FCC Test Report

FCC ID	:	**SWX-UAP6L**
Equipment	:	**UniFi Network UAP6 Lite**
Model No.	:	**UAP6-Lite**
Brand Name	:	**UBIQUITI**
Applicant	:	**Ubiquiti Inc.**
Address	:	**685 Third Avenue, New York, New York 10017 USA**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Mar. 03, 2020**
Tested Date	:	**Apr. 14 ~ Apr. 20, 2020**

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by: **Approved by:**

Along Chen / Assistant Manager **Gary Chang / Manager**

Testing Laboratory 2732

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Release Record

Report No.	Version	Description	Issued Date
FR030302AN	Rev. 01	Initial issue	Apr. 23, 2020

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.561MHz 41.10 (Margin -14.90dB) - QP	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 17355.00MHz 68.06 (Margin -0.14dB) - PK	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: 5150~5250MHz: 23.47 5725~5850MHz: 23.48	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	**IEEE Std. 802.11**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
5150-5250 5725-5850	a	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2	6-54 Mbps
5150-5250 5725-5850	n (HT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2	MCS 0-15
5150-5250 5725-5850	n (HT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2	MCS 0-15
5150-5250 5725-5850	ac (VHT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2	MCS 0-9
5150-5250 5725-5850	ac (VHT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2	MCS 0-9
5150-5250 5725-5850	ac (VHT80)	5210 5775	42 [1] 155 [1]	2	MCS 0-9
5150-5250 5725-5850	ax (HE20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2	MCS 0-11
5150-5250 5725-5850	ax (HE40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2	MCS 0-11
5150-5250 5725-5850	ax (HE80)	5210 5775	42 [1] 155 [1]	2	MCS 0-11
Note: The device supports BPSK, QPSK, 16QAM, 64QAM, 256QAM and 1024QAM modulation.					

1.1.2 Antenna Details

Ant. No.	Type	Connector	Gain (dBi)	Remark
1	Internal antenna	I-PEX	4	--
2	Internal antenna	I-PEX	4	--

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	48Vdc from PoE

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	PoE	Brand: UBIQUITI Model: GP-V480-032G Power Rating: I/P: 100-240Vac, 50/60Hz, 0.5A(Max) O/P: 48Vdc, 0.32A Power Line: 0.7m non-shielded without core

1.1.5 Channel List

802.11a / n HT20 / ac VHT20 / ax HE20		802.11n HT40 / ac VHT40 / ax HE40	
Channel	**Frequency(MHz)**	**Channel**	**Frequency(MHz)**
36	5180	38	5190
40	5200	46	5230
44	5220	151	5755
48	5240	159	5795
149	5745	**802.11ac VHT80 / ax HE80**	
153	5765	42	5210
157	5785	155	5775
161	5805	-	-
165	5825	-	-

1.1.6 Test Tool and Duty Cycle

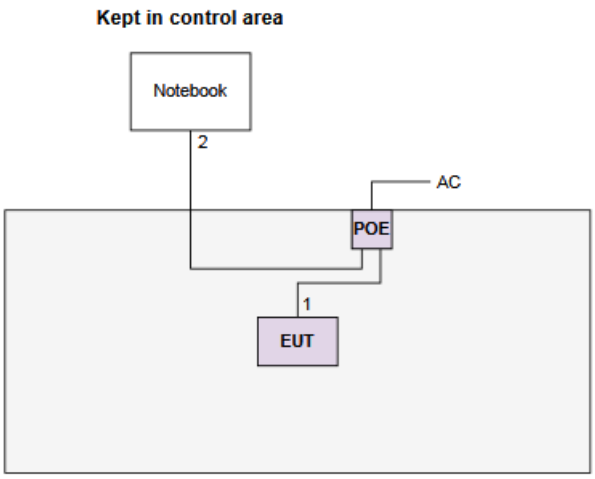
Test Tool	QA Tool, Version: MT7915 0.0.2.16		
Duty Cycle and Duty Factor	**Mode**	**Duty Cycle (%)**	**Duty Factor (dB)**
	11a	98.92%	0.05
	ax (HE20)	98.51%	0.07
	ax (HE40)	95.98%	0.18
	ax (HE80)	91.52%	0.38

1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	Notebook	DELL	Latitude E6440	DoC	---

1.3 Test Setup Chart

Test Setup Diagram



No.	Signal cable / Length (m)
1	RJ45, 1.3m non-shielded.
2	RJ45, 10m non-shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101658	Dec. 12, 2019	Dec. 11, 2020
LISN	R&S	ENV216	101579	Mar. 12, 2020	Mar. 11, 2021
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 22, 2019	Oct. 21, 2020
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Dec. 17, 2019	Dec. 16, 2020
Receiver	R&S	ESR3	101657	Feb. 14, 2020	Feb. 13, 2021
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 12, 2019	Jul. 11, 2020
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 12, 2019	Dec. 11, 2020
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2019	Nov. 14, 2020
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 13, 2019	Nov. 12, 2020
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 07, 2019	Oct. 06, 2020
Preamplifier	EMC	EMC02325	980225	Jul. 09, 2019	Jul. 08, 2020
Preamplifier	Agilent	83017A	MY39501308	Oct. 08, 2019	Oct. 07, 2020
Preamplifier	EMC	EMC184045B	980192	Aug. 01, 2019	Jul. 31, 2020
RF Cable	EMC	EMC104-SM-SM-8000	181106	Oct. 07, 2019	Oct. 06, 2020
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 07, 2019	Oct. 06, 2020
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 07, 2019	Oct. 06, 2020
LF cable 1M	EMC	EMCCFD400-NM-NM-1000	160502	Oct. 07, 2019	Oct. 06, 2020
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 07, 2019	Oct. 06, 2020
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Oct. 07, 2019	Oct. 06, 2020
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Dec. 17, 2019	Dec. 16, 2020
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 12, 2019	Dec. 11, 2020
Power Meter	Anritsu	ML2495A	1241002	Oct. 23, 2019	Oct. 22, 2020
Power Sensor	Anritsu	MA2411B	1207366	Oct. 23, 2019	Oct. 22, 2020
DC POWER SOURCE	GW INSTEK	GPC-6030D	GES855395	Oct. 29, 2019	Oct. 28, 2020
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 02, 2019	Dec. 01, 2020
Measurement Software	-	SENSE-15407_NII	V5.10	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Testing Applied Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.407
ANSI C63.10-2013
FCC KDB 789033 D02 General UNII Test Procedures New Rules
FCC KDB 662911 D01 Multiple Transmitter Output v02r01
FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Deviation from Test Standard and Measurement Procedure

None

1.7 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Uncertainty	
Parameters	**Uncertainty**
Bandwidth	±34.130 Hz
Conducted power	±0.808 dB
Frequency error	$\pm 1 \times 10^{-9}$
Power density	±0.583 dB
Conducted emission	±2.715 dB
AC conducted emission	±2.92 dB
Radiated emission ≤ 1GHz	±3.41 dB
Radiated emission > 1GHz	±4.59 dB
Time	±0.1%
Temperature	±0.4 ^{o}C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	22°C / 67%	Alex Tsai
Radiated Emissions	03CH01-WS	23-24°C / 65-67%	Akun Chung Roger Lu
RF Conducted	TH01-WS	24°C / 67%	Aska Huang

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISED#: 10807A
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

For Frequency band 5150-5250 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test Configuration**
Conducted Emissions	ax (HE20)	5200	MCS 0	---
Radiated Emissions ≤1GHz	ax (HE20)	5200	MCS 0	---
RF Output Power Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	11a ax (HE20) ax (HE40) ax (HE80)	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0	---
Frequency Stability	Un-modulation	5200	---	---
NOTE: 1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** results were found as the worst case and were shown in this report.				

For Frequency band 5725-5850 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test Configuration**
Conducted Emissions	11a	5745	6 Mbps	---
Radiated Emissions ≤1GHz	11a	5745	6 Mbps	---
Radiated Emissions >1GHz Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	11a ax (HE20) ax (HE40) ax (HE80)	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0	---
Frequency Stability	Un-modulation	5785	---	---
NOTE: 1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** results were found as the worst case and were shown in this report.				

3 Transmitter Test Results

3.1 Conducted Emissions

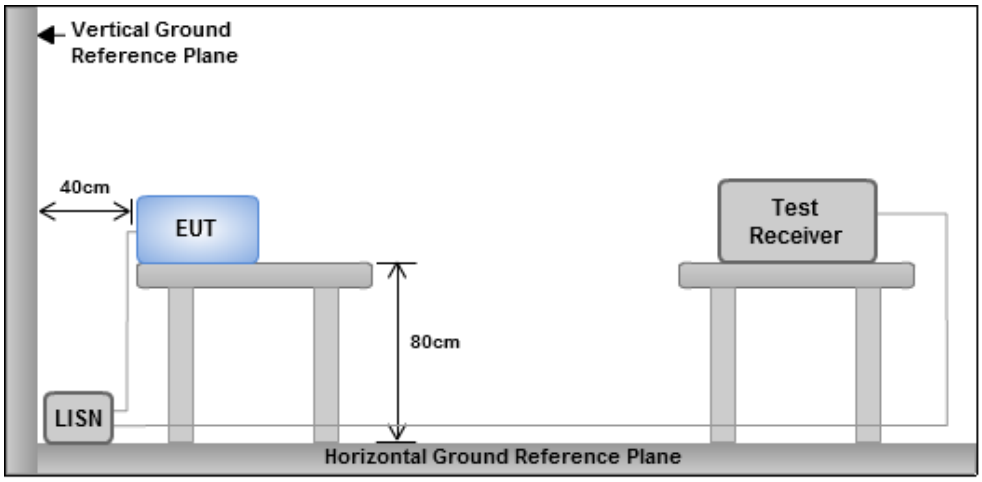
3.1.1 Limit of Conducted Emissions

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 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V/60Hz

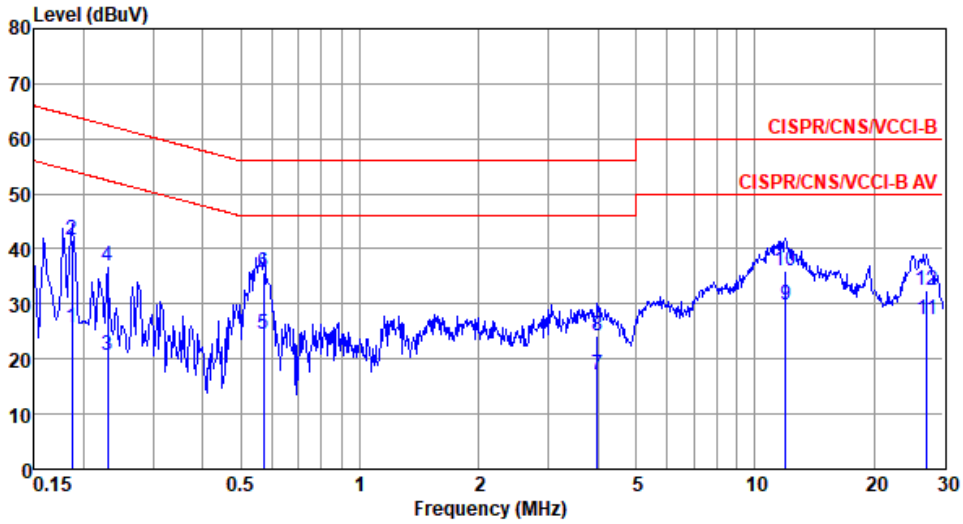
3.1.3 Test Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

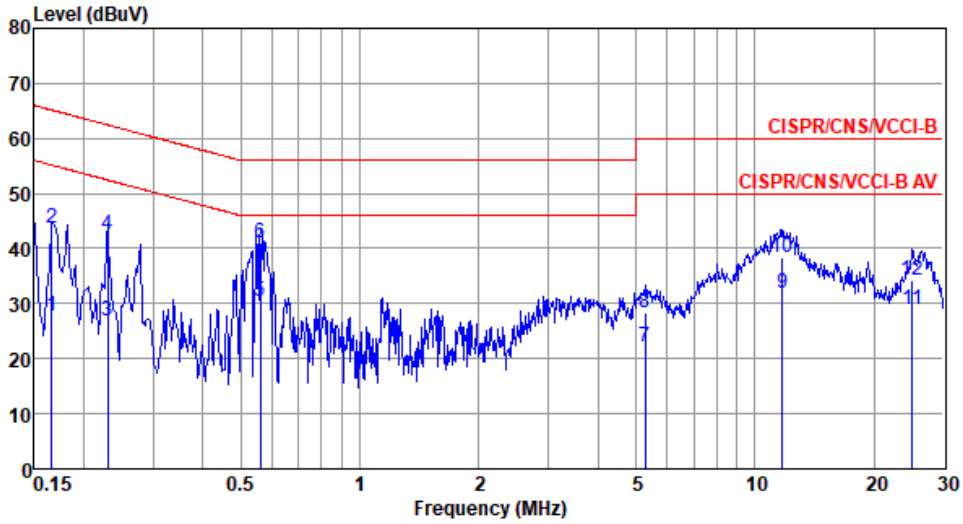
Modulation	ax (HE20)	Test Freq. (MHz)	5200
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.186	25.55	54.20	-28.65	15.68	9.63	0.06	Average
2	0.186	41.60	64.20	-22.60	31.73	9.63	0.06	QP
3	0.230	20.70	52.44	-31.74	10.81	9.63	0.06	Average
4	0.230	37.01	62.44	-25.43	27.12	9.63	0.06	QP
5	0.570	24.38	46.00	-21.62	14.37	9.63	0.10	Average
6	0.570	35.85	56.00	-20.15	25.84	9.63	0.10	QP
7	3.985	17.22	46.00	-28.78	6.91	9.65	0.29	Average
8	3.985	24.08	56.00	-31.92	13.77	9.65	0.29	QP
9*	11.933	29.85	50.00	-20.15	19.24	9.70	0.48	Average
10	11.933	36.13	60.00	-23.87	25.52	9.70	0.48	QP
11	27.271	27.02	50.00	-22.98	15.86	9.64	0.74	Average
12	27.271	32.53	60.00	-27.47	21.37	9.64	0.74	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

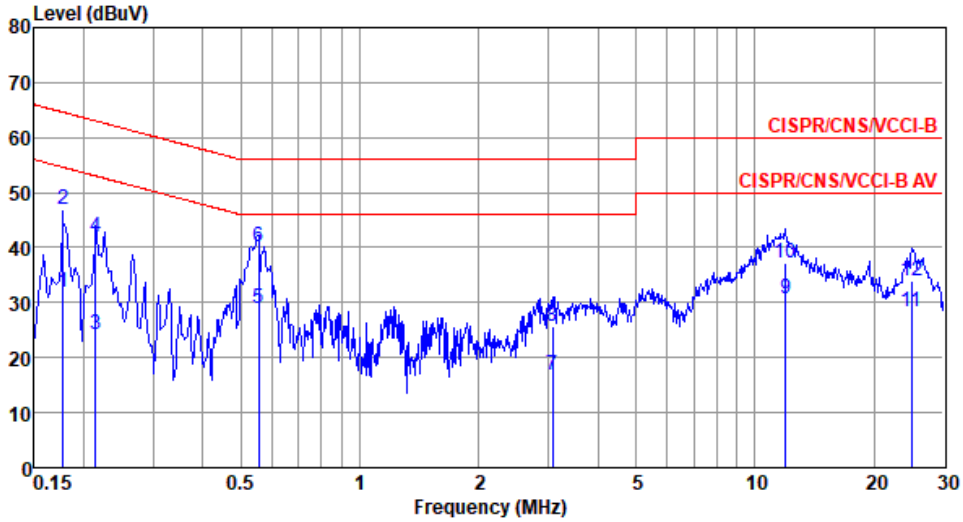
Modulation	ax (HE20)	Test Freq. (MHz)	5200
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.166	27.89	55.16	-27.27	18.05	9.66	0.05	Average
2	0.166	43.71	65.16	-21.45	33.87	9.66	0.05	QP
3	0.230	26.85	52.44	-25.59	16.99	9.65	0.06	Average
4	0.230	42.65	62.44	-19.79	32.79	9.65	0.06	QP
5	0.561	30.38	46.00	-15.62	20.46	9.65	0.09	Average
6*	0.561	41.10	56.00	-14.90	31.18	9.65	0.09	QP
7	5.277	22.21	50.00	-27.79	11.92	9.69	0.32	Average
8	5.277	28.34	60.00	-31.66	18.05	9.69	0.32	QP
9	11.745	31.96	50.00	-18.04	21.38	9.76	0.47	Average
10	11.745	38.28	60.00	-21.72	27.70	9.76	0.47	QP
11	25.055	28.89	50.00	-21.11	17.70	9.80	0.71	Average
12	25.055	34.20	60.00	-25.80	23.01	9.80	0.71	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

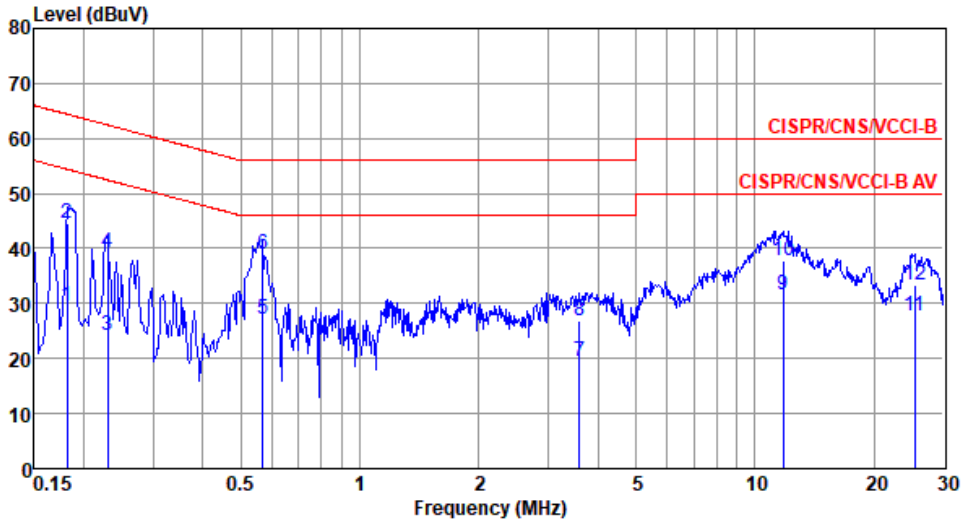
Modulation	11a	Test Freq. (MHz)	5745
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.178	31.98	54.59	-22.61	22.11	9.63	0.06	Average
2	0.178	46.98	64.59	-17.61	37.11	9.63	0.06	QP
3	0.214	24.33	53.05	-28.72	14.44	9.63	0.06	Average
4	0.214	41.86	63.05	-21.19	31.97	9.63	0.06	QP
5	0.555	28.93	46.00	-17.07	18.93	9.63	0.09	Average
6*	0.555	40.13	56.00	-15.87	30.13	9.63	0.09	QP
7	3.074	16.75	46.00	-29.25	6.49	9.65	0.25	Average
8	3.074	25.63	56.00	-30.37	15.37	9.65	0.25	QP
9	11.933	30.73	50.00	-19.27	20.12	9.70	0.48	Average
10	11.933	37.05	60.00	-22.95	26.44	9.70	0.48	QP
11	24.922	28.41	50.00	-21.59	17.33	9.67	0.71	Average
12	24.922	34.07	60.00	-25.93	22.99	9.67	0.71	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation	11a	Test Freq. (MHz)	5745
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.182	29.65	54.42	-24.77	19.80	9.65	0.06	Average
2	0.182	44.69	64.42	-19.73	34.84	9.65	0.06	QP
3	0.230	24.35	52.44	-28.09	14.49	9.65	0.06	Average
4	0.230	39.20	62.44	-23.24	29.34	9.65	0.06	QP
5	0.567	27.26	46.00	-18.74	17.33	9.65	0.10	Average
6*	0.567	38.91	56.00	-17.09	28.98	9.65	0.10	QP
7	3.603	19.40	46.00	-26.60	9.20	9.67	0.27	Average
8	3.603	26.92	56.00	-29.08	16.72	9.67	0.27	QP
9	11.807	31.63	50.00	-18.37	21.05	9.76	0.47	Average
10	11.807	37.88	60.00	-22.12	27.30	9.76	0.47	QP
11	25.321	27.69	50.00	-22.31	16.50	9.80	0.71	Average
12	25.321	33.27	60.00	-26.73	22.08	9.80	0.71	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

3.2 Emission Bandwidth

3.2.1 Limit of Emission Bandwidth

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

3.2.2 Test Procedures

26dB Bandwidth

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW, Detector = Peak.
3. Trace mode = max hold.
4. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

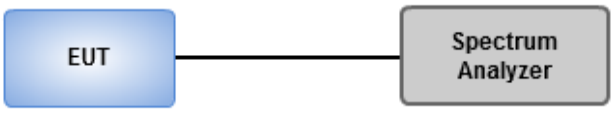
Occupied Bandwidth

1. Set RBW = 1 % to 5 % of the OBW.
2. Set VBW ≥ 3 RBW.
3. Sample detection and single sweep mode shall be used.
4. Use the 99 % power bandwidth function of the instrument.

