

FCC Test Report

Equipment : Hardened Wireless Access Point
Brand Name : Xirrus
Model No. : XH2120
FCC ID : SK6-XH2120
Standard : 47 CFR FCC Part 15.407
Operating Band : 5150 MHz – 5250 MHz
5725 MHz – 5850 MHz
FCC Classification : NII
Applicant : Xirrus, INC.
Manufacturer : 2101 Corporate Center Drive Thousand Oaks,
California 91320
Function : ☒ Outdoor AP; ☐ Indoor AP; ☐ Fixed P2P AP
☐ Portable Client

The product sample received on Jun. 19, 2015 and completely tested on Aug. 19, 2015. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Reviewed by:



Kevin Liang / Assistant Manager



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information.....	5
1.2	Support Equipment.....	8
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	11
2.3	The Worst Case Measurement Configuration.....	12
2.4	Test Setup Diagram	13
3	TRANSMITTER TEST RESULT	15
3.1	AC Power-line Conducted Emissions	15
3.2	Emission Bandwidth	18
3.3	RF Output Power.....	22
3.4	Peak Power Spectral Density	27
3.5	Transmitter Bandedge Emissions	32
3.6	Transmitter Unwanted Emissions.....	36
3.7	Frequency Stability.....	97
3.8	The emission at elevation angle higher than 30 degrees from horizon	99
4	TEST EQUIPMENT AND CALIBRATION DATA	103
APPENDIX A. TEST PHOTOS		
APPENDIX B. PHOTOGRAPHS OF EUT		

Summary of Test Result

Conformance Test Specifications			
Report Clause	Ref. Std. Clause	Description	Result
1.1.2	15.203	Antenna Requirement	Complied
3.1	15.207	AC Power-line Conducted Emissions	Complied
3.2	15.407(a)	Emission Bandwidth	Complied
3.3	15.407(a)	RF Output Power (Maximum Conducted Output Power)	Complied
3.4	15.407(a)	Peak Power Spectral Density	Complied
3.5	15.407(b)	Transmitter Bandedge Emissions	Complied
3.6	15.407(b)	Transmitter Unwanted Emissions	Complied
3.7	15.407(g)	Frequency Stability	Complied
3.8	15.407(a)	The emission at elevation angle higher than 30 degrees from horizon	Complied



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

1 General Description

1.1 Information

1.1.1 RF General Information

There are two RF 2x2 modules in the EUT. They are the same RF module type. RF information is for one RF module. RF chip is "QCA 9882-BR4A"

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
5150-5250	a	5180-5240	36-48 [4]	2	16.89	Yes
5150-5250	n (HT20)	5180-5240	36-48 [4]	2	16.87	Yes
5150-5250	n (HT40)	5190-5230	38-46 [2]	2	16.80	Yes
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	2	16.84	Yes
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	2	16.83	Yes
5150-5250	ac (VHT80)	5210	48 [1]	2	14.77	Yes

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

RF General Information (non-beamforming)						
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	RF Output Power (dBm)	Co-location
5725-5850	a	5745-5825	149-165 [5]	2	19.60	Yes
5725-5850	n (HT20)	5745-5825	149-165 [5]	2	19.53	Yes
5725-5850	n (HT40)	5755-5795	151-159 [2]	2	17.62	Yes
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	2	19.54	Yes
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	2	17.63	Yes
5725-5850	ac (VHT80)	5775	155 [1]	2	13.27	Yes

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

1.1.2 Antenna Information

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

Antenna General Information				
No.	Ant. Cat.	Ant. Type	Gain (dBi)	Cable Length (m)
1	External	OMNI	4	-
2	External	OMNI	5	0.8
3	External	OMNI	3.5	3.1

Note 1: The following test Antenna was referring to 2.4GHz pretested worst case "Antenna 2" for 5GHz final test.

Note 2: 11a/n/ac only includes 2TX/2RX to emission. IEEE 802.11a/n/ac has the CDD function.

1.1.3 Type of EUT

Identify EUT	
EUT Serial Number	N/A
Presentation of Equipment	☐ Production ; ☐ Pre-Production ; ☒ Prototype
Type of EUT	
☒	Stand-alone
☐	Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.: ...
☐	Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.: ...
☐	Other:

1.1.4 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle	
☐ Operated normally mode for worst duty cycle	
☒ Operated test mode for worst duty cycle	
Test Signal Duty Cycle (x)	Power Duty Factor [dB] – (10 log 1/x)
☒ 100% - IEEE 802.11a	0
☒ 100% - IEEE 802.11n (HT20)	0
☒ 100% - IEEE 802.11n (HT40)	0
☒ 100% - IEEE 802.11ac (VHT20)	0
☒ 100% - IEEE 802.11ac (VHT40)	0
☒ 100% - IEEE 802.11ac (VHT80)	0

1.1.5 EUT Operational Condition

Supply Voltage	☐ AC mains	☒ DC	
Type of DC Source	☒ From PoE	☐ External AC adapter	☐ Li-ion Battery

1.2 Support Equipment

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

Support Equipment - AC Conduction and Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	PoE	DNI	DPSN-80DB A-R	DoC

1.3 Testing Applied Standards

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

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 789033 D02 v01
- ♦ FCC KDB 644545 D03 v01
- ♦ FCC-14-30A1-UNII

1.4 Testing Location Information

Testing Location				
☒	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.		
		TEL : 886-3-327-3456 FAX : 886-3-327-0973		
Test Condition		Test Site No.	Test Engineer	Test Environment
AC Conduction		CO04-HY	Zeus	21°C / 60%
RF Conducted		TH01-HY	Shiming	22.3°C / 60.8%
Radiated Emission		03CH03-HY	Terry	24.3°C / 64.6%
FCC				
636805				

1.5 Measurement Uncertainty

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

Measurement Uncertainty		
Test Item		Uncertainty
AC power-line conducted emissions		±2.3 dB
Emission bandwidth, 26dB bandwidth		±0.5 %
RF output power, conducted		±0.1 dB
Power density, conducted		±0.5 dB
Unwanted emissions, conducted	9 – 150 kHz	±0.4 dB
	0.15 – 30 MHz	±0.4 dB
	30 – 1000 MHz	±0.6 dB
	1 – 18 GHz	±0.5 dB
	18 – 40 GHz	±0.5 dB
	40 – 200 GHz	N/A
All emissions, radiated	9 – 150 kHz	±2.5 dB
	0.15 – 30 MHz	±2.3 dB
	30 – 1000 MHz	±2.6 dB
	1 – 18 GHz	±3.6 dB
	18 – 40 GHz	±3.8 dB
	40 – 200 GHz	N/A
Temperature		±0.8 °C
Humidity		±5 %
DC and low frequency voltages		±0.9 %
Time		±1.4 %
Duty Cycle		±0.5 %

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

We select one module to test because power of only one module is maximum.

Two modules can work in 2.4GHz or 5GHz together, but they never work at the same channel.

When two modules work in the same band, the transmit power will reduce 3 dB for each one.

Worst Modulation Used for Conformance Testing (non-beamforming)			
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 Version	Cart						
Modulation Mode	N _{TX}	Test Frequency (MHz)					
		NCB: 20MHz			NCB: 40MHz		NCB: 80MHz
		5180	5200	5240	5190	5230	5210
11a	2	12.5	13	13	-	-	-
HT20	2	12.5	13	13	-	-	-
HT40	2	-	-	-	12	14	-
VHT20	2	12	13	13	-	-	-
VHT40	2	-	-	-	12	14	-
VHT80	2	-	-	-	-	-	11.5

The Worst Case Power Setting Parameter (5725-5850MHz band)									
Test Software Version	Cart								
Modulation Mode	N _{TX}	Test Frequency (MHz)							
		NCB: 20MHz				NCB: 40MHz			NCB: 80MHz
		5745	5785	5825	5720	5755	5795	5710	5775
11a	2	11	25	15	29.5	-	-	-	-
HT20	2	11	24.5	14.5	29.5	-	-	-	-
HT40	2	-	-	-	-	10.5	14.5	20.5	-
VHT20	2	11	24.5	14.5	29.5	-	-	-	-
VHT40	2	-	-	-	-	10.5	14.5	20.5	-
VHT80	2	-	-	-	-	-	-	-	10

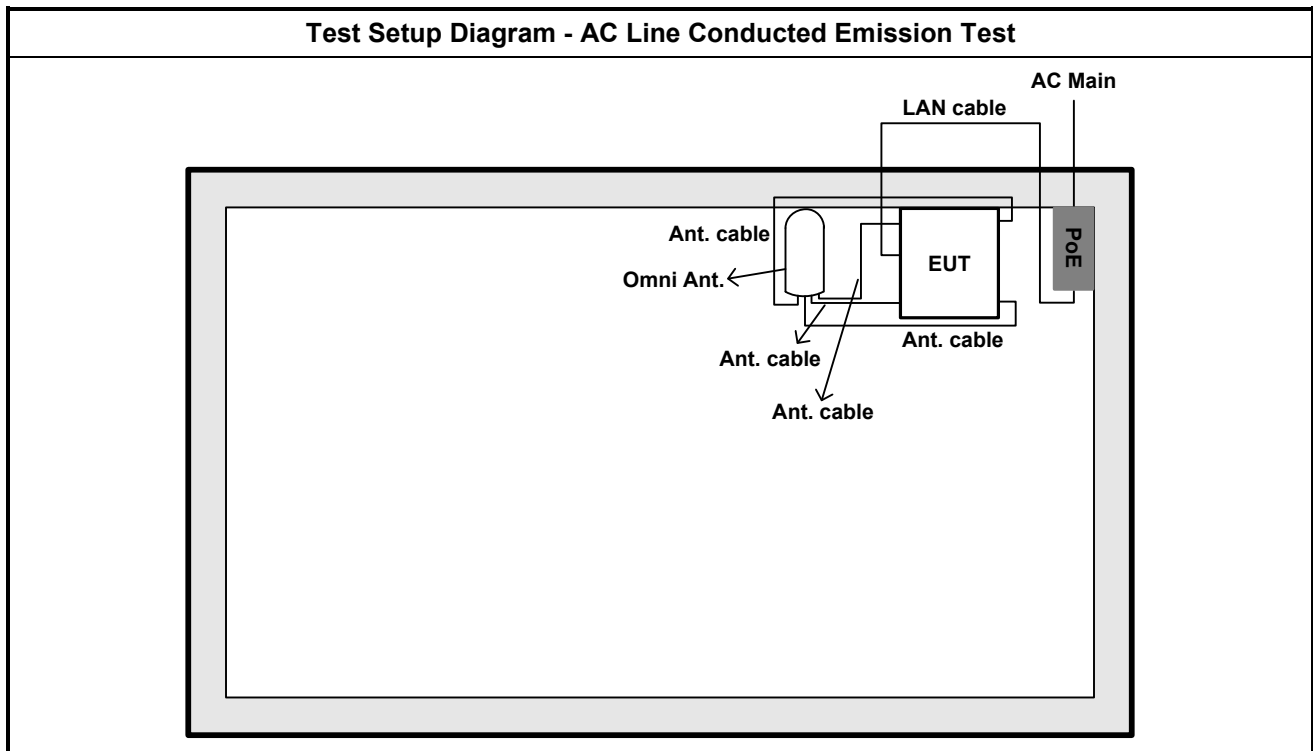
2.3 The Worst Case Measurement Configuration

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

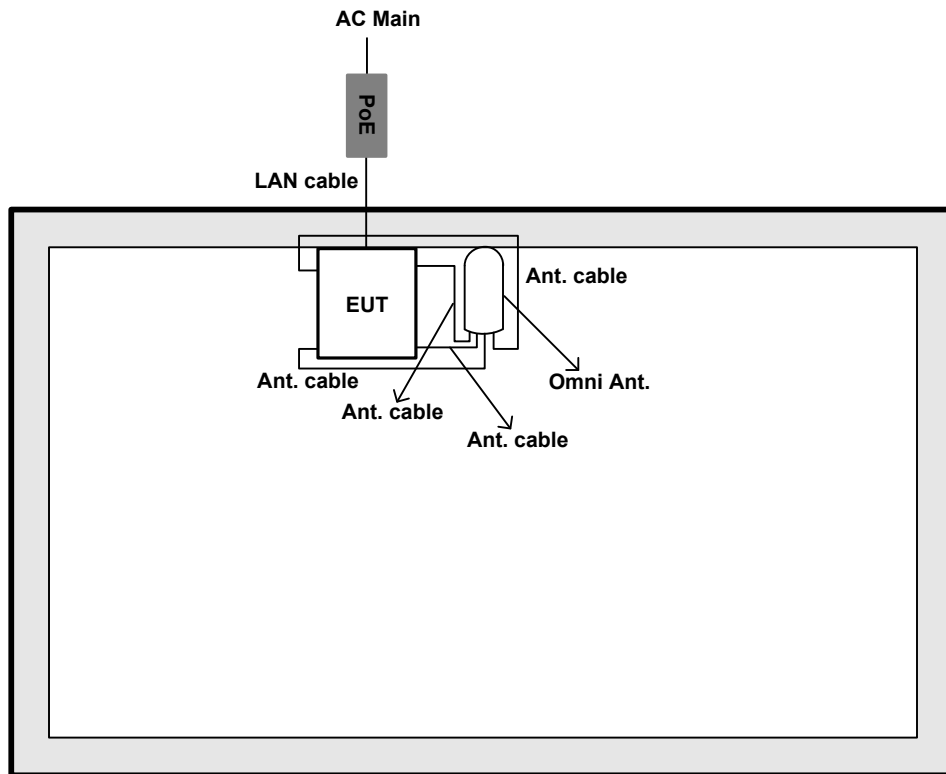
The Worst Case Mode for Following Conformance Tests	
Tests Item	RF Output Power, Peak Power Spectral Density, Emission Bandwidth, Peak Excursion, Transmitter Conducted Unwanted Emissions Transmitter Conducted Bandedge Emissions
Test Condition	Conducted measurement at transmit chains
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80

The Worst Case Mode for Following Conformance Tests		
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions	
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.	
User Position	☒ EUT will be placed in fixed position. ☐ EUT will be placed in mobile position and operating multiple positions. EUT shall be performed three orthogonal planes. ☐ EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed three orthogonal planes.	
Operating Mode	Operating Mode Description	
1	PoE Mode	
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80	
Orthogonal Planes of EUT	X Plane	Y Plane
		
Worst Planes of EUT	V	

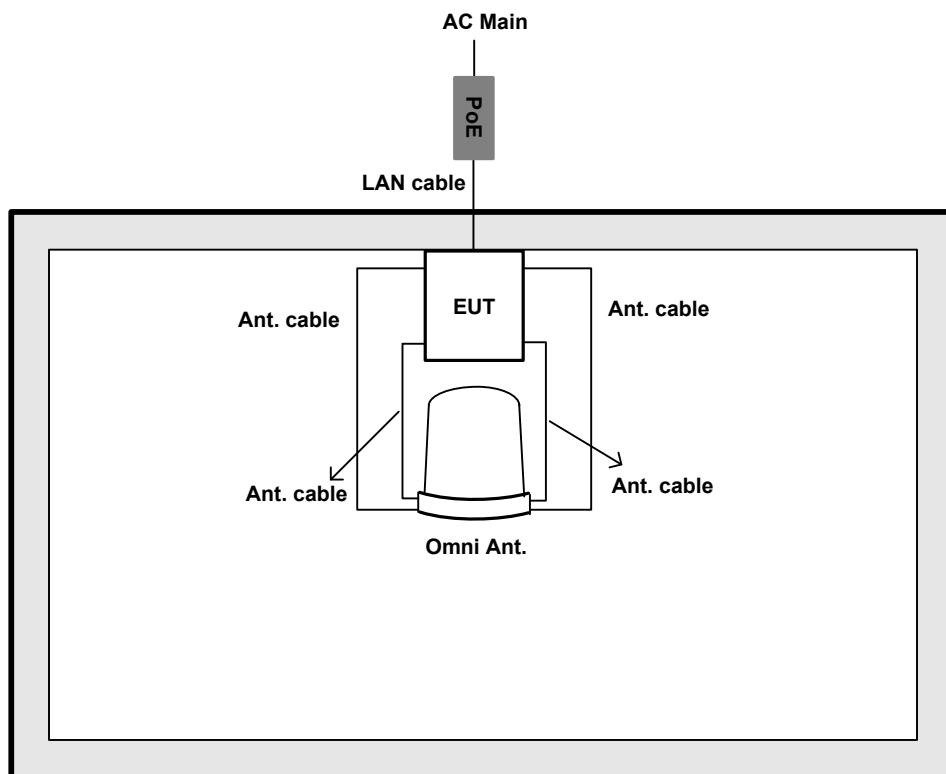
2.4 Test Setup Diagram



Test Setup Diagram - Radiated Below 1GHz Test



Test Setup Diagram - Radiated Above 1GHz Test



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

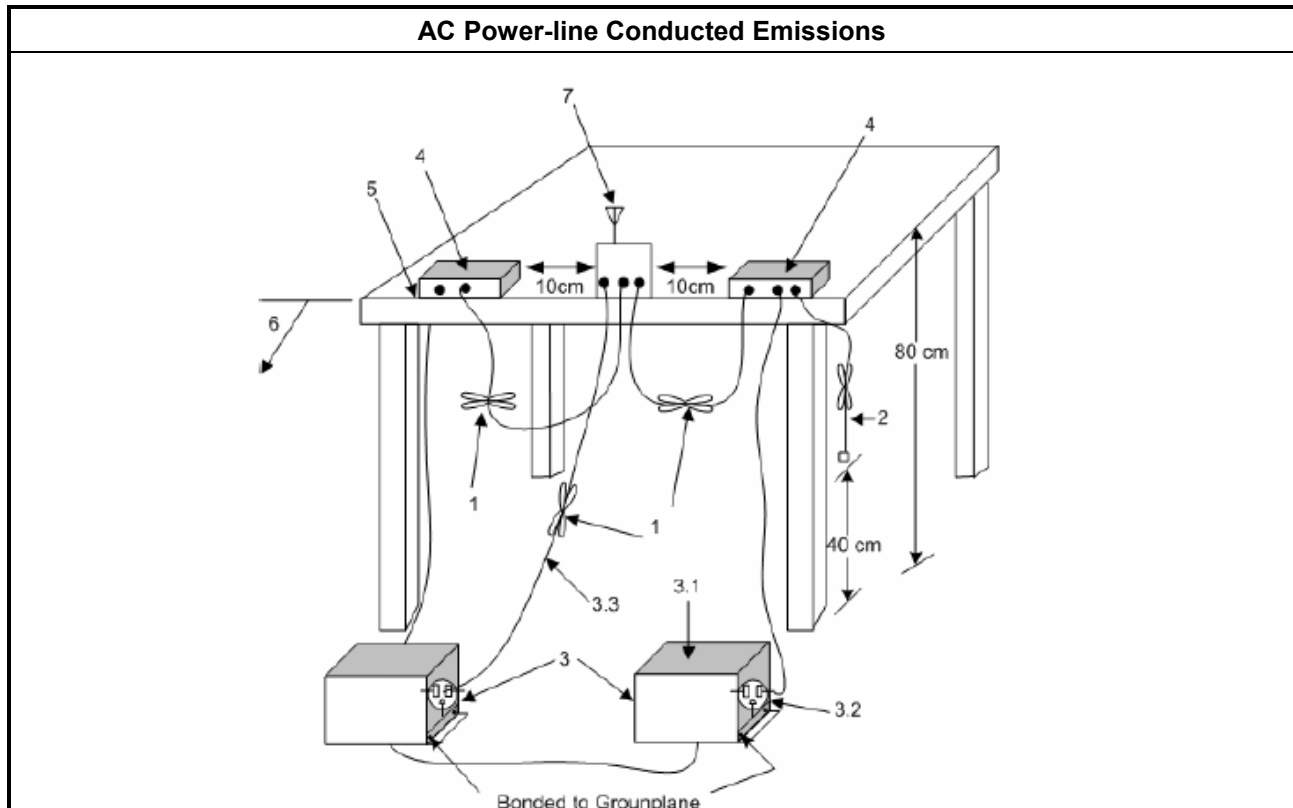
3.1.2 Measuring Instruments

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

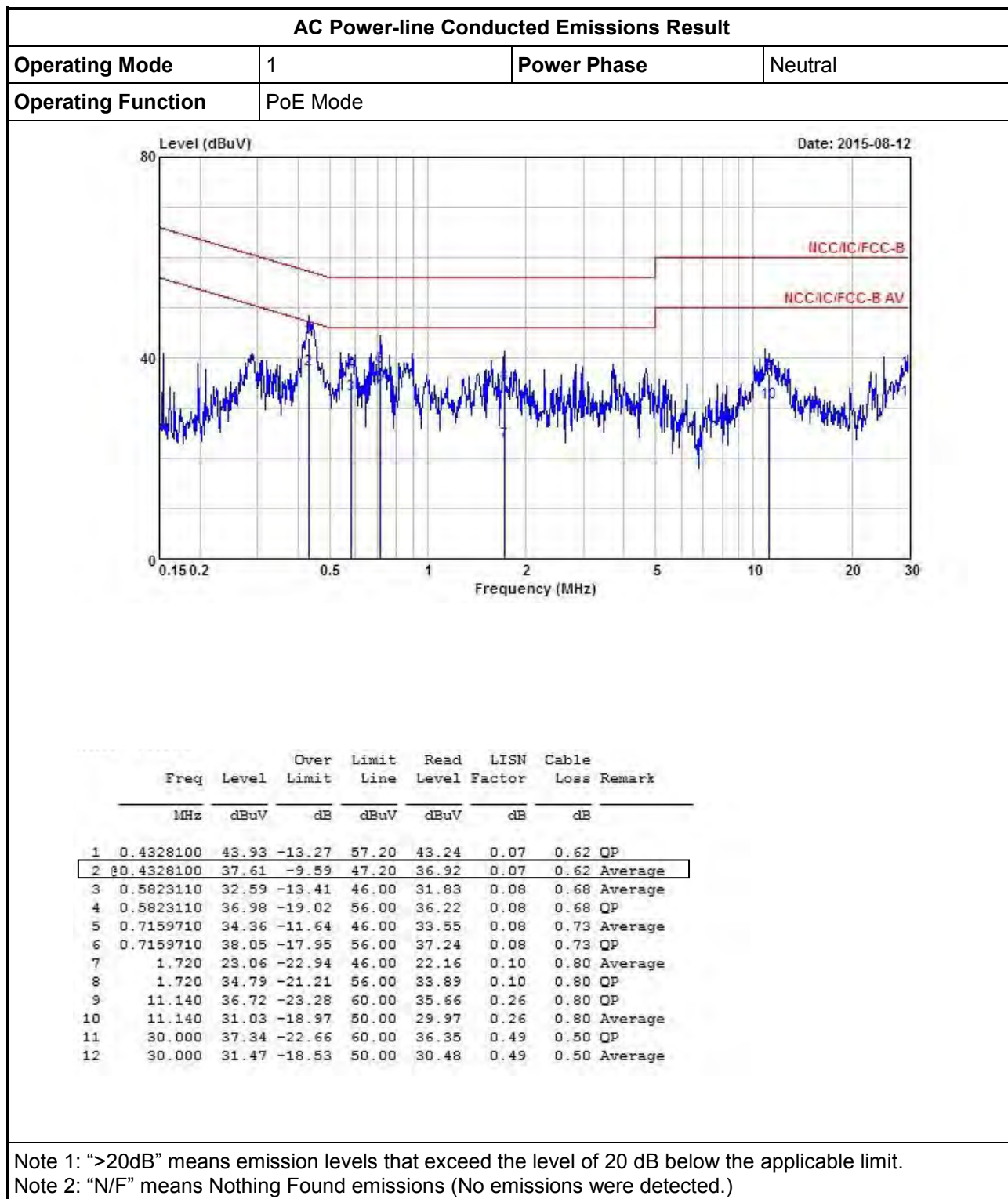
3.1.3 Test Procedures

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

3.1.4 Test Setup

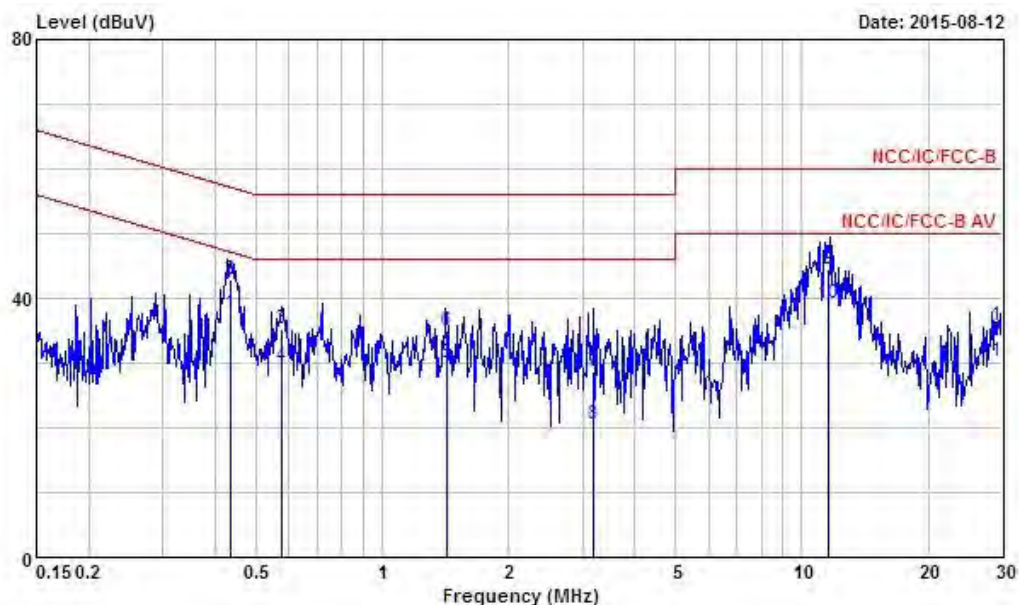


3.1.5 Test Result of AC Power-line Conducted Emissions



AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	PoE Mode		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.4351090	37.54	-9.61	47.15	36.85	0.07	0.62	Average
2	0.4351090	43.00	-14.15	57.15	42.31	0.07	0.62	QP
3	0.5761730	35.27	-20.73	56.00	34.52	0.07	0.68	QP
4	0.5761730	29.56	-16.44	46.00	28.81	0.07	0.68	Average
5	1.420	30.06	-15.94	46.00	29.17	0.09	0.80	Average
6	1.420	35.13	-20.87	56.00	34.24	0.09	0.80	QP
7	3.190	28.75	-27.25	56.00	27.90	0.12	0.73	QP
8	3.190	20.49	-25.51	46.00	19.64	0.12	0.73	Average
9	11.620	44.47	-15.53	60.00	43.41	0.26	0.80	QP
10	11.620	39.15	-10.85	50.00	38.09	0.26	0.80	Average
11	30.000	35.80	-24.20	60.00	34.87	0.43	0.50	QP
12	30.000	30.25	-19.75	50.00	29.32	0.43	0.50	Average

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band, N/A
☐	For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☐	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.

