FCC Test Report

Equipment	:	**Wireless 802.11 ac/a/b/g/n Access Point**
Brand Name	:	**Senao Networks**
Model No.	:	**CAP7252AG, CAP7253AG**
FCC ID	:	**U2M-CAP7252AG**
Standard	:	**47 CFR FCC Part 15.407**
Operating Band	:	**5150 MHz – 5250 MHz**
FCC Classification	:	**NII**
Applicant	:	**Senao Networks, Inc.** **3F, No. 529, Chung Cheng Rd., Hsintien, Taipei, Taiwan, R.O.C**

The product sample received on Apr. 16, 2014 and completely tested on Aug. 27, 2014. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2009 and shown compliance with the applicable technical standards.

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

Reviewed by:

James Fan / Assistant Manager

Testing Laboratory
1190

Table of Contents

1 GENERAL DESCRIPTION 5

1.1 Information 5
1.2 Accessories and Support Equipment 7
1.3 Testing Applied Standards 8
1.4 Testing Location Information 8
1.5 Measurement Uncertainty 9

2 TEST CONFIGURATION OF EUT 10

2.1 The Worst Case Modulation Configuration 10
2.2 The Worst Case Power Setting Parameter 10
2.3 The Worst Case Measurement Configuration 11
2.4 Test Setup Diagram 13

3 TRANSMITTER TEST RESULT 14

3.1 AC Power-line Conducted Emissions 14
3.2 Emission Bandwidth 23
3.3 RF Output Power 26
3.4 Peak Power Spectral Density 30
3.5 Transmitter Radiated Unwanted Emissions and Band Edge 34
3.6 Frequency Stability 81

4 TEST EQUIPMENT AND CALIBRATION DATA 84

APPENDIX A. TEST PHOTOS A1-A12

Summary of Test Result

Conformance Test Specifications					
Report Clause	**Ref. Std. Clause**	**Description**	**Measured**	**Limit**	**Result**
1.1.3	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	[dBuV]: 0.374MHz 46.93 (Margin 1.47dB) - AV 52.37 (Margin 6.03dB) - QP	FCC 15.207	Complied
3.2	15.407(a)	Emission Bandwidth	Bandwidth [MHz] 20M: 31.01 / 40M: 48.23 80M: 93.22	Information only	Complied
3.3	15.407(a)	RF Output Power (Maximum Conducted (Average) Output Power)	Power [dBm] 5150-5250MHz: 28.15	Power [dBm] 5150-5250MHz: 30	Complied
3.4	15.407(a)	Peak Power Spectral Density	PPSD [dBm/MHz] 5150-5250MHz: 15.76	PPSD [dBm/MHz] 5150-5250MHz: 17	Complied
3.5	15.407(b)	Transmitter Unwanted Emissions and Band Edge	Restricted Bands [dBuV/m at 3m]: 5150.00MHz 73.00 (Margin 1.00dB) - PK	Non-Restricted Bands: ≤ -27dBm (68.3dBuV/m@3m) Restricted Bands: FCC 15.209	Complied
3.6	15.407(g)	Frequency Stability	7.0481 ppm	Signal shall remain in-band	Complied

Revision History

Report No.	Version	Description	Issued Date
FR441605ANB1	Rev. 01	Initial issue of report	Oct. 03, 2014

1 General Description

1.1 Information

1.1.1 Feature of Equipment under Test

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
Senao Networks	CAP7252AG	Wireless 802.11 ac/a/b/g/n Access Point	Internal PIFA antenna
	CAP7253AG		External Dipole antenna

1.1.2 RF General Information

RF General Information						
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N_{TX})	RF Output Power (dBm)	Co-location
Internal antenna						
5150-5250	a	5180-5240	36-48 [4]	2	27.14	Yes
5150-5250	n(HT20)	5180-5240	36-48 [4]	2	27.51	Yes
5150-5250	n(HT40)	5190-5230	38-46 [2]	2	23.67	Yes
5150-5250	ac(VHT20)	5180-5240	36-48 [4]	2	27.58	Yes
5150-5250	ac(VHT40)	5190-5230	38-46 [2]	2	23.79	Yes
5150-5250	ac(VHT80)	5210	42 [1]	2	14.30	Yes
External antenna						
5150-5250	a	5180-5240	36-48 [4]	2	28.15	Yes
5150-5250	n(HT20)	5180-5240	36-48 [4]	2	27.68	Yes
5150-5250	n(HT40)	5190-5230	38-46 [2]	2	25.10	Yes
5150-5250	ac(VHT20)	5180-5240	36-48 [4]	2	27.77	Yes
5150-5250	ac(VHT40)	5190-5230	38-46 [2]	2	25.22	Yes
5150-5250	ac(VHT80)	5210	42 [1]	2	15.98	Yes

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.
Note 2: 802.11a/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
Note 3: 802.11ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
Note 4: Co-location, Co-location is generally defined as simultaneously transmitting (co-transmitting) antennas within 20 cm of each other. (i.e., EUT has simultaneously co-transmitting that operating 2.4GHz and 5GHz.)

1.1.3 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).	
	☒	RF connector provided	
		☒	Unique antenna connector. (e.g., MMCX, U.FL, IPX, and RP-SMA, RP-N type…)
		☐	Standard antenna connector. (e.g., SMA, N, BNC, and TNC type…)

Antenna General Information						
No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
				2400~2483.5	5150~5250	5725~5850
1	5718A0075300	PIFA	I-Pex	3.52	---	
2	5718A0074300	PIFA	I-Pex	3.16	---	
3	5718A0077300	PIFA	I-Pex	---	5.40	5.23
4	5718A0076300	PIFA	I-Pex	---	4.08	5.68
5	7102A0300000	Dipole	R SMA	4.42	---	---
6	7102A0300000	Dipole	R SMA	4.42	---	---
7	7102A0301000	Dipole	R SMA	---	3.18	2.95
8	7102A0301000	Dipole	R SMA	---	3.18	2.95

1.1.4 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.: …

1.1.5 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle	
☐ Operated normally mode for worst duty cycle	
☒ Operated test mode for worst duty cycle	
Test Signal Duty Cycle (x)	**Power Duty Factor [dB] – (10 log 1/x)**
☒ 98.26% - IEEE 802.11a	0.08
☒ 98.15% - IEEE 802.11ac (VHT20)	0.08
☒ 94.93% - IEEE 802.11ac (VHT40)	0.23
☒ 88.46% - IEEE 802.11ac (VHT80)	0.53

1.1.6 EUT Operational Condition

Supply Voltage	12Vdc from adapter, 48Vdc from POE		
Test Voltage	☒ Vnom (120 V)	☒ Vmax (138 V)	☒ Vmin (102 V)
Test Climatic	☒ Tnom (20°C)	☒ Tmax (50°C)	☒ Tmin (-30°C)

1.2 Accessories and Support Equipment

Accessories		
No.	**Equipment**	**Description**
1	Power Supply Type 1 Adapter	Brand: Powertron Electronics Corp. Model: PA1015-2I I/P: 100-240Vac, 50-60Hz, 0.4A O/P: 12Vdc, 1.25A, 15W Power line: 1.2m non-shielded with one core
2	Power Supply Type 2 With POE injector (Model: NPE-5818) **Support unit only	Brand: Powertron Electronics Corp. Model: PA1040-480IB080 I/P: 100-240Vac, 50-60Hz, 1.5A O/P: 48Vdc, 0.8A, 38.4W max Power line: 1.5m non-shielded with one core

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E6440	DoC
2	POE	Ruckus	NPE-5818	---

1.3 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2009
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v01
- FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rule v01
- FCC KDB 662911 v02r01

1.4 Testing Location Information

Testing Location									
☒	HWA YA	ADD	:	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.					
		TEL	:	886-3-327-3456	FAX	:	886-3-327-0973		
☒	ICC Lab	ADD	:	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.					
		TEL	:	886-3-271-8640	FAX	:	886-3-327-0973		

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-HY	Mark Liao	23°C / 64%	Aug. 27, 2014
AC Conduction	*CO01-WS	Skys Huang	22°C / 63%	Jul. 24, 2014
Radiated Emission	*03CH01-WS	Anderson Hung	20-23°C / 65-68%	Jun. 10 ~ Jul. 17, 2014
Test site registered number [657002] with FCC Test site registered number [10807A-1] with IC				

Note: * Sporton Lab subcontracts this test item to ICC lab (TAF:2732).
ICC lab is a TAF accreditation test firm and also is an approved provider of Sporton Lab.

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**	**Limit**
AC power-line conducted emissions		±2.92 dB	N/A
Emission bandwidth		±1.42 %	N/A
RF output power, conducted		±0.63 dB	N/A
Power density, conducted		±0.81 dB	N/A
All emissions, radiated	30 – 1000 MHz	±3.26 dB	N/A
	Above 1 GHz	±4.94 dB	N/A
Temperature		±0.8 °C	N/A
Humidity		±3 %	N/A
DC and low frequency voltages		±3 %	N/A
Time		±1.42 %	N/A
Duty Cycle		±1.42 %	N/A

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

Worst Modulation Used for Conformance Testing (5150-5250MHz)			
Modulation Mode	**Transmit Chains (N_{TX})**	**Data Rate / MCS**	**Worst Data Rate / MCS**
11a	2	6-54Mbps	6 Mbps
HT20	2	MCS 0-15	MCS 0
HT40	2	MCS 0-15	MCS 0
VHT20	2	MCS 0-8	MCS 0
VHT40	2	MCS 0-9	MCS 0
VHT80	2	MCS 0-9	MCS 0

2.2 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter (5150-5250MHz band)							
Test Software	ART2-GUI, Version: 4_9_575_5_CS_U3						
Internal antenna							
Modulation Mode	**N_{TX}**	**Test Frequency (MHz)**					
		NCB: 20MHz			**NCB: 40MHz**		**NCB: 80MHz**
		5180	**5200**	**5240**	**5190**	**5230**	**5210**
11a,6-54Mbps	2	18	22	22.5	--	--	--
HT20,M0-15	2	17.5	22	23	--	--	--
HT40,M0-15	2	--	--	--	13	20	--
VHT20,M0-8	2	17.5	22	23	--	--	--
VHT40,M0-9	2	--	--	--	13	20	--
VHT80,M0-9	2	--	--	--	--	--	10.5
External antenna							
Modulation Mode	**N_{TX}**	**Test Frequency (MHz)**					
		NCB: 20MHz			**NCB: 40MHz**		**NCB: 80MHz**
		5180	**5200**	**5240**	**5190**	**5230**	**5210**
11a,6-54Mbps	2	18	23	23	--	--	--
HT20,M0-15	2	18	22.5	21	--	--	--
HT40,M0-15	2	--	--	--	13.5	21.5	--
VHT20,M0-8	2	18	22.5	21	--	--	--
VHT40,M0-9	2	--	--	--	13.5	21.5	--
VHT80,M0-9	2	--	--	--	--	--	12

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. Internal antenna with adapter mode
	2. Internal antenna with POE mode
	3. External antenna with adapter mode
	4. External antenna with POE mode

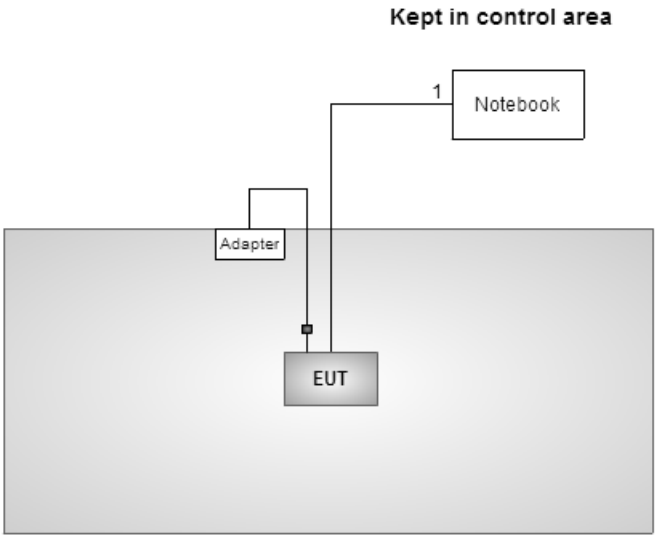
The Worst Case Mode for Following Conformance Tests	
Tests Item	RF Output Power
Test Condition	Conducted measurement at transmit chains
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80
Operating Mode	Operating Mode Description
	1. Internal antenna with adapter mode
	2. External antenna with adapter mode

The Worst Case Mode for Following Conformance Tests	
Tests Item	Peak Power Spectral Density, Emission Bandwidth
Test Condition	Conducted measurement at transmit chains
Modulation Mode	11a, VHT20, VHT40, VHT80
Operating Mode	Operating Mode Description
	1. Internal antenna with adapter mode
	2. External antenna with adapter mode

The Worst Case Mode for Following Conformance Tests			
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
User Position	☐ EUT will be placed in fixed position.		
	☒ EUT will be placed in mobile position and operating multiple positions. EUT shall be performed three orthogonal planes. The worst planes are Y-plane for internal antenna and X-plane for external antenna.		
	☐ EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed two or three orthogonal planes. The worst planes is Z.		
Operating Mode	☒ 1. Internal antenna with adapter mode		
	☒ 2. Internal antenna with POE mode		
	☒ 3. External antenna with adapter mode		
	☒ 4. External antenna with POE mode		
Modulation Mode	11a, VHT20, VHT40, VHT80		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**

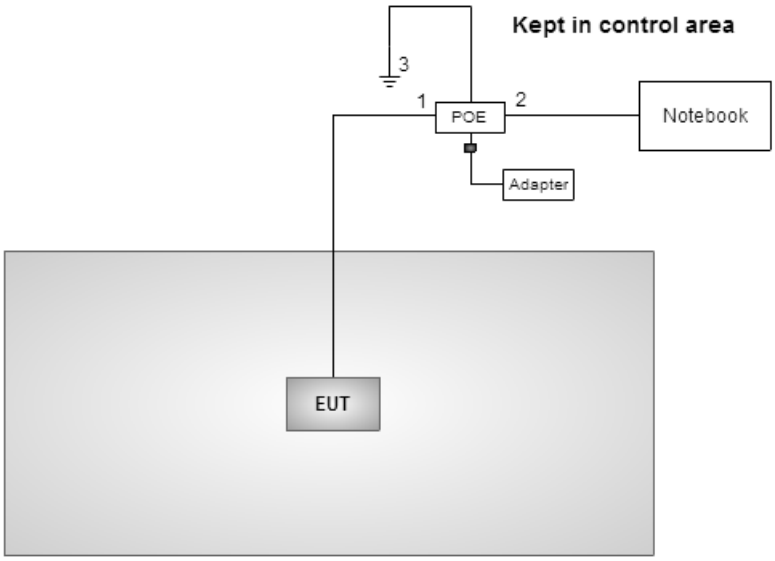
2.4 Test Setup Diagram

Test Setup Diagram - Radiated Test - adapter mode



1. RJ45, 10m non-shielded

Test Setup Diagram - Radiated Test - POE mode



1. RJ45, 10m non-shielded
2. RJ45, 1m non-shielded
3. 2m ground cable

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

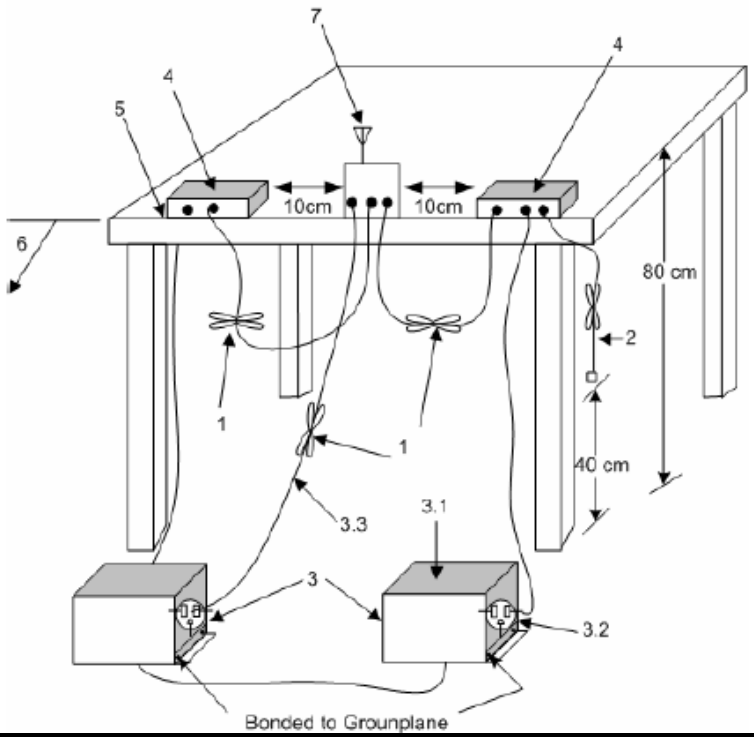
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

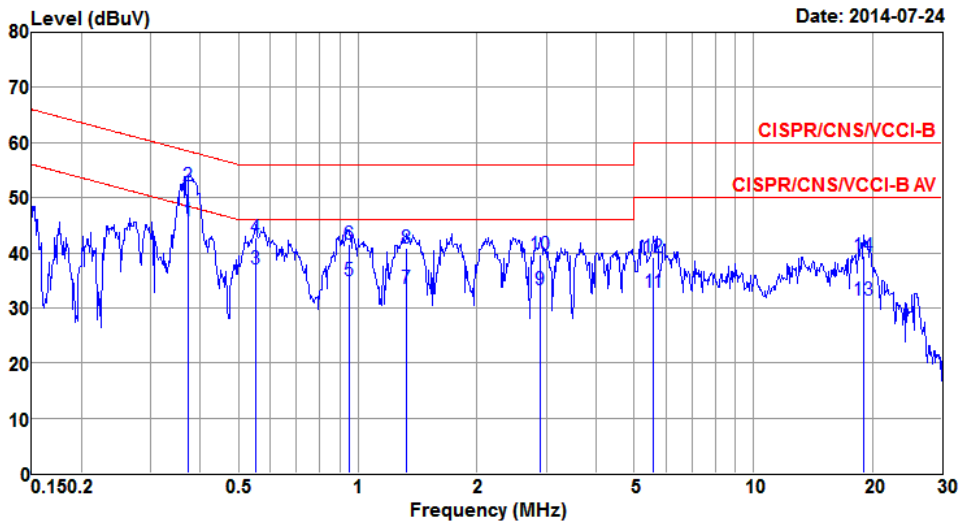
AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

Mode 1: Internal antenna with adapter mode

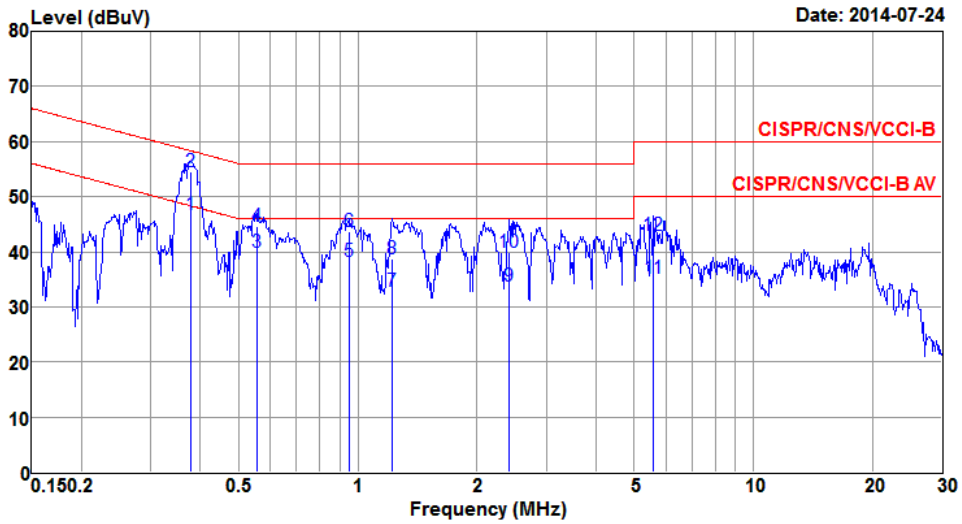
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1*	0.373	45.72	48.43	-2.71	45.10	0.60	0.02	Average
2	0.373	52.21	58.43	-6.22	51.59	0.60	0.02	QP
3	0.552	37.10	46.00	-8.90	36.34	0.68	0.08	Average
4	0.552	42.73	56.00	-13.27	41.97	0.68	0.08	QP
5	0.948	34.99	46.00	-11.01	34.01	0.79	0.19	Average
6	0.948	41.49	56.00	-14.51	40.51	0.79	0.19	QP
7	1.331	33.41	46.00	-12.59	32.36	0.92	0.13	Average
8	1.331	40.78	56.00	-15.22	39.73	0.92	0.13	QP
9	2.900	33.21	46.00	-12.79	32.01	1.11	0.09	Average
10	2.900	39.73	56.00	-16.27	38.53	1.11	0.09	QP
11	5.594	32.73	50.00	-17.27	31.20	1.34	0.19	Average
12	5.594	39.21	60.00	-20.79	37.68	1.34	0.19	QP
13	19.021	31.39	50.00	-18.61	28.47	2.54	0.38	Average
14	19.021	39.43	60.00	-20.57	36.51	2.54	0.38	QP