6dB Bandwidth

1. Set RBW = 100kHz, VBW = 300kHz.
2. Detector = Peak,Trace mode = max hold.
3. Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

3.2.3 Test Setup



3.2.4 Test Result of Emission Bandwidth

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	20.435M	16.57M	16M6D1D	19.565M	16.498M
11AX20_Nss1,(MCS0)_2TX	26.957M	19.03M	19M0D1D	22.246M	18.958M
11AX40_Nss1,(MCS0)_2TX	39.71M	37.627M	37M6D1D	39.42M	37.482M
11AX80_Nss1,(MCS0)_2TX	80.29M	76.99M	77M0D1D	80.29M	76.411M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.377M	17.149M	17M1D1D	15.652M	16.57M
11AX20_Nss1,(MCS0)_2TX	18.986M	19.175M	19M2D1D	18.116M	18.958M
11AX40_Nss1,(MCS0)_2TX	36.667M	37.771M	37M8D1D	32.464M	37.627M
11AX80_Nss1,(MCS0)_2TX	73.913M	76.99M	77M0D1D	72.754M	76.7M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Min-OBW = Minimum 99% occupied bandwidth;

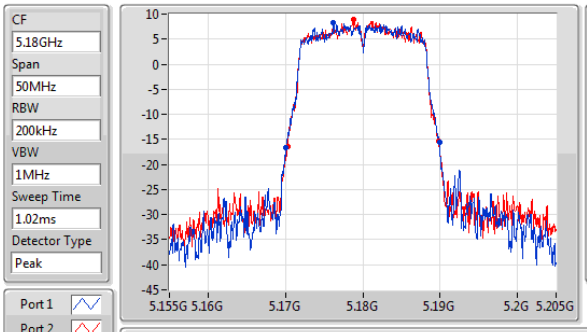
Result

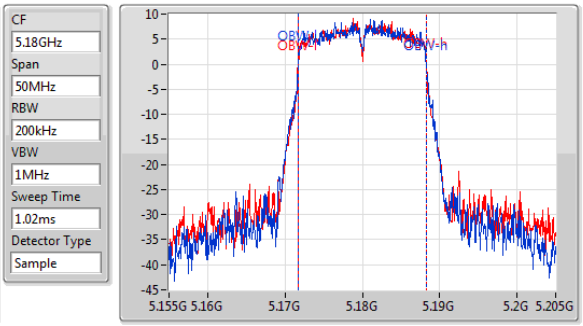
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	19.855M	16.498M	19.565M	16.498M
5200MHz	Pass	Inf	20.435M	16.57M	20.145M	16.498M
5240MHz	Pass	Inf	19.855M	16.57M	19.71M	16.498M
5745MHz	Pass	500k	16.304M	17.077M	15.725M	16.787M
5785MHz	Pass	500k	16.304M	17.149M	15.725M	16.86M
5825MHz	Pass	500k	16.377M	16.787M	15.652M	16.57M
11AX20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	23.406M	19.03M	22.246M	18.958M
5200MHz	Pass	Inf	25.725M	19.03M	26.377M	18.958M
5240MHz	Pass	Inf	26.957M	18.958M	23.551M	18.958M
5745MHz	Pass	500k	18.696M	19.03M	18.116M	19.03M
5785MHz	Pass	500k	18.333M	19.175M	18.986M	19.103M
5825MHz	Pass	500k	18.478M	19.03M	18.261M	18.958M
11AX40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	39.565M	37.482M	39.71M	37.627M
5230MHz	Pass	Inf	39.42M	37.627M	39.71M	37.627M
5755MHz	Pass	500k	33.623M	37.771M	32.464M	37.627M
5795MHz	Pass	500k	36.667M	37.627M	35.072M	37.627M
11AX80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	80.29M	76.411M	80.29M	76.99M
5775MHz	Pass	500k	73.913M	76.99M	72.754M	76.7M

Port X-N dB = Port **X** 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port **X** 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX EBW

5180MHz

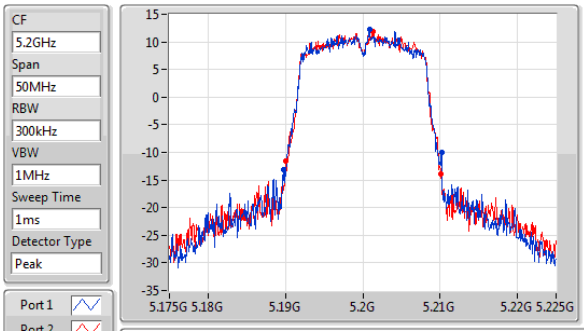


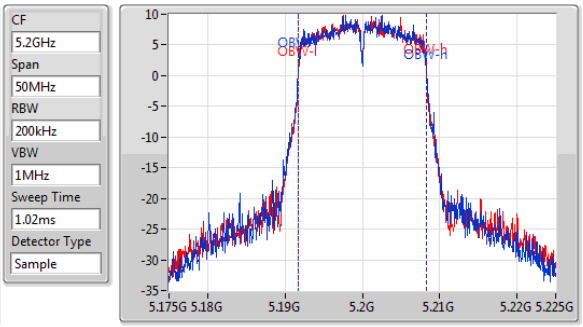


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.855M	5.170072G	5.189928G	16.498M	5.171751G	5.188249G	Inf	1
19.565M	5.17029G	5.189855G	16.498M	5.171751G	5.188249G	Inf	2

802.11a_Nss1,(6Mbps)_2TX EBW

5200MHz

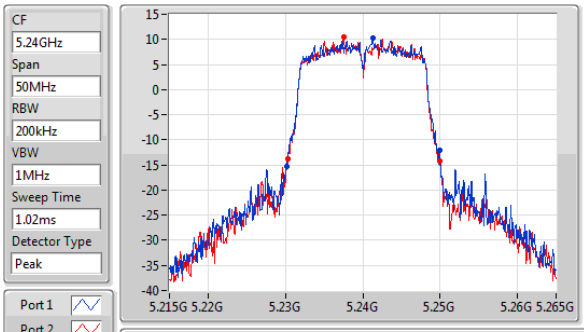


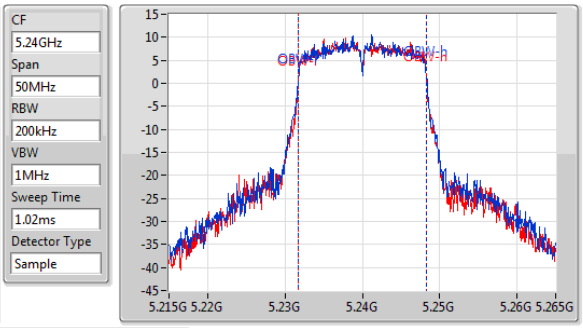


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.435M	5.189783G	5.210217G	16.57M	5.191751G	5.208321G	Inf	1
20.145M	5.19G	5.210145G	16.498M	5.191751G	5.208249G	Inf	2

802.11a_Nss1,(6Mbps)_2TX EBW

5240MHz

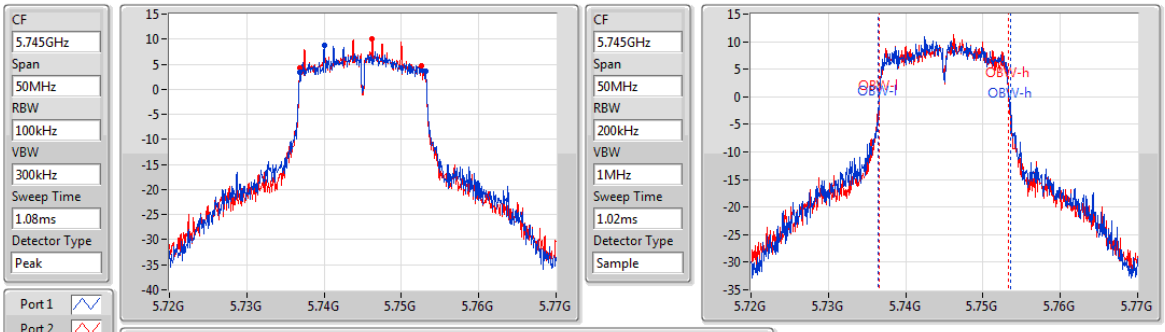




26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.855M	5.230145G	5.25G	16.57M	5.231751G	5.248321G	Inf	1
19.71M	5.23029G	5.25G	16.498M	5.231751G	5.248249G	Inf	2

802.11a_Nss1,(6Mbps)_2TX EBW

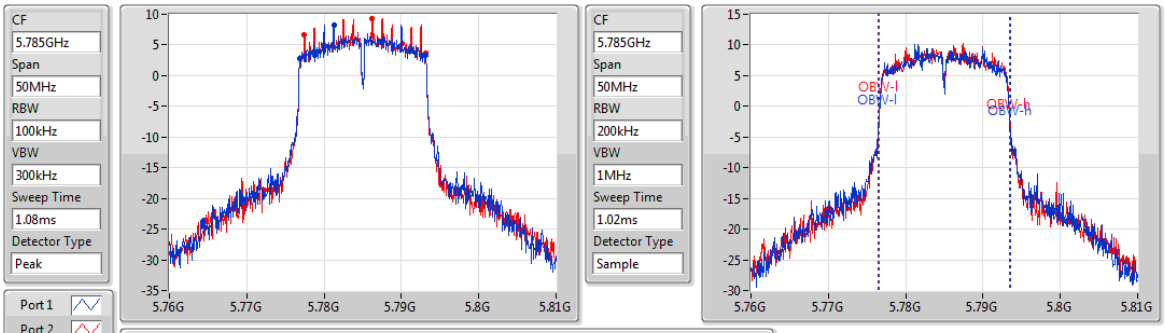
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.304M	5.736884G	5.753188G	17.077M	5.736462G	5.753538G	500k	1
15.725M	5.736884G	5.752609G	16.787M	5.736534G	5.753321G	500k	2

802.11a_Nss1,(6Mbps)_2TX EBW

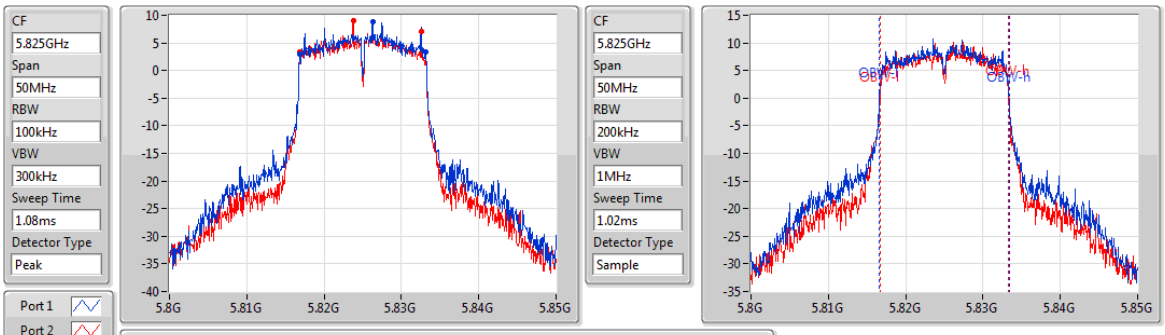
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.304M	5.776884G	5.793188G	17.149M	5.776389G	5.793538G	500k	1
15.725M	5.777464G	5.793188G	16.86M	5.776606G	5.793466G	500k	2

802.11a_Nss1,(6Mbps)_2TX EBW

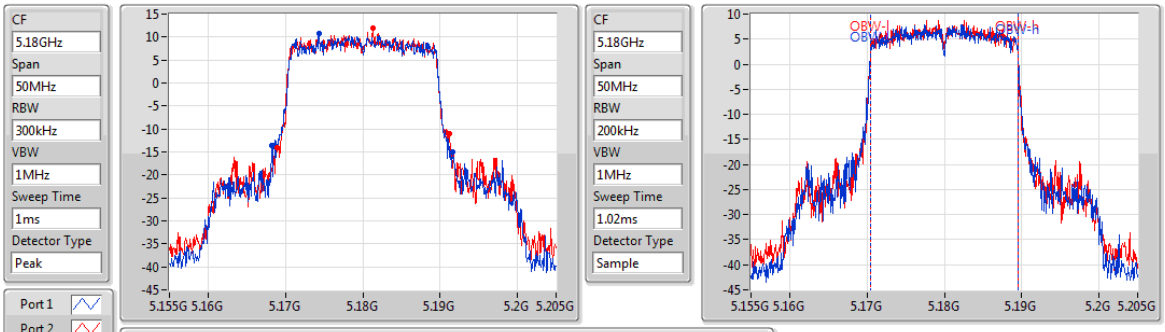
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.377M	5.816812G	5.833188G	16.787M	5.816606G	5.833394G	500k	1
15.652M	5.816884G	5.832536G	16.57M	5.816679G	5.833249G	500k	2

11AX20_Nss1,(MCS0)_2TX EBW

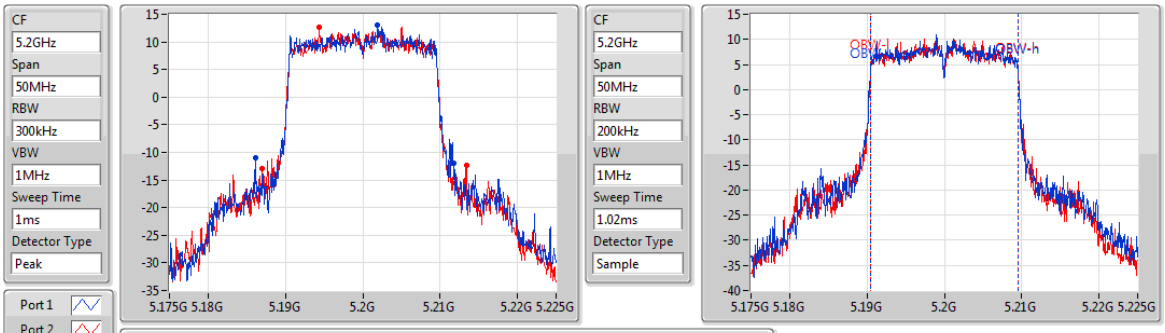
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.406M	5.168188G	5.191594G	19.03M	5.170449G	5.189479G	Inf	1
22.246M	5.168986G	5.191232G	18.958M	5.170521G	5.189479G	Inf	2

11AX20_Nss1,(MCS0)_2TX EBW

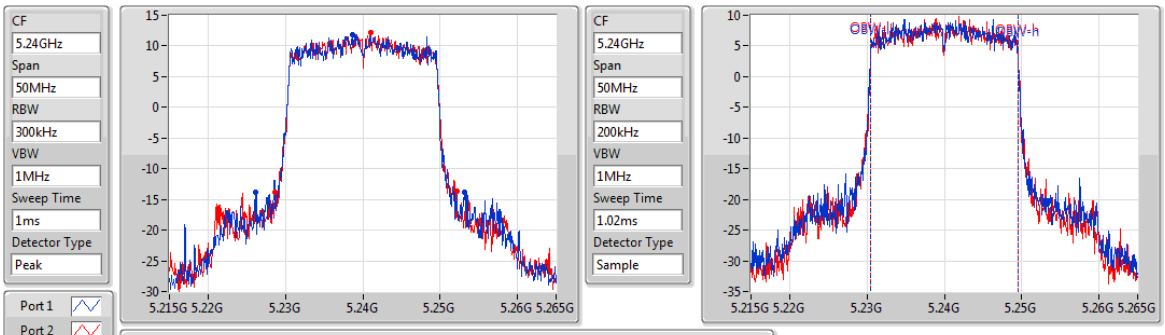
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
25.725M	5.186087G	5.211812G	19.03M	5.190449G	5.209479G	Inf	1
26.377M	5.187029G	5.213406G	18.958M	5.190521G	5.209479G	Inf	2

11AX20_Nss1,(MCS0)_2TX EBW

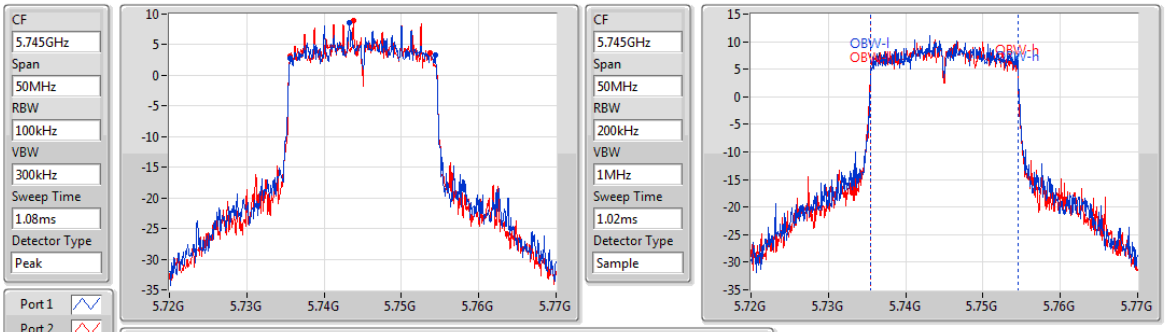
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
26.957M	5.226159G	5.253116G	18.958M	5.230521G	5.249479G	Inf	1
23.551M	5.228623G	5.252174G	18.958M	5.230521G	5.249479G	Inf	2

11AX20_Nss1,(MCS0)_2TX EBW

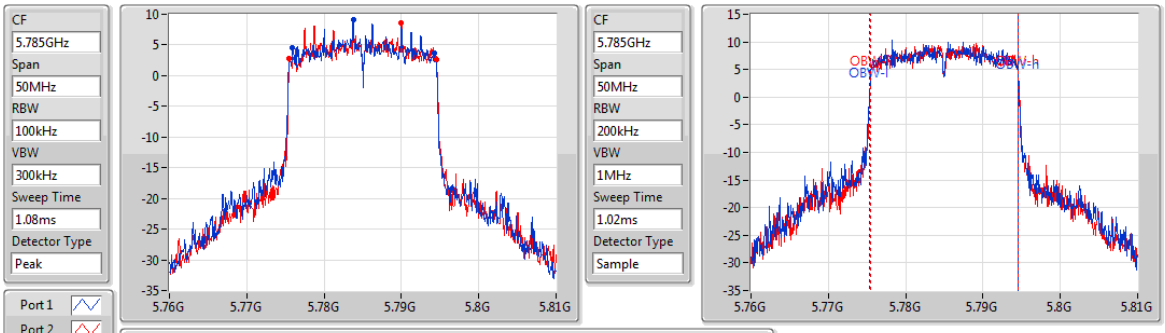
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.696M	5.735652G	5.754348G	19.03M	5.735521G	5.754551G	500k	1
18.116M	5.735652G	5.753768G	19.03M	5.735449G	5.754479G	500k	2

11AX20_Nss1,(MCS0)_2TX EBW

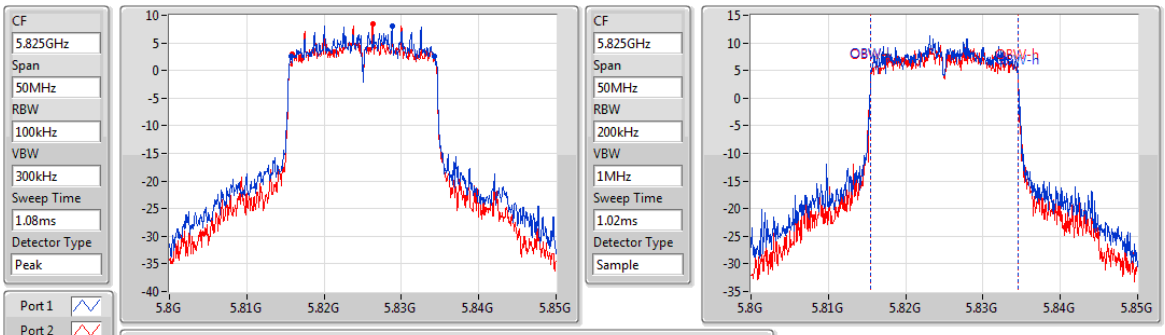
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.333M	5.775942G	5.794275G	19.175M	5.775376G	5.794551G	500k	1
18.986M	5.775507G	5.794493G	19.103M	5.775449G	5.794551G	500k	2

11AX20_Nss1,(MCS0)_2TX EBW

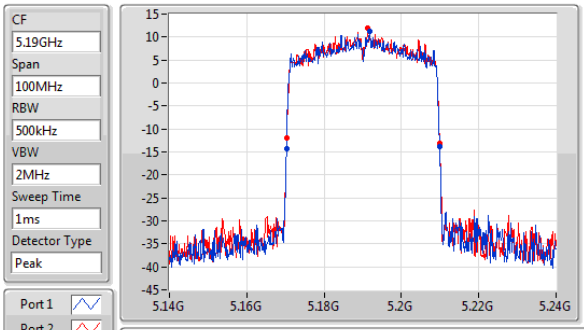
5825MHz

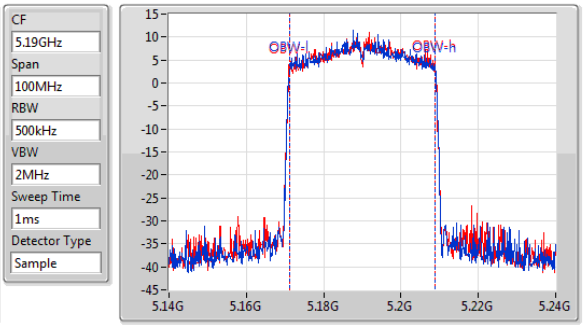


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.478M	5.815797G	5.834275G	19.03M	5.815521G	5.834551G	500k	1
18.261M	5.815942G	5.834203G	18.958M	5.815521G	5.834479G	500k	2

11AX40_Nss1,(MCS0)_2TX EBW

5190MHz

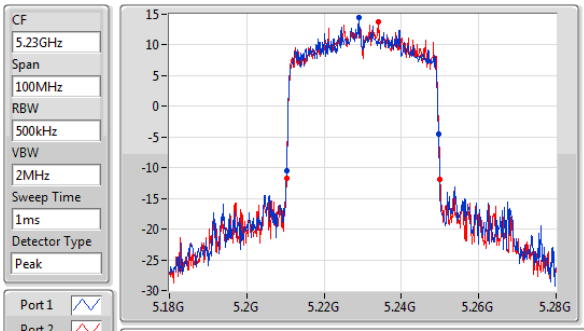


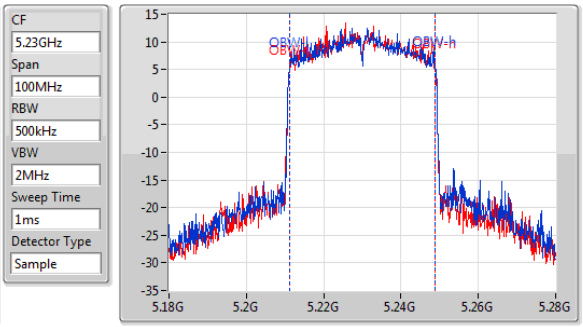


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.565M	5.17029G	5.209855G	37.482M	5.171331G	5.208813G	Inf	1
39.71M	5.17029G	5.21G	37.627M	5.171187G	5.208813G	Inf	2

