CFR 47 FCC PART 15 SUBPART E

TEST REPORT

For

XAG FS2 Local Server

MODEL NUMBER: 13LS-2AH

REPORT NUMBER: 4791656697-1-RF-2

FCC ID:2A46G-13LS-2AH

ISSUE DATE: March 19, 2025

Prepared for

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

Prepared by

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

Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China

Tel: +86 769 22038881
Fax: +86 769 33244054
Website: www.ul.com

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	March 19, 2025	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), RSS-247 Issue 3, Clause 6.2.1.2 RSS-Gen Clause 6.7	Pass
CONDUCTED OUTPUT POWER	KDB 789033 D02 v02r01 Section E.3.a (Method PM)/KDB 789033 D02 v02r01 Section E.3.a (Method PM) Section E.2.d (Method SA-2)	FCC 15.407 (a) RSS-247 Clause 6.2	Pass
POWER SPECTRAL DENSITY	KDB 789033 D02 v02r01 Section F	FCC 15.407 (a) RSS-247 Clause 6.2	Pass
AC Power Line Conducted Emission	ANSI C63.10-2013, Clause 6.2.	FCC 15.207 RSS-GEN Clause 8.8	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 RSS-247 Clause 6.2 RSS-GEN Clause 8.9	Pass
FREQUENCY STABILITY	ANSI C63.10-2013,Clause 6.8	FCC 15.407 (g)	Pass
Antenna Requirement	N/A	FCC 47 CFR Part 15.203/ 15.407(a)(1) (2), RSS-Gen Issue 5, Clause 6.8	Pass

