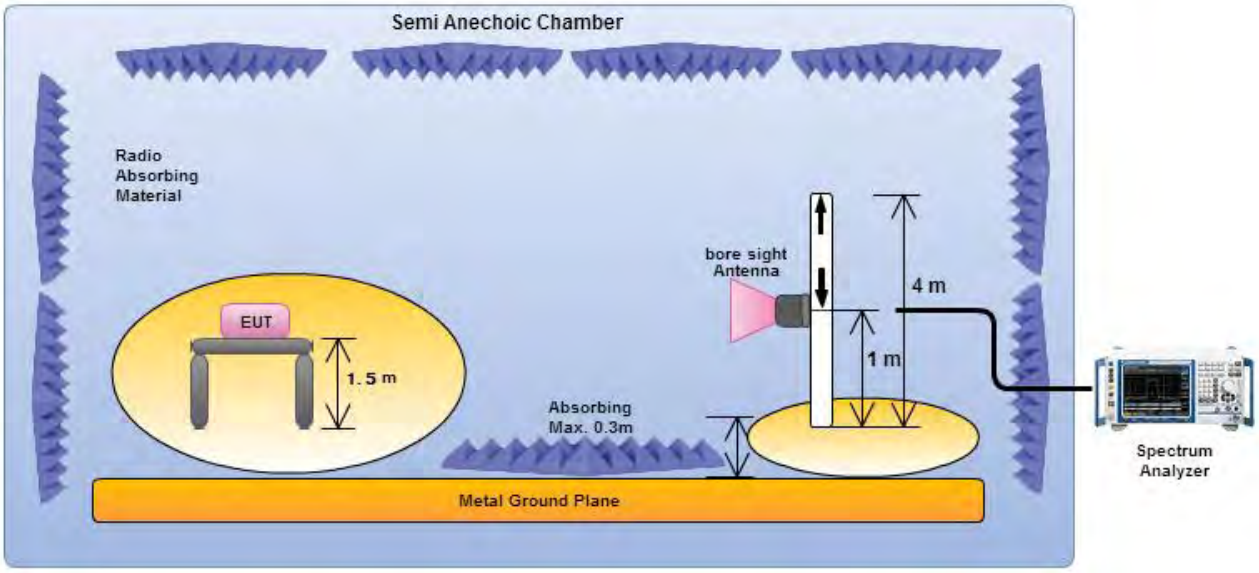
3.6.4 Test Setup

Transmitter Radiated Unwanted Emissions Below 1GHz



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.

Transmitter Radiated Unwanted Emissions Above 1GHz



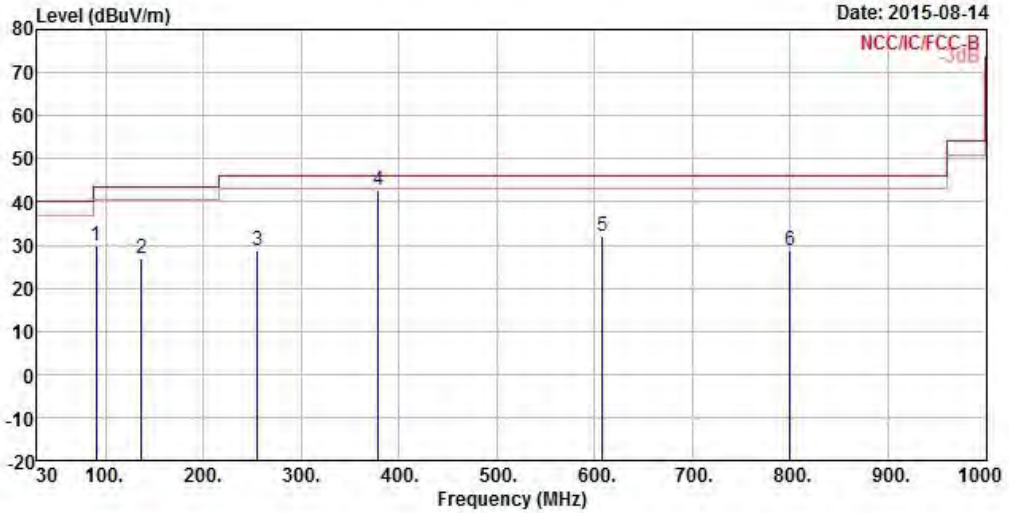
Electric field tests shall be performed in the frequency range of 1 GHz to 10th harmonic of highest fundamental frequency or 40 GHz using a calibrated horn antenna.

3.6.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 30 dB below the permissible value has no need to be reported.

3.6.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

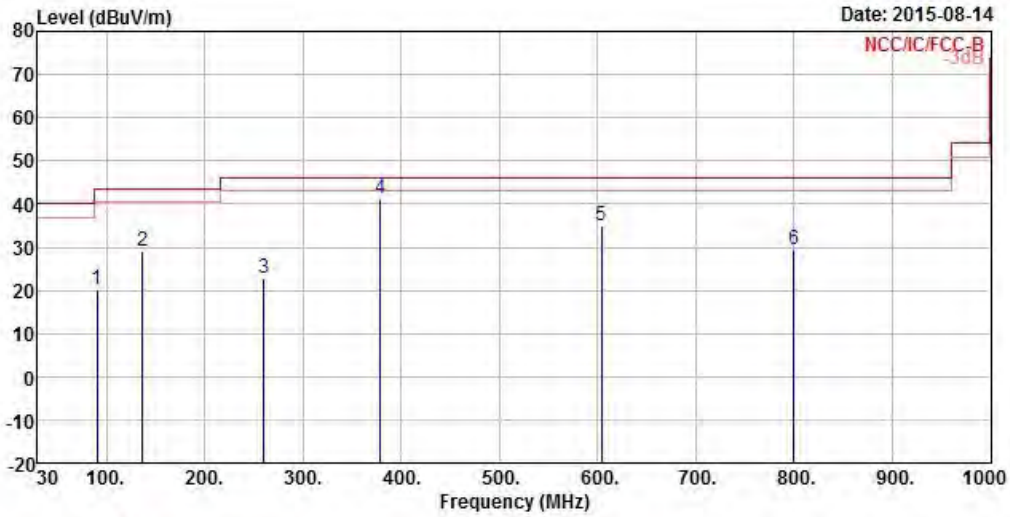
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	1	**Polarization**	V
Operating Function	Adapter Mode and Transmit (non-beamforming)		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	90.140	29.79	-13.71	43.50	46.91	8.72	1.54	27.38	Peak
2	136.700	27.05	-16.45	43.50	40.90	11.42	1.93	27.20	Peak
3	255.040	28.81	-17.19	46.00	40.28	12.69	2.64	26.80	Peak
4	379.200	42.72	-3.28	46.00	52.10	14.56	3.25	27.19	Peak
5	608.120	32.10	-13.90	46.00	37.58	18.32	4.18	27.98	Peak
6	800.180	28.77	-17.23	46.00	32.20	19.44	4.92	27.79	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: No level of unwanted emissions exceeds the level of the fundamental emission.

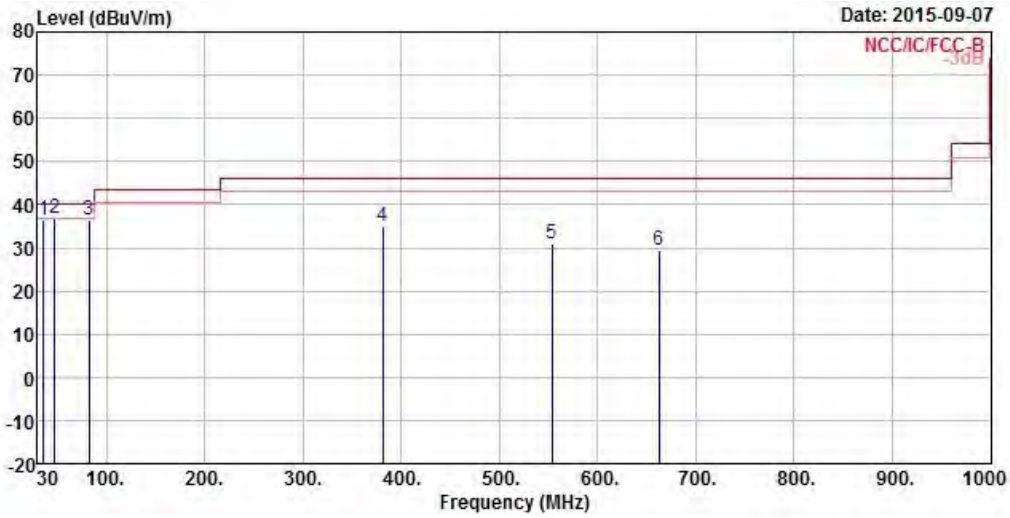
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	1	**Polarization**	H
Operating Function	Adapter Mode and Transmit (non-beamforming)		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	90.140	20.33	-23.17	43.50	37.45	8.72	1.54	27.38	Peak
2	136.700	29.15	-14.35	43.50	43.00	11.42	1.93	27.20	Peak
3	259.890	22.68	-23.32	46.00	33.52	13.27	2.67	26.78	Peak
4	379.200	41.09	-4.91	46.00	50.47	14.56	3.25	27.19	Peak
5	604.240	35.11	-10.89	46.00	40.68	18.25	4.17	27.99	Peak
6	800.180	29.34	-16.66	46.00	32.77	19.44	4.92	27.79	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: No level of unwanted emissions exceeds the level of the fundamental emission.

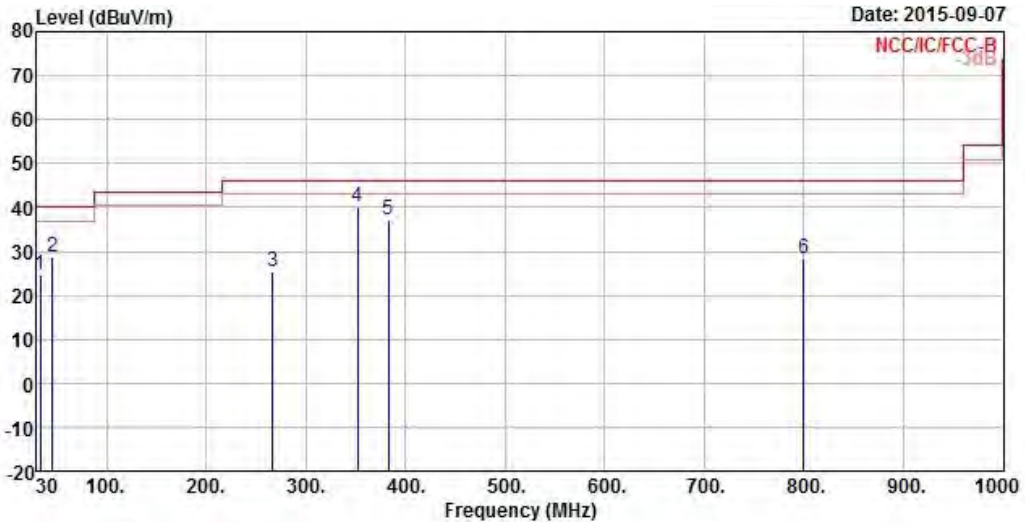
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	2	**Polarization**	V
Operating Function	Adapter Mode and Transmit (beamforming)		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	35.820	36.58	-3.42	40.00	48.36	14.81	0.96	27.55	Peak
2	47.460	36.89	-3.11	40.00	54.44	8.88	1.10	27.53	QP
3	82.380	36.64	-3.36	40.00	55.60	6.97	1.47	27.40	Peak
4	381.140	35.00	-11.00	46.00	44.33	14.61	3.26	27.20	Peak
5	553.800	31.08	-14.92	46.00	36.71	18.36	3.94	27.93	Peak
6	662.440	29.51	-16.49	46.00	34.57	18.49	4.40	27.95	Peak

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

Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	2	**Polarization**	H
Operating Function	Adapter Mode and Transmit (beamforming)		

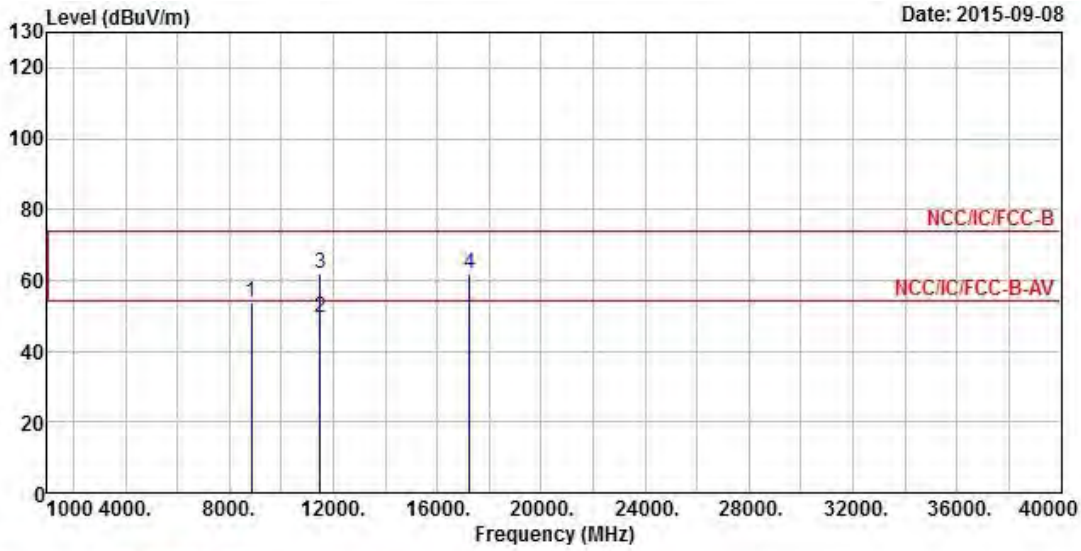


	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	33.880	24.58	-15.42	40.00	35.37	15.85	0.92	27.56	Peak
2	45.520	28.87	-11.13	40.00	45.98	9.33	1.09	27.53	Peak
3	266.680	25.50	-20.50	46.00	36.87	12.68	2.71	26.76	Peak
4	352.040	40.16	-5.84	46.00	49.96	14.08	3.13	27.01	Peak
5	383.080	37.09	-8.91	46.00	46.36	14.68	3.27	27.22	Peak
6	800.180	28.21	-17.79	46.00	31.64	19.44	4.92	27.79	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: No level of unwanted emissions exceeds the level of the fundamental emission.