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

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line

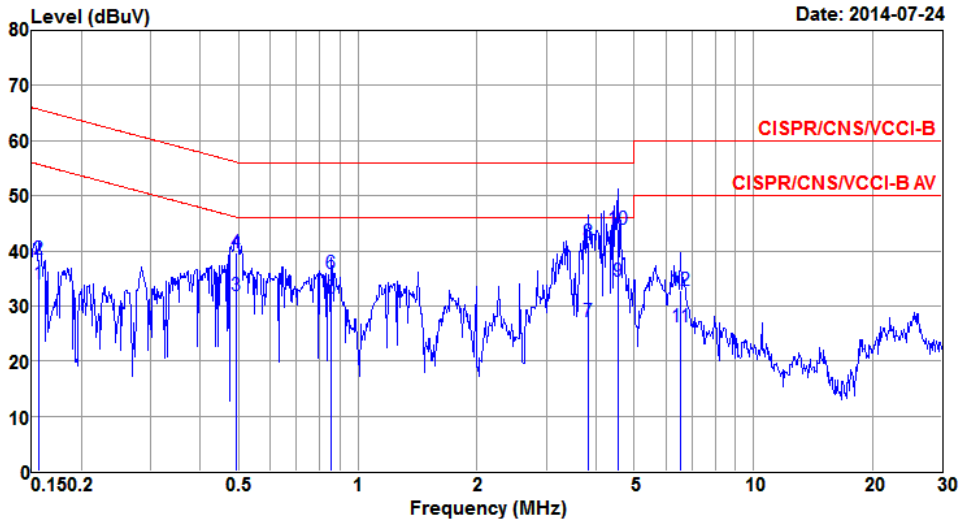


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1*	0.379	46.73	48.30	-1.57	46.19	0.52	0.02	Average
2	0.379	54.47	58.30	-3.83	53.93	0.52	0.02	QP
3	0.555	39.87	46.00	-6.13	39.19	0.60	0.08	Average
4	0.555	44.60	56.00	-11.40	43.92	0.60	0.08	QP
5	0.953	38.21	46.00	-7.79	37.30	0.72	0.19	Average
6	0.953	43.76	56.00	-12.24	42.85	0.72	0.19	QP
7	1.223	32.77	46.00	-13.23	31.81	0.81	0.15	Average
8	1.223	38.60	56.00	-17.40	37.64	0.81	0.15	QP
9	2.409	33.78	46.00	-12.22	32.70	1.03	0.05	Average
10	2.409	39.88	56.00	-16.12	38.80	1.03	0.05	QP
11	5.594	35.09	50.00	-14.91	33.60	1.30	0.19	Average
12	5.594	42.93	60.00	-17.07	41.44	1.30	0.19	QP

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

Mode 2: Internal antenna with POE mode

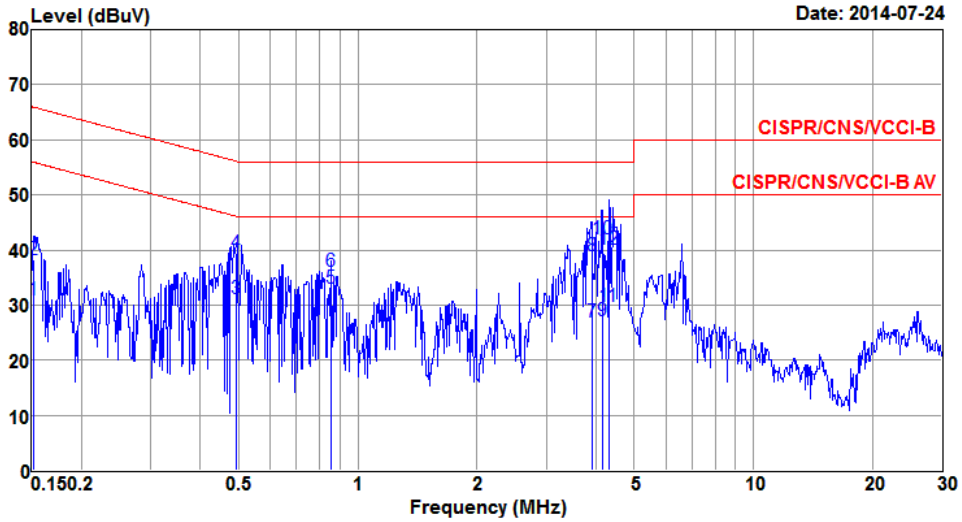
AC Power-line Conducted Emissions Result			
Operating Mode	2	**Power Phase**	Neutral



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.156	33.91	55.69	-21.78	33.40	0.49	0.02	Average
2	0.156	38.45	65.69	-27.24	37.94	0.49	0.02	QP
3	0.491	31.80	46.14	-14.34	31.09	0.65	0.06	Average
4	0.491	39.60	56.14	-16.54	38.89	0.65	0.06	QP
5	0.853	31.28	46.00	-14.72	30.34	0.77	0.17	Average
6	0.853	35.96	56.00	-20.04	35.02	0.77	0.17	QP
7	3.820	27.07	46.00	-18.93	25.80	1.13	0.14	Average
8	3.820	41.47	56.00	-14.53	40.20	1.13	0.14	QP
9*	4.549	34.46	46.00	-11.54	33.09	1.21	0.16	Average
10	4.549	43.85	56.00	-12.15	42.48	1.21	0.16	QP
11	6.557	26.21	50.00	-23.79	24.56	1.45	0.20	Average
12	6.557	32.92	60.00	-27.08	31.27	1.45	0.20	QP

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

AC Power-line Conducted Emissions Result			
Operating Mode	2	**Power Phase**	Line

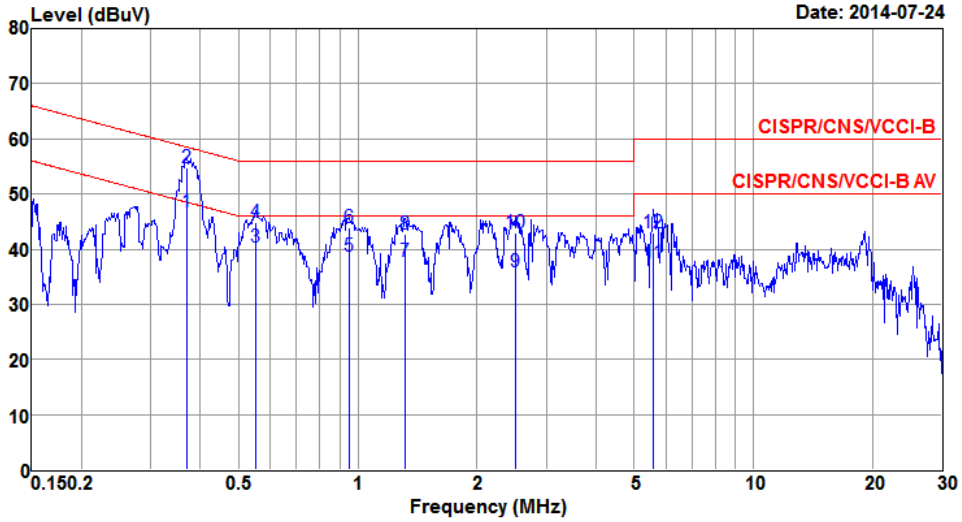


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.152	30.88	55.91	-25.03	30.45	0.41	0.02	Average
2	0.152	38.30	65.91	-27.61	37.87	0.41	0.02	QP
3	0.491	31.05	46.14	-15.09	30.42	0.57	0.06	Average
4	0.491	39.40	56.14	-16.74	38.77	0.57	0.06	QP
5*	0.853	32.95	46.00	-13.05	32.09	0.69	0.17	Average
6	0.853	36.19	56.00	-19.81	35.33	0.69	0.17	QP
7	3.901	26.99	46.00	-19.01	25.77	1.07	0.15	Average
8	3.901	39.00	56.00	-17.00	37.78	1.07	0.15	QP
9	4.158	27.14	46.00	-18.86	25.90	1.09	0.15	Average
10	4.158	42.09	56.00	-13.91	40.85	1.09	0.15	QP
11	4.315	29.63	46.00	-16.37	28.35	1.12	0.16	Average
12	4.315	40.18	56.00	-15.82	38.90	1.12	0.16	QP

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

Mode 3: External antenna with adapter mode

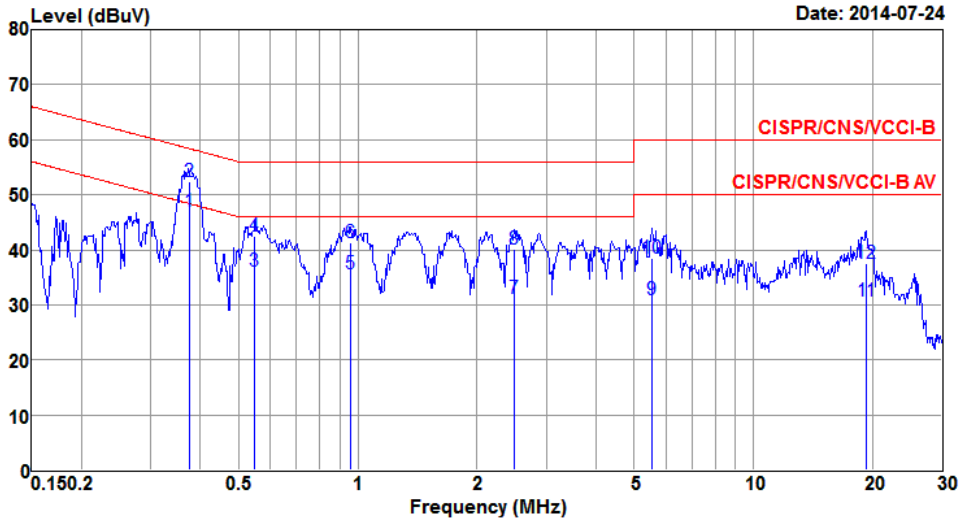
AC Power-line Conducted Emissions Result			
Operating Mode	3	**Power Phase**	Neutral



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1*	0.369	46.68	48.52	-1.84	46.06	0.60	0.02	Average
2	0.369	54.67	58.52	-3.85	54.05	0.60	0.02	QP
3	0.552	40.26	46.00	-5.74	39.50	0.68	0.08	Average
4	0.552	44.83	56.00	-11.17	44.07	0.68	0.08	QP
5	0.953	38.66	46.00	-7.34	37.68	0.79	0.19	Average
6	0.953	43.83	56.00	-12.17	42.85	0.79	0.19	QP
7	1.317	37.65	46.00	-8.35	36.60	0.92	0.13	Average
8	1.317	42.73	56.00	-13.27	41.68	0.92	0.13	QP
9	2.500	35.80	46.00	-10.20	34.64	1.10	0.06	Average
10	2.500	42.96	56.00	-13.04	41.80	1.10	0.06	QP
11	5.594	37.46	50.00	-12.54	35.93	1.34	0.19	Average
12	5.594	42.88	60.00	-17.12	41.35	1.34	0.19	QP

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

AC Power-line Conducted Emissions Result			
Operating Mode	3	**Power Phase**	Line

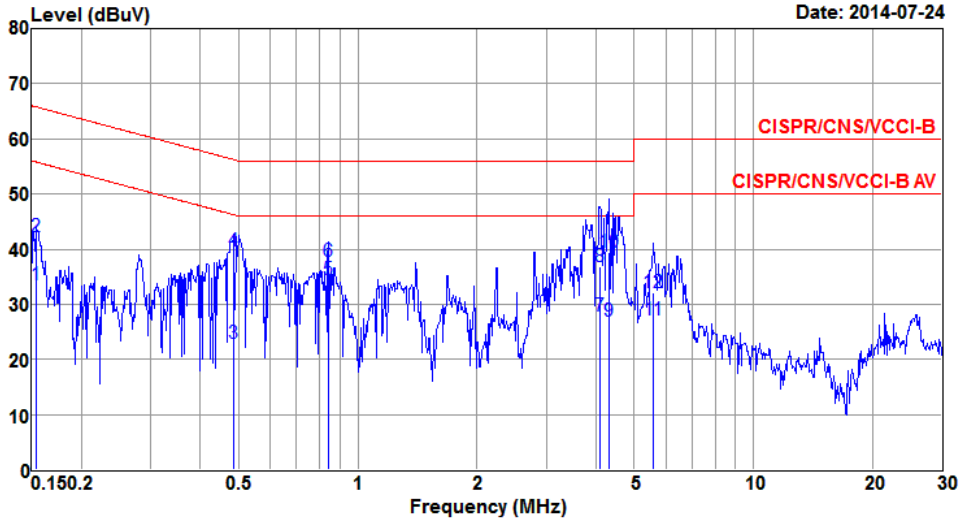


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1*	0.374	46.93	48.40	-1.47	46.39	0.52	0.02	Average
2	0.374	52.37	58.40	-6.03	51.83	0.52	0.02	QP
3	0.549	36.00	46.00	-10.00	35.32	0.60	0.08	Average
4	0.549	42.58	56.00	-13.42	41.90	0.60	0.08	QP
5	0.958	35.76	46.00	-10.24	34.85	0.72	0.19	Average
6	0.958	41.31	56.00	-14.69	40.40	0.72	0.19	QP
7	2.487	31.27	46.00	-14.73	30.18	1.03	0.06	Average
8	2.487	40.23	56.00	-15.77	39.14	1.03	0.06	QP
9	5.535	30.82	50.00	-19.18	29.34	1.29	0.19	Average
10	5.535	38.41	60.00	-21.59	36.93	1.29	0.19	QP
11	19.326	30.69	50.00	-19.31	28.23	2.07	0.39	Average
12	19.326	37.46	60.00	-22.54	35.00	2.07	0.39	QP

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

Mode 4: External antenna with POE mode

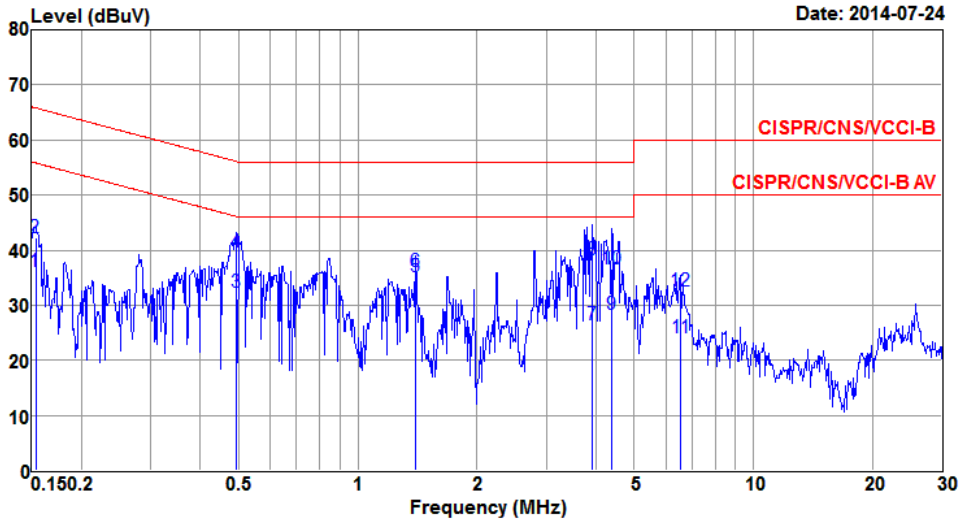
AC Power-line Conducted Emissions Result			
Operating Mode	4	**Power Phase**	Neutral



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.154	33.60	55.78	-22.18	33.09	0.49	0.02	Average
2	0.154	42.29	65.78	-23.49	41.78	0.49	0.02	QP
3	0.486	23.01	46.23	-23.22	22.30	0.65	0.06	Average
4	0.486	39.71	56.23	-16.52	39.00	0.65	0.06	QP
5*	0.844	34.51	46.00	-11.49	33.58	0.76	0.17	Average
6	0.844	37.75	56.00	-18.25	36.82	0.76	0.17	QP
7	4.092	27.97	46.00	-18.03	26.68	1.14	0.15	Average
8	4.092	36.83	56.00	-19.17	35.54	1.14	0.15	QP
9	4.315	26.87	46.00	-19.13	25.53	1.18	0.16	Average
10	4.315	39.46	56.00	-16.54	38.12	1.18	0.16	QP
11	5.594	27.15	50.00	-22.85	25.62	1.34	0.19	Average
12	5.594	32.14	60.00	-27.86	30.61	1.34	0.19	QP

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

AC Power-line Conducted Emissions Result			
Operating Mode	4	**Power Phase**	Line



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.153	36.16	55.82	-19.66	35.73	0.41	0.02	Average
2	0.153	42.24	65.82	-23.58	41.81	0.41	0.02	QP
3	0.491	32.41	46.14	-13.73	31.78	0.57	0.06	Average
4	0.491	39.73	56.14	-16.41	39.10	0.57	0.06	QP
5*	1.403	35.12	46.00	-10.88	34.14	0.87	0.11	Average
6	1.403	36.05	56.00	-19.95	35.07	0.87	0.11	QP
7	3.922	26.33	46.00	-19.67	25.11	1.07	0.15	Average
8	3.922	38.26	56.00	-17.74	37.04	1.07	0.15	QP
9	4.384	28.35	46.00	-17.65	27.06	1.13	0.16	Average
10	4.384	36.51	56.00	-19.49	35.22	1.13	0.16	QP
11	6.557	24.02	50.00	-25.98	22.41	1.41	0.20	Average
12	6.557	32.61	60.00	-27.39	31.00	1.41	0.20	QP

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

3.2 Emission Bandwidth

3.2.1 Measuring Instruments

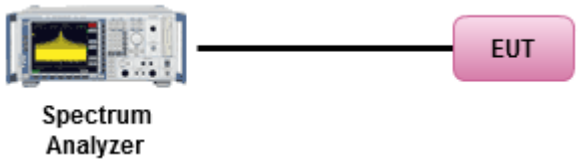
Refer a test equipment and calibration data table in this test report.

3.2.2 Test Procedures

Test Method			
☒	For the emission bandwidth shall be measured using one of the options below:		
	☒	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause C for EBW and clause D for OBW measurement.	
	☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.	
	☐	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.	
☒	For conducted measurement.		
	☐	The EUT supports single transmit chain and measurements performed on this transmit chain.	
	☐	The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.	
	☒	The EUT supports multiple transmit chains using options given below:	
		☐	Option 1: Multiple transmit chains measurements need to be performed on one of the active transmit chains (antenna outputs). All measurement had be performed on transmit chains 1.
		☒	Option 2: Multiple transmit chains measurements need to be performed on each transmit chains individually (antenna outputs). All measurement had be performed on all transmit chains.

