CFR 47 FCC PART 15 SUBPART E

TEST REPORT

For

WLAN Model

MODEL NUMBER: WM101

REPORT NUMBER: 4790792905-1-RF-2

ISSUE DATE: May 9, 2023

FCC ID: 2A46G-WM101A

Prepared for

Guangzhou Xaircraft Technology CO.,LTD

Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong,P.R.China

Prepared by

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	May 9, 2023	Initial Issue	

Summary of Test Results

Test Item	Clause	Limit/Requirement	Result
ON TIME AND DUTY CYCLE	ANSI C63.10-2013, Clause 12.2	None; for reporting purposes only.	Pass
6dB AND 26dB EMISSION BANDWIDTH AND 99% OCCUPIED BANDWIDTH	KDB 789033 D02 v02r01 Section C.1	FCC Part 15.407 (a)/(e),	Pass
CONDUCTED OUTPUT POWER	KDB 789033 D02 v02r01 Section E.3.a (Method PM)	FCC 15.407 (a)	Pass
POWER SPECTRAL DENSITY	KDB 789033 D02 v02r01 Section F	FCC 15.407 (a)	Pass
AC Power Line Conducted Emission	ANSI C63.10-2013, Clause 6.2.	FCC 15.207	Pass
Radiated Emissions and Band Edge Measurement	KDB 789033 D02 v02r01 Section G.3, G.4, G.5, and G.6	FCC 15.407 (b) FCC 15.209 FCC 15.205	Pass
FREQUENCY STABILITY	ANSI C63.10-2013, Clause 6.8.	FCC 15.407 (g)	Pass
Dynamic Frequency Selection (Slave)	KDB 905462 D03 Client Without DFS New Rules v01r02	FCC Part 15.407 (h),	N/A
Dynamic Frequency Selection (Master)	KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02	FCC Part 15.407 (h),	N/A
Antenna Requirement	N/A	FCC 47 CFR Part 15.203/ 15.407(a)(1) (2),	Pass

Note:
1. N/A: In this whole report not applicable.

*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
*The measurement result for the sample received is <Pass> according to <CFR 47 FCC PART 15 SUBPART E> when <Accuracy Method> decision rule is applied.

CONTENTS

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Guangzhou Xaircraft Technology CO.,LTD
Address:	Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong,P.R.China

Manufacturer Information

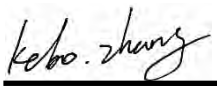
Company Name:	Guangzhou Xaircraft Technology CO.,LTD
Address:	Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong,P.R.China

EUT Information

EUT Name:	WLAN Model
Model:	WM101
Sample Received Date:	March 28, 2023
Sample Status:	Normal
Sample ID:	5938560
Date of Tested:	April 13, 2023 to May 9, 2023

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 FCC PART 15 SUBPART E	**Pass**

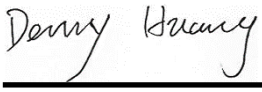
Prepared By:



Kebo Zhang

Senior Project Engineer

Checked By:



Denny Huang

Senior Project Engineer

Approved By:

Stephen Guo

Operations Manager

2. TEST METHODOLOGY

All tests were performed in accordance with the standard CFR 47 FCC PART 15 SUBPART E , ANSI C63.10-2013, CFR 47 FCC Part 2, KDB 789033 D02 v02r01, KDB414788 D01 Radiated Test Site v01, KDB 662911 D01 Multiple Transmitter Output v02r01.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules **ISED (Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. **VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011

Note1:
All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China.

Note2:
The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd.
Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note3:
For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz had been correlated to measurements performed on an OFS.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	3.62 dB
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB
Radiated Emission (Included Fundamental Emission) (1 GHz to 40 GHz)	5.78 dB (1 GHz ~ 18 GHz)
	5.23 dB (18 GHz ~ 26 GHz)
	5.37 dB (26 GHz ~ 40 GHz)
Duty Cycle	±0.028%
Emission Bandwidth and 99% Occupied Bandwidth	±0.0196%
Maximum Conducted Output Power	±0.766 dB
Maximum Power Spectral Density Level	±1.22 dB
Frequency Stability	±2.76%
Conducted Band-edge Compliance	±1.328 dB
Conducted Unwanted Emissions In Non-restricted Frequency Bands	±0.746 dB (9 kHz ~ 1 GHz)
	±1.328dB (1 GHz ~ 26 GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	WLAN Model
Model	WM101
Radio Technology	IEEE802.11a20 IEEE802.11n HT20/n HT40
Operation frequency	UNII-3
Modulation	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK, BPSK)
Power Supply	AC 120 V, 60 Hz

5.2. CHANNEL LIST

UNII-3 (For Bandwidth=20MHz)		UNII-3 (For Bandwidth=40MHz)		UNII-3 (For Bandwidth=80MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

5.3. MAXIMUM EIRP

UNII-3 BAND(FCC&ISED)

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)
a	5725 ~ 5850	23.65
n HT20		25.85
n HT40		25.48

5.4. TEST CHANNEL CONFIGURATION

UNII-3 Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745 MHz, 5785 MHz, 5825 MHz
802.11n HT20	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745 MHz, 5785 MHz, 5825 MHz
802.11n HT40	CH 151(Low Channel), CH 159(High Channel)	5755MHz, 5795MHz

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter	
Test Software	Atheros Radio Test

UNII-3

Mode	Rate	Channel	Soft set value	
			ANT1	ANT 2
11a	6M	149	24	22
		157	23	22
		165	23	22
11n HT20	MCS0	149	21	21
		157	21	21
		165	21	21
11n HT40	MCS0	151	21	21
		159	21	21

5.6. WORSE CASE CONFIGURATIONS

The EUT was tested in the following configuration(s):

Controlled in test mode using a software application on the EUT supplied by customer. The application was used to enable a continuous transmission and to select the mode, test channels, bandwidth, data rates as required.

Test channels referring to section 5.4.

Maximum power setting referring to section 5.5.

Worst case Data Rates declared by the customer:

802.11a 20 mode: 6 Mbps
802.11n HT20 mode: MCS0
802.11n HT40 mode: MCS0

802.11a only support SISO mode.
802.11n HT20/HT40 support SISO and MIMO mode.

802.11a SISO mode, only Antenna 1 worst case test data were recorded in the report.

802.11n SISO mode and MIMO mode have the same power setting, so only the worst case power mode(MIMO) will be record in the report.

The EUT has 2 separate antennas which correspond to 2 separate antenna ports. Core 1 and Core 2 correspond to antenna 1 and antenna 2 respectively.

The measured additional path loss was included in any path loss calculations for all RF cable used during tested.

Conducted output power, power spectral density tests separately on each port with all supported SISO & MIMO port combinations.

Radiated emissions tests were performed with the MIMO modes. These were found to be the worst modulation scheme with regards to emissions after preliminary investigations and, as this mode emits the highest conducted output power level, it was deemed to be the worst case.

5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Model	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	030373FWFA	5150-5850	FPC Antenna	2.5
2	030373FWFA	5150-5850	FPC Antenna	2.5

Antenna	Model	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	030382FWFA	5150-5850	FPC Antenna	2.5
2	030382FWFA	5150-5850	FPC Antenna	2.5

Antenna	Model	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	030360FWFA	5150-5850	PCB Antenna	2.5
2	030360FWFA	5150-5850	PCB Antenna	2.5

Only the worst data for antenna 030373FWFA and antenna 030360FWFA are recorded in the report.

The EUT support Cyclic Shift Diversity(CDD) mode.

MIMO output power port and MIMO PSD port summing were performed in accordance with KDB 662911 D01. For the CDD results the Directional Gain was calculated in accordance with the following mothed.

For output power measurements:
Directional gain= G_{ANT} + Array Gain = 2.5 dBi
G_{ANT} : equal to the gain of the antenna having the highest gain
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$

For power spectral density (PSD) measurements:
Directional gain= G_{ANT} + Array Gain = 5.51 dBi
Array Gain = 10 log(N_{ANT}/N_{SS}) dB.
N_{ANT} : number of transmit antennas
N_{SS} : number of spatial streams, The worst case directional gain will occur when N_{SS} = 1

IEE Std. 802.11	Transmit and Receive Mode	Description
802.11a	☒2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
802.11n HT20	☒2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
802.11n HT40	☒2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
Note: WLAN 2.4G & WLAN 5G can't transmit simultaneously (Declared by client)		

Note: The value of the antenna gain was declared by customer.

5.8. SUPPORT UNITS FOR SYSTEM TEST

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	Lenovo	E42-80	R303U5AG
2	AC Adapter	/	CD139	Input: 100-240V~ 50/60Hz 600mA Max Output: DC 12V 2A

I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB to Network cable	/	/	1..5	/

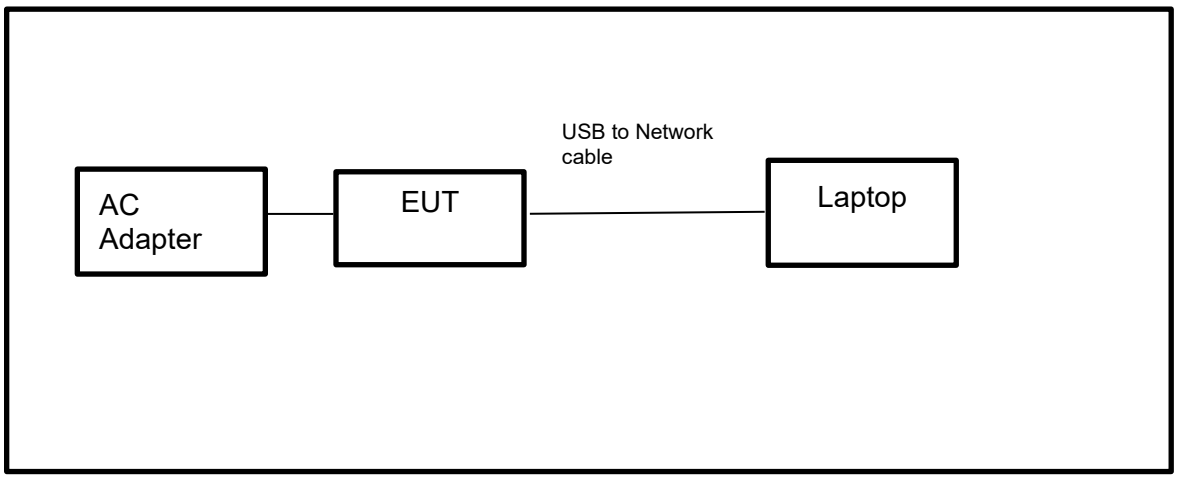
ACCESSORIES

Item	Accessory	Brand Name	Model Name	Description
/	/	/	/	/

TEST SETUP

The EUT can work in engineering mode with a software through a Laptop.

SETUP DIAGRAM FOR TESTS



6. MEASURING EQUIPMENT AND SOFTWARE USED

R&S TS 8997 Test System					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Power sensor, Power Meter	R&S	OSP120	100921	Mar.31,2023	Mar.30,2024
Vector Signal Generator	R&S	SMBV100A	261637	Oct.17, 2022	Oct.16, 2023
Signal Generator	R&S	SMB100A	178553	Oct.17, 2022	Oct.16, 2023
Signal Analyzer	R&S	FSV40	101118	Oct.17, 2022	Oct.16, 2023
Software					
Description	Manufacturer	Name	Version		
For R&S TS 8997 Test System	Rohde & Schwarz	EMC 32	10.60.10		

Tonsend RF Test System					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Wideband Radio Communication Tester	R&S	CMW500	155523	Oct.17, 2022	Oct.16, 2023
Wireless Connectivity Tester	R&S	CMW270	1201.0002N75-102	Sep.28, 2022	Sep.27, 2023
PXA Signal Analyzer	Keysight	N9030A	MY55410512	Oct.17, 2022	Oct.16, 2023
MXG Vector Signal Generator	Keysight	N5182B	MY56200284	Oct.17, 2022	Oct.16, 2023
MXG Vector Signal Generator	Keysight	N5172B	MY56200301	Oct.17, 2022	Oct.16, 2023
DC power supply	Keysight	E3642A	MY55159130	Oct.17, 2022	Oct.16, 2023
Temperature & Humidity Chamber	SANMOOD	SG-80-CC-2	2088	Oct.17, 2022	Oct.16, 2023
Attenuator	Aglient	8495B	2814a12853	Oct.18, 2022	Oct.17, 2023
RF Control Unit	Tonscend	JS0806-2	23B80620666	April 18,2023	April 17,2024
Software					
Description	Manufacturer	Name	Version		
Tonsend SRD Test System	Tonsend	JS1120-3 RF Test System	V3.2.22		

Conducted Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	R&S	ESR3	101961	Oct.17, 2022	Oct.16, 2023
Two-Line V-Network	R&S	ENV216	101983	Oct.17, 2022	Oct.16, 2023
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Oct.17, 2022	Oct.16, 2023
Software					
Description			Manufacturer	Name	Version
Test Software for Conducted Emissions			Farad	EZ-EMC	Ver. UL-3A1

Radiated Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Oct.17, 2022	Oct.16, 2023
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	Aug.02, 2021	Aug.01, 2024
Preamplifier	HP	8447D	2944A09099	Oct.17, 2022	Oct.16, 2023
EMI Measurement Receiver	R&S	ESR26	101377	Oct.17, 2022	Oct.16, 2023
Horn Antenna	TDK	HRN-0118	130940	July 20, 2021	July 19, 2024
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct.17, 2022	Oct.16, 2023
Horn Antenna	Schwarzbeck	BBHA9170	697	July 20, 2021	July 19, 2024
Preamplifier	TDK	PA-02-2	TRS-307-00003	Oct.17, 2022	Oct.16, 2023
Preamplifier	TDK	PA-02-3	TRS-308-00002	Oct.17, 2022	Oct.16, 2023
Loop antenna	Schwarzbeck	1519B	00008	Dec.14, 2021	Dec.13, 2024
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Oct.17, 2022	Oct.16, 2023
Preamplifier	Mini-Circuits	ZX60-83LN-S+	SUP01202035	Oct.17, 2022	Oct.16, 2023
High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	/	/
Highpass Filter	Wainwright	WHKX10-5850-6500-1800-40SS	4	/	/
Band Reject Filter	Wainwright	WRCJV12-5695-5725-5850-5880-40SS	4	/	/
Band Reject Filter	Wainwright	WRCJV20-5120-5150-	2	/	/

		5350-5380-60SS			
Band Reject Filter	Wainwright	WRCJV20-5440-5470-5725-5755-60SS	1	/	/
Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	4	/	/
Band Reject Filter	Wainwright	WRCD5-1879-1879.85-1880.15-1881-40SS	1	/	/
Notch Filter	Wainwright	WHJ10-882-980-7000-40SS	1	/	/
Software					
Description			Manufacturer	Name	Version
Test Software for Radiated Emissions			Farad	EZ-EMC	Ver. UL-3A1

Other Instrument					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Temperature humidity probe	OMEGA	ITHX-SD-5	18470007	Oct.22, 2022	Oct.21, 2023
Barometer	Yiyi	Baro	N/A	Oct.24, 2022	Oct.23, 2023
Attenuator	Agilent	8495B	2814a12853	Oct.18, 2022	Oct.17, 2023

7. ANTENNA PORT TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

LIMITS

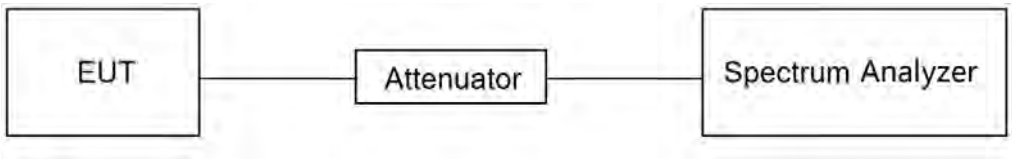
None; for reporting purposes only.

TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.B.

The zero-span mode on a spectrum analyzer or EMI receiver, if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW ≥ EBW if possible; otherwise, set RBW to the largest available value. Set VBW ≥ RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T, where T is defined in II.B.1.a), and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if T ≤ 16.7 microseconds.)

TEST SETUP



TEST ENVIRONMENT

Temperature	25.8℃	Relative Humidity	64.9%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 Hz

TEST DATE / ENGINEER

Test Date	May 8, 2023	Test By	Johnson Liu

TEST RESULTS

Please refer to section "Test Data" - Appendix G

7.2. 6DB AND 26DB EMISSION BANDWIDTH AND 99% OCCUPIED BANDWIDTH

LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
26 dB Emission Bandwidth	For reporting purposes only.	5150 ~ 5250
26 dB Emission Bandwidth	For reporting purposes only.	5250 ~ 5350
26 dB Emission Bandwidth	For reporting purposes only.	5470 ~ 5725 (For FCC) 5470 ~ 5600 (For ISED) 5650 ~ 5725 (For ISED)
6 dB Emission Bandwidth	The minimum 6 dB emission bandwidth shall be 500 kHz.	5725 ~ 5850
99 % Occupied Bandwidth	For reporting purposes only.	5150 ~ 5825 (For ISED)

TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.C1. for 26 dB Emission Bandwidth; section II.C2. for 6 dB Emission Bandwidth; section II.D. for 99 % Occupied Bandwidth.
Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	For 6 dB Emission Bandwidth: RBW=100 kHz For 26 dB Emission bandwidth: approximately 1 % of the EBW. For 99 % Occupied Bandwidth: approximately 1 % ~ 5 % of the OBW.
VBW	For 6 dB Bandwidth: ≥ 3*RBW For 26 dB Bandwidth: >3*RBW For 99 % Bandwidth: >3*RBW
Trace	Max hold
Sweep	Auto couple

a) Use the 99 % power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.
b) Allow the trace to stabilize and 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 6/26 dB relative to the maximum level measured in the fundamental emission.

Calculation for 99 % Bandwidth of UNII-2C and UNII-3 Straddle Channel:

For Example: Fundamental Frequency: 5720 MHz

99 % OBW: 21.00 MHz

Turning Frequency: 5725 MHz

99 % Bandwidth of UNII-2C Band Portion = (5725-(5720-(21.00/2)) = 15.50 MHz

99 % Bandwidth of UNII-3 Band Portion = (5720+(21.00/2)-5725) = 5.50 MHz

Calculation for 26 dB Bandwidth of UNII-2C Straddle Channel:

For Example: Fundamental frequency: 5720 MHz

26 dB BW: 20.00 MHz

FL: 5710.16 MHz

FH: 5730.16 MHz

Turning Frequency: 5725 MHz

26 dB Bandwidth of UNII-2C Band Portion = 5725-5710.16=14.84 MHz

Calculation for 6dB Bandwidth of UNII-3 Straddle Channel:

For Example: Fundamental frequency: 5720 MHz

6 dB BW: 16.44 MHz

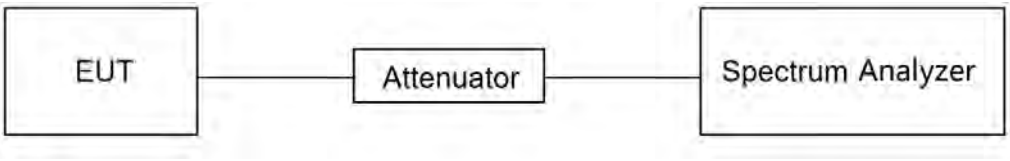
FL: 5711.76 MHz

FH: 5728.2 MHz

Turning Frequency: 5725 MHz

6 dB Bandwidth of UNII-3 band Portion = 5728.2-5725=3.2 MHz

TEST SETUP



TEST ENVIRONMENT

Temperature	25.8℃	Relative Humidity	64.9%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 Hz

TEST DATE / ENGINEER

Test Date	May 8, 2023	Test By	Johnson Liu

TEST RESULTS

Please refer to section "Test Data" - Appendix A&B&C

7.3. CONDUCTED OUTPUT POWER

LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	☐ Outdoor Access Point: 1 W (30 dBm) ☐ Indoor Access Point: 1 W (30 dBm) ☐ Fixed Point-To-Point Access Points: 1 W (30 dBm) ☒ Client Devices: 250 mW (24 dBm)	5150 ~ 5250
	Shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.	5250 ~ 5350 5470 ~ 5725
	Shall not exceed 1 Watt (30 dBm).	5725 ~ 5850

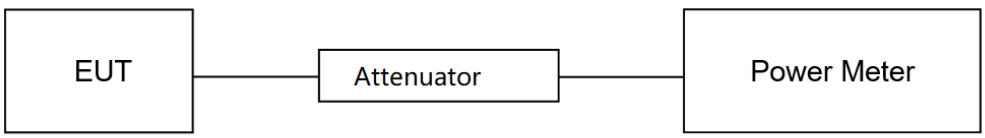
Note:
The above limits are based upon the maximum antenna gain does not exceed 6 dBi.
If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.E.

Method PM (Measurement using an RF average power meter):
(i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the following conditions are satisfied:
a. The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
b. At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
c. The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
(ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in II.B.
(iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
(iv) Adjust the measurement in dBm by adding 10 log (1/x) where x is the duty cycle (e.g., 10 log (1/0.25) if the duty cycle is 25 %).

TEST SETUP



TEST ENVIRONMENT

Temperature	25.8℃	Relative Humidity	64.9%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 Hz

TEST DATE / ENGINEER

Test Date	May 8, 2023	Test By	Johnson Liu

TEST RESULTS

Please refer to section "Test Data" - Appendix E

7.4. POWER SPECTRAL DENSITY

LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	☐ 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	5150 ~ 5250
	11 dBm/MHz	5250 ~ 5350 5470 ~ 5725
	30 dBm/500kHz	5725 ~ 5850

Note:
The above limits are based upon the maximum antenna gain does not exceed 6 dBi.
If transmitting antennas of directional gain greater than 6 dBi are used, maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.F.

Connect the EUT to the spectrum analyser and use the following settings:

For U-NII-1, U-NII-2A and U-NII-2C band:

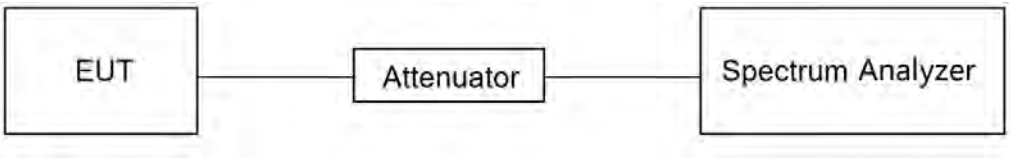
Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	1 MHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

For U-NII-3:

Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

Allow trace to fully stabilize and Use the peak search function on the instrument to find the peak of the spectrum and record its value.
Add 10 log (1/x), where x is the duty cycle, to the peak of the spectrum, the result is the Maximum PSD over 1 MHz / 500 kHz reference bandwidth.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.8℃	Relative Humidity	64.9%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 Hz

TEST DATE / ENGINEER

Test Date	May 8, 2023	Test By	Johnson Liu

TEST RESULTS

Please refer to section "Test Data" - Appendix E

7.5. FREQUENCY STABILITY

LIMITS

The frequency of the carrier signal shall be maintained within band of operation.

TEST PROCEDURE

1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -10 °C ~ 80 °C (declared by customer).

2. The temperature was incremented by 10 °C intervals and the unit allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

3. The primary supply voltage is varied from 85 % to 115 % of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	10 kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

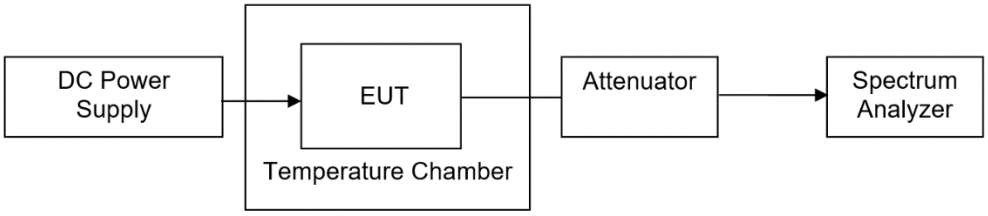
4. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5minutes, and 10 minutes after the EUT is energized.

5. Allow the trace to stabilize, find the peak value of the power envelope and record the frequency, then calculated the frequency drift.

TEST ENVIRONMENT

	Normal Test Conditions	Extreme Test Conditions
Relative Humidity	20 % - 75 %	/
Atmospheric Pressure	100 kPa ~102 kPa	/
Temperature	T_N (Normal Temperature): 25.1 °C	T_L (Low Temperature): -10 °C
		T_H (High Temperature): 80 °C
Supply Voltage	V_N (Normal Voltage): AC 120 V, 60 Hz	V_L (Low Voltage): AC 102 V
		V_H (High Voltage): AC 138 V

TEST SETUP



TEST ENVIRONMENT

Temperature	25.8℃	Relative Humidity	64.9%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

Test Date	May 8, 2023	Test By	Johnson Liu

TEST RESULTS

Please refer to section "Test Data" - Appendix F

8. RADIATED TEST RESULTS

LIMITS

Refer to CFR 47 FCC §15.205, §15.209 and §15.407 (b).

Radiation Disturbance Test Limit for FCC (Class B) (9 kHz ~ 1 GHz)

Emissions radiated outside of the specified frequency bands above 30 MHz			
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m	
		Quasi-Peak	
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	
Above 960	500	54	
Above 1000	500	Peak	Average
		74	54

FCC Emissions radiated outside of the specified frequency bands below 30 MHz		
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30

FCC Restricted bands of operation refer to FCC §15.205 (a):

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

Note: [1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2]Above 38.6c

Limits of unwanted/undesirable emission out of the restricted bands refer to CFR 47 FCC §15.407 (b) and ISED RSS-247 6.2.

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1GHz)		
Frequency Range (MHz)	EIRP Limit	Field Strength Limit (dBuV/m) at 3 m
5150~5250 MHz	PK: -27 (dBm/MHz)	PK:68.2(dBμV/m)
5250~5350 MHz		
5470~5725 MHz		
5725~5850 MHz	PK: -27 (dBm/MHz) *1 PK: 10 (dBm/MHz) *2 PK: 15.6 (dBm/MHz) *3 PK: 27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK: 105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK: 122.2 (dBμV/m) *4
Note: *1 beyond 75 MHz or more above of the band edge. *2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. *3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. *4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.		

TEST PROCEDURE

Below 30 MHz

The setting of the spectrum analyser

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.4.

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.

5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.

7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.

8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

Below 1 GHz and above 30 MHz

The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Above 1 GHz

The setting of the spectrum analyser

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.G.3 ~ II.G.6.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

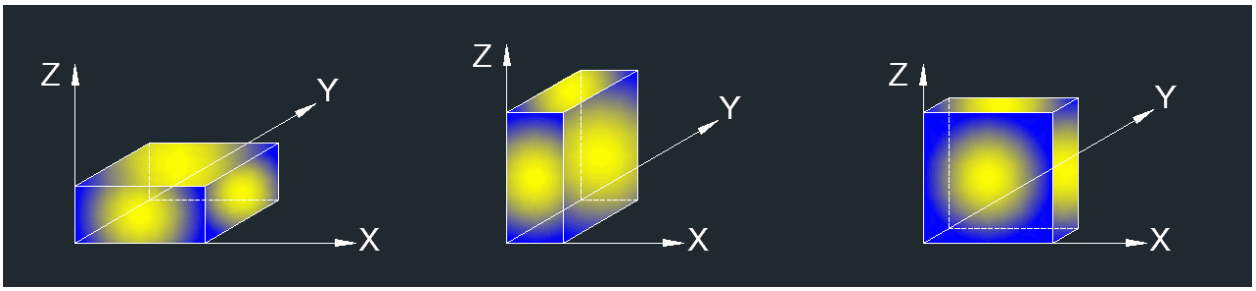
3. The EUT was placed on a turntable with 1.5 m above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 7.1.ON TIME AND DUTY CYCLE.

X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

For Band edge:
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the Peak values are less than the Average limit of 54 dBuV/m, the Average result is deemed to comply with Average limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
7. Horizontal and Vertical have been tested, only the worst data was recorded in the report.
8. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission 1GHz-7GHz:
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the Peak values are less than the Average limit of 54 dBuV/m, the Average result is deemed to comply with Average limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.
9. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission 7GHz-18GHz:
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the Peak values are less than the Average limit of 54 dBuV/m, the Average result is deemed to comply with Average limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.
9. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission 9kHz-30MHz:
Note:
1. Measurement = Reading Level + Correct Factor
2. If the Peak values are less than the QP limit, the QP result is deemed to comply with QP limit.
3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.
4. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission 18GHz-26GHz:

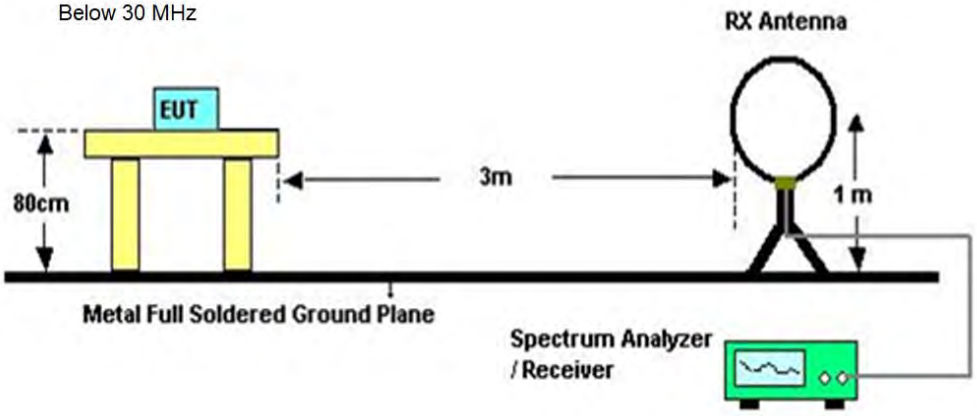
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the Peak values are less than the Average limit of 54 dBuV/m, the Average result is deemed to comply with Average limit.
3. Peak: Peak detector.
4. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission 26GHz-40GHz:
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the Peak values are less than the Average limit of 54 dBuV/m, the Average result is deemed to comply with Average limit.
3. Peak: Peak detector.
4. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

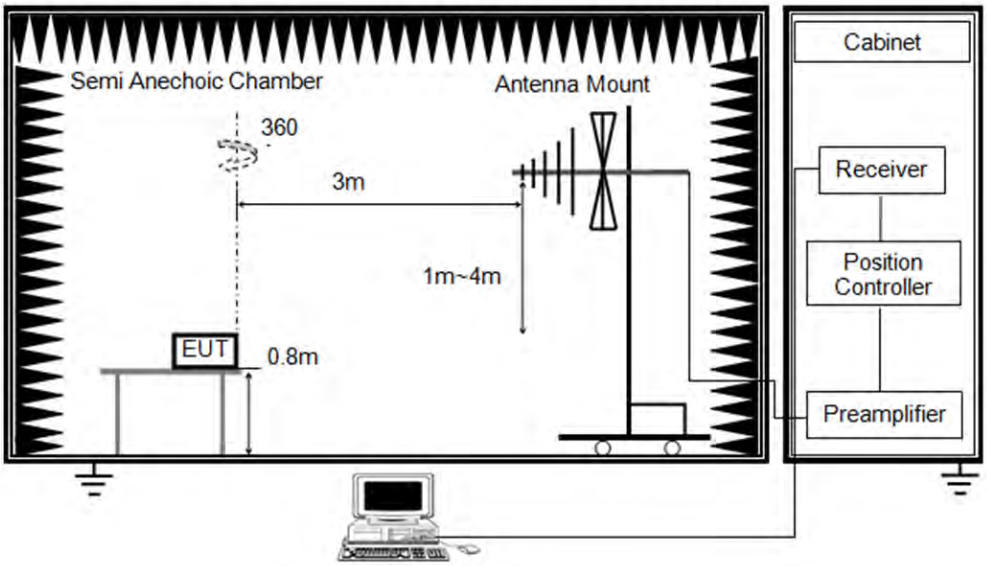
For Radiate Spurious emission 30MHz-1GHz:
Note:
1. Result Level = Read Level + Correct Factor.
2. If the Peak values are less than the QP limit, the QP result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.
4. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

TEST SETUP

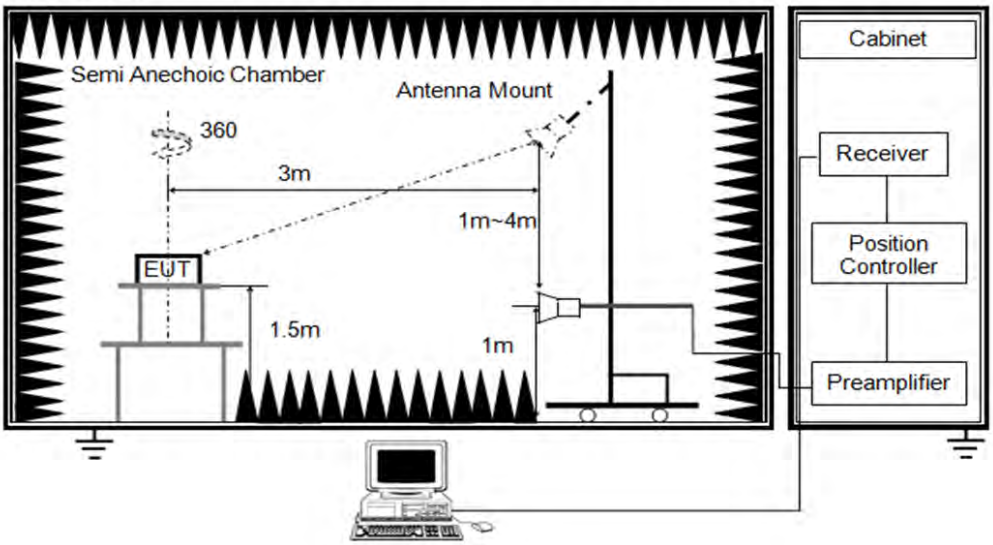
Below 30 MHz



Below 1 GHz and above 30 MHz



Above 1 GHz



TEST ENVIRONMENT

Temperature	24.9℃	Relative Humidity	63%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 Hz

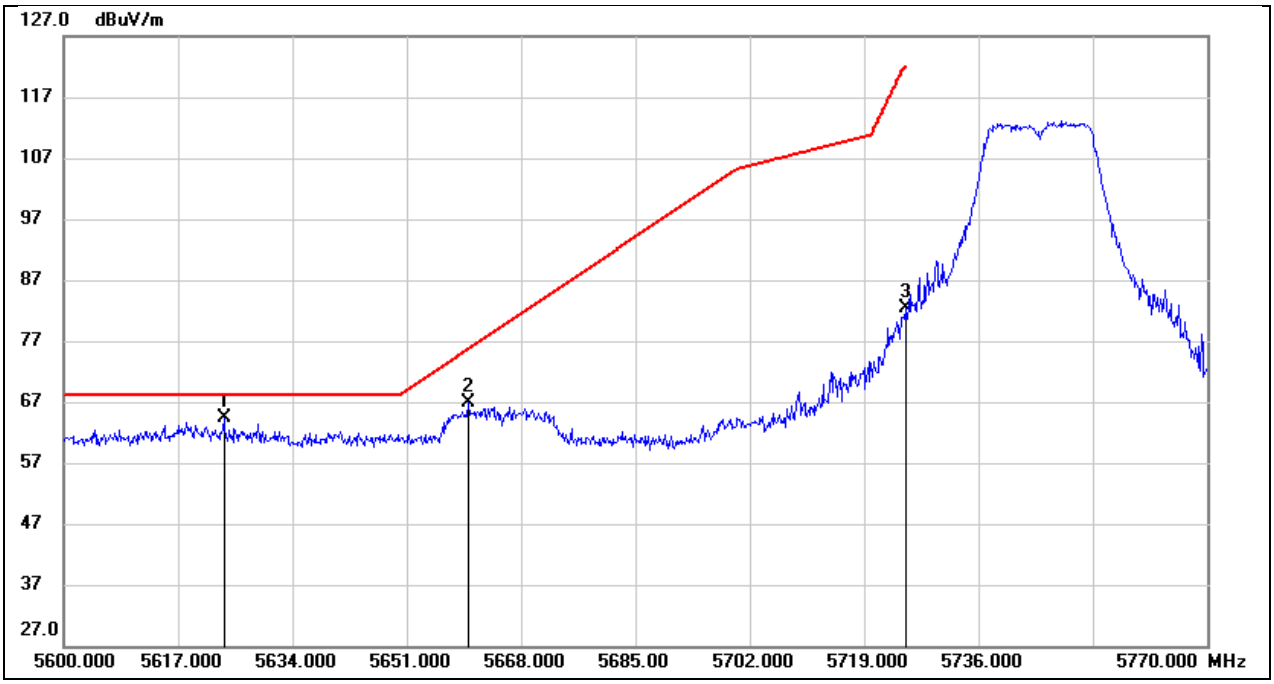
TEST DATE / ENGINEER

Test Date	May 6, 2023	Test By	Rex Huang

TEST RESULTS FOR ANTENNA 030373FWFA

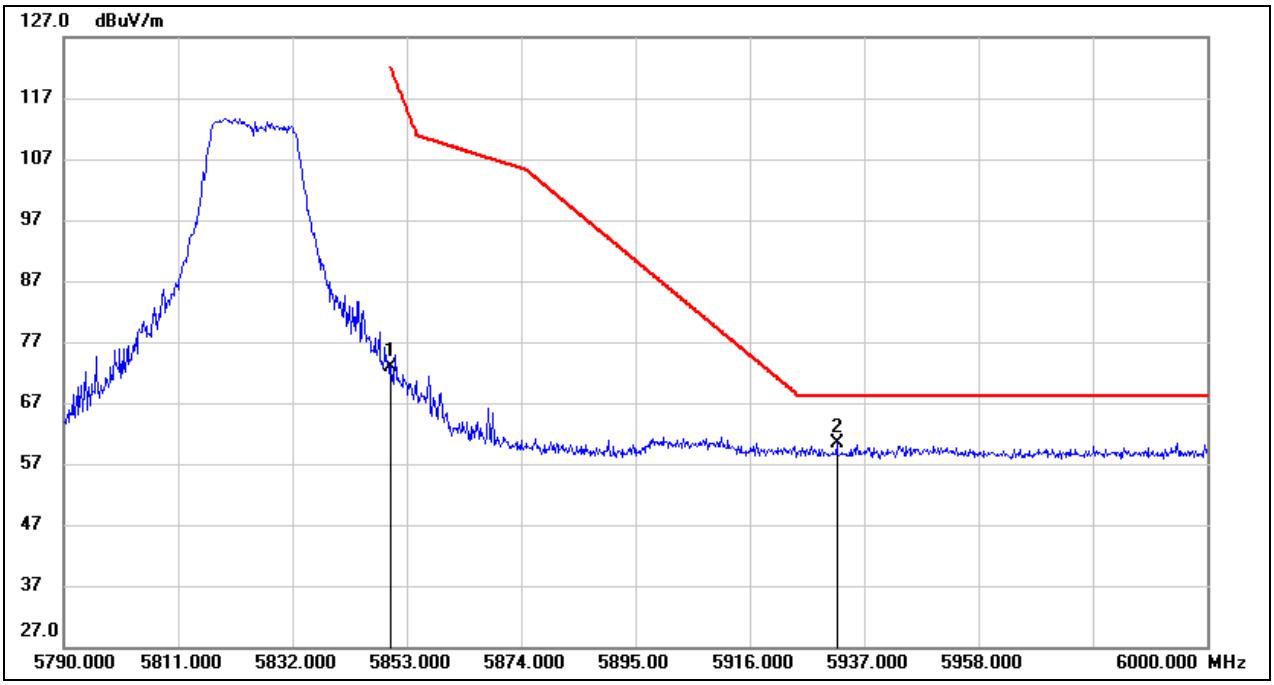
8.1. RESTRICTED BANDEDGE

Test Mode:	802.11a 20 PK	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



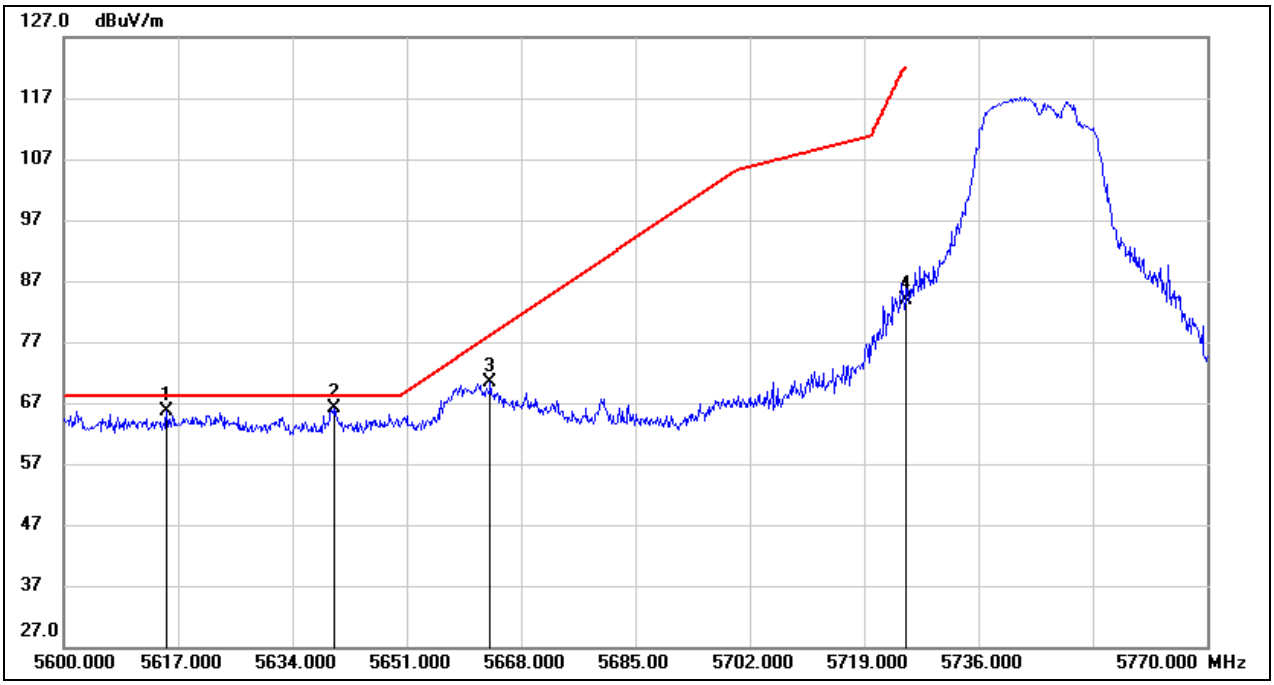
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5623.800	23.28	40.99	64.27	68.20	-3.93	peak
2	5660.180	25.82	41.09	66.91	75.76	-8.85	peak
3	5725.000	41.04	41.27	82.31	122.20	-39.89	peak