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

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

CONTENTS

1. ATTESTATION OF TEST RESULTS 6

2. TEST METHODOLOGY 7

3. FACILITIES AND ACCREDITATION 7

4. CALIBRATION AND UNCERTAINTY 8

4.1. MEASURING INSTRUMENT CALIBRATION 8

4.2. MEASUREMENT UNCERTAINTY 8

5. EQUIPMENT UNDER TEST 9

5.1. DESCRIPTION OF EUT 9

5.2. CHANNEL LIST 9

5.3. MAXIMUM POWER 9

5.4. TEST CHANNEL CONFIGURATION 9

5.5. THE WORSE CASE POWER SETTING PARAMETER 10

5.6. WORSE CASE CONFIGURATIONS 10

5.7. DESCRIPTION OF AVAILABLE ANTENNAS 11

5.8. DESCRIPTION OF TEST SETUP 11

6. MEASURING EQUIPMENT AND SOFTWARE USED 13

7. ANTENNA PORT TEST RESULTS 16

7.1. ON TIME AND DUTY CYCLE 16

7.2. 6DB AND 26DB EMISSION BANDWIDTH AND 99% OCCUPIED BANDWIDTH 17

7.3. CONDUCTED OUTPUT POWER 19

7.4. POWER SPECTRAL DENSITY 21

7.5. FREQUENCY STABILITY 23

8. RADIATED TEST RESULTS 25

8.1. RESTRICTED BANDEDGE 33

8.2. SPURIOUS EMISSIONS(1 GHZ~7 GHZ) 38

8.3. SPURIOUS EMISSIONS(7 GHZ~18 GHZ) 44

8.4. SPURIOUS EMISSIONS(9 KHZ~30 MHZ) 56

8.5. SPURIOUS EMISSIONS(18 GHZ~26 GHZ) 59

8.6. SPURIOUS EMISSIONS(26 GHZ~40 GHZ) 61

8.7. SPURIOUS EMISSIONS(30 MHZ~1 GHZ) 63

9. AC POWER LINE CONDUCTED EMISSION 65

10. ANTENNA REQUIREMENT 69

11. TEST DATA 70

11.1. APPENDIX A: EMISSION BANDWIDTH 70
11.1.1. Test Result 70
11.1.2. Test Graphs 71

11.2. APPENDIX B: OCCUPIED CHANNEL BANDWIDTH 73
11.2.1. Test Result 73
11.2.2. Test Graphs 74

11.3. APPENDIX C: MIN EMISSION BANDWIDTH 76
11.3.1. Test Result 76
11.3.2. Test Graphs 77

11.4. APPENDIX D: MAXIMUM CONDUCTED OUTPUT POWER 79
11.4.1. Test Result 79

11.5. APPENDIX E: MAXIMUM POWER SPECTRAL DENSITY 80
11.5.1. Test Result 80
11.5.2. Test Graphs 81

11.6. APPENDIX F: FREQUENCY STABILITY 83
11.6.1. Test Result 83

11.7. APPENDIX G: DUTY CYCLE 85
11.7.1. Test Result 85
11.7.2. Test Graphs 86

1. ATTESTATION OF TEST RESULTS

Applicant Information

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

Manufacturer Information

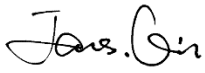
Company Name:	Guangzhou Xaircraft Technology CO.,LTD
Address:	Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong,P.R.China

EUT Information

EUT Name:	XAG FS2 Local Server
Model:	13LS-2AH
Sample Received Date:	February 10, 2025
Sample Status:	Normal
Sample ID:	8115989
Date of Tested:	February 17, 2025 to March 19, 2025

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

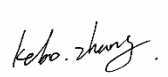
Prepared By:



James Qin

Project Engineer

Checked By:



Kebo Zhang

Senior Project Engineer

Approved By:

Stephen Guo

Operations Manager

2. TEST METHODOLOGY

All tests were performed in accordance with the standard CFR 47 FCC PART 15 SUBPART E, ANSI C63.10-2013, CFR 47 FCC Part 2, KDB 789033 D02 v02r01, RSS-GEN Issue 5, KDB 414788 D01 Radiated Test Site v01r01, KDB 662911 D01 Multiple Transmitter Output v02r01, KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02, KDB 905462 D03 UNII clients without radar detection New Rules v01r02.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules **ISED (Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. **VCCI (Registration No.: G-20192, C-20153, T-20155 and R-20202)** 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-20192 and R-20202 Shielding Room B, the VCCI registration No. is C-20153 and T-20155

Note 1:
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.

Note 2:
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.

Note 3:
For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz had been correlated to measurements performed on an OFS.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. MEASUREMENT UNCERTAINTY

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

Test Item	Uncertainty
Conduction emission	3.62 dB
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB
Radiated Emission (Included Fundamental Emission) (1 GHz to 40 GHz)	5.78 dB (1 GHz ~ 18 GHz)
	5.23 dB (18 GHz ~ 26 GHz)
	5.37 dB (26 GHz ~ 40 GHz)
Duty Cycle	±0.028%
Emission Bandwidth and 99% Occupied Bandwidth	±0.0196%
Maximum Conducted Output Power	±0.766 dB
Maximum Power Spectral Density Level	±1.22 dB
Frequency Stability	±2.76%
Dynamic Frequency Selection	±1.01 dB
Conducted Band-edge Compliance	±1.328 dB
Conducted Unwanted Emissions In Non-restricted Frequency Bands	±0.746 dB (9 kHz ~ 1 GHz)
	±1.328dB (1 GHz ~ 26 GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	XAG FS2 Local Server
Model	13LS-2AH

5.2. CHANNEL LIST

UNII-3 (For Bandwidth=20MHz)	
Channel	Frequency (MHz)
149	5745
153	5765
157	5785
161	5805
165	5825

5.3. MAXIMUM POWER

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)
a	5725 ~ 5850	16.66
n HT20		16.46

Note: 11ac VHT20 is covered by 11n HT20.

