

FCC Test Report

Equipment : 802.11n,Dual Band,
Wireless LAN PCI Express Half Mini Card

Brand Name : Sparklan

Model No. : WPEA-121N

FCC ID : RYK-WPEA-121N

Standard : 47 CFR FCC Part 15.407

Operating Band : 5150 MHz – 5250 MHz
5250 MHz – 5350 MHz
5470 MHz – 5725 MHz
5725 MHz – 5850 MHz

FCC Classification : NII

Applicant / Manufacturer : SparkLAN Communications, Inc.
8F., No. 257, Sec. 2, Tiding Blvd., Neihu District,
Taipei City 11493, Taiwan

Function : ☐ Outdoor - Use ☐ Fixed P2P AP
☐ Indoor - Use ☒ Portable Client

The product sample received on Jul. 15, 2016 and completely tested on Aug. 04, 2016. 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





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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



Revision History

Report No.	Version	Description	Issued Date
FR131667AN	Rev. 01	Initial issue of report	May 02, 2011
FR131667-01AN	Rev. 01	Additional original filing power.	Jun. 29, 2011
FR131667-16AN	Rev. 01	Update information as below: 1.Update technical standards ANSI C63.10-2009 to ANSI C63.10-2013. 2.Retest Band 1~4 all items tested. 3.Add antenna.	Dec. 15, 2015
FR131667-20AN	Rev. 01	1. Add antenna 3. 2.Update AC conduction and radiated tested.	Aug. 22, 2016

1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information (5150-5250MHz band)					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	RF Output Power (dBm)
5150-5250	a	5180-5240	36-48 [4]	2	12.31
5150-5250	n (HT20)	5180-5240	36-48 [4]	2	12.67
5150-5250	n (HT40)	5190-5230	38-46 [2]	2	13.10
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.					

RF General Information (5250-5350MHz band)					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	RF Output Power (dBm)
5250-5350	a	5260-5320	52-64 [4]	2	19.26
5250-5350	n (HT20)	5260-5320	52-64 [4]	2	17.43
5250-5350	n (HT40)	5270-5310	54-62 [2]	2	18.90
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.					

RF General Information (5470-5725MHz band)					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	RF Output Power (dBm)
5470-5725	a	5500-5700	100-140 [8]	2	17.81
5470-5725	n (HT20)	5500-5700	100-140 [8]	2	17.80
5470-5725	n (HT40)	5510-5670	102-134 [3]	2	17.59
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.					

RF General Information (5725-5850MHz band)					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	RF Output Power (dBm)
5725-5850	a	5745-5825	149-165 [5]	2	20.02
5725-5850	n (HT20)	5745-5825	149-165 [5]	2	19.37
5725-5850	n (HT40)	5755-5795	151-159 [2]	2	17.65
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.					

1.1.2 Antenna Information

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

Antenna General Information						
Ant. Group	Port. No.	Ant. Cat.	Ant. Type	Ant. Connector	Model No.	Gain (dBi)
1	1/2	External	Dipole	Reverse SMA	C642-510049-A	2.0 / 2.0
2	1/2	External	Dipole	Reverse SMA	R3410110203	2.0 / 2.0
3 <add>	1/2	External	Monopole Antenna	RP-SMA(M)	GW.05.0153	1.38 / 1.38
Remark: EUT was pre-tested Ant. Group 1 and 2 for using; the worst case was Ant. Group 2 and result of that was recorded as the final test result.						

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)	
☒ 98.97% - IEEE 802.11a	0.05	
☒ 98.90%- IEEE 802.11n (HT20)	0.05	
☒ 97.83%- IEEE 802.11n (HT40)	0.10	

1.1.5 EUT Operational Condition

Supply Voltage	☐ AC mains	☒ DC	
Type of DC Source	☐ Internal DC supply	☒ From system	☐ External DC adapter
Test Voltage	☒ Vnom (3.63 V)	☒ Vmax (4.17 V)	☒ Vmin (3.09 V)
Test Climatic	☒ Tnom (20°C)	☒ Tmax (50°C)	☒ Tmin (-20°C)

1.2 Support Equipment

Support Equipment - RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5530	DoC
2	Adapter for NB	DELL	HA65NM130	DoC
3	Test Fixture	-	-	-

Note: The fixture provide by customer.

Support Equipment - AC Conduction and Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5530	DoC
2	Adapter for NB	DELL	LA65NS-01	DoC
3	Test Fixture	-	-	-

Note: The fixture provide by customer.

1.3 Testing Applied Standards

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

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2013
- ◆ FCC KDB 789033 D02 v01r02
- ◆ FCC KDB 644545 D03 v01
- ◆ FCC KDB 662911 D01 v02r01
- ◆ FCC 16-24-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 site registered number [553509] with FCC.				
Test Condition		Test Site No.	Test Engineer	Test Environment
AC Conduction		CO04-HY	Ryan	22°C / 58%
RF Conducted		TH01-HY	Eddy	25.4°C / 60.3%
Radiated Emission		03CH03-HY	Monday	24.4°C / 63%

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

Worst Modulation Used for Conformance Testing			
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

Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput). The EUT supports HT20 and HT40. Worst modulation mode of Guard Interval (GI) is 800ns.

Note 2: Modulation modes consist below configuration:
11a: IEEE 802.11a, HT20/HT40: IEEE 802.11n

Note 3: RF output power specifies that Maximum Conducted Output Power.

2.2 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter (5150-5250MHz band)						
Test Software Version	Atheros Radio Test2 (ART2-GUI)_2.3					
Modulation Mode	N _{TX}	Test Frequency (MHz)				
		NCB: 20MHz			NCB: 40MHz	
		5180	5200	5240	5190	5230
11a	2	11	11	12	-	-
HT20	2	11.5	11.5	12.5	-	-
HT40	2	-	-	-	10.5	12.5

The Worst Case Power Setting Parameter (5250-5350MHz band)						
Test Software Version	Atheros Radio Test2 (ART2-GUI)_2.3					
Modulation Mode	N _{TX}	Test Frequency (MHz)				
		NCB: 20MHz			NCB: 40MHz	
		5260	5300	5320	5270	5310
11a	2	19.5	18.5	16.5	-	-
HT20	2	17.5	17	16.5	-	-
HT40	2	-	-	-	19	13

The Worst Case Power Setting Parameter (5470-5725MHz band)							
Test Software Version	Atheros Radio Test2 (ART2-GUI)_2.3						
Modulation Mode	N _{TX}	Test Frequency (MHz)					
		NCB: 20MHz			NCB: 40MHz		
		5500	5580	5700	5510	5550	5670
11a	2	14.5	17	15	-	-	-
HT20	2	13.5	17	14	-	-	-
HT40	2	-	-	-	9.5	17.5	16

The Worst Case Power Setting Parameter (5725-5850MHz band)							
Test Software Version	Atheros Radio Test2 (ART2-GUI)_2.3						
Modulation Mode	N _{TX}	Test Frequency (MHz)					
		NCB: 20MHz			NCB: 40MHz		
		5745	5785	5825	5755	5795	
11a	2	13	21	15	-	-	
HT20	2	12.5	19.5	14	-	-	
HT40	2	-	-	-	8.5	17	

2.3 The Worst Case Measurement Configuration

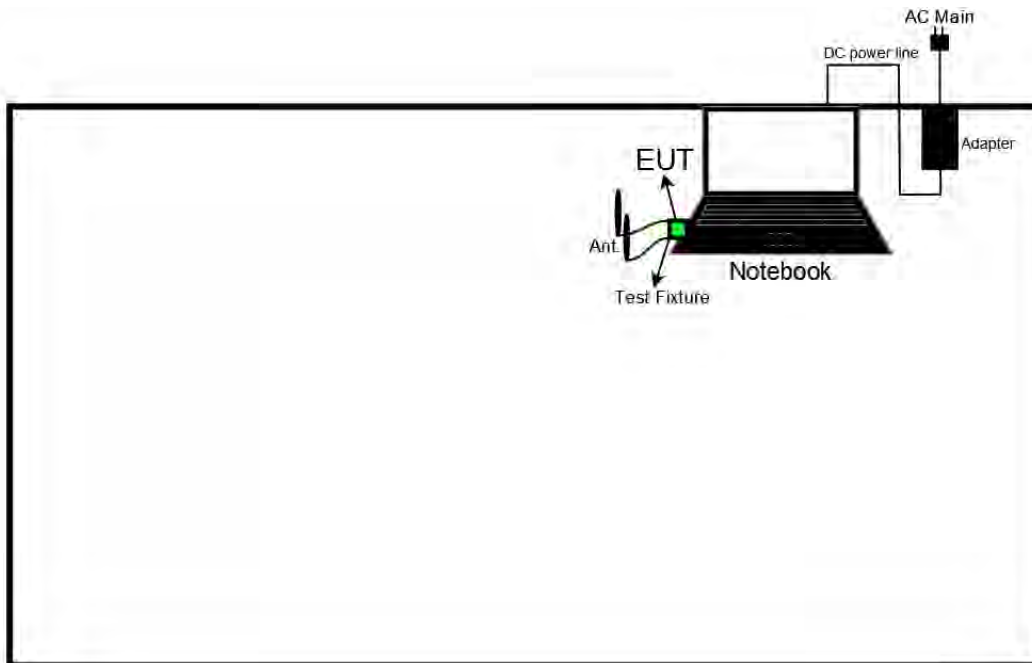
The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Operating Mode Description
1	Transmit Mode

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

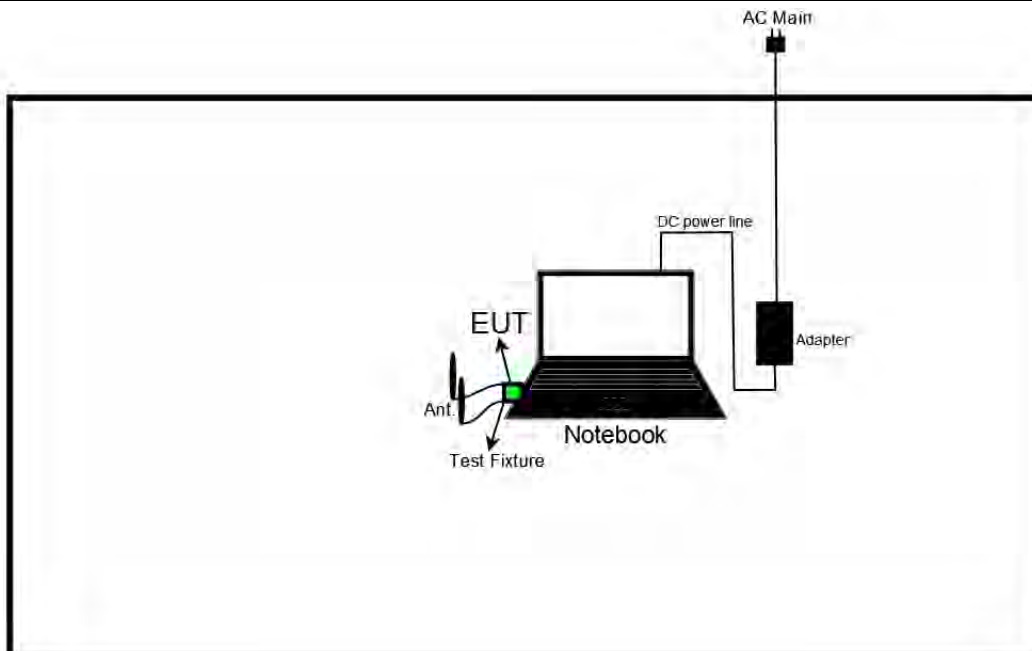
The Worst Case Mode for Following Conformance Tests			
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO 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 will be a hand-held or body-worn battery-powered devices and operating multiple positions.		
Operating Mode	Operating Mode Description		
1	Transmit Mode		
Modulation Mode	11a, HT20, HT40		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT	V		
Worst Planes of ANT	V		

2.4 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Test Setup Diagram - Radiated 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.

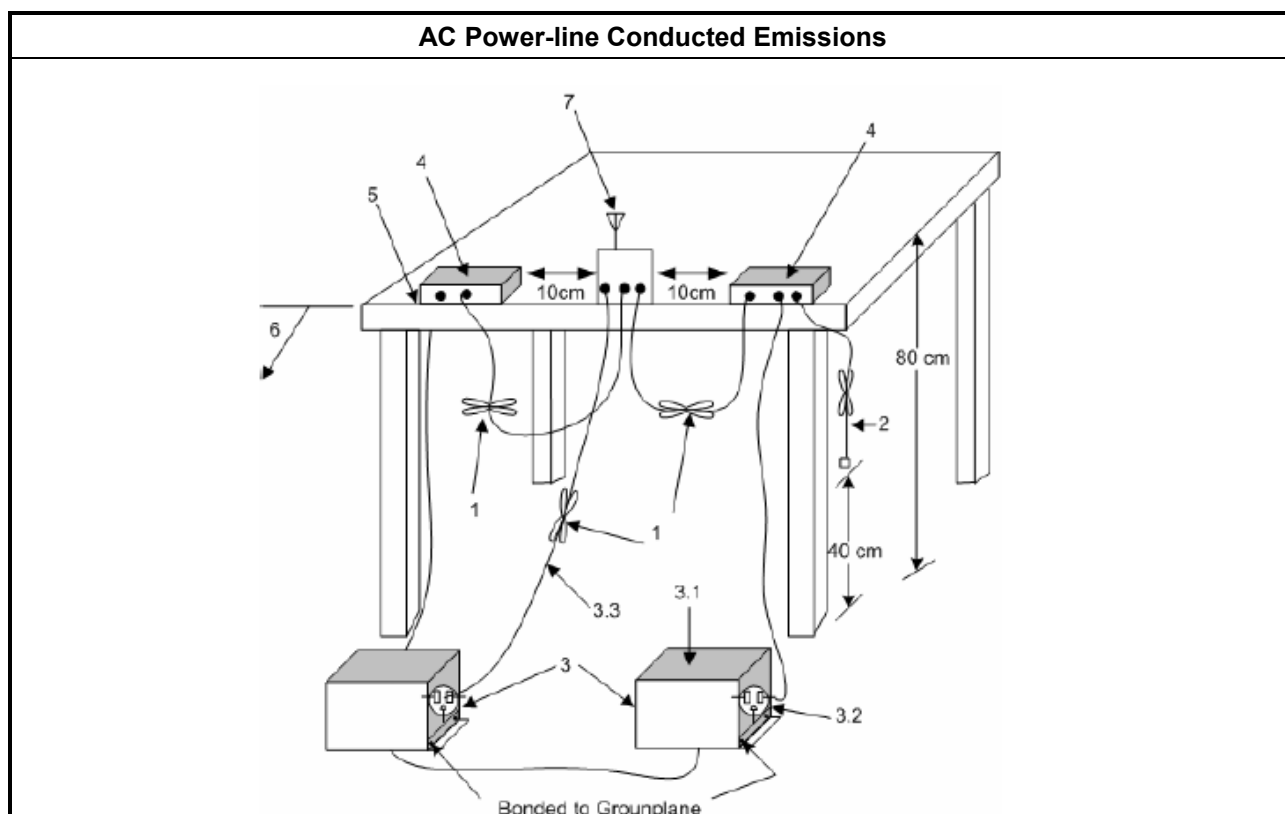
3.1.2 Measuring Instruments

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

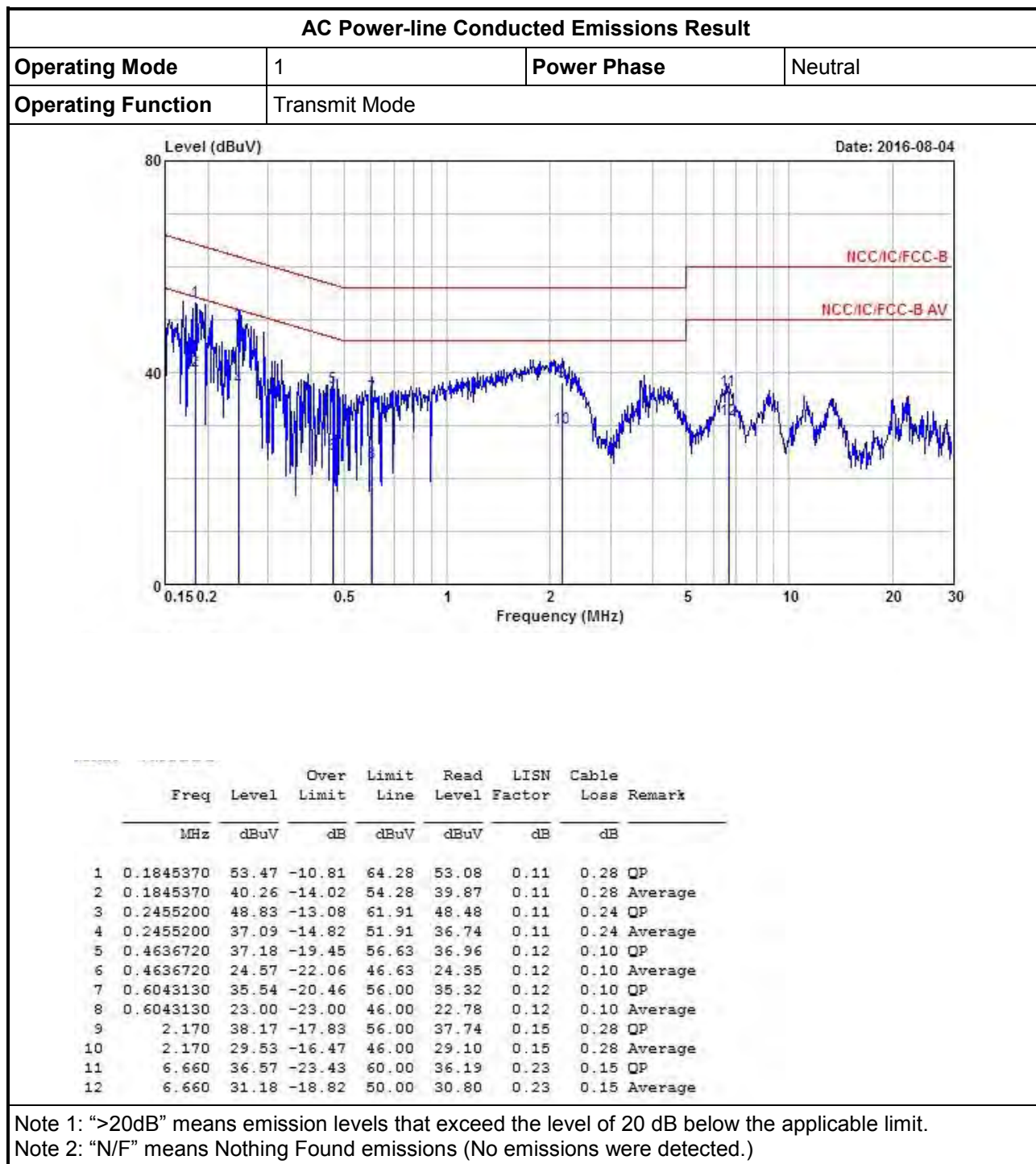
3.1.3 Test Procedures

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

3.1.4 Test Setup

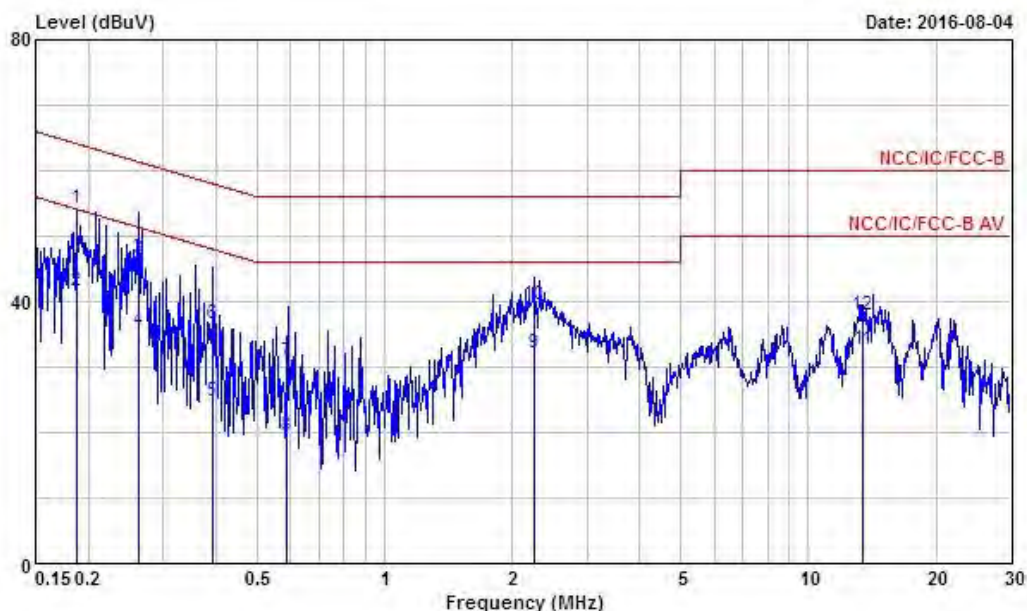


3.1.5 Test Result of AC Power-line Conducted Emissions



AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Transmit Mode		



	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.1873870	54.30	-9.85	64.15	53.91	0.11	0.28	QP
2	0.1873870	41.56	-12.59	54.15	41.17	0.11	0.28	Average
3	0.2616370	46.45	-14.93	61.38	46.12	0.11	0.22	QP
4	0.2616370	35.62	-15.76	51.38	35.29	0.11	0.22	Average
5	0.3934400	24.75	-23.24	47.99	24.53	0.12	0.10	Average
6	0.3934400	36.63	-21.36	57.99	36.41	0.12	0.10	QP
7	0.5856410	30.76	-25.24	56.00	30.54	0.12	0.10	QP
8	0.5856410	19.56	-26.44	46.00	19.34	0.12	0.10	Average
9	2.250	32.05	-13.95	46.00	31.63	0.15	0.27	Average
10	2.250	39.51	-16.49	56.00	39.09	0.15	0.27	QP
11	13.480	32.58	-17.42	50.00	32.08	0.30	0.20	Average
12	13.480	38.02	-21.98	60.00	37.52	0.30	0.20	QP

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

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

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band, the bandwidth is for reference.
☒	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.