11AX40_Nss1,(MCS0)_2TX EBW

5230MHz

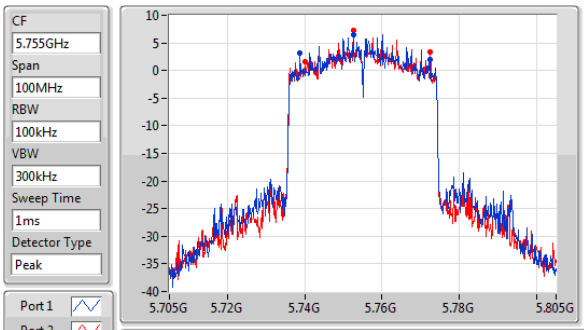


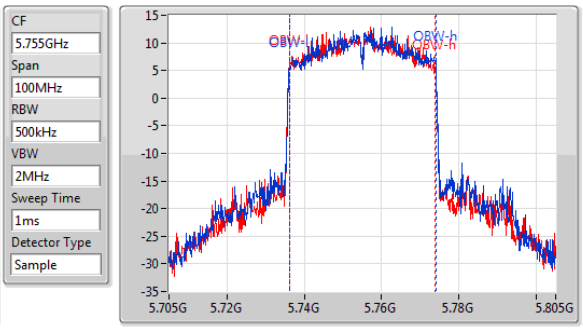


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.42M	5.21029G	5.24971G	37.627M	5.211187G	5.248813G	Inf	1
39.71M	5.21029G	5.25G	37.627M	5.211187G	5.248813G	Inf	2

11AX40_Nss1,(MCS0)_2TX EBW

5755MHz

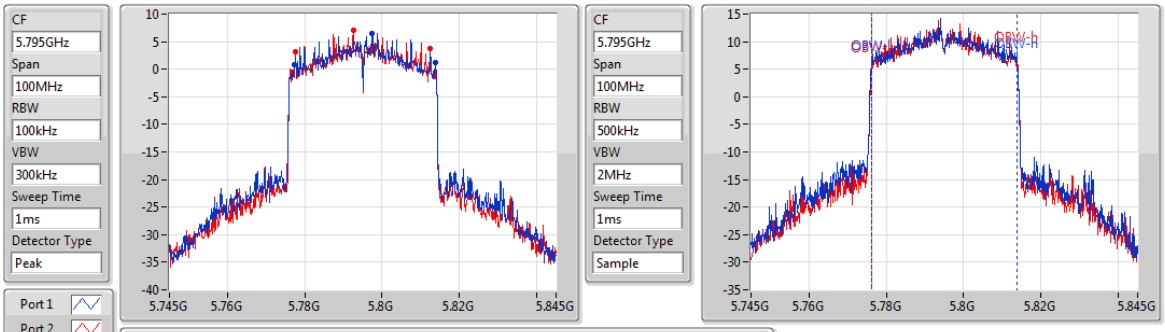




6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
33.623M	5.738768G	5.772391G	37.771M	5.736187G	5.773958G	500k	1
32.464M	5.740072G	5.772536G	37.627M	5.736187G	5.773813G	500k	2

11AX40_Nss1,(MCS0)_2TX EBW

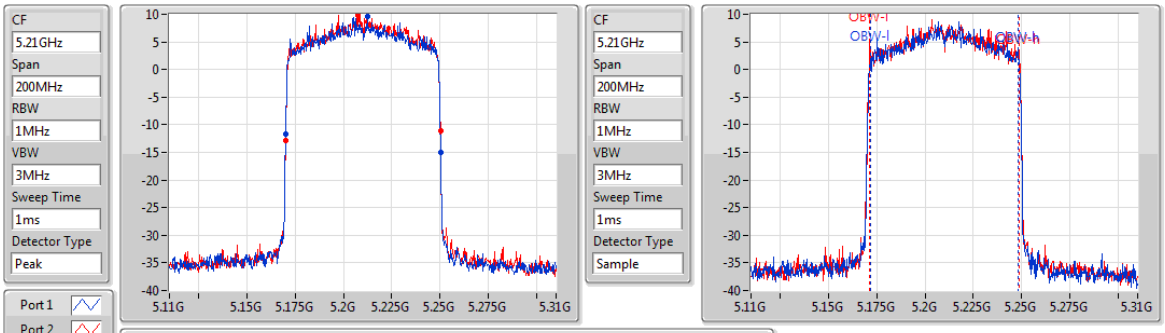
5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.667M	5.777174G	5.813841G	37.627M	5.776187G	5.813813G	500k	1
35.072M	5.777464G	5.812536G	37.627M	5.776187G	5.813813G	500k	2

11AX80_Nss1,(MCS0)_2TX EBW

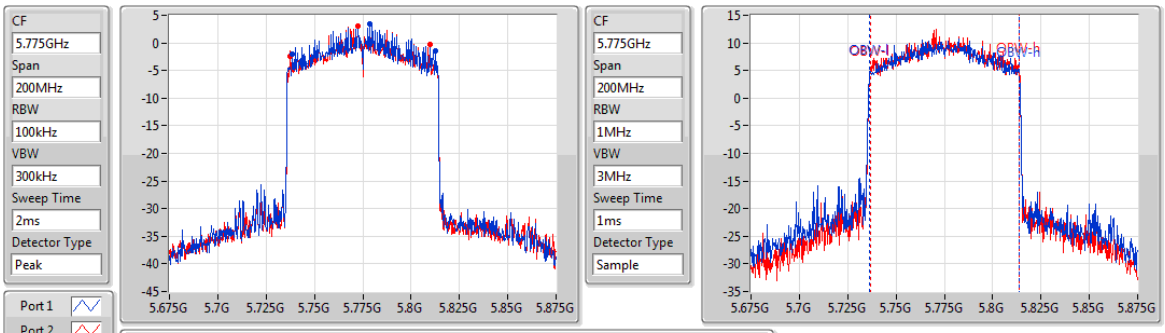
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
80.29M	5.17G	5.25029G	76.411M	5.171795G	5.248205G	Inf	1
80.29M	5.17G	5.25029G	76.99M	5.171505G	5.248495G	Inf	2

11AX80_Nss1,(MCS0)_2TX EBW

5775MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
73.913M	5.738768G	5.812681G	76.99M	5.736505G	5.813495G	500k	1
72.754M	5.737319G	5.810072G	76.7M	5.736795G	5.813495G	500k	2

3.3 RF Output Power

3.3.1 Limit of RF Output Power

Frequency band 5150-5250 MHz		
Operating Mode		**Limit**
☐	Outdoor access point	Conducted Power: 1 W The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm)
☒	Indoor access point	Conducted Power: 1 W
☐	Fixed point-to-point access points	Conducted Power: 1 W
☐	Client devices	Conducted Power: 250 mW

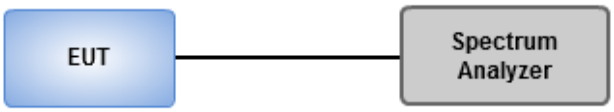
Frequency Band (MHz)		Limit
☒	5725 ~ 5850	Conducted Power: 1 W
Note: “B” is the 26dB emission bandwidth in MHz.		

3.3.2 Test Procedures

Method PM-G (Measurement using a gated RF average power meter)

Measurements is performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.3.3 Test Setup



3.3.4 Test Result of Maximum Conducted Output Power

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	23.45	0.22131	27.45	0.55590
11AX20_Nss1,(MCS0)_2TX	23.47	0.22233	27.47	0.55847
11AX40_Nss1,(MCS0)_2TX	23.45	0.22131	27.45	0.55590
11AX80_Nss1,(MCS0)_2TX	19.45	0.08810	23.45	0.22131
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	23.48	0.22284	27.48	0.55976
11AX20_Nss1,(MCS0)_2TX	23.47	0.22233	27.47	0.55847
11AX40_Nss1,(MCS0)_2TX	23.48	0.22284	27.48	0.55976
11AX80_Nss1,(MCS0)_2TX	22.39	0.17338	26.39	0.43551

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.00	19.44	19.43	22.45	30.00	26.45	36.00
5200MHz	Pass	4.00	20.49	20.36	23.44	30.00	27.44	36.00
5240MHz	Pass	4.00	20.49	20.38	23.45	30.00	27.45	36.00
5745MHz	Pass	4.00	20.48	20.45	23.48	30.00	27.48	36.00
5785MHz	Pass	4.00	20.49	20.36	23.44	30.00	27.44	36.00
5825MHz	Pass	4.00	20.49	20.34	23.43	30.00	27.43	36.00
11AX20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.00	18.94	19.06	22.01	30.00	26.01	36.00
5200MHz	Pass	4.00	20.48	20.44	23.47	30.00	27.47	36.00
5240MHz	Pass	4.00	20.34	20.36	23.36	30.00	27.36	36.00
5745MHz	Pass	4.00	20.47	20.42	23.46	30.00	27.46	36.00
5785MHz	Pass	4.00	20.48	20.43	23.47	30.00	27.47	36.00
5825MHz	Pass	4.00	20.48	20.26	23.38	30.00	27.38	36.00
11AX40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.00	17.82	18.02	20.93	30.00	24.93	36.00
5230MHz	Pass	4.00	20.45	20.42	23.45	30.00	27.45	36.00
5755MHz	Pass	4.00	20.47	20.44	23.47	30.00	27.47	36.00
5795MHz	Pass	4.00	20.48	20.45	23.48	30.00	27.48	36.00
11AX80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.00	16.27	16.61	19.45	30.00	23.45	36.00
5775MHz	Pass	4.00	19.26	19.49	22.39	30.00	26.39	36.00

DG = Directional Gain;**Port X** = Port X output power

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

Frequency band 5150-5250 MHz		
Operating Mode		**Limit**
☐	Outdoor access point	17 dBm / MHz
☒	Indoor access point	17 dBm / MHz
☐	Fixed point-to-point access points	17 dBm / MHz
☐	Client devices	11 dBm / MHz

Frequency Band (MHz)		**Limit**
☒	5725 ~ 5850	30 dBm /500 kHz

3.4.2 Test Procedures

For 5150 ~ 5250 MHz

Duty cycle ≥ 98 %

1. Set RBW = 1 MHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
2. Trace average 100 traces.
3. Use the peak marker function to determine the maximum amplitude level.

Duty cycle < 98 %

1. Set RBW = 1 MHz, VBW = 3 MHz, Detector = RMS.
2. Set sweep time ≥ 10 * (number of points in sweep) * (total on/off period of the transmitted signal).
3. Perform a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add 10 log(1/x), where x is the duty cycle.

For 5725 ~ 5850 MHz

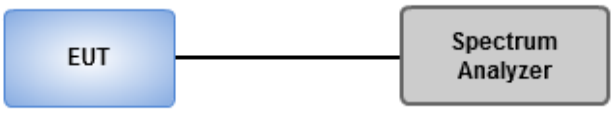
Duty cycle ≥ 98 %

1. Set RBW = 500 kHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
2. Trace average 100 traces.
3. Use the peak marker function to determine the maximum amplitude level.

Duty cycle < 98 %

1. Set RBW = 500 kHz, VBW = 3 MHz, Detector = RMS.
2. Set sweep time ≥ 10 * (number of points in sweep) * (total on/off period of the transmitted signal).
3. Perform a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add 10 log(1/x), where x is the duty cycle.

3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	11.01	18.02
11AX20_Nss1,(MCS0)_2TX	10.38	17.39
11AX40_Nss1,(MCS0)_2TX	8.14	15.15
11AX80_Nss1,(MCS0)_2TX	1.16	8.17
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	9.78	16.79
11AX20_Nss1,(MCS0)_2TX	9.38	16.39
11AX40_Nss1,(MCS0)_2TX	6.98	13.99
11AX80_Nss1,(MCS0)_2TX	2.83	9.84

RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	7.01	7.28	7.48	10.37	15.99	17.38	23.00
5200MHz	Pass	7.01	7.83	7.94	10.89	15.99	17.90	23.00
5240MHz	Pass	7.01	8.15	8.15	11.01	15.99	18.02	23.00
5745MHz	Pass	7.01	6.60	6.58	9.42	28.99	16.43	36.00
5785MHz	Pass	7.01	6.76	7.15	9.78	28.99	16.79	36.00
5825MHz	Pass	7.01	7.17	6.71	9.78	28.99	16.79	36.00
11AX20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	7.01	6.05	6.09	8.76	15.99	15.77	23.00
5200MHz	Pass	7.01	7.49	7.60	10.38	15.99	17.39	23.00
5240MHz	Pass	7.01	7.23	7.45	10.04	15.99	17.05	23.00
5745MHz	Pass	7.01	6.48	6.57	9.38	28.99	16.39	36.00
5785MHz	Pass	7.01	6.43	6.48	9.33	28.99	16.34	36.00
5825MHz	Pass	7.01	6.72	6.16	9.13	28.99	16.14	36.00
11AX40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	7.01	2.29	2.49	5.34	15.99	12.35	23.00
5230MHz	Pass	7.01	5.17	5.32	8.14	15.99	15.15	23.00
5755MHz	Pass	7.01	3.72	3.91	6.78	28.99	13.79	36.00
5795MHz	Pass	7.01	4.04	4.15	6.98	28.99	13.99	36.00
11AX80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	7.01	-2.11	-1.60	1.16	15.99	8.17	23.00
5775MHz	Pass	7.01	-0.10	-0.09	2.83	28.99	9.84	36.00

DG = Directional Gain = 4 + 10 * log(2/1) = 7.01 dBi > 6 dBi , limit shall be reduced to 17 dBm – (7.01 dBi – 6 dBi) = 15.99 dBm

For 5.15 ~ 5.25 GHz

Directional Gain = 4 + 10 * log(2/1) = 7.01 dBi > 6 dBi , limit shall be reduced to 17 dBm – (7.01 dBi – 6 dBi) = 15.99 dBm

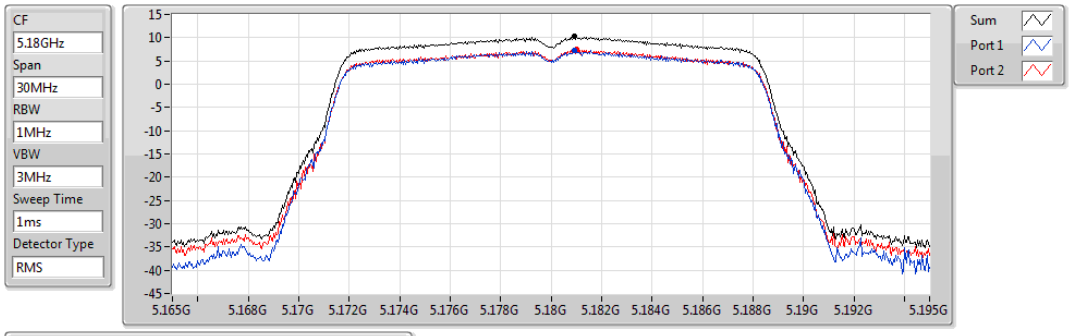
For 5.725 ~ 5.85 GHz

Directional Gain = 4 + 10 * log(2/1) = 7.01 dBi > 6 dBi , limit shall be reduced to 30 dBm – (7.01 dBi – 6 dBi) = 28.99 dBm

RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11a_Nss1,(6Mbps)_2TX PSD

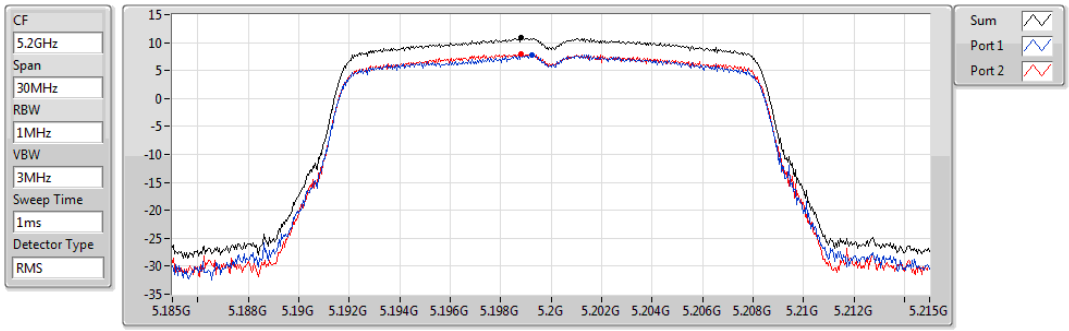
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.37	10.37	7.28	7.48

802.11a_Nss1,(6Mbps)_2TX PSD

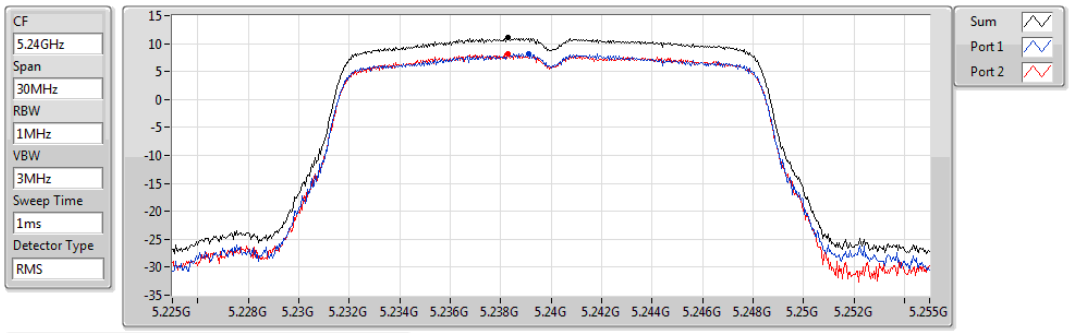
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.89	10.89	7.83	7.94

802.11a_Nss1,(6Mbps)_2TX PSD

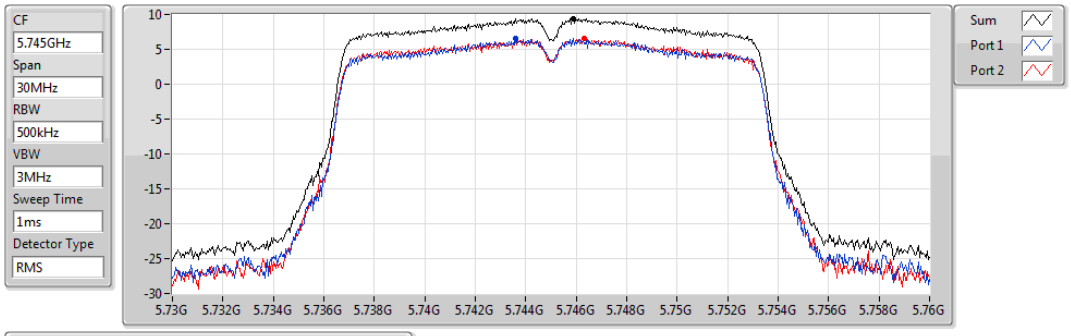
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.01	11.01	8.15	8.15

802.11a_Nss1,(6Mbps)_2TX **PSD**

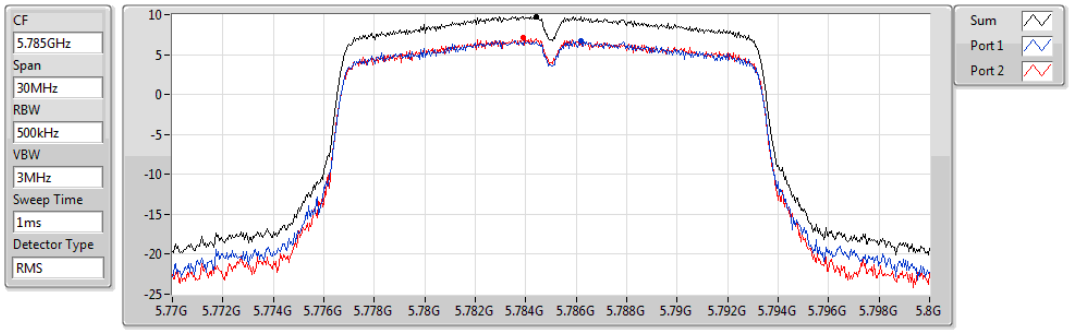
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.42	9.42	6.60	6.58

802.11a_Nss1,(6Mbps)_2TX **PSD**

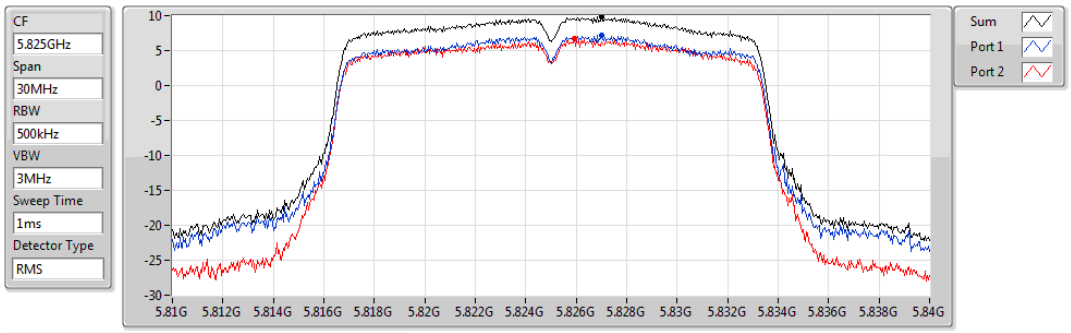
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.78	9.78	6.76	7.15

802.11a_Nss1,(6Mbps)_2TX **PSD**

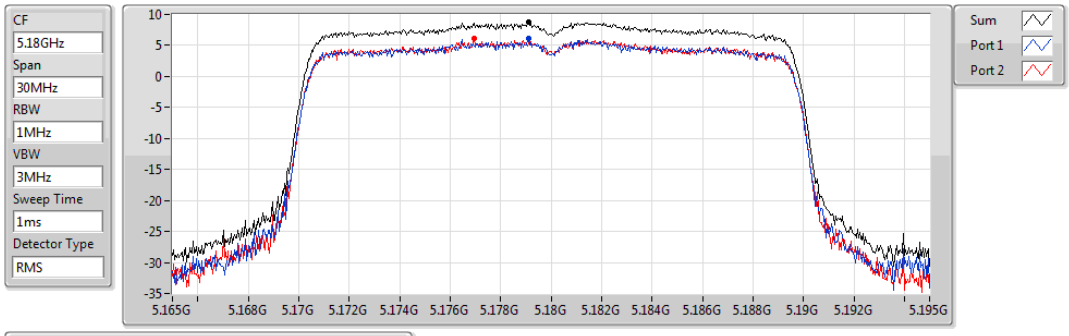
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.78	9.78	7.17	6.71