3.6.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) non-beamforming

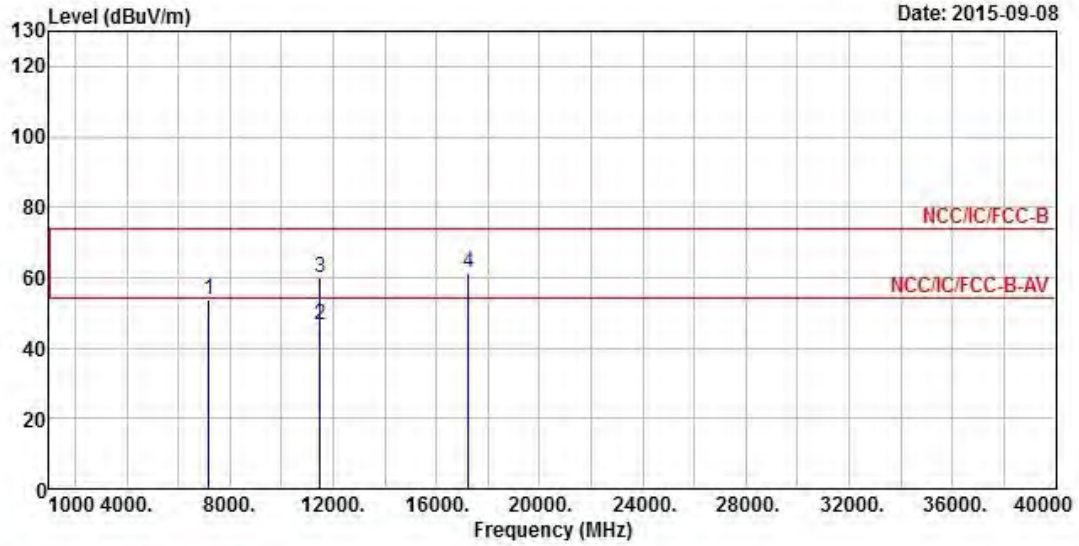
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	11a	**Test Freq. (MHz)**	5745
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8856.000	53.57			40.85	37.77	7.94	32.99	Peak
2	11490.000	49.65	-4.35	54.00	34.44	39.18	8.45	32.42	Average
3	11490.000	61.97	-12.03	74.00	46.76	39.18	8.45	32.42	Peak
4	17235.000	61.70			42.38	41.72	9.05	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (126.99 dBuV/m).

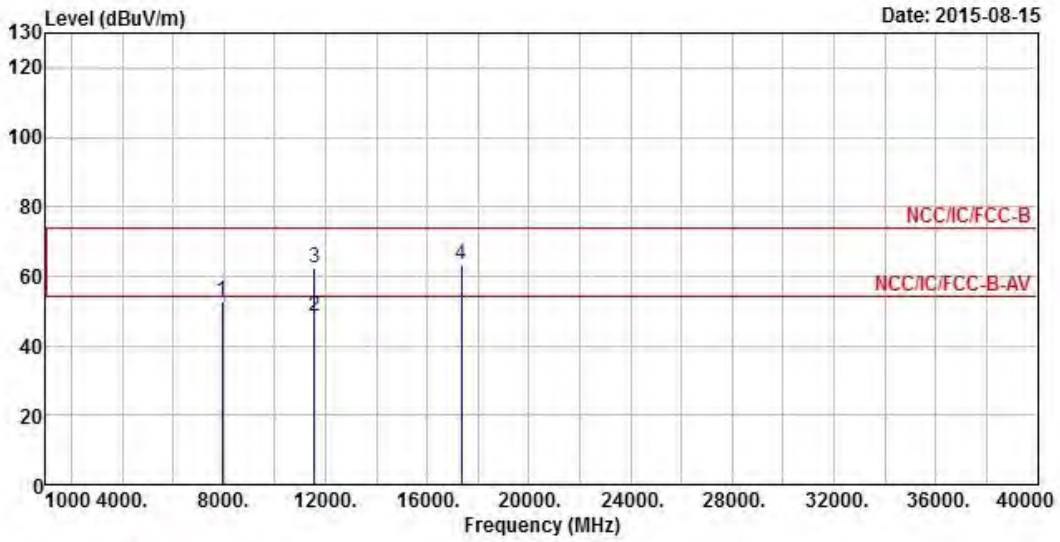
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	11a	**Test Freq. (MHz)**	5745
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7184.000	53.58	------	------	42.61	35.69	7.90	32.62	Peak
2	11490.000	46.50	-7.50	54.00	31.29	39.18	8.45	32.42	Average
3	11490.000	60.18	-13.82	74.00	44.97	39.18	8.45	32.42	Peak
4	17235.000	61.40	------	------	42.08	41.72	9.05	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (126.99dBuV/m).

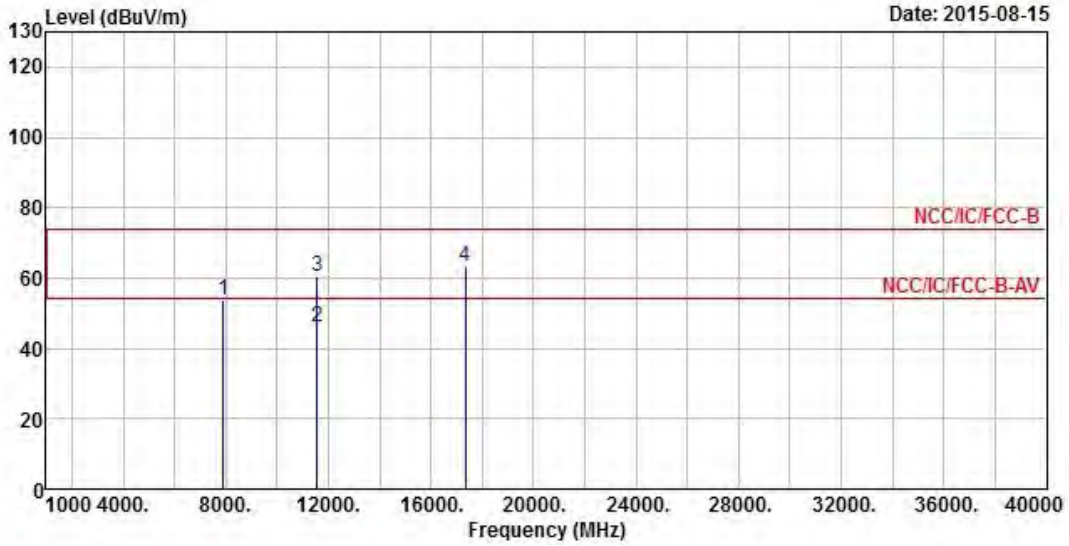
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	11a	**Test Freq. (MHz)**	5785
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7926.000	52.86			40.63	37.00	8.09	32.86	Peak
2	11570.000	48.46	-5.54	54.00	33.08	39.23	8.57	32.42	Average
3	11570.000	62.21	-11.79	74.00	46.83	39.23	8.57	32.42	Peak
4	17355.000	63.32			43.14	42.63	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.89 dBuV/m).

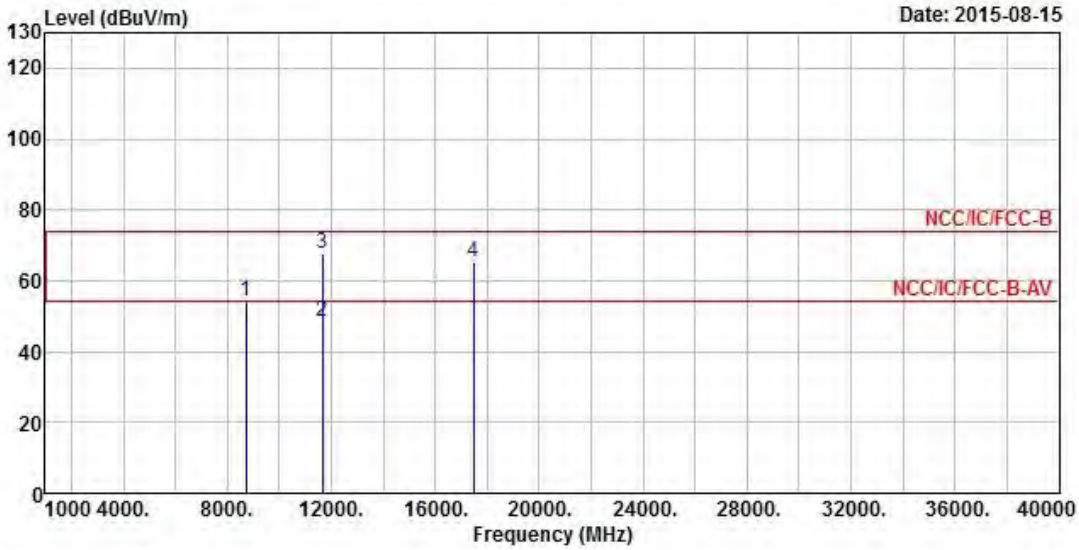
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	11a	**Test Freq. (MHz)**	5785
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7908.000	53.68			41.49	36.98	8.07	32.86	Peak
2	11570.000	45.99	-8.01	54.00	30.61	39.23	8.57	32.42	Average
3	11570.000	60.63	-13.37	74.00	45.25	39.23	8.57	32.42	Peak
4	17355.000	63.13			42.95	42.63	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.89 dBuV/m).

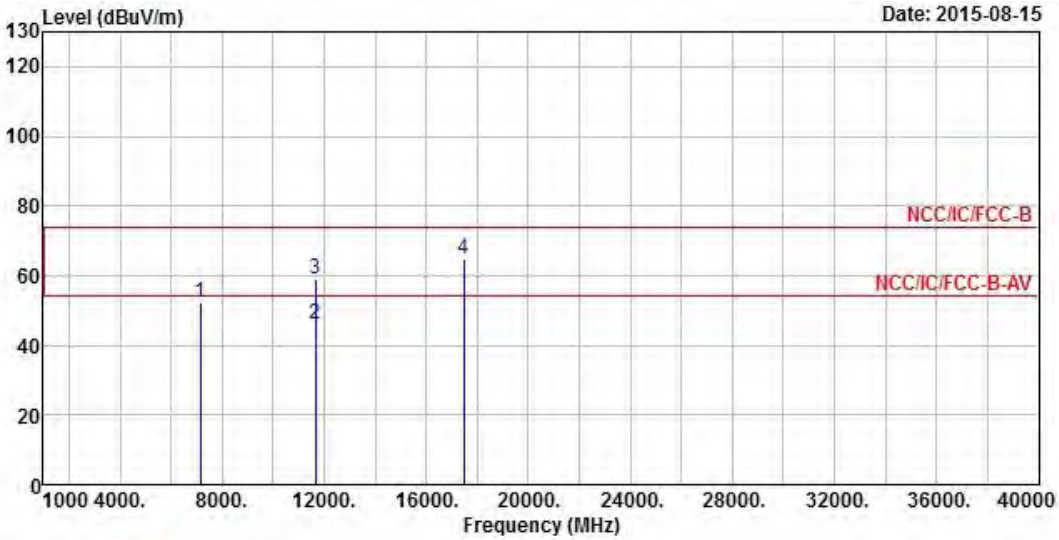
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	11a	**Test Freq. (MHz)**	5825
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8715.000	54.38			41.66	37.74	7.94	32.96	Peak
2	11650.000	48.60	-5.40	54.00	33.07	39.26	8.69	32.42	Average
3	11650.000	67.57	-6.43	74.00	52.04	39.26	8.69	32.42	Peak
4	17475.000	65.08			44.05	43.54	8.96	31.47	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (125.19 dBuV/m).