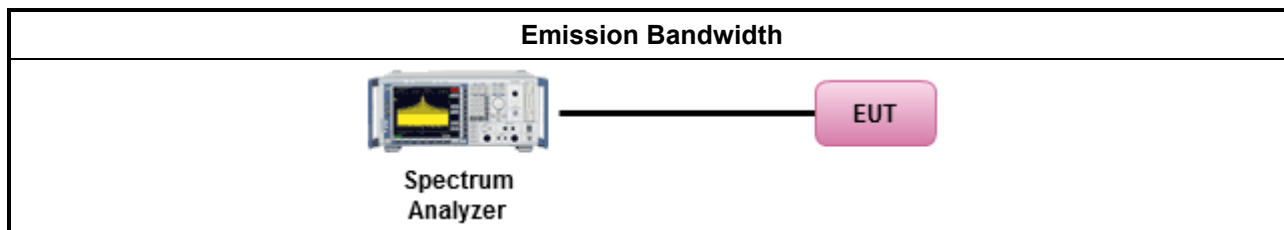
3.2.2 Measuring Instruments

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 v01r02, 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 6.6 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

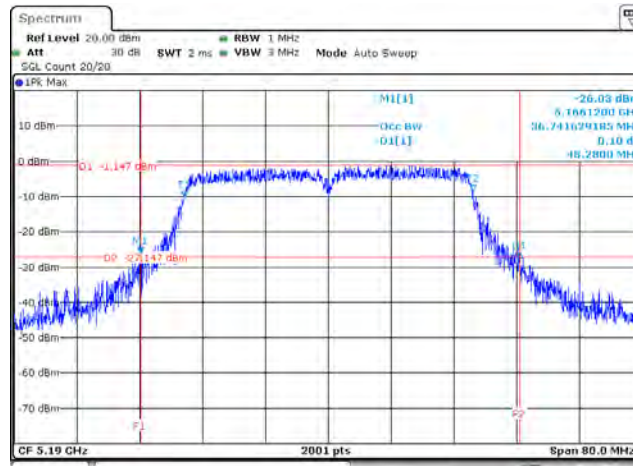
UNII Emission Bandwidth Result (5150-5250MHz band)						
Condition			Emission Bandwidth (MHz)			
Modulation Mode	N _{TX}	Freq. (MHz)	99% Bandwidth		26dB Bandwidth	
			Chain Port 1	Chain Port 2	Chain Port 1	Chain Port 2
11a	2	5180	16.61	16.59	20.55	20.62
11a	2	5200	16.49	16.56	21.22	20.87
11a	2	5240	16.54	16.59	20.27	20.17
HT20	2	5180	17.89	17.86	21.00	22.37
HT20	2	5200	17.64	17.86	20.55	21.07
HT20	2	5240	17.79	17.74	22.05	21.00
HT40	2	5190	36.74	36.82	48.28	46.88
HT40	2	5230	37.02	36.58	47.68	46.28
Result			Complied			

UNII Emission Bandwidth Result (5250-5350MHz band)						
Condition			Emission Bandwidth (MHz)			
Modulation Mode	N _{TX}	Freq. (MHz)	99% Bandwidth		26dB Bandwidth	
			Chain Port 1	Chain Port 2	Chain Port 1	Chain Port 2
11a	2	5260	17.41	16.76	29.95	28.07
11a	2	5300	16.94	16.84	24.17	23.70
11a	2	5320	16.71	16.66	21.42	20.15
HT20	2	5260	17.69	17.81	25.82	23.45
HT20	2	5300	17.91	17.81	21.57	22.60
HT20	2	5320	17.71	17.61	21.60	21.47
HT40	2	5270	37.66	37.06	77.48	68.80
HT40	2	5310	36.86	36.66	48.88	46.04
Result			Complied			

UNII Emission Bandwidth Result (5470-5725MHz band)						
Condition			Emission Bandwidth (MHz)			
Modulation Mode	N _{TX}	Freq. (MHz)	99% Bandwidth		26dB Bandwidth	
			Chain Port 1	Chain Port 2	Chain Port 1	Chain Port 2
11a	2	5500	16.64	16.56	25.95	20.87
11a	2	5580	17.24	16.91	28.20	31.52
11a	2	5700	16.49	16.36	23.92	18.95
HT20	2	5500	18.14	17.74	26.97	20.75
HT20	2	5580	18.91	17.89	36.27	28.50
HT20	2	5700	17.81	17.79	22.07	21.32
HT40	2	5510	36.78	36.86	49.52	45.36
HT40	2	5550	38.50	36.78	75.72	64.88
HT40	2	5670	37.06	36.86	69.48	60.44
Result			Complied			

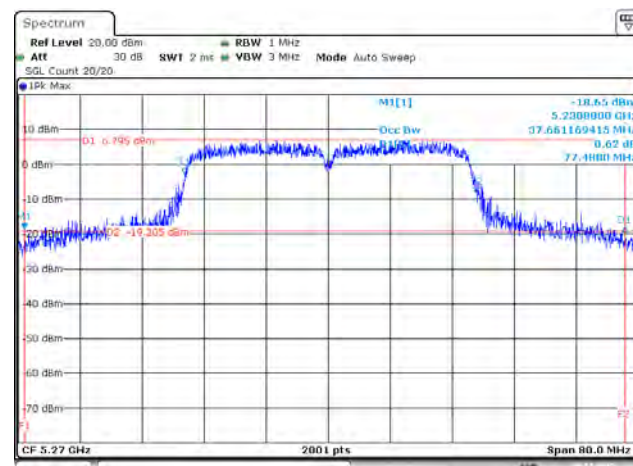
UNII Emission Bandwidth Result (5725-5850MHz band)						
Condition			Emission Bandwidth (MHz)			
Modulation Mode	N _{TX}	Freq. (MHz)	99% Bandwidth		26dB Bandwidth	
			Chain Port 1	Chain Port 2	Chain Port 1	Chain Port 2
11a	2	5745	16.47	16.38	16.47	14.67
11a	2	5785	17.22	16.98	16.36	16.42
11a	2	5825	16.47	16.43	16.32	16.42
HT20	2	5745	17.60	17.63	16.89	17.68
HT20	2	5785	18.03	17.79	16.53	17.68
HT20	2	5825	17.61	17.58	16.68	13.42
HT40	2	5755	36.18	36.14	33.84	34.64
HT40	2	5795	36.46	36.30	34.40	35.08
Result			Complied			

5150-5250MHz - Worst Emission 26Bandwidth Plots



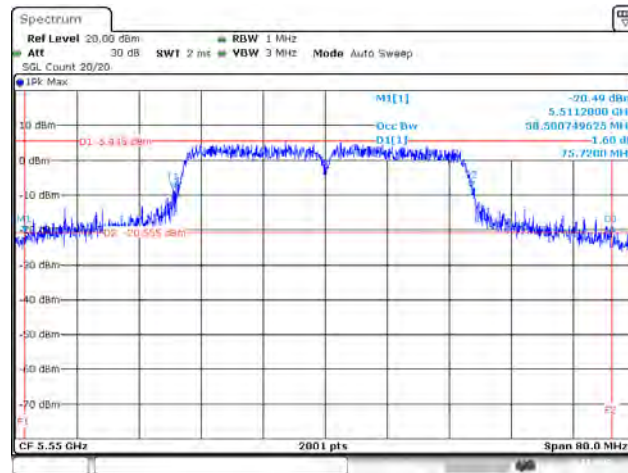
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5250-5350MHz - Worst Emission 26Bandwidth Plots



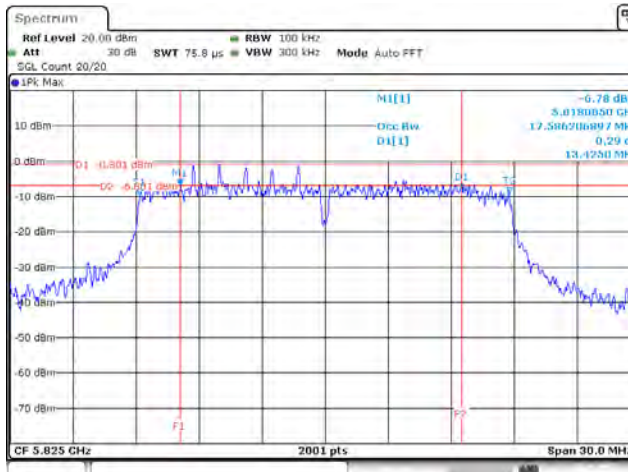
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5470-5725MHz - Worst Emission 26Bandwidth Plots



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5725-5850MHz - Worst Emission 6Bandwidth Plots



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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.	

Note: The value have added the factor of clause 1.1.4 table.

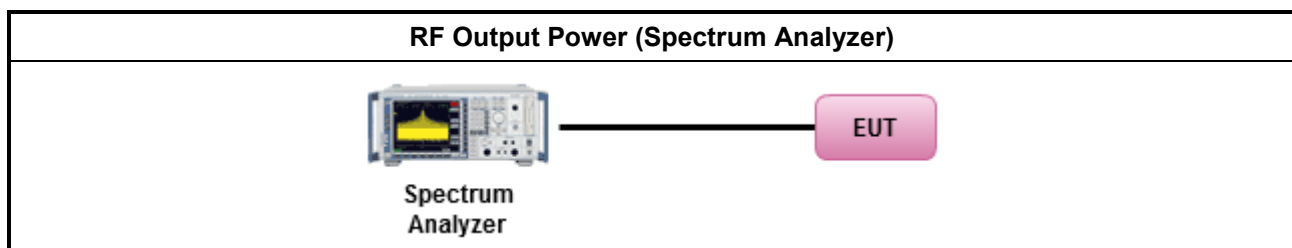
3.3.2 Measuring Instruments

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 v01r02, clause E Method SA-1 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02 v01r02, 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 v01r02, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02 v01r02, 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 v01r02, 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 Directional Gain for Power Measurement

Directional Gain (DG) Result					
Transmit Chains No.		1	2	-	-
Maximum G_{ANT} (dBi)		2.0	2.0	-	-
Modulation Mode	DG (dBi)	N_{TX}	N_{SS} (Min.)	STBC	Array Gain (dB)
11a	5.01	2	1	-	3.01 (Note3)
HT20	5.01	2	1	-	3.01 (Note3)
HT40	5.01	2	1	-	3.01 (Note3)
Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows: Any transmit signals are correlated, Directional Gain = $G_{ANT} + 10 \log(N_{TX}) = 2.0 + 10 \log(2) = 5.01$ All transmit signals are completely uncorrelated, Directional Gain = G_{ANT} Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows: Any transmit signals are correlated, Directional Gain = $10 \log[(10^{G_{1/20}} + \dots + 10^{G_{N/20}})^2 / N_{TX}]$ All transmit signals are completely uncorrelated, Directional Gain = $10 \log[(10^{G_{1/10}} + \dots + 10^{G_{N/10}}) / N_{TX}]$ Note 3: For Spatial Multiplexing, Directional Gain (DG) = $G_{ANT} + 10 \log(N_{TX}/N_{SS})$, where N_{SS} = the number of independent spatial streams data. Note 4: For CDD transmissions, directional gain is calculated as power measurements: Directional Gain (DG) = $G_{ANT} + \text{Array Gain}$, where Array Gain is as follows: Array Gain = 0 dB (i.e., no array gain) for $N_{TX} \leq 4$; Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{TX};					

3.3.6 Test Result of Maximum Conducted Output Power

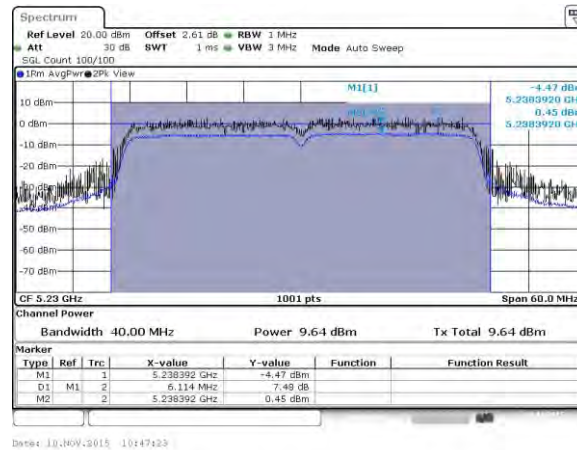
Maximum Conducted Output Power (5150-5250MHz band)							
Condition			RF Output Power (dBm)				
Modulation Mode	N _{TX}	Freq. (MHz)	Chain Port 1	Chain Port 2	Sum Chain	Power Limit	DG (dBi)
11a	2	5180	8.22	9.15	11.72	30.00	5.01
11a	2	5200	8.53	8.87	11.71	30.00	5.01
11a	2	5240	9.13	9.48	12.31	30.00	5.01
HT20	2	5180	8.64	9.39	12.04	30.00	5.01
HT20	2	5200	8.68	9.20	11.96	30.00	5.01
HT20	2	5240	9.53	9.78	12.67	30.00	5.01
HT40	2	5190	7.65	8.59	11.15	30.00	5.01
HT40	2	5230	9.74	10.42	13.10	30.00	5.01
Result			Complied				

Maximum Conducted Output Power (5250-5350MHz band)							
Condition			RF Output Power (dBm)				
Modulation Mode	N _{TX}	Freq. (MHz)	Chain Port 1	Chain Port 2	Sum Chain	Power Limit	DG (dBi)
11a	2	5260	15.66	16.78	19.26	24.00	5.01
11a	2	5300	14.23	16.17	18.31	24.00	5.01
11a	2	5320	11.93	14.06	16.13	24.00	5.01
HT20	2	5260	13.94	14.85	17.43	24.00	5.01
HT20	2	5300	12.99	14.73	16.95	24.00	5.01
HT20	2	5320	11.89	13.67	15.88	24.00	5.01
HT40	2	5270	15.33	16.39	18.90	24.00	5.01
HT40	2	5310	9.04	10.69	12.95	24.00	5.01
Result			Complied				

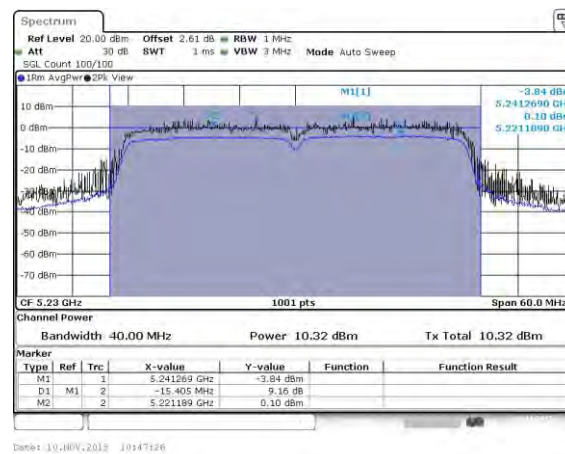
Maximum Conducted Output Power (5470-5725MHz band)							
Condition			RF Output Power (dBm)				
Modulation Mode	N _{TX}	Freq. (MHz)	Chain Port 1	Chain Port 2	Sum Chain	Power Limit	DG (dBi)
11a	2	5500	13.19	11.91	15.60	24.00	5.01
11a	2	5580	14.72	14.89	17.81	24.00	5.01
11a	2	5700	12.53	12.22	15.38	23.78	5.01
HT20	2	5500	12.14	11.12	14.67	24.00	5.01
HT20	2	5580	14.58	14.99	17.80	24.00	5.01
HT20	2	5700	11.75	11.41	14.59	24.00	5.01
HT40	2	5510	8.41	7.15	10.83	24.00	5.01
HT40	2	5550	14.63	14.53	17.59	24.00	5.01
HT40	2	5670	13.24	13.28	16.27	24.00	5.01
Result			Complied				

Maximum Conducted Output Power (5725-5850MHz band)							
Condition			RF Output Power (dBm)				
Modulation Mode	N _{TX}	Freq. (MHz)	Chain Port 1	Chain Port 2	Sum Chain	Power Limit	DG (dBi)
11a	2	5745	11.58	11.15	14.38	30.00	5.01
11a	2	5785	16.50	17.47	20.02	30.00	5.01
11a	2	5825	13.82	12.46	16.20	30.00	5.01
HT20	2	5745	10.76	10.35	13.57	30.00	5.01
HT20	2	5785	16.59	16.12	19.37	30.00	5.01
HT20	2	5825	12.95	11.75	15.40	30.00	5.01
HT40	2	5755	7.75	6.89	10.35	30.00	5.01
HT40	2	5795	15.02	14.24	17.65	30.00	5.01
Result			Complied				

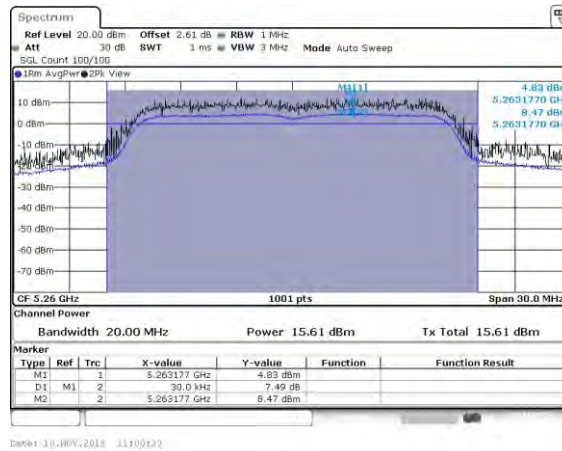
5150-5250MHz - Worst RF Output Power Plots (Port 1)



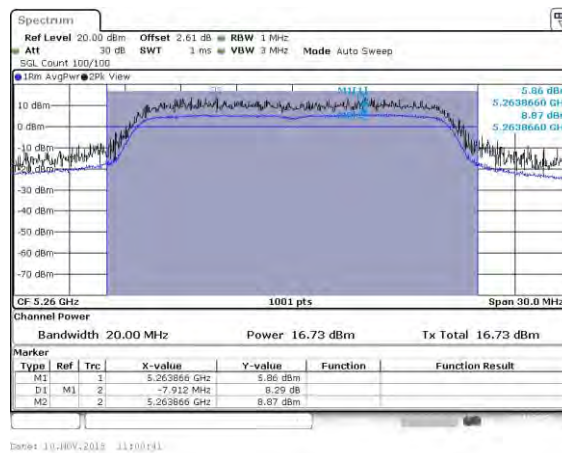
5150-5250MHz - Worst RF Output Power Plots (Port 2)



5250-5350MHz - Worst RF Output Power Plots (Port 1)

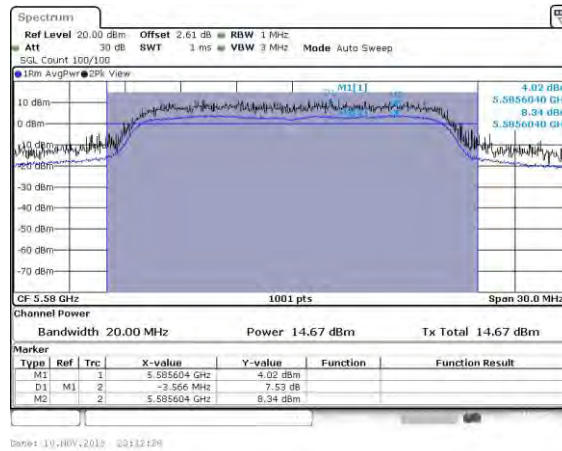


5250-5350MHz - Worst RF Output Power Plots (Port 2)

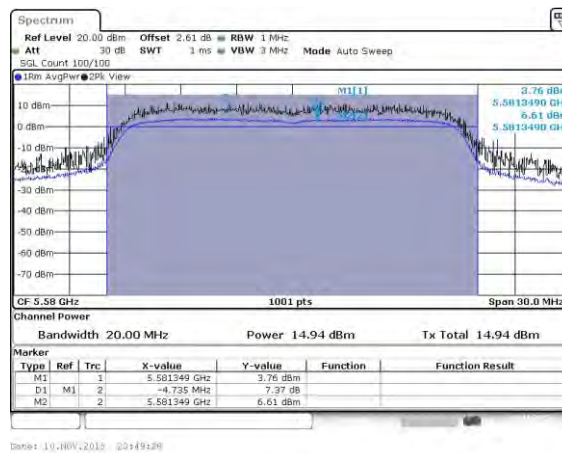




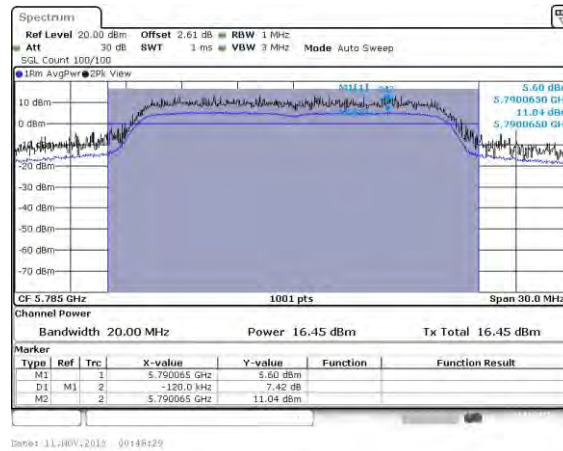
5470-5725MHz - Worst RF Output Power Plots (Port 1)



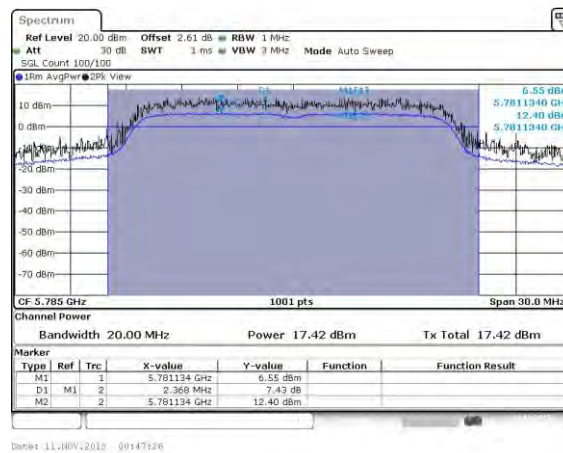
5470-5725MHz - Worst RF Output Power Plots (Port 2)



5725-5850MHz - Worst RF Output Power Plots (Port 1)



5725-5850MHz - Worst RF Output Power Plots (Port 2)



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

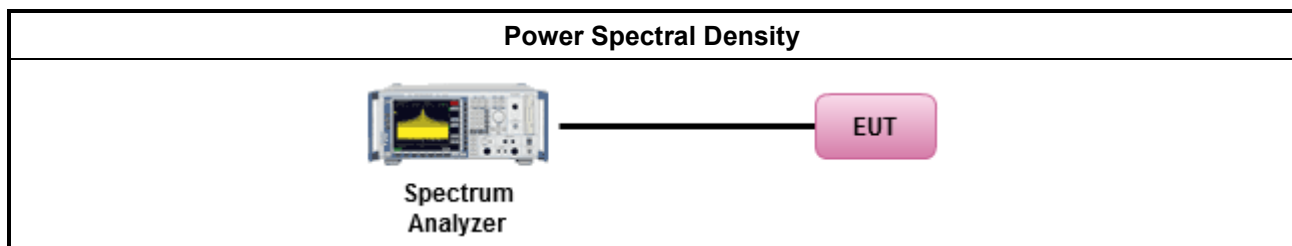
Refer a test equipment and calibration data table in this test report.

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 v01r02, 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 v01r02, clause E Method SA-1 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02 v01r02, 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 v01r02, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02 v01r02, 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.

Note: The value have added the factor of clause 1.1.4 table.

3.4.4 Test Setup



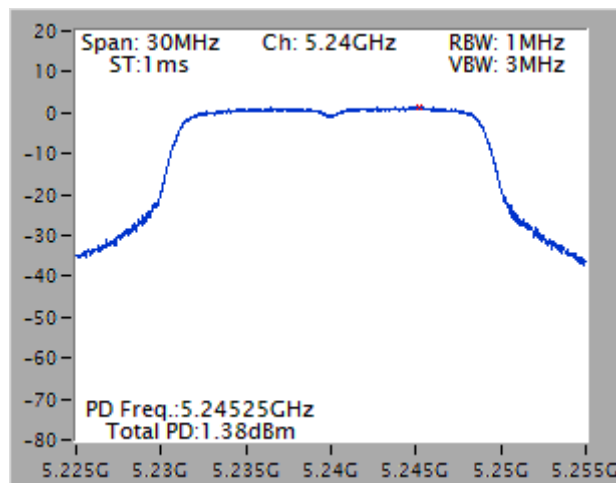
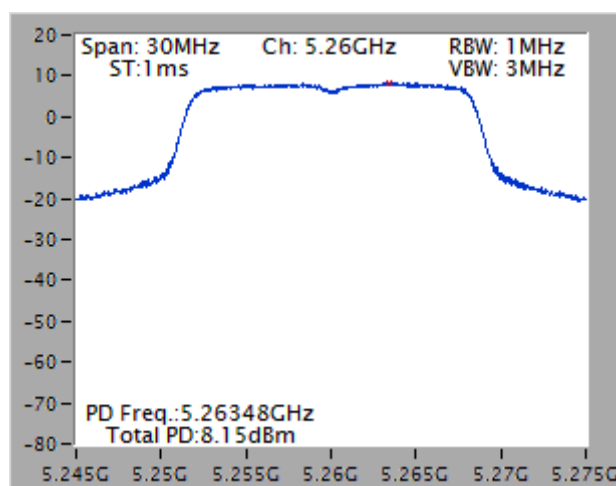
3.4.5 Test Result of Peak Power Spectral Density

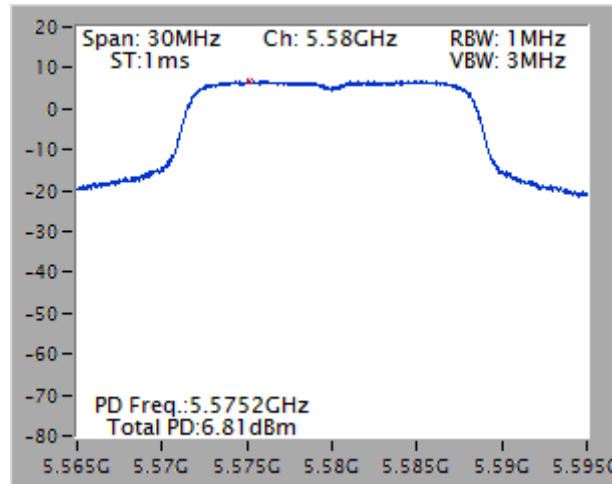
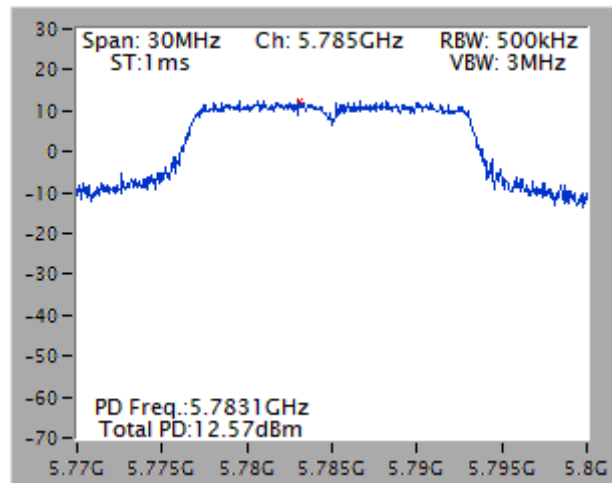
Peak Power Spectral Density Result (5150-5250MHz band)					
Modulation Mode	N _{TX}	Freq. (MHz)	Peak Power Spectral Density (dBm)	PSD Limit	DG (dBi)
11a	2	5180	0.75	17.00	5.01
11a	2	5200	0.68	17.00	5.01
11a	2	5240	1.38	17.00	5.01
HT20	2	5180	0.86	17.00	5.01
HT20	2	5200	0.73	17.00	5.01
HT20	2	5240	1.43	17.00	5.01
HT40	2	5190	-2.99	17.00	5.01
HT40	2	5230	-1.19	17.00	5.01
Result			Complied		

Peak Power Spectral Density Result (5250-5350MHz band)					
Modulation Mode	N _{TX}	Freq. (MHz)	Peak Power Spectral Density (dBm)	PSD Limit	DG (dBi)
11a	2	5260	8.20	11.00	5.01
11a	2	5300	7.22	11.00	5.01
11a	2	5320	5.42	11.00	5.01
HT20	2	5260	6.20	11.00	5.01
HT20	2	5300	5.61	11.00	5.01
HT20	2	5320	5.22	11.00	5.01
HT40	2	5270	4.82	11.00	5.01
HT40	2	5310	-1.36	11.00	5.01
Result			Complied		

Peak Power Spectral Density Result (5470-5725MHz band)					
Modulation Mode	N _{TX}	Freq. (MHz)	Peak Power Spectral Density (dBm)	PSD Limit	DG (dBi)
11a	2	5500	4.51	11.00	5.01
11a	2	5580	6.86	11.00	5.01
11a	2	5700	4.39	11.00	5.01
HT20	2	5500	3.41	11.00	5.01
HT20	2	5580	6.74	11.00	5.01
HT20	2	5700	3.09	11.00	5.01
HT40	2	5510	-3.41	11.00	5.01
HT40	2	5550	3.54	11.00	5.01
HT40	2	5670	1.89	11.00	5.01
Result			Complied		