3.2.3 Test Setup

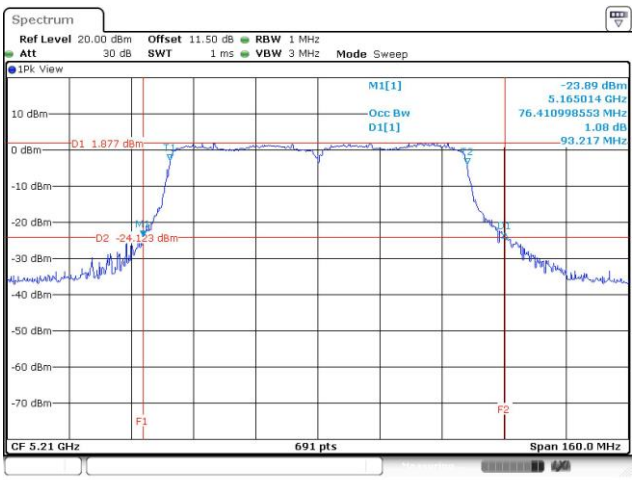
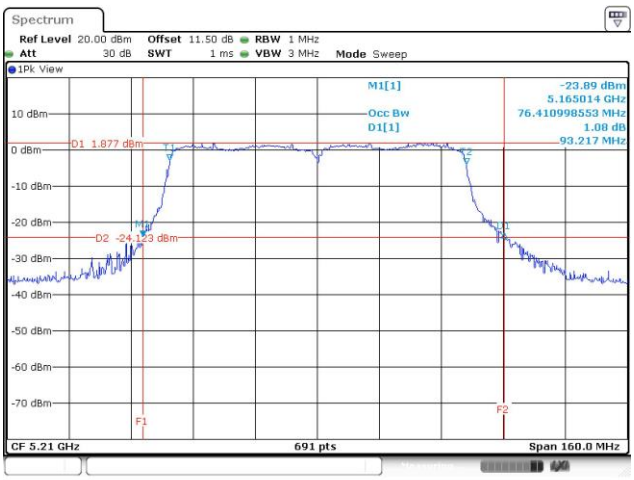
Emission Bandwidth



3.2.4 Test Result of Emission Bandwidth

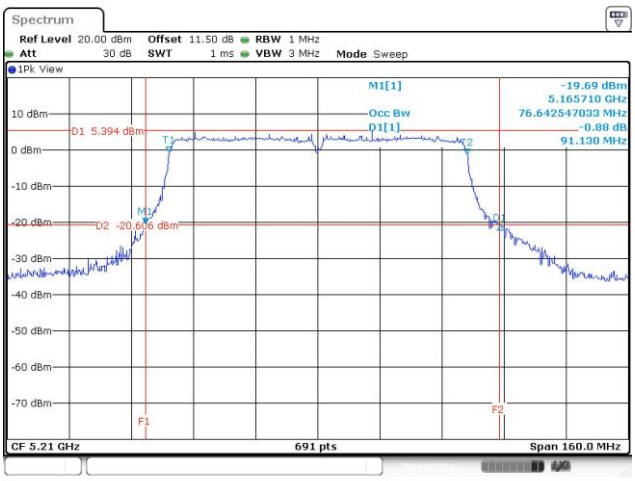
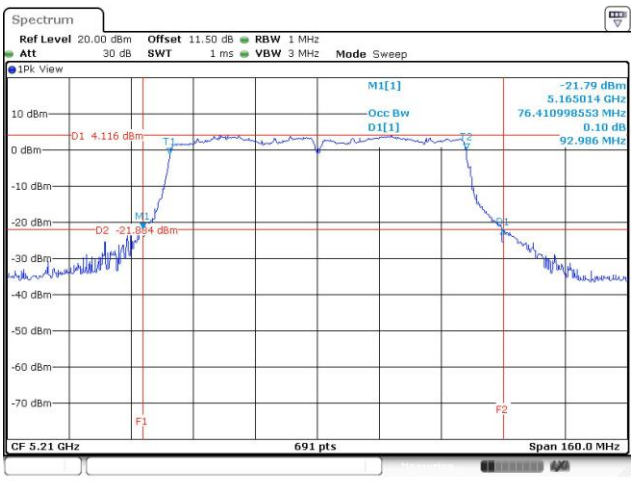
Mode 1: Internal antenna with adapter mode

UNII Emission Bandwidth Result (5150-5250MHz band)										
Condition			Emission Bandwidth (MHz)							
Modulation Mode	N_{TX}	Freq. (MHz)	99% Bandwidth				26dB Bandwidth			
			Chain-Port 1	Chain-Port 2	Chain-Port 3	Chain-Port 4	Chain-Port 1	Chain-Port 2	Chain-Port 3	Chain-Port 4
11a	2	5180	17.19	16.79	--	--	23.36	22.67	--	--
11a	2	5200	17.13	16.85	--	--	26.03	22.61	--	--
11a	2	5240	17.19	16.96	--	--	25.22	24.64	--	--
VHT20	2	5180	18.29	18.06	--	--	24.41	24.12	--	--
VHT20	2	5200	18.18	18.18	--	--	30.03	24.93	--	--
VHT20	2	5240	18.29	18.18	--	--	29.68	31.01	--	--
VHT40	2	5190	37.63	37.28	--	--	47.19	47.54	--	--
VHT40	2	5230	37.51	37.28	--	--	48.23	46.38	--	--
VHT80	2	5210	76.41	76.41	--	--	93.22	92.29	--	--
Result			Complied							

Worst Emission Bandwidth Plots	
99% Bandwidth	26dB Bandwidth
	

Mode 2: External antenna with adapter mode

UNII Emission Bandwidth Result (5150-5250MHz band)										
Condition			Emission Bandwidth (MHz)							
Modulation Mode	N_{TX}	Freq. (MHz)	99% Bandwidth				26dB Bandwidth			
			Chain-Port 1	Chain-Port 2	Chain-Port 3	Chain-Port 4	Chain-Port 1	Chain-Port 2	Chain-Port 3	Chain-Port 4
11a	2	5180	16.90	16.61	--	--	22.78	21.22	--	--
11a	2	5200	16.85	16.85	--	--	23.19	24.58	--	--
11a	2	5240	16.96	16.85	--	--	24.23	23.94	--	--
VHT20	2	5180	17.83	17.89	--	--	22.67	22.90	--	--
VHT20	2	5200	18.12	18.00	--	--	23.94	24.58	--	--
VHT20	2	5240	18.06	17.89	--	--	23.42	23.42	--	--
VHT40	2	5190	37.05	37.05	--	--	45.68	45.57	--	--
VHT40	2	5230	36.93	37.05	--	--	45.57	44.41	--	--
VHT80	2	5210	76.41	76.64	--	--	92.99	91.13	--	--
Result			Complied							

Worst Emission Bandwidth Plots	
99% Bandwidth	26dB Bandwidth
	

3.3 RF Output Power

3.3.1 RF Output Power Limit

Maximum Conducted Output Power Limit
The maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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 Conducted Output Power	
	☐	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-1 (spectral trace averaging).
	☐	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	☐	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-2 (spectral trace averaging).
	☐	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor	
	☒	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause E Method PM-G (using a gated RF average power meter).
☒	For conducted measurement.	
	☐	The EUT supports single transmit chain and measurements performed on this transmit chain.
	☐	The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
	☒	The EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	☐	If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

RF Output Power (Power Meter)

3.3.5 Directional Gain for Power Measurement

Mode 1: Internal antenna with adapter mode

Directional Gain (DG) Result					
Transmit Chains No.		1	2	-	-
Maximum G_{ANT} (dBi)		5.40	4.08	-	-
Modulation Mode	**DG (dBi)**	**N_{TX}**	**N_{SS}**	**STBC**	**Array Gain (dB)**
11a,6-54Mbps	5.4	2	1	-	-
HT20,M0-15	5.4	2	1	-	-
HT40,M0-15	5.4	2	1	-	-
VHT20,M0-8	5.4	2	1	-	-
VHT40,M0-9	5.4	2	1	-	-
VHT80,M0-9	5.4.	2	1		-

Note: Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain

Mode 2: External antenna with adapter mode

Directional Gain (DG) Result					
Transmit Chains No.		1	2	-	-
Maximum G_{ANT} (dBi)		3.18	3.18	-	-
Modulation Mode	**DG (dBi)**	**N_{TX}**	**N_{SS}**	**STBC**	**Array Gain (dB)**
11a,6-54Mbps	3.18	2	1	-	-
HT20,M0-15	3.18	2	1	-	-
HT40,M0-15	3.18	2	1	-	-
VHT20,M0-8	3.18	2	1	-	-
VHT40,M0-9	3.18	2	1	-	-
VHT80,M0-9	3.18	2	1		-

3.3.6 Test Result of Maximum Conducted Output Power

Mode 1: Internal antenna with adapter mode

Maximum Conducted (Average) Output Power (5150-5250MHz band)											
Condition			RF Output Power (dBm)								
Modulation Mode	N_{TX}	Freq. (MHz)	Chain Port 1	Chain Port 2	Chain Port 3	Chain Port 4	Sum Chain	Power Limit	DG (dBi)	EIRP Power	EIRP Limit
11a	2	5180	19.14	18.94	--	--	22.05	30.00	5.4	27.45	36.00
11a	2	5200	23.94	23.55	--	--	26.76	30.00	5.4	32.16	36.00
11a	2	5240	24.32	23.93	--	--	27.14	30.00	5.4	32.54	36.00
HT20	2	5180	19.04	18.56	--	--	21.82	30.00	5.4	27.22	36.00
HT20	2	5200	23.89	23.54	--	--	26.73	30.00	5.4	32.13	36.00
HT20	2	5240	24.68	24.31	--	--	27.51	30.00	5.4	32.91	36.00
HT40	2	5190	13.42	13.14	--	--	16.29	30.00	5.4	21.69	36.00
HT40	2	5230	20.85	20.46	--	--	23.67	30.00	5.4	29.07	36.00
VHT20	2	5180	19.11	18.64	--	--	21.89	30.00	5.4	27.29	36.00
VHT20	2	5200	24.02	23.61	--	--	26.83	30.00	5.4	32.23	36.00
VHT20	2	5240	24.71	24.42	--	--	27.58	30.00	5.4	32.98	36.00
VHT40	2	5190	13.55	13.26	--	--	16.42	30.00	5.4	21.82	36.00
VHT40	2	5230	20.96	20.59	--	--	23.79	30.00	5.4	29.19	36.00
VHT80	2	5210	11.36	11.22	--	--	14.30	30.00	5.4	19.70	36.00
Result			Complied								

Mode 2: External antenna with adapter mode

Maximum Conducted (Average) Output Power (5150-5250MHz band)											
Condition			RF Output Power (dBm)								
Modulation Mode	N_{TX}	Freq. (MHz)	Chain Port 1	Chain Port 2	Chain Port 3	Chain Port 4	Sum Chain	Power Limit	DG (dBi)	EIRP Power	EIRP Limit
11a	2	5180	19.68	20.35	--	--	23.04	30.00	3.18	26.22	36.00
11a	**2**	**5200**	**24.82**	**25.44**	**--**	**--**	**28.15**	**30.00**	**3.18**	**31.33**	**36.00**
11a	2	5240	24.48	25.01	--	--	27.76	30.00	3.18	30.94	36.00
HT20	2	5180	19.42	20.31	--	--	22.90	30.00	3.18	26.08	36.00
HT20	2	5200	24.35	24.96	--	--	27.68	30.00	3.18	30.86	36.00
HT20	2	5240	22.26	23.15	--	--	25.74	30.00	3.18	28.92	36.00
HT40	2	5190	13.75	14.52	--	--	17.16	30.00	3.18	20.34	36.00
HT40	2	5230	21.86	22.31	--	--	25.10	30.00	3.18	28.28	36.00
VHT20	2	5180	19.51	20.43	--	--	23.00	30.00	3.18	26.18	36.00
VHT20	2	5200	24.47	25.04	--	--	27.77	30.00	3.18	30.95	36.00
VHT20	2	5240	22.38	23.26	--	--	25.85	30.00	3.18	29.03	36.00
VHT40	2	5190	13.86	14.63	--	--	17.27	30.00	3.18	20.45	36.00
VHT40	2	5230	21.98	22.43	--	--	25.22	30.00	3.18	28.40	36.00
VHT80	2	5210	12.56	13.35	--	--	15.98	30.00	3.18	19.16	36.00
Result			Complied								

3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit
The maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band

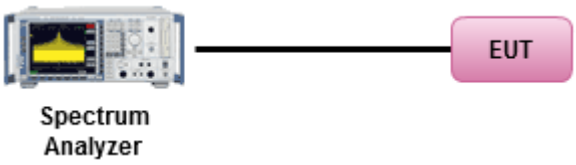
3.4.2 Measuring Instruments

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 shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:		
	☐	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth	
	☐	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-1 (spectral trace averaging).	
	☐	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)	
	☐	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-2 (spectral trace averaging).	
	☒	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-2 Alt. (RMS detection with 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 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.
		☐	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.
	☐	If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \ldots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$	
	☐	Each individually PPSD plots refer as test report clause 3.3.5 with each individually PPSD plots.	

3.4.4 Test Setup

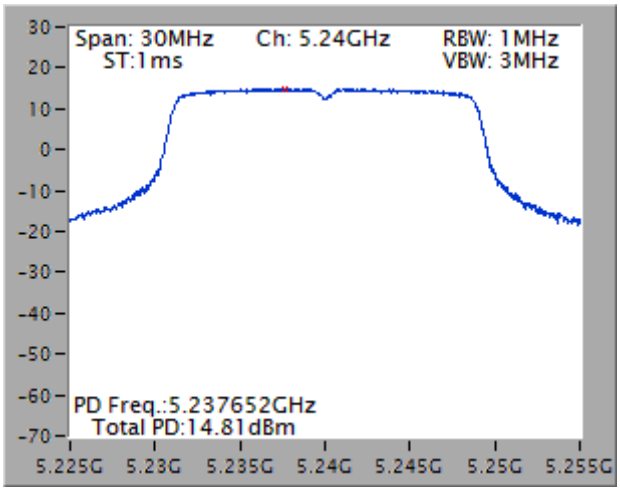
Power Spectral Density


3.4.5 Test Result of Peak Power Spectral Density

Mode 1: Internal antenna with adapter mode

Peak Power Spectral Density Result (5150-5250MHz band)							
Condition			Peak Power Spectral Density (dBm/MHz)				
Modulation Mode	N_{TX}	Freq. (MHz)	Sum Chain	PSD Limit	DG (dBi)	EIRP PSD	EIRP Limit
11a	2	5180	9.75	15.22	7.78	17.53	23
11a	2	5200	14.17	15.22	7.78	21.95	23
11a	2	5240	14.74	15.22	7.78	22.52	23
VHT20	2	5180	8.92	15.22	7.78	16.70	23
VHT20	2	5200	14.00	15.22	7.78	21.78	23
VHT20	2	5240	14.81	15.22	7.78	22.59	23
VHT40	2	5190	-0.36	15.22	7.78	7.42	23
VHT40	2	5230	7.61	15.22	7.78	15.39	23
VHT80	2	5210	-5.58	15.22	7.78	2.20	23
Result			Complied				

Worst Power Spectral Density Plots



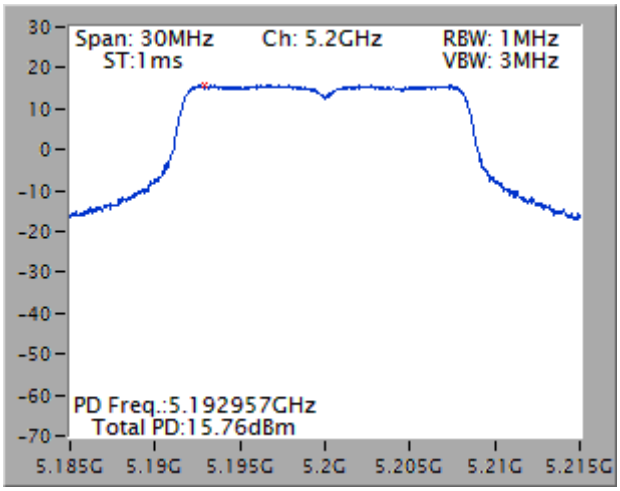
Note:

1. Peak Power Spectral Density w/o Duty Factor.
2. Test results are bin-by-bin summing measured value of each TX port.
   Directional gain = $10 * \log((10^{5.40/20}+10^{4.08/20})^2/2)$ = 7.78 dBi > 6 dBi
   Limit shall be reduced to 17 dBm – (7.78 dBi – 6 dBi) = 15.22 dBm

Mode 2: External antenna with adapter mode

Peak Power Spectral Density Result (5150-5250MHz band)							
Condition			Peak Power Spectral Density (dBm/MHz)				
Modulation Mode	N_{TX}	Freq. (MHz)	Sum Chain	PSD Limit	DG (dBi)	EIRP PSD	EIRP Limit
11a	2	5180	10.55	16.81	6.19	16.74	23
11a	2	5200	15.76	16.81	6.19	21.95	23
11a	2	5240	15.33	16.81	6.19	21.52	23
VHT20	2	5180	10.28	16.81	6.19	16.47	23
VHT20	2	5200	15.09	16.81	6.19	21.28	23
VHT20	2	5240	12.94	16.81	6.19	19.13	23
VHT40	2	5190	1.51	16.81	6.19	7.70	23
VHT40	2	5230	9.38	16.81	6.19	15.57	23
VHT80	2	5210	-3.41	16.81	6.19	2.78	23
Result			Complied				

Worst Power Spectral Density Plots



Note:

1. Peak Power Spectral Density w/o Duty Factor.
2. Test results are bin-by-bin summing measured value of each TX port.
   Directional gain = 3.18+10* log(2/1) = 6.19 dBi > 6 dBi.
   Limit shall be reduced to 17 dBm – (6.19 dBi – 6 dBi) = 16.81 dBm

3.5 Transmitter Radiated Unwanted Emissions and Band Edge

3.5.1 Transmitter Radiated Unwanted Emissions and Band Edge Limit

Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

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

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

Un-restricted band emissions above 1GHz Limit	
Operating Band	**Limit**
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.825 GHz	5.715 5.725 GHz: e.i.r.p. -17 dBm [78.2 dBuV/m@3m] 5.825 5.835 GHz: e.i.r.p. -17 dBm [78.2 dBuV/m@3m] Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m]

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

3.5.2 Measuring Instruments

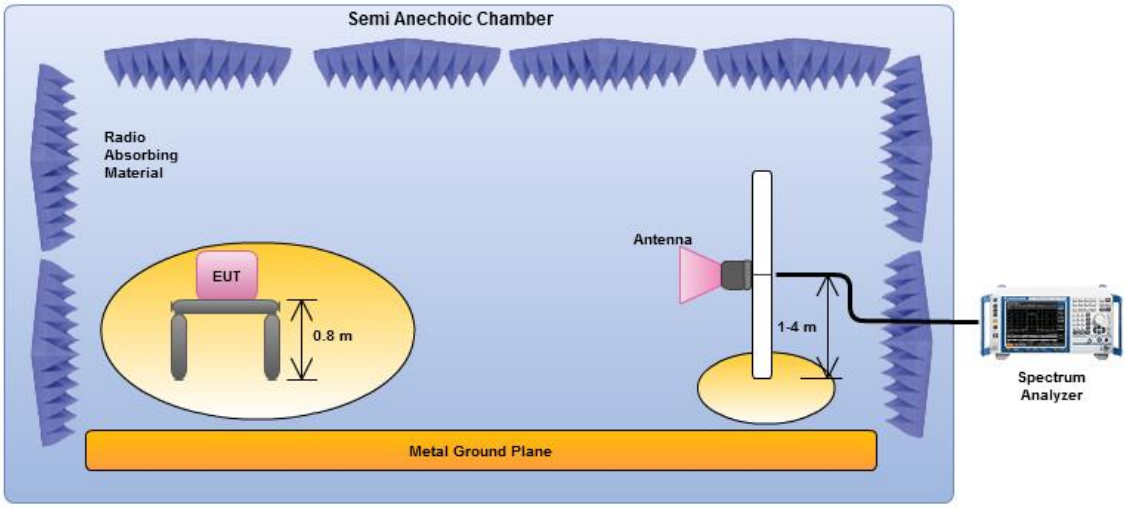
Refer a test equipment and calibration data table in this test report.