Test Mode:	802.11a 20 PK	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



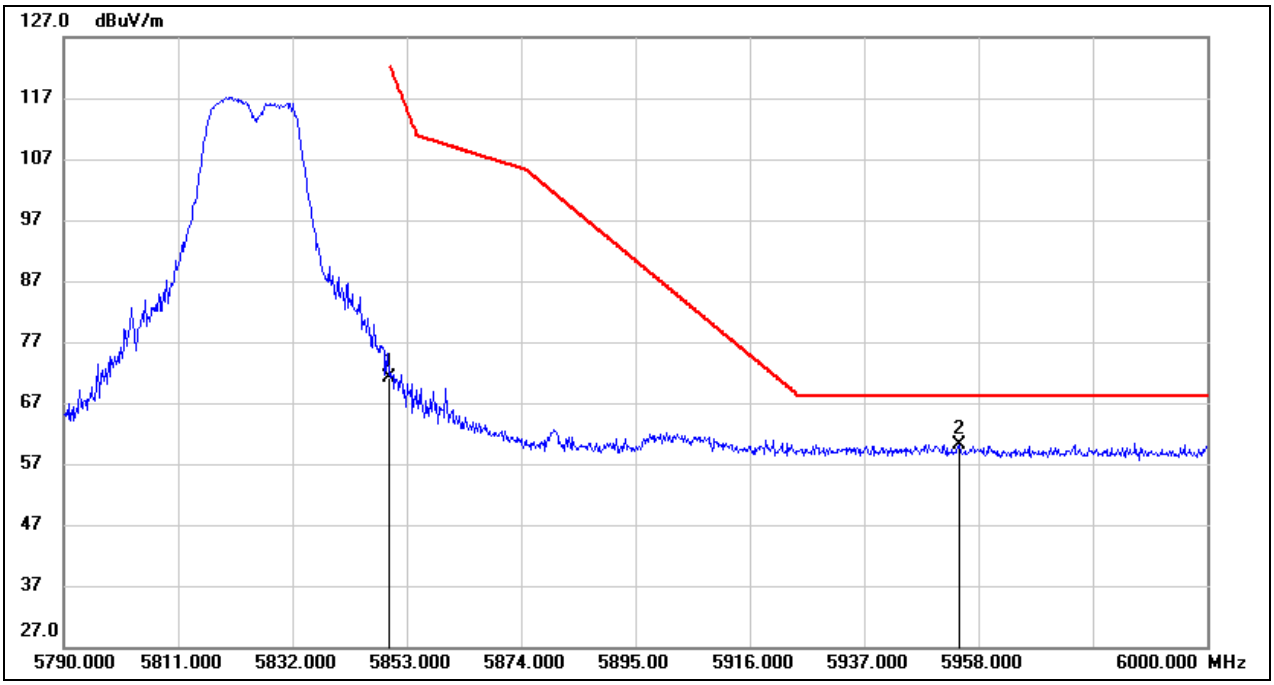
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	31.22	41.60	72.82	122.20	-49.38	peak
2	5931.960	18.53	41.82	60.35	68.20	-7.85	peak

Test Mode:	802.11n HT20 PK	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



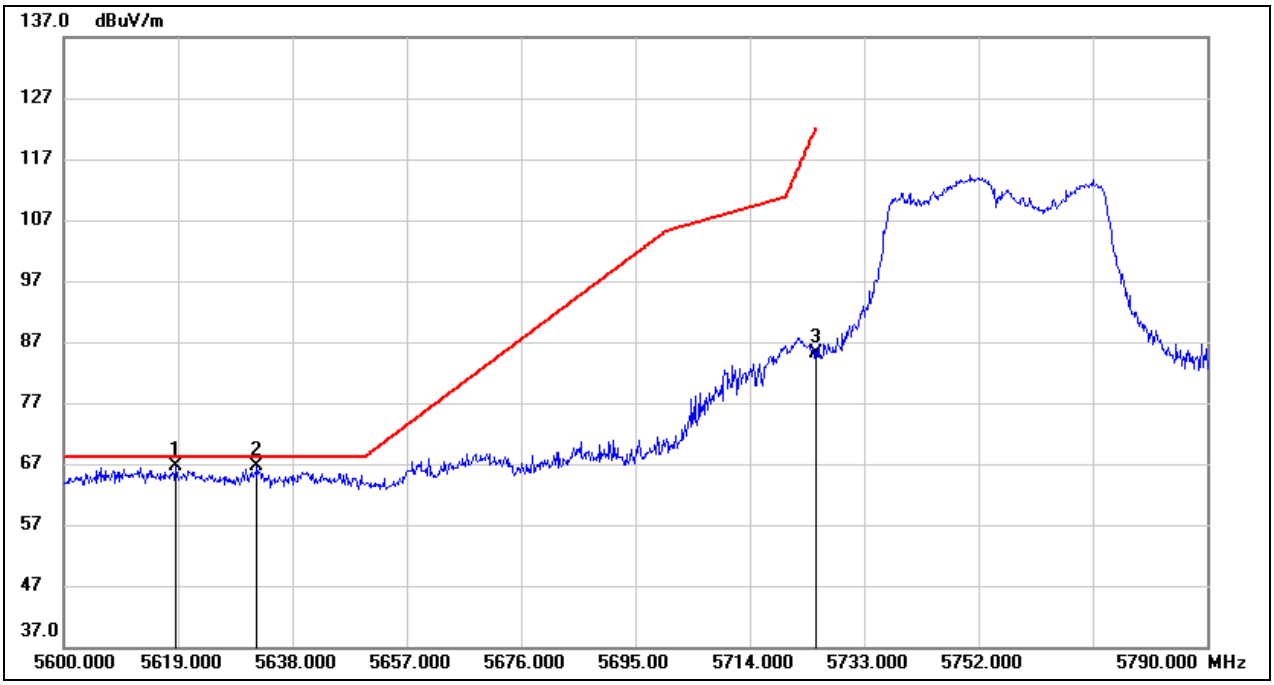
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5615.300	24.55	40.97	65.52	68.20	-2.68	peak
2	5640.290	25.05	41.04	66.09	68.20	-2.11	peak
3	5663.410	29.31	41.09	70.40	78.16	-7.76	peak
4	5725.000	42.57	41.27	83.84	122.20	-38.36	peak

Test Mode:	802.11n HT20 PK	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



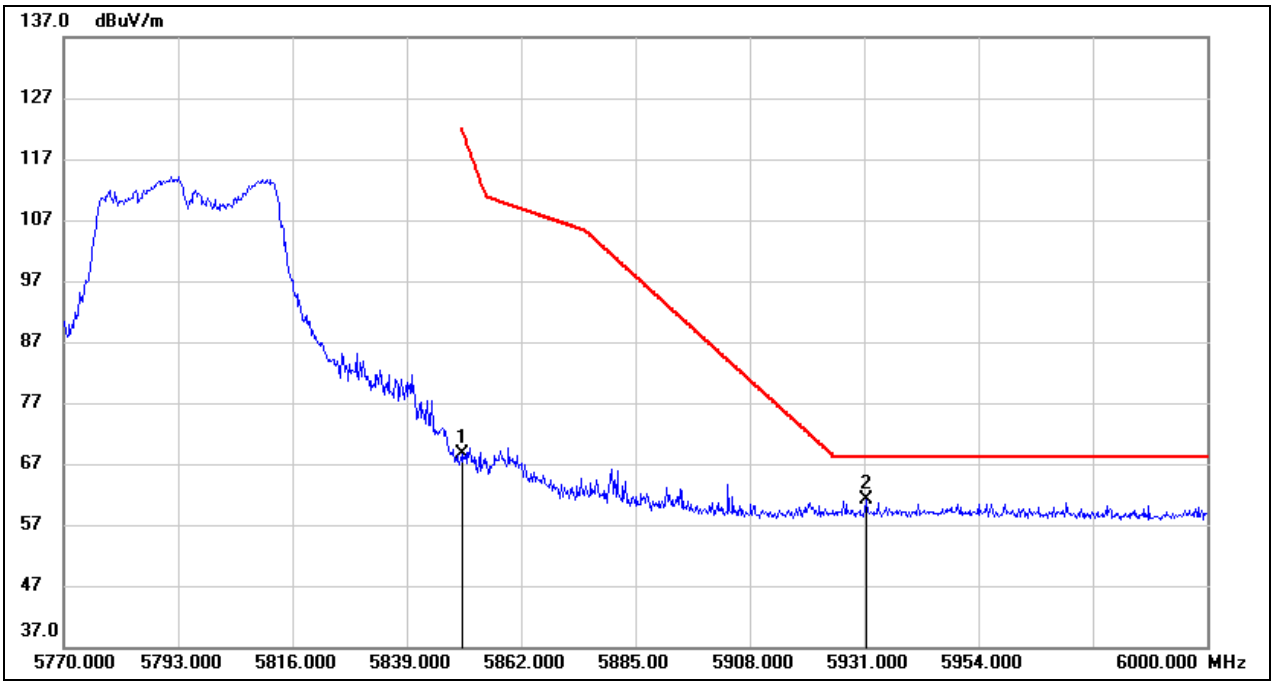
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	29.64	41.60	71.24	122.20	-50.96	peak
2	5954.430	18.37	41.87	60.24	68.20	-7.96	peak

Test Mode:	802.11n HT40 PK	Channel:	5755
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5618.620	25.64	40.98	66.62	68.20	-1.58	peak
2	5632.110	25.74	41.01	66.75	68.20	-1.45	peak
3	5725.000	43.92	41.27	85.19	122.20	-37.01	peak

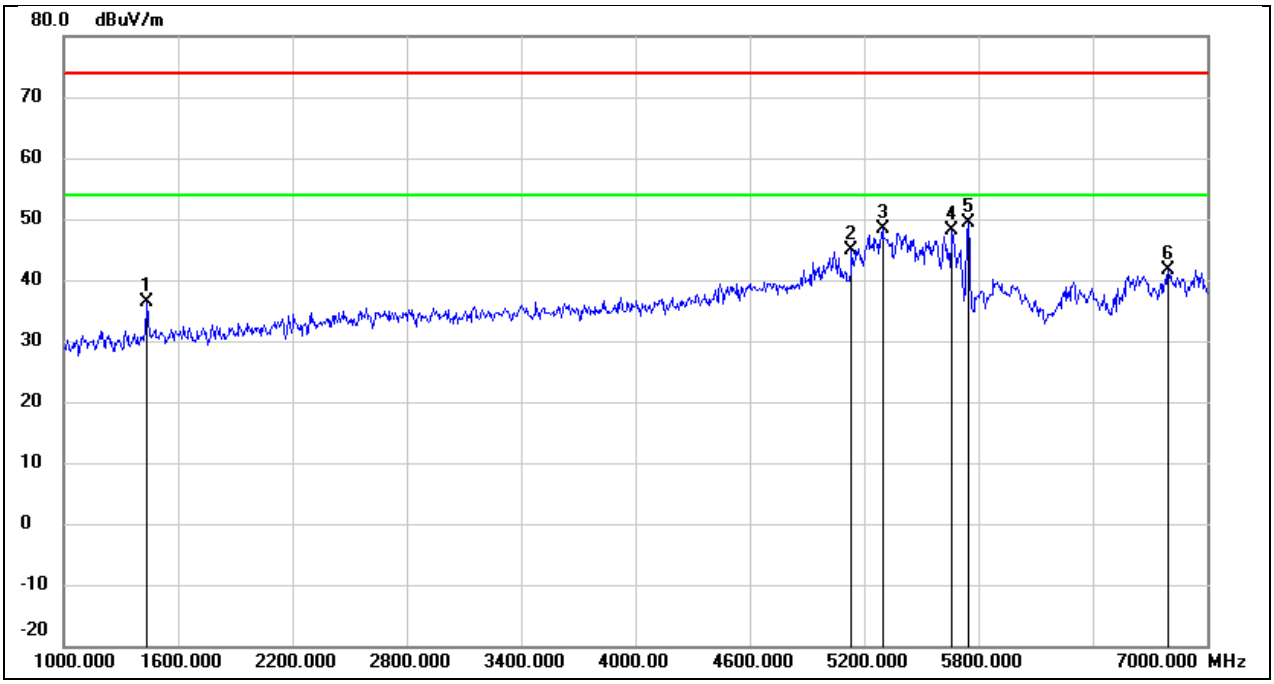
Test Mode:	802.11n HT40 PK	Channel:	5795
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	27.04	41.60	68.64	122.20	-53.56	peak
2	5931.460	19.24	41.81	61.05	68.20	-7.15	peak

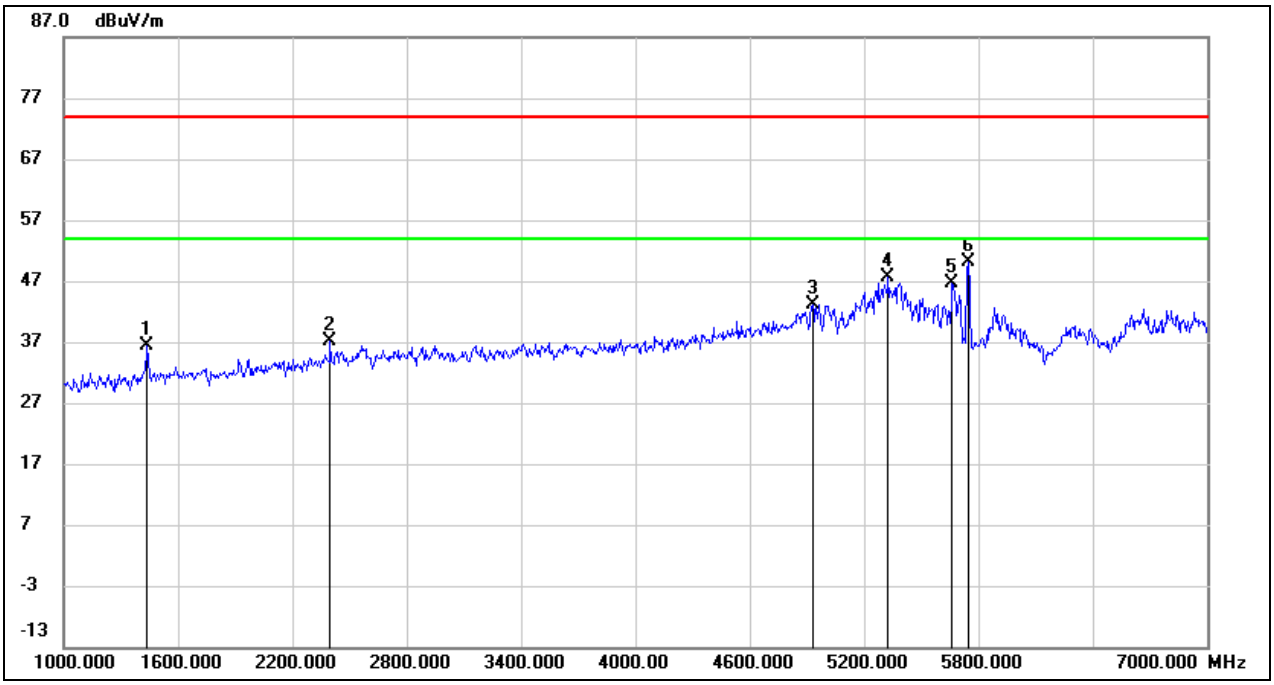
8.2. SPURIOUS EMISSIONS(1 GHZ~7 GHZ)

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



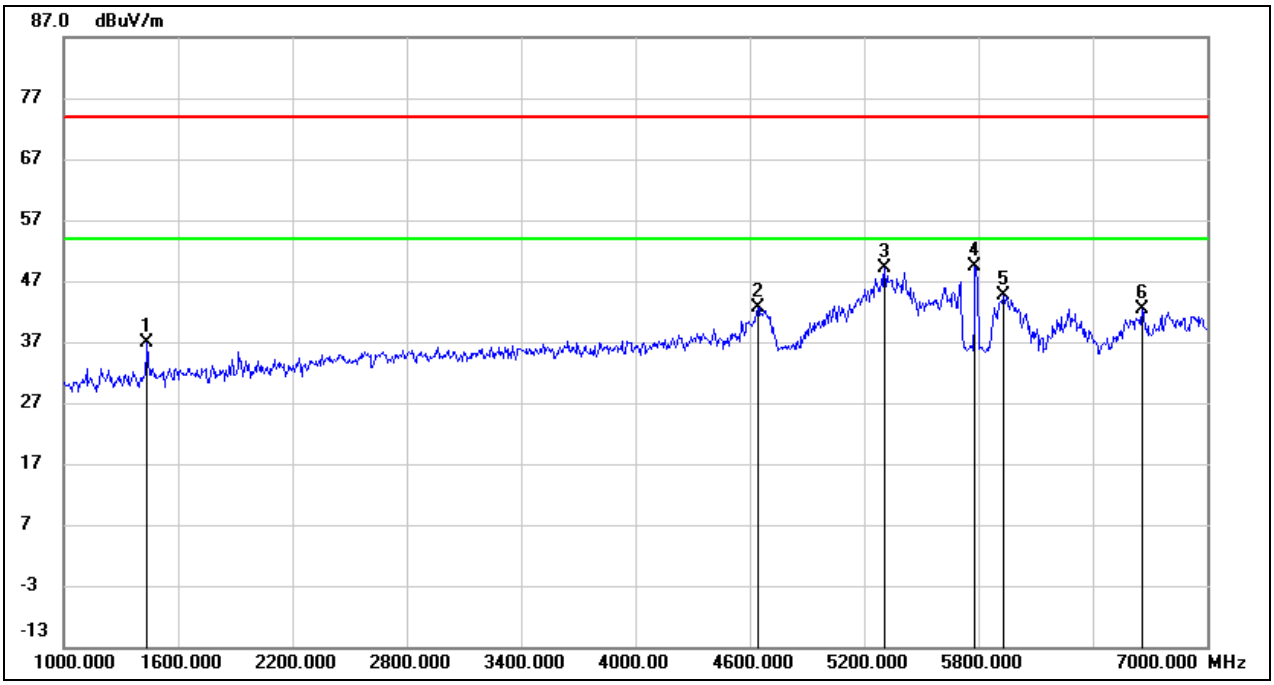
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1438.000	49.37	-13.00	36.37	74.00	-37.63	peak
2	5134.000	44.98	0.00	44.98	74.00	-29.02	peak
3	5296.000	48.24	0.19	48.43	74.00	-25.57	peak
4	5662.000	47.21	0.89	48.10	74.00	-25.90	peak
5	5746.000	48.26	1.12	49.38	74.00	-24.62	peak
6	6796.000	36.46	5.19	41.65	74.00	-32.35	peak

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



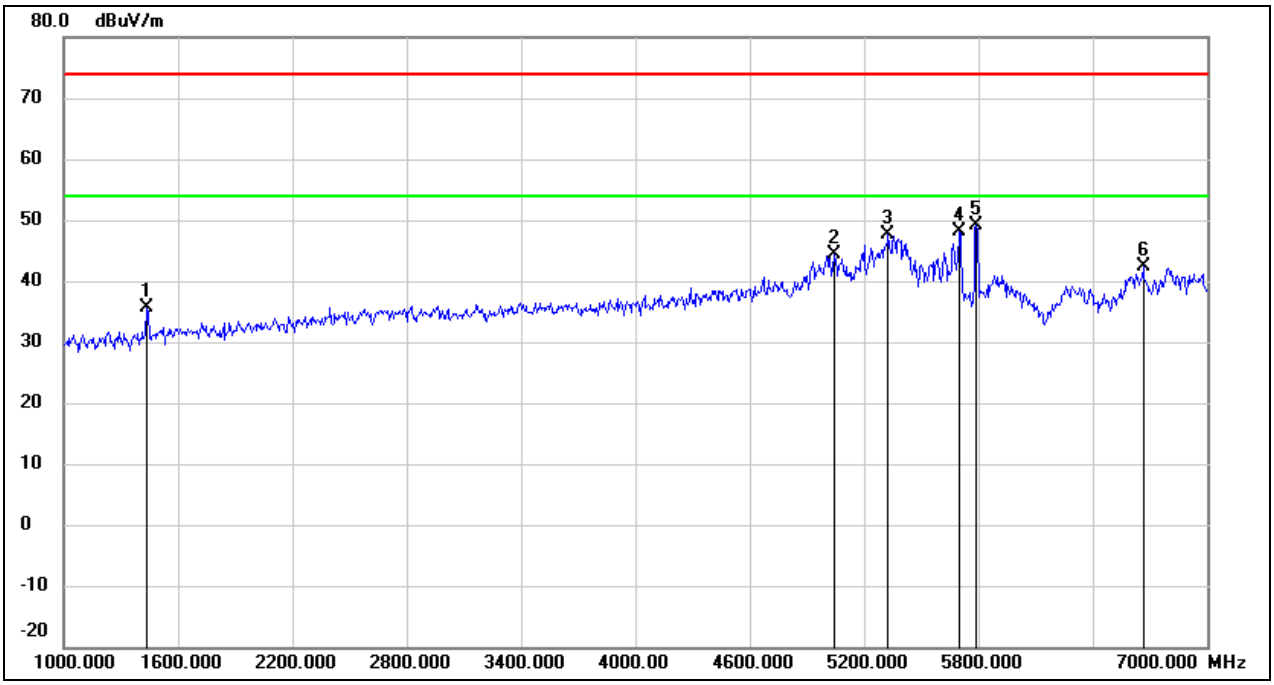
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1438.000	49.43	-13.00	36.43	74.00	-37.57	peak
2	2398.000	46.11	-9.02	37.09	74.00	-36.91	peak
3	4930.000	43.66	-0.43	43.23	74.00	-30.77	peak
4	5326.000	47.51	0.22	47.73	74.00	-26.27	peak
5	5662.000	45.80	0.89	46.69	74.00	-27.31	peak
6	5746.000	49.10	1.12	50.22	74.00	-23.78	peak

Test Mode:	802.11a 20	Channel:	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



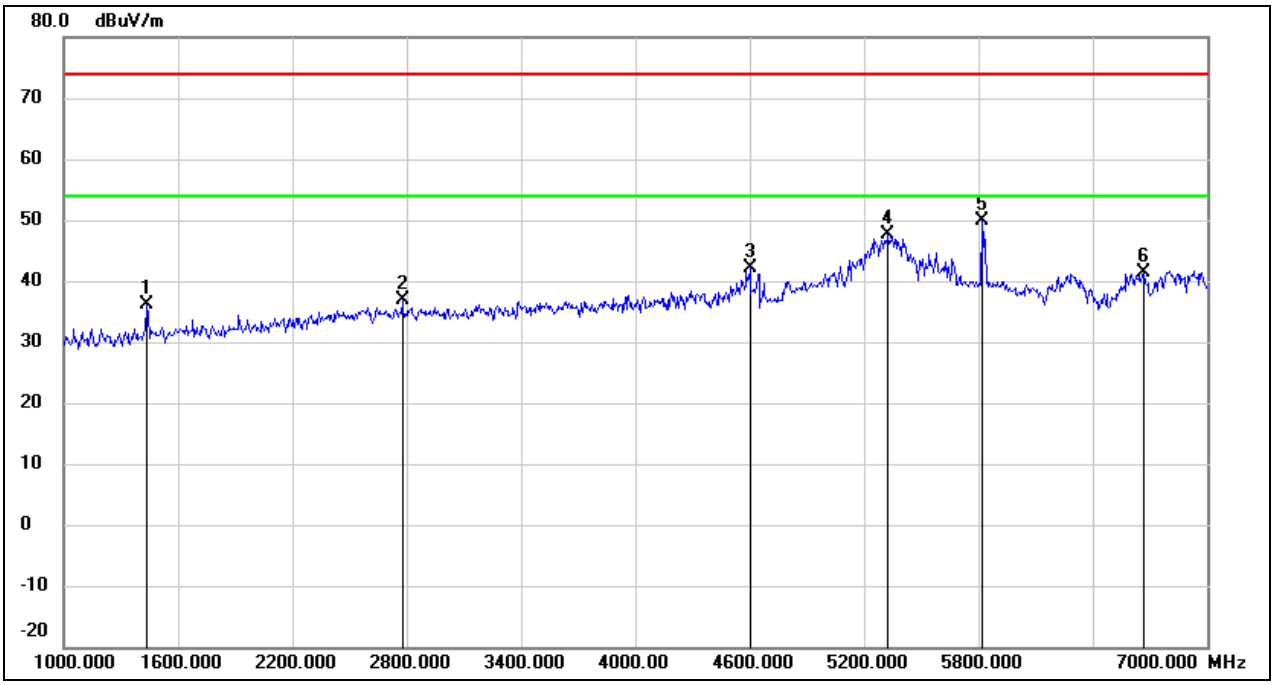
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1438.000	49.84	-13.00	36.84	74.00	-37.16	peak
2	4642.000	44.19	-1.57	42.62	74.00	-31.38	peak
3	5308.000	48.92	0.20	49.12	74.00	-24.88	peak
4	5782.000	48.17	1.23	49.40	74.00	-24.60	peak
5	5932.000	42.90	1.65	44.55	74.00	-29.45	peak
6	6658.000	37.94	4.49	42.43	74.00	-31.57	peak

Test Mode:	802.11a 20	Channel:	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



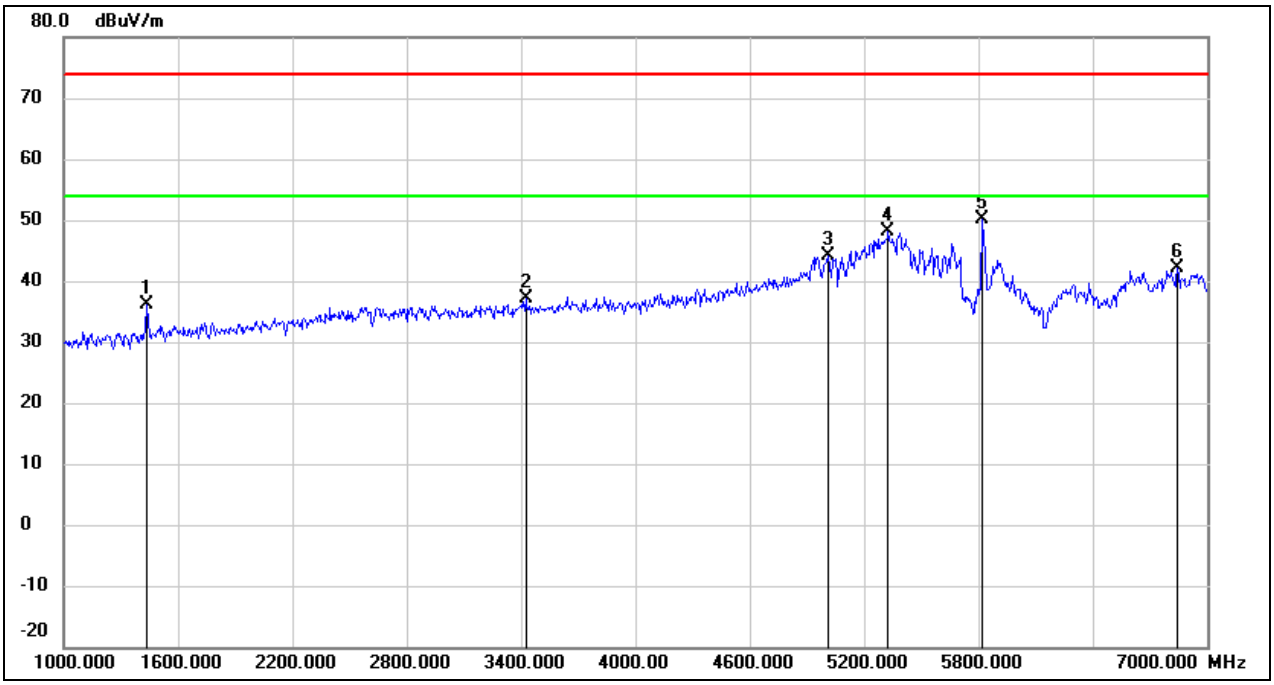
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1432.000	48.71	-13.02	35.69	74.00	-38.31	peak
2	5044.000	44.46	-0.10	44.36	74.00	-29.64	peak
3	5326.000	47.32	0.22	47.54	74.00	-26.46	peak
4	5698.000	47.04	0.99	48.03	74.00	-25.97	peak
5	5788.000	47.90	1.25	49.15	74.00	-24.85	peak
6	6664.000	37.76	4.54	42.30	74.00	-31.70	peak

Test Mode:	802.11a 20	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1438.000	49.10	-13.00	36.10	74.00	-37.90	peak
2	2776.000	44.55	-7.66	36.89	74.00	-37.11	peak
3	4600.000	43.90	-1.74	42.16	74.00	-31.84	peak
4	5326.000	47.46	0.22	47.68	74.00	-26.32	peak
5	5818.000	48.43	1.33	49.76	74.00	-24.24	peak
6	6664.000	36.86	4.54	41.40	74.00	-32.60	peak

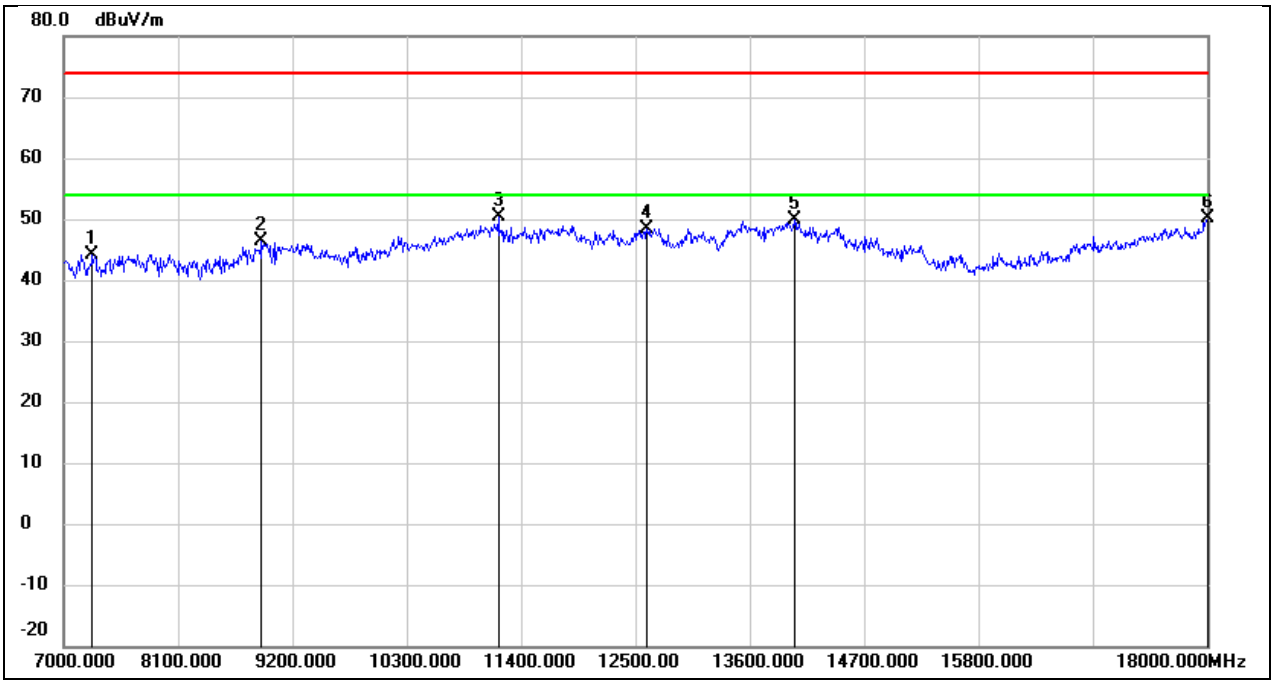
Test Mode:	802.11a 20	Channel:	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1438.000	49.09	-13.00	36.09	74.00	-37.91	peak
2	3424.000	43.12	-6.02	37.10	74.00	-36.90	peak
3	5008.000	44.25	-0.14	44.11	74.00	-29.89	peak
4	5326.000	47.93	0.22	48.15	74.00	-25.85	peak
5	5818.000	48.76	1.33	50.09	74.00	-23.91	peak
6	6844.000	36.63	5.43	42.06	74.00	-31.94	peak

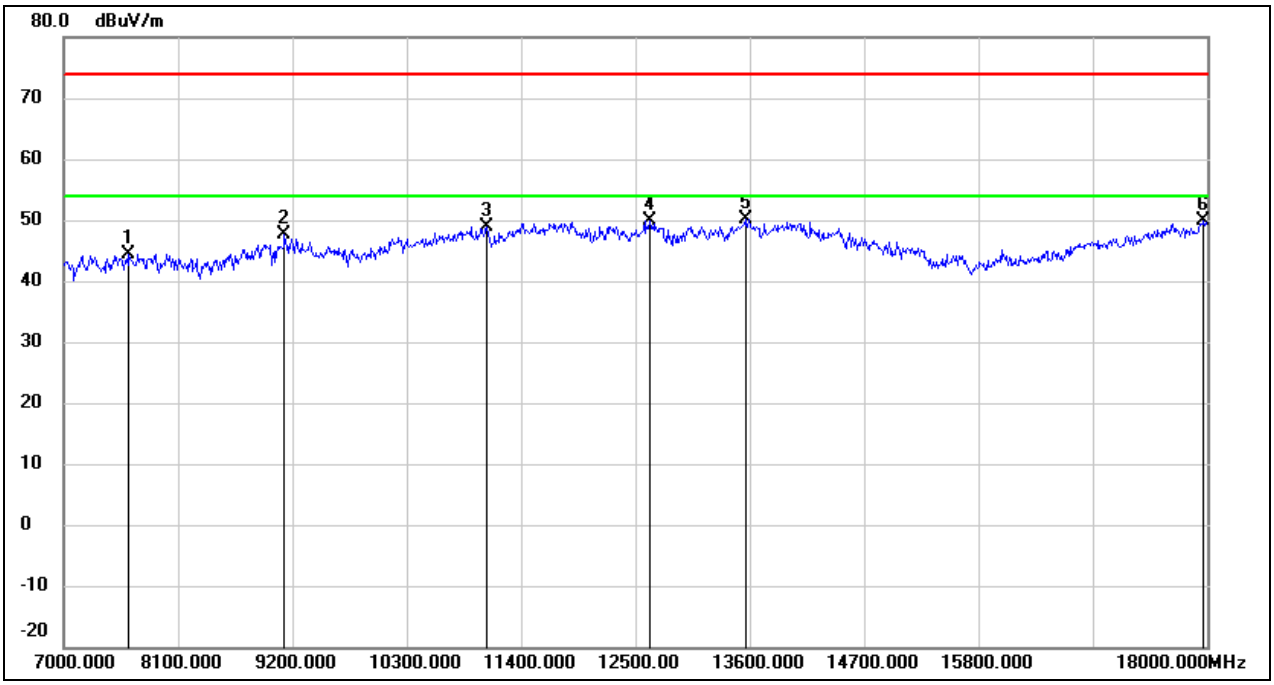
8.3. SPURIOUS EMISSIONS(7 GHZ~18 GHZ)

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



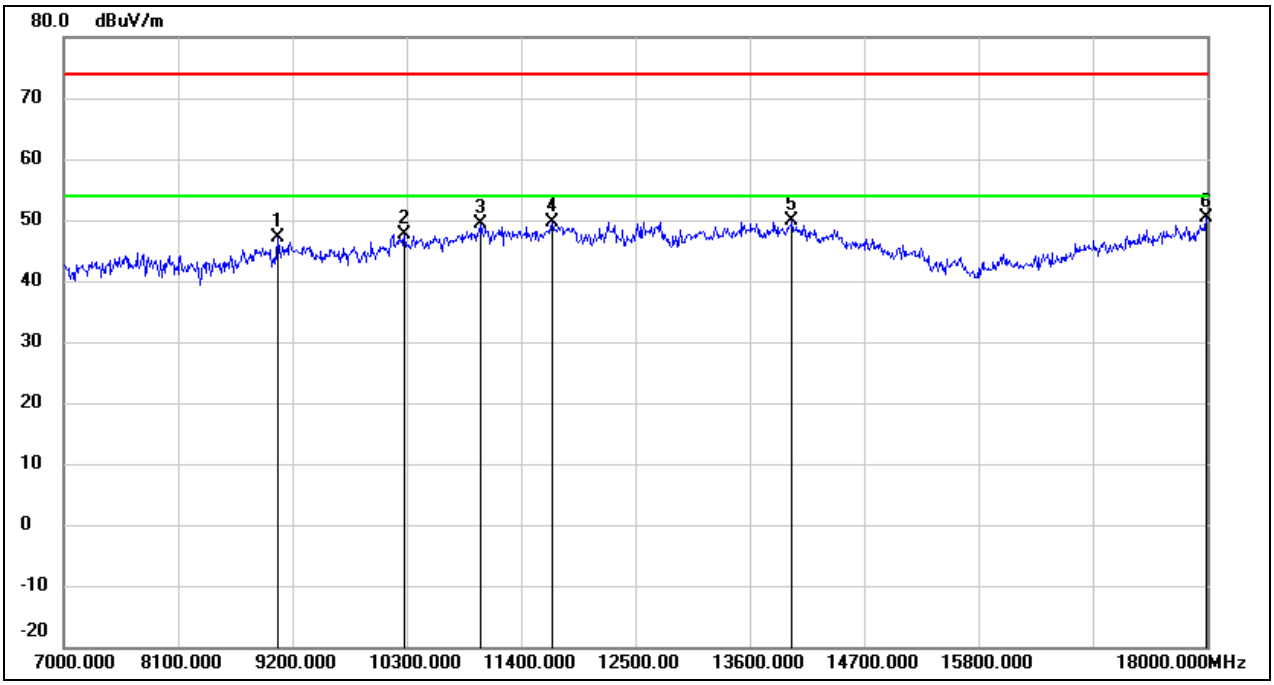
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7275.000	37.21	6.95	44.16	74.00	-29.84	peak
2	8903.000	36.77	9.66	46.43	74.00	-27.57	peak
3	11180.000	34.85	15.46	50.31	74.00	-23.69	peak
4	12610.000	30.51	17.97	48.48	74.00	-25.52	peak
5	14029.000	28.24	21.76	50.00	74.00	-24.00	peak
6	18000.000	23.91	26.12	50.03	74.00	-23.97	peak

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



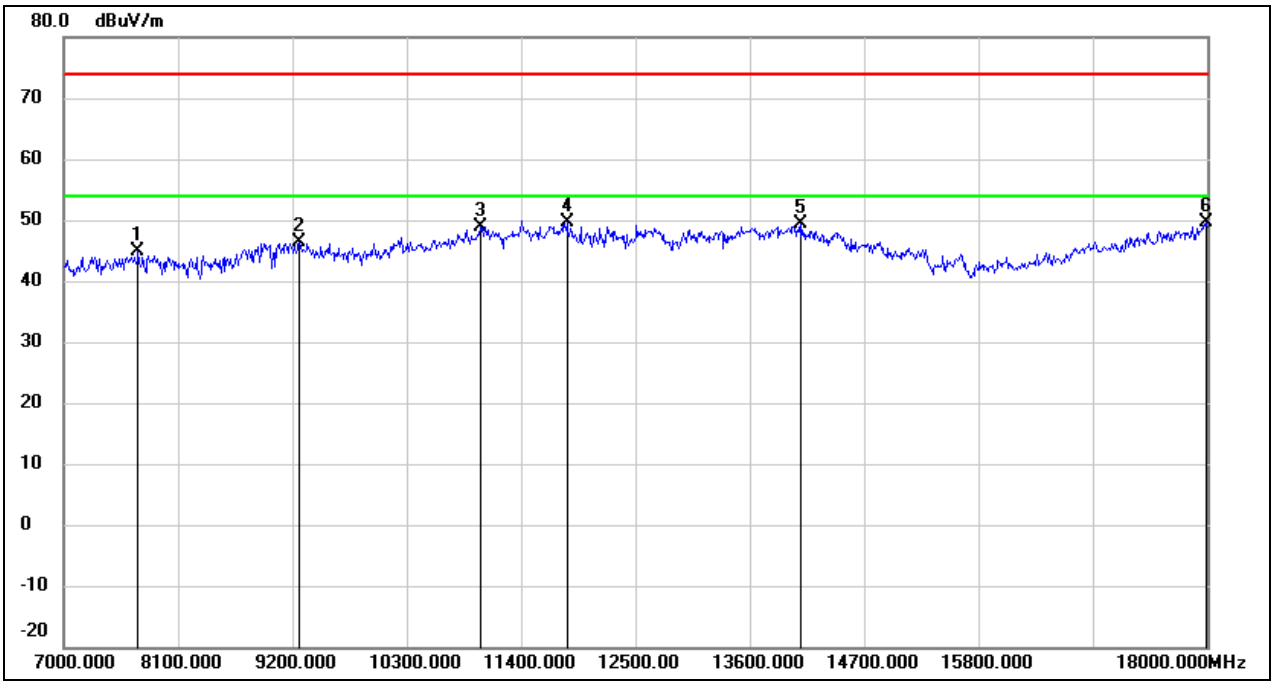
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7627.000	37.72	6.76	44.48	74.00	-29.52	peak
2	9123.000	37.23	10.42	47.65	74.00	-26.35	peak
3	11070.000	33.90	15.01	48.91	74.00	-25.09	peak
4	12643.000	31.98	18.01	49.99	74.00	-24.01	peak
5	13556.000	29.29	20.78	50.07	74.00	-23.93	peak
6	17967.000	24.07	25.89	49.96	74.00	-24.04	peak

Test Mode:	802.11a 20	Channel:	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



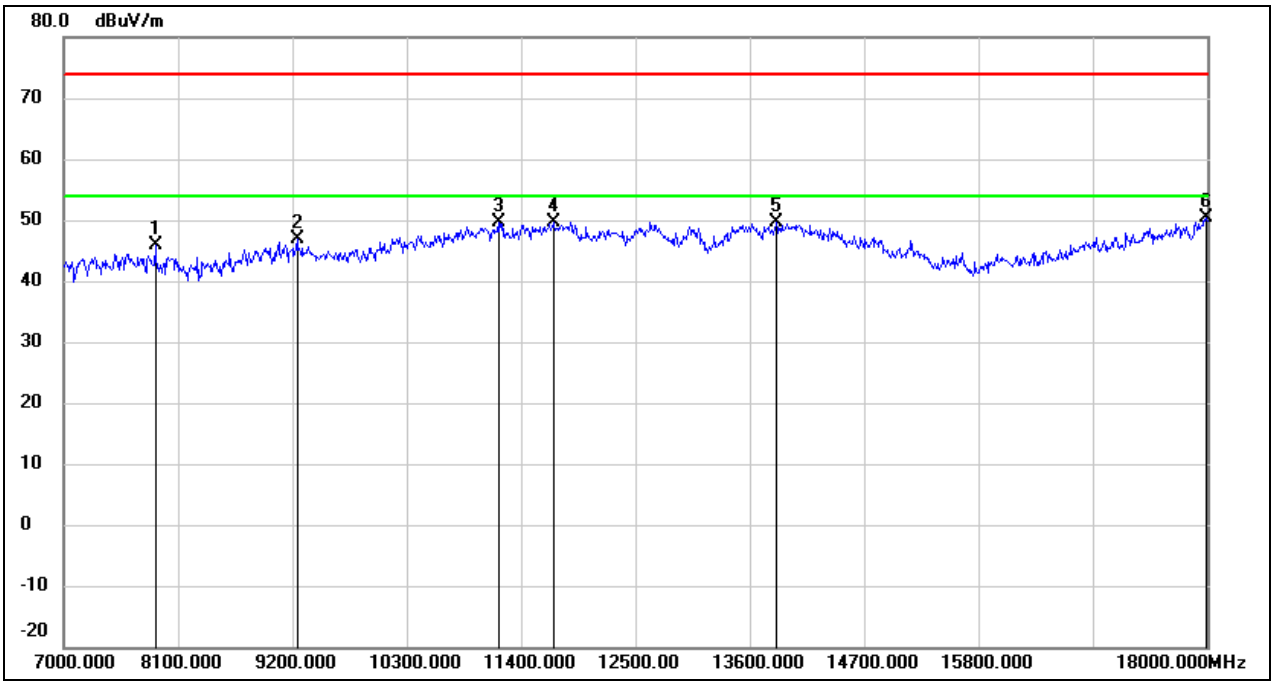
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9057.000	36.68	10.38	47.06	74.00	-26.94	peak
2	10278.000	35.27	12.35	47.62	74.00	-26.38	peak
3	11015.000	34.69	14.79	49.48	74.00	-24.52	peak
4	11697.000	32.38	17.13	49.51	74.00	-24.49	peak
5	14007.000	27.97	21.85	49.82	74.00	-24.18	peak
6	17989.000	24.45	26.04	50.49	74.00	-23.51	peak