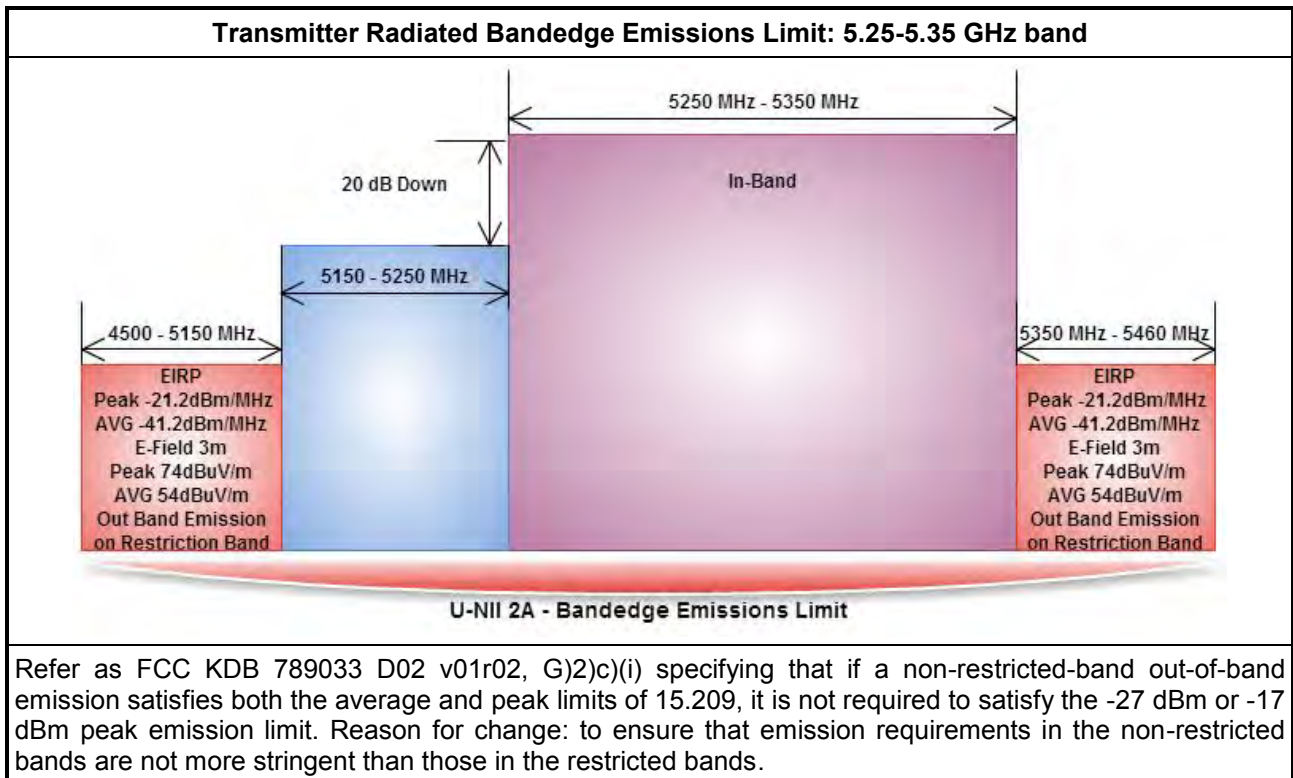
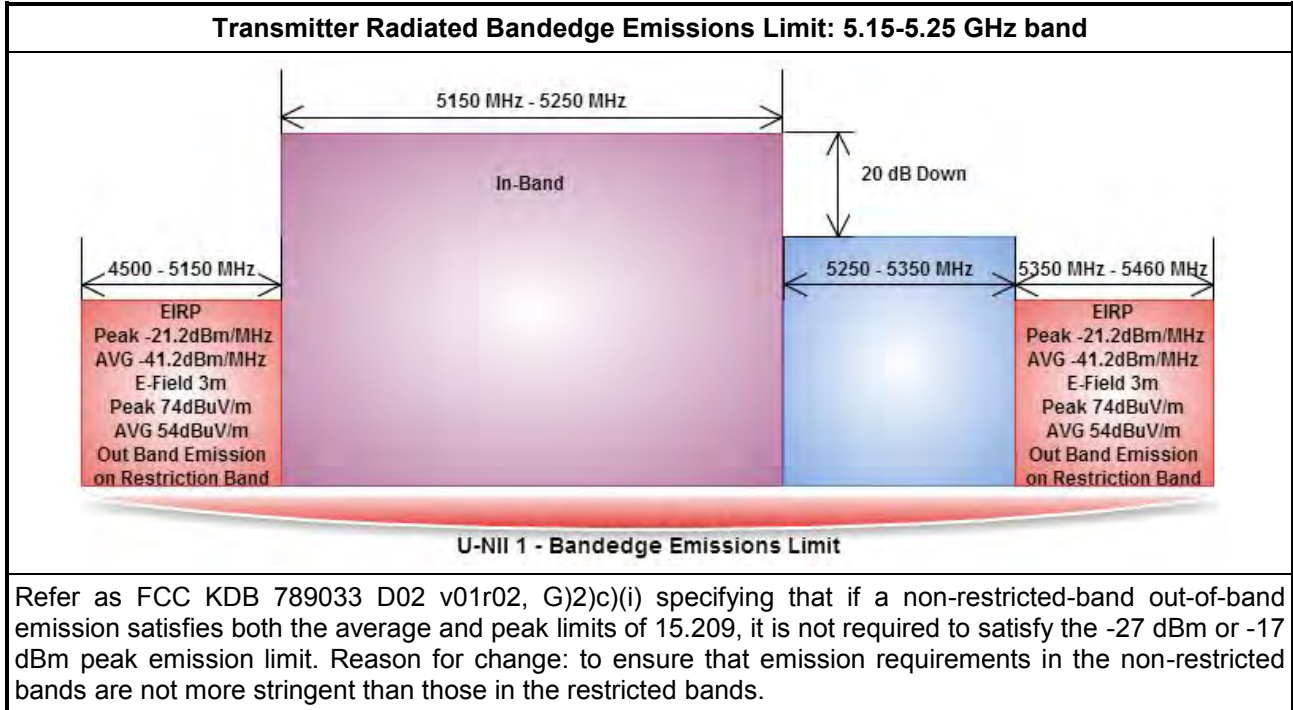
Peak Power Spectral Density Result (5725-5850MHz band)					
Modulation Mode	N _{TX}	Freq. (MHz)	Peak Power Spectral Density (dBm)	PSD Limit	DG (dBi)
11a	2	5745	7.81	30.00	5.01
11a	2	5785	12.62	30.00	5.01
11a	2	5825	8.88	30.00	5.01
HT20	2	5745	6.01	30.00	5.01
HT20	2	5785	11.45	30.00	5.01
HT20	2	5825	7.93	30.00	5.01
HT40	2	5755	0.14	30.00	5.01
HT40	2	5795	7.20	30.00	5.01
Result			Complied		

5150-5250MHz - Worst Power Spectral Density Plots

5250-5350MHz - Worst Power Spectral Density Plots


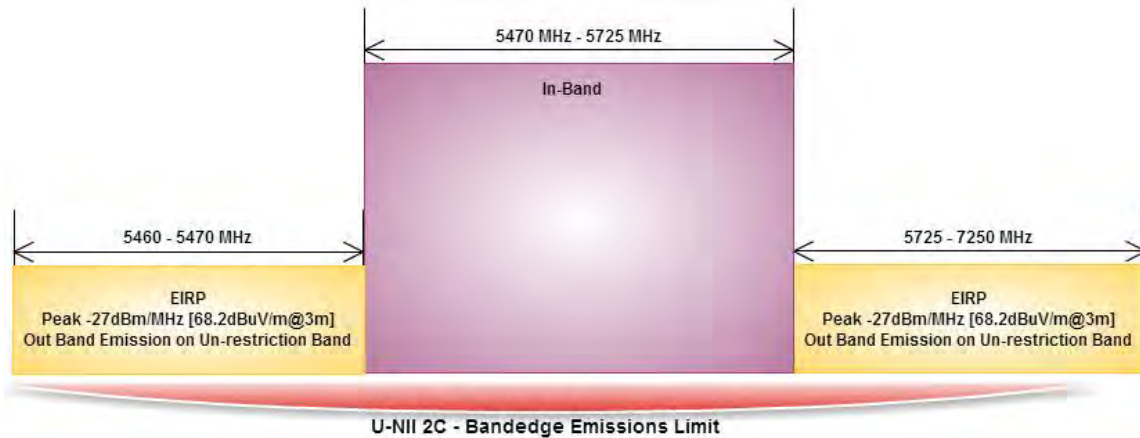
5470-5725MHz - Worst Power Spectral Density Plots

5725-5850MHz - Worst Power Spectral Density Plots


3.5 Transmitter Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit

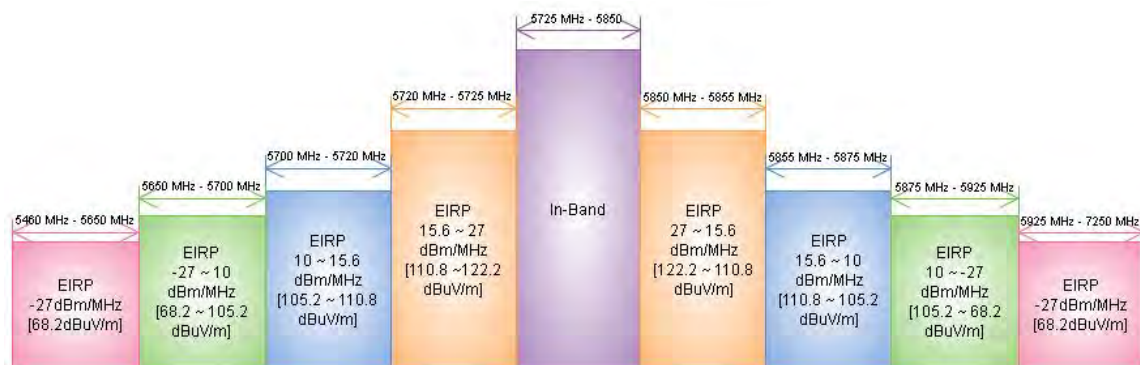


Transmitter Radiated Bandedge Emissions Limit: 5.47-5.725 GHz band



Refer as FCC KDB 789033 D02 v01r02, G)2)c)(i) specifying that if a non-restricted-band out-of-band emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm or -17 dBm peak emission limit. Reason for change: to ensure that emission requirements in the non-restricted bands are not more stringent than those in the restricted bands.

Transmitter Radiated Bandedge Emissions Limit for 5.8GHz band: 5.725-5.85 GHz band



Refer as FCC KDB 789033 D02 v01r02, G)2)c) specifying that if a non-restricted-band out-of-band emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the FCC 16-24 peak emission limit. Reason for change: to ensure that emission requirements in the non-restricted bands are not more stringent than those in the restricted bands.

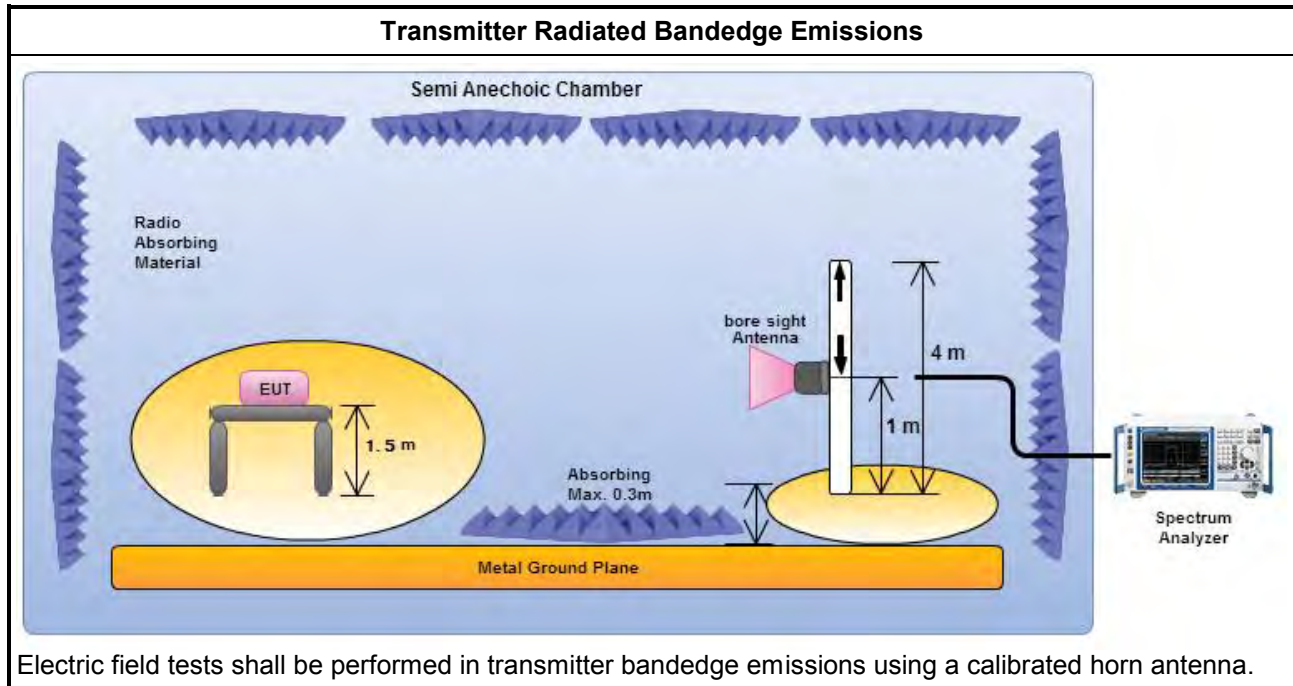
3.5.2 Measuring Instruments

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 6.10 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 v01r02, clause G)2) for unwanted emissions into non-restricted bands.
☒	Refer as FCC KDB 789033 D02 v01r02, clause G)1) for unwanted emissions into restricted bands.
☐	☐ Refer as FCC KDB 789033 D02 v01r02, G)6) Method AD (Trace Averaging).
☐	☐ Refer as FCC KDB 789033 D02 v01r02, 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 v01r02, 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 v01r02, 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 (with Antenna)

U-NII 5150-5250MHz Transmitter Radiated Bandedge (with Antenna)										
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	5120.200	56.67	74	5120.000	44.45	54	H
11a	2	5240	3	5388.600	56.37	74	5119.800	44.58	54	H
HT20	2	5180	3	5149.800	60.17	74	5149.800	43.01	54	H
HT20	2	5240	3	5396.400	56.85	74	5360.400	44.75	54	H
HT40	2	5190	3	5149.600	69.53	74	5147.960	50.72	54	H
HT40	2	5230	3	5398.200	57.91	74	5360.400	46.06	54	H

Note 1: Measurement worst emissions of receive antenna polarization.

U-NII 5250-5350MHz Transmitter Radiated Bandedge (with Antenna)										
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	5260	3	5368.460	57.07	74	5400.080	44.41	54	H
11a	2	5320	3	5350.040	61.92	74	5359.980	44.65	54	H
HT20	2	5260	3	5385.200	57.26	74	5400.000	44.93	54	H
HT20	2	5320	3	5354.800	60.55	74	5359.980	47.19	54	H
HT40	2	5270	3	5358.000	60.80	74	5352.600	45.29	54	H
HT40	2	5310	3	5350.840	72.32	74	5350.120	52.01	54	H

Note 1: Measurement worst emissions of receive antenna polarization.

U-NII 5470-5725MHz Transmitter Radiated Bandedge (with Antenna)

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	5500	3	5466.800	66.87	68.2	5457.200	43.14	54	H
11a	2	5700	3	5725.040	67.04	68.2	5725.040	46.18	68.2	H
HT20	2	5500	3	5470.000	66.60	68.2	5439.920	44.91	54	H
HT20	2	5700	3	5725.040	66.79	68.2	5725.040	47.59	68.2	H
HT40	2	5510	3	5469.400	67.14	68.2	5459.800	44.21	54	H
HT40	2	5670	3	5727.600	67.17	68.2	5725.000	47.61	68.2	H

Note 1: Measurement worst emissions of receive antenna polarization.

U-NII 5725-5850MHz Transmitter Radiated Bandedge (with Antenna)

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	5630.720	57.10	68.2	H
11a	2	5825	3	5939.470	56.56	68.2	H
HT20	2	5745	3	5639.820	57.38	68.2	H
HT20	2	5825	3	5947.030	56.98	68.2	H
HT40	2	5755	3	5469.800	66.55	68.2	H
HT40	2	5795	3	5943.880	58.01	68.2	H

Note 1: Measurement worst emissions of receive antenna polarization.

Note 2 : we provide worst frequency point in the table.

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]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.85 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]
5.725 - 5.85 GHz	5.650-5700 GHz: e.i.r.p. -27 ~ 10 dBm [68.2 ~ 105.2 dBuV/m@3m] 5.700-5720 GHz: e.i.r.p. 10 ~ 15.6 dBm [105.2 ~ 110.8 dBuV/m@3m] 5.720-5725 GHz: e.i.r.p. 15.6 ~ 27 dBm [110.8 ~ 122.2 dBuV/m@3m] 5.850-5.855 GHz: e.i.r.p. 27 ~ 15.6 dBm [122.2 ~ 110.8 dBuV/m@3m] 5.855-5.875 GHz: e.i.r.p. 15.6 ~ 10 dBm [110.8 ~ 105.2 dBuV/m@3m] 5.875-5.925 GHz: e.i.r.p. 10 ~ -27 dBm [105.2 ~ 68.2dBuV/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

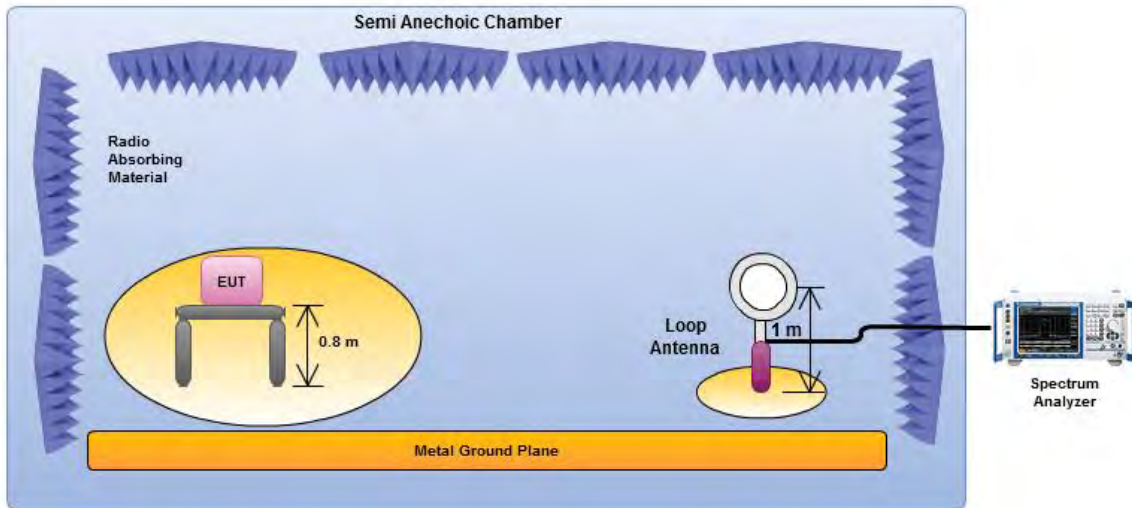
Refer a test equipment and calibration data table in this test report.

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 $\geq$ 98 or duty factor].
☒	For the transmitter unwanted emissions shall be measured using following options below:
☒	Refer as FCC KDB 789033 D02 v01r02, clause G)2) for unwanted emissions into non-restricted bands.
☒	Refer as FCC KDB 789033 D02 v01r02, clause G)1) for unwanted emissions into restricted bands.
☐	Refer as FCC KDB 789033 D02 v01r02, G)6) Method AD (Trace Averaging).
☐	Refer as FCC KDB 789033 D02 v01r02, 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 v01r02, 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.

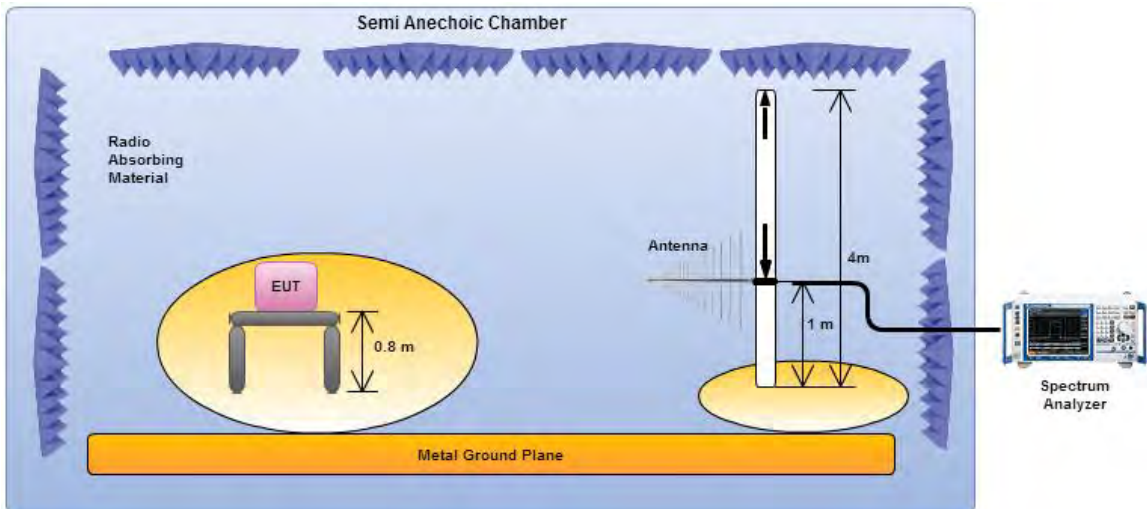
3.6.4 Test Setup

Transmitter Spurious and Out of Band Emissions (9 kHz - 30 MHz)



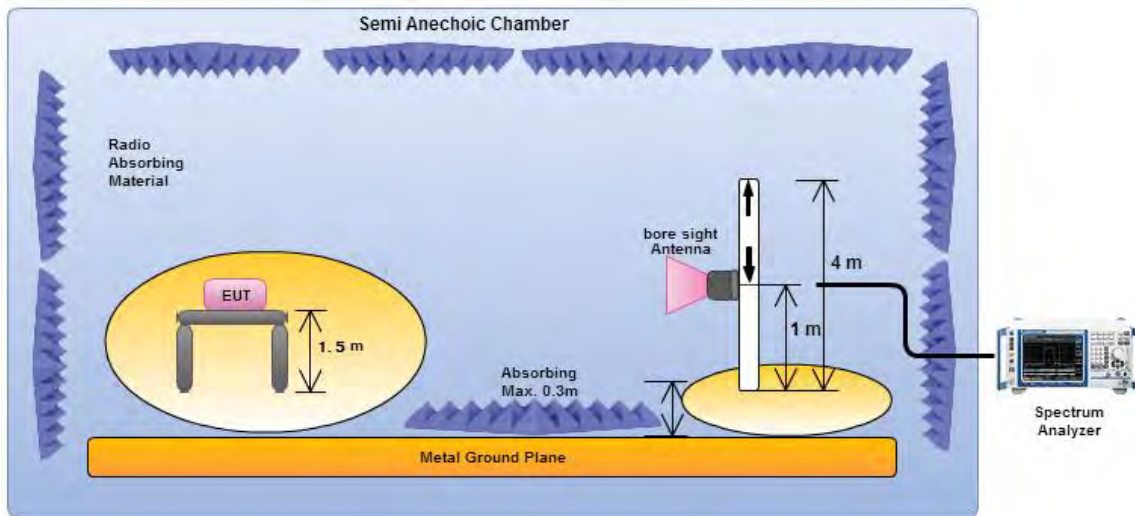
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna.

