



**CFR 47 FCC PART 15 SUBPART E**

**TEST REPORT**

*For*

**Tablet**

**MODEL NUMBER: M081**

**REPORT NUMBER: 4790607923-RF-4**

**ISSUE DATE: October 28, 2022**

**FCC ID:2AAGE5081WNC**

*Prepared for*

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	October 28, 2022	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	N/A	FCC 15.407 (g)	Pass
Antenna Requirement	N/A	FCC 47 CFR Part 15.203/ 15.407(a)(1) (2),	Pass

\*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.

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# 1. ATTESTATION OF TEST RESULTS

## Applicant Information

Company Name: Chengdu Vantron Technology Co., Ltd.  
Address: No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, ChengDu, China

## Manufacturer Information

Company Name: Chengdu Vantron Technology Co., Ltd.  
Address: No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, ChengDu, China

## EUT Information

EUT Name: Tablet  
Model: M081  
Sample Received Date: September 21, 2022  
Sample Status: Normal  
Sample ID: NA  
Date of Tested: September 21, 2022 to October 28, 2022

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

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## 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, CFR 47 FCC Part 15, KDB 789033 D02 v02r01, KDB414788 D01 Radiated Test Site v01, and KDB 905462 D06 802 11 Channel Plans New Rules v02.

## 3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p><b>A2LA (Certificate No.: 4102.01)</b>          UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p><b>FCC (FCC Designation No.: CN1187)</b>          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</p> <p><b>ISED (Company No.: 21320)</b>          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.</p> <p><b>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)</b>          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</p>
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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 26 GHz)	5.78 dB (1 GHz ~ 18 GHz)
	5.23 dB (18 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	Tablet
Model	M081

Frequency Range:	5180 MHz to 5240 MHz 5 745 MHz to 5 825 MHz
Radio Technology	IEEE802.11a20 IEEE802.11n HT20/n HT40 IEEE802.11ac VHT20/VHT40/VHT80
Type of Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)
Normal Test Voltage:	AC 120 V, 60 Hz

### 5.2. CHANNEL LIST

UNII-1 (For Bandwidth=20MHz)		UNII-1 (For Bandwidth=40MHz)		UNII-1 (For Bandwidth=80MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

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-1 BAND(FCC&ISED)

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)	Max Average EIRP (dBm)
a	5150 ~ 5250	16.98	18.63
n HT20		16.21	17.86
n HT40		13.80	15.45
ac VHT80		12.48	14.13

#### UNII-3 BAND(FCC&ISED)

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)
a	5725 ~ 5850	15.48
n HT20		14.84
n HT40		14.25
ac VHT80		11.95

### 5.4. TEST CHANNEL CONFIGURATION

#### UNII-1 Test Channel Configuration

IEEE Std.	Test Channel Number	Frequency
802.11a	CH 36(Low Channel), CH 40(MID Channel), CH 48(High Channel)	5180 MHz, 5200 MHz, 5240 MHz
802.11n HT20	CH 36(Low Channel), CH 40(MID Channel), CH 48(High Channel)	5180 MHz, 5200 MHz, 5240 MHz
802.11n HT40	CH 38(Low Channel), CH 46(High Channel)	5190 MHz, 5230 MHz
802.11ac VHT80	CH 42(Low Channel)	5210 MHz

#### 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
802.11ac VHT80	CH 155(Low Channel)	5775 MHz

**5.5. THE WORSE CASE POWER SETTING PARAMETER**

The Worse Case Power Setting Parameter	
Test Software	RF Test Tool

## UNII-1

Mode	Rate	Channel	Soft set value
			ANT 1
11a	6M	36	63
		40	62
		48	64
11n HT20	MCS0	36	61
		40	62
		48	64
11n HT40	MCS0	38	56
		46	60
11ac VHT20	MCS0	36	Cover by 11n HT20
		40	
		48	
11ac VHT40	MCS0	38	Cover by 11n HT40
		46	
11ac VHT80	MCS0	42	56

## UNII-3

Mode	Rate	Channel	Soft set value
			ANT1
11a	6M	149	61
		157	60
		165	58
11n HT20	MCS0	149	57
		157	57
		165	57
11n HT40	MCS0	151	60
		159	60
11ac VHT20	MCS0	149	Cover by 11n HT20
		157	
		165	
11ac VHT40	MCS0	151	Cover by 11n HT40
		159	
11ac VHT80	MCS0	155	52



## 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 5.3.

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

802.11ac VHT20 mode: MCS0

802.11ac VHT40 mode: MCS0

802.11ac VHT80 mode: MCS0

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

802.11ac VHT20 and VHT40 mode are different from 802.11nHT20 and HT40 only in control messages, so for these 4 modes, only 802.11n HT20 and 802.11n HT40 worst case power modes radiated emission test data are recorded in the report.



### 5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna No.	Frequency Band	Antenna Type	Max Antenna Gain (dBi)
1	5150-5250	FPC Antenna	1.65
1	5725-5875	FPC Antenna	2.32

IEE Std. 802.11	Transmit and Receive Mode	Description
802.11a	<input checked="" type="checkbox"/> 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11n HT20	<input checked="" type="checkbox"/> 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11n HT40	<input checked="" type="checkbox"/> 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11ac VHT20	<input checked="" type="checkbox"/> 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11ac VHT40	<input checked="" type="checkbox"/> 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11ac VHT80	<input checked="" type="checkbox"/> 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
Note: 1. BT&WLAN 2.4G, BT & WLAN 5G, WLAN 2.4G & WLAN 5G can't transmit simultaneously (Declared by client)		

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

## 5.7. SUPPORT UNITS FOR SYSTEM TEST

### SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remark
1	Earphone	Apple	/	/

### I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	/	/	1.0	/

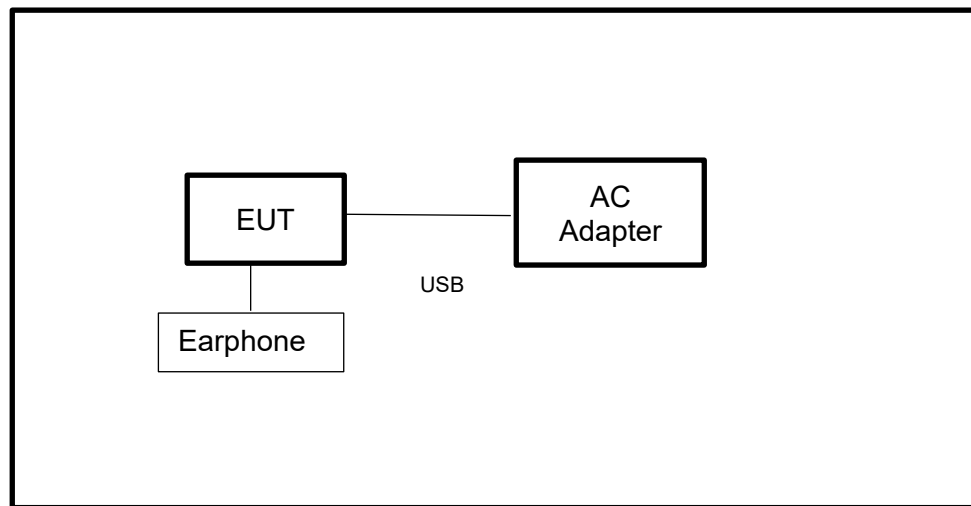
### ACCESSORIES

Item	Accessory	Brand Name	Model Name	Description
1	AC Adapter	TEKA	TEKA-TC050300US	Input: 100-240V~, 50/60Hz, 0.5A Max Output: DC 5V, 3A

### 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**

<b>R&amp;S TS 8997 Test System</b>					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Power sensor, Power Meter	R&S	OSP120	100921	Apr.02,2022	Apr.01,2023
Vector Signal Generator	R&S	SMBV100A	261637	Oct.30, 2021	Oct.29, 2022
Signal Generator	R&S	SMB100A	178553	Oct.30, 2021	Oct.29, 2022
Signal Analyzer	R&S	FSV40	101118	Oct.30, 2021	Oct.29, 2022
<b>Software</b>					
Description	Manufacturer	Name		Version	
For R&S TS 8997 Test System	Rohde & Schwarz	EMC 32		10.60.10	
<b>Tonsend RF Test System</b>					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Wideband Radio Communication Tester	R&S	CMW500	155523	Oct.30, 2021	Oct.29, 2022
PXA Signal Analyzer	Keysight	N9030A	MY55410512	Oct.30, 2021	Oct.29, 2022
MXG Vector Signal Generator	Keysight	N5182B	MY56200284	Oct.30, 2021	Oct.29, 2022
MXG Vector Signal Generator	Keysight	N5172B	MY56200301	Oct.30, 2021	Oct.29, 2022
DC power supply	Keysight	E3642A	MY55159130	Oct.30, 2021	Oct.29, 2022
Temperature & Humidity Chamber	SANMOOD	SG-80-CC-2	2088	Nov.20,2020	Nov.19,2022
<b>Software</b>					
Description	Manufacturer	Name		Version	
Tonsend SRD Test System	Tonsend	JS1120-3 RF Test System		2.6.77.0518	



Conducted Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	R&S	ESR3	101961	Oct.30, 2021	Oct.29, 2022
Two-Line V-Network	R&S	ENV216	101983	Oct.30, 2021	Oct.29, 2022
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Oct.30, 2021	Oct.29, 2022
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.30, 2021	Oct.29, 2022
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	Aug.02, 2021	Aug.01, 2024
Preamplifier	HP	8447D	2944A09099	Oct.30, 2021	Oct.29, 2022
EMI Measurement Receiver	R&S	ESR26	101377	Oct.30, 2021	Oct.29, 2022
Horn Antenna	TDK	HRN-0118	130940	July 20, 2021	July 19, 2024
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct.30, 2021	Oct.29, 2022
Horn Antenna	Schwarzbeck	BBHA9170	697	July 20, 2021	July 19, 2024
Preamplifier	TDK	PA-02-2	TRS-307-00003	Oct.31, 2021	Oct.30, 2022
Preamplifier	TDK	PA-02-3	TRS-308-00002	Oct.31, 2021	Oct.30, 2022
Loop antenna	Schwarzbeck	1519B	00008	Dec.14, 2021	Dec.13, 2024
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Oct.31, 2021	Oct.30, 2022
Preamplifier	Mini-Circuits	ZX60-83LN-S+	SUP01201941	Oct.31, 2021	Oct.30, 2022
High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Oct.31, 2021	Oct.30, 2022
Highpass Filter	Wainwright	WHKX10-5850-6500-1800-40SS	4	Oct.31, 2021	Oct.30, 2022
Band Reject Filter	Wainwright	WRCJV12-5695-5725-5850-5880-40SS	4	Oct.31, 2021	Oct.30, 2022
Band Reject Filter	Wainwright	WRCJV20-5120-5150-	2	Oct.31, 2021	Oct.30, 2022





		5350-5380-60SS			
Band Reject Filter	Wainwright	WRCJV20-5440-5470-5725-5755-60SS	1	Oct.31, 2021	Oct.30, 2022
Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	4	Oct.31, 2021	Oct.30, 2022
Band Reject Filter	Wainwright	WRCD5-1879-1879.85-1880.15-1881-40SS	1	Oct.31, 2021	Oct.30, 2022
Notch Filter	Wainwright	WHJ10-882-980-7000-40SS	1	Oct.31, 2021	Oct.30, 2022
<b>Software</b>					
Description			Manufacturer	Name	Version
Test Software for Radiated Emissions			Farad	EZ-EMC	Ver. UL-3A1

<b>Other Instrument</b>					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Temperature humidity probe	OMEGA	ITHX-SD-5	18470007	Nov. 4, 2021	Nov. 3, 2022
Barometer	Yiyi	Baro	N/A	Nov. 15, 2021	Nov. 14, 2022
Attenuator	Agilent	8495B	2814a12853	Oct.31, 2021	Oct.30, 2022

## 7. ANTENNA PORT TEST RESULTS

### 7.1. ON TIME AND DUTY CYCLE

#### LIMITS

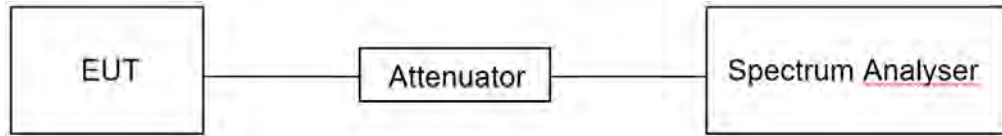
None; for reporting purposes only.

#### 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  $RBW \geq EBW$  if possible; otherwise, set RBW to the largest available value. Set  $VBW \geq RBW$ . 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  $T \leq 16.7$  microseconds.)

#### TEST SETUP



#### TEST ENVIRONMENT

Temperature	25°C	Relative Humidity	50%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V 60Hz

#### TEST RESULTS

Please refer to section "Test Data" - Appendix H

## 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
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 ISSED)

### 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: $\geq 3 \times \text{RBW}$ For 26 dB Bandwidth: $> 3 \times \text{RBW}$ For 99 % Bandwidth: $> 3 \times \text{RBW}$
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 =  $(5725 - (5720 - (21.00/2))) = 15.50 \text{ MHz}$

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

### **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

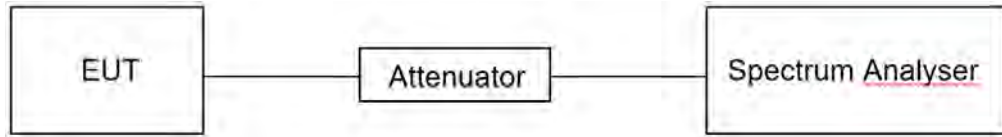
FL: 5711.76 MHz

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°C	Relative Humidity	50%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V 60Hz

**TEST RESULTS**

Please refer to section "Test Data" - Appendix A1&A2&A3

### 7.3. CONDUCTED OUTPUT POWER

#### LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	<input type="checkbox"/> Outdoor Access Point: 1 W (30 dBm) <input type="checkbox"/> Indoor Access Point: 1 W (30 dBm) <input type="checkbox"/> Fixed Point-To-Point Access Points: 1 W (30 dBm) <input checked="" type="checkbox"/> Client Devices: 250 mW (24 dBm)	5150 ~ 5250
	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:

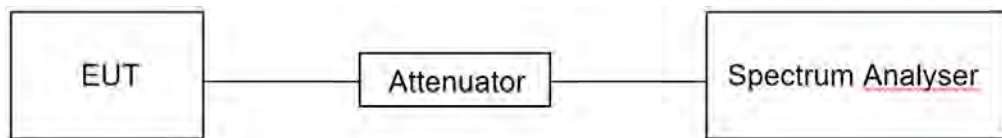
- a. The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
- b. At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
- c. The integration period of the power meter exceeds the repetition period of the transmitted signal 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°C	Relative Humidity	50%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V 60Hz



**TEST RESULTS**

Please refer to section "Test Data" - Appendix B

## 7.4. POWER SPECTRAL DENSITY

### LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	<input type="checkbox"/> Outdoor Access Point: 17 dBm/MHz <input type="checkbox"/> Indoor Access Point: 17 dBm/MHz <input type="checkbox"/> Fixed Point-To-Point Access Points: 17 dBm/MHz <input checked="" type="checkbox"/> Client Devices: 11 dBm/MHz	5150 ~ 5250
	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	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

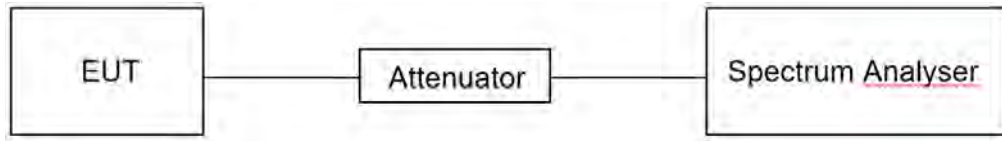
For U-NII-3:

Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	$\geq 3 \times \text{RBW}$
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°C	Relative Humidity	50%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V 60Hz

### TEST RESULTS

Please refer to section "Test Data" - Appendix C



## 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 0 °C ~ 40 °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:

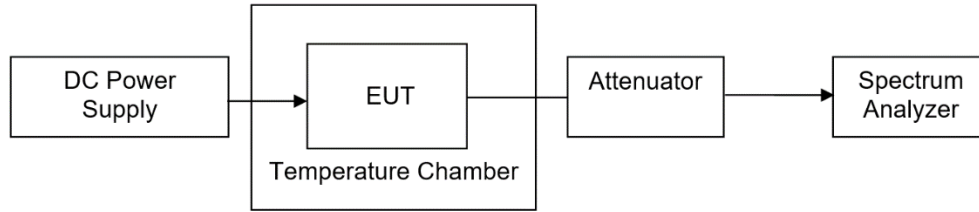
Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	10 kHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

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 <sub>N</sub> (Normal Temperature): 25.1 °C	T <sub>L</sub> (Low Temperature): 0 °C
		T <sub>H</sub> (High Temperature): 40 °C
Supply Voltage	V <sub>N</sub> (Normal Voltage): AC 120 V, 60 Hz	V <sub>L</sub> (Low Voltage): AC 102 V
		V <sub>H</sub> (High Voltage): AC 138 V

**TEST SETUP**



**TEST ENVIRONMENT**

Temperature	25°C	Relative Humidity	50%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V 60Hz

**TEST RESULTS**

Please refer to section "Test Data" - Appendix D



## 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
<sup>1</sup> 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	( <sup>2</sup> )
13.36-13.41			

Note: <sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup>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)
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  $377\Omega$ . 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.

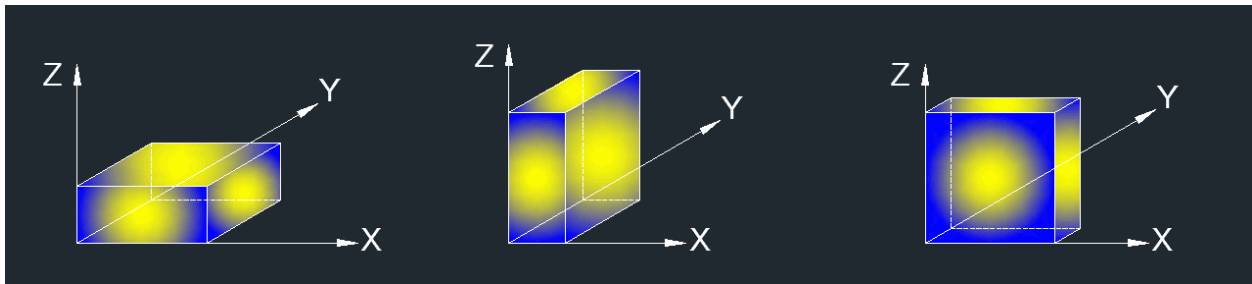
Above 1 GHz

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.

Note 2: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

For Band edge note:

1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV 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 and channels have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission 1GHz-7GHz note:

- Note:
1. Measurement = Reading Level + Correct Factor.
  2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV 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 and channels have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission 7GHz-18GHz note:

- Note:
1. Measurement = Reading Level + Correct Factor.
  2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV 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 and channels have been tested, only the worst data was recorded in the report.



For Radiate Spurious emission 9kHz-30MHz note:

Note: 1. Measurement = Reading Level + Correct Factor (dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5).

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV 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 and channels have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission 18GHz-26GHz note:

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. All modes and channels have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission 26GHz-40GHz note:

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. All modes and channels have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission 30MHz-1GHz note:

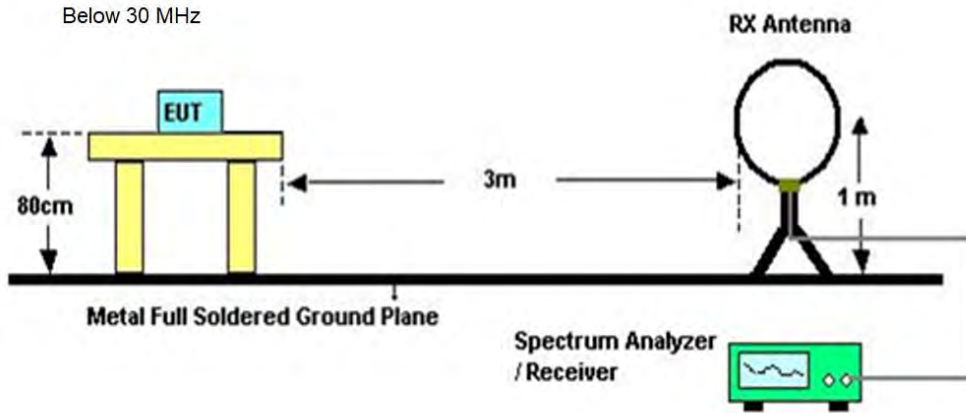
1. Result Level = Read Level + Correct Factor.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

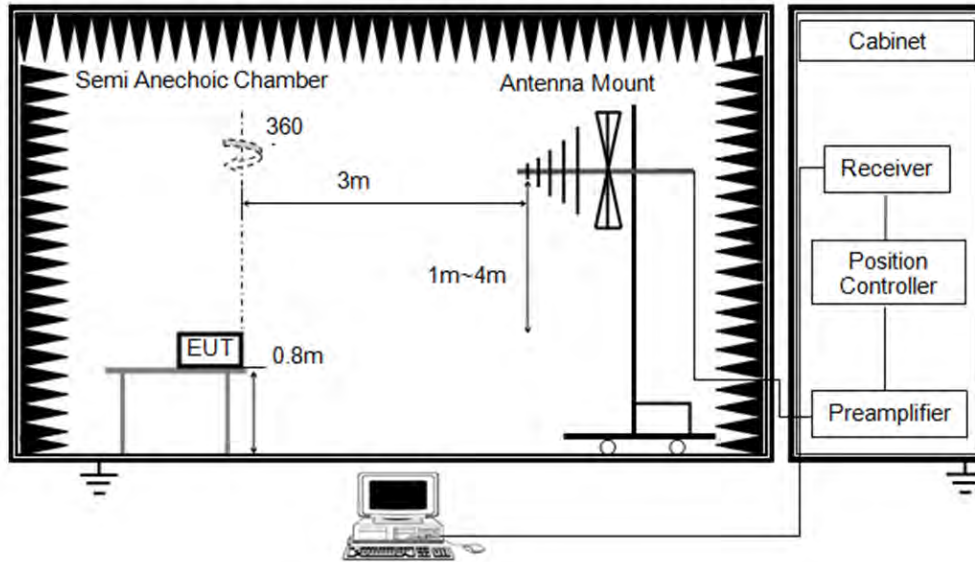
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

4. All modes and channels have been tested, only the worst data was recorded in the report.

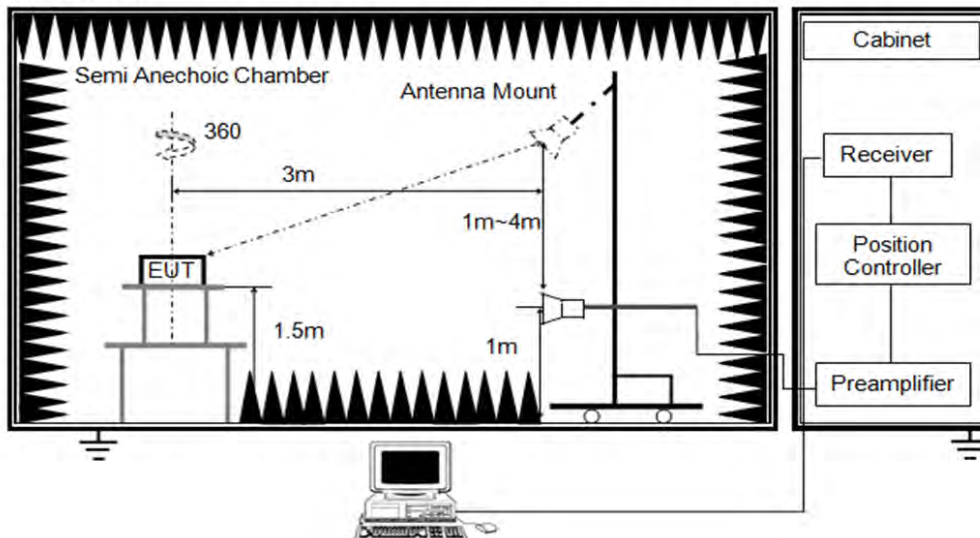
**TEST SETUP**



Below 1 GHz and above 30 MHz



Above 1 GHz





**TEST ENVIRONMENT**

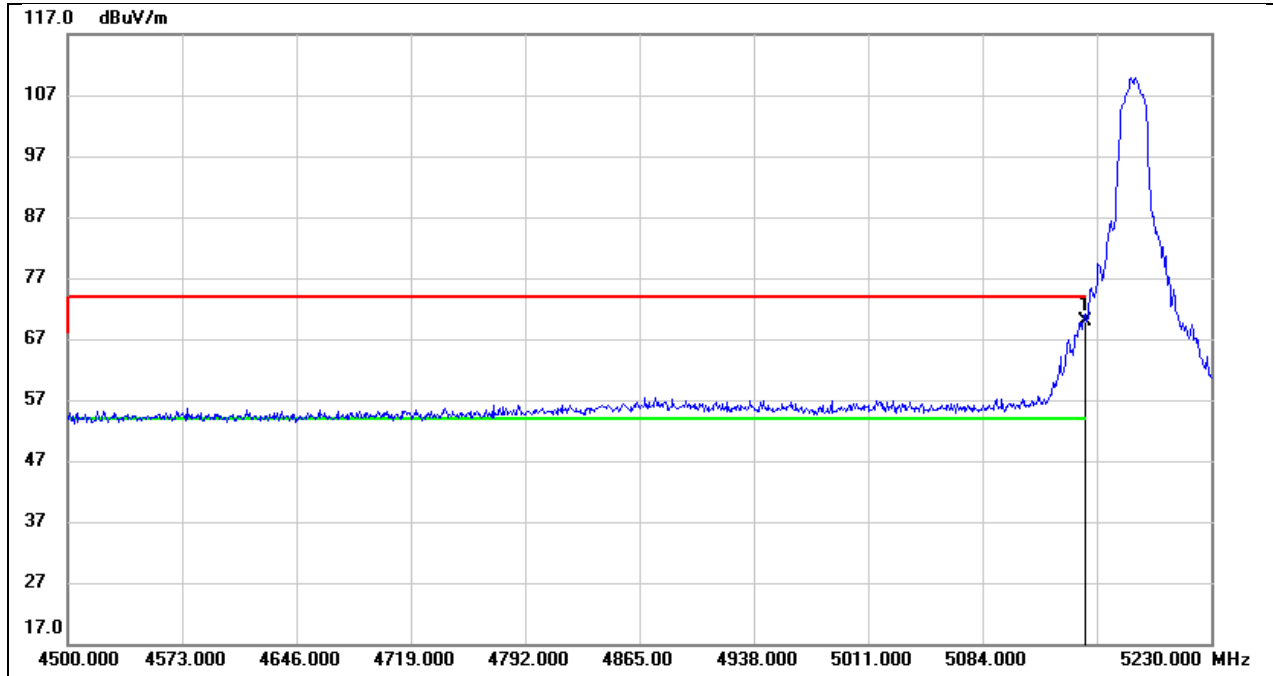
Temperature	25.3°C	Relative Humidity	61%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V 60Hz

**TEST RESULTS**



### 8.1. RESTRICTED BANDEDGE

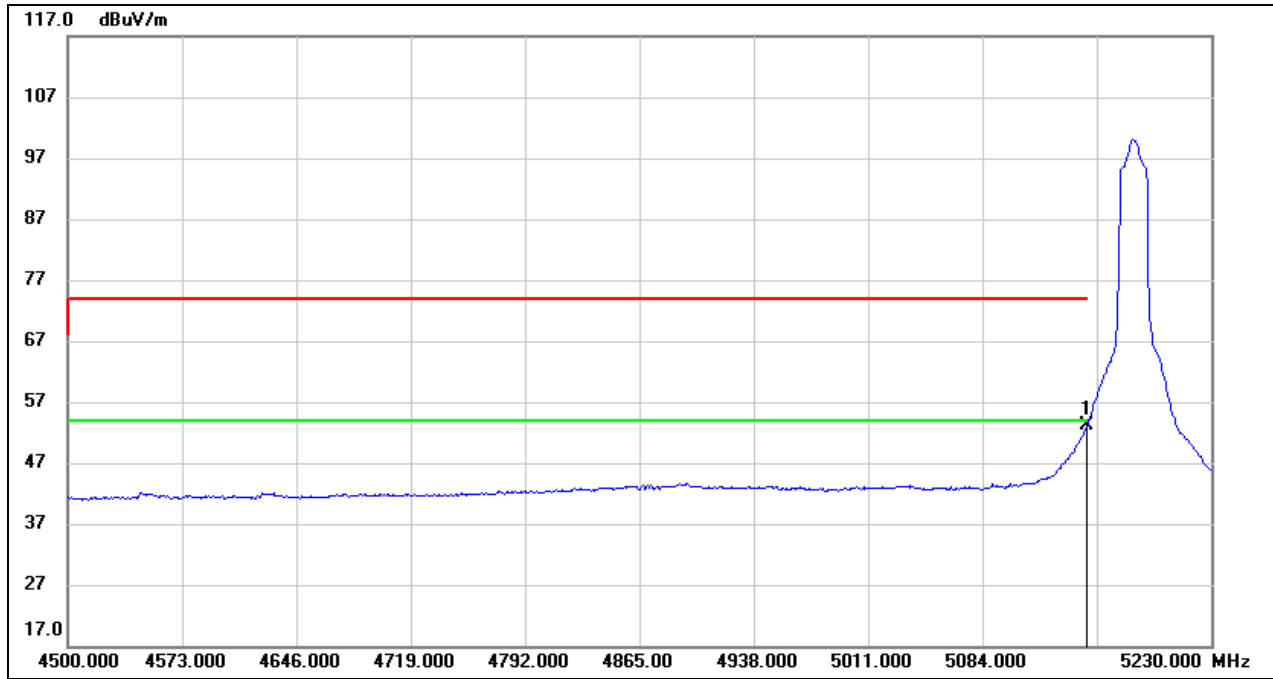
Test Mode:	802.11a 20 PK	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	29.65	40.27	69.92	74.00	-4.08	peak



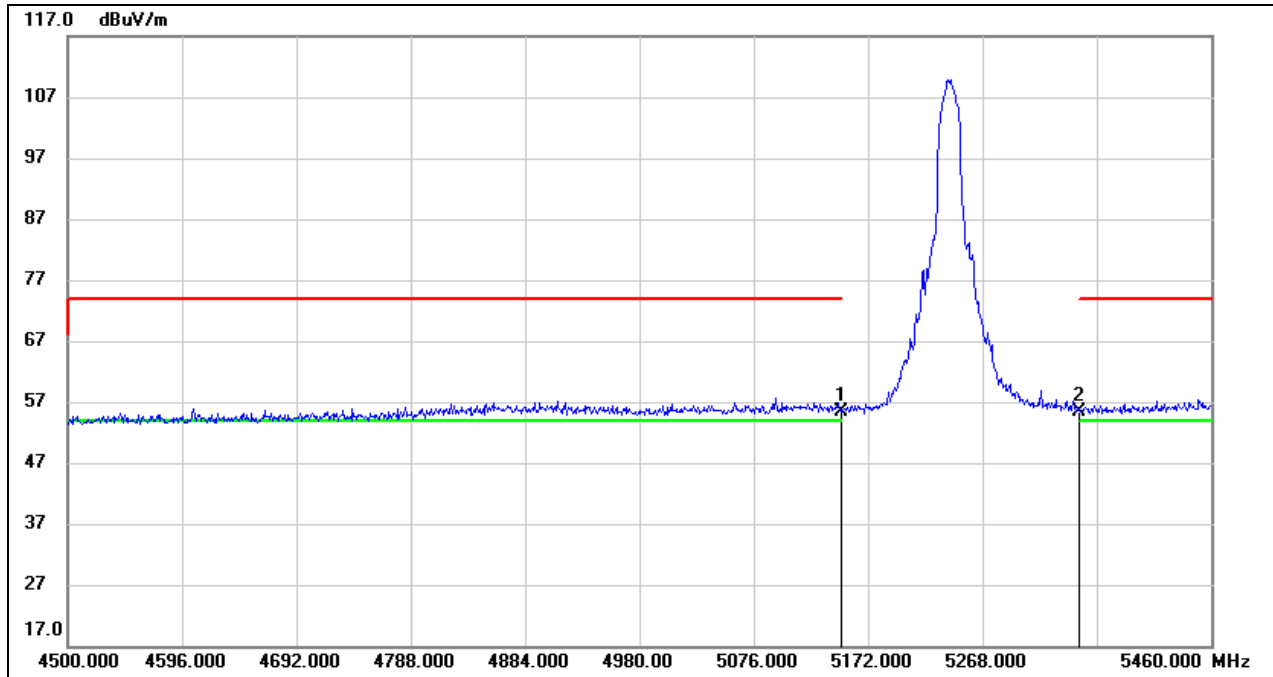
Test Mode:	802.11a 20 AV	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	12.76	40.27	53.03	54.00	-0.97	AVG



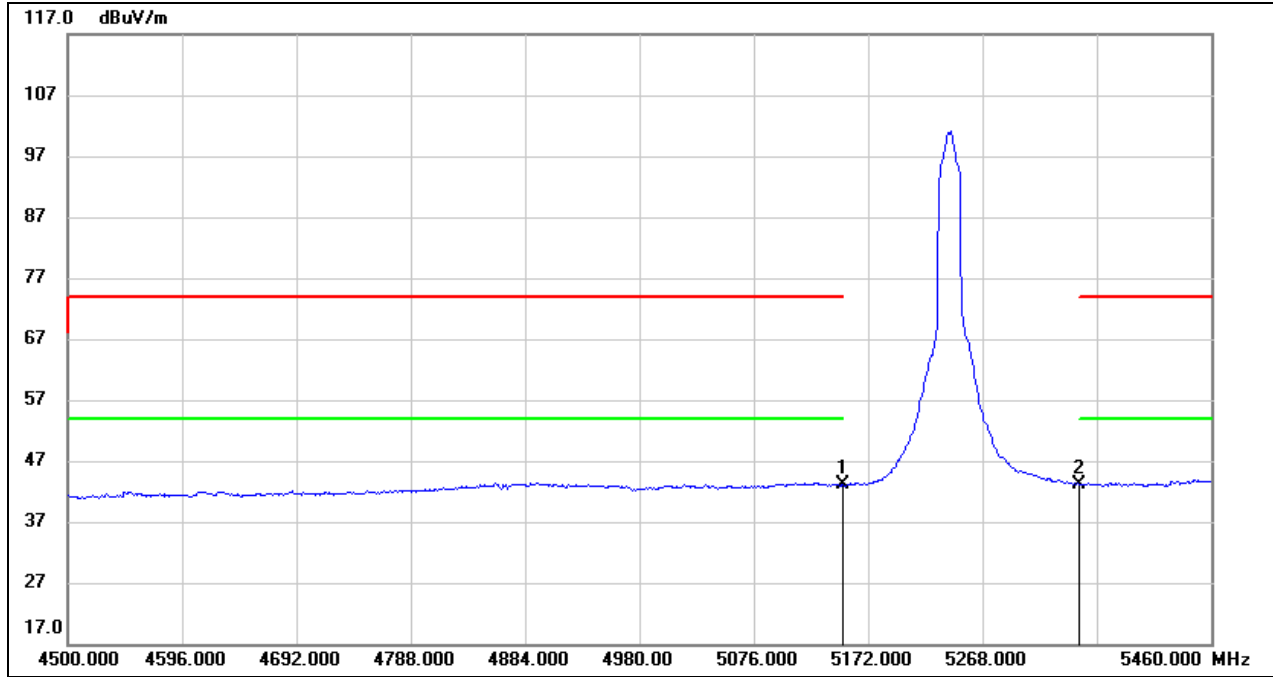
Test Mode:	802.11a 20 PK	Channel:	5240
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	15.13	40.27	55.40	74.00	-18.60	peak
2	5350.000	14.96	40.49	55.45	74.00	-18.55	peak



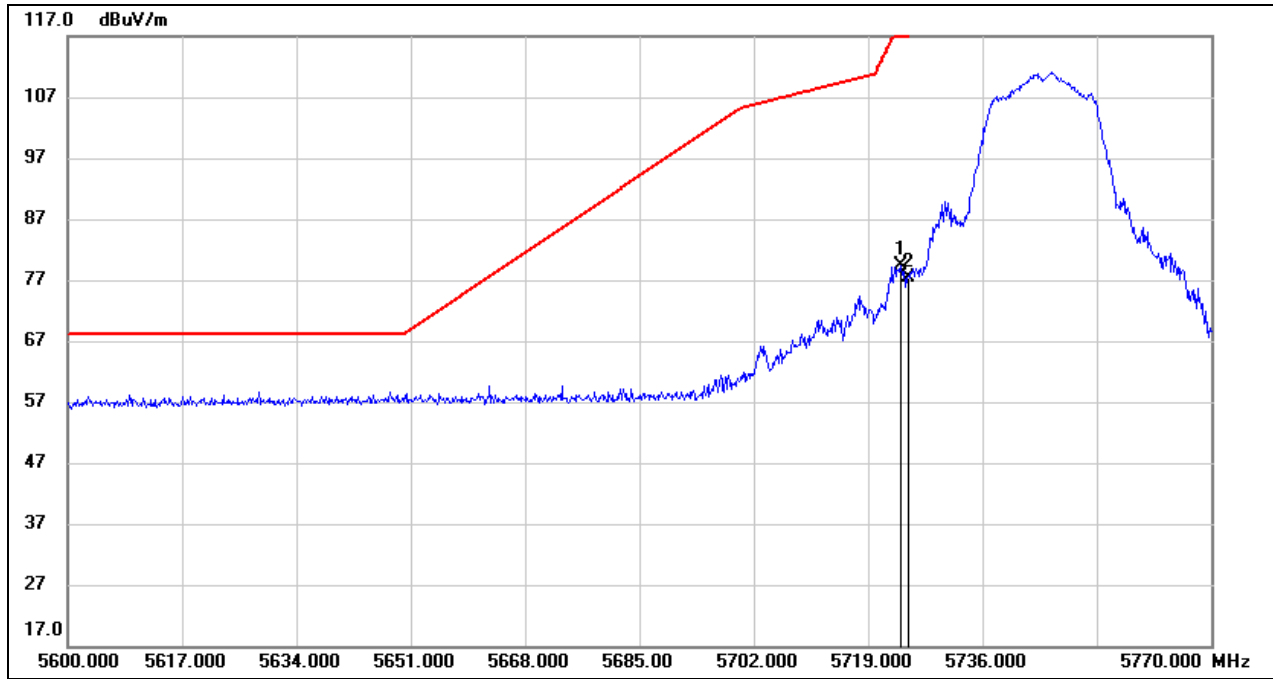
Test Mode:	802.11a 20 AV	Channel:	5240
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	2.80	40.27	43.07	54.00	-10.93	AVG
2	5350.000	2.65	40.49	43.14	54.00	-10.86	AVG



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

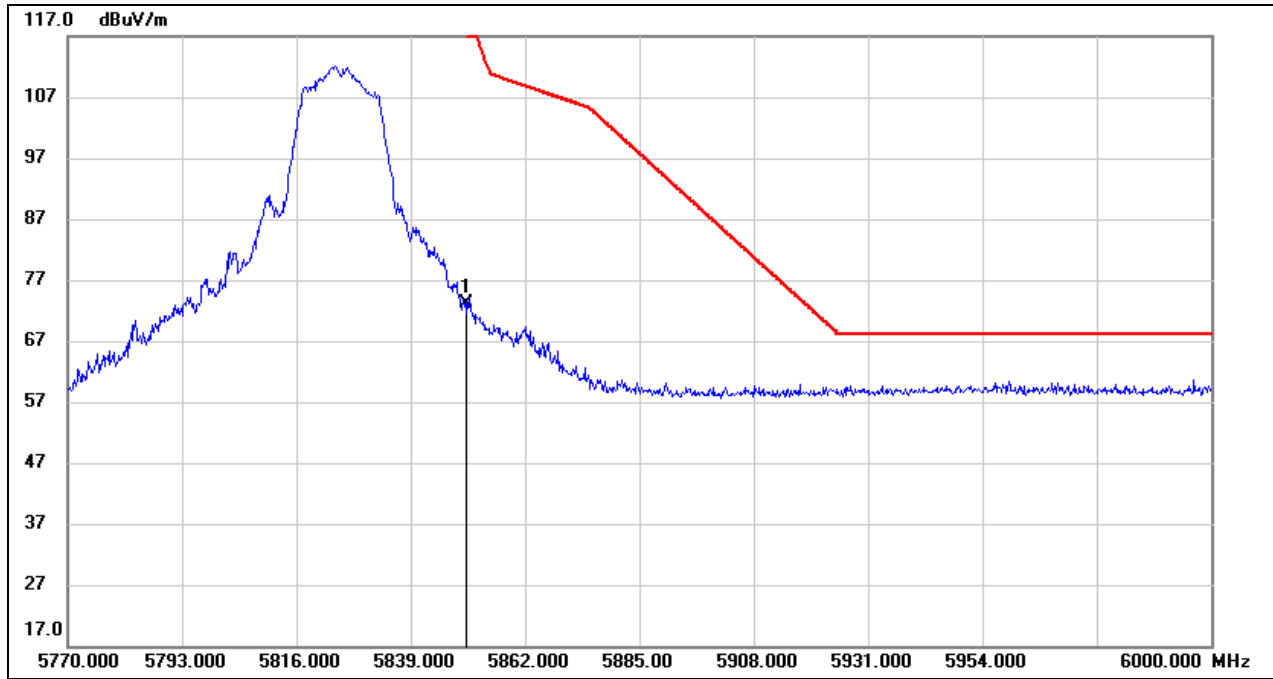


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5723.760	38.19	41.26	79.45	119.37	-39.92	peak
2	5725.000	36.10	41.27	77.37	122.20	-44.83	peak





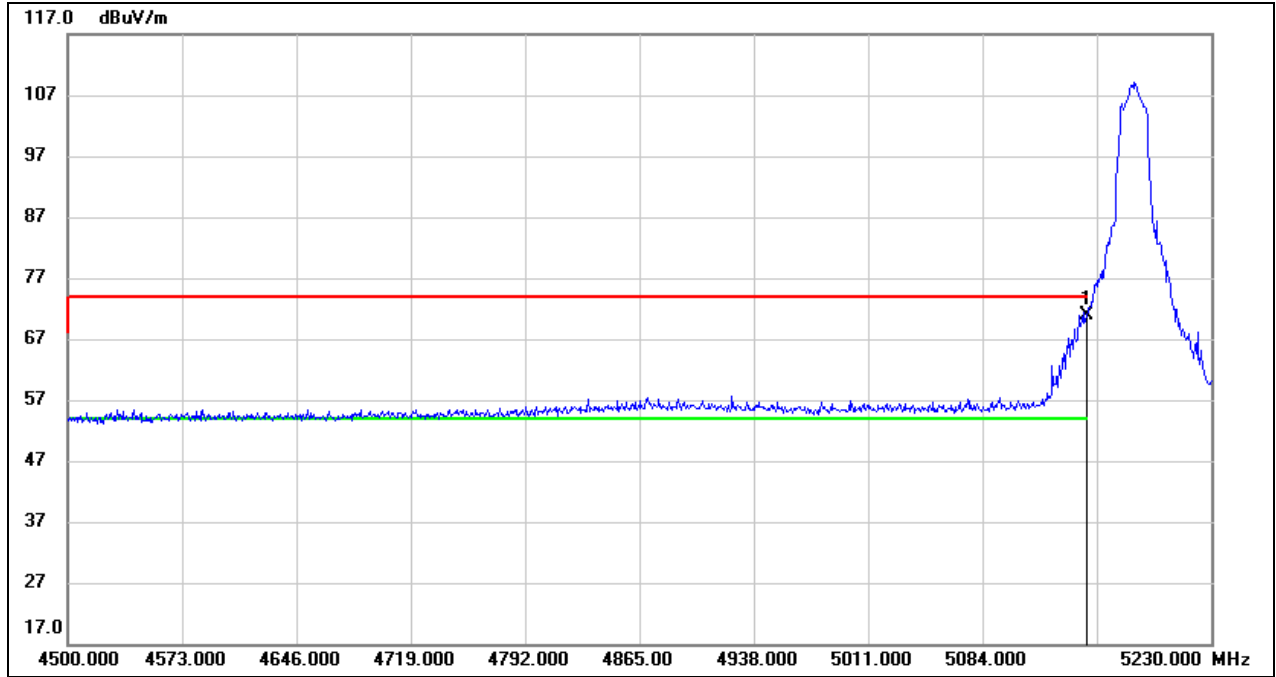
Test Mode:	802.11a 20 PK	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	31.41	41.60	73.01	122.20	-49.19	peak