3.5.3 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. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).		
☒	For the transmitter unwanted emissions shall be measured using following options below:		
	☒	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause G)2) for unwanted emissions into non-restricted bands.	
	☒	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause G)1) for unwanted emissions into restricted bands.	
		☐	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, G)6) Method AD (Trace Averaging).
		☐	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, G)6) Method VB (Reduced VBW).
		☒	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐	Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
		☒	Refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause G)5) measurement procedure peak limit.
		☐	Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
☒	For radiated measurement.		
	☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.	
	☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz.	
	☒	Refer as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz.	
☐	For conducted and cabinet radiation measurement, refer as FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, clause G)3).		
	☐	For conducted unwanted emissions into non-restricted bands (relative emission limits). Devices with multiple transmit chains: Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs.	
	☐	For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB	
	☐	For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.	

3.5.4 Test Setup

Transmitter Radiated Unwanted Emissions



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

Note: Test distance is 3m.

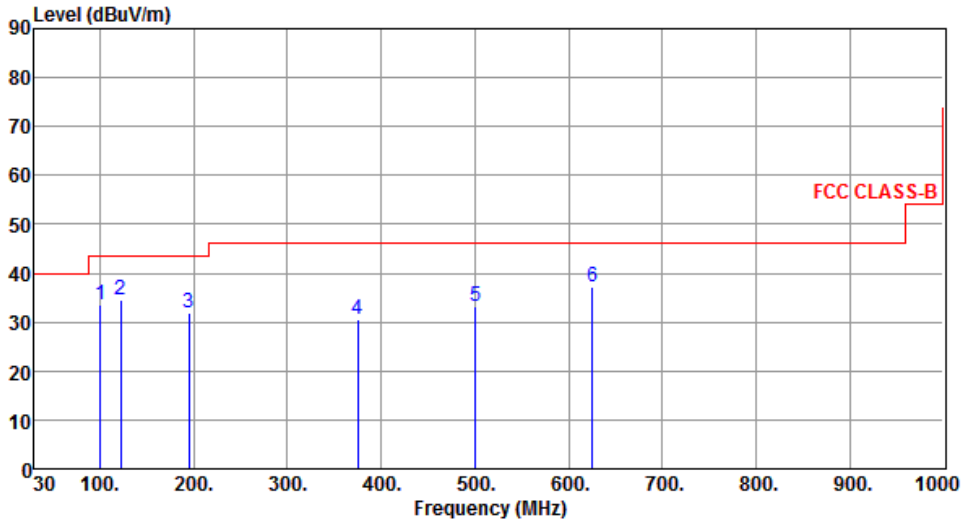
3.5.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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

3.5.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Mode 1: Internal antenna with adapter mode

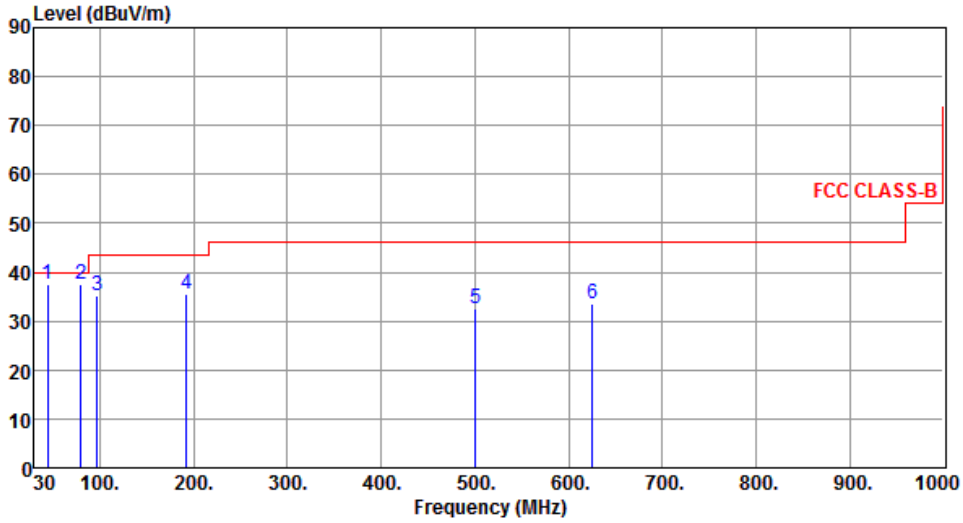
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5240
Polarization	H	**Operating Mode**	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	100.81	33.41	43.50	-10.09	55.11	-21.70	Peak	---	---
2	122.15	34.62	43.50	-8.88	53.57	-18.95	Peak	---	---
3	194.90	31.74	43.50	-11.76	51.36	-19.62	Peak	---	---
4	375.32	30.48	46.00	-15.52	44.82	-14.34	Peak	---	---
5	500.45	33.32	46.00	-12.68	44.86	-11.54	Peak	---	---
6	625.58	37.12	46.00	-8.88	46.30	-9.18	Peak	---	---

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

Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5240
Polarization	V	**Operating Mode**	1

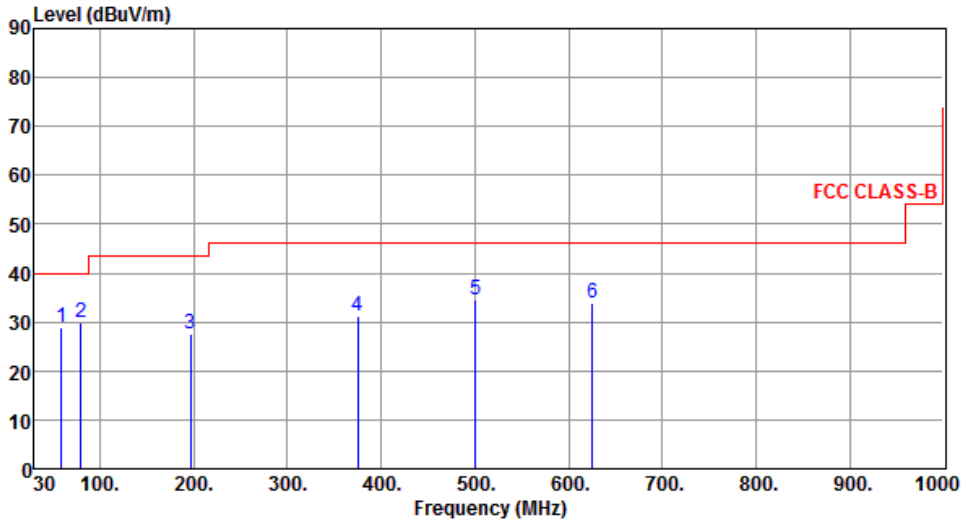


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	44.55	37.49	40.00	-2.51	54.31	-16.82	Peak	---	---
2	79.47	37.55	40.00	-2.45	59.07	-21.52	Peak	---	---
3	96.93	35.17	43.50	-8.33	57.38	-22.21	Peak	---	---
4	191.99	35.48	43.50	-8.02	55.09	-19.61	Peak	---	---
5	500.45	32.67	46.00	-13.33	44.21	-11.54	Peak	---	---
6	625.58	33.57	46.00	-12.43	42.75	-9.18	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)

Mode 2: Internal antenna with POE mode

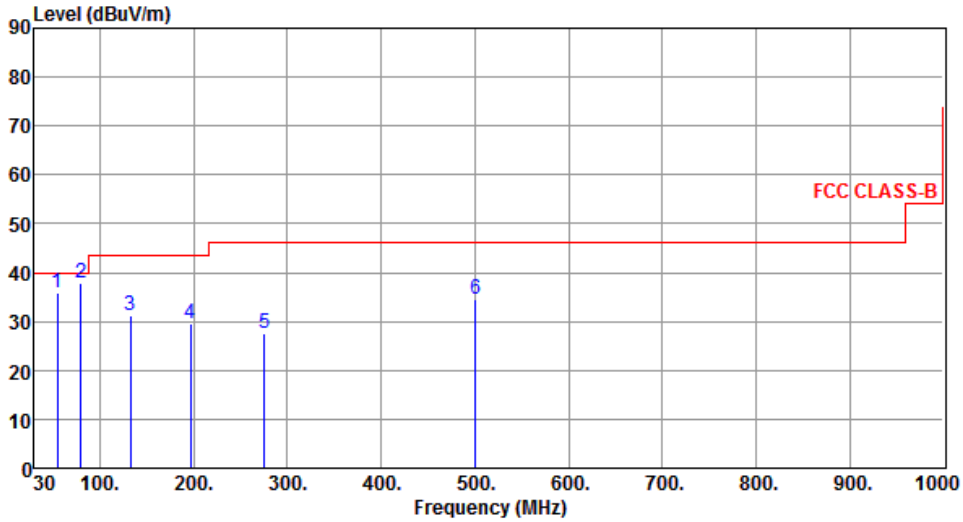
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5240
Polarization	H	**Operating Mode**	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	59.10	28.91	40.00	-11.09	46.01	-17.10	Peak	---	---
2	79.47	29.73	40.00	-10.27	51.25	-21.52	Peak	---	---
3	196.84	27.41	43.50	-16.09	47.05	-19.64	Peak	---	---
4	375.32	31.26	46.00	-14.74	45.60	-14.34	Peak	---	---
5	500.45	34.57	46.00	-11.43	46.11	-11.54	Peak	---	---
6	625.58	33.82	46.00	-12.18	43.00	-9.18	Peak	---	---

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

Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5240
Polarization	V	**Operating Mode**	2

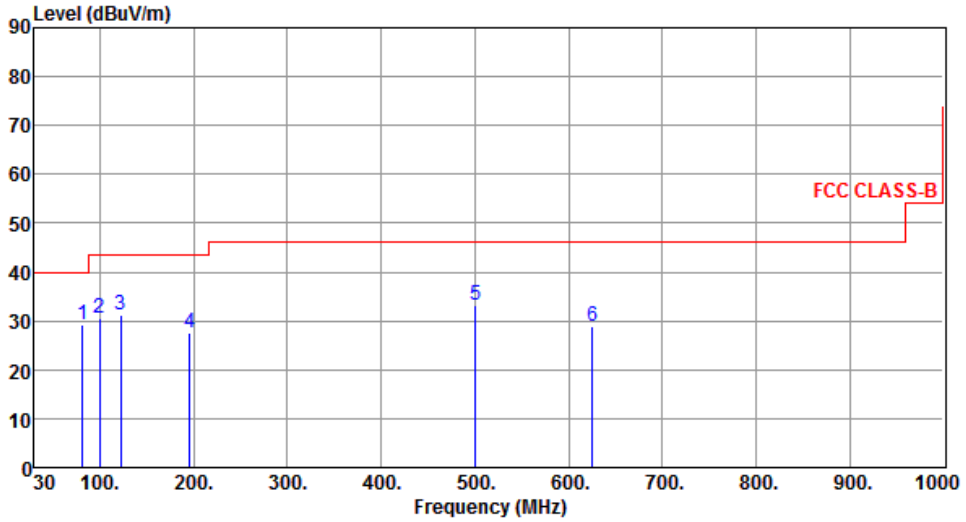


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	54.24	35.88	40.00	-4.12	52.68	-16.80	QP	---	---
2	79.47	38.02	40.00	-1.98	59.54	-21.52	Peak	---	---
3	132.82	31.14	43.50	-12.36	49.15	-18.01	Peak	---	---
4	196.84	29.59	43.50	-13.91	49.23	-19.64	Peak	---	---
5	275.41	27.70	46.00	-18.30	44.57	-16.87	Peak	---	---
6	500.45	34.67	46.00	-11.33	46.21	-11.54	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)

Mode 3: External antenna with adapter mode

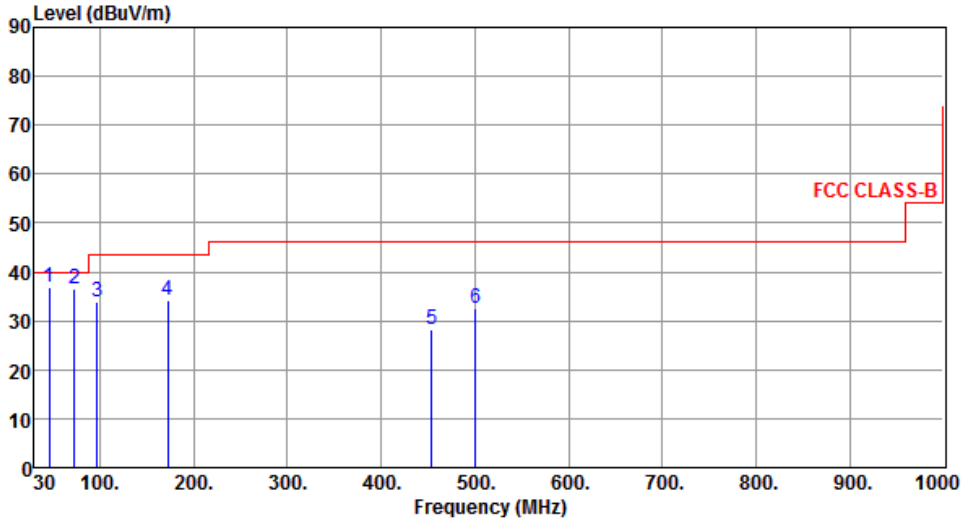
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5200
Polarization	H	**Operating Mode**	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	81.41	29.17	40.00	-10.83	51.00	-21.83	Peak	---	---
2	99.84	30.61	43.50	-12.89	52.46	-21.85	Peak	---	---
3	122.15	31.36	43.50	-12.14	50.31	-18.95	Peak	---	---
4	195.87	27.61	43.50	-15.89	47.24	-19.63	Peak	---	---
5	500.45	33.28	46.00	-12.72	44.82	-11.54	Peak	---	---
6	625.58	28.99	46.00	-17.01	38.17	-9.18	Peak	---	---

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

Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5200
Polarization	V	**Operating Mode**	3

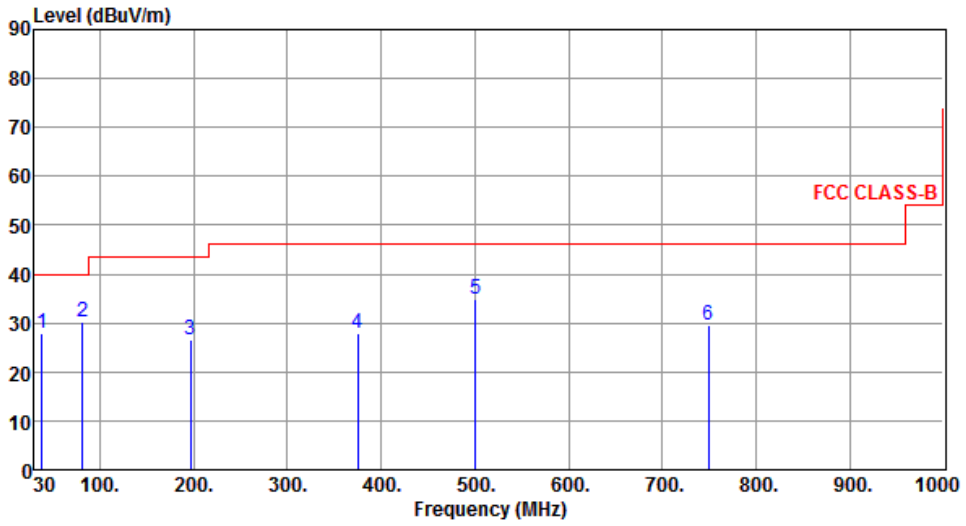


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	45.52	36.75	40.00	-3.25	53.51	-16.76	Peak	---	---
2	72.68	36.57	40.00	-3.43	56.59	-20.02	Peak	---	---
3	96.93	33.85	43.50	-9.65	56.06	-22.21	Peak	---	---
4	172.59	34.29	43.50	-9.21	52.01	-17.72	Peak	---	---
5	453.89	28.26	46.00	-17.74	40.71	-12.45	Peak	---	---
6	500.45	32.54	46.00	-13.46	44.08	-11.54	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)

Mode 4: External antenna with POE mode

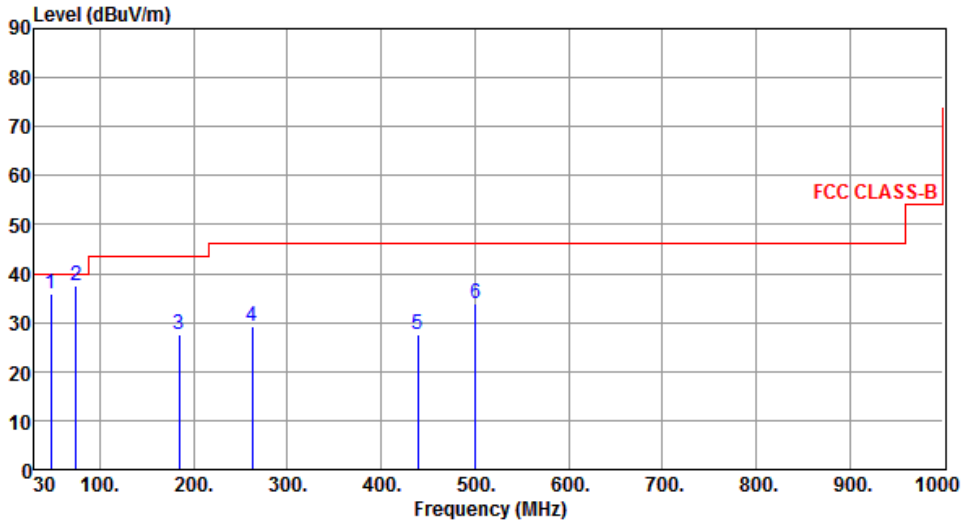
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5200
Polarization	H	**Operating Mode**	4



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	37.76	28.02	40.00	-11.98	45.23	-17.21	Peak	---	---
2	81.41	30.31	40.00	-9.69	52.14	-21.83	Peak	---	---
3	196.84	26.71	43.50	-16.79	46.35	-19.64	Peak	---	---
4	375.32	28.01	46.00	-17.99	42.35	-14.34	Peak	---	---
5	500.45	35.03	46.00	-10.97	46.57	-11.54	Peak	---	---
6	749.74	29.53	46.00	-16.47	36.77	-7.24	Peak	---	---

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

Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5200
Polarization	V	**Operating Mode**	4



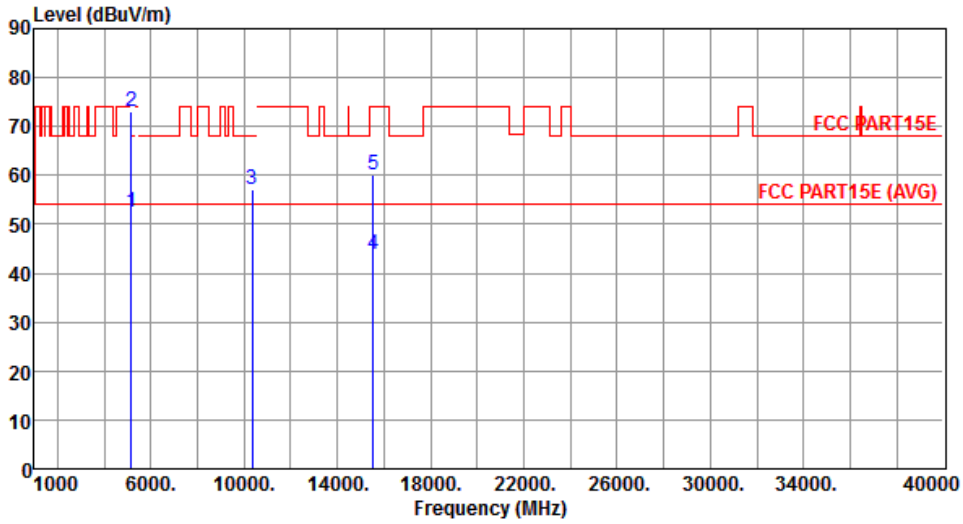
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	47.46	35.78	40.00	-4.22	52.43	-16.65	Peak	---	---
2	74.62	37.54	40.00	-2.46	58.01	-20.47	Peak	---	---
3	184.23	27.65	43.50	-15.85	46.63	-18.98	Peak	---	---
4	262.80	29.37	46.00	-16.63	46.84	-17.47	Peak	---	---
5	439.34	27.67	46.00	-18.33	40.43	-12.76	Peak	---	---
6	500.45	33.81	46.00	-12.19	45.35	-11.54	Peak	---	---