Transmitter Radiated Unwanted Emissions (below 1GHz)



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)

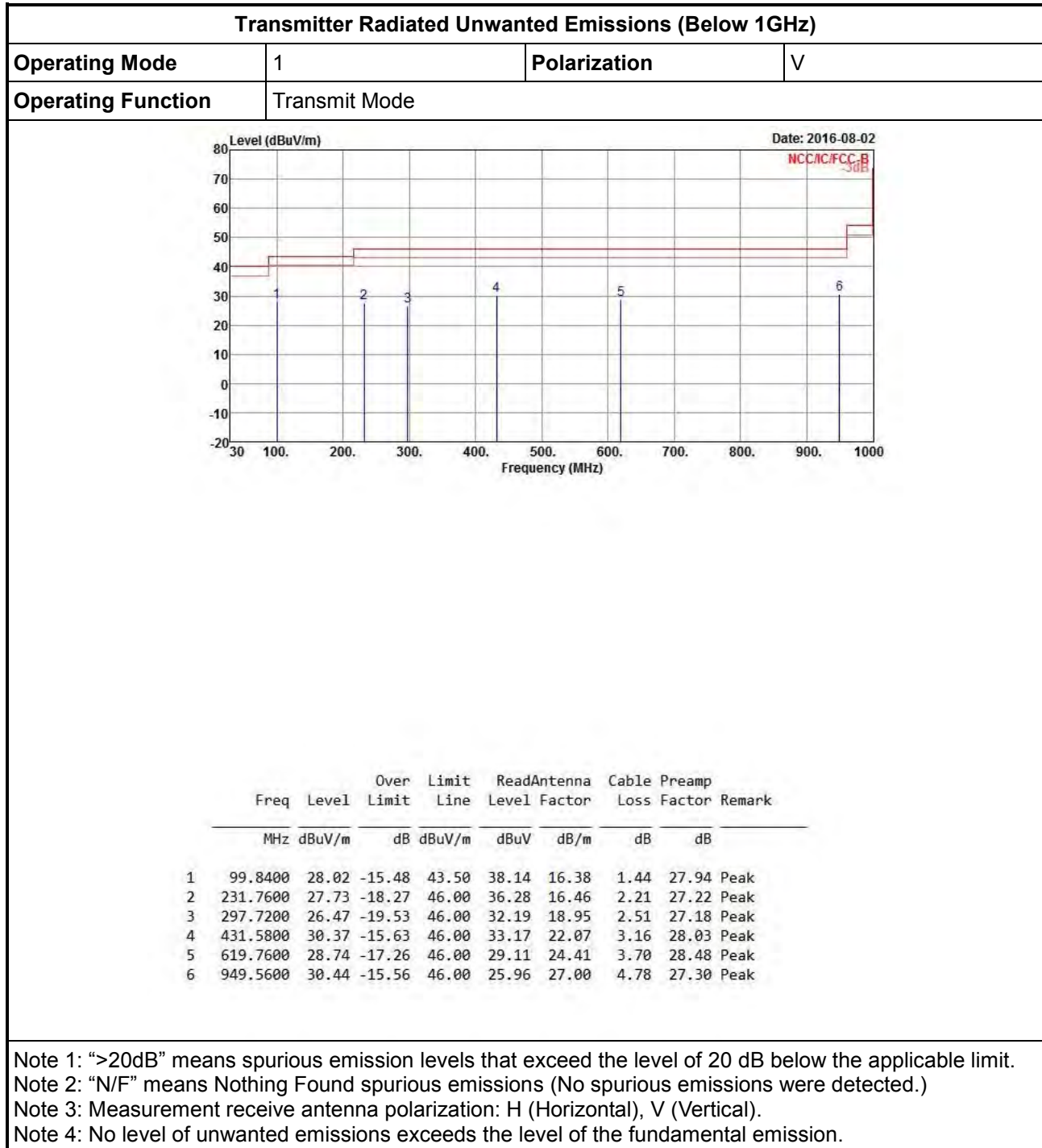


Electric field tests shall be performed in the frequency range of 1 GHz to 10th harmonic of highest fundamental frequency or 40 GHz using a calibrated horn antenna.

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

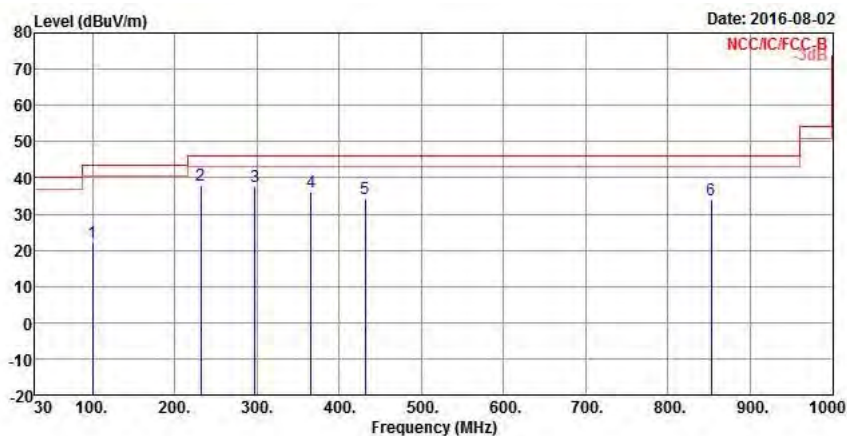
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. any spurious which has more than 20 dB of margin compared to the applicable limit is not necessarily reported.

3.6.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)



Transmitter Radiated Unwanted Emissions (Below 1GHz)

Operating Mode	1	Polarization	H
Operating Function	Transmit Mode		



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	99.8400	22.25	-21.25	43.50	32.37	16.38	1.44	27.94	Peak
2	231.7600	37.76	-8.24	46.00	46.31	16.46	2.21	27.22	Peak
3	297.7200	37.54	-8.46	46.00	43.26	18.95	2.51	27.18	Peak
4	365.6200	35.96	-10.04	46.00	39.98	20.84	2.72	27.58	Peak
5	431.5800	34.30	-11.70	46.00	37.10	22.07	3.16	28.03	Peak
6	852.5600	33.71	-12.29	46.00	30.25	26.49	4.75	27.78	Peak

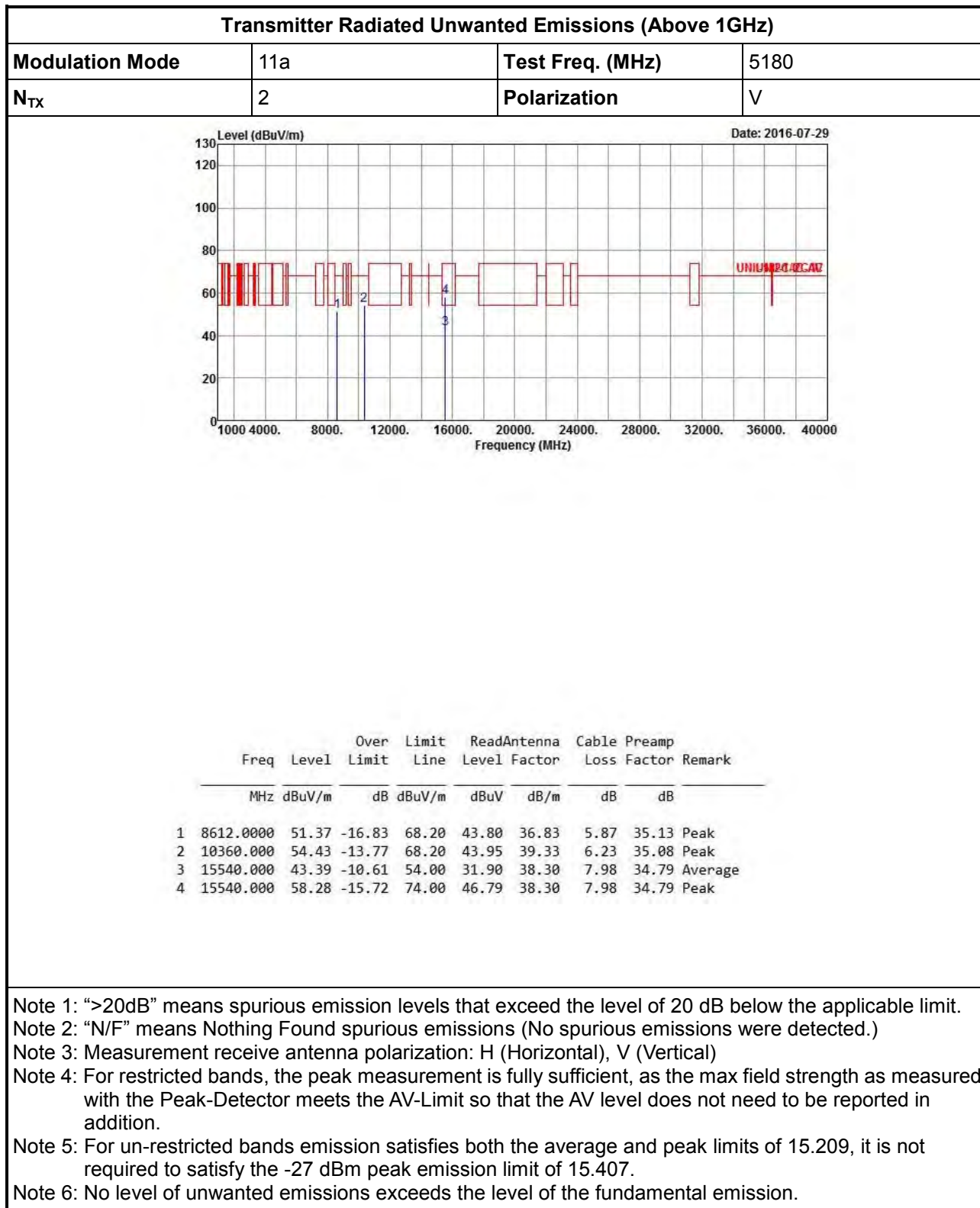
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

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

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

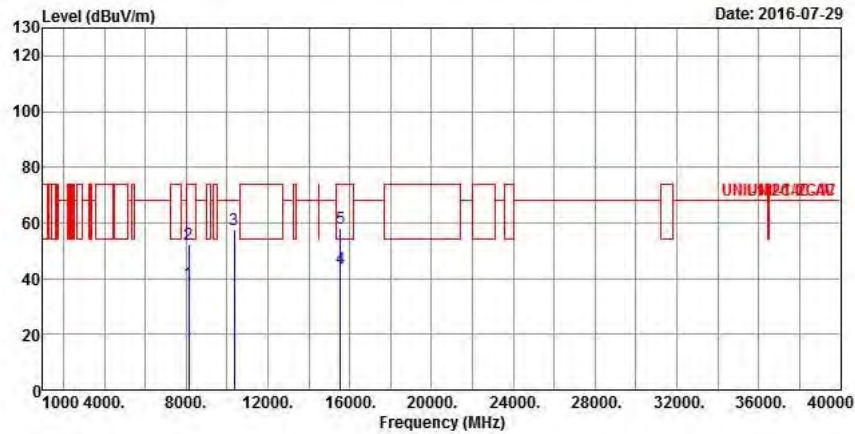
Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

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	8144.0000	38.20	-15.80	54.00	30.64	36.98	5.69	35.11	Average
2	8144.0000	52.07	-21.93	74.00	44.51	36.98	5.69	35.11	Peak
3	10360.000	57.65	-10.55	68.20	47.17	39.33	6.23	35.08	Peak
4	15540.000	43.43	-10.57	54.00	31.94	38.30	7.98	34.79	Average
5	15540.000	58.11	-15.89	74.00	46.62	38.30	7.98	34.79	Peak

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

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

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

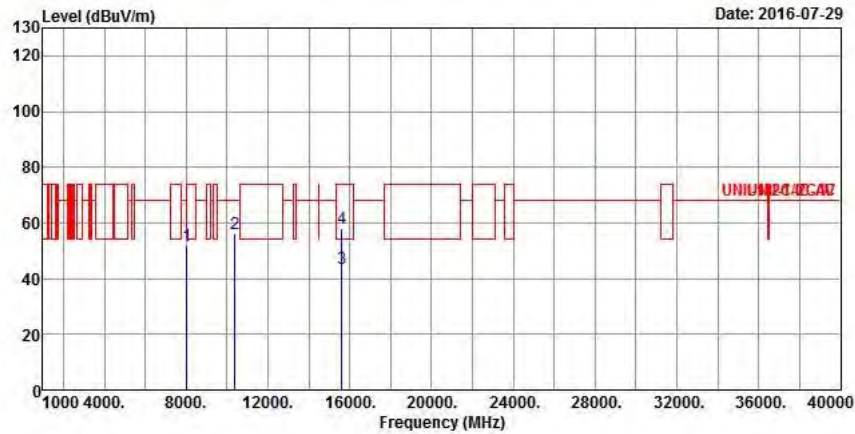
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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	Antenna Factor	Cable Loss	Preamplifier	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8021.0000	51.60	-16.60	68.20	43.99	37.08	5.65	35.12	Peak
2	10400.000	55.90	-12.30	68.20	45.34	39.38	6.22	35.04	Peak
3	15600.000	43.80	-10.20	54.00	32.48	38.16	8.00	34.84	Average
4	15600.000	58.24	-15.76	74.00	46.92	38.16	8.00	34.84	Peak

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

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

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

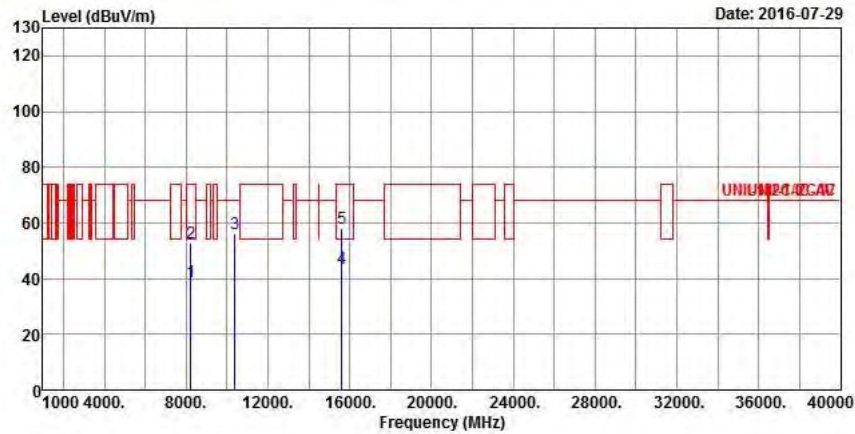
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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 Preamp Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	8220.0000	38.78	-15.22	54.00	31.24	36.92	5.72	35.10 Average
2	8220.0000	52.72	-21.28	74.00	45.18	36.92	5.72	35.10 Peak
3	10400.000	56.30	-11.90	68.20	45.74	39.38	6.22	35.04 Peak
4	15600.000	43.72	-10.28	54.00	32.40	38.16	8.00	34.84 Average
5	15600.000	57.99	-16.01	74.00	46.67	38.16	8.00	34.84 Peak

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

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

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

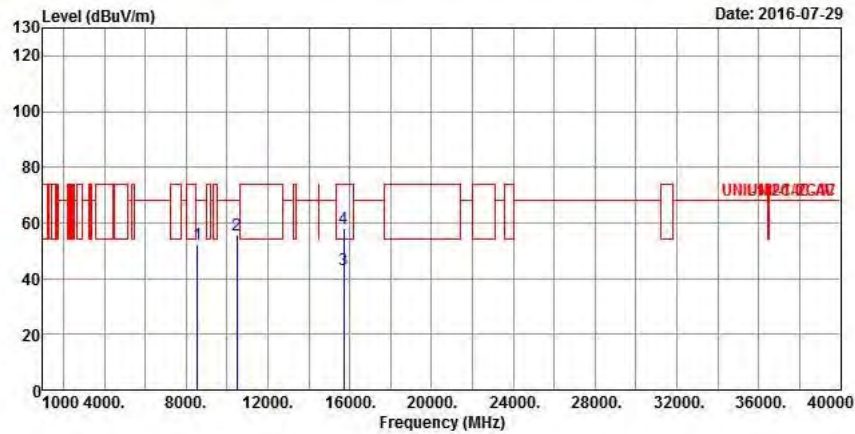
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	8572.0000	52.32	-15.88	68.20	44.79	36.79	5.85	35.11 Peak
2	10480.000	55.65	-12.55	68.20	44.92	39.48	6.22	34.97 Peak
3	15720.000	43.35	-10.65	54.00	32.37	37.87	8.04	34.93 Average
4	15720.000	57.91	-16.09	74.00	46.93	37.87	8.04	34.93 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)

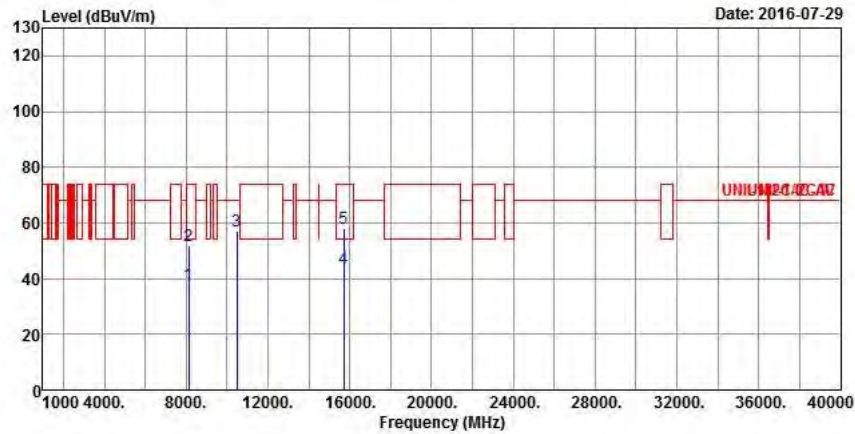
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	Cable Preamp Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	8128.0000	37.83	-16.17	54.00	30.25	37.00	5.69	35.11 Average
2	8128.0000	51.91	-22.09	74.00	44.33	37.00	5.69	35.11 Peak
3	10480.000	56.93	-11.27	68.20	46.20	39.48	6.22	34.97 Peak
4	15720.000	43.77	-10.23	54.00	32.79	37.87	8.04	34.93 Average
5	15720.000	57.92	-16.08	74.00	46.94	37.87	8.04	34.93 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)

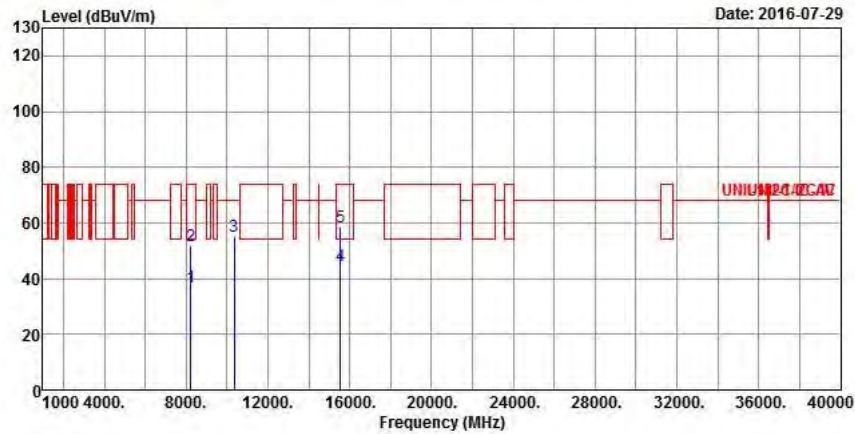
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	Preamplifier	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8232.0000	37.14	-16.86	54.00	29.60	36.91	5.73	35.10	Average
2	8232.0000	51.77	-22.23	74.00	44.23	36.91	5.73	35.10	Peak
3	10360.000	55.05	-13.15	68.20	44.57	39.33	6.23	35.08	Peak
4	15540.000	44.54	-9.46	54.00	33.05	38.30	7.98	34.79	Average
5	15540.000	58.47	-15.53	74.00	46.98	38.30	7.98	34.79	Peak

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

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

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

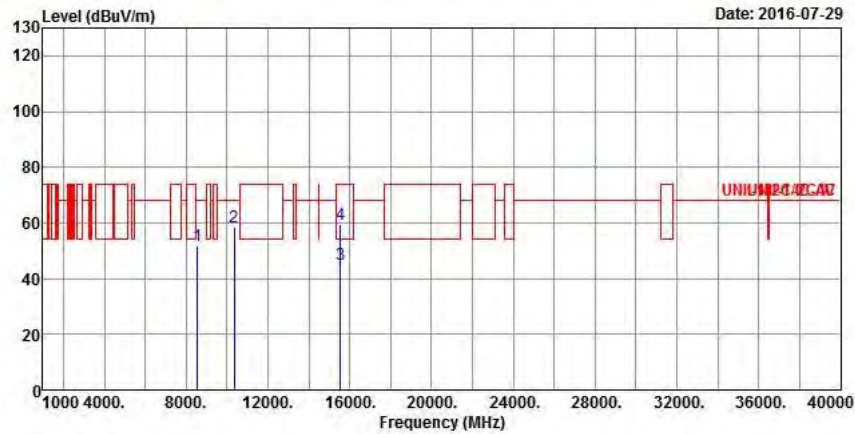
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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	Preamplifier	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8572.0000	51.87	-16.33	68.20	44.34	36.79	5.85	35.11	Peak
2	10360.000	58.45	-9.75	68.20	47.97	39.33	6.23	35.08	Peak
3	15540.000	45.30	-8.70	54.00	33.81	38.30	7.98	34.79	Average
4	15540.000	59.51	-14.49	74.00	48.02	38.30	7.98	34.79	Peak

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

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

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

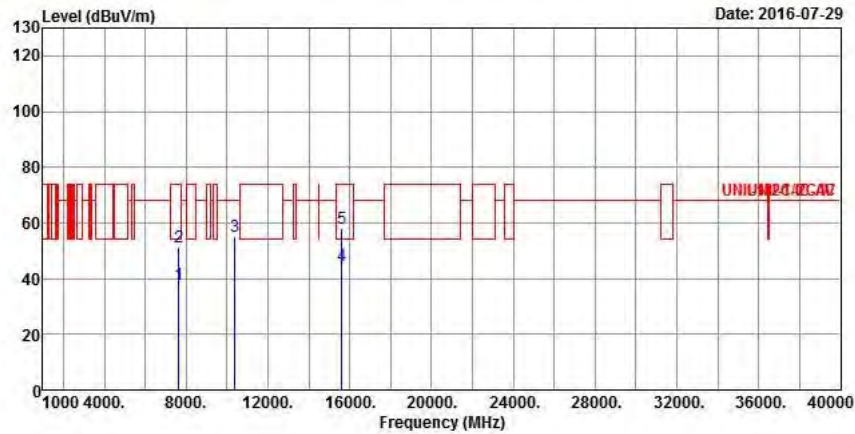
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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 Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7652.0000	37.68	-16.32	54.00	30.73	36.54	5.52	35.11	Average
2	7652.0000	51.44	-22.56	74.00	44.49	36.54	5.52	35.11	Peak
3	10400.000	55.08	-13.12	68.20	44.52	39.38	6.22	35.04	Peak
4	15600.000	44.39	-9.61	54.00	33.07	38.16	8.00	34.84	Average
5	15600.000	58.01	-15.99	74.00	46.69	38.16	8.00	34.84	Peak

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

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

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

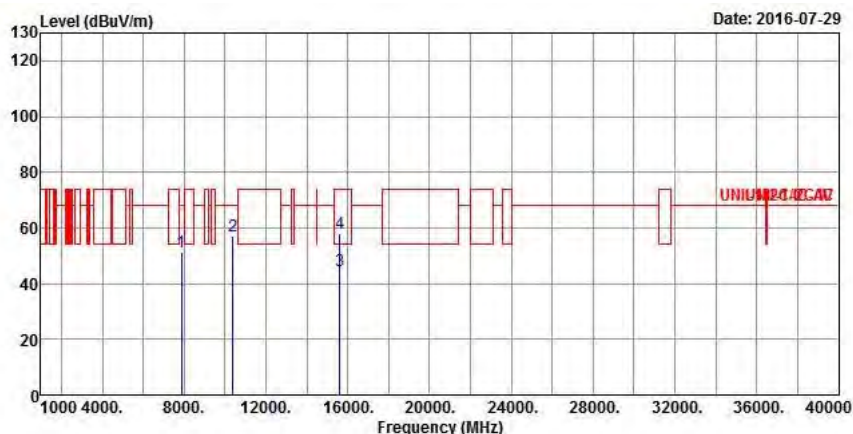
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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 Preamp	Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7884.0000	51.41	-16.79	68.20	44.02	36.91	5.60	35.12	Peak
2	10400.000	57.12	-11.08	68.20	46.56	39.38	6.22	35.04	Peak
3	15600.000	44.42	-9.58	54.00	33.10	38.16	8.00	34.84	Average
4	15600.000	58.04	-15.96	74.00	46.72	38.16	8.00	34.84	Peak

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

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

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

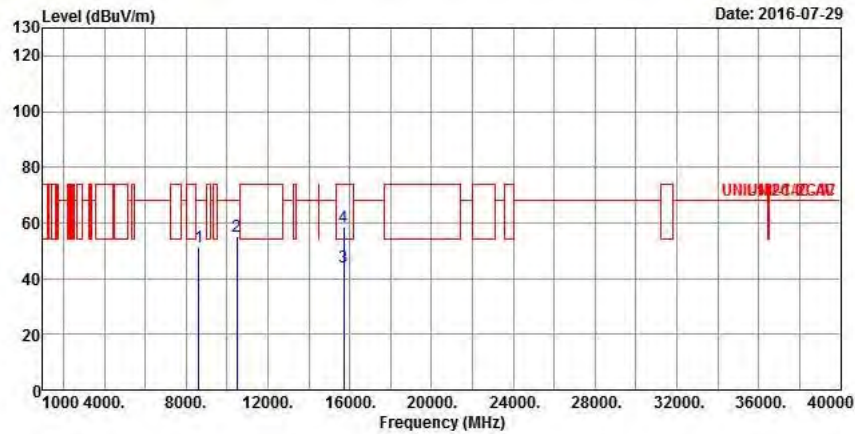
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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 Preamp Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	8608.0000	51.52	-16.68	68.20	43.95	36.83	5.87	35.13 Peak
2	10480.000	55.15	-13.05	68.20	44.42	39.48	6.22	34.97 Peak
3	15720.000	43.97	-10.03	54.00	32.99	37.87	8.04	34.93 Average
4	15720.000	58.75	-15.25	74.00	47.77	37.87	8.04	34.93 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)

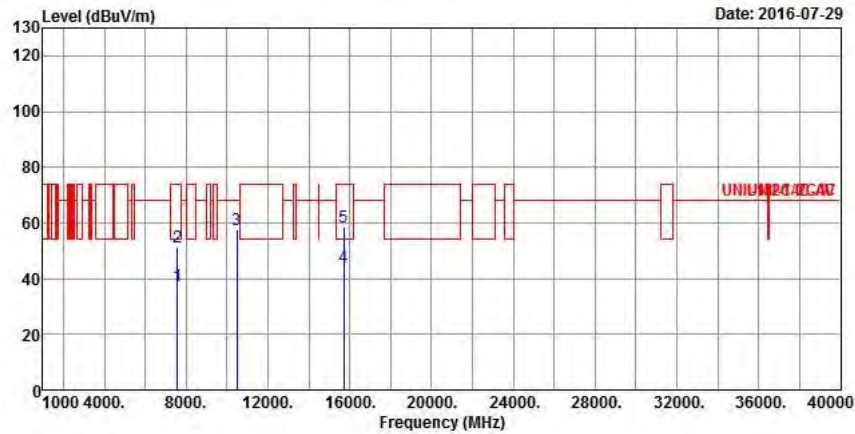
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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 Preamp Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7576.0000	37.39	-16.61	54.00	30.57	36.42	5.50	35.10 Average
2	7576.0000	51.34	-22.66	74.00	44.52	36.42	5.50	35.10 Peak
3	10480.000	57.64	-10.56	68.20	46.91	39.48	6.22	34.97 Peak
4	15720.000	44.12	-9.88	54.00	33.14	37.87	8.04	34.93 Average
5	15720.000	58.72	-15.28	74.00	47.74	37.87	8.04	34.93 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)