5.4. TEST CHANNEL CONFIGURATION

UNII-3 Test Channel Configuration		
IEEE Std.	Test Channel Number	Frequency
802.11a	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745 MHz, 5785 MHz, 5825 MHz
802.11n HT20	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745 MHz, 5785 MHz, 5825 MHz
802.11ac VHT20	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745 MHz, 5785 MHz, 5825 MHz

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter			
UNII-3			
Mode	Rate	Channel	Soft set value
			ANT1
11a	6M	149	100
		157	100
		165	100
11n HT20	MCS0	149	100
		157	100
		165	100

Note: 11ac VHT20 is covered by 11n HT20.

5.6. WORSE CASE CONFIGURATIONS

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

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

Test channels referring to section 5.4.

Maximum power setting referring to section 5.5.

Worst case Data Rates declared by the customer:

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

802.11a/n HT20 only support SISO mode.

The EUT has only one antenna.

Note: 11ac VHT20 is covered by 11n HT20.

5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna No.	Frequency Band	Antenna Type	Max Antenna Gain (dBi)
1	5725-5850	PCB antenna	5.35

IEE Std. 802.11	Transmit and Receive Mode	Description
802.11a	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11n HT20	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11ac VHT20	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
Note: 1. BT & WLAN 5G, WLAN 2.4G & WLAN 5G can transmit simultaneously (Declared by client)		

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	Lenovo	E42-80	/
2	Adapter	/	/	/

I/O CABLES

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

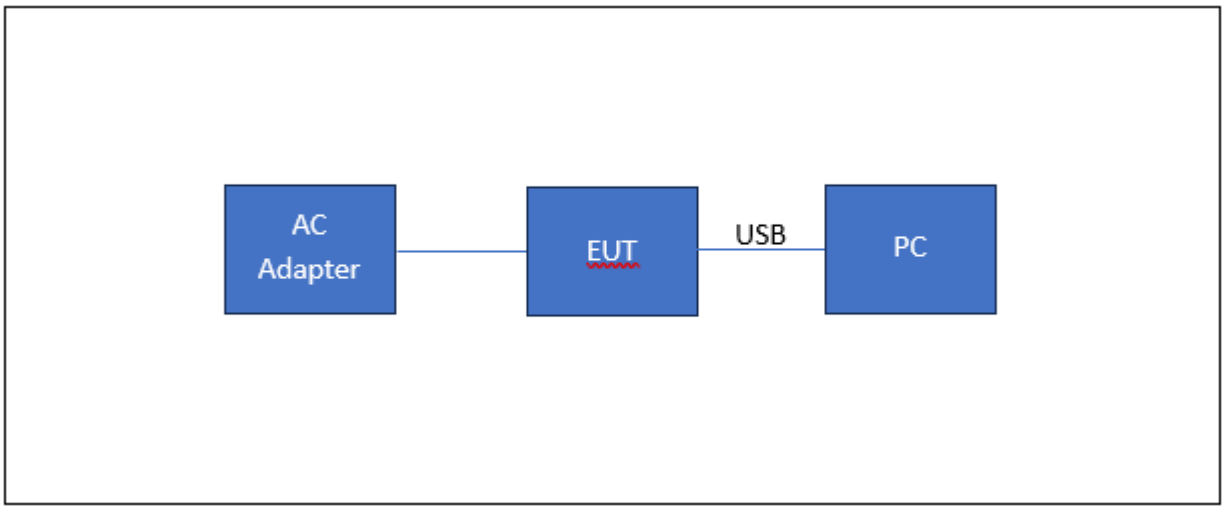
ACCESSORIES

Item	Accessory	Brand Name	Model Name	Description
1	/	/	/	/

TEST SETUP

The EUT can work in engineering mode with a PC.