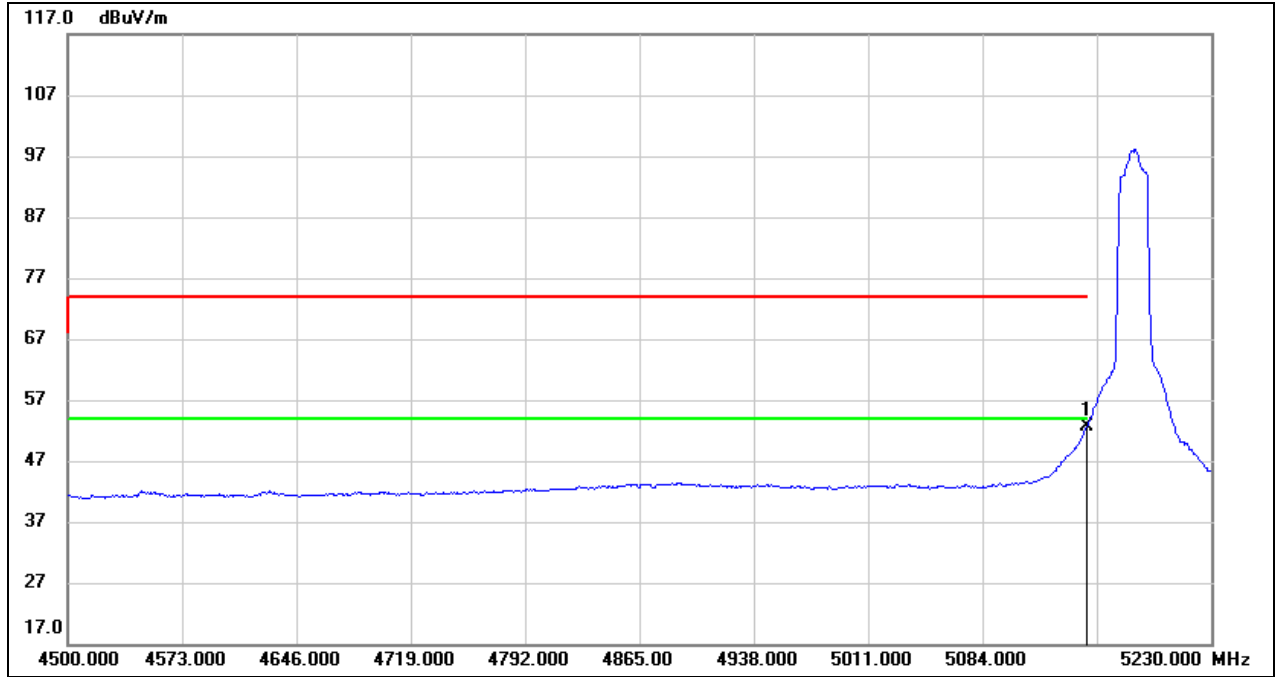
Test Mode:	802.11n HT20 PK	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	30.67	40.27	70.94	74.00	-3.06	peak



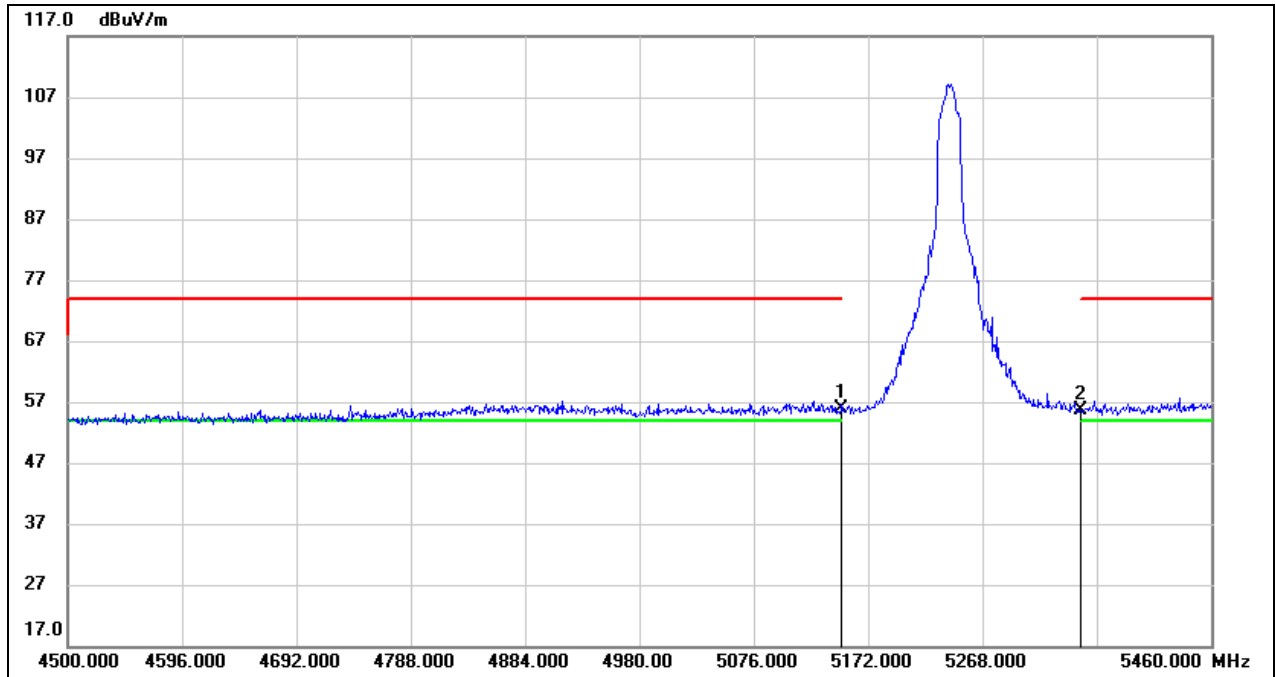
Test Mode:	802.11n HT20 AV	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	12.39	40.27	52.66	54.00	-1.34	AVG



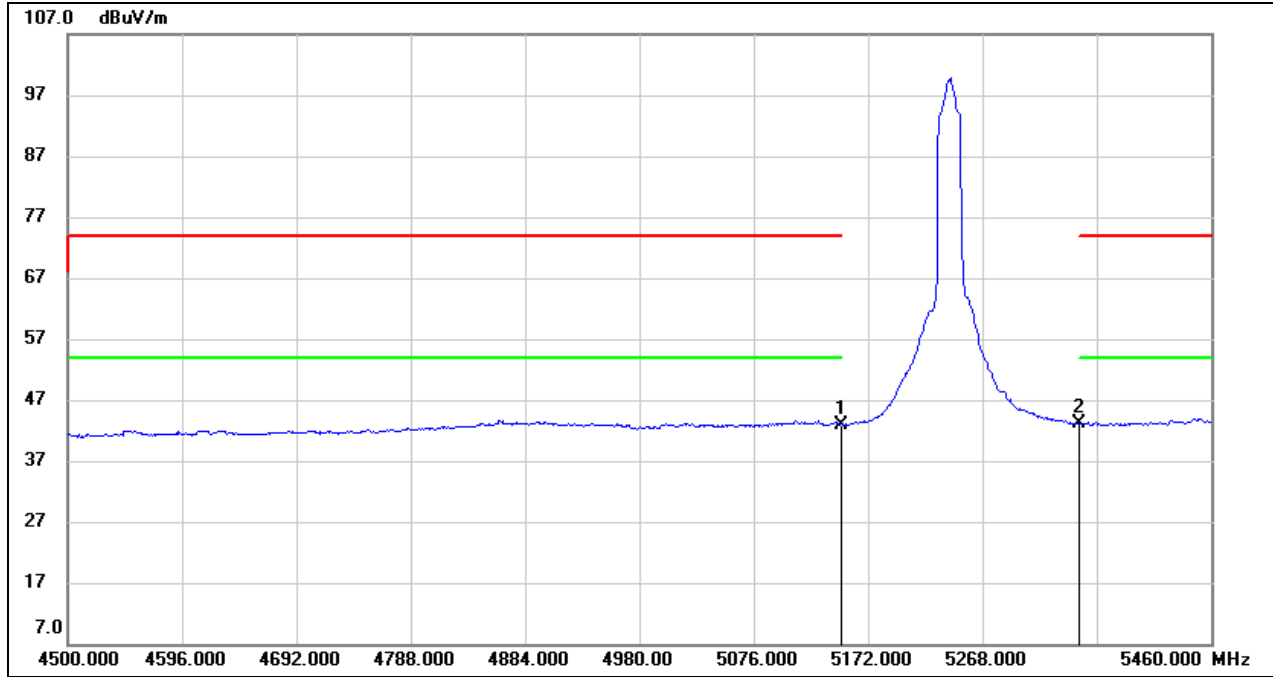
Test Mode:	802.11n HT20 PK	Channel:	5240
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	15.51	40.27	55.78	74.00	-18.22	peak
2	5350.000	15.15	40.49	55.64	74.00	-18.36	peak



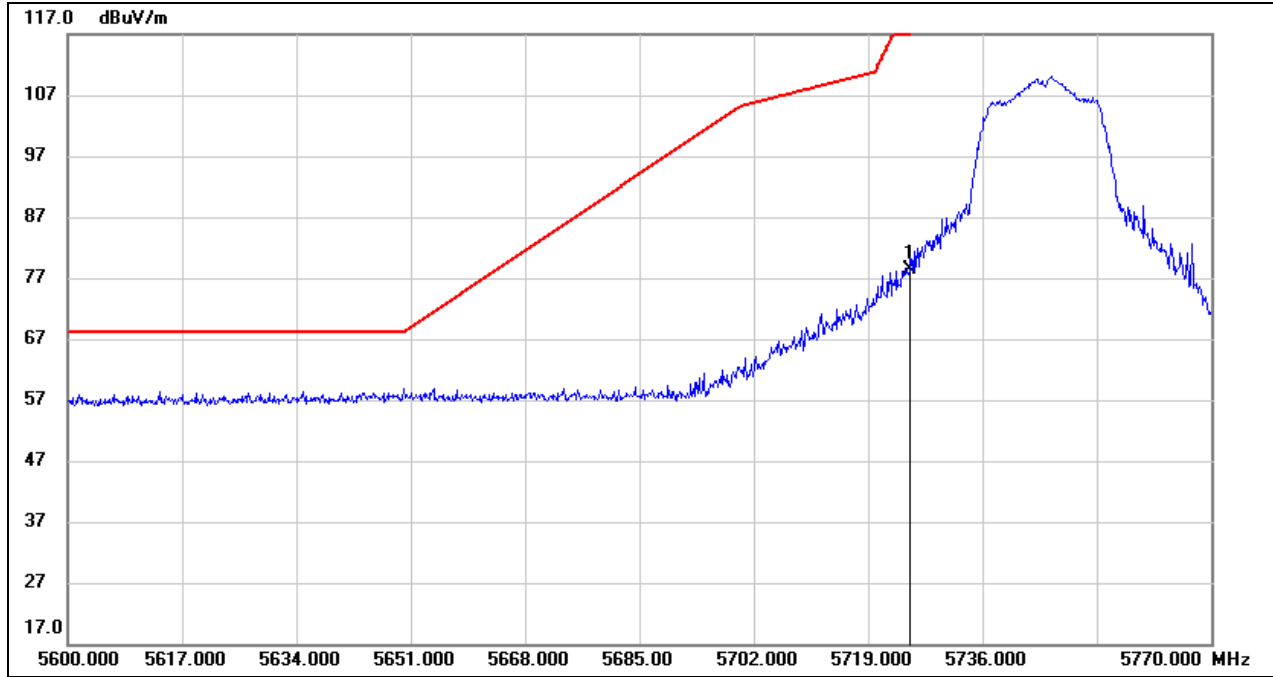
Test Mode:	802.11n HT20 AV	Channel:	5240
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	2.71	40.27	42.98	54.00	-11.02	AVG
2	5350.000	2.64	40.49	43.13	54.00	-10.87	AVG



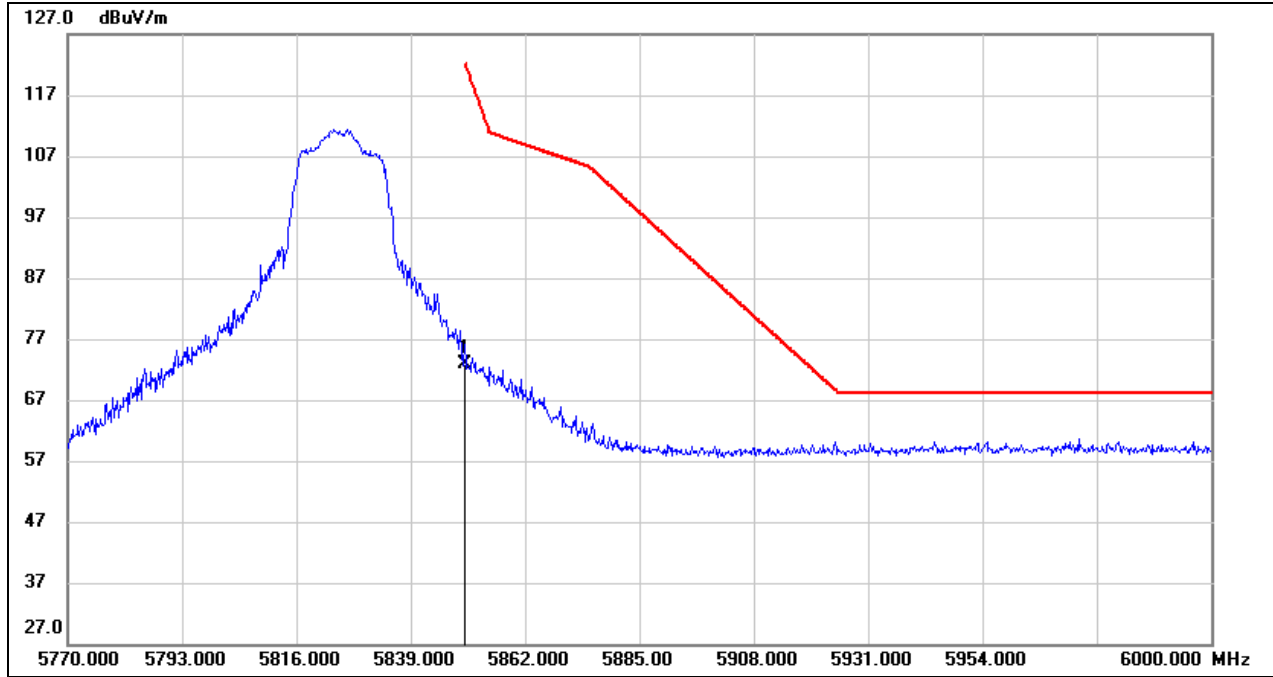
Test Mode:	802.11n HT20 PK	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5725.000	37.13	41.27	78.40	122.20	-43.80	peak



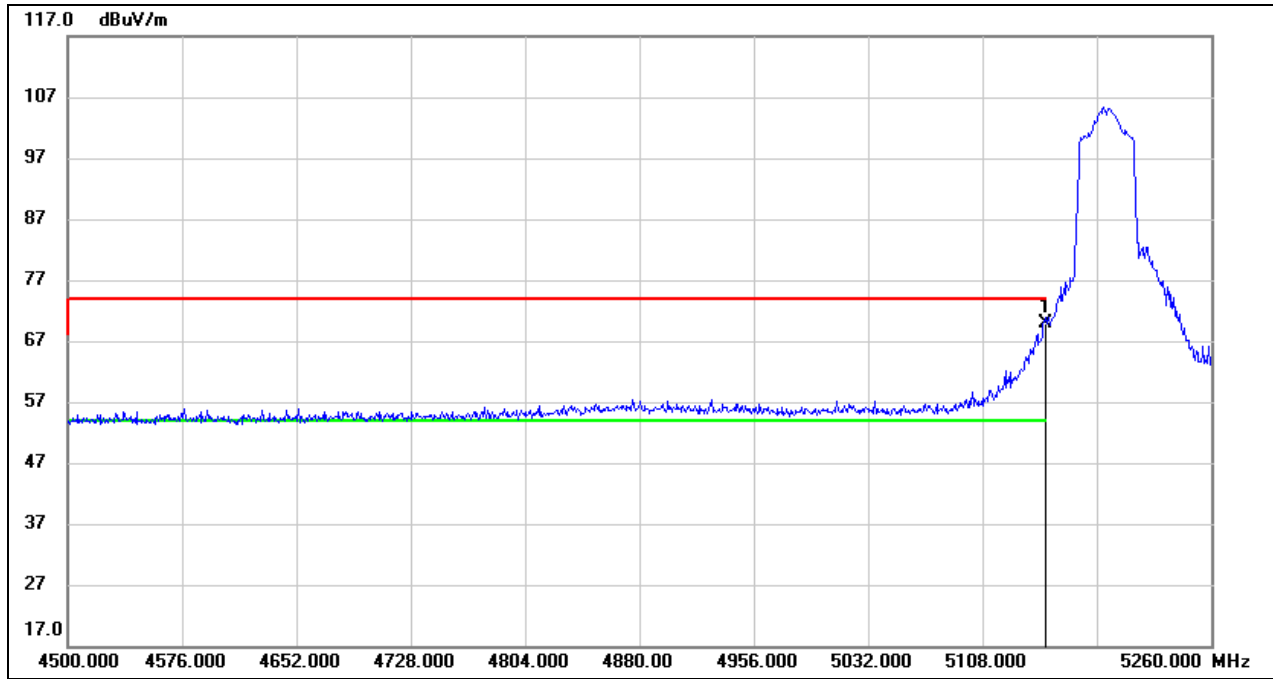
Test Mode:	802.11n HT20 AV	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	31.17	41.60	72.77	122.20	-49.43	peak



Test Mode:	802.11n HT40 PK	Channel:	5190
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz

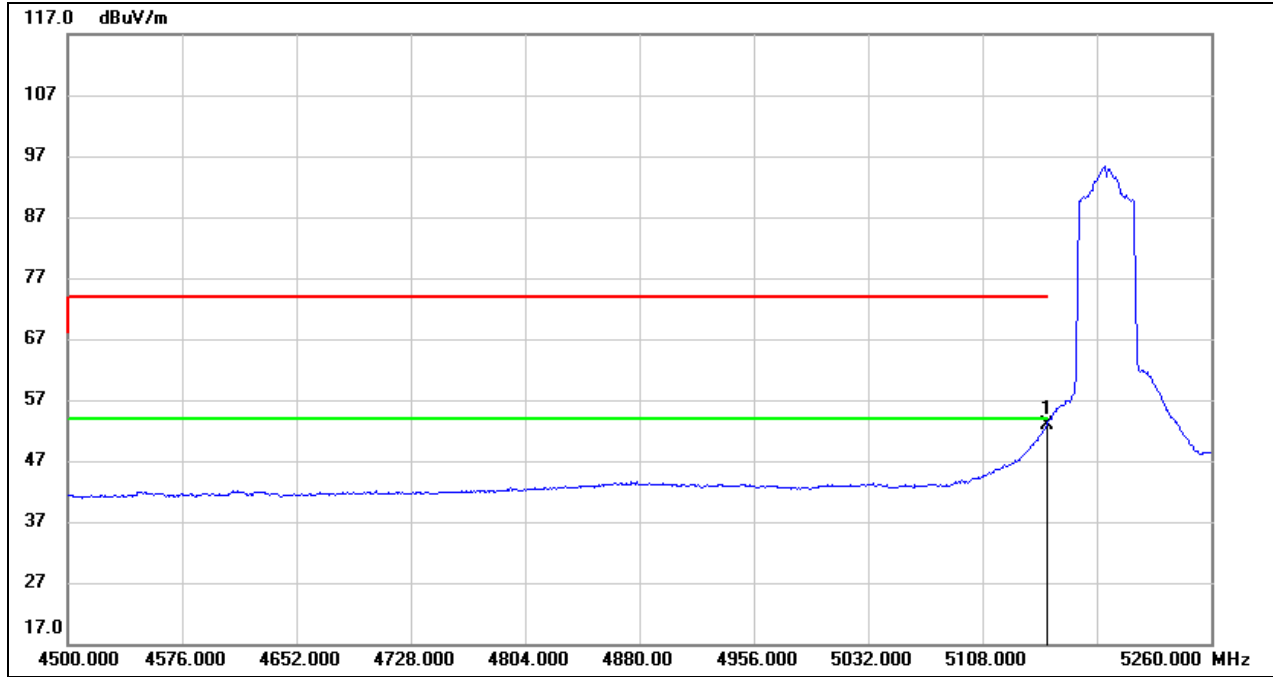


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	29.53	40.27	69.80	74.00	-4.20	peak





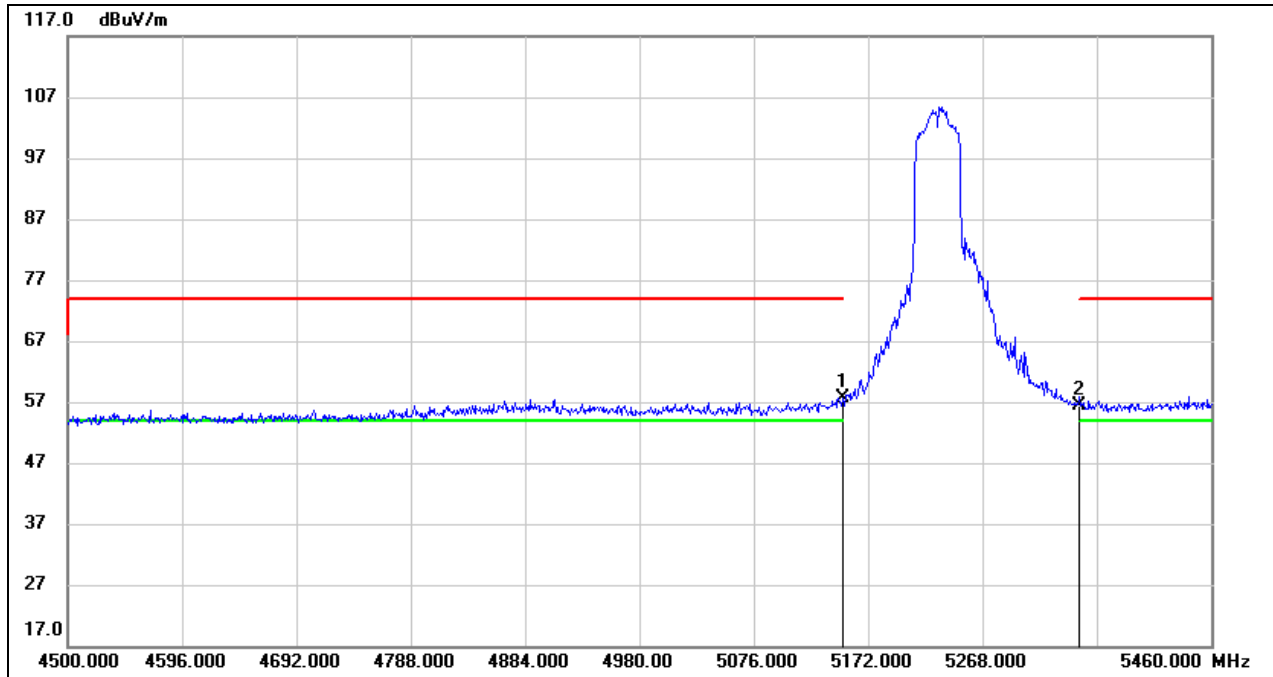
Test Mode:	802.11n HT40 AV	Channel:	5190
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	12.49	40.27	52.76	54.00	-1.24	AVG



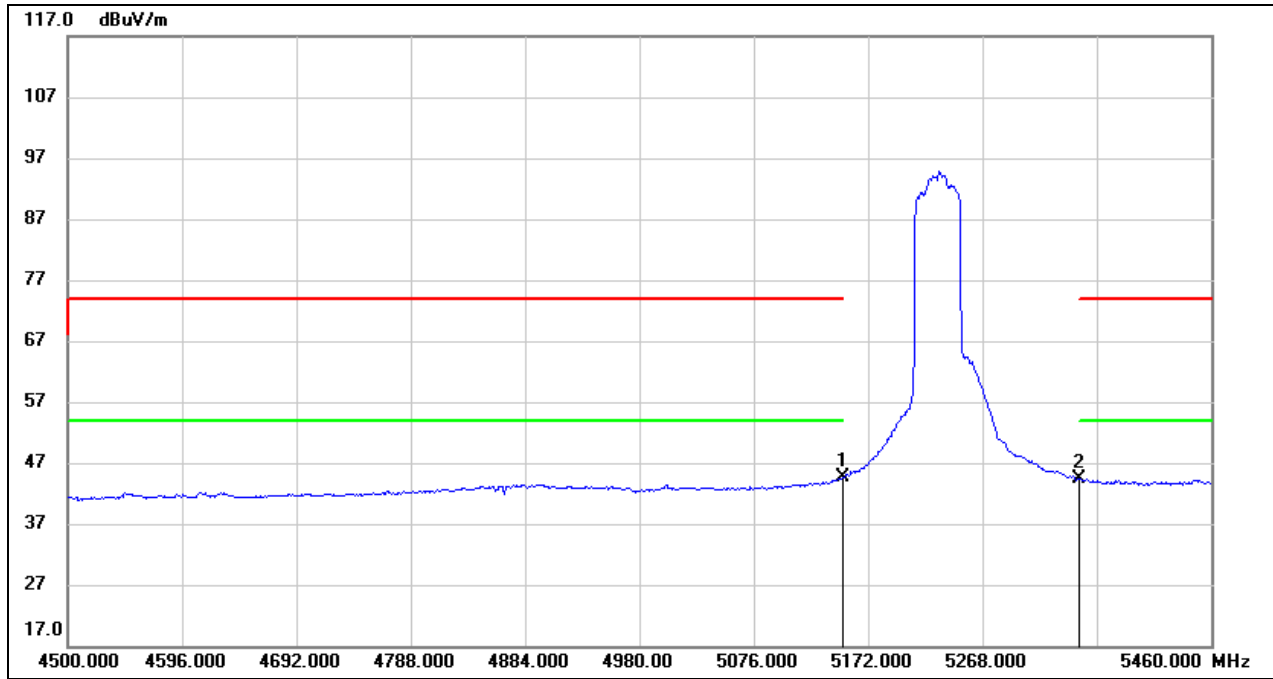
Test Mode:	802.11n HT40 PK	Channel:	5230
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	17.32	40.27	57.59	74.00	-16.41	peak
2	5350.000	15.98	40.49	56.47	74.00	-17.53	peak



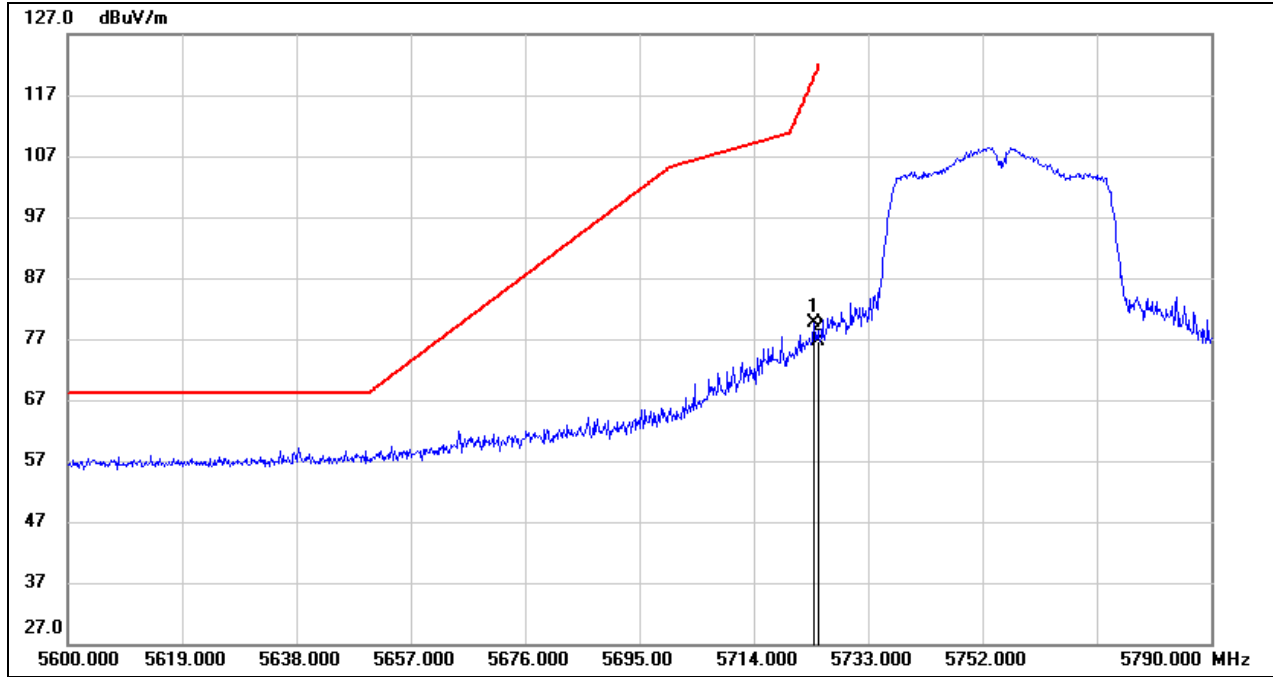
Test Mode:	802.11n HT40 AV	Channel:	5230
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	4.41	40.27	44.68	54.00	-9.32	AVG
2	5350.000	3.84	40.49	44.33	54.00	-9.67	AVG



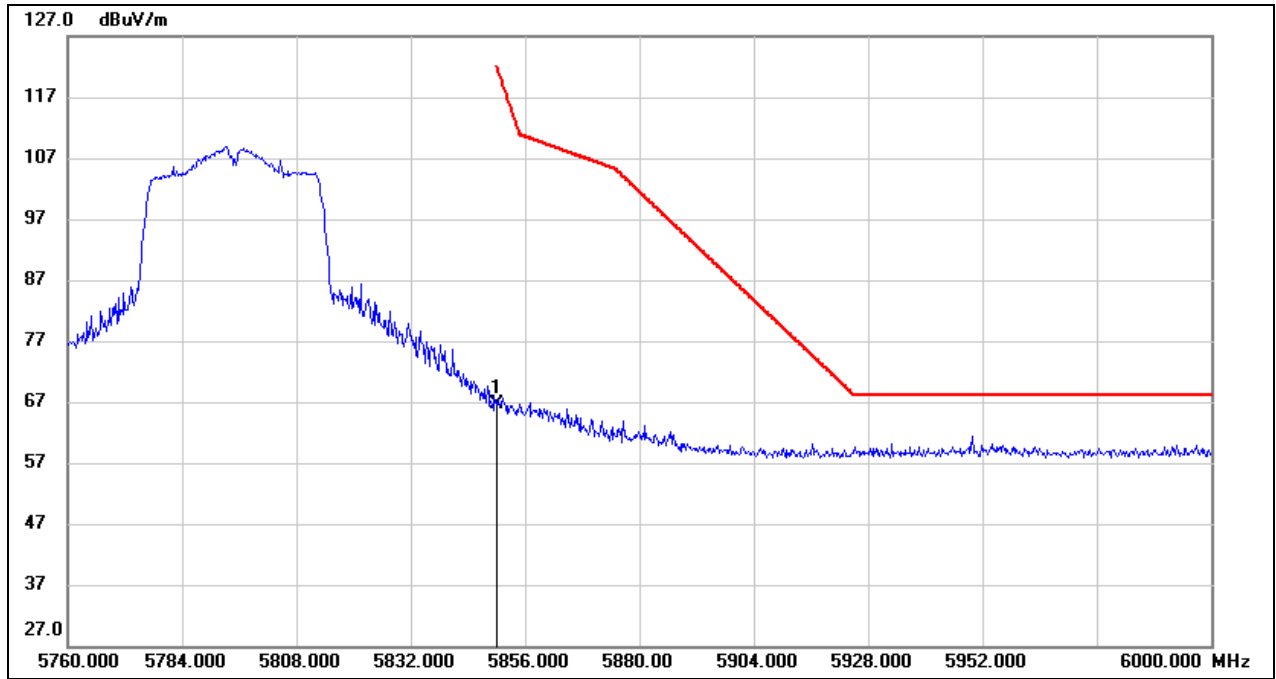
Test Mode:	802.11n HT40 PK	Channel:	5230
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5723.880	38.45	41.26	79.71	119.65	-39.94	peak
2	5725.000	35.27	41.27	76.54	122.20	-45.66	peak



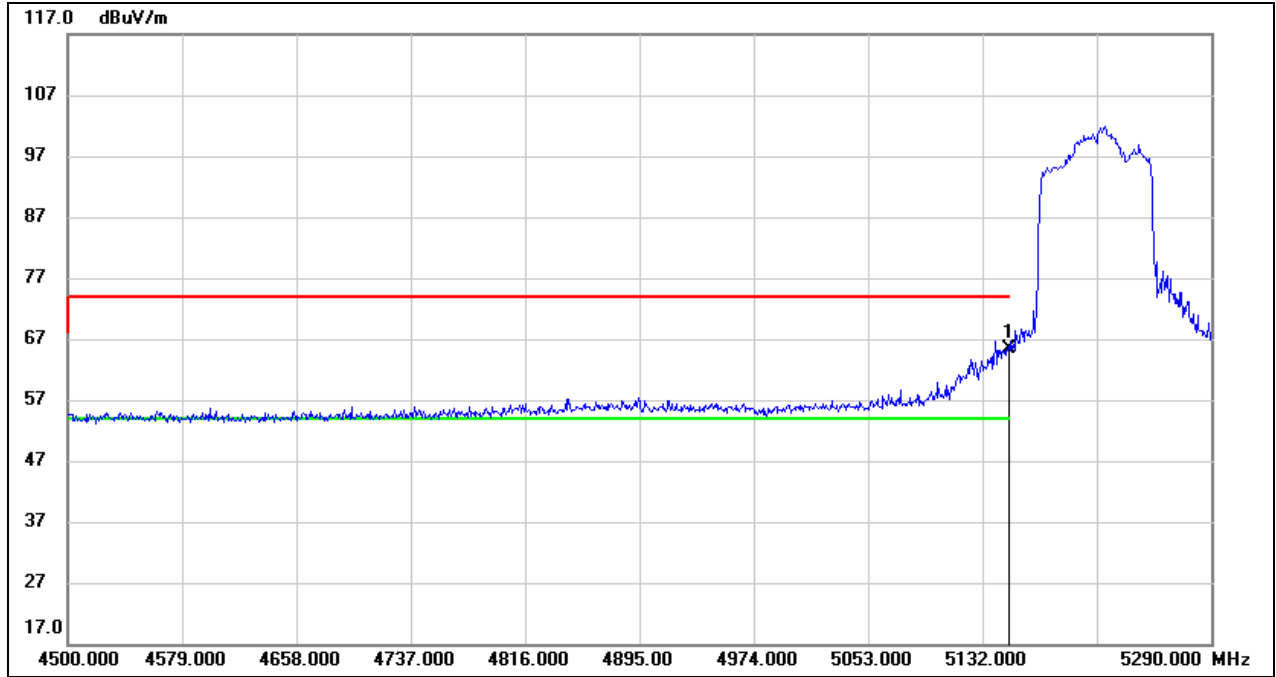
Test Mode:	802.11n HT40 PK	Channel:	5795
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	25.08	41.60	66.68	122.20	-55.52	peak



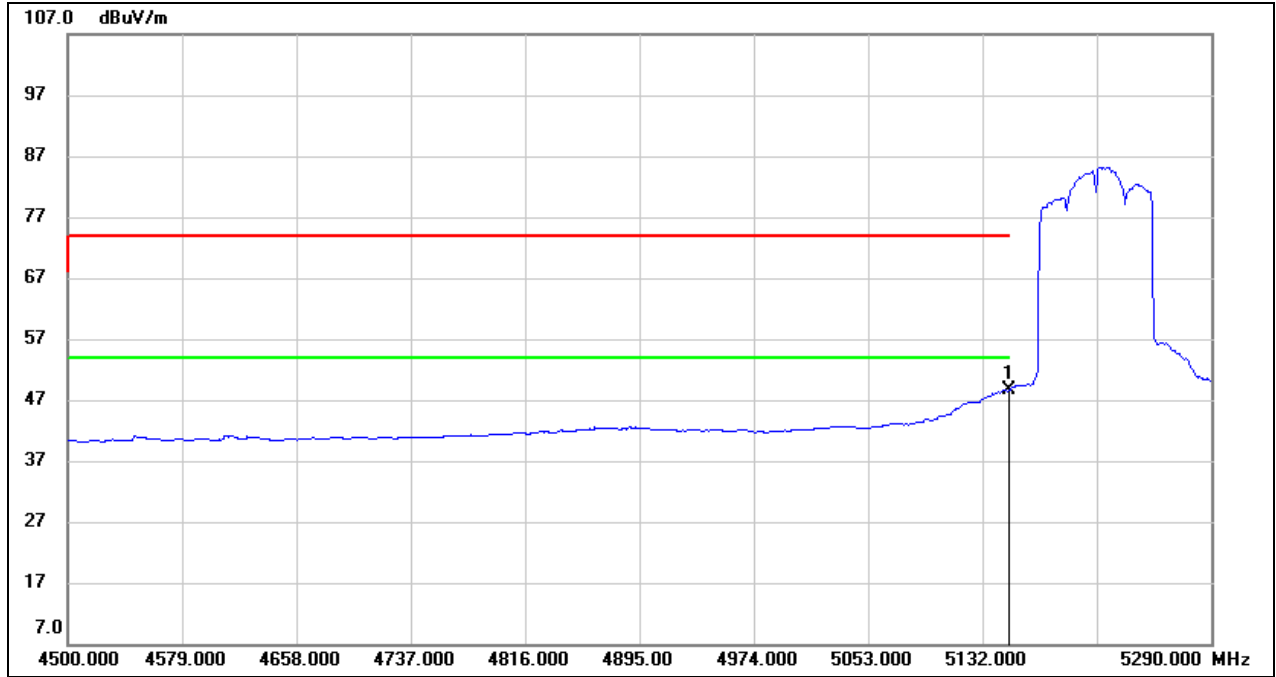
Test Mode:	802.11ac VHT80 PK	Channel:	5210
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	25.20	40.27	65.47	74.00	-8.53	peak



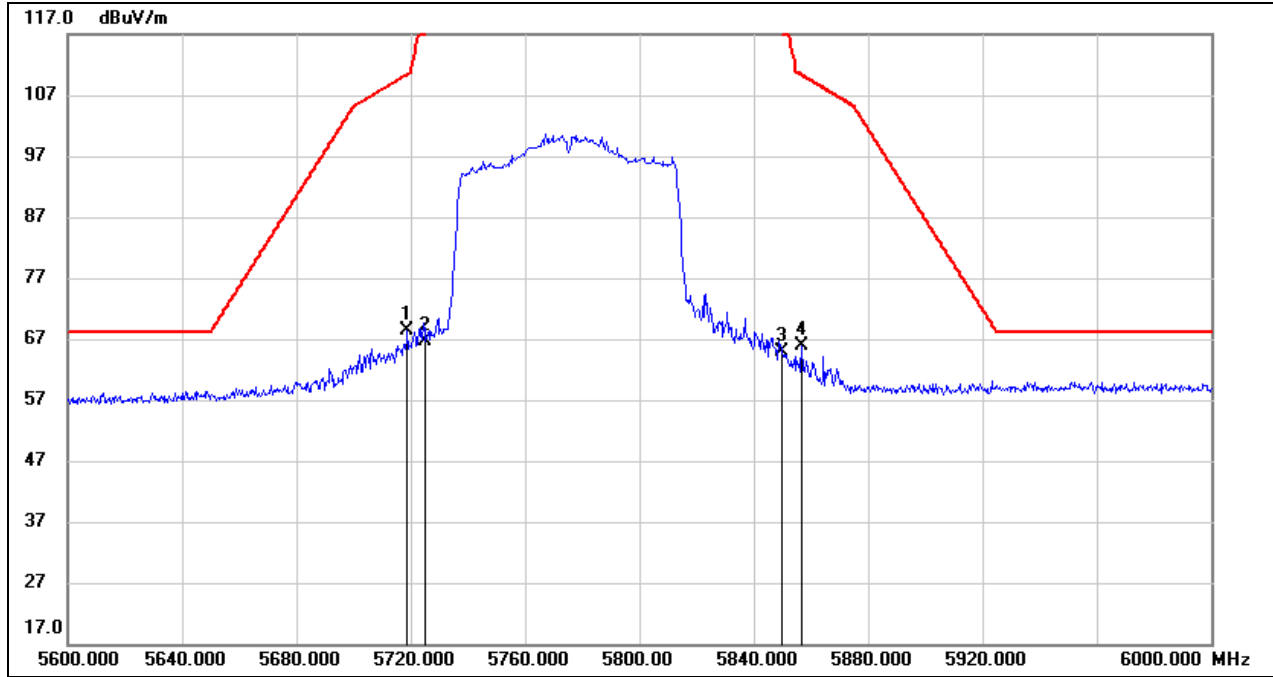
Test Mode:	802.11ac VHT80 AV	Channel:	5210
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5150.000	8.29	40.27	48.56	54.00	-5.44	AVG



Test Mode:	802.11ac VHT80 PK	Channel:	5775
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



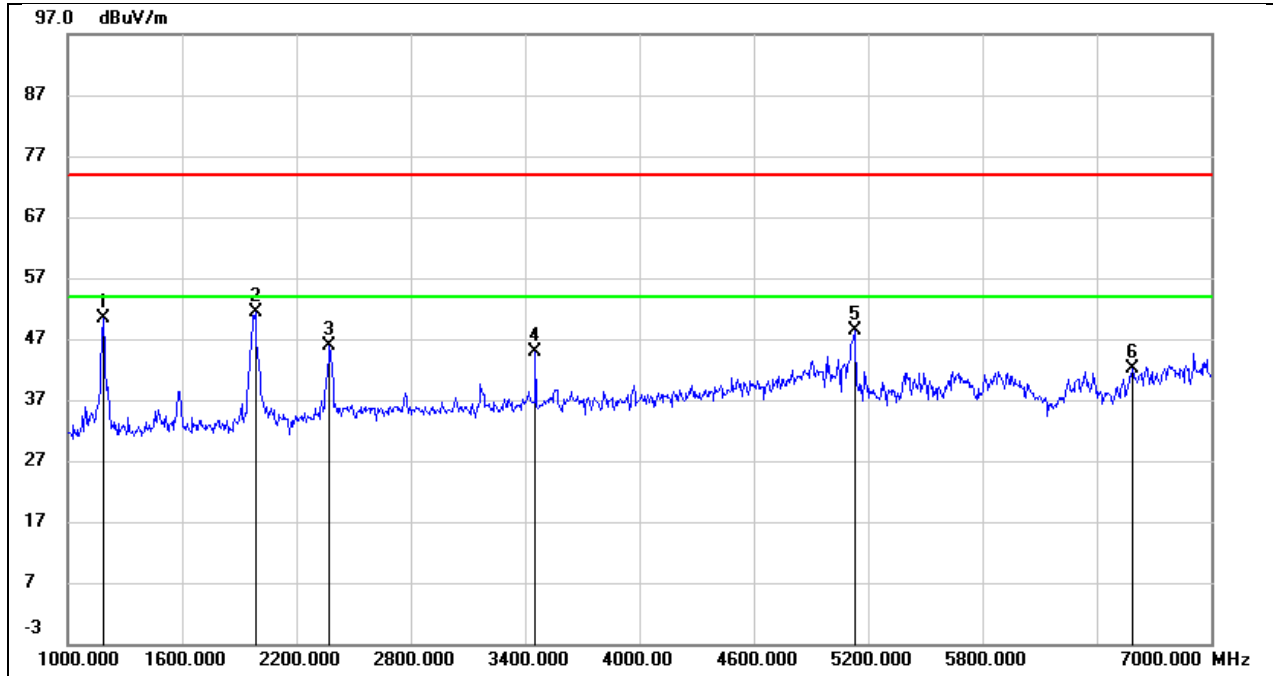
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5718.800	27.12	41.25	68.37	110.46	-42.09	peak
2	5725.000	25.37	41.27	66.64	122.20	-55.56	peak
3	5850.000	23.28	41.60	64.88	122.20	-57.32	peak
4	5856.800	24.22	41.62	65.84	110.30	-44.46	peak





### 8.2. SPURIOUS EMISSIONS(1 GHZ~7 GHZ)

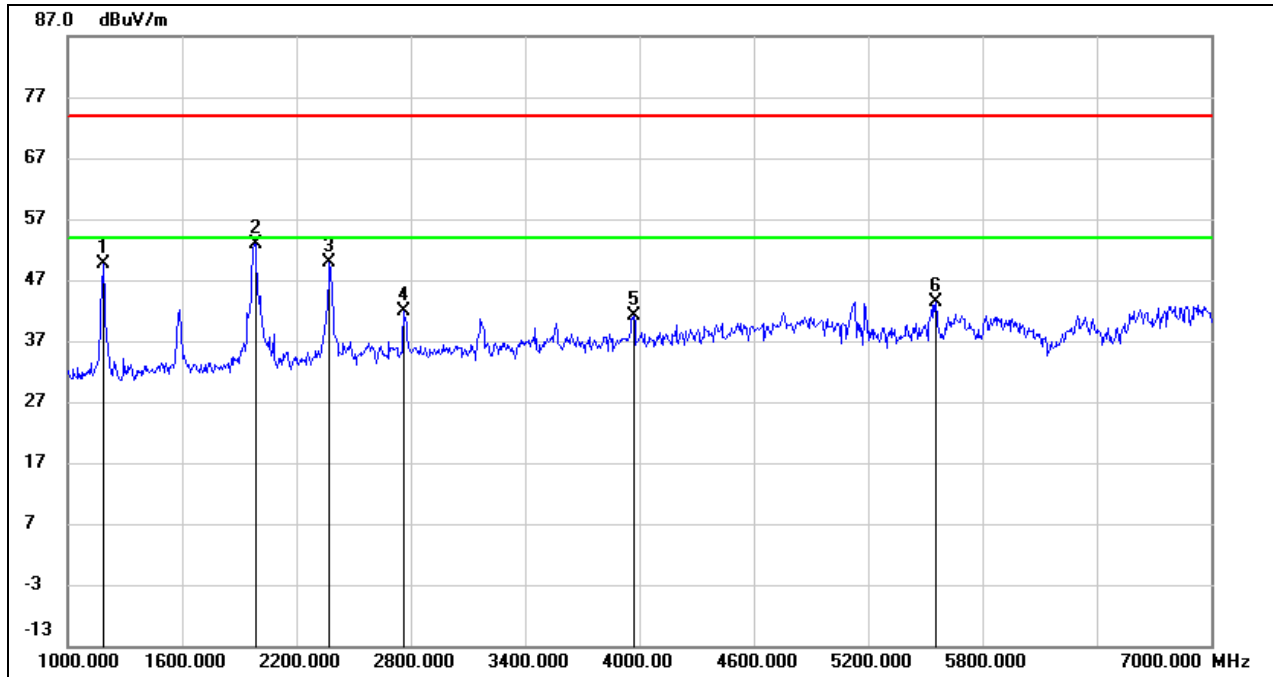
Test Mode:	802.11a 20	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	63.41	-13.11	50.30	74.00	-23.70	peak
2	1984.000	62.13	-10.74	51.39	74.00	-22.61	peak
3	2374.000	54.41	-8.62	45.79	74.00	-28.21	peak
4	3454.000	50.22	-5.41	44.81	74.00	-29.19	peak
5	5128.000	47.82	0.50	48.32	74.00	-25.68	peak
6	6586.000	37.36	4.66	42.02	74.00	-31.98	peak