Test Mode:	802.11a 20	Channel:	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



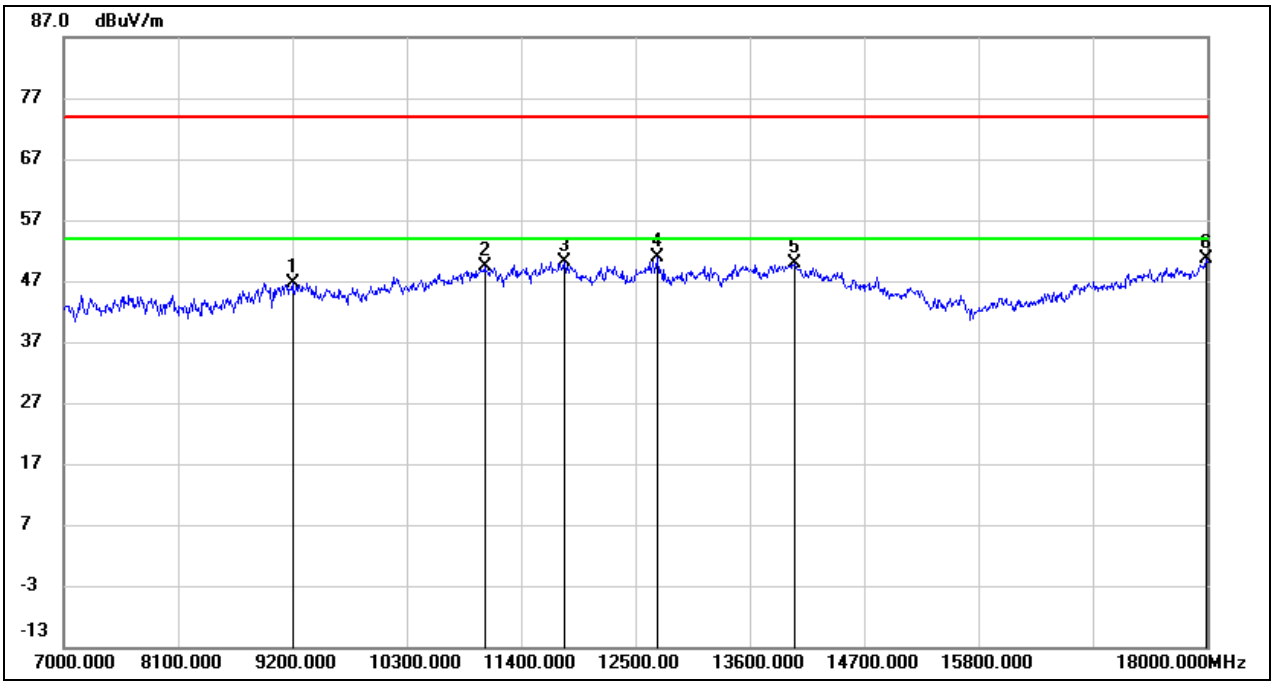
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7715.000	38.08	6.68	44.76	74.00	-29.24	peak
2	9266.000	35.95	10.51	46.46	74.00	-27.54	peak
3	11004.000	34.24	14.74	48.98	74.00	-25.02	peak
4	11840.000	32.17	17.40	49.57	74.00	-24.43	peak
5	14095.000	27.85	21.49	49.34	74.00	-24.66	peak
6	17989.000	23.54	26.04	49.58	74.00	-24.42	peak

Test Mode:	802.11a 20	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



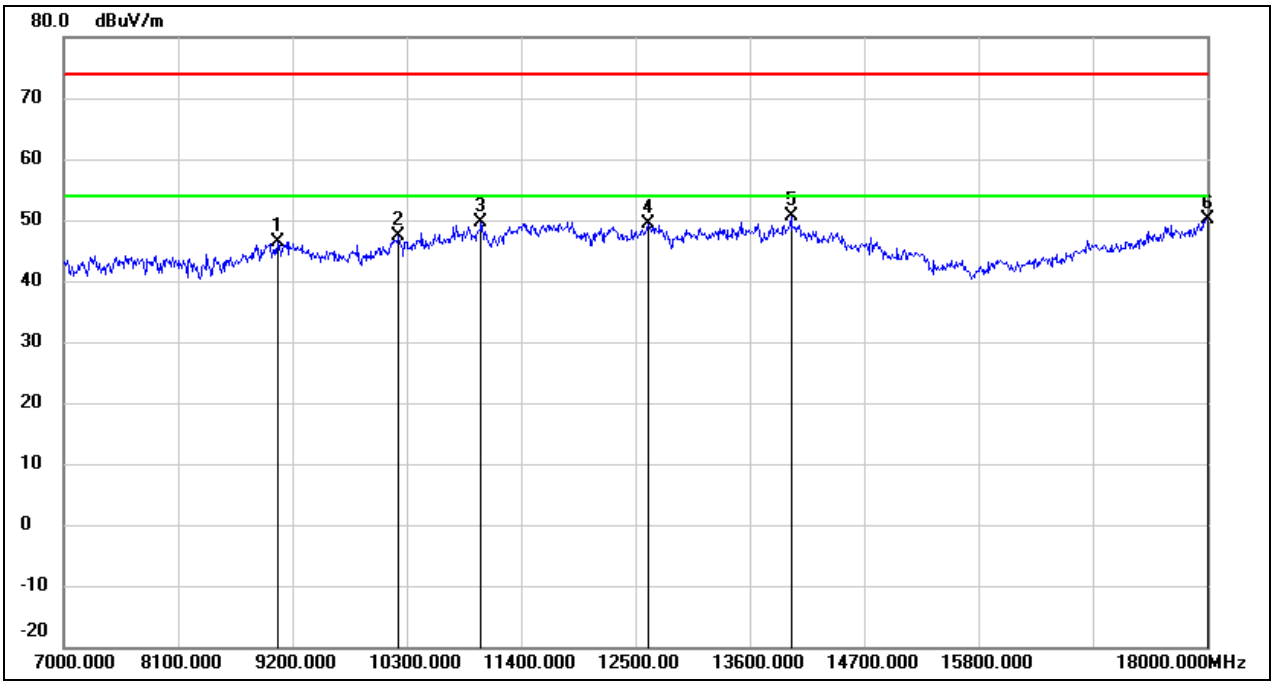
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7880.000	39.25	6.54	45.79	74.00	-28.21	peak
2	9244.000	36.34	10.49	46.83	74.00	-27.17	peak
3	11180.000	34.12	15.46	49.58	74.00	-24.42	peak
4	11708.000	32.45	17.16	49.61	74.00	-24.39	peak
5	13853.000	28.01	21.52	49.53	74.00	-24.47	peak
6	17989.000	24.46	26.04	50.50	74.00	-23.50	peak

Test Mode:	802.11a 20	Channel:	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



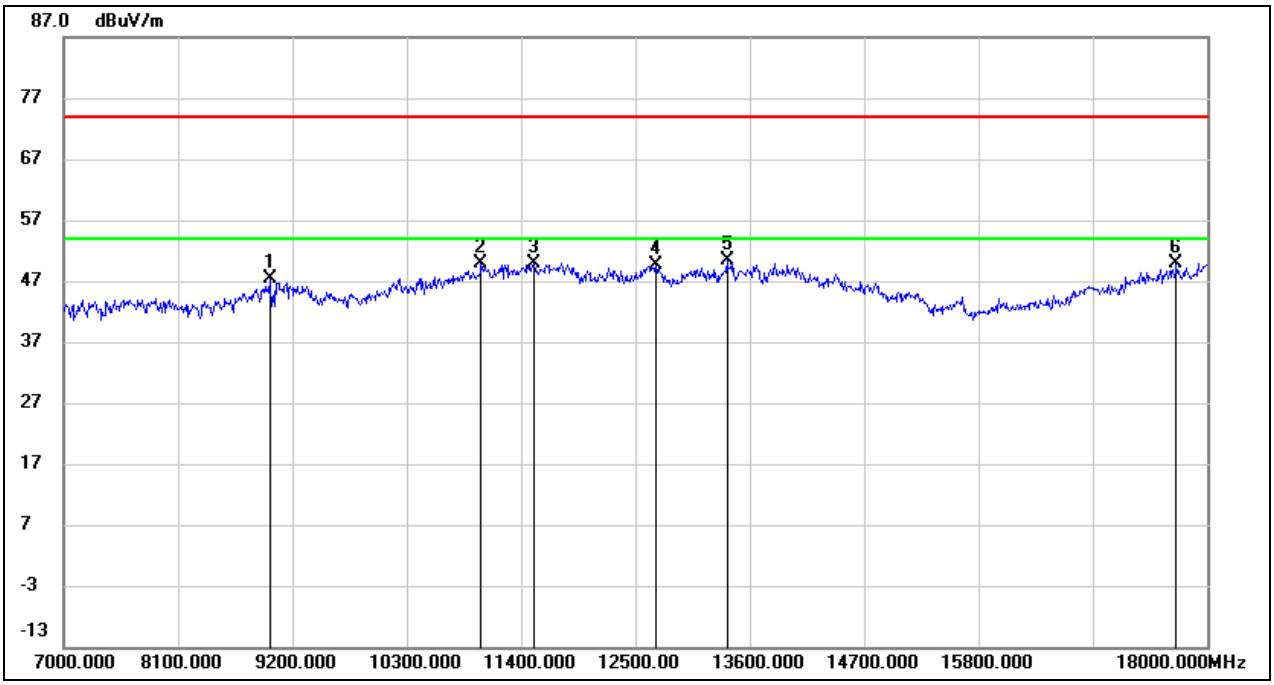
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9200.000	36.15	10.46	46.61	74.00	-27.39	peak
2	11048.000	34.46	14.91	49.37	74.00	-24.63	peak
3	11818.000	32.86	17.36	50.22	74.00	-23.78	peak
4	12709.000	32.67	18.09	50.76	74.00	-23.24	peak
5	14029.000	28.03	21.76	49.79	74.00	-24.21	peak
6	17989.000	24.60	26.04	50.64	74.00	-23.36	peak

Test Mode:	802.11n HT20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



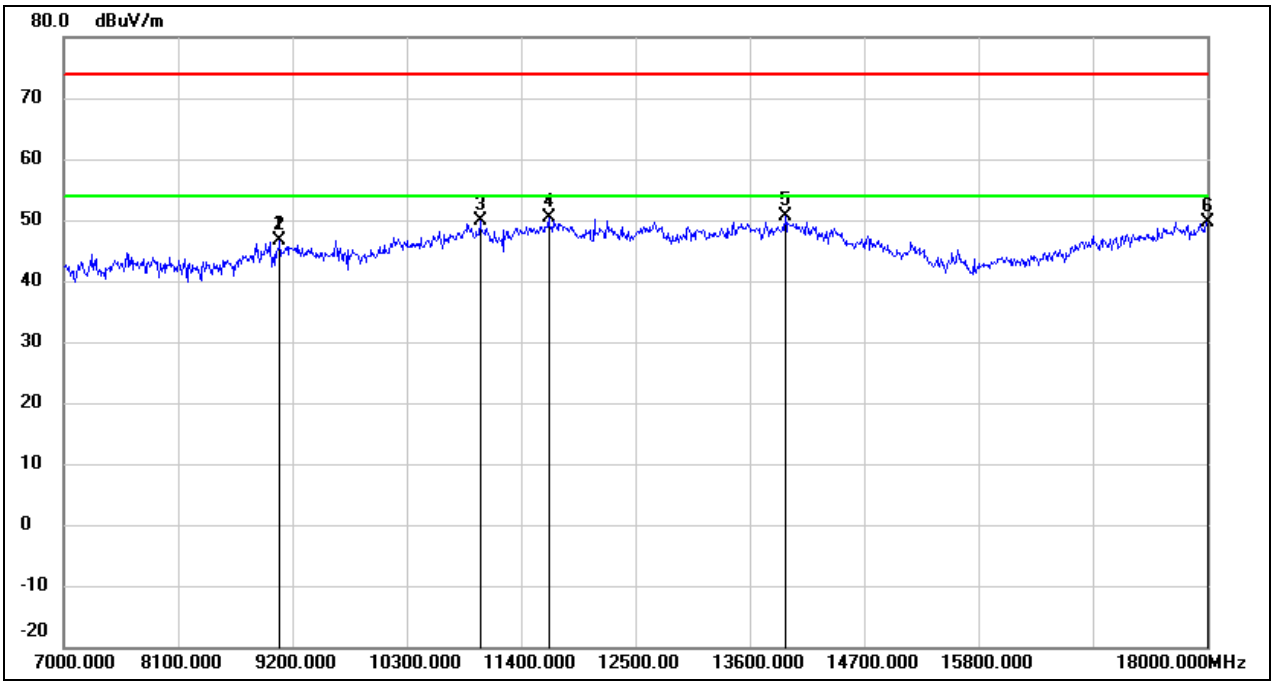
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9057.000	36.08	10.38	46.46	74.00	-27.54	peak
2	10223.000	35.02	12.24	47.26	74.00	-26.74	peak
3	11015.000	34.75	14.79	49.54	74.00	-24.46	peak
4	12621.000	31.38	17.98	49.36	74.00	-24.64	peak
5	13996.000	28.64	21.87	50.51	74.00	-23.49	peak
6	18000.000	24.02	26.12	50.14	74.00	-23.86	peak

Test Mode:	802.11n HT20	Channel:	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



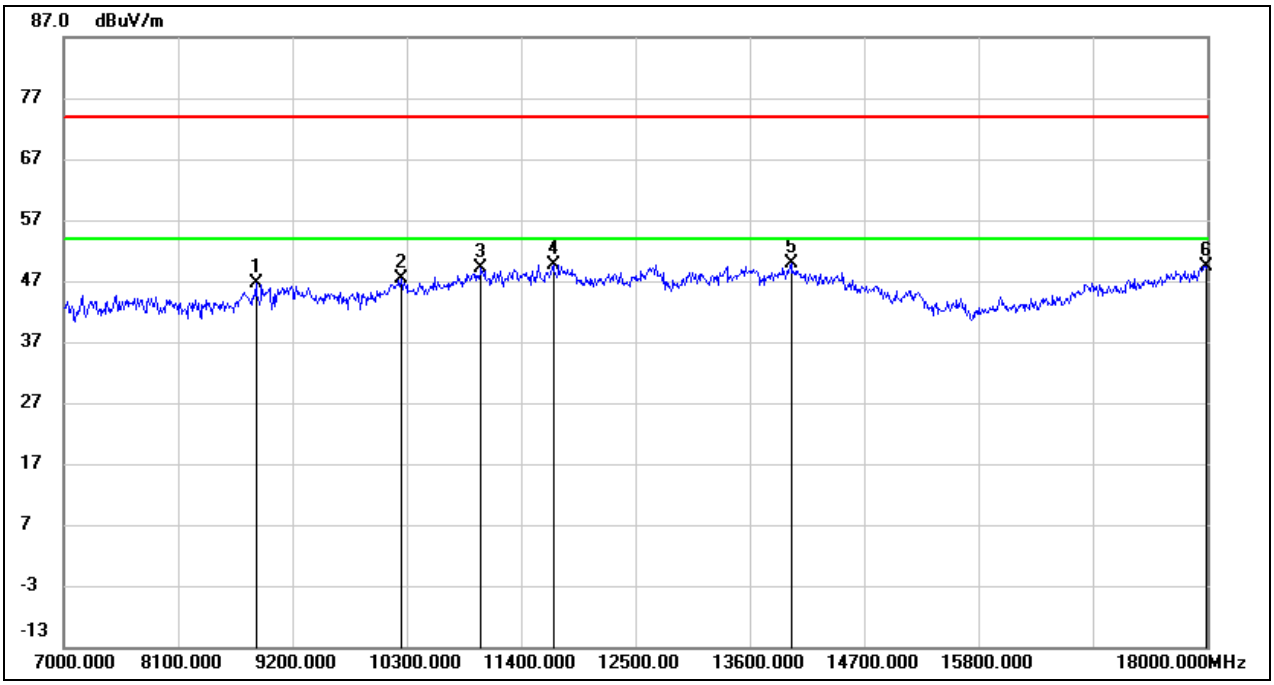
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8980.000	37.28	10.21	47.49	74.00	-26.51	peak
2	11015.000	35.00	14.79	49.79	74.00	-24.21	peak
3	11521.000	33.17	16.82	49.99	74.00	-24.01	peak
4	12698.000	31.51	18.08	49.59	74.00	-24.41	peak
5	13380.000	30.16	20.12	50.28	74.00	-23.72	peak
6	17703.000	25.86	24.09	49.95	74.00	-24.05	peak

Test Mode:	802.11n HT20	Channel:	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



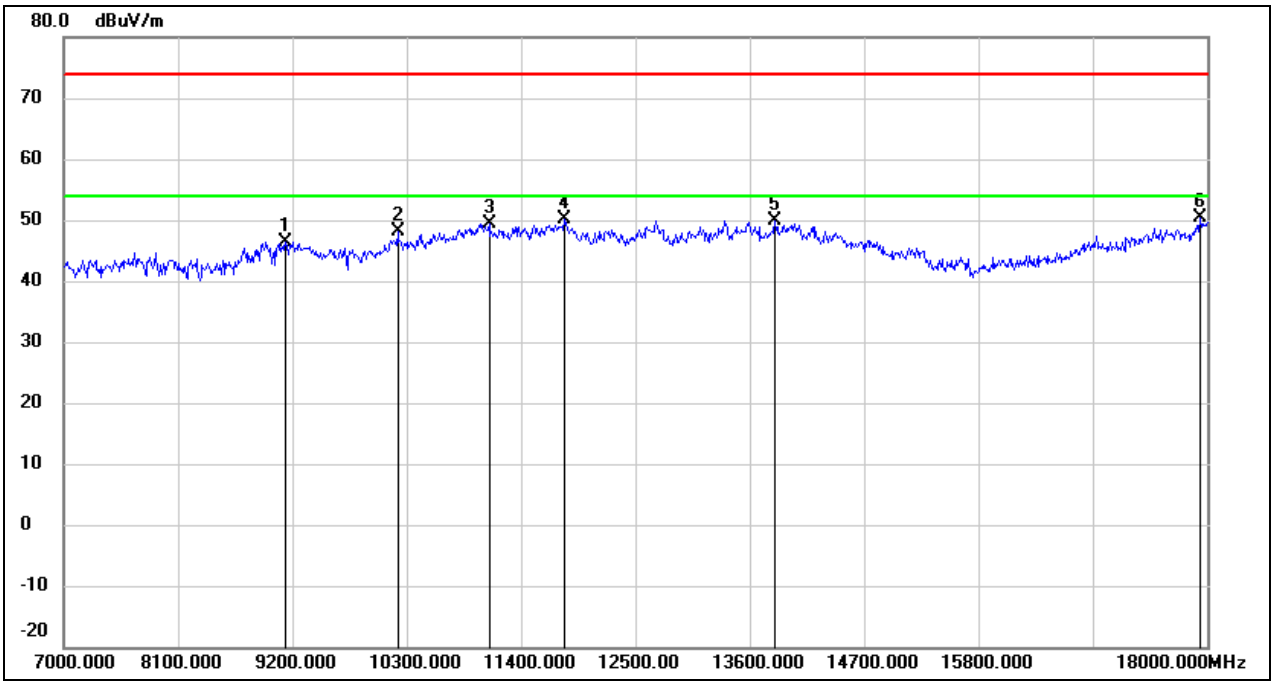
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9079.000	36.19	10.39	46.58	74.00	-27.42	peak
2	9079.000	36.19	10.39	46.58	74.00	-27.42	peak
3	11004.000	35.04	14.74	49.78	74.00	-24.22	peak
4	11664.000	33.24	17.08	50.32	74.00	-23.68	peak
5	13941.000	28.87	21.73	50.60	74.00	-23.40	peak
6	18000.000	23.50	26.12	49.62	74.00	-24.38	peak

Test Mode:	802.11n HT20	Channel:	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



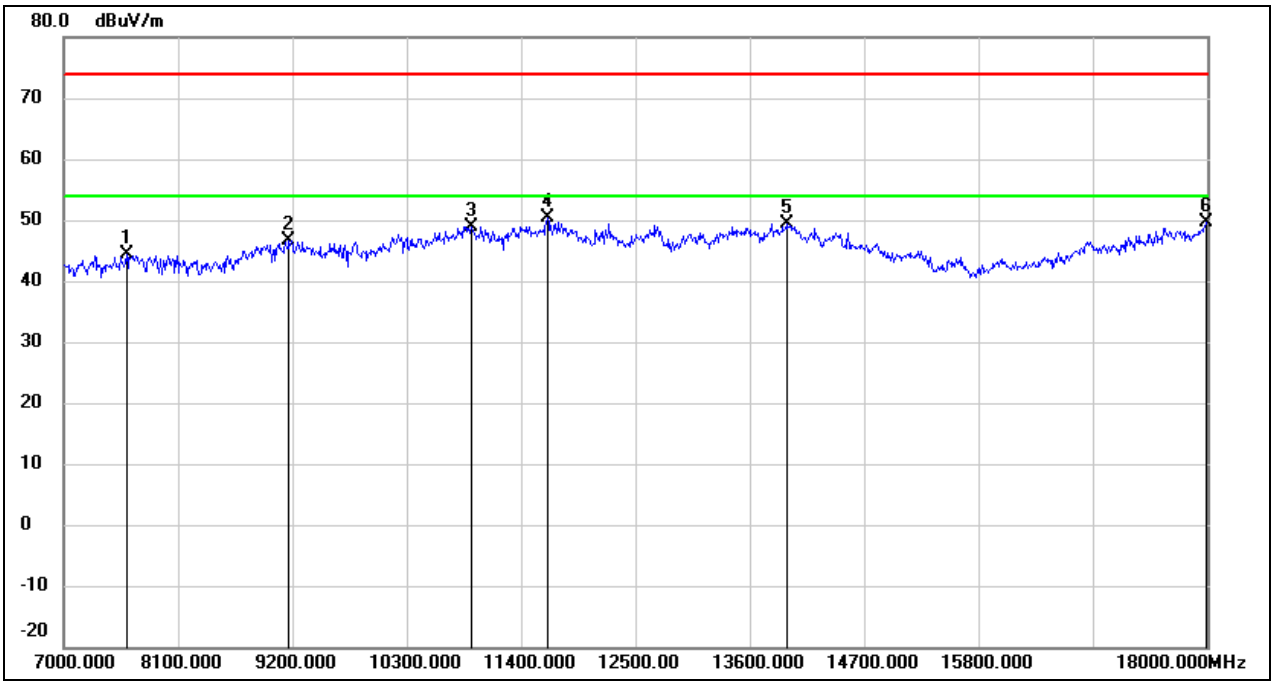
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8848.000	37.32	9.29	46.61	74.00	-27.39	peak
2	10245.000	35.02	12.28	47.30	74.00	-26.70	peak
3	11015.000	34.27	14.79	49.06	74.00	-24.94	peak
4	11708.000	32.49	17.16	49.65	74.00	-24.35	peak
5	13996.000	27.90	21.87	49.77	74.00	-24.23	peak
6	17989.000	23.42	26.04	49.46	74.00	-24.54	peak

Test Mode:	802.11n HT20	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



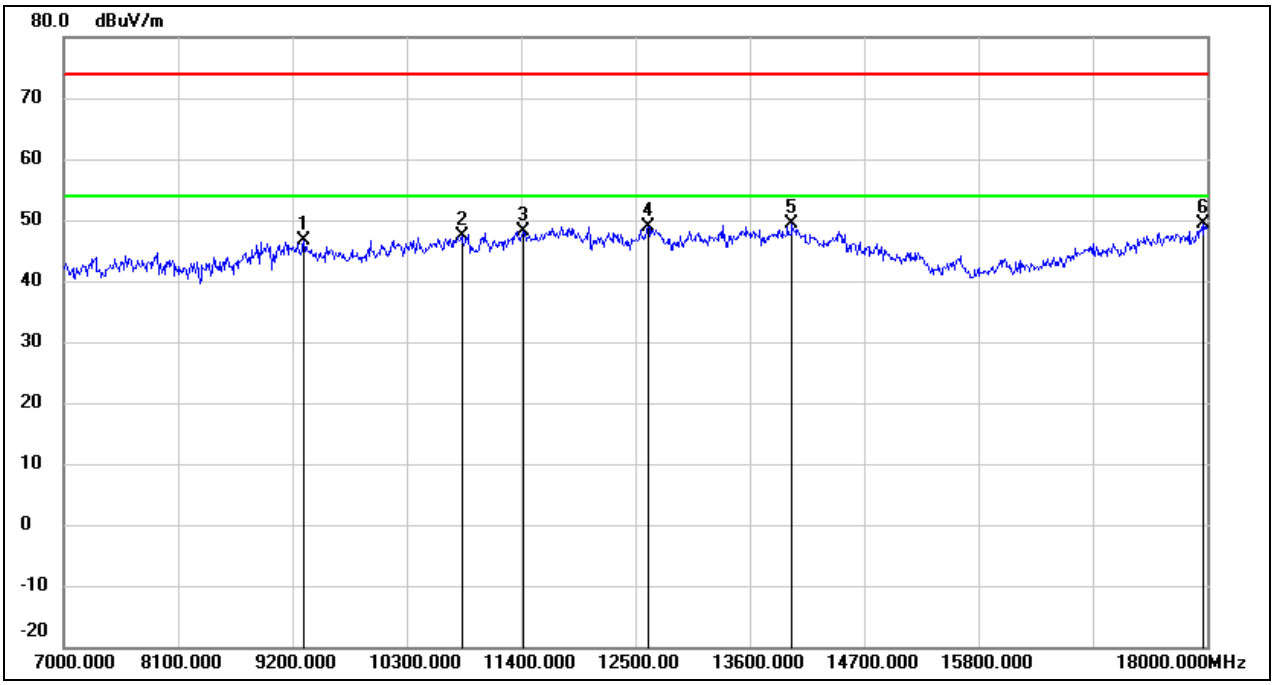
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9134.000	35.89	10.41	46.30	74.00	-27.70	peak
2	10212.000	35.84	12.21	48.05	74.00	-25.95	peak
3	11092.000	34.26	15.10	49.36	74.00	-24.64	peak
4	11818.000	32.65	17.36	50.01	74.00	-23.99	peak
5	13842.000	28.29	21.49	49.78	74.00	-24.22	peak
6	17934.000	24.59	25.67	50.26	74.00	-23.74	peak

Test Mode:	802.11n HT20	Channel:	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



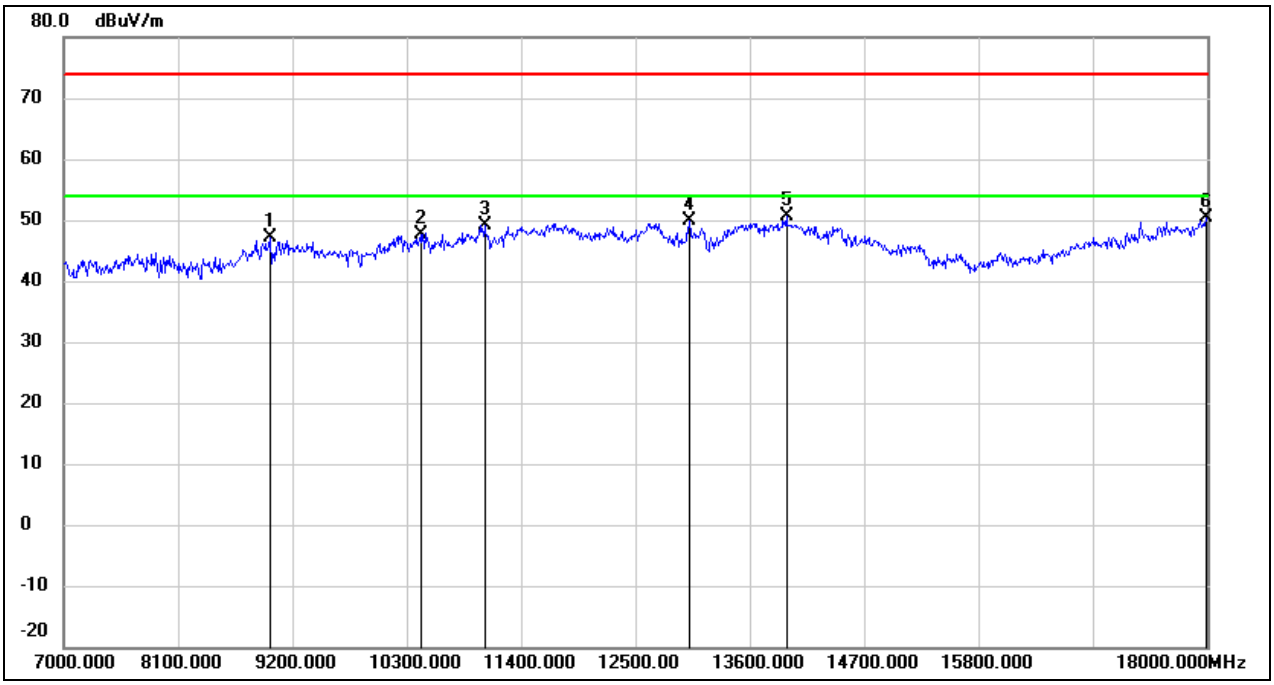
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7605.000	37.57	6.78	44.35	74.00	-29.65	peak
2	9167.000	36.25	10.45	46.70	74.00	-27.30	peak
3	10916.000	34.59	14.39	48.98	74.00	-25.02	peak
4	11653.000	33.40	17.05	50.45	74.00	-23.55	peak
5	13952.000	27.55	21.76	49.31	74.00	-24.69	peak
6	17989.000	23.51	26.04	49.55	74.00	-24.45	peak

Test Mode:	802.11n HT40	Channel:	5755
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



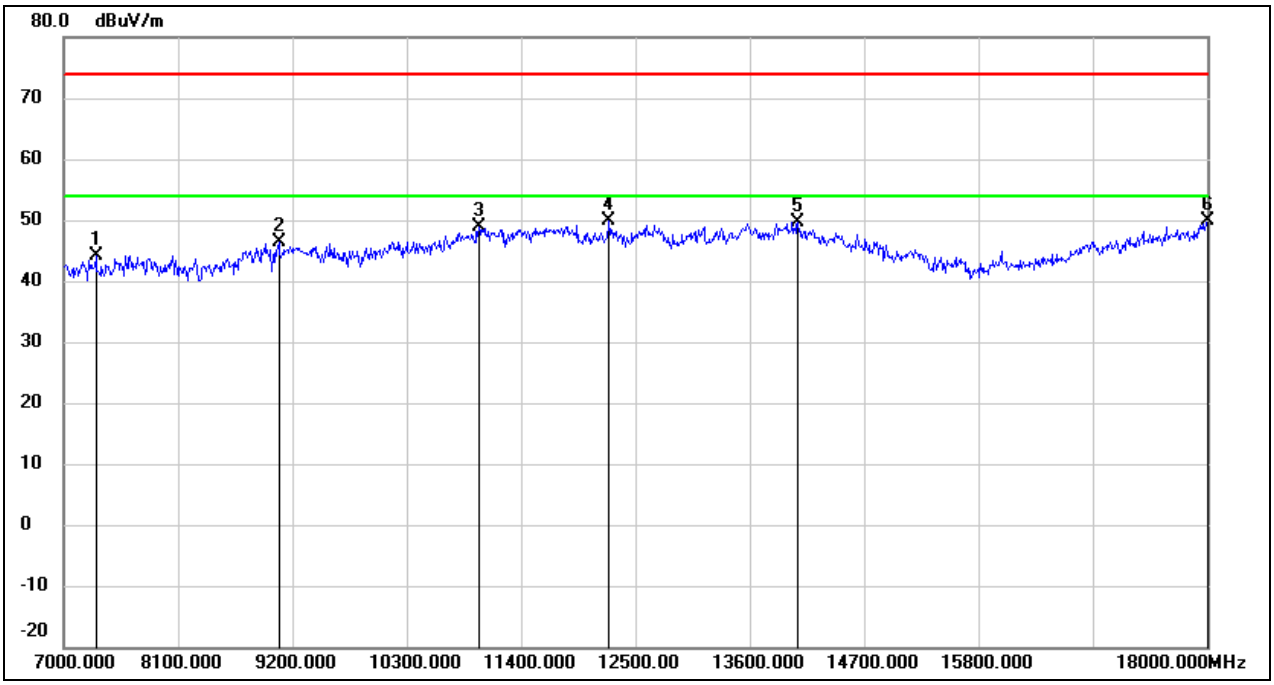
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9310.000	35.99	10.54	46.53	74.00	-27.47	peak
2	10828.000	33.24	14.07	47.31	74.00	-26.69	peak
3	11422.000	31.64	16.46	48.10	74.00	-25.90	peak
4	12621.000	31.01	17.98	48.99	74.00	-25.01	peak
5	14007.000	27.56	21.85	49.41	74.00	-24.59	peak
6	17967.000	23.57	25.89	49.46	74.00	-24.54	peak

Test Mode:	802.11n HT40	Channel:	5755
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



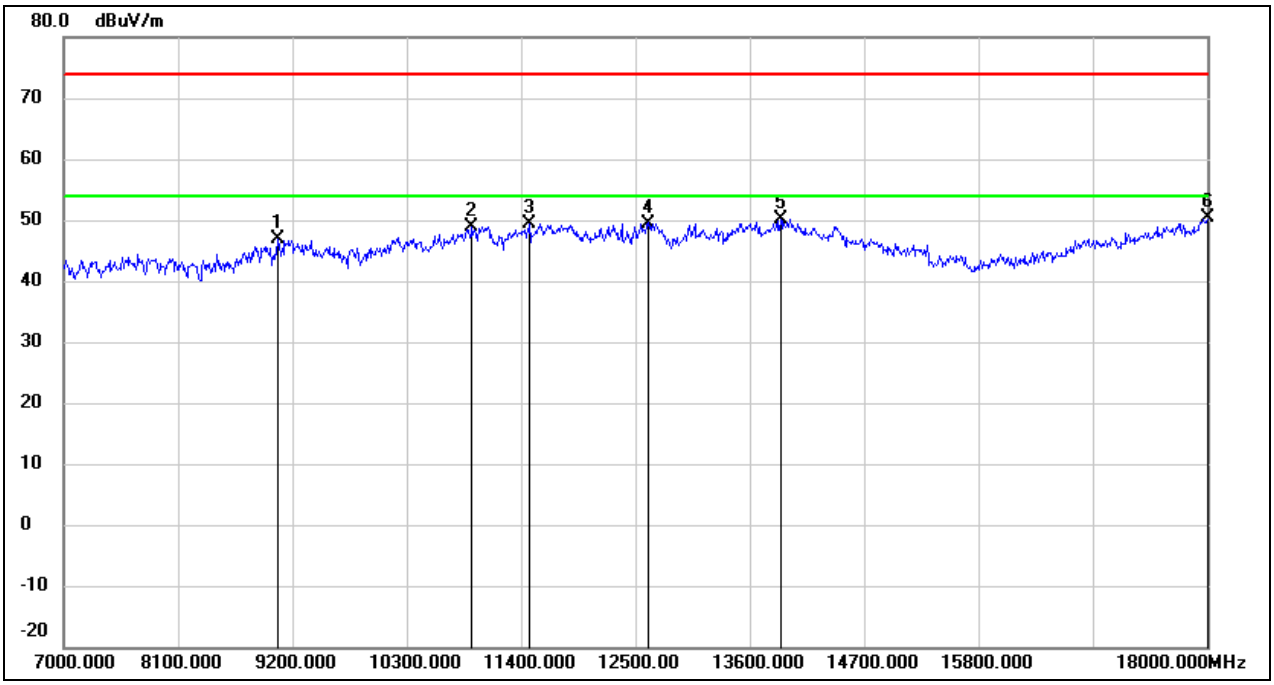
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8980.000	36.87	10.21	47.08	74.00	-26.92	peak
2	10432.000	34.96	12.67	47.63	74.00	-26.37	peak
3	11048.000	34.26	14.91	49.17	74.00	-24.83	peak
4	13017.000	31.23	18.53	49.76	74.00	-24.24	peak
5	13952.000	28.81	21.76	50.57	74.00	-23.43	peak
6	17989.000	24.27	26.04	50.31	74.00	-23.69	peak

Test Mode:	802.11n HT40	Channel:	5795
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7308.000	37.19	6.94	44.13	74.00	-29.87	peak
2	9068.000	35.92	10.39	46.31	74.00	-27.69	peak
3	10993.000	34.14	14.70	48.84	74.00	-25.16	peak
4	12247.000	31.99	17.77	49.76	74.00	-24.24	peak
5	14062.000	28.01	21.62	49.63	74.00	-24.37	peak
6	18000.000	23.67	26.12	49.79	74.00	-24.21	peak

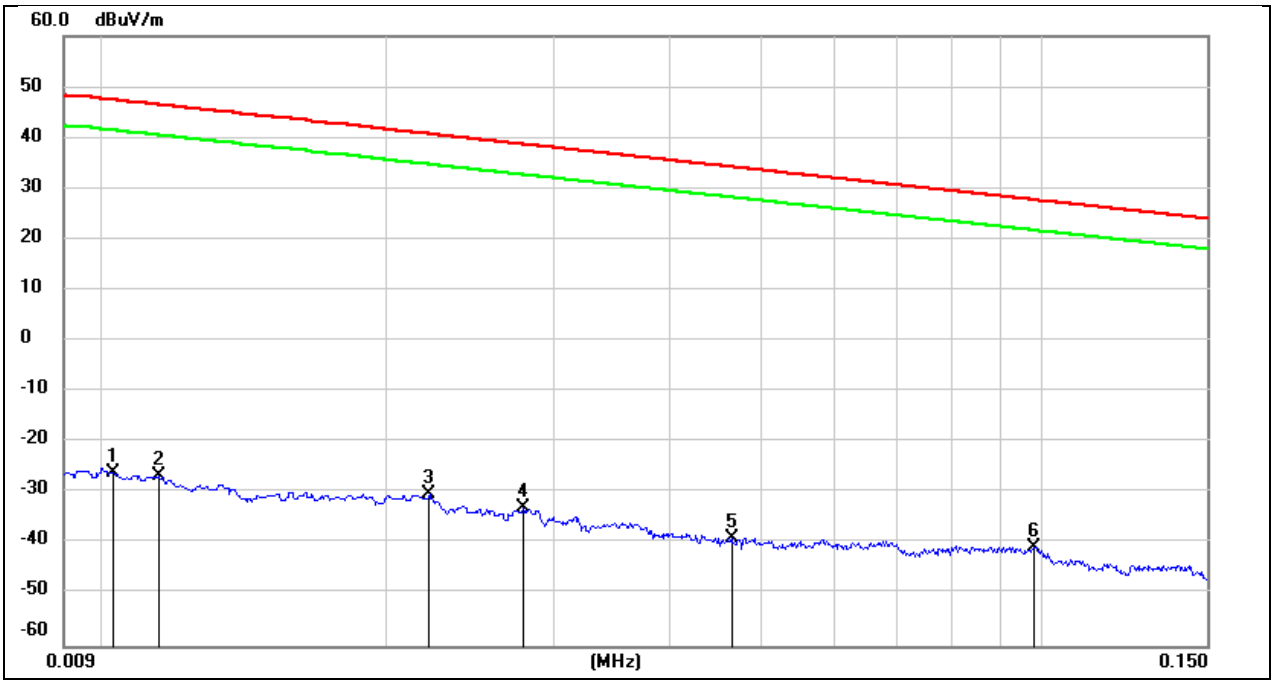
Test Mode:	802.11n HT40	Channel:	5795
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9057.000	36.39	10.38	46.77	74.00	-27.23	peak
2	10927.000	34.55	14.45	49.00	74.00	-25.00	peak
3	11477.000	32.70	16.67	49.37	74.00	-24.63	peak
4	12621.000	31.52	17.98	49.50	74.00	-24.50	peak
5	13897.000	28.51	21.62	50.13	74.00	-23.87	peak
6	18000.000	24.26	26.12	50.38	74.00	-23.62	peak

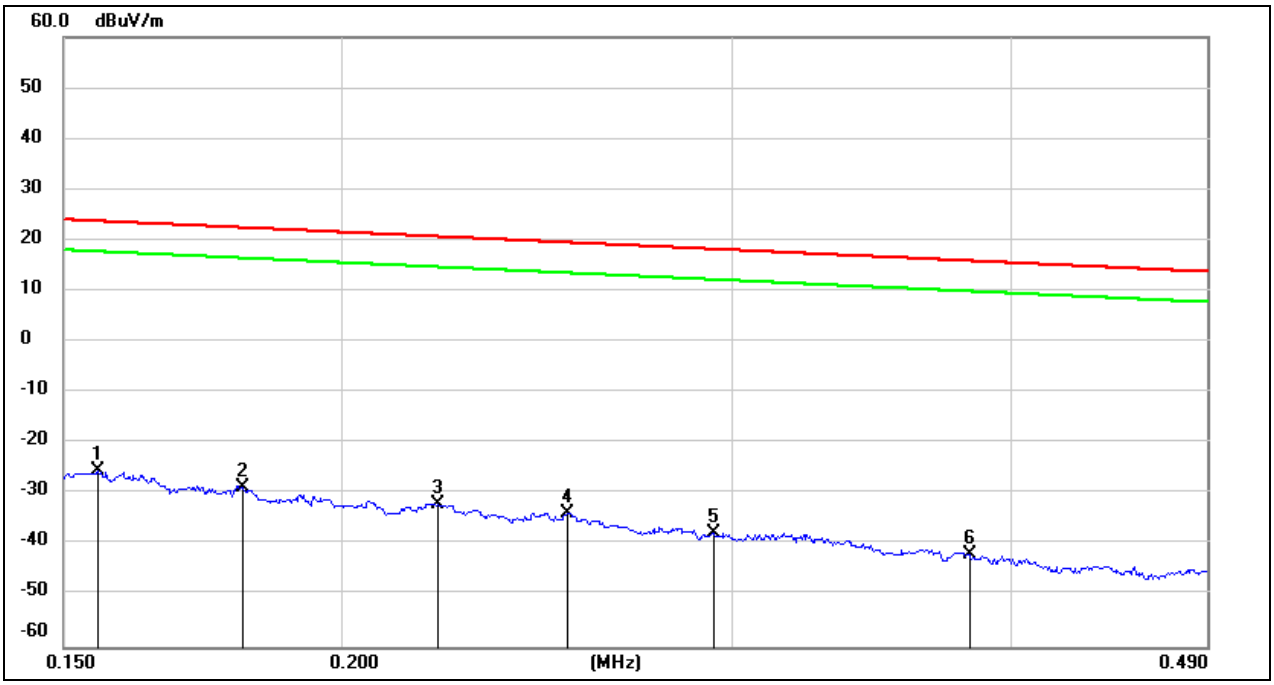
8.4. SPURIOUS EMISSIONS(9 KHZ~30 MHZ)