11AX20_Nss1,(MCS0)_2TX **PSD**

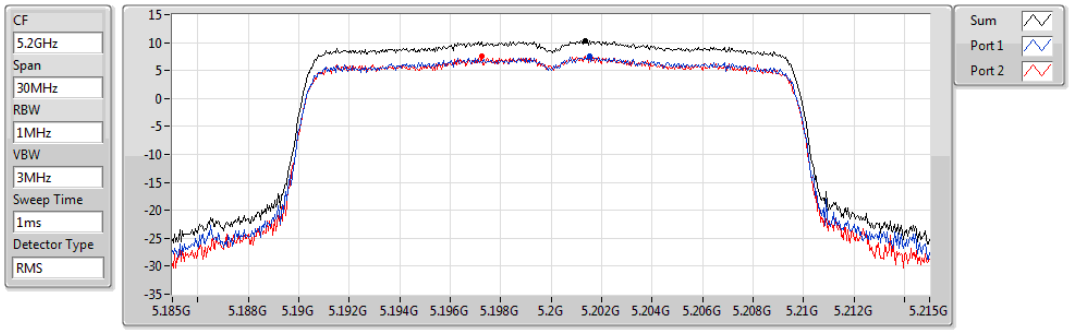
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.76	8.76	6.05	6.09

11AX20_Nss1,(MCS0)_2TX **PSD**

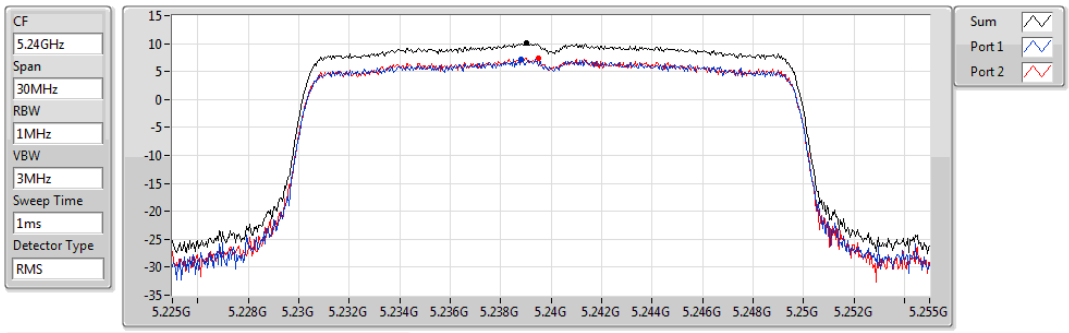
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.38	10.38	7.49	7.60

11AX20_Nss1,(MCS0)_2TX **PSD**

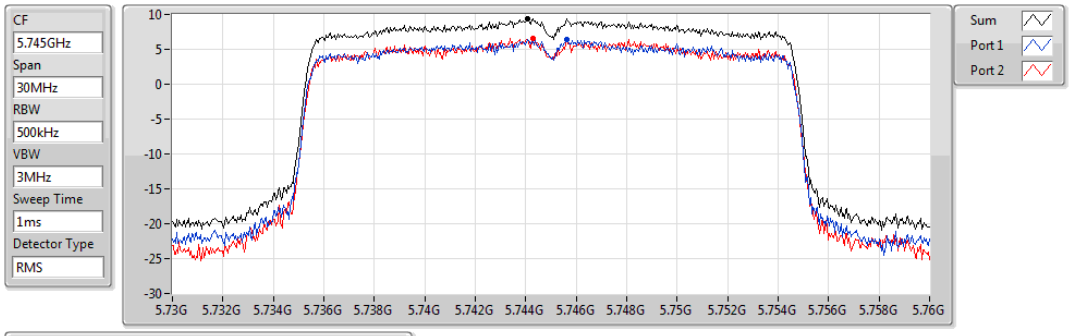
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.04	10.04	7.23	7.45

11AX20_Nss1,(MCS0)_2TX **PSD**

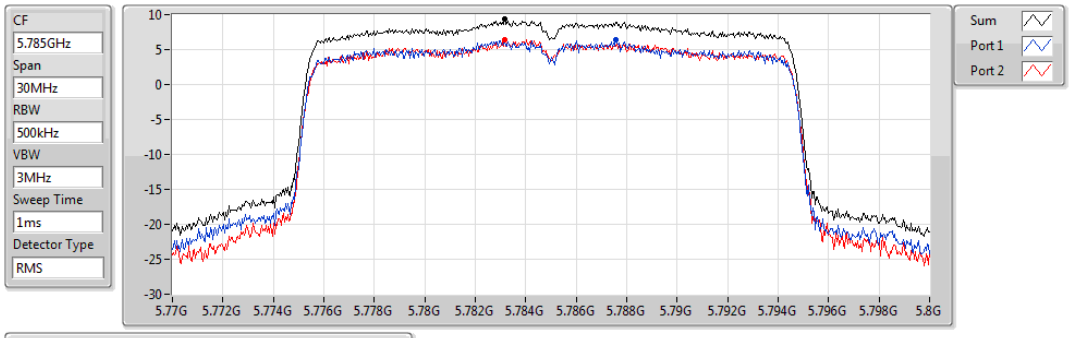
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.38	9.38	6.48	6.57

11AX20_Nss1,(MCS0)_2TX **PSD**

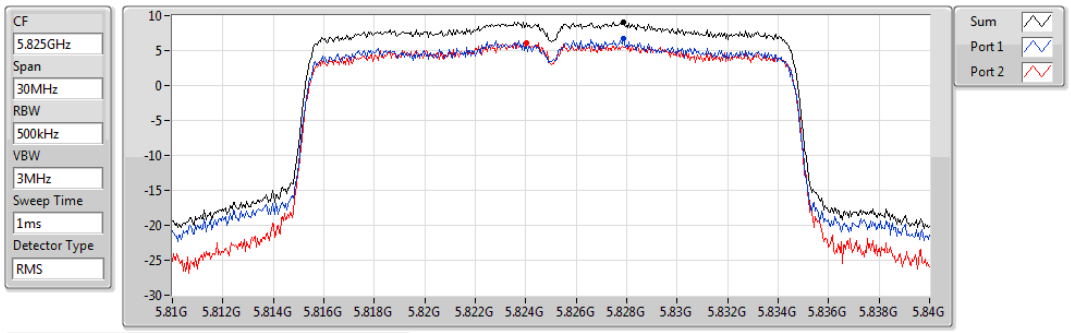
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.33	9.33	6.43	6.48

11AX20_Nss1,(MCS0)_2TX **PSD**

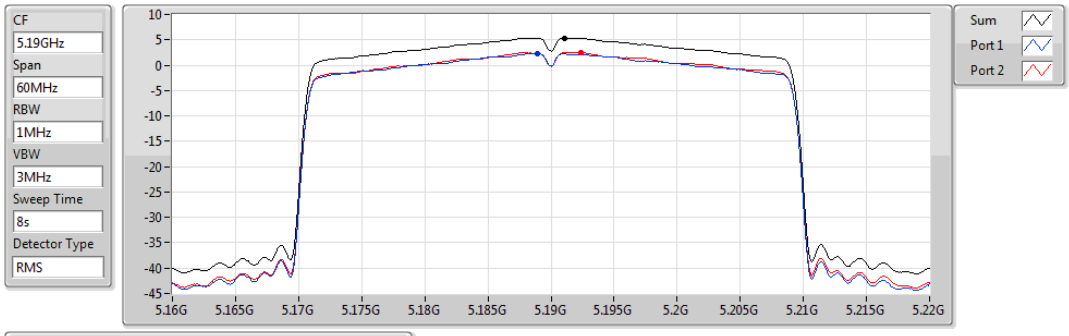
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.13	9.13	6.72	6.16

11AX40_Nss1,(MCS0)_2TX **PSD**

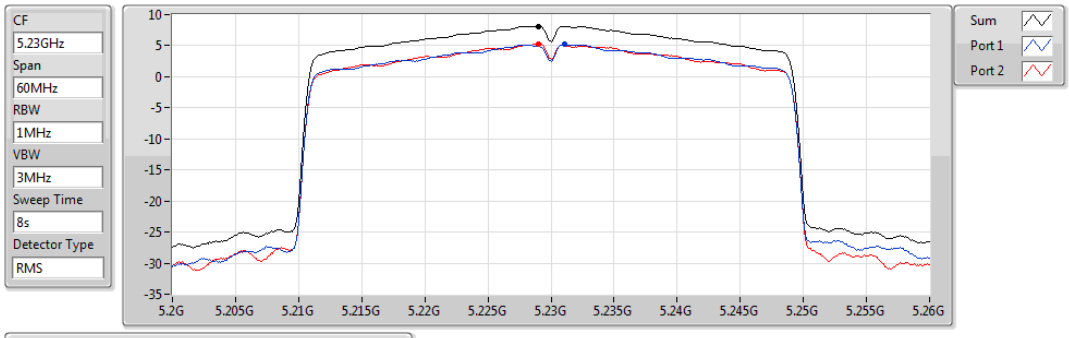
5190MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.34	5.34	2.29	2.49

11AX40_Nss1,(MCS0)_2TX **PSD**

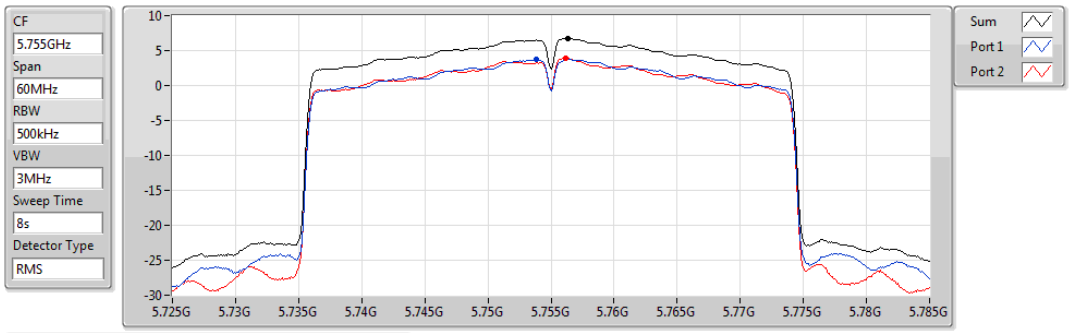
5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.14	8.14	5.17	5.32

11AX40_Nss1,(MCS0)_2TX **PSD**

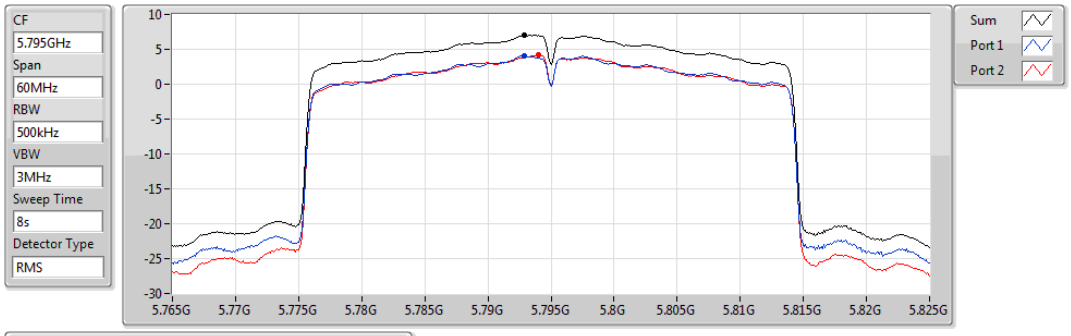
5755MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.78	6.78	3.72	3.91

11AX40_Nss1,(MCS0)_2TX **PSD**

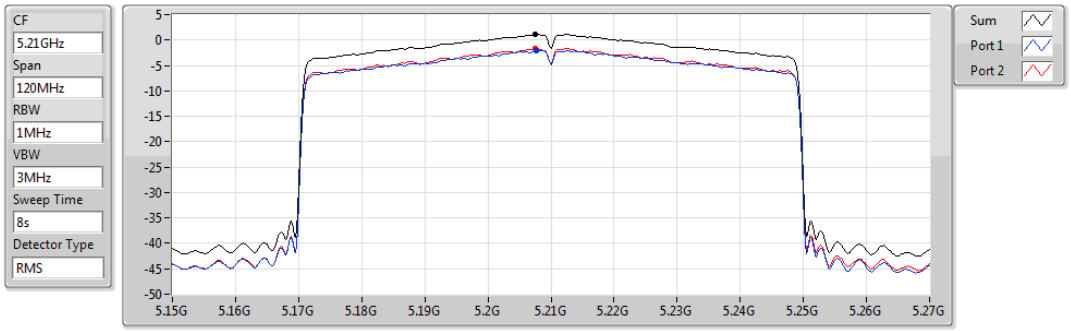
5795MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.98	6.98	4.04	4.15

11AX80_Nss1,(MCS0)_2TX **PSD**

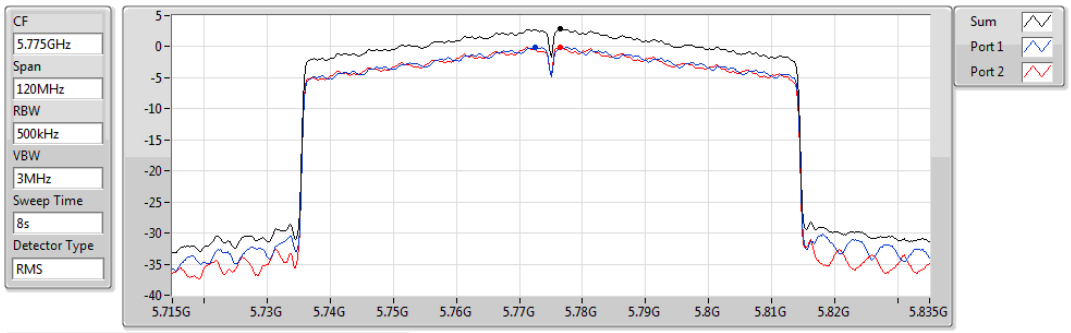
5210MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.16	1.16	-2.11	-1.60

11AX80_Nss1,(MCS0)_2TX **PSD**

5775MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.83	2.83	-0.10	-0.09

3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit
Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Un-restricted band emissions above 1GHz Limit	
Operating Band	**Limit**
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.850 GHz	All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

3.5.2 Test Procedures

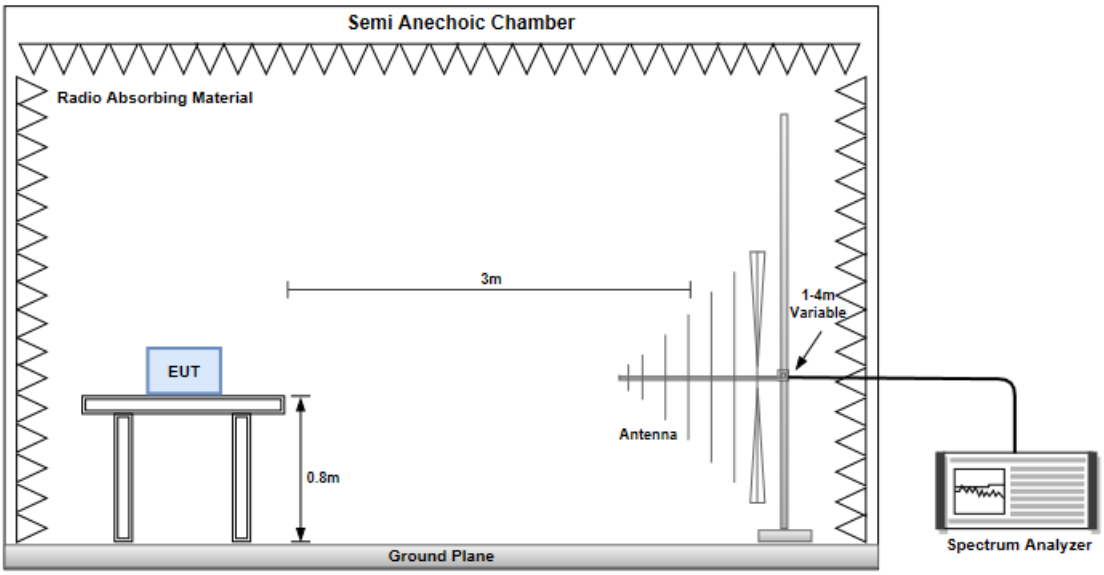
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

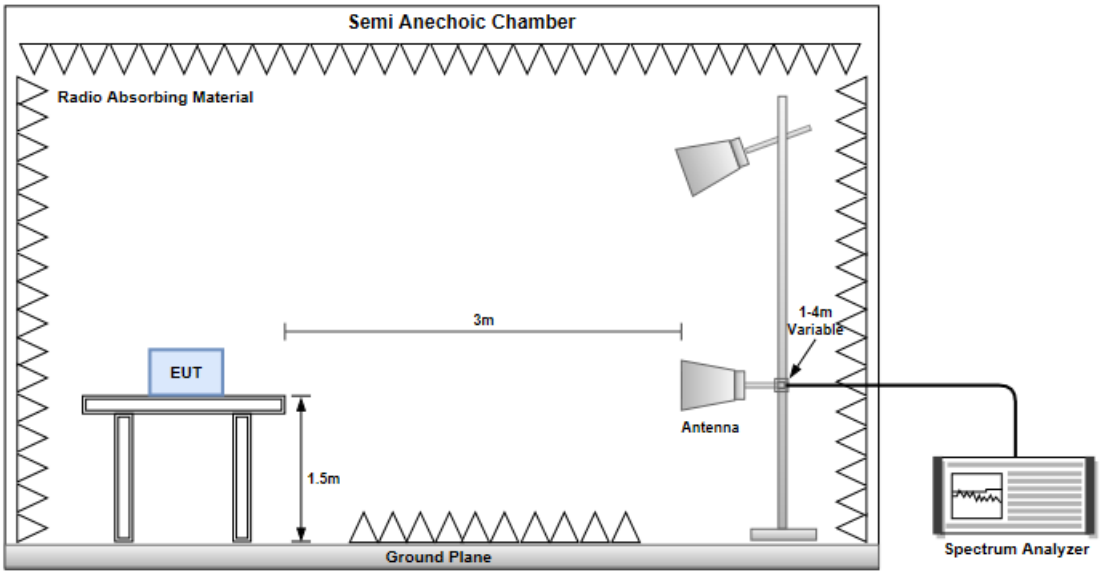
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.5.3 Test Setup

Radiated Emissions below 1 GHz

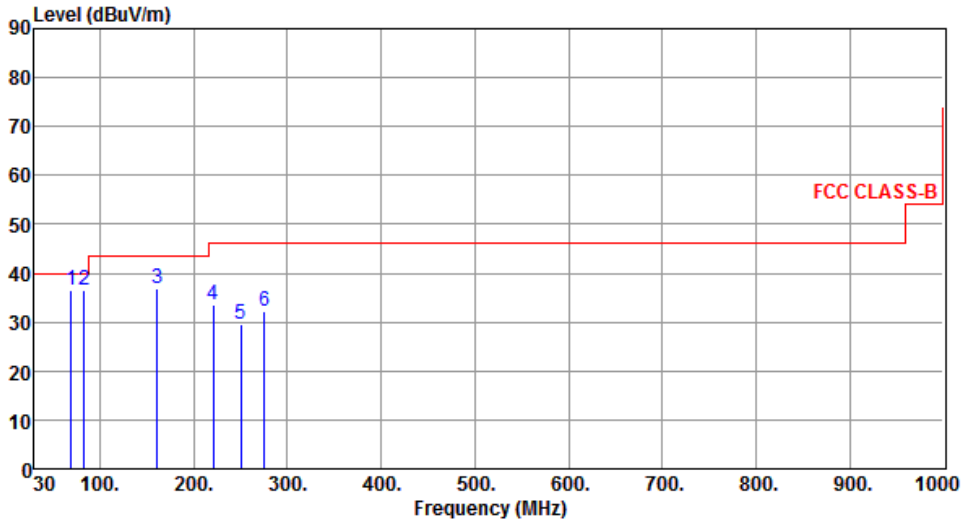


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

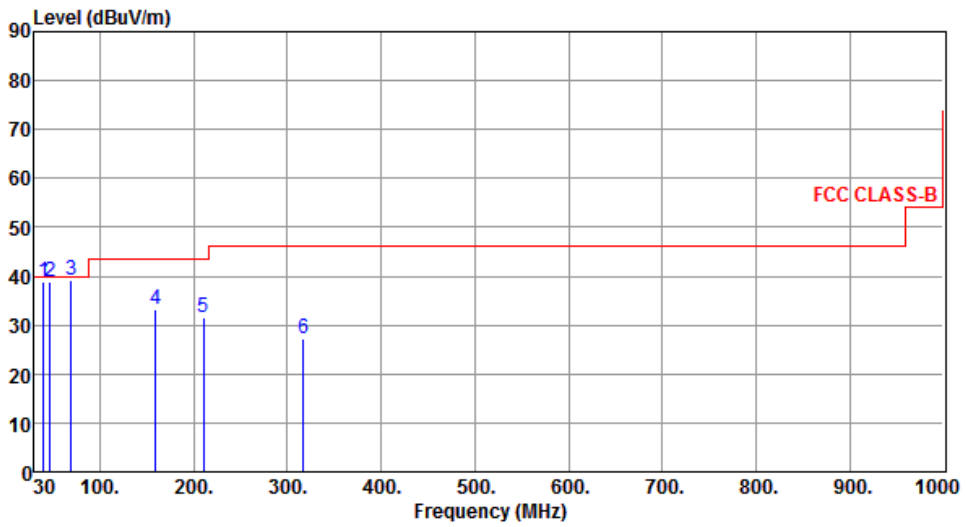
Modulation	ax (HE20)	**Test Freq. (MHz)**	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	69.56	36.54	40.00	-3.46	47.10	-10.56	QP	182	75
2	83.21	36.54	40.00	-3.46	50.24	-13.70	QP	100	132
3	160.95	37.03	43.50	-6.47	45.46	-8.43	Peak	---	---
4	221.09	33.40	46.00	-12.60	45.36	-11.96	Peak	---	---
5	250.25	29.44	46.00	-16.56	39.38	-9.94	Peak	---	---
6	275.37	32.31	46.00	-13.69	41.07	-8.76	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