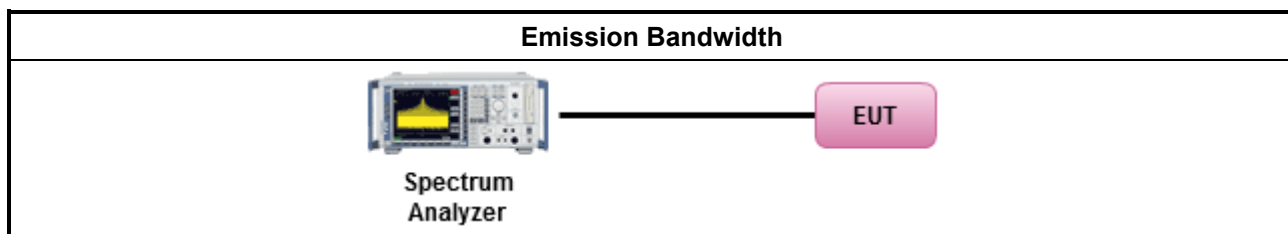
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
☒	For the emission bandwidth shall be measured using one of the options below:
☒	Refer as FCC KDB 789033 D02 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.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

UNII Emission Bandwidth Result (5150-5250MHz band)						
Condition			Emission Bandwidth (MHz)			
Modulation Mode	N _{TX}	Freq. (MHz)	99% Bandwidth(MHz)		26dB Bandwidth(MHz)	
			Chain Port 1	Chain Port 2	Chain Port 1	Chain Port 2
11a	2	5180	16.74	16.51	21.15	23.57
11a	2	5200	16.59	16.66	22.17	22.82
11a	2	5240	16.54	16.69	21.15	25.42
HT20	2	5180	17.86	17.94	22.80	23.27
HT20	2	5200	17.81	17.91	23.32	22.32
HT20	2	5240	17.91	17.84	22.12	25.92
HT40	2	5190	36.70	36.74	45.64	44.60
HT40	2	5230	36.70	36.70	49.20	48.24
VHT20	2	5180	17.64	17.89	22.25	22.27
VHT20	2	5200	17.74	17.79	23.62	23.80
VHT20	2	5240	17.71	17.89	23.97	24.55
VHT40	2	5190	36.74	36.66	45.48	44.88
VHT40	2	5230	36.78	36.86	49.24	45.04
VHT80	2	5210	75.96	75.80	93.52	85.12
Result			Complied			

UNII Emission Bandwidth Result (5725-5850MHz band)						
Condition			Emission Bandwidth (MHz)			
Modulation Mode	N _{TX}	Freq. (MHz)	99% Bandwidth(MHz)		6dB Bandwidth(MHz)	
			Chain Port 1	Chain Port 2	Chain Port 1	Chain Port 2
11a	2	5745	16.50	16.50	16.54	16.42
11a	2	5785	26.46	26.49	16.42	16.42
11a	2	5825	16.92	16.91	16.45	16.39
11a	2	5720	54.02	57.52	20.45	19.85
HT20	2	5745	17.69	17.64	17.77	17.62
HT20	2	5785	26.23	26.59	17.70	17.77
HT20	2	5825	17.87	17.87	17.65	17.68
HT20	2	5720	56.22	59.87	21.70	20.45
HT40	2	5755	36.18	36.22	36.36	36.48
HT40	2	5795	37.22	37.02	34.80	36.44
HT40	2	5710	81.15	87.75	36.30	37.20
VHT20	2	5745	17.72	17.70	17.73	17.68
VHT20	2	5785	26.22	26.97	17.77	17.68
VHT20	2	5825	17.90	17.99	17.68	17.65
VHT20	2	5720	56.57	60.46	20.65	20.75
VHT40	2	5755	36.18	36.22	36.08	36.48
VHT40	2	5795	37.22	37.10	35.68	36.36
VHT40	2	5710	81.85	88.45	36.70	36.70
VHT80	2	5775	75.56	75.72	76.08	76.40
Limit			-		≥ 500 kHz	
Result			Complied			



Spectrum

Ref Level 20.00 dBm
 Att 30 dB
 RBW 1 MHz
 VBW 3 MHz
 Mode Auto Sweep
 SGL Count 20/20

● 1PK Max

CF 5.21 GHz 2001 pts Span 160.0 MHz

10 dBm
 0 dBm
 -10 dBm
 -20 dBm
 -30 dBm
 -40 dBm
 -50 dBm
 -60 dBm
 -70 dBm

D1 0.113 dBm
 D2 -25.897 dBm
 M1
 M2
 D1[1]
 Occ Bw
 M1[1]

-25.64 dBm
 5.1606400 GHz
 75.962018991 MHz
 0.50 dB
 93.5200 MHz

F1 F2

Date: 3.JUL.2015 02:33:48

Spectrum

Ref Level 20.00 dBm
 Att 30 dB
 SWT 360.3 μ s
 RBW 100 kHz
 VBW 300 kHz
 Mode Auto FFT

SGI Count 20/20

1Pk Max

MI[1]	-13.08 dBm
Occ Bw	5.6516000 GHz
D1[1]	119.060469765 MHz
	-0.26 dB
	76.4000 MHz

D1 -8.102 dBm
 D2 -14.102 dBm

F1 F2

CF 5.69 GHz 2001 pts Span 160.0 MHz

Date: 15.AUG.2015 00:02:43

3.3 RF Output Power

3.3.1 RF Output Power Limit

Maximum Conducted Output Power Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
☒	Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125 mW [21dBm]
☐	Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$
☐	Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$.
☐	Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
☐ For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.	
☐ For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.	
☒ For the 5.725-5.85 GHz band:	
☒	Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$.
☐	Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
P_{Out} = maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

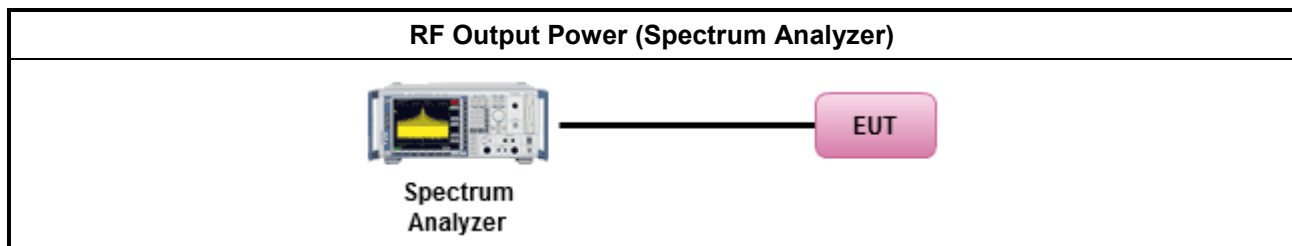
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
☒	Maximum Conducted Output Power
	[duty cycle $\geq 98\%$ or external video / power trigger]
☒	Refer as FCC KDB 789033 D02 v01, clause E Method SA-1 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02 v01, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle $< 98\%$ and average over on/off periods with duty factor
☒	Refer as FCC KDB 789033 D02 v01, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02 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 v01, clause E Method PM (using an RF average power meter).
☒	For conducted measurement.
☐	The EUT supports single transmit chain and measurements performed on this transmit chain
☐	The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
☒	The EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
☒	If multiple transmit chains, EIRP calculation could be following as methods: $P_{\text{total}} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $\text{EIRP}_{\text{total}} = P_{\text{total}} + \text{DG}$

3.3.4 Test Setup



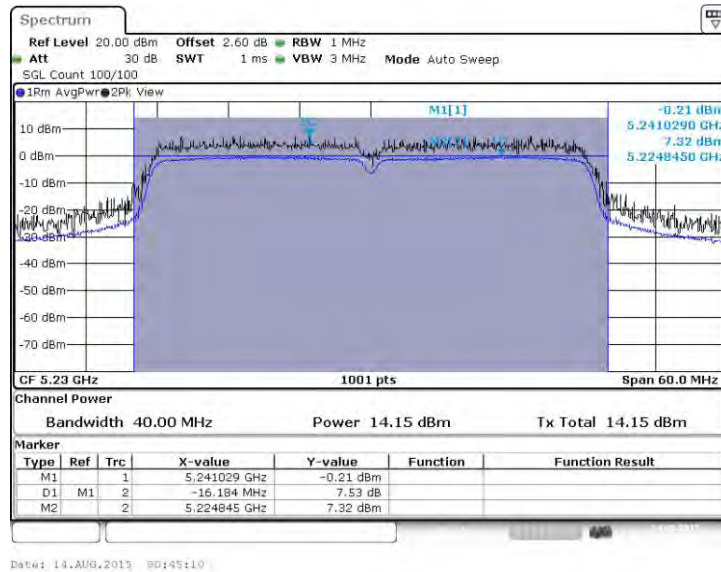
3.3.5 Test Result of Maximum Conducted Output Power

Maximum Conducted Output Power (5150-5250MHz band)							
Modulation Mode	N _{TX}	Freq. (MHz)	Output Power (dBm)			Antenna Gain (dBi)	Power Limit
			Chain Port 1	Chain Port 2	Sum Chain		
11a	2	5180	13.67	13.95	16.82	5	30.00
11a	2	5200	13.76	14.00	16.89	5	30.00
11a	2	5240	13.62	13.78	16.71	5	30.00
HT20	2	5180	13.61	13.94	16.79	5	30.00
HT20	2	5200	13.80	13.92	16.87	5	30.00
HT20	2	5240	13.52	13.73	16.64	5	30.00
HT40	2	5190	12.93	11.91	15.46	5	30.00
HT40	2	5230	14.11	13.45	16.80	5	30.00
VHT20	2	5180	13.75	13.58	16.68	5	30.00
VHT20	2	5200	13.78	13.88	16.84	5	30.00
VHT20	2	5240	13.58	13.74	16.67	5	30.00
VHT40	2	5190	12.98	11.91	15.49	5	30.00
VHT40	2	5230	14.15	13.46	16.83	5	30.00
VHT80	2	5210	12.27	11.18	14.77	5	30.00
Result			Complied				

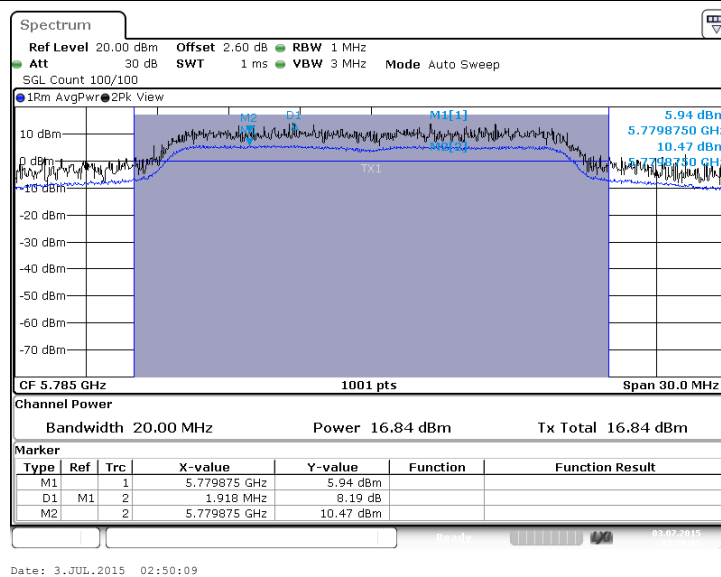
Maximum Conducted Output Power (5725-5850MHz band)							
Modulation Mode	N _{TX}	Freq. (MHz)	Output Power (dBm)			Antenna Gain (dBi)	Power Limit
			Chain Port 1	Chain Port 2	Sum Chain		
11a	2	5745	12.53	12.73	15.64	5	30.00
11a	2	5785	16.84	16.32	19.60	5	30.00
11a	2	5825	14.39	14.71	17.56	5	30.00
11a	2	5720	9.23	9.86	12.57	5	30.00
HT20	2	5745	12.51	12.67	15.60	5	30.00
HT20	2	5785	16.76	16.27	19.53	5	30.00
HT20	2	5825	14.33	14.65	17.50	5	30.00
HT20	2	5720	9.77	10.37	13.09	5	30.00
HT40	2	5755	11.22	10.92	14.08	5	30.00
HT40	2	5795	14.54	14.67	17.62	5	30.00
HT40	2	5710	5.48	5.73	8.62	5	30.00
VHT20	2	5745	12.49	12.64	15.58	5	30.00
VHT20	2	5785	16.73	16.31	19.54	5	30.00
VHT20	2	5825	14.32	14.65	17.50	5	30.00
VHT20	2	5720	11.40	10.76	14.10	5	30.00
VHT40	2	5755	11.07	10.91	14.00	5	30.00
VHT40	2	5795	14.55	14.69	17.63	5	30.00
VHT40	2	5710	6.54	6.46	9.51	5	30.00
VHT80	2	5775	10.26	10.25	13.27	5	30.00
Result			Complied				



5150-5250MHz - Worst RF Output Power Plots



5725-5850MHz - Worst RF Output Power Plots



3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
☐	Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$.
☒	Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$.
☐	Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$.
☐	Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
☐ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☐ For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☒ For the 5.725-5.85 GHz band:	
☒	Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$.
☐	Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz G_{TX} = the maximum transmitting antenna directional gain in dBi.	

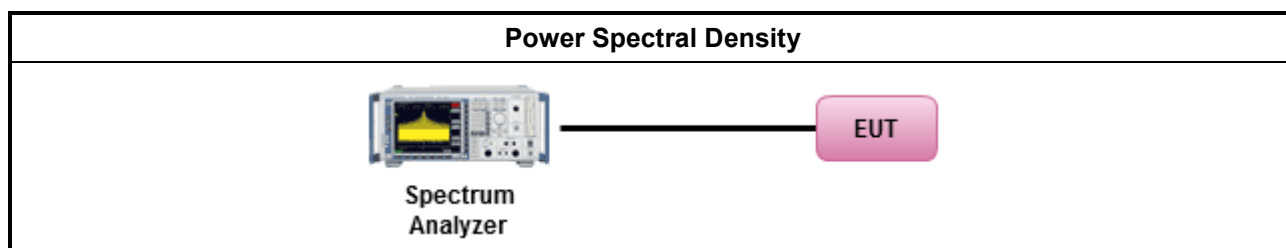
3.4.2 Measuring Instruments

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 v01, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth [duty cycle ≥ 98% or external video / power trigger]
☒	Refer as FCC KDB 789033 D02 v01, clause E Method SA-1 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02 v01, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
☒	Refer as FCC KDB 789033 D02 v01, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02 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: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (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

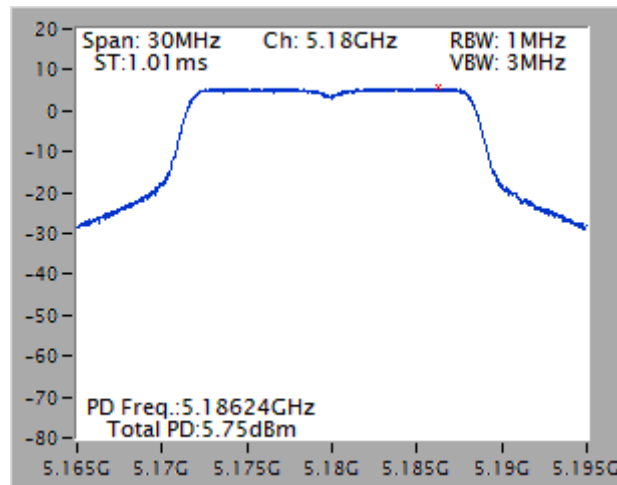
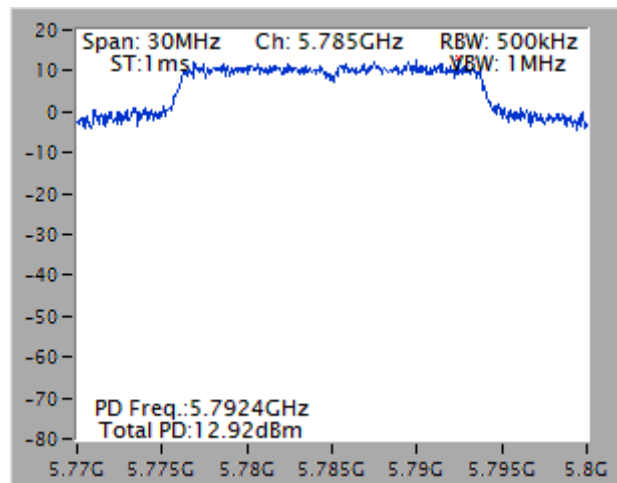


3.4.5 Test Result of Peak Power Spectral Density

Peak Power Spectral Density Result (5150-5250MHz band)					
Modulation Mode	N _{TX}	Freq. (MHz)	Peak Power Spectral Density (dBm/1MHz)	PSD Limit	PSD-DG (dBi)
11a	2	5180	5.75	14.99	8.01
11a	2	5200	5.74	14.99	8.01
11a	2	5240	5.54	14.99	8.01
HT20	2	5180	5.37	14.99	8.01
HT20	2	5200	5.31	14.99	8.01
HT20	2	5240	5.28	14.99	8.01
HT40	2	5190	0.76	14.99	8.01
HT40	2	5230	2.20	14.99	8.01
VHT20	2	5180	5.25	14.99	8.01
VHT20	2	5200	5.21	14.99	8.01
VHT20	2	5240	5.09	14.99	8.01
VHT40	2	5190	1.04	14.99	8.01
VHT40	2	5230	2.28	14.99	8.01
VHT80	2	5210	-2.96	14.99	8.01
Result			Complied		

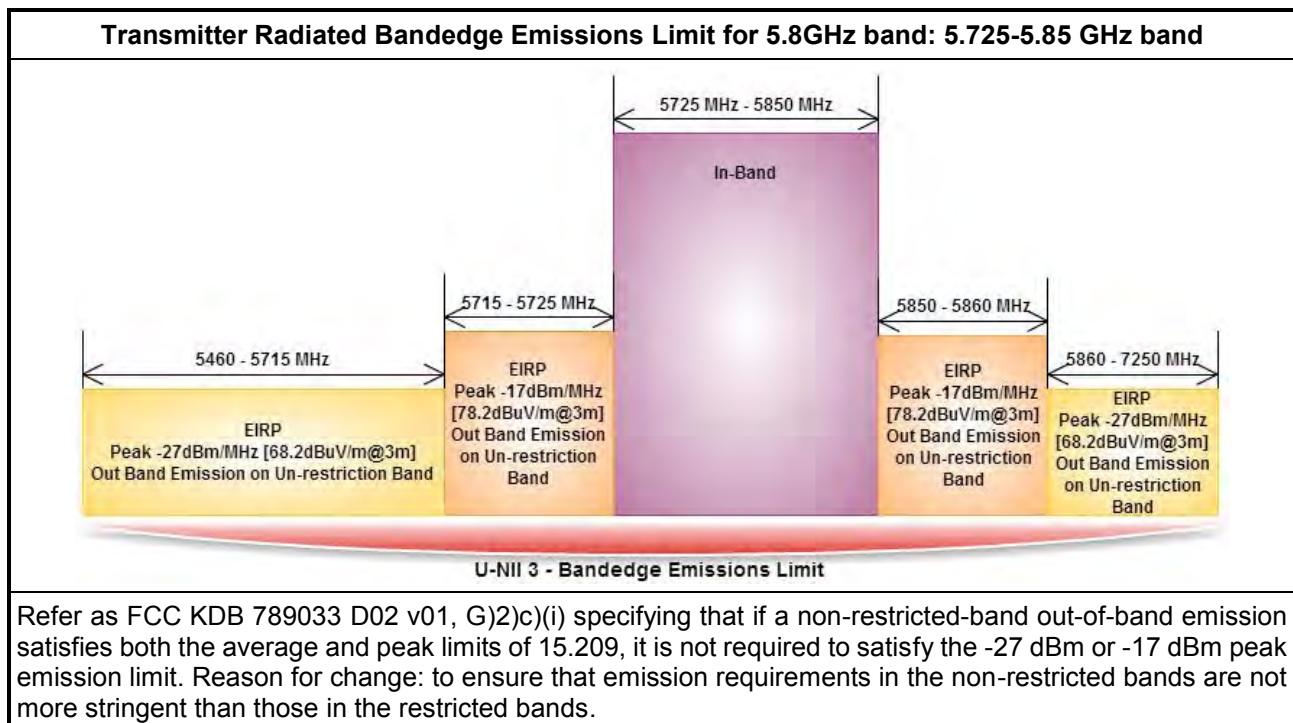
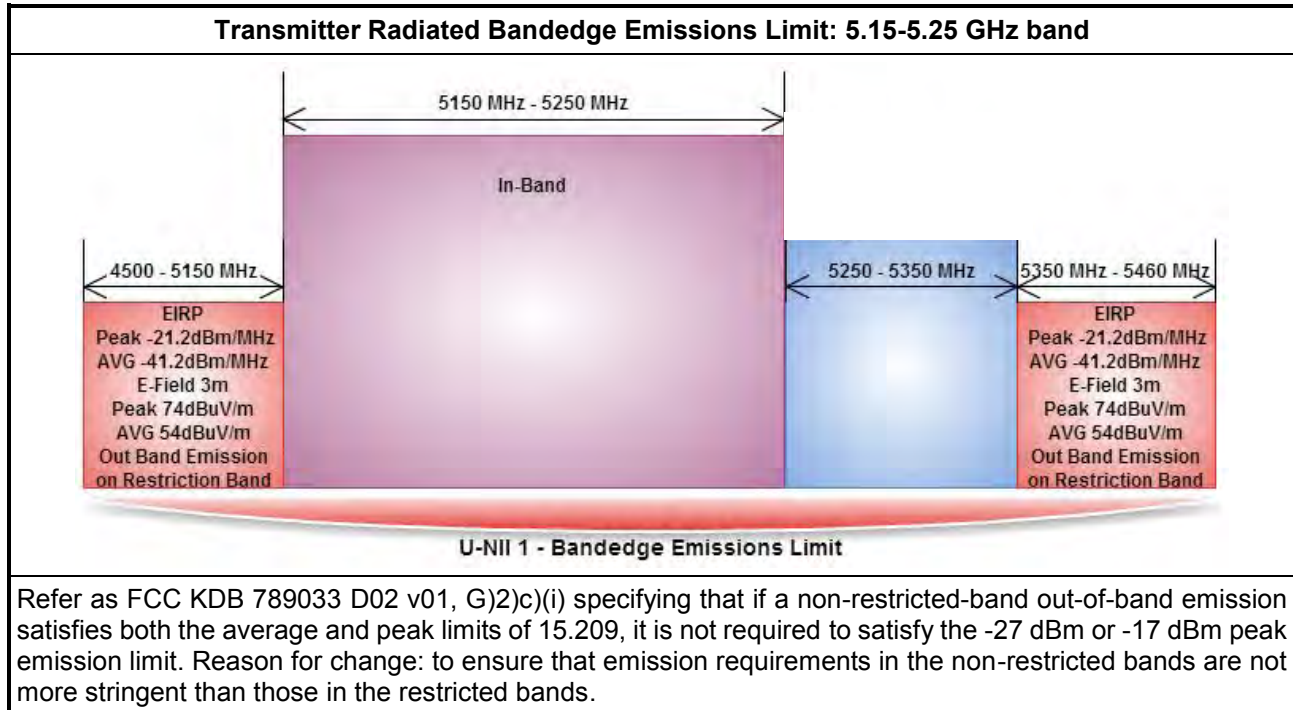
Note: PSD limit: 17-(8.01-6)=14.99