Test Mode:	802.11a 20	Channel:	5745
Polarity:	FACE ON	Test Voltage:	AC 120V_60Hz



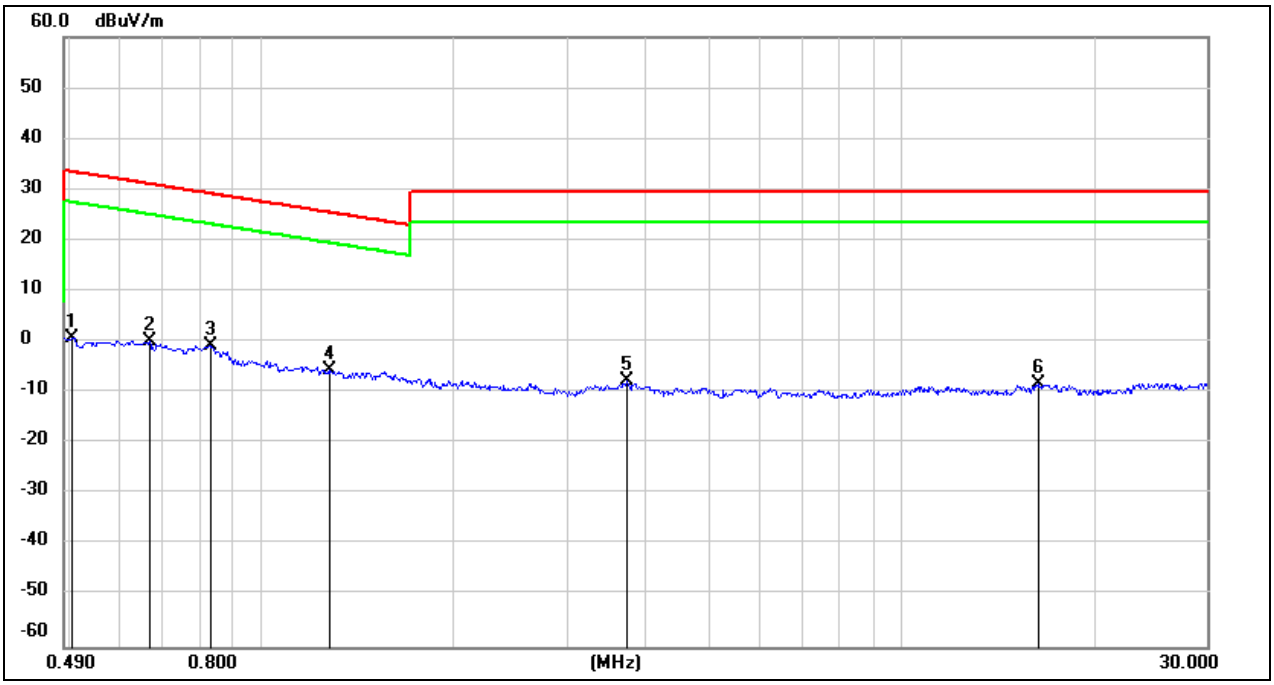
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0102	75.55	-101.40	-25.85	47.43	-73.28	peak
2	0.0114	74.88	-101.40	-26.52	46.46	-72.98	peak
3	0.0221	71.13	-101.35	-30.22	40.71	-70.93	peak
4	0.0279	68.67	-101.38	-32.71	38.69	-71.40	peak
5	0.0466	62.67	-101.46	-38.79	34.23	-73.02	peak
6	0.0981	61.27	-101.78	-40.51	27.77	-68.28	peak

Test Mode:	802.11a 20	Channel:	5745
Polarity:	FACE ON	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1554	76.27	-101.65	-25.38	23.77	-49.15	peak
2	0.1806	72.93	-101.68	-28.75	22.47	-51.22	peak
3	0.2210	69.84	-101.75	-31.91	20.71	-52.62	peak
4	0.2530	68.14	-101.80	-33.66	19.54	-53.20	peak
5	0.2942	64.32	-101.85	-37.53	18.23	-55.76	peak
6	0.3830	60.20	-101.94	-41.74	15.94	-57.68	peak

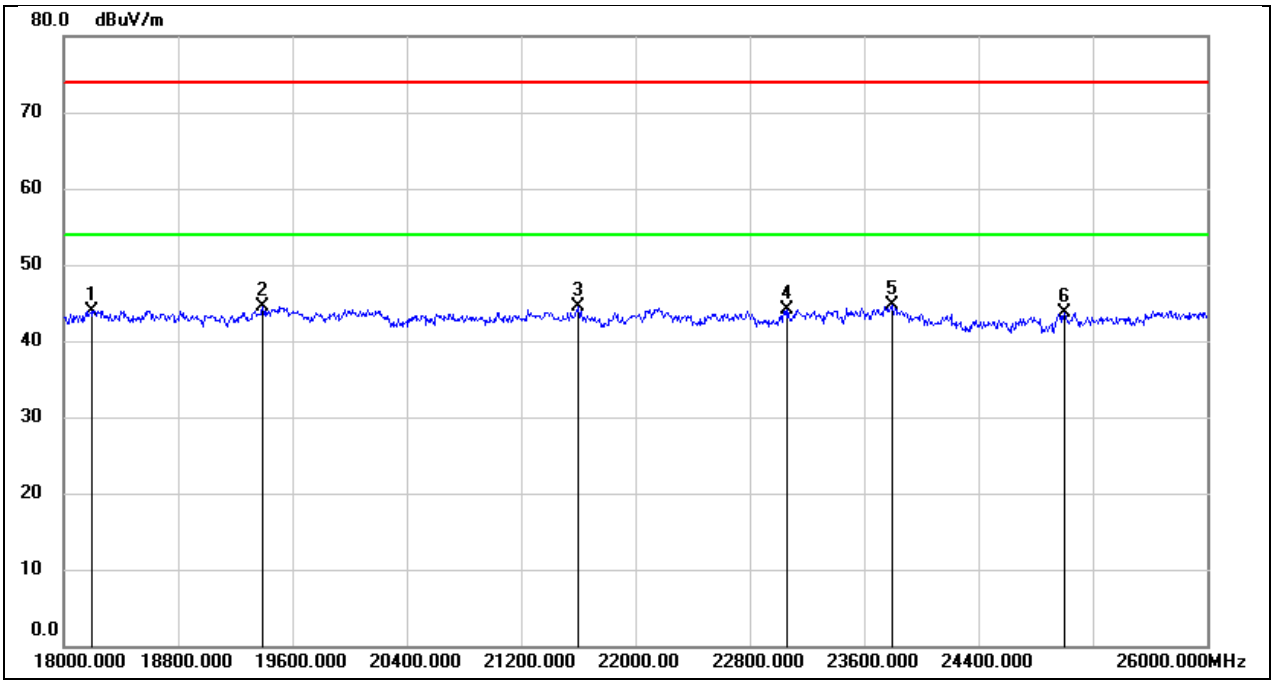
Test Mode:	802.11a 20	Channel:	5745
Polarity:	FACE ON	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.5039	62.93	-62.07	0.86	33.56	-32.70	peak
2	0.6671	62.25	-62.10	0.15	31.12	-30.97	peak
3	0.8296	61.44	-62.17	-0.73	29.23	-29.96	peak
4	1.2721	56.74	-62.15	-5.41	25.52	-30.93	peak
5	3.7100	53.70	-61.41	-7.71	29.54	-37.25	peak
6	16.3959	52.67	-60.96	-8.29	29.54	-37.83	peak

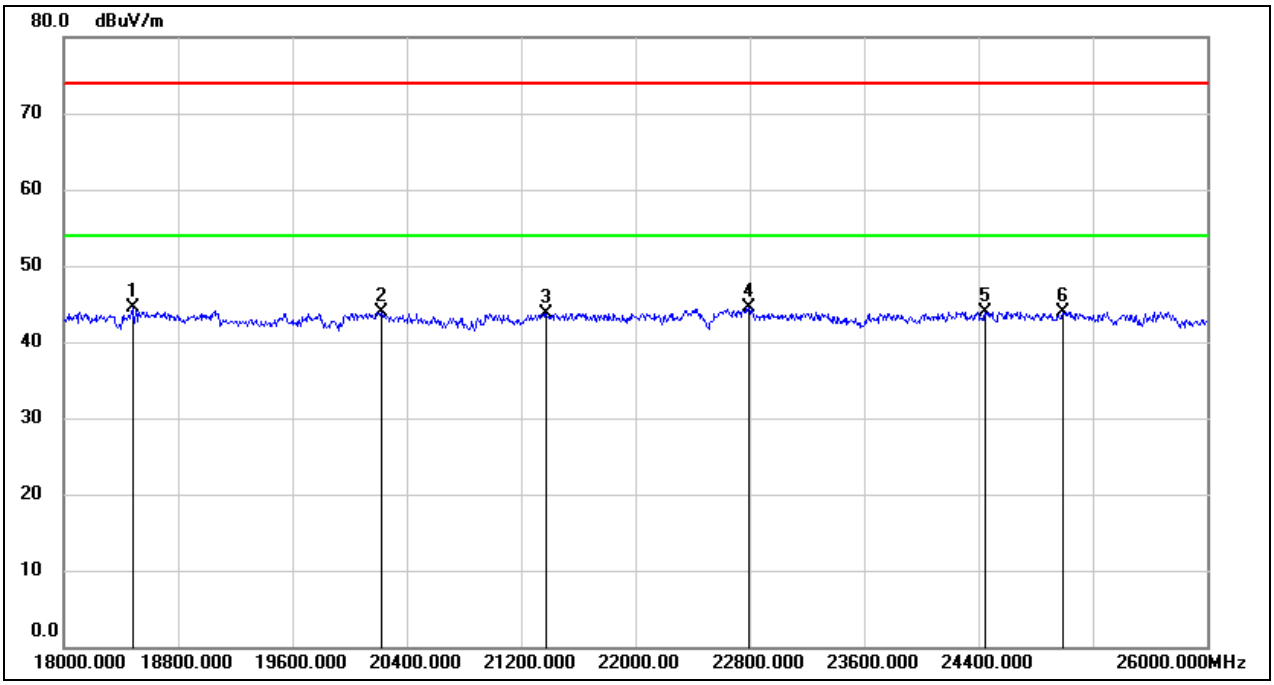
8.5. SPURIOUS EMISSIONS(18 GHZ~26 GHZ)

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18192.000	49.48	-5.51	43.97	74.00	-30.03	peak
2	19392.000	50.12	-5.57	44.55	74.00	-29.45	peak
3	21600.000	49.02	-4.54	44.48	74.00	-29.52	peak
4	23064.000	47.49	-3.42	44.07	74.00	-29.93	peak
5	23800.000	47.91	-3.11	44.80	74.00	-29.20	peak
6	25000.000	45.86	-2.10	43.76	74.00	-30.24	peak

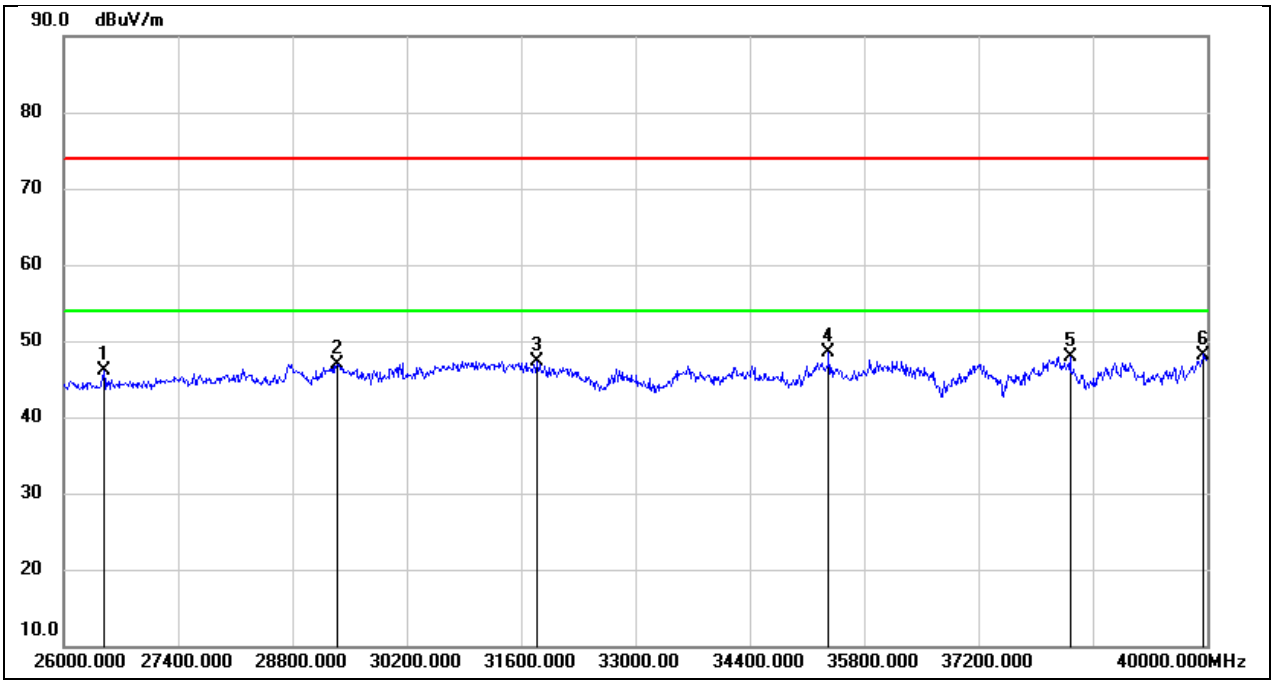
Test Mode:	802.11a 20	Channel:	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18480.000	49.84	-5.28	44.56	74.00	-29.44	peak
2	20224.000	49.52	-5.60	43.92	74.00	-30.08	peak
3	21376.000	48.49	-4.73	43.76	74.00	-30.24	peak
4	22792.000	48.11	-3.65	44.46	74.00	-29.54	peak
5	24448.000	46.42	-2.42	44.00	74.00	-30.00	peak
6	24992.000	46.08	-2.10	43.98	74.00	-30.02	peak

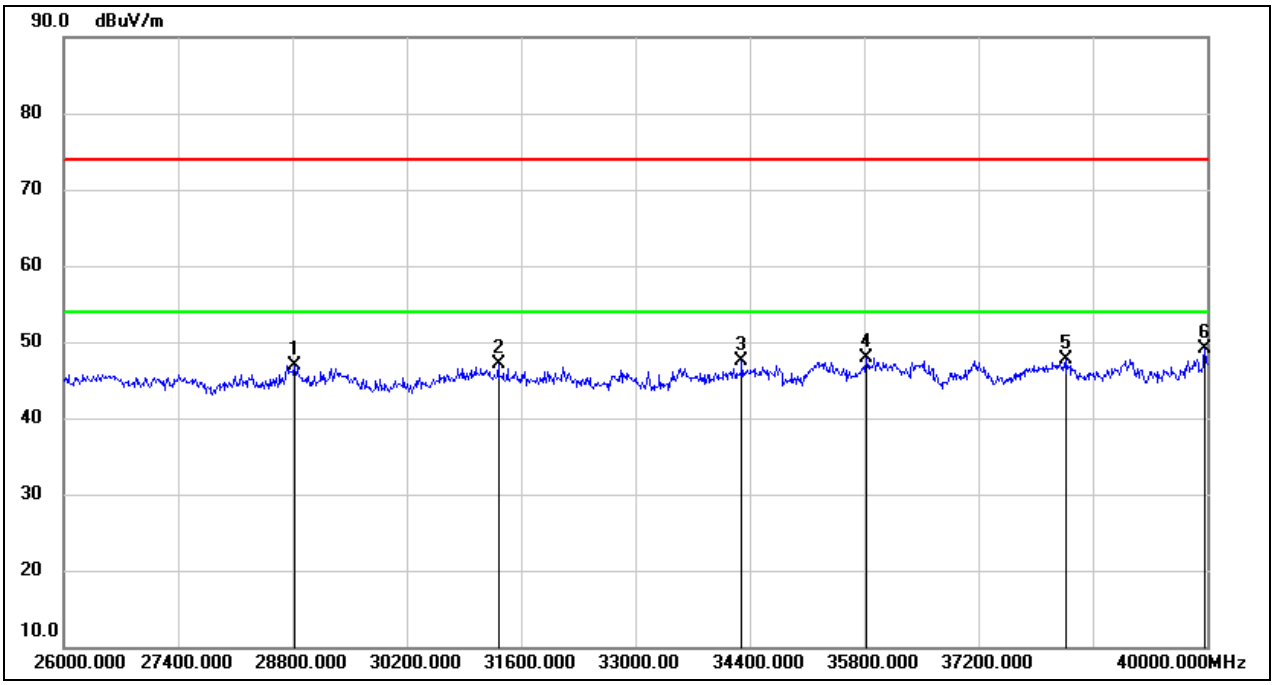
8.6. SPURIOUS EMISSIONS(26 GHZ~40 GHZ)

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26490.000	50.79	-4.74	46.05	74.00	-27.95	peak
2	29346.000	47.88	-0.91	46.97	74.00	-27.03	peak
3	31796.000	48.68	-1.39	47.29	74.00	-26.71	peak
4	35366.000	45.90	2.59	48.49	74.00	-25.51	peak
5	38320.000	44.06	3.77	47.83	74.00	-26.17	peak
6	39958.000	43.08	5.12	48.20	74.00	-25.80	peak

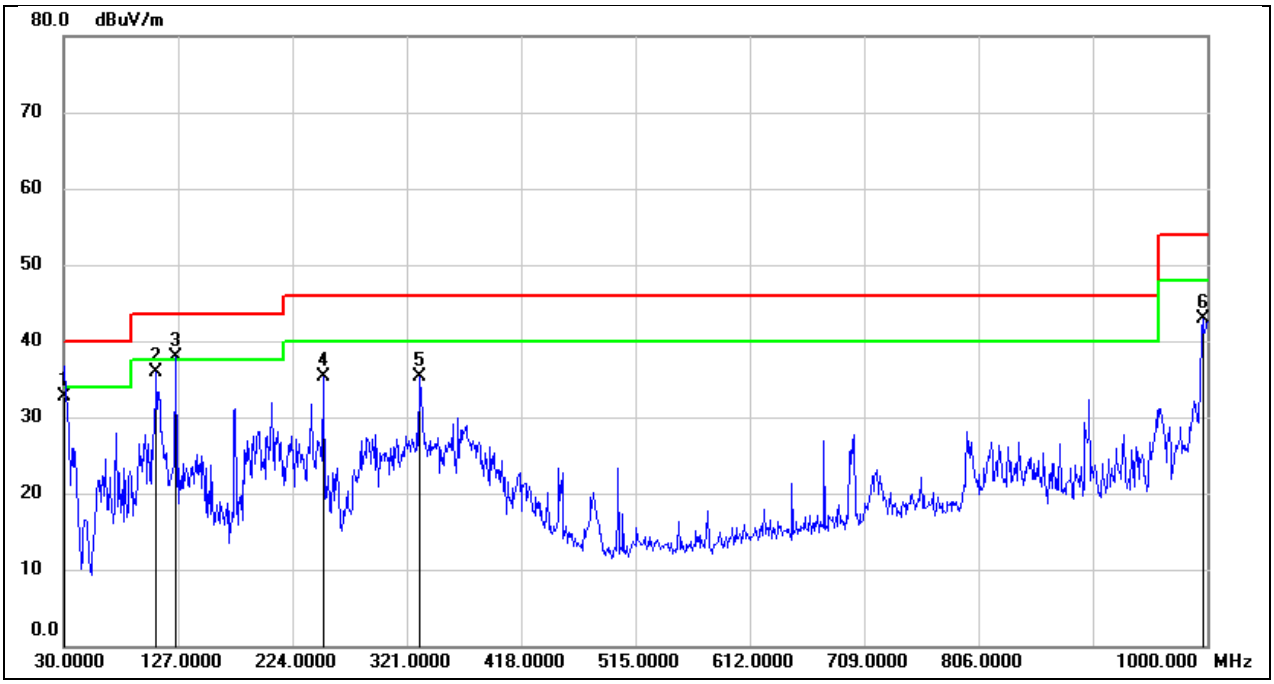
Test Mode:	802.11a 20	Channel:	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	28828.000	47.63	-0.79	46.84	74.00	-27.16	peak
2	31320.000	48.11	-0.93	47.18	74.00	-26.82	peak
3	34302.000	46.45	1.10	47.55	74.00	-26.45	peak
4	35828.000	44.25	3.67	47.92	74.00	-26.08	peak
5	38278.000	43.82	3.82	47.64	74.00	-26.36	peak
6	39972.000	43.95	5.13	49.08	74.00	-24.92	peak

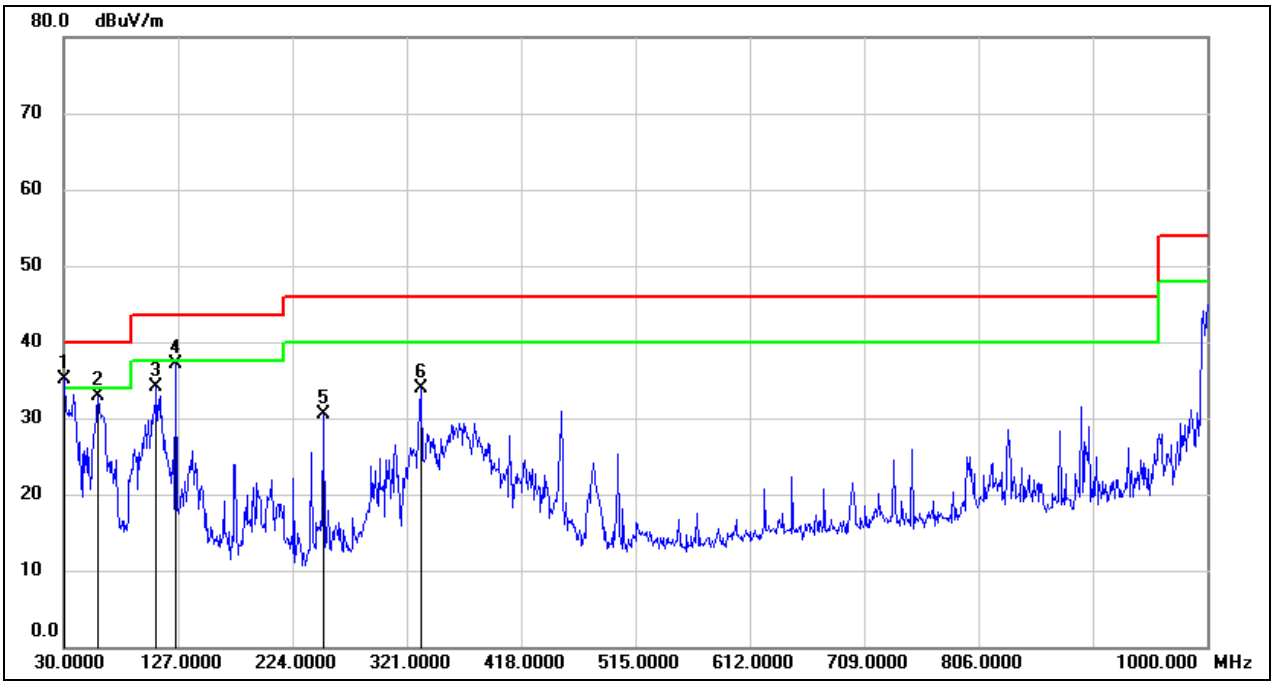
8.7. SPURIOUS EMISSIONS(30 MHZ~1 GHZ)

Test Mode:	802.11a 20	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.0000	51.64	-18.94	32.70	40.00	-7.30	QP
2	108.5700	56.51	-20.53	35.98	43.50	-7.52	QP
3	125.0600	57.50	-19.60	37.90	43.50	-5.60	QP
4	250.1900	54.16	-18.91	35.25	46.00	-10.75	QP
5	331.6700	50.03	-14.64	35.39	46.00	-10.61	QP
6	996.1200	47.16	-4.20	42.96	54.00	-11.04	QP

Test Mode:	802.11a 20	Channel:	5180
Polarity:	Vertical	Test Voltage:	AC120V_60Hz

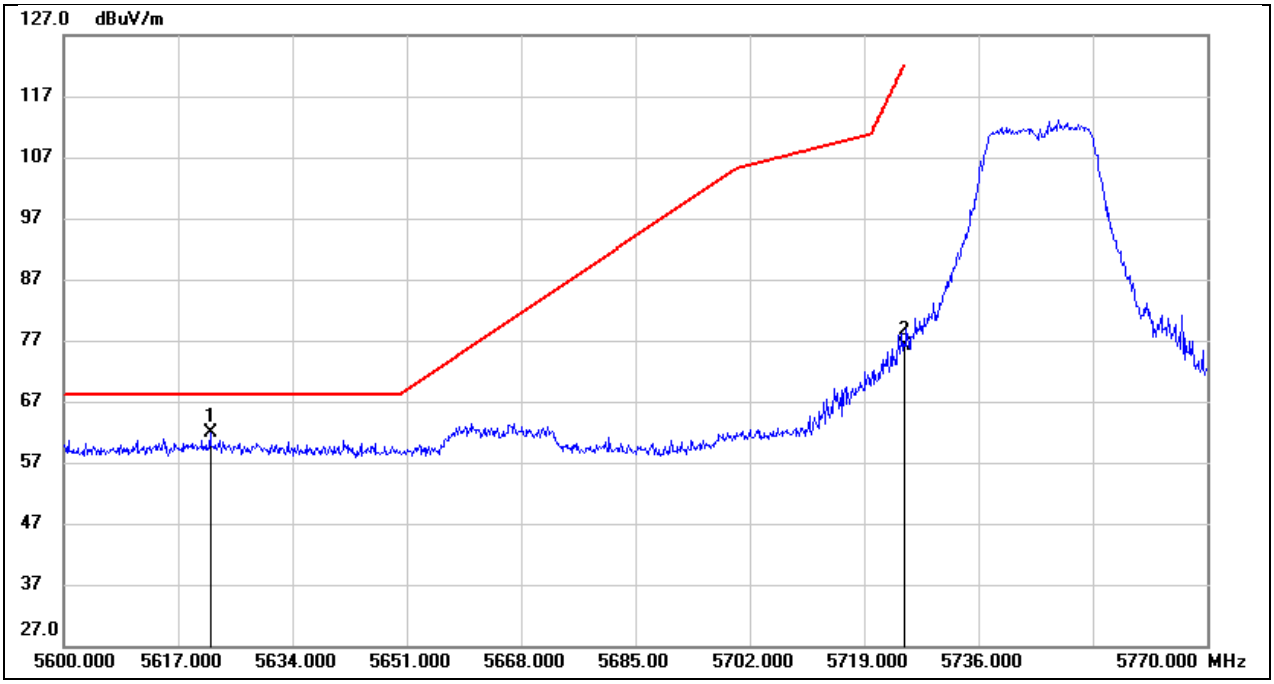


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.9700	54.11	-19.04	35.07	40.00	-4.93	QP
2	59.1000	53.44	-20.52	32.92	40.00	-7.08	QP
3	108.5700	54.55	-20.53	34.02	43.50	-9.48	QP
4	125.0600	56.78	-19.60	37.18	43.50	-6.32	QP
5	250.1900	49.37	-18.91	30.46	46.00	-15.54	QP
6	332.6400	48.46	-14.62	33.84	46.00	-12.16	QP

TEST RESULTS FOR ANTENNA 030360FWFA

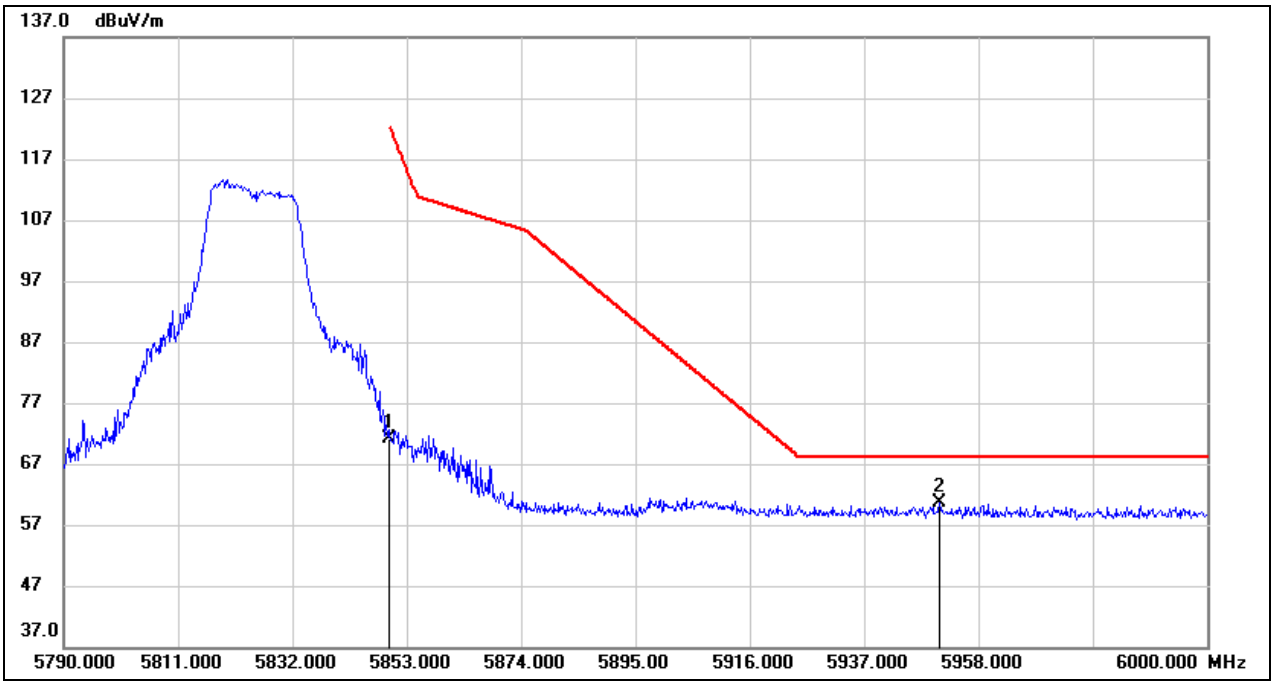
8.8. RESTRICTED BANDEDGE

Test Mode:	802.11a 20 PK	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



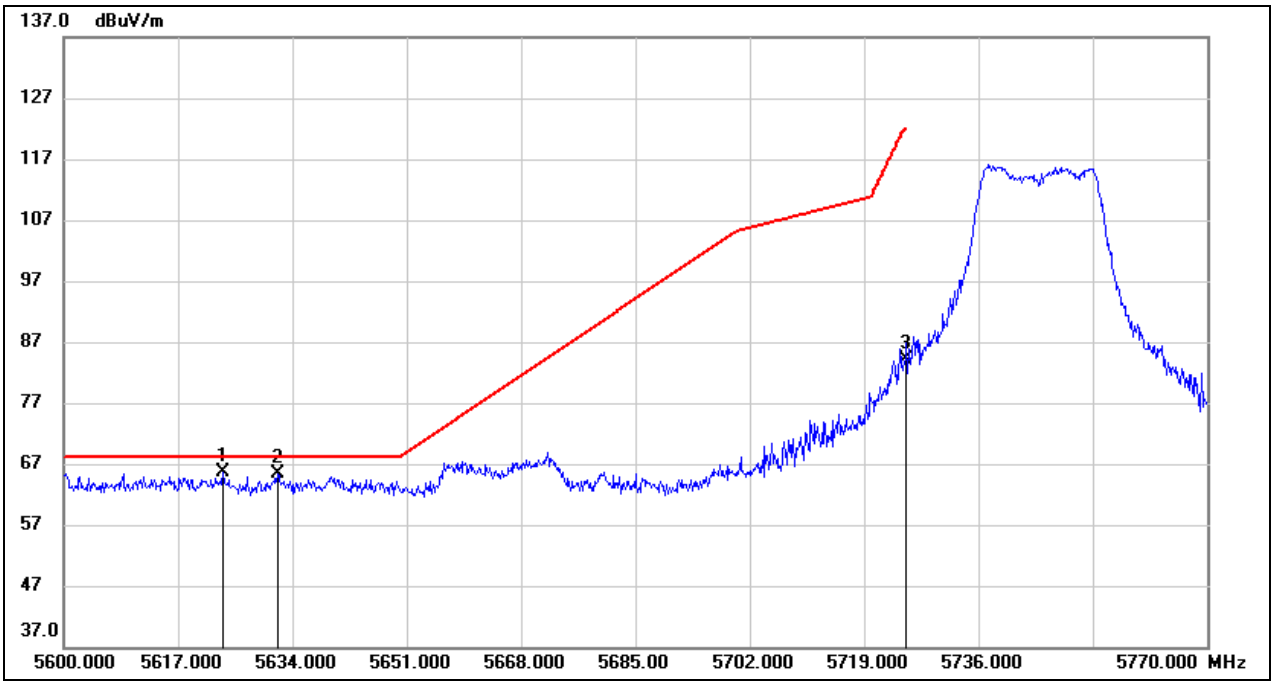
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5621.760	20.93	40.98	61.91	68.20	-6.29	peak
2	5725.000	34.76	41.27	76.03	122.20	-46.17	peak

Test Mode:	802.11a 20 PK	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



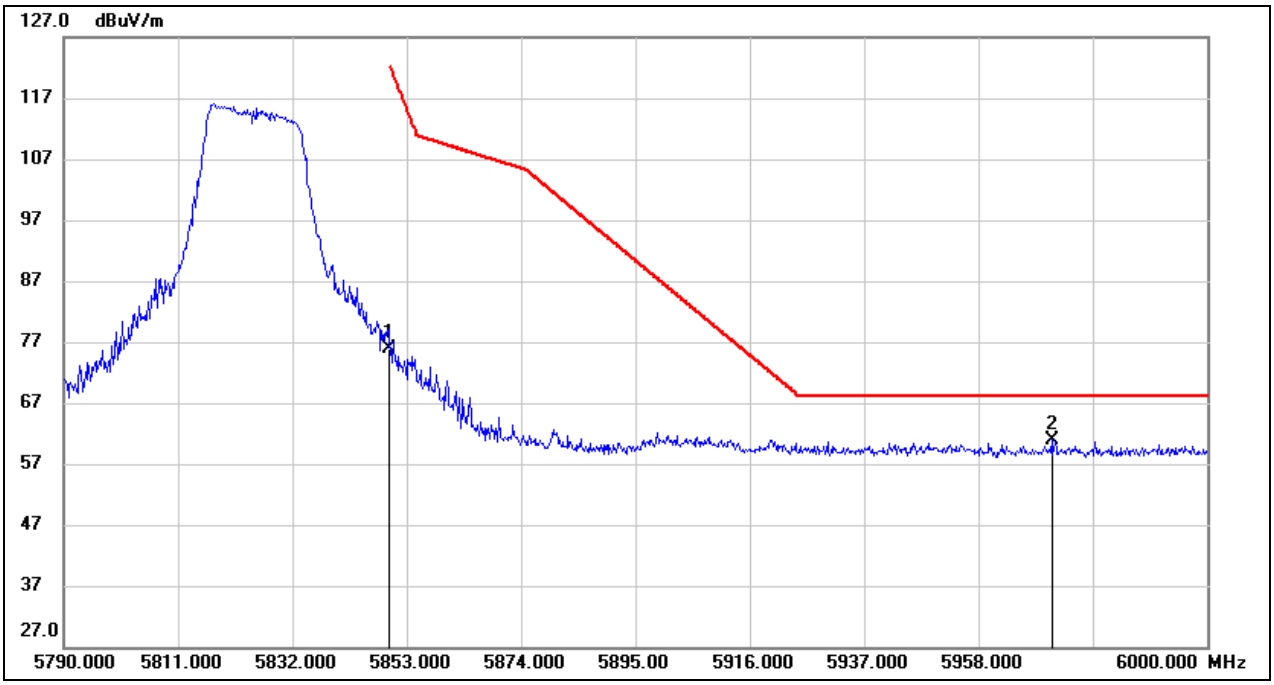
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	29.43	41.60	71.03	122.20	-51.17	peak
2	5950.860	18.82	41.87	60.69	68.20	-7.51	peak

Test Mode:	802.11n HT20 PK	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



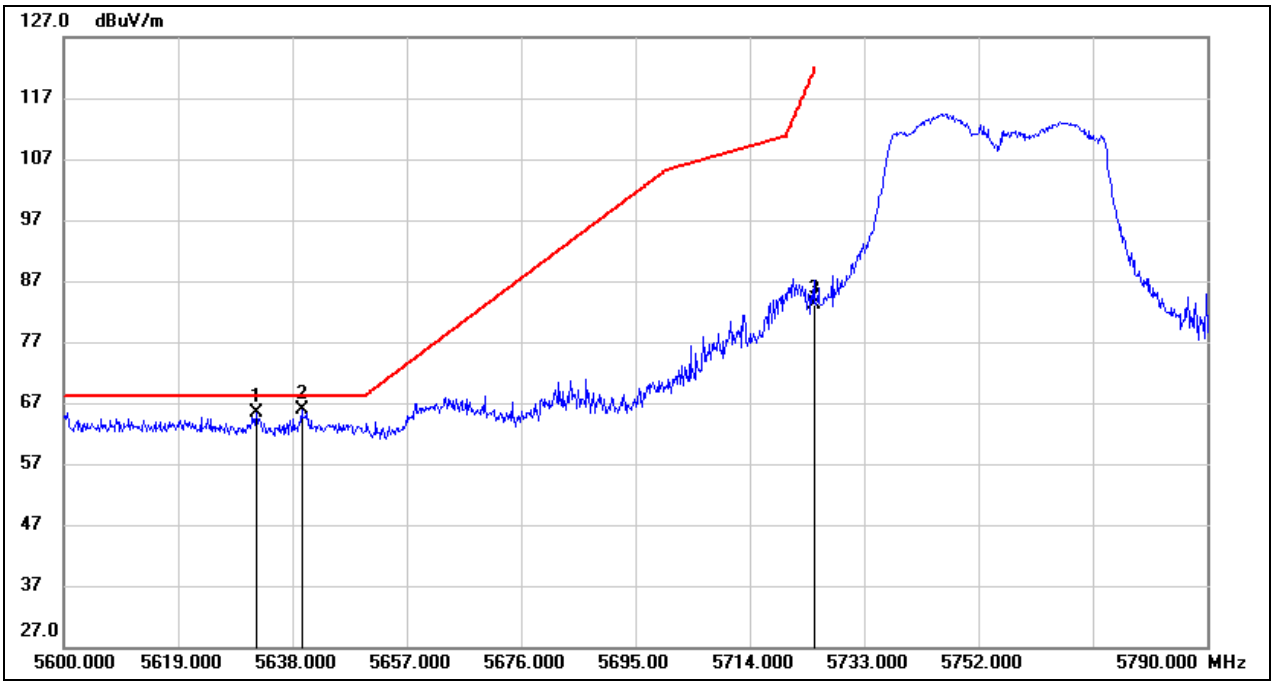
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5623.630	24.64	40.99	65.63	68.20	-2.57	peak
2	5631.790	24.46	41.01	65.47	68.20	-2.73	peak
3	5725.000	42.79	41.27	84.06	122.20	-38.14	peak

Test Mode:	802.11n HT20 PK	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



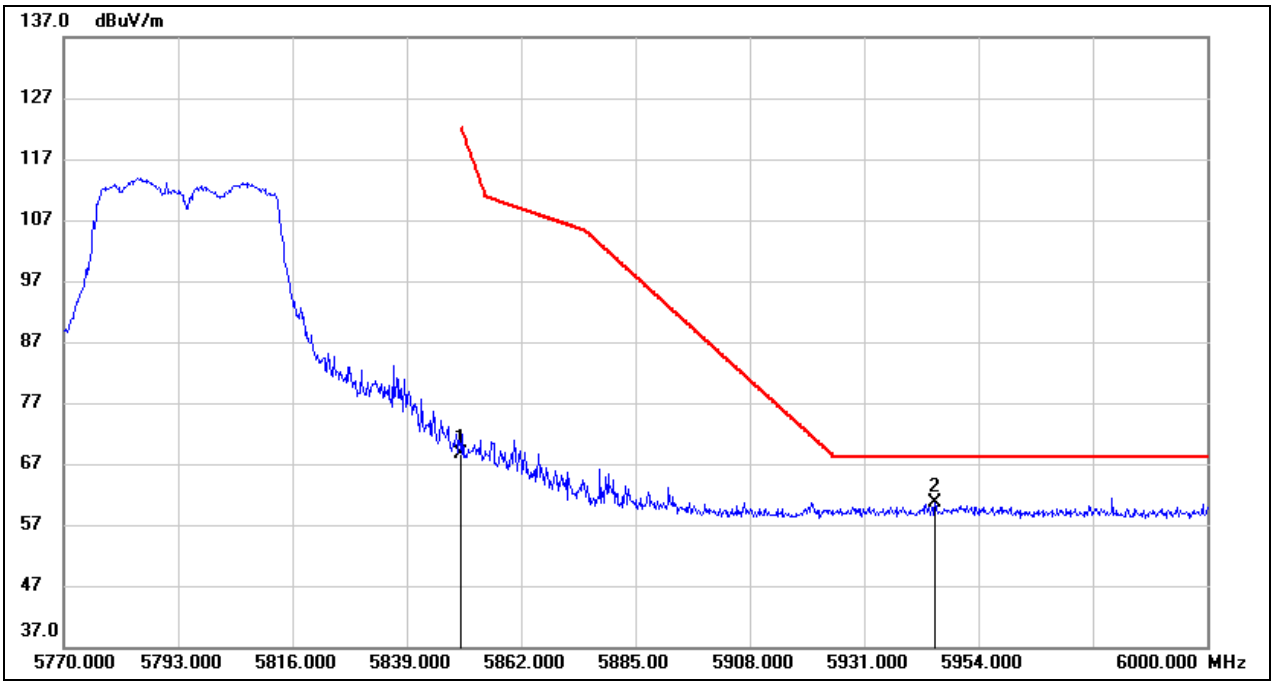
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	34.40	41.60	76.00	122.20	-46.20	peak
2	5971.440	19.08	41.92	61.00	68.20	-7.20	peak

Test Mode:	802.11n HT40 PK	Channel:	5755
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5632.110	24.44	41.01	65.45	68.20	-2.75	peak
2	5639.520	24.83	41.03	65.86	68.20	-2.34	peak
3	5725.000	41.93	41.27	83.20	122.20	-39.00	peak