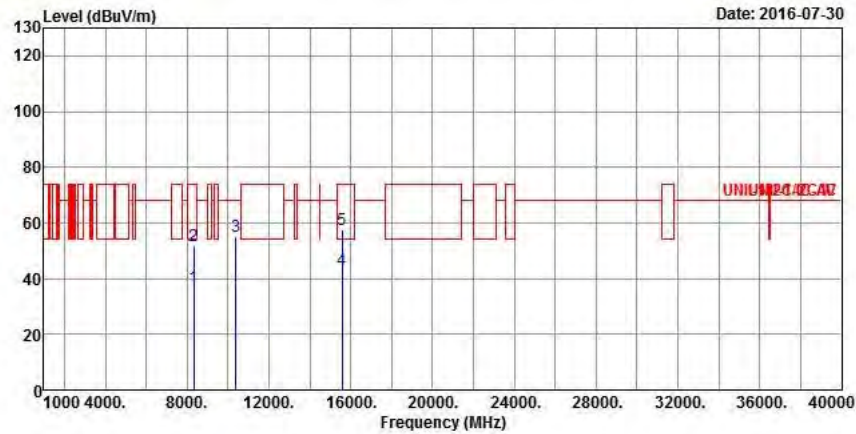
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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 Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8340.0000	36.74	-17.26	54.00	29.23	36.83	5.77	35.09	Average
2	8340.0000	51.70	-22.30	74.00	44.19	36.83	5.77	35.09	Peak
3	10380.000	55.36	-12.84	68.20	44.84	39.36	6.22	35.06	Peak
4	15570.000	43.38	-10.62	54.00	31.97	38.23	7.99	34.81	Average
5	15570.000	57.71	-16.29	74.00	46.30	38.23	7.99	34.81	Peak

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

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

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

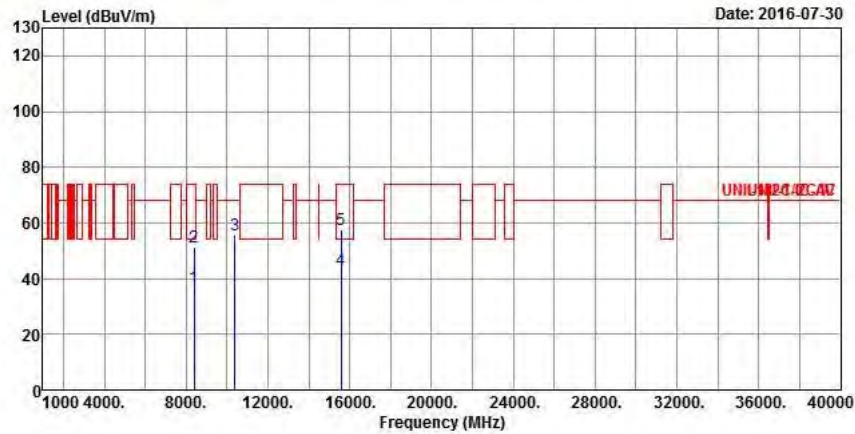
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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	Antenna Factor	Cable Loss	Preamplifier	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8408.0000	36.89	-17.11	54.00	29.41	36.77	5.80	35.09	Average
2	8408.0000	51.32	-22.68	74.00	43.84	36.77	5.80	35.09	Peak
3	10380.000	55.48	-12.72	68.20	44.96	39.36	6.22	35.06	Peak
4	15570.000	43.32	-10.68	54.00	31.91	38.23	7.99	34.81	Average
5	15570.000	57.44	-16.56	74.00	46.03	38.23	7.99	34.81	Peak

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

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

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

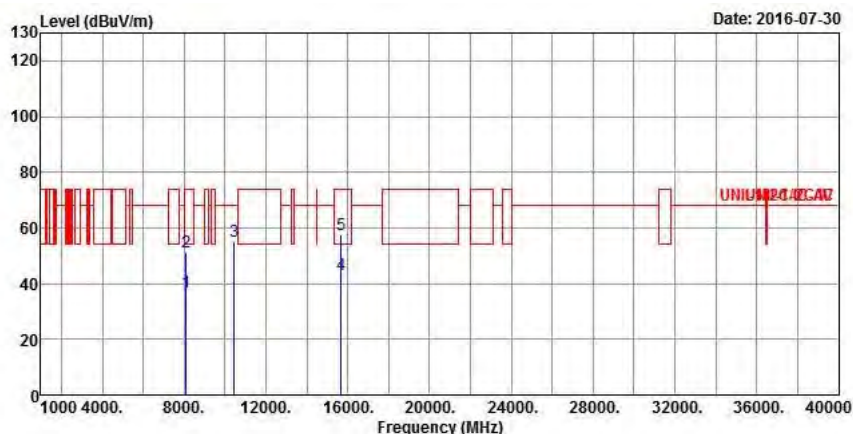
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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 Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8088.0000	37.01	-16.99	54.00	29.42	37.03	5.67	35.11	Average
2	8088.0000	51.33	-22.67	74.00	43.74	37.03	5.67	35.11	Peak
3	10460.000	55.20	-13.00	68.20	44.52	39.45	6.22	34.99	Peak
4	15690.000	42.95	-11.05	54.00	31.89	37.94	8.03	34.91	Average
5	15690.000	57.51	-16.49	74.00	46.45	37.94	8.03	34.91	Peak

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

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

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

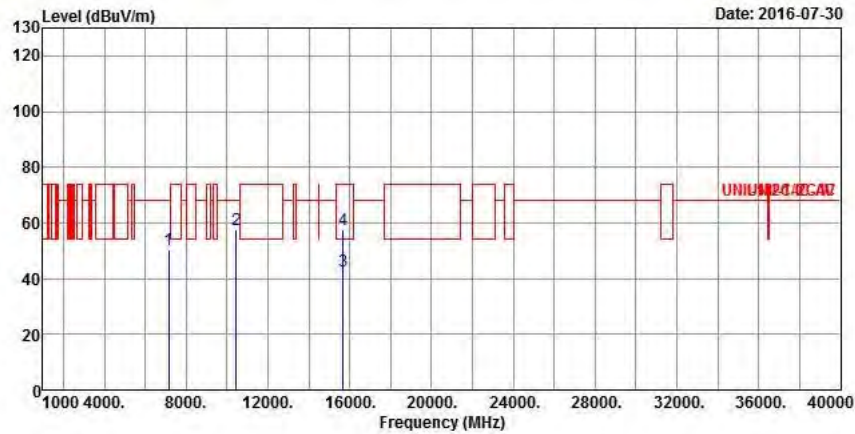
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	Cable Preamp Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7140.0000	50.19	-18.01	68.20	44.40	35.51	5.33	35.05 Peak
2	10460.000	57.39	-10.81	68.20	46.71	39.45	6.22	34.99 Peak
3	15690.000	42.91	-11.09	54.00	31.85	37.94	8.03	34.91 Average
4	15690.000	57.47	-16.53	74.00	46.41	37.94	8.03	34.91 Peak

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

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

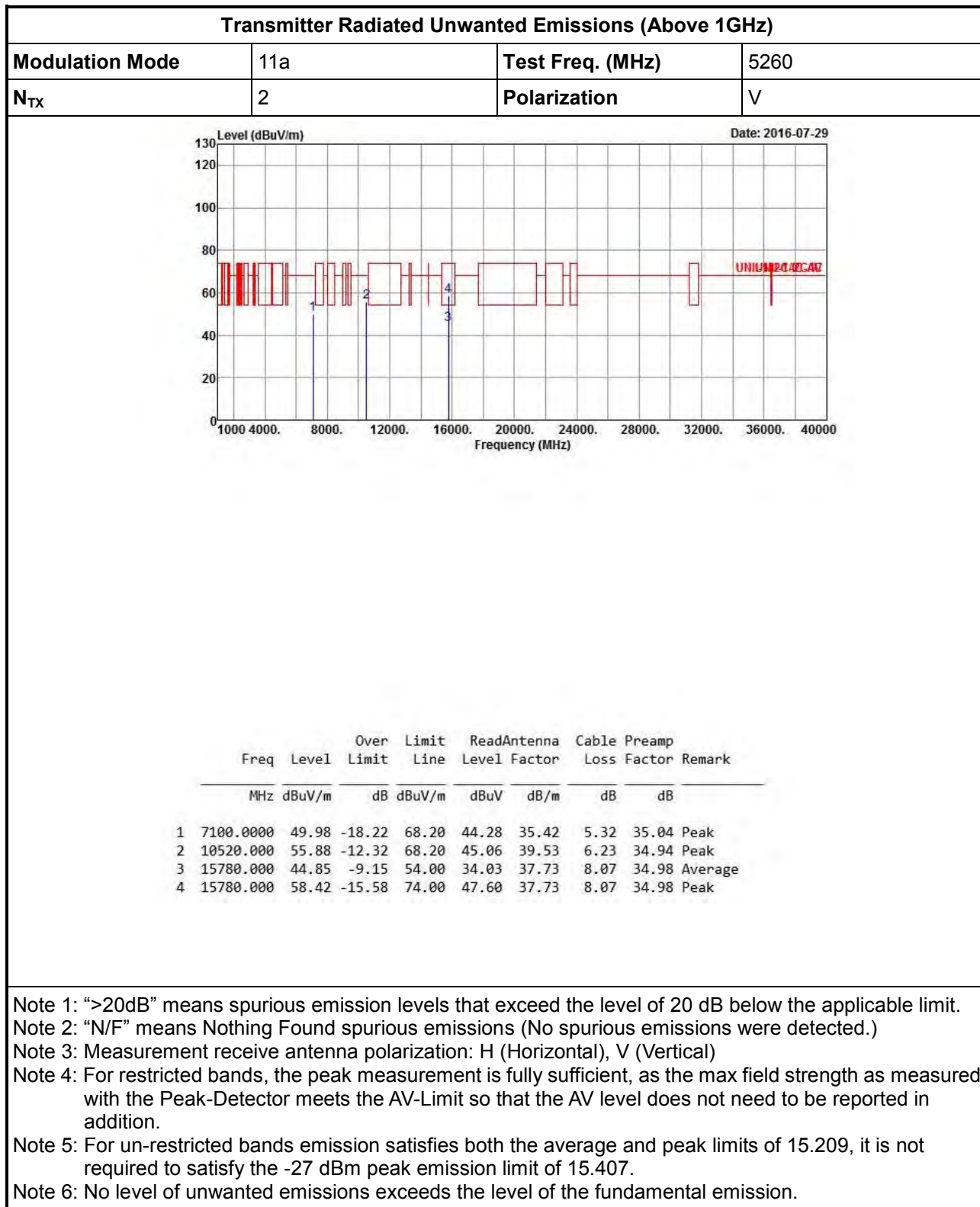
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: 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.

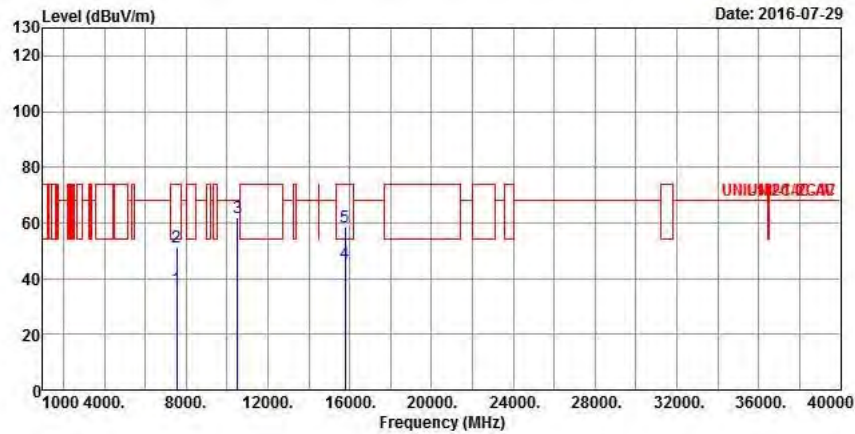
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

3.6.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5250-5350MHz



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5260
N_{TX}	2	Polarization	H



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB
1	7544.0000	36.64	-17.36	54.00	29.89	36.37	5.48	35.10 Average
2	7544.0000	51.12	-22.88	74.00	44.37	36.37	5.48	35.10 Peak
3	10520.000	62.11	-6.09	68.20	51.29	39.53	6.23	34.94 Peak
4	15780.000	45.41	-8.59	54.00	34.59	37.73	8.07	34.98 Average
5	15780.000	58.35	-15.65	74.00	47.53	37.73	8.07	34.98 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)

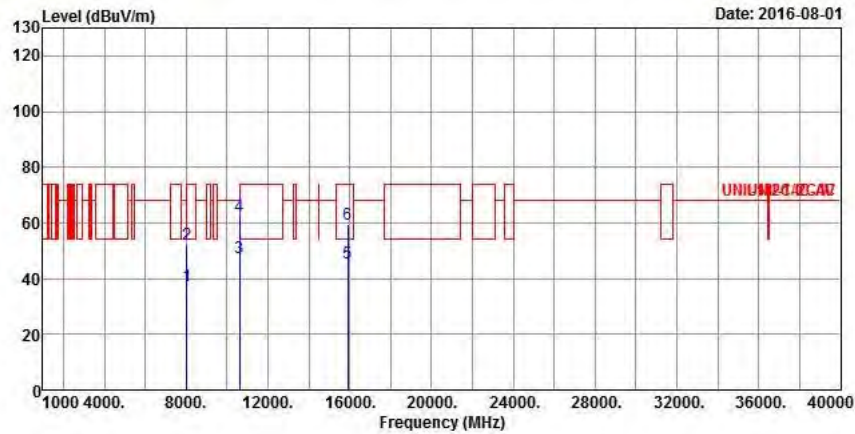
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5300
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8036.0000	37.47	-16.53	54.00	29.87	37.07	5.65	35.12	Average
2	8036.0000	52.51	-21.49	74.00	44.91	37.07	5.65	35.12	Peak
3	10600.000	47.60	-6.40	54.00	36.55	39.64	6.29	34.88	Average
4	10600.000	62.17	-6.03	68.20	51.12	39.64	6.29	34.88	Peak
5	15900.000	45.60	-8.40	54.00	35.12	37.44	8.11	35.07	Average
6	15900.000	59.26	-14.74	74.00	48.78	37.44	8.11	35.07	Peak

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

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

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

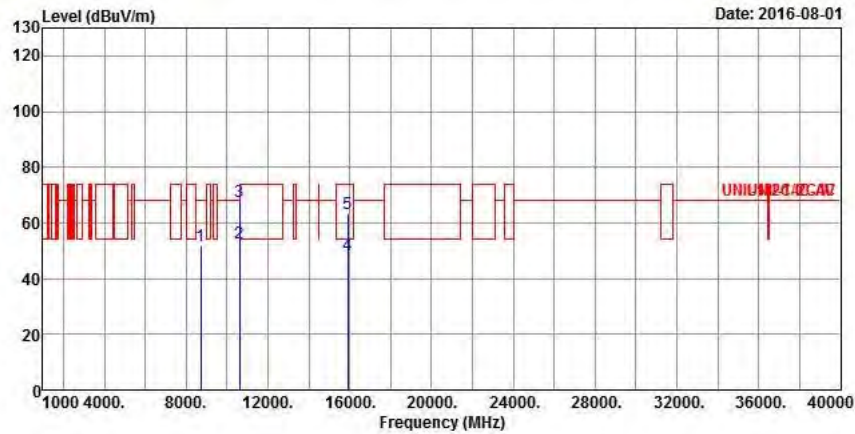
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5300
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	8736.0000	51.68	-16.52	68.20	43.97	36.98	5.91	35.18	Peak
2	10600.000	52.69	-1.31	54.00	41.64	39.64	6.29	34.88	Average
3	10600.000	67.76	-6.24	74.00	56.71	39.64	6.29	34.88	Peak
4	15900.000	48.34	-5.66	54.00	37.86	37.44	8.11	35.07	Average
5	15900.000	63.14	-10.86	74.00	52.66	37.44	8.11	35.07	Peak

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

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

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

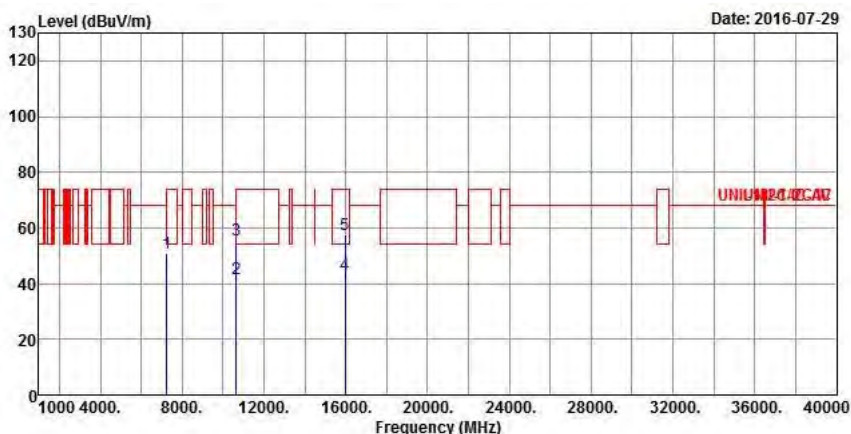
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5320
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	7235.0000	50.80	-17.40	68.20	44.77	35.72	5.37	35.06	Peak
2	10640.000	41.91	-12.09	54.00	30.75	39.70	6.31	34.85	Average
3	10640.000	55.64	-18.36	74.00	44.48	39.70	6.31	34.85	Peak
4	15960.000	43.32	-10.68	54.00	33.01	37.30	8.13	35.12	Average
5	15960.000	57.79	-16.21	74.00	47.48	37.30	8.13	35.12	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)

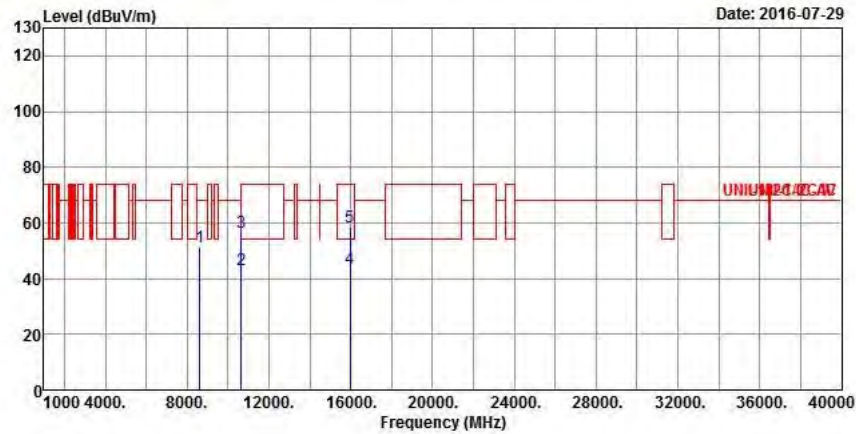
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5320
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	8632.0000	51.33	-16.87	68.20	43.74	36.86	5.87	35.14 Peak
2	10640.000	43.18	-10.82	54.00	32.02	39.70	6.31	34.85 Average
3	10640.000	56.69	-17.31	74.00	45.53	39.70	6.31	34.85 Peak
4	15960.000	43.70	-10.30	54.00	33.39	37.30	8.13	35.12 Average
5	15960.000	58.55	-15.45	74.00	48.24	37.30	8.13	35.12 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)

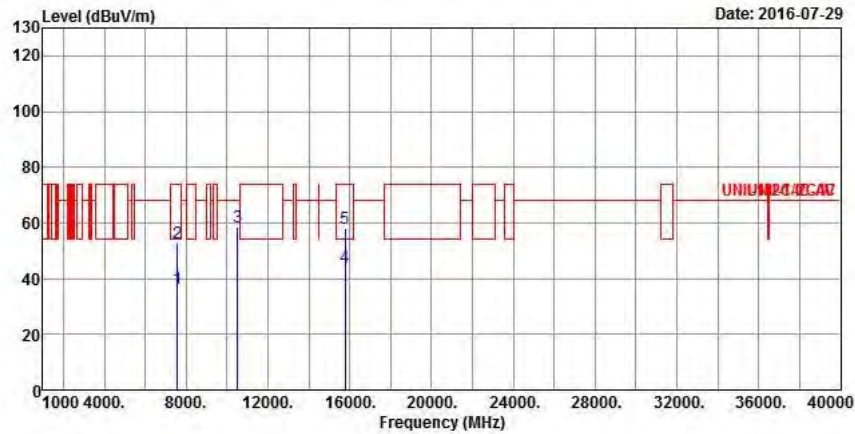
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5260
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7576.0000	36.41	-17.59	54.00	29.59	36.42	5.50	35.10 Average
2	7576.0000	52.83	-21.17	74.00	46.01	36.42	5.50	35.10 Peak
3	10520.000	58.70	-9.50	68.20	47.88	39.53	6.23	34.94 Peak
4	15780.000	43.91	-10.09	54.00	33.09	37.73	8.07	34.98 Average
5	15780.000	58.08	-15.92	74.00	47.26	37.73	8.07	34.98 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)

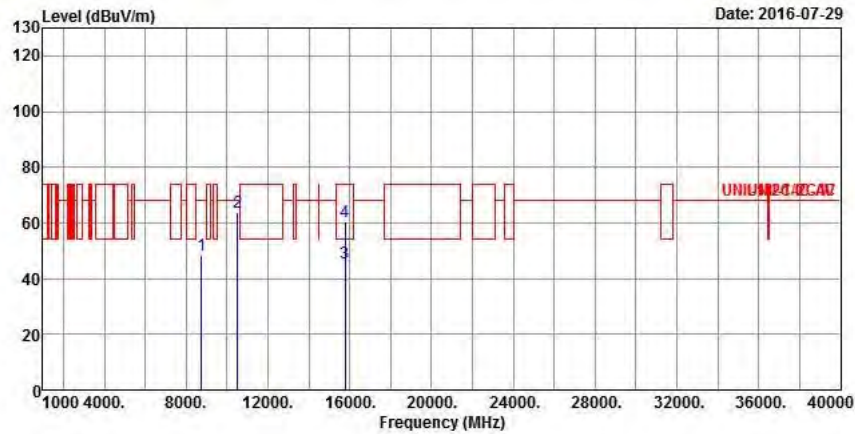
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5260
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	8760.0000	48.68	-19.52	68.20	40.94	37.01	5.92	35.19	Peak
2	10520.000	63.93	-4.27	68.20	53.11	39.53	6.23	34.94	Peak
3	15780.000	45.49	-8.51	54.00	34.67	37.73	8.07	34.98	Average
4	15780.000	60.28	-13.72	74.00	49.46	37.73	8.07	34.98	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)

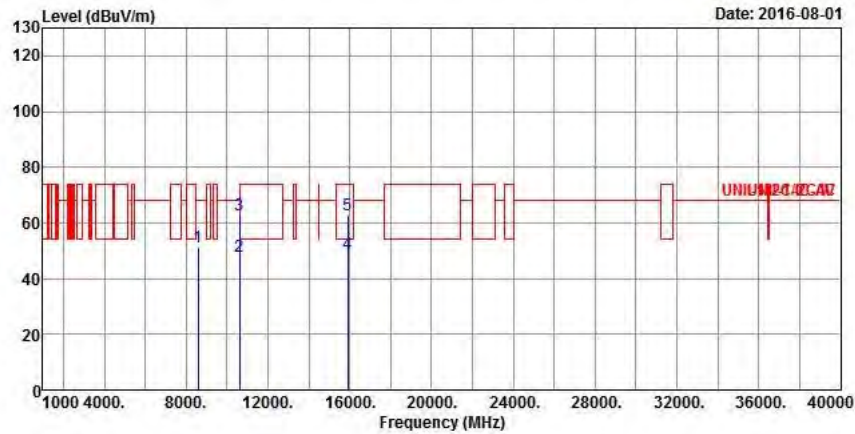
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5300
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	8588.0000	51.53	-16.67	68.20	43.98	36.81	5.86	35.12	Peak
2	10600.000	47.99	-6.01	54.00	36.94	39.64	6.29	34.88	Average
3	10600.000	62.91	-11.09	74.00	51.86	39.64	6.29	34.88	Peak
4	15900.000	48.72	-5.28	54.00	38.24	37.44	8.11	35.07	Average
5	15900.000	63.02	-10.98	74.00	52.54	37.44	8.11	35.07	Peak

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

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

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

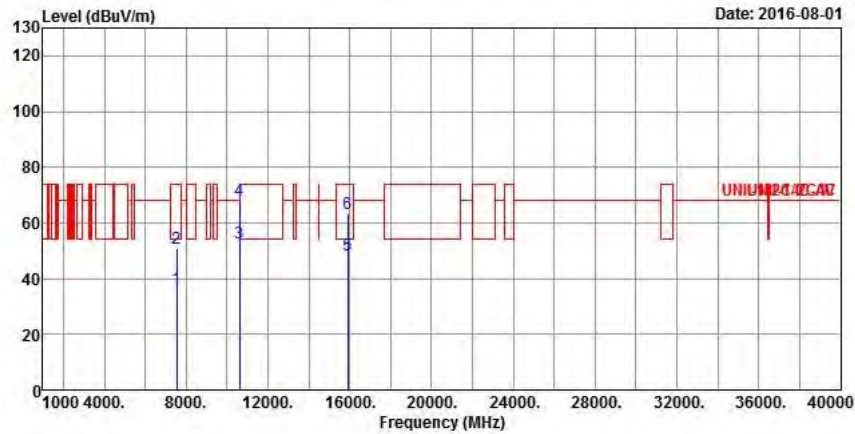
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5300
N_{TX}	2	Polarization	H