Peak Power Spectral Density Result (5725-5850MHz band)					
Modulation Mode	N _{TX}	Freq. (MHz)	Peak Power Spectral Density (dBm/500kHz)	PSD Limit (500kHz)	PSD-DG (dBi)
11a	2	5745	8.07	27.99	8.01
11a	2	5785	10.40	27.99	8.01
11a	2	5825	12.82	27.99	8.01
11a	2	5720	4.77	27.99	8.01
HT20	2	5745	8.26	27.99	8.01
HT20	2	5785	12.79	27.99	8.01
HT20	2	5825	10.13	27.99	8.01
HT20	2	5720	4.54	27.99	8.01
HT40	2	5755	3.09	27.99	8.01
HT40	2	5795	6.85	27.99	8.01
HT40	2	5710	6.94	27.99	8.01
VHT20	2	5745	7.52	27.99	8.01
VHT20	2	5785	12.92	27.99	8.01
VHT20	2	5825	9.98	27.99	8.01
VHT20	2	5720	4.37	27.99	8.01
VHT40	2	5755	3.33	27.99	8.01
VHT40	2	5795	6.81	27.99	8.01
VHT40	2	5710	7.21	27.99	8.01
VHT80	2	5775	-0.85	27.99	8.01
Result			Complied		

5150-5250MHz - Worst Power Spectral Density Plots

5725-5850MHz - Worst Power Spectral Density Plots


3.5 Transmitter Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit



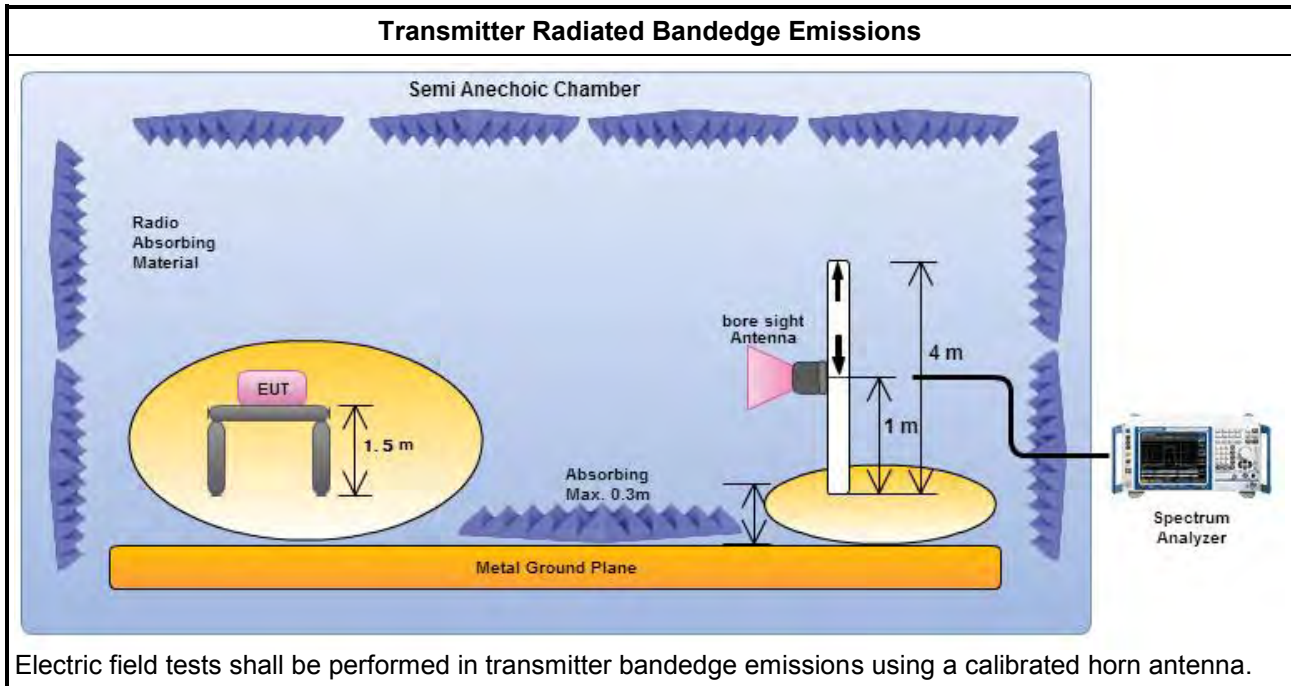
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method	
☒	The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
☒	Refer as ANSI C63.10, clause 6.9.2.2 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
☐	If EUT operate in adjacent contiguous bands, bandedge testing performed at the lowest frequency channel at lower-band and highest frequency channel at higher-band. Transmitter in-band emissions will consist of adjacent contiguous bands (e.g., IEEE 802.11ac VHT160 The lowest frequency channel at lower-band and highest frequency channel at higher-band in-band emissions will consist of two adjacent contiguous bands.)
☐	☐ Operating in 5.15-5.25 GHz band (lower-band) and 5.25-5.35 GHz band (higher-band). ☐ Operating in 5.47-5.725 GHz band (lower-band) and 5.725-5.85 GHz band (higher-band).
☐	If EUT operate in individual non-contiguous bands, bandedge testing performed at the lowest frequency channel and highest frequency channel within lower-band and higher-band. (e.g., IEEE 802.11ac VHT160)
☐	☐ Operating in 5.25-5.35 GHz band (lower-band) and 5.47-5.725 GHz band (higher-band). ☐ Operating in 5.15-5.25 GHz band (lower-band) and 5.725-5.85 GHz band (higher-band).
☒	For the transmitter unwanted emissions shall be measured using following options below:
☒	Refer as FCC KDB 789033 D02 v01, clause G)2) for unwanted emissions into non-restricted bands.
☒	Refer as FCC KDB 789033 D02 v01, clause G)1) for unwanted emissions into restricted bands.
☐	☐ Refer as FCC KDB 789033 D02 v01, G)6) Method AD (Trace Averaging).
☐	☐ Refer as FCC KDB 789033 D02 v01, G)6) Method VB (Reduced VBW).
☐	☒ Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
☐	☐ Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions.
☐	☒ Refer as FCC KDB 789033 D02 v01, clause G)5) measurement procedure peak limit.
☐	☐ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For the transmitter bandedge emissions shall be measured using following options below:
☐	☐ Refer as FCC KDB 789033 D02 v01, clause G)3)d) for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
☐	☒ Refer as ANSI C63.10, clause 6.10 for band-edge testing.
☐	☐ Refer as ANSI C63.10, clause 6.10.6.2 for marker-delta method for band-edge measurements.
☒	For radiated measurement, refer as ANSI C63.10, clause 6.6. Test distance is 3m.
☒	Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements). Measurements in the bandedge are typically made at a closer distance 3m, because the instrumentation noise floor is typically close to the radiated emission limit.

3.5.4 Test Setup



3.5.5 Transmitter Radiated Bandedge Emissions

U-NII 5150-5250MHz Transmitter Radiated Bandedge										
Modulation Mode	N _{TX}	Freq. (MHz)	Measure Distance (m)	Freq. (MHz) PK	Level (dBuV/m) PK	Limit (dBuV/m) PK	Freq. (MHz) AV	Level (dBuV/m) AV	Limit (dBuV/m) AV	Pol.
11a	2	5180	3	5147.800	68.18	74	5150.000	52.54	54	V
11a	2	5240	3	5148.000	72.41	74	5149.200	51.79	54	V
HT20	2	5180	3	5148.800	68.44	74	5150.000	52.17	54	V
HT20	2	5240	3	5148.600	70.18	74	5147.400	52.11	54	V
HT40	2	5190	3	5149.500	57.45	74	5149.940	51.93	54	V
HT40	2	5230	3	5148.600	67.04	74	5149.800	52.23	54	V
VHT20	2	5180	3	5149.400	70.00	74	5150.000	52.31	54	V
VHT20	2	5240	3	5148.000	70.47	74	5148.000	52.16	54	V
VHT40	2	5190	3	5149.500	67.75	74	5149.940	51.96	54	V
VHT40	2	5230	3	5148.000	65.67	74	5149.800	52.42	54	V
VHT80	2	5210	3	5148.000	67.92	74	5149.800	52.83	54	V

Note 1: Measurement worst emissions of receive antenna polarization.

U-NII 5725-5850MHz Transmitter Radiated Bandedge							
Modulation Mode	N _{TX}	Freq. (MHz)	Measure Distance (m)	Freq. (MHz) PK	Level (dBuV/m) PK	Limit (dBuV/m) PK	Pol.
11a	2	5745	3	5724.760	75.53	78.2	V
11a	2	5825	3	5860.150	67.17	68.2	V
HT20	2	5745	3	5724.760	76.59	78.2	V
HT20	2	5825	3	5860.570	66.80	68.2	V
HT40	2	5755	3	5714.220	64.94	68.2	V
HT40	2	5795	3	5860.000	67.17	68.2	V
VHT20	2	5745	3	5724.550	76.52	78.2	V
VHT20	2	5825	3	5860.045	66.67	68.2	V
VHT40	2	5755	3	5715.000	65.19	68.2	V
VHT40	2	5795	3	5860.300	66.38	68.2	V
VHT80	2	5775	3	5713.720	66.66	68.2	V

Note 1: Measurement worst emissions of receive antenna polarization.

3.6 Transmitter Unwanted Emissions

3.6.1 Transmitter Radiated Unwanted Emissions 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]
5.725 - 5.85 GHz	5.715 5.725 GHz: e.i.r.p. -17 dBm [78.2 dBuV/m@3m] 5.85 5.86 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).

3.6.2 Measuring Instruments

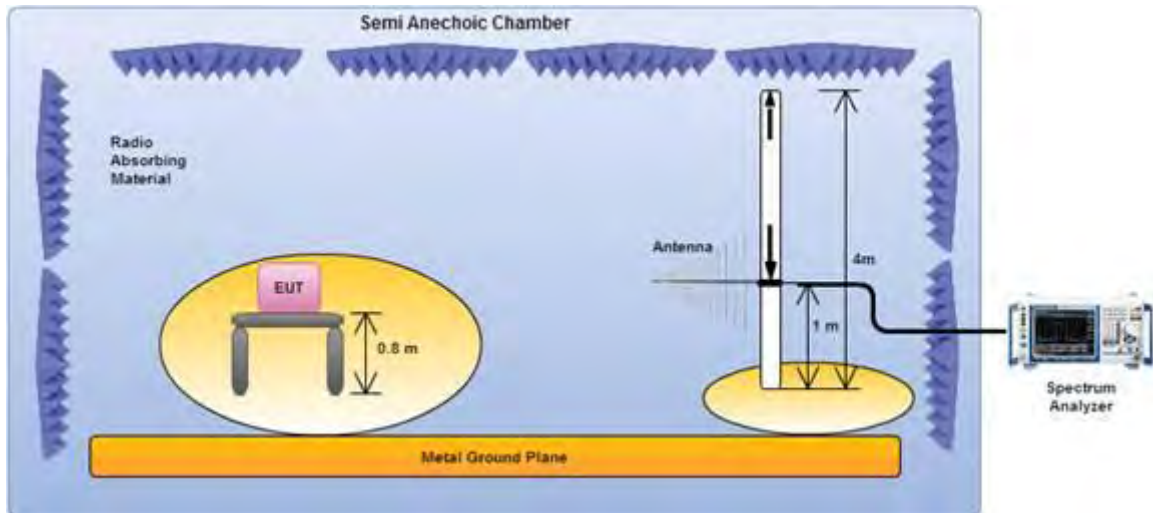
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
☒	Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. 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).
☒	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
☒	For the transmitter unwanted emissions shall be measured using following options below:
☒	Refer as FCC KDB 789033 D02 v01, clause G)2) for unwanted emissions into non-restricted bands.
☒	Refer as FCC KDB 789033 D02 v01, clause G)1) for unwanted emissions into restricted bands.
☐	Refer as FCC KDB 789033 D02 v01, G)6) Method AD (Trace Averaging).
☐	Refer as FCC KDB 789033 D02 v01, G)6) Method VB (Reduced VBW).
☒	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq 1/T$, where T is pulse time.
☐	Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
☒	Refer as FCC KDB 789033 D02 v01, clause G)5) measurement procedure peak limit.
☐	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For radiated measurement.
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz. For 1 GHz to 5 GHz, test distance is 3m; For 5 GHz to 40 GHz, test distance is 3m.
☒	The any unwanted emissions level shall not exceed the fundamental emission level.
☒	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

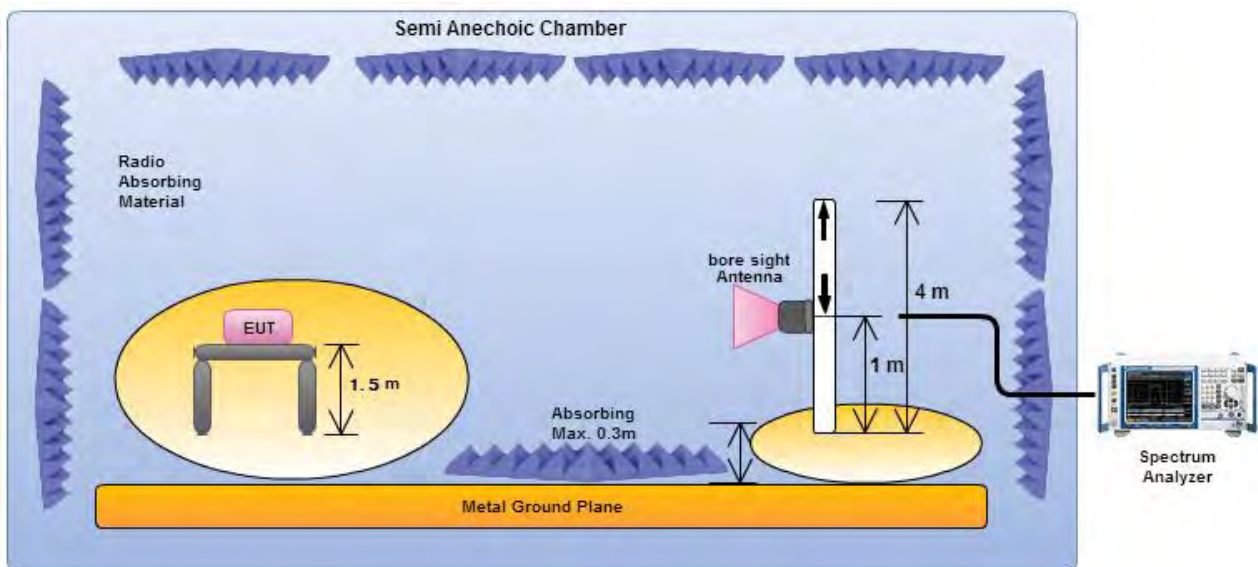
3.6.4 Test Setup

Transmitter Radiated Unwanted Emissions Below 1GHz



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

Transmitter Radiated Unwanted Emissions Above 1GHz

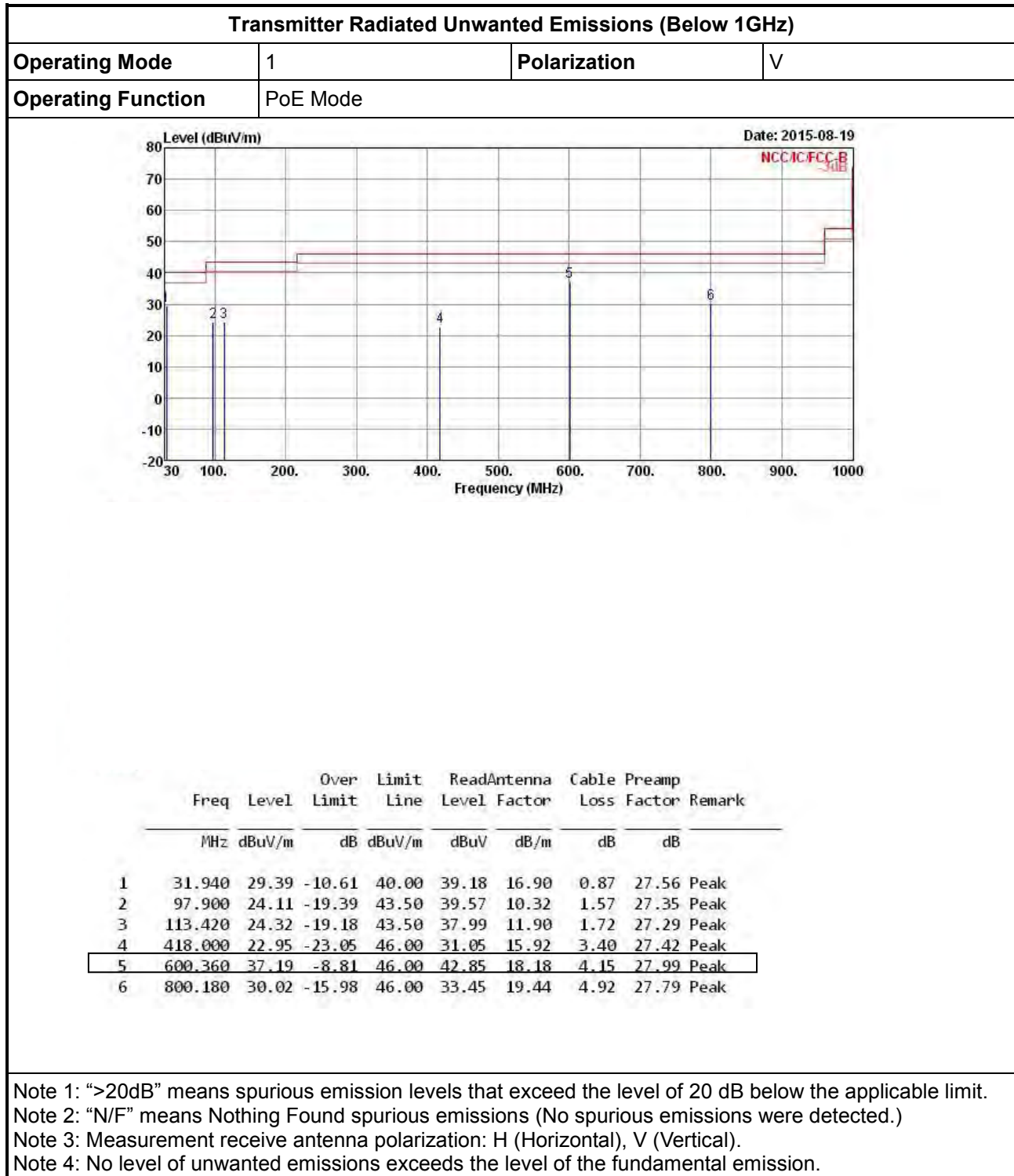


Electric field tests shall be performed in the frequency range of 1 GHz to 10th harmonic of highest fundamental frequency or 40 GHz using a calibrated horn antenna.

3.6.5 Transmitter Radiated Unwanted Emissions-with Antenna (Below 30MHz)

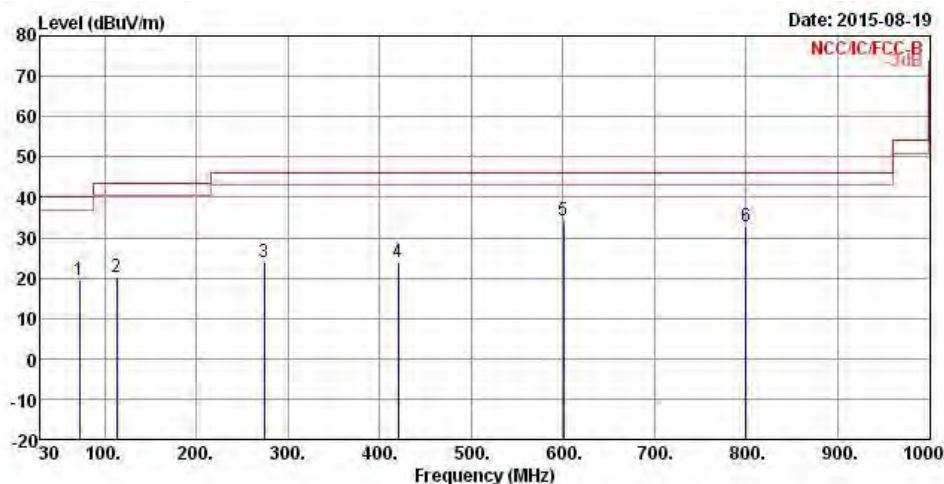
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.6.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)



Transmitter Radiated Unwanted Emissions (Below 1GHz)

Operating Mode	1	Polarization	H
Operating Function	PoE Mode		



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	
1	72.680	19.63	-20.37	40.00	39.37	6.34	Peak
2	113.420	20.35	-23.15	43.50	34.02	11.90	Peak
3	274.440	23.89	-22.11	46.00	35.45	12.43	Peak
4	419.940	23.94	-22.06	46.00	32.00	15.97	Peak
5	600.360	34.31	-11.69	46.00	39.97	18.18	Peak
6	800.180	32.70	-13.30	46.00	36.13	19.44	Peak

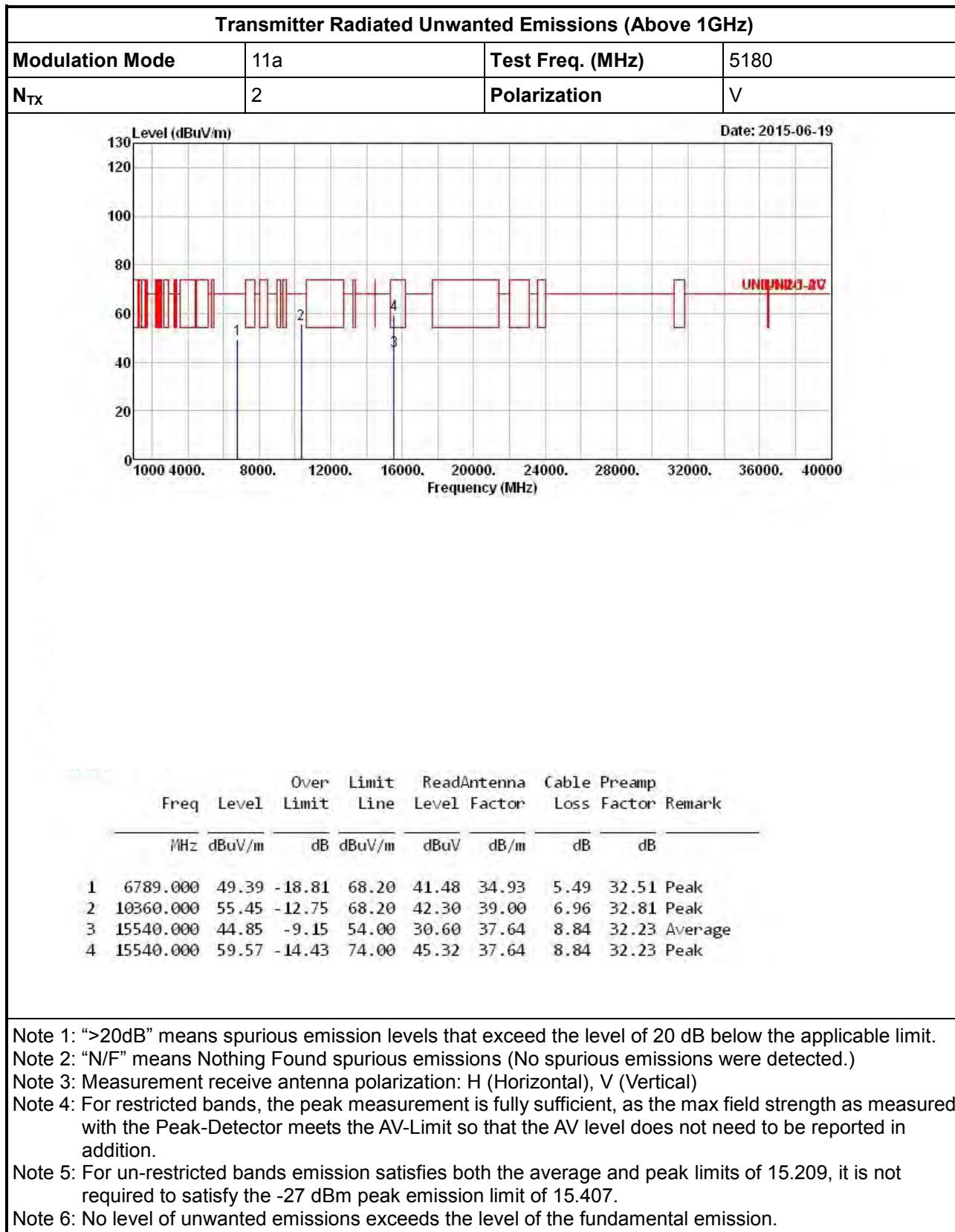
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