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

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)

Mode 1: Internal antenna with adapter mode

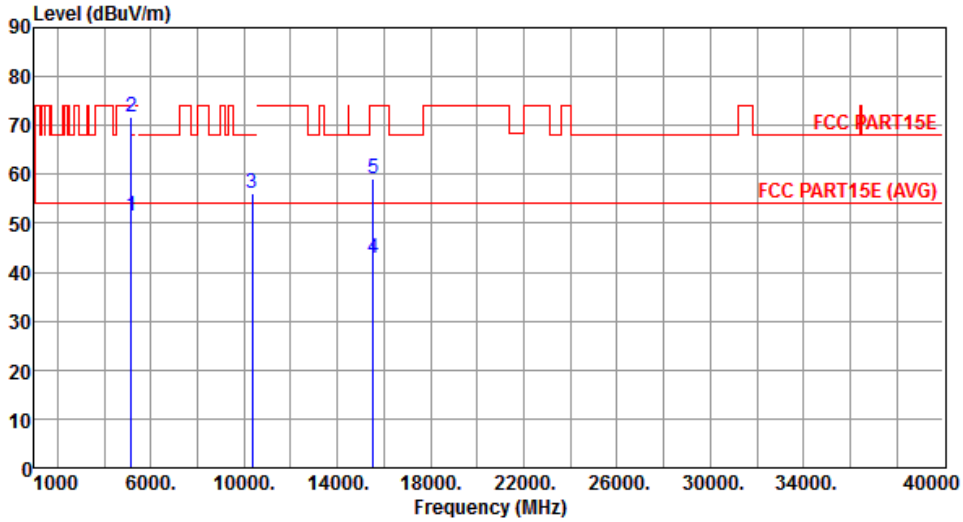
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5180
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.53	54.00	-1.47	46.97	5.56	Average	---	---
2	5150.00	73.00	74.00	-1.00	67.44	5.56	Peak	---	---
3	10360.00	57.04	68.20	-11.16	41.97	15.07	Peak	---	---
4	15540.00	43.85	54.00	-10.15	29.32	14.53	Average	---	---
5	15540.00	60.03	74.00	-13.97	45.50	14.53	Peak	---	---

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

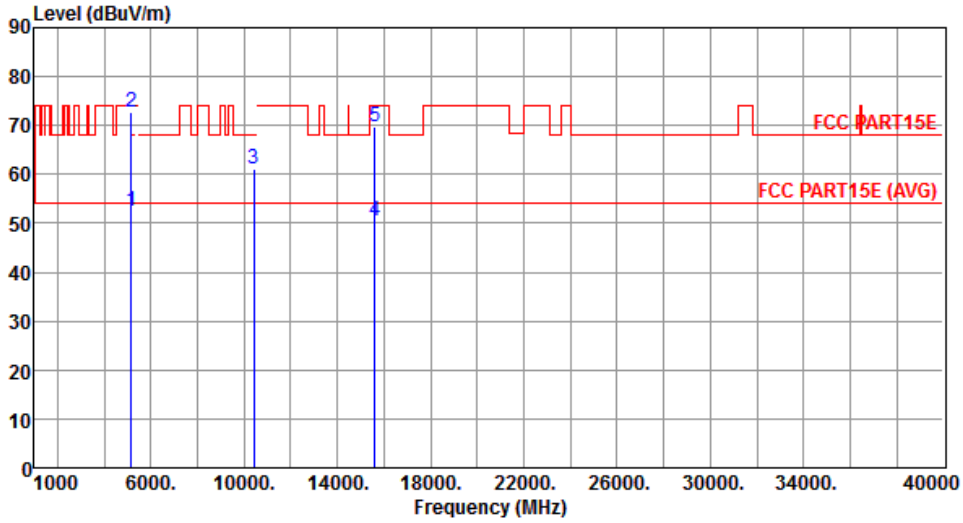
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5180
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.42	54.00	-2.58	45.86	5.56	Average	---	---
2	5150.00	71.85	74.00	-2.15	66.29	5.56	Peak	---	---
3	10360.00	56.01	68.20	-12.19	40.94	15.07	Peak	---	---
4	15540.00	42.73	54.00	-11.27	28.20	14.53	Average	---	---
5	15540.00	59.15	74.00	-14.85	44.62	14.53	Peak	---	---

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

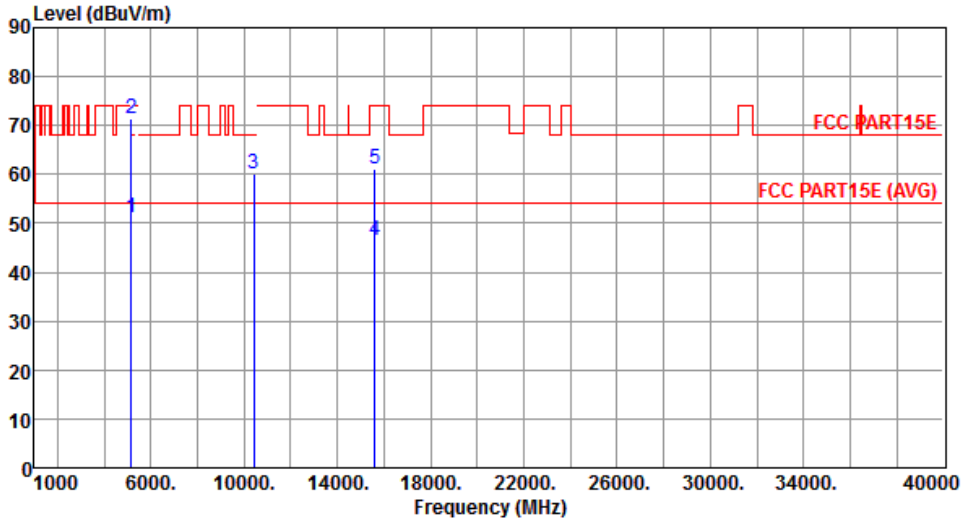
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5200
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.39	54.00	-1.61	46.83	5.56	Average	---	---
2	5150.00	72.82	74.00	-1.18	67.26	5.56	Peak	---	---
3	10400.00	61.07	68.20	-7.13	45.94	15.13	Peak	---	---
4	15600.00	50.56	54.00	-3.44	36.12	14.44	Average	---	---
5	15600.00	69.72	74.00	-4.28	55.28	14.44	Peak	---	---

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

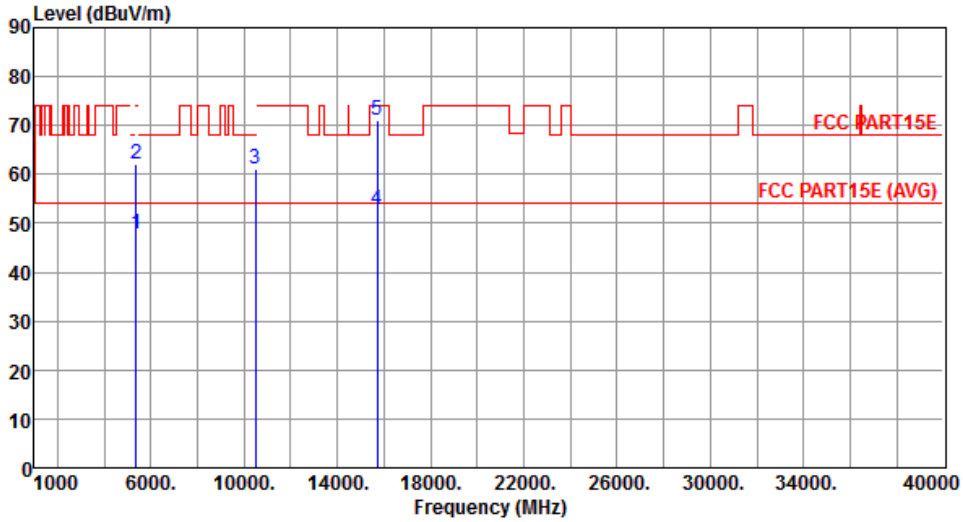
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5200
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.15	54.00	-2.85	45.59	5.56	Average	---	---
2	5150.00	71.48	74.00	-2.52	65.92	5.56	Peak	---	---
3	10400.00	60.06	68.20	-8.14	44.93	15.13	Peak	---	---
4	15600.00	46.65	54.00	-7.35	32.21	14.44	Average	---	---
5	15600.00	61.20	74.00	-12.80	46.76	14.44	Peak	---	---

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

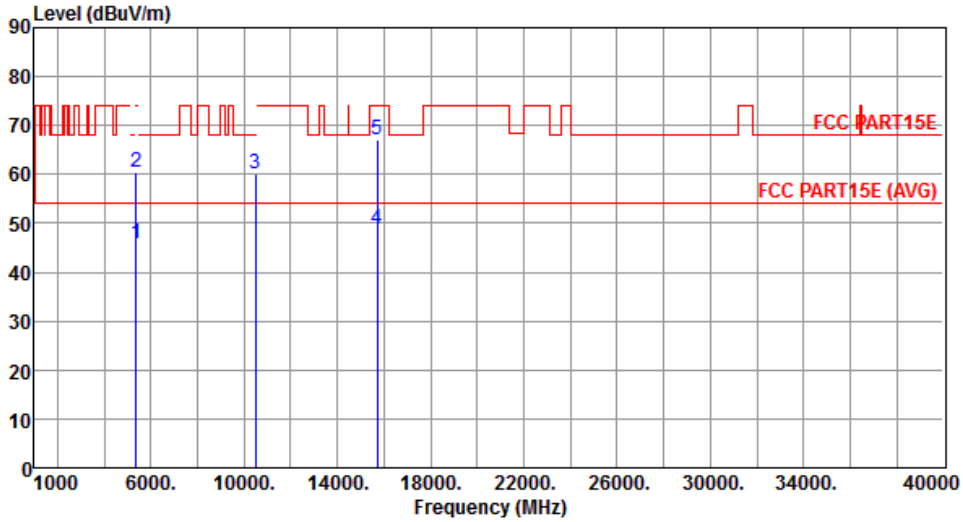
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5240
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	47.83	54.00	-6.17	42.12	5.71	Average	---	---
2	5350.00	62.12	74.00	-11.88	56.41	5.71	Peak	---	---
3	10480.00	61.03	68.20	-7.17	45.79	15.24	Peak	---	---
4	15720.00	52.67	54.00	-1.33	38.41	14.26	Average	---	---
5	15720.00	70.96	74.00	-3.04	56.70	14.26	Peak	---	---

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

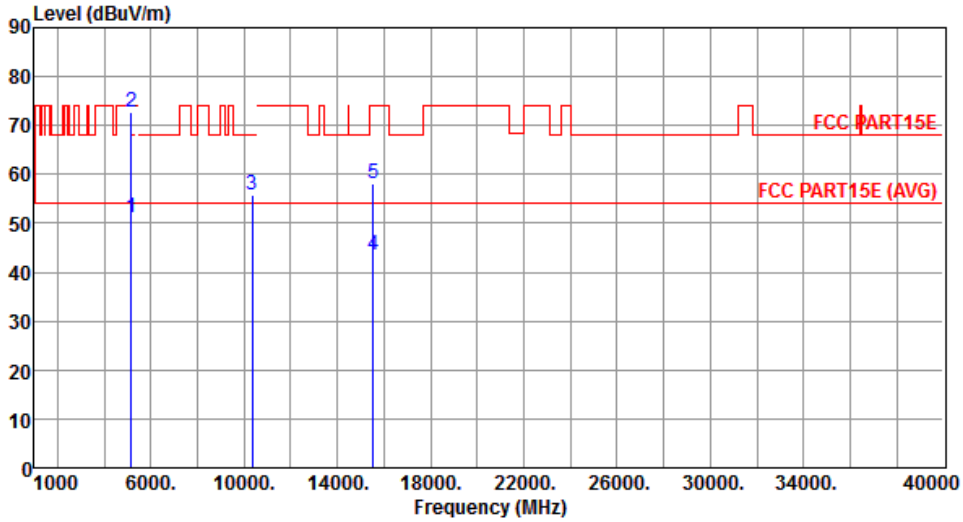
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5240
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	45.95	54.00	-8.05	40.24	5.71	Average	---	---
2	5350.00	60.52	74.00	-13.48	54.81	5.71	Peak	---	---
3	10480.00	60.00	68.20	-8.20	44.76	15.24	Peak	---	---
4	15720.00	48.87	54.00	-5.13	34.61	14.26	Average	---	---
5	15720.00	66.92	74.00	-7.08	52.66	14.26	Peak	---	---

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

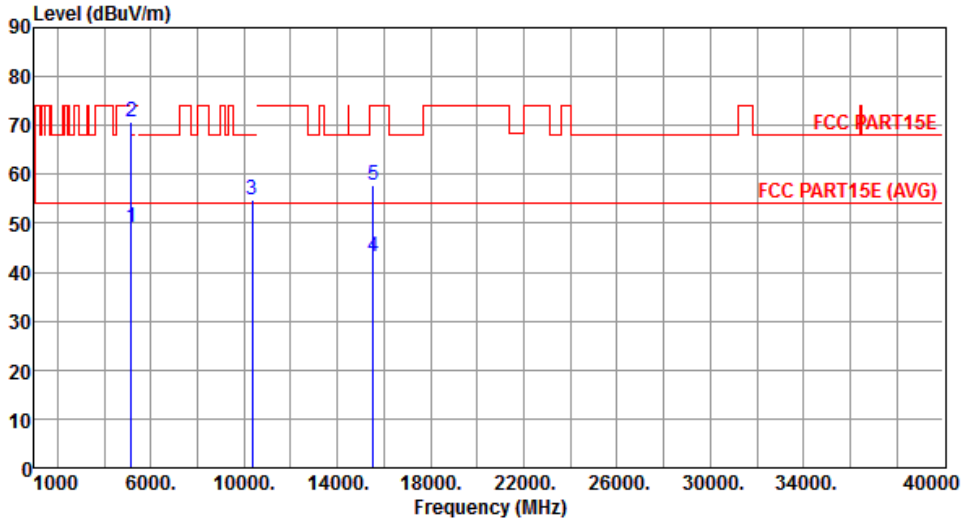
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5180
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.11	54.00	-2.89	45.55	5.56	Average	---	---
2	5150.00	72.81	74.00	-1.19	67.25	5.56	Peak	---	---
3	10360.00	55.87	68.20	-12.33	40.80	15.07	Peak	---	---
4	15540.00	43.60	54.00	-10.40	29.07	14.53	Average	---	---
5	15540.00	58.13	74.00	-15.87	43.60	14.53	Peak	---	---

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

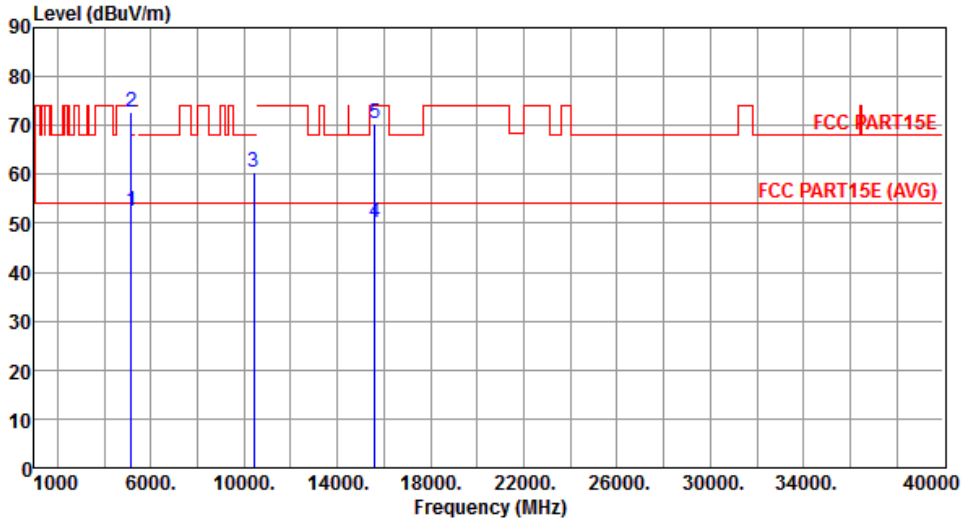
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5180
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.06	54.00	-4.94	43.50	5.56	Average	---	---
2	5150.00	70.75	74.00	-3.25	65.19	5.56	Peak	---	---
3	10360.00	54.65	68.20	-13.55	39.58	15.07	Peak	---	---
4	15540.00	43.13	54.00	-10.87	28.60	14.53	Average	---	---
5	15540.00	57.62	74.00	-16.38	43.09	14.53	Peak	---	---

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

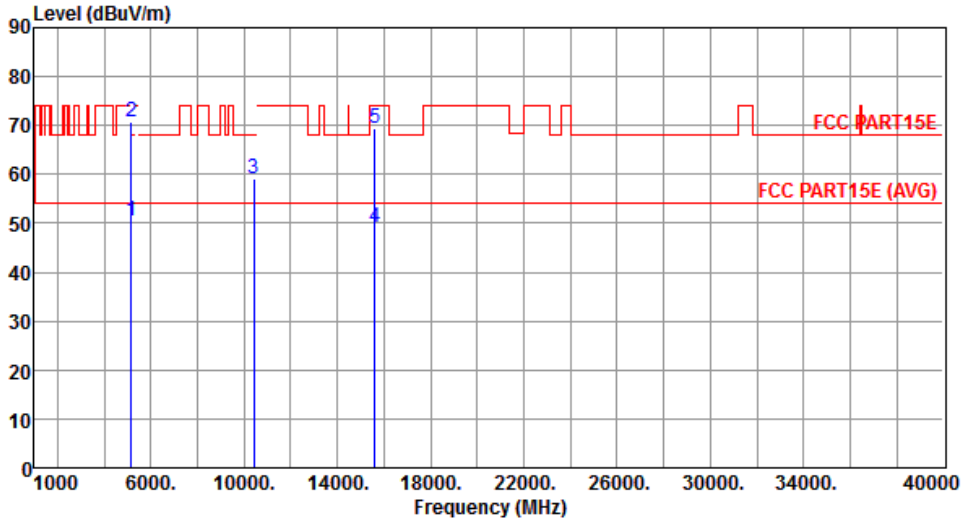
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5200
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.44	54.00	-1.56	46.88	5.56	Average	---	---
2	5150.00	72.73	74.00	-1.27	67.17	5.56	Peak	---	---
3	10400.00	60.37	68.20	-7.83	45.24	15.13	Peak	---	---
4	15600.00	50.31	54.00	-3.69	35.87	14.44	Average	---	---
5	15600.00	70.50	74.00	-3.50	56.06	14.44	Peak	---	---

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

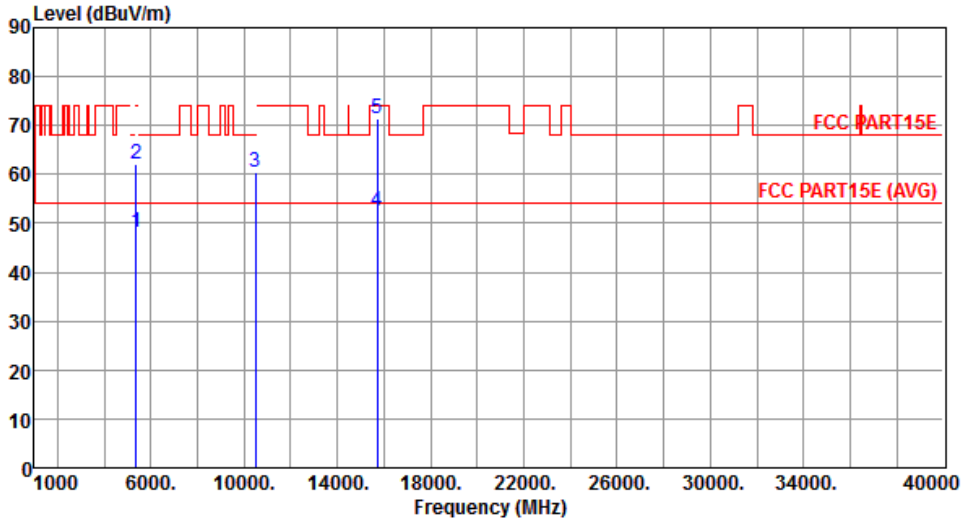
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5200
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	50.38	54.00	-3.62	44.82	5.56	Average	---	---
2	5150.00	70.65	74.00	-3.35	65.09	5.56	Peak	---	---
3	10400.00	59.25	68.20	-8.95	44.12	15.13	Peak	---	---
4	15600.00	49.13	54.00	-4.87	34.69	14.44	Average	---	---
5	15600.00	69.27	74.00	-4.73	54.83	14.44	Peak	---	---