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB
1	7544.0000	36.49	-17.51	54.00	29.74	36.37	5.48	35.10 Average
2	7544.0000	50.73	-23.27	74.00	43.98	36.37	5.48	35.10 Peak
3	10600.000	52.79	-1.21	54.00	41.74	39.64	6.29	34.88 Average
4	10600.000	67.96	-6.04	74.00	56.91	39.64	6.29	34.88 Peak
5	15900.000	48.61	-5.39	54.00	38.13	37.44	8.11	35.07 Average
6	15900.000	63.47	-10.53	74.00	52.99	37.44	8.11	35.07 Peak

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

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

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

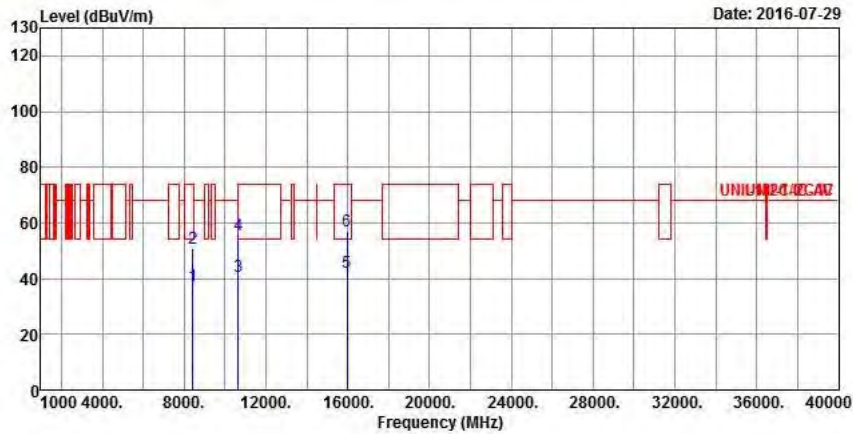
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5320
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	8428.0000	37.20	-16.80	54.00	29.73	36.76	5.80	35.09	Average
2	8428.0000	51.06	-22.94	74.00	43.59	36.76	5.80	35.09	Peak
3	10640.000	40.86	-13.14	54.00	29.70	39.70	6.31	34.85	Average
4	10640.000	55.43	-18.57	74.00	44.27	39.70	6.31	34.85	Peak
5	15960.000	42.30	-11.70	54.00	31.99	37.30	8.13	35.12	Average
6	15960.000	56.85	-17.15	74.00	46.54	37.30	8.13	35.12	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)

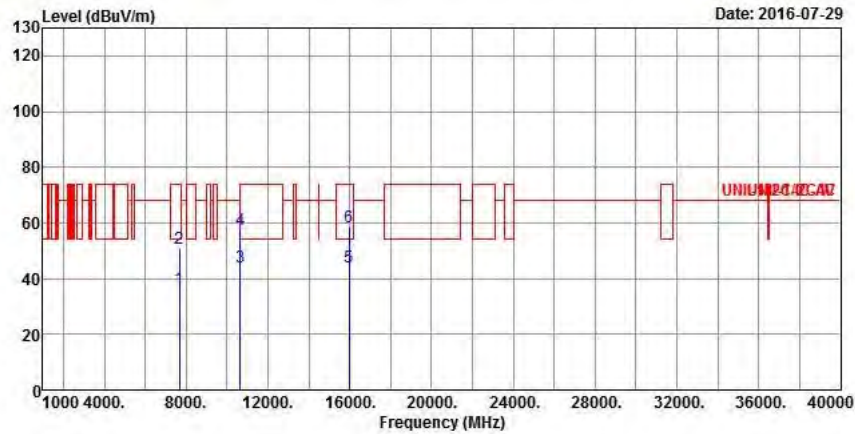
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5320
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	7680.0000	36.47	-17.53	54.00	29.46	36.59	5.53	35.11	Average
2	7680.0000	51.05	-22.95	74.00	44.04	36.59	5.53	35.11	Peak
3	10640.000	44.11	-9.89	54.00	32.95	39.70	6.31	34.85	Average
4	10640.000	57.56	-16.44	74.00	46.40	39.70	6.31	34.85	Peak
5	15960.000	44.03	-9.97	54.00	33.72	37.30	8.13	35.12	Average
6	15960.000	58.64	-15.36	74.00	48.33	37.30	8.13	35.12	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)

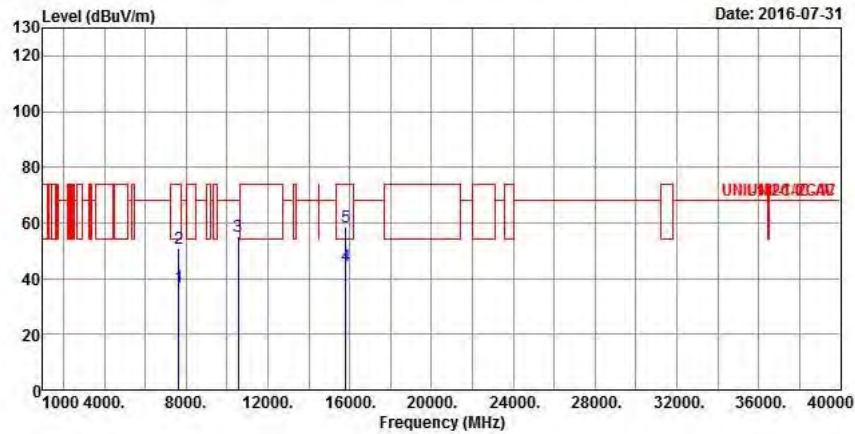
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5270
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	7628.0000	36.72	-17.28	54.00	29.82	36.50	5.51	35.11	Average
2	7628.0000	50.95	-23.05	74.00	44.05	36.50	5.51	35.11	Peak
3	10540.000	55.24	-12.96	68.20	44.35	39.56	6.25	34.92	Peak
4	15810.000	44.46	-9.54	54.00	33.72	37.66	8.08	35.00	Average
5	15810.000	58.64	-15.36	74.00	47.90	37.66	8.08	35.00	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)

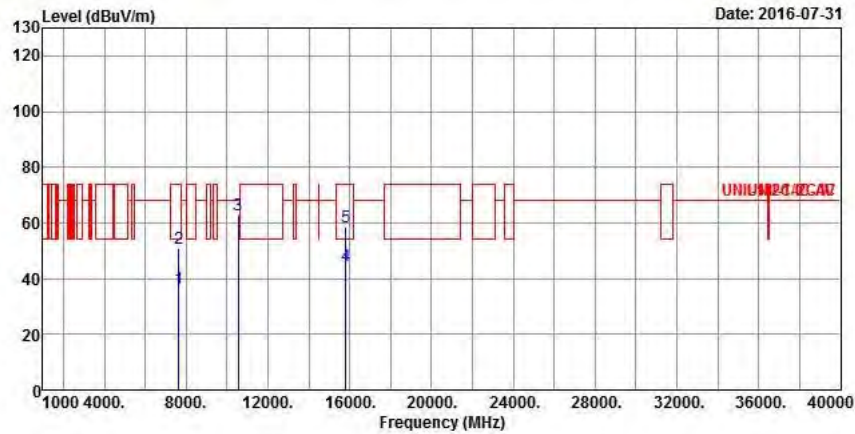
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5270
N_{TX}	2	Polarization	H



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB
1	7652.0000	36.63	-17.37	54.00	29.68	36.54	5.52	35.11 Average
2	7652.0000	50.70	-23.30	74.00	43.75	36.54	5.52	35.11 Peak
3	10540.000	63.00	-5.20	68.20	52.11	39.56	6.25	34.92 Peak
4	15810.000	44.69	-9.31	54.00	33.95	37.66	8.08	35.00 Average
5	15810.000	58.59	-15.41	74.00	47.85	37.66	8.08	35.00 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)

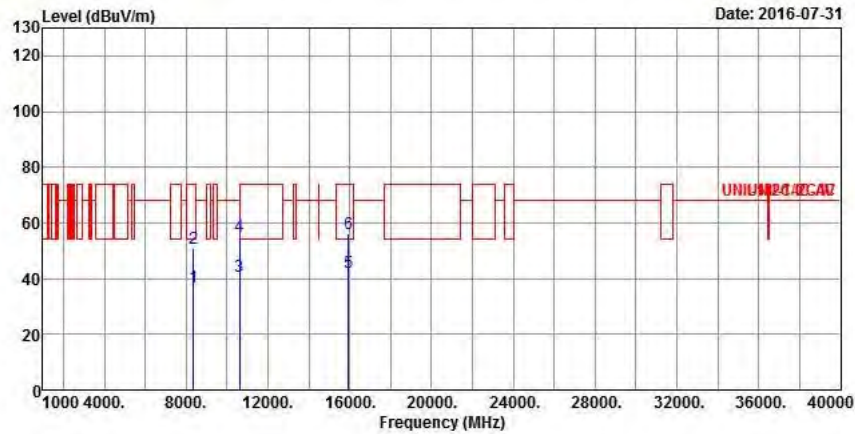
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5310
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	8368.0000	36.98	-17.02	54.00	29.48	36.81	5.78	35.09	Average
2	8368.0000	50.78	-23.22	74.00	43.28	36.81	5.78	35.09	Peak
3	10620.000	40.66	-13.34	54.00	29.55	39.67	6.30	34.86	Average
4	10620.000	55.02	-18.98	74.00	43.91	39.67	6.30	34.86	Peak
5	15930.000	42.10	-11.90	54.00	31.71	37.37	8.12	35.10	Average
6	15930.000	56.32	-17.68	74.00	45.93	37.37	8.12	35.10	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)

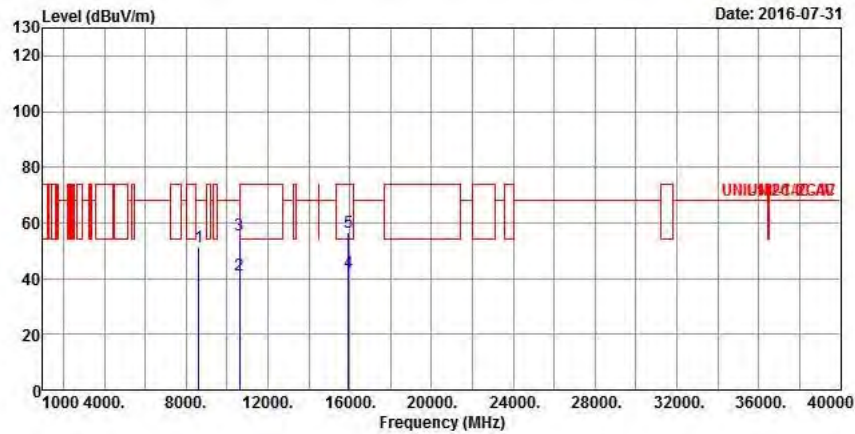
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5310
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	8620.0000	51.50	-16.70	68.20	43.92	36.84	5.87	35.13 Peak
2	10620.000	41.19	-12.81	54.00	30.08	39.67	6.30	34.86 Average
3	10620.000	55.54	-18.46	74.00	44.43	39.67	6.30	34.86 Peak
4	15930.000	42.17	-11.83	54.00	31.78	37.37	8.12	35.10 Average
5	15930.000	56.79	-17.21	74.00	46.40	37.37	8.12	35.10 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.)

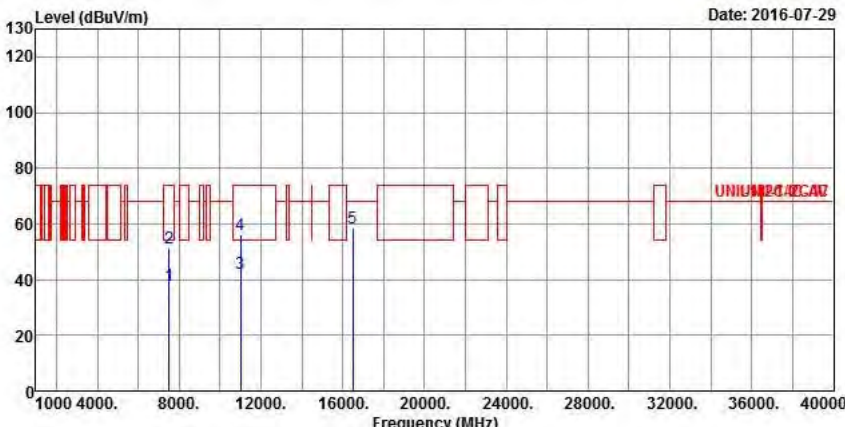
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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.

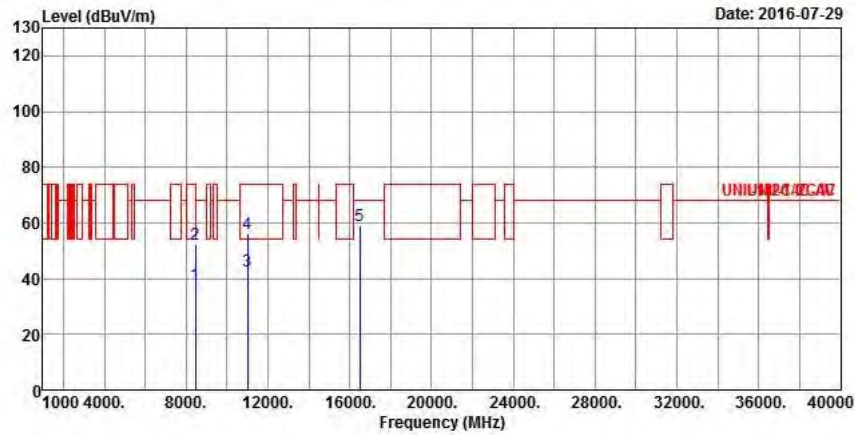
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

3.6.9 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5470-5725MHz

Transmitter Radiated Unwanted Emissions (Above 1GHz)																																																																																						
Modulation Mode		11a			Test Freq. (MHz)		5500																																																																															
N _{TX}		2			Polarization		V																																																																															
Level (dBuV/m)  Date: 2016-07-29 <table><tr><th></th><th>Freq</th><th>Level</th><th>Over Limit</th><th>Limit Line</th><th>ReadAntenna Level</th><th>Cable Preamp</th><th>Factor</th><th>Loss</th><th>Factor</th><th>Remark</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dB</th><th>dBuV/m</th><th>dBuV</th><th>dB/m</th><th>dB</th><th>dB</th><th>dB</th><th></th></tr><tr><td>1</td><td>7528.0000</td><td>38.09</td><td>-15.91</td><td>54.00</td><td>31.37</td><td>36.34</td><td>5.48</td><td>35.10</td><td>Average</td><td></td></tr><tr><td>2</td><td>7528.0000</td><td>51.24</td><td>-22.76</td><td>74.00</td><td>44.52</td><td>36.34</td><td>5.48</td><td>35.10</td><td>Peak</td><td></td></tr><tr><td>3</td><td>11000.000</td><td>42.11</td><td>-11.89</td><td>54.00</td><td>29.95</td><td>40.20</td><td>6.55</td><td>34.59</td><td>Average</td><td></td></tr><tr><td>4</td><td>11000.000</td><td>56.23</td><td>-17.77</td><td>74.00</td><td>44.07</td><td>40.20</td><td>6.55</td><td>34.59</td><td>Peak</td><td></td></tr><tr><td>5</td><td>16500.000</td><td>58.61</td><td>-9.59</td><td>68.20</td><td>46.52</td><td>38.70</td><td>8.20</td><td>34.81</td><td>Peak</td><td></td></tr></table>											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	dB		1	7528.0000	38.09	-15.91	54.00	31.37	36.34	5.48	35.10	Average		2	7528.0000	51.24	-22.76	74.00	44.52	36.34	5.48	35.10	Peak		3	11000.000	42.11	-11.89	54.00	29.95	40.20	6.55	34.59	Average		4	11000.000	56.23	-17.77	74.00	44.07	40.20	6.55	34.59	Peak		5	16500.000	58.61	-9.59	68.20	46.52	38.70	8.20	34.81	Peak	
	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	dB																																																																													
1	7528.0000	38.09	-15.91	54.00	31.37	36.34	5.48	35.10	Average																																																																													
2	7528.0000	51.24	-22.76	74.00	44.52	36.34	5.48	35.10	Peak																																																																													
3	11000.000	42.11	-11.89	54.00	29.95	40.20	6.55	34.59	Average																																																																													
4	11000.000	56.23	-17.77	74.00	44.07	40.20	6.55	34.59	Peak																																																																													
5	16500.000	58.61	-9.59	68.20	46.52	38.70	8.20	34.81	Peak																																																																													
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition. Note 5: For un-restricted bands 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)	5500
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	8452.0000	37.76	-16.24	54.00	30.29	36.74	5.81	35.08	Average
2	8452.0000	52.08	-21.92	74.00	44.61	36.74	5.81	35.08	Peak
3	11000.000	42.50	-11.50	54.00	30.34	40.20	6.55	34.59	Average
4	11000.000	56.35	-17.65	74.00	44.19	40.20	6.55	34.59	Peak
5	16500.000	58.89	-9.31	68.20	46.80	38.70	8.20	34.81	Peak

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

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

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

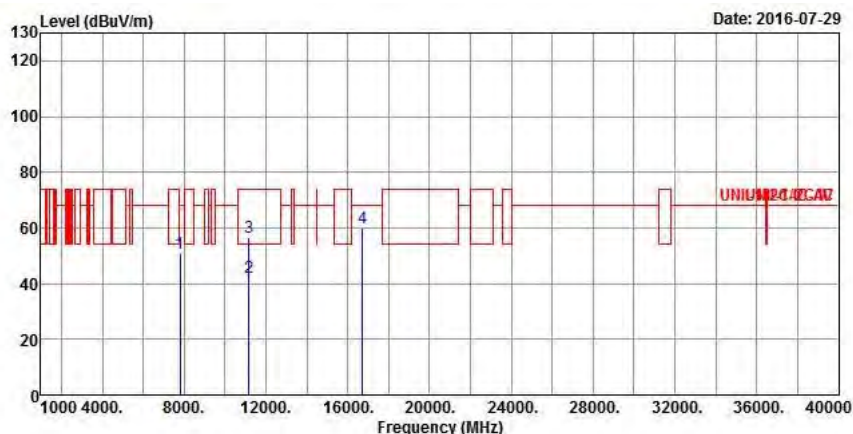
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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)	5580
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7796.0000	50.70	-17.50	68.20	43.47	36.77	5.57	35.11 Peak
2	11160.000	42.38	-11.62	54.00	30.16	40.17	6.64	34.59 Average
3	11160.000	56.70	-17.30	74.00	44.48	40.17	6.64	34.59 Peak
4	16740.000	59.87	-8.33	68.20	46.77	39.28	8.29	34.47 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)

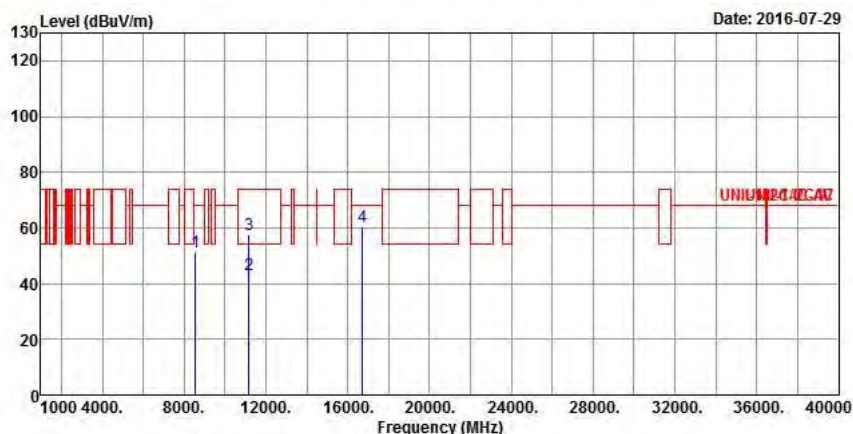
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5580
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	8554.0000	51.26	-16.94	68.20	43.75	36.76	5.85	35.10	Peak
2	11160.000	43.12	-10.88	54.00	30.90	40.17	6.64	34.59	Average
3	11160.000	57.56	-16.44	74.00	45.34	40.17	6.64	34.59	Peak
4	16740.000	60.40	-7.80	68.20	47.30	39.28	8.29	34.47	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)

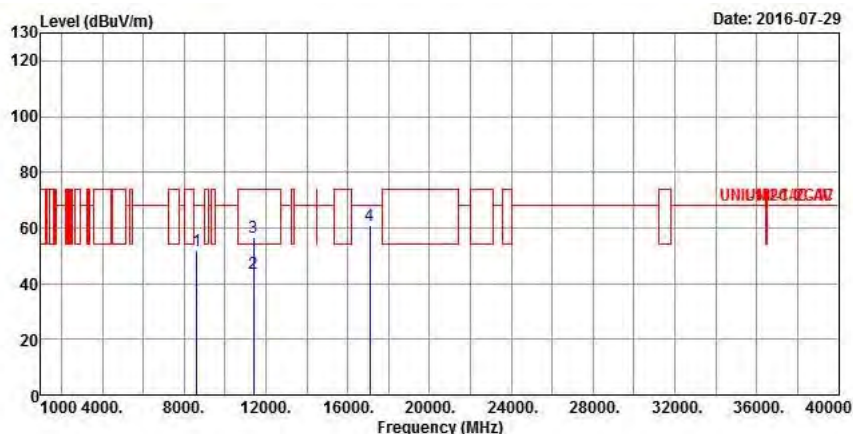
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5700
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8608.0000	51.58	-16.62	68.20	44.01	36.83	5.87	35.13	Peak
2	11400.000	43.76	-10.24	54.00	31.47	40.12	6.77	34.60	Average
3	11400.000	56.65	-17.35	74.00	44.36	40.12	6.77	34.60	Peak
4	17100.000	60.85	-7.35	68.20	46.23	40.28	8.41	34.07	Peak

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

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

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

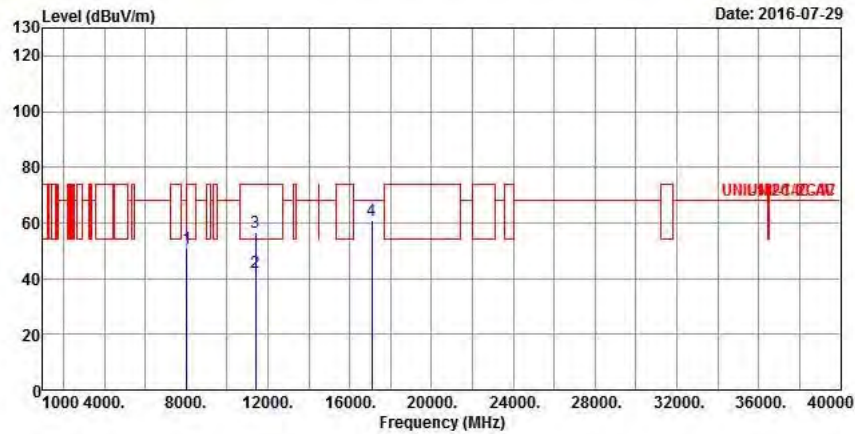
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5700
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	8024.0000	50.90	-17.30	68.20	43.29	37.08	5.65	35.12	Peak
2	11400.000	42.41	-11.59	54.00	30.12	40.12	6.77	34.60	Average
3	11400.000	56.70	-17.30	74.00	44.41	40.12	6.77	34.60	Peak
4	17100.000	60.99	-7.21	68.20	46.37	40.28	8.41	34.07	Peak

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

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

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

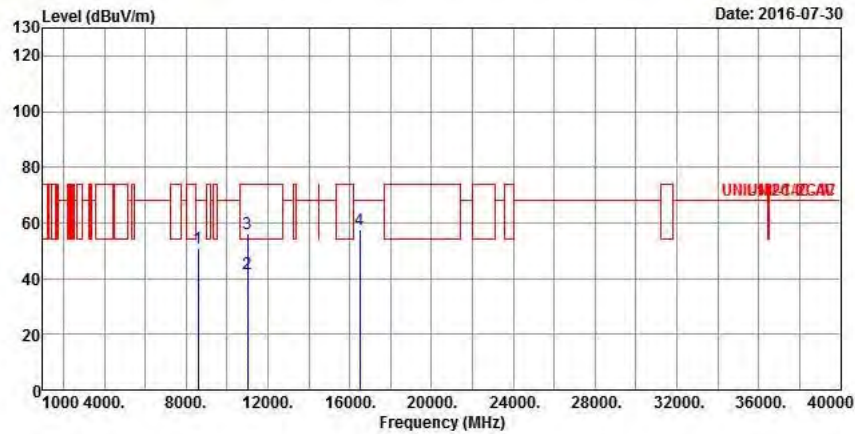
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5500
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	8580.0000	50.88	-17.32	68.20	43.33	36.80	5.86	35.11	Peak
2	11000.000	41.71	-12.29	54.00	29.55	40.20	6.55	34.59	Average
3	11000.000	56.01	-17.99	74.00	43.85	40.20	6.55	34.59	Peak
4	16500.000	57.48	-10.72	68.20	45.39	38.70	8.20	34.81	Peak