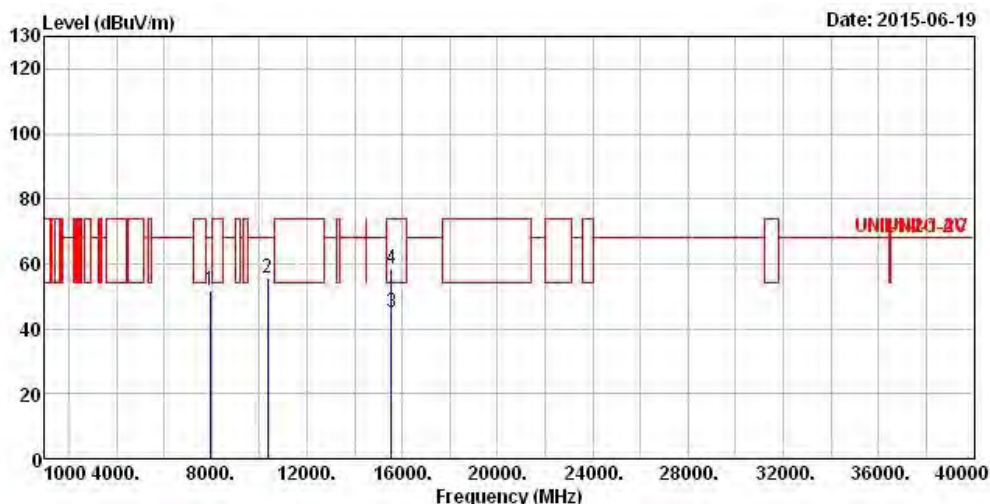
Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

3.6.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5150-5250MHz



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5180
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7926.000	51.83	-16.37	68.20	41.68	37.02	5.99	32.86	Peak
2	10360.000	55.84	-12.36	68.20	42.69	39.00	6.96	32.81	Peak
3	15540.000	44.93	-9.07	54.00	30.68	37.64	8.84	32.23	Average
4	15540.000	58.75	-15.25	74.00	44.50	37.64	8.84	32.23	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

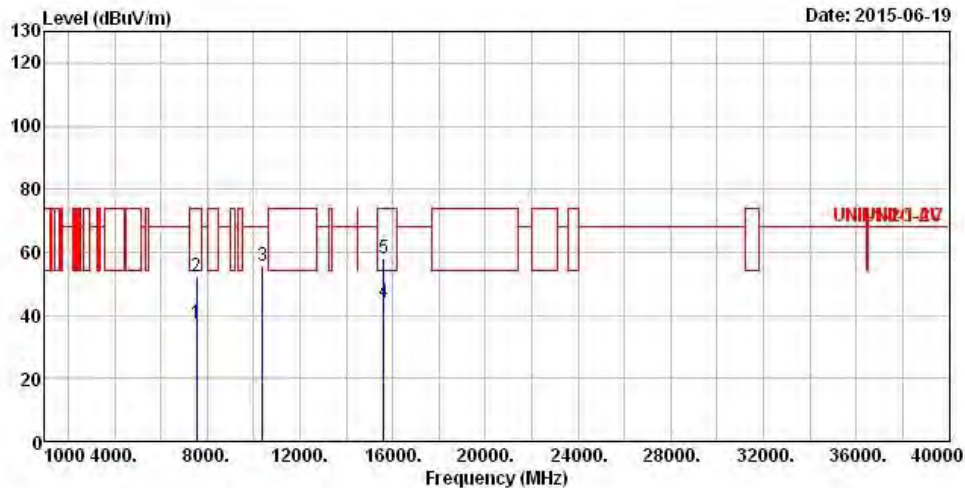
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5200
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7541.000	37.38	-16.62	54.00	27.65	36.65	5.84	32.76	Average
2	7541.000	52.41	-21.59	74.00	42.68	36.65	5.84	32.76	Peak
3	10400.000	55.43	-12.77	68.20	42.23	39.00	6.97	32.77	Peak
4	15600.000	44.19	-9.81	54.00	30.07	37.53	8.85	32.26	Average
5	15600.000	58.21	-15.79	74.00	44.09	37.53	8.85	32.26	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)

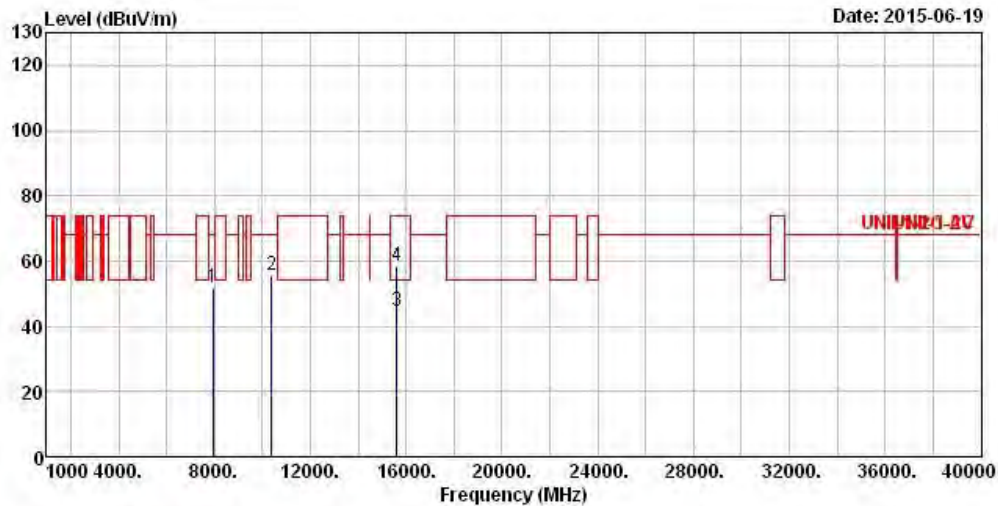
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5200
N_{TX}	2	Polarization	H

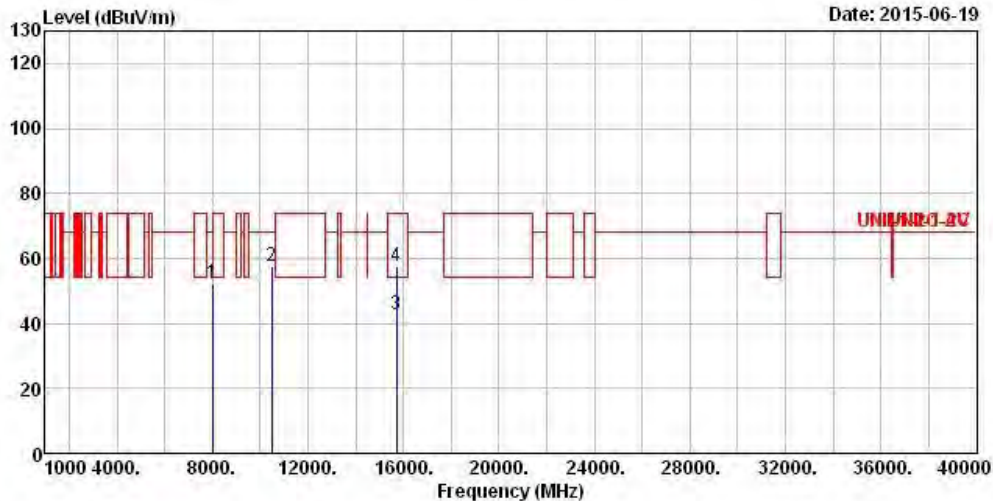


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7927.000	51.92	-16.28	68.20	41.77	37.02	5.99	32.86	Peak
2	10400.000	55.57	-12.63	68.20	42.37	39.00	6.97	32.77	Peak
3	15600.000	44.39	-9.61	54.00	30.27	37.53	8.85	32.26	Average
4	15600.000	58.35	-15.65	74.00	44.23	37.53	8.85	32.26	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.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5240
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	Loss Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7994.000	52.18	-16.02	68.20	41.98	37.08	6.00	32.88 Peak
2	10480.000	57.33	-10.87	68.20	44.03	39.00	7.00	32.70 Peak
3	15720.000	42.82	-11.18	54.00	28.92	37.34	8.86	32.30 Average
4	15720.000	57.46	-16.54	74.00	43.56	37.34	8.86	32.30 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

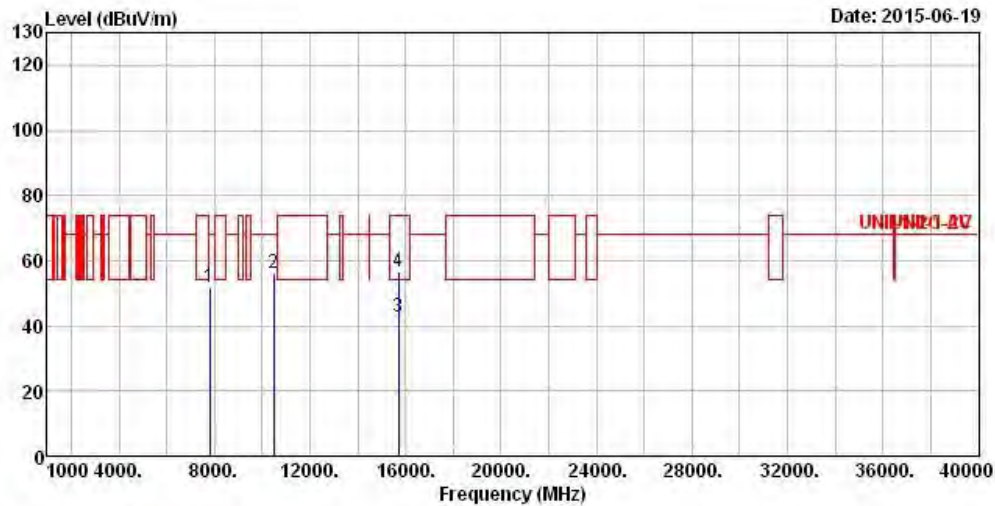
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5240
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7798.000	51.75	-16.45	68.20	41.75	36.90	5.93	32.83	Peak
2	10480.000	56.06	-12.14	68.20	42.76	39.00	7.00	32.70	Peak
3	15720.000	42.81	-11.19	54.00	28.91	37.34	8.86	32.30	Average
4	15720.000	56.83	-17.17	74.00	42.93	37.34	8.86	32.30	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

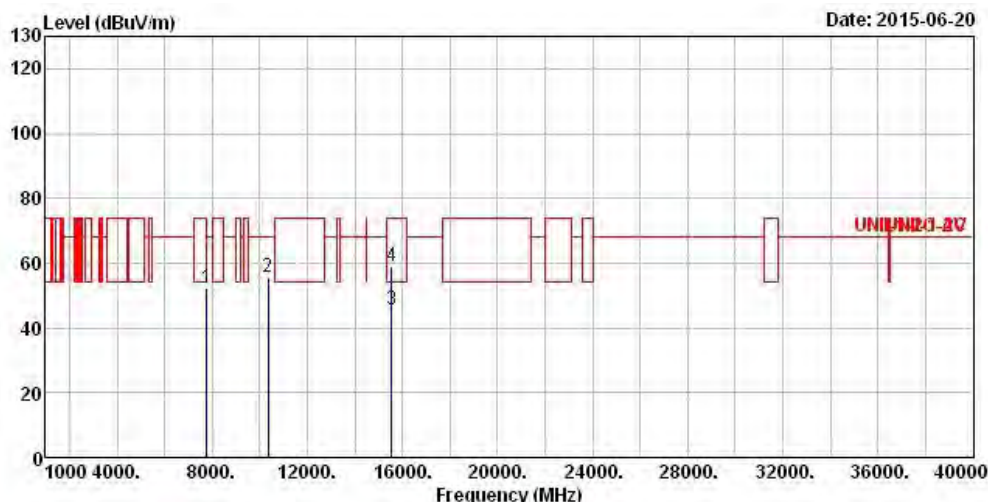
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5180
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7764.000	52.31	-15.89	68.20	42.35	36.87	5.91	32.82	Peak
2	10360.000	55.51	-12.69	68.20	42.36	39.00	6.96	32.81	Peak
3	15540.000	45.70	-8.30	54.00	31.45	37.64	8.84	32.23	Average
4	15540.000	59.19	-14.81	74.00	44.94	37.64	8.84	32.23	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

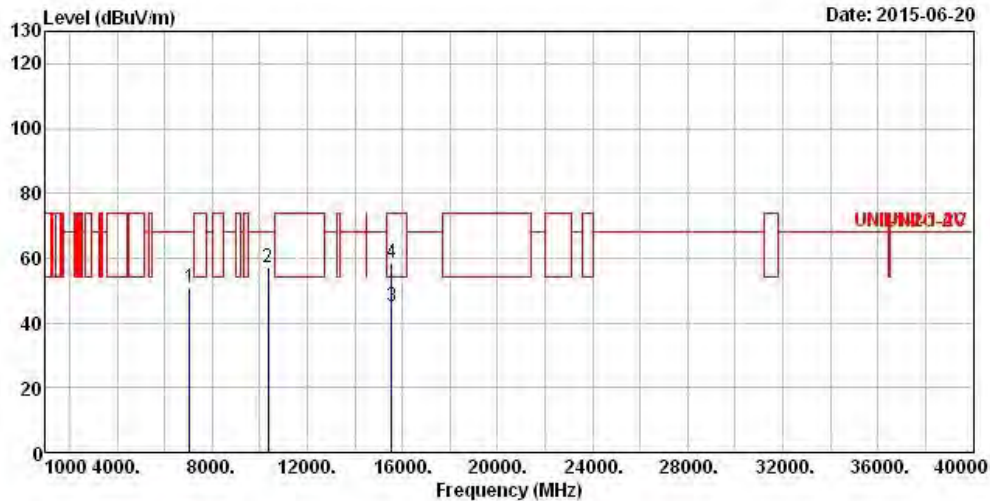
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5180
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7068.000	50.94	-17.26	68.20	42.36	35.48	5.67	32.57	Peak
2	10360.000	57.04	-11.16	68.20	43.89	39.00	6.96	32.81	Peak
3	15540.000	45.16	-8.84	54.00	30.91	37.64	8.84	32.23	Average
4	15540.000	58.76	-15.24	74.00	44.51	37.64	8.84	32.23	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

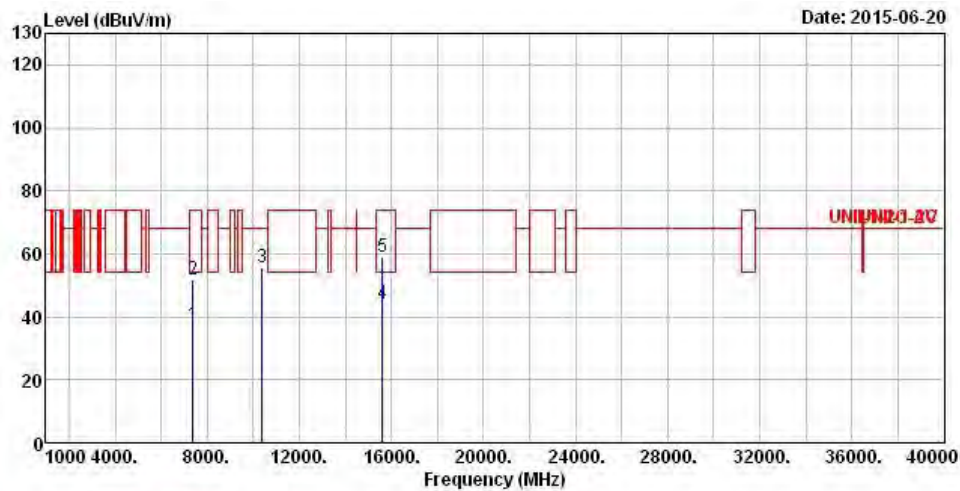
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5200
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7386.000	37.27	-16.73	54.00	27.86	36.33	5.78	32.70 Average
2	7386.000	51.77	-22.23	74.00	42.36	36.33	5.78	32.70 Peak
3	10400.000	55.79	-12.41	68.20	42.59	39.00	6.97	32.77 Peak
4	15600.000	44.11	-9.89	54.00	29.99	37.53	8.85	32.26 Average
5	15600.000	59.03	-14.97	74.00	44.91	37.53	8.85	32.26 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)

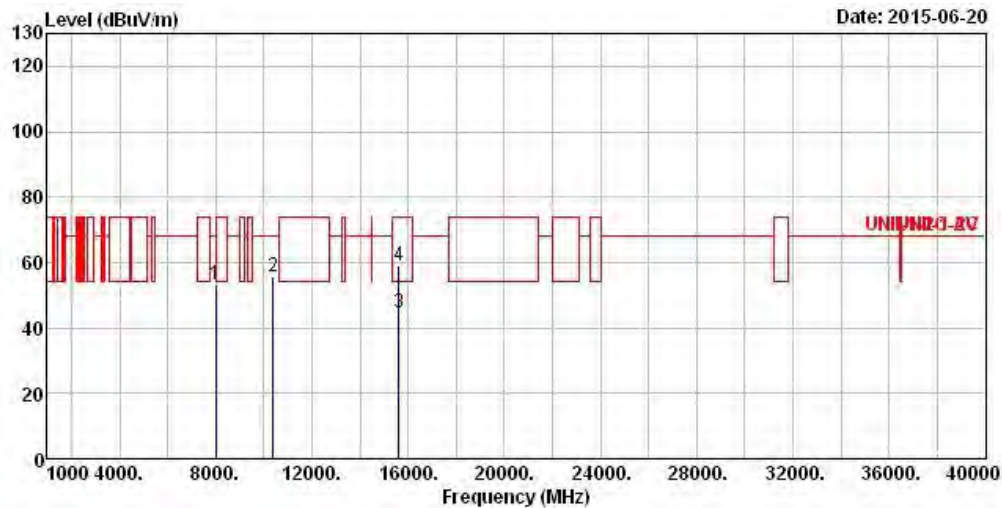
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5200
N_{TX}	2	Polarization	H

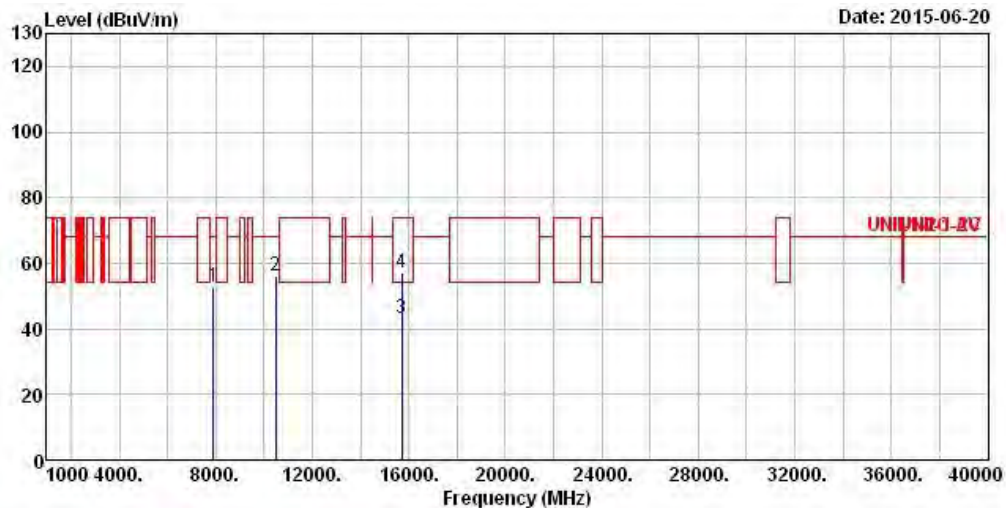


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	8010.000	53.34	-14.86	68.20	43.10	37.10	6.02	32.88 Peak
2	10400.000	55.70	-12.50	68.20	42.50	39.00	6.97	32.77 Peak
3	15600.000	44.42	-9.58	54.00	30.30	37.53	8.85	32.26 Average
4	15600.000	59.09	-14.91	74.00	44.97	37.53	8.85	32.26 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.
 Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
 Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5240
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7891.000	53.00	-15.20	68.20	42.90	36.98	5.97	32.85 Peak
2	10480.000	55.93	-12.27	68.20	42.63	39.00	7.00	32.70 Peak
3	15720.000	43.16	-10.84	54.00	29.26	37.34	8.86	32.30 Average
4	15720.000	57.20	-16.80	74.00	43.30	37.34	8.86	32.30 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

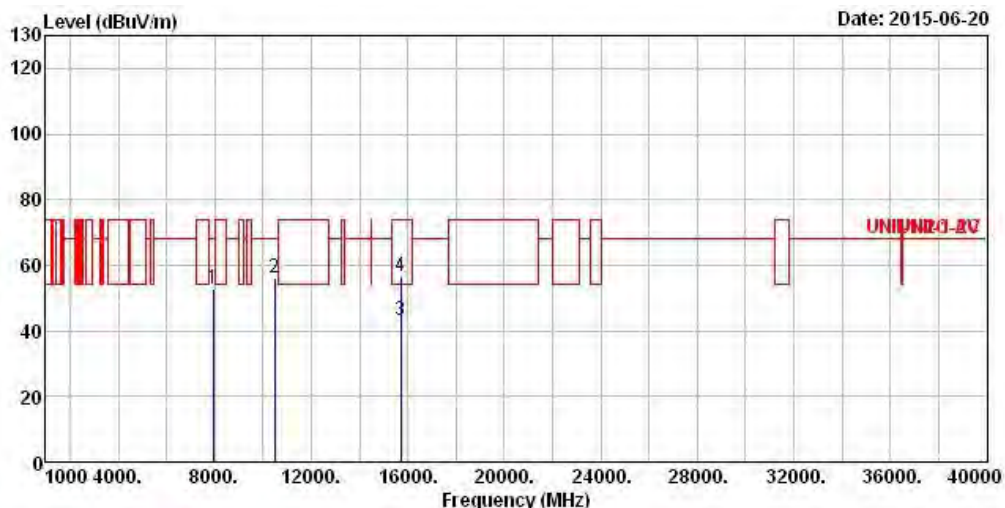
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5240
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7926.000	52.74	-15.46	68.20	42.59	37.02	5.99	32.86 Peak
2	10480.000	56.36	-11.84	68.20	43.06	39.00	7.00	32.70 Peak
3	15720.000	43.14	-10.86	54.00	29.24	37.34	8.86	32.30 Average
4	15720.000	56.75	-17.25	74.00	42.85	37.34	8.86	32.30 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

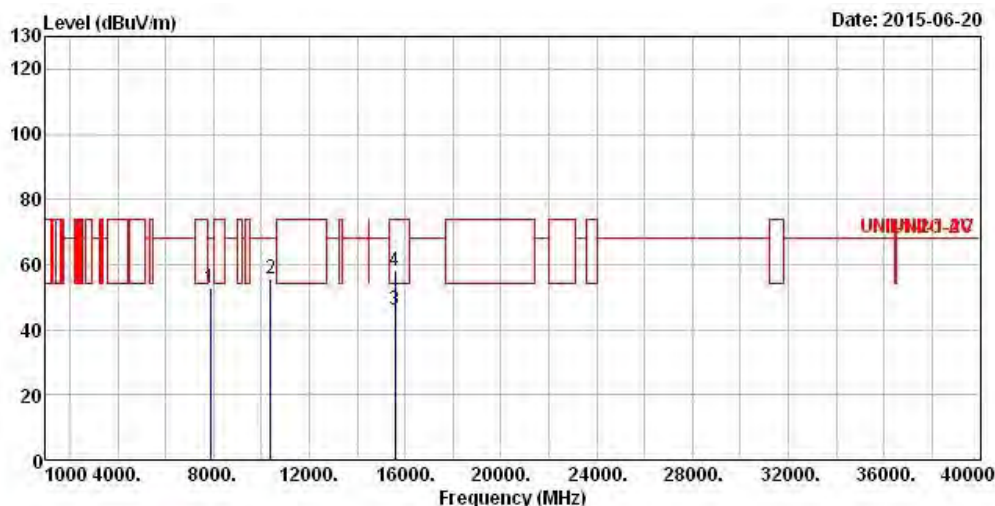
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5190
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7860.000	52.73	-15.47	68.20	42.65	36.97	5.95	32.84 Peak
2	10380.000	55.84	-12.36	68.20	42.66	39.00	6.97	32.79 Peak
3	15570.000	45.82	-8.18	54.00	31.63	37.59	8.85	32.25 Average
4	15570.000	58.17	-15.83	74.00	43.98	37.59	8.85	32.25 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

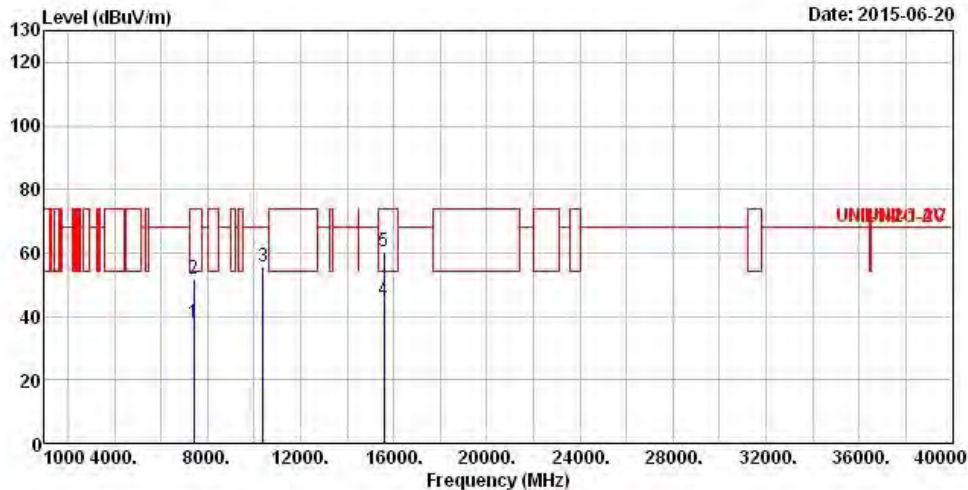
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5190
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7398.000	38.04	-15.96	54.00	28.64	36.33	5.78	32.71	Average
2	7398.000	51.76	-22.24	74.00	42.36	36.33	5.78	32.71	Peak
3	10380.000	55.85	-12.35	68.20	42.67	39.00	6.97	32.79	Peak
4	15570.000	45.29	-8.71	54.00	31.10	37.59	8.85	32.25	Average
5	15570.000	60.52	-13.48	74.00	46.33	37.59	8.85	32.25	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