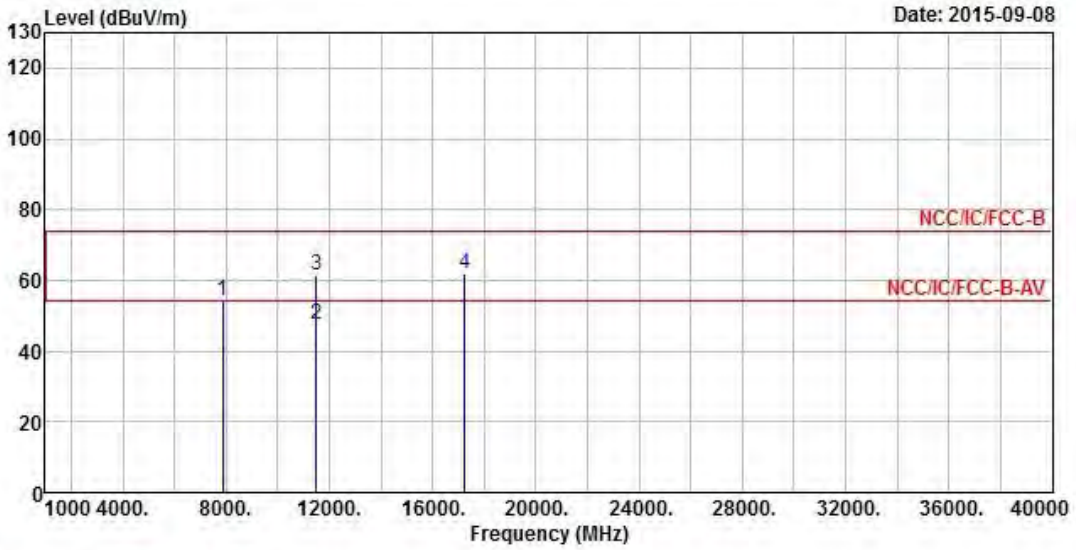
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	11a	**Test Freq. (MHz)**	5825
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7140.000	52.41			41.56	35.56	7.89	32.60	Peak
2	11650.000	45.92	-8.08	54.00	30.39	39.26	8.69	32.42	Average
3	11650.000	58.80	-15.20	74.00	43.27	39.26	8.69	32.42	Peak
4	17475.000	64.60			43.57	43.54	8.96	31.47	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (125.19 dBuV/m).

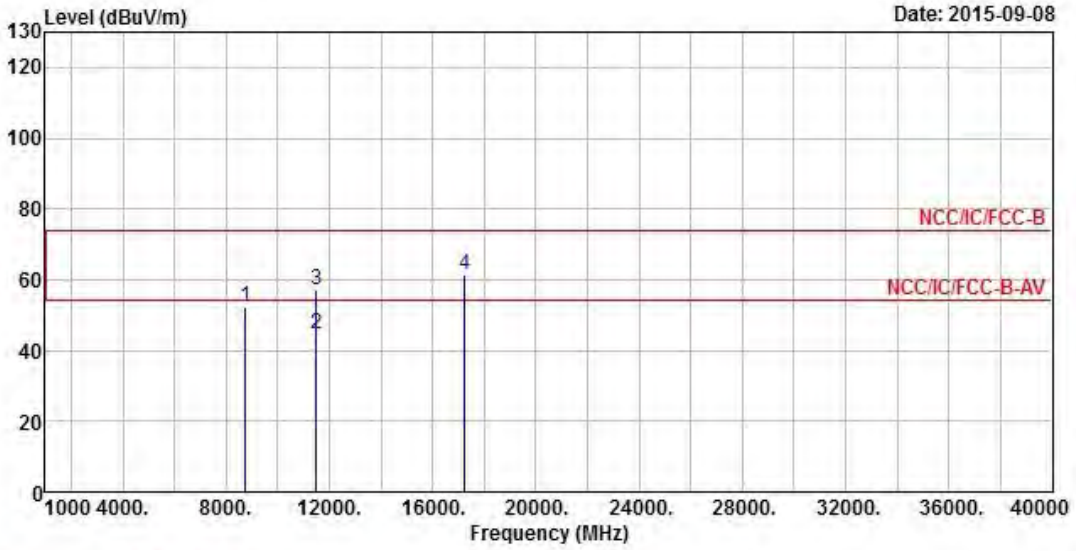
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	HT20	**Test Freq. (MHz)**	5745
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7856.000	54.01			41.87	36.92	8.06	32.84	Peak
2	11490.000	47.72	-6.28	54.00	32.51	39.18	8.45	32.42	Average
3	11490.000	61.58	-12.42	74.00	46.37	39.18	8.45	32.42	Peak
4	17235.000	61.74			42.42	41.72	9.05	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.54 dBuV/m).

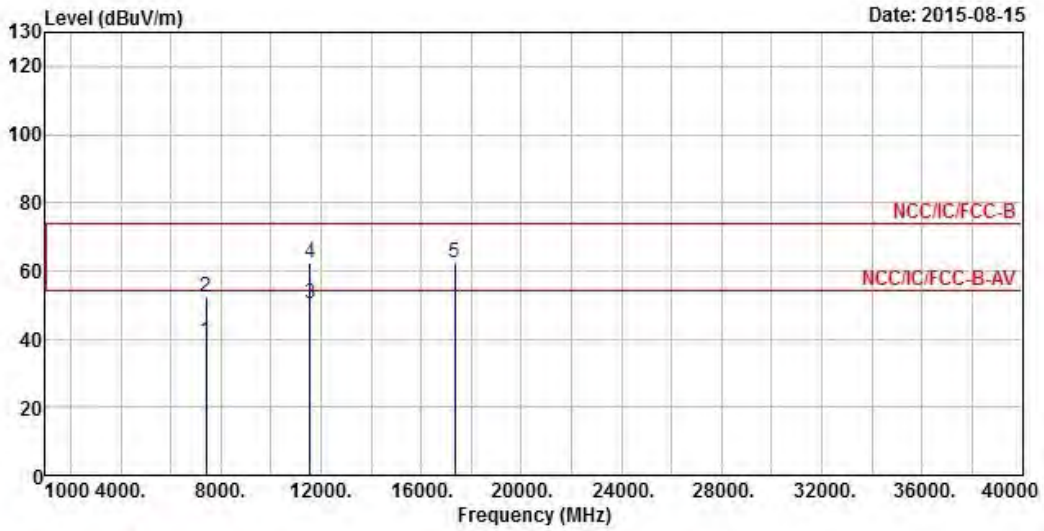
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	HT20	**Test Freq. (MHz)**	5745
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8760.000	52.23			39.51	37.75	7.94	32.97	Peak
2	11490.000	44.83	-9.17	54.00	29.62	39.18	8.45	32.42	Average
3	11490.000	56.94	-17.06	74.00	41.73	39.18	8.45	32.42	Peak
4	17235.000	61.38			42.06	41.72	9.05	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.54 dBuV/m).

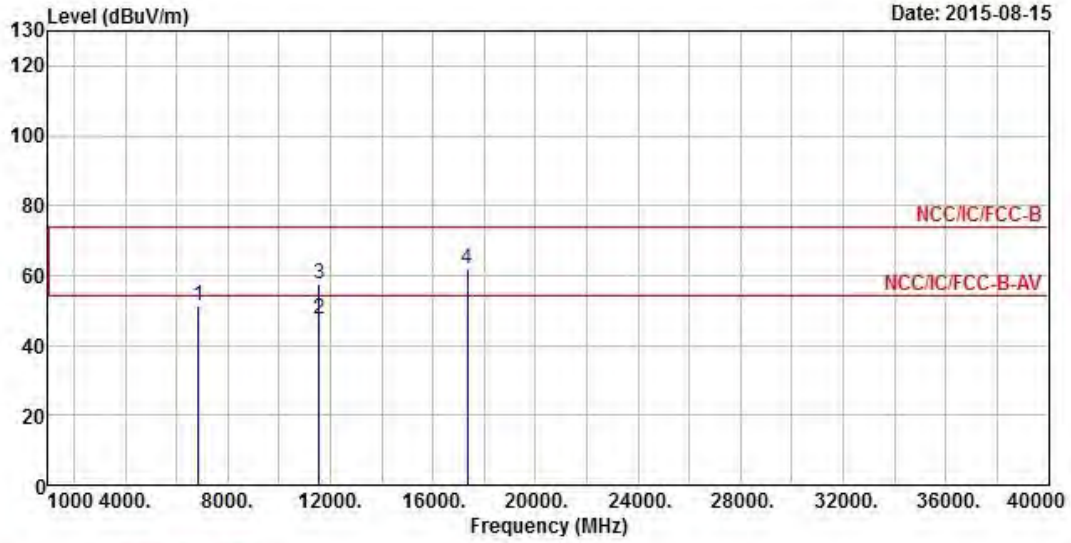
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	HT20	**Test Freq. (MHz)**	5785
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7410.000	39.16			27.67	36.28	7.92	32.71	Average
2	7410.000	52.47			40.98	36.28	7.92	32.71	Peak
3	11570.000	50.21	-3.79	54.00	34.83	39.23	8.57	32.42	Average
4	11570.000	62.58	-11.42	74.00	47.20	39.23	8.57	32.42	Peak
5	17355.000	62.24			42.06	42.63	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.79 dBuV/m).

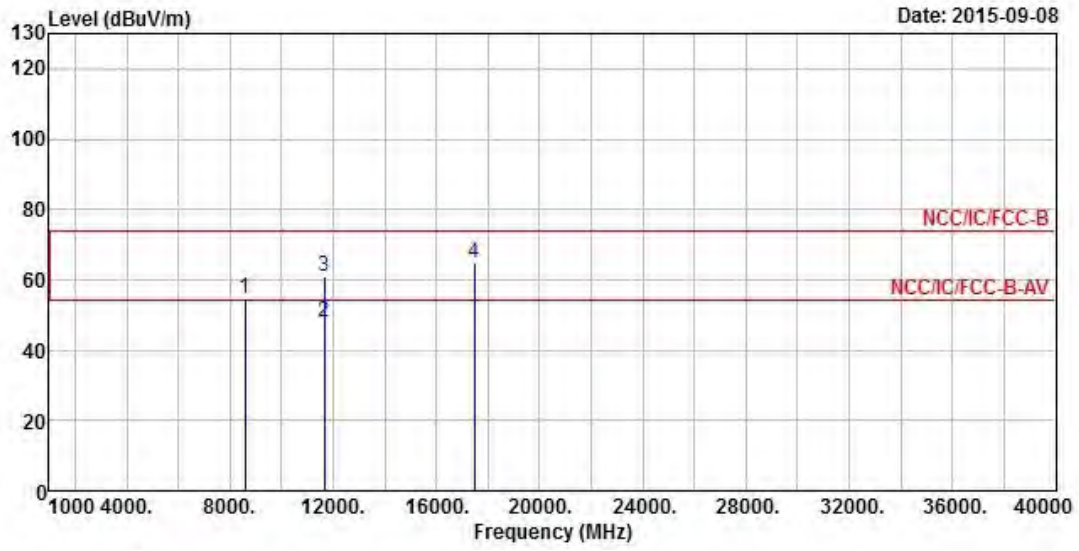
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	HT20	**Test Freq. (MHz)**	5785
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	6874.000	51.23			40.97	34.98	7.80	32.52	Peak
2	11570.000	47.59	-6.41	54.00	32.21	39.23	8.57	32.42	Average
3	11570.000	57.38	-16.62	74.00	42.00	39.23	8.57	32.42	Peak
4	17355.000	62.09			41.91	42.63	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.79 dBuV/m).

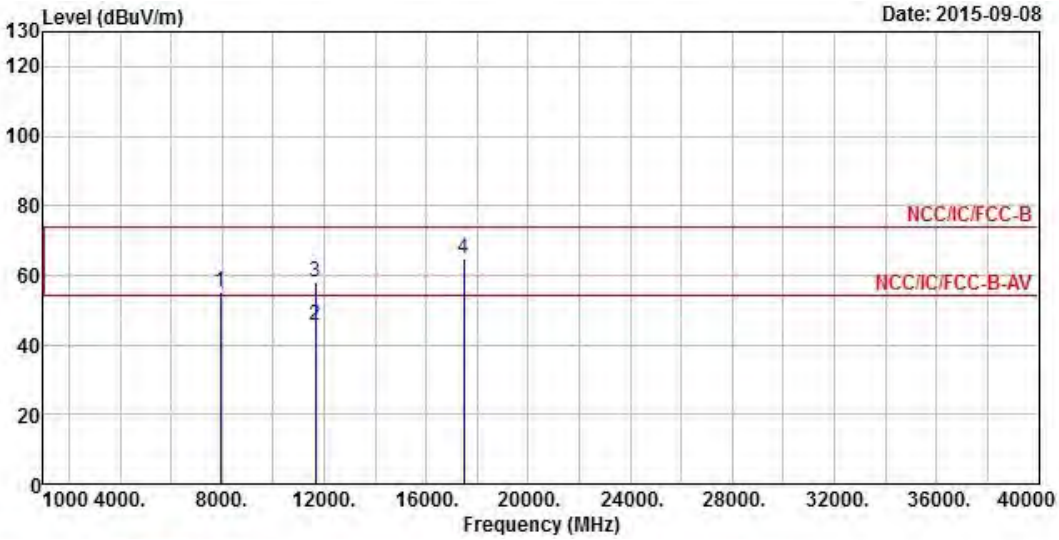
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	HT20	**Test Freq. (MHz)**	5825
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8584.000	54.74			42.02	37.72	7.94	32.94	Peak
2	11650.000	47.84	-6.16	54.00	32.31	39.26	8.69	32.42	Average
3	11650.000	61.13	-12.87	74.00	45.60	39.26	8.69	32.42	Peak
4	17475.000	64.55			43.52	43.54	8.96	31.47	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.68 dBuV/m).