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

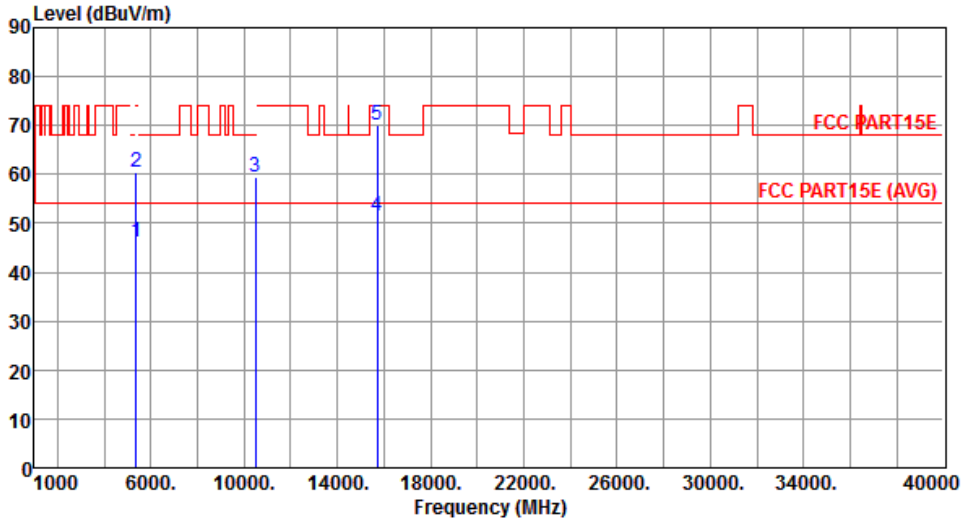
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5240
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	48.10	54.00	-5.90	42.39	5.71	Average	---	---
2	5350.00	62.13	74.00	-11.87	56.42	5.71	Peak	---	---
3	10480.00	60.50	68.20	-7.70	45.26	15.24	Peak	---	---
4	15720.00	52.55	54.00	-1.45	38.29	14.26	Average	---	---
5	15720.00	71.26	74.00	-2.74	57.00	14.26	Peak	---	---

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

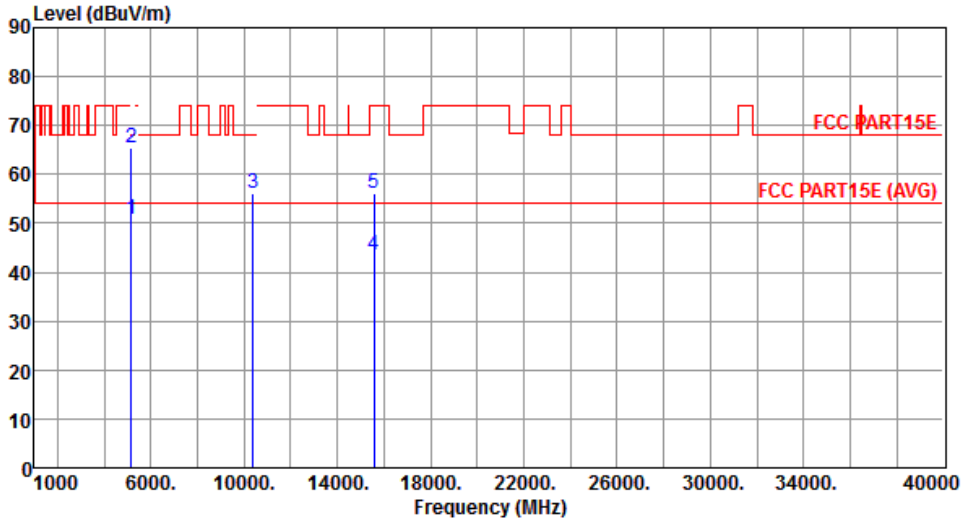
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5240
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	46.27	54.00	-7.73	40.56	5.71	Average	---	---
2	5350.00	60.38	74.00	-13.62	54.67	5.71	Peak	---	---
3	10480.00	59.45	68.20	-8.75	44.21	15.24	Peak	---	---
4	15720.00	51.36	54.00	-2.64	37.10	14.26	Average	---	---
5	15720.00	70.12	74.00	-3.88	55.86	14.26	Peak	---	---

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

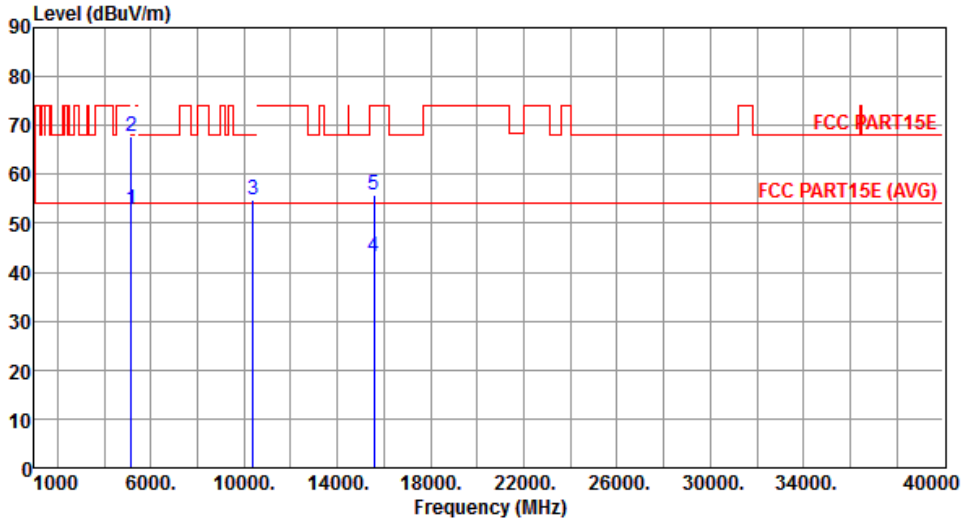
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5190
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	50.88	54.00	-3.12	45.32	5.56	Average	---	---
2	5150.00	65.37	74.00	-8.63	59.81	5.56	Peak	---	---
3	10380.00	55.97	68.20	-12.23	40.86	15.11	Peak	---	---
4	15570.00	43.49	54.00	-10.51	29.00	14.49	Average	---	---
5	15570.00	56.13	74.00	-17.87	41.64	14.49	Peak	---	---

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

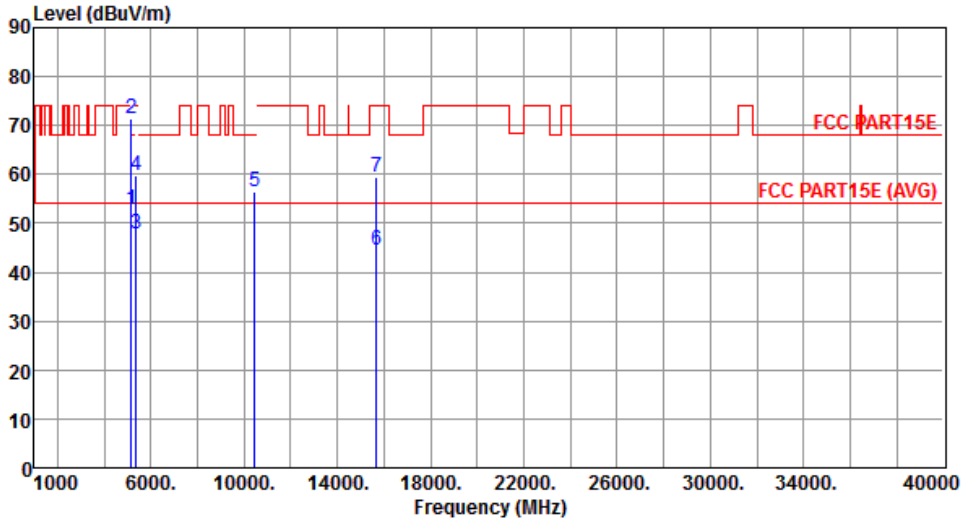
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5190
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.91	54.00	-1.09	47.35	5.56	Average	---	---
2	5150.00	67.64	74.00	-6.36	62.08	5.56	Peak	---	---
3	10380.00	54.82	68.20	-13.38	39.71	15.11	Peak	---	---
4	15570.00	43.11	54.00	-10.89	28.62	14.49	Average	---	---
5	15570.00	55.85	74.00	-18.15	41.36	14.49	Peak	---	---

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

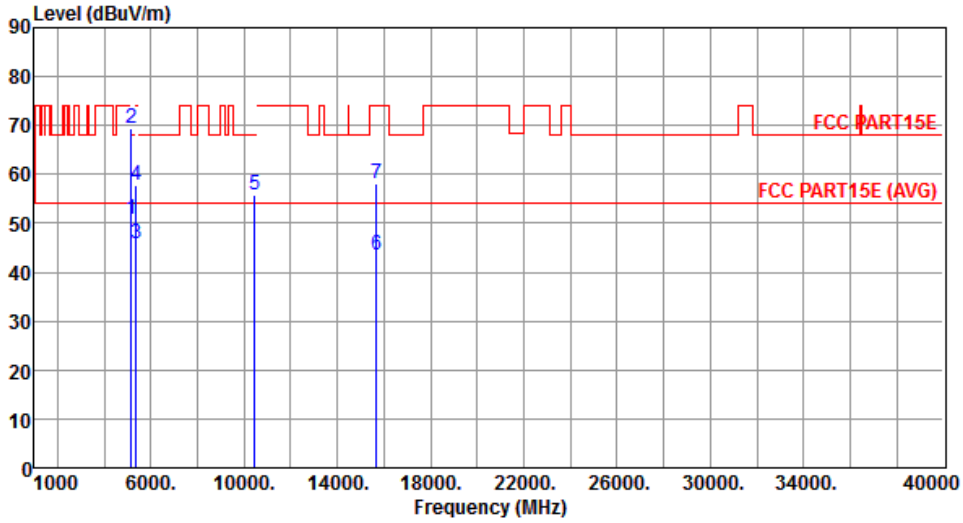
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5230
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.84	54.00	-1.16	47.28	5.56	Average	---	---
2	5150.00	71.52	74.00	-2.48	65.96	5.56	Peak	---	---
3	5350.00	47.70	54.00	-6.30	41.99	5.71	Average	---	---
4	5350.00	59.94	74.00	-14.06	54.23	5.71	Peak	---	---
5	10460.00	56.61	68.20	-11.59	41.40	15.21	Peak	---	---
6	15690.00	44.61	54.00	-9.39	30.30	14.31	Average	---	---
7	15690.00	59.44	74.00	-14.56	45.13	14.31	Peak	---	---

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

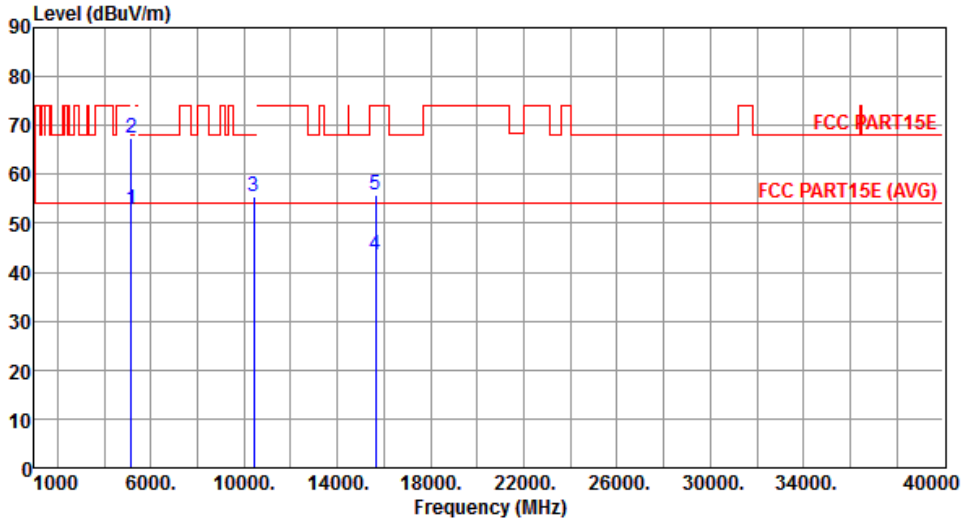
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5230
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	50.73	54.00	-3.27	45.17	5.56	Average	---	---
2	5150.00	69.48	74.00	-4.52	63.92	5.56	Peak	---	---
3	5350.00	45.89	54.00	-8.11	40.18	5.71	Average	---	---
4	5350.00	57.93	74.00	-16.07	52.22	5.71	Peak	---	---
5	10460.00	55.72	68.20	-12.48	40.51	15.21	Peak	---	---
6	15690.00	43.53	54.00	-10.47	29.22	14.31	Average	---	---
7	15690.00	58.27	74.00	-15.73	43.96	14.31	Peak	---	---

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

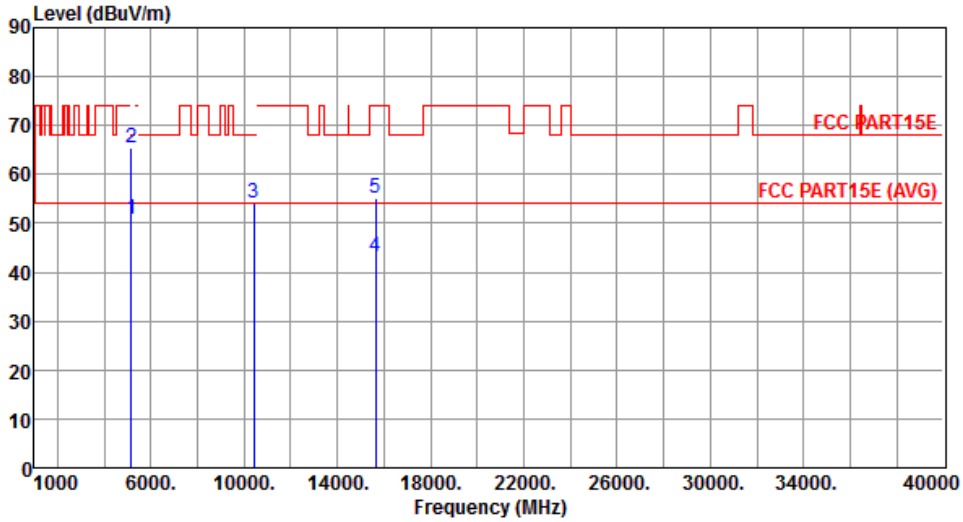
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5210
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.89	54.00	-1.11	47.33	5.56	Average	---	---
2	5150.00	67.47	74.00	-6.53	61.91	5.56	Peak	---	---
3	10420.00	55.45	68.20	-12.75	40.30	15.15	Peak	---	---
4	15630.00	43.60	54.00	-10.40	29.20	14.40	Average	---	---
5	15630.00	55.63	74.00	-18.37	41.23	14.40	Peak	---	---

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5210
N_{TX}	2	**Polarization**	V

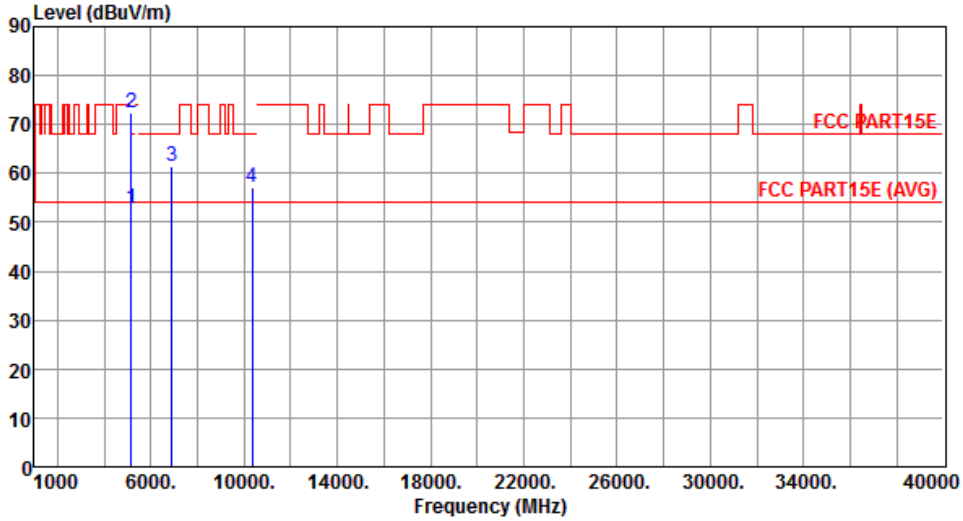


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	50.82	54.00	-3.18	45.26	5.56	Average	---	---
2	5150.00	65.43	74.00	-8.57	59.87	5.56	Peak	---	---
3	10420.00	54.27	68.20	-13.93	39.12	15.15	Peak	---	---
4	15630.00	43.12	54.00	-10.88	28.72	14.40	Average	---	---
5	15630.00	55.29	74.00	-18.71	40.89	14.40	Peak	---	---

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

Mode 3: External antenna with adapter mode

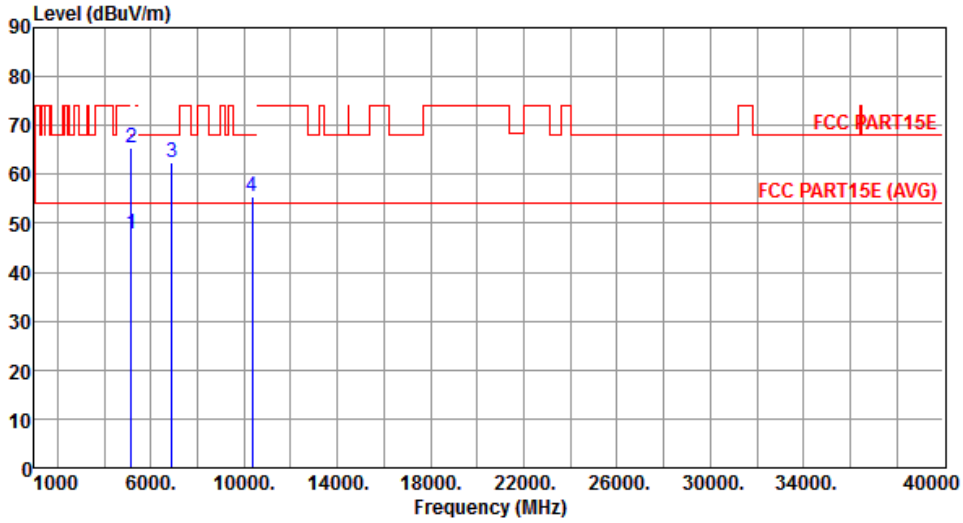
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5180
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.78	54.00	-1.22	47.22	5.56	Average	---	---
2	5150.00	72.49	74.00	-1.51	66.93	5.56	Peak	---	---
3	6906.70	61.60	68.20	-6.60	53.49	8.11	Peak	---	---
4	10360.00	57.09	68.20	-11.11	42.02	15.07	Peak	---	---