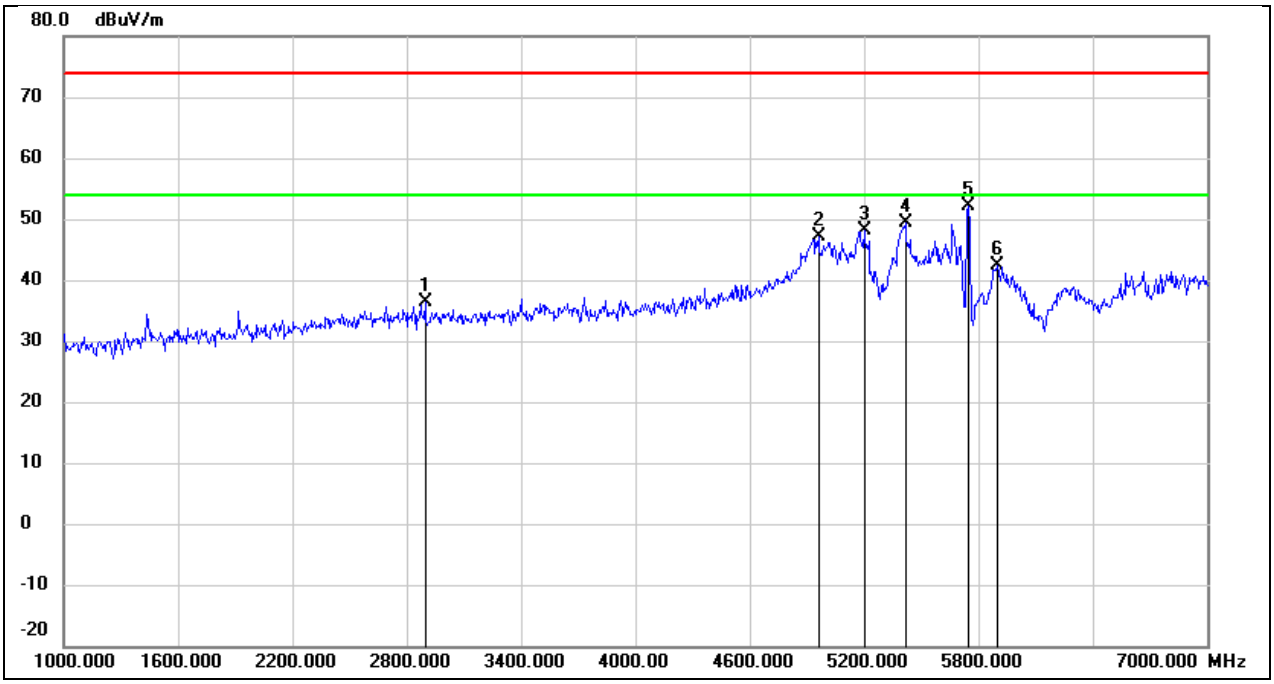
Test Mode:	802.11n HT40 PK	Channel:	5795
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	26.91	41.60	68.51	122.20	-53.69	peak
2	5945.260	18.65	41.86	60.51	68.20	-7.69	peak

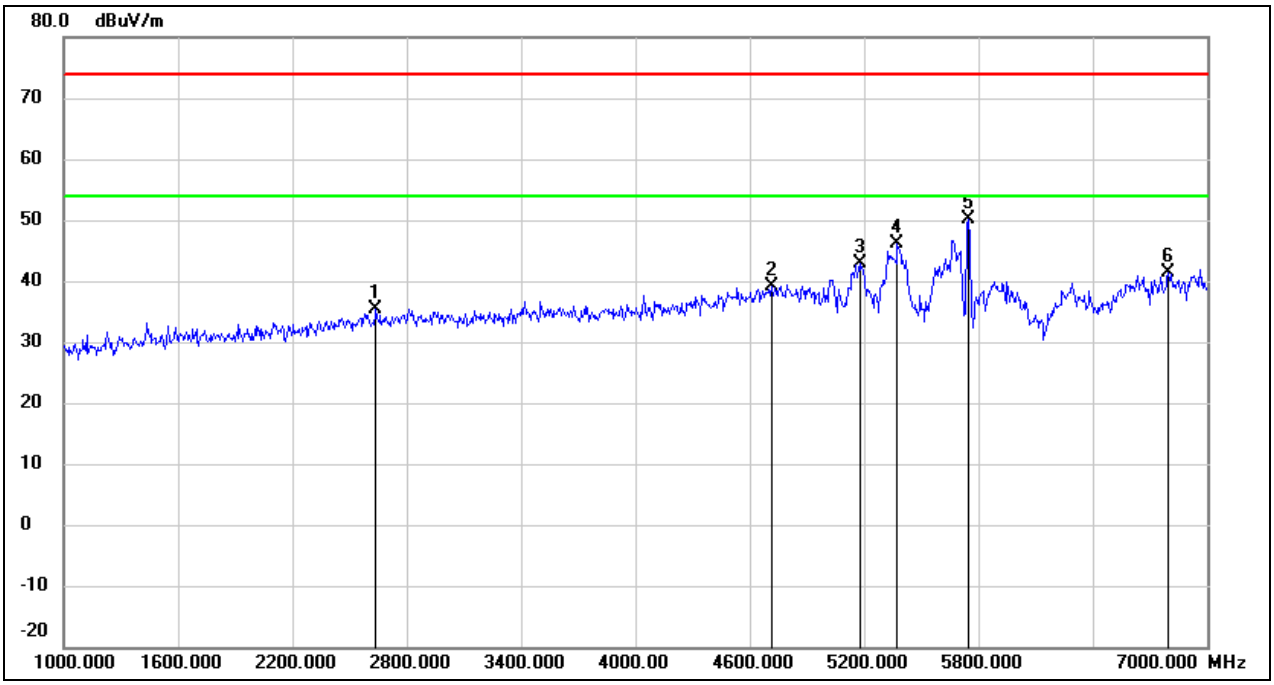
8.9. SPURIOUS EMISSIONS(1 GHZ~7 GHZ)

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



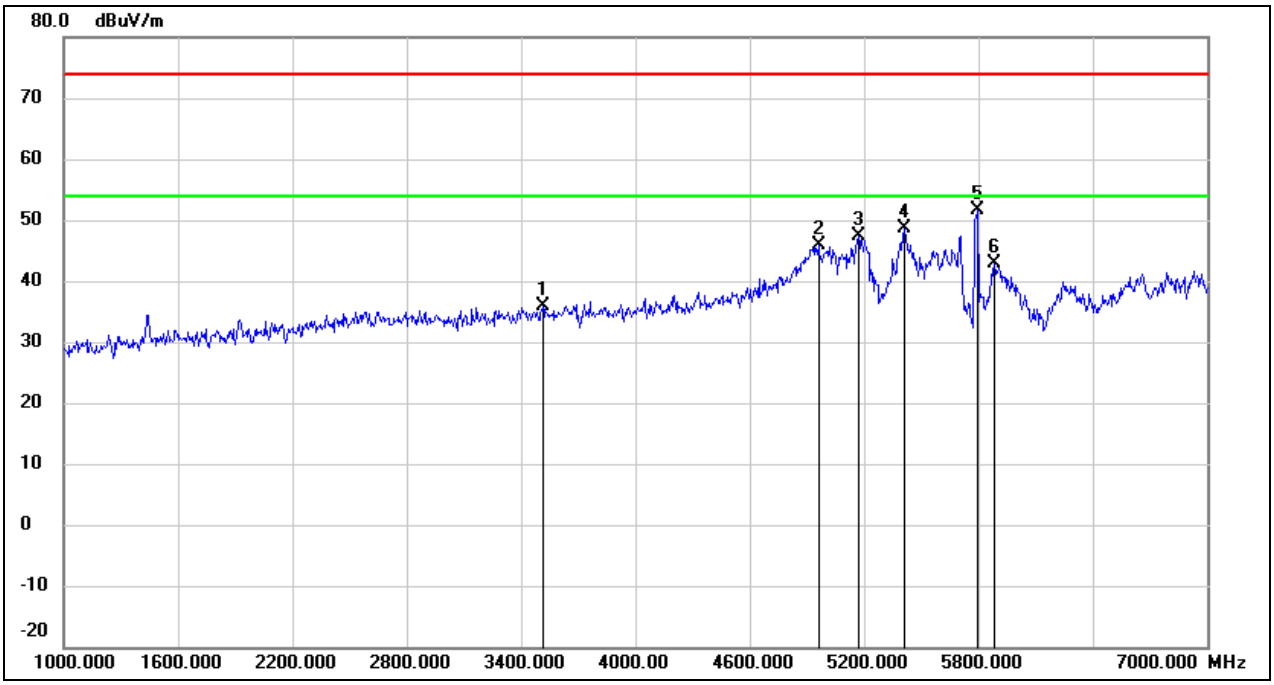
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2896.000	43.60	-7.29	36.31	74.00	-37.69	peak
2	4960.000	47.39	-0.32	47.07	74.00	-26.93	peak
3	5200.000	47.93	0.08	48.01	74.00	-25.99	peak
4	5416.000	49.04	0.32	49.36	74.00	-24.64	peak
5	5745.000	50.97	1.12	52.09	/	/	fundamental
6	5896.000	40.86	1.56	42.42	74.00	-31.58	peak

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



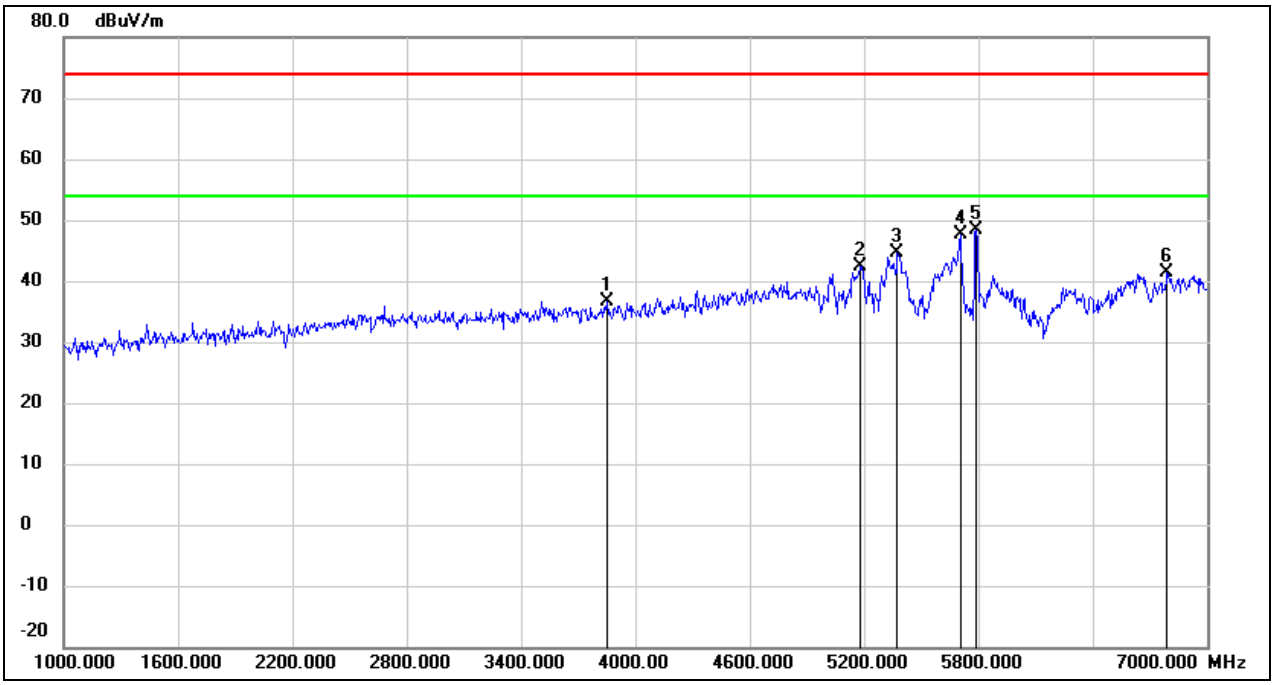
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2638.000	43.39	-8.07	35.32	74.00	-38.68	QP
2	4714.000	40.49	-1.29	39.20	74.00	-34.80	peak
3	5182.000	42.75	0.06	42.81	74.00	-31.19	peak
4	5374.000	45.75	0.28	46.03	74.00	-27.97	peak
5	5745.000	49.06	1.12	50.18	/	/	fundamental
6	6796.000	36.25	5.19	41.44	74.00	-32.56	peak

Test Mode:	802.11a 20	Channel:	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



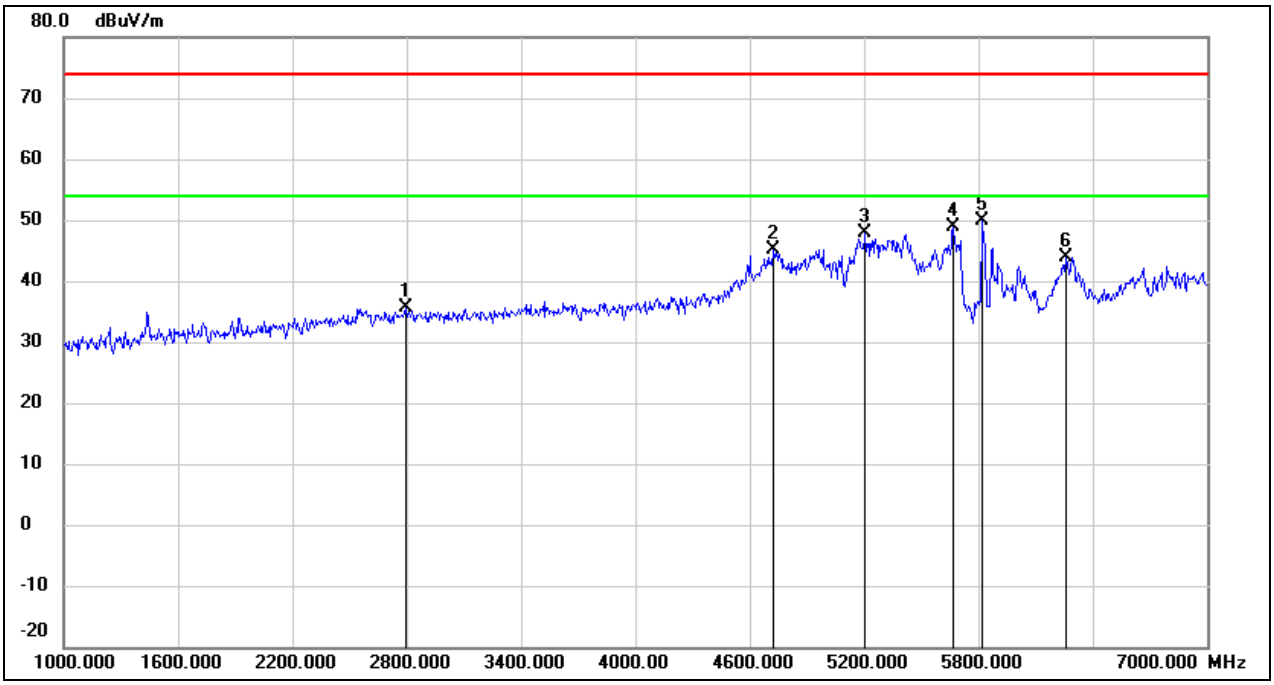
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3514.000	41.81	-5.81	36.00	74.00	-38.00	peak
2	4960.000	46.28	-0.32	45.96	74.00	-28.04	peak
3	5170.000	47.31	0.05	47.36	74.00	-26.64	peak
4	5410.000	48.33	0.32	48.65	74.00	-25.35	peak
5	5785.000	50.46	1.26	51.72	/	/	fundamental
6	5884.000	41.25	1.52	42.77	74.00	-31.23	peak

Test Mode:	802.11a 20	Channel:	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



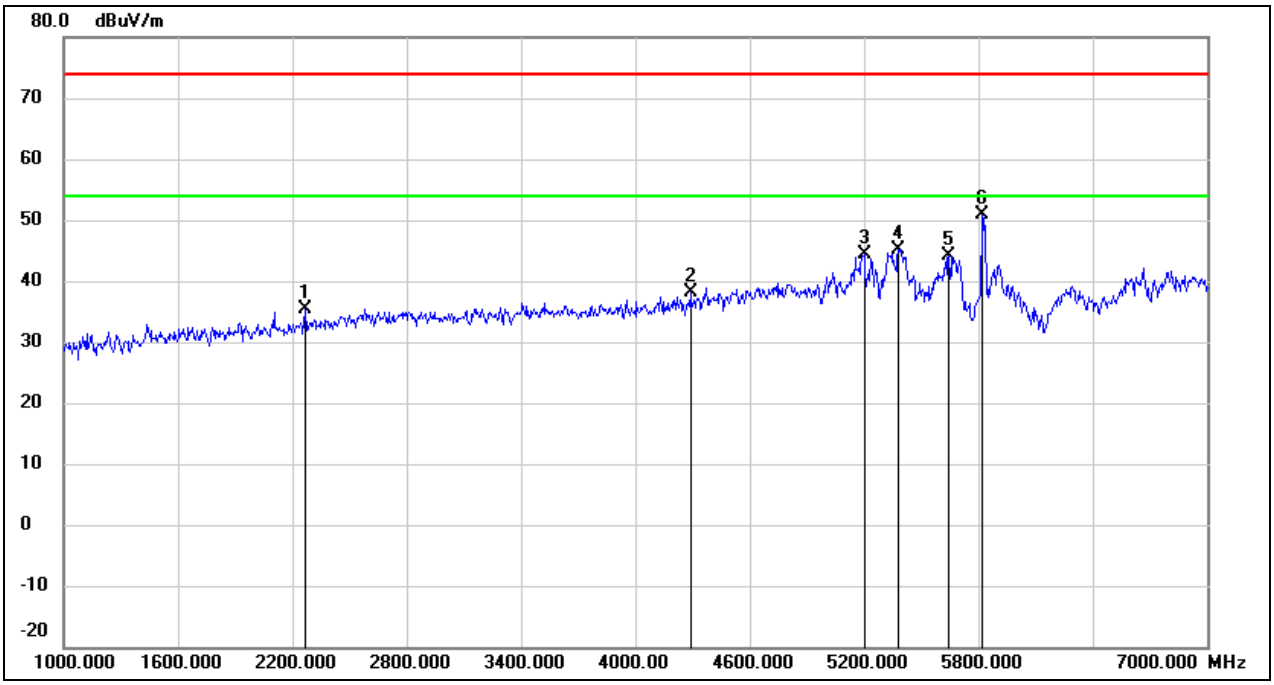
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3850.000	41.51	-4.89	36.62	74.00	-37.38	peak
2	5182.000	42.40	0.06	42.46	74.00	-31.54	peak
3	5374.000	44.35	0.28	44.63	74.00	-29.37	peak
4	5704.000	46.61	1.00	47.61	74.00	-26.39	peak
5	5785.000	47.12	1.25	48.37	/	/	fundamental
6	6790.000	36.17	5.15	41.32	74.00	-32.68	peak

Test Mode:	802.11a 20	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2794.000	43.11	-7.60	35.51	74.00	-38.49	peak
2	4726.000	46.45	-1.24	45.21	74.00	-28.79	peak
3	5206.000	47.69	0.08	47.77	74.00	-26.23	peak
4	5668.000	47.88	0.91	48.79	74.00	-25.21	peak
5	5825.000	48.54	1.33	49.87	/	/	fundamental
6	6262.000	41.01	2.83	43.84	74.00	-30.16	peak

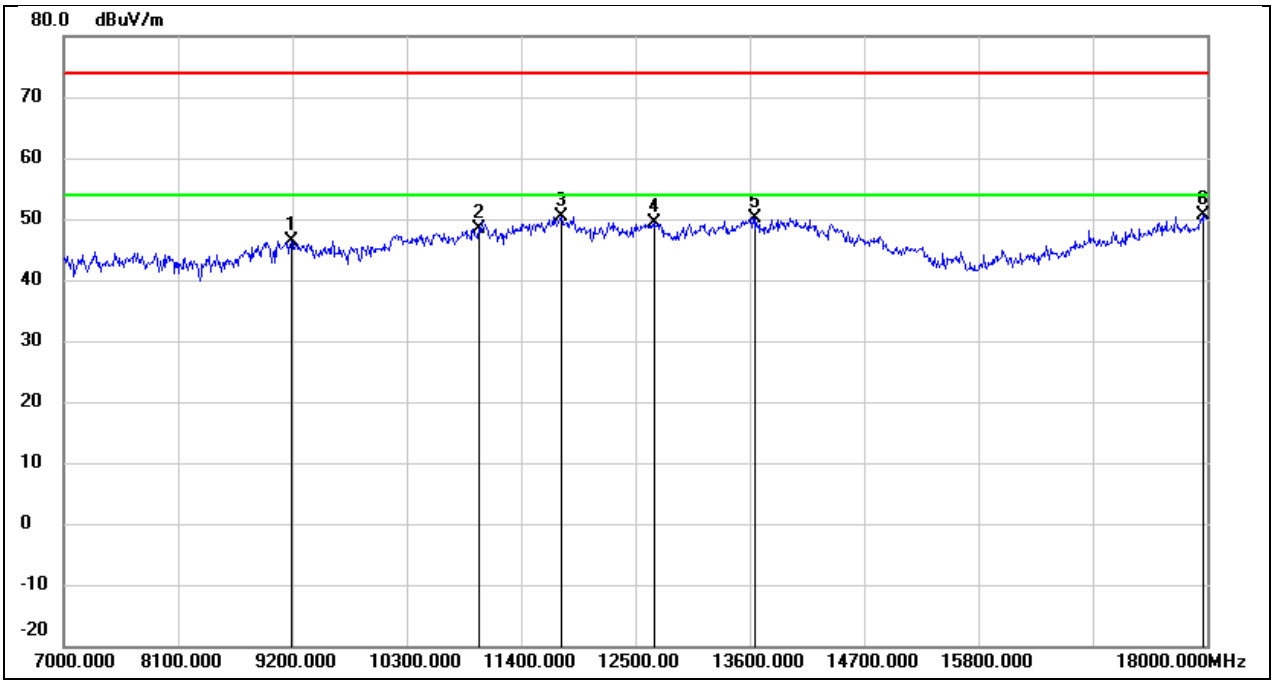
Test Mode:	802.11a 20	Channel:	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2266.000	44.97	-9.69	35.28	74.00	-38.72	peak
2	4288.000	41.27	-3.13	38.14	74.00	-35.86	peak
3	5200.000	44.28	0.08	44.36	74.00	-29.64	peak
4	5380.000	44.92	0.29	45.21	74.00	-28.79	peak
5	5644.000	43.29	0.82	44.11	74.00	-29.89	peak
6	5825.000	49.66	1.33	50.99	/	/	fundamental

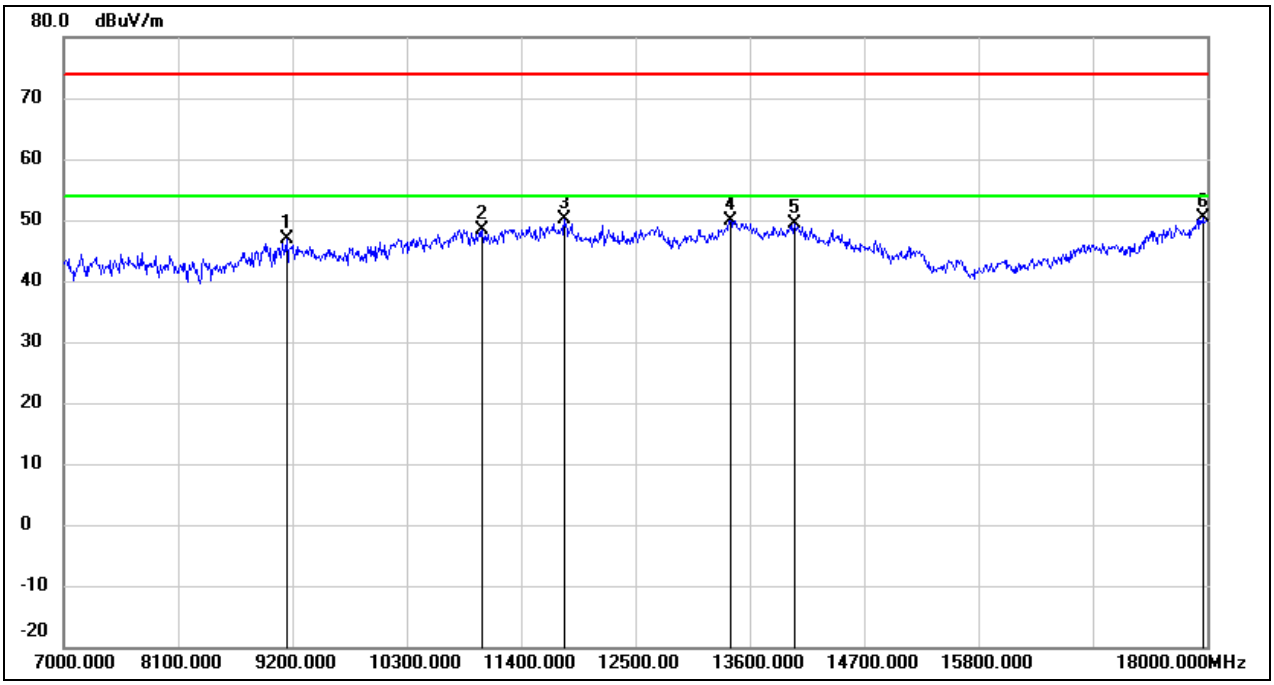
8.10. SPURIOUS EMISSIONS(7 GHZ~18 GHZ)

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



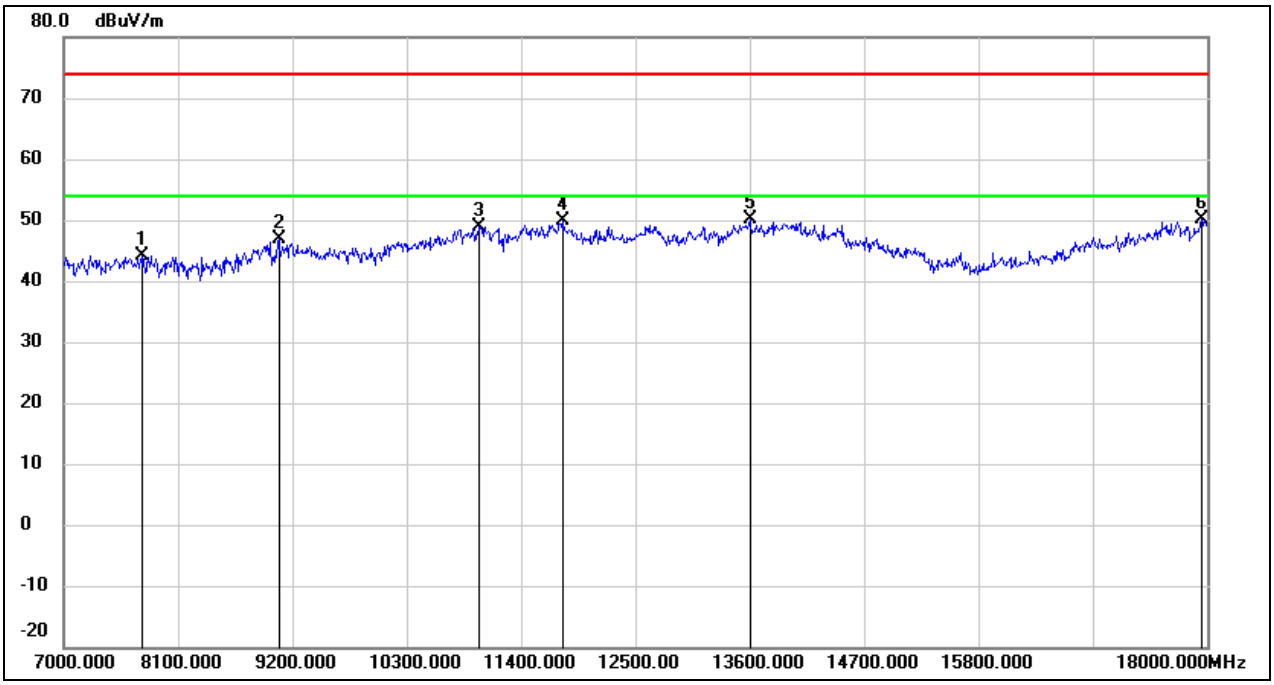
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9189.000	36.01	10.46	46.47	74.00	-27.53	peak
2	10993.000	33.77	14.70	48.47	74.00	-25.53	peak
3	11785.000	33.16	17.30	50.46	74.00	-23.54	peak
4	12687.000	31.36	18.05	49.41	74.00	-24.59	peak
5	13655.000	29.20	21.03	50.23	74.00	-23.77	peak
6	17967.000	24.75	25.89	50.64	74.00	-23.36	peak

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



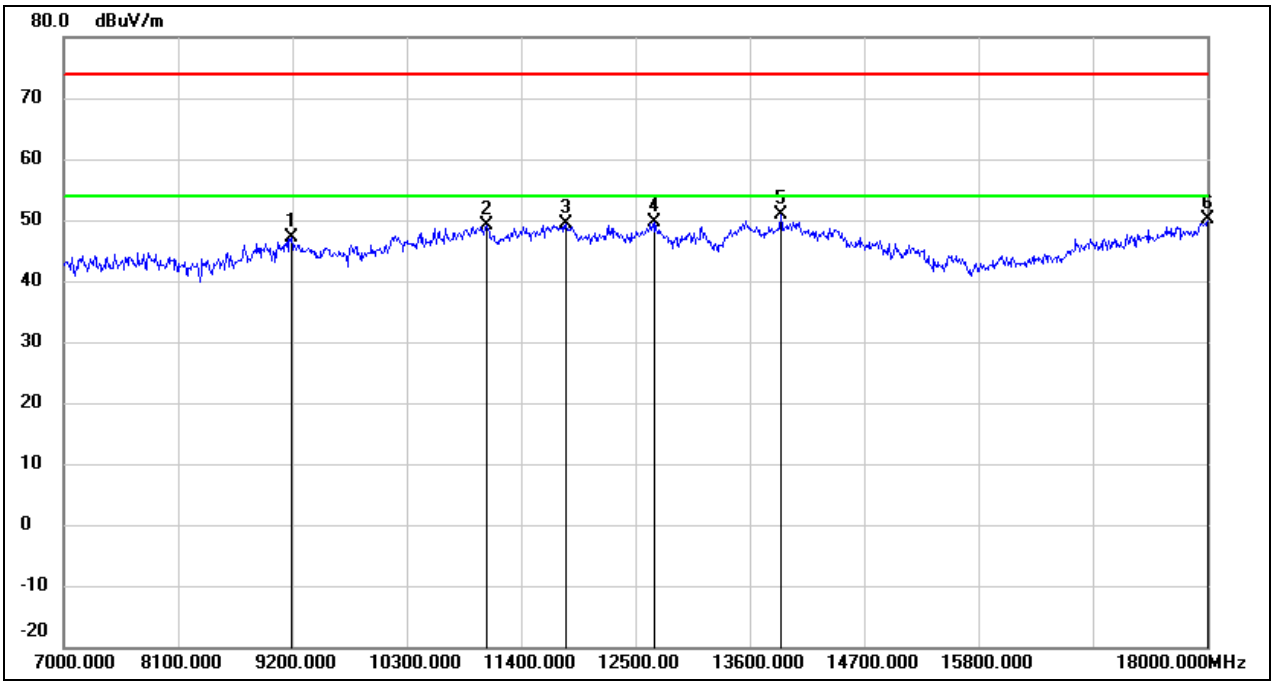
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9145.000	36.41	10.43	46.84	74.00	-27.16	peak
2	11026.000	33.68	14.82	48.50	74.00	-25.50	peak
3	11818.000	32.82	17.36	50.18	74.00	-23.82	peak
4	13413.000	29.73	20.26	49.99	74.00	-24.01	peak
5	14029.000	27.62	21.76	49.38	74.00	-24.62	peak
6	17956.000	24.64	25.82	50.46	74.00	-23.54	peak

Test Mode:	802.11a 20	Channel:	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



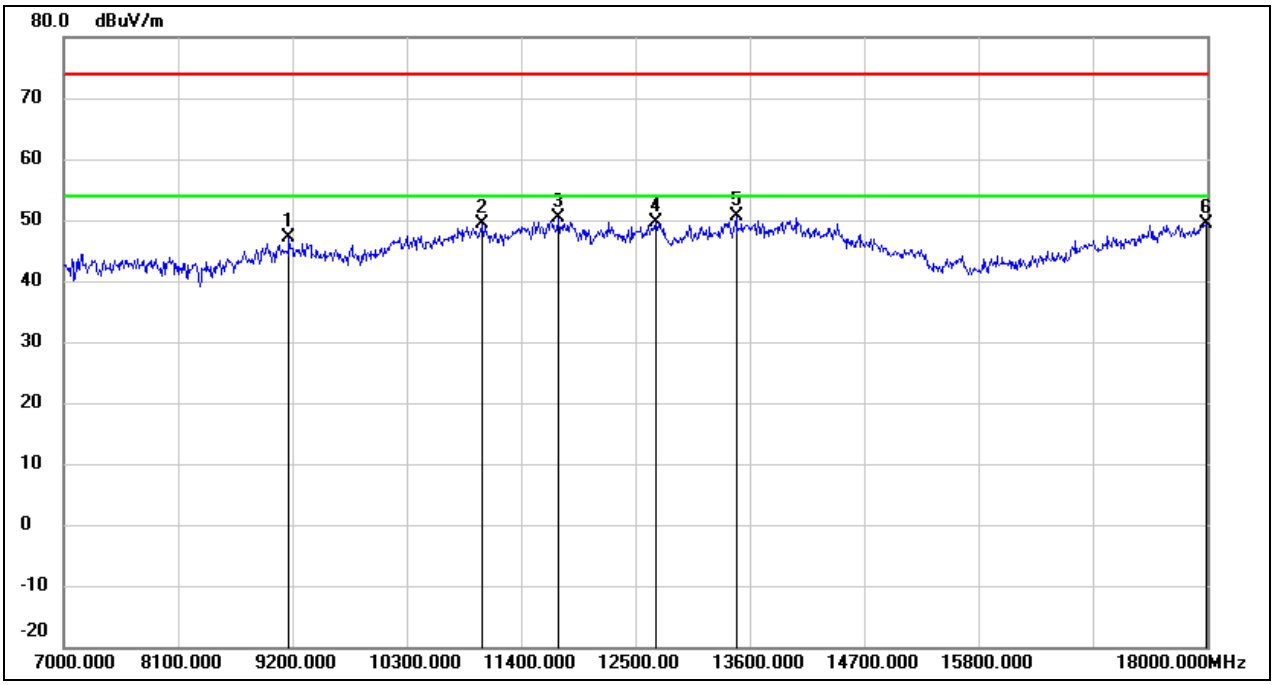
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	37.41	6.64	44.05	74.00	-29.95	peak
2	9068.000	36.52	10.39	46.91	74.00	-27.09	peak
3	10993.000	34.30	14.70	49.00	74.00	-25.00	peak
4	11807.000	32.60	17.34	49.94	74.00	-24.06	peak
5	13600.000	29.30	20.89	50.19	74.00	-23.81	peak
6	17945.000	24.29	25.75	50.04	74.00	-23.96	peak

Test Mode:	802.11a 20	Channel:	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



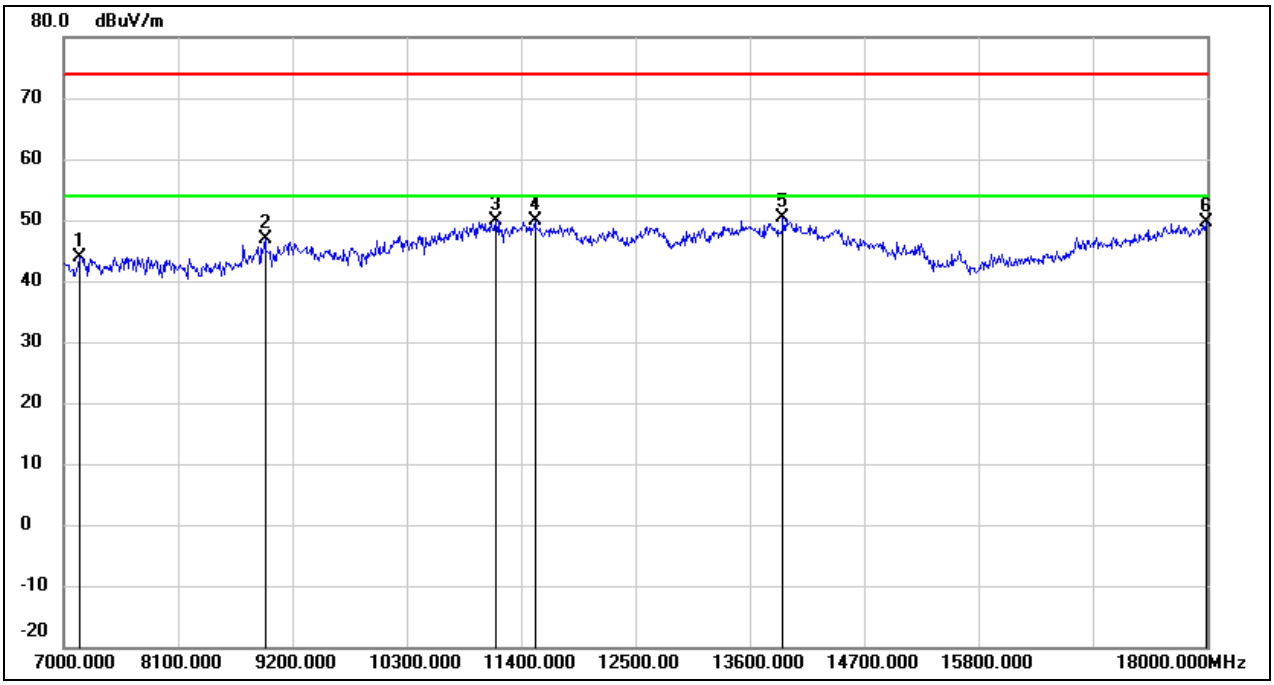
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9189.000	36.71	10.46	47.17	74.00	-26.83	peak
2	11070.000	34.05	15.01	49.06	74.00	-24.94	peak
3	11829.000	31.96	17.38	49.34	74.00	-24.66	peak
4	12687.000	31.58	18.05	49.63	74.00	-24.37	peak
5	13897.000	29.29	21.62	50.91	74.00	-23.09	peak
6	18000.000	24.10	26.12	50.22	74.00	-23.78	peak

Test Mode:	802.11a 20	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



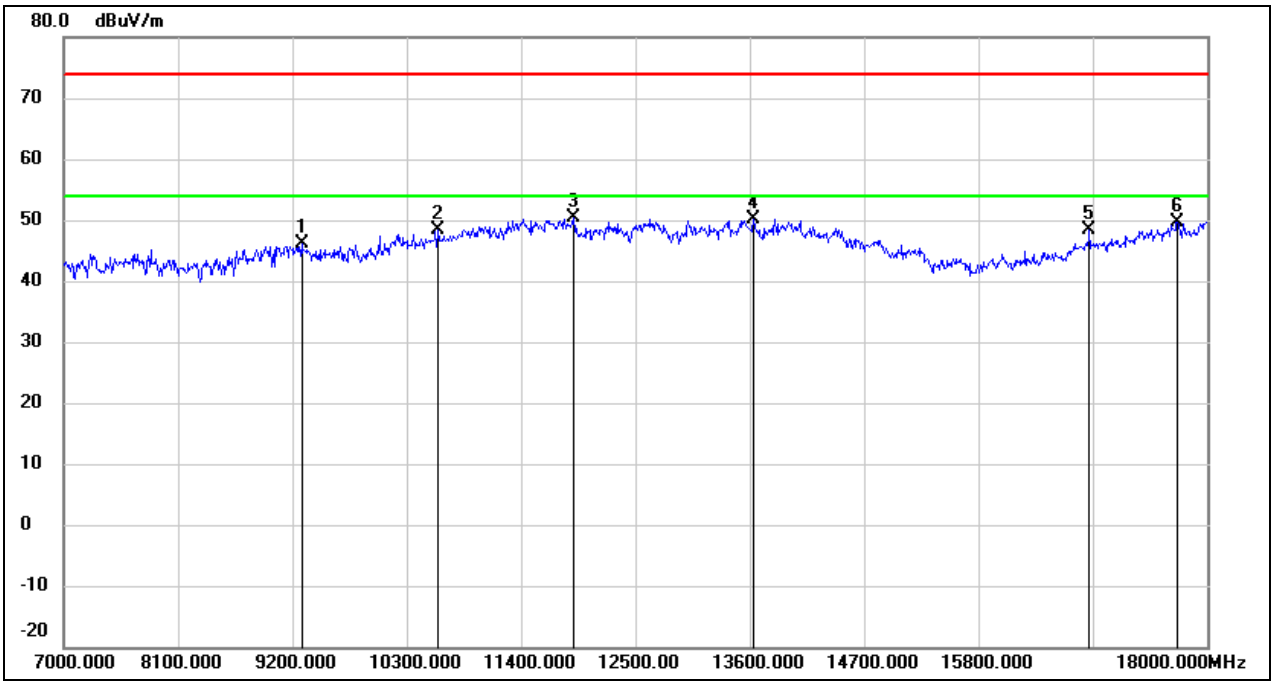
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9167.000	36.72	10.45	47.17	74.00	-26.83	peak
2	11026.000	34.58	14.82	49.40	74.00	-24.60	peak
3	11763.000	33.17	17.26	50.43	74.00	-23.57	peak
4	12698.000	31.51	18.08	49.59	74.00	-24.41	peak
5	13468.000	30.03	20.50	50.53	74.00	-23.47	peak
6	17989.000	23.37	26.04	49.41	74.00	-24.59	peak

Test Mode:	802.11a 20	Channel:	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



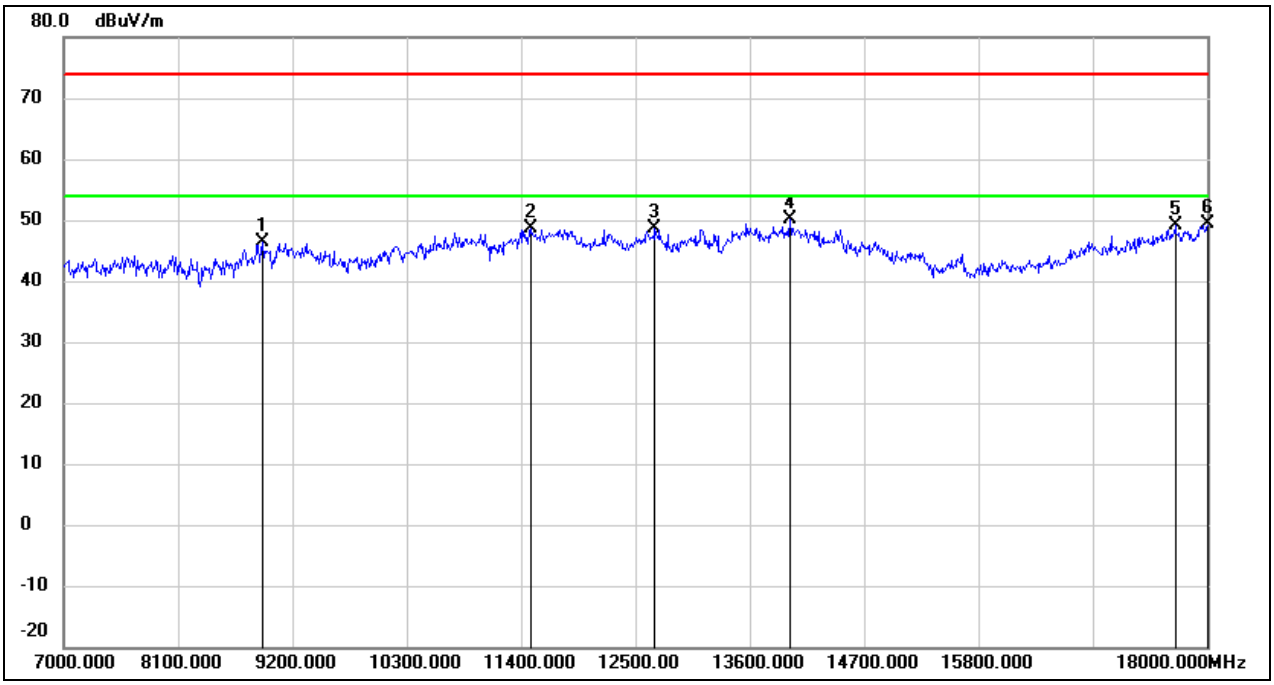
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7154.000	36.97	6.99	43.96	74.00	-30.04	peak
2	8936.000	36.89	9.90	46.79	74.00	-27.21	peak
3	11158.000	34.51	15.37	49.88	74.00	-24.12	peak
4	11532.000	32.98	16.83	49.81	74.00	-24.19	peak
5	13919.000	28.59	21.68	50.27	74.00	-23.73	peak
6	17989.000	23.56	26.04	49.60	74.00	-24.40	peak