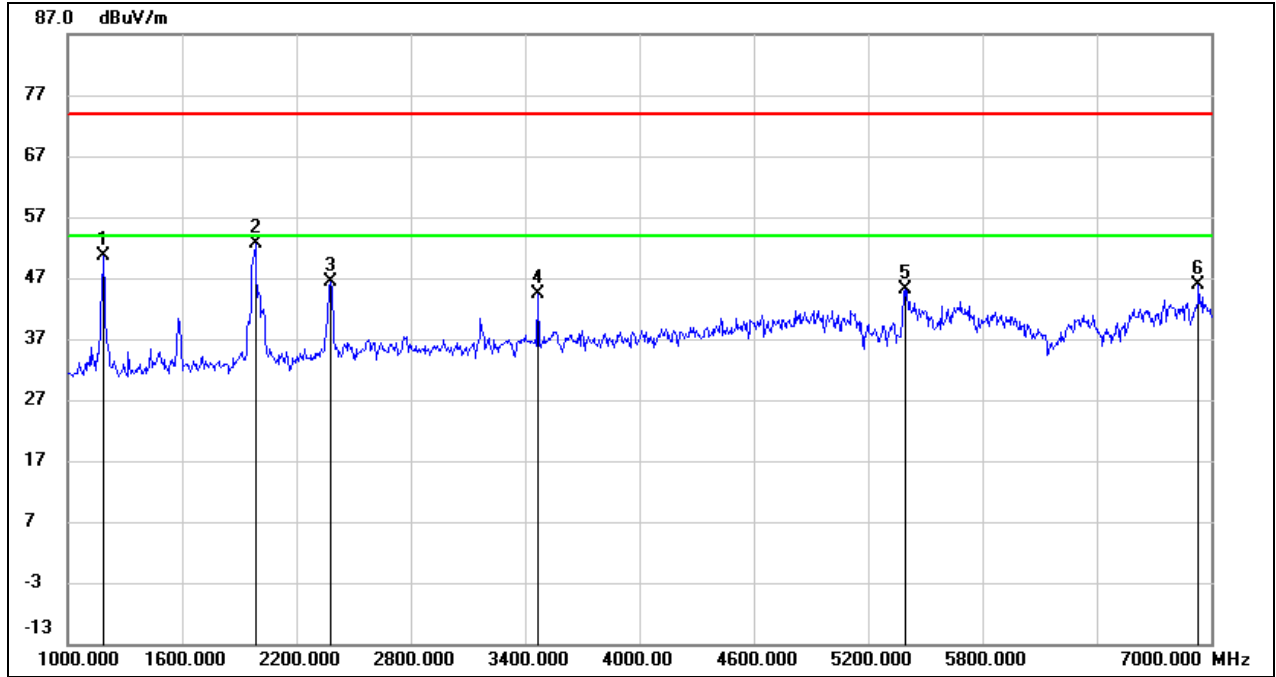
Test Mode:	802.11a 20	Channel:	5180
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	62.78	-13.11	49.67	74.00	-24.33	peak
2	1984.000	63.56	-10.74	52.82	74.00	-21.18	peak
3	2374.000	58.52	-8.62	49.90	74.00	-24.10	peak
4	2764.000	49.09	-7.21	41.88	74.00	-32.12	peak
5	3970.000	45.39	-4.18	41.21	74.00	-32.79	peak
6	5554.000	42.36	0.97	43.33	74.00	-30.67	peak



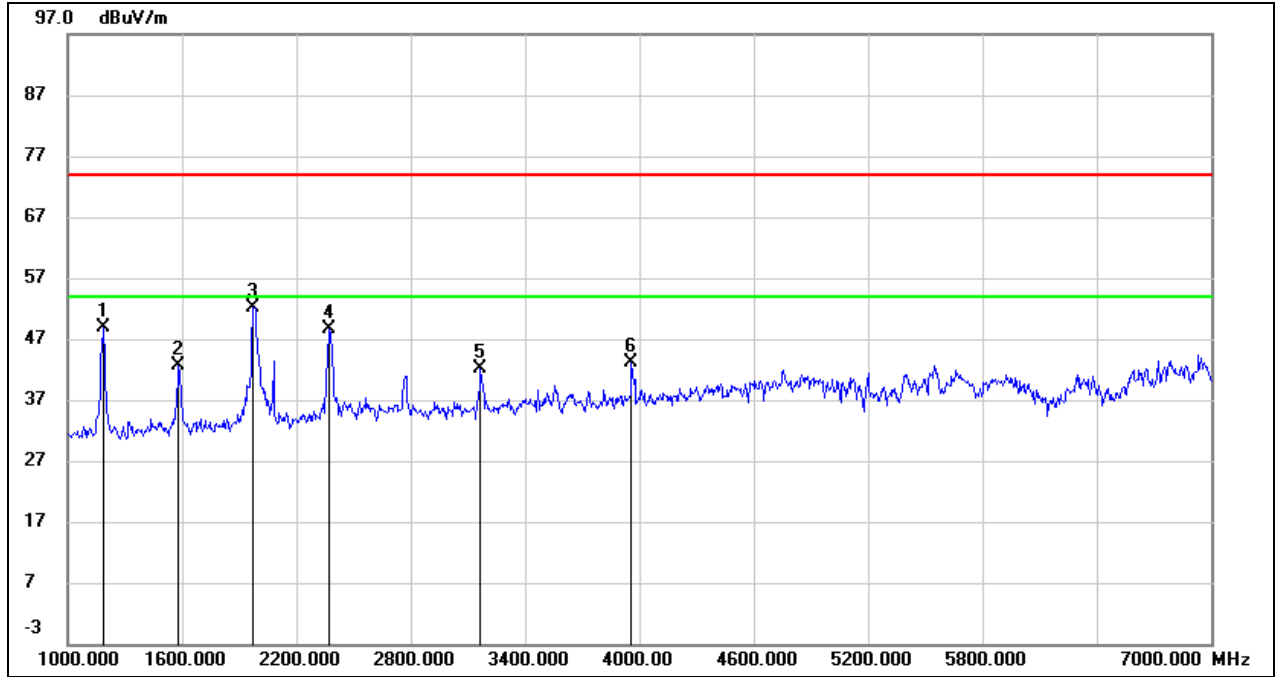
Test Mode:	802.11a 20	Channel:	5200
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	63.74	-13.11	50.63	74.00	-23.37	peak
2	1984.000	63.29	-10.74	52.55	74.00	-21.45	peak
3	2380.000	55.02	-8.58	46.44	74.00	-27.56	peak
4	3466.000	49.66	-5.38	44.28	74.00	-29.72	peak
5	5392.000	44.49	0.71	45.20	74.00	-28.80	peak
6	6934.000	39.16	6.60	45.76	74.00	-28.24	peak



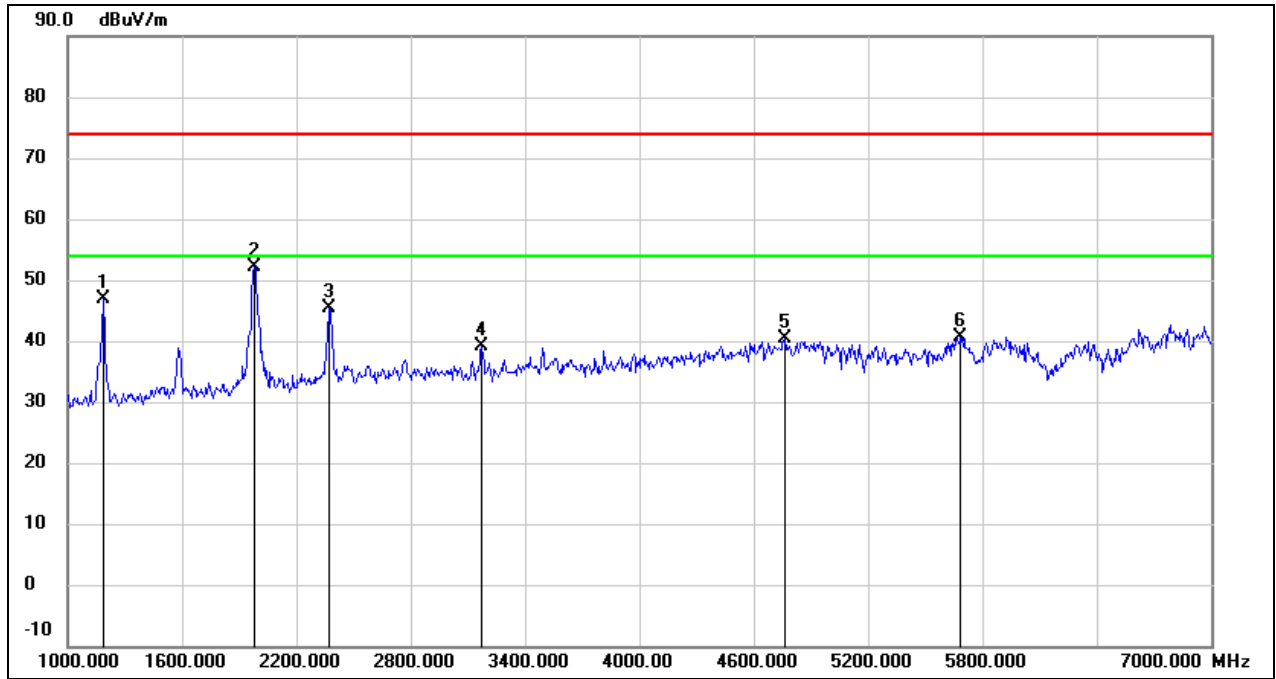
Test Mode:	802.11a 20	Channel:	5200
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	62.09	-13.11	48.98	74.00	-25.02	peak
2	1582.000	54.47	-11.77	42.70	74.00	-31.30	peak
3	1972.000	63.01	-10.77	52.24	74.00	-21.76	peak
4	2374.000	57.22	-8.62	48.60	74.00	-25.40	peak
5	3166.000	48.35	-6.15	42.20	74.00	-31.80	peak
6	3958.000	47.36	-4.21	43.15	74.00	-30.85	peak



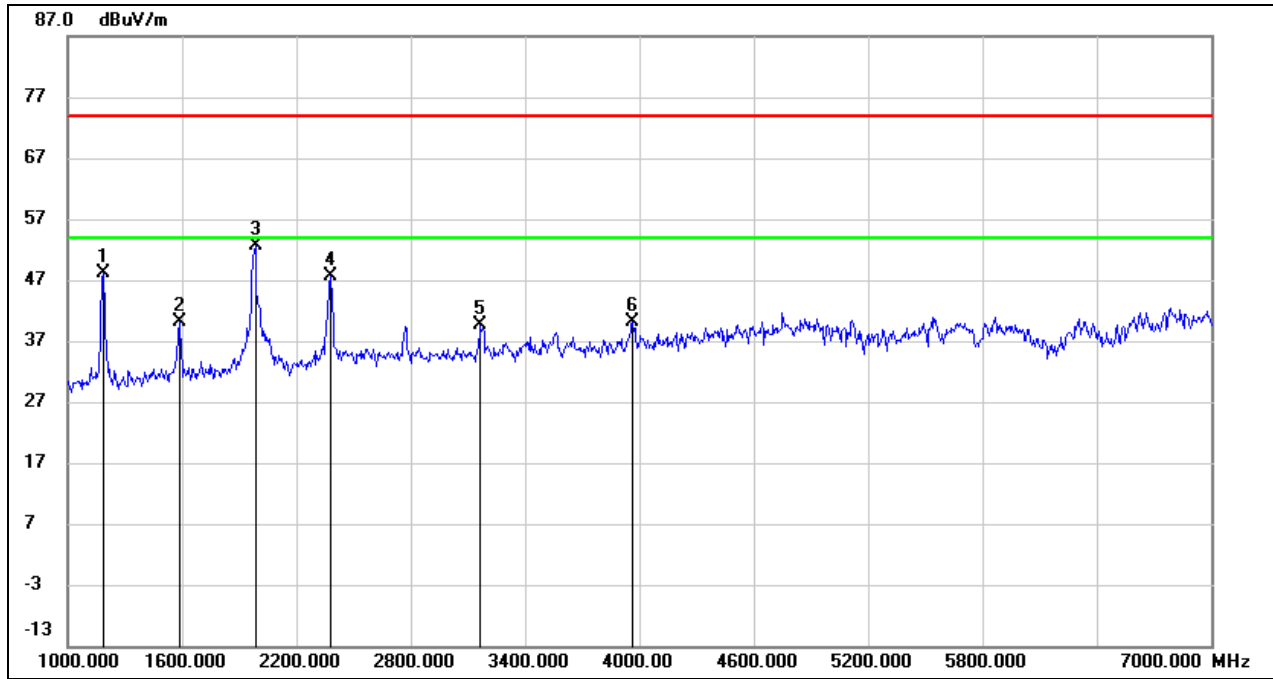
Test Mode:	802.11a 20	Channel:	5240
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	61.10	-14.17	46.93	74.00	-27.07	peak
2	1978.000	63.25	-11.13	52.12	74.00	-21.88	peak
3	2368.000	54.55	-9.16	45.39	74.00	-28.61	peak
4	3172.000	45.80	-6.59	39.21	74.00	-34.79	peak
5	4762.000	41.42	-1.10	40.32	74.00	-33.68	peak
6	5686.000	39.74	0.96	40.70	74.00	-33.30	peak



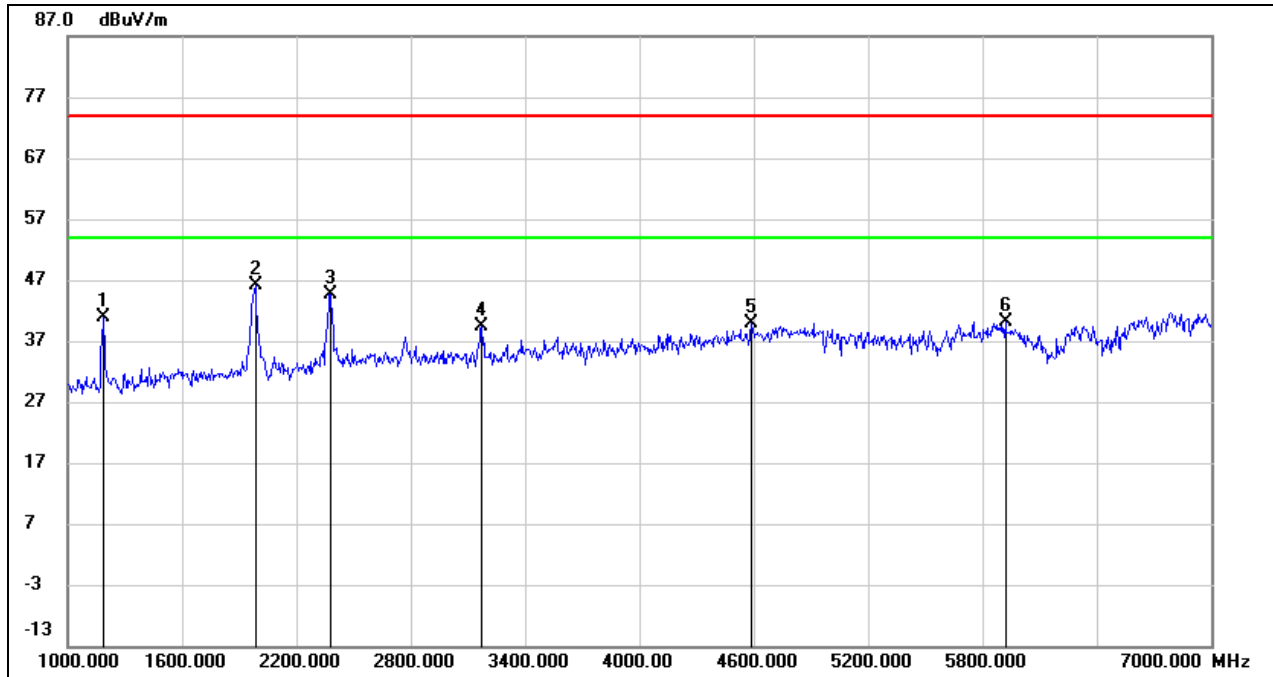
Test Mode:	802.11a 20	Channel:	5240
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	62.41	-14.17	48.24	74.00	-25.76	peak
2	1588.000	52.43	-12.42	40.01	74.00	-33.99	peak
3	1984.000	63.73	-11.11	52.62	74.00	-21.38	peak
4	2380.000	56.69	-9.10	47.59	74.00	-26.41	peak
5	3166.000	46.11	-6.60	39.51	74.00	-34.49	peak
6	3964.000	44.63	-4.58	40.05	74.00	-33.95	peak



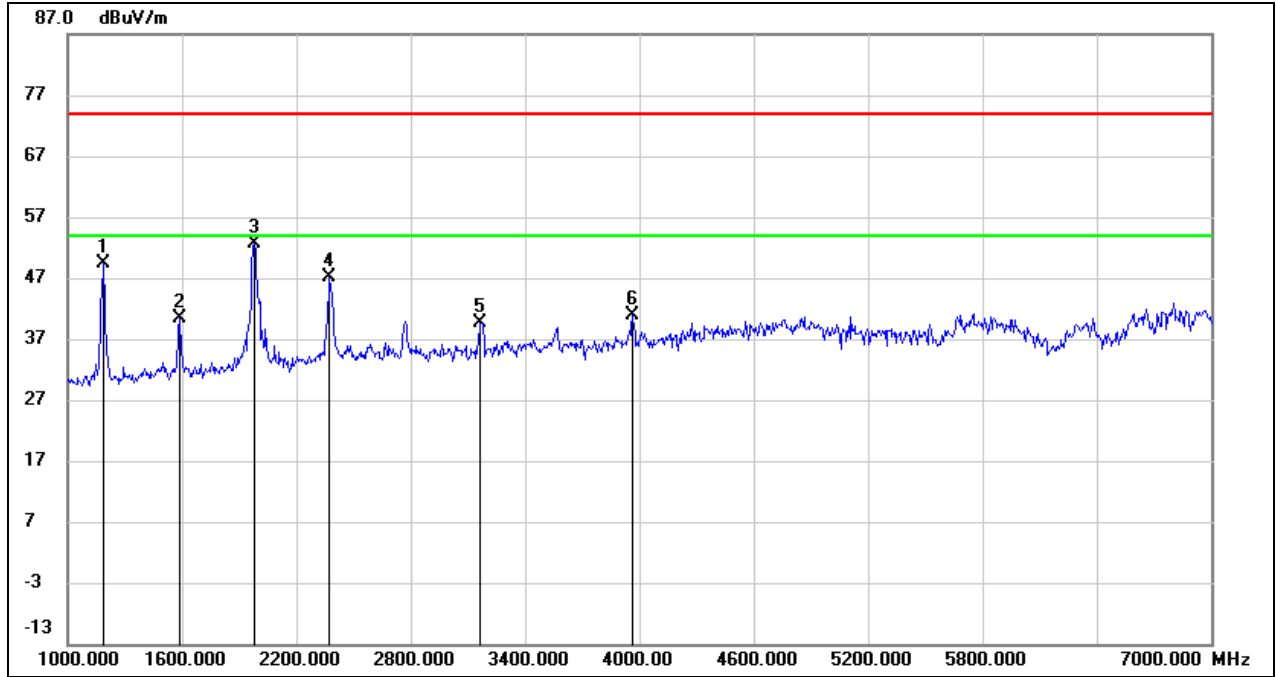
Test Mode:	802.11a 20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	55.09	-14.17	40.92	74.00	-33.08	peak
2	1984.000	57.29	-11.11	46.18	74.00	-27.82	peak
3	2380.000	53.81	-9.10	44.71	74.00	-29.29	peak
4	3172.000	46.00	-6.59	39.41	74.00	-34.59	peak
5	4588.000	41.69	-1.79	39.90	74.00	-34.10	peak
6	5920.000	38.62	1.62	40.24	74.00	-33.76	peak



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

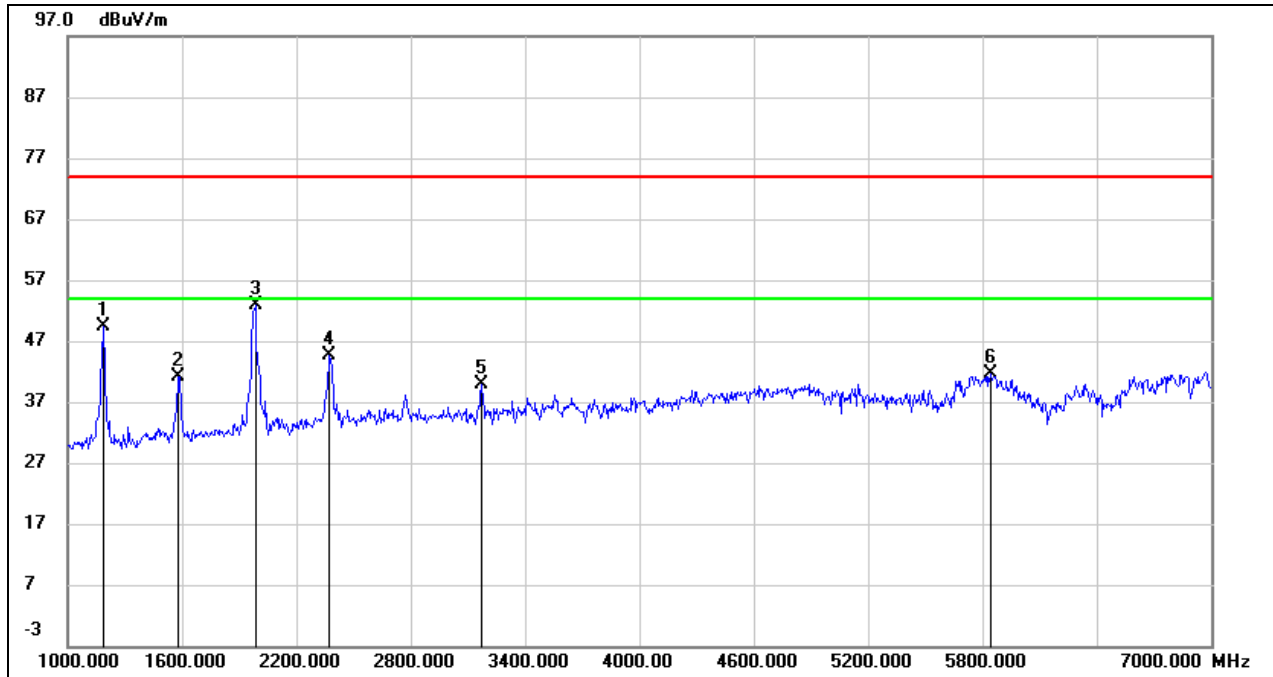


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	63.66	-14.17	49.49	74.00	-24.51	peak
2	1588.000	52.80	-12.42	40.38	74.00	-33.62	peak
3	1978.000	63.80	-11.13	52.67	74.00	-21.33	peak
4	2374.000	56.34	-9.14	47.20	74.00	-26.80	peak
5	3166.000	46.34	-6.60	39.74	74.00	-34.26	peak
6	3964.000	45.58	-4.58	41.00	74.00	-33.00	peak





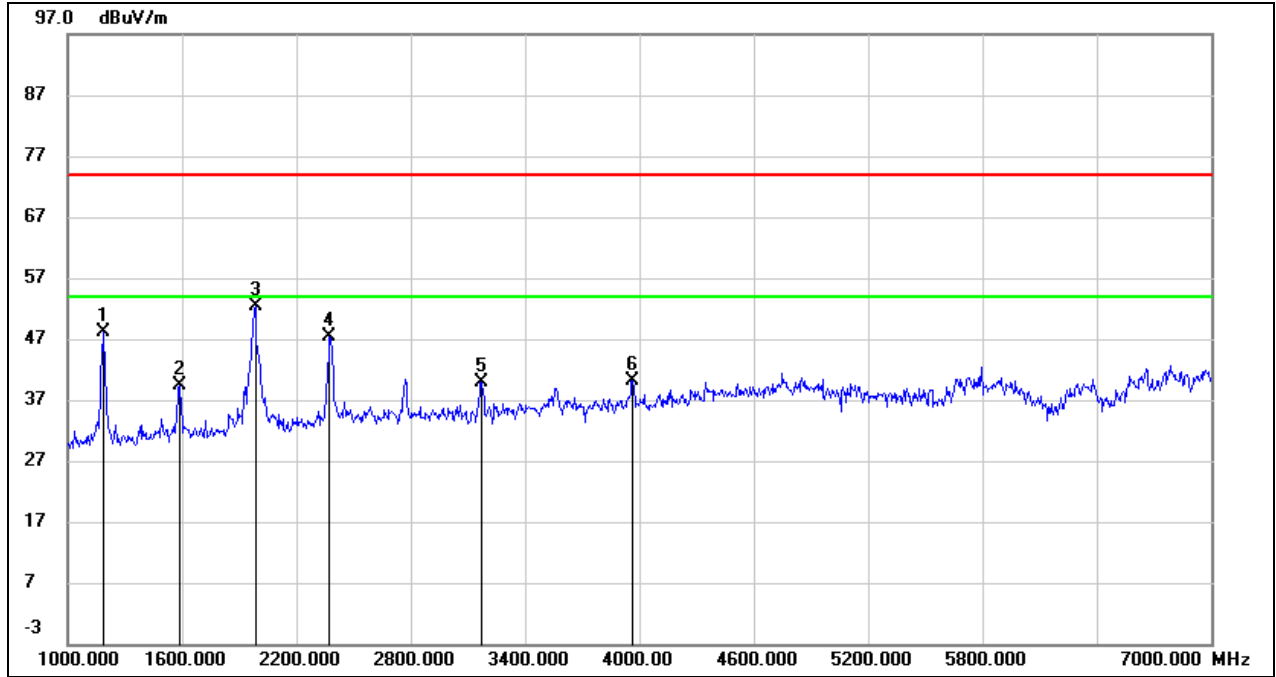
Test Mode:	802.11a 20	Channel:	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	63.47	-14.17	49.30	74.00	-24.70	peak
2	1576.000	53.69	-12.46	41.23	74.00	-32.77	peak
3	1984.000	63.98	-11.11	52.87	74.00	-21.13	peak
4	2374.000	53.88	-9.14	44.74	74.00	-29.26	peak
5	3172.000	46.40	-6.59	39.81	74.00	-34.19	peak
6	5842.000	40.19	1.39	41.58	74.00	-32.42	peak



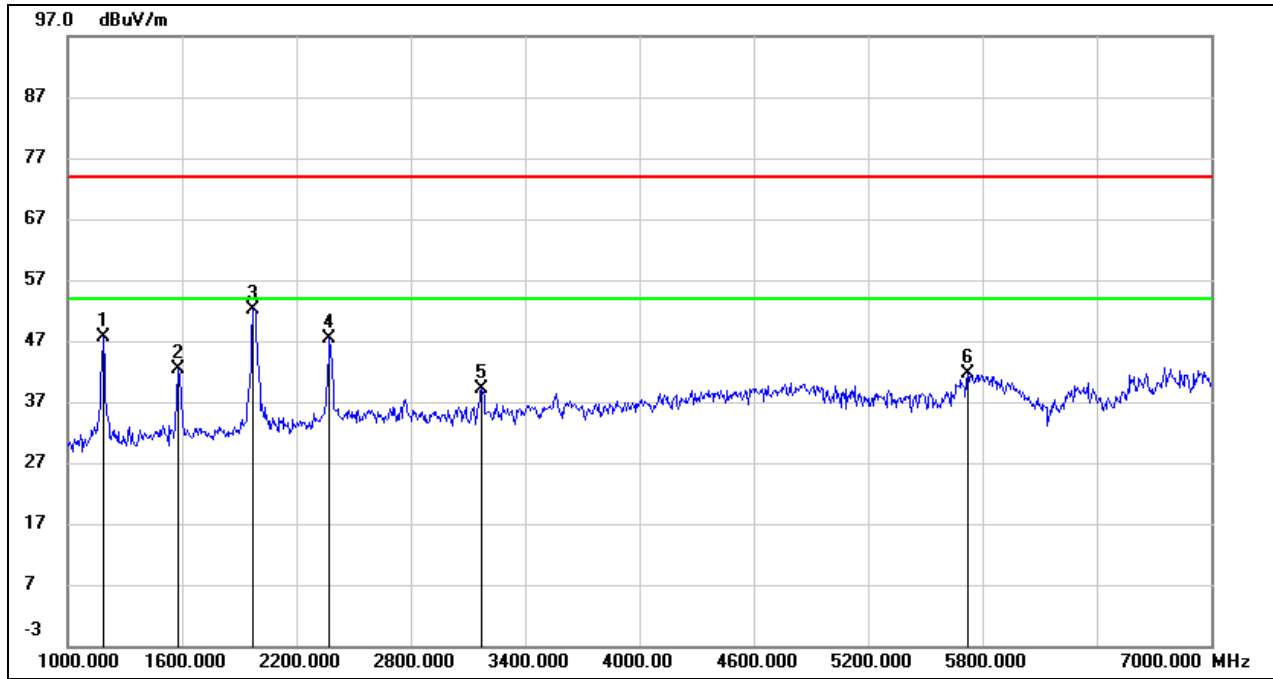
Test Mode:	802.11a 20	Channel:	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	62.25	-14.17	48.08	74.00	-25.92	peak
2	1588.000	51.87	-12.42	39.45	74.00	-34.55	peak
3	1984.000	63.53	-11.11	52.42	74.00	-21.58	peak
4	2374.000	56.50	-9.14	47.36	74.00	-26.64	peak
5	3172.000	46.56	-6.59	39.97	74.00	-34.03	peak
6	3964.000	44.77	-4.58	40.19	74.00	-33.81	peak



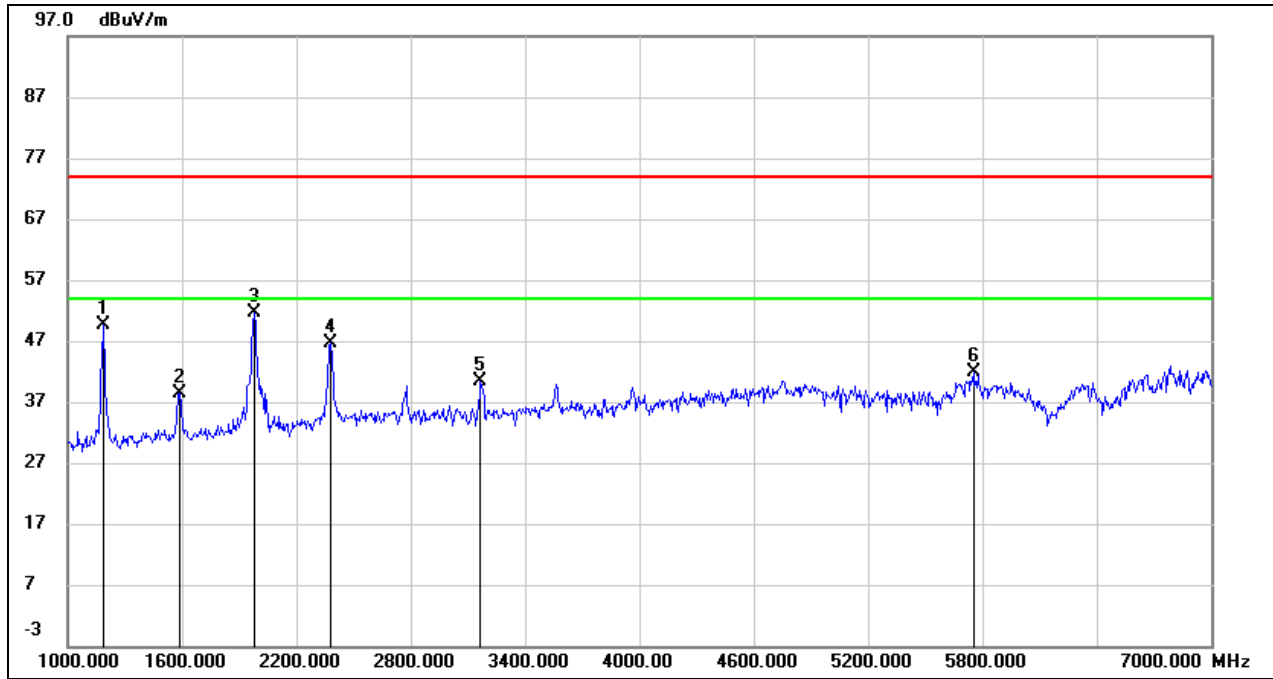
Test Mode:	802.11a 20	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	61.82	-14.17	47.65	74.00	-26.35	peak
2	1576.000	54.94	-12.46	42.48	74.00	-31.52	peak
3	1972.000	63.31	-11.16	52.15	74.00	-21.85	peak
4	2374.000	56.54	-9.14	47.40	74.00	-26.60	peak
5	3172.000	45.70	-6.59	39.11	74.00	-34.89	peak
6	5722.000	40.49	1.05	41.54	74.00	-32.46	peak



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

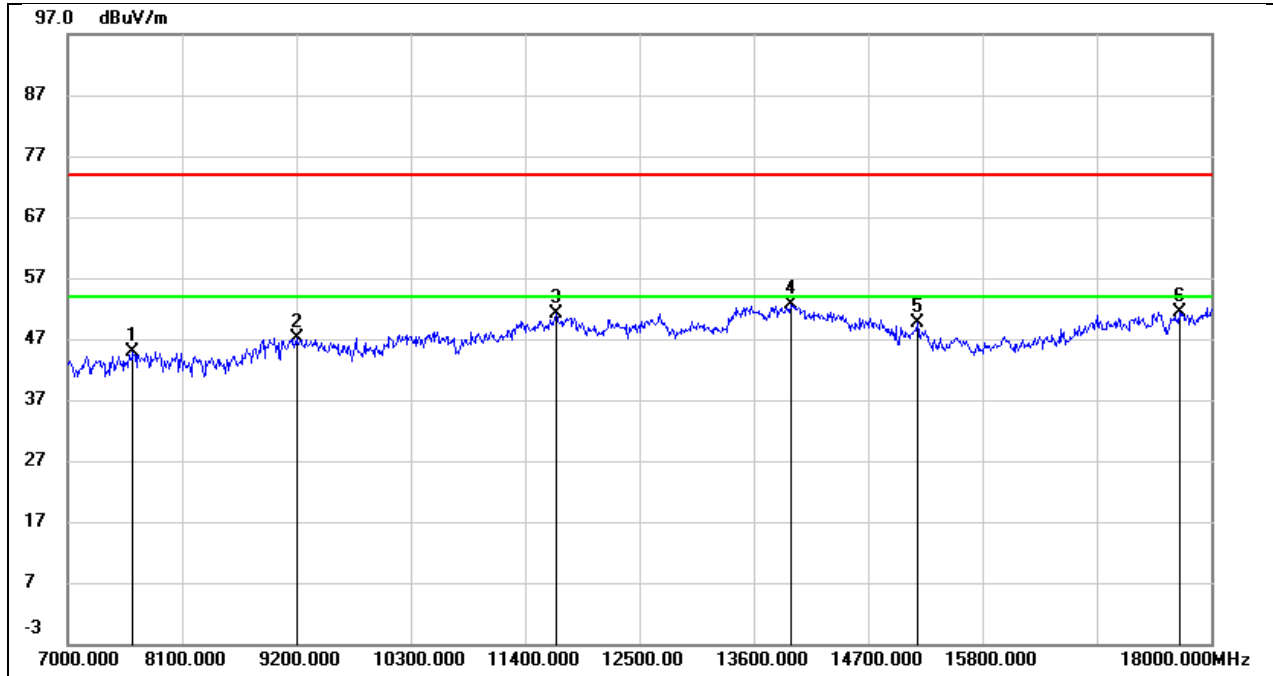


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1186.000	63.69	-14.17	49.52	74.00	-24.48	peak
2	1588.000	50.90	-12.42	38.48	74.00	-35.52	peak
3	1978.000	62.66	-11.13	51.53	74.00	-22.47	peak
4	2380.000	55.62	-9.10	46.52	74.00	-27.48	peak
5	3166.000	46.92	-6.60	40.32	74.00	-33.68	peak
6	5752.000	40.74	1.14	41.88	74.00	-32.12	peak



### 8.3. SPURIOUS EMISSIONS(7 GHZ~18 GHZ)

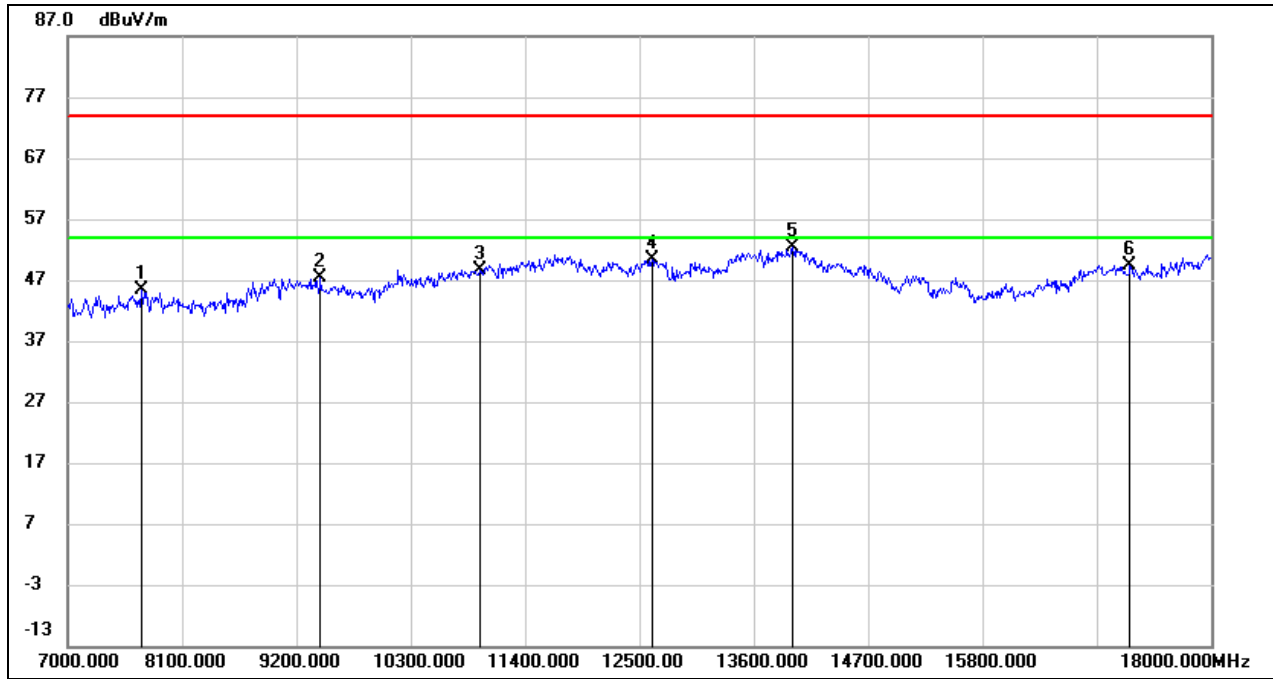
Test Mode:	802.11a 20	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7627.000	38.18	6.76	44.94	74.00	-29.06	peak
2	9200.000	36.67	10.46	47.13	74.00	-26.87	peak
3	11697.000	34.11	17.13	51.24	74.00	-22.76	peak
4	13963.000	30.96	21.78	52.74	74.00	-21.26	peak
5	15173.000	32.31	17.33	49.64	74.00	-24.36	peak
6	17692.000	27.27	24.01	51.28	74.00	-22.72	peak



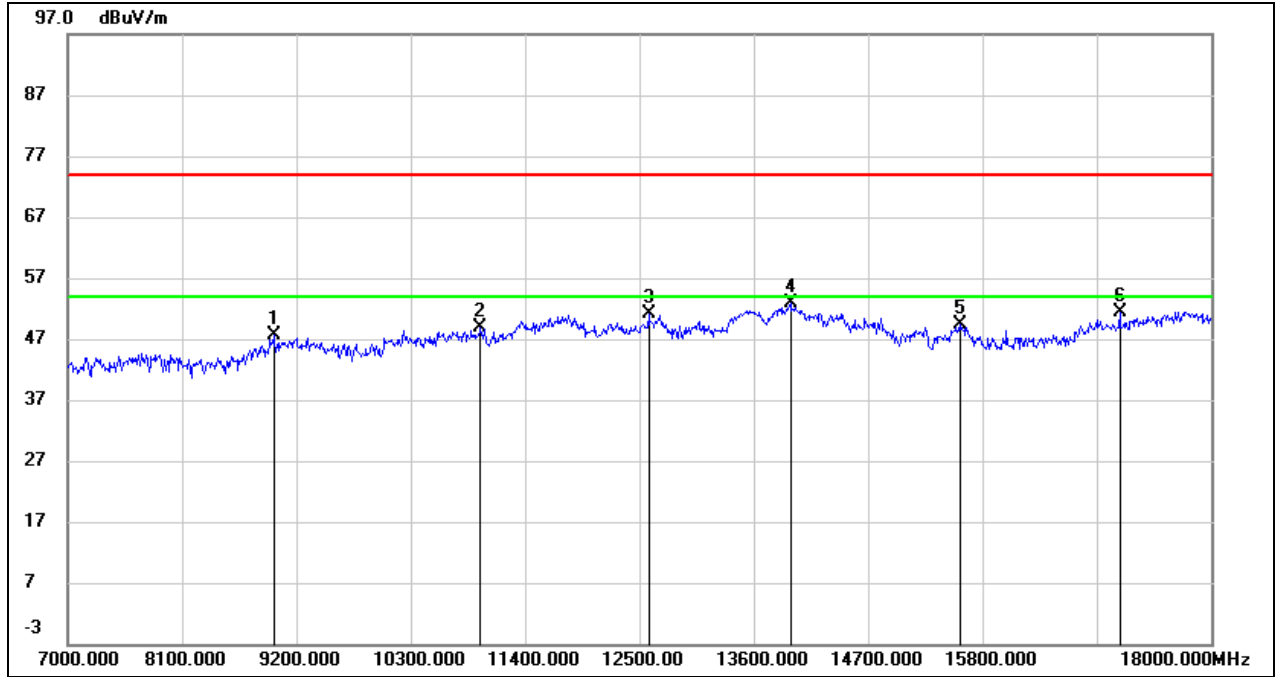
Test Mode:	802.11a 20	Channel:	5180
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7715.000	38.59	6.68	45.27	74.00	-28.73	peak
2	9431.000	36.82	10.61	47.43	74.00	-26.57	peak
3	10960.000	34.17	14.57	48.74	74.00	-25.26	peak
4	12621.000	32.38	17.98	50.36	74.00	-23.64	peak
5	13974.000	30.66	21.82	52.48	74.00	-21.52	peak
6	17219.000	27.88	21.52	49.40	74.00	-24.60	peak