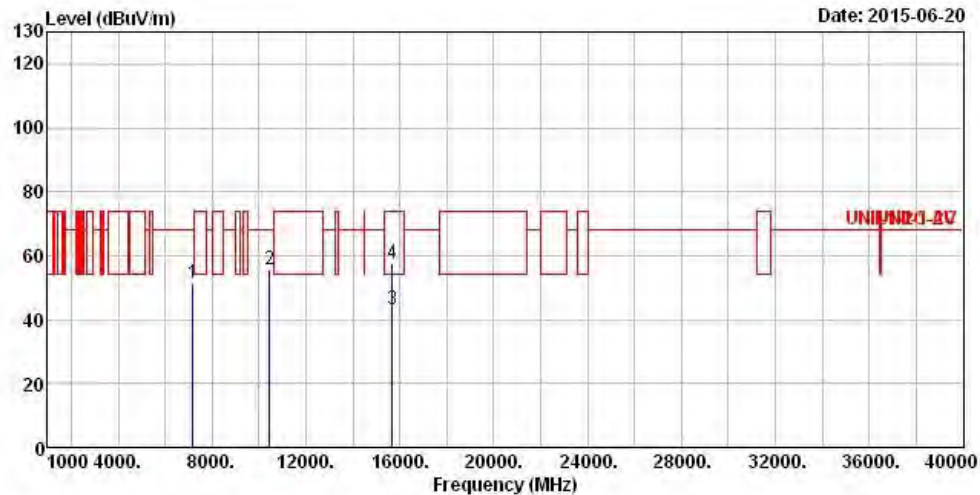
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5230
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7186.000	51.51	-16.69	68.20	42.63	35.79	5.71	32.62 Peak
2	10460.000	55.79	-12.41	68.20	42.51	39.00	7.00	32.72 Peak
3	15690.000	42.95	-11.05	54.00	28.98	37.40	8.86	32.29 Average
4	15690.000	57.75	-16.25	74.00	43.78	37.40	8.86	32.29 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

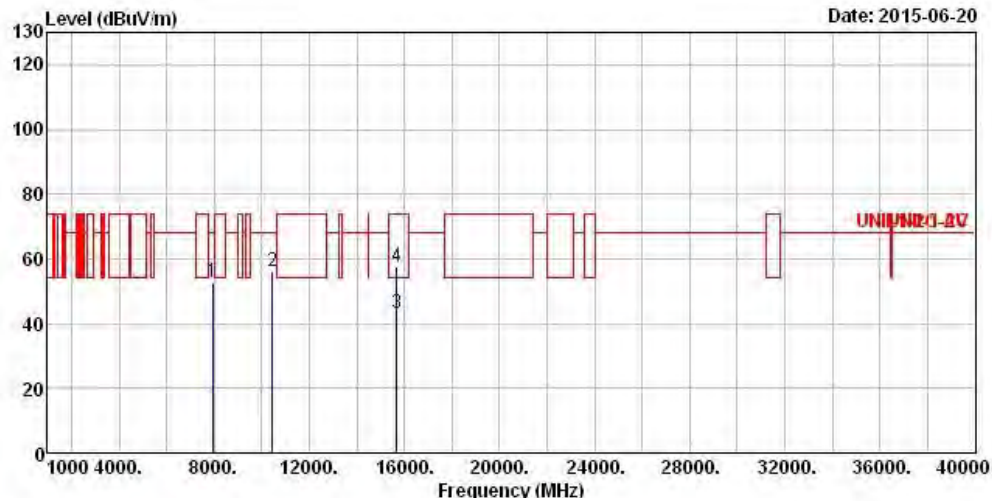
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5230
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7938.000	52.68	-15.52	68.20	42.52	37.03	5.99	32.86	Peak
2	10460.000	55.97	-12.23	68.20	42.69	39.00	7.00	32.72	Peak
3	15690.000	43.24	-10.76	54.00	29.27	37.40	8.86	32.29	Average
4	15690.000	57.69	-16.31	74.00	43.72	37.40	8.86	32.29	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

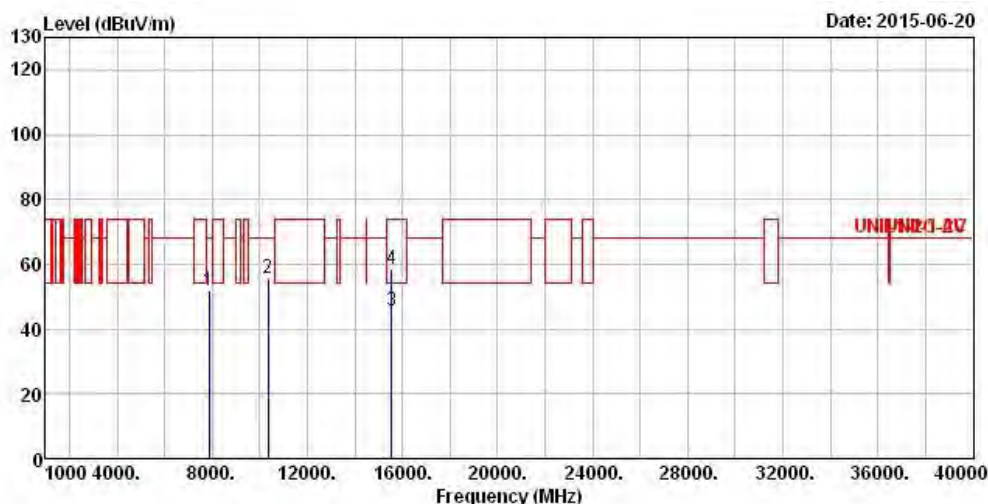
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5180
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7860.000	51.78	-16.42	68.20	41.70	36.97	5.95	32.84 Peak
2	10360.000	55.53	-12.67	68.20	42.38	39.00	6.96	32.81 Peak
3	15540.000	45.81	-8.19	54.00	31.56	37.64	8.84	32.23 Average
4	15540.000	58.74	-15.26	74.00	44.49	37.64	8.84	32.23 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

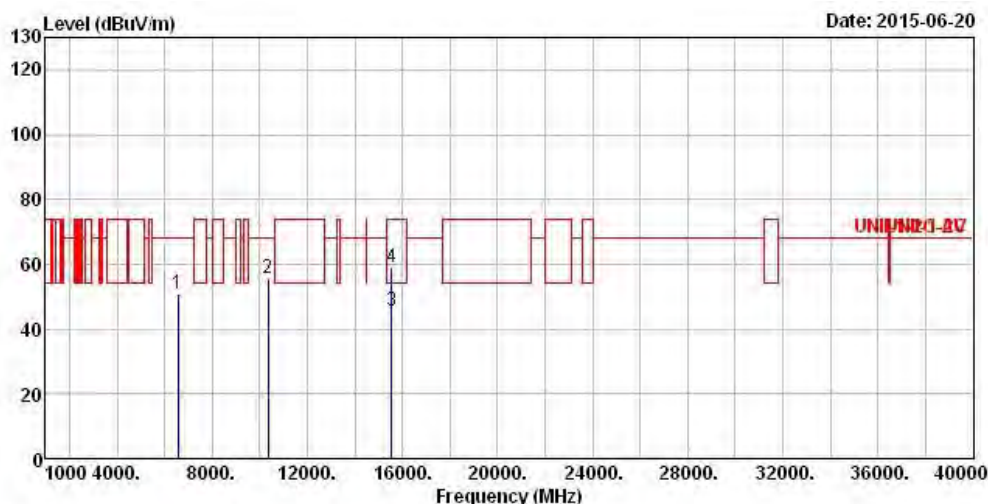
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5180
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	6552.000	50.84	-17.36	68.20	43.49	34.49	5.34	32.48 Peak
2	10360.000	55.76	-12.44	68.20	42.61	39.00	6.96	32.81 Peak
3	15540.000	45.44	-8.56	54.00	31.19	37.64	8.84	32.23 Average
4	15540.000	59.19	-14.81	74.00	44.94	37.64	8.84	32.23 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

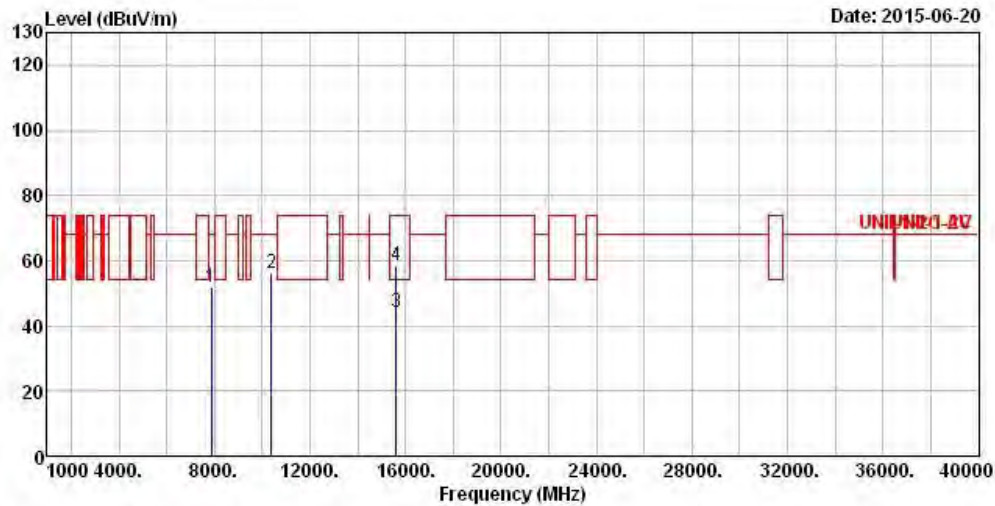
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5200
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7886.000	51.96	-16.24	68.20	41.86	36.98	5.97	32.85 Peak
2	10400.000	55.89	-12.31	68.20	42.69	39.00	6.97	32.77 Peak
3	15600.000	44.36	-9.64	54.00	30.24	37.53	8.85	32.26 Average
4	15600.000	58.43	-15.57	74.00	44.31	37.53	8.85	32.26 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)

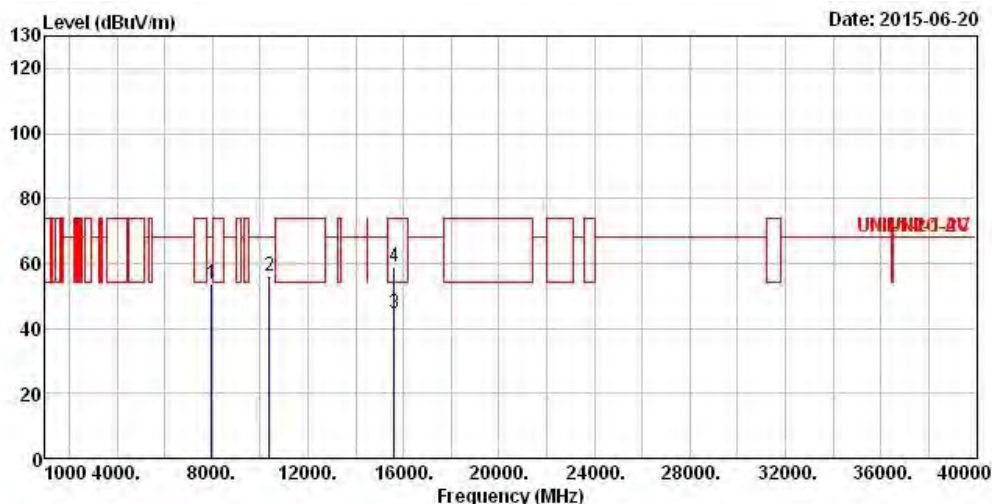
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5200
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7984.000	53.71	-14.49	68.20	43.51	37.08	6.00	32.88 Peak
2	10400.000	56.06	-12.14	68.20	42.86	39.00	6.97	32.77 Peak
3	15600.000	44.76	-9.24	54.00	30.64	37.53	8.85	32.26 Average
4	15600.000	58.89	-15.11	74.00	44.77	37.53	8.85	32.26 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)

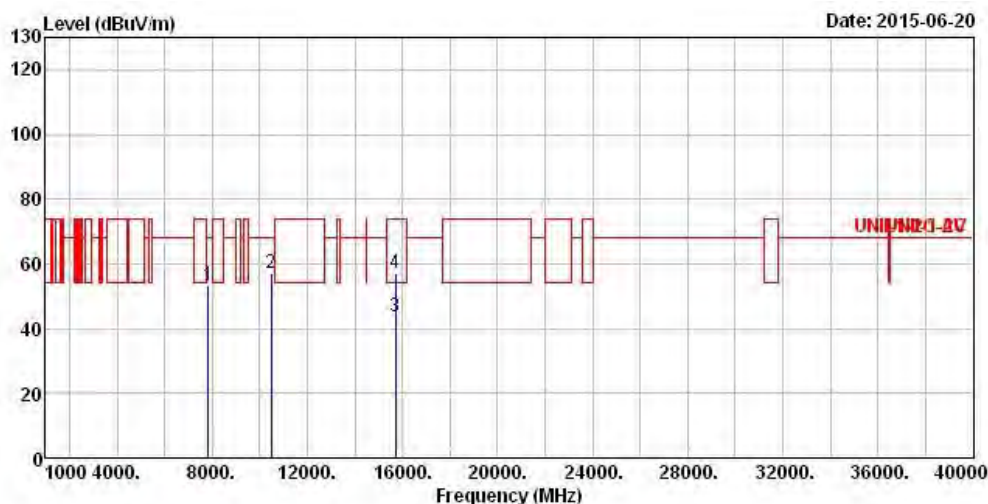
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5240
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7853.000	53.03	-15.17	68.20	42.97	36.95	5.95	32.84	Peak
2	10480.000	56.93	-11.27	68.20	43.63	39.00	7.00	32.70	Peak
3	15720.000	43.64	-10.36	54.00	29.74	37.34	8.86	32.30	Average
4	15720.000	56.92	-17.08	74.00	43.02	37.34	8.86	32.30	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

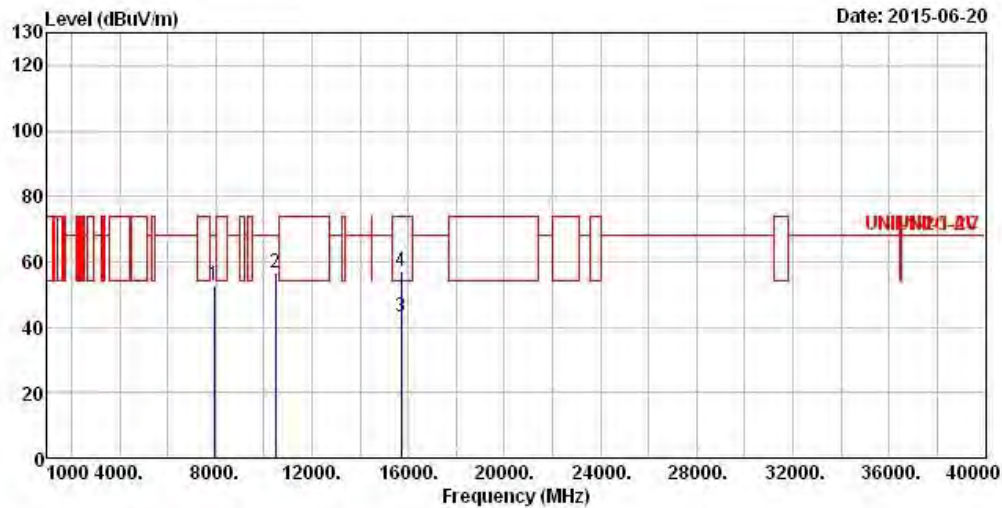
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT20	Test Freq. (MHz)	5240
N_{TX}	2	Polarization	H

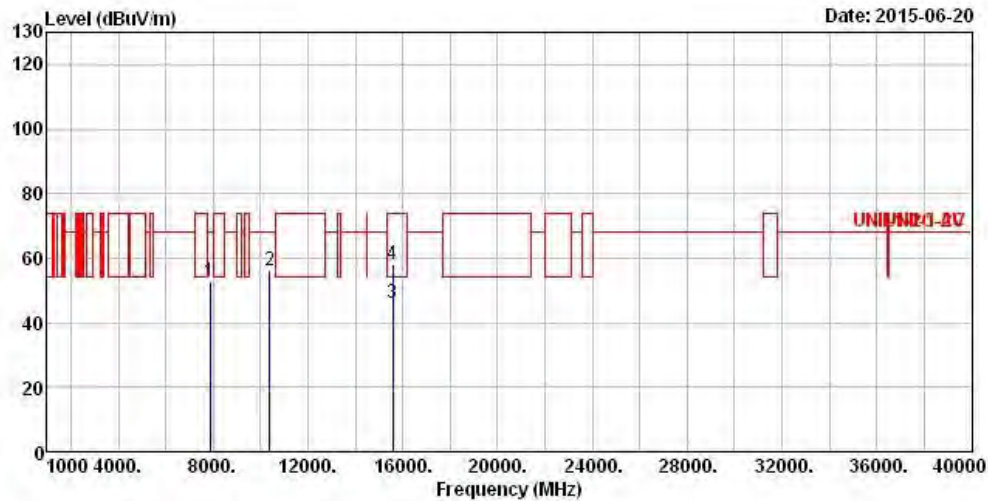


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7946.000	52.92	-15.28	68.20	42.75	37.05	5.99	32.87 Peak
2	10480.000	56.56	-11.64	68.20	43.26	39.00	7.00	32.70 Peak
3	15720.000	43.34	-10.66	54.00	29.44	37.34	8.86	32.30 Average
4	15720.000	56.90	-17.10	74.00	43.00	37.34	8.86	32.30 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
 Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
 Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40	Test Freq. (MHz)	5190
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7866.000	52.77	-15.43	68.20	42.70	36.97	5.95	32.85	Peak
2	10380.000	56.05	-12.15	68.20	42.87	39.00	6.97	32.79	Peak
3	15570.000	45.99	-8.01	54.00	31.80	37.59	8.85	32.25	Average
4	15570.000	58.07	-15.93	74.00	43.88	37.59	8.85	32.25	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

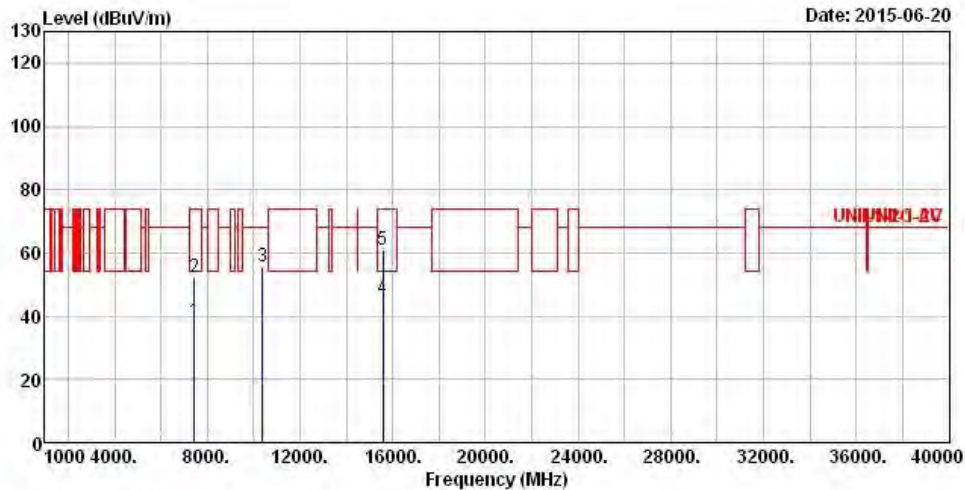
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40	Test Freq. (MHz)	5190
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7458.000	38.22	-15.78	54.00	28.63	36.51	5.81	32.73 Average
2	7458.000	52.27	-21.73	74.00	42.68	36.51	5.81	32.73 Peak
3	10380.000	55.85	-12.35	68.20	42.67	39.00	6.97	32.79 Peak
4	15570.000	45.52	-8.48	54.00	31.33	37.59	8.85	32.25 Average
5	15570.000	60.75	-13.25	74.00	46.56	37.59	8.85	32.25 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

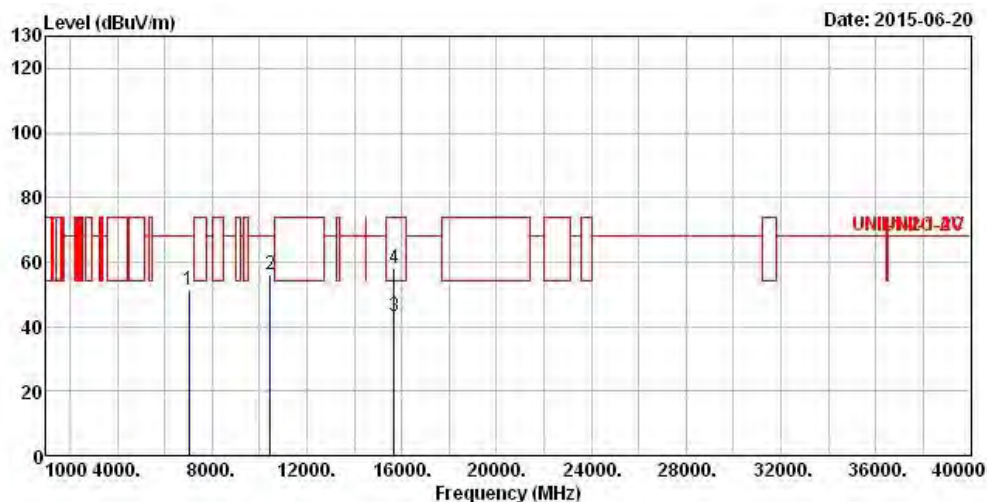
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40	Test Freq. (MHz)	5230
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	/MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7023.000	51.31	-16.89	68.20	42.88	35.34	5.64	32.55 Peak
2	10460.000	55.98	-12.22	68.20	42.70	39.00	7.00	32.72 Peak
3	15690.000	43.10	-10.90	54.00	29.13	37.40	8.86	32.29 Average
4	15690.000	57.87	-16.13	74.00	43.90	37.40	8.86	32.29 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

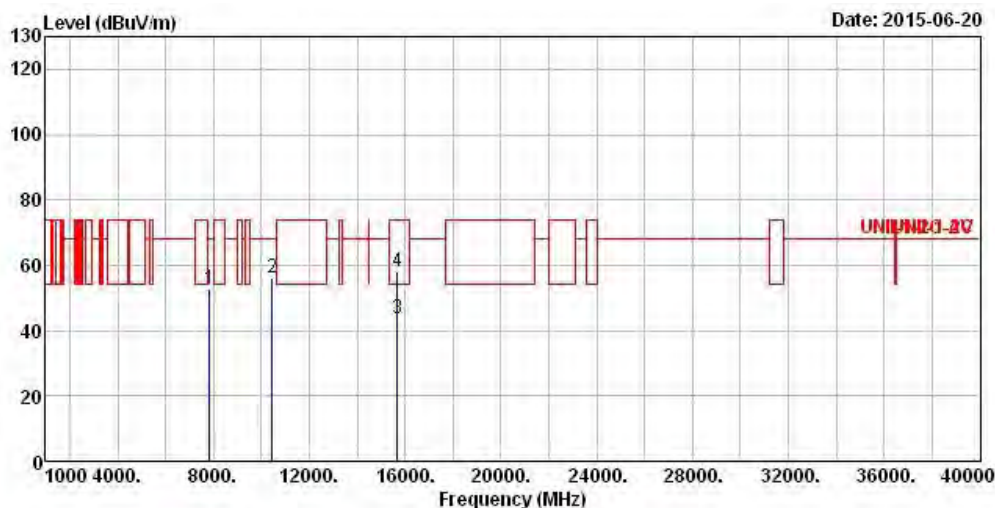
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT40	Test Freq. (MHz)	5230
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7844.000	52.85	-15.35	68.20	42.80	36.95	5.94	32.84 Peak
2	10460.000	56.18	-12.02	68.20	42.90	39.00	7.00	32.72 Peak
3	15690.000	43.68	-10.32	54.00	29.71	37.40	8.86	32.29 Average
4	15690.000	57.99	-16.01	74.00	44.02	37.40	8.86	32.29 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