SETUP DIAGRAM FOR TESTS



6. MEASURING EQUIPMENT AND SOFTWARE USED

R&S TS 8997 Test System					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Power sensor, Power Meter	R&S	OSP120	100921	Mar.25,2024	Mar.24,2025
Vector Signal Generator	R&S	SMBV100A	261637	Sep.28, 2024	Sep.27, 2025
Signal Generator	R&S	SMB100A	178553	Sep.28, 2024	Sep.27, 2025
Signal Analyzer	R&S	FSV40	101118	Sep.28, 2024	Sep.27, 2025
Software					
Description	Manufacturer	Name	Version		
For R&S TS 8997 Test System	Rohde & Schwarz	EMC 32	10.60.10		
Tonsend RF Test System					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Wireless Connectivity Tester	R&S	CMW270	1201.0002N75-102	Sep.13, 2024	Sep.12, 2025
PXA Signal Analyzer	Keysight	N9030A	MY55410512	Sep.28, 2024	Sep.27, 2025
MXG Vector Signal Generator	Keysight	N5182B	MY56200284	Sep.28, 2024	Sep.27, 2025
MXG Vector Signal Generator	Keysight	N5172B	MY56200301	Sep.28, 2024	Sep.27, 2025
DC power supply	Keysight	E3642A	MY55159130	Sep.28, 2024	Sep.27, 2025
Temperature & Humidity Chamber	SANMOOD	SG-80-CC-2	2088	Sep.28, 2024	Sep.27, 2025
Attenuator	Aglient	8495B	2814a12853	Sep.28, 2024	Sep.27, 2025
RF Control Unit	Tonscend	JS0806-2	23B80620666	Mar.25,2024	Mar.24,2025
Software					
Description	Manufacturer	Name	Version		
Tonsend SRD Test System	Tonsend	JS1120-3 RF Test System	V3.2.22		

Conducted Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	R&S	ESR3	101961	Sep.28, 2024	Sep.27, 2025
Two-Line V-Network	R&S	ENV216	101983	Sep.28, 2024	Sep.27, 2025
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Sep.28, 2024	Sep.27, 2025
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	Sep.28, 2024	Sep.27, 2025
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	June 28, 2024	June.27 2027
Preamplifier	HP	8447D	2944A09099	Sep.28, 2024	Sep.27, 2025
EMI Measurement Receiver	R&S	ESR26	101377	Sep.28, 2024	Sep.27, 2025
Horn Antenna	TDK	HRN-0118	130939	Apr.29, 2022	Apr.28, 2025
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Sep.28, 2024	Sep.27, 2025
Horn Antenna	Schwarzbeck	BBHA9170	697	Jun 30, 2024	Jun 29, 2027
Preamplifier	TDK	PA-02-2	TRS-307-00003	Sep.28, 2024	Sep.27, 2025
Preamplifier	TDK	PA-02-3	TRS-308-00002	Sep.28, 2024	Sep.27, 2025
Loop antenna	Schwarzbeck	1519B	00008	Dec.09, 2024	Dec.08, 2027
Band Reject Filter	Wainwright	WRCJV12-5695-5725-5850-5880-40SS	4	Sep.28, 2024	Sep.27, 2025
Notch Filter	Wainwright	WHJ10-882-980-7000-40SS	1	Sep.28, 2024	Sep.27, 2025
Software					
Description			Manufacturer	Name	Version
Test Software for Radiated Emissions			Farad	EZ-EMC	Ver. UL-3A1

Other Instrument					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Temperature humidity probe	OMEGA	ITHX-SD-5	18470007	Oct.8, 2024	Oct.7, 2025
Barometer	Yiyi	Baro	N/A	Oct.10, 2024	Oct.9, 2025
Attenuator	Agilent	8495B	2814a12853	Sep.28, 2024	Sep.27, 2025

7. ANTENNA PORT TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

LIMITS

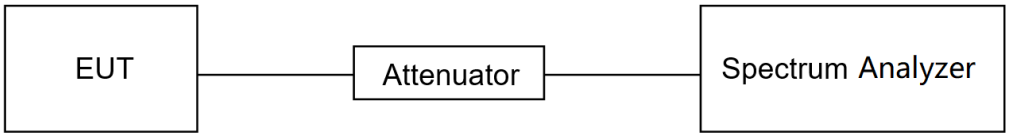
None; for reporting purposes only.