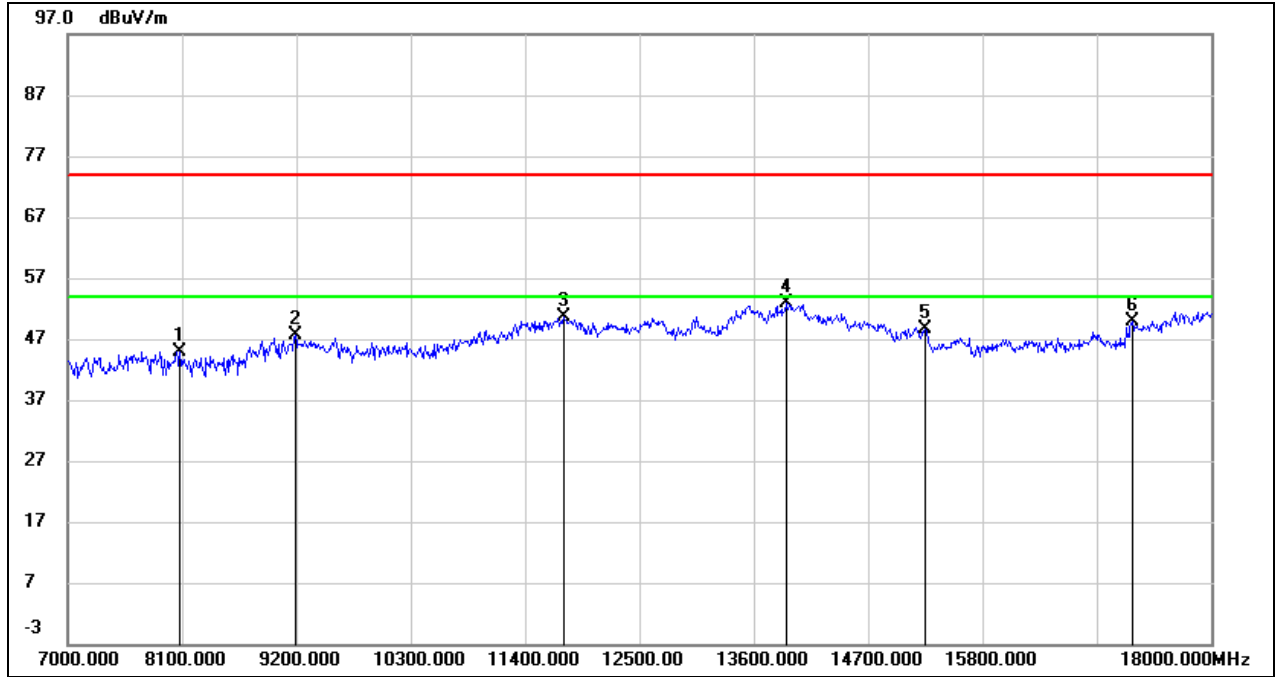
Test Mode:	802.11a 20	Channel:	5200
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8980.000	37.41	10.21	47.62	74.00	-26.38	peak
2	10971.000	34.23	14.61	48.84	74.00	-25.16	peak
3	12588.000	33.10	17.94	51.04	74.00	-22.96	peak
4	13952.000	31.23	21.76	52.99	74.00	-21.01	peak
5	15580.000	32.59	16.75	49.34	74.00	-24.66	peak
6	17120.000	30.26	21.12	51.38	74.00	-22.62	peak



Test Mode:	802.11a 20	Channel:	5200
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz

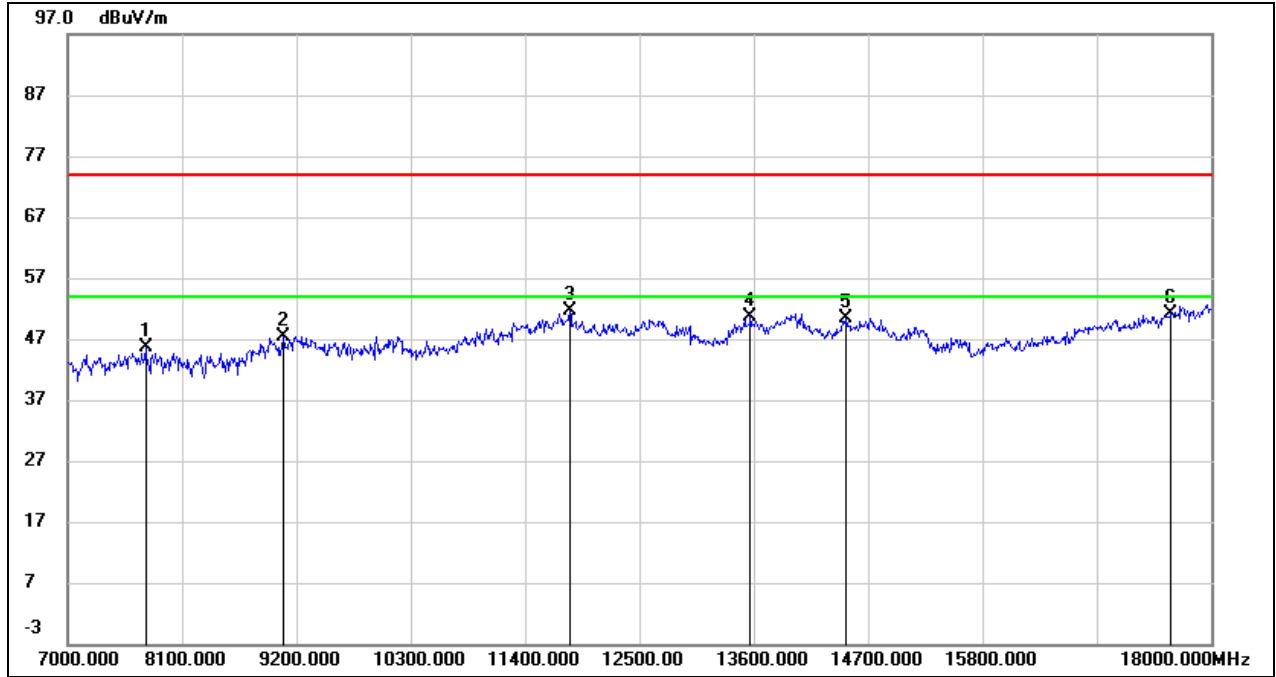


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8078.000	38.40	6.51	44.91	74.00	-29.09	peak
2	9189.000	37.27	10.46	47.73	74.00	-26.27	peak
3	11774.000	33.25	17.28	50.53	74.00	-23.47	peak
4	13908.000	31.10	21.66	52.76	74.00	-21.24	peak
5	15250.000	31.48	17.19	48.67	74.00	-25.33	peak
6	17241.000	28.34	21.62	49.96	74.00	-24.04	peak





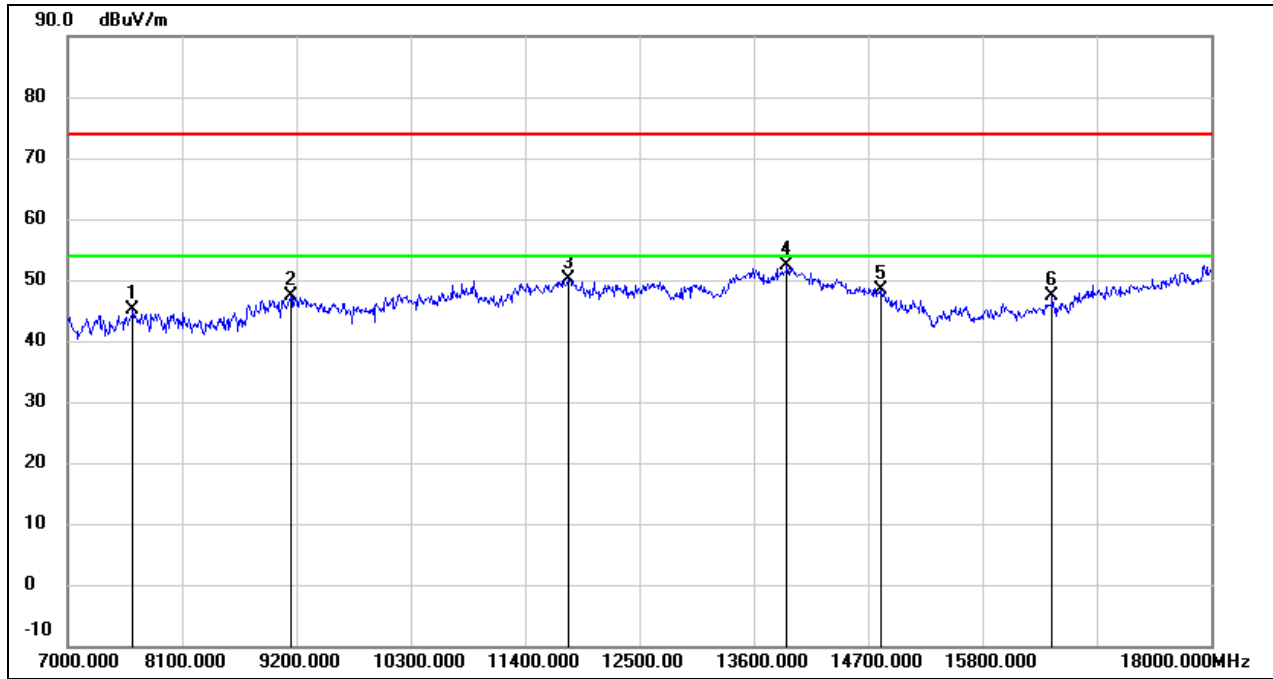
Test Mode:	802.11a 20	Channel:	5240
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7748.000	39.07	6.66	45.73	74.00	-28.27	peak
2	9079.000	37.10	10.39	47.49	74.00	-26.51	peak
3	11829.000	34.18	17.38	51.56	74.00	-22.44	peak
4	13567.000	29.95	20.80	50.75	74.00	-23.25	peak
5	14491.000	30.67	19.81	50.48	74.00	-23.52	peak
6	17615.000	27.60	23.49	51.09	74.00	-22.91	peak



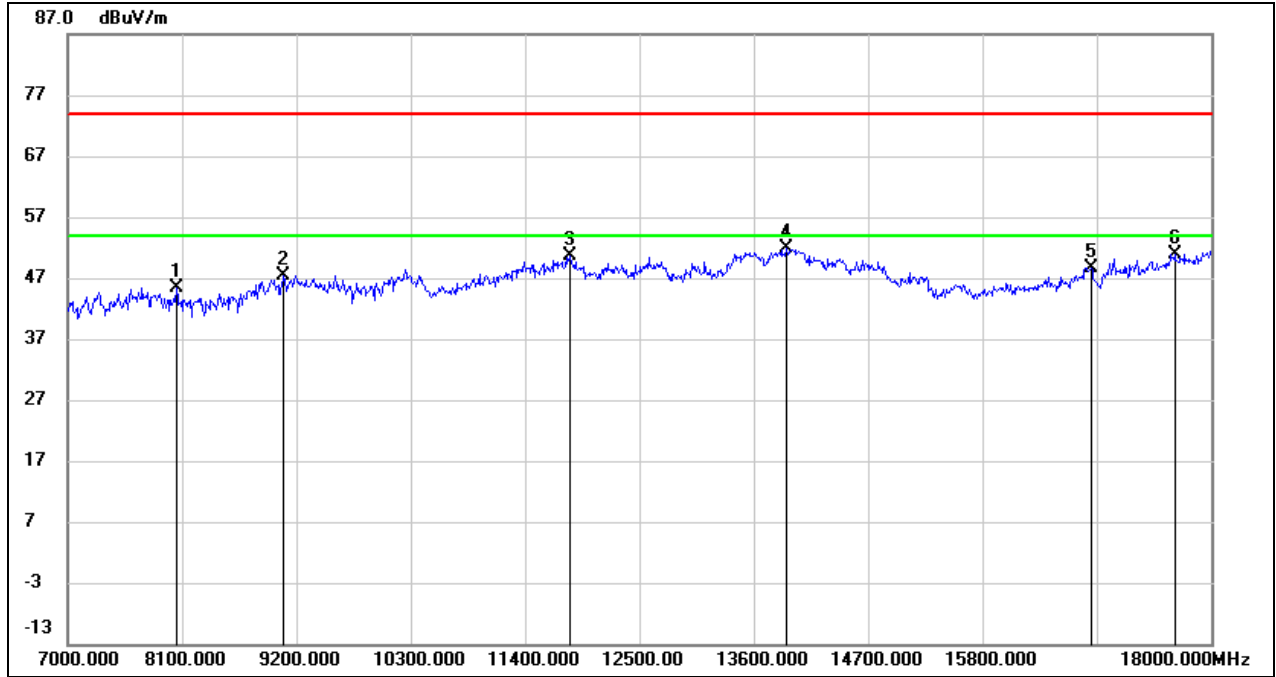
Test Mode:	802.11a 20	Channel:	5240
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7627.000	38.47	6.76	45.23	74.00	-28.77	peak
2	9145.000	37.07	10.43	47.50	74.00	-26.50	peak
3	11818.000	32.86	17.36	50.22	74.00	-23.78	peak
4	13919.000	30.68	21.68	52.36	74.00	-21.64	peak
5	14821.000	30.05	18.42	48.47	74.00	-25.53	peak
6	16471.000	29.09	18.26	47.35	74.00	-26.65	peak



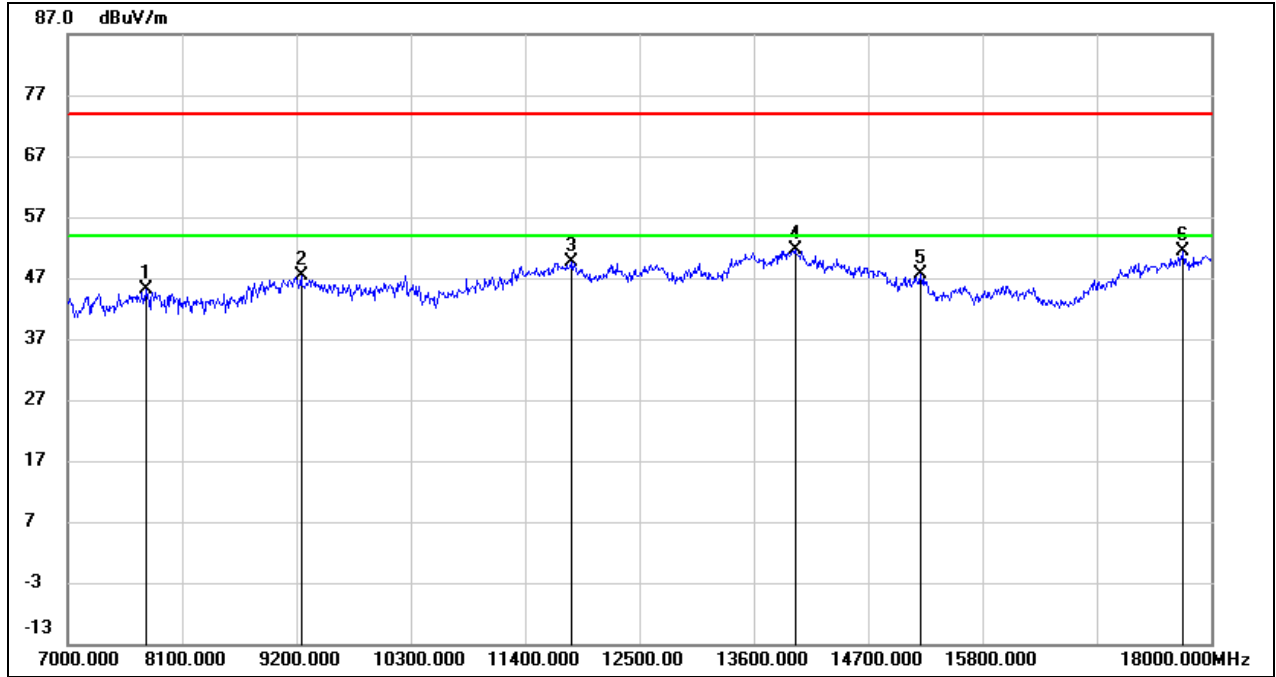
Test Mode:	802.11a 20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8045.000	38.91	6.47	45.38	74.00	-28.62	peak
2	9079.000	36.96	10.39	47.35	74.00	-26.65	peak
3	11829.000	33.20	17.38	50.58	74.00	-23.42	peak
4	13919.000	30.09	21.68	51.77	74.00	-22.23	peak
5	16845.000	28.81	19.90	48.71	74.00	-25.29	peak
6	17648.000	27.19	23.72	50.91	74.00	-23.09	peak



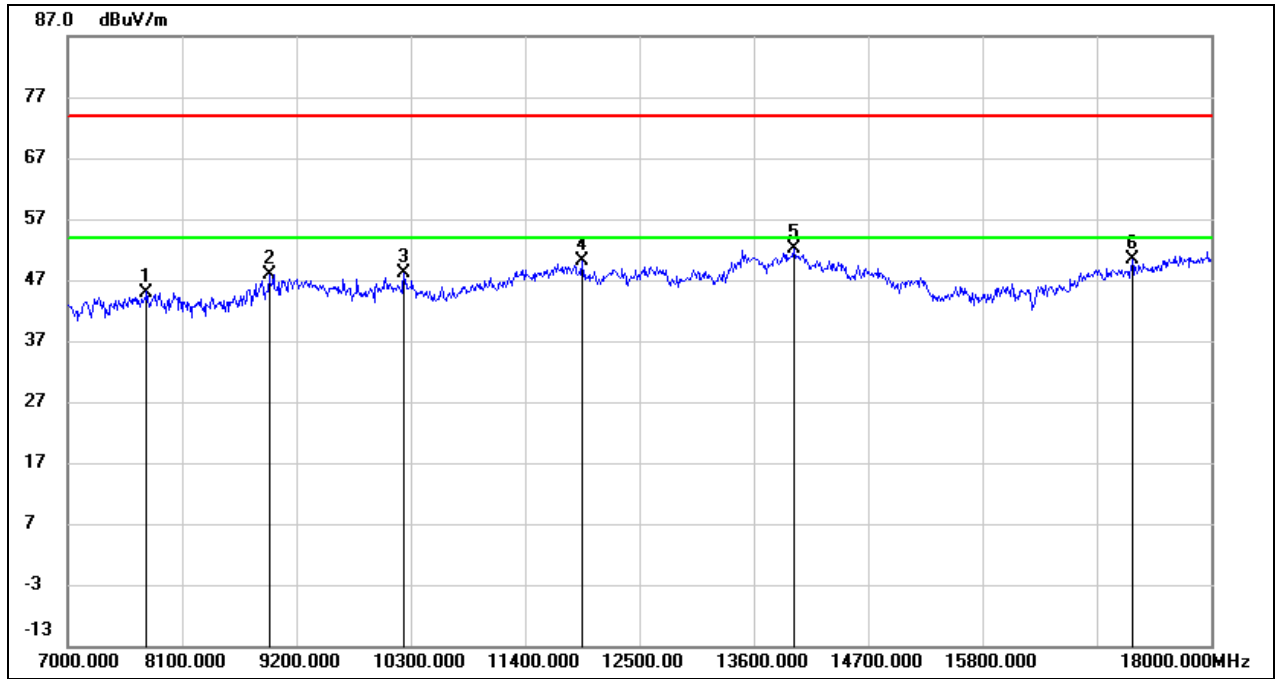
Test Mode:	802.11a 20	Channel:	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7748.000	38.48	6.66	45.14	74.00	-28.86	peak
2	9244.000	36.79	10.49	47.28	74.00	-26.72	peak
3	11840.000	32.27	17.40	49.67	74.00	-24.33	peak
4	13996.000	29.64	21.87	51.51	74.00	-22.49	peak
5	15206.000	30.35	17.28	47.63	74.00	-26.37	peak
6	17725.000	27.14	24.24	51.38	74.00	-22.62	peak



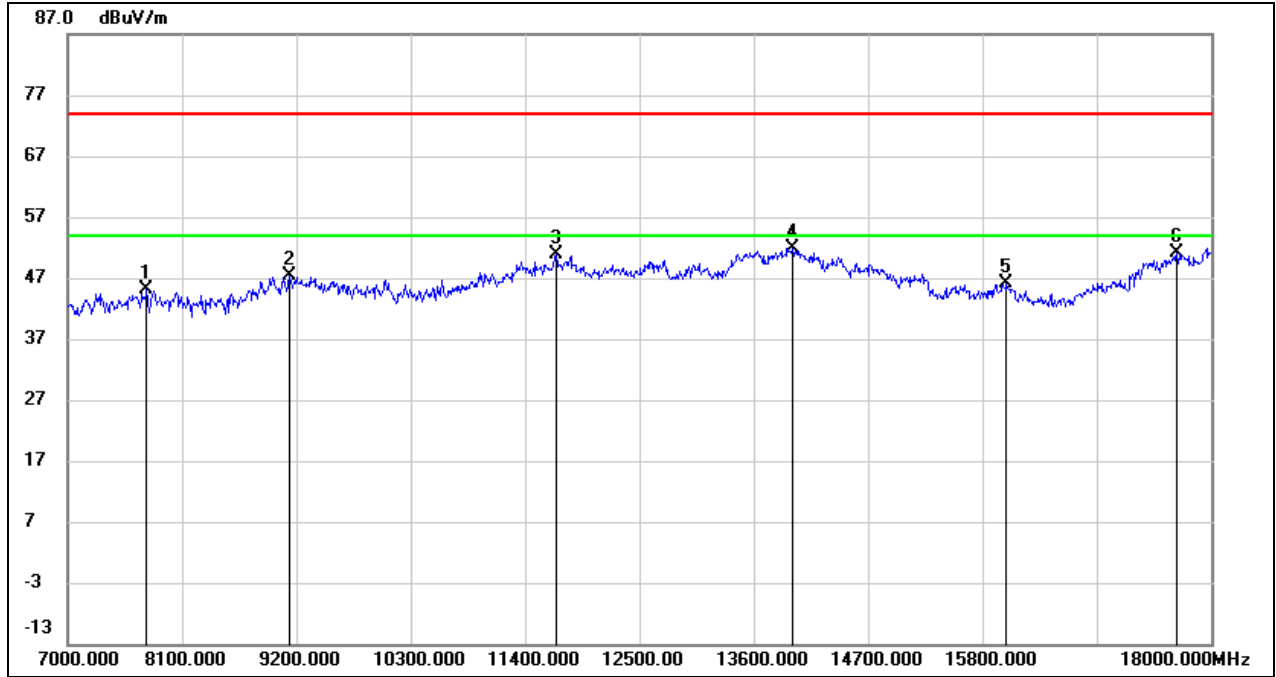
Test Mode:	802.11a 20	Channel:	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	38.36	6.64	45.00	74.00	-29.00	peak
2	8936.000	37.89	9.90	47.79	74.00	-26.21	peak
3	10234.000	35.78	12.26	48.04	74.00	-25.96	peak
4	11950.000	32.41	17.61	50.02	74.00	-23.98	peak
5	13985.000	30.25	21.85	52.10	74.00	-21.90	peak
6	17241.000	28.74	21.62	50.36	74.00	-23.64	peak



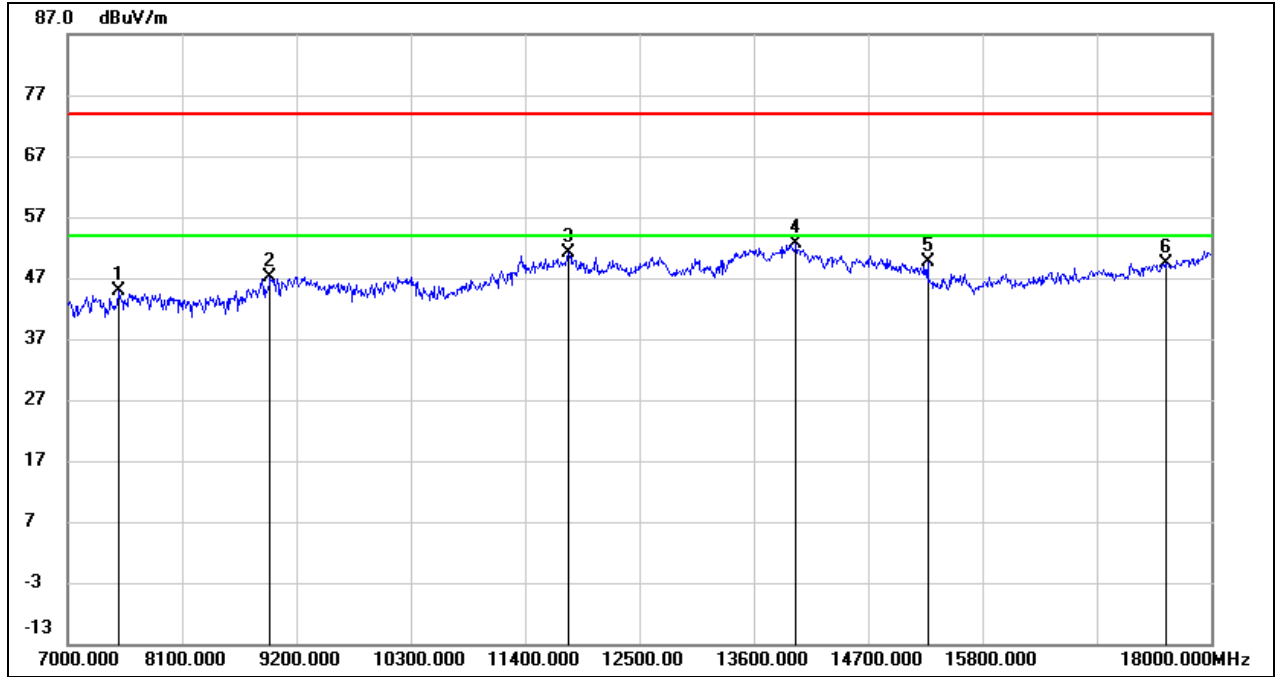
Test Mode:	802.11a 20	Channel:	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	38.47	6.64	45.11	74.00	-28.89	peak
2	9134.000	36.98	10.41	47.39	74.00	-26.61	peak
3	11697.000	33.74	17.13	50.87	74.00	-23.13	peak
4	13974.000	30.04	21.82	51.86	74.00	-22.14	peak
5	16031.000	29.00	17.02	46.02	74.00	-27.98	peak
6	17670.000	27.28	23.86	51.14	74.00	-22.86	peak



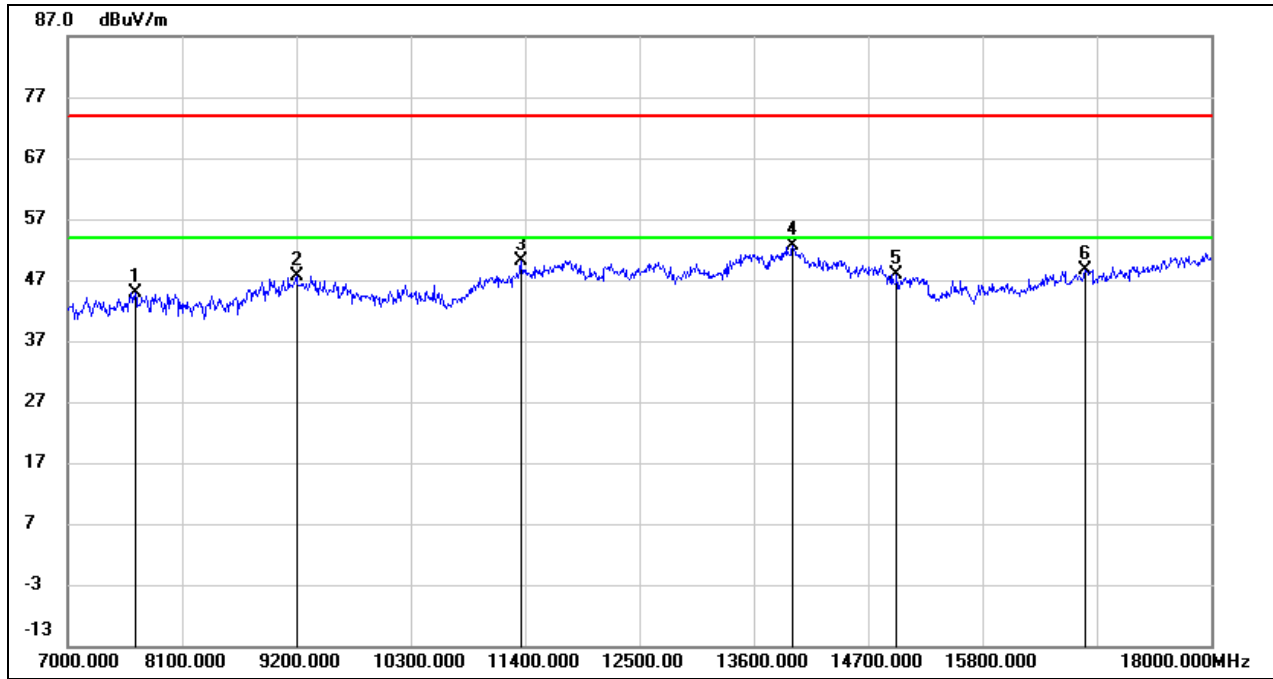
Test Mode:	802.11a 20	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7495.000	38.08	6.87	44.95	74.00	-29.05	peak
2	8947.000	37.23	9.98	47.21	74.00	-26.79	peak
3	11818.000	33.72	17.36	51.08	74.00	-22.92	peak
4	14007.000	30.86	21.85	52.71	74.00	-21.29	peak
5	15272.000	32.40	17.15	49.55	74.00	-24.45	peak
6	17571.000	26.22	23.19	49.41	74.00	-24.59	peak



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

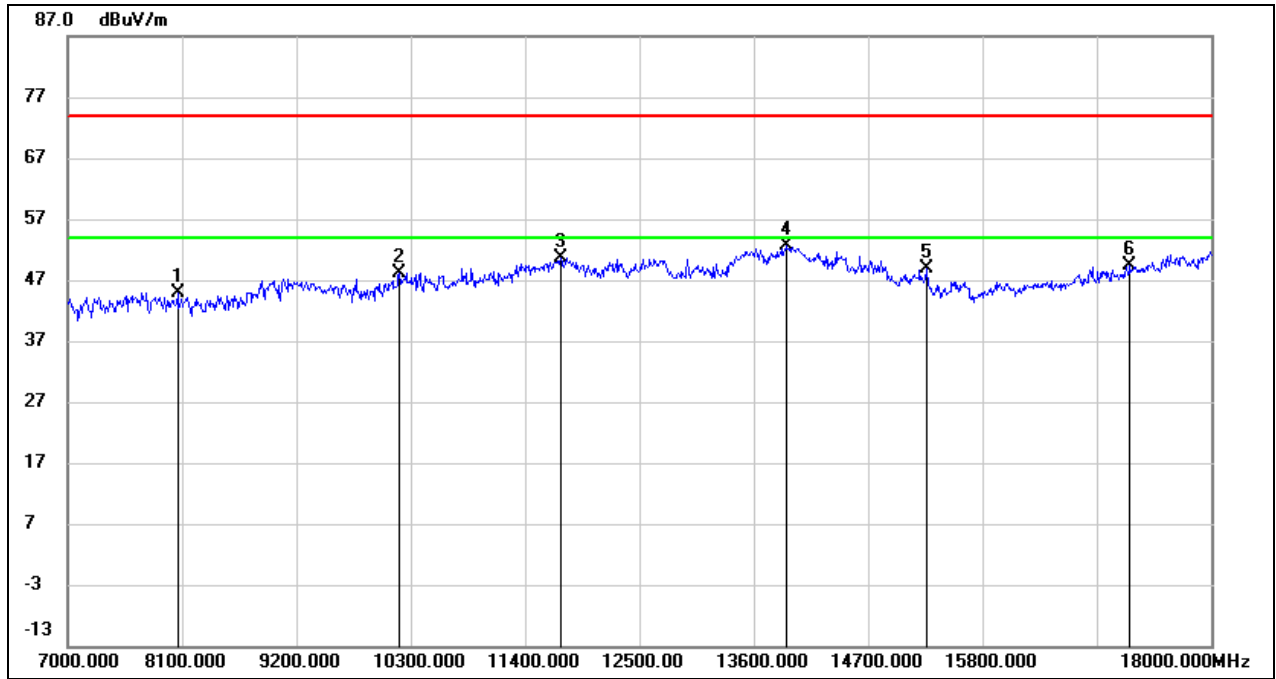


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7649.000	38.24	6.74	44.98	74.00	-29.02	peak
2	9200.000	37.15	10.46	47.61	74.00	-26.39	peak
3	11356.000	33.97	16.19	50.16	74.00	-23.84	peak
4	13974.000	30.79	21.82	52.61	74.00	-21.39	peak
5	14975.000	30.12	17.77	47.89	74.00	-26.11	peak
6	16790.000	29.01	19.65	48.66	74.00	-25.34	peak





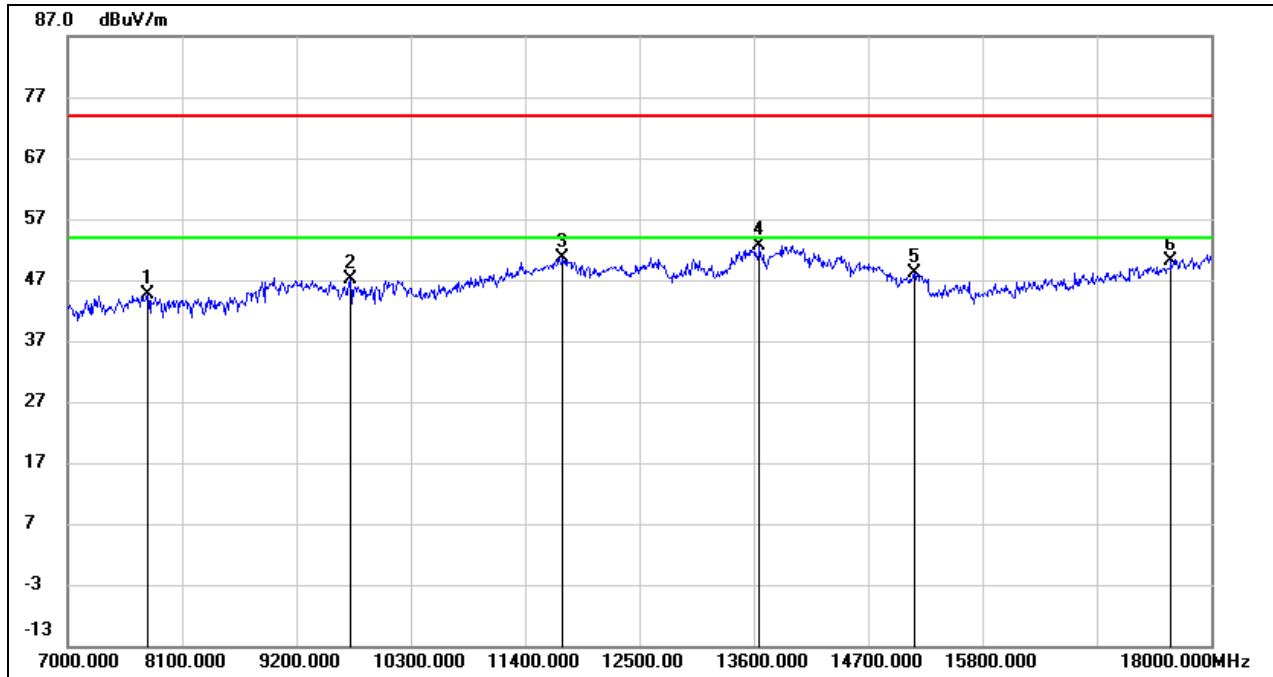
Test Mode:	802.11n HT20	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8056.000	38.48	6.48	44.96	74.00	-29.04	peak
2	10190.000	36.02	12.18	48.20	74.00	-25.80	peak
3	11741.000	33.42	17.22	50.64	74.00	-23.36	peak
4	13919.000	30.89	21.68	52.57	74.00	-21.43	peak
5	15261.000	31.66	17.16	48.82	74.00	-25.18	peak
6	17219.000	27.92	21.52	49.44	74.00	-24.56	peak



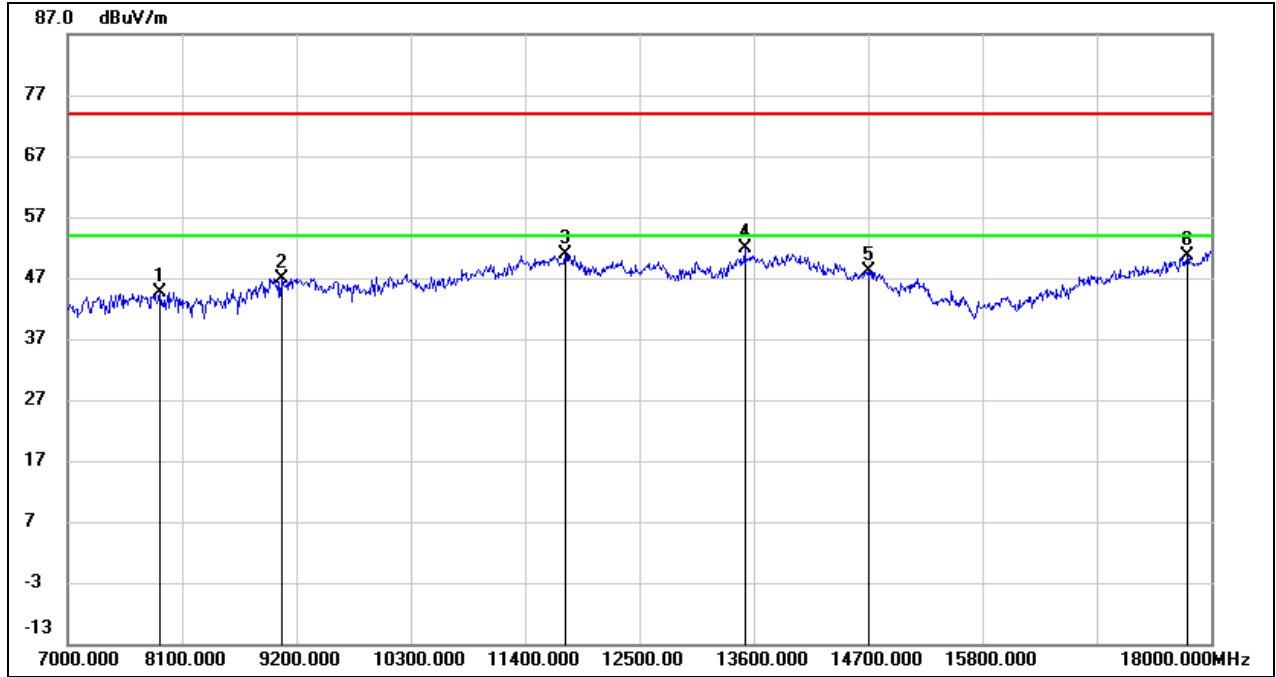
Test Mode:	802.11n HT20	Channel:	5180
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7770.000	37.93	6.63	44.56	74.00	-29.44	peak
2	9717.000	35.90	11.14	47.04	74.00	-26.96	peak
3	11763.000	33.38	17.26	50.64	74.00	-23.36	peak
4	13655.000	31.60	21.03	52.63	74.00	-21.37	peak
5	15140.000	30.79	17.40	48.19	74.00	-25.81	peak
6	17615.000	26.59	23.49	50.08	74.00	-23.92	peak



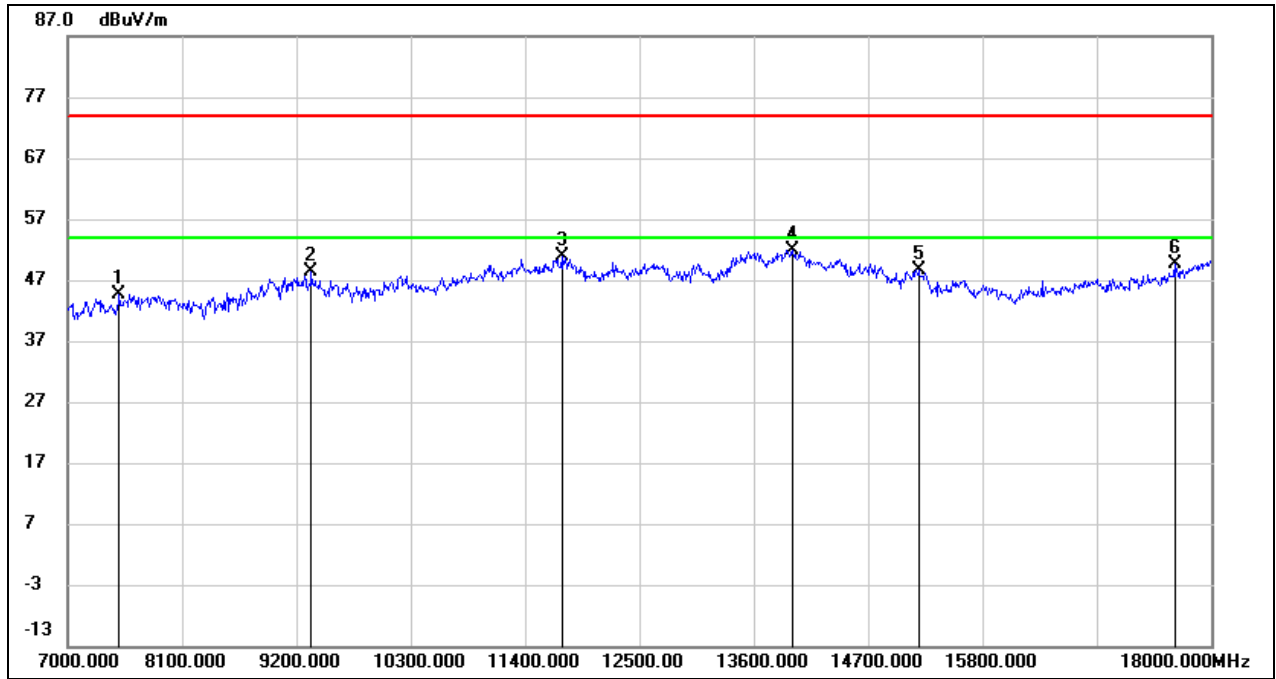
Test Mode:	802.11n HT20	Channel:	5200
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7880.000	37.99	6.54	44.53	74.00	-29.47	peak
2	9057.000	36.62	10.38	47.00	74.00	-27.00	peak
3	11785.000	33.65	17.30	50.95	74.00	-23.05	peak
4	13512.000	31.13	20.68	51.81	74.00	-22.19	peak
5	14700.000	29.30	18.94	48.24	74.00	-25.76	peak
6	17769.000	26.14	24.53	50.67	74.00	-23.33	peak



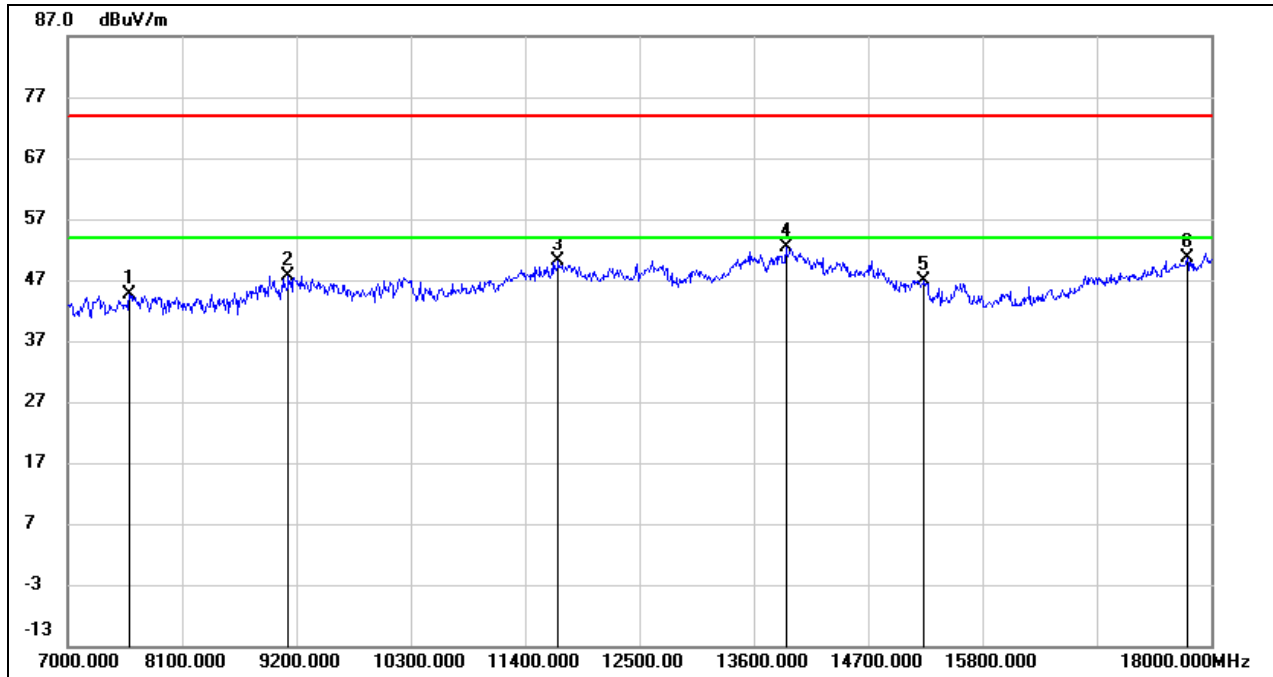
Test Mode:	802.11n HT20	Channel:	5200
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7495.000	37.86	6.87	44.73	74.00	-29.27	peak
2	9343.000	37.77	10.55	48.32	74.00	-25.68	peak
3	11752.000	33.60	17.24	50.84	74.00	-23.16	peak
4	13974.000	30.13	21.82	51.95	74.00	-22.05	peak
5	15184.000	31.28	17.32	48.60	74.00	-25.40	peak
6	17648.000	25.81	23.72	49.53	74.00	-24.47	peak