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

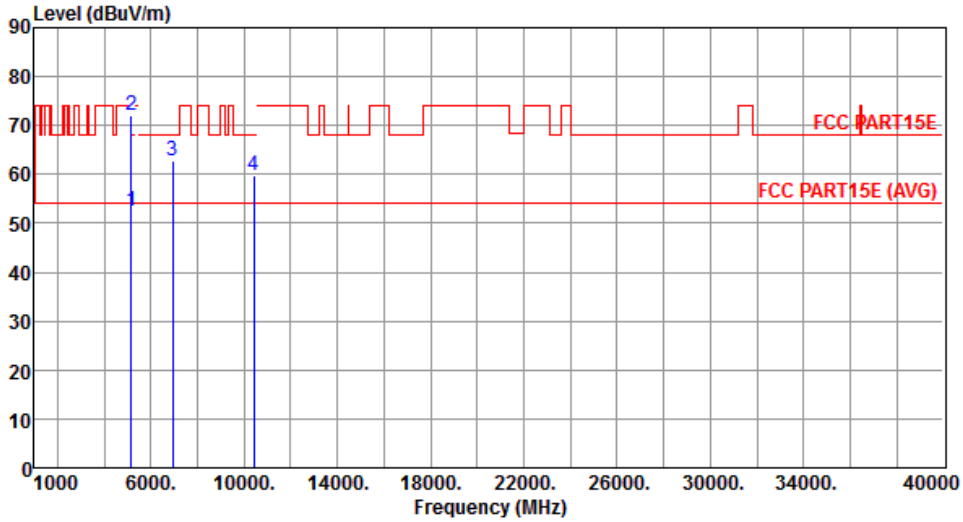
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5180
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.97	54.00	-6.03	42.41	5.56	Average	---	---
2	5150.00	65.38	74.00	-8.62	59.82	5.56	Peak	---	---
3	6906.70	62.37	68.20	-5.83	54.26	8.11	Peak	---	---
4	10360.00	55.31	68.20	-12.89	40.24	15.07	Peak	---	---

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

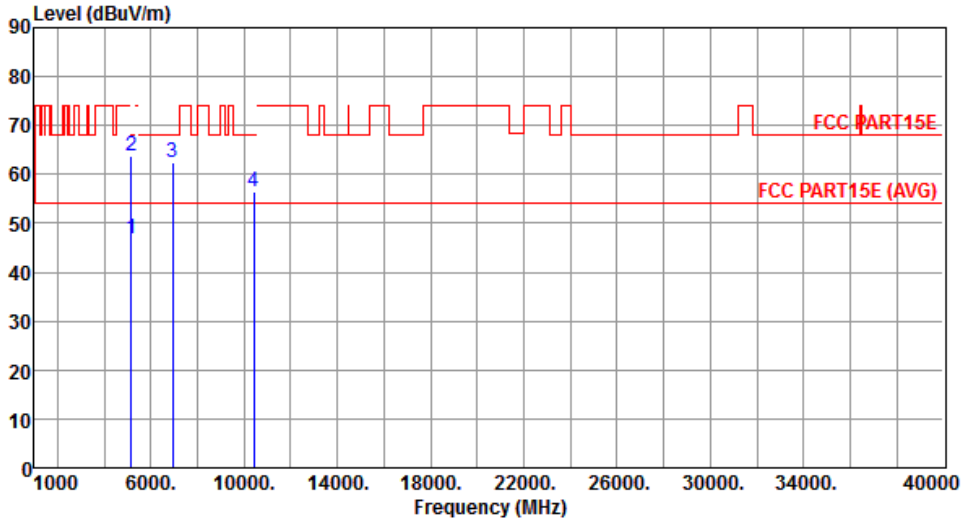
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5200
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.63	54.00	-1.37	47.07	5.56	Average	---	---
2	5150.00	72.19	74.00	-1.81	66.63	5.56	Peak	---	---
3	6933.30	62.70	68.20	-5.50	54.58	8.12	Peak	---	---
4	10400.00	59.91	68.20	-8.29	44.78	15.13	Peak	---	---

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

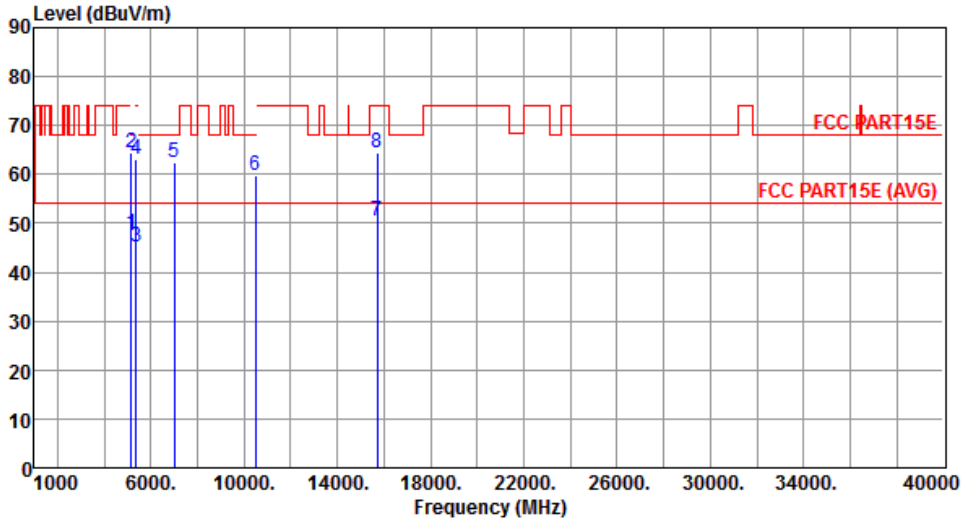
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5200
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.88	54.00	-7.12	41.32	5.56	Average	---	---
2	5150.00	63.73	74.00	-10.27	58.17	5.56	Peak	---	---
3	6933.30	62.46	68.20	-5.74	54.34	8.12	Peak	---	---
4	10400.00	56.39	68.20	-11.81	41.26	15.13	Peak	---	---

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

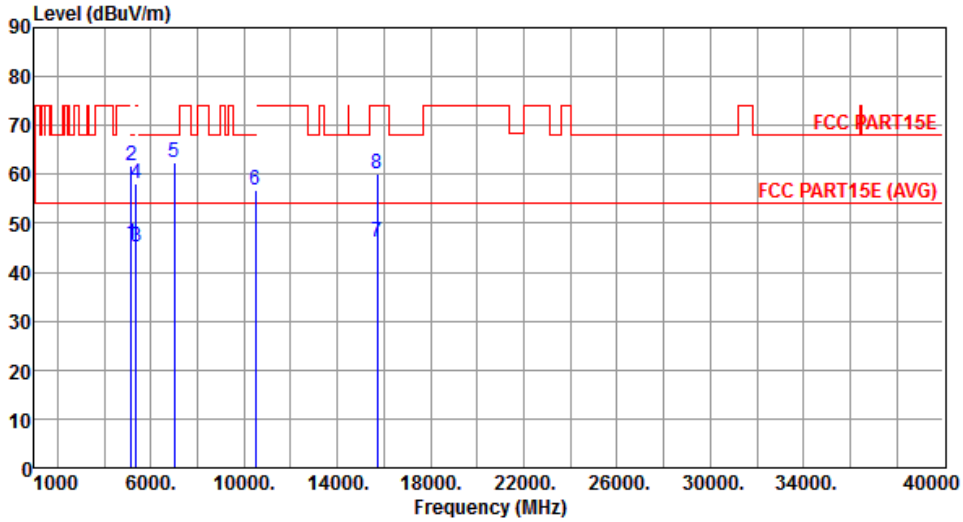
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5240
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.73	54.00	-6.27	42.17	5.56	Average	---	---
2	5150.00	64.52	74.00	-9.48	58.96	5.56	Peak	---	---
3	5350.00	45.09	54.00	-8.91	39.38	5.71	Average	---	---
4	5350.00	63.09	74.00	-10.91	57.38	5.71	Peak	---	---
5	6986.70	62.43	68.20	-5.77	54.29	8.14	Peak	---	---
6	10480.00	59.93	68.20	-8.27	44.69	15.24	Peak	---	---
7	15720.00	50.61	54.00	-3.39	36.35	14.26	Average	---	---
8	15720.00	64.57	74.00	-9.43	50.31	14.26	Peak	---	---

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

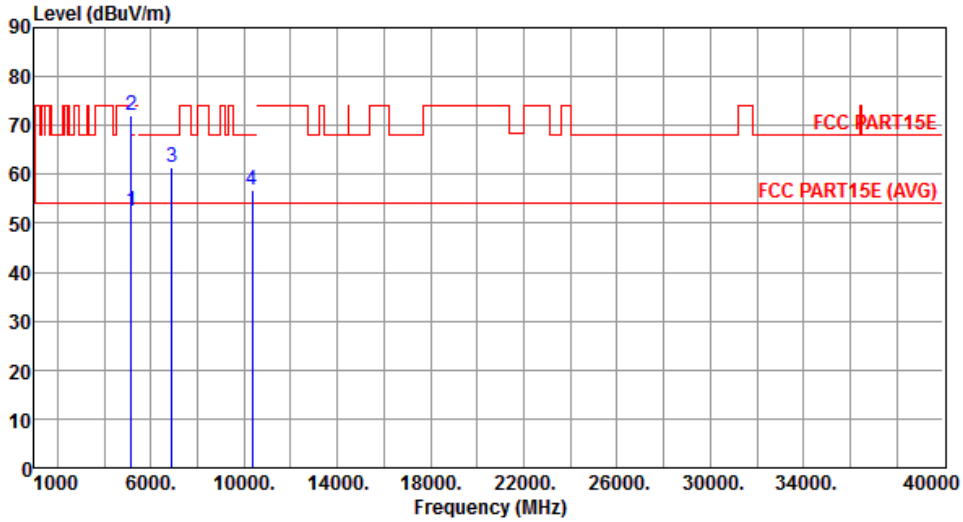
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (MHz)**	5240
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.98	54.00	-8.02	40.42	5.56	Average	---	---
2	5150.00	61.64	74.00	-12.36	56.08	5.56	Peak	---	---
3	5350.00	45.23	54.00	-8.77	39.52	5.71	Average	---	---
4	5350.00	58.02	74.00	-15.98	52.31	5.71	Peak	---	---
5	6986.70	62.58	68.20	-5.62	54.44	8.14	Peak	---	---
6	10480.00	56.74	68.20	-11.46	41.50	15.24	Peak	---	---
7	15720.00	46.03	54.00	-7.97	31.77	14.26	Average	---	---
8	15720.00	60.14	74.00	-13.86	45.88	14.26	Peak	---	---

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

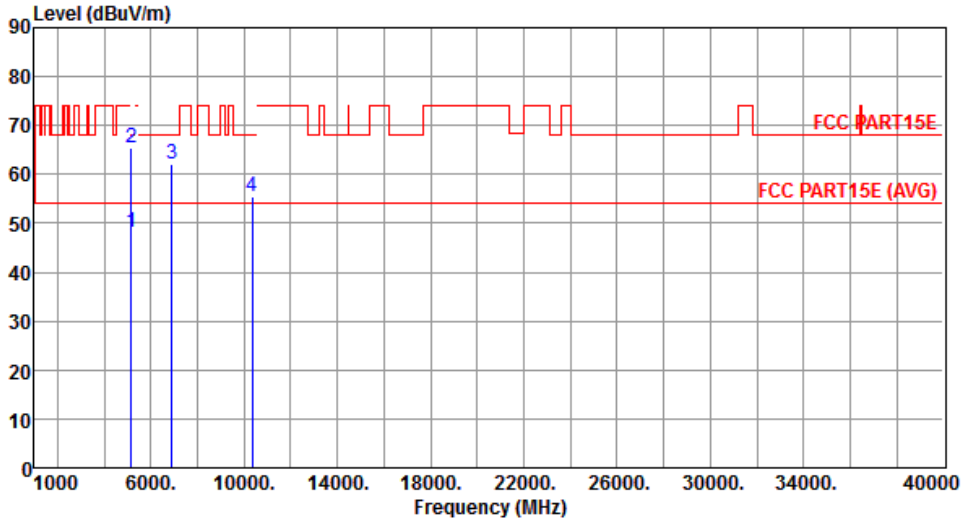
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5180
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.56	54.00	-1.44	47.00	5.56	Average	---	---
2	5150.00	72.12	74.00	-1.88	66.56	5.56	Peak	---	---
3	6906.70	61.33	68.20	-6.87	53.22	8.11	Peak	---	---
4	10360.00	56.89	68.20	-11.31	41.82	15.07	Peak	---	---

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

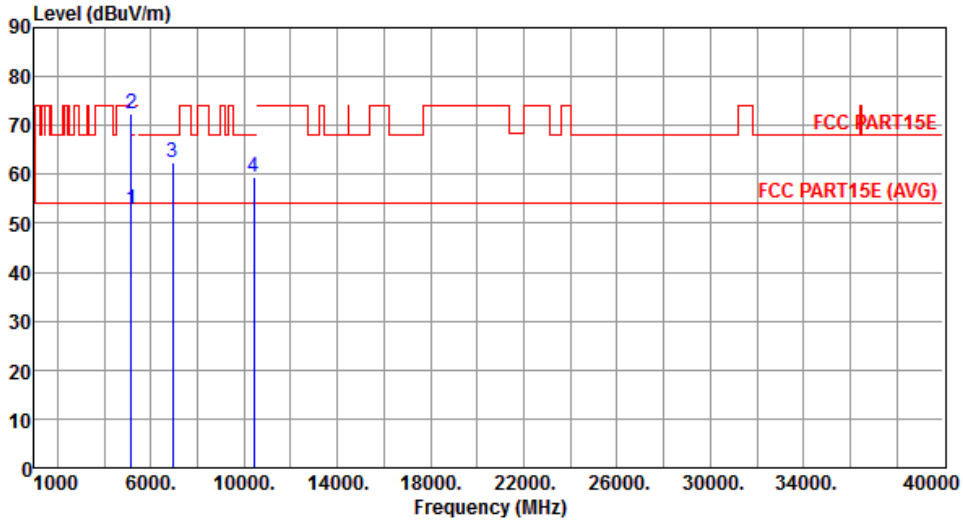
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5180
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.08	54.00	-5.92	42.52	5.56	Average	---	---
2	5150.00	65.48	74.00	-8.52	59.92	5.56	Peak	---	---
3	6906.70	62.12	68.20	-6.08	54.01	8.11	Peak	---	---
4	10360.00	55.37	68.20	-12.83	40.30	15.07	Peak	---	---

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

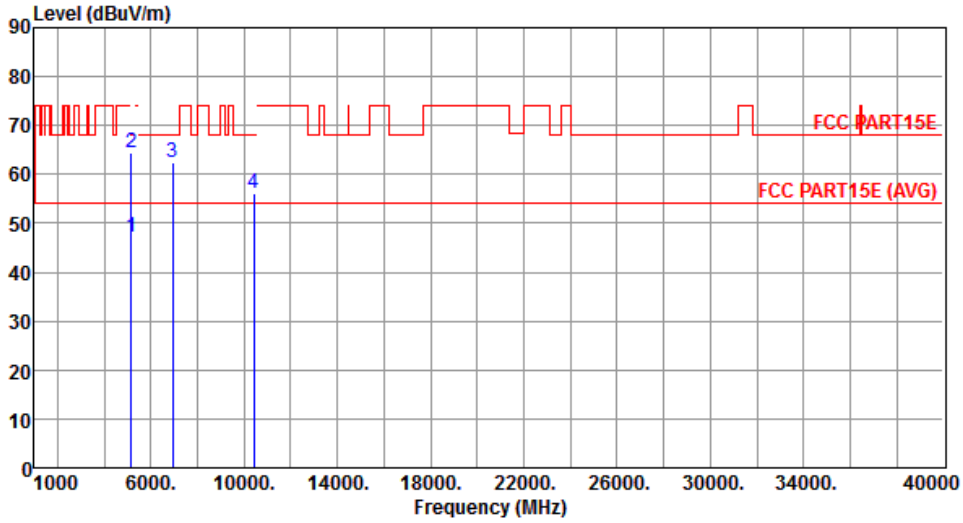
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5200
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.75	54.00	-1.25	47.19	5.56	Average	---	---
2	5150.00	72.31	74.00	-1.69	66.75	5.56	Peak	---	---
3	6933.30	62.43	68.20	-5.77	54.31	8.12	Peak	---	---
4	10400.00	59.45	68.20	-8.75	44.32	15.13	Peak	---	---

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

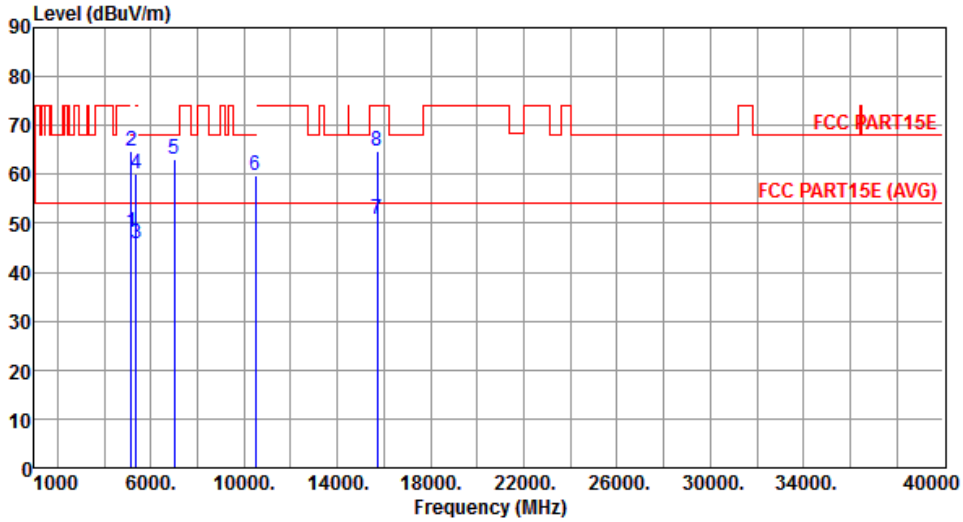
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5200
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.12	54.00	-6.88	41.56	5.56	Average	---	---
2	5150.00	64.54	74.00	-9.46	58.98	5.56	Peak	---	---
3	6933.30	62.49	68.20	-5.71	54.37	8.12	Peak	---	---
4	10400.00	56.00	68.20	-12.20	40.87	15.13	Peak	---	---

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

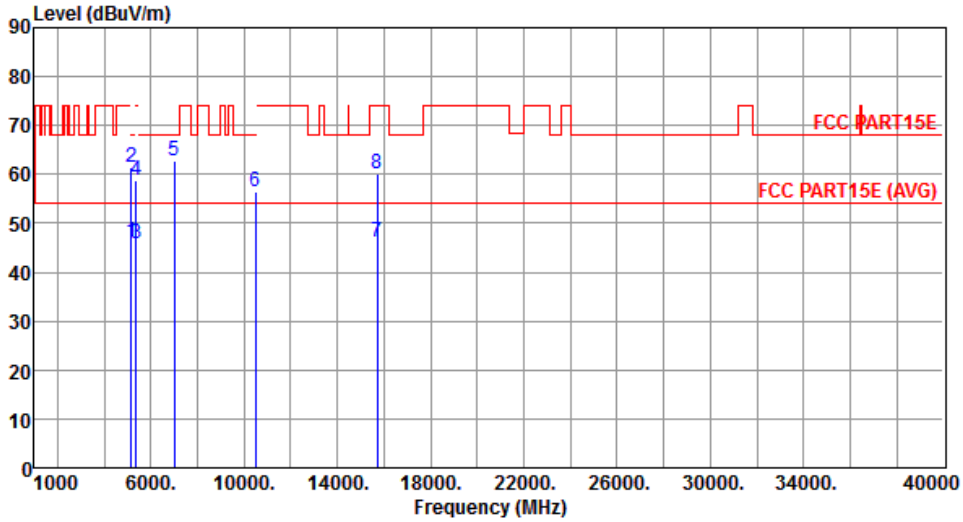
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5240
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.10	54.00	-5.90	42.54	5.56	Average	---	---
2	5150.00	64.86	74.00	-9.14	59.30	5.56	Peak	---	---
3	5350.00	45.97	54.00	-8.03	40.26	5.71	Average	---	---
4	5350.00	60.24	74.00	-13.76	54.53	5.71	Peak	---	---
5	6986.70	63.01	68.20	-5.19	54.87	8.14	Peak	---	---
6	10480.00	59.67	68.20	-8.53	44.43	15.24	Peak	---	---
7	15720.00	50.83	54.00	-3.17	36.57	14.26	Average	---	---
8	15720.00	64.72	74.00	-9.28	50.46	14.26	Peak	---	---