TEST PROCEDURE

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

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

TEST SETUP



TEST ENVIRONMENT

Temperature	22.7℃	Relative Humidity	52.8%
Atmosphere Pressure	101kPa	Test Voltage	DC 5V

TEST DATE / ENGINEER

Test Date	March 6, 2025	Test By	Walker Yuan

TEST RESULTS

Please refer to section "Test Data" - Appendix G

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

LIMITS

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

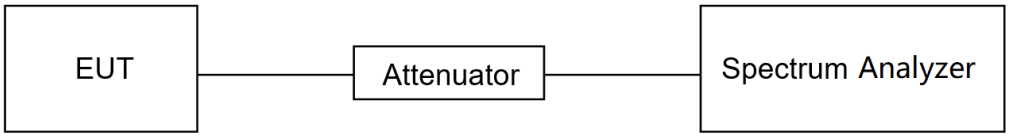
TEST PROCEDURE

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

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

a) Use the 99 % power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.
b) Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6/26 dB relative to the maximum level measured in the fundamental emission.

TEST SETUP



TEST ENVIRONMENT

Temperature	22.7℃	Relative Humidity	52.8%
Atmosphere Pressure	101kPa	Test Voltage	DC 5V

TEST DATE / ENGINEER

Test Date	March 6, 2025	Test By	Walker Yuan

TEST RESULTS

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

7.3. CONDUCTED OUTPUT POWER

LIMITS

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

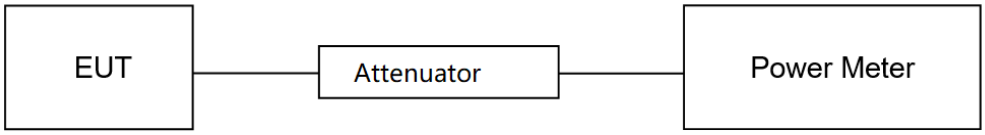
Note:
The above limits are based upon the maximum antenna gain does not exceed 6 dBi.
If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

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

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

TEST SETUP



TEST ENVIRONMENT

Temperature	22.7℃	Relative Humidity	52.8%
Atmosphere Pressure	101kPa	Test Voltage	DC 5V

TEST DATE / ENGINEER

Test Date	March 6, 2025	Test By	Walker Yuan

TEST RESULTS

Please refer to section "Test Data" - Appendix D

7.4. POWER SPECTRAL DENSITY

LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	☐ Outdoor Access Point: 17 dBm/MHz ☐ Indoor Access Point: 17 dBm/MHz ☐ Fixed Point-To-Point Access Points: 17 dBm/MHz ☒ Client Devices: 11 dBm/MHz	5150 ~ 5250
	11 dBm/MHz	5250 ~ 5350 5470 ~ 5725
	30 dBm/500kHz	5725 ~ 5850

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

TEST PROCEDURE

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

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

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

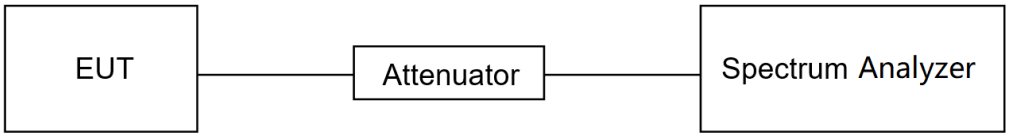
Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	1 MHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Average
Sweep time	Auto

For U-NII-3:

Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Average
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	22.7℃	Relative Humidity	52.8%
Atmosphere Pressure	101kPa	Test Voltage	DC 5V

TEST DATE / ENGINEER

Test Date	March 6, 2025	Test By	Walker Yuan

TEST RESULTS

Please refer to section "Test Data" - Appendix E

7.5. FREQUENCY STABILITY

LIMITS

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

TEST PROCEDURE

1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -20 °C ~ 50 °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 analyzer and use the following settings:

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

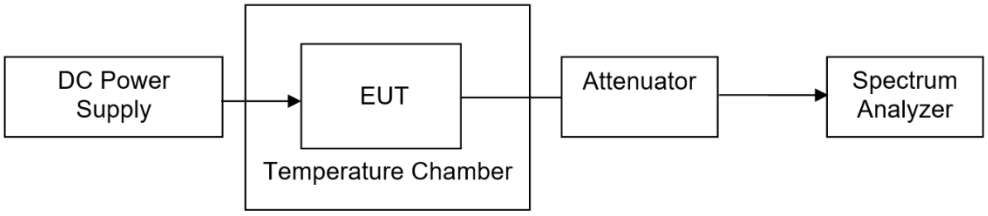
4. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5minutes, and 10 minutes after the EUT is energized.

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

TEST ENVIRONMENT

	Normal Test Conditions	Extreme Test Conditions
Relative Humidity	20 % ~ 75 %	/
Atmospheric Pressure	100 kPa ~ 102 kPa	/
Temperature	T_N (Normal Temperature): 25.1 °C	T_L (Low Temperature): -20 °C
		T_H (High Temperature): 50 °C
Supply Voltage	V_N (Normal Voltage): DC 5 V	V_L (Low Voltage): DC 4.25 V
		V_H (High Voltage): DC 5.75 V

TEST SETUP



TEST ENVIRONMENT

Temperature	22.7℃	Relative Humidity	52.8%
Atmosphere Pressure	101kPa	Test Voltage	DC 5V

TEST DATE / ENGINEER

Test Date	March 6, 2025	Test By	Walker Yuan

TEST RESULTS

Please refer to section "Test Data" - Appendix F

8. RADIATED TEST RESULTS

LIMITS

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

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

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

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

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

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

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

Limits of unwanted/undesirable emission out of the restricted bands refer to CFR 47 FCC §15.407 (b)

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

TEST PROCEDURE

Below 30 MHz

The setting of the spectrum analyzer

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

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

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

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

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

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

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

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

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

Below 1 GHz and above 30 MHz

The setting of the spectrum analyzer

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 analyzer

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.

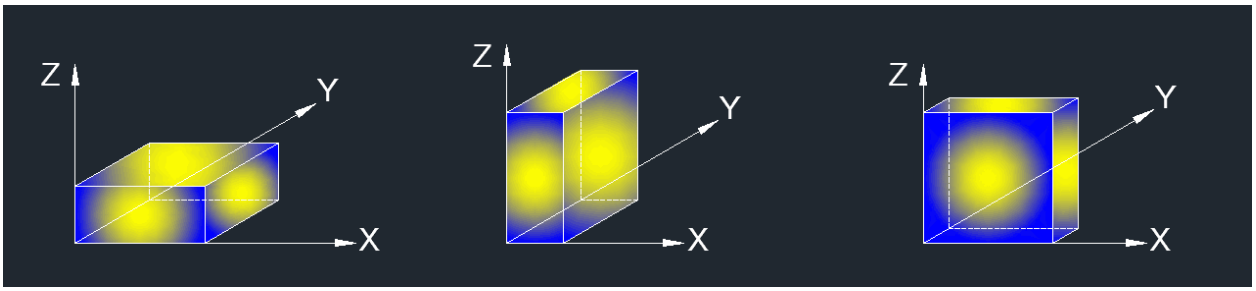
3. The EUT was placed on a turntable with 1.5 m above ground.

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 Restricted Bandedge:
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. PK=Peak: Peak detector.
4. AV=Average: 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. Both horizontal and vertical have been tested, only the worst data was recorded in the report.
8. All modes have been tested, but only the worst data was recorded in the report.