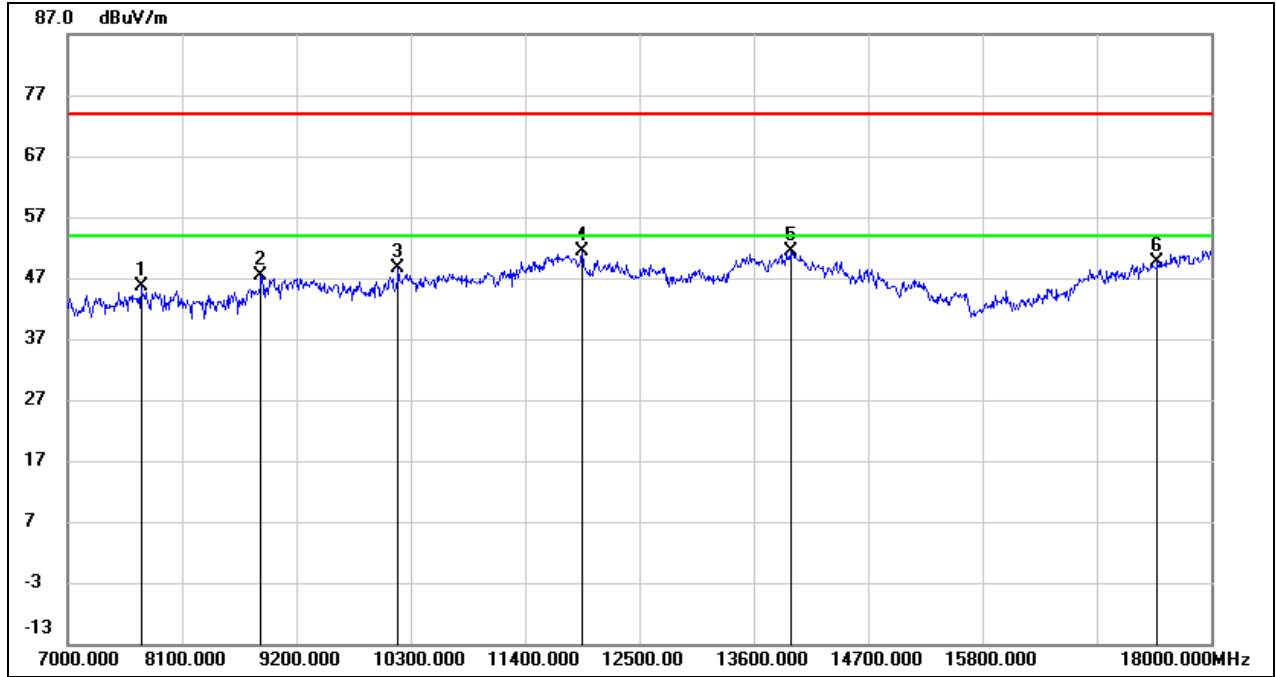
Test Mode:	802.11n HT20	Channel:	5240
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7594.000	37.74	6.79	44.53	74.00	-29.47	peak
2	9123.000	37.23	10.42	47.65	74.00	-26.35	peak
3	11719.000	32.88	17.18	50.06	74.00	-23.94	peak
4	13908.000	30.67	21.66	52.33	74.00	-21.67	peak
5	15239.000	29.72	17.22	46.94	74.00	-27.06	peak
6	17769.000	26.06	24.53	50.59	74.00	-23.41	peak



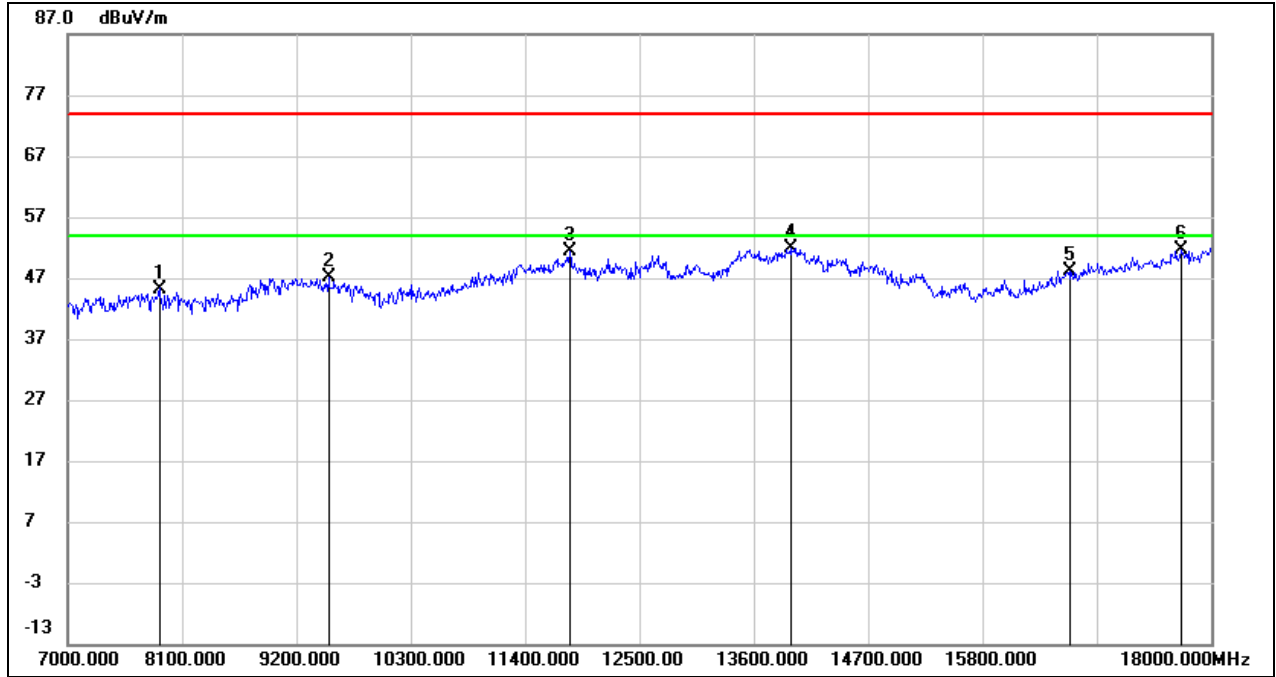
Test Mode:	802.11n HT20	Channel:	5240
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7704.000	38.83	6.69	45.52	74.00	-28.48	peak
2	8859.000	38.02	9.36	47.38	74.00	-26.62	peak
3	10179.000	36.51	12.14	48.65	74.00	-25.35	peak
4	11950.000	33.74	17.61	51.35	74.00	-22.65	peak
5	13952.000	29.58	21.76	51.34	74.00	-22.66	peak
6	17483.000	27.02	22.62	49.64	74.00	-24.36	peak



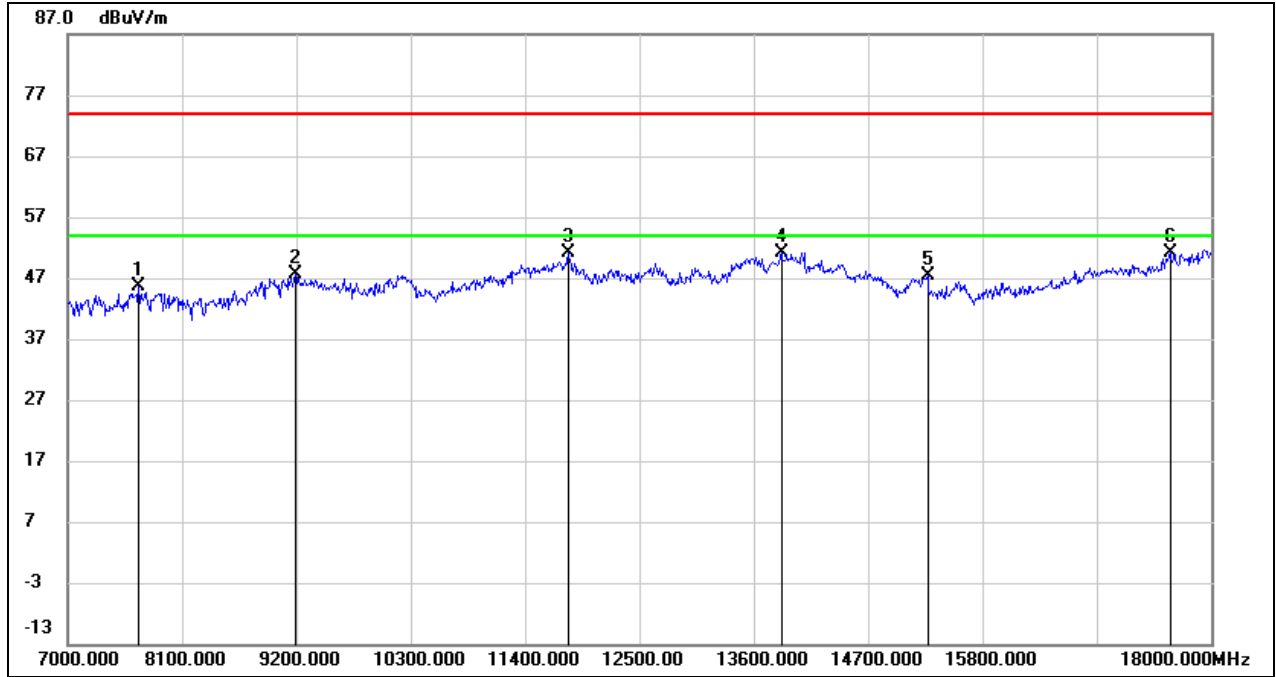
Test Mode:	802.11n HT20	Channel:	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7880.000	38.71	6.54	45.25	74.00	-28.75	peak
2	9508.000	36.41	10.67	47.08	74.00	-26.92	peak
3	11829.000	34.02	17.38	51.40	74.00	-22.60	peak
4	13952.000	30.01	21.76	51.77	74.00	-22.23	peak
5	16636.000	29.12	18.97	48.09	74.00	-25.91	peak
6	17714.000	27.54	24.16	51.70	74.00	-22.30	peak



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

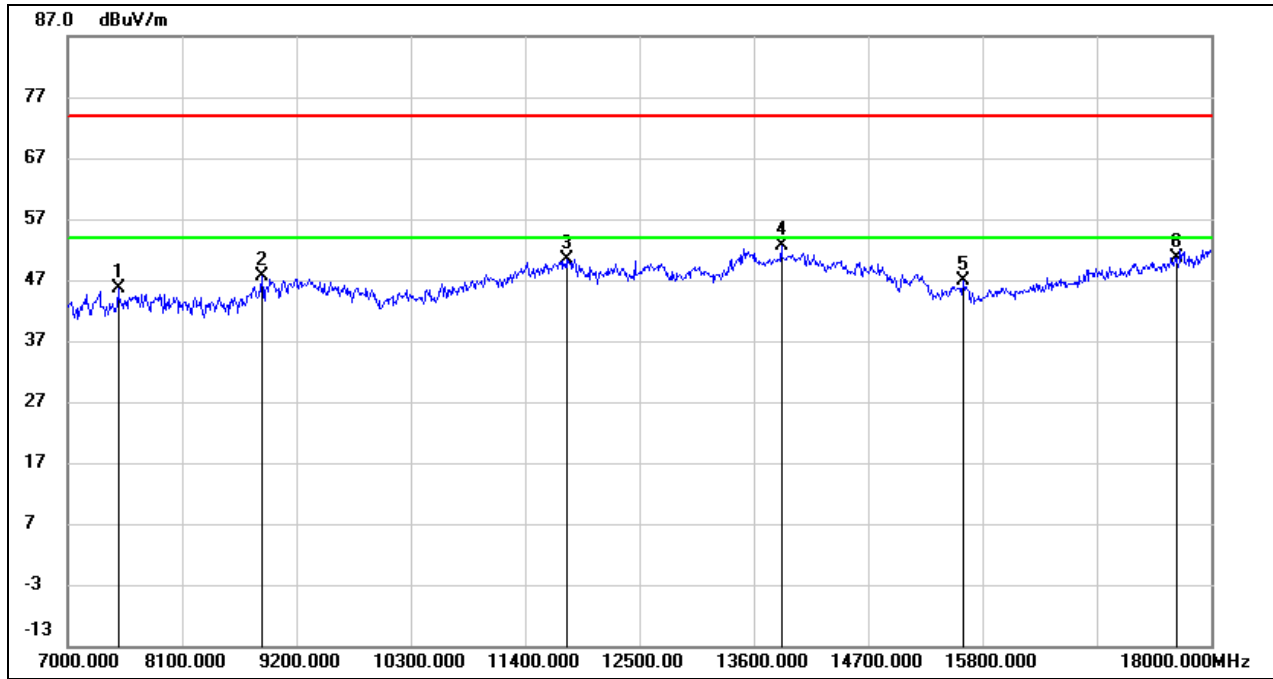


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7682.000	38.89	6.71	45.60	74.00	-28.40	peak
2	9189.000	37.27	10.46	47.73	74.00	-26.27	peak
3	11818.000	33.67	17.36	51.03	74.00	-22.97	peak
4	13864.000	29.58	21.53	51.11	74.00	-22.89	peak
5	15272.000	30.18	17.15	47.33	74.00	-26.67	peak
6	17604.000	27.84	23.41	51.25	74.00	-22.75	peak





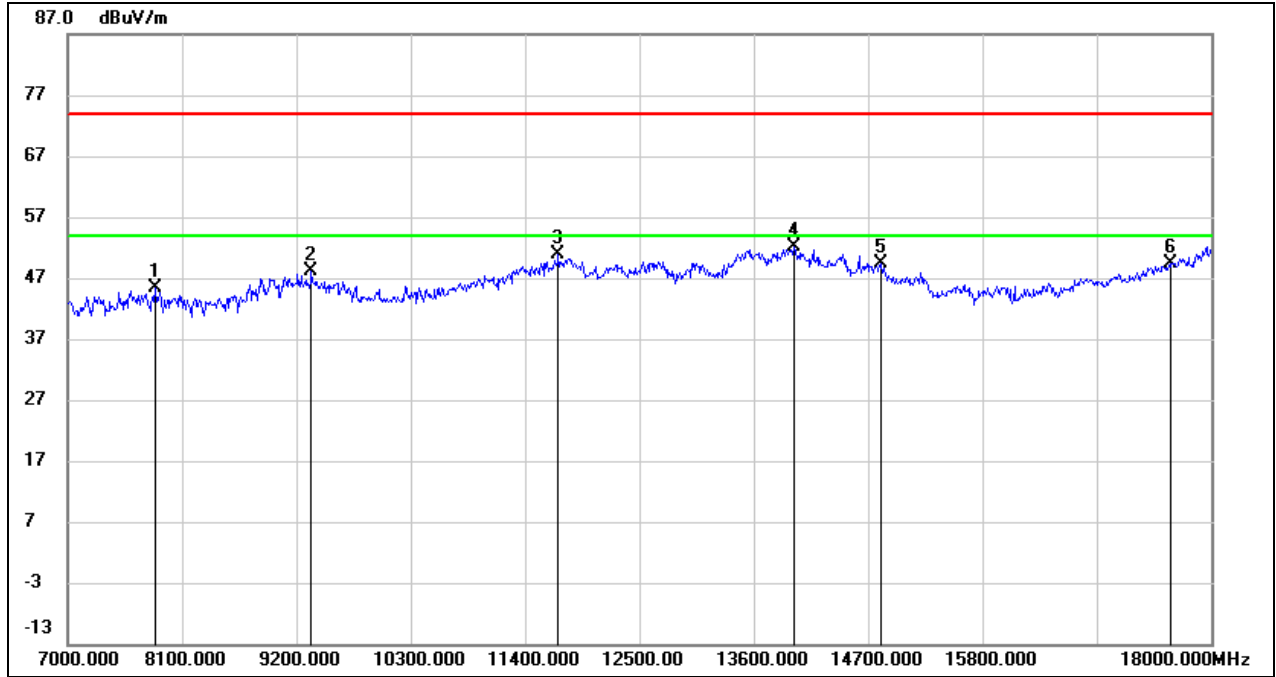
Test Mode:	802.11n HT20	Channel:	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7484.000	38.66	6.87	45.53	74.00	-28.47	peak
2	8870.000	38.21	9.44	47.65	74.00	-26.35	peak
3	11796.000	33.14	17.32	50.46	74.00	-23.54	peak
4	13864.000	31.17	21.53	52.70	74.00	-21.30	peak
5	15613.000	30.02	16.76	46.78	74.00	-27.22	peak
6	17670.000	26.77	23.86	50.63	74.00	-23.37	peak



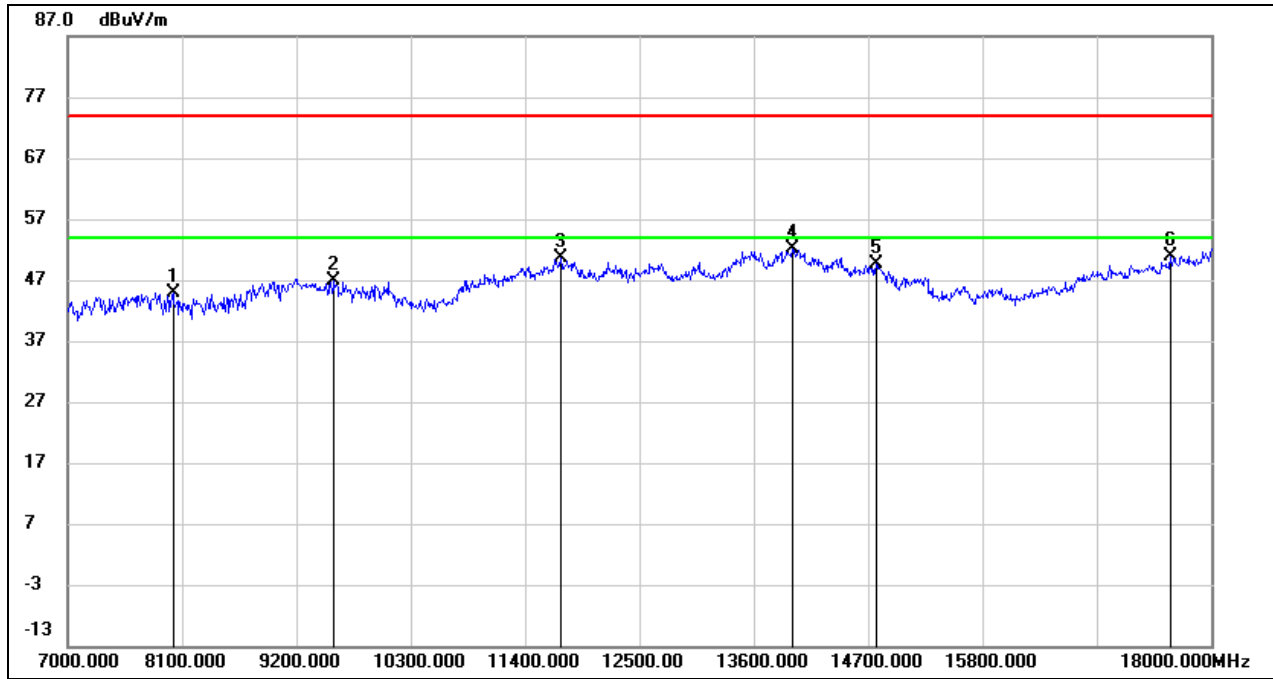
Test Mode:	802.11n HT20	Channel:	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7836.000	38.75	6.58	45.33	74.00	-28.67	peak
2	9343.000	37.58	10.55	48.13	74.00	-25.87	peak
3	11719.000	33.58	17.18	50.76	74.00	-23.24	peak
4	13985.000	30.34	21.85	52.19	74.00	-21.81	peak
5	14821.000	31.03	18.42	49.45	74.00	-24.55	peak
6	17615.000	25.93	23.49	49.42	74.00	-24.58	peak



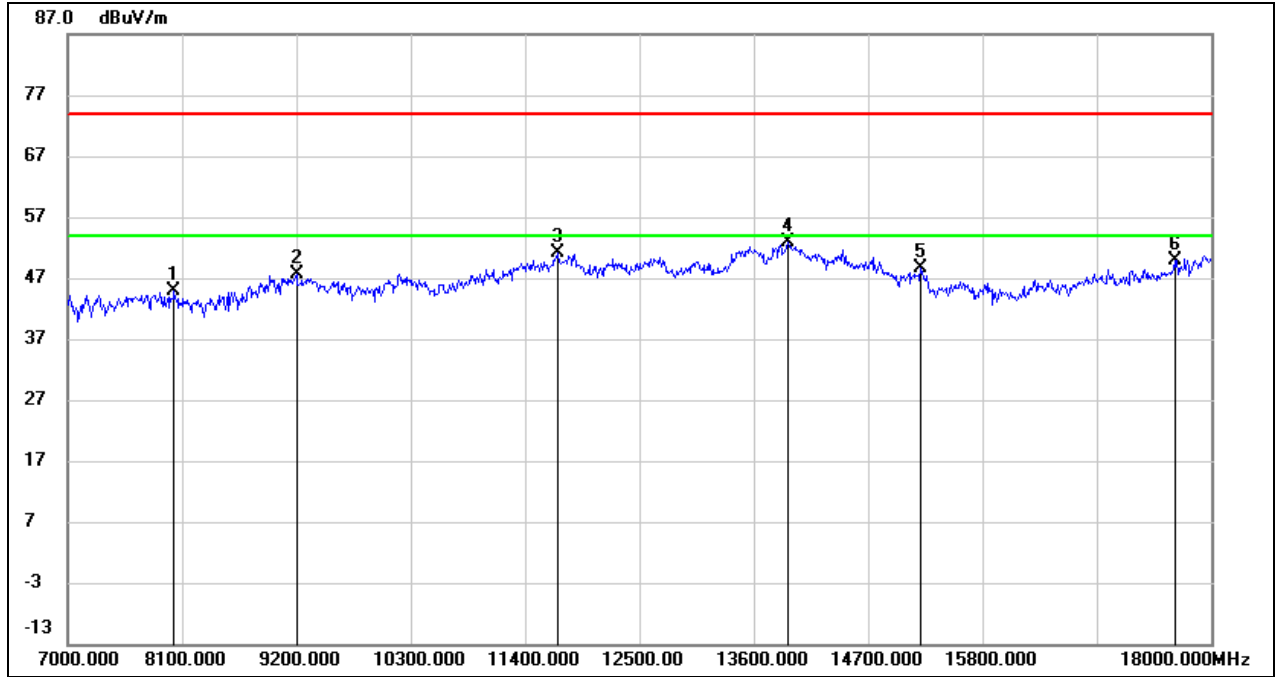
Test Mode:	802.11n HT20	Channel:	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8012.000	38.51	6.44	44.95	74.00	-29.05	peak
2	9563.000	36.03	10.79	46.82	74.00	-27.18	peak
3	11741.000	33.42	17.22	50.64	74.00	-23.36	peak
4	13974.000	30.29	21.82	52.11	74.00	-21.89	peak
5	14777.000	31.07	18.61	49.68	74.00	-24.32	peak
6	17604.000	27.58	23.41	50.99	74.00	-23.01	peak



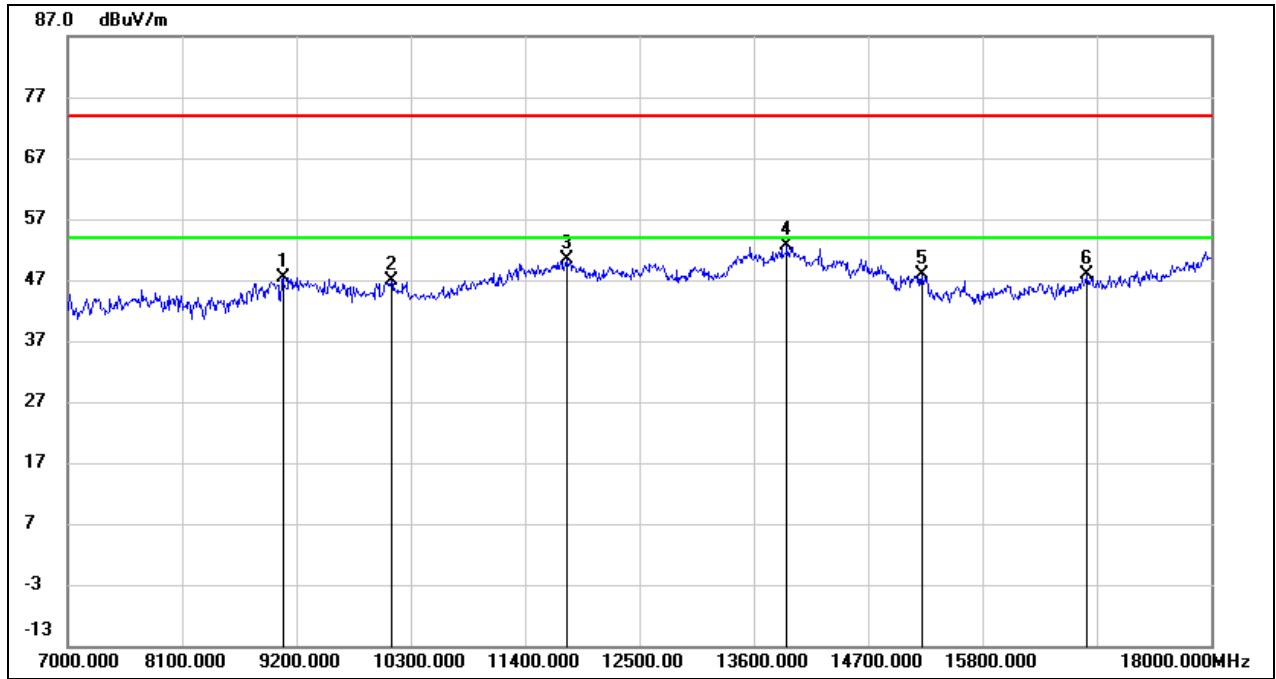
Test Mode:	802.11n HT20	Channel:	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8023.000	38.49	6.45	44.94	74.00	-29.06	peak
2	9200.000	37.17	10.46	47.63	74.00	-26.37	peak
3	11719.000	33.96	17.18	51.14	74.00	-22.86	peak
4	13930.000	31.09	21.71	52.80	74.00	-21.20	peak
5	15206.000	31.34	17.28	48.62	74.00	-25.38	peak
6	17648.000	26.16	23.72	49.88	74.00	-24.12	peak



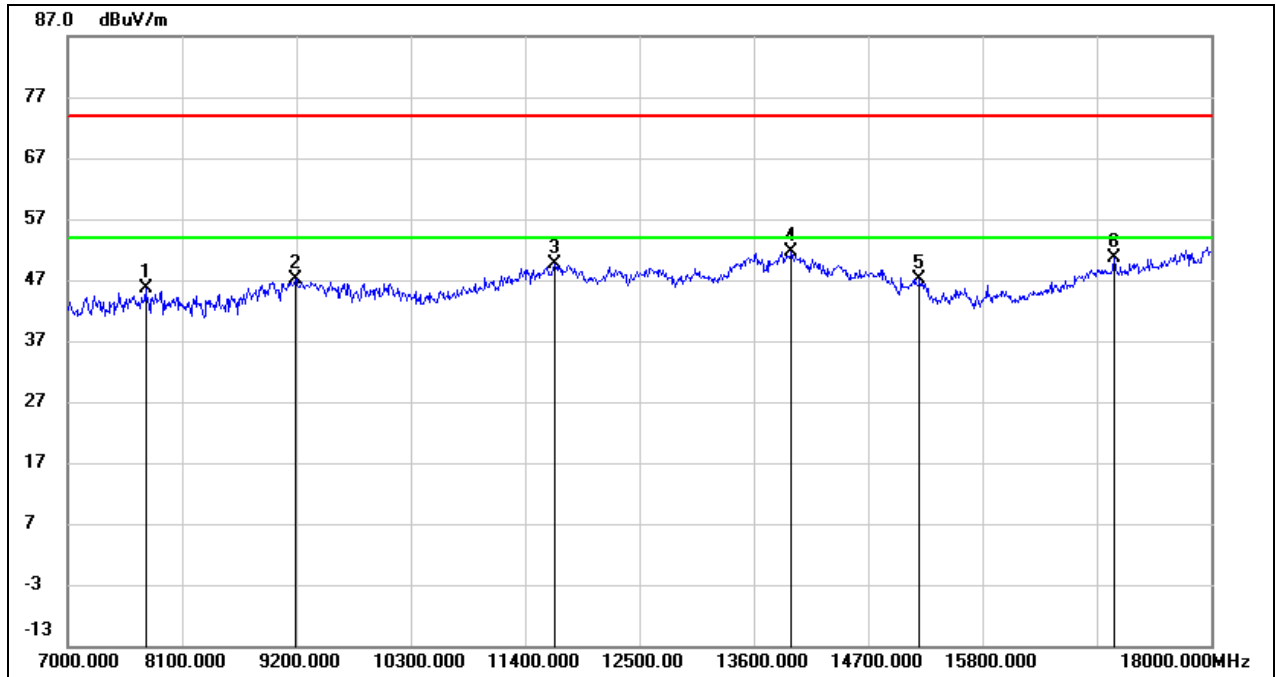
Test Mode:	802.11n HT40	Channel:	5190
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9068.000	36.98	10.39	47.37	74.00	-26.63	peak
2	10113.000	34.83	12.01	46.84	74.00	-27.16	peak
3	11796.000	33.13	17.32	50.45	74.00	-23.55	peak
4	13919.000	30.91	21.68	52.59	74.00	-21.41	peak
5	15217.000	30.59	17.25	47.84	74.00	-26.16	peak
6	16801.000	28.27	19.70	47.97	74.00	-26.03	peak



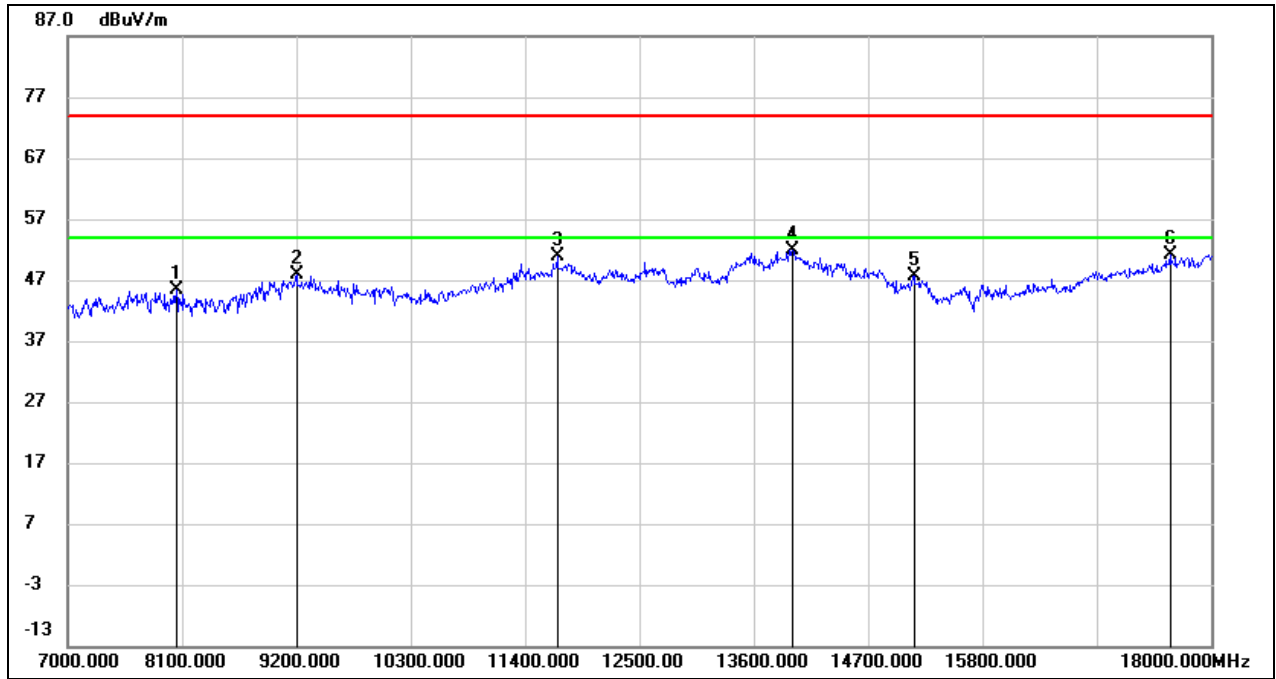
Test Mode:	802.11n HT40	Channel:	5190
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7748.000	38.97	6.66	45.63	74.00	-28.37	peak
2	9189.000	36.66	10.46	47.12	74.00	-26.88	peak
3	11686.000	32.47	17.12	49.59	74.00	-24.41	peak
4	13963.000	29.87	21.78	51.65	74.00	-22.35	peak
5	15195.000	29.94	17.29	47.23	74.00	-26.77	peak
6	17065.000	29.68	20.88	50.56	74.00	-23.44	peak



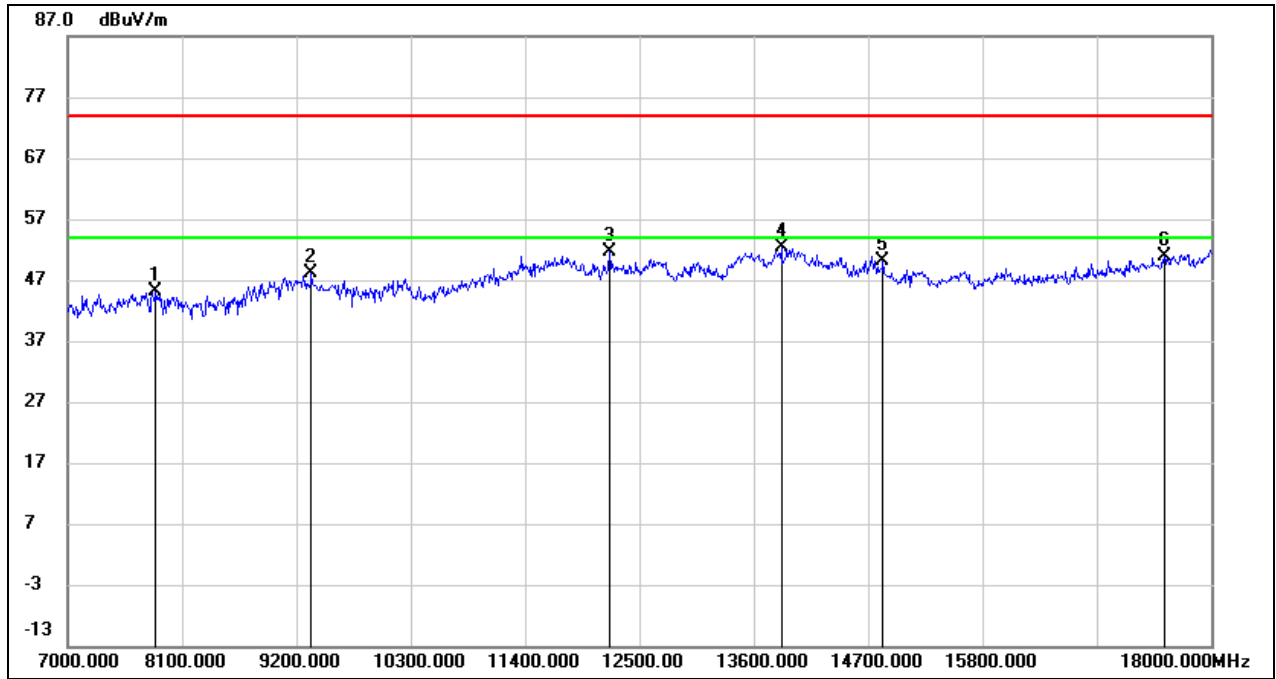
Test Mode:	802.11n HT40	Channel:	5230
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8045.000	38.97	6.47	45.44	74.00	-28.56	peak
2	9200.000	37.52	10.46	47.98	74.00	-26.02	peak
3	11708.000	33.84	17.16	51.00	74.00	-23.00	peak
4	13974.000	30.02	21.82	51.84	74.00	-22.16	peak
5	15140.000	30.23	17.40	47.63	74.00	-26.37	peak
6	17604.000	27.64	23.41	51.05	74.00	-22.95	peak



Test Mode:	802.11n HT40	Channel:	5230
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz

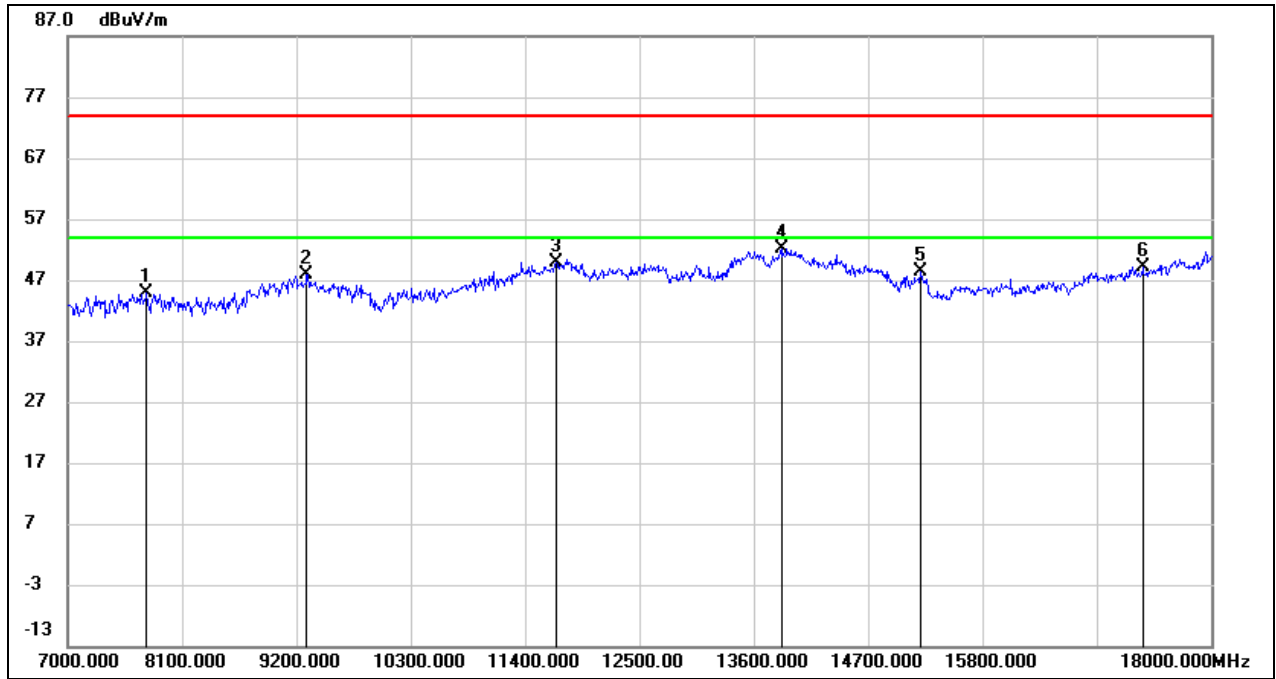


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7847.000	38.49	6.57	45.06	74.00	-28.94	peak
2	9343.000	37.55	10.55	48.10	74.00	-25.90	peak
3	12214.000	33.78	17.76	51.54	74.00	-22.46	peak
4	13864.000	30.82	21.53	52.35	74.00	-21.65	peak
5	14843.000	31.85	18.34	50.19	74.00	-23.81	peak
6	17549.000	27.91	23.04	50.95	74.00	-23.05	peak





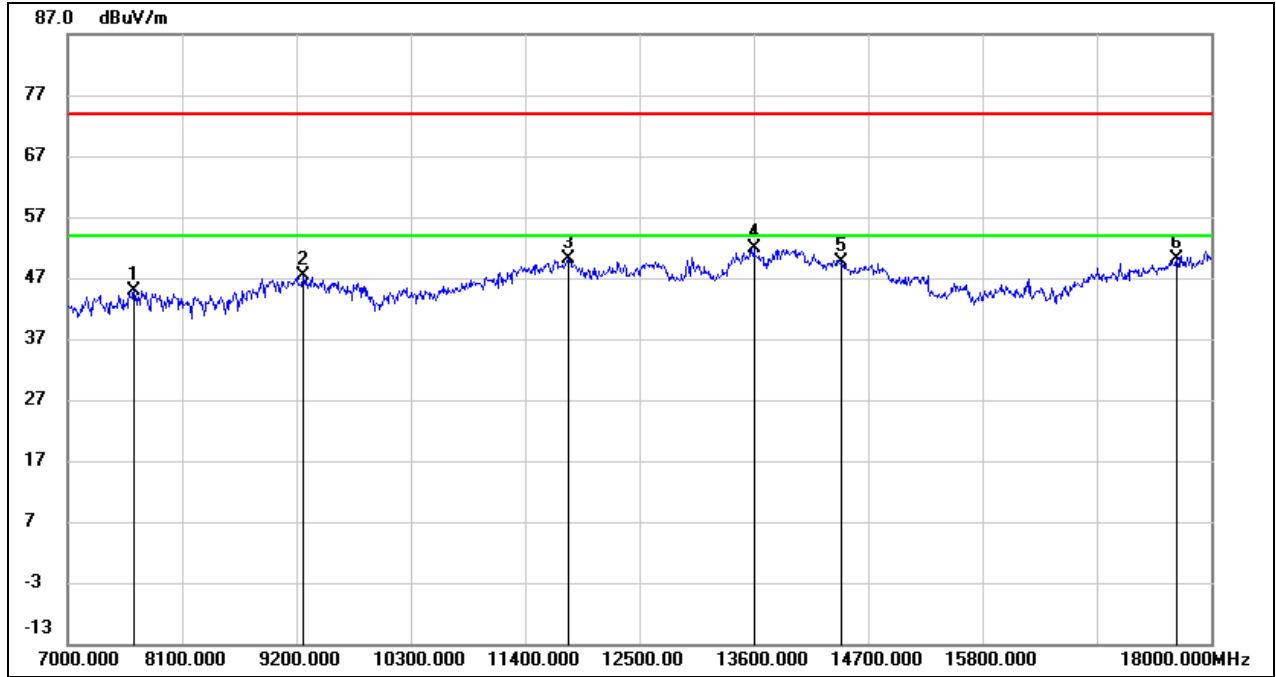
Test Mode:	802.11n HT40	Channel:	5755
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	38.35	6.64	44.99	74.00	-29.01	peak
2	9299.000	37.41	10.53	47.94	74.00	-26.06	peak
3	11697.000	32.86	17.13	49.99	74.00	-24.01	peak
4	13864.000	30.67	21.53	52.20	74.00	-21.80	peak
5	15206.000	31.11	17.28	48.39	74.00	-25.61	peak
6	17340.000	27.11	22.03	49.14	74.00	-24.86	peak



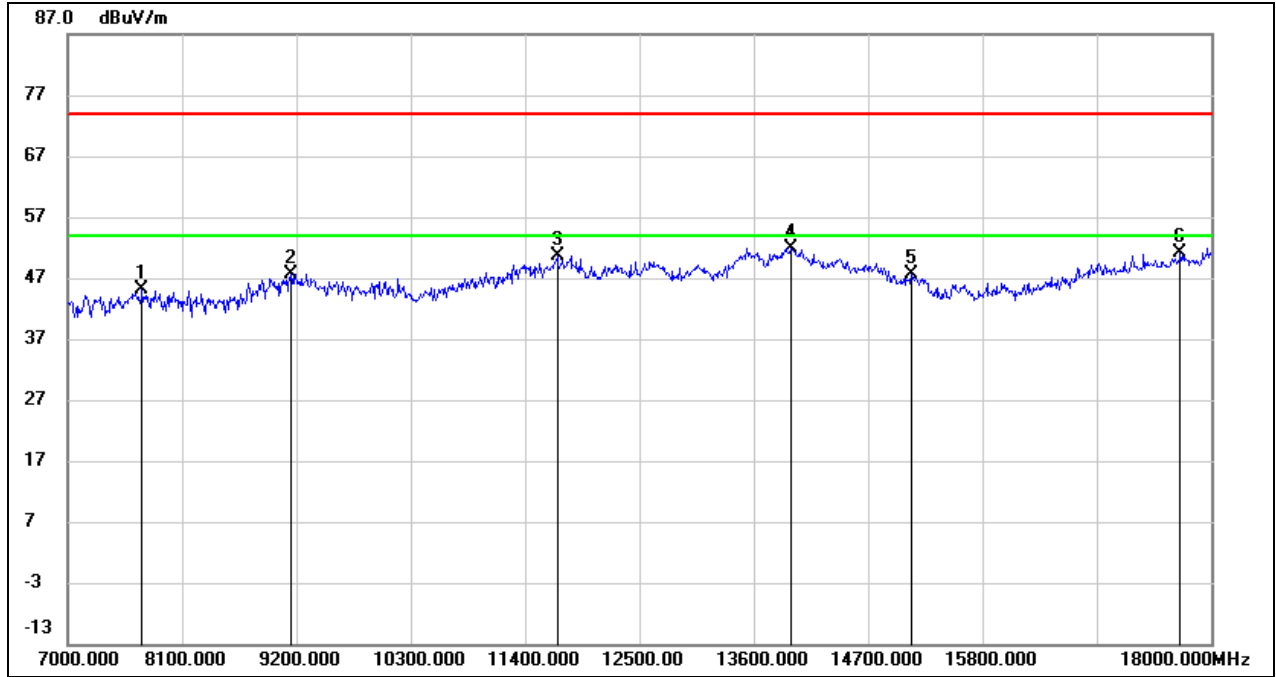
Test Mode:	802.11n HT40	Channel:	5755
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7638.000	38.07	6.75	44.82	74.00	-29.18	peak
2	9266.000	36.80	10.51	47.31	74.00	-26.69	peak
3	11818.000	32.81	17.36	50.17	74.00	-23.83	peak
4	13600.000	31.07	20.89	51.96	74.00	-22.04	peak
5	14436.000	29.64	20.05	49.69	74.00	-24.31	peak
6	17670.000	26.25	23.86	50.11	74.00	-23.89	peak