Test Mode:		Channel:	802.11n HT20
Test Voltage:	H		



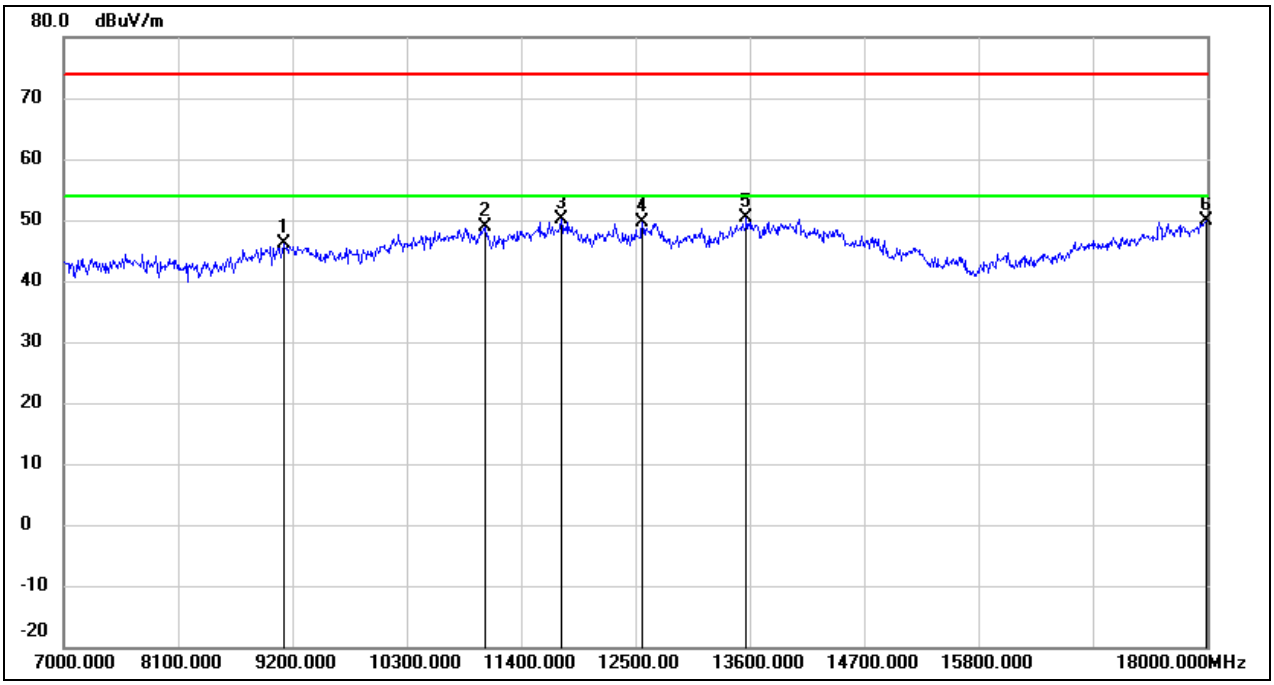
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9288.000	35.66	10.52	46.18	74.00	-27.82	peak
2	10597.000	35.19	13.19	48.38	74.00	-25.62	peak
3	11906.000	32.89	17.52	50.41	74.00	-23.59	peak
4	13633.000	29.26	20.97	50.23	74.00	-23.77	peak
5	16867.000	28.39	20.00	48.39	74.00	-25.61	peak
6	17714.000	25.58	24.16	49.74	74.00	-24.26	peak

Test Mode:		Channel:	802.11n HT20
Test Voltage:	V		



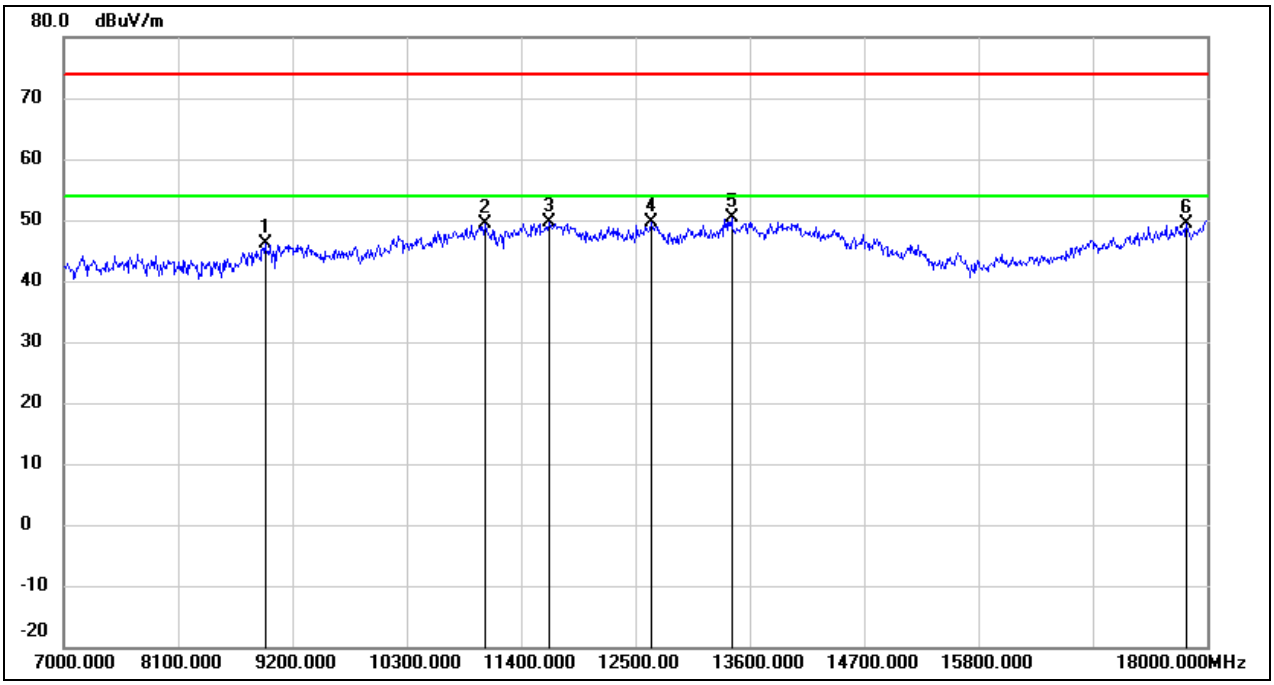
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8914.000	36.64	9.75	46.39	74.00	-27.61	peak
2	11488.000	31.95	16.72	48.67	74.00	-25.33	peak
3	12687.000	30.55	18.05	48.60	74.00	-25.40	peak
4	13985.000	28.16	21.85	50.01	74.00	-23.99	peak
5	17692.000	25.00	24.01	49.01	74.00	-24.99	peak
6	18000.000	23.32	26.12	49.44	74.00	-24.56	peak

Test Mode:	802.11n HT20	Channel:	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



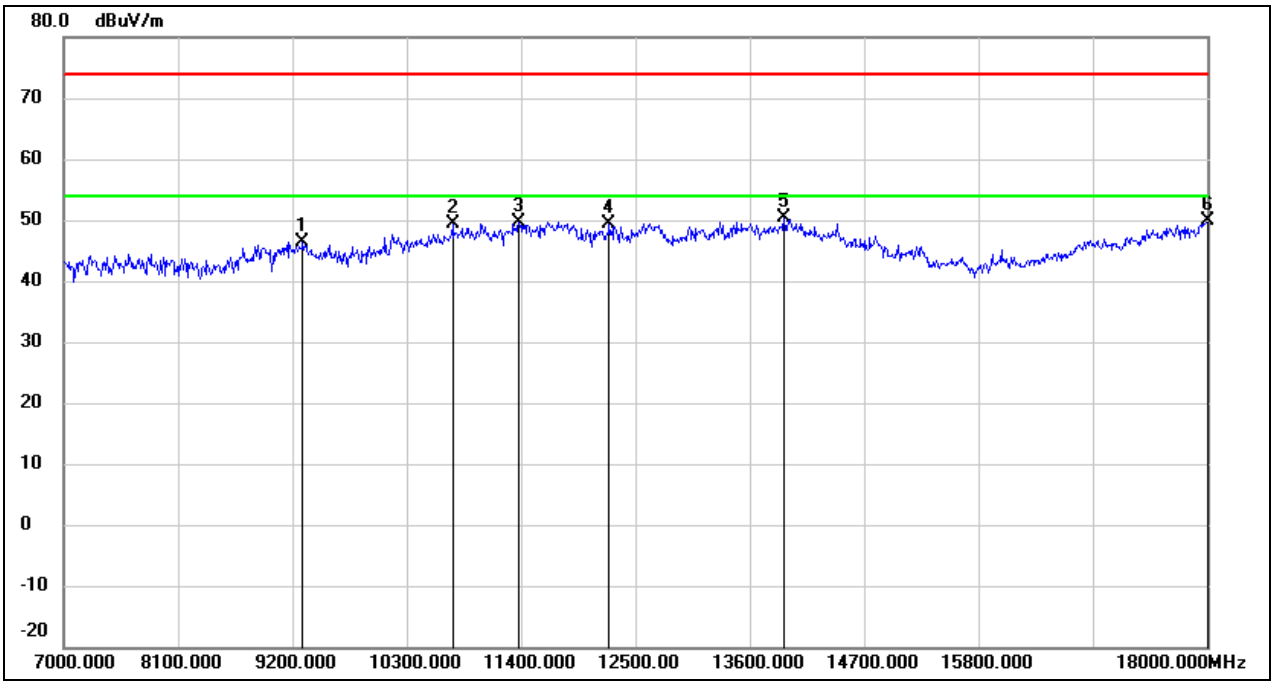
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9112.000	35.72	10.41	46.13	74.00	-27.87	peak
2	11059.000	33.86	14.96	48.82	74.00	-25.18	peak
3	11785.000	32.77	17.30	50.07	74.00	-23.93	peak
4	12566.000	31.73	17.91	49.64	74.00	-24.36	peak
5	13567.000	29.55	20.80	50.35	74.00	-23.65	peak
6	17989.000	23.91	26.04	49.95	74.00	-24.05	peak

Test Mode:	802.11n HT20	Channel:	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



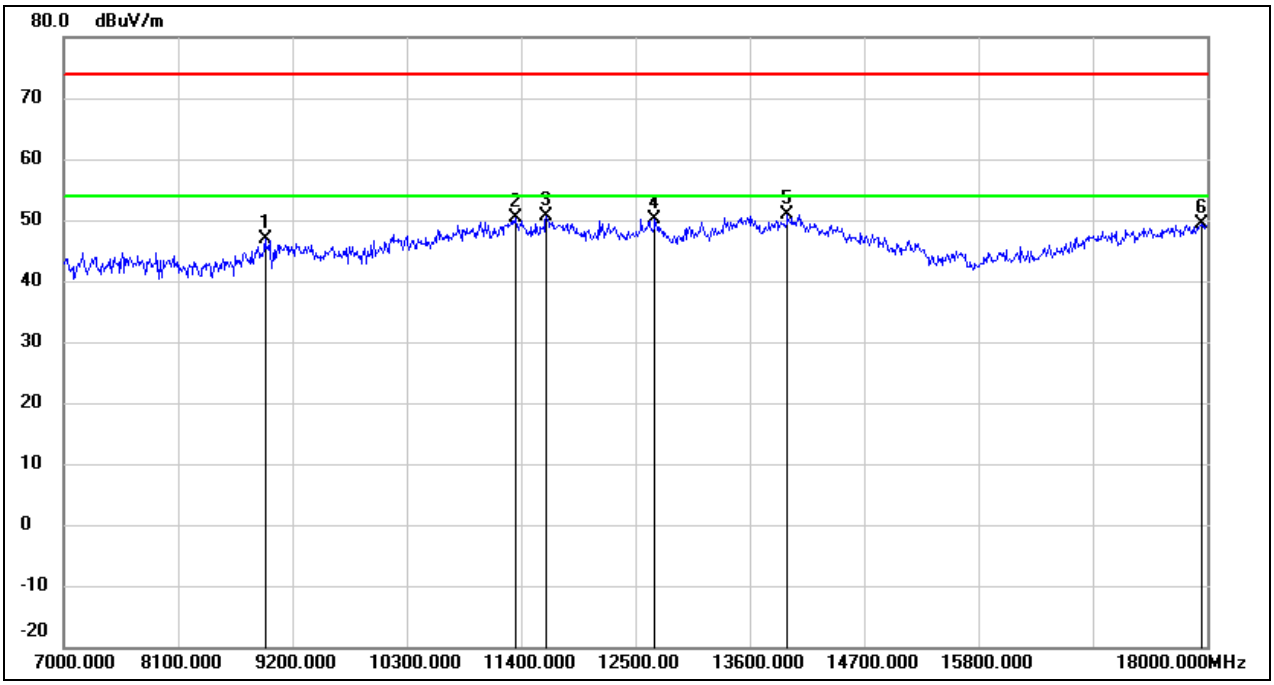
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8936.000	36.25	9.90	46.15	74.00	-27.85	peak
2	11059.000	34.50	14.96	49.46	74.00	-24.54	peak
3	11664.000	32.44	17.08	49.52	74.00	-24.48	peak
4	12654.000	31.51	18.01	49.52	74.00	-24.48	peak
5	13424.000	29.96	20.30	50.26	74.00	-23.74	peak
6	17802.000	24.65	24.76	49.41	74.00	-24.59	peak

Test Mode:	802.11n HT20	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



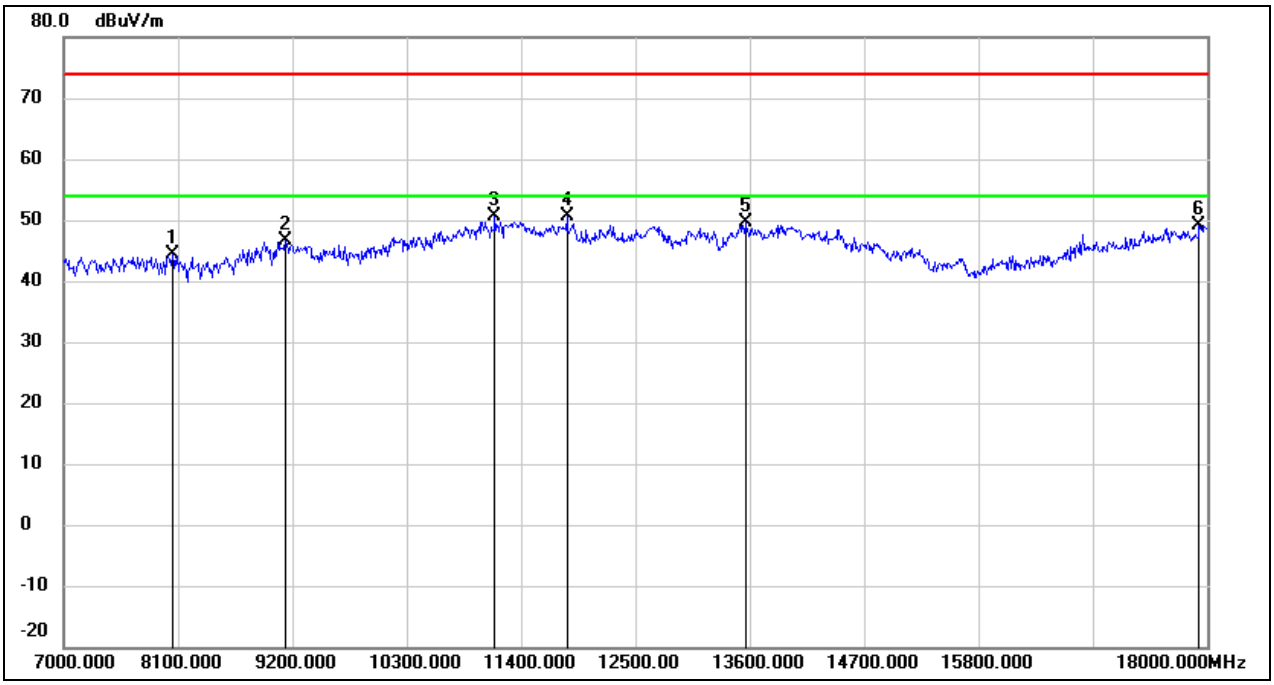
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9299.000	35.93	10.53	46.46	74.00	-27.54	peak
2	10740.000	35.68	13.73	49.41	74.00	-24.59	peak
3	11378.000	33.26	16.26	49.52	74.00	-24.48	peak
4	12247.000	31.68	17.77	49.45	74.00	-24.55	peak
5	13930.000	28.66	21.71	50.37	74.00	-23.63	peak
6	18000.000	23.65	26.12	49.77	74.00	-24.23	peak

Test Mode:	802.11n HT20	Channel:	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



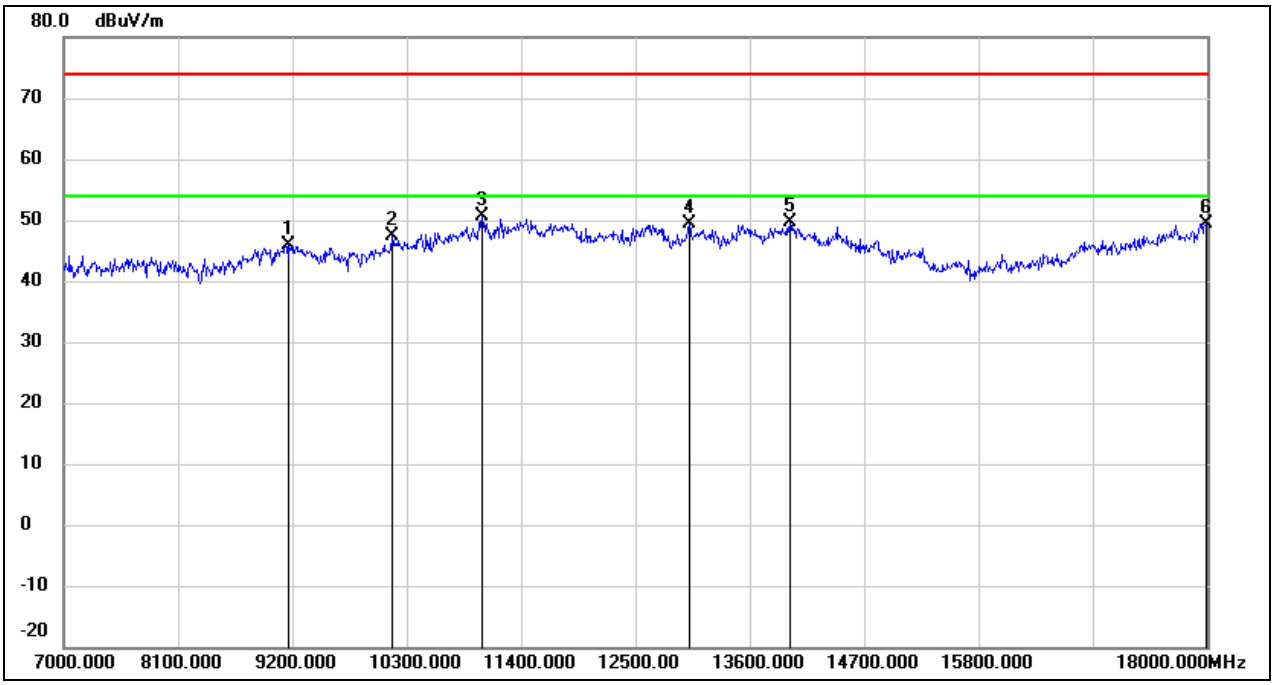
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8936.000	36.97	9.90	46.87	74.00	-27.13	peak
2	11345.000	34.31	16.14	50.45	74.00	-23.55	peak
3	11642.000	33.48	17.03	50.51	74.00	-23.49	peak
4	12687.000	32.07	18.05	50.12	74.00	-23.88	peak
5	13963.000	29.11	21.78	50.89	74.00	-23.11	peak
6	17945.000	23.51	25.75	49.26	74.00	-24.74	peak

Test Mode:	802.11n HT40	Channel:	5755
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



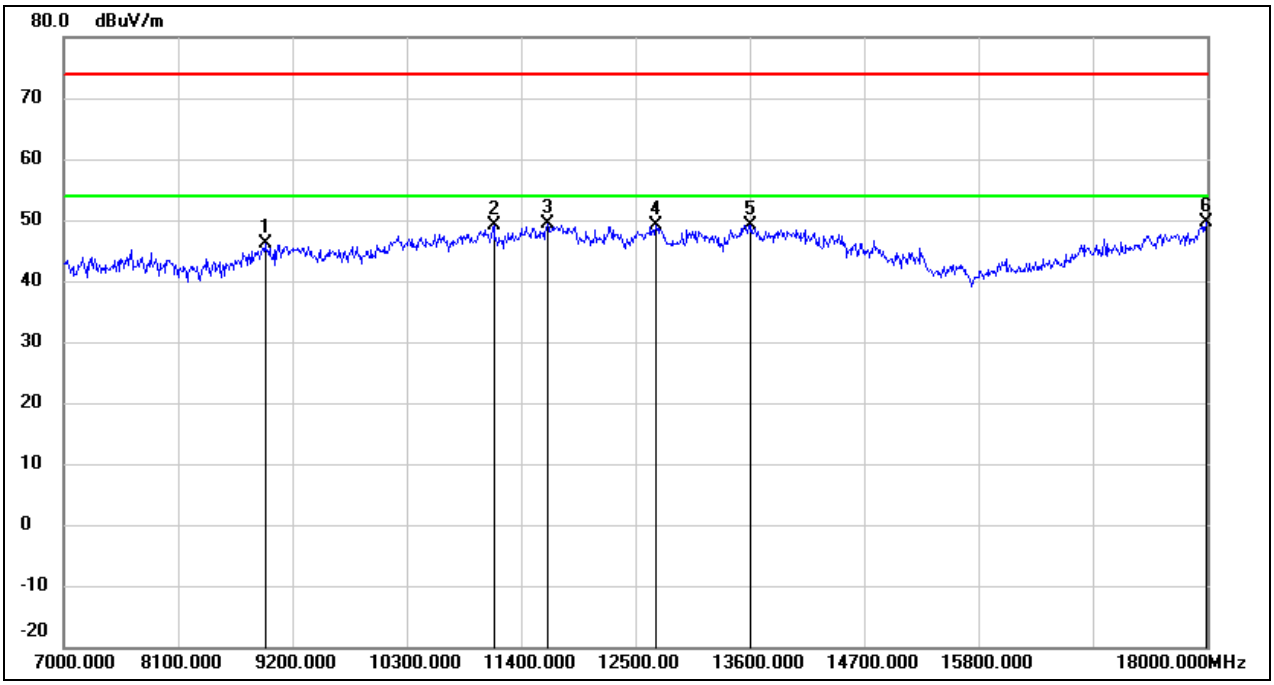
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8045.000	37.91	6.47	44.38	74.00	-29.62	peak
2	9134.000	36.17	10.41	46.58	74.00	-27.42	peak
3	11147.000	35.20	15.32	50.52	74.00	-23.48	peak
4	11840.000	33.19	17.40	50.59	74.00	-23.41	peak
5	13556.000	28.81	20.78	49.59	74.00	-24.41	peak
6	17923.000	23.50	25.60	49.10	74.00	-24.90	peak

Test Mode:	802.11n HT40	Channel:	5755
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



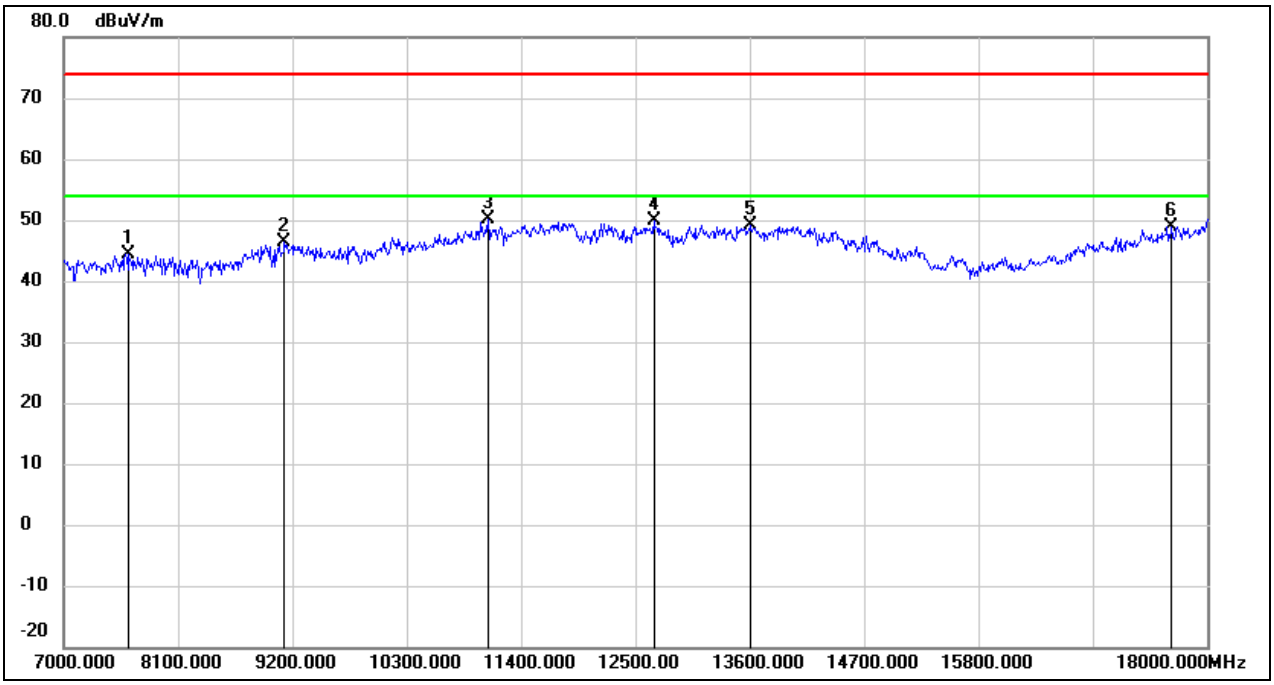
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9167.000	35.45	10.45	45.90	74.00	-28.10	peak
2	10157.000	35.18	12.10	47.28	74.00	-26.72	peak
3	11026.000	35.70	14.82	50.52	74.00	-23.48	peak
4	13017.000	30.78	18.53	49.31	74.00	-24.69	peak
5	13985.000	27.66	21.85	49.51	74.00	-24.49	peak
6	17989.000	23.40	26.04	49.44	74.00	-24.56	peak

Test Mode:	802.11n HT40	Channel:	5795
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8936.000	36.11	9.90	46.01	74.00	-27.99	peak
2	11136.000	33.84	15.27	49.11	74.00	-24.89	peak
3	11653.000	32.36	17.05	49.41	74.00	-24.59	peak
4	12698.000	31.02	18.08	49.10	74.00	-24.90	peak
5	13611.000	28.30	20.92	49.22	74.00	-24.78	peak
6	17989.000	23.49	26.04	49.53	74.00	-24.47	peak

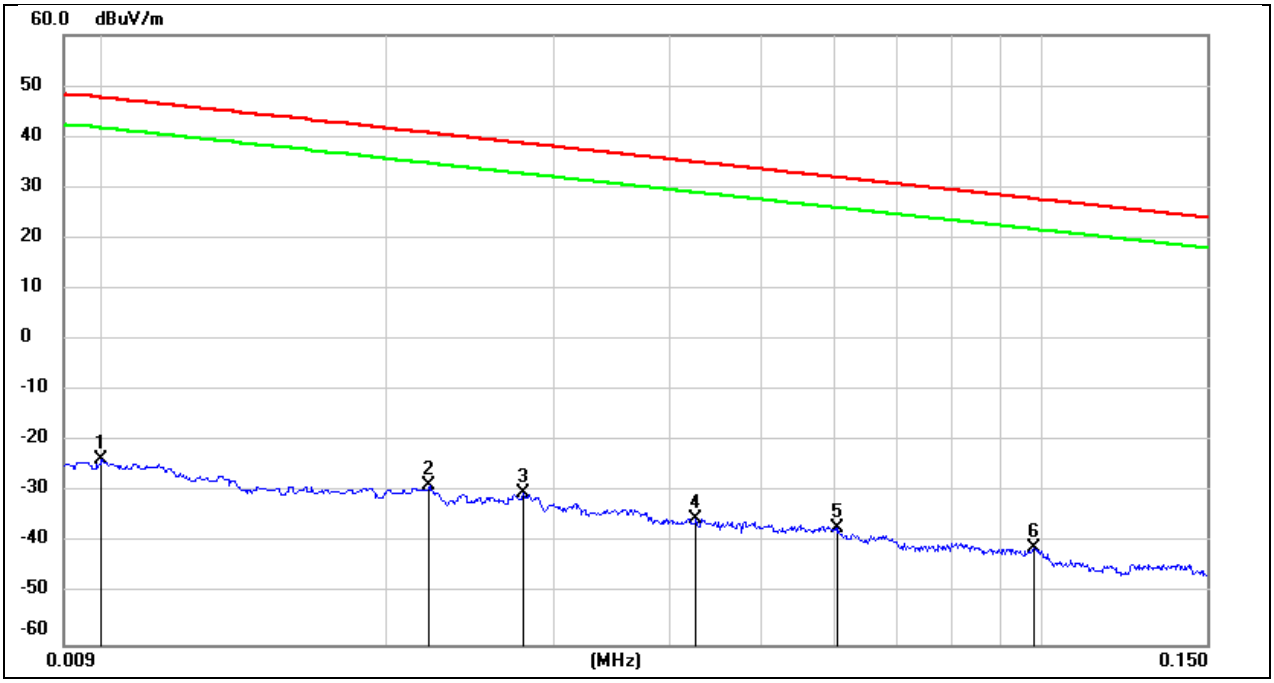
Test Mode:	802.11n HT40	Channel:	5795
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7627.000	37.64	6.76	44.40	74.00	-29.60	peak
2	9123.000	35.90	10.42	46.32	74.00	-27.68	peak
3	11081.000	35.03	15.05	50.08	74.00	-23.92	peak
4	12676.000	31.93	18.05	49.98	74.00	-24.02	peak
5	13611.000	28.12	20.92	49.04	74.00	-24.96	peak
6	17659.000	25.18	23.78	48.96	74.00	-25.04	peak

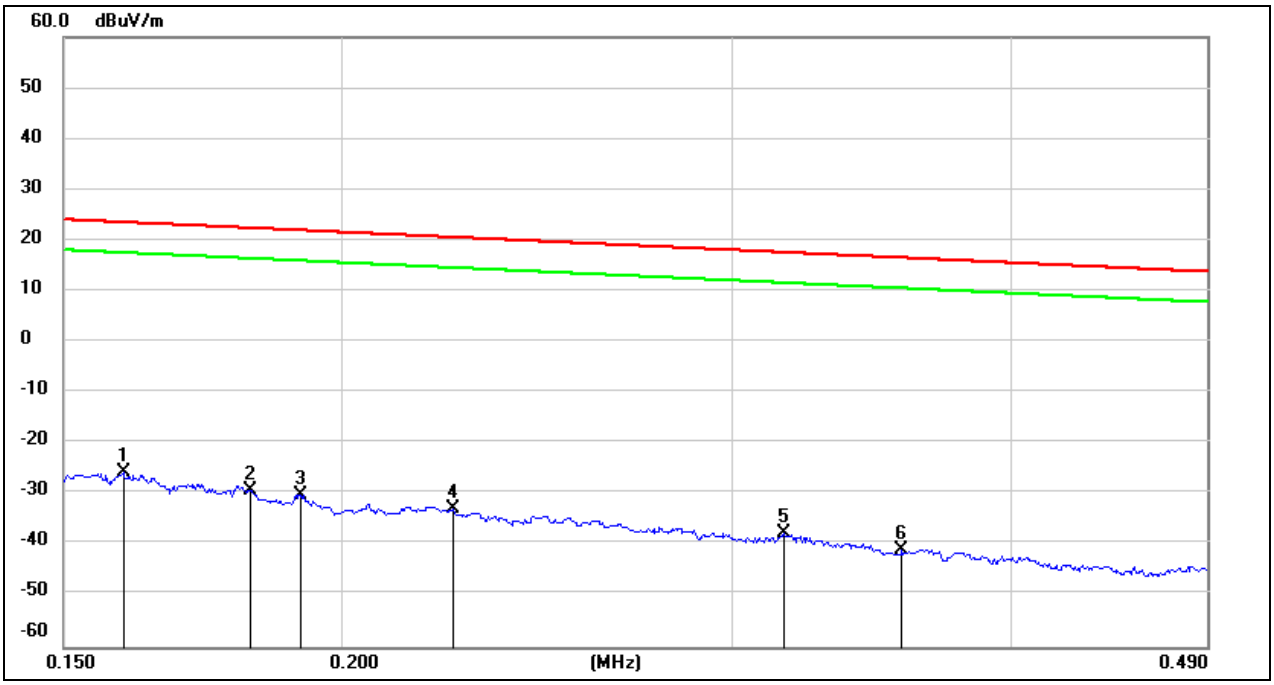
8.11. SPURIOUS EMISSIONS(9 KHZ~30 MHZ)

Test Mode:	802.11a 20	Channel:	5745
Polarity:	FACE ON	Test Voltage:	AC 120V_60Hz



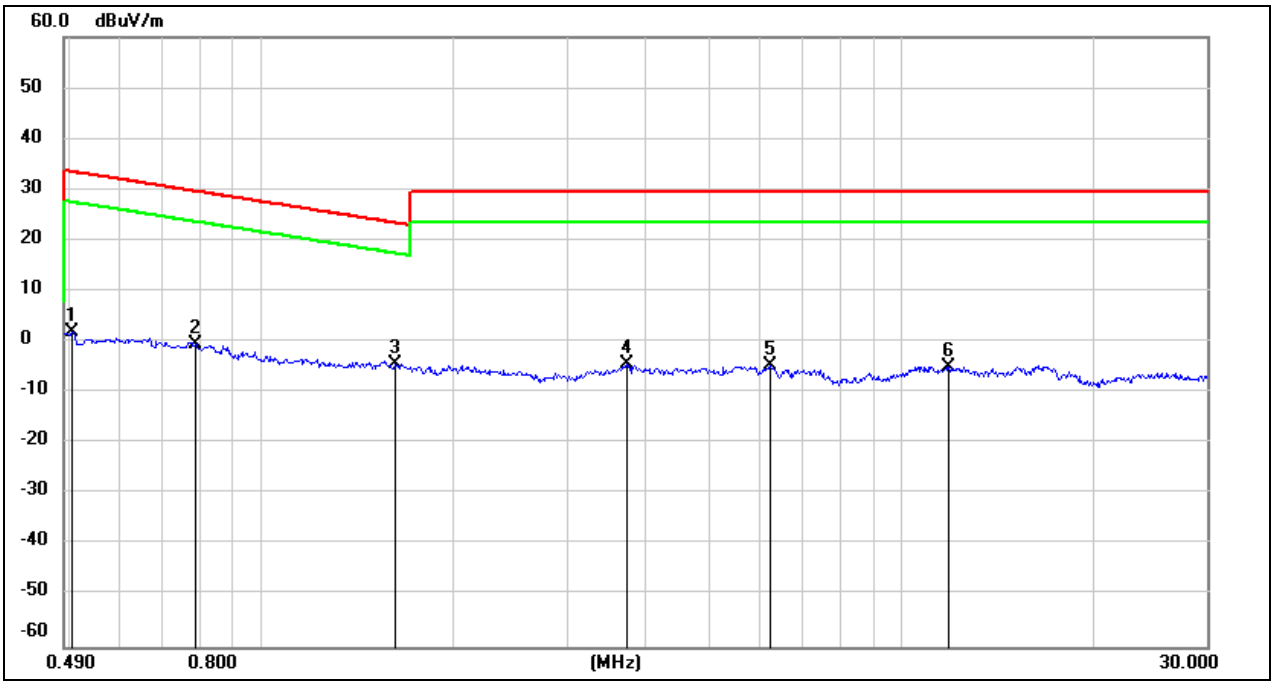
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0100	77.72	-101.40	-23.68	47.60	-71.28	peak
2	0.0221	72.63	-101.35	-28.72	40.71	-69.43	peak
3	0.0279	71.17	-101.38	-30.21	38.69	-68.90	peak
4	0.0427	66.14	-101.45	-35.31	34.99	-70.30	peak
5	0.0604	64.42	-101.52	-37.10	31.98	-69.08	peak
6	0.0981	60.77	-101.78	-41.01	27.77	-68.78	peak

Test Mode:	802.11a 20	Channel:	5745
Polarity:	FACE ON	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1595	75.86	-101.65	-25.79	23.55	-49.34	peak
2	0.1819	72.49	-101.68	-29.19	22.41	-51.60	peak
3	0.1917	71.54	-101.70	-30.16	21.95	-52.11	peak
4	0.2247	68.91	-101.75	-32.84	20.57	-53.41	peak
5	0.3163	64.20	-101.87	-37.67	17.60	-55.27	peak
6	0.3573	61.08	-101.91	-40.83	16.54	-57.37	peak

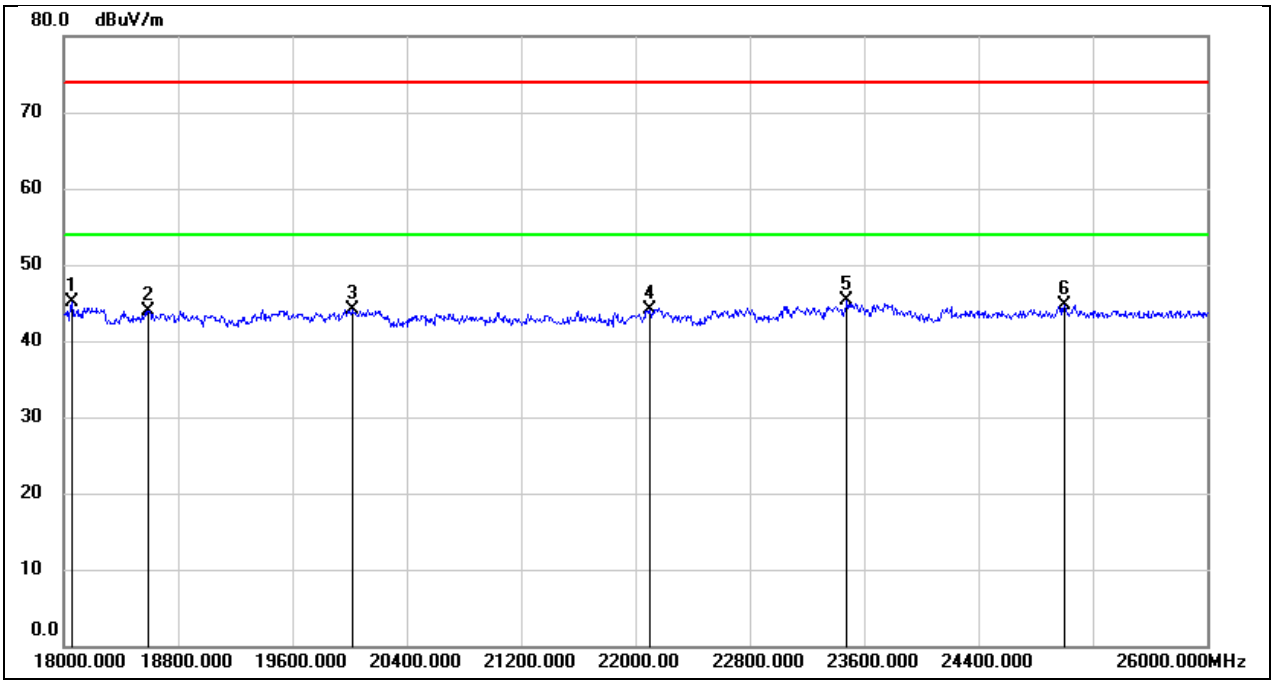
Test Mode:	802.11a 20	Channel:	5745
Polarity:	FACE ON	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.5039	63.93	-62.07	1.86	33.56	-31.70	peak
2	0.7861	61.83	-62.14	-0.31	29.69	-30.00	peak
3	1.6149	57.62	-62.00	-4.38	23.44	-27.82	peak
4	3.7100	57.20	-61.41	-4.21	29.54	-33.75	peak
5	6.2445	56.63	-61.32	-4.69	29.54	-34.23	peak
6	11.8513	56.06	-60.88	-4.82	29.54	-34.36	peak

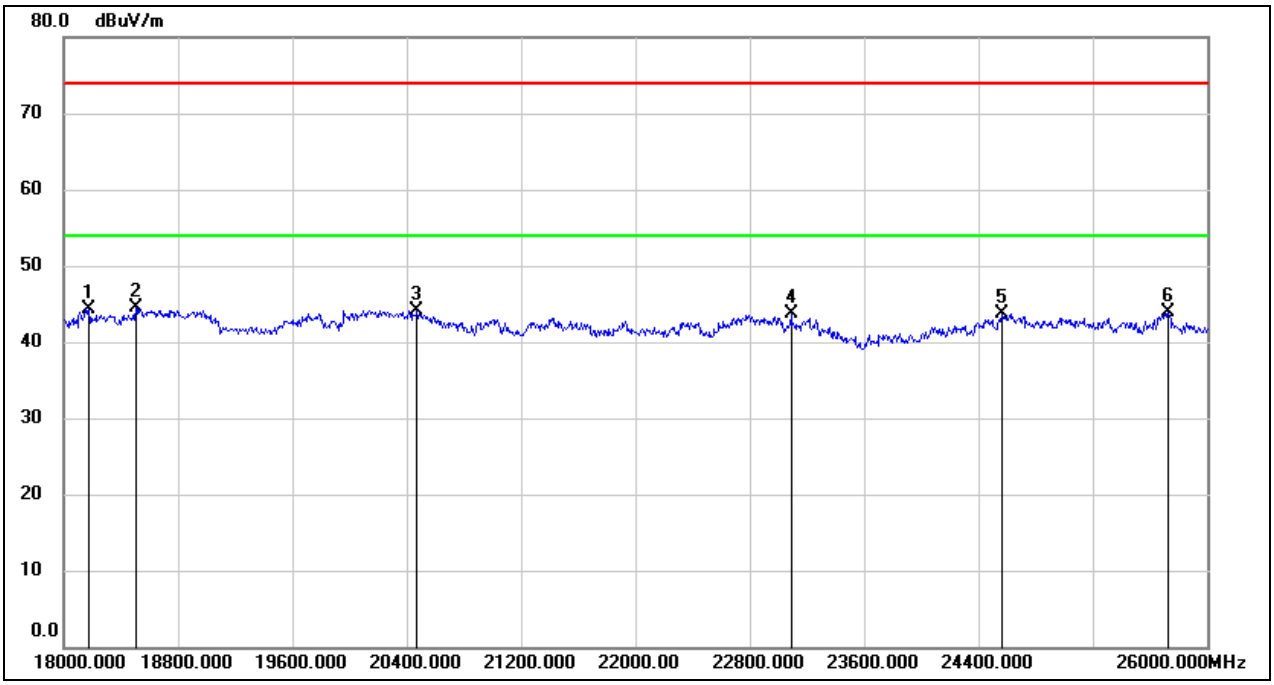
8.12. SPURIOUS EMISSIONS(18 GHZ~26 GHZ)