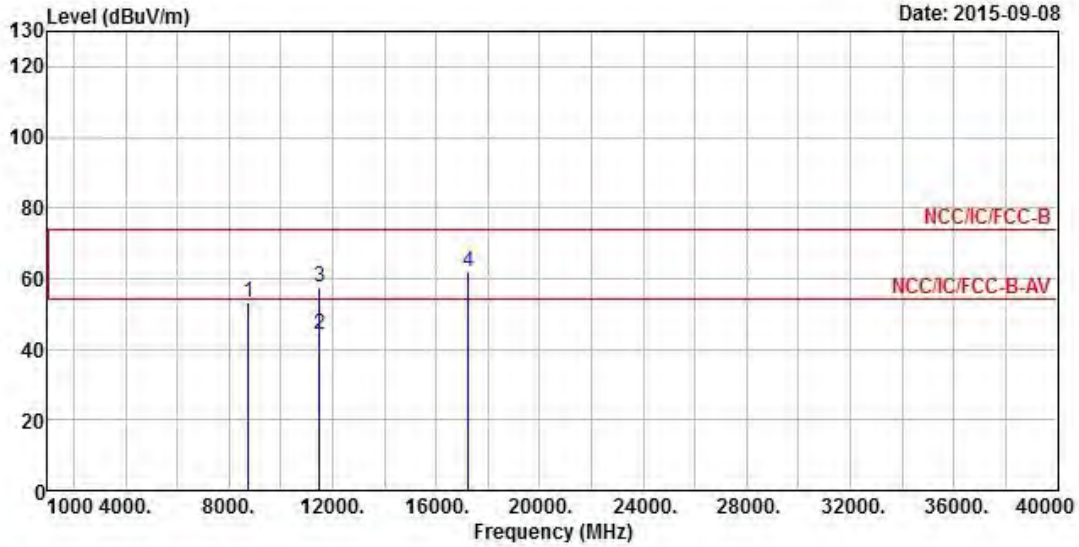
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	HT20	**Test Freq. (MHz)**	5825
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7936.000	55.00			42.75	37.02	8.09	32.86	Peak
2	11650.000	45.67	-8.33	54.00	30.14	39.26	8.69	32.42	Average
3	11650.000	58.14	-15.86	74.00	42.61	39.26	8.69	32.42	Peak
4	17475.000	64.76			43.73	43.54	8.96	31.47	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.68 dBuV/m).

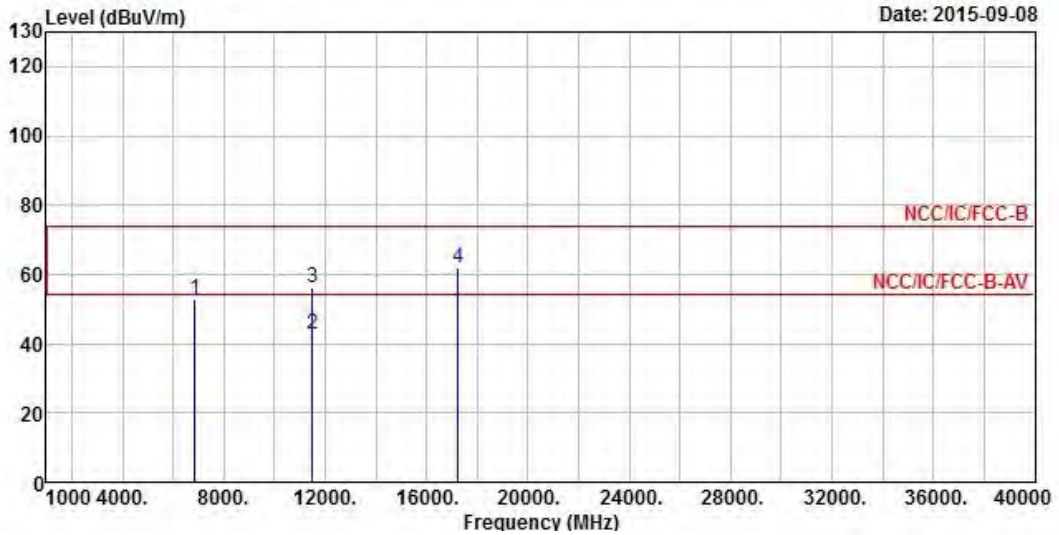
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	HT40	**Test Freq. (MHz)**	5755
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8760.000	53.45			40.73	37.75	7.94	32.97	Peak
2	11510.000	43.92	-10.08	54.00	28.69	39.20	8.45	32.42	Average
3	11510.000	57.35	-16.65	74.00	42.12	39.20	8.45	32.42	Peak
4	17265.000	61.90			42.34	41.98	9.03	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (116.92 dBuV/m).

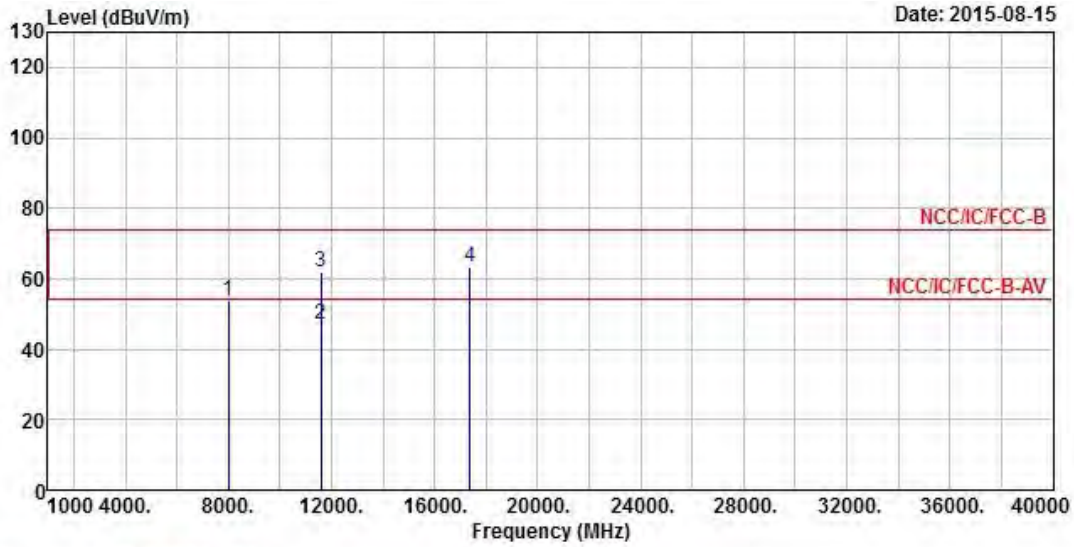
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	HT40	**Test Freq. (MHz)**	5755
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	6864.000	52.68			42.48	34.95	7.77	32.52	Peak
2	11510.000	42.55	-11.45	54.00	27.32	39.20	8.45	32.42	Average
3	11510.000	56.16	-17.84	74.00	40.93	39.20	8.45	32.42	Peak
4	17265.000	61.78			42.22	41.98	9.03	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (116.92 dBuV/m).

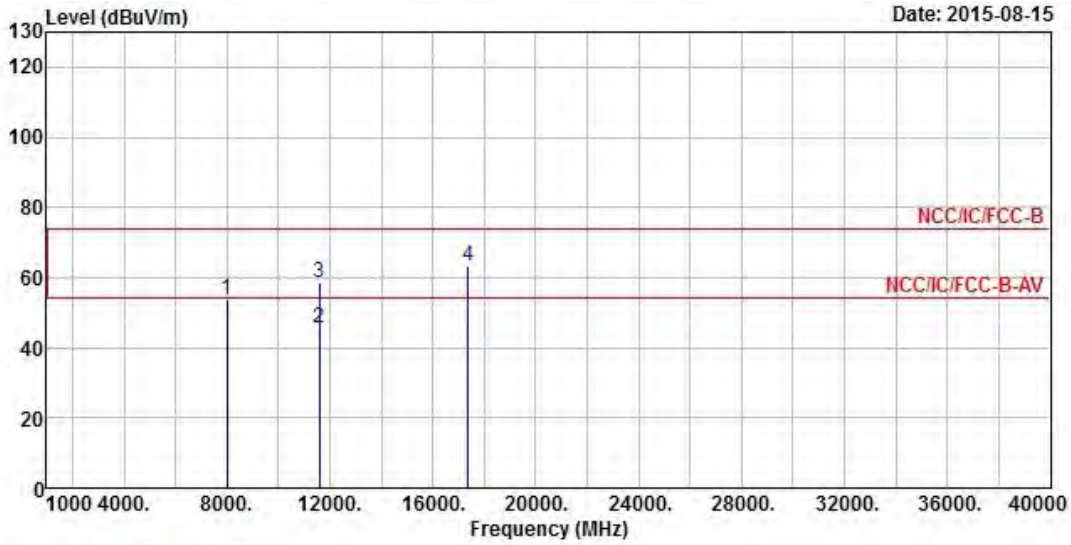
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	HT40	**Test Freq. (MHz)**	5795
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7994.000	53.86			41.56	37.08	8.10	32.88	Peak
2	11590.000	47.21	-6.79	54.00	31.77	39.23	8.63	32.42	Average
3	11590.000	61.75	-12.25	74.00	46.31	39.23	8.63	32.42	Peak
4	17385.000	63.54			43.12	42.89	8.99	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (123.07 dBuV/m).

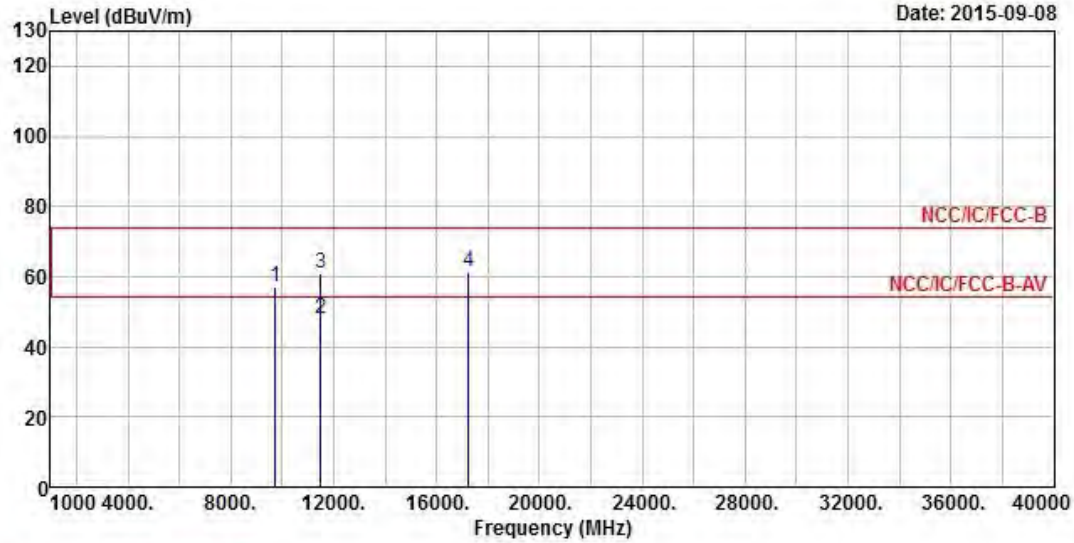
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	HT40	**Test Freq. (MHz)**	5795
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8000.000	53.85			41.53	37.10	8.10	32.88	Peak
2	11590.000	45.46	-8.54	54.00	30.02	39.23	8.63	32.42	Average
3	11590.000	58.55	-15.45	74.00	43.11	39.23	8.63	32.42	Peak
4	17385.000	63.14			42.72	42.89	8.99	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (123.07 dBuV/m).

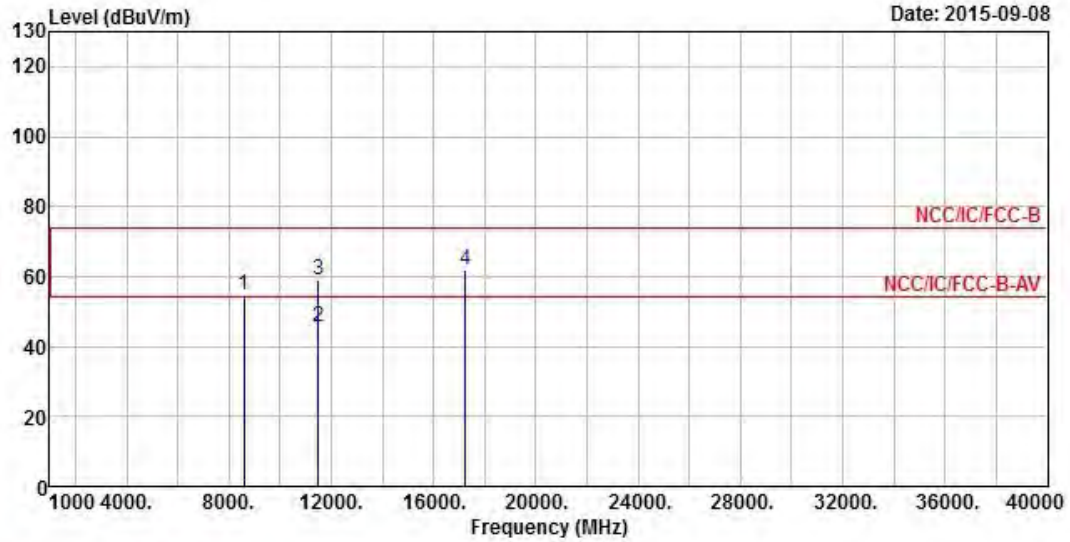
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5745
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	9736.000	57.08			43.09	38.38	8.75	33.14	Peak
2	11490.000	47.77	-6.23	54.00	32.56	39.18	8.45	32.42	Average
3	11490.000	60.83	-13.17	74.00	45.62	39.18	8.45	32.42	Peak
4	17235.000	61.55			42.23	41.72	9.05	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.15 dBuV/m).