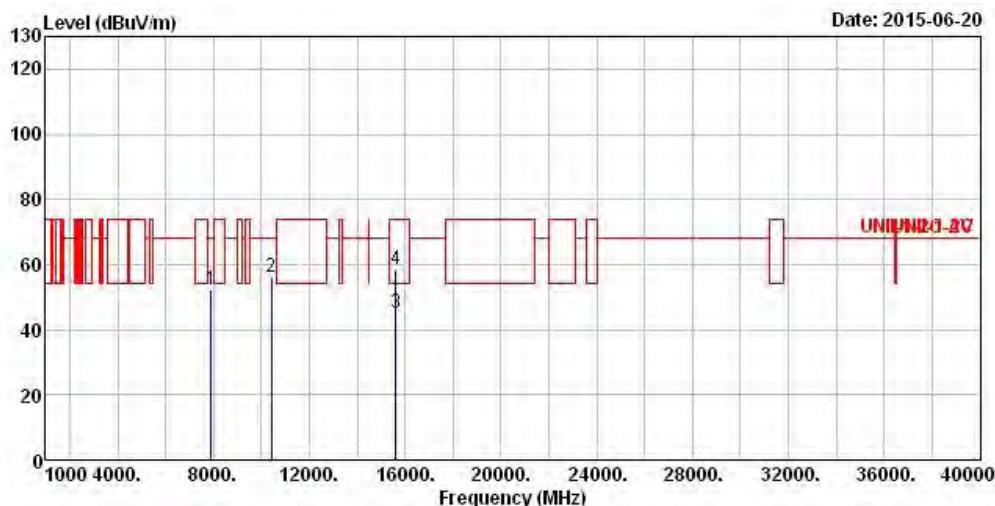
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT80	Test Freq. (MHz)	5210
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7902.000	52.53	-15.67	68.20	42.41	37.00	5.97	32.85 Peak
2	10420.000	55.92	-12.28	68.20	42.69	39.00	6.98	32.75 Peak
3	15630.000	44.87	-9.13	54.00	30.81	37.48	8.85	32.27 Average
4	15630.000	58.31	-15.69	74.00	44.25	37.48	8.85	32.27 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

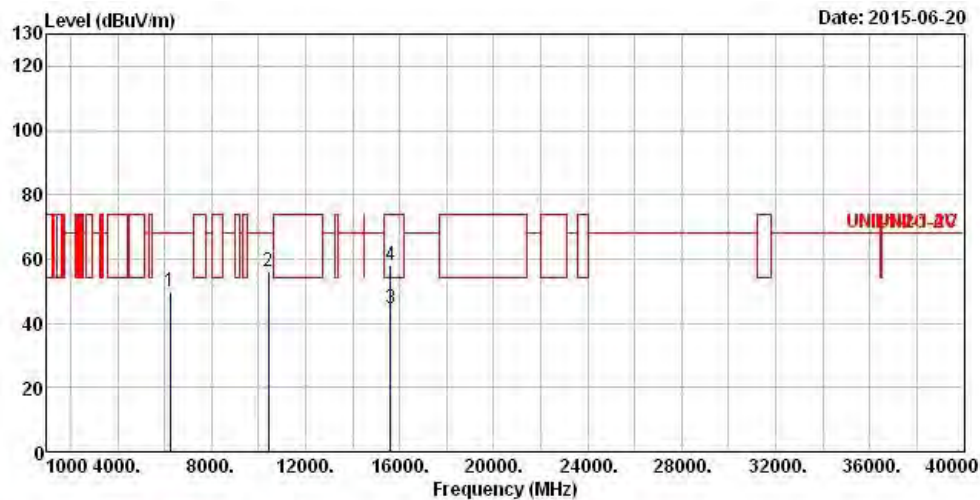
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	VHT80	Test Freq. (MHz)	5210
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	6238.000	49.69	-18.51	68.20	42.62	34.35	5.18	32.46	Peak
2	10420.000	56.13	-12.07	68.20	42.90	39.00	6.98	32.75	Peak
3	15630.000	44.55	-9.45	54.00	30.49	37.48	8.85	32.27	Average
4	15630.000	58.05	-15.95	74.00	43.99	37.48	8.85	32.27	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

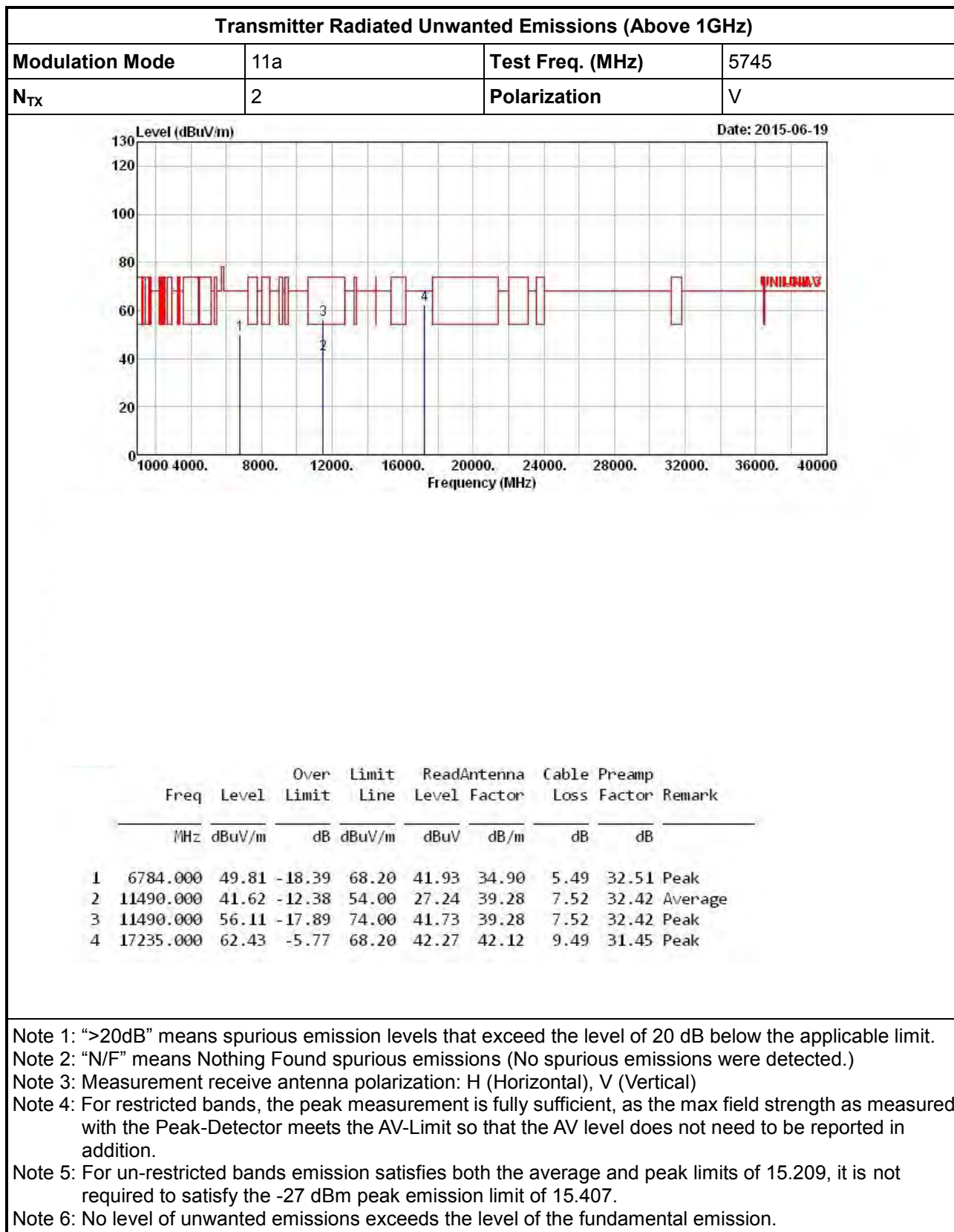
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

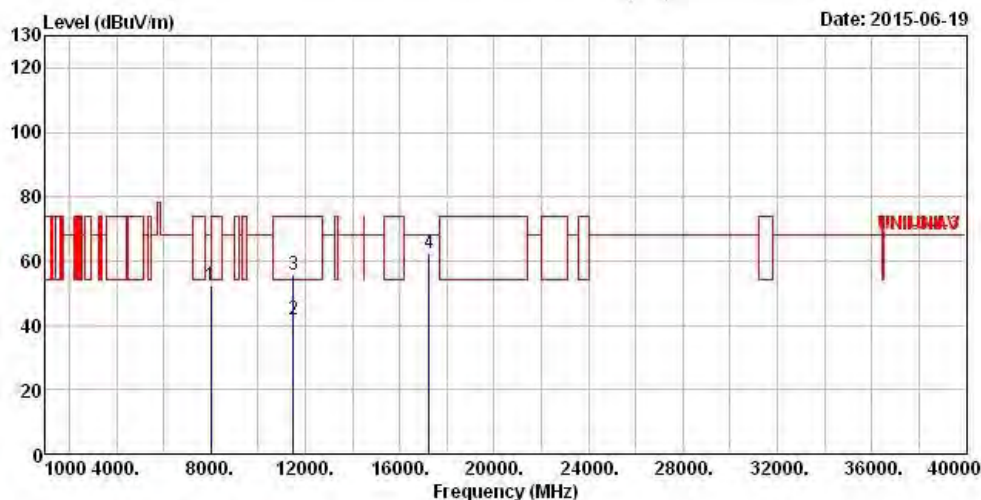
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

3.6.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5725-5850MHz


Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5745
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	8000.000	52.09	-16.11	68.20	41.87	37.10	6.00	32.88 Peak
2	11490.000	41.50	-12.50	54.00	27.12	39.28	7.52	32.42 Average
3	11490.000	55.79	-18.21	74.00	41.41	39.28	7.52	32.42 Peak
4	17235.000	62.60	-5.60	68.20	42.44	42.12	9.49	31.45 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

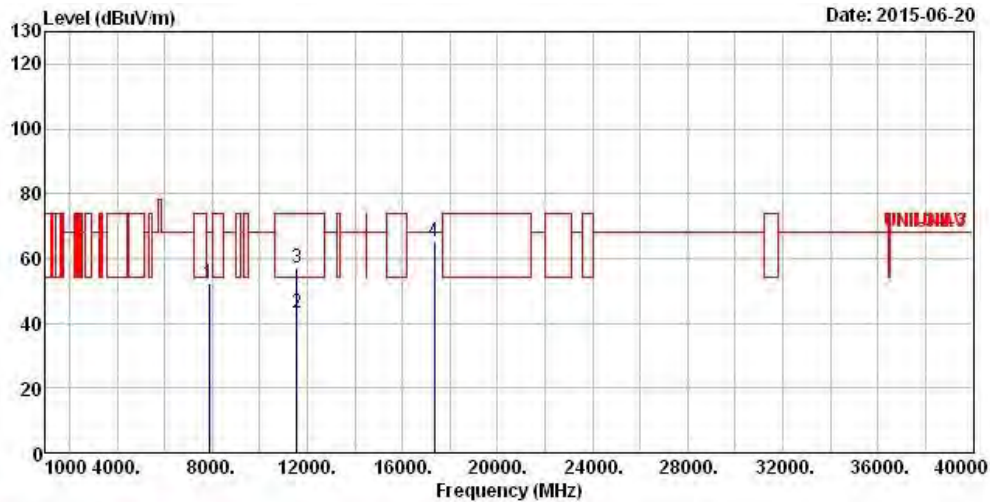
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5785
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	/MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7866.000	52.44	-15.76	68.20	42.37	36.97	5.95	32.85 Peak
2	11570.000	43.00	-11.00	54.00	28.53	39.34	7.55	32.42 Average
3	11570.000	56.97	-17.03	74.00	42.50	39.34	7.55	32.42 Peak
4	17355.000	65.07	-3.13	68.20	43.96	43.03	9.54	31.46 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

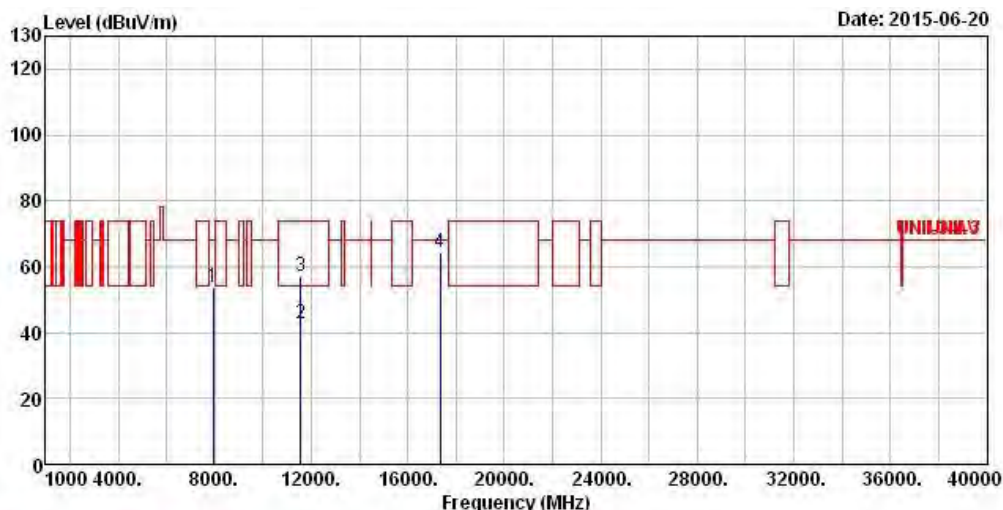
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5785
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7932.000	53.64	-14.56	68.20	43.48	37.03	5.99	32.86	Peak
2	11570.000	42.90	-11.10	54.00	28.43	39.34	7.55	32.42	Average
3	11570.000	56.95	-17.05	74.00	42.48	39.34	7.55	32.42	Peak
4	17355.000	64.06	-4.14	68.20	42.95	43.03	9.54	31.46	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

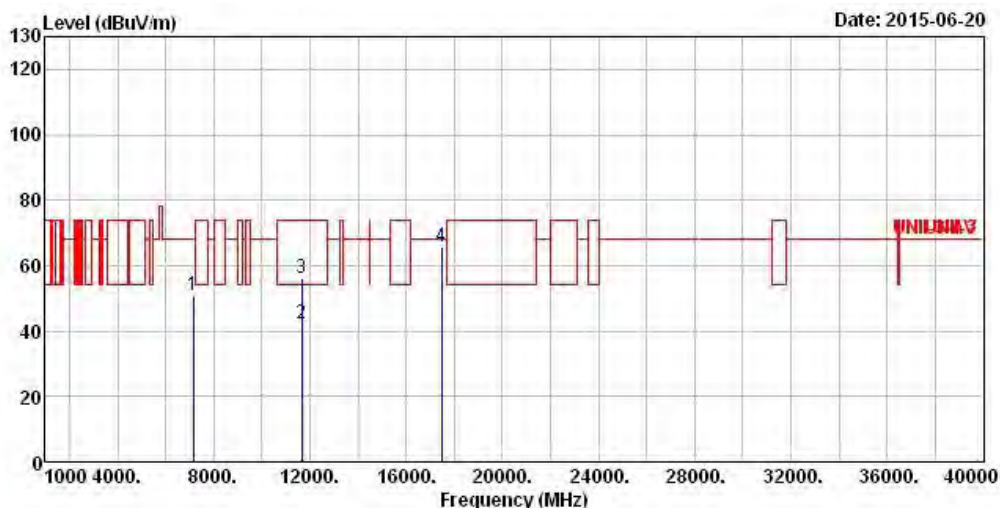
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5825
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7156.000	50.88	-17.32	68.20	42.09	35.70	5.70	32.61 Peak
2	11650.000	42.28	-11.72	54.00	27.74	39.38	7.58	32.42 Average
3	11650.000	56.16	-17.84	74.00	41.62	39.38	7.58	32.42 Peak
4	17475.000	65.72	-2.48	68.20	43.67	43.94	9.58	31.47 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

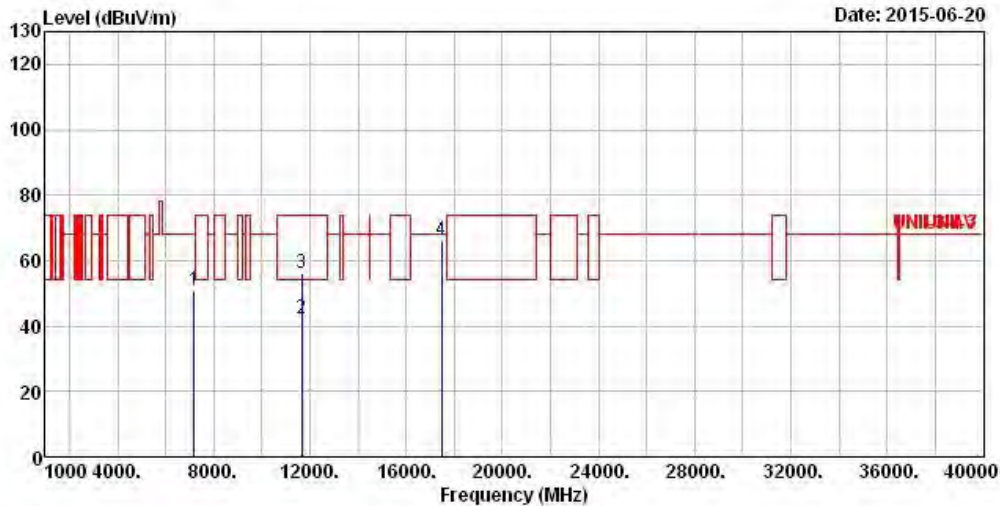
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5825
N_{TX}	2	Polarization	H

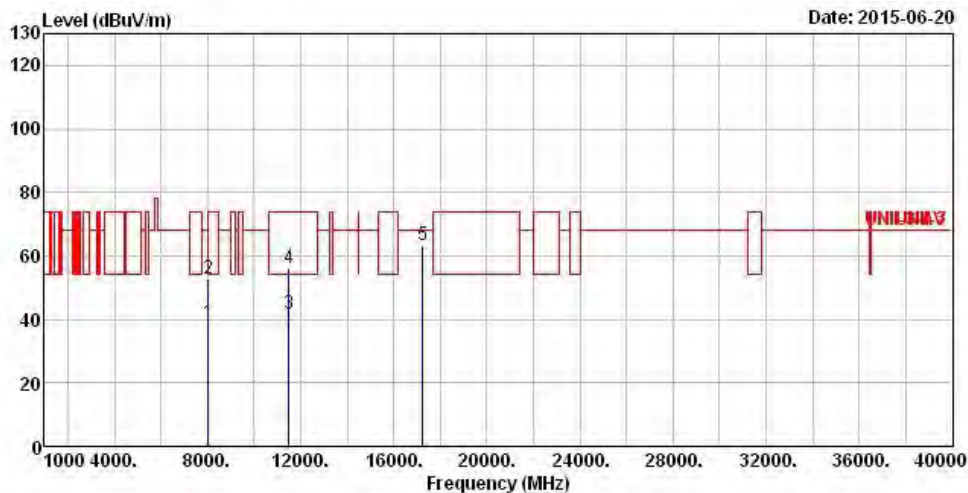


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7182.000	50.78	-17.42	68.20	41.90	35.79	5.71	32.62 Peak
2	11650.000	41.99	-12.01	54.00	27.45	39.38	7.58	32.42 Average
3	11650.000	55.97	-18.03	74.00	41.43	39.38	7.58	32.42 Peak
4	17475.000	66.16	-2.04	68.20	44.11	43.94	9.58	31.47 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
 Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
 Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8028.000	38.70	-15.30	54.00	28.43	37.13	6.02	32.88	Average
2	8028.000	52.81	-21.19	74.00	42.54	37.13	6.02	32.88	Peak
3	11490.000	41.81	-12.19	54.00	27.43	39.28	7.52	32.42	Average
4	11490.000	56.03	-17.97	74.00	41.65	39.28	7.52	32.42	Peak
5	17235.000	63.39	-4.81	68.20	43.23	42.12	9.49	31.45	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

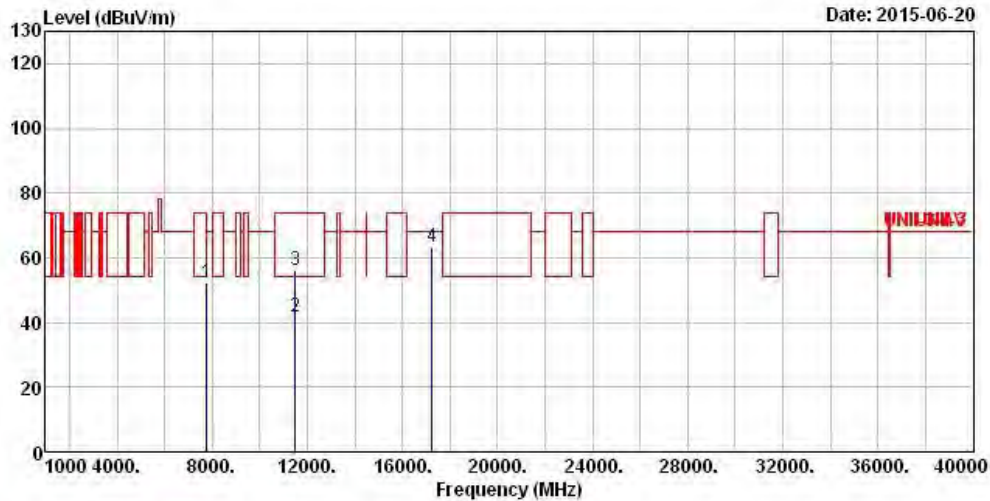
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7784.000	52.51	-15.69	68.20	42.52	36.88	5.93	32.82	Peak
2	11490.000	41.61	-12.39	54.00	27.23	39.28	7.52	32.42	Average
3	11490.000	56.34	-17.66	74.00	41.96	39.28	7.52	32.42	Peak
4	17235.000	63.27	-4.93	68.20	43.11	42.12	9.49	31.45	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

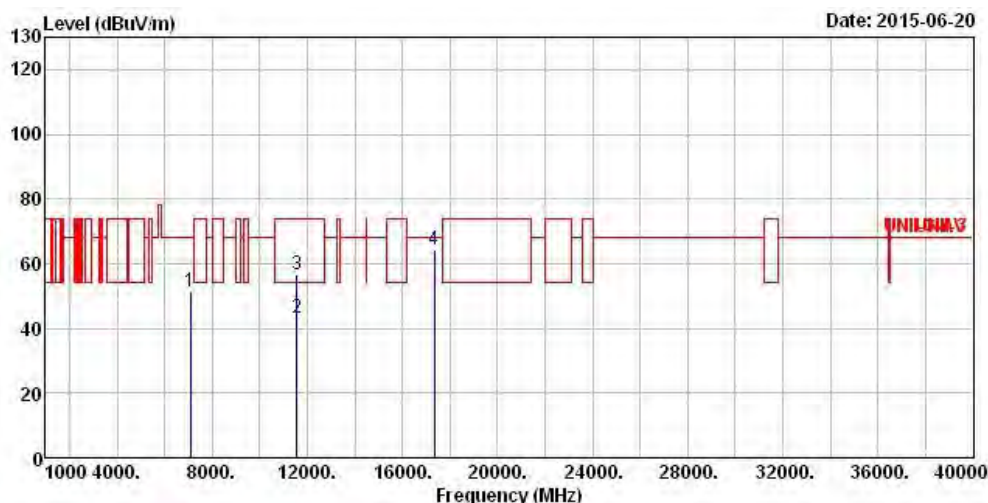
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7074.000	51.42	-16.78	68.20	42.84	35.48	5.67	32.57 Peak
2	11570.000	43.07	-10.93	54.00	28.60	39.34	7.55	32.42 Average
3	11570.000	56.78	-17.22	74.00	42.31	39.34	7.55	32.42 Peak
4	17355.000	64.40	-3.80	68.20	43.29	43.03	9.54	31.46 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

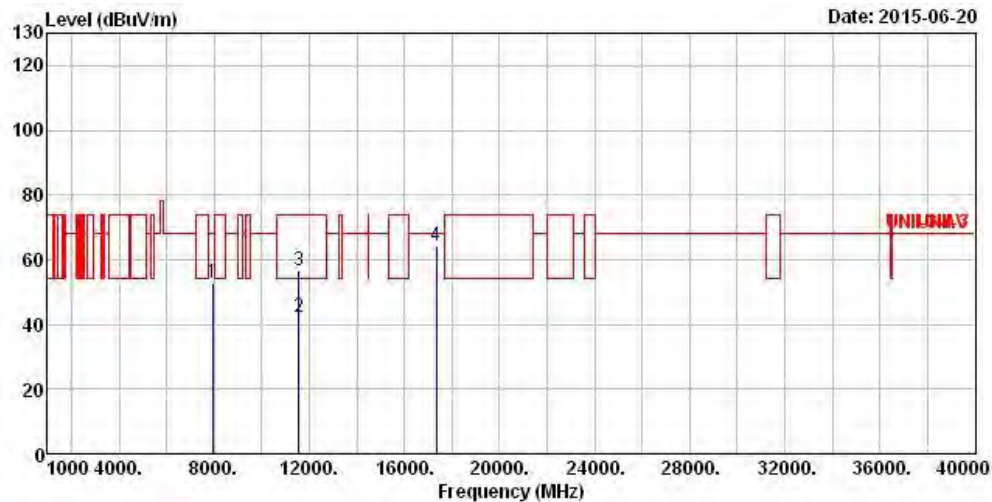
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7926.000	52.93	-15.27	68.20	42.78	37.02	5.99	32.86 Peak
2	11570.000	42.27	-11.73	54.00	27.80	39.34	7.55	32.42 Average
3	11570.000	56.43	-17.57	74.00	41.96	39.34	7.55	32.42 Peak
4	17355.000	64.34	-3.86	68.20	43.23	43.03	9.54	31.46 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