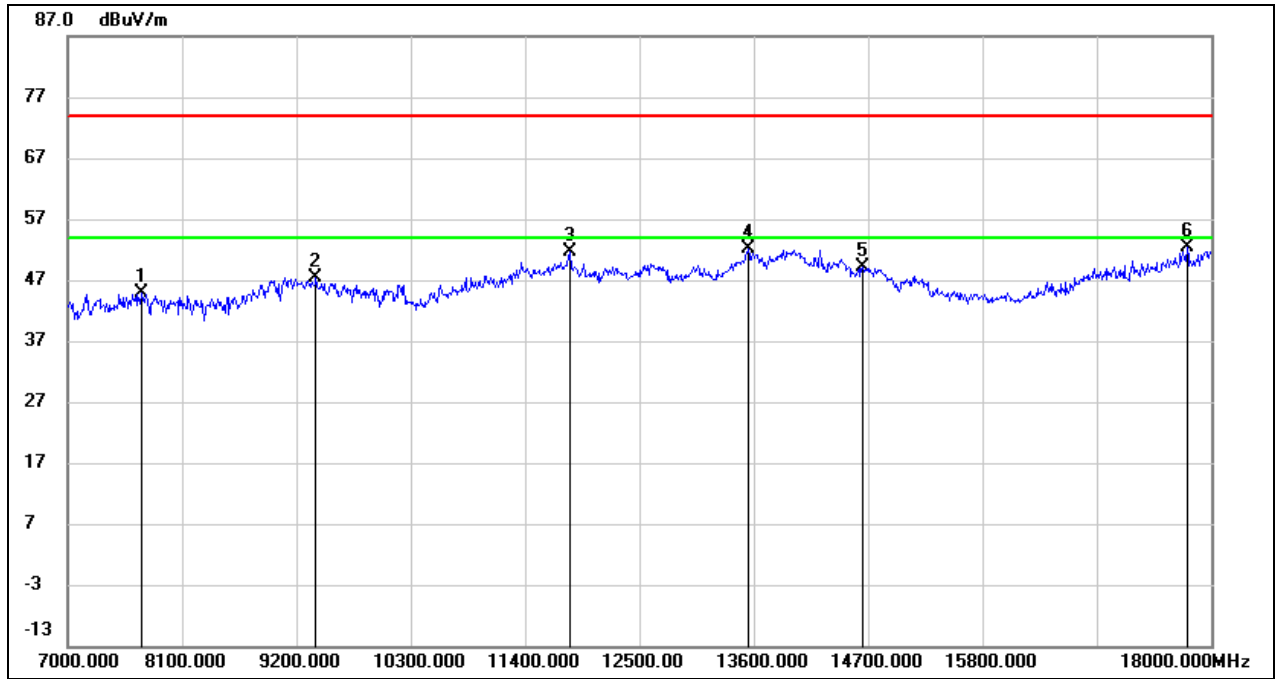
Test Mode:	802.11n HT40	Channel:	5795
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7715.000	38.52	6.68	45.20	74.00	-28.80	peak
2	9145.000	37.24	10.43	47.67	74.00	-26.33	peak
3	11708.000	33.58	17.16	50.74	74.00	-23.26	peak
4	13952.000	30.08	21.76	51.84	74.00	-22.16	peak
5	15118.000	30.26	17.44	47.70	74.00	-26.30	peak
6	17703.000	27.11	24.09	51.20	74.00	-22.80	peak



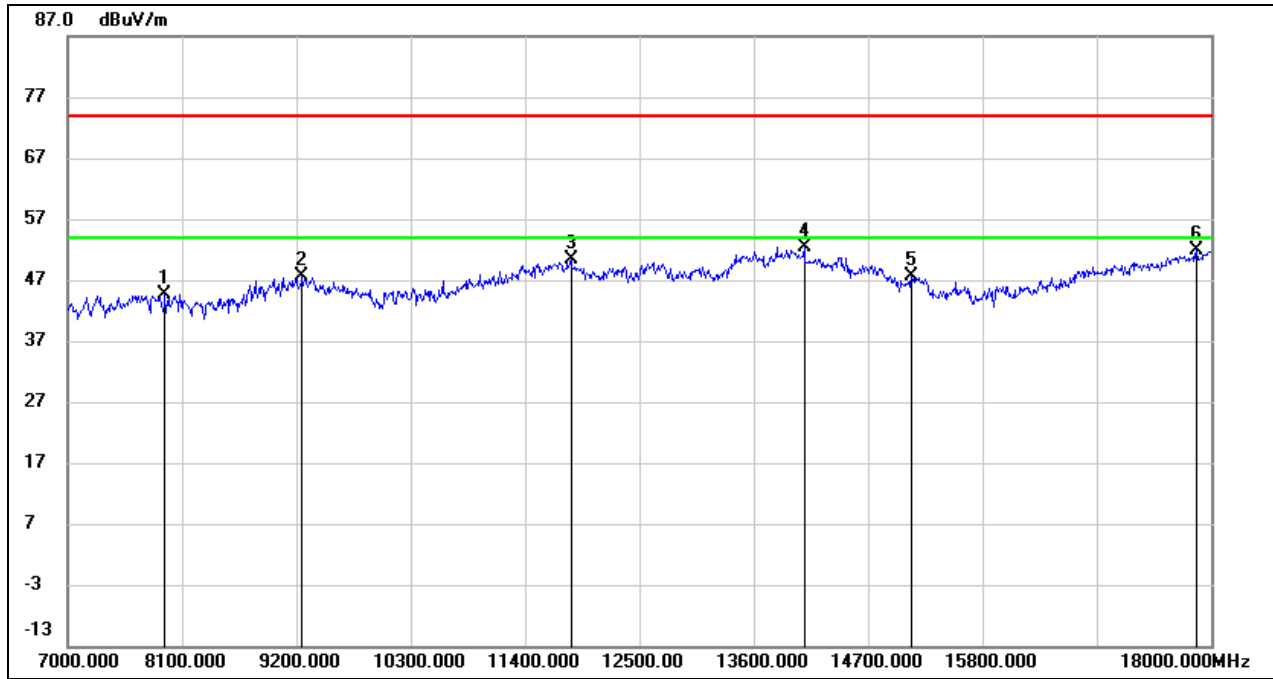
Test Mode:	802.11n HT40	Channel:	5795
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7715.000	38.13	6.68	44.81	74.00	-29.19	peak
2	9387.000	36.84	10.58	47.42	74.00	-26.58	peak
3	11829.000	34.18	17.38	51.56	74.00	-22.44	peak
4	13545.000	31.48	20.75	52.23	74.00	-21.77	peak
5	14645.000	30.07	19.17	49.24	74.00	-24.76	peak
6	17769.000	27.85	24.53	52.38	74.00	-21.62	peak



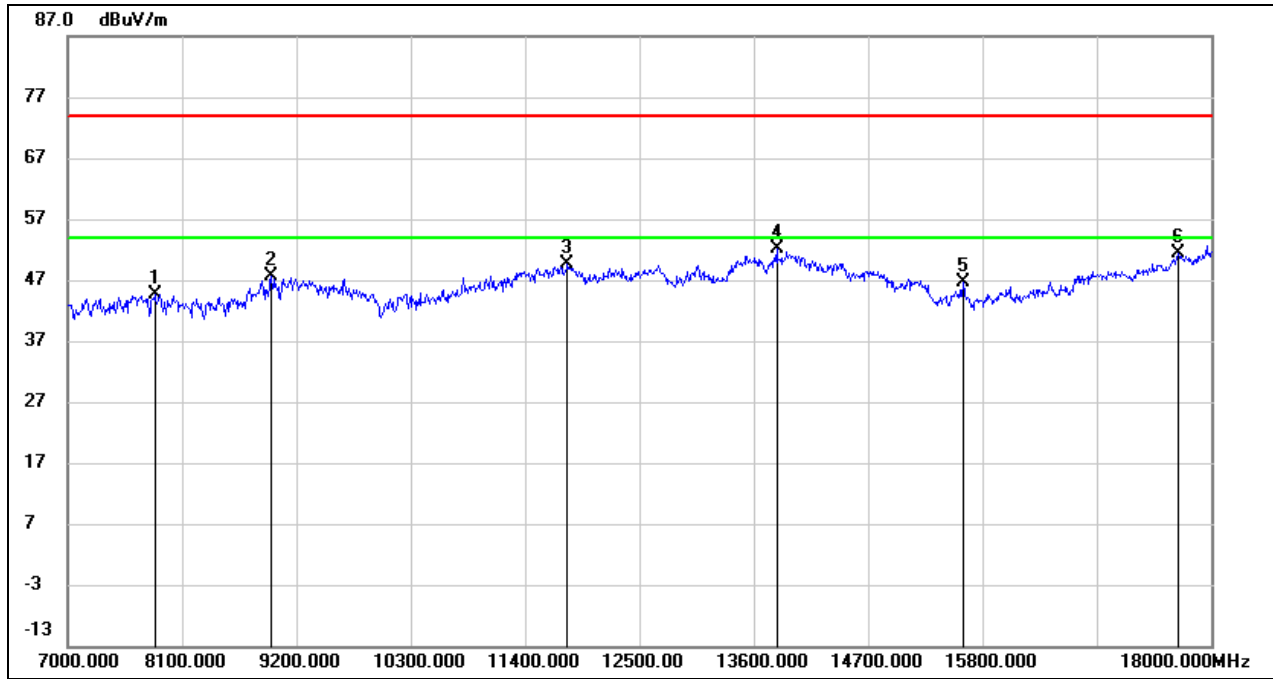
Test Mode:	802.11ac VHT80	Channel:	5210
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7935.000	38.13	6.49	44.62	74.00	-29.38	peak
2	9255.000	37.15	10.51	47.66	74.00	-26.34	peak
3	11840.000	32.98	17.40	50.38	74.00	-23.62	peak
4	14084.000	30.79	21.52	52.31	74.00	-21.69	peak
5	15118.000	30.27	17.44	47.71	74.00	-26.29	peak
6	17857.000	26.64	25.14	51.78	74.00	-22.22	peak



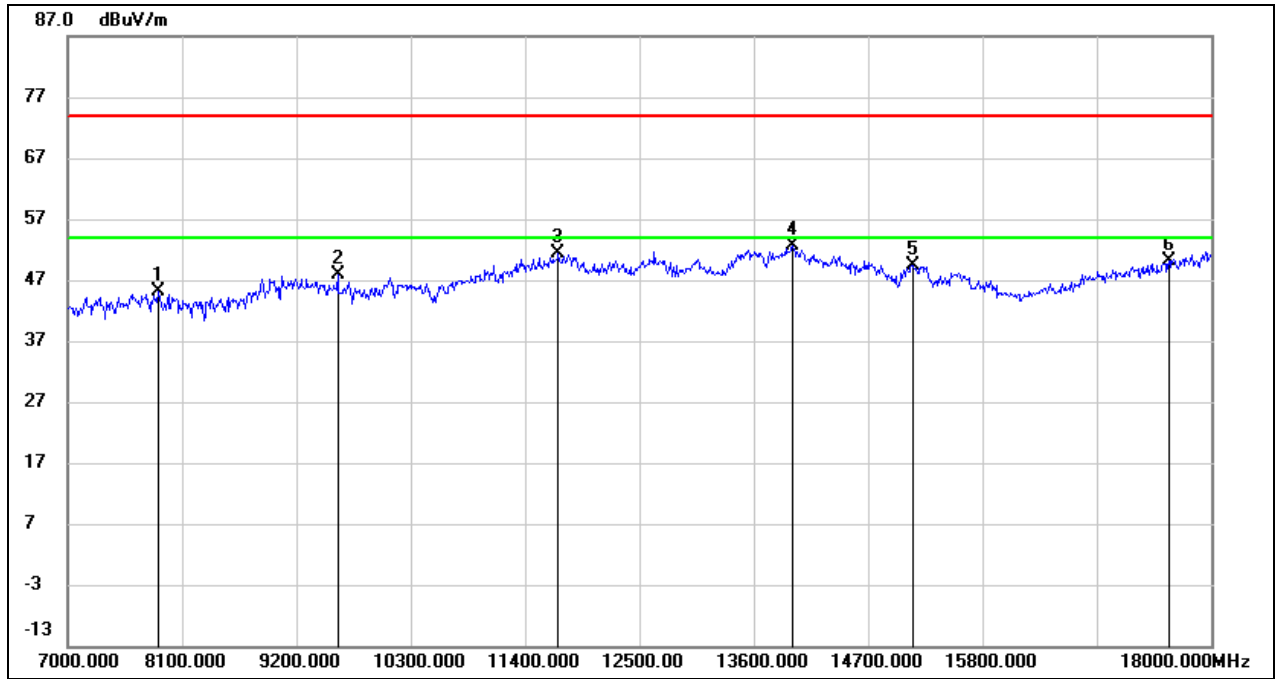
Test Mode:	802.11ac VHT80	Channel:	5210
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7836.000	38.17	6.58	44.75	74.00	-29.25	peak
2	8958.000	37.58	10.05	47.63	74.00	-26.37	peak
3	11807.000	32.17	17.34	49.51	74.00	-24.49	peak
4	13820.000	30.58	21.43	52.01	74.00	-21.99	peak
5	15613.000	29.76	16.76	46.52	74.00	-27.48	peak
6	17681.000	27.48	23.94	51.42	74.00	-22.58	peak



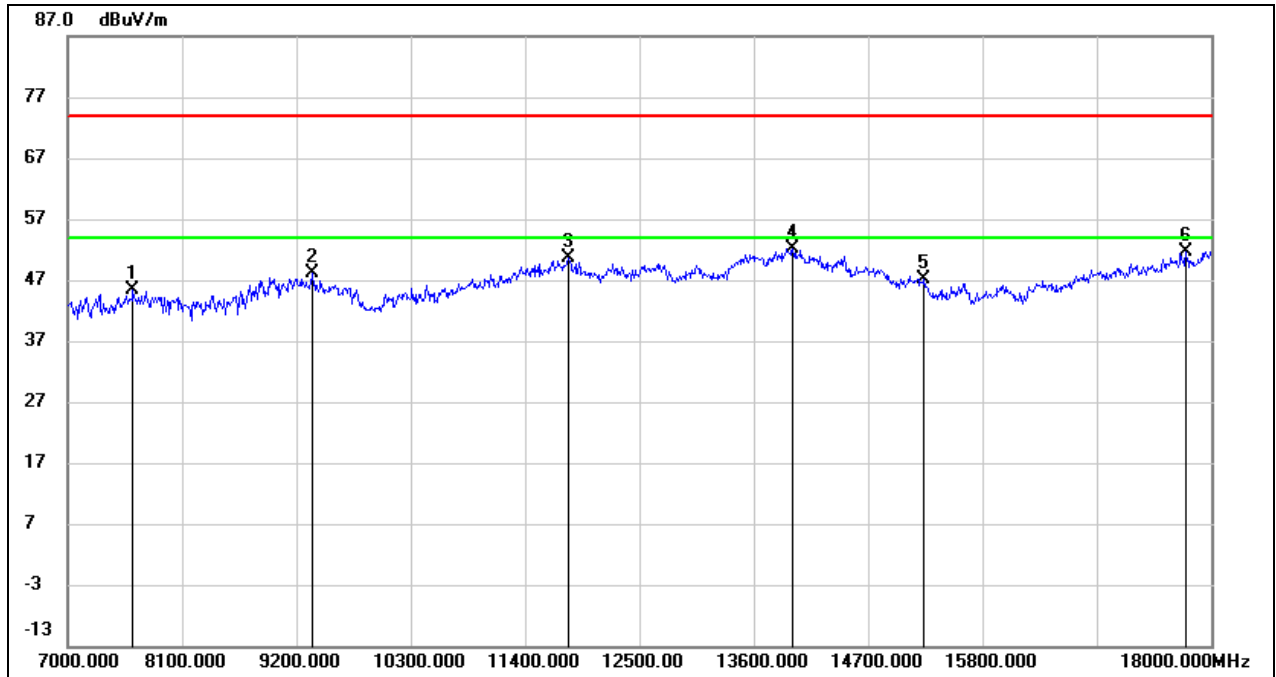
Test Mode:	802.11ac VHT80	Channel:	5775
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7869.000	38.56	6.54	45.10	74.00	-28.90	peak
2	9596.000	36.91	10.87	47.78	74.00	-26.22	peak
3	11719.000	34.17	17.18	51.35	74.00	-22.65	peak
4	13974.000	30.71	21.82	52.53	74.00	-21.47	peak
5	15129.000	32.06	17.43	49.49	74.00	-24.51	peak
6	17593.000	26.78	23.34	50.12	74.00	-23.88	peak



Test Mode:	802.11ac VHT80	Channel:	5775
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



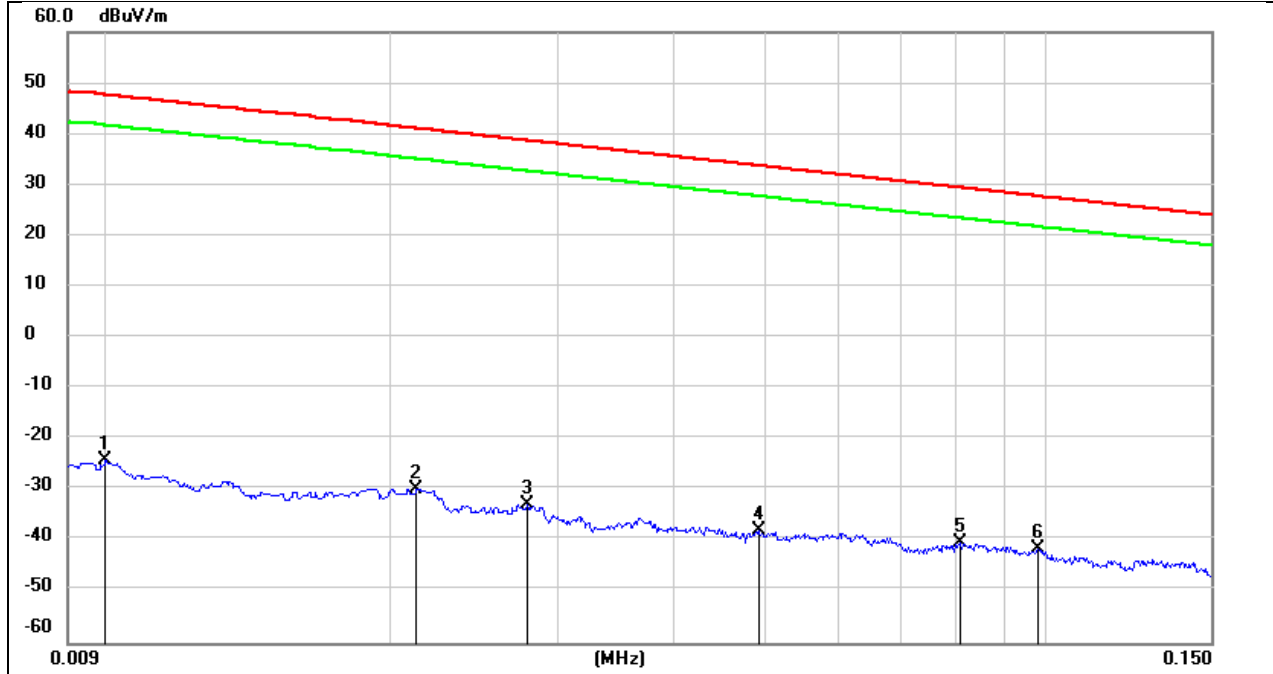
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7627.000	38.68	6.76	45.44	74.00	-28.56	peak
2	9354.000	37.53	10.56	48.09	74.00	-25.91	peak
3	11818.000	33.27	17.36	50.63	74.00	-23.37	peak
4	13974.000	30.37	21.82	52.19	74.00	-21.81	peak
5	15239.000	29.86	17.22	47.08	74.00	-26.92	peak
6	17758.000	27.13	24.46	51.59	74.00	-22.41	peak





### 8.4. SPURIOUS EMISSIONS(9 KHZ~30 MHZ)

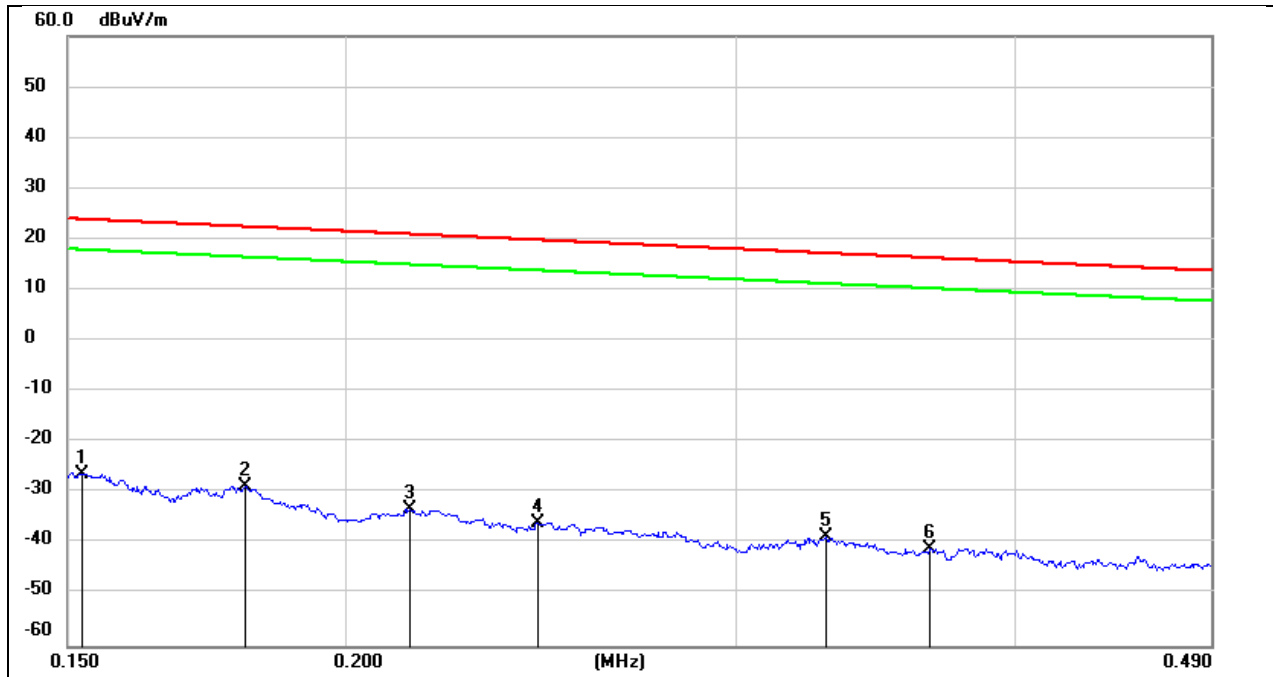
Test Mode:	802.11a20	Channel:	5180
Polarity:	FACE ON TO THE EUT	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0100	77.22	-101.40	-24.18	47.60	-71.78	peak
2	0.0212	71.54	-101.35	-29.81	41.07	-70.88	peak
3	0.0279	68.67	-101.38	-32.71	38.69	-71.40	peak
4	0.0492	63.55	-101.47	-37.92	33.76	-71.68	peak
5	0.0806	61.18	-101.63	-40.45	29.47	-69.92	peak
6	0.0981	60.27	-101.78	-41.51	27.77	-69.28	peak



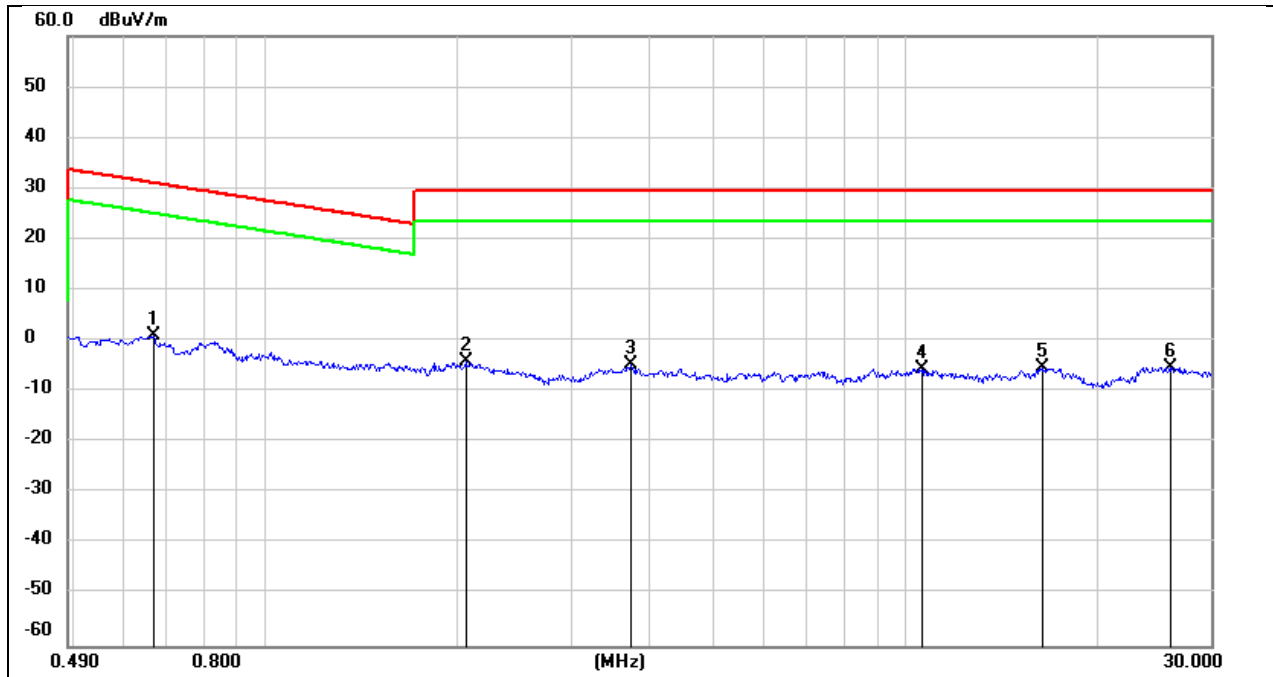
Test Mode:	802.11a20	Channel:	5180
Polarity:	FACE ON TO THE EUT	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1524	75.30	-101.63	-26.33	23.94	-50.27	peak
2	0.1801	73.03	-101.68	-28.65	22.50	-51.15	peak
3	0.2139	68.68	-101.74	-33.06	21.00	-54.06	peak
4	0.2442	66.03	-101.79	-35.76	19.85	-55.61	peak
5	0.3286	63.21	-101.88	-38.67	17.27	-55.94	peak
6	0.3662	61.08	-101.93	-40.85	16.33	-57.18	peak



Test Mode:	802.11a20	Channel:	5180
Polarity:	FACE ON TO THE EUT	Test Voltage:	AC 120V_60Hz

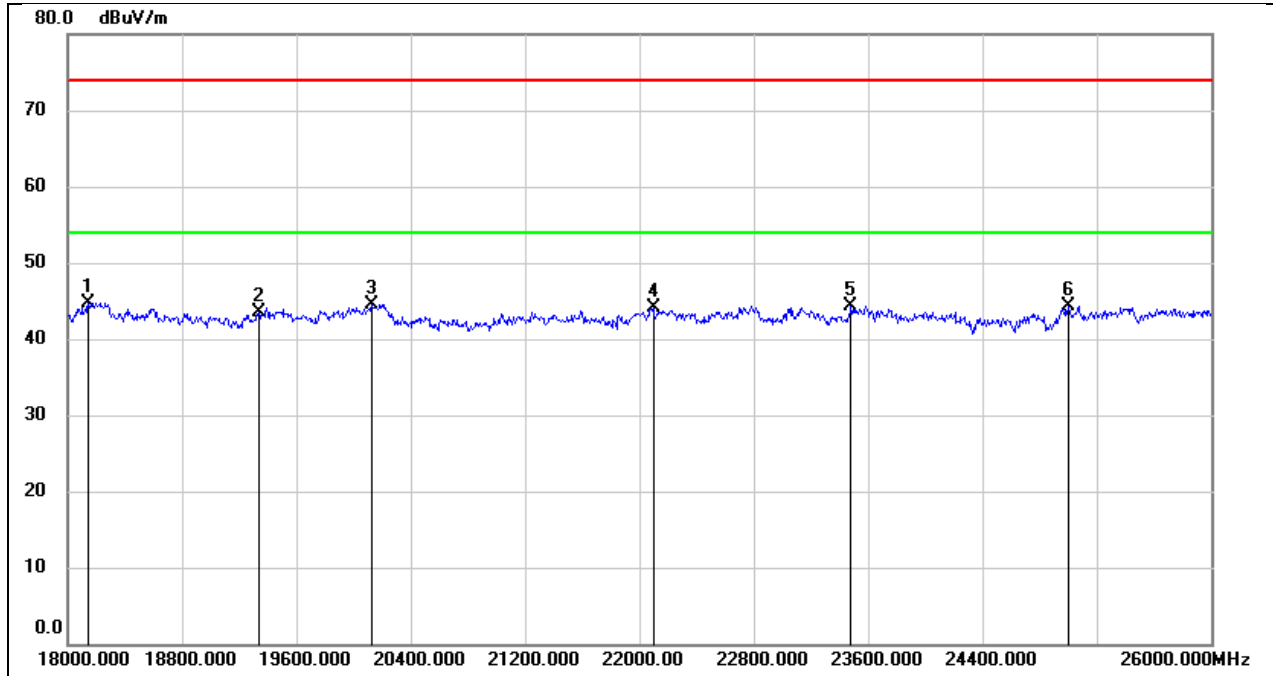


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.6671	63.25	-62.10	1.15	31.12	-29.97	peak
2	2.0539	57.70	-61.81	-4.11	29.54	-33.65	peak
3	3.7100	56.70	-61.41	-4.71	29.54	-34.25	peak
4	10.6119	55.32	-60.82	-5.50	29.54	-35.04	peak
5	16.3959	55.67	-60.96	-5.29	29.54	-34.83	peak
6	25.8978	55.26	-60.36	-5.10	29.54	-34.64	peak



### 8.5. SPURIOUS EMISSIONS(18 GHZ~26 GHZ)

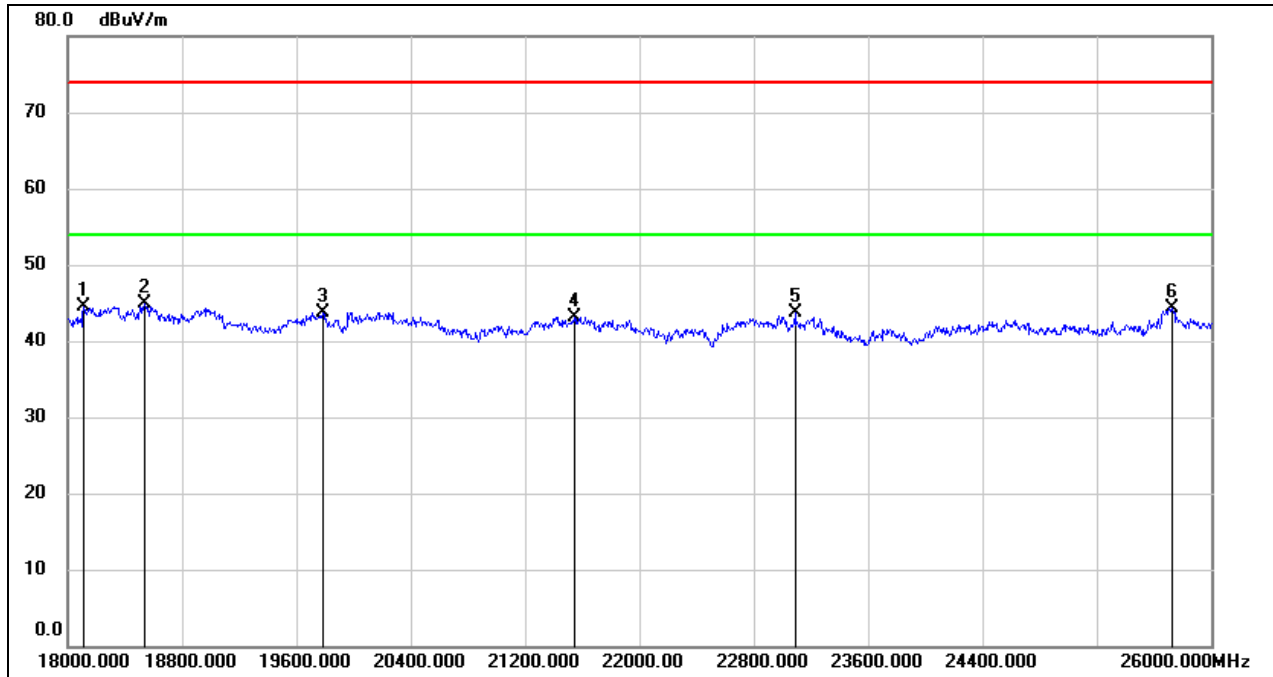
Test Mode:	802.11a 20	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18144.000	50.27	-5.48	44.79	74.00	-29.21	peak
2	19336.000	49.04	-5.58	43.46	74.00	-30.54	peak
3	20128.000	50.12	-5.53	44.59	74.00	-29.41	peak
4	22096.000	48.54	-4.38	44.16	74.00	-29.84	peak
5	23480.000	47.54	-3.16	44.38	74.00	-29.62	peak
6	25000.000	46.36	-2.10	44.26	74.00	-29.74	peak



Test Mode:	802.11a 20	Channel:	5180
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz

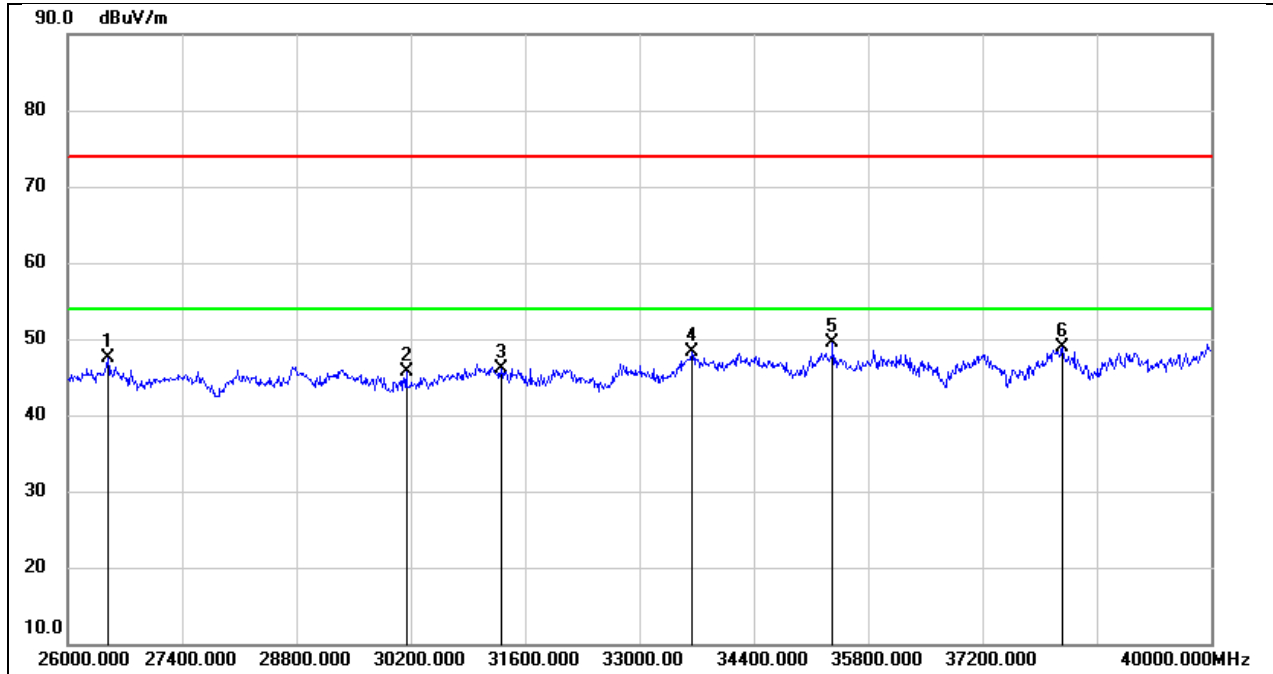


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18112.000	49.96	-5.47	44.49	74.00	-29.51	peak
2	18536.000	50.10	-5.27	44.83	74.00	-29.17	peak
3	19784.000	49.07	-5.28	43.79	74.00	-30.21	peak
4	21544.000	47.76	-4.63	43.13	74.00	-30.87	peak
5	23088.000	47.02	-3.41	43.61	74.00	-30.39	peak
6	25728.000	45.11	-0.72	44.39	74.00	-29.61	peak



### 8.6. SPURIOUS EMISSIONS(26 GHZ~40 GHZ)

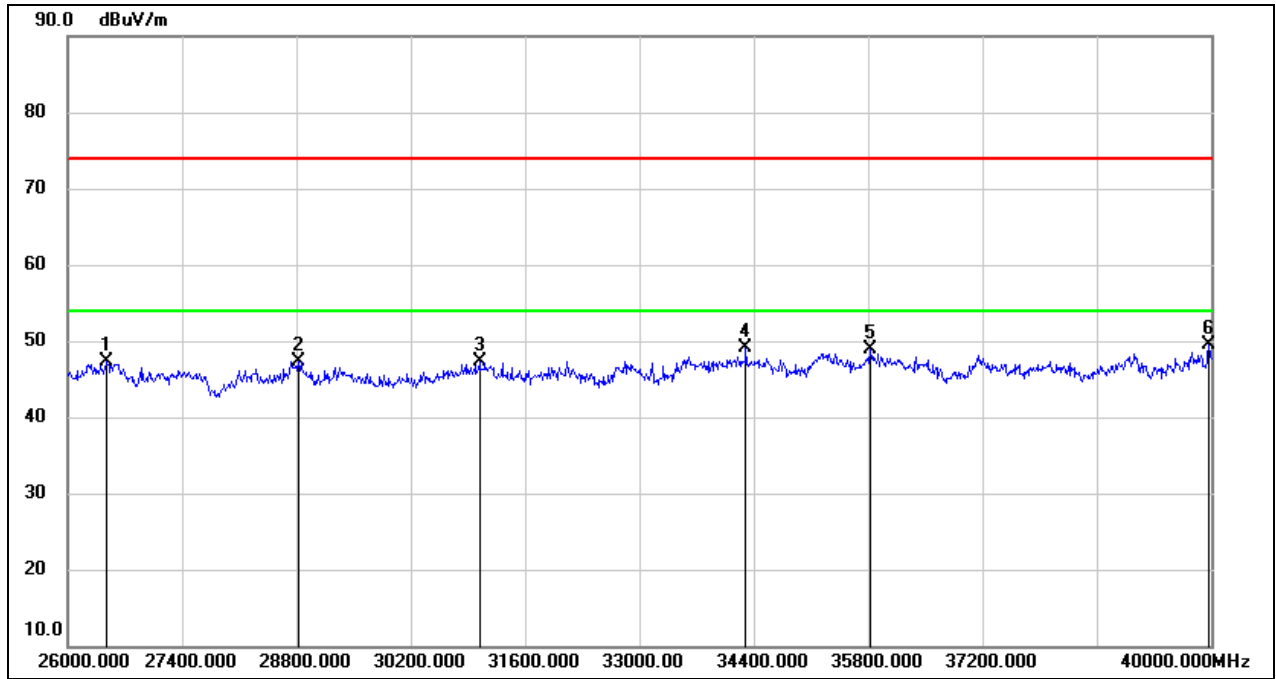
Test Mode:	802.11a 20	Channel:	5180
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26490.000	52.29	-4.74	47.55	74.00	-26.45	peak
2	30144.000	46.96	-1.30	45.66	74.00	-28.34	peak
3	31306.000	47.09	-0.90	46.19	74.00	-27.81	peak
4	33644.000	47.81	0.42	48.23	74.00	-25.77	peak
5	35366.000	46.90	2.59	49.49	74.00	-24.51	peak
6	38180.000	45.14	3.69	48.83	74.00	-25.17	peak



Test Mode:	802.11a 20	Channel:	5180
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz

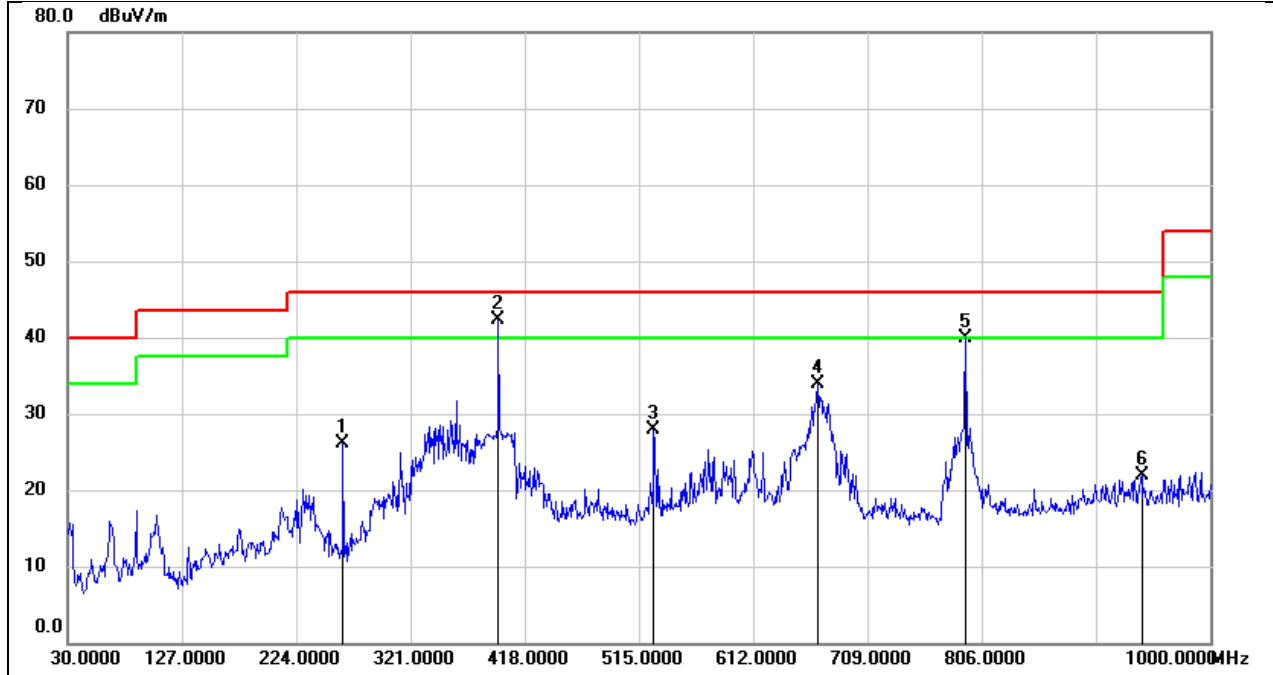


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26476.000	52.03	-4.78	47.25	74.00	-26.75	peak
2	28828.000	48.13	-0.79	47.34	74.00	-26.66	peak
3	31040.000	47.95	-0.72	47.23	74.00	-26.77	peak
4	34302.000	47.95	1.10	49.05	74.00	-24.95	peak
5	35828.000	45.25	3.67	48.92	74.00	-25.08	peak
6	39972.000	44.45	5.13	49.58	74.00	-24.42	peak



### 8.7. SPURIOUS EMISSIONS(30 MHZ~1 GHZ)

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

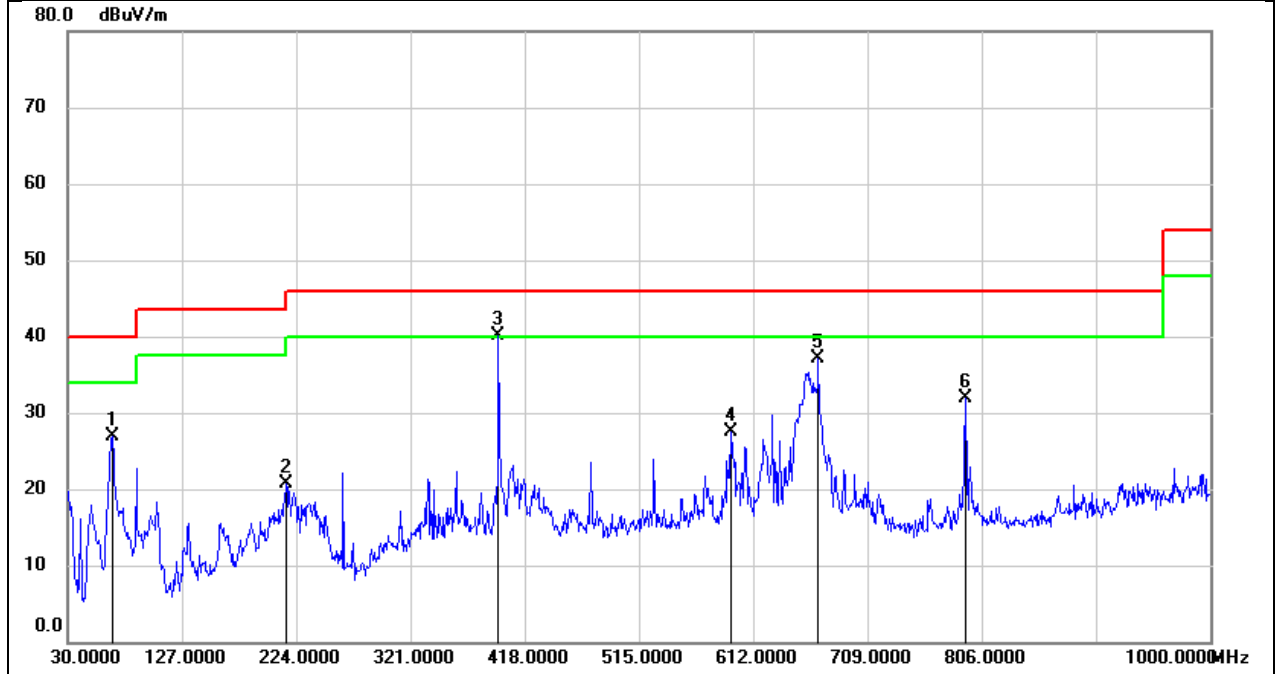


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	263.7700	44.33	-18.25	26.08	46.00	-19.92	QP
2	395.6900	55.80	-13.41	42.39	46.00	-3.61	QP
3	527.6100	38.79	-10.88	27.91	46.00	-18.09	QP
4	667.2900	42.53	-8.65	33.88	46.00	-12.12	QP
5	792.4200	47.20	-7.37	39.83	46.00	-6.17	QP
6	941.8000	26.47	-4.47	22.00	46.00	-24.00	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	67.8300	47.41	-20.55	26.86	40.00	-13.14	QP
2	215.2700	38.39	-17.76	20.63	43.50	-22.87	QP
3	395.6900	53.51	-13.41	40.10	46.00	-5.90	QP
4	592.6000	37.21	-9.75	27.46	46.00	-18.54	QP
5	667.2900	45.68	-8.65	37.03	46.00	-8.97	QP
6	792.4200	39.28	-7.37	31.91	46.00	-14.09	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