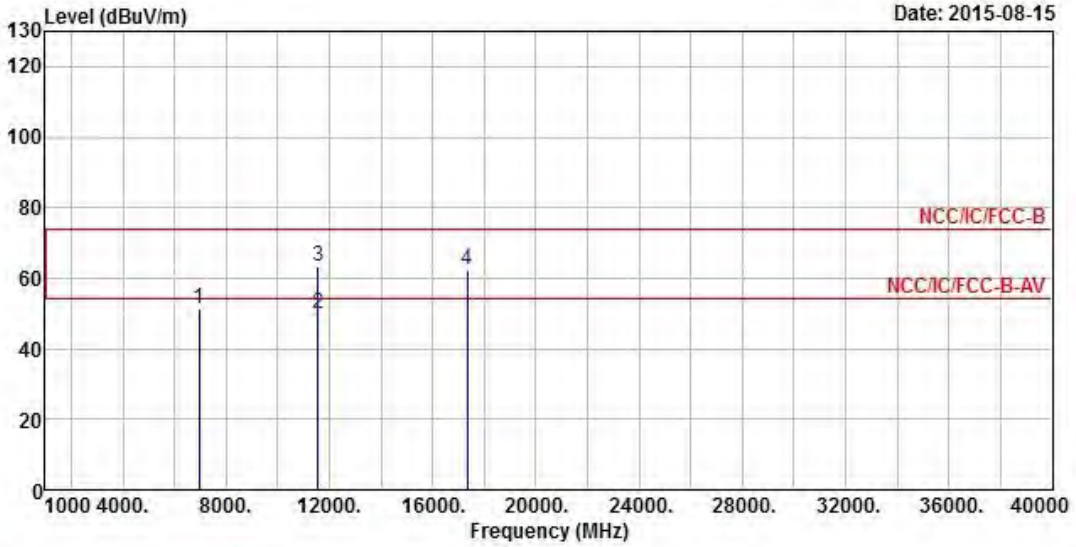
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5745
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8576.000	54.79			42.07	37.72	7.94	32.94	Peak
2	11490.000	45.64	-8.36	54.00	30.43	39.18	8.45	32.42	Average
3	11490.000	59.02	-14.98	74.00	43.81	39.18	8.45	32.42	Peak
4	17235.000	61.68			42.36	41.72	9.05	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.15 dBuV/m).

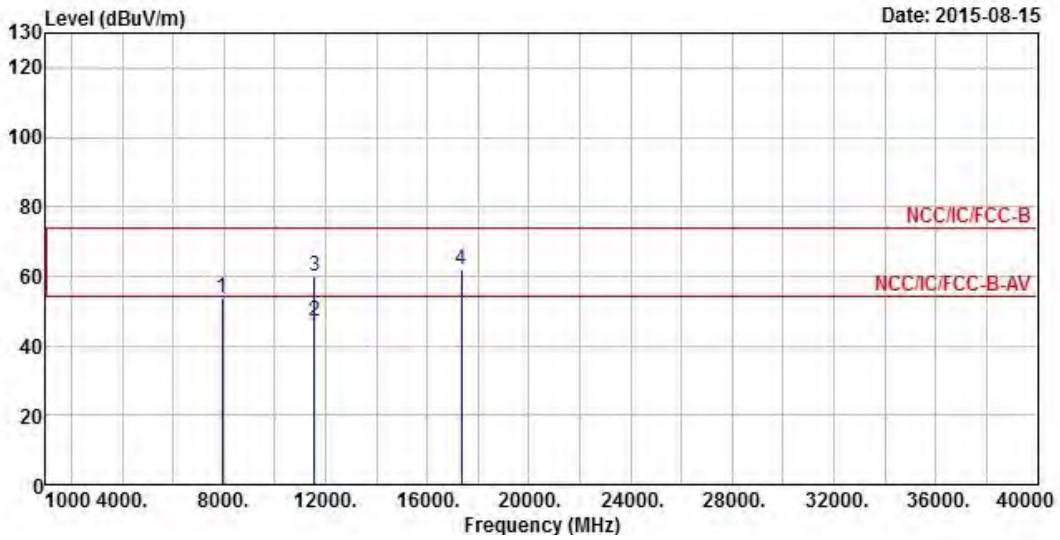
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5785
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	6941.000	51.23			40.86	35.08	7.82	32.53	Peak
2	11570.000	49.98	-4.02	54.00	34.60	39.23	8.57	32.42	Average
3	11570.000	63.34	-10.66	74.00	47.96	39.23	8.57	32.42	Peak
4	17355.000	62.19			42.01	42.63	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (125.06 dBuV/m).

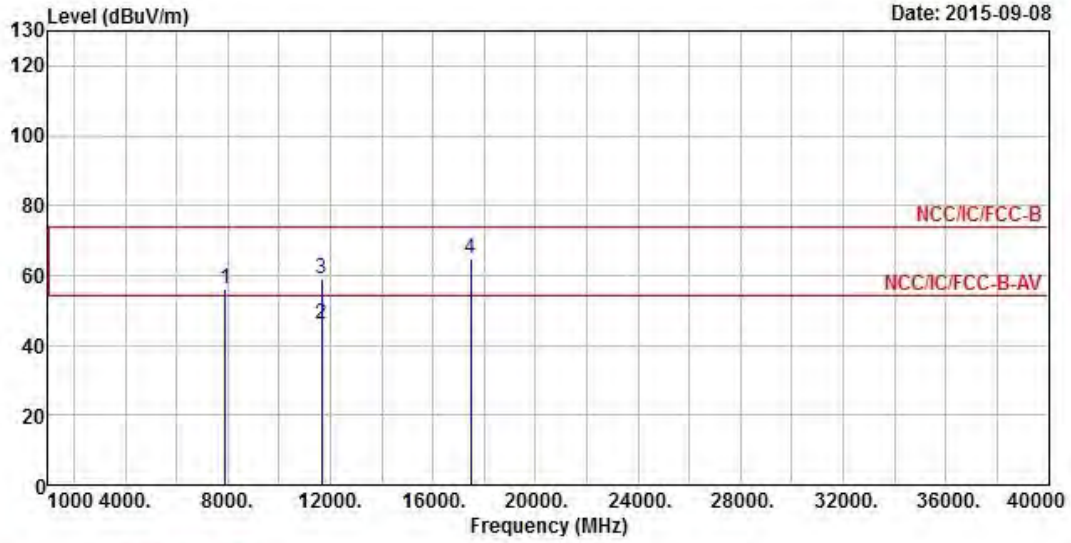
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5785
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7944.000	53.88			41.64	37.02	8.09	32.87	Peak
2	11570.000	46.93	-7.07	54.00	31.55	39.23	8.57	32.42	Average
3	11570.000	59.90	-14.10	74.00	44.52	39.23	8.57	32.42	Peak
4	17355.000	62.12			41.94	42.63	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (125.06 dBuV/m).

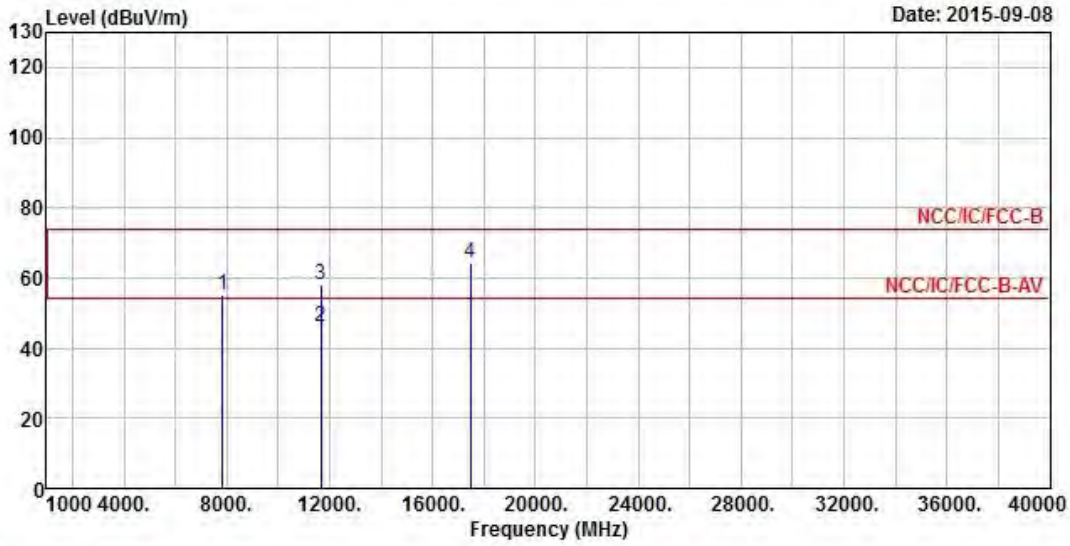
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5825
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7920.000	55.92			43.71	37.00	8.07	32.86	Peak
2	11650.000	46.28	-7.72	54.00	30.75	39.26	8.69	32.42	Average
3	11650.000	59.07	-14.93	74.00	43.54	39.26	8.69	32.42	Peak
4	17475.000	64.91			43.88	43.54	8.96	31.47	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.60 dBuV/m).

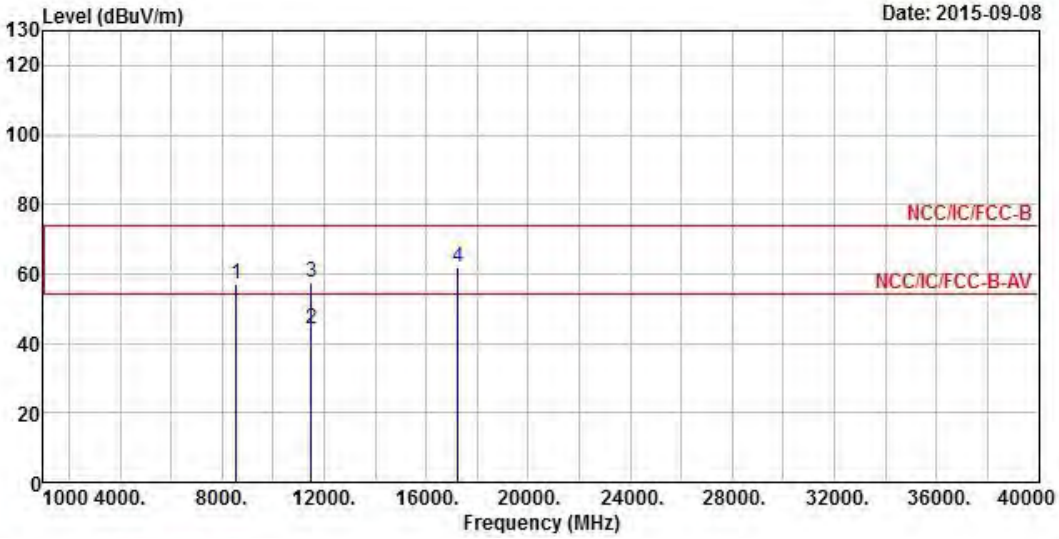
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5825
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7840.000	55.27			43.16	36.90	8.05	32.84	Peak
2	11650.000	46.15	-7.85	54.00	30.62	39.26	8.69	32.42	Average
3	11650.000	58.18	-15.82	74.00	42.65	39.26	8.69	32.42	Peak
4	17475.000	64.45			43.42	43.54	8.96	31.47	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.60 dBuV/m).

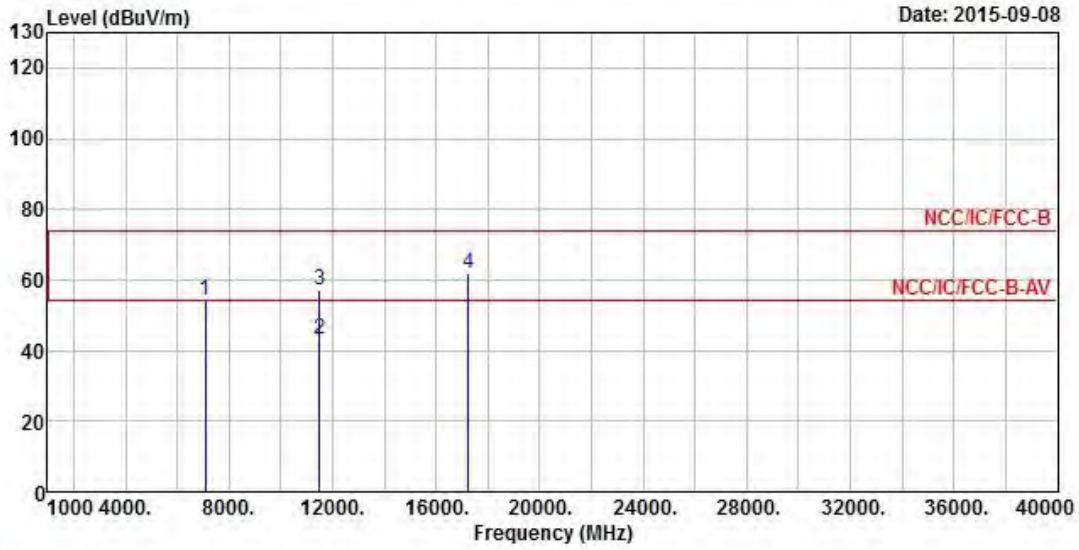
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5755
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8572.000	57.06			44.34	37.71	7.94	32.93	Peak
2	11510.000	43.99	-10.01	54.00	28.76	39.20	8.45	32.42	Average
3	11510.000	57.40	-16.60	74.00	42.17	39.20	8.45	32.42	Peak
4	17265.000	61.93			42.37	41.98	9.03	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (120.87 dBuV/m).