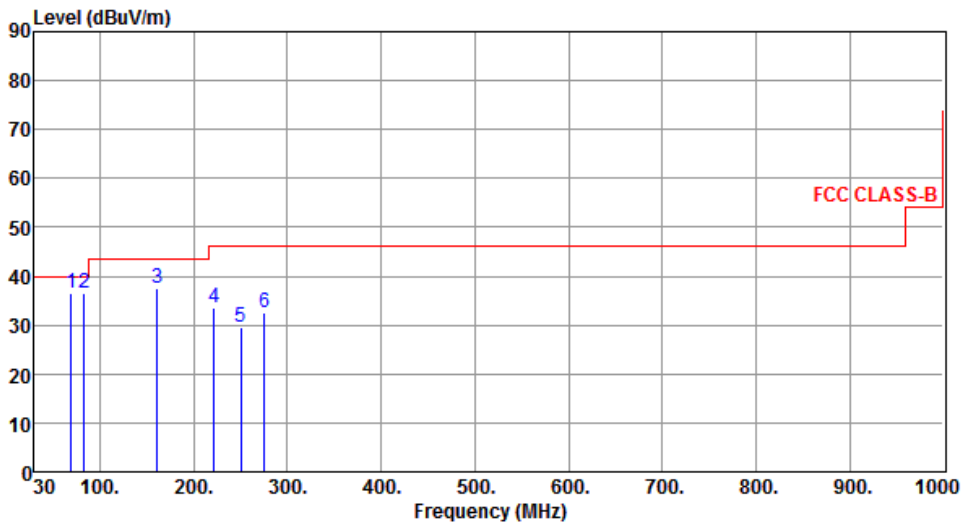
Modulation	ax (HE20)	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	39.44	38.76	40.00	-1.24	47.48	-8.72	QP	100	52
2	46.48	38.80	40.00	-1.20	47.16	-8.36	QP	100	45
3	69.24	39.23	40.00	-0.77	49.74	-10.51	QP	100	153
4	159.12	33.10	43.50	-10.40	41.43	-8.33	Peak	---	---
5	210.36	31.44	43.50	-12.06	43.50	-12.06	Peak	---	---
6	317.26	27.35	46.00	-18.65	34.81	-7.46	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

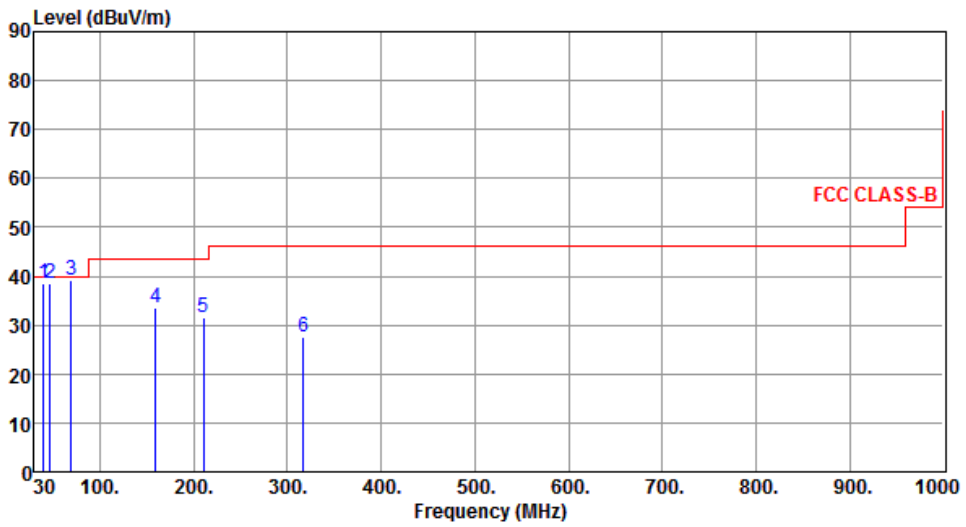
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	69.56	36.43	40.00	-3.57	46.99	-10.56	QP	181	78
2	83.18	36.44	40.00	-3.56	50.14	-13.70	QP	100	136
3	160.76	37.44	43.50	-6.06	45.87	-8.43	Peak	---	---
4	221.53	33.44	46.00	-12.56	45.41	-11.97	Peak	---	---
5	250.16	29.53	46.00	-16.47	39.47	-9.94	Peak	---	---
6	275.41	32.56	46.00	-13.44	41.32	-8.76	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		

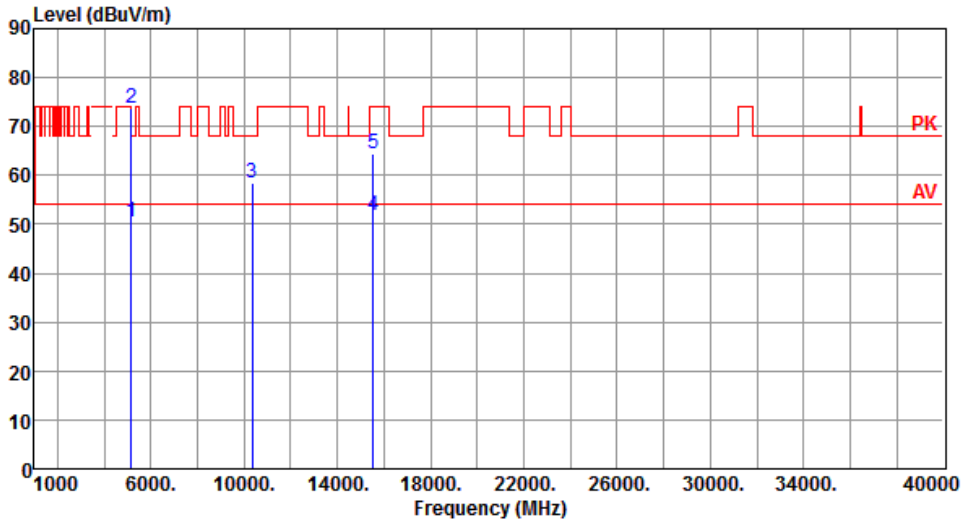


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	39.45	38.45	40.00	-1.55	47.17	-8.72	QP	100	48
2	46.43	38.47	40.00	-1.53	46.82	-8.35	QP	100	44
3	69.19	39.35	40.00	-0.65	49.85	-10.50	QP	100	151
4	159.36	33.41	43.50	-10.09	41.77	-8.36	Peak	---	---
5	210.28	31.55	43.50	-11.95	43.61	-12.06	Peak	---	---
6	317.46	27.48	46.00	-18.52	34.94	-7.46	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.5.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11a

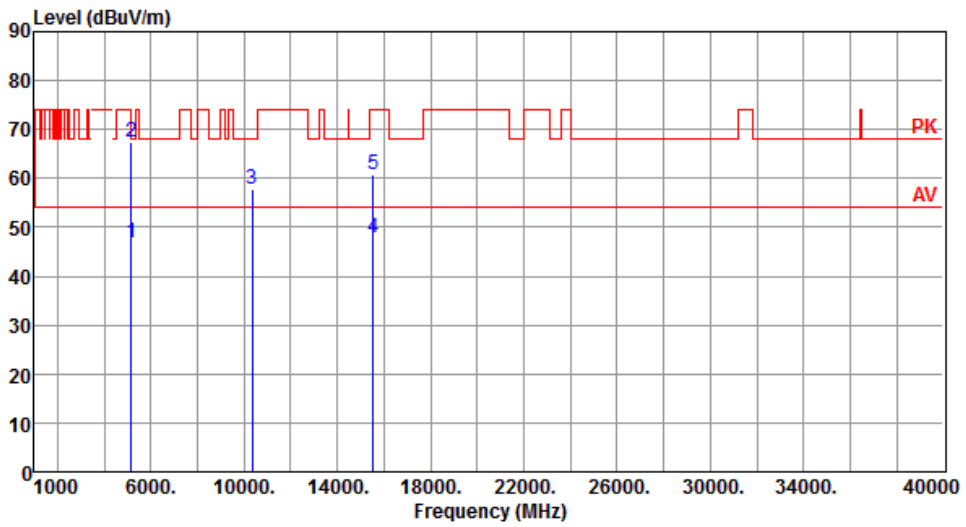
Modulation	11a	**Test Freq. (MHz)**	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	50.34	54.00	-3.66	45.70	4.64	Average	239	61
2	5150.00	73.66	74.00	-0.34	69.02	4.64	Peak	239	61
3	10360.00	58.45	68.20	-9.75	44.26	14.19	Peak	125	29
4	15540.00	51.66	54.00	-2.34	36.75	14.91	Average	144	15
5	15540.00	64.50	74.00	-9.50	49.59	14.91	Peak	144	15

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

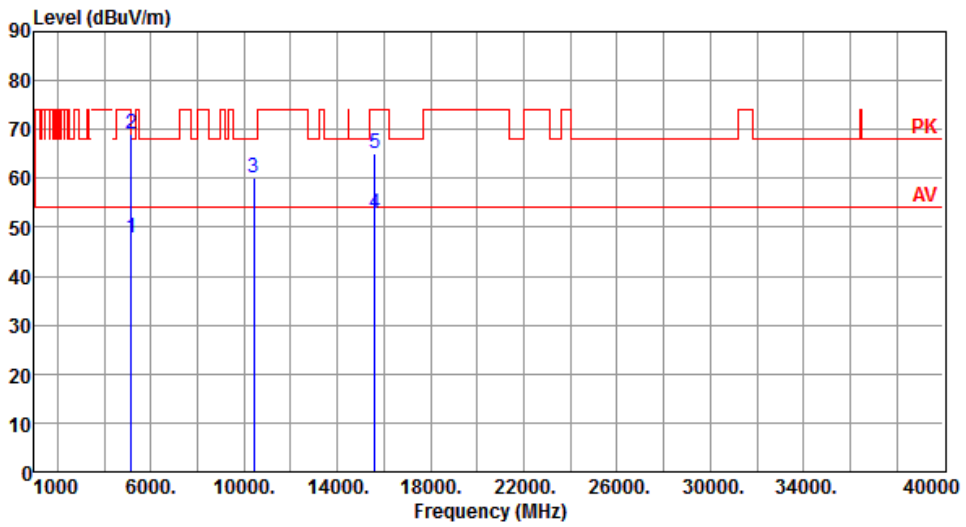
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.69	54.00	-7.31	42.05	4.64	Average	336	355
2	5150.00	67.38	74.00	-6.62	62.74	4.64	Peak	336	355
3	10360.00	57.87	68.20	-10.33	43.68	14.19	Peak	100	36
4	15540.00	47.70	54.00	-6.30	32.79	14.91	Average	100	2
5	15540.00	60.63	74.00	-13.37	45.72	14.91	Peak	100	2

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

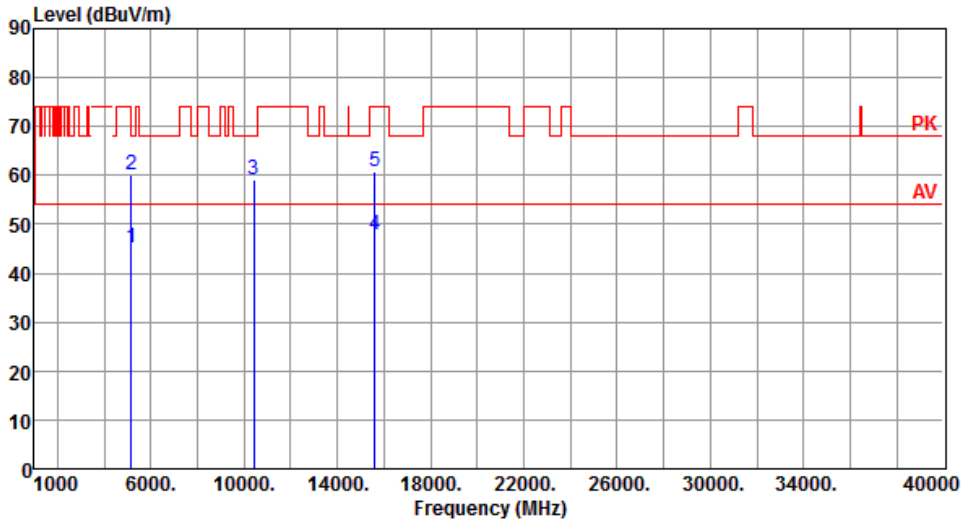
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.79	54.00	-6.21	43.15	4.64	Average	243	55
2	5150.00	69.08	74.00	-4.92	64.44	4.64	Peak	243	55
3	10400.00	60.16	68.20	-8.04	45.86	14.30	Peak	130	32
4	15600.00	52.67	54.00	-1.33	38.03	14.64	Average	142	43
5	15600.00	65.12	74.00	-8.88	50.48	14.64	Peak	142	43

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

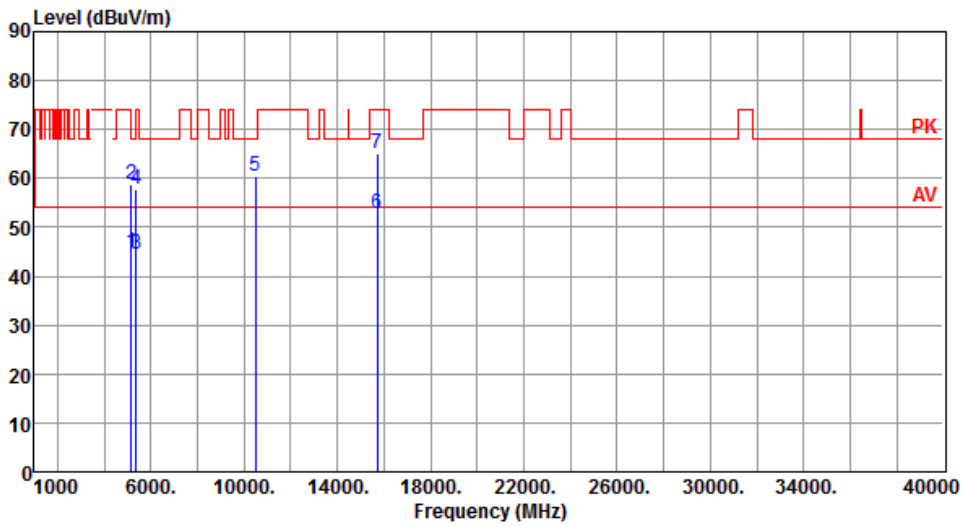
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.20	54.00	-8.80	40.56	4.64	Average	332	351
2	5150.00	59.95	74.00	-14.05	55.31	4.64	Peak	332	351
3	10400.00	59.19	68.20	-9.01	44.89	14.30	Peak	100	34
4	15600.00	47.75	54.00	-6.25	33.11	14.64	Average	100	1
5	15600.00	60.79	74.00	-13.21	46.15	14.64	Peak	100	1

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

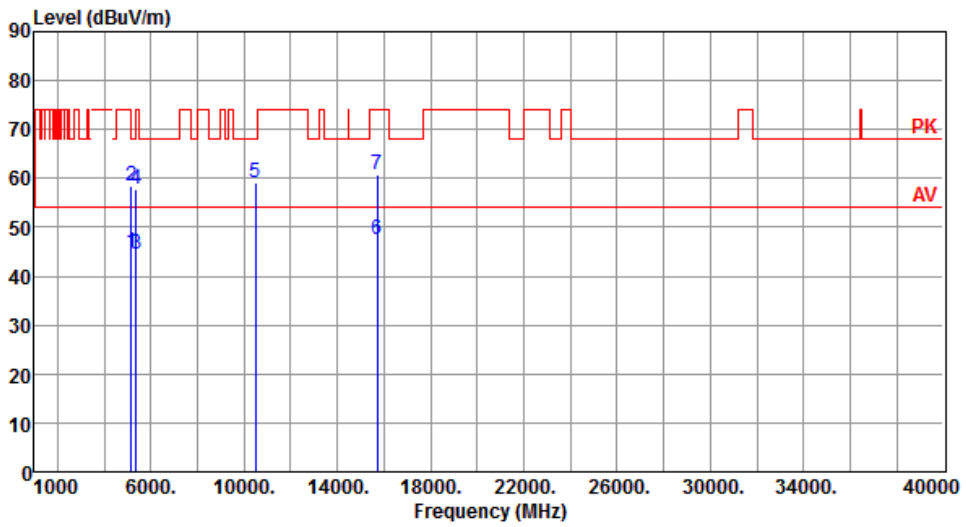
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.89	54.00	-9.11	40.25	4.64	Average	243	62
2	5150.00	58.90	74.00	-15.10	54.26	4.64	Peak	243	62
3	5350.00	44.50	54.00	-9.50	40.56	3.94	Average	243	62
4	5350.00	57.72	74.00	-16.28	53.78	3.94	Peak	243	62
5	10480.00	60.58	68.20	-7.62	46.12	14.46	Peak	135	10
6	15720.00	52.86	54.00	-1.14	38.65	14.21	Average	138	24
7	15720.00	65.07	74.00	-8.93	50.86	14.21	Peak	138	24

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

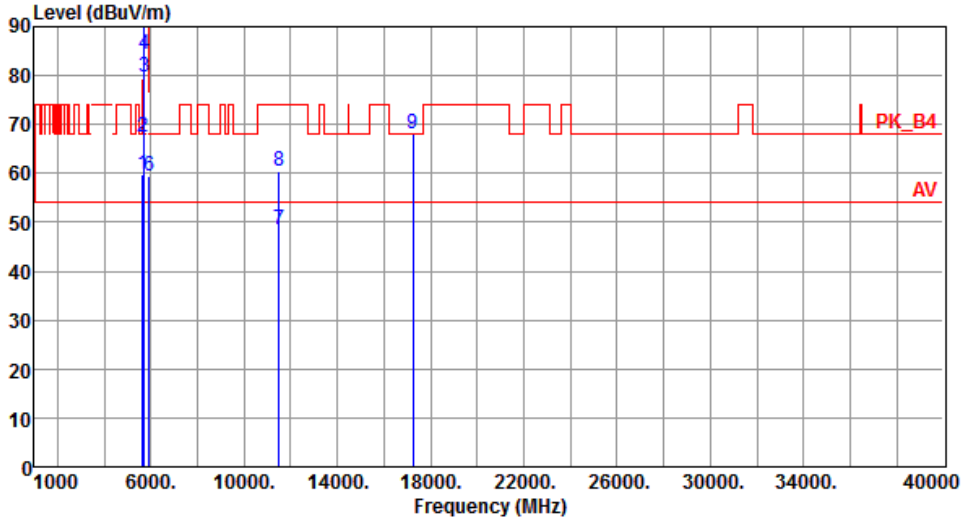
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.76	54.00	-9.24	40.12	4.64	Average	332	352
2	5150.00	58.41	74.00	-15.59	53.77	4.64	Peak	332	352
3	5350.00	44.50	54.00	-9.50	40.56	3.94	Average	332	352
4	5350.00	57.87	74.00	-16.13	53.93	3.94	Peak	332	352
5	10480.00	59.02	68.20	-9.18	44.56	14.46	Peak	100	35
6	15720.00	47.42	54.00	-6.58	33.21	14.21	Average	100	3
7	15720.00	60.94	74.00	-13.06	46.73	14.21	Peak	100	3

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

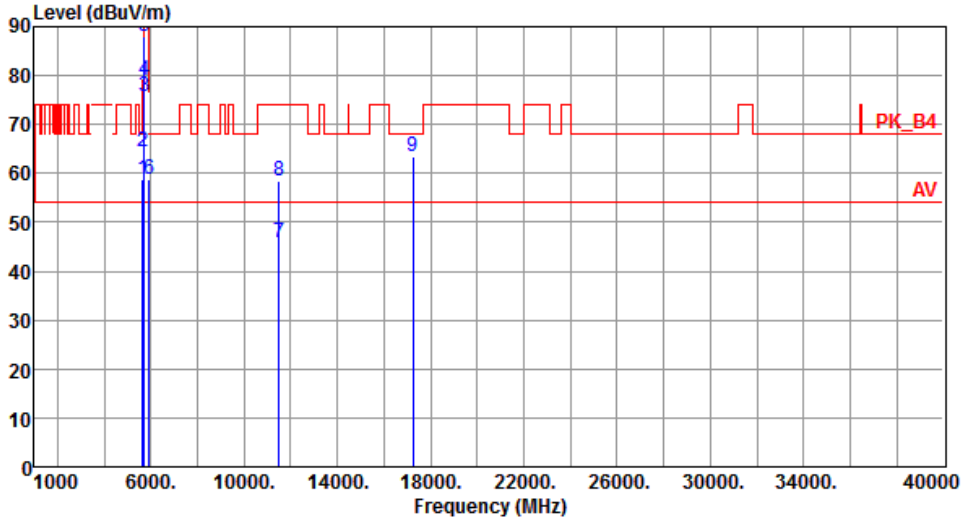
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.67	68.20	-8.53	55.13	4.54	Peak	167	302
2	5665.00	67.44	79.33	-11.89	62.85	4.59	Peak	167	302
3	5700.00	79.56	105.20	-25.64	74.88	4.68	Peak	167	302
4	5720.00	84.43	110.80	-26.37	79.62	4.81	Peak	167	302
5	5725.00	93.76	122.20	-28.44	88.91	4.85	Peak	167	302
6	5925.00	59.49	68.20	-8.71	54.06	5.43	Peak	167	302
7	11490.00	48.50	54.00	-5.50	33.87	14.63	Average	147	326
8	11490.00	60.58	74.00	-13.42	45.95	14.63	Peak	147	326
9	17235.00	67.98	68.20	-0.22	50.22	17.76	Peak	144	27