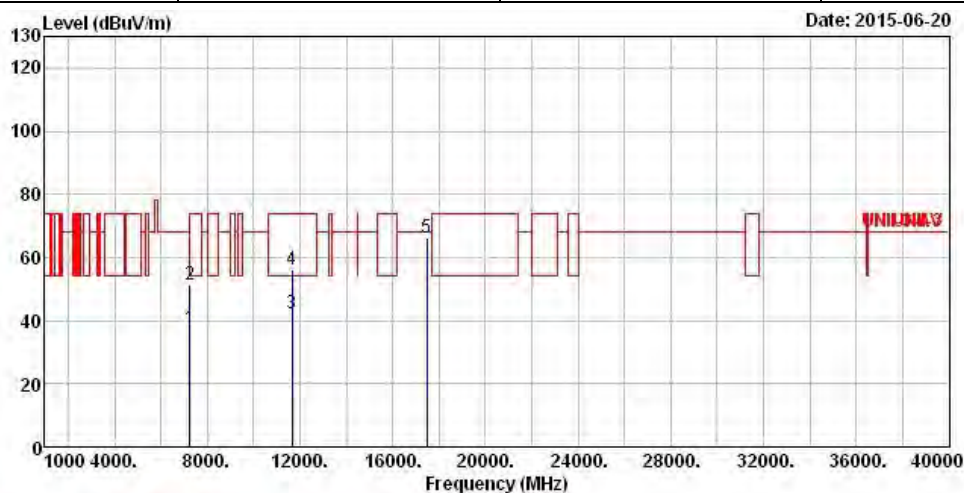
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7254.000	37.19	-16.81	54.00	28.15	35.97	5.72	32.65 Average
2	7254.000	51.41	-22.59	74.00	42.37	35.97	5.72	32.65 Peak
3	11650.000	42.07	-11.93	54.00	27.53	39.38	7.58	32.42 Average
4	11650.000	56.10	-17.90	74.00	41.56	39.38	7.58	32.42 Peak
5	17475.000	65.97	-2.23	68.20	43.92	43.94	9.58	31.47 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

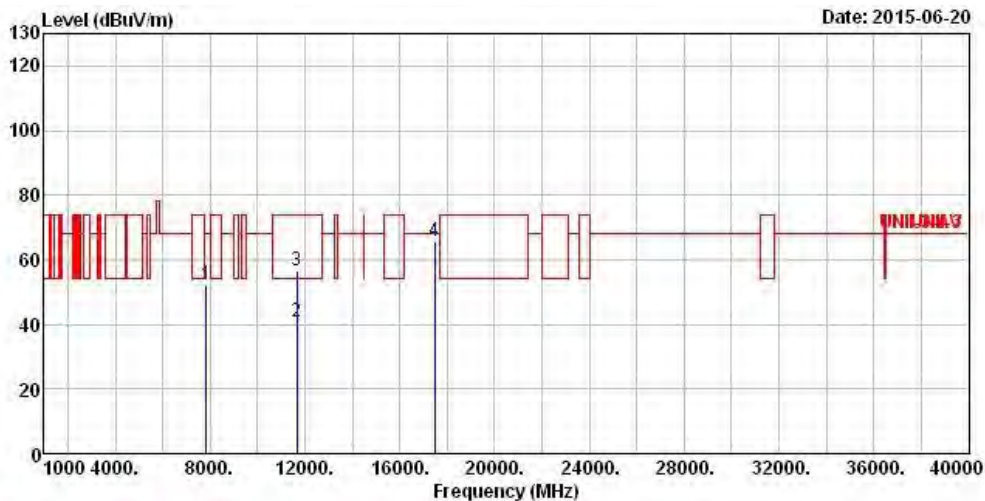
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7848.000	52.45	-15.75	68.20	42.39	36.95	5.95	32.84 Peak
2	11650.000	40.99	-13.01	54.00	26.45	39.38	7.58	32.42 Average
3	11650.000	56.43	-17.57	74.00	41.89	39.38	7.58	32.42 Peak
4	17475.000	65.49	-2.71	68.20	43.44	43.94	9.58	31.47 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

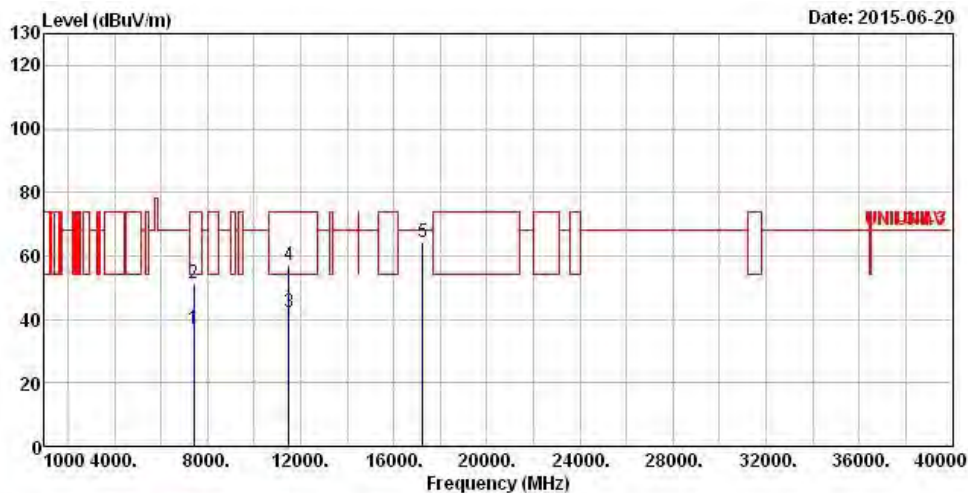
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7410.000	37.00	-17.00	54.00	27.55	36.38	5.78	32.71 Average
2	7410.000	51.42	-22.58	74.00	41.97	36.38	5.78	32.71 Peak
3	11510.000	42.37	-11.63	54.00	27.97	39.30	7.52	32.42 Average
4	11510.000	56.88	-17.12	74.00	42.48	39.30	7.52	32.42 Peak
5	17265.000	64.28	-3.92	68.20	43.85	42.38	9.50	31.45 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

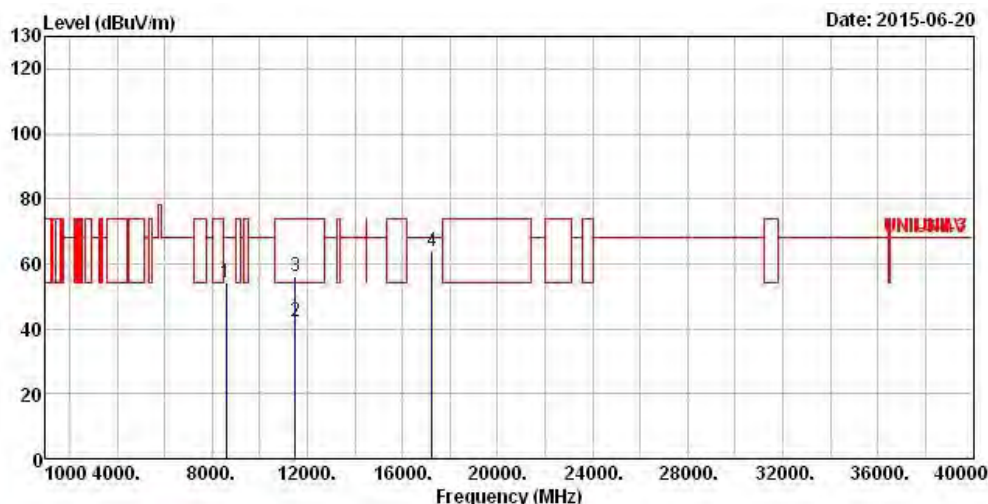
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8598.000	54.09	-14.11	68.20	42.61	38.14	6.28	32.94	Peak
2	11510.000	42.31	-11.69	54.00	27.91	39.30	7.52	32.42	Average
3	11510.000	56.13	-17.87	74.00	41.73	39.30	7.52	32.42	Peak
4	17265.000	64.01	-4.19	68.20	43.58	42.38	9.50	31.45	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

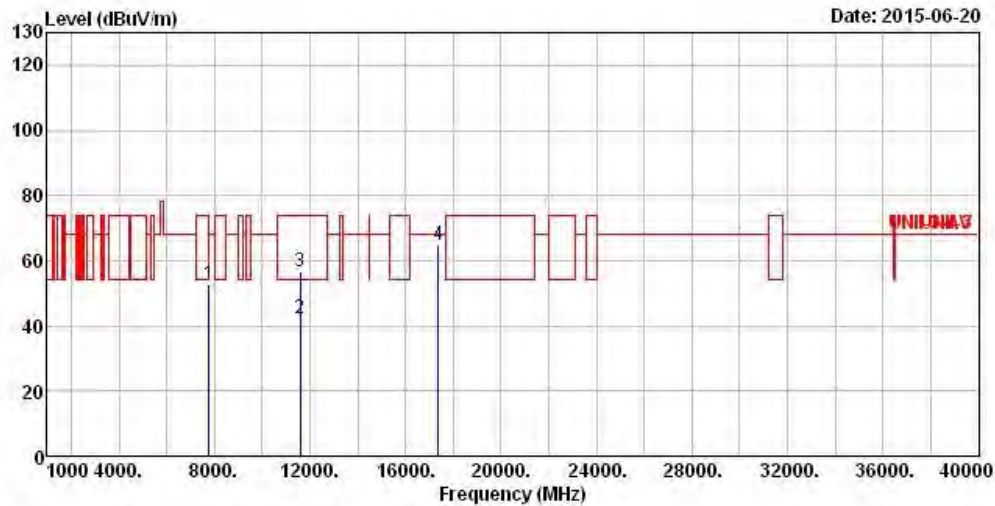
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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

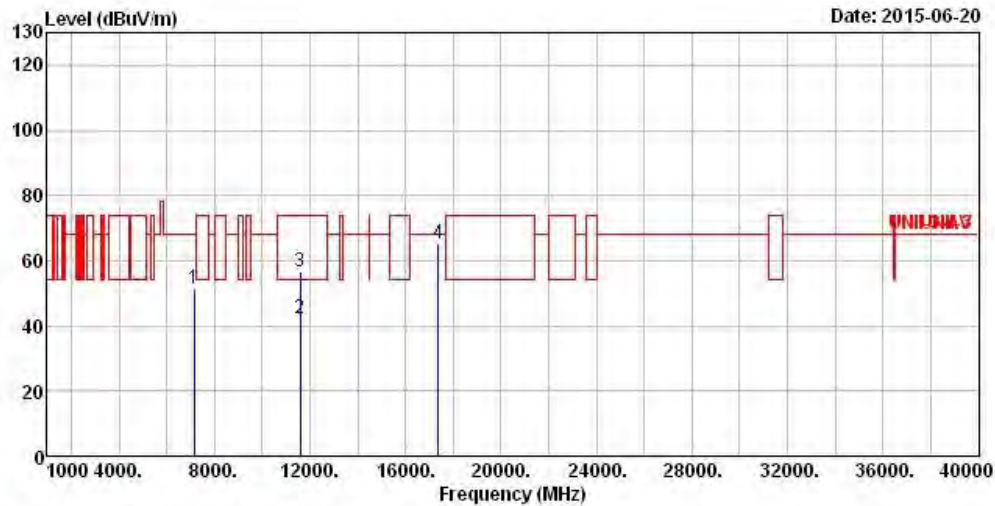


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7770.000	52.59	-15.61	68.20	42.61	36.87	5.93	32.82 Peak
2	11590.000	42.39	-11.61	54.00	27.90	39.35	7.56	32.42 Average
3	11590.000	56.80	-17.20	74.00	42.31	39.35	7.56	32.42 Peak
4	17385.000	64.86	-3.34	68.20	43.48	43.29	9.55	31.46 Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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

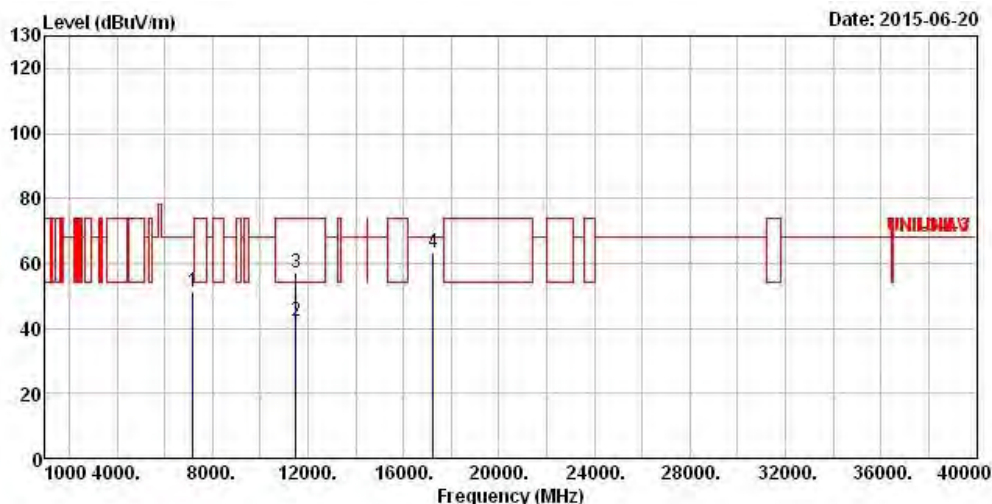


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7146.000	51.50	-16.70	68.20	42.70	35.70	5.70	32.60 Peak
2	11590.000	42.35	-11.65	54.00	27.86	39.35	7.56	32.42 Average
3	11590.000	56.81	-17.19	74.00	42.32	39.35	7.56	32.42 Peak
4	17385.000	65.01	-3.19	68.20	43.63	43.29	9.55	31.46 Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7186.000	51.55	-16.65	68.20	42.67	35.79	5.71	32.62 Peak
2	11490.000	42.16	-11.84	54.00	27.78	39.28	7.52	32.42 Average
3	11490.000	56.91	-17.09	74.00	42.53	39.28	7.52	32.42 Peak
4	17235.000	63.41	-4.79	68.20	43.25	42.12	9.49	31.45 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

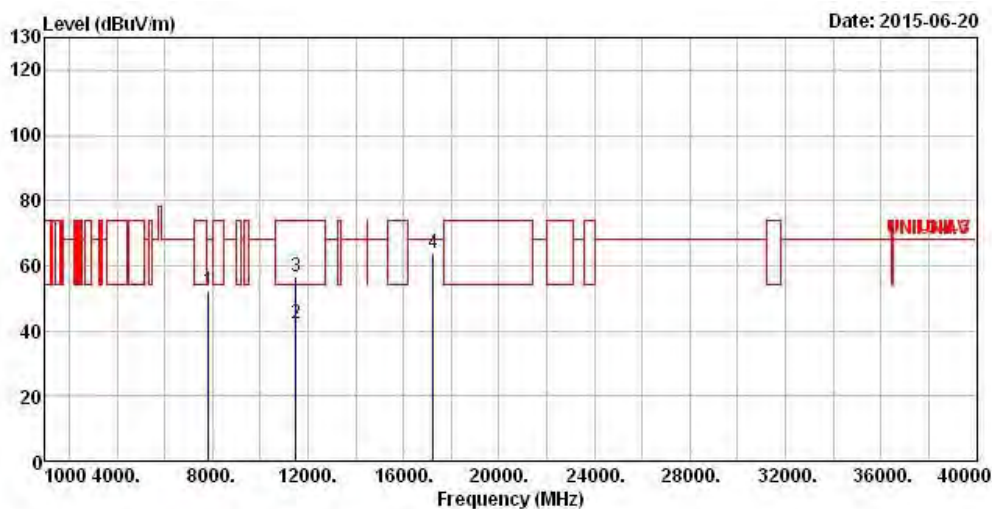
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7842.000	52.41	-15.79	68.20	42.38	36.93	5.94	32.84 Peak
2	11490.000	42.24	-11.76	54.00	27.86	39.28	7.52	32.42 Average
3	11490.000	56.67	-17.33	74.00	42.29	39.28	7.52	32.42 Peak
4	17235.000	63.65	-4.55	68.20	43.49	42.12	9.49	31.45 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

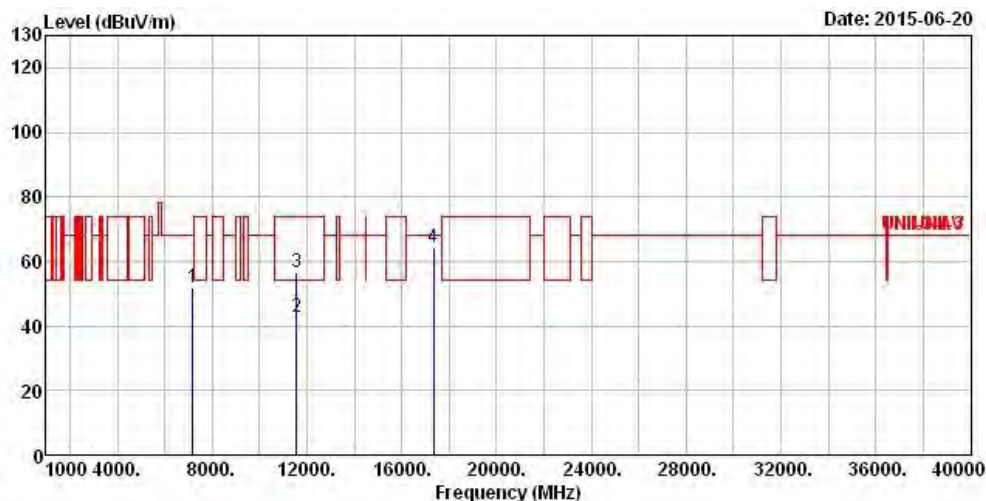
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	/MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7174.000	51.59	-16.61	68.20	42.75	35.75	5.70	32.61	Peak
2	11570.000	42.87	-11.13	54.00	28.40	39.34	7.55	32.42	Average
3	11570.000	56.69	-17.31	74.00	42.22	39.34	7.55	32.42	Peak
4	17355.000	64.26	-3.94	68.20	43.15	43.03	9.54	31.46	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

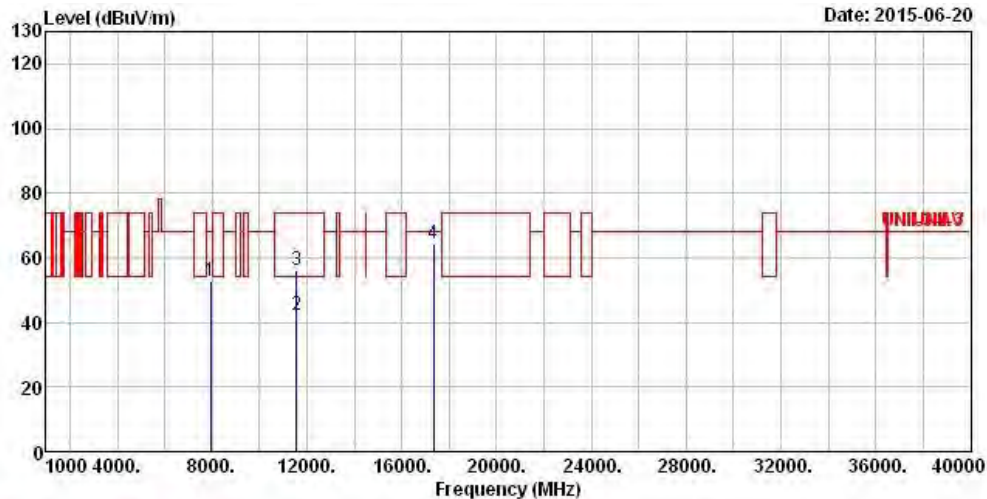
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7930.000	52.66	-15.54	68.20	42.50	37.03	5.99	32.86	Peak
2	11570.000	42.03	-11.97	54.00	27.56	39.34	7.55	32.42	Average
3	11570.000	56.30	-17.70	74.00	41.83	39.34	7.55	32.42	Peak
4	17355.000	64.24	-3.96	68.20	43.13	43.03	9.54	31.46	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

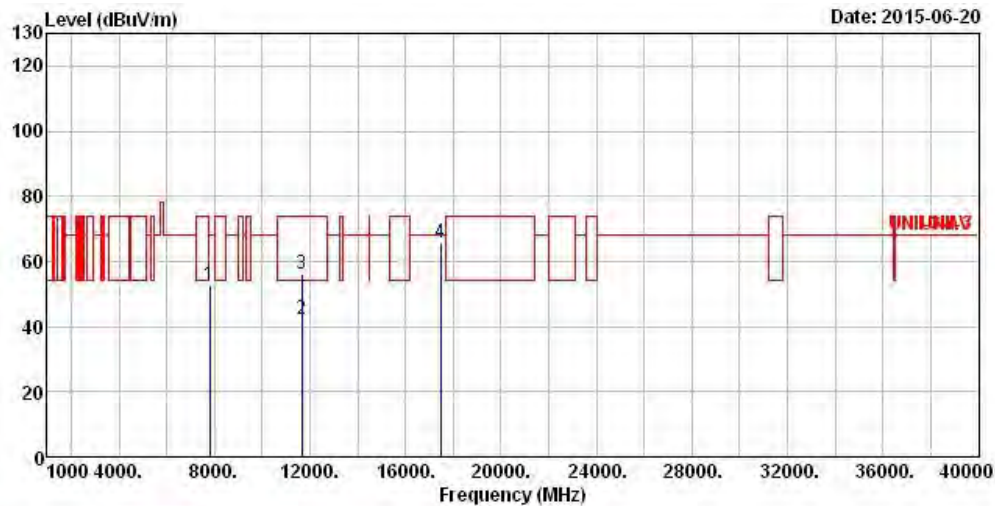
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7795.000	52.55	-15.65	68.20	42.55	36.90	5.93	32.83	Peak
2	11650.000	42.29	-11.71	54.00	27.75	39.38	7.58	32.42	Average
3	11650.000	56.30	-17.70	74.00	41.76	39.38	7.58	32.42	Peak
4	17475.000	65.73	-2.47	68.20	43.68	43.94	9.58	31.47	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

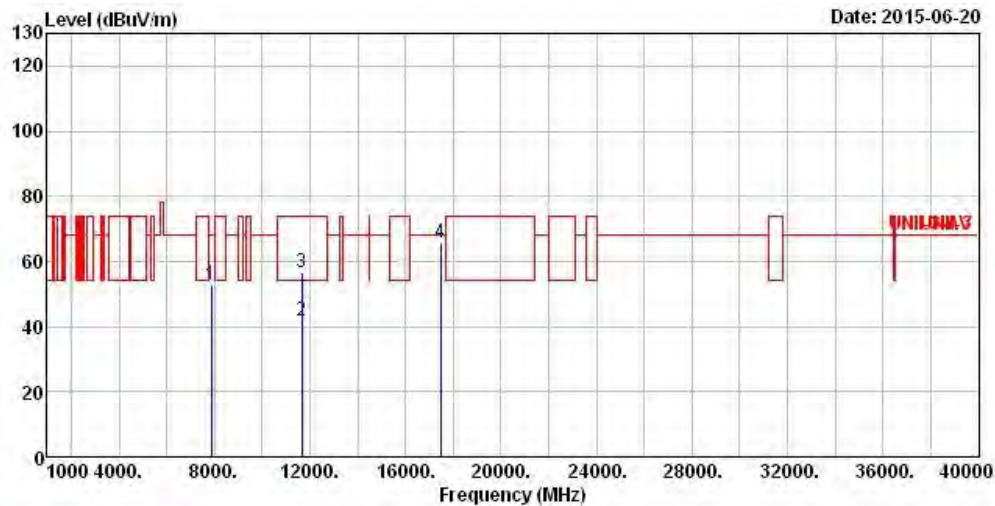
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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