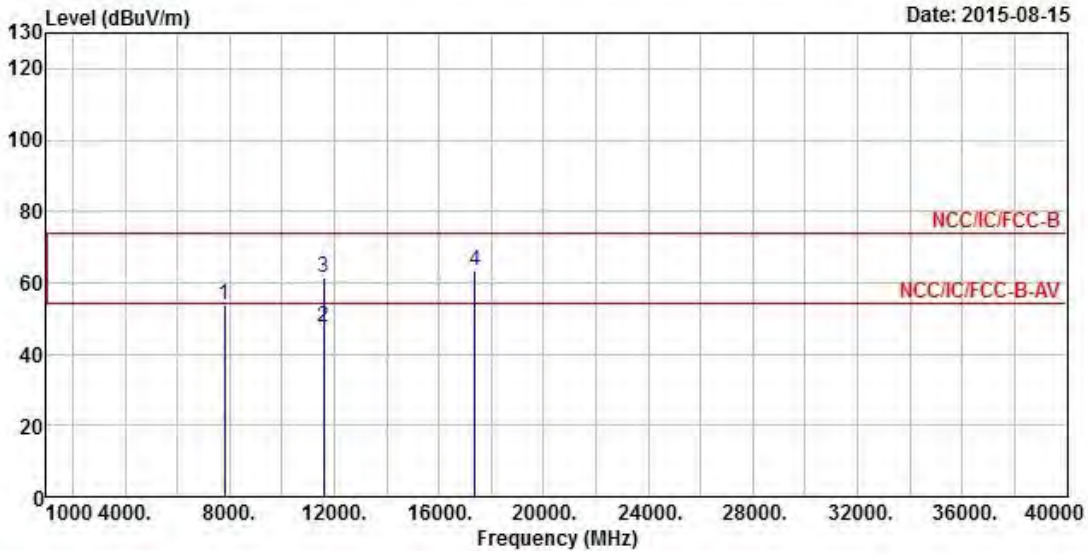
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5755
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7088.000	53.98			43.26	35.42	7.88	32.58	Peak
2	11510.000	43.40	-10.60	54.00	28.17	39.20	8.45	32.42	Average
3	11510.000	56.89	-17.11	74.00	41.66	39.20	8.45	32.42	Peak
4	17265.000	61.85			42.29	41.98	9.03	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (120.87 dBuV/m).

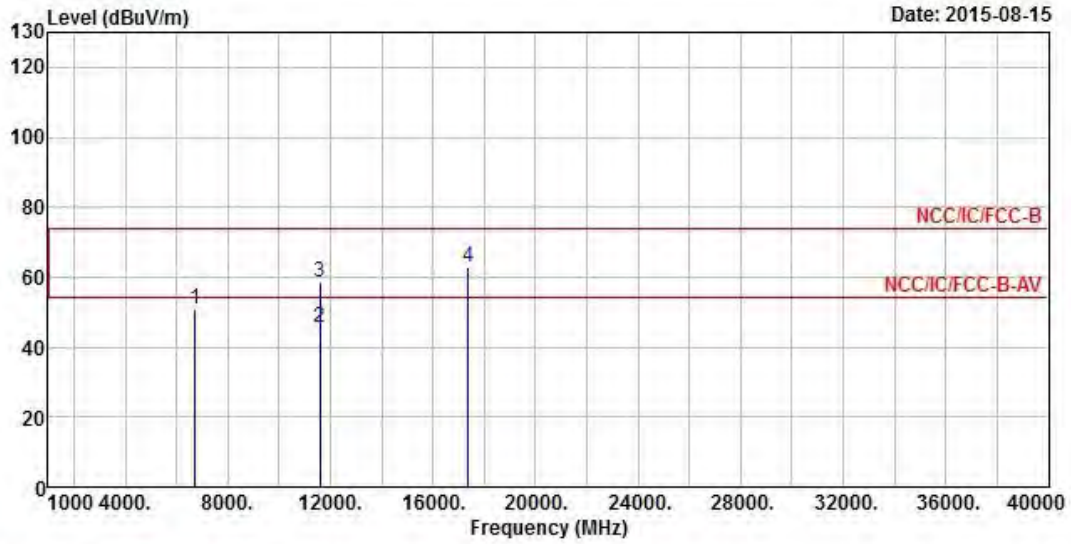
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5795
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7794.000	53.91			41.85	36.86	8.03	32.83	Peak
2	11590.000	47.41	-6.59	54.00	31.97	39.23	8.63	32.42	Average
3	11590.000	61.54	-12.46	74.00	46.10	39.23	8.63	32.42	Peak
4	17385.000	63.35			42.93	42.89	8.99	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (123.21 dBuV/m).

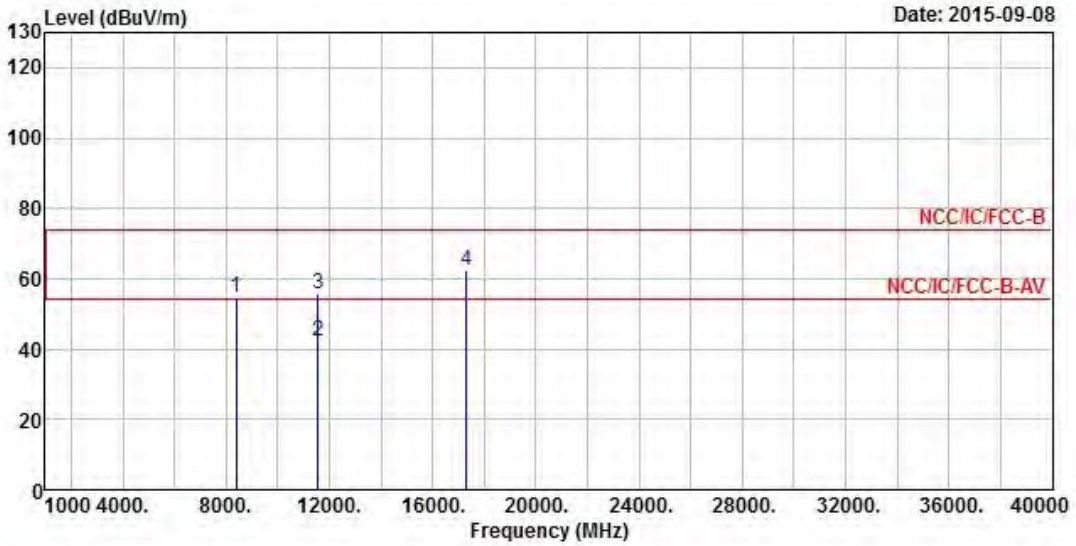
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5795
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	6741.000	50.87			40.94	34.73	7.70	32.50	Peak
2	11590.000	45.38	-8.62	54.00	29.94	39.23	8.63	32.42	Average
3	11590.000	58.38	-15.62	74.00	42.94	39.23	8.63	32.42	Peak
4	17385.000	62.99			42.57	42.89	8.99	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (123.21 dBuV/m).

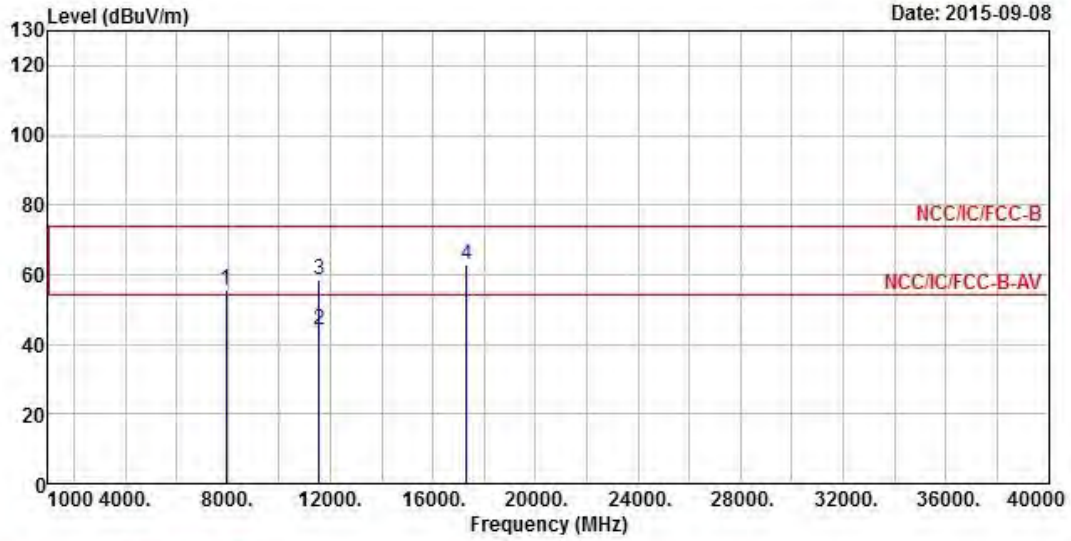
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5775
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8400.000	54.67	------	------	42.04	37.58	7.96	32.91	Peak
2	11550.000	42.32	-11.68	54.00	26.95	39.22	8.57	32.42	Average
3	11550.000	55.56	-18.44	74.00	40.19	39.22	8.57	32.42	Peak
4	17325.000	62.51			42.59	42.37	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (118.07 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5775
N_{TX}	3	**Polarization**	H

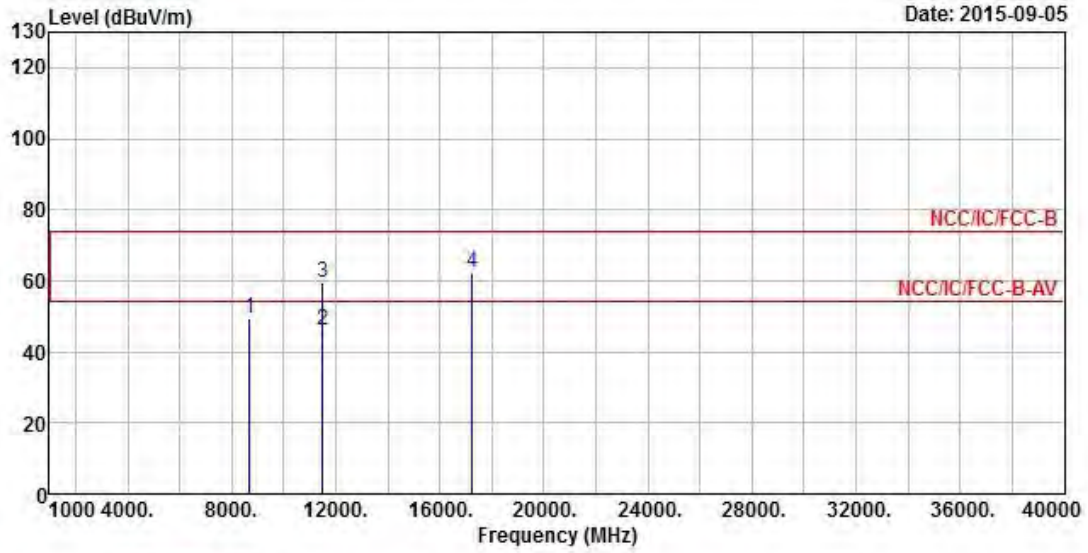


	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7948.000	55.43			43.17	37.04	8.09	32.87	Peak
2	11550.000	44.28	-9.72	54.00	28.91	39.22	8.57	32.42	Average
3	11550.000	58.59	-15.41	74.00	43.22	39.22	8.57	32.42	Peak
4	17325.000	62.84			42.92	42.37	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (118.07 dBuV/m).