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

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

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

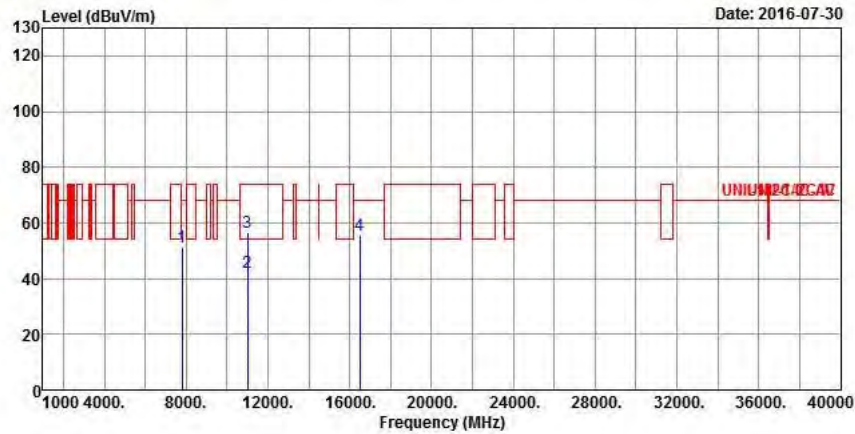
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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)	5500
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	7812.0000	51.34	-16.86	68.20	44.07	36.80	5.58	35.11	Peak
2	11000.000	42.25	-11.75	54.00	30.09	40.20	6.55	34.59	Average
3	11000.000	56.67	-17.33	74.00	44.51	40.20	6.55	34.59	Peak
4	16500.000	55.42	-12.78	68.20	43.33	38.70	8.20	34.81	Peak

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

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

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

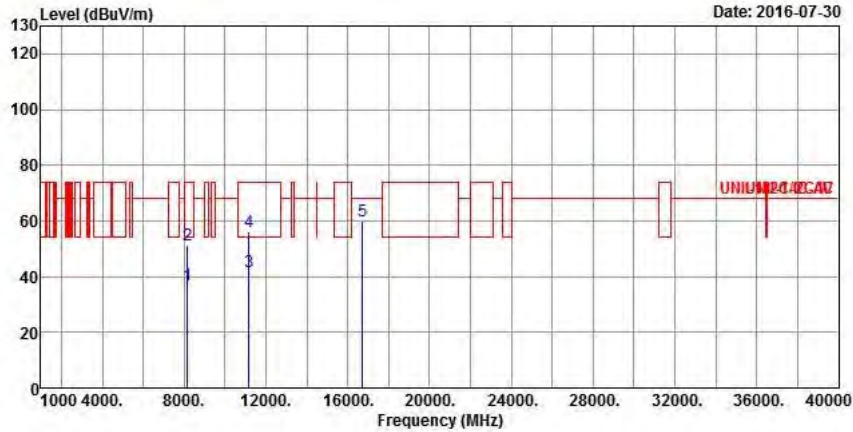
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands 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)	5580
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8160.0000	37.10	-16.90	54.00	29.54	36.97	5.70	35.11	Average
2	8160.0000	51.23	-22.77	74.00	43.67	36.97	5.70	35.11	Peak
3	11160.000	41.88	-12.12	54.00	29.66	40.17	6.64	34.59	Average
4	11160.000	55.95	-18.05	74.00	43.73	40.17	6.64	34.59	Peak
5	16740.000	59.94	-8.26	68.20	46.84	39.28	8.29	34.47	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)

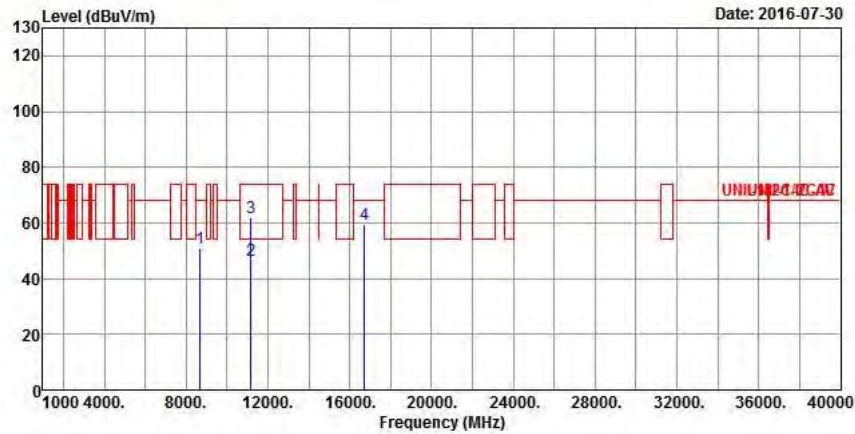
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5580
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8688.0000	51.00	-17.20	68.20	43.34	36.93	5.89	35.16	Peak
2	11160.000	46.56	-7.44	54.00	34.34	40.17	6.64	34.59	Average
3	11160.000	61.71	-12.29	74.00	49.49	40.17	6.64	34.59	Peak
4	16740.000	59.63	-8.57	68.20	46.53	39.28	8.29	34.47	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)

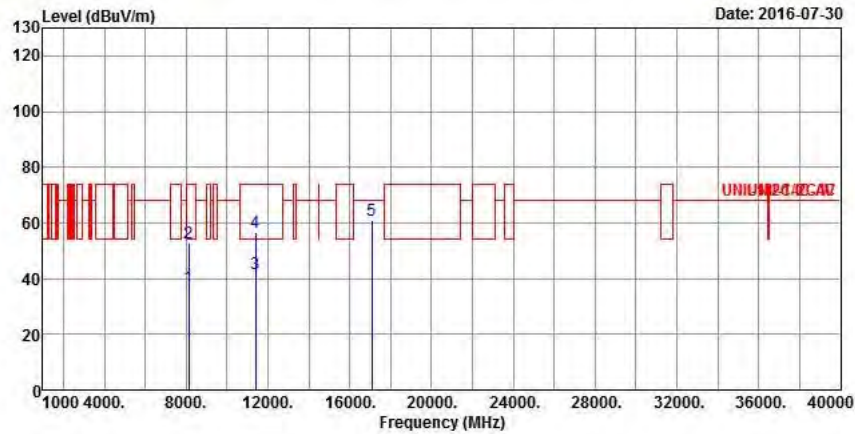
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5700
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	8136.0000	37.02	-16.98	54.00	29.45	36.99	5.69	35.11 Average
2	8136.0000	52.78	-21.22	74.00	10.10	36.99	5.69	0.00 Peak
3	11400.000	41.84	-12.16	54.00	29.55	40.12	6.77	34.60 Average
4	11400.000	56.55	-17.45	74.00	44.26	40.12	6.77	34.60 Peak
5	17100.000	60.91	-7.29	68.20	46.29	40.28	8.41	34.07 Peak

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

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

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

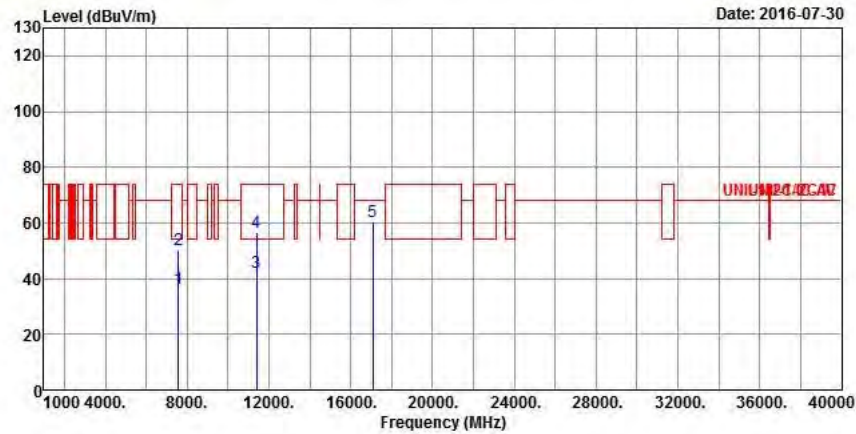
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5700
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	7588.0000	36.32	-17.68	54.00	29.48	36.44	5.50	35.10	Average
2	7588.0000	50.19	-23.81	74.00	43.35	36.44	5.50	35.10	Peak
3	11400.000	42.31	-11.69	54.00	30.02	40.12	6.77	34.60	Average
4	11400.000	56.73	-17.27	74.00	44.44	40.12	6.77	34.60	Peak
5	17100.000	60.44	-7.76	68.20	45.82	40.28	8.41	34.07	Peak

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

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

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

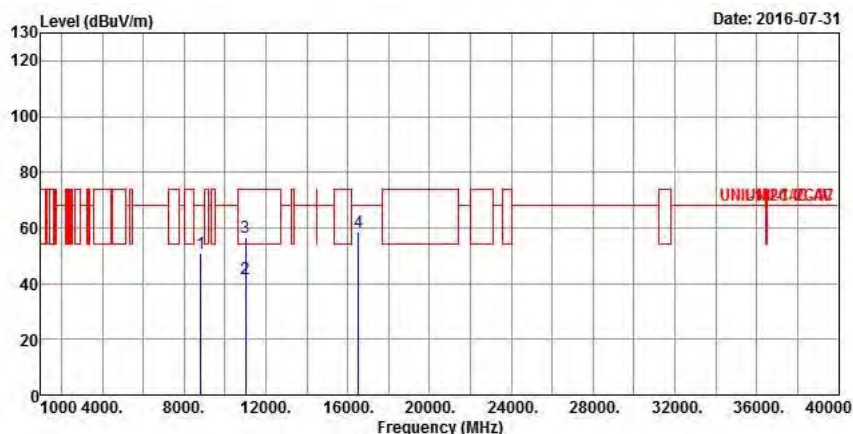
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5510
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	8804.0000	50.86	-17.34	68.20	43.08	37.06	5.93	35.21	Peak
2	11020.000	41.78	-12.22	54.00	29.61	40.20	6.56	34.59	Average
3	11020.000	56.45	-17.55	74.00	44.28	40.20	6.56	34.59	Peak
4	16530.000	58.71	-9.49	68.20	46.50	38.77	8.21	34.77	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)

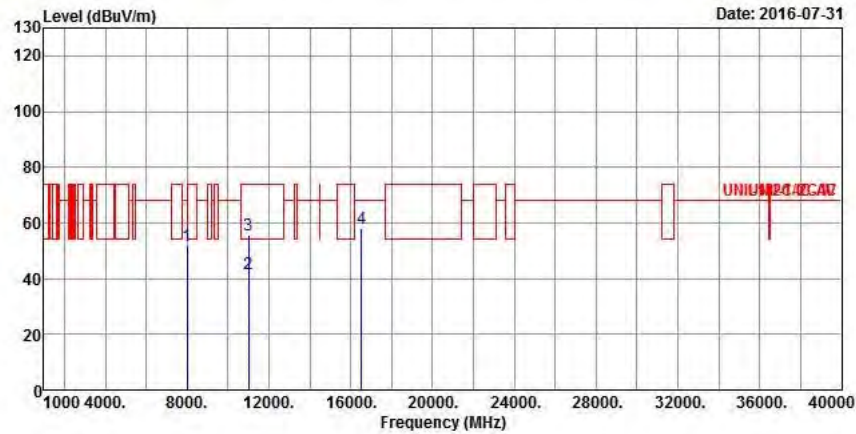
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5510
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8004.0000	51.59	-16.61	68.20	43.97	37.10	5.64	35.12	Peak
2	11020.000	41.82	-12.18	54.00	29.65	40.20	6.56	34.59	Average
3	11020.000	55.84	-18.16	74.00	43.67	40.20	6.56	34.59	Peak
4	16530.000	58.15	-10.05	68.20	45.94	38.77	8.21	34.77	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)

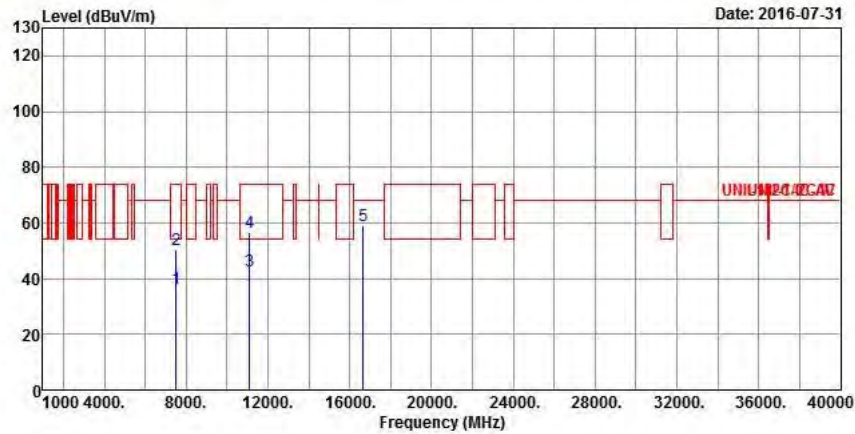
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5550
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7504.0000	36.29	-17.71	54.00	29.61	36.31	5.47	35.10 Average
2	7504.0000	50.41	-23.59	74.00	43.73	36.31	5.47	35.10 Peak
3	11100.000	42.52	-11.48	54.00	30.33	40.18	6.60	34.59 Average
4	11100.000	56.76	-17.24	74.00	44.57	40.18	6.60	34.59 Peak
5	16650.000	58.85	-9.35	68.20	46.13	39.06	8.26	34.60 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)

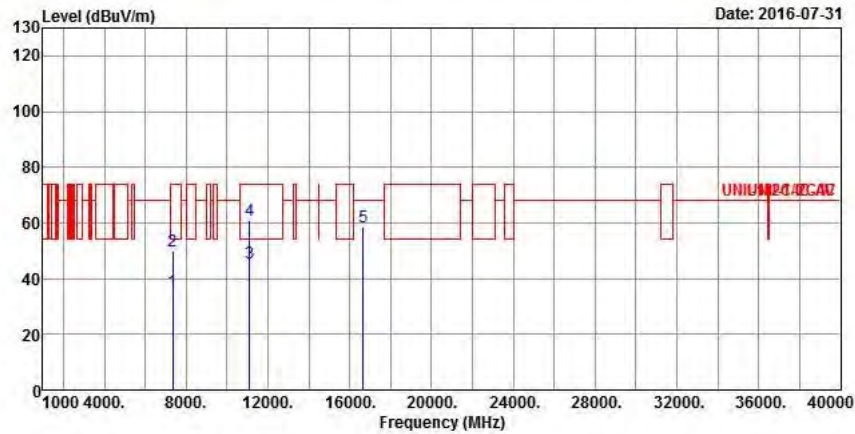
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5550
N_{TX}	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7348.0000	35.71	-18.29	54.00	29.41	35.97	5.41	35.08 Average
2	7348.0000	50.08	-23.92	74.00	43.78	35.97	5.41	35.08 Peak
3	11100.000	45.58	-8.42	54.00	33.39	40.18	6.60	34.59 Average
4	11100.000	60.76	-13.24	74.00	48.57	40.18	6.60	34.59 Peak
5	16650.000	58.71	-9.49	68.20	45.99	39.06	8.26	34.60 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)

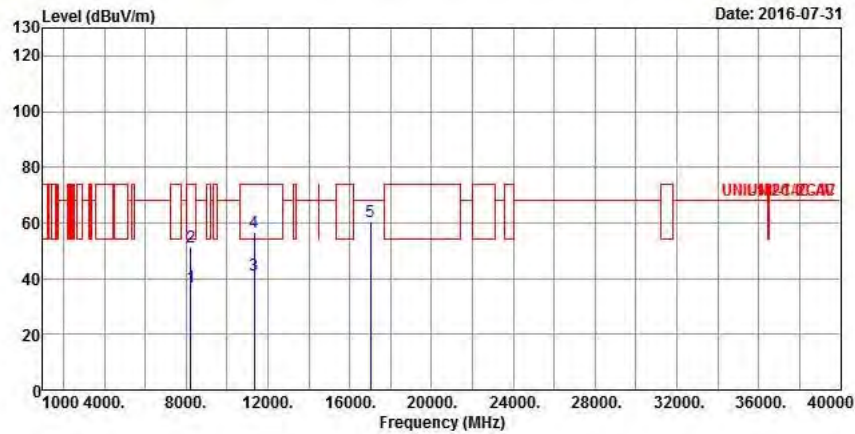
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5670
N_{TX}	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8220.0000	37.09	-16.91	54.00	29.55	36.92	5.72	35.10	Average
2	8220.0000	51.36	-22.64	74.00	43.82	36.92	5.72	35.10	Peak
3	11340.000	41.45	-12.55	54.00	29.19	40.13	6.73	34.60	Average
4	11340.000	56.44	-17.56	74.00	44.18	40.13	6.73	34.60	Peak
5	17010.000	60.26	-7.94	68.20	46.03	39.94	8.39	34.10	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)

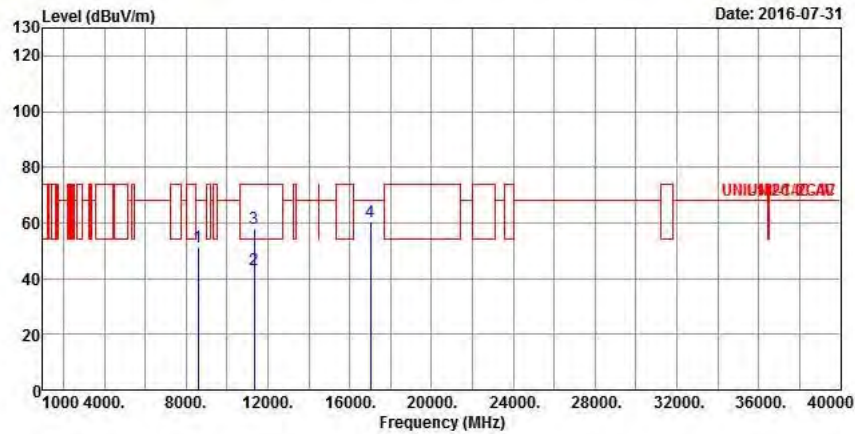
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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)	5670
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	8600.0000	51.24	-16.96	68.20	43.68	36.82	5.86	35.12	Peak
2	11340.000	42.99	-11.01	54.00	30.73	40.13	6.73	34.60	Average
3	11340.000	58.25	-15.75	74.00	45.99	40.13	6.73	34.60	Peak
4	17010.000	60.21	-7.99	68.20	45.98	39.94	8.39	34.10	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.)

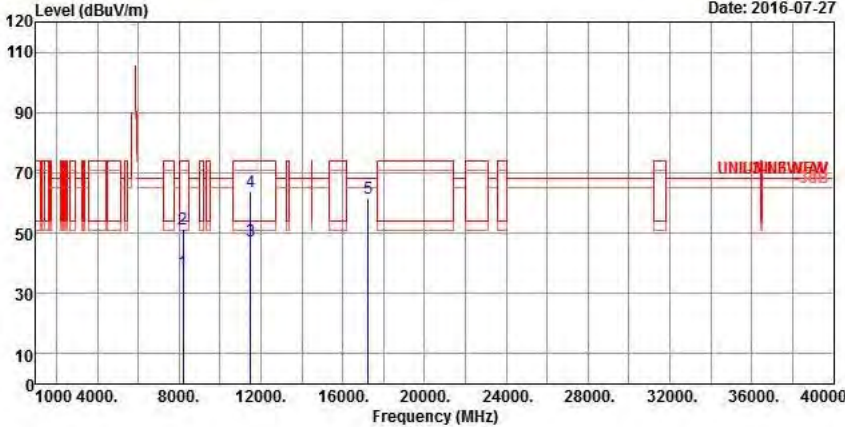
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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.

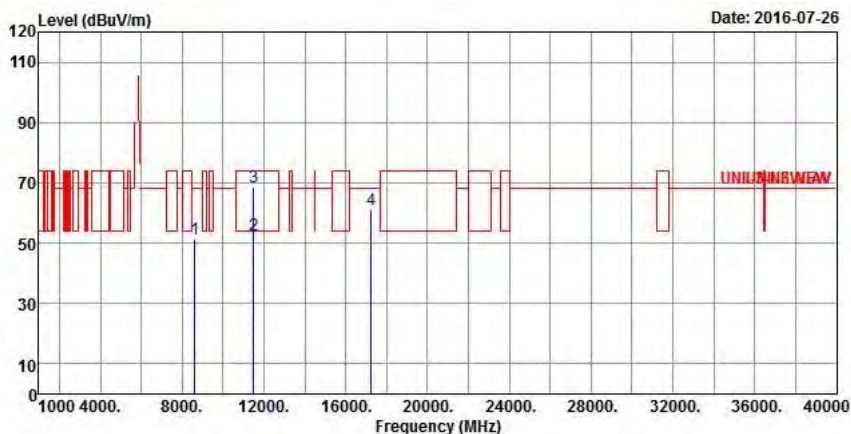
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

3.6.10 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	V																																																																									
Level (dBuV/m)  Date: 2016-07-27 <table><tr><th></th><th>Freq</th><th>Level</th><th>Over Limit</th><th>Limit Line</th><th>ReadAntenna Level</th><th>Cable Preamp</th><th>Preamp</th><th>Loss Factor</th><th>Remark</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dB</th><th>dBuV/m</th><th>dBuV</th><th>dB/m</th><th>dB</th><th>dB</th><th></th></tr><tr><td>1</td><td>8204.0000</td><td>37.10</td><td>-16.90</td><td>54.00</td><td>29.54</td><td>36.94</td><td>5.72</td><td>35.10</td><td>Average</td></tr><tr><td>2</td><td>8204.0000</td><td>51.38</td><td>-22.62</td><td>74.00</td><td>43.82</td><td>36.94</td><td>5.72</td><td>35.10</td><td>Peak</td></tr><tr><td>3</td><td>11490.000</td><td>47.56</td><td>-6.44</td><td>54.00</td><td>35.25</td><td>40.10</td><td>6.81</td><td>34.60</td><td>Average</td></tr><tr><td>4</td><td>11490.000</td><td>63.72</td><td>-10.28</td><td>74.00</td><td>51.41</td><td>40.10</td><td>6.81</td><td>34.60</td><td>Peak</td></tr><tr><td>5</td><td>17235.000</td><td>61.43</td><td>-6.77</td><td>68.20</td><td>46.21</td><td>40.79</td><td>8.45</td><td>34.02</td><td>Peak</td></tr></table>											Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	Preamp	Loss Factor	Remark		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		1	8204.0000	37.10	-16.90	54.00	29.54	36.94	5.72	35.10	Average	2	8204.0000	51.38	-22.62	74.00	43.82	36.94	5.72	35.10	Peak	3	11490.000	47.56	-6.44	54.00	35.25	40.10	6.81	34.60	Average	4	11490.000	63.72	-10.28	74.00	51.41	40.10	6.81	34.60	Peak	5	17235.000	61.43	-6.77	68.20	46.21	40.79	8.45	34.02	Peak
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	Preamp	Loss Factor	Remark																																																																						
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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	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8612.0000	51.34	-16.86	68.20	43.77	36.83	5.87	35.13	Peak
2	11490.000	52.91	-1.09	54.00	40.60	40.10	6.81	34.60	Average
3	11490.000	68.67	-5.33	74.00	56.36	40.10	6.81	34.60	Peak
4	17235.000	61.06	-7.14	68.20	45.84	40.79	8.45	34.02	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)

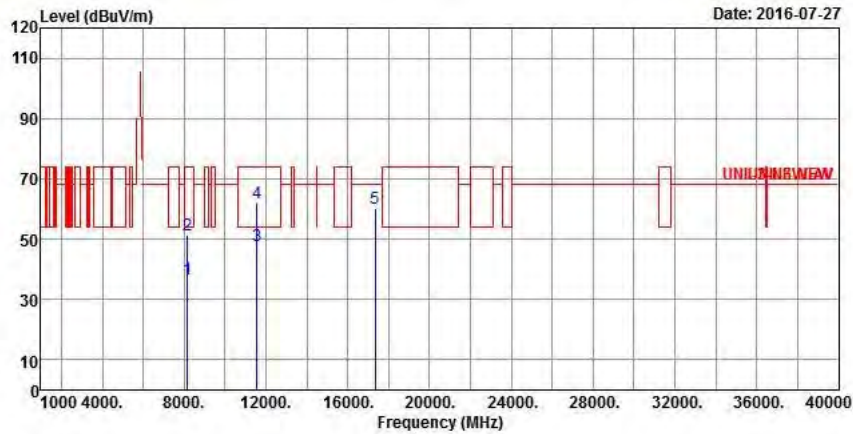
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB
1	8164.0000	36.93	-17.07	54.00	29.37	36.97	5.70	35.11 Average
2	8164.0000	51.17	-22.83	74.00	43.61	36.97	5.70	35.11 Peak
3	11570.000	47.84	-6.16	54.00	35.69	39.93	6.84	34.62 Average
4	11570.000	61.78	-12.22	74.00	49.63	39.93	6.84	34.62 Peak
5	17355.000	60.30	-7.90	68.20	44.56	41.25	8.48	33.99 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)

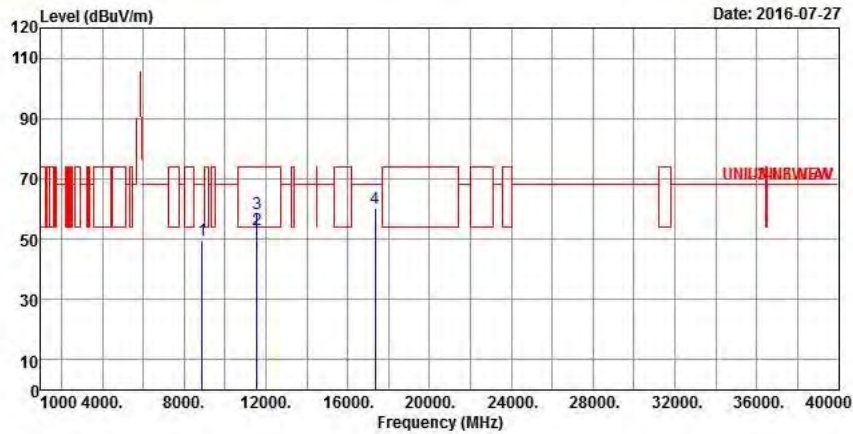
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	Antenna Factor	Cable Loss	Preamplifier	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8876.0000	49.50	-18.70	68.20	41.63	37.15	5.96	35.24	Peak
2	11570.000	52.96	-1.04	54.00	40.81	39.93	6.84	34.62	Average
3	11570.000	58.35	-15.65	74.00	46.20	39.93	6.84	34.62	Peak
4	17355.000	60.39	-7.81	68.20	44.65	41.25	8.48	33.99	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)