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18056.000	50.49	-5.42	45.07	74.00	-28.93	peak
2	18592.000	49.25	-5.31	43.94	74.00	-30.06	peak
3	20016.000	49.56	-5.47	44.09	74.00	-29.91	peak
4	22096.000	48.54	-4.38	44.16	74.00	-29.84	peak
5	23480.000	48.54	-3.16	45.38	74.00	-28.62	peak
6	25000.000	46.86	-2.10	44.76	74.00	-29.24	peak

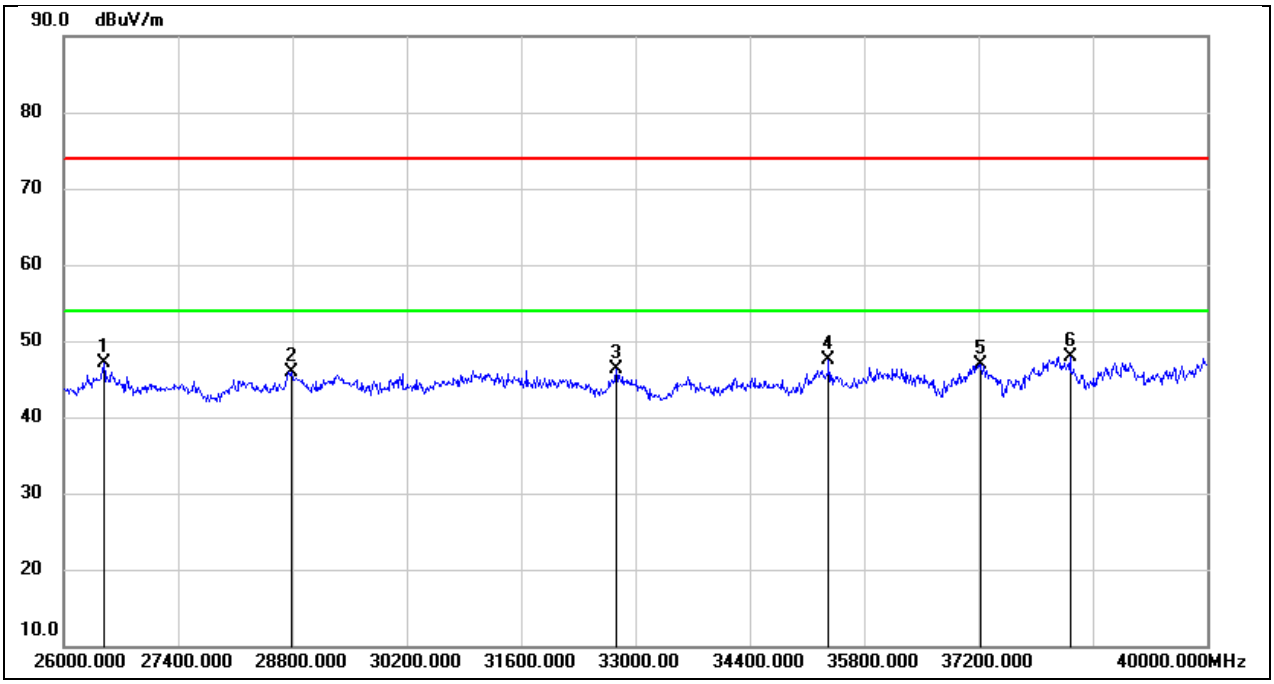
Test Mode:	802.11a 20	Channel:	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18176.000	49.90	-5.51	44.39	74.00	-29.61	peak
2	18504.000	49.77	-5.25	44.52	74.00	-29.48	peak
3	20472.000	49.57	-5.39	44.18	74.00	-29.82	peak
4	23088.000	47.02	-3.41	43.61	74.00	-30.39	peak
5	24568.000	46.10	-2.33	43.77	74.00	-30.23	peak
6	25728.000	44.61	-0.72	43.89	74.00	-30.11	peak

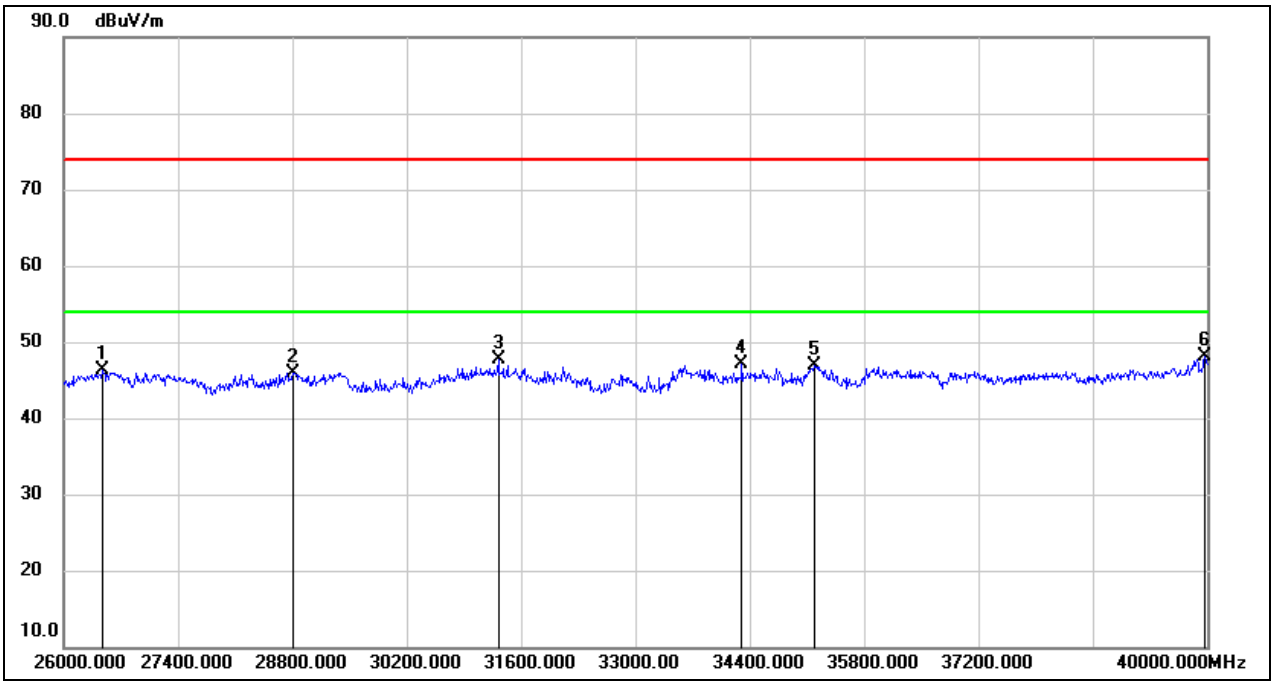
8.13. SPURIOUS EMISSIONS(26 GHZ~40 GHZ)

Test Mode:	802.11a 20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26490.000	51.79	-4.74	47.05	74.00	-26.95	peak
2	28786.000	46.49	-0.64	45.85	74.00	-28.15	peak
3	32762.000	47.45	-1.21	46.24	74.00	-27.76	peak
4	35366.000	44.90	2.59	47.49	74.00	-26.51	peak
5	37228.000	43.73	3.14	46.87	74.00	-27.13	peak
6	38320.000	44.06	3.77	47.83	74.00	-26.17	peak

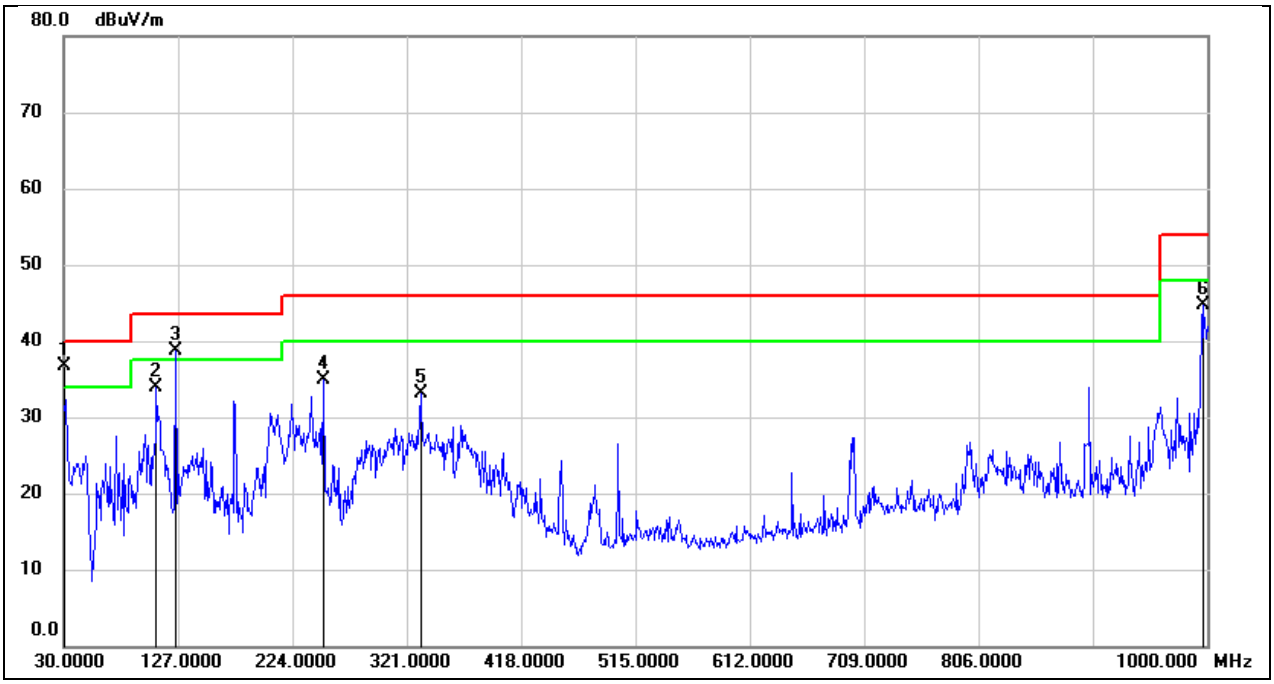
Test Mode:	802.11a 20	Channel:	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26476.000	51.03	-4.78	46.25	74.00	-27.75	peak
2	28800.000	46.60	-0.70	45.90	74.00	-28.10	peak
3	31320.000	48.61	-0.93	47.68	74.00	-26.32	peak
4	34302.000	45.95	1.10	47.05	74.00	-26.95	peak
5	35184.000	44.55	2.30	46.85	74.00	-27.15	peak
6	39972.000	42.95	5.13	48.08	74.00	-25.92	peak

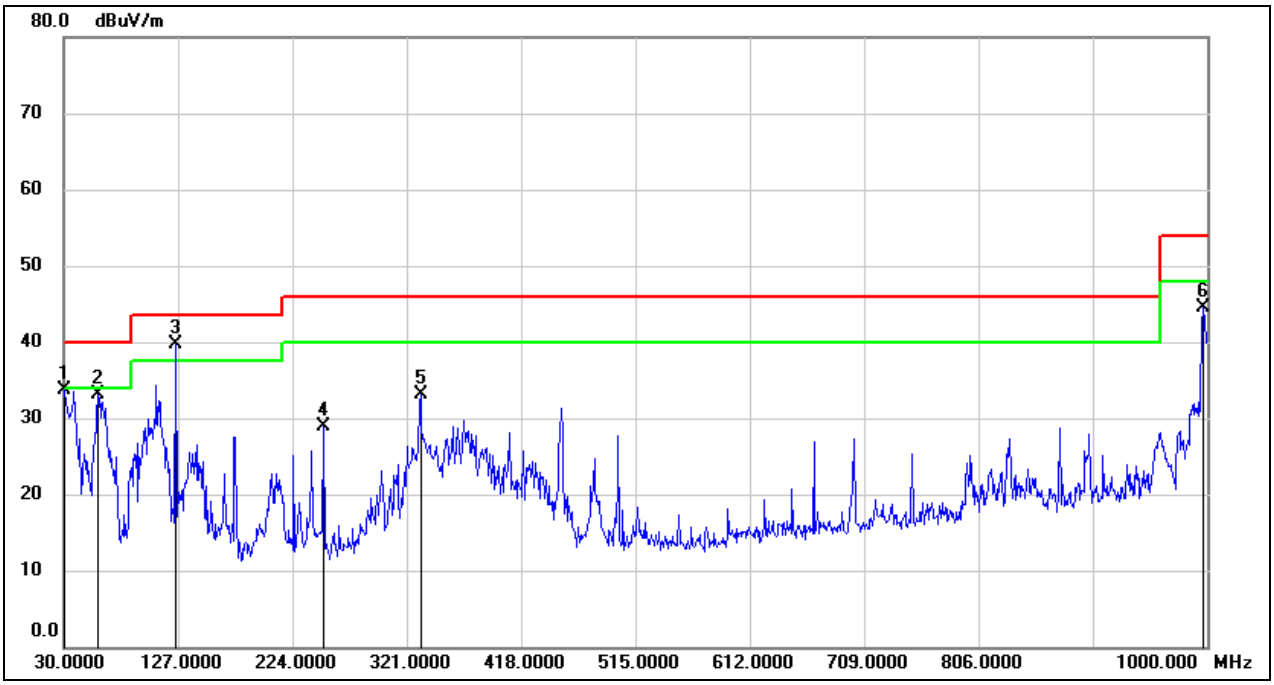
8.14. SPURIOUS EMISSIONS(30 MHZ~1 GHZ)

Test Mode:	802.11a 20	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.0000	55.71	-18.94	36.77	40.00	-3.23	QP
2	108.5700	54.48	-20.53	33.95	43.50	-9.55	QP
3	125.0600	58.38	-19.60	38.78	43.50	-4.72	QP
4	250.1900	53.87	-18.91	34.96	46.00	-11.04	QP
5	332.6400	47.75	-14.62	33.13	46.00	-12.87	QP
6	996.1200	48.86	-4.20	44.66	54.00	-9.34	QP

Test Mode:	802.11a 20	Channel:	5180
Polarity:	Vertical	Test Voltage:	AC120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.9700	52.70	-19.04	33.66	40.00	-6.34	QP
2	59.1000	53.69	-20.52	33.17	40.00	-6.83	QP
3	125.0600	59.33	-19.60	39.73	43.50	-3.77	QP
4	250.1900	47.73	-18.91	28.82	46.00	-17.18	QP
5	332.6400	47.79	-14.62	33.17	46.00	-12.83	QP
6	997.0900	48.69	-4.18	44.51	54.00	-9.49	QP

9. AC POWER LINE CONDUCTED EMISSION

LIMITS

Please refer to CFR 47 FCC §15.207 (a).

FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

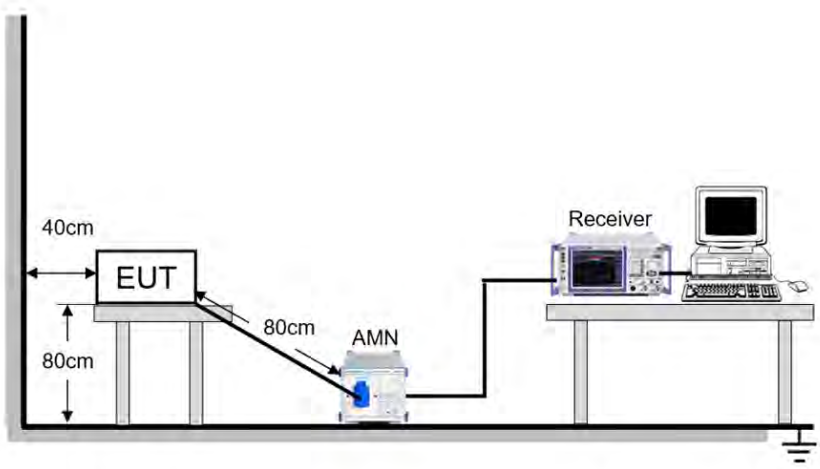
TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 6.2.

The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

TEST SETUP



TEST ENVIRONMENT

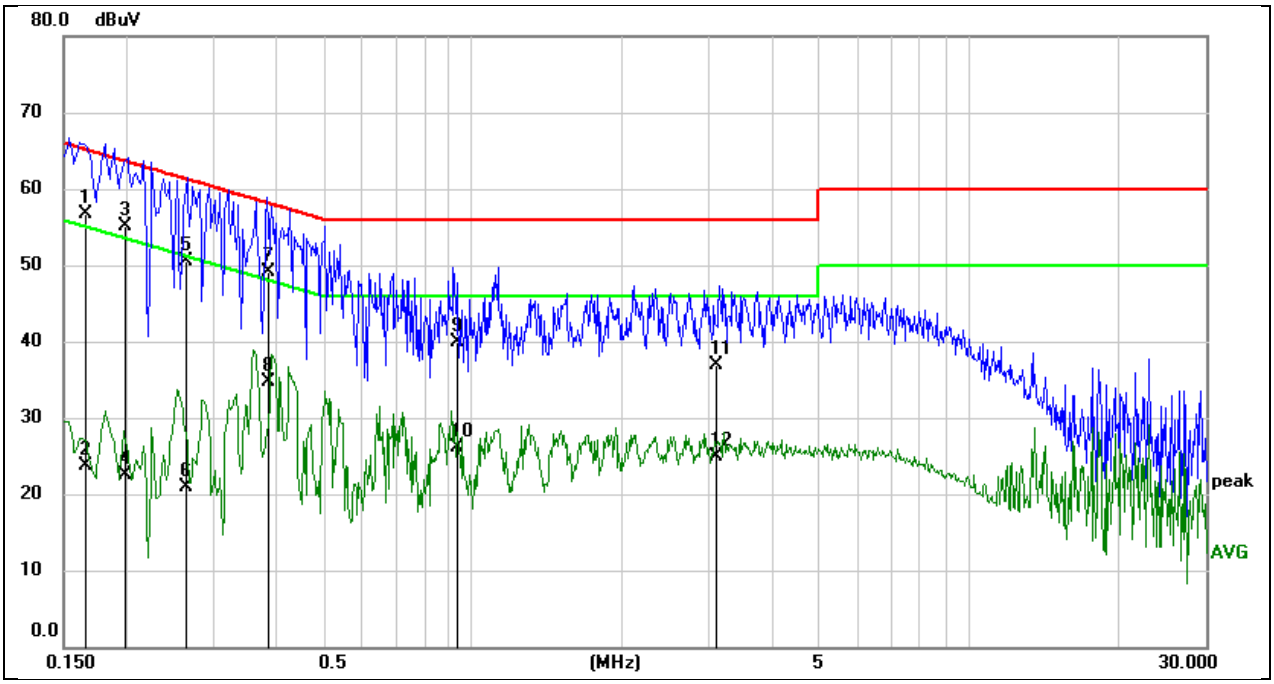
Temperature	22.8℃	Relative Humidity	53%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 Hz

TEST DATE / ENGINEER

Test Date	May 9, 2023	Test By	Wite Chen

TEST RESULTS

Test Mode:	802.11a	Channel:	5745
Line:	Line	Test Voltage:	AC 120V_60Hz

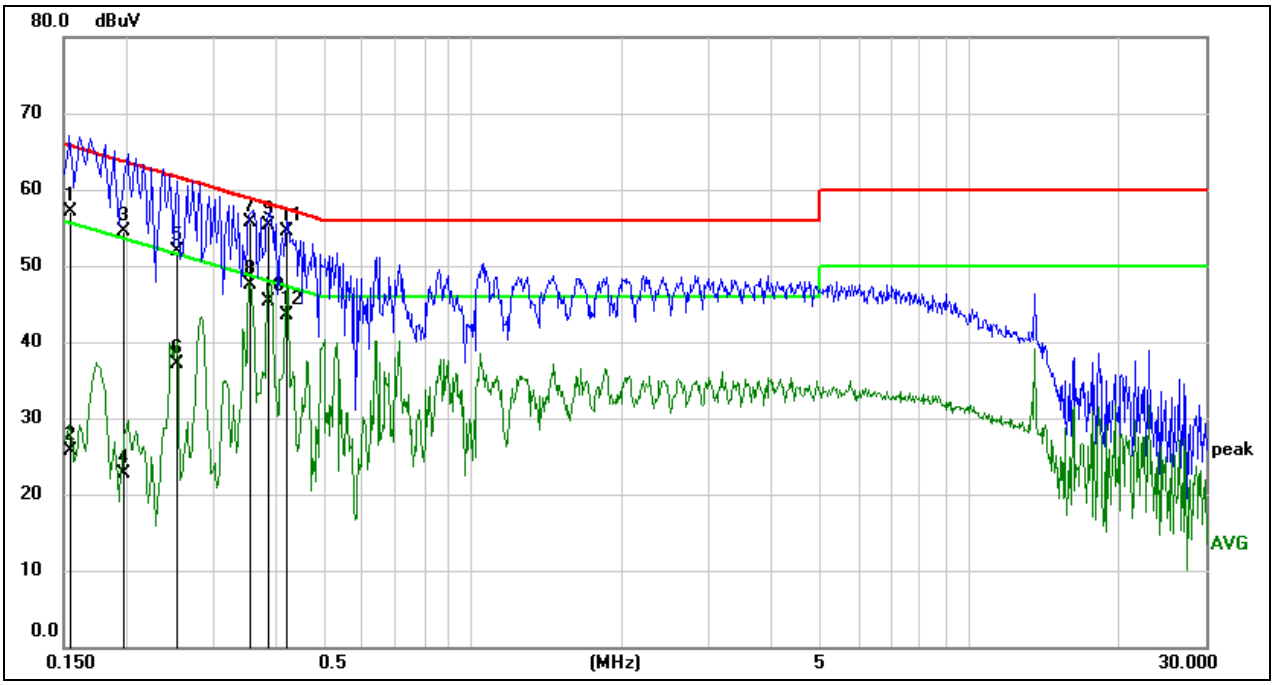


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1662	47.19	9.59	56.78	65.15	-8.37	QP
2	0.1662	14.09	9.59	23.68	55.15	-31.47	AVG
3	0.1993	45.57	9.59	55.16	63.64	-8.48	QP
4	0.1993	12.92	9.59	22.51	53.64	-31.13	AVG
5	0.2640	40.90	9.59	50.49	61.30	-10.81	QP
6	0.2640	11.31	9.59	20.90	51.30	-30.40	AVG
7	0.3873	39.43	9.59	49.02	58.12	-9.10	QP
8	0.3873	25.17	9.59	34.76	48.12	-13.36	AVG
9	0.9305	30.38	9.61	39.99	56.00	-16.01	QP
10	0.9305	16.42	9.61	26.03	46.00	-19.97	AVG
11	3.1133	27.25	9.68	36.93	56.00	-19.07	QP
12	3.1133	15.21	9.68	24.89	46.00	-21.11	AVG

Note:
1. Result = Reading + Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

Note: All the modes have been tested, only the worst data was recorded in the report.

Test Mode:	802.11a	Channel:	5745
Line:	Neutral	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1548	47.58	9.59	57.17	65.74	-8.57	QP
2	0.1548	16.05	9.59	25.64	55.74	-30.10	AVG
3	0.1976	44.95	9.59	54.54	63.71	-9.17	QP
4	0.1976	13.18	9.59	22.77	53.71	-30.94	AVG
5	0.2521	42.24	9.59	51.83	61.69	-9.86	QP
6	0.2521	27.50	9.59	37.09	51.69	-14.60	AVG
7	0.3548	46.05	9.59	55.64	58.85	-3.21	QP
8	0.3548	37.90	9.59	47.49	48.85	-1.36	AVG
9	0.3871	45.80	9.59	55.39	58.13	-2.74	QP
10	0.3871	35.81	9.59	45.40	48.13	-2.73	AVG
11	0.4210	44.83	9.60	54.43	57.43	-3.00	QP
12	0.4210	33.91	9.60	43.51	47.43	-3.92	AVG

Note:
1. Result = Reading + Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

Note: All the modes have been tested, only the worst data was recorded in the report.

10. ANTENNA REQUIREMENT

REQUIREMENT

Please refer to FCC part 15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Please refer to FCC part 15.407(a)
For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DESCRIPTION

Pass

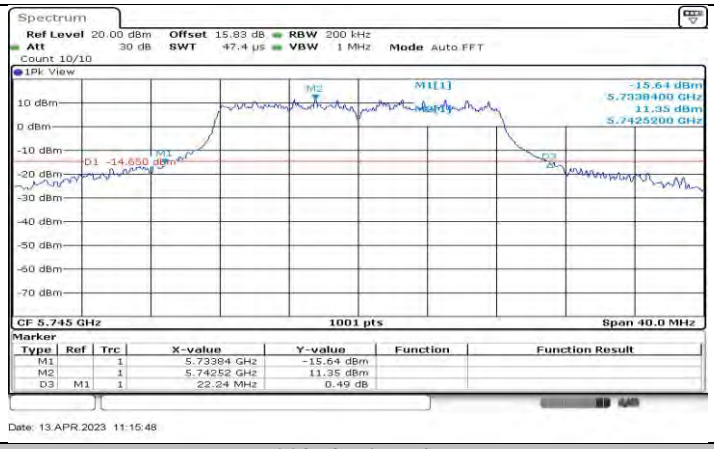
11. TEST DATA

11.1. APPENDIX A: EMISSION BANDWIDTH

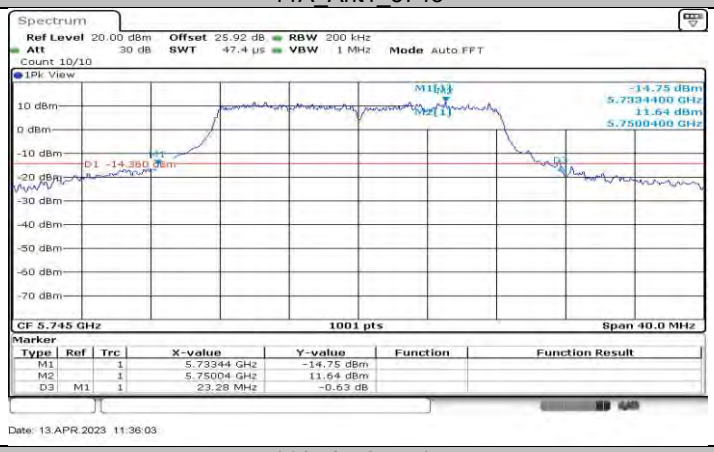
11.1.1. Test Result

Test Mode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5745	22.24	5733.84	5756.08	PASS
	Ant2	5745	23.28	5733.44	5756.72	PASS
	Ant1	5785	21.52	5774.04	5795.56	PASS
	Ant2	5785	21.84	5774.08	5795.92	PASS
	Ant1	5825	21.96	5814.04	5836.00	PASS
	Ant2	5825	21.04	5814.40	5835.44	PASS
11N20MIMO	Ant1	5745	23.08	5733.20	5756.28	PASS
	Ant2	5745	21.40	5734.00	5755.40	PASS
	Ant1	5785	22.00	5774.04	5796.04	PASS
	Ant2	5785	21.84	5774.00	5795.84	PASS
	Ant1	5825	21.92	5814.12	5836.04	PASS
	Ant2	5825	21.92	5814.04	5835.96	PASS
11N40MIMO	Ant1	5755	50.08	5729.80	5779.88	PASS
	Ant2	5755	50.88	5729.80	5780.68	PASS
	Ant1	5795	49.92	5769.32	5819.24	PASS
	Ant2	5795	59.92	5761.96	5821.88	PASS

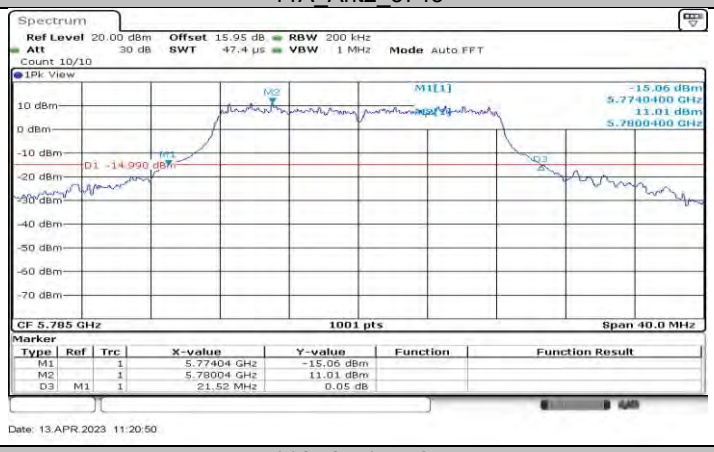
11.1.2. Test Graphs



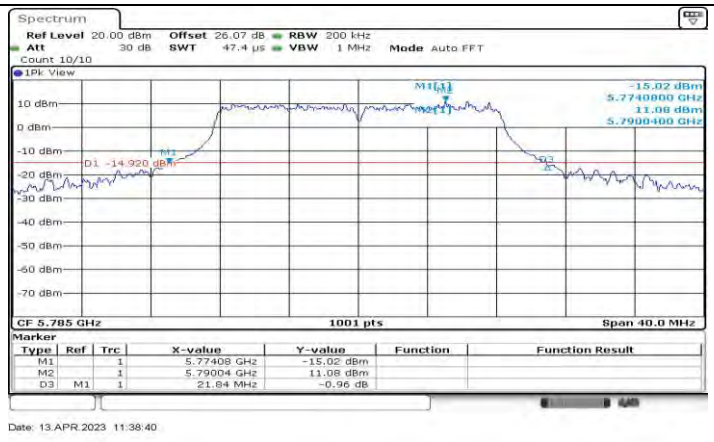
11A_Ant1_5745



11A_Ant2_5745



11A_Ant1_5785



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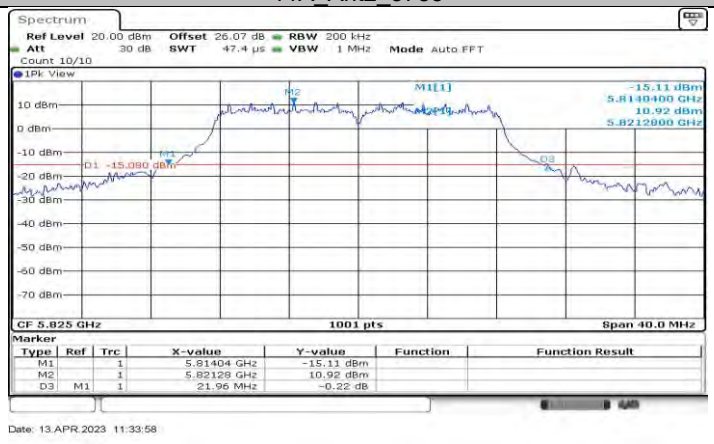
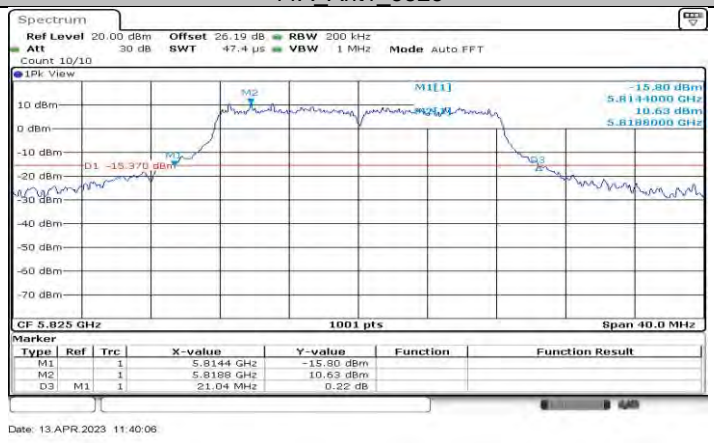
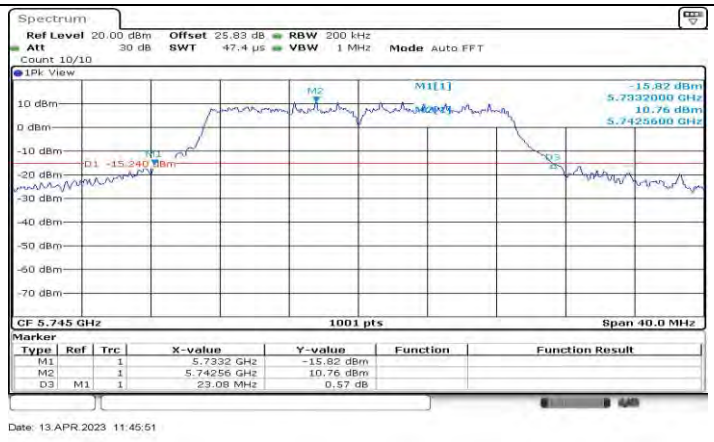


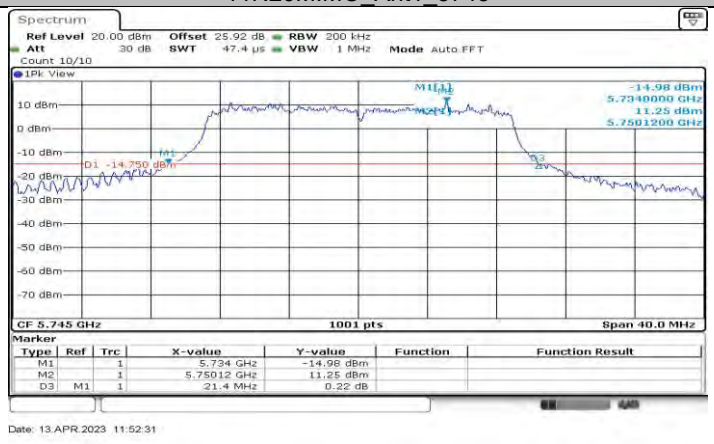
11A_Ant1_5825



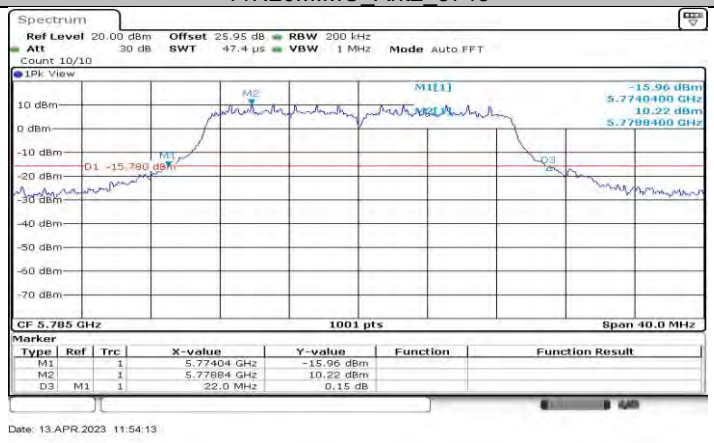
11A_Ant2_5825



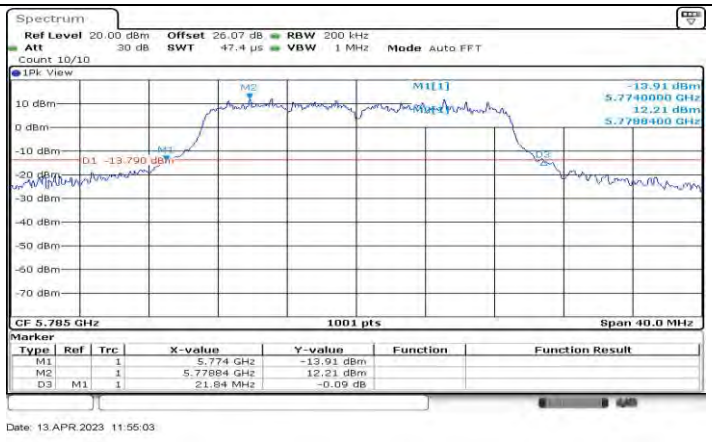
11N20MIMO_Ant1_5745



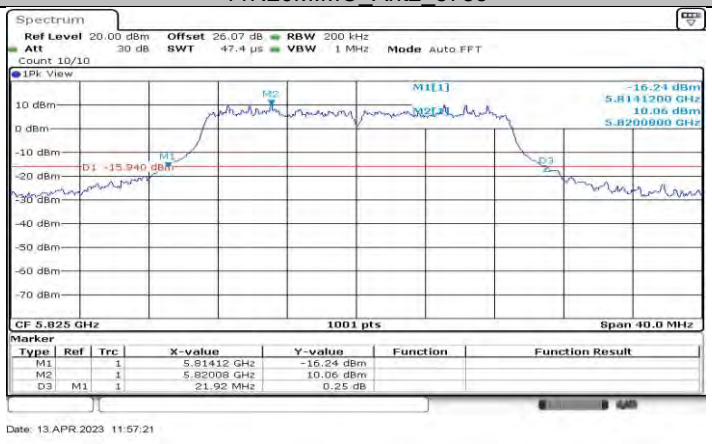
11N20MIMO_Ant2_5745



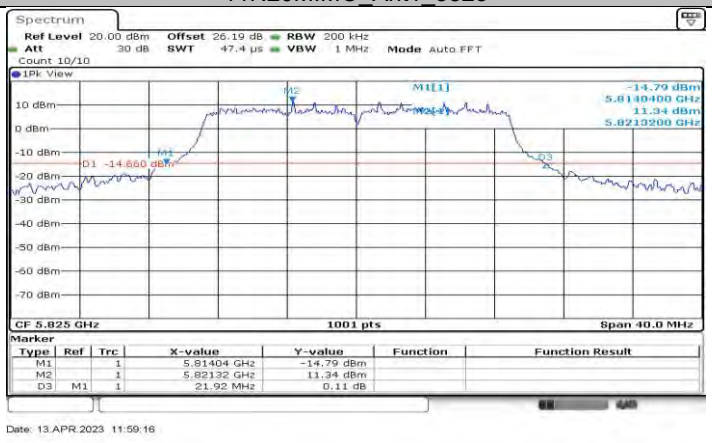
11N20MIMO_Ant1_5785



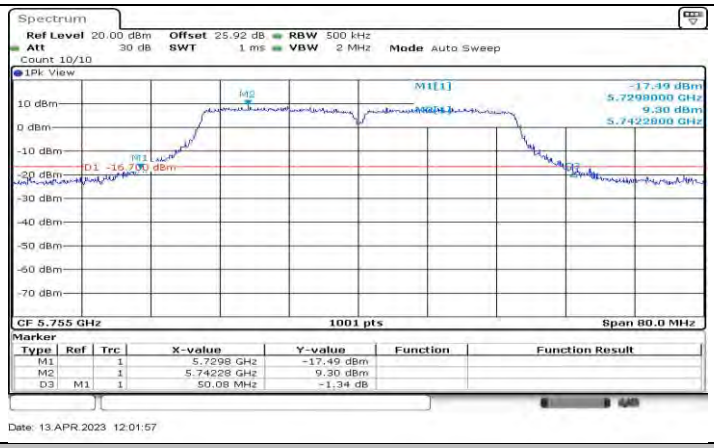
11N20MIMO_Ant2_5785



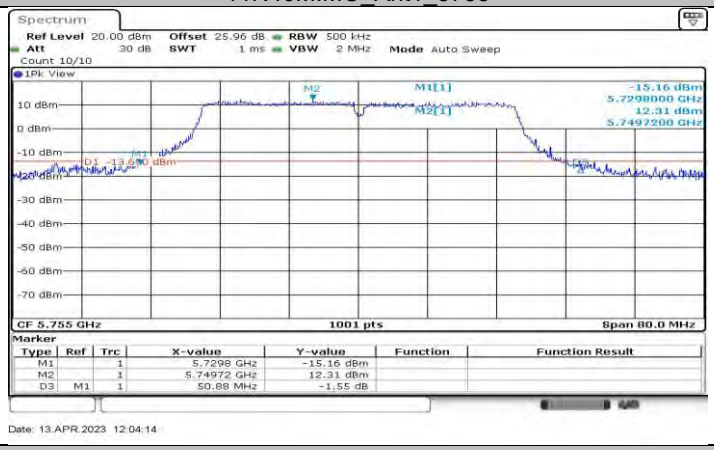
11N20MIMO_Ant1_5825



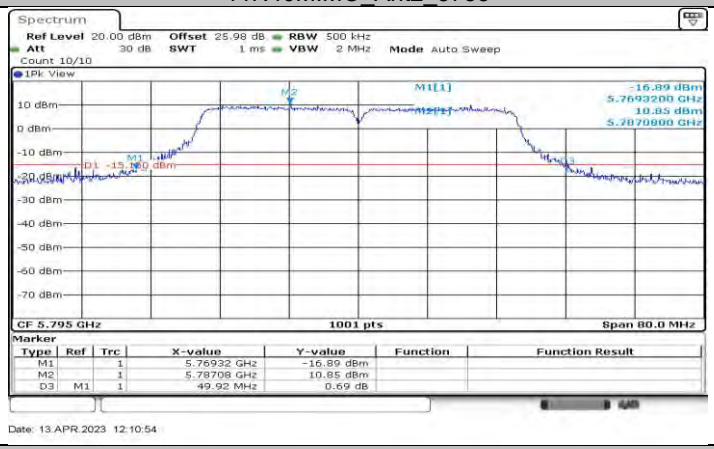
11N20MIMO_Ant2_5825



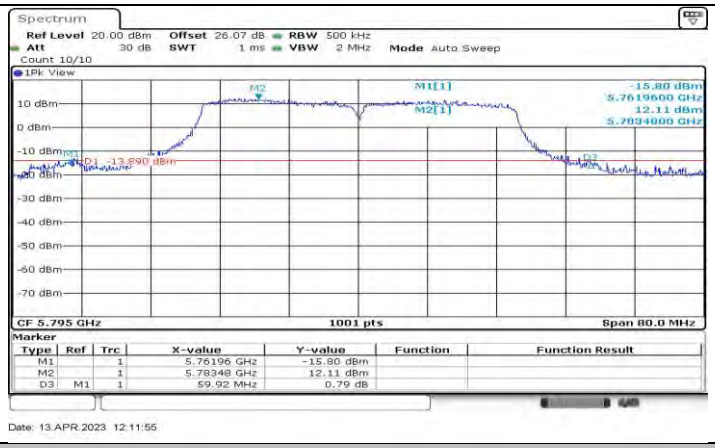
11N40MIMO_Ant1_5755



11N40MIMO_Ant2_5755



11N40MIMO_Ant1_5795



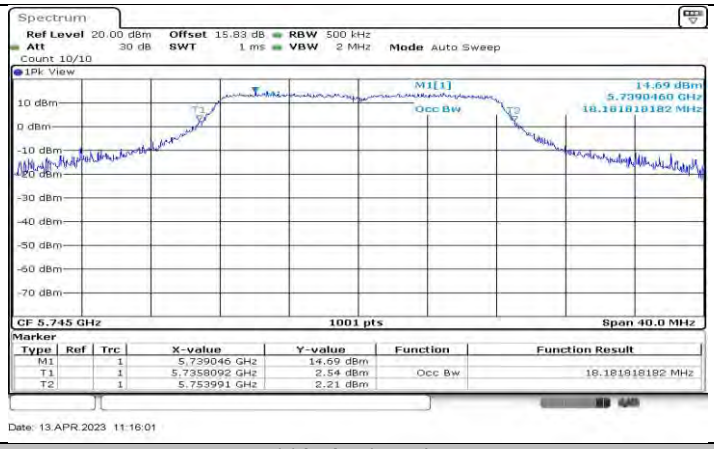
11N40MIMO_Ant2_5795

11.2. APPENDIX B: OCCUPIED CHANNEL BANDWIDTH

11.2.1. Test Result

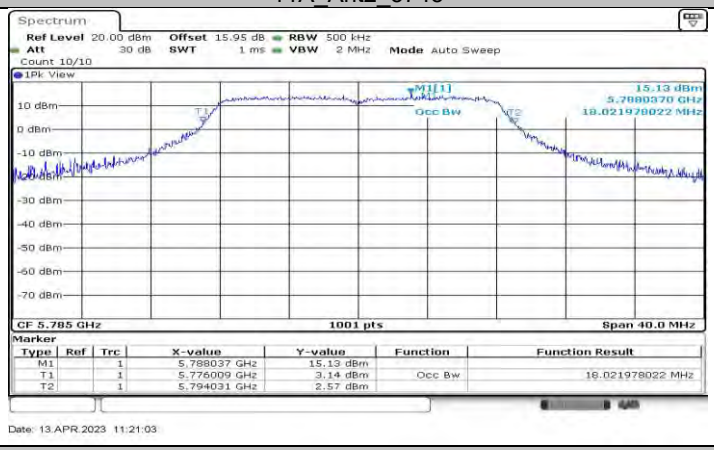
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5745	18.182	5735.8092	5753.9910	PASS
	Ant2	5745	18.022	5735.9690	5753.9910	PASS
	Ant1	5785	18.022	5776.0090	5794.0310	PASS
	Ant2	5785	18.062	5775.9291	5793.9910	PASS
	Ant1	5825	17.982	5815.9690	5833.9510	PASS
	Ant2	5825	17.982	5815.9690	5833.9510	PASS
11N20MIMO	Ant1	5745	18.941	5735.5295	5754.4705	PASS
	Ant2	5745	19.141	5735.4496	5754.5904	PASS
	Ant1	5785	19.021	5775.5694	5794.5904	PASS
	Ant2	5785	18.741	5775.6494	5794.3906	PASS
	Ant1	5825	18.781	5815.6494	5834.4306	PASS
	Ant2	5825	18.701	5815.7293	5834.4306	PASS
11N40MIMO	Ant1	5755	38.362	5735.7393	5774.1009	PASS
	Ant2	5755	38.202	5735.8192	5774.0210	PASS
	Ant1	5795	38.042	5775.8991	5813.9411	PASS
	Ant2	5795	38.202	5775.6593	5813.8611	PASS