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

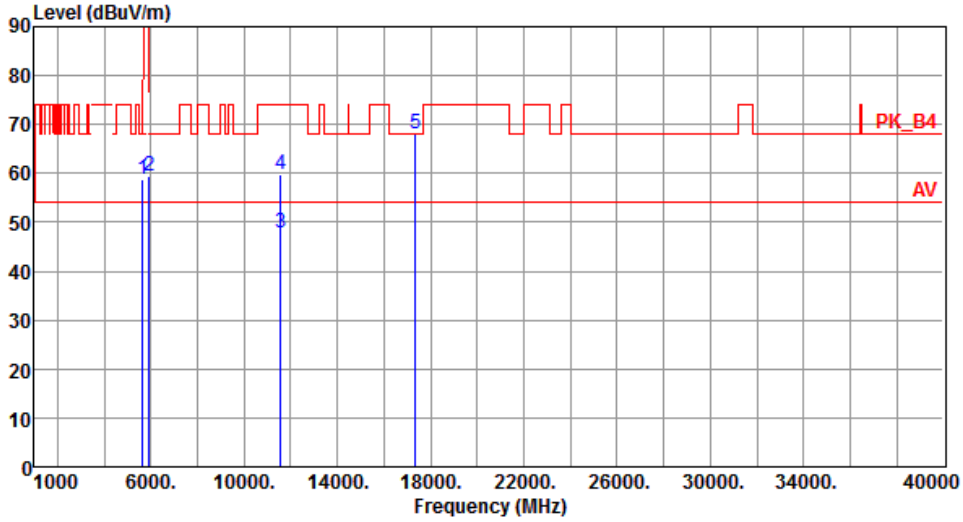
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.76	68.20	-9.44	54.22	4.54	Peak	163	45
2	5665.00	64.37	79.33	-14.96	59.78	4.59	Peak	163	45
3	5700.00	75.61	105.20	-29.59	70.93	4.68	Peak	163	45
4	5720.00	79.09	110.80	-31.71	74.28	4.81	Peak	163	45
5	5725.00	88.00	122.20	-34.20	83.15	4.85	Peak	163	45
6	5925.00	58.87	68.20	-9.33	53.44	5.43	Peak	163	45
7	11490.00	45.89	54.00	-8.11	31.26	14.63	Average	115	353
8	11490.00	58.42	74.00	-15.58	43.79	14.63	Peak	115	353
9	17235.00	63.54	68.20	-4.66	45.78	17.76	Peak	288	345

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

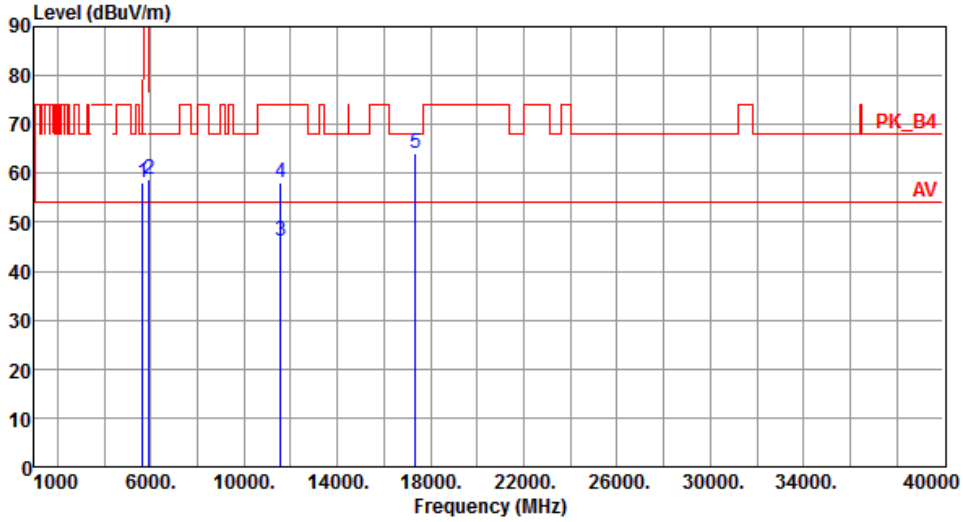
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.67	68.20	-9.53	54.13	4.54	Peak	166	300
2	5925.00	59.48	68.20	-8.72	54.05	5.43	Peak	166	300
3	11570.00	47.87	54.00	-6.13	33.37	14.50	Average	237	333
4	11570.00	59.72	74.00	-14.28	45.22	14.50	Peak	237	333
5	17355.00	68.06	68.20	-0.14	49.70	18.36	Peak	100	1

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

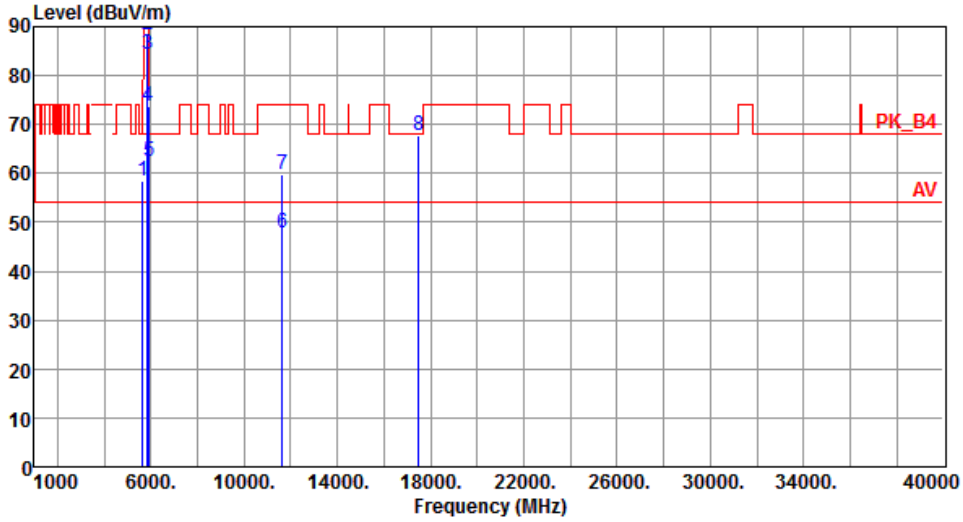
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.99	68.20	-10.21	53.45	4.54	Peak	163	41
2	5925.00	58.90	68.20	-9.30	53.47	5.43	Peak	163	41
3	11570.00	46.02	54.00	-7.98	31.52	14.50	Average	115	355
4	11570.00	58.25	74.00	-15.75	43.75	14.50	Peak	115	355
5	17355.00	64.16	68.20	-4.04	45.80	18.36	Peak	289	345

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

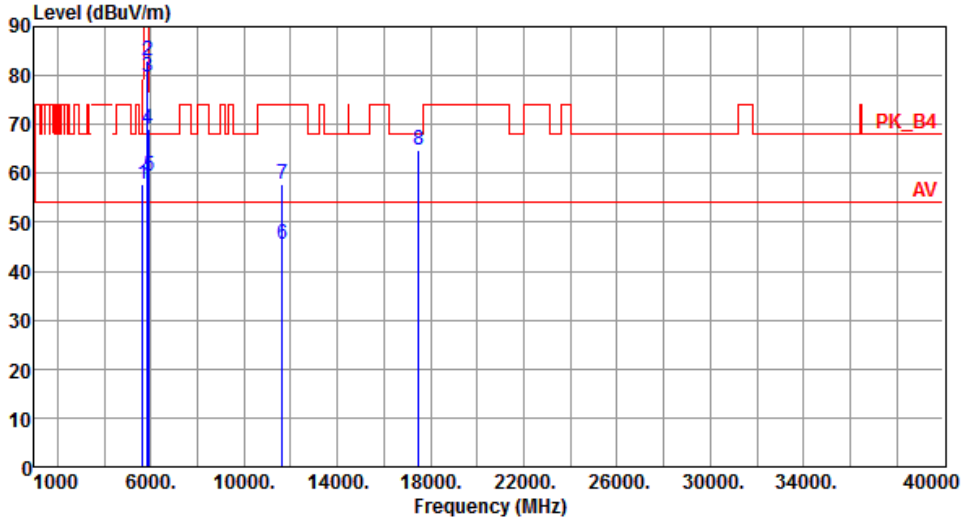
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.58	68.20	-9.62	54.04	4.54	Peak	166	305
2	5850.00	88.26	122.20	-33.94	82.81	5.45	Peak	166	305
3	5855.00	84.47	110.80	-26.33	79.03	5.44	Peak	166	305
4	5875.00	73.71	105.20	-31.49	68.27	5.44	Peak	166	305
5	5925.00	62.39	68.20	-5.81	56.96	5.43	Peak	166	305
6	11650.00	47.88	54.00	-6.12	33.67	14.21	Average	143	325
7	11650.00	59.85	74.00	-14.15	45.64	14.21	Peak	143	325
8	17475.00	67.76	68.20	-0.44	48.90	18.86	Peak	226	27

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5825
Polarization	Vertical		

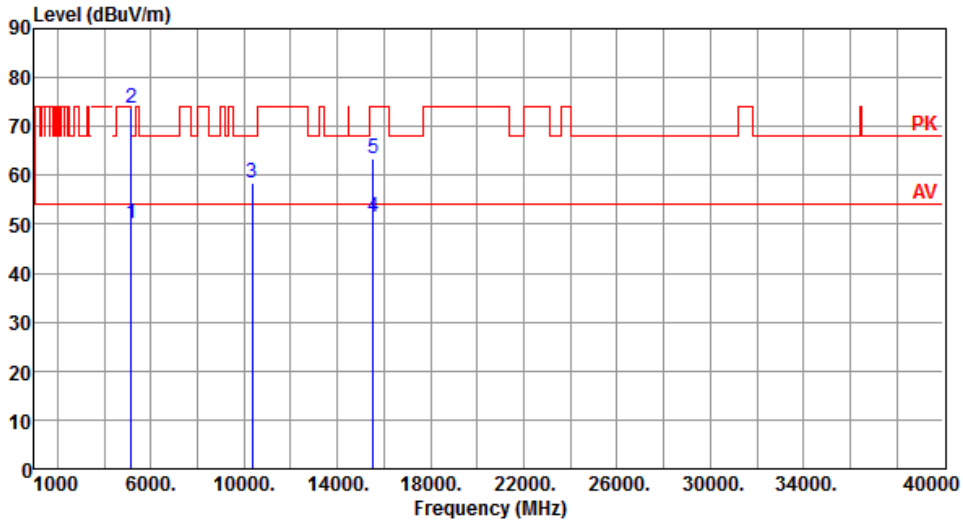


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.78	68.20	-10.42	53.24	4.54	Peak	163	43
2	5850.00	82.86	122.20	-39.34	77.41	5.45	Peak	163	43
3	5855.00	79.67	110.80	-31.13	74.23	5.44	Peak	163	43
4	5875.00	68.92	105.20	-36.28	63.48	5.44	Peak	163	43
5	5925.00	59.58	68.20	-8.62	54.15	5.43	Peak	163	43
6	11650.00	45.65	54.00	-8.35	31.44	14.21	Average	112	352
7	11650.00	57.68	74.00	-16.32	43.47	14.21	Peak	112	352
8	17475.00	64.61	68.20	-3.59	45.75	18.86	Peak	285	341

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for ax (HE20)

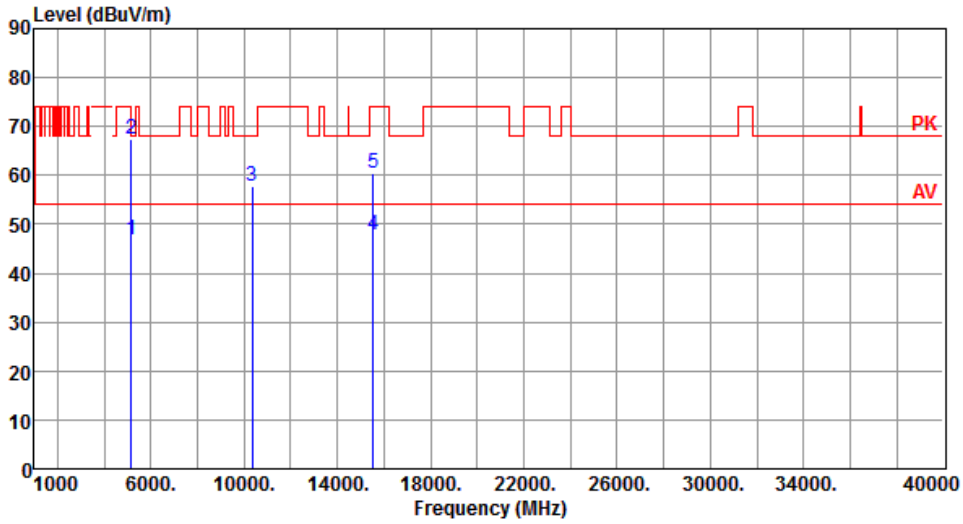
Modulation	ax (HE20)	**Test Freq. (MHz)**	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	50.28	54.00	-3.72	45.64	4.64	Average	232	42
2	5150.00	73.79	74.00	-0.21	69.15	4.64	Peak	232	42
3	10360.00	58.44	68.20	-9.76	44.25	14.19	Peak	151	19
4	15540.00	51.48	54.00	-2.52	36.57	14.91	Average	149	36
5	15540.00	63.48	74.00	-10.52	48.57	14.91	Peak	149	36

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

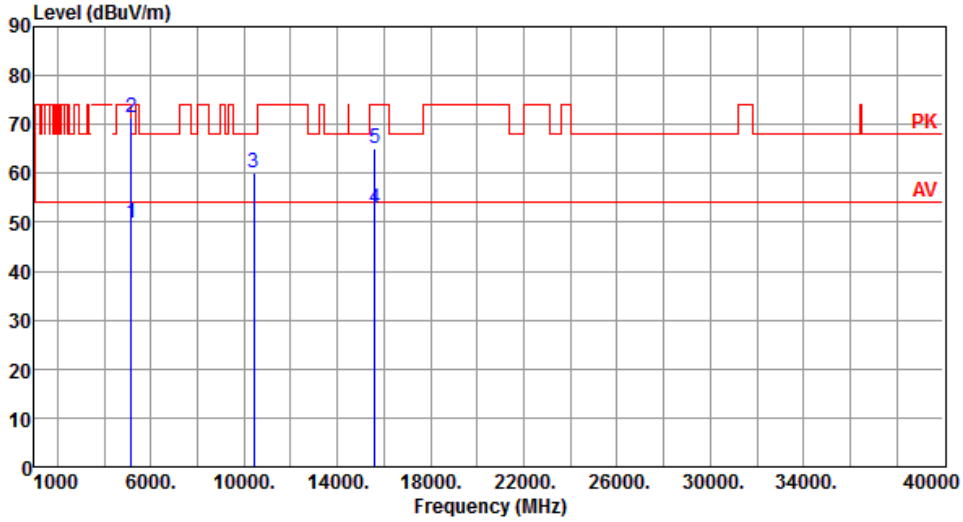
Modulation	ax (HE20)	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.77	54.00	-7.23	42.13	4.64	Average	335	353
2	5150.00	67.29	74.00	-6.71	62.65	4.64	Peak	335	353
3	10360.00	57.70	68.20	-10.50	43.51	14.19	Peak	100	34
4	15540.00	47.92	54.00	-6.08	33.01	14.91	Average	100	1
5	15540.00	60.60	74.00	-13.40	45.69	14.91	Peak	100	1

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

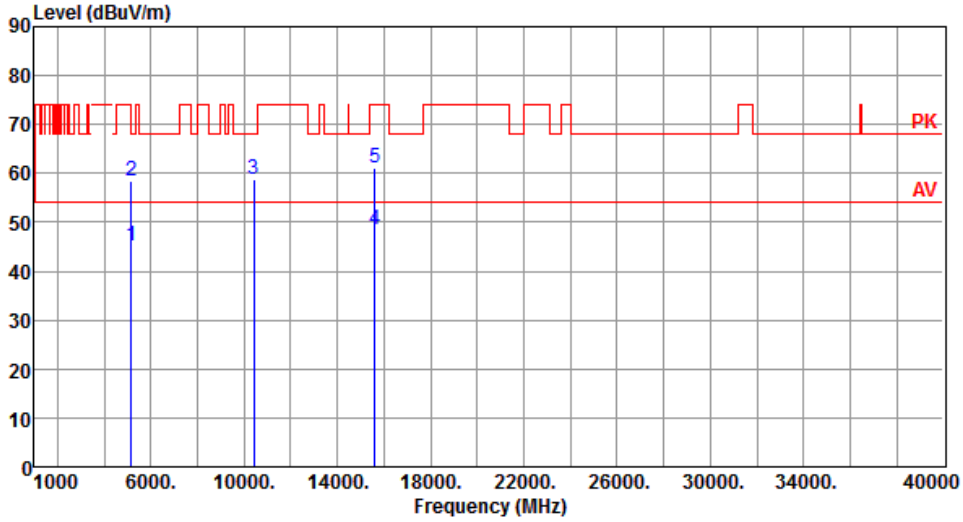
Modulation	ax (HE20)	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.76	54.00	-4.24	45.12	4.64	Average	233	44
2	5150.00	71.43	74.00	-2.57	66.79	4.64	Peak	233	44
3	10400.00	60.18	68.20	-8.02	45.88	14.30	Peak	147	20
4	15600.00	52.89	54.00	-1.11	38.25	14.64	Average	152	38
5	15600.00	65.24	74.00	-8.76	50.60	14.64	Peak	152	38

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

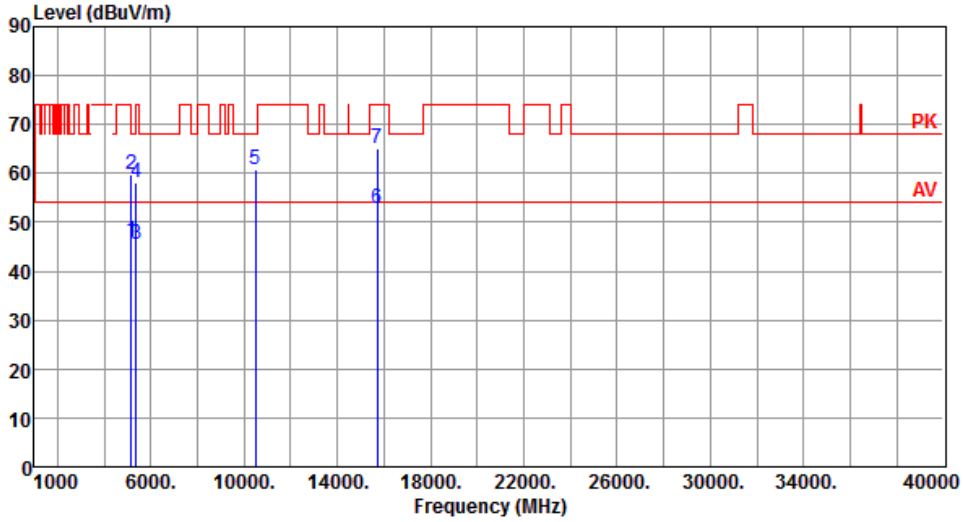
Modulation	ax (HE20)	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.20	54.00	-8.80	40.56	4.64	Average	333	351
2	5150.00	58.32	74.00	-15.68	53.68	4.64	Peak	333	351
3	10400.00	58.64	68.20	-9.56	44.34	14.30	Peak	141	4
4	15600.00	48.35	54.00	-5.65	33.71	14.64	Average	128	348
5	15600.00	61.10	74.00	-12.90	46.46	14.64	Peak	128	348

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

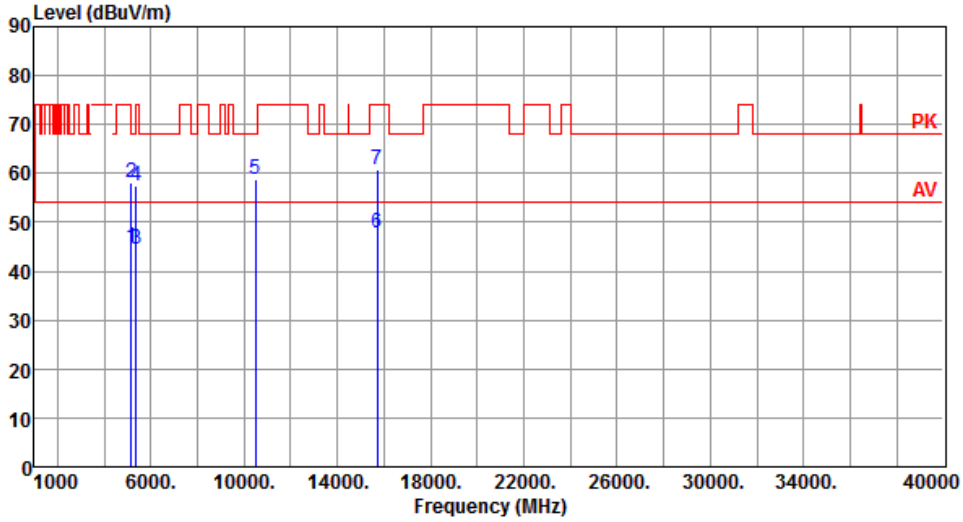
Modulation	ax (HE20)	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.20	54.00	-7.80	41.56	4.64	Average	235	41
2	5150.00	59.90	74.00	-14.10	55.26	4.64	Peak	235	41
3	5350.00	45.62	54.00	-8.38	41.68	3.94	Average	235	41
4	5350.00	58.06	74.00	-15.94	54.12	3.94	Peak	235	41
5	10480.00	60.71	68.20	-7.49	46.25	14.46	Peak	140	12
6	15720.00	52.95	54.00	-1.05	38.74	14.21	Average	135	26
7	15720.00	65.24	74.00	-8.76	51.03	14.21	Peak	135	26