3.6.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) beamforming

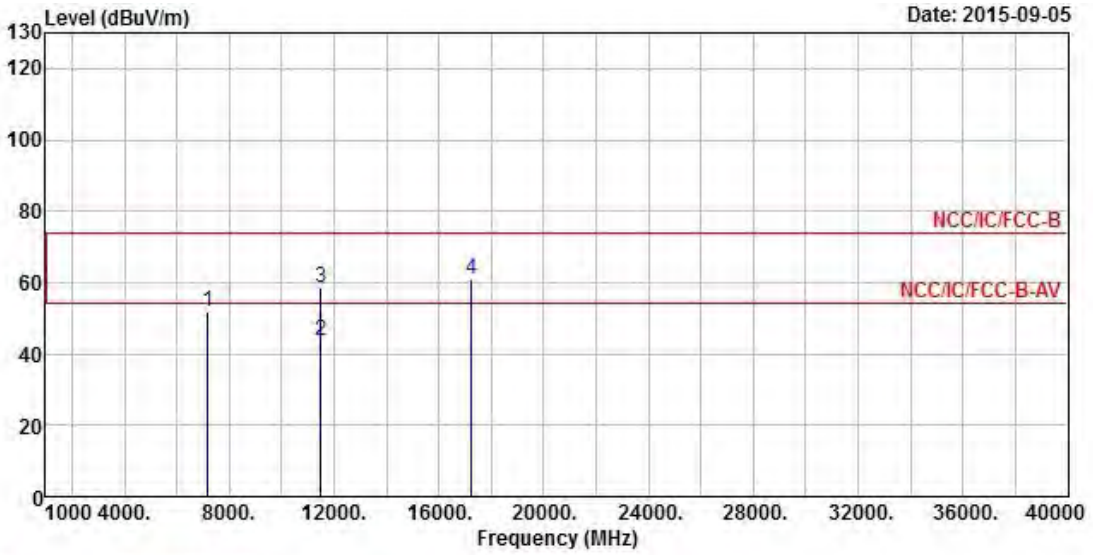
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5745
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8688.000	49.57			36.85	37.74	7.94	32.96	Peak
2	11490.000	46.15	-7.85	54.00	30.94	39.18	8.45	32.42	Average
3	11490.000	59.52	-14.48	74.00	44.31	39.18	8.45	32.42	Peak
4	17235.000	62.20			42.88	41.72	9.05	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.02 dBuV/m).

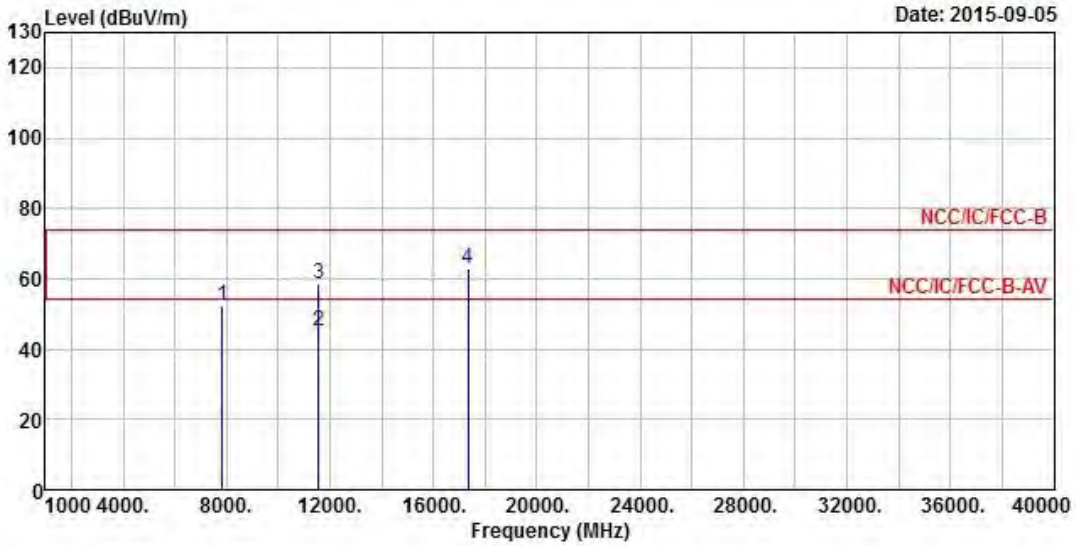
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5745
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7185.000	51.81			40.84	35.69	7.90	32.62	Peak
2	11490.000	43.75	-10.25	54.00	28.54	39.18	8.45	32.42	Average
3	11490.000	58.43	-15.57	74.00	43.22	39.18	8.45	32.42	Peak
4	17235.000	60.89			41.57	41.72	9.05	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (124.02 dBuV/m).

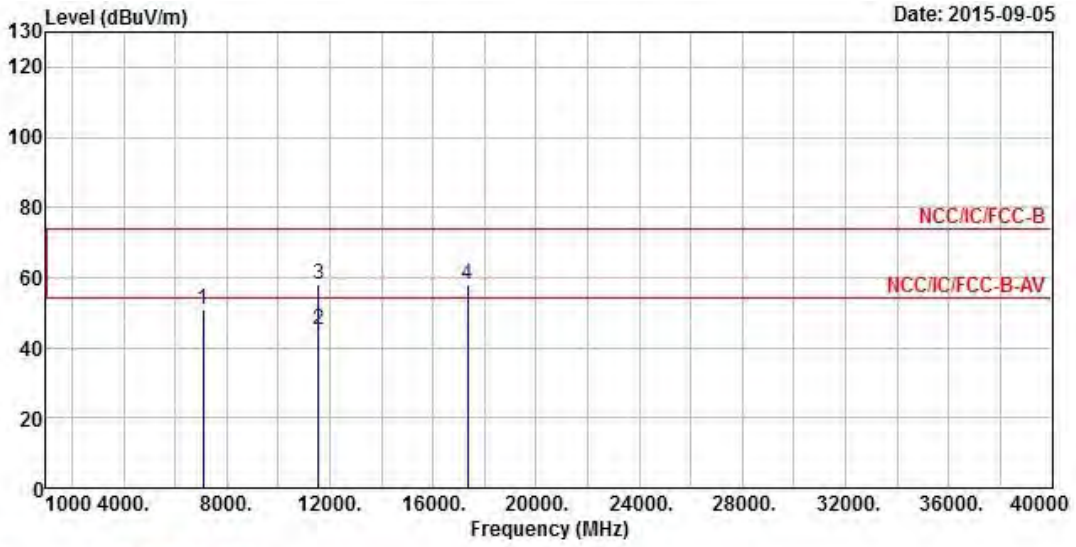
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5785
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7828.000	52.34			40.23	36.90	8.05	32.84	Peak
2	11570.000	45.21	-8.79	54.00	29.83	39.23	8.57	32.42	Average
3	11570.000	58.34	-15.66	74.00	42.96	39.23	8.57	32.42	Peak
4	17355.000	62.92			42.74	42.63	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (122.68 dBuV/m).

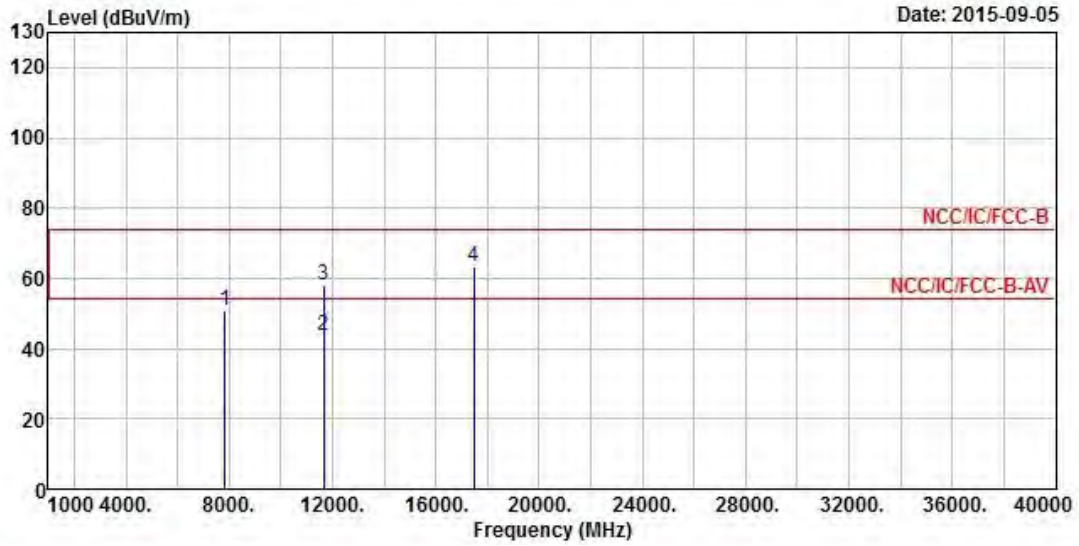
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5785
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7085.000	50.82			40.10	35.42	7.88	32.58	Peak
2	11570.000	44.93	-9.07	54.00	29.55	39.23	8.57	32.42	Average
3	11570.000	58.01	-15.99	74.00	42.63	39.23	8.57	32.42	Peak
4	17355.000	58.01			37.83	42.63	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (122.68 dBuV/m).

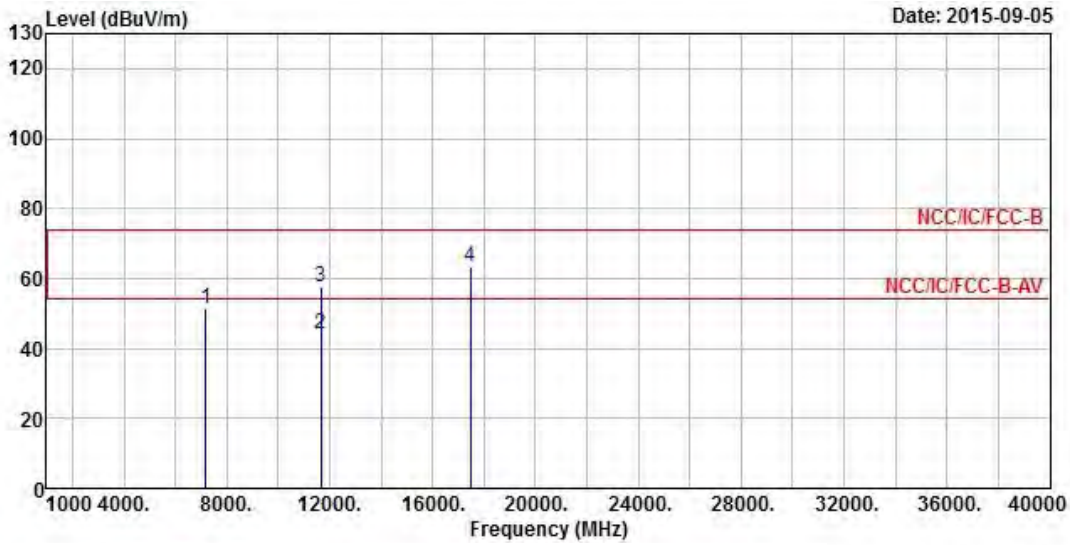
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5825
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7848.000	51.01			38.87	36.92	8.06	32.84	Peak
2	11650.000	43.69	-10.31	54.00	28.16	39.26	8.69	32.42	Average
3	11650.000	57.98	-16.02	74.00	42.45	39.26	8.69	32.42	Peak
4	17475.000	63.27			42.24	43.54	8.96	31.47	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (122.14 dBuV/m).

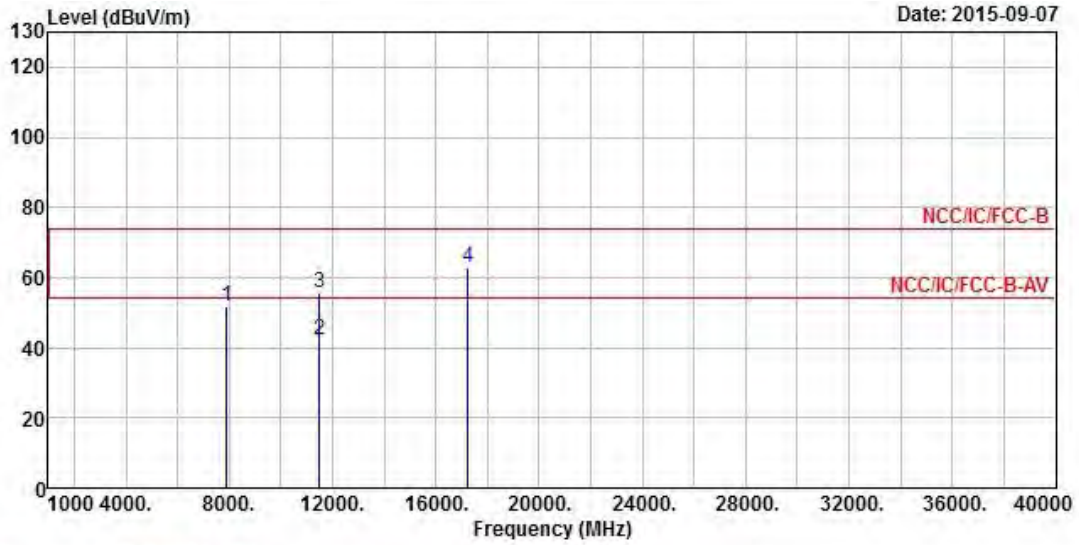
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5825
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7172.000	51.29			40.36	35.65	7.89	32.61	Peak
2	11650.000	44.22	-9.78	54.00	28.69	39.26	8.69	32.42	Average
3	11650.000	57.37	-16.63	74.00	41.84	39.26	8.69	32.42	Peak
4	17475.000	63.35			42.32	43.54	8.96	31.47	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (122.14 dBuV/m).