11.2.2. Test Graphs

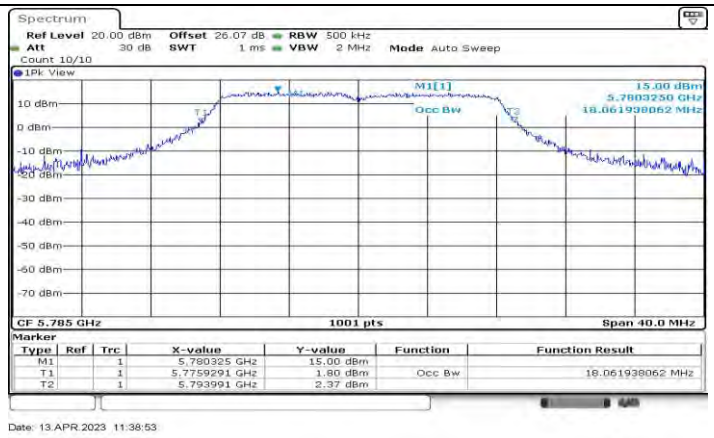


11A_Ant1_5745

11A_Ant2_5745



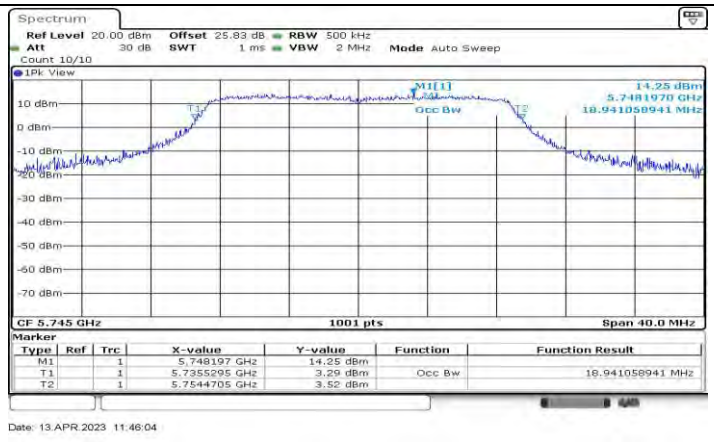
11A_Ant1_5785



11A_Ant2_5785

11A_Ant1_5825

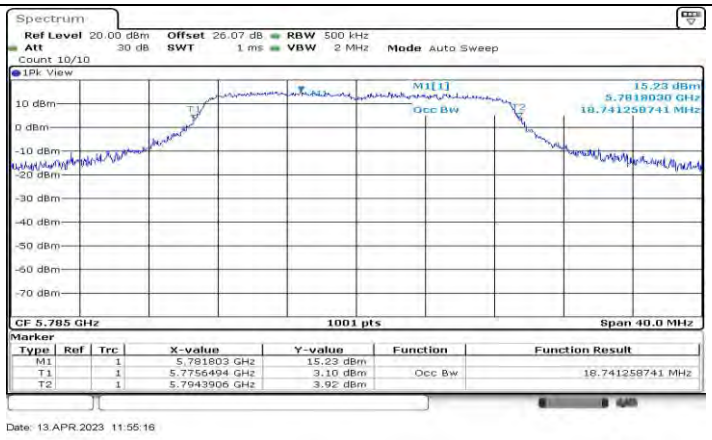
11A_Ant2_5825



11N20MIMO_Ant1_5745

11N20MIMO_Ant2_5745

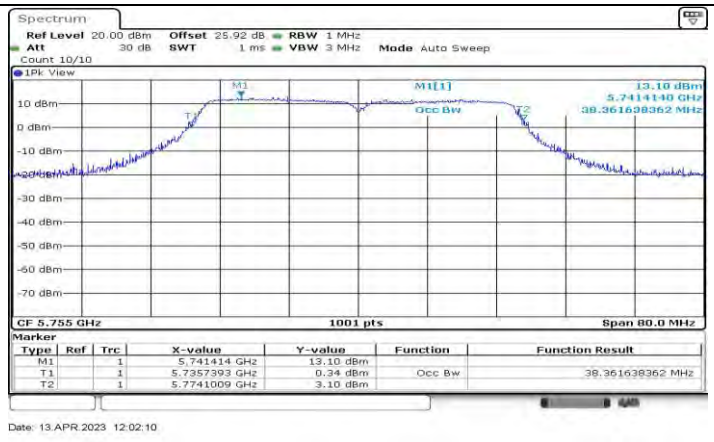
11N20MIMO_Ant1_5785



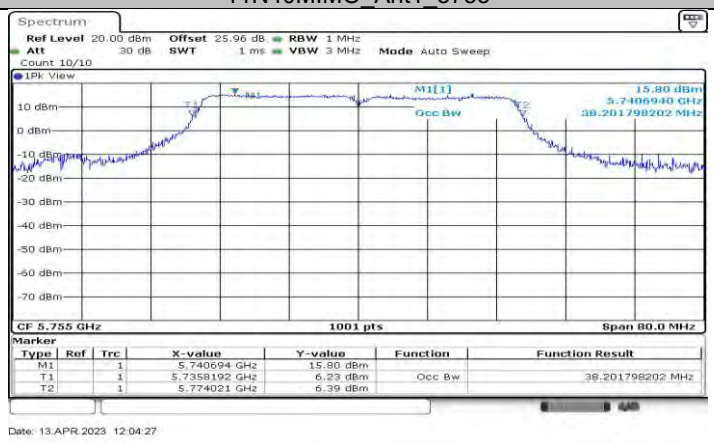
11N20MIMO_Ant2_5785

11N20MIMO_Ant1_5825

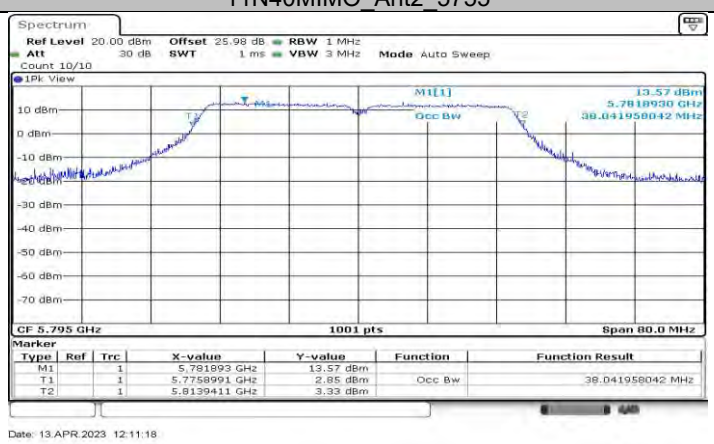
11N20MIMO_Ant2_5825



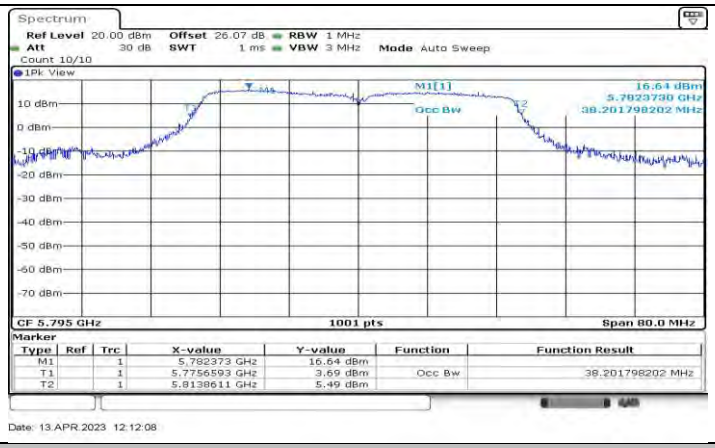
11N40MIMO_Ant1_5755



11N40MIMO_Ant2_5755



11N40MIMO_Ant1_5795



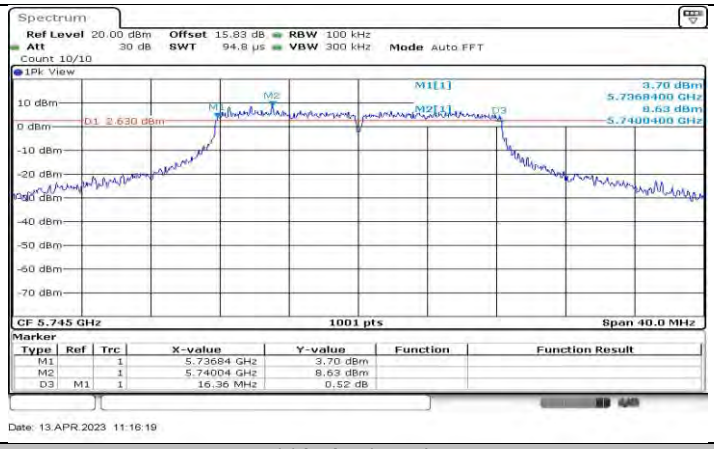
11N40MIMO_Ant2_5795

11.3. APPENDIX C: MIN EMISSION BANDWIDTH

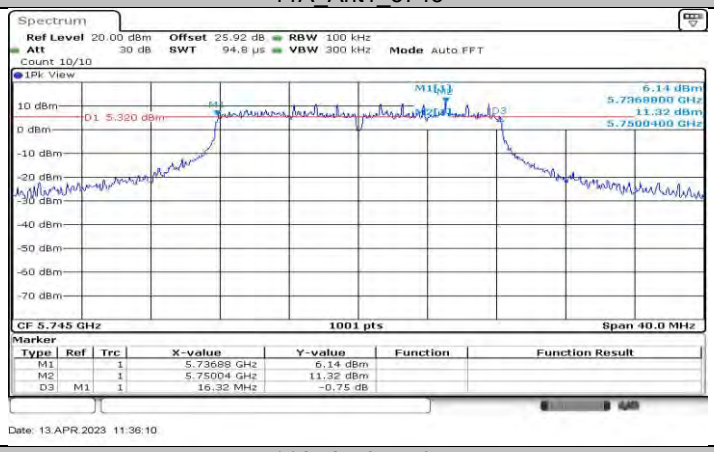
11.3.1. Test Result

Test Mode	Antenna	Channel	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.36	5736.84	5753.20	0.5	PASS
	Ant2	5745	16.32	5736.88	5753.20	0.5	PASS
	Ant1	5785	16.32	5776.88	5793.20	0.5	PASS
	Ant2	5785	16.32	5776.88	5793.20	0.5	PASS
	Ant1	5825	16.36	5816.84	5833.20	0.5	PASS
	Ant2	5825	16.32	5816.88	5833.20	0.5	PASS
11N20MIMO	Ant1	5745	17.32	5736.28	5753.60	0.5	PASS
	Ant2	5745	17.56	5736.28	5753.84	0.5	PASS
	Ant1	5785	17.56	5776.32	5793.88	0.5	PASS
	Ant2	5785	16.00	5776.68	5792.68	0.5	PASS
	Ant1	5825	16.68	5816.56	5833.24	0.5	PASS
	Ant2	5825	17.36	5816.28	5833.64	0.5	PASS
11N40MIMO	Ant1	5755	35.76	5736.92	5772.68	0.5	PASS
	Ant2	5755	35.76	5736.92	5772.68	0.5	PASS
	Ant1	5795	35.76	5776.92	5812.68	0.5	PASS
	Ant2	5795	35.76	5776.92	5812.68	0.5	PASS

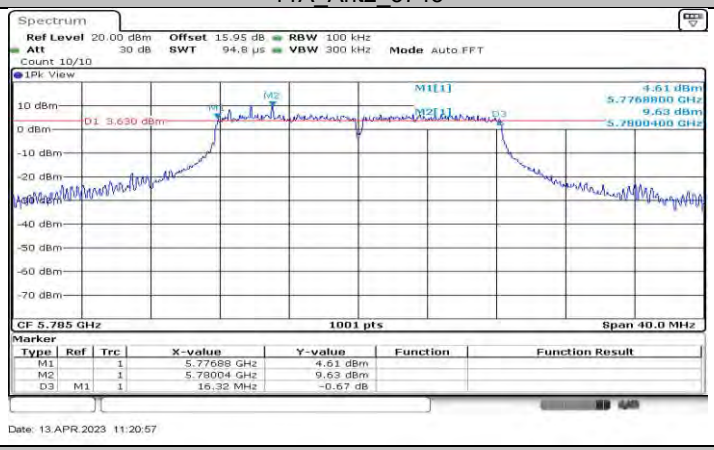
11.3.2. Test Graphs



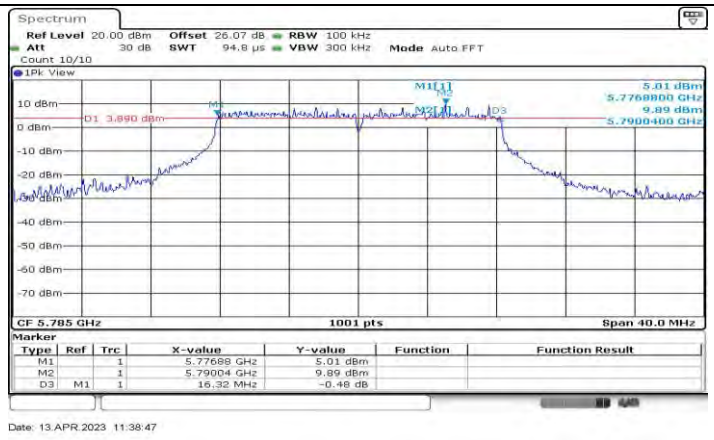
11A_Ant1_5745



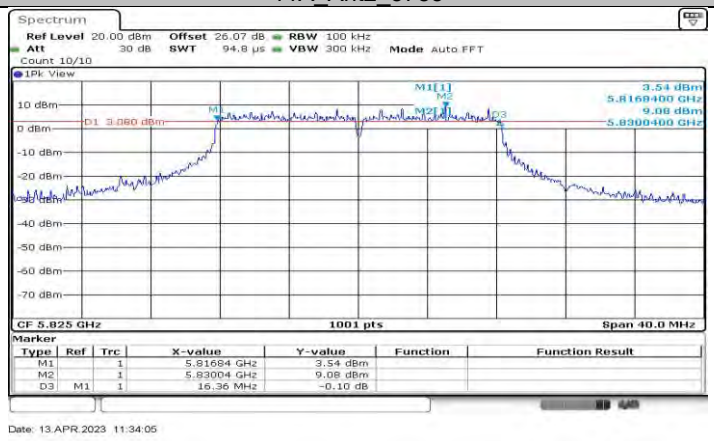
11A_Ant2_5745



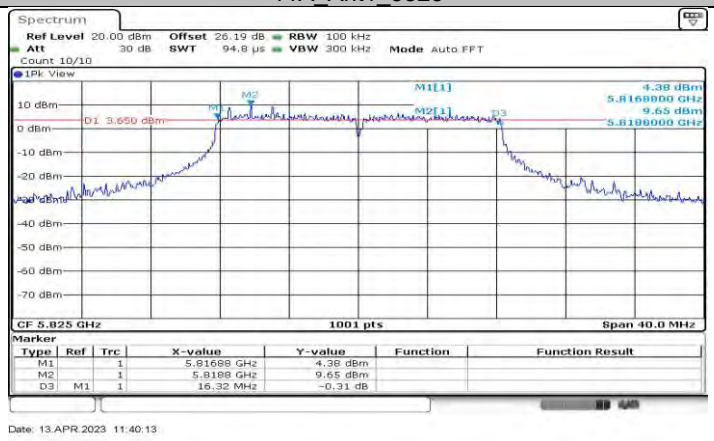
11A_Ant1_5785



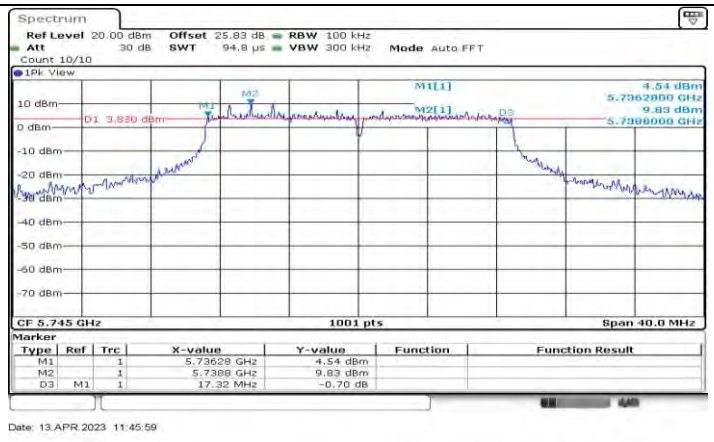
11A_Ant2_5785



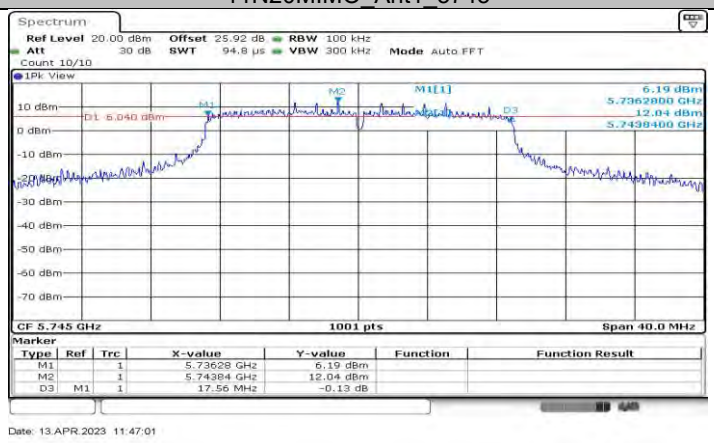
11A_Ant1_5825



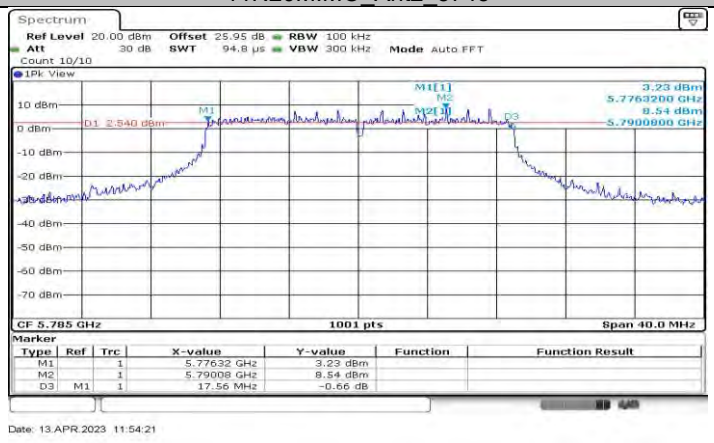
11A_Ant2_5825



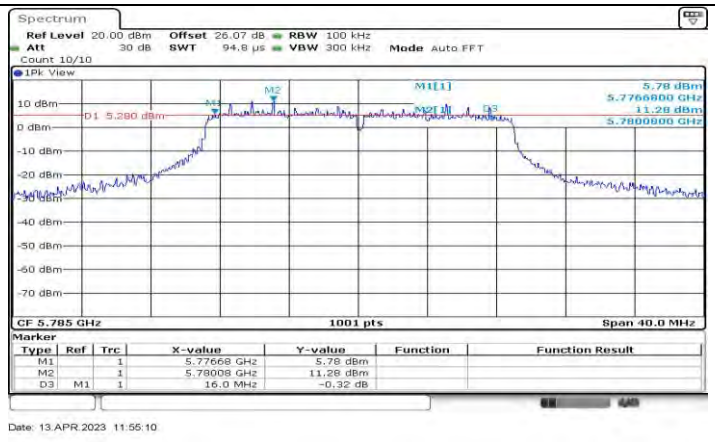
11N20MIMO_Ant1_5745



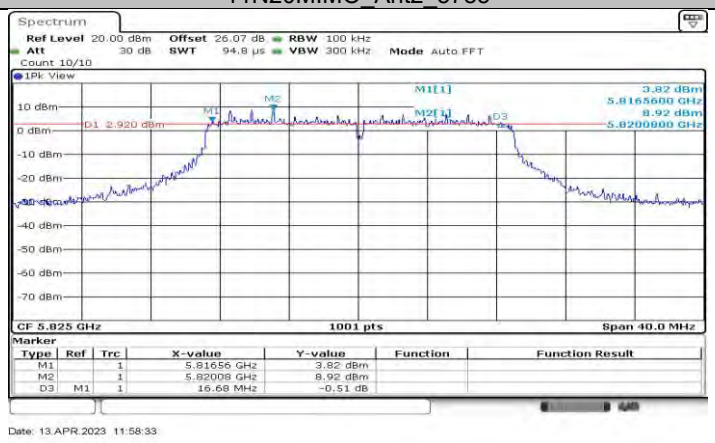
11N20MIMO_Ant2_5745



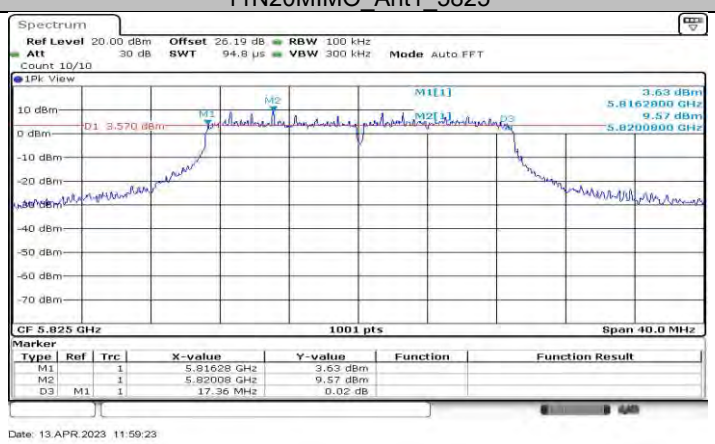
11N20MIMO_Ant1_5785



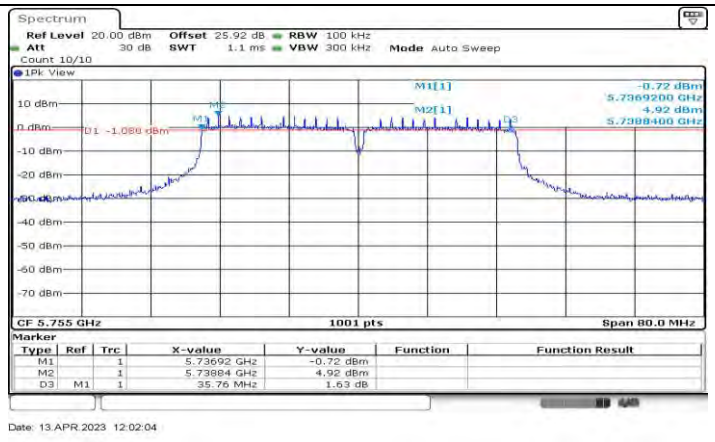
11N20MIMO_Ant2_5785



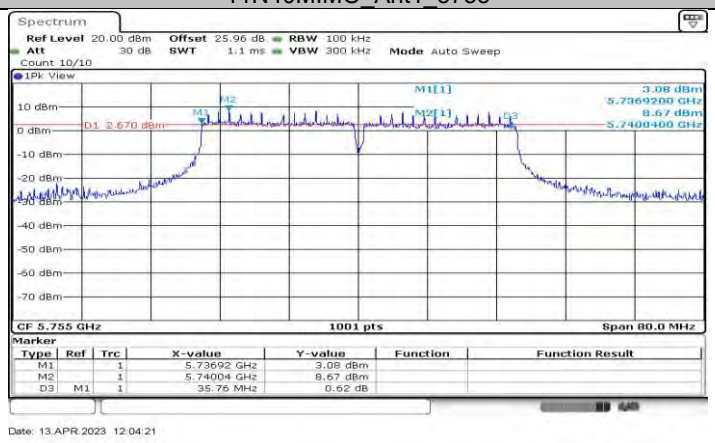
11N20MIMO_Ant1_5825



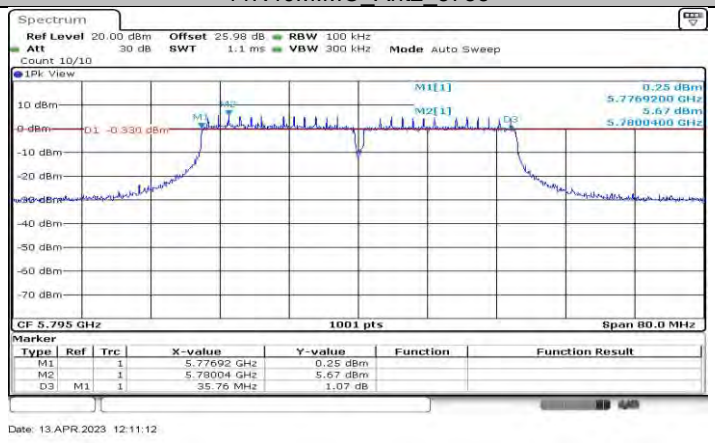
11N20MIMO_Ant2_5825



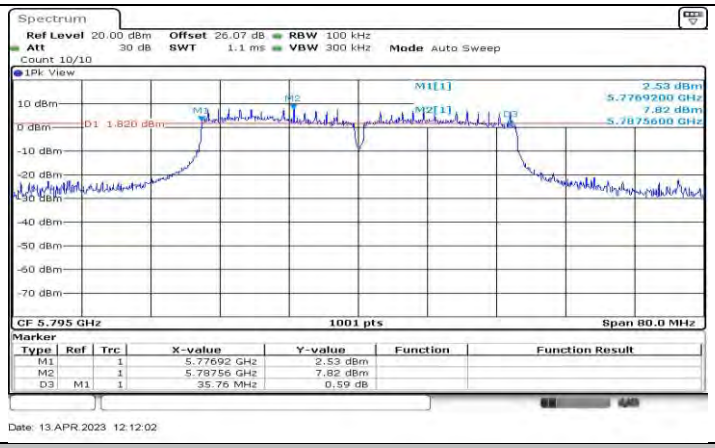
11N40MIMO_Ant1_5755



11N40MIMO_Ant2_5755



11N40MIMO_Ant1_5795



11N40MIMO_Ant2_5795

11.4. APPENDIX D: MAXIMUM CONDUCTED OUTPUT POWER

11.4.1. Test Result

Test Mode	Antenna	Channel	Power [dBm]	FCC Limit [dBm]	Verdict
11A	Ant1	5745	22.49	≤30.00	PASS
	Ant2	5745	23.53	≤30.00	PASS
	Ant1	5785	22.32	≤30.00	PASS
	Ant2	5785	23.65	≤30.00	PASS
	Ant1	5825	22.57	≤30.00	PASS
	Ant2	5825	22.75	≤30.00	PASS
11N20MIMO	Ant1	5745	20.12	≤30.00	PASS
	Ant2	5745	23.33	≤30.00	PASS
	total	5745	25.03	≤30.00	PASS
	Ant1	5785	21.84	≤30.00	PASS
	Ant2	5785	23.66	≤30.00	PASS
	total	5785	25.85	≤30.00	PASS
	Ant1	5825	21.92	≤30.00	PASS
	Ant2	5825	22.67	≤30.00	PASS
	total	5825	25.32	≤30.00	PASS
11N40MIMO	Ant1	5755	20.05	≤30.00	PASS
	Ant2	5755	23.50	≤30.00	PASS
	total	5755	25.12	≤30.00	PASS
	Ant1	5795	21.19	≤30.00	PASS
	Ant2	5795	23.46	≤30.00	PASS
	total	5795	25.48	≤30.00	PASS

Note: 1. Conducted Power=Meas. Level+ Correction Factor
2. The Duty Cycle Factor (refer to section 7.1) had already compensated to the test data.

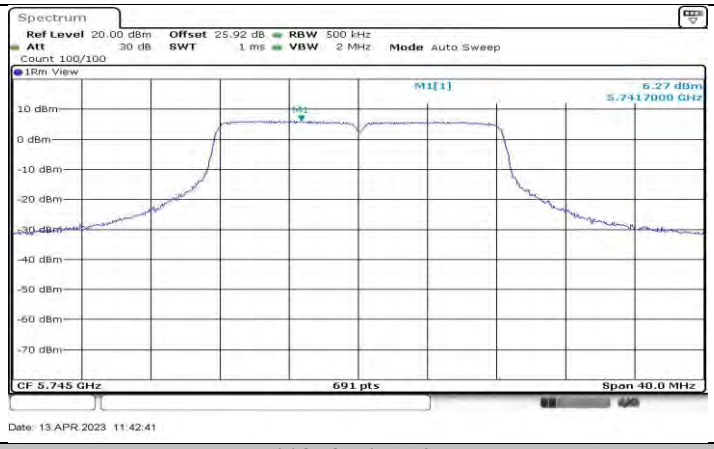
11.5. APPENDIX E: MAXIMUM POWER SPECTRAL DENSITY

11.5.1. Test Result

Test Mode	Antenna	Channel	Power [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5745	6.27	≤30.00	PASS
	Ant2	5745	7.5	≤30.00	PASS
	Ant1	5785	6.12	≤30.00	PASS
	Ant2	5785	7.06	≤30.00	PASS
	Ant1	5825	6.51	≤30.00	PASS
	Ant2	5825	6.15	≤30.00	PASS
11N20MIMO	Ant1	5745	3.81	≤30.00	PASS
	Ant2	5745	6.79	≤30.00	PASS
	total	5745	8.56	≤30.00	PASS
	Ant1	5785	5.12	≤30.00	PASS
	Ant2	5785	7.36	≤30.00	PASS
	total	5785	9.39	≤30.00	PASS
	Ant1	5825	5.3	≤30.00	PASS
	Ant2	5825	6.35	≤30.00	PASS
	total	5825	8.87	≤30.00	PASS
11N40MIMO	Ant1	5755	0.83	≤30.00	PASS
	Ant2	5755	3.97	≤30.00	PASS
	total	5755	5.69	≤30.00	PASS
	Ant1	5795	1.87	≤30.00	PASS
	Ant2	5795	4.72	≤30.00	PASS
	total	5795	6.54	≤30.00	PASS

Note: 1. The Duty Cycle Factor (refer to section 7.5) had already compensated to the test data.

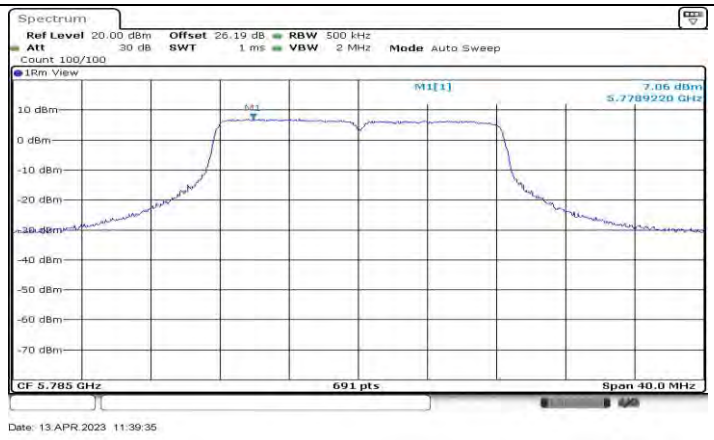
11.5.2. Test Graphs



11A_Ant1_5745

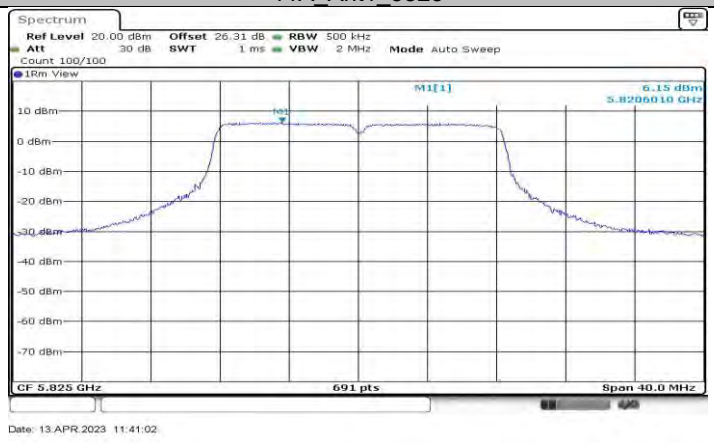
11A_Ant2_5745

11A_Ant1_5785

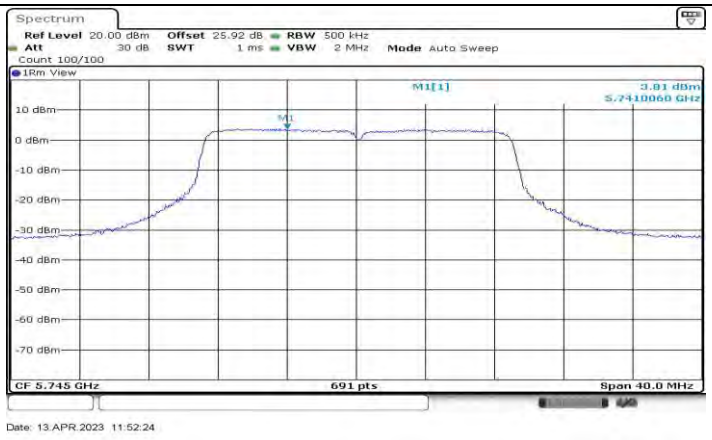


11A_Ant2_5785

11A_Ant1_5825



11A_Ant2_5825



11N20MIMO_Ant1_5745

11N20MIMO_Ant2_5745

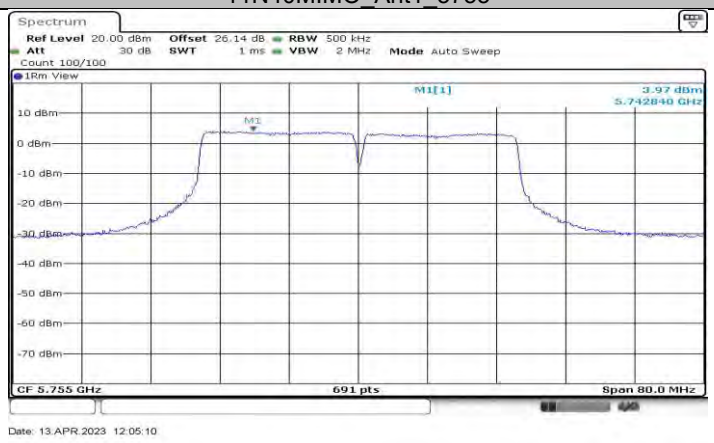
11N20MIMO_Ant1_5785

11N20MIMO_Ant2_5785

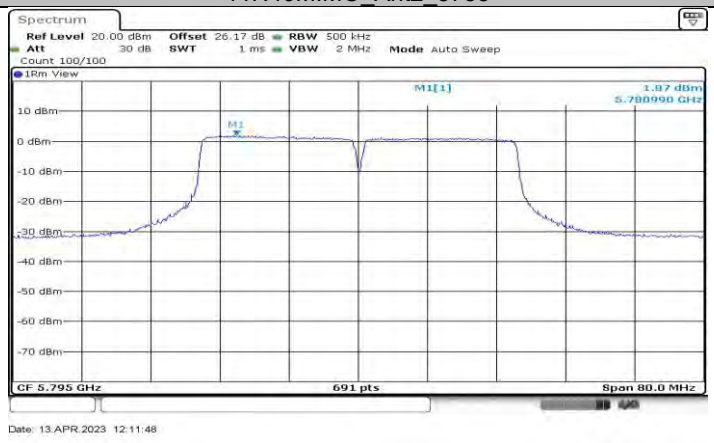
11N20MIMO_Ant1_5825

11N20MIMO_Ant2_5825

11N40MIMO_Ant1_5755



11N40MIMO_Ant2_5755



11N40MIMO_Ant1_5795

11N40MIMO_Ant2_5795

11.6. APPENDIX F: FREQUENCY STABILITY

11.6.1. Test Result

Frequency Error vs. Voltage									
802.11a:5745MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
TN	VL	5744.9774	-3.93	5744.9798	-3.52	5745.0026	0.46	5744.9909	-1.59
TN	VN	5744.9813	-3.26	5744.9996	-0.07	5745.0137	2.38	5745.0033	0.57
TN	VH	5745.0216	3.76	5744.9931	-1.20	5745.0071	1.24	5745.0198	3.44
Frequency Error vs. Temperature									
802.11a:5745MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
80	VN	5745.0128	2.23	5744.9975	-0.43	5745.0187	3.25	5744.9891	-1.89
70	VN	5745.0239	4.16	5745.0042	0.73	5745.0207	3.61	5745.0193	3.35
60	VN	5744.9800	-3.49	5744.9967	-0.58	5744.9965	-0.61	5745.0030	0.51
50	VN	5744.9847	-2.66	5745.0026	0.45	5744.9890	-1.92	5745.0116	2.01
40	VN	5745.0037	0.64	5745.0072	1.25	5745.0070	1.21	5745.0217	3.77
30	VN	5745.0087	1.52	5745.0094	1.63	5745.0175	3.05	5745.0053	0.93
20	VN	5744.9955	-0.79	5745.0021	0.37	5744.9841	-2.76	5745.0006	0.10
10	VN	5744.9914	-1.49	5744.9941	-1.03	5745.0118	2.06	5744.9904	-1.67
0	VN	5744.9873	-2.20	5745.0045	0.79	5744.9757	-4.23	5744.9918	-1.44
-10	VN	5744.9806	-3.37	5745.0093	1.62	5745.0093	1.63	5744.9806	-3.37

Note:
1. All antennas, test modes and test channels have been tested, only the worst data record in the report.
2. For the detail Test Conditions, please refer to section 7.5 TEST ENVIRONMENT.

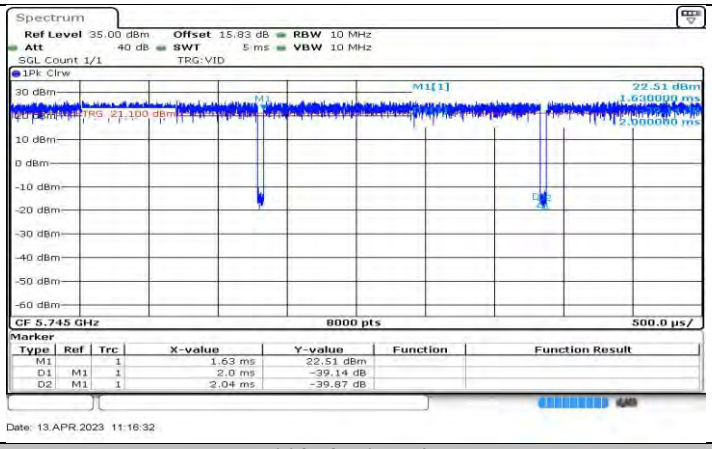
11.7. APPENDIX G: DUTY CYCLE

11.7.1. Test Result

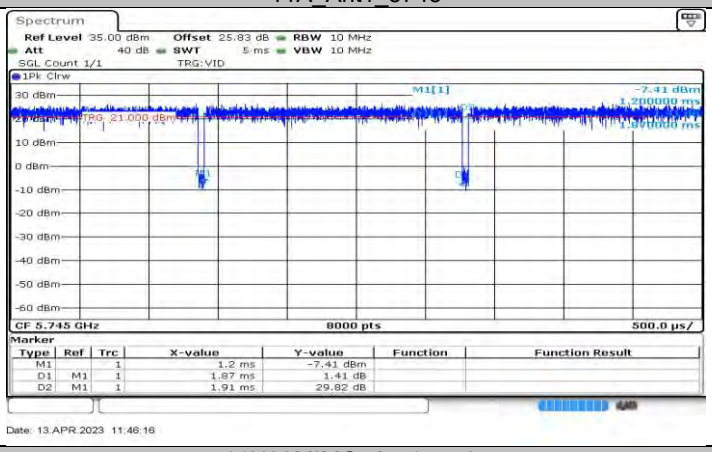
Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11A	2.00	2.04	0.9804	98.04	0.09	N/A	1
11N20MIMO	1.87	1.91	0.9791	97.91	0.09	0.53	1
11N40MIMO	0.91	0.95	0.9579	95.79	0.19	1.10	2

Note:
Duty Cycle Correction Factor=10log (1/x).
Where: x is Duty Cycle (Linear)
Where: T is On Time
If that calculated VBW is not available on the analyzer then the next higher value should be used.
If the EUT is configured to transmit with duty cycle ⩾ 98%, set VBW ⩽ RBW/100 (i.e., 10 kHz) but not less than 10 Hz.

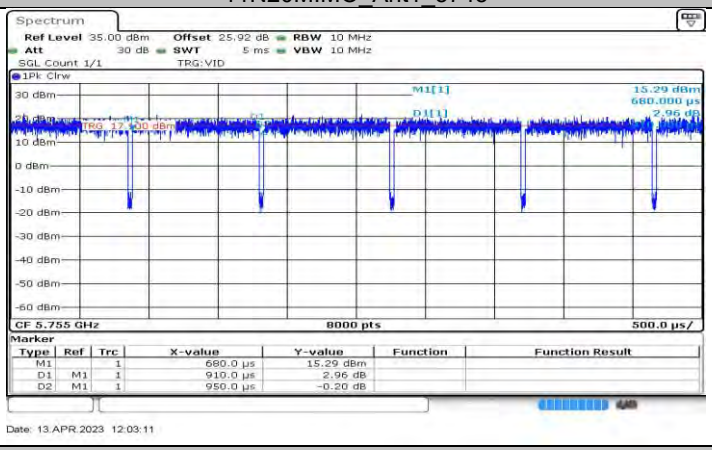
11.7.2. Test Graphs



11A_Ant1_5745



11N20MIMO_Ant1_5745



11N40MIMO_Ant1_5755

END OF REPORT