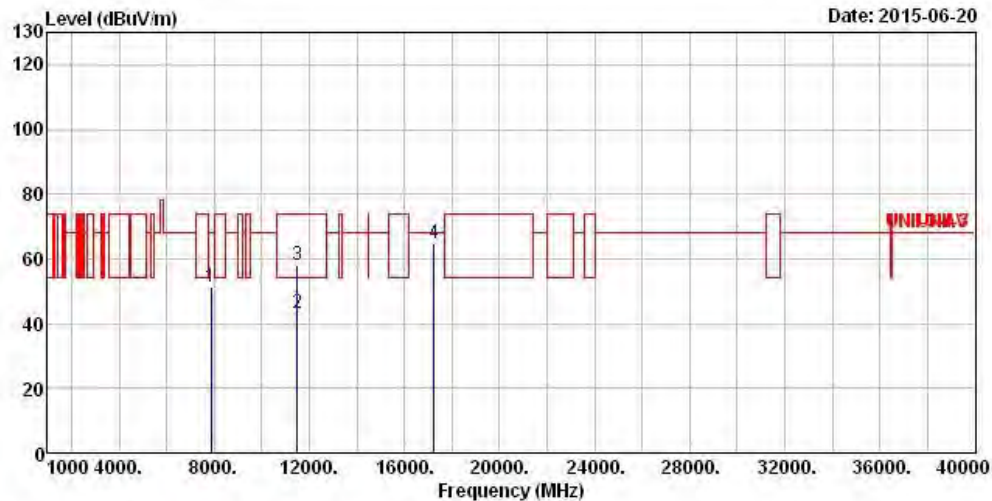


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7884.000	53.00	-15.20	68.20	42.90	36.98	5.97	32.85	Peak
2	11650.000	41.84	-12.16	54.00	27.30	39.38	7.58	32.42	Average
3	11650.000	56.57	-17.43	74.00	42.03	39.38	7.58	32.42	Peak
4	17475.000	65.56	-2.64	68.20	43.51	43.94	9.58	31.47	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7880.000	51.42	-16.78	68.20	41.34	36.98	5.95	32.85	Peak
2	11510.000	43.14	-10.86	54.00	28.74	39.30	7.52	32.42	Average
3	11510.000	58.08	-15.92	74.00	43.68	39.30	7.52	32.42	Peak
4	17265.000	64.66	-3.54	68.20	44.23	42.38	9.50	31.45	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

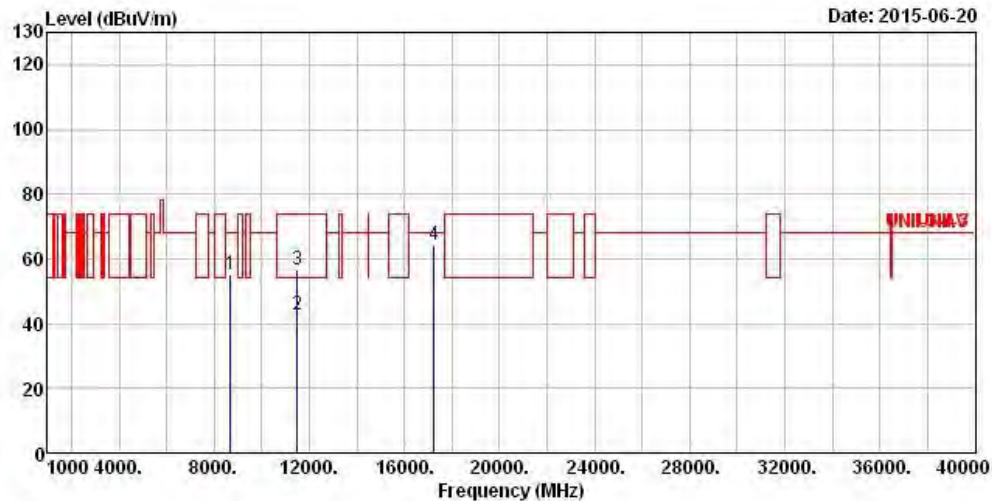
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8698.000	55.25	-12.95	68.20	43.70	38.18	6.33	32.96	Peak
2	11510.000	42.84	-11.16	54.00	28.44	39.30	7.52	32.42	Average
3	11510.000	56.43	-17.57	74.00	42.03	39.30	7.52	32.42	Peak
4	17265.000	64.27	-3.93	68.20	43.84	42.38	9.50	31.45	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

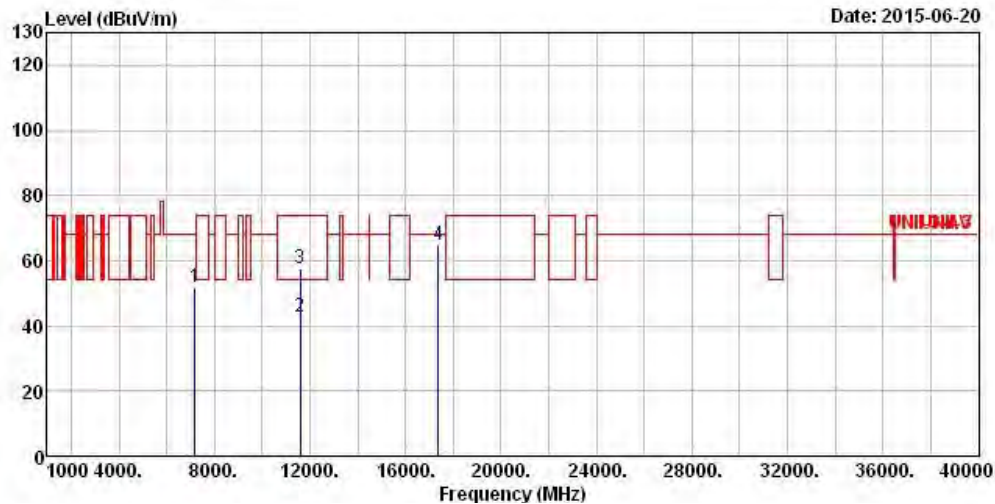
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7192.000	51.76	-16.44	68.20	42.88	35.79	5.71	32.62 Peak
2	11590.000	42.89	-11.11	54.00	28.40	39.35	7.56	32.42 Average
3	11590.000	57.56	-16.44	74.00	43.07	39.35	7.56	32.42 Peak
4	17385.000	64.88	-3.32	68.20	43.50	43.29	9.55	31.46 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

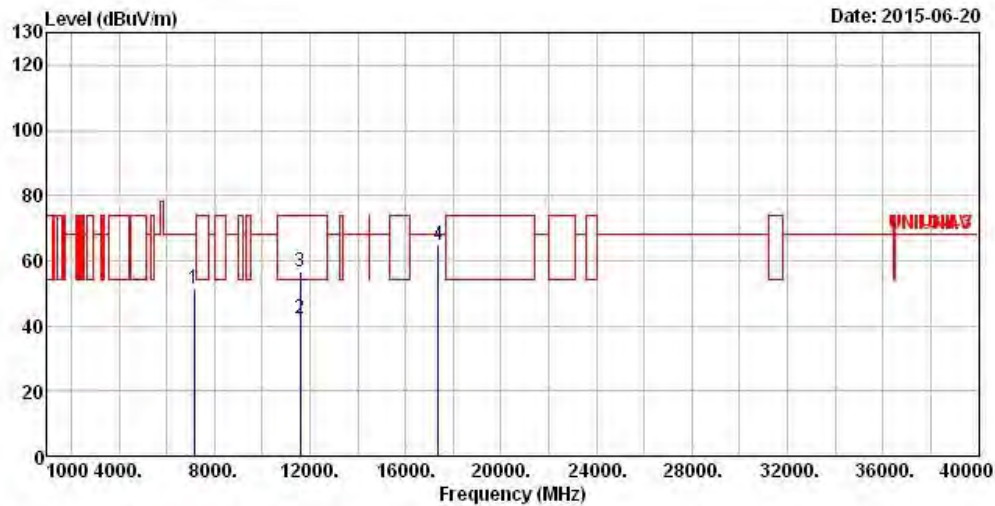
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamplifier Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7146.000	51.50	-16.70	68.20	42.70	35.70	5.70	32.60 Peak
2	11590.000	42.35	-11.65	54.00	27.86	39.35	7.56	32.42 Average
3	11590.000	56.81	-17.19	74.00	42.32	39.35	7.56	32.42 Peak
4	17385.000	64.71	-3.49	68.20	43.33	43.29	9.55	31.46 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

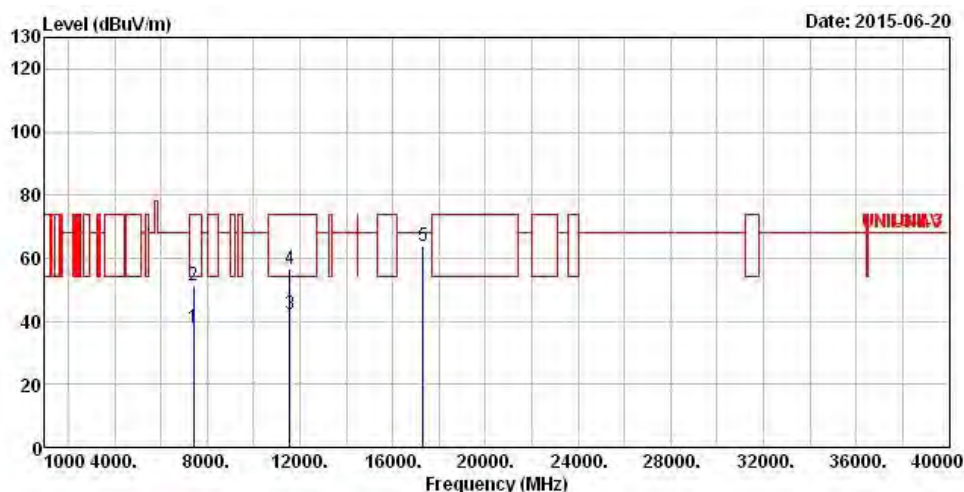
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7404.000	38.08	-15.92	54.00	28.63	36.38	5.78	32.71 Average
2	7404.000	51.42	-22.58	74.00	41.97	36.38	5.78	32.71 Peak
3	11550.000	42.31	-11.69	54.00	27.85	39.33	7.55	32.42 Average
4	11550.000	56.61	-17.39	74.00	42.15	39.33	7.55	32.42 Peak
5	17325.000	63.77	-4.43	68.20	42.92	42.77	9.54	31.46 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

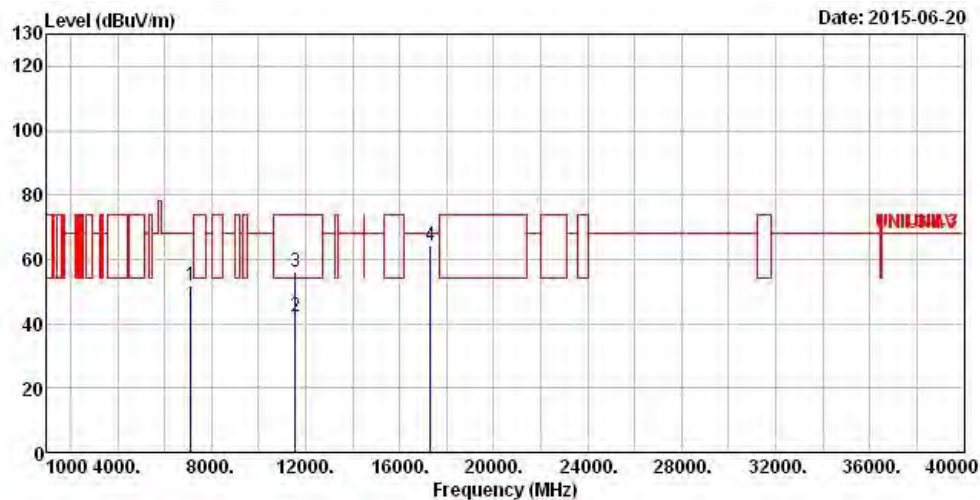
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)

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



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7128.000	51.60	-16.60	68.20	42.90	35.61	5.68	32.59 Peak
2	11550.000	42.33	-11.67	54.00	27.87	39.33	7.55	32.42 Average
3	11550.000	56.14	-17.86	74.00	41.68	39.33	7.55	32.42 Peak
4	17325.000	64.46	-3.74	68.20	43.61	42.77	9.54	31.46 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

3.7 Frequency Stability

3.7.1 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.
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.

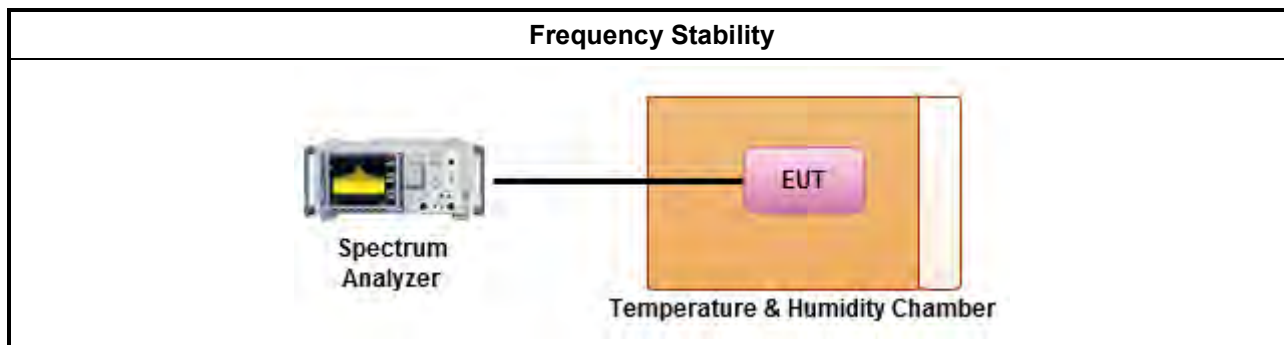
3.7.2 Measuring Instruments

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

3.7.3 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.

3.7.4 Test Setup



3.7.5 Test Result of Frequency Stability

Frequency Stability Result					
Mode		Frequency Stability (ppm)			
Condition	Freq. (MHz)	0 min	2 min	5 min	10 min
T _{20°C} Vmax	5200	-4.5808	-4.5019	-4.3808	-4.2231
T _{20°C} Vmin	5200	-4.6500	-4.5808	-4.4654	-4.2846
T _{50°C} Vnom	5200	-10.4365	-10.3731	-10.2538	-10.0596
T _{40°C} Vnom	5200	-10.0192	-9.9173	-9.8077	-9.6308
T _{30°C} Vnom	5200	-7.8308	-7.7673	-7.6462	-7.4346
T _{20°C} Vnom	5200	-4.1750	-4.1154	-3.9885	-3.8404
T _{10°C} Vnom	5200	-2.5192	-2.4327	-2.3308	-2.2846
T _{0°C} Vnom	5200	-0.1673	-0.0942	0.0212	2.1673
T _{-10°C} Vnom	5200	2.4212	2.4923	2.6115	2.8788
T _{-20°C} Vnom	5200	3.4231	3.5019	3.6135	3.9231
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 0 for EUT operational condition.					

3.8 The emission at elevation angle higher than 30 degrees from horizon

3.8.1 The emission Limit

Limits of the emission at elevation angle higher than 30 degrees from horizon	
☒	An Outdoor device
☒	15.407 (a)(1)(i) The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

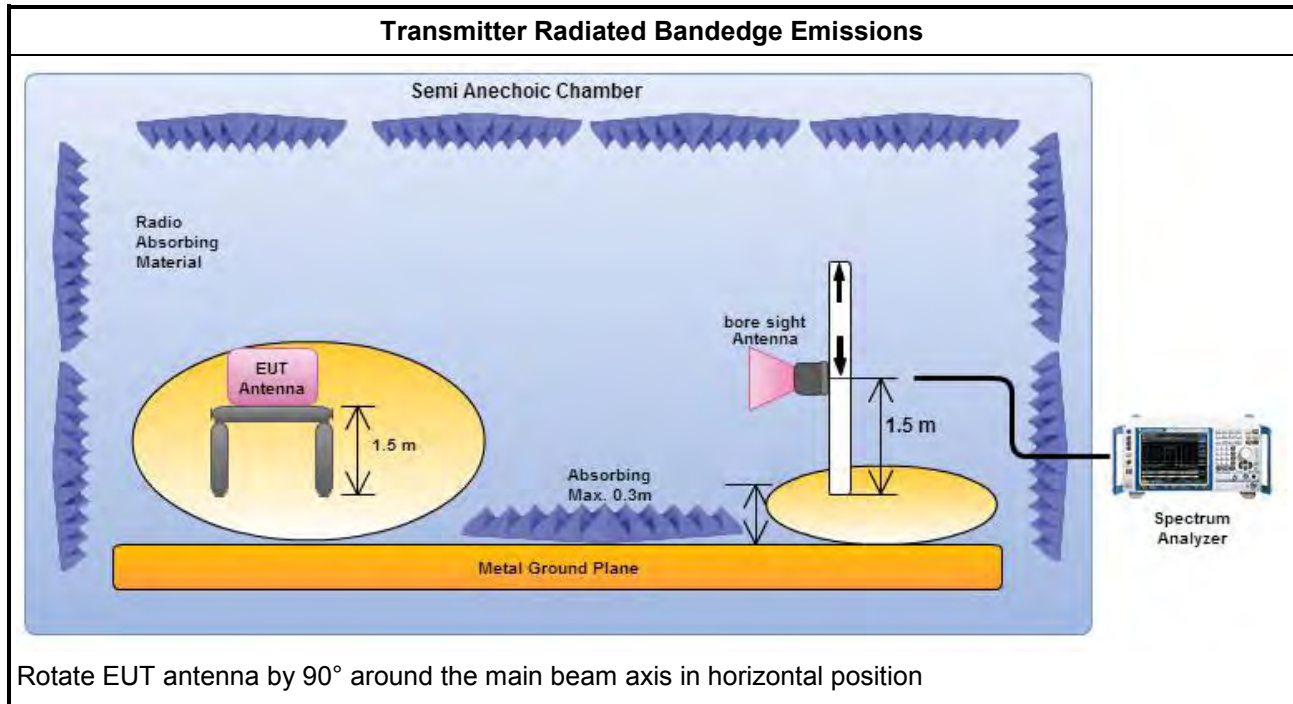
3.8.2 Measuring Instruments

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

3.8.3 Test Procedures

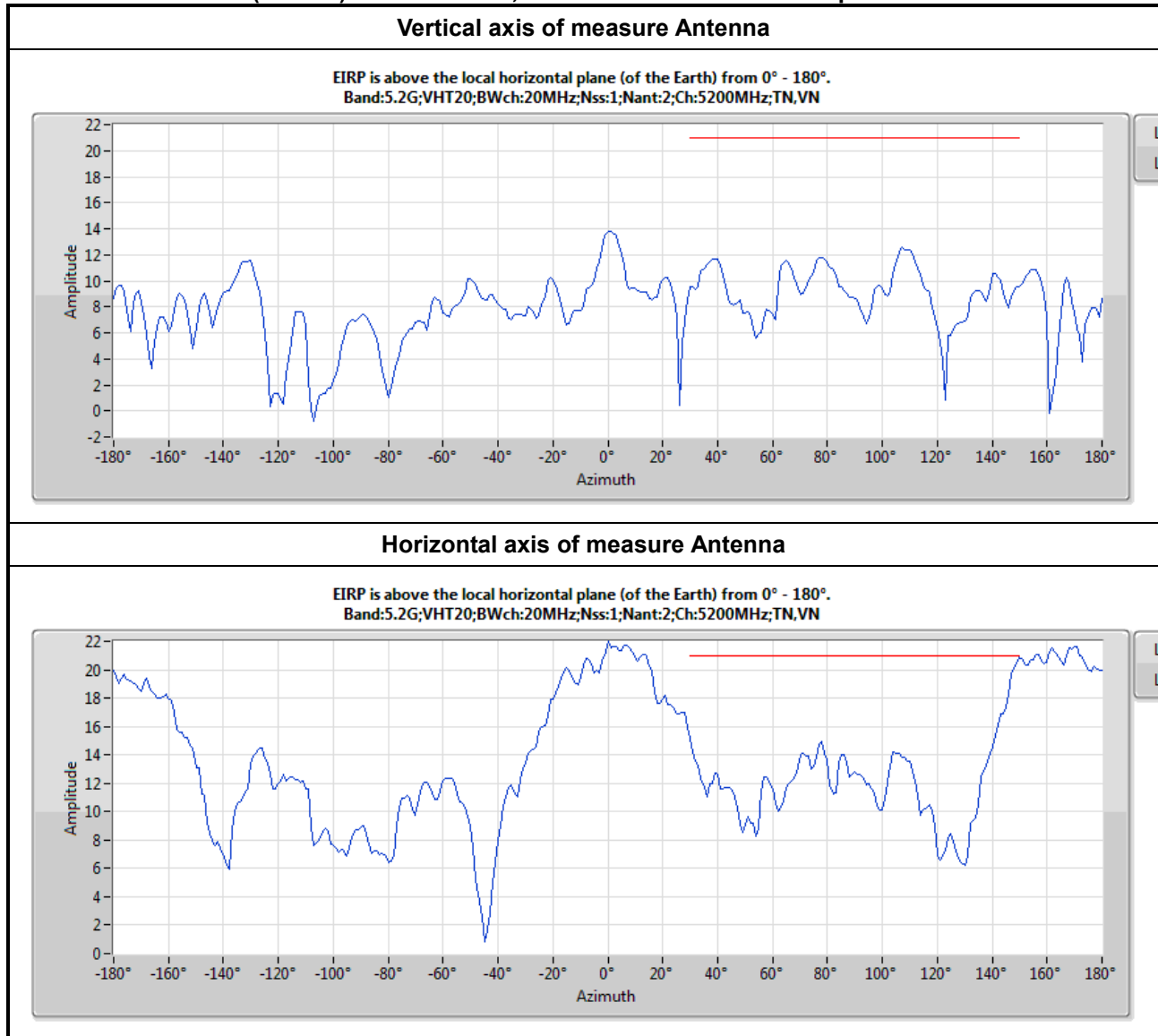
Test Method	
☒	For fixed infrastructure, not electrically or mechanically steerable beam antenna
☐	If elevation plane radiation pattern is available: i) Determine the device intended mounting elevation angle and define 0° reference angle on the elevation plane radiation pattern. ii) Indicate any radiation pattern between 30° and 90° which has highest gain. iii) Calculate the EIRP based on this highest gain and conducted output power. iv) Compare to the limit of 125 mW to find compliance. v) Include the elevation pattern data in the application filing with the test report to show how the calculations are made.
☒	If elevation plane radiation pattern is not available, but the antenna type (such as dipole omnidirectional, Yagi, parabolic, or sector antenna) has symmetrical elevation plane pattern referenced at main beam and all lobes on the main beam elevation plane have highest gains, then the following measurement method is acceptable to determine compliance: (i) Determine the device's intended mounting elevation angle referenced to the horizon. (ii) Rotate EUT antenna by 90° around the main beam axis in horizontal position to transform measurement in elevation angle into azimuth angle and define 0° reference angle based on device's intended mounting elevation angle. (iii) Move test antenna along the horizontal arc, or rotate the turn table with EUT antenna placed at the center, between 30° and 90° relative to the 0° reference angle, and then continuing down from 90° to 30° on the other side of the pattern, while maintaining the test antenna pointing with constant distance to the EUT antenna and search for the spot which has the highest measured emission. Both horizontal and vertical polarization shall be investigated to find out the maximum radiated emission level. (iv) Calculate the EIRP based on the highest measured emission and compare to the limit of 125 mW to determine compliance. (v) The antenna pattern measurements should be included in the filing.
☐	For All Other Types of Antenna
☐	For all other types of antenna (such as patch antenna, array antenna, antennas with irregular shape of radiators, etc.) which have any combination of following characteristics: • Asymmetrical, complex radiation patterns • 2-D or 3-D steerable beam • Portable/mobile, not fixed infrastructure device Provide following information in the report: a) Describe what type of antenna is used. b) Determine by calculation, measurement or simulation, all radiation lobes/beams, which have EIRP higher than 125 mW within 3-dB elevation beamwidth. c) Provide an explanation of how those antenna beams are controlled to be kept below 30° elevation angle. The explanation should include installation instruction of the device, mechanical control, electro-mechanical control or software algorithm, if the beams are electrically controlled by software.

3.8.4 Test Setup



3.8.5 Test result

Red line is EIRP limit (21dBm) for 30° ~ 150° , maximum EIRP of Measure polarization is at 0°



Note: Maximum EIRP = 21.89dBm @ 5200MHz

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz ~ 2.75GHz	Apr. 15, 2015	AC Conduction
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 22, 2015	AC Conduction
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	Oct. 31, 2014	AC Conduction
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	NCR	AC Conduction

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSV 40	101500	9KHz~40GHz	May 05, 2015	RF Conducted
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP-SD	MAA1112-007	-20 ~ 100℃	Apr. 07, 2015	RF Conducted
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Jul. 31, 2014	RF Conducted
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	Feb. 17, 2015	RF Conducted
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	Feb. 17, 2015	RF Conducted

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



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	Nov. 29, 2014	Radiated Emission
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	May 11, 2015	Radiated Emission
Amplifier	Agilent	8449B	3008A02120	1GHz ~ 26.5GHz	Sep. 01, 2014	Radiated Emission
Spectrum	R&S	FSP40	100004	9kHz ~ 40GHz	Apr. 02, 2015	Radiated Emission
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 20, 2014	Radiated Emission
Horn Antenna	AARONIA AG	POWERLOG 70180	05192	1GHz ~ 18GHz	May 01, 2015	Radiated Emission
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	18GHz ~ 40GHz	Jan. 27, 2015	Radiated Emission
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Nov. 15, 2014	Radiated Emission
RF Cable-high	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz ~ 40GHz	Dec. 12, 2014	Radiated Emission
Turn Table	EM Electronics	EM Electronics	060615	0 ~ 360 degree	N/A	Radiated Emission
Antenna Mast	MF	MF-7802	MF780208179	1 ~ 4 m	N/A	Radiated Emission

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	EMC INSTRUMENTS	EMC184045B	980192	18GHz ~ 40GHz	Aug. 25, 2014	Radiated Emission
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz~30 MHz	Feb. 02, 2015	Radiated Emission

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