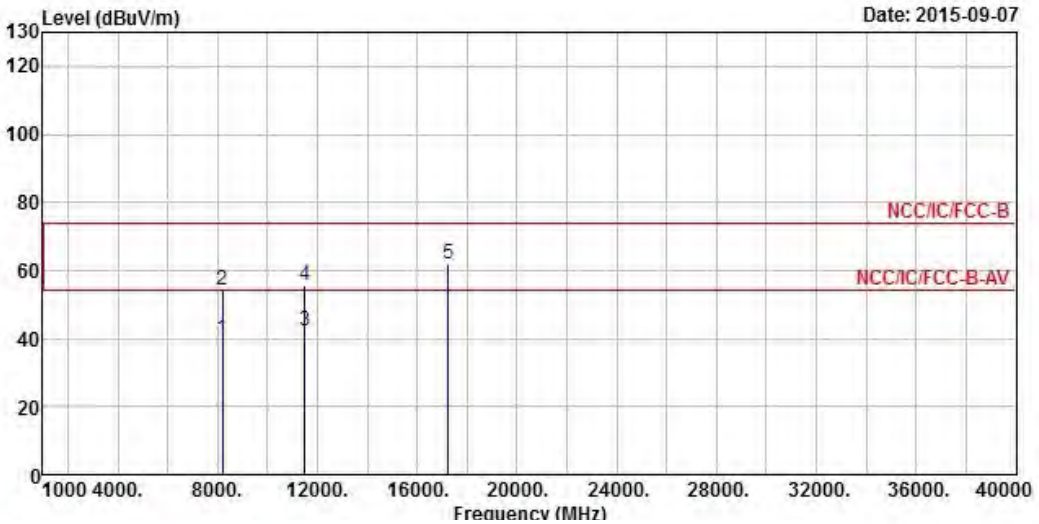
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5755
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7898.000	51.62			39.42	36.98	8.07	32.85	Peak
2	11510.000	42.21	-11.79	54.00	26.98	39.20	8.45	32.42	Average
3	11510.000	55.53	-18.47	74.00	40.30	39.20	8.45	32.42	Peak
4	17265.000	62.91			43.35	41.98	9.03	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (119.85 dBuV/m).

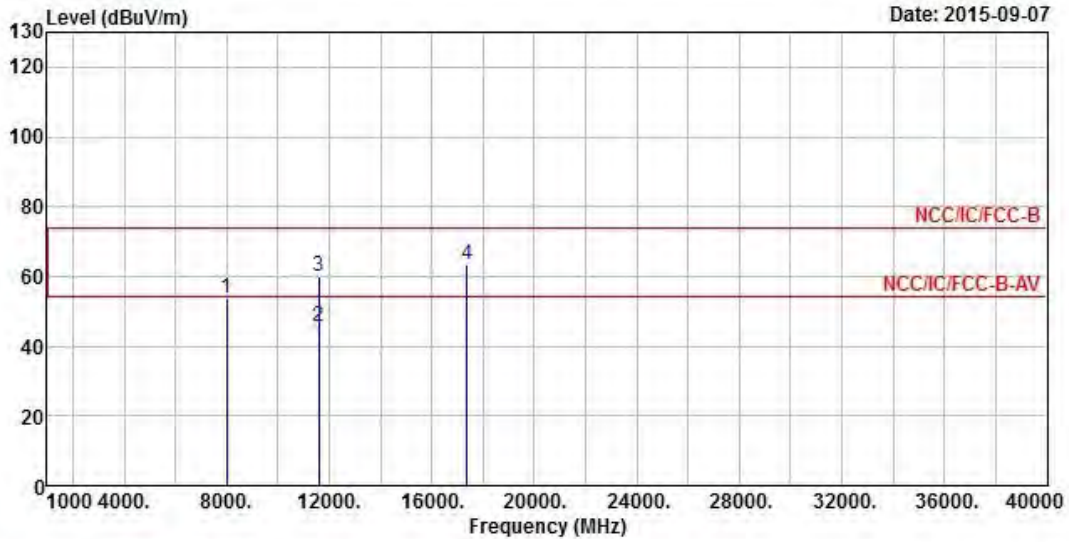
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5755
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8184.000	39.81			27.33	37.33	8.04	32.89	Average
2	8184.000	54.25	-19.75	74.00	41.77	37.33	8.04	32.89	Peak
3	11510.000	42.14	-11.86	54.00	26.91	39.20	8.45	32.42	Average
4	11510.000	55.74	-18.26	74.00	40.51	39.20	8.45	32.42	Peak
5	17265.000	61.96			42.40	41.98	9.03	31.45	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (119.85 dBuV/m).

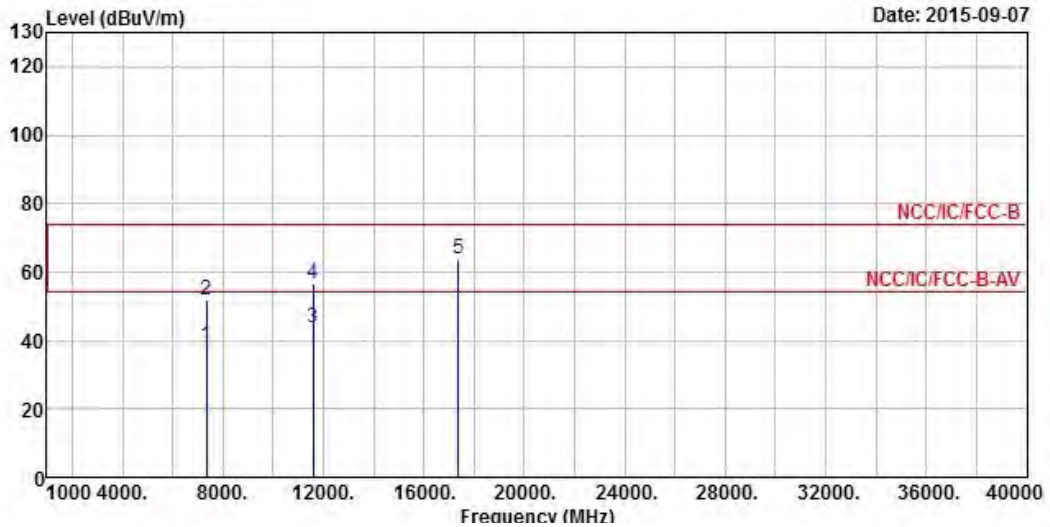
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5795
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7999.000	53.57			41.25	37.10	8.10	32.88	Peak
2	11590.000	45.41	-8.59	54.00	29.97	39.23	8.63	32.42	Average
3	11590.000	59.97	-14.03	74.00	44.53	39.23	8.63	32.42	Peak
4	17385.000	63.53			43.11	42.89	8.99	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (121.60 dBuV/m).

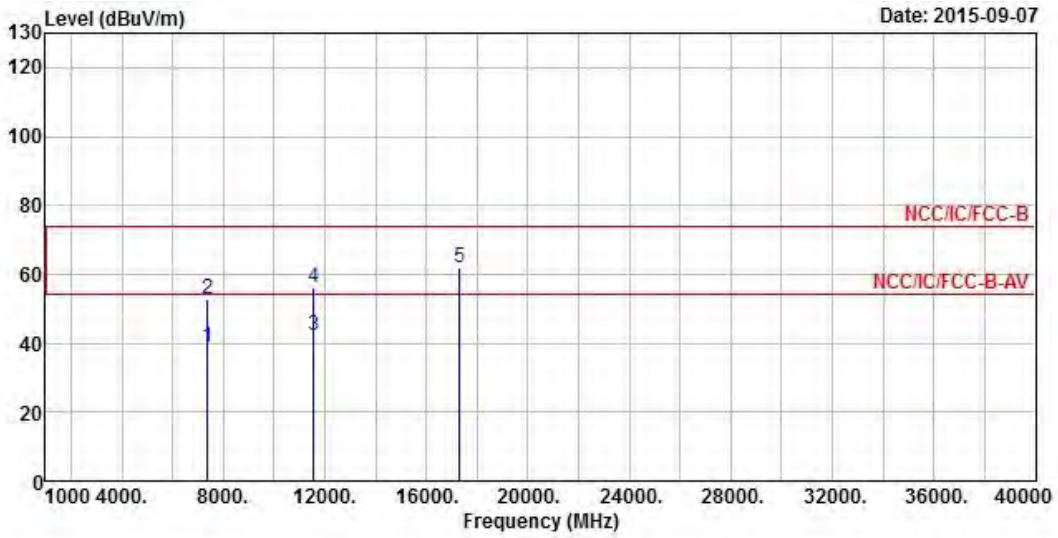
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5795
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7350.000	38.35	-15.65	54.00	26.98	36.14	7.92	32.69	Average
2	7350.000	52.02	-21.98	74.00	40.65	36.14	7.92	32.69	Peak
3	11590.000	43.84	-10.16	54.00	28.40	39.23	8.63	32.42	Average
4	11590.000	56.72	-17.28	74.00	41.28	39.23	8.63	32.42	Peak
5	17385.000	63.80			43.38	42.89	8.99	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (121.60 dBuV/m).

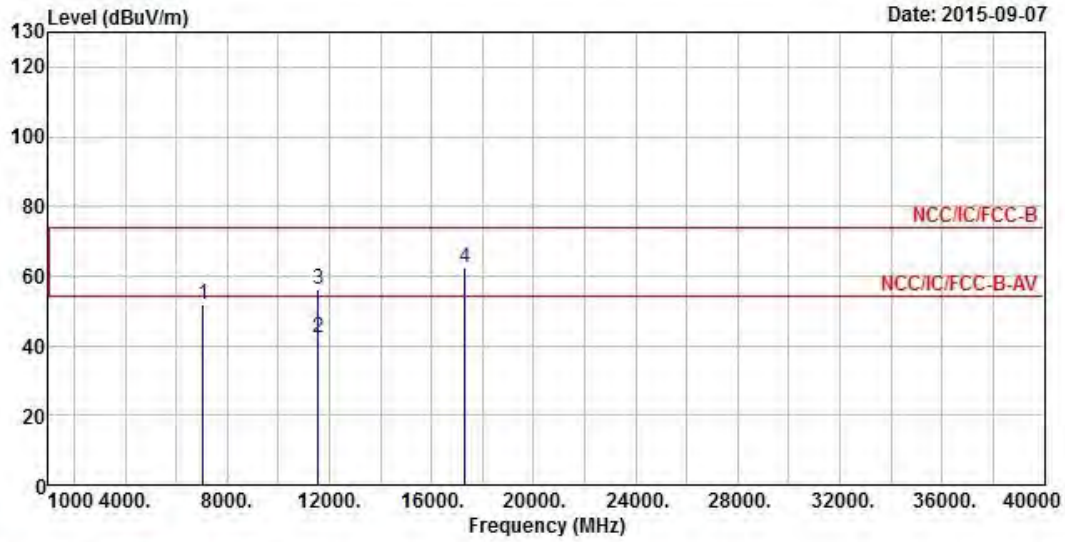
Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5775
N_{TX}	3	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7372.000	38.85	-15.15	54.00	27.44	36.19	7.92	32.70	Average
2	7372.000	52.95	-21.05	74.00	41.54	36.19	7.92	32.70	Peak
3	11550.000	42.32	-11.68	54.00	26.95	39.22	8.57	32.42	Average
4	11550.000	55.95	-18.05	74.00	40.58	39.22	8.57	32.42	Peak
5	17325.000	62.04			42.12	42.37	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (117.76 dBuV/m).

Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5775
N_{TX}	3	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7044.000	51.99			41.34	35.33	7.88	32.56	Peak
2	11550.000	42.45	-11.55	54.00	27.08	39.22	8.57	32.42	Average
3	11550.000	56.35	-17.65	74.00	40.98	39.22	8.57	32.42	Peak
4	17325.000	62.29			42.37	42.37	9.01	31.46	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level (117.76 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	Apr. 15. 2015	AC Conduction
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 22, 2015	AC Conduction
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	Oct. 31, 2014	AC Conduction
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	NA	AC Conduction

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	101500	9KHz~40GHz	May. 06, 2015	RF Conducted
Temp. and Humidity Chamber	Giant Force	GTH-225-20-S	MAB0103-001	-20 ~ 100℃	Jun. 12, 2015	RF Conducted
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Jul. 28, 2015	RF Conducted
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jun. 22, 2015	RF Conducted

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. 29, 2014	Radiated Emission
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz ~ 18GHz 3m	Dec. 17, 2014	Radiated Emission
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	May 11, 2015	Radiated Emission
Amplifier	Agilent	8449B	3008A02120	1GHz ~ 26.5GHz	Sep. 01, 2014	Radiated Emission
Amplifier	Agilent	8449B	3008A02120	1GHz ~ 26.5GHz	Sep. 02, 2015	Radiated Emission
Spectrum	R&S	FSP40	100004	9kHz ~ 40GHz	Apr. 02, 2015	Radiated Emission
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 20, 2014	Radiated Emission
Horn Antenna	ETS・LINDGREN	3115	6741	1GHz ~ 18GHz	Jul. 15, 2015	Radiated Emission
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	18GHz ~ 40GHz	Jan. 27, 2015	Radiated Emission
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Nov. 15, 2014	Radiated Emission
RF Cable-high	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz ~ 40GHz	Dec. 12, 2014	Radiated Emission
Turn Table	EM Electronics	EM Electronics	060615	0 ~ 360 degree	N/A	Radiated Emission
Antenna Mast	MF	MF-7802	MF780208179	1 ~ 4 m	N/A	Radiated Emission

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	EMC INSTRUMENTS	EMC184045B	980192	18GHz ~ 40GHz	Aug. 25.2014	Radiated Emission
Loop Antenna	R&S	HFH2-Z2	100330	9 kHz~30 MHz	Nov. 10, 2014	Radiated Emission

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