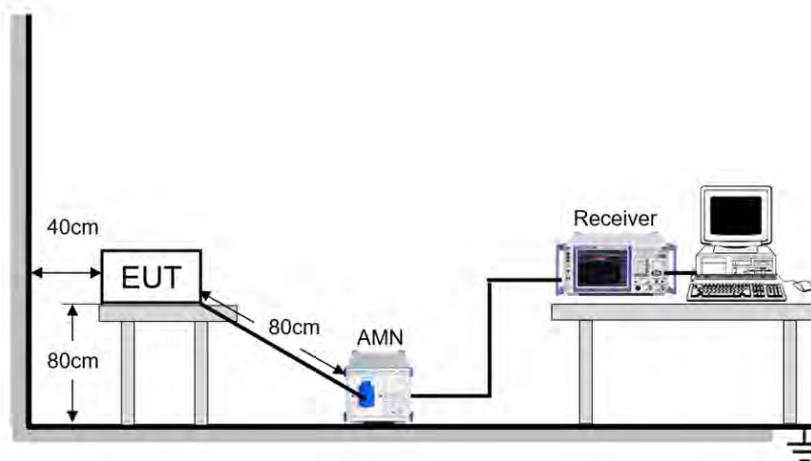
### TEST PROCEDURE

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



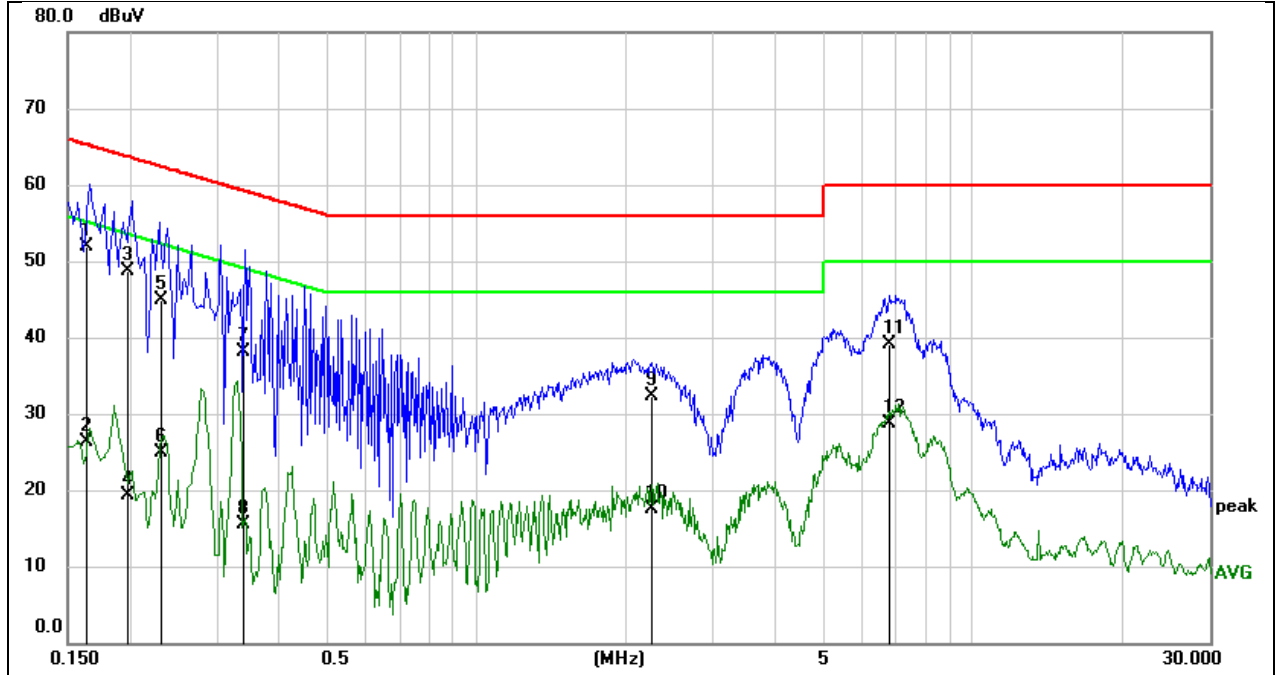
### TEST ENVIRONMENT

Temperature	24.2°C	Relative Humidity	59.4%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 Hz



**TEST RESULTS**

Test Mode:	802.11a 20	Channel:	5180
Line:	Line	Test Voltage:	AC120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1630	42.31	9.59	51.90	65.31	-13.41	QP
2	0.1630	16.65	9.59	26.24	55.31	-29.07	AVG
3	0.1982	39.08	9.59	48.67	63.69	-15.02	QP
4	0.1982	9.62	9.59	19.21	53.69	-34.48	AVG
5	0.2336	35.41	9.56	44.97	62.32	-17.35	QP
6	0.2336	15.25	9.56	24.81	52.32	-27.51	AVG
7	0.3388	28.66	9.45	38.11	59.23	-21.12	QP
8	0.3388	6.12	9.45	15.57	49.23	-33.66	AVG
9	2.2650	22.60	9.63	32.23	56.00	-23.77	QP
10	2.2650	7.93	9.63	17.56	46.00	-28.44	AVG
11	6.7937	29.43	9.63	39.06	60.00	-20.94	QP
12	6.7937	19.04	9.63	28.67	50.00	-21.33	AVG

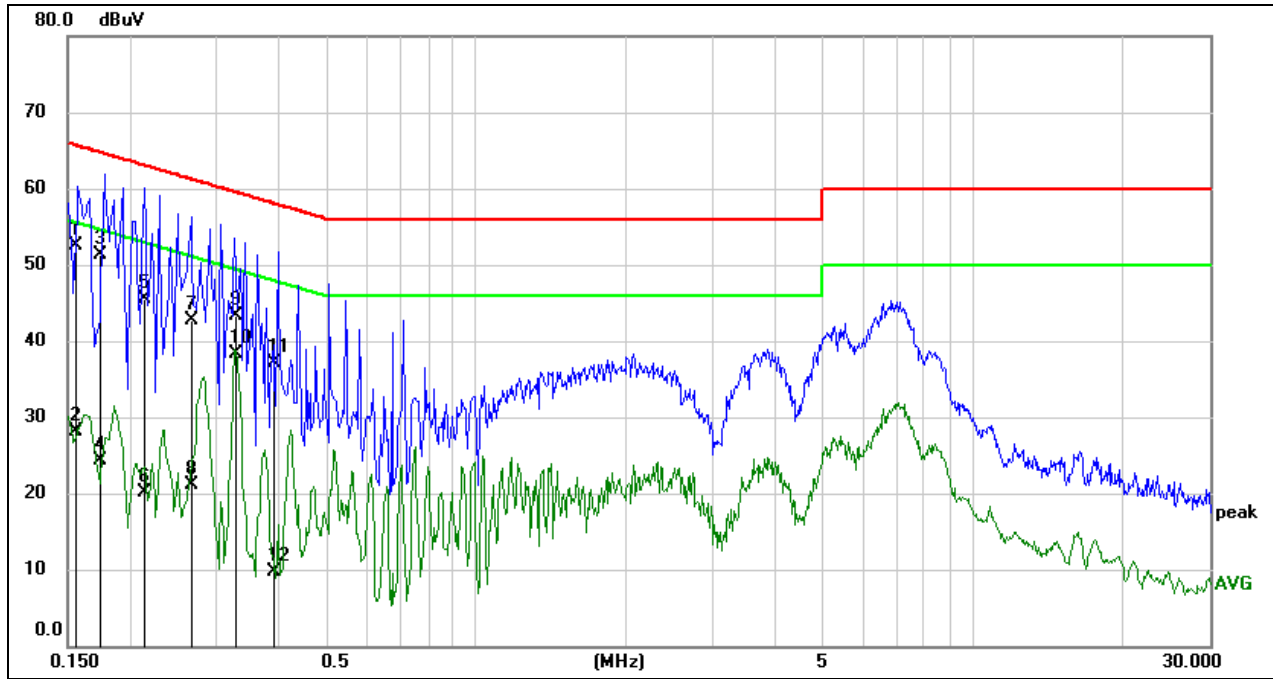
Note:

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 20	Channel:	5180
Line:	Neutral	Test Voltage:	AC120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1556	43.00	9.50	52.50	65.70	-13.20	QP
2	0.1556	18.69	9.50	28.19	55.70	-27.51	AVG
3	0.1739	41.74	9.54	51.28	64.77	-13.49	QP
4	0.1739	14.77	9.54	24.31	54.77	-30.46	AVG
5	0.2132	36.00	9.59	45.59	63.08	-17.49	QP
6	0.2132	10.55	9.59	20.14	53.08	-32.94	AVG
7	0.2648	33.12	9.57	42.69	61.28	-18.59	QP
8	0.2648	11.58	9.57	21.15	51.28	-30.13	AVG
9	0.3271	33.70	9.55	43.25	59.52	-16.27	QP
10	0.3271	28.78	9.55	38.33	49.52	-11.19	AVG
11	0.3933	27.51	9.53	37.04	57.99	-20.95	QP
12	0.3933	0.25	9.53	9.78	47.99	-38.21	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 REQUIREMENTS

### APPLICABLE REQUIREMENTS

Please refer to FCC §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 §15.247(b)(4)

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### RESULTS

Complies



## 11. TEST DATA

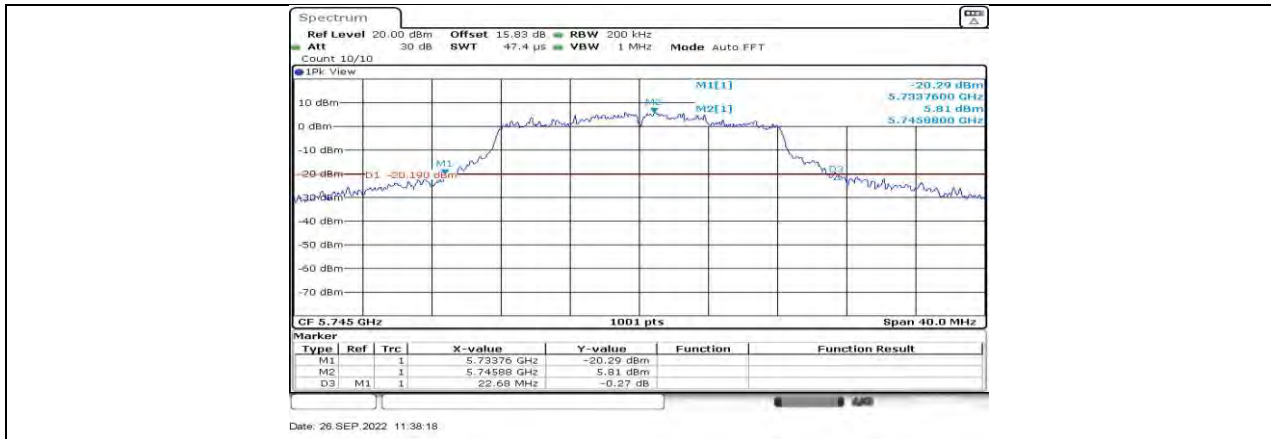
### 11.1. APPENDIX A1: EMISSION BANDWIDTH

#### 11.1.1. Test Result

Test Mode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5180	21.44	5169.36	5190.80	PASS
		5200	21.08	5189.72	5210.80	PASS
		5240	21.64	5229.44	5251.08	PASS
		5745	22.68	5733.76	5756.44	PASS
		5785	22.16	5773.68	5795.84	PASS
		5825	21.84	5814.08	5835.92	PASS
11N20SISO	Ant1	5180	20.96	5169.56	5190.52	PASS
		5200	21.96	5188.80	5210.76	PASS
		5240	21.60	5229.40	5251.00	PASS
		5745	22.76	5733.28	5756.04	PASS
		5785	21.48	5774.24	5795.72	PASS
		5825	21.60	5814.28	5835.88	PASS
11N40SISO	Ant1	5190	40.00	5170.16	5210.16	PASS
		5230	40.00	5210.16	5250.16	PASS
		5755	40.00	5735.16	5775.16	PASS
		5795	39.84	5775.16	5815.00	PASS
11AC80SISO	Ant1	5210	82.40	5169.36	5251.76	PASS
		5775	81.28	5734.68	5815.96	PASS

### 11.1.2. Test Graphs

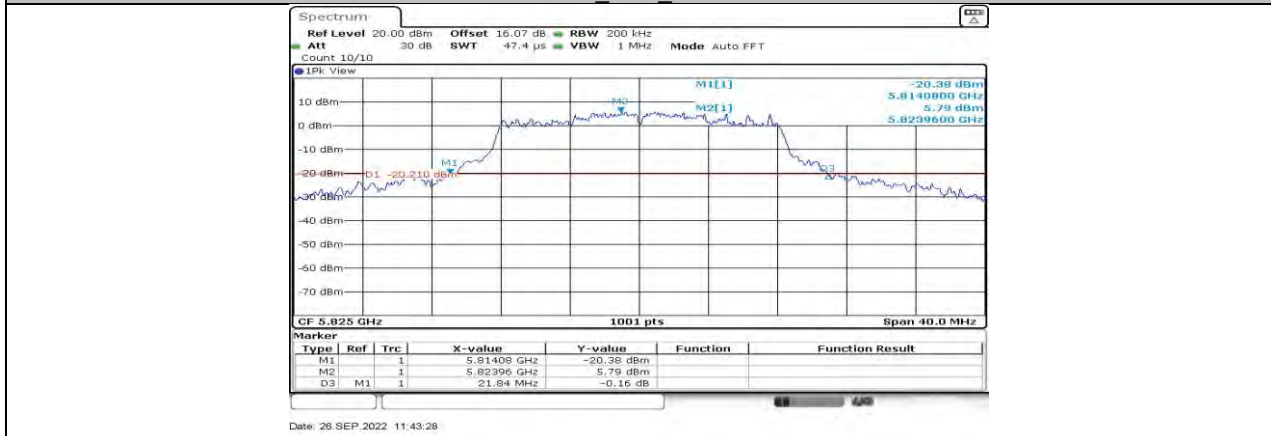




11A Ant1 5745

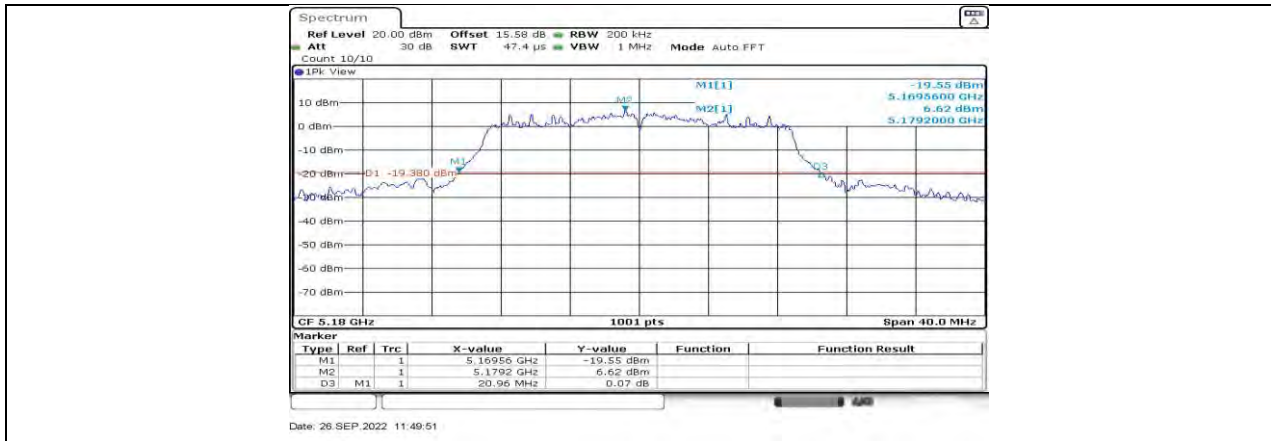


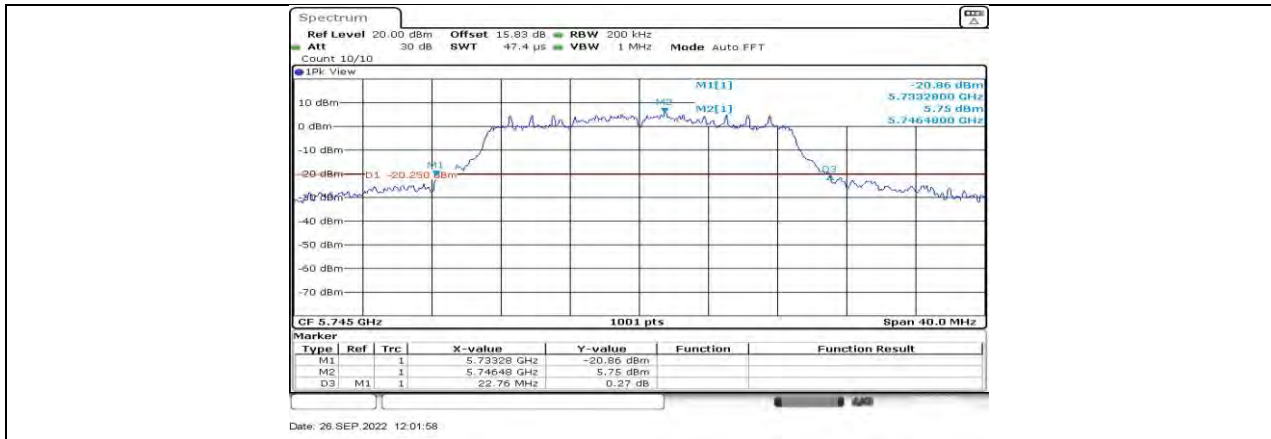
11A Ant1 5785



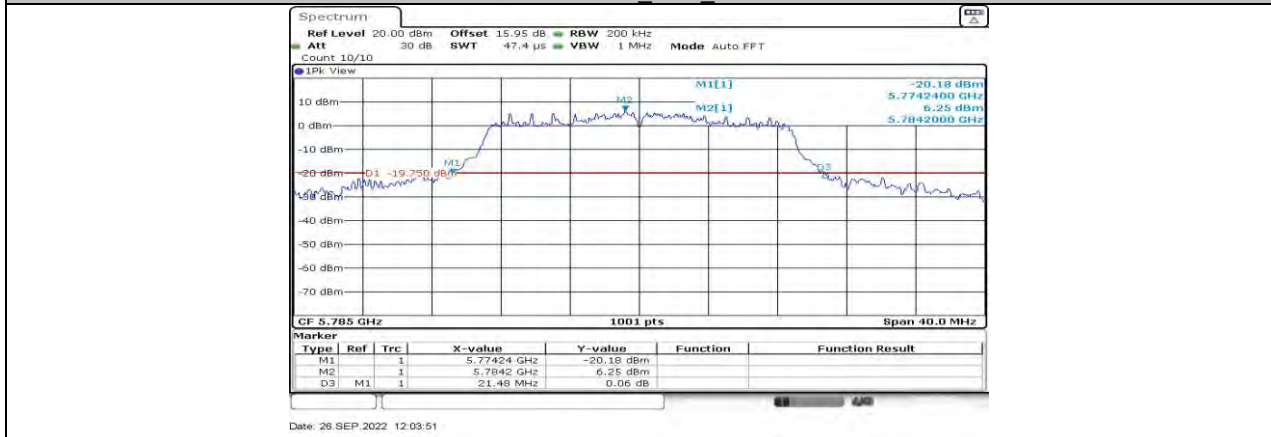
11A Ant1 5825







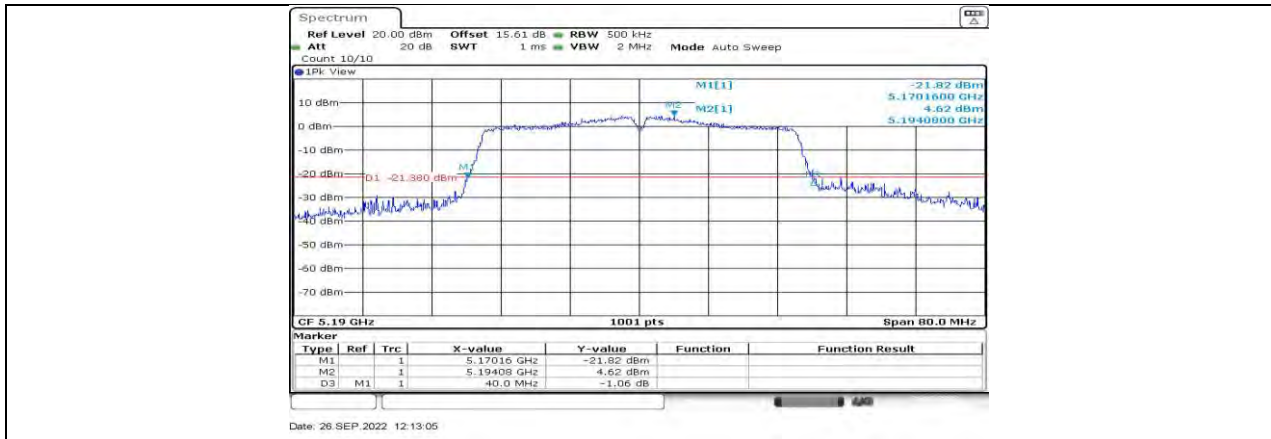
11N20SISO\_Ant1\_5745



11N20SISO\_Ant1\_5785



11N20SISO\_Ant1\_5825



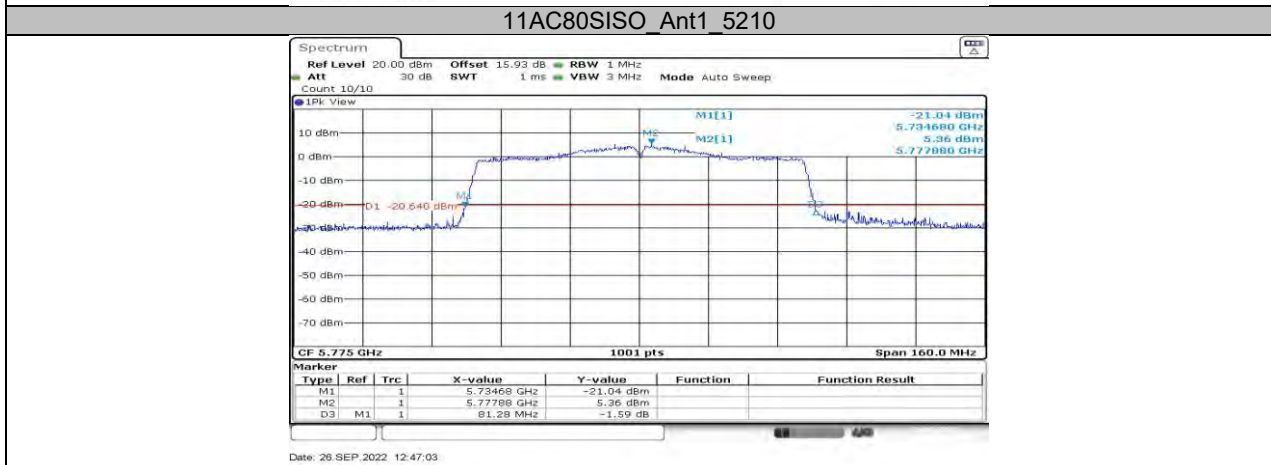
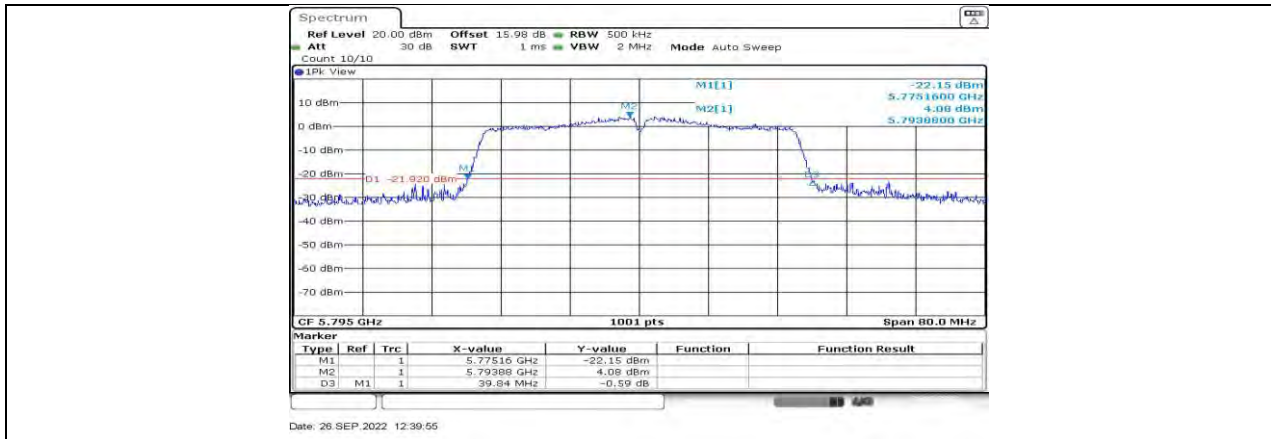
11N40SISO Ant1 5190



11N40SISO Ant1 5230



11N40SISO Ant1 5755



**11AC80SISO\_Ant1\_5775**

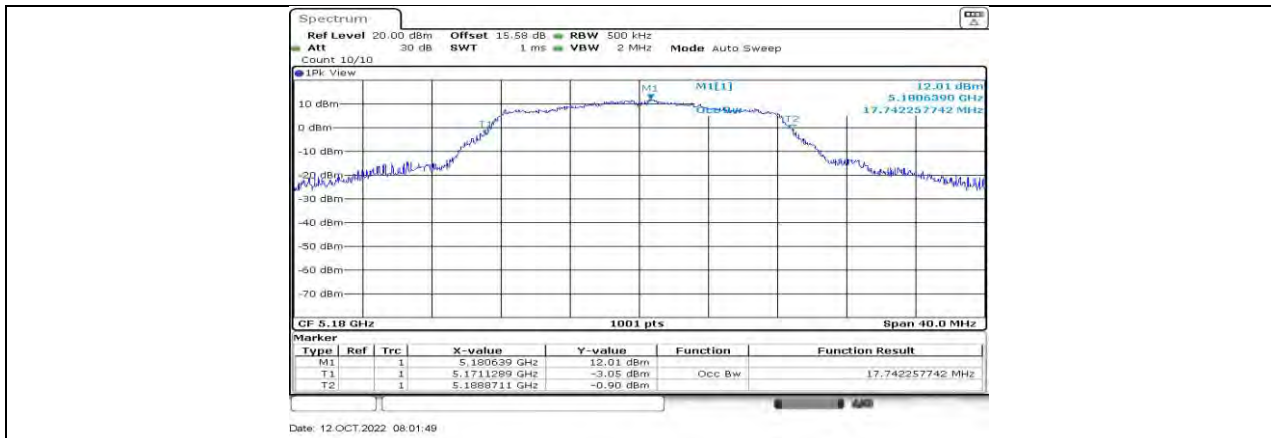


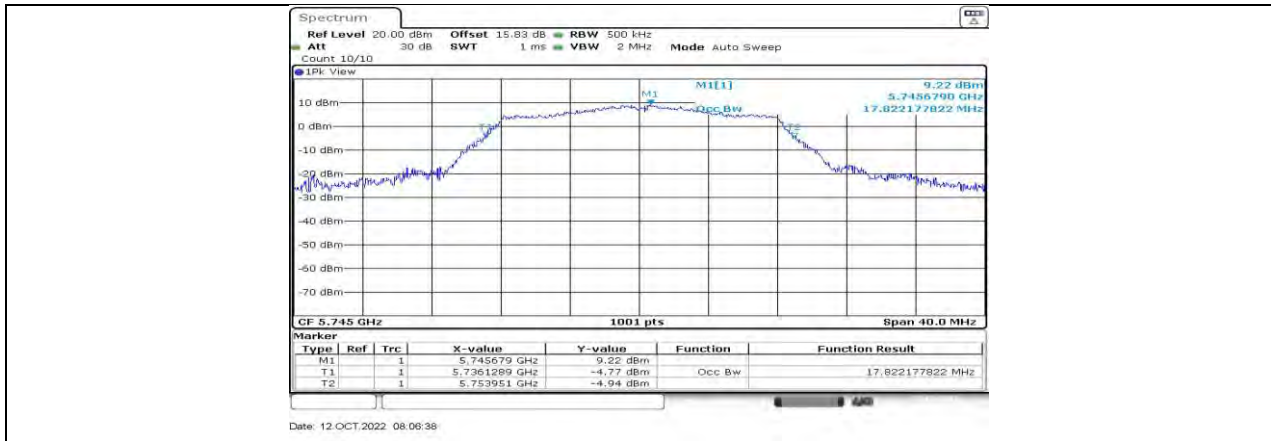
## 11.2. APPENDIX A2: OCCUPIED CHANNEL BANDWIDTH

### 11.2.1. Test Result

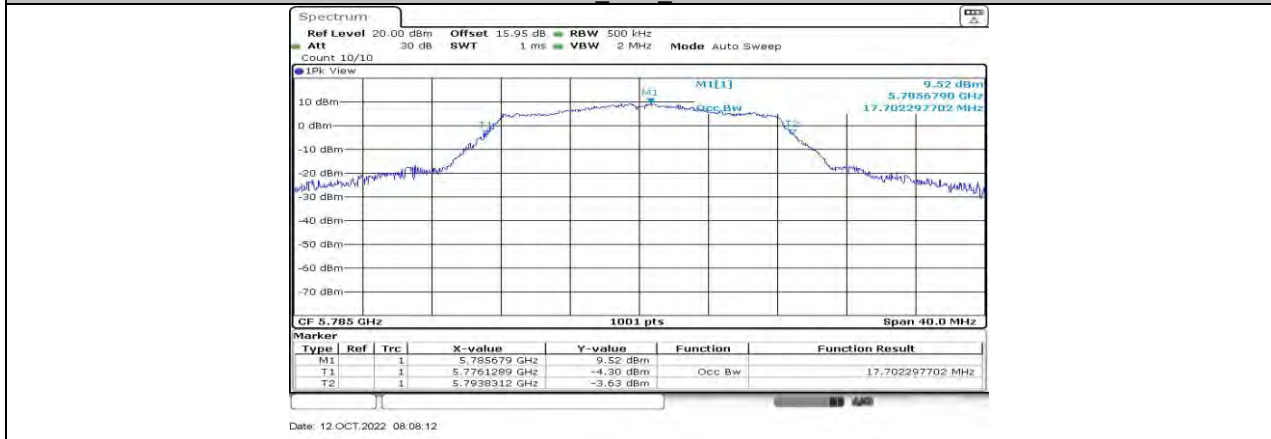
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5180	17.742	5171.1289	5188.8711	PASS
		5200	17.982	5191.0490	5209.0310	PASS
		5240	18.022	5230.9690	5248.9910	PASS
		5745	17.822	5736.1289	5753.9510	PASS
		5785	17.702	5776.1289	5793.8312	PASS
		5825	17.782	5816.0889	5833.8711	PASS
11N20SISO	Ant1	5180	18.501	5170.8092	5189.3107	PASS
		5200	18.741	5190.7293	5209.4705	PASS
		5240	18.941	5230.6494	5249.5904	PASS
		5745	18.661	5735.7692	5754.4306	PASS
		5785	18.581	5775.7293	5794.3107	PASS
		5825	18.701	5815.6893	5834.3906	PASS
11N40SISO	Ant1	5190	36.364	5171.9381	5208.3017	PASS
		5230	36.364	5212.0180	5248.3816	PASS
		5755	36.923	5736.8581	5773.7812	PASS
		5795	36.683	5776.7782	5813.4615	PASS
11AC80SISO	Ant1	5210	75.764	5172.4376	5248.2018	PASS
		5775	75.604	5737.4376	5813.0420	PASS

### 11.2.2. Test Graphs

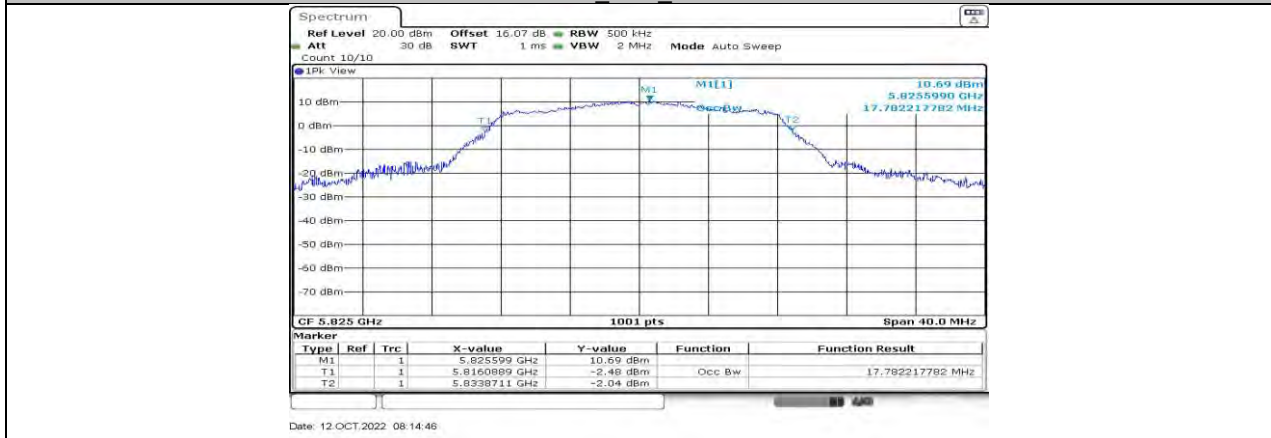




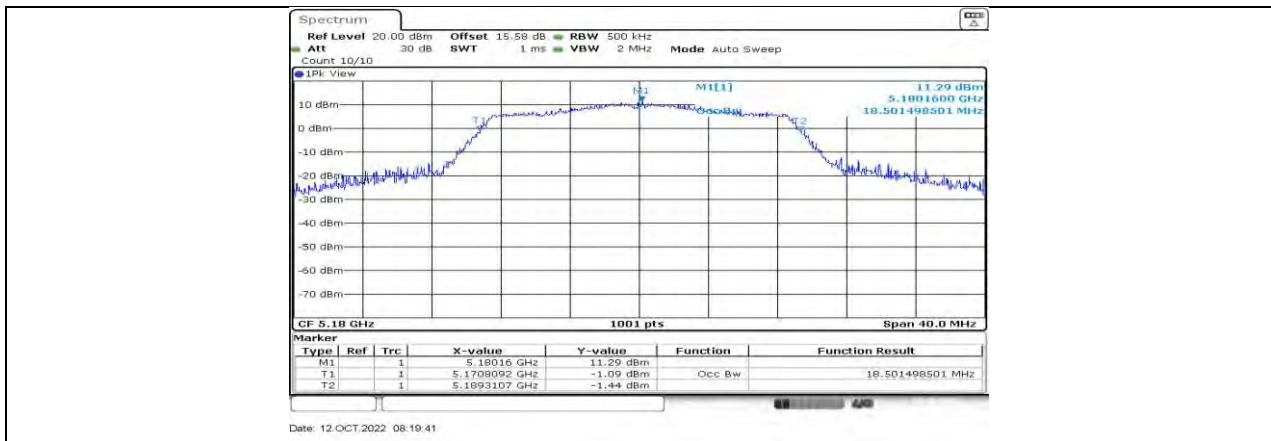
11A Ant1 5745



11A Ant1 5785



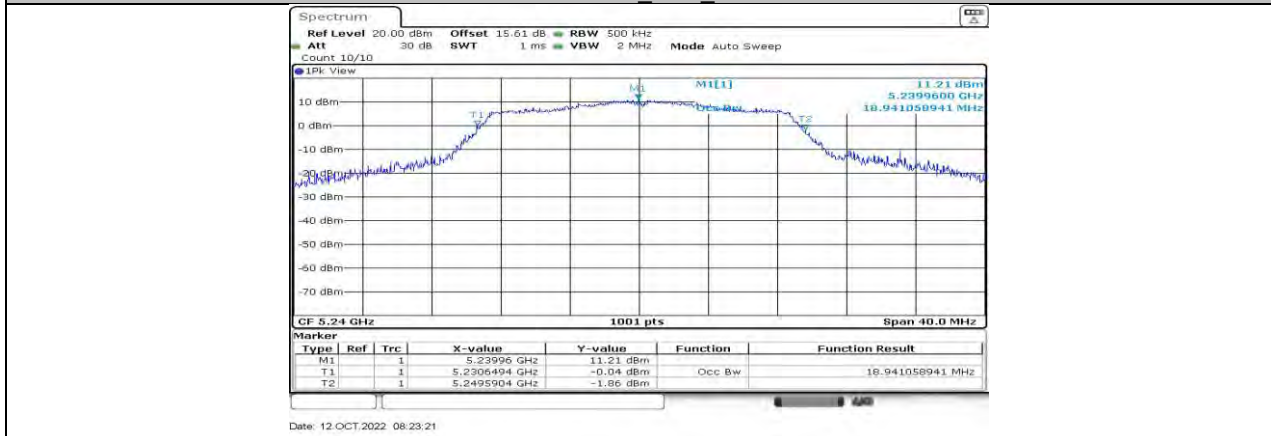
11A Ant1 5825



11N20SISO Ant1 5180

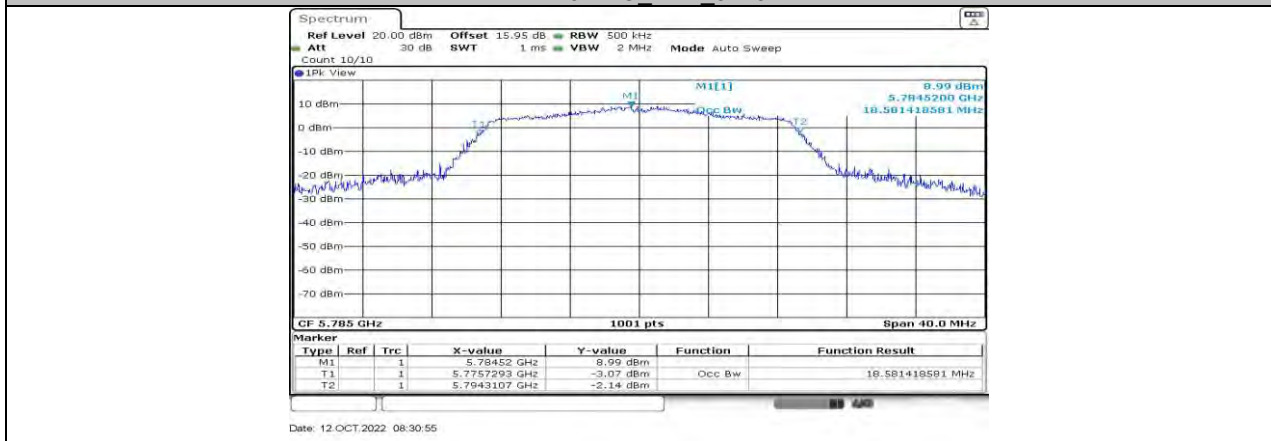
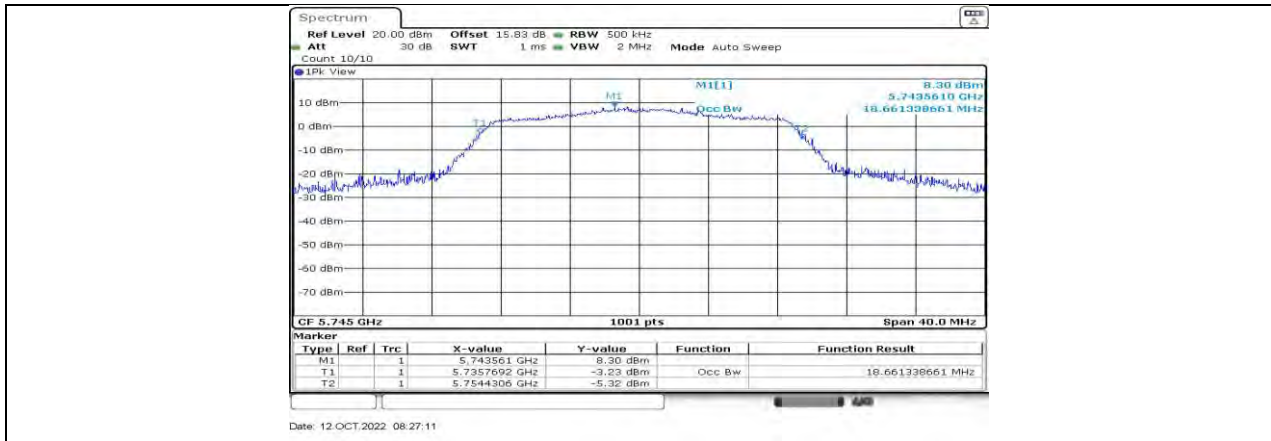