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

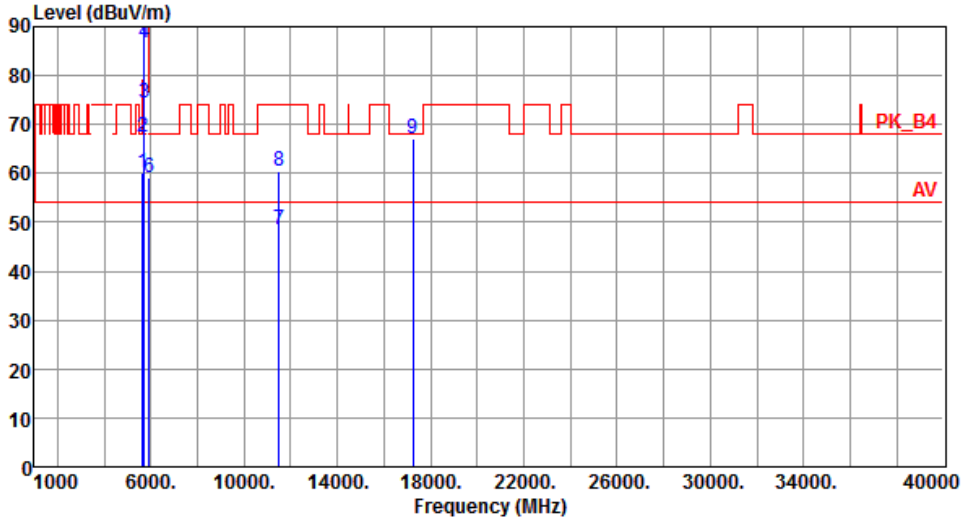
Modulation	ax (HE20)	Test Freq. (MHz)	5240
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.96	54.00	-9.04	40.32	4.64	Average	333	354
2	5150.00	58.12	74.00	-15.88	53.48	4.64	Peak	333	354
3	5350.00	44.39	54.00	-9.61	40.45	3.94	Average	333	354
4	5350.00	57.50	74.00	-16.50	53.56	3.94	Peak	333	354
5	10480.00	58.71	68.20	-9.49	44.25	14.46	Peak	100	34
6	15720.00	47.77	54.00	-6.23	33.56	14.21	Average	100	5
7	15720.00	60.79	74.00	-13.21	46.58	14.21	Peak	100	5

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

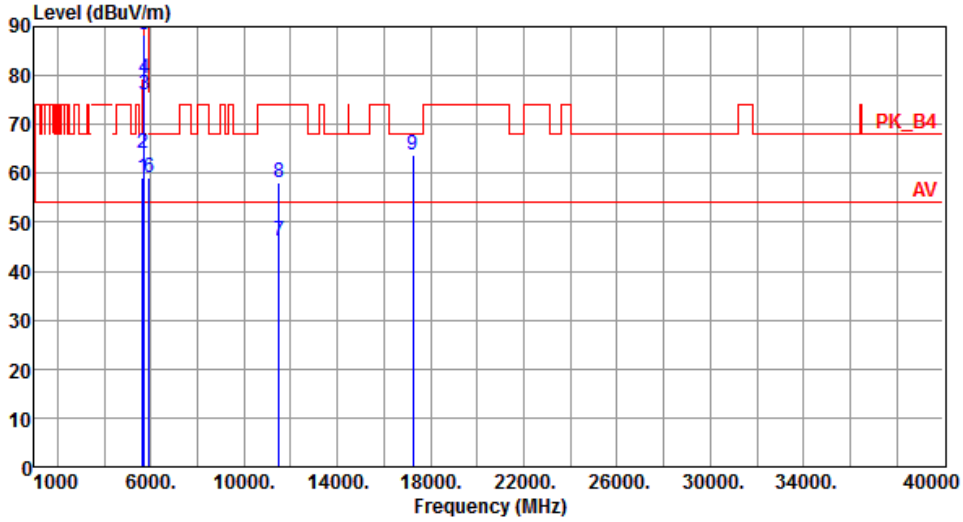
Modulation	ax (HE20)	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.01	68.20	-8.19	55.47	4.54	Peak	158	300
2	5665.00	67.26	79.33	-12.07	62.67	4.59	Peak	158	300
3	5700.00	74.41	105.20	-30.79	69.73	4.68	Peak	158	300
4	5720.00	86.67	110.80	-24.13	81.86	4.81	Peak	158	300
5	5725.00	93.44	122.20	-28.76	88.59	4.85	Peak	158	300
6	5925.00	59.22	68.20	-8.98	53.79	5.43	Peak	158	300
7	11490.00	48.35	54.00	-5.65	33.72	14.63	Average	143	324
8	11490.00	60.50	74.00	-13.50	45.87	14.63	Peak	143	324
9	17235.00	66.98	68.20	-1.22	49.22	17.76	Peak	155	30

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

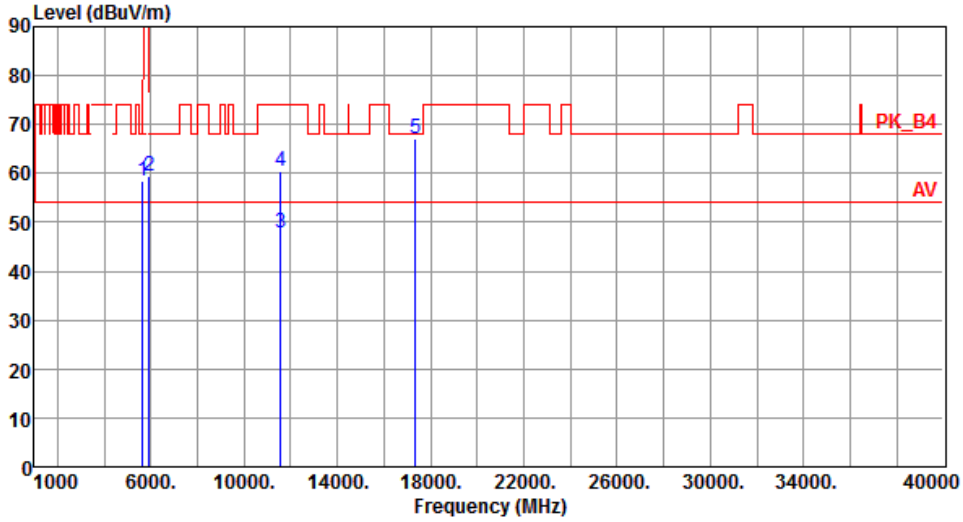
Modulation	ax (HE20)	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.97	68.20	-9.23	54.43	4.54	Peak	162	36
2	5665.00	64.12	79.33	-15.21	59.53	4.59	Peak	162	36
3	5700.00	76.21	105.20	-28.99	71.53	4.68	Peak	162	36
4	5720.00	79.23	110.80	-31.57	74.42	4.81	Peak	162	36
5	5725.00	88.29	122.20	-33.91	83.44	4.85	Peak	162	36
6	5925.00	59.14	68.20	-9.06	53.71	5.43	Peak	162	36
7	11490.00	46.07	54.00	-7.93	31.44	14.63	Average	112	351
8	11490.00	58.16	74.00	-15.84	43.53	14.63	Peak	112	351
9	17235.00	63.70	68.20	-4.50	45.94	17.76	Peak	285	341

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

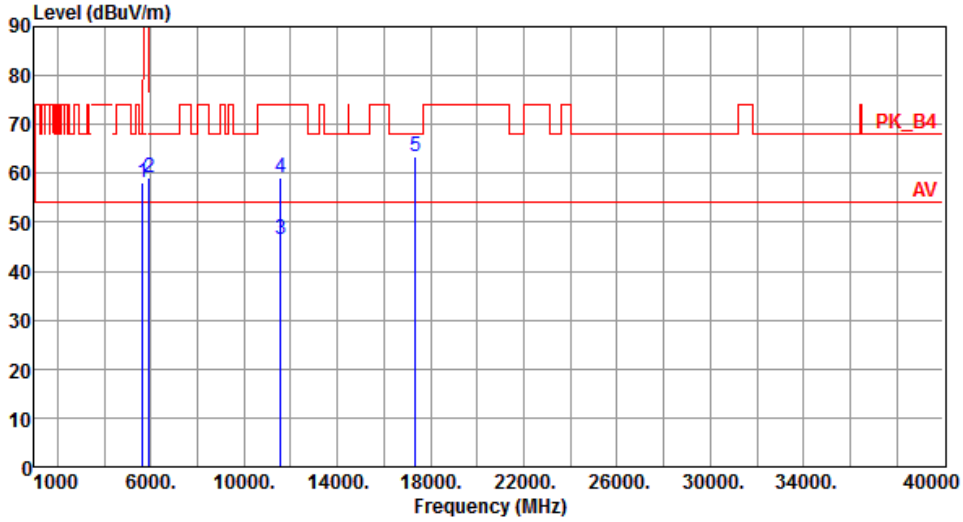
Modulation	ax (HE20)	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.51	68.20	-9.69	53.97	4.54	Peak	165	305
2	5925.00	59.44	68.20	-8.76	54.01	5.43	Peak	165	305
3	11570.00	47.81	54.00	-6.19	33.31	14.50	Average	145	329
4	11570.00	60.49	74.00	-13.51	45.99	14.50	Peak	145	329
5	17355.00	67.10	68.20	-1.10	48.74	18.36	Peak	226	28

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

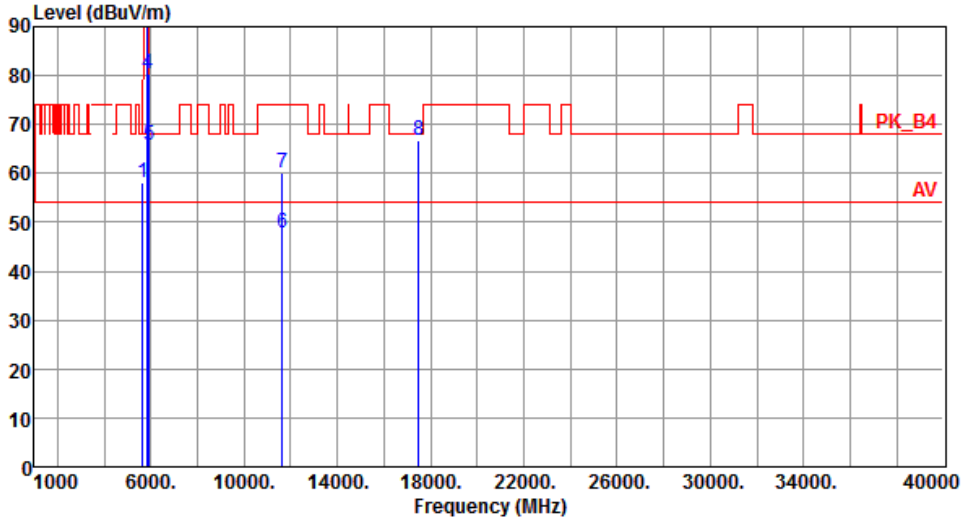
Modulation	ax (HE20)	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.06	68.20	-10.14	53.52	4.54	Peak	161	40
2	5925.00	59.08	68.20	-9.12	53.65	5.43	Peak	161	40
3	11570.00	46.66	54.00	-7.34	32.16	14.50	Average	119	341
4	11570.00	59.02	74.00	-14.98	44.52	14.50	Peak	119	341
5	17355.00	63.36	68.20	-4.84	45.00	18.36	Peak	113	330

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

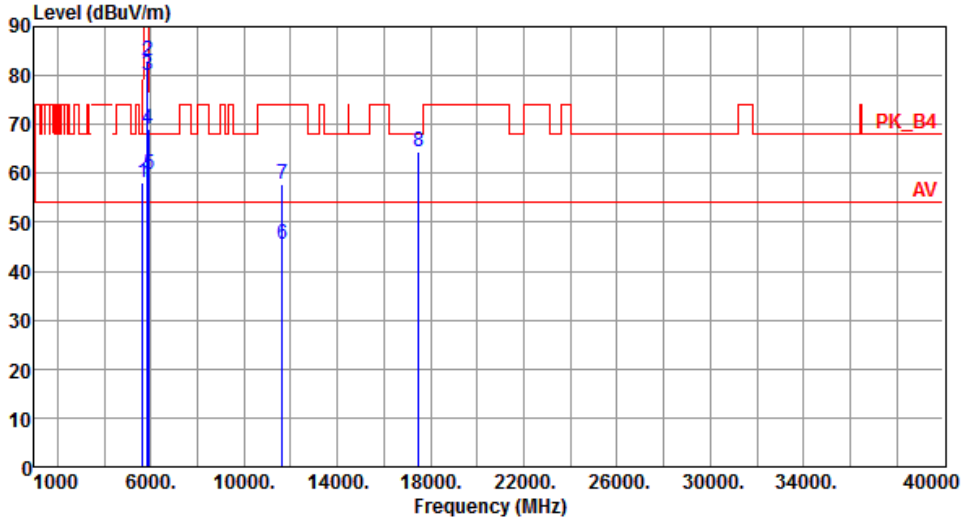
Modulation	ax (HE20)	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.26	68.20	-9.94	53.72	4.54	Peak	166	304
2	5850.00	94.04	122.20	-28.16	88.59	5.45	Peak	166	304
3	5855.00	88.86	110.80	-21.94	83.42	5.44	Peak	166	304
4	5875.00	80.28	105.20	-24.92	74.84	5.44	Peak	166	304
5	5925.00	65.70	68.20	-2.50	60.27	5.43	Peak	166	304
6	11650.00	47.94	54.00	-6.06	33.73	14.21	Average	143	325
7	11650.00	59.95	74.00	-14.05	45.74	14.21	Peak	143	325
8	17475.00	66.83	68.20	-1.37	47.97	18.86	Peak	228	29

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax (HE20)	Test Freq. (MHz)	5825
Polarization	Vertical		

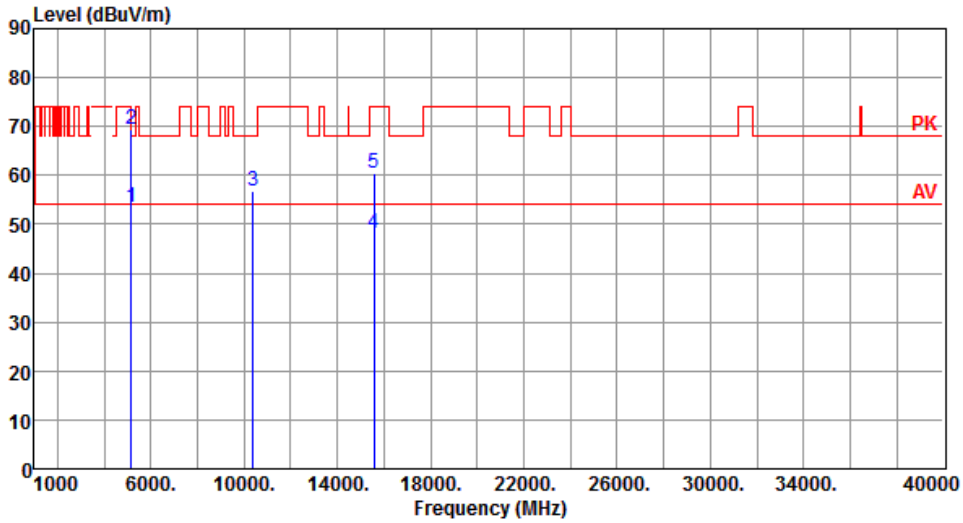


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.99	68.20	-10.21	53.45	4.54	Peak	162	41
2	5850.00	82.97	122.20	-39.23	77.52	5.45	Peak	162	41
3	5855.00	79.87	110.80	-30.93	74.43	5.44	Peak	162	41
4	5875.00	69.21	105.20	-35.99	63.77	5.44	Peak	162	41
5	5925.00	59.71	68.20	-8.49	54.28	5.43	Peak	162	41
6	11650.00	45.56	54.00	-8.44	31.35	14.21	Average	110	351
7	11650.00	57.73	74.00	-16.27	43.52	14.21	Peak	110	351
8	17475.00	64.28	68.20	-3.92	45.42	18.86	Peak	282	342

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for ax (HE40)

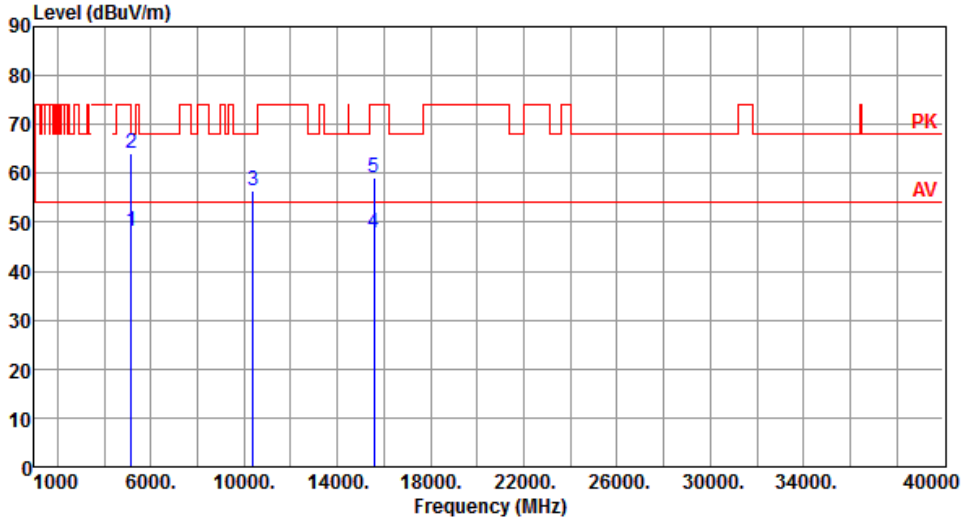
Modulation	ax (HE40)	**Test Freq. (MHz)**	5190
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	53.58	54.00	-0.42	48.94	4.64	Average	237	47
2	5150.00	69.56	74.00	-4.44	64.92	4.64	Peak	237	47
3	10380.00	56.81	68.20	-11.39	42.57	14.24	Peak	100	40
4	15570.00	48.02	54.00	-5.98	33.24	14.78	Average	149	42
5	15570.00	60.46	74.00	-13.54	45.68	14.78	Peak	149	42

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

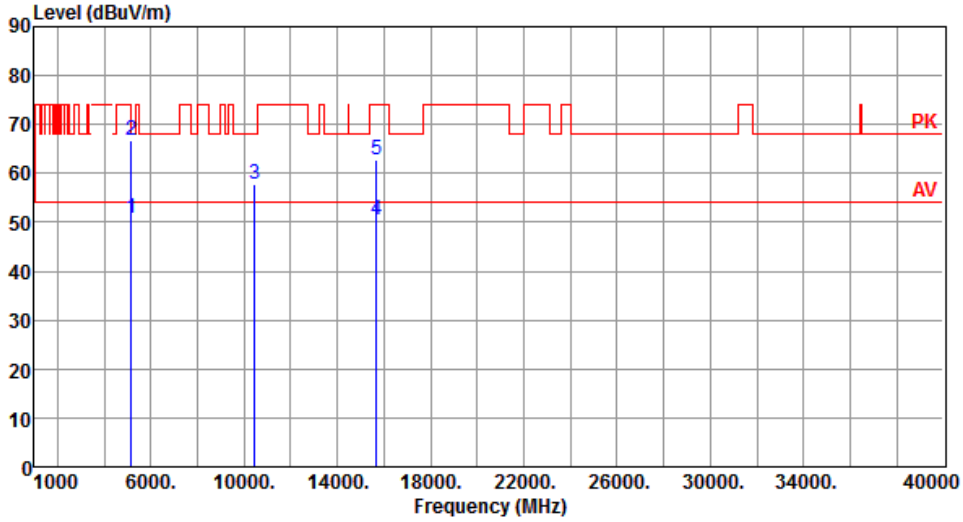
Modulation	ax (HE40)	Test Freq. (MHz)	5190
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.17	54.00	-5.83	43.53	4.64	Average	335	352
2	5150.00	64.16	74.00	-9.84	59.52	4.64	Peak	335	352
3	10380.00	56.46	68.20	-11.74	42.22	14.24	Peak	100	96
4	15570.00	47.83	54.00	-6.17	33.05	14.78	Average	150	40
5	15570.00	59.09	74.00	-14.91	44.31	14.78	Peak	100	176

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

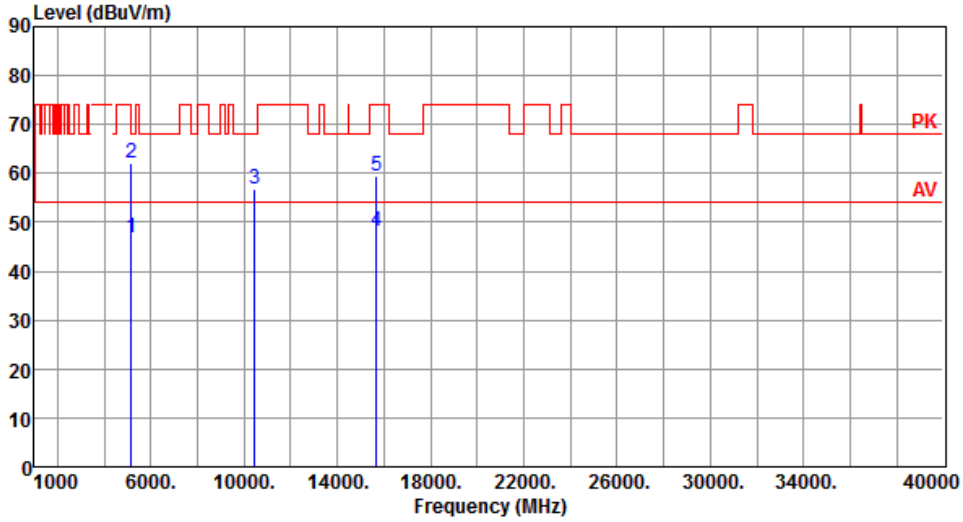
Modulation	ax (HE40)	Test Freq. (MHz)	5230
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	50.84	54.00	-3.16	46.20	4.64	Average	237	52
2	5150.00	66.69	74.00	-7.31	62.05	4.64	Peak	237	52
3	10460.00	57.68	68.20	-10.52	43.26	14.42	Peak	151	25
4	15690.00	50.40	54.00	-3.60	36.14	14.26	Average	148	40
5	15690.00	62.83	74.00	-11.17	48.57	14.26	Peak	148	40