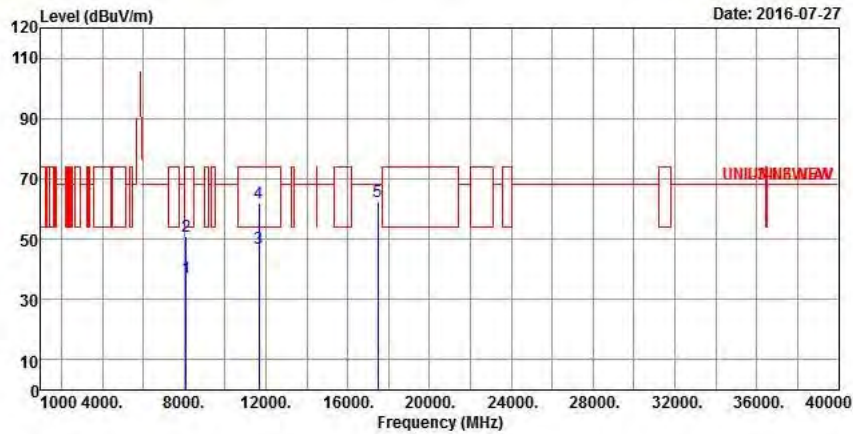
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB
1	8116.0000	37.20	-16.80	54.00	29.62	37.01	5.68	35.11 Average
2	8116.0000	50.93	-23.07	74.00	43.35	37.01	5.68	35.11 Peak
3	11650.000	46.86	-7.14	54.00	34.90	39.74	6.87	34.65 Average
4	11650.000	61.80	-12.20	74.00	49.84	39.74	6.87	34.65 Peak
5	17475.000	62.27	-5.93	68.20	46.02	41.70	8.50	33.95 Peak

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

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

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

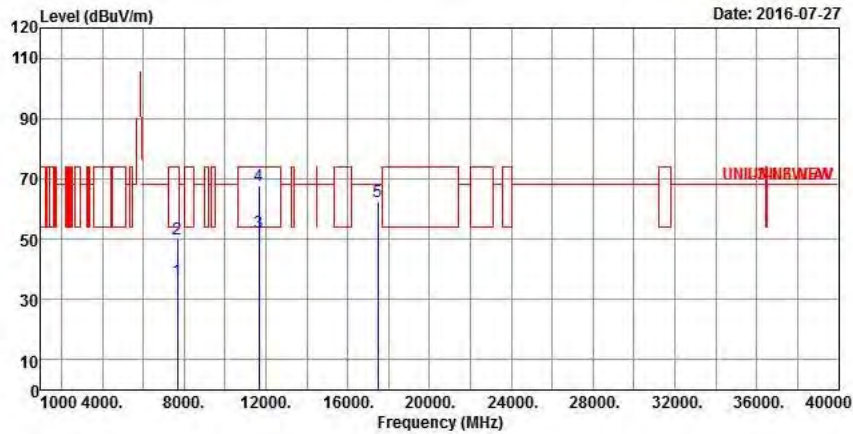
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	Antenna Factor	Cable Loss	Preamplifier	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7676.0000	36.52	-17.48	54.00	29.52	36.58	5.53	35.11	Average
2	7676.0000	50.24	-23.76	74.00	43.24	36.58	5.53	35.11	Peak
3	11650.000	52.30	-1.70	54.00	40.34	39.74	6.87	34.65	Average
4	11650.000	67.75	-6.25	74.00	55.79	39.74	6.87	34.65	Peak
5	17475.000	62.39	-5.81	68.20	46.14	41.70	8.50	33.95	Peak

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

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

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

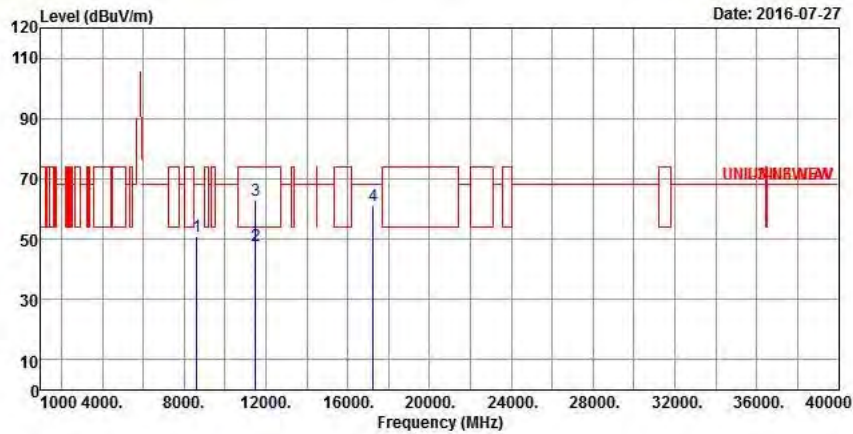
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	Antenna Factor	Cable Loss	Preamplifier	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8628.0000	51.12	-17.08	68.20	43.53	36.85	5.87	35.13	Peak
2	11490.000	47.99	-6.01	54.00	35.68	40.10	6.81	34.60	Average
3	11490.000	62.99	-11.01	74.00	50.68	40.10	6.81	34.60	Peak
4	17235.000	61.32	-6.88	68.20	46.10	40.79	8.45	34.02	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)

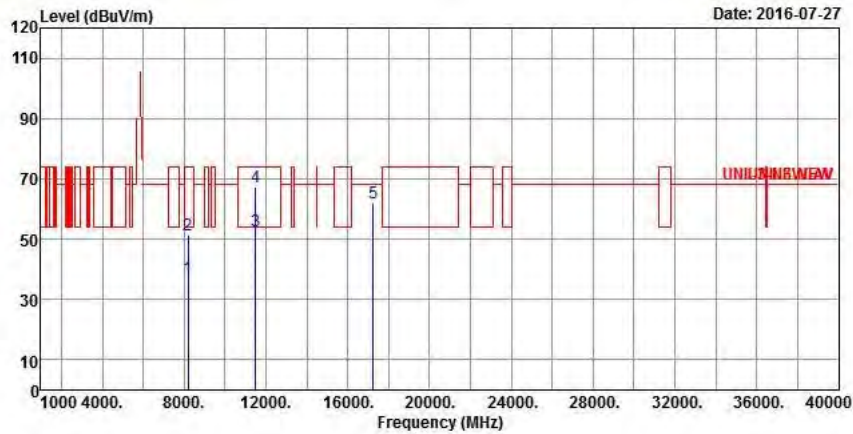
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	Cable Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8204.0000	37.13	-16.87	54.00	29.57	36.94	5.72	35.10	Average
2	8204.0000	51.57	-22.43	74.00	44.01	36.94	5.72	35.10	Peak
3	11490.000	52.71	-1.29	54.00	40.40	40.10	6.81	34.60	Average
4	11490.000	67.13	-6.87	74.00	54.82	40.10	6.81	34.60	Peak
5	17235.000	61.79	-6.41	68.20	46.57	40.79	8.45	34.02	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)

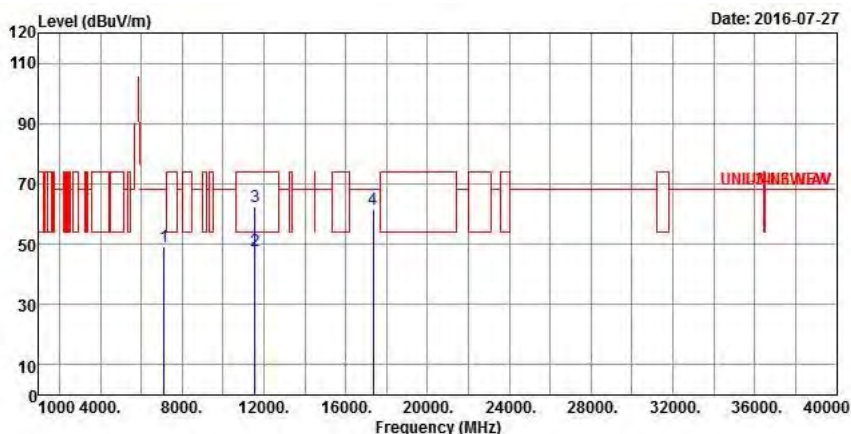
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB
1	7104.0000	48.95	-19.25	68.20	43.24	35.43	5.32	35.04 Peak
2	11570.000	47.81	-6.19	54.00	35.66	39.93	6.84	34.62 Average
3	11570.000	62.31	-11.69	74.00	50.16	39.93	6.84	34.62 Peak
4	17355.000	61.60	-6.60	68.20	45.86	41.25	8.48	33.99 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)

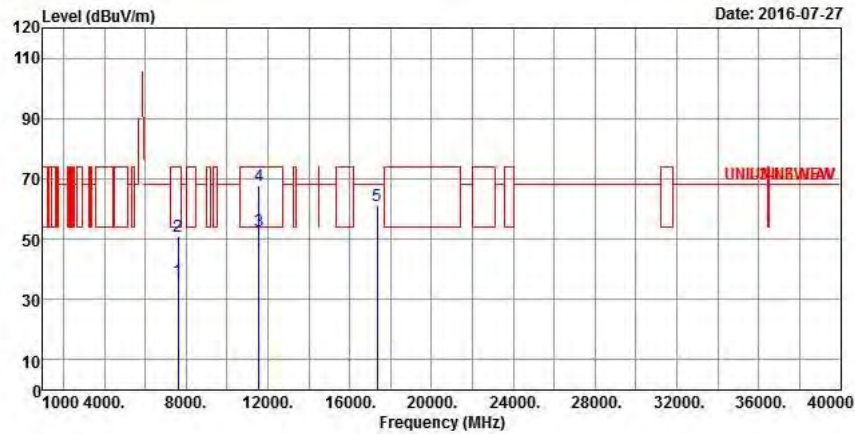
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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
					dBuV	dB	dB	
1	7616.0000	36.21	-17.79	54.00	29.31	36.49	5.51	35.10 Average
2	7616.0000	50.71	-23.29	74.00	43.81	36.49	5.51	35.10 Peak
3	11570.000	52.75	-1.25	54.00	40.60	39.93	6.84	34.62 Average
4	11570.000	67.75	-6.25	74.00	55.60	39.93	6.84	34.62 Peak
5	17355.000	61.10	-7.10	68.20	45.36	41.25	8.48	33.99 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)

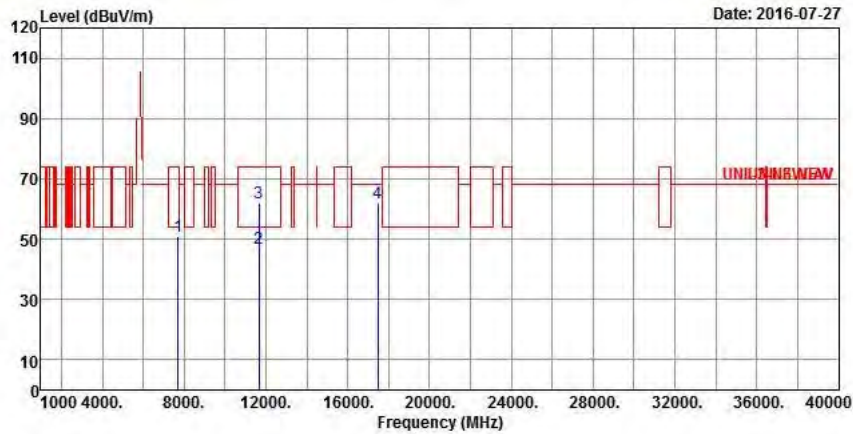
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB
1	7696.0000	50.85	-23.15	74.00	43.81	36.61	5.54	35.11 Peak
2	11650.000	47.15	-6.85	54.00	35.19	39.74	6.87	34.65 Average
3	11650.000	61.91	-12.09	74.00	49.95	39.74	6.87	34.65 Peak
4	17475.000	61.91	-6.29	68.20	45.66	41.70	8.50	33.95 Peak

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

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

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

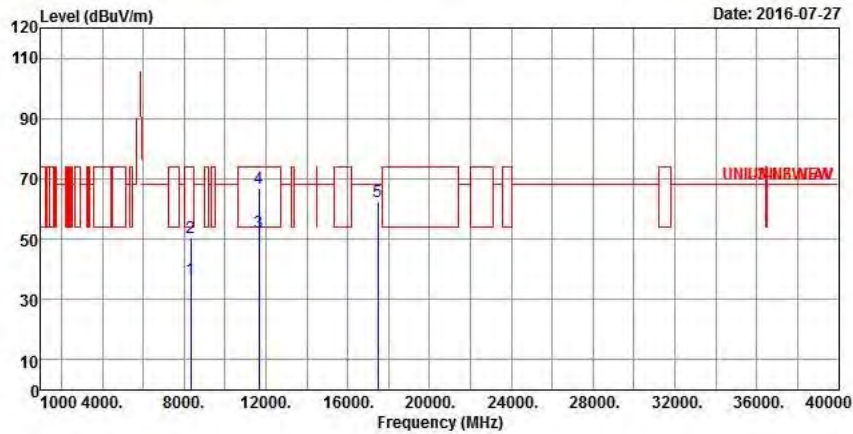
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	Antenna Factor	Cable Loss	Preamplifier	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8324.0000	36.88	-17.12	54.00	29.37	36.84	5.76	35.09	Average
2	8324.0000	50.50	-23.50	74.00	42.99	36.84	5.76	35.09	Peak
3	11650.000	52.44	-1.56	54.00	40.48	39.74	6.87	34.65	Average
4	11650.000	66.80	-7.20	74.00	54.84	39.74	6.87	34.65	Peak
5	17475.000	62.52	-5.68	68.20	46.27	41.70	8.50	33.95	Peak

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

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

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

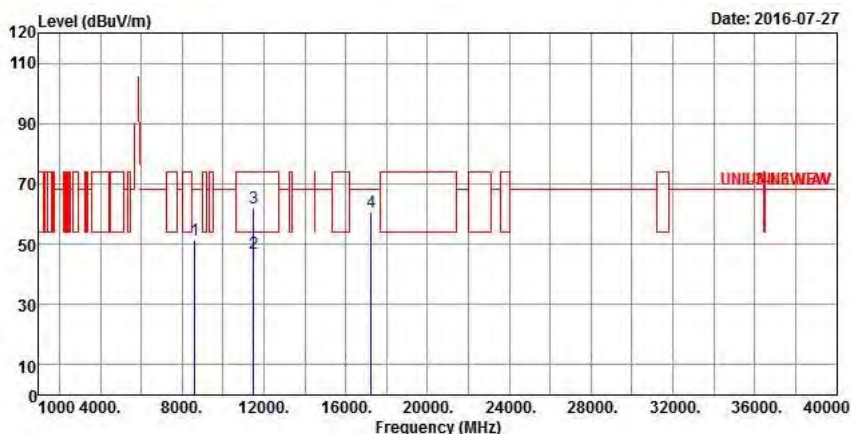
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
					dBuV	dB	dB	
1	8612.0000	51.54	-16.66	68.20	43.97	36.83	5.87	35.13 Peak
2	11510.000	46.99	-7.01	54.00	34.69	40.08	6.82	34.60 Average
3	11510.000	61.93	-12.07	74.00	49.63	40.08	6.82	34.60 Peak
4	17265.000	60.81	-7.39	68.20	45.47	40.91	8.45	34.02 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)

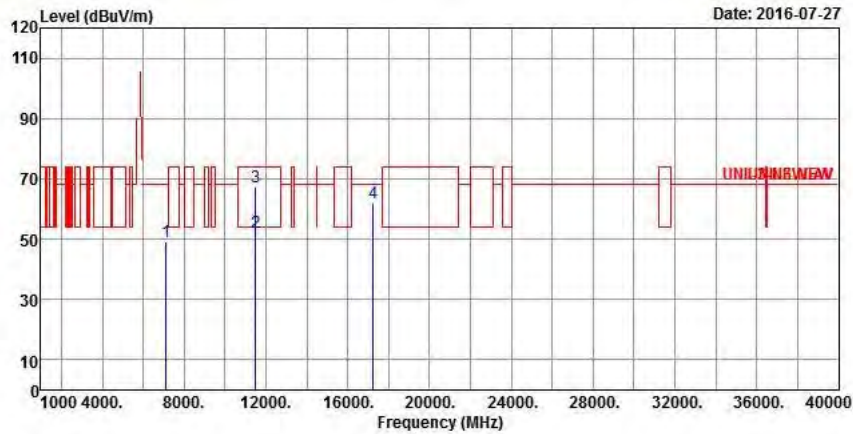
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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 Factor	Cable Preamp Loss Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	7112.0000	49.17	-19.03	68.20	43.45	35.45	5.32	35.05 Peak
2	11510.000	52.43	-1.57	54.00	40.13	40.08	6.82	34.60 Average
3	11510.000	67.43	-6.57	74.00	55.13	40.08	6.82	34.60 Peak
4	17265.000	62.21	-5.99	68.20	46.87	40.91	8.45	34.02 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)

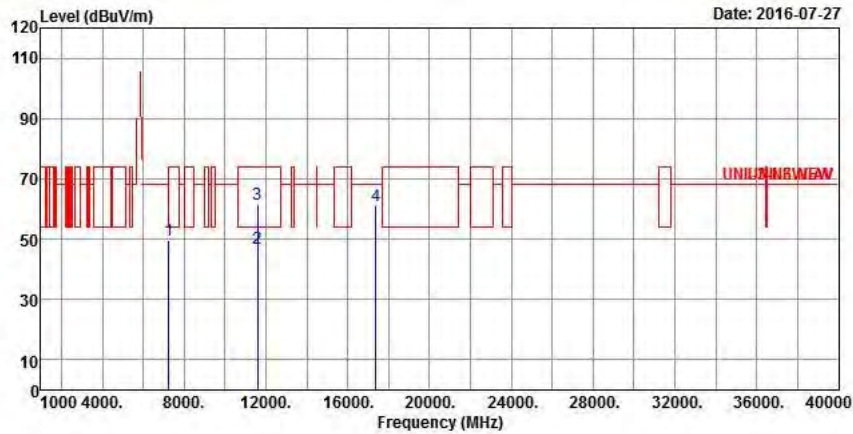
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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	ReadAntenna	Cable	Preamp	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark
					dBuV	dB	dB	
1	7250.0000	49.42	-18.78	68.20	43.35	35.75	5.38	35.06 Peak
2	11590.000	46.73	-7.27	54.00	34.63	39.88	6.85	34.63 Average
3	11590.000	61.61	-12.39	74.00	49.51	39.88	6.85	34.63 Peak
4	17385.000	61.14	-7.06	68.20	45.28	41.36	8.48	33.98 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)

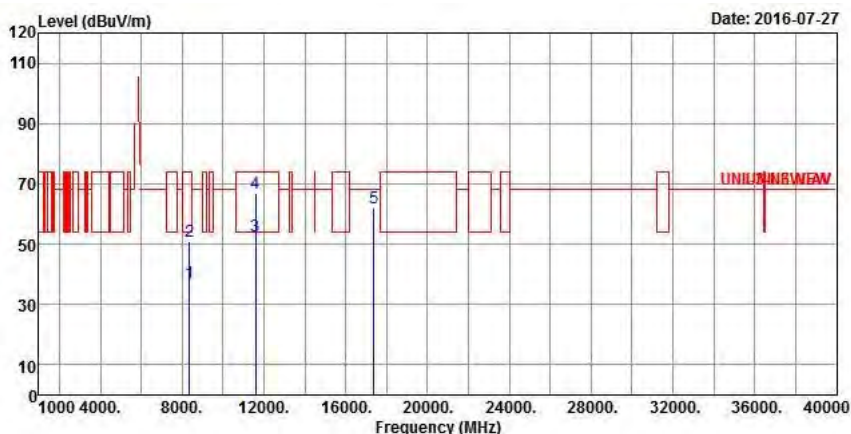
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

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 Preamp Loss	Factor	Preamp	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8360.0000	37.10	-16.90	54.00	29.60	36.81	5.78	35.09	Average
2	8360.0000	51.08	-22.92	74.00	43.58	36.81	5.78	35.09	Peak
3	11590.000	52.75	-1.25	54.00	40.65	39.88	6.85	34.63	Average
4	11590.000	66.94	-7.06	74.00	54.84	39.88	6.85	34.63	Peak
5	17384.340	61.77	-6.43	68.20	45.91	41.36	8.48	33.98	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. 802.11	
☒	The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band.

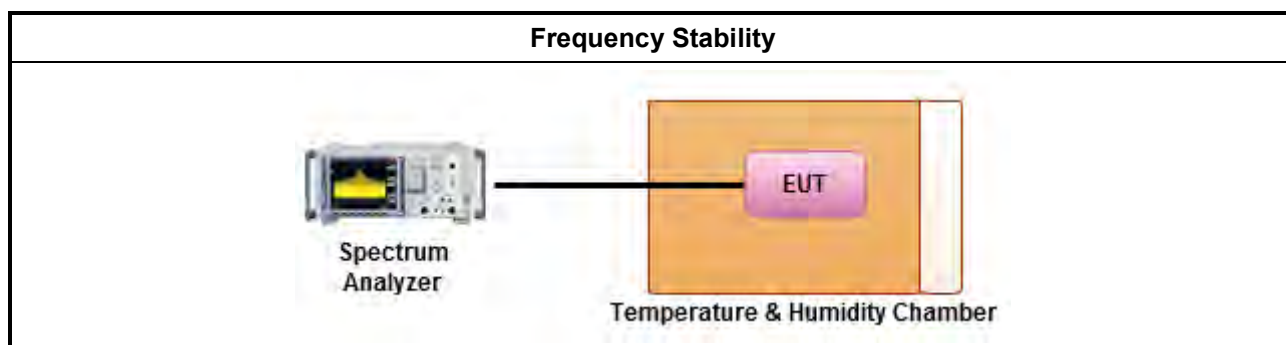
3.7.2 Measuring Instruments

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 (MHz)				Frequency Stability (ppm)			
Condition	Freq. (MHz)	0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min
T _{20°C} Vmax	5300	5299.97864	5299.97865	5299.97916	5299.97873	-4.0302	-4.0283	-3.9321	-4.0132
T _{20°C} Vmin	5300	5299.97873	5299.97916	5299.97865	5299.97864	-4.0132	-3.9321	-4.0283	-4.0302
T _{50°C} Vnom	5300	5299.97009	5299.97221	5299.97308	5299.97395	-5.6432	-5.2434	-5.0792	-4.9151
T _{40°C} Vnom	5300	5299.96861	5299.96744	5299.96861	5299.96700	-5.9226	-6.1434	-5.9226	-6.2264
T _{30°C} Vnom	5300	5299.97004	5299.96961	5299.96934	5299.96960	-5.6528	-5.7340	-5.7849	-5.7358
T _{20°C} Vnom	5300	5299.97916	5299.97864	5299.97873	5299.97865	-3.9321	-4.0302	-4.0132	-4.0283
T _{10°C} Vnom	5300	5299.99522	5299.99479	5299.99513	5299.99482	-0.9019	-0.9830	-0.9189	-0.9774
T _{0°C} Vnom	5300	5300.01737	5300.01693	5300.01746	5300.01700	3.2774	3.1943	3.2943	3.2075
T _{-10°C} Vnom	5300	5300.03473	5300.03430	5300.03400	5300.03517	6.5528	6.4717	6.4151	6.6358
T _{-20°C} Vnom	5300	5300.05601	5300.05601	5300.05644	5300.05644	10.5679	10.5679	10.6491	10.6491
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.									

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Until
EMC Receiver	KEYSIGHT	N9038A	MY54130031	20Hz ~ 8.4GHz	14/04/2016	13/04/2017
LISN	SCHWARZBECK MESS-ELEKTRO NIK	NSLK 8127	8127-477	9kHz ~ 30MHz	26/01/2016	25/01/2017
LISN (Support Unit)	R&S	ENV216	101295	9kHz ~ 30MHz	04/11/2015	03/11/2016
RF Cable-CON	HUBER+SUHNE R	RG213/U	07611832020001	9kHz ~ 30MHz	30/10/2015	29/10/2016
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	NCR	NCR

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV 40	101500	9KHz~40GHz	06/05/2015	05/05/2016
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	28/07/2015	27/07/2016
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	17/02/2015	16/02/2016
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	17/02/2015	16/02/2016
4 Port switch	CEI	P4R-720120	TH01	1GHz~26.5GHz	01/07/2015	30/06/2016

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSP 40	100593	9KHz~40GHz	19/10/2015	18/10/2016
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz ~ 1GHz 3m	03/06/2016	02/06/2017
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz ~ 18GHz 3m	03/06/2016	02/06/2017
Amplifier	Agilent	8447D	2944A11149	100kHz ~ 1.3GHz	01/07/2016	30/06/2017
Amplifier	Agilent	8449B	3008A02602	1GHz ~ 26.5GHz	04/11/2015	03/11/2016
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 01543	1GHz ~ 18GHz	22/04/2016	21/04/2017
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	18GHz ~ 40GHz	29/01/2016	28/01/2017
Bilog Antenna	SCHAFFNER	CBL 6112B	2723	30MHz ~ 1GHz	05/10/2015	04/10/2016
Spectrum Analyzer	R&S	FSP 40	100593	9KHz~40GHz	19/10/2015	18/10/2016
Amplifier	MITEQ	JS44-18004000-33-8P	1840917	18GHz ~ 40GHz	01/06/2015	31/05/2017
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz~30 MHz	02/02/2015	01/02/2017