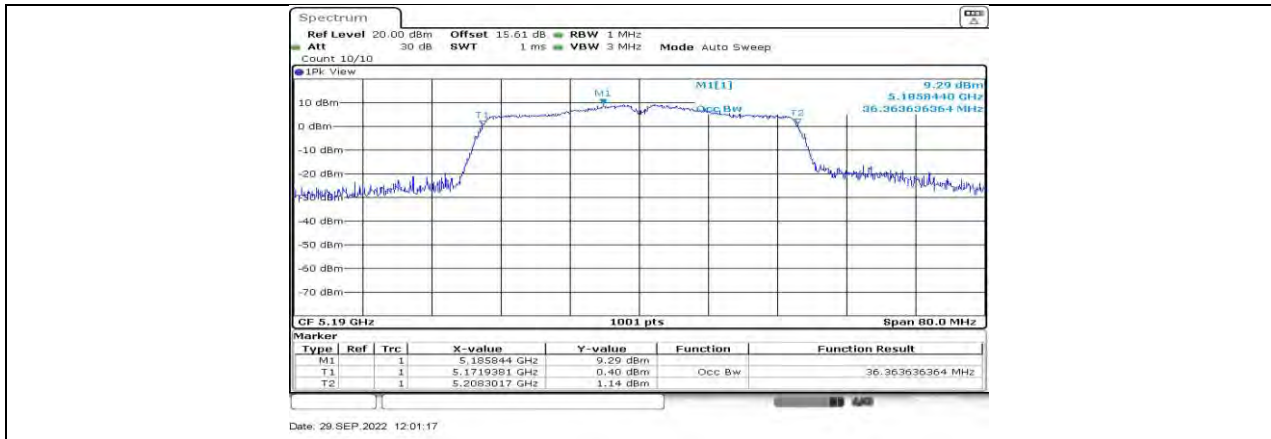
11N20SISO Ant1 5200



11N20SISO Ant1 5240



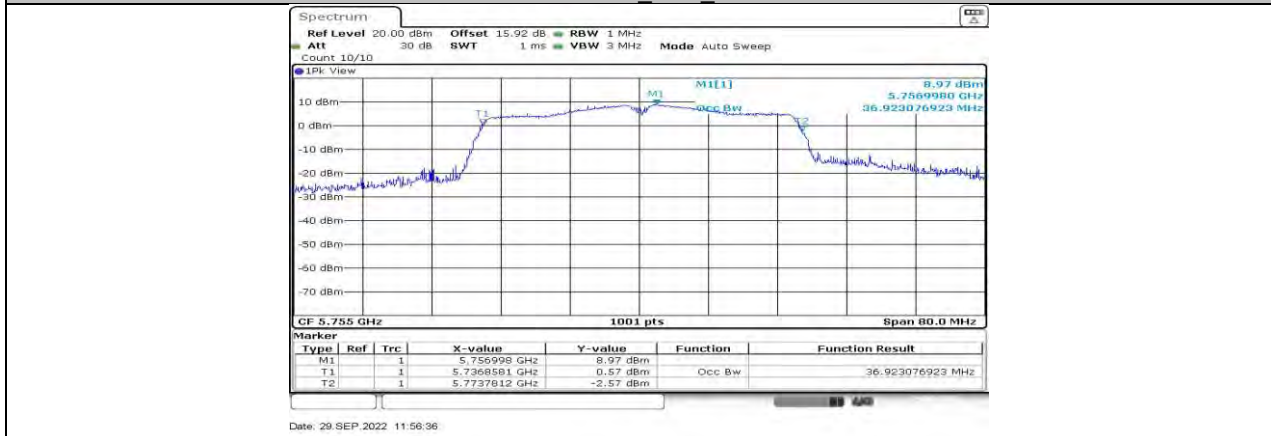




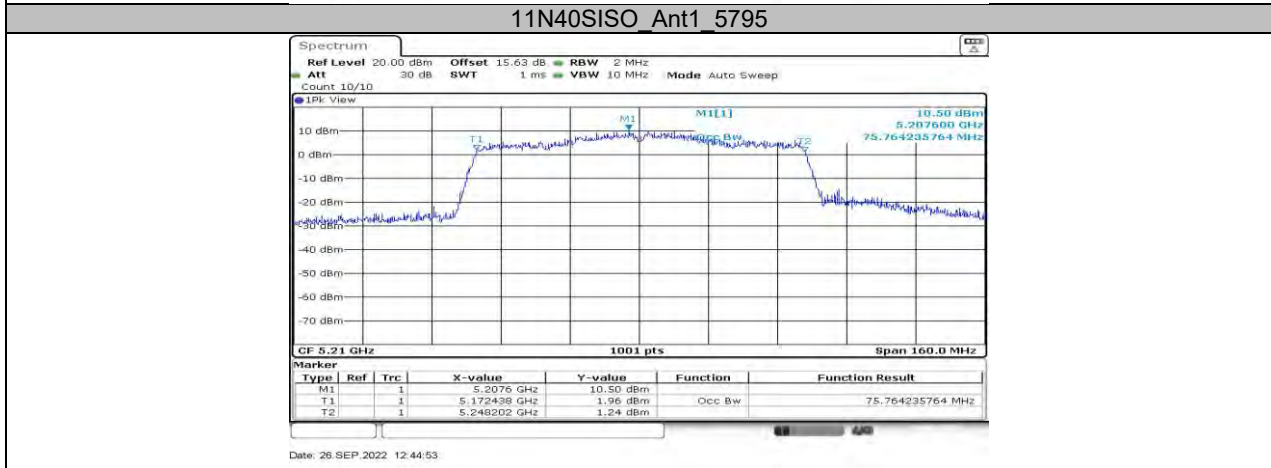
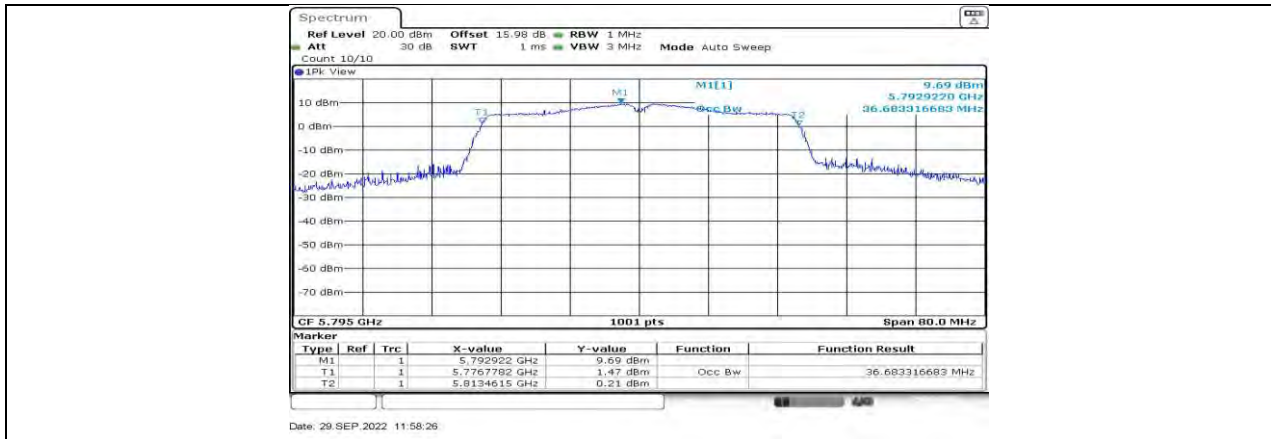
11N40SISO Ant1 5190



11N40SISO Ant1 5230



11N40SISO Ant1 5755



**11AC80SISO\_Ant1\_5775**

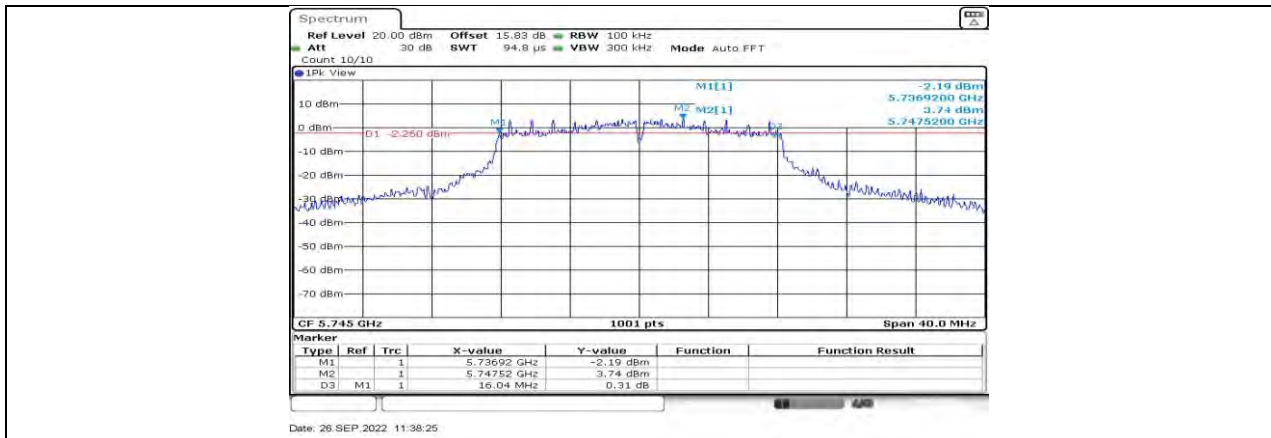


### 11.3. APPENDIX A3: MIN EMISSION BANDWIDTH

#### 11.3.1. Test Result

Test Mode	Antenna	Channel	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.04	5736.92	5752.96	0.5	PASS
		5785	15.92	5776.88	5792.80	0.5	PASS
		5825	15.28	5817.64	5832.92	0.5	PASS
11N20SISO	Ant1	5745	15.88	5737.52	5753.40	0.5	PASS
		5785	16.44	5776.48	5792.92	0.5	PASS
		5825	15.16	5817.44	5832.60	0.5	PASS
11N40SISO	Ant1	5755	35.12	5737.48	5772.60	0.5	PASS
		5795	35.76	5777.24	5813.00	0.5	PASS
11AC80SISO	Ant1	5775	75.20	5737.40	5812.60	0.5	PASS

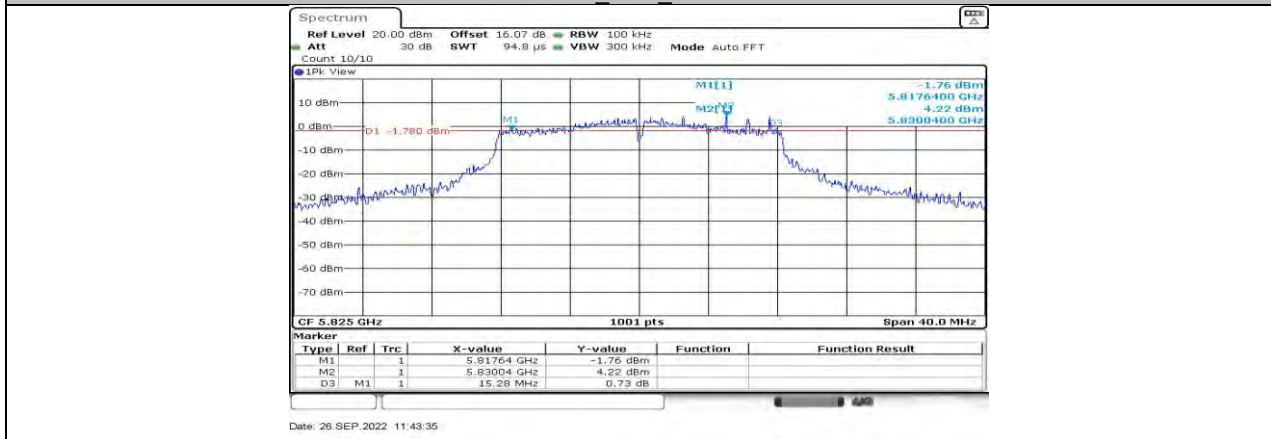
### 11.3.2. Test Graphs



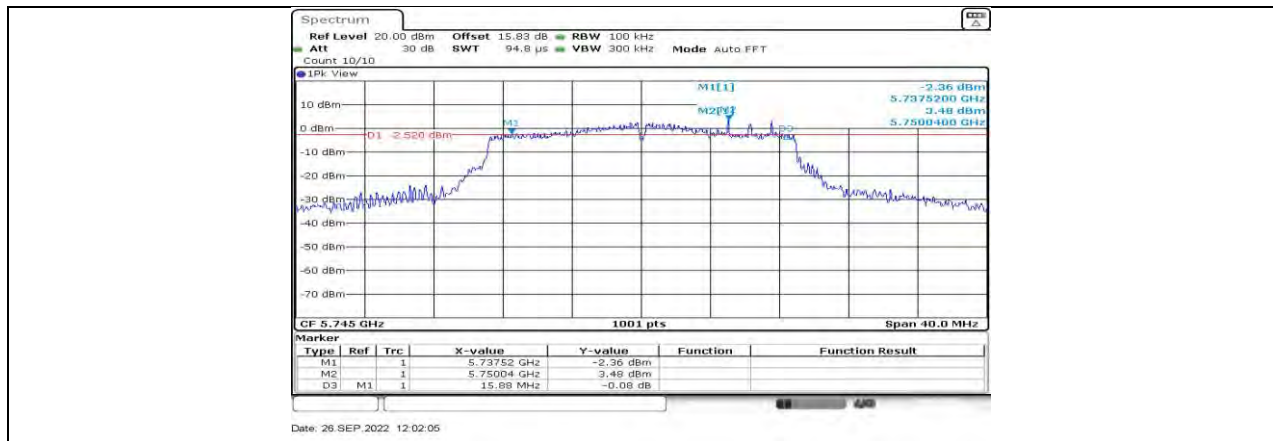
11A Ant1 5745



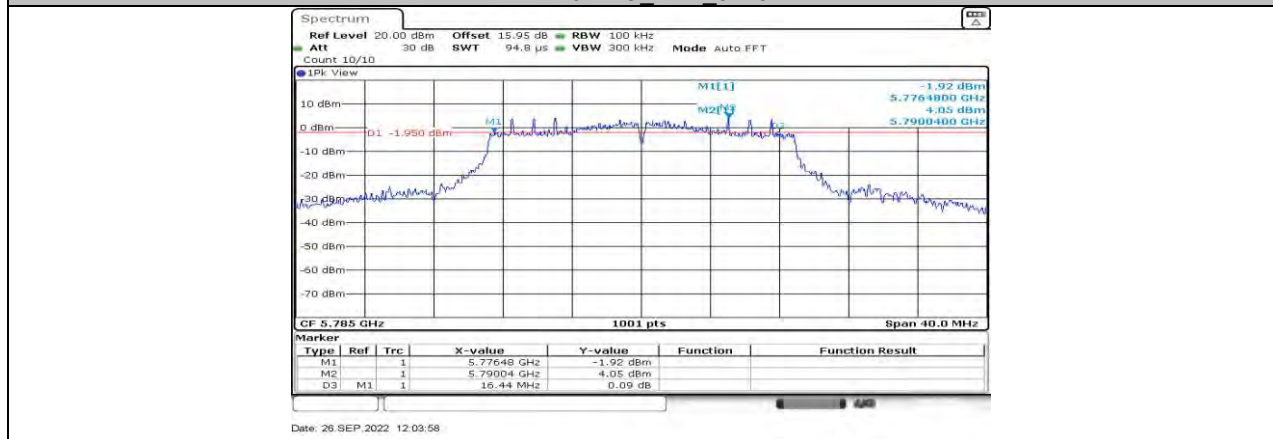
11A Ant1 5785



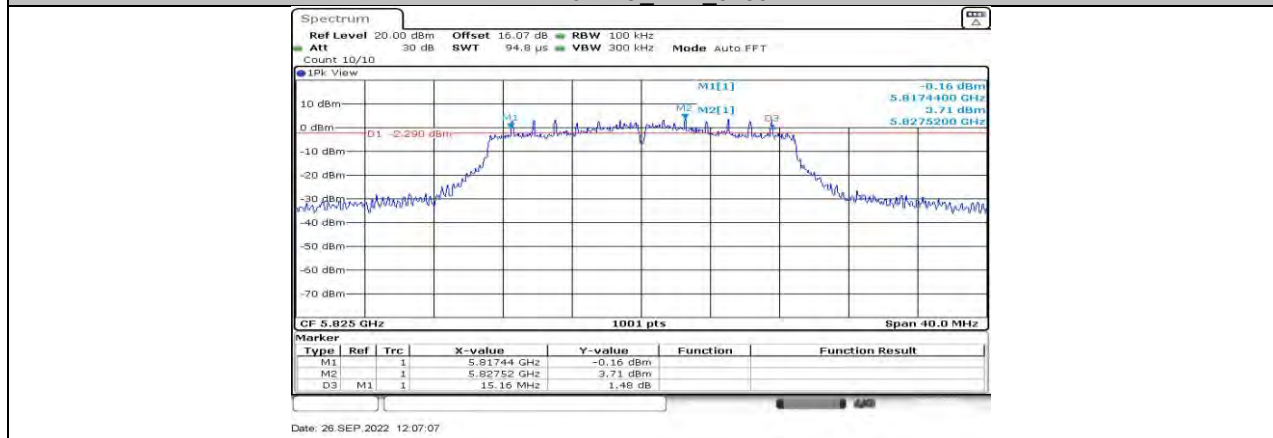
11A Ant1 5825



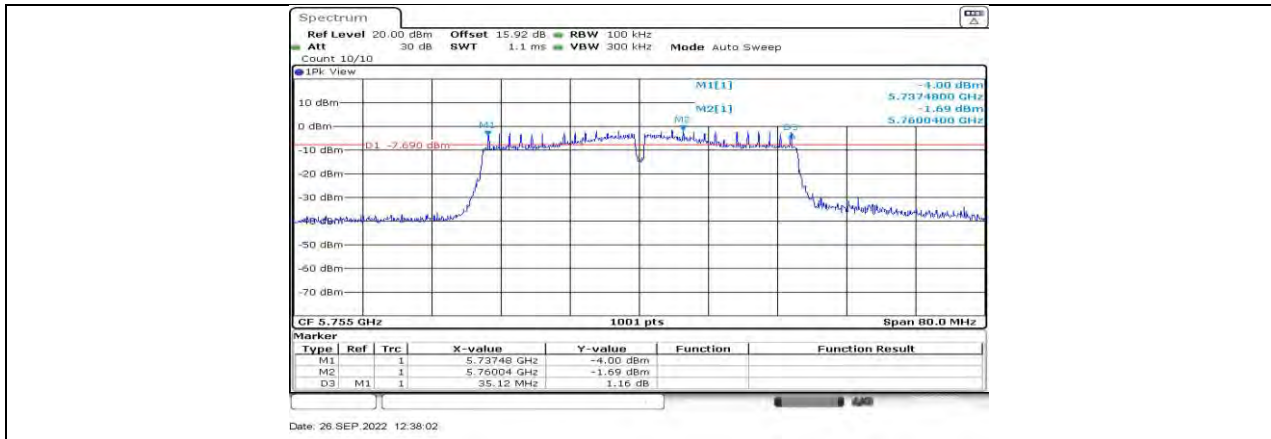
11N20SISO Ant1 5745



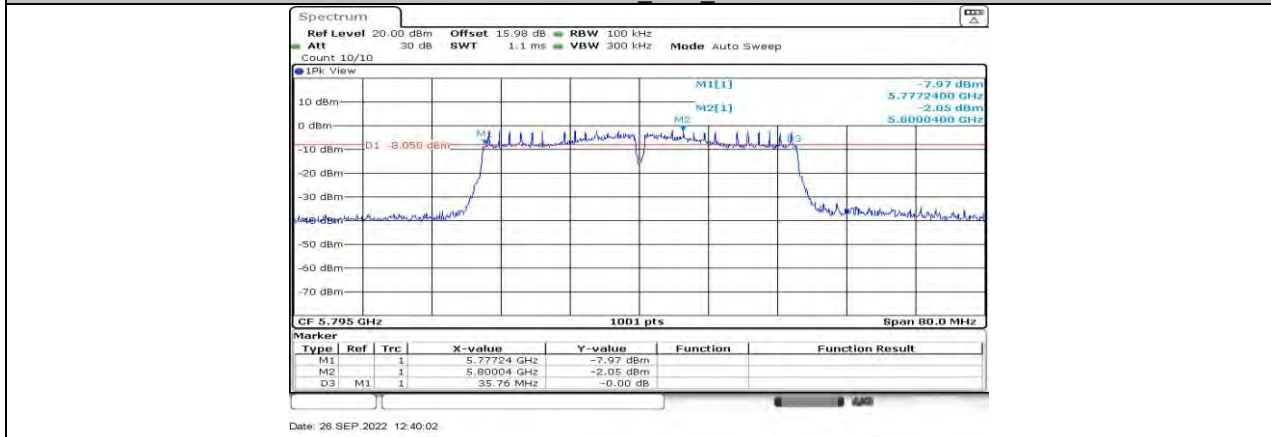
11N20SISO Ant1 5785



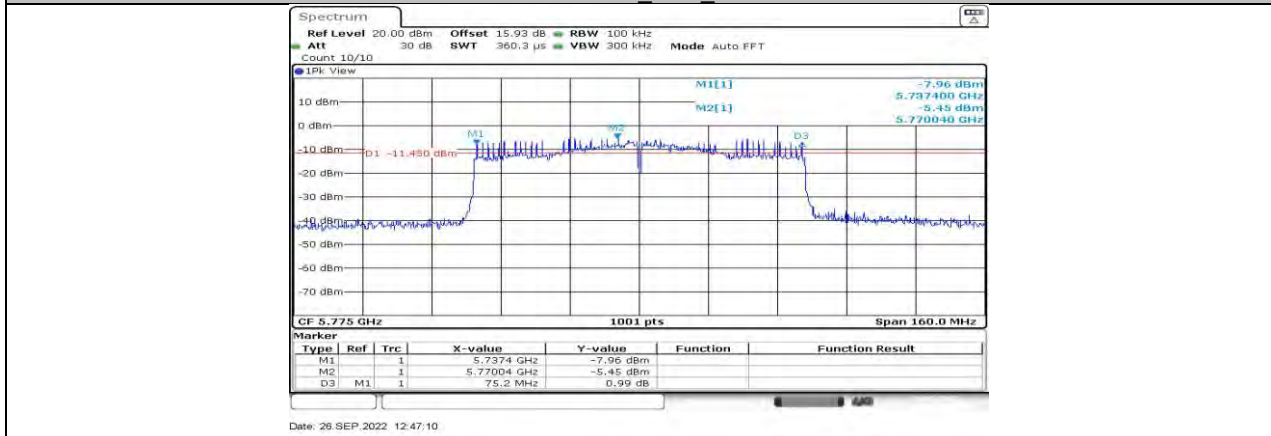
11N20SISO Ant1 5825



11N40SISO\_Ant1\_5755



11N40SISO\_Ant1\_5795



11AC80SISO\_Ant1\_5775



## 11.4. APPENDIX B: MAXIMUM CONDUCTED OUTPUT POWER

### 11.4.1. Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	5180	16.98	≤23.98	PASS
		5200	16.71	≤23.98	PASS
		5240	16.44	≤23.98	PASS
		5745	15.27	≤30.00	PASS
		5785	15.15	≤30.00	PASS
		5825	15.48	≤30.00	PASS
11N20SISO	Ant1	5180	16.20	≤23.98	PASS
		5200	16.21	≤23.98	PASS
		5240	16.03	≤23.98	PASS
		5745	13.27	≤30.00	PASS
		5785	13.97	≤30.00	PASS
		5825	14.84	≤30.00	PASS
11N40SISO	Ant1	5190	13.80	≤23.98	PASS
		5230	13.58	≤23.98	PASS
		5755	13.39	≤30.00	PASS
		5795	14.25	≤30.00	PASS
11AC80SISO	Ant1	5210	12.48	≤23.98	PASS
		5775	11.95	≤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.



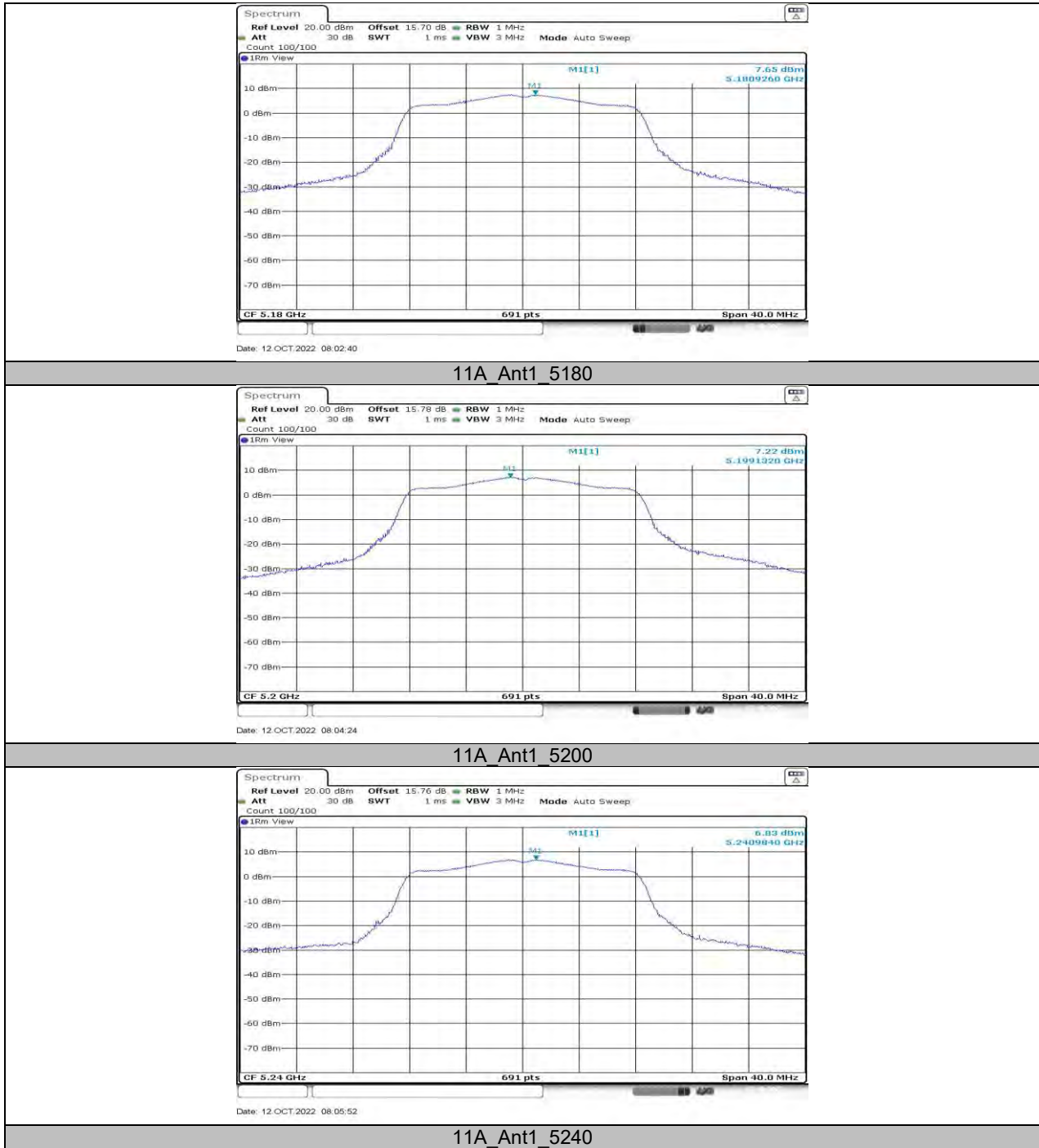


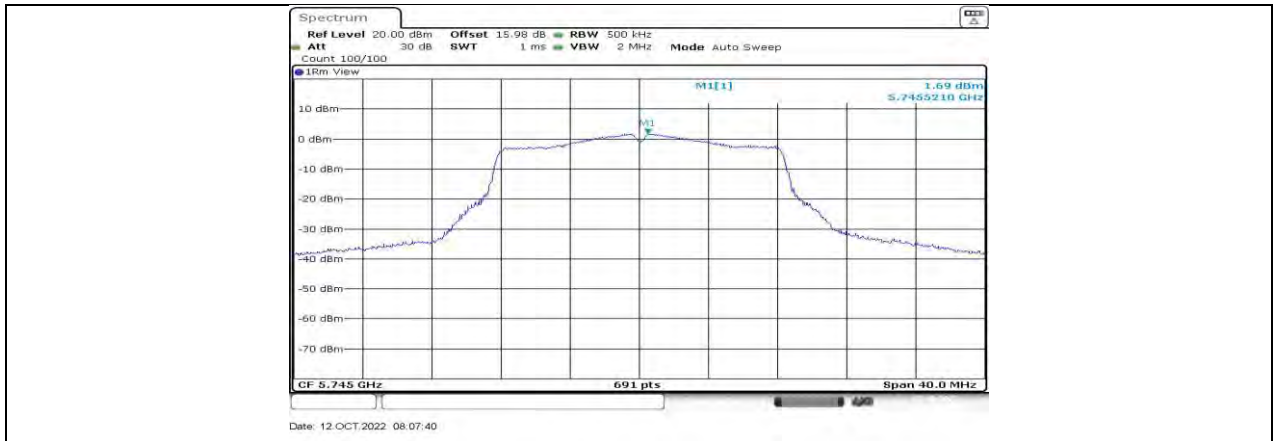
**11.5. APPENDIX C: MAXIMUM POWER SPECTRAL DENSITY**  
**11.5.1. Test Result**

Test Mode	Antenna	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	7.65	≤11.00	PASS
		5200	7.22	≤11.00	PASS
		5240	6.83	≤11.00	PASS
		5745	1.69	≤30.00	PASS
		5785	2.36	≤30.00	PASS
		5825	3.33	≤30.00	PASS
11N20SISO	Ant1	5180	6.45	≤11.00	PASS
		5200	6.51	≤11.00	PASS
		5240	6.38	≤11.00	PASS
		5745	0.89	≤30.00	PASS
		5785	1.57	≤30.00	PASS
		5825	2.36	≤30.00	PASS
11N40SISO	Ant1	5190	1.19	≤11.00	PASS
		5230	0.99	≤11.00	PASS
		5755	-2.14	≤30.00	PASS
		5795	-1.26	≤30.00	PASS
11AC80SISO	Ant1	5210	-2.97	≤11.00	PASS
		5775	-6.26	≤30.00	PASS

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.  
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

### 11.5.2. Test Graphs





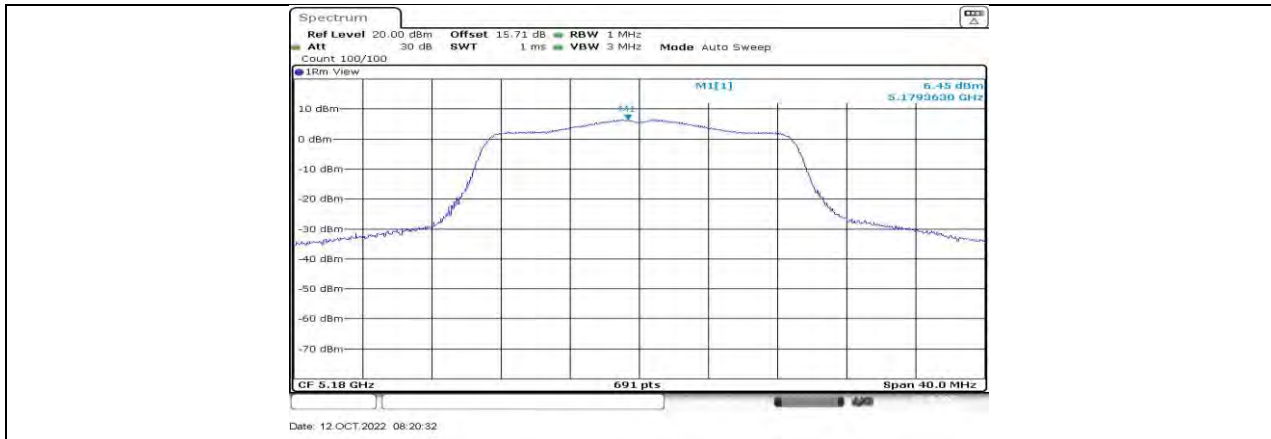
11A Ant1 5745



11A Ant1 5785



11A Ant1 5825



11N20SISO\_Ant1\_5180



11N20SISO\_Ant1\_5200



11N20SISO\_Ant1\_5240



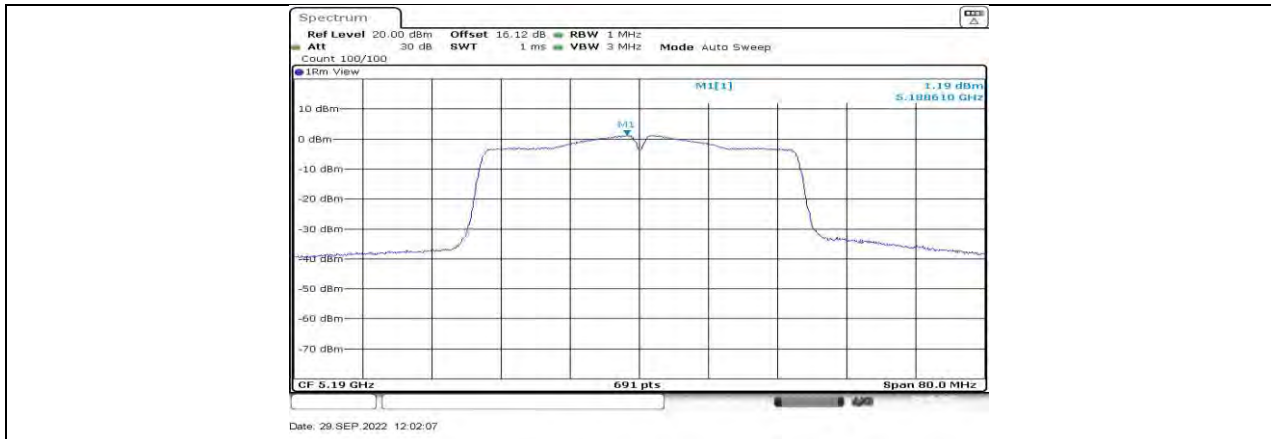
11N20SISO\_Ant1\_5745



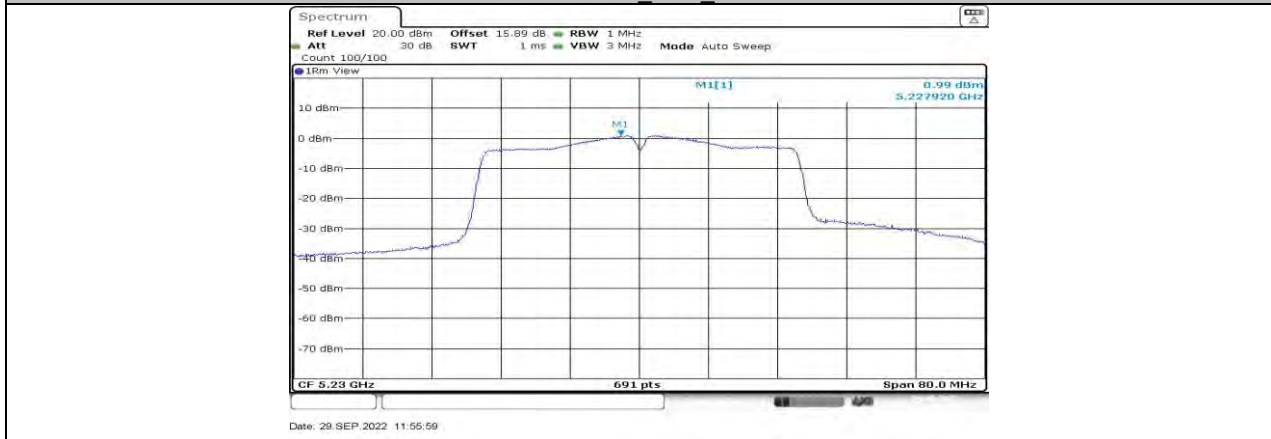
11N20SISO\_Ant1\_5785



11N20SISO\_Ant1\_5825



11N40SISO\_Ant1\_5190



11N40SISO\_Ant1\_5230



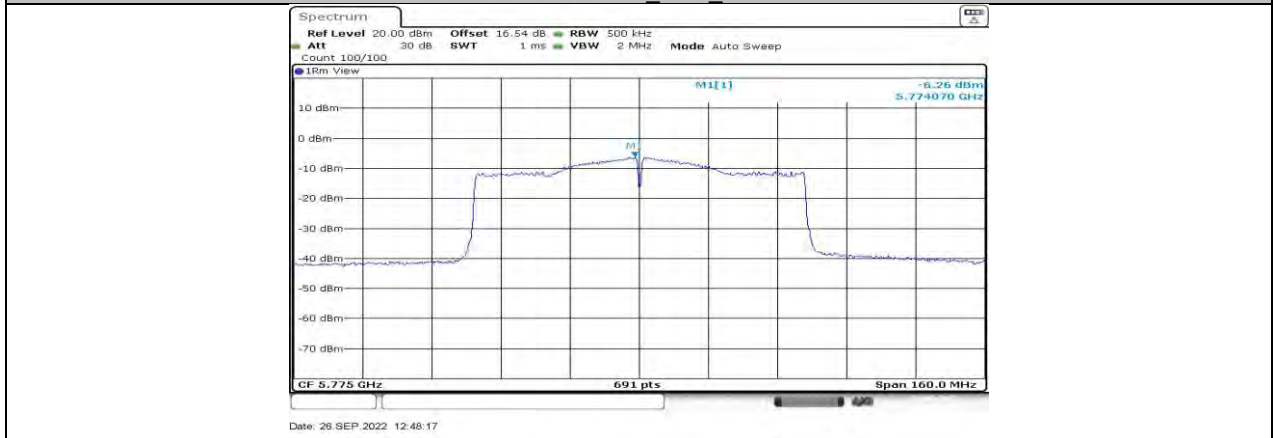
11N40SISO\_Ant1\_5755



11N40SISO\_Ant1\_5795



11AC80SISO\_Ant1\_5210



11AC80SISO\_Ant1\_5775



**11.6. APPENDIX D: FREQUENCY STABILITY**  
**11.6.1. Test Result**

Frequency Error vs. Voltage									
802.11a20:5200MHz									
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	5199.9800	-3.86	5199.9928	-1.39	5200.0229	4.41	5200.0234	4.50
TN	VN	5199.9751	-4.80	5199.9784	-4.16	5199.9829	-3.29	5200.0160	3.07
TN	VH	5200.0040	0.77	5200.0079	1.52	5200.0034	0.65	5200.0191	3.68
Frequency Error vs. Temperature									
802.11a:5200MHz									
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)
40	VN	5199.9968	-0.62	5199.9953	-0.91	5200.0199	3.83	5199.9848	-2.93
30	VN	5199.9779	-4.25	5200.0086	1.65	5199.9954	-0.88	5200.0196	3.77
20	VN	5200.0121	2.33	5199.9872	-2.46	5200.0086	1.64	5199.9889	-2.14
10	VN	5199.9906	-1.80	5199.9822	-3.41	5200.0049	0.95	5200.0078	1.50
0	VN	5200.0135	2.60	5200.0044	0.85	5199.9905	-1.84	5200.0188	3.61





Frequency Error vs. Voltage									
802.11a:5825MHz									
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	5825.0052	0.90	5825.0064	1.11	5824.9772	-3.91	5825.0247	4.24
TN	VN	5825.0100	1.71	5825.0096	1.64	5824.9918	-1.41	5824.9897	-1.76
TN	VH	5825.0221	3.79	5825.0024	0.41	5825.0217	3.72	5824.9812	-3.22
Frequency Error vs. Temperature									
802.11a:5825MHz									
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)
40	VN	5824.9922	-1.33	5824.9990	-0.17	5824.9786	-3.67	5824.9893	-1.84
30	VN	5824.9992	-0.13	5824.9875	-2.14	5824.9996	-0.07	5824.9908	-1.59
20	VN	5825.0083	1.43	5824.9767	-3.99	5824.9877	-2.11	5825.0194	3.33
10	VN	5824.9920	-1.37	5824.9859	-2.42	5824.9849	-2.59	5825.0061	1.05
0	VN	5825.0028	0.49	5824.9947	-0.90	5825.0107	1.83	5825.0217	3.72

**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 10 TEST ENVIRONMENT.



## 11.7. APPENDIX H: 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	1.38	1.42	0.9718	97.18	0.12	0.72	1
11N20SISO	1.3	1.34	0.9701	97.01	0.13	0.77	1
11N40SISO	0.64	0.68	0.9412	94.12	0.26	1.56	2
11AC80SISO	0.33	0.37	0.8919	89.19	0.50	3.03	4

Note:

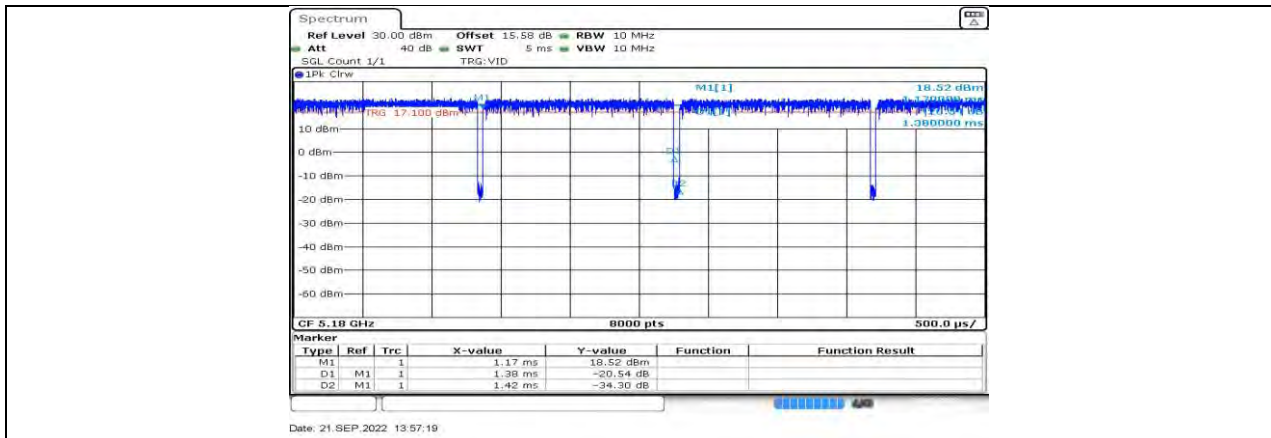
Duty Cycle Correction Factor=10log (1/x).

Where: x is Duty Cycle (Linear)

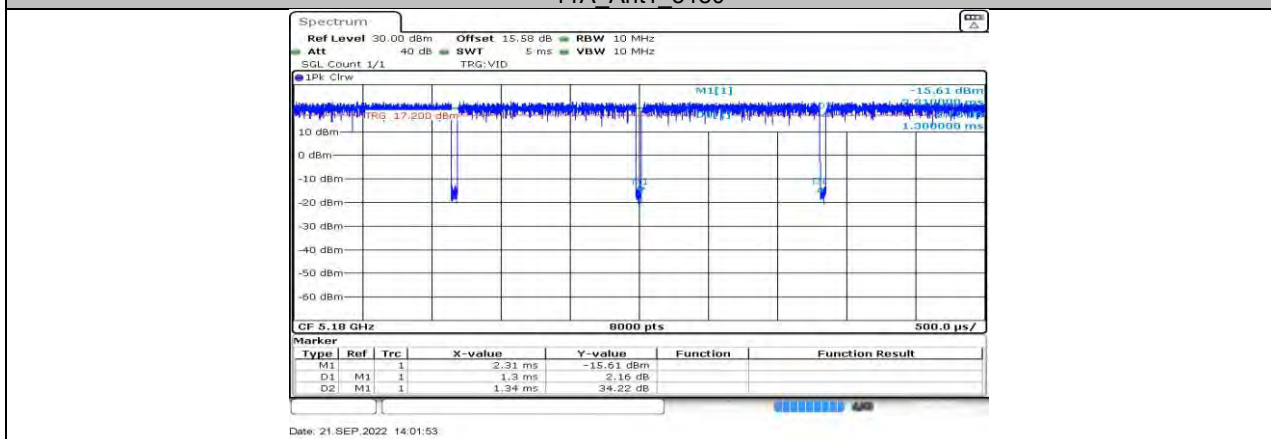
Where: T is On Time

If that calculated VBW is not available on the analyzer then the next higher value should be used.

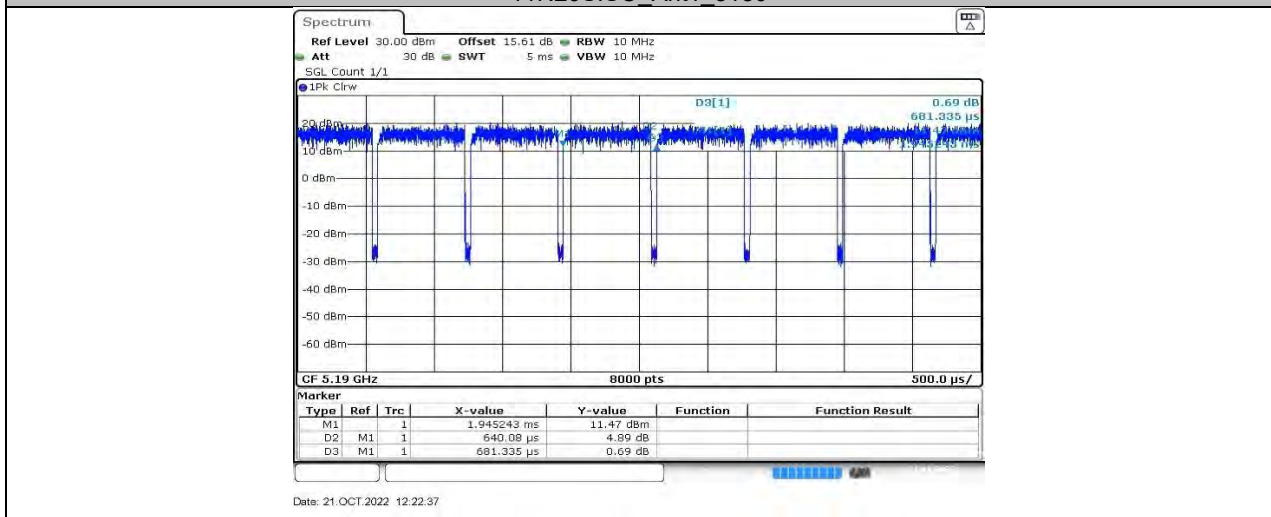
### 11.7.2. Test Graphs



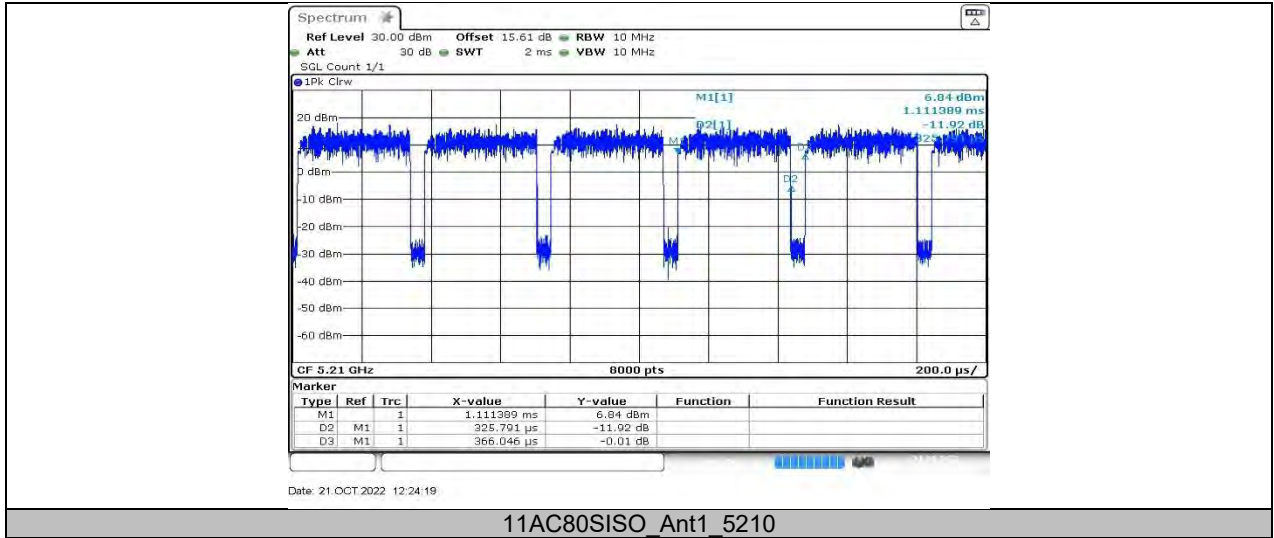
11A Ant1 5180



11N20SISO Ant1 5180



11N40SISO Ant1 5190



11AC80SISO\_Ant1\_5210

**END OF REPORT**