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

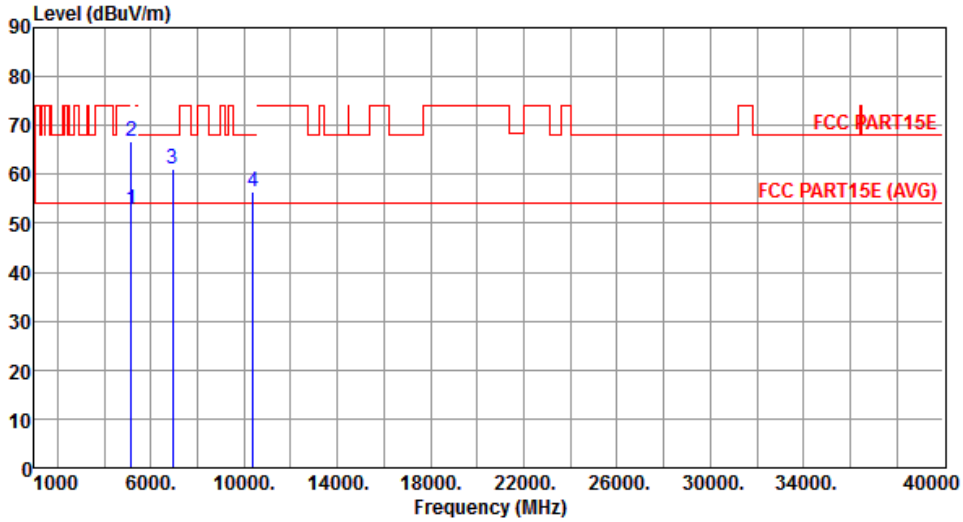
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT20	**Test Freq. (MHz)**	5240
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.24	54.00	-7.76	40.68	5.56	Average	---	---
2	5150.00	61.59	74.00	-12.41	56.03	5.56	Peak	---	---
3	5350.00	45.87	54.00	-8.13	40.16	5.71	Average	---	---
4	5350.00	58.68	74.00	-15.32	52.97	5.71	Peak	---	---
5	6986.70	62.83	68.20	-5.37	54.69	8.14	Peak	---	---
6	10480.00	56.51	68.20	-11.69	41.27	15.24	Peak	---	---
7	15720.00	46.21	54.00	-7.79	31.95	14.26	Average	---	---
8	15720.00	59.95	74.00	-14.05	45.69	14.26	Peak	---	---

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

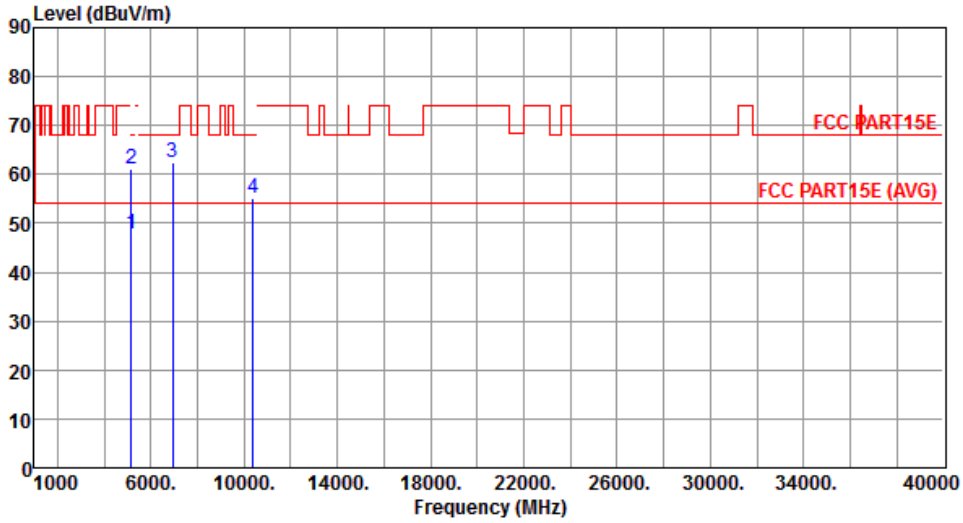
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5190
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.76	54.00	-1.24	47.20	5.56	Average	---	---
2	5150.00	66.88	74.00	-7.12	61.32	5.56	Peak	---	---
3	6920.00	61.17	68.20	-7.03	53.06	8.11	Peak	---	---
4	10380.00	56.55	68.20	-11.65	41.44	15.11	Peak	---	---

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

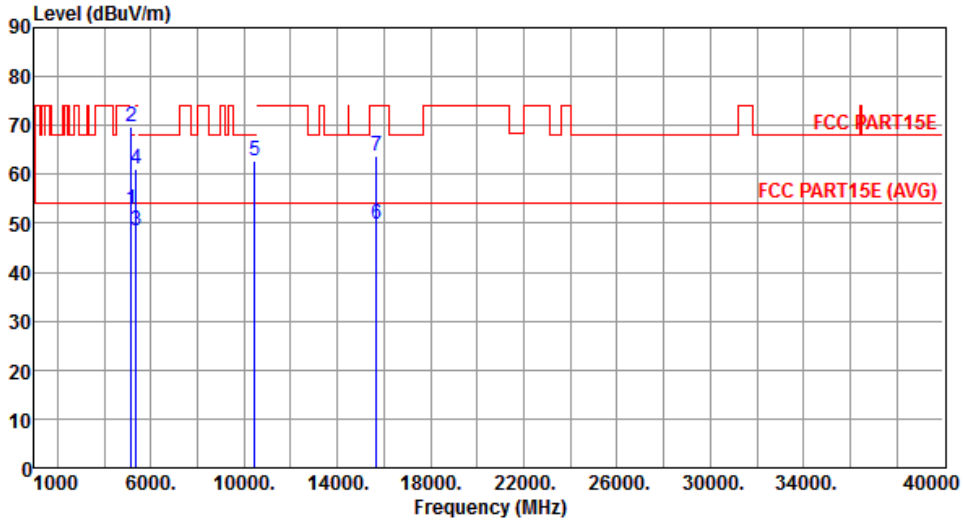
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5190
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.67	54.00	-6.33	42.11	5.56	Average	---	---
2	5150.00	61.05	74.00	-12.95	55.49	5.56	Peak	---	---
3	6920.00	62.43	68.20	-5.77	54.32	8.11	Peak	---	---
4	10380.00	55.23	68.20	-12.97	40.12	15.11	Peak	---	---

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

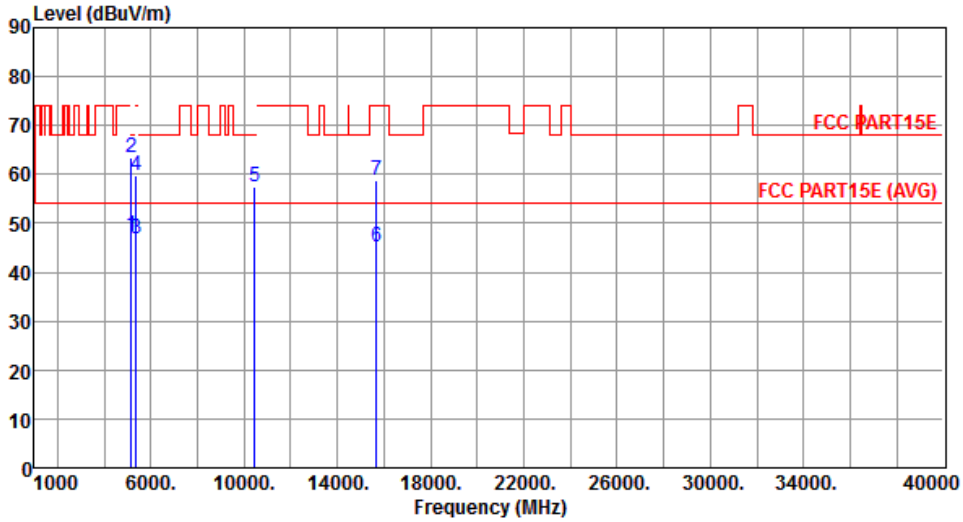
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5230
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.86	54.00	-1.14	47.30	5.56	Average	---	---
2	5150.00	69.73	74.00	-4.27	64.17	5.56	Peak	---	---
3	5350.00	48.45	54.00	-5.55	42.74	5.71	Average	---	---
4	5350.00	61.19	74.00	-12.81	55.48	5.71	Peak	---	---
5	10460.00	62.62	68.20	-5.58	47.41	15.21	Peak	---	---
6	15690.00	49.86	54.00	-4.14	35.55	14.31	Average	---	---
7	15690.00	63.63	74.00	-10.37	49.32	14.31	Peak	---	---

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

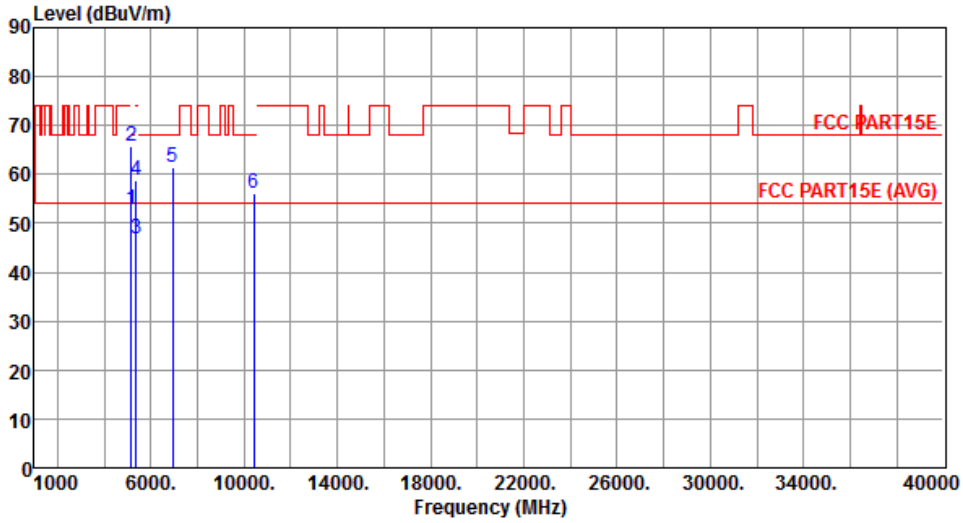
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT40	**Test Freq. (MHz)**	5230
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.60	54.00	-6.40	42.04	5.56	Average	---	---
2	5150.00	63.41	74.00	-10.59	57.85	5.56	Peak	---	---
3	5350.00	46.93	54.00	-7.07	41.22	5.71	Average	---	---
4	5350.00	59.92	74.00	-14.08	54.21	5.71	Peak	---	---
5	10460.00	57.34	68.20	-10.86	42.13	15.21	Peak	---	---
6	15690.00	45.13	54.00	-8.87	30.82	14.31	Average	---	---
7	15690.00	58.78	74.00	-15.22	44.47	14.31	Peak	---	---

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

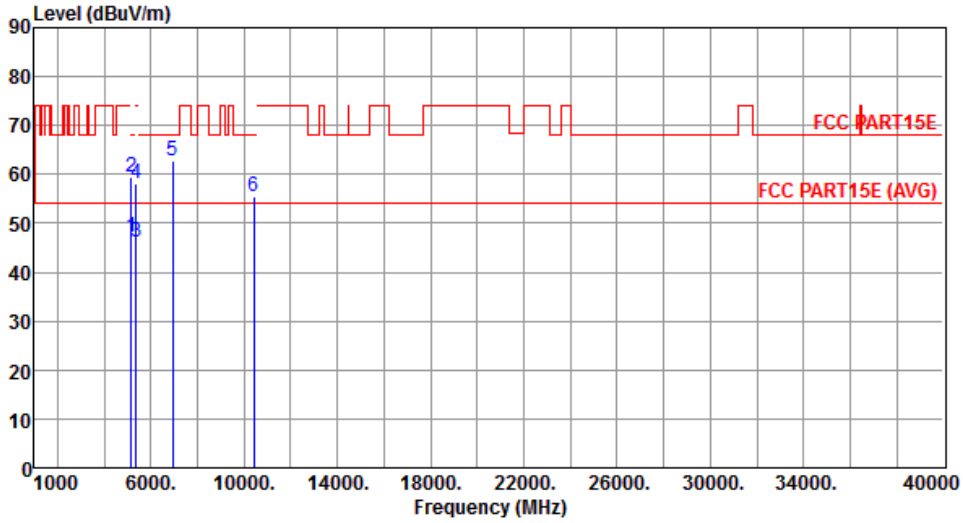
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5210
N_{TX}	2	**Polarization**	H



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.92	54.00	-1.08	47.36	5.56	Average	---	---
2	5150.00	65.87	74.00	-8.13	60.31	5.56	Peak	---	---
3	5350.00	46.68	54.00	-7.32	40.97	5.71	Average	---	---
4	5350.00	58.71	74.00	-15.29	53.00	5.71	Peak	---	---
5	6946.70	61.43	68.20	-6.77	53.31	8.12	Peak	---	---
6	10420.00	56.24	68.20	-11.96	41.09	15.15	Peak	---	---

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

Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	VHT80	**Test Freq. (MHz)**	5210
N_{TX}	2	**Polarization**	V



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.14	54.00	-6.86	41.58	5.56	Average	---	---
2	5150.00	59.59	74.00	-14.41	54.03	5.56	Peak	---	---
3	5350.00	46.21	54.00	-7.79	40.50	5.71	Average	---	---
4	5350.00	57.96	74.00	-16.04	52.25	5.71	Peak	---	---
5	6946.70	62.78	68.20	-5.42	54.66	8.12	Peak	---	---
6	10420.00	55.48	68.20	-12.72	40.33	15.15	Peak	---	---

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

3.6 Frequency Stability

3.6.1 Frequency Stability Limit

Frequency Stability Limit
UNII Devices
☒ In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.
LE-LAN Devices
☒ N/A
IEEE Std. 802.11n-2009
☒ The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band and ± 25 ppm maximum for the 2.4 GHz band.

3.6.2 Measuring Instruments

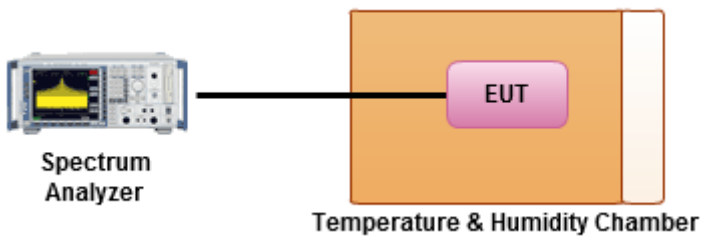
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
☒ Refer as ANSI C63.10, clause 6.8 for frequency stability tests	
	☒ Frequency stability with respect to ambient temperature
	☒ Frequency stability when varying supply voltage
☒ For conducted measurement.	
	☒ For conducted measurements on devices with multiple transmit chains: Measurements need only to be performed on one of the active transmit chains (antenna outputs)
☐ For radiated measurement. The equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted power level.	

3.6.4 Test Setup

Frequency Stability



3.6.5 Test Result of Frequency Stability

Mode 1: Internal antenna with adapter mode

Frequency Stability Result			
Mode		**Frequency Stability (ppm)**	
Condition	**Freq. (MHz)**	**Test Frequency (MHz)**	**Frequency Stability (ppm)**
$T_{20°C}$Vmax	5200	5200.00453	0.8712
$T_{20°C}$Vmin	5200	5200.02378	4.5731
$T_{50°C}$Vnom	5200	5200.03273	6.2942
$T_{40°C}$Vnom	5200	5199.99687	-0.6019
$T_{30°C}$Vnom	5200	5200.01435	2.7596
$T_{20°C}$Vnom	5200	5200.01265	2.4327
$T_{10°C}$Vnom	5200	5200.00740	1.4231
$T_{0°C}$Vnom	5200	5200.00785	1.5096
$T_{-10°C}$Vnom	5200	5200.00925	1.7788
$T_{-20°C}$Vnom	5200	5199.99132	-1.6692
$T_{-30°C}$Vnom	5200	5200.01378	2.6500
Limit (ppm)		20	
Result		**Complied**	
Note 1: Measure at 85 % [Vmin] and 115 % [Vmax] of the nominal voltage [Vnom]. Note 2: The nominal voltage refer test report clause 1.1.6 for EUT operational condition.			

Mode 2: External antenna with adapter mode

Frequency Stability Result			
Mode		**Frequency Stability (ppm)**	
Condition	**Freq. (MHz)**	**Test Frequency (MHz)**	**Frequency Stability (ppm)**
$T_{20°C}$Vmax	5200	5200.00807	1.5519
$T_{20°C}$Vmin	5200	5200.02515	4.8365
$T_{50°C}$Vnom	5200	5200.03665	7.0481
$T_{40°C}$Vnom	5200	5199.99564	-0.8385
$T_{30°C}$Vnom	5200	5200.01642	3.1577
$T_{20°C}$Vnom	5200	5200.01664	3.2000
$T_{10°C}$Vnom	5200	5200.01263	2.4288
$T_{0°C}$Vnom	5200	5200.00840	1.6154
$T_{-10°C}$Vnom	5200	5200.00935	1.7981
$T_{-20°C}$Vnom	5200	5199.98981	-1.9596
$T_{-30°C}$Vnom	5200	5200.01330	2.5577
Limit (ppm)		20	
Result		**Complied**	
Note 1: Measure at 85 % [Vmin] and 115 % [Vmax] of the nominal voltage [Vnom]. Note 2: The nominal voltage refer test report clause 1.1.6 for EUT operational condition.			

4 Test Equipment and Calibration Data

Test Item	Radiated Emissions				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Jan. 25, 2014	Jan. 24, 2015
Receiver	R&S	ESR3	101658	Jan. 10, 2014	Jan. 09, 2015
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jan. 02, 2014	Jan. 01, 2015
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Feb. 13, 2014	Feb. 12, 2015
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Dec. 27, 2013	Dec. 26, 2014
Preamplifier	Burgeon	BPA-530	SN:100219	Nov. 28, 2013	Nov. 27, 2014
Preamplifier	Agilent	83017A	MY39501308	Dec. 16, 2013	Dec. 15, 2014
Preamplifier	WM	TF-130N-R1	923365	Oct. 23, 2013	Oct. 22, 2014
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 16, 2013	Dec. 15, 2014
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 16, 2013	Dec. 15, 2014
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 16, 2013	Dec. 15, 2014
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 16, 2013	Dec. 15, 2014
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 16, 2013	Dec. 15, 2014
Note: Calibration Interval of instruments listed above is one year.					

Loop Antenna	R&S	HFH2-Z2	100330	Nov. 15, 2012	Nov. 14, 2014
Note: Calibration Interval of instruments listed above is two year.					

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
EMC Receiver	R&S	ESCS 30	100169	Oct. 15, 2013	Oct. 14, 2014
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 23, 2013	Nov. 22, 2014
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127-666	Dec. 04, 2013	Dec. 03, 2014
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Apr. 23, 2014	Apr. 22, 2015
50 ohm terminal (Support Unit)	NA	50	04	Apr. 18, 2014	Apr. 17, 2015
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	TH01-HY				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV 40	101063	Feb. 17, 2014	Feb. 16, 2015
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP-SD	MAA1112-007	Nov. 21, 2013	Nov. 20, 2014
Signal Generator	R&S	SMB100A	175727	Jan. 07, 2014	Jan. 06, 2015
Power Sensor	Anritsu	MA2411B	1207366	Oct. 24, 2013	Oct. 23, 2014
Power Meter	Anritsu	ML2495A	1241002	Oct. 24, 2013	Oct. 23, 2014
DC Power Source	G.W.	GPS-3030DD	GEN865896	Nov. 21, 2013	Nov. 20, 2014
AC Power Source	G.W	APS-9102	EL920581	Jul. 15, 2014	Jul. 14, 2015
Note: Calibration Interval of instruments listed above is one year.					