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

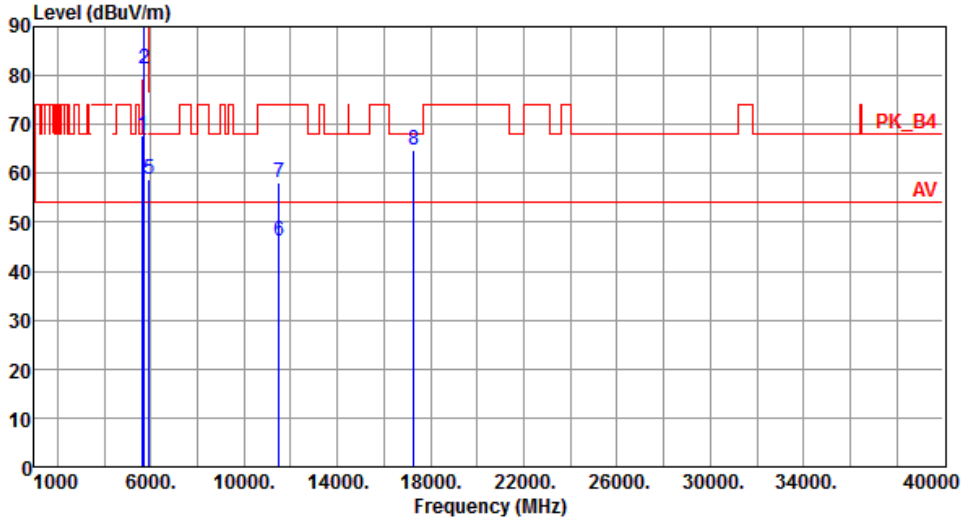
Modulation	ax (HE40)	Test Freq. (MHz)	5230
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.85	54.00	-7.15	42.21	4.64	Average	335	353
2	5150.00	62.20	74.00	-11.80	57.56	4.64	Peak	335	353
3	10460.00	56.63	68.20	-11.57	42.21	14.42	Peak	100	172
4	15690.00	48.01	54.00	-5.99	33.75	14.26	Average	152	43
5	15690.00	59.38	74.00	-14.62	45.12	14.26	Peak	162	63

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

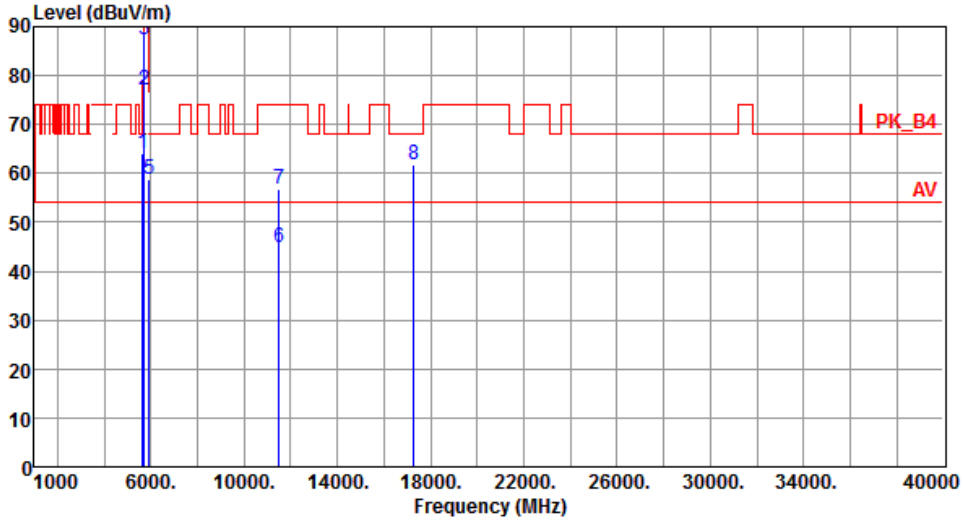
Modulation	ax (HE40)	Test Freq. (MHz)	5755
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	67.79	68.20	-0.41	63.25	4.54	Peak	155	300
2	5700.00	81.47	105.20	-23.73	76.79	4.68	Peak	155	300
3	5720.00	92.50	110.80	-18.30	87.69	4.81	Peak	155	300
4	5725.00	93.47	122.20	-28.73	88.62	4.85	Peak	155	300
5	5925.00	58.88	68.20	-9.32	53.45	5.43	Peak	155	300
6	11510.00	46.07	54.00	-7.93	31.46	14.61	Average	135	327
7	11510.00	58.07	74.00	-15.93	43.46	14.61	Peak	135	327
8	17265.00	64.73	68.20	-3.47	46.86	17.87	Peak	225	26

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

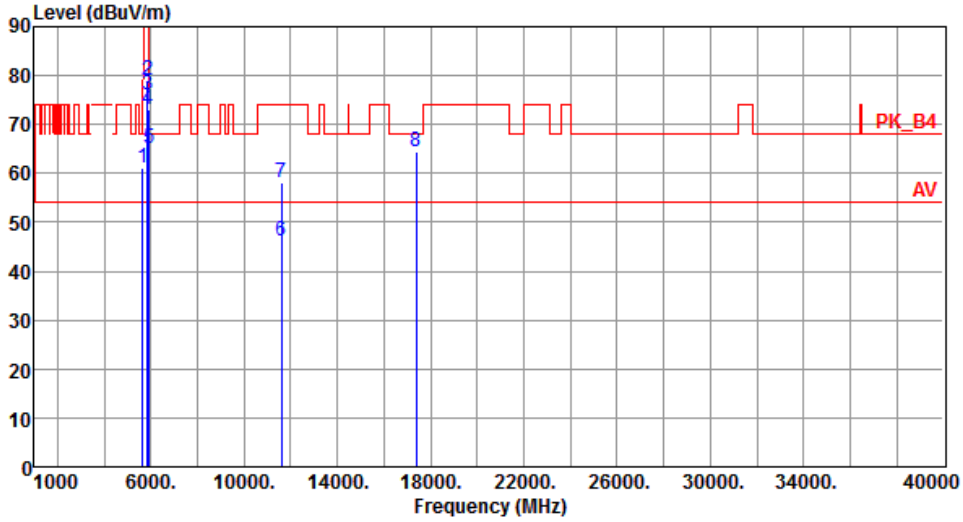
Modulation	ax (HE40)	Test Freq. (MHz)	5755
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	64.18	68.20	-4.02	59.64	4.54	Peak	163	40
2	5700.00	76.93	105.20	-28.27	72.25	4.68	Peak	163	40
3	5720.00	87.25	110.80	-23.55	82.44	4.81	Peak	163	40
4	5725.00	88.63	122.20	-33.57	83.78	4.85	Peak	163	40
5	5925.00	58.74	68.20	-9.46	53.31	5.43	Peak	163	40
6	11510.00	44.94	54.00	-9.06	30.33	14.61	Average	115	352
7	11510.00	56.73	74.00	-17.27	42.12	14.61	Peak	115	352
8	17265.00	61.65	68.20	-6.55	43.78	17.87	Peak	290	341

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

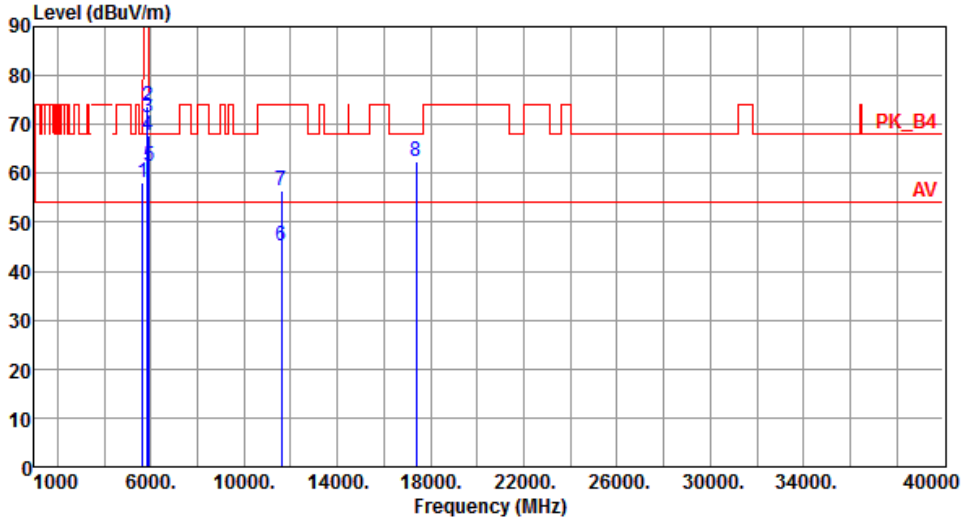
Modulation	ax (HE40)	Test Freq. (MHz)	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	61.12	68.20	-7.08	56.58	4.54	Peak	149	305
2	5850.00	78.88	122.20	-43.32	73.43	5.45	Peak	149	305
3	5855.00	75.91	110.80	-34.89	70.47	5.44	Peak	149	305
4	5875.00	73.00	105.20	-32.20	67.56	5.44	Peak	149	305
5	5925.00	64.97	68.20	-3.23	59.54	5.43	Peak	149	305
6	11590.00	46.11	54.00	-7.89	31.65	14.46	Average	140	326
7	11590.00	57.98	74.00	-16.02	43.52	14.46	Peak	140	326
8	17385.00	64.42	68.20	-3.78	45.86	18.56	Peak	230	31

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax (HE40)	Test Freq. (MHz)	5795
Polarization	Vertical		

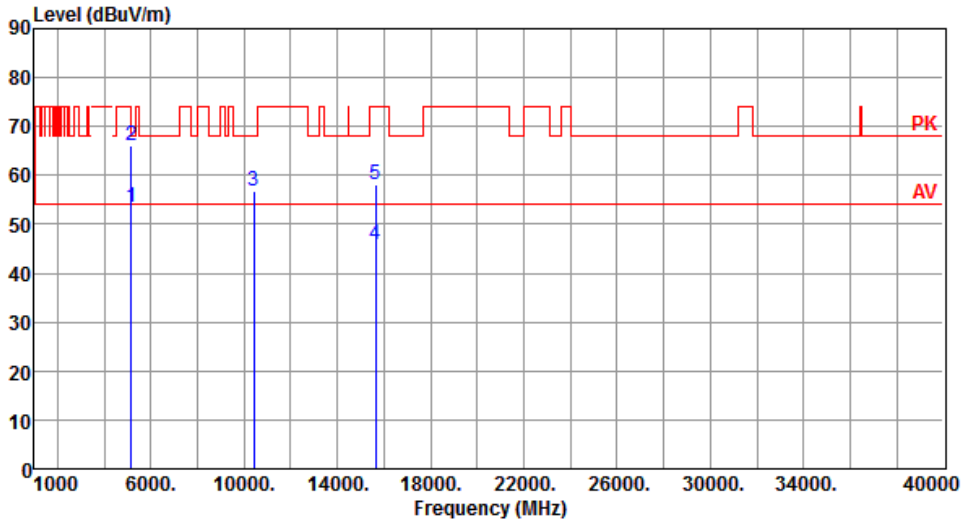


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.17	68.20	-10.03	53.63	4.54	Peak	163	45
2	5850.00	73.85	122.20	-48.35	68.40	5.45	Peak	163	45
3	5855.00	71.43	110.80	-39.37	65.99	5.44	Peak	163	45
4	5875.00	67.88	105.20	-37.32	62.44	5.44	Peak	163	45
5	5925.00	61.39	68.20	-6.81	55.96	5.43	Peak	163	45
6	11590.00	45.01	54.00	-8.99	30.55	14.46	Average	112	341
7	11590.00	56.58	74.00	-17.42	42.12	14.46	Peak	112	341
8	17385.00	62.52	68.20	-5.68	43.96	18.56	Peak	288	346

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for ax (HE80)

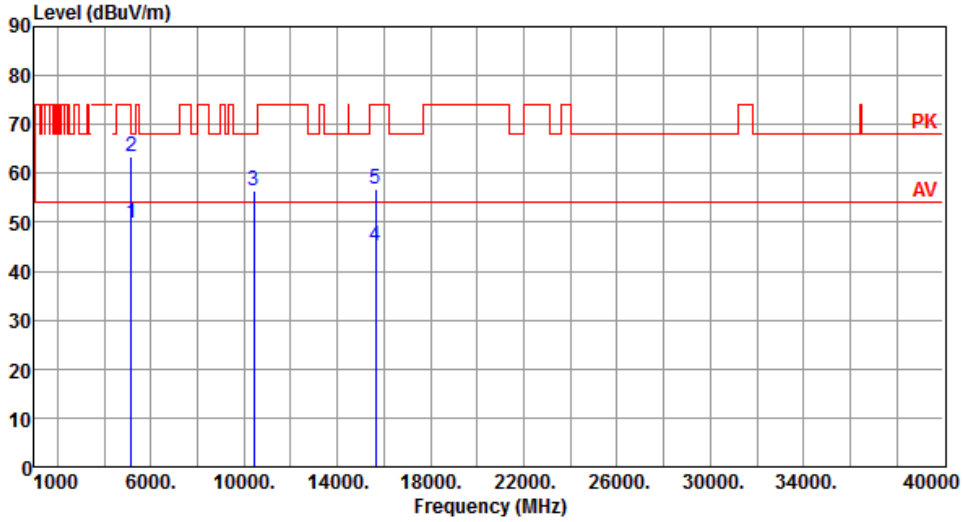
Modulation	ax (HE80)	**Test Freq. (MHz)**	5210
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	53.55	54.00	-0.45	48.91	4.64	Average	247	47
2	5150.00	65.93	74.00	-8.07	61.29	4.64	Peak	247	47
3	10420.00	56.93	68.20	-11.27	42.59	14.34	Peak	100	30
4	15630.00	45.78	54.00	-8.22	31.27	14.51	Average	100	40
5	15630.00	58.05	74.00	-15.95	43.54	14.51	Peak	100	40

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

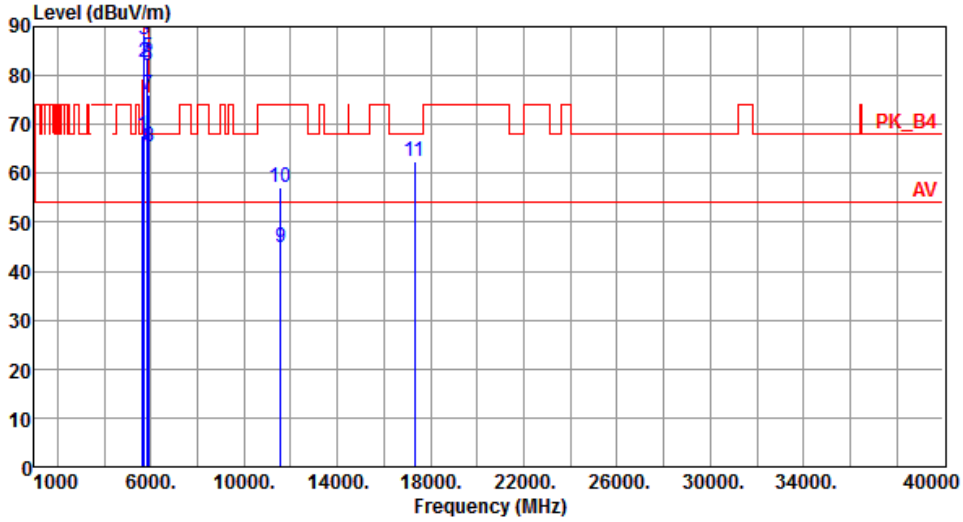
Modulation	ax (HE80)	Test Freq. (MHz)	5210
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.76	54.00	-4.24	45.12	4.64	Average	335	356
2	5150.00	63.32	74.00	-10.68	58.68	4.64	Peak	335	356
3	10420.00	56.46	68.20	-11.74	42.12	14.34	Peak	100	46
4	15630.00	45.08	54.00	-8.92	30.57	14.51	Average	100	112
5	15630.00	56.64	74.00	-17.36	42.13	14.51	Peak	100	112

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

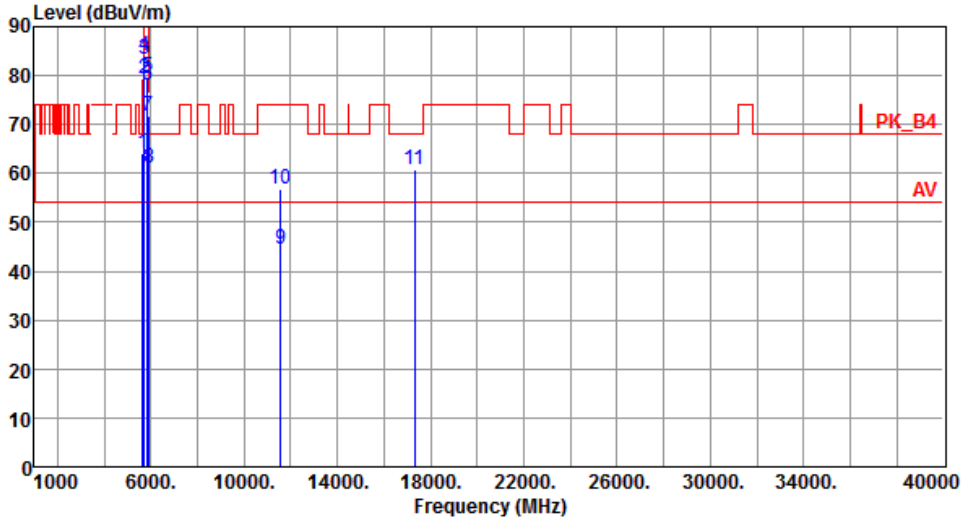
Modulation	ax (HE80)	Test Freq. (MHz)	5775
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	67.79	68.20	-0.41	63.25	4.54	Peak	151	302
2	5700.00	82.85	105.20	-22.35	78.17	4.68	Peak	151	302
3	5720.00	87.34	110.80	-23.46	82.53	4.81	Peak	151	302
4	5725.00	88.27	122.20	-33.93	83.42	4.85	Peak	151	302
5	5850.00	83.67	122.20	-38.53	78.22	5.45	Peak	151	302
6	5855.00	82.17	110.80	-28.63	76.73	5.44	Peak	151	302
7	5875.00	76.09	105.20	-29.11	70.65	5.44	Peak	151	302
8	5925.00	65.48	68.20	-2.72	60.05	5.43	Peak	151	302
9	11550.00	44.79	54.00	-9.21	30.26	14.53	Average	100	30
10	11550.00	57.13	74.00	-16.87	42.60	14.53	Peak	100	30
11	17325.00	62.42	68.20	-5.78	44.25	18.17	Peak	230	30

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax (HE80)	Test Freq. (MHz)	5775
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	63.96	68.20	-4.24	59.42	4.54	Peak	160	45
2	5700.00	79.24	105.20	-25.96	74.56	4.68	Peak	160	45
3	5720.00	83.22	110.80	-27.58	78.41	4.81	Peak	160	45
4	5725.00	84.13	122.20	-38.07	79.28	4.85	Peak	160	45
5	5850.00	79.55	122.20	-42.65	74.10	5.45	Peak	160	45
6	5855.00	77.89	110.80	-32.91	72.45	5.44	Peak	160	45
7	5875.00	71.81	105.20	-33.39	66.37	5.44	Peak	160	45
8	5925.00	61.21	68.20	-6.99	55.78	5.43	Peak	160	45
9	11550.00	44.50	54.00	-9.50	29.97	14.53	Average	100	168
10	11550.00	56.65	74.00	-17.35	42.12	14.53	Peak	100	168
11	17325.00	60.93	68.20	-7.27	42.76	18.17	Peak	100	193

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.6 Frequency Stability

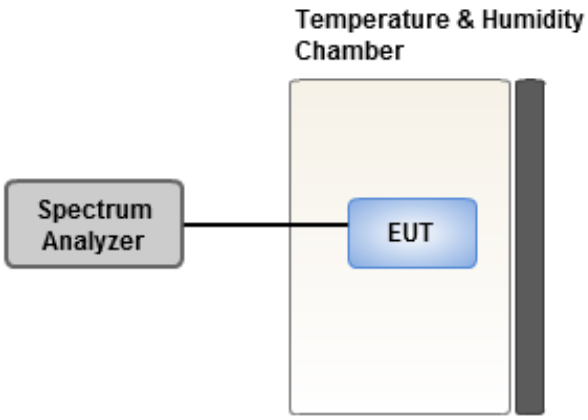
3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

3.6.2 Test Procedures

1. The EUT is installed in an environment test chamber with external power source.
2. Set the chamber to operate at 20 centigrade and external power source to output at nominal voltage of EUT.
3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
4. When temperature is stabled, measure the frequency stability.
5. The test shall be performed under normal and extreme condition for temperature and voltage.

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Frequency: 5200 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	4.23	4.69	4.64	4.48
T20°CVmin	4.27	3.98	4.37	4.41
T70°CVnom	17.84	17.84	17.72	17.72
T60°CVnom	15.45	15.89	16.13	15.56
T50°CVnom	11.65	11.29	11.47	11.65
T40°CVnom	10.18	10.10	9.96	10.75
T30°CVnom	5.92	5.51	6.24	6.11
T20°CVnom	3.98	4.45	4.62	4.36
T10°CVnom	4.07	3.83	3.82	4.72
T0°CVnom	4.83	4.91	5.06	5.00
T-10°CVnom	6.43	6.82	6.39	6.93
T-20°CVnom	7.19	7.73	6.85	7.14
T-30°CVnom	8.80	8.75	9.21	9.20
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 70		Tmin [°C]: -30

Frequency: 5785 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	3.28	3.22	3.68	2.95
T20°CVmin	4.81	4.57	4.71	4.50
T70°CVnom	17.24	16.77	16.62	17.46
T60°CVnom	14.48	13.73	13.72	13.52
T50°CVnom	11.23	11.47	10.84	10.67
T40°CVnom	9.22	9.50	9.45	9.04
T30°CVnom	5.72	5.55	5.84	5.90
T20°CVnom	4.52	4.37	4.32	4.38
T10°CVnom	3.17	3.67	3.37	3.23
T0°CVnom	5.37	5.37	5.35	5.93
T-10°CVnom	6.61	6.53	6.26	7.03
T-20°CVnom	6.81	6.45	7.14	6.44
T-30°CVnom	8.34	8.27	7.61	8.27
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 70		Tmin [°C]: -30

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

Linkou	**Kwei Shan**	**Kwei Shan Site II**
Tel: 886-2-2601-1640	Tel: 886-3-271-8666	Tel: 886-3-271-8640
No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666
Fax: 886-3-318-0155
Email: ICC_Service@icertifi.com.tw

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