For Radiate Spurious emission (9 kHz ~ 30 MHz):
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the QP limit, the QP result is deemed to comply with QP limit.
3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.
4. All modes have been tested, but only the worst data was recorded in the report.
5. dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5

For Radiate Spurious Emission (30 MHz ~ 1 GHz):
Note:
1. Result Level = Read Level + Correct Factor.
2. If the peak values are less than the QP limit, the QP result is deemed to comply with QP limit.
3. All modes have been tested, but only the worst data was recorded in the report.

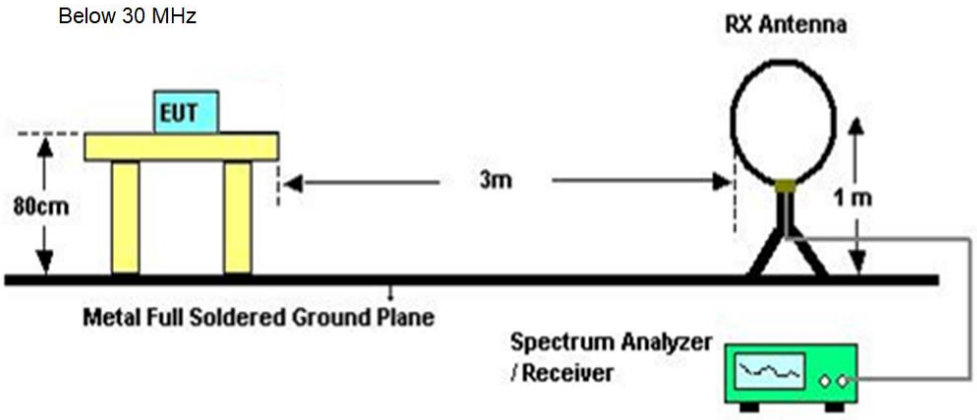
For Radiate Spurious Emission (1 GHz ~ 7 GHz):
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.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

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

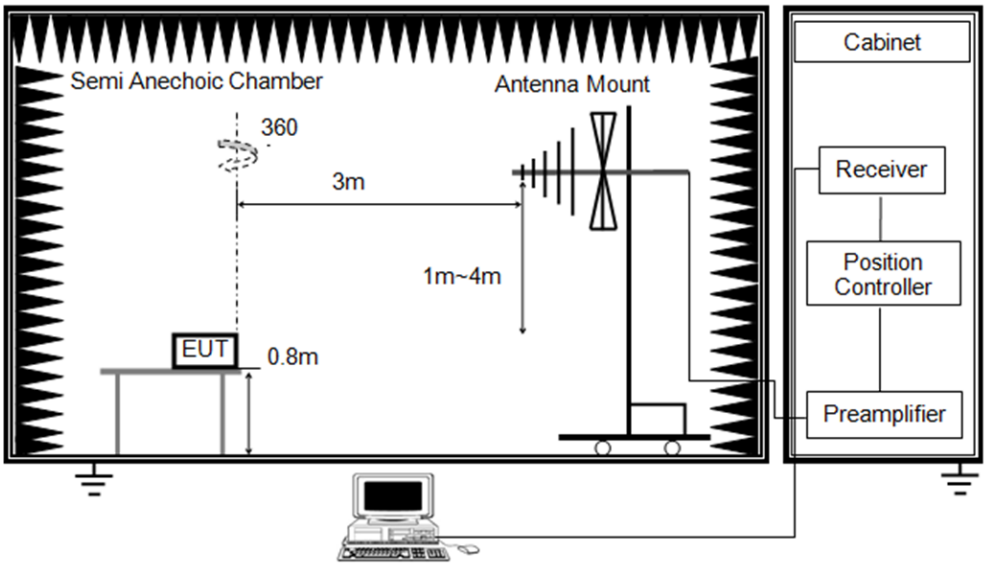
For Radiate Spurious emission (18 GHz ~ 26 GHz):
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. All modes have been tested, but only the worst data was recorded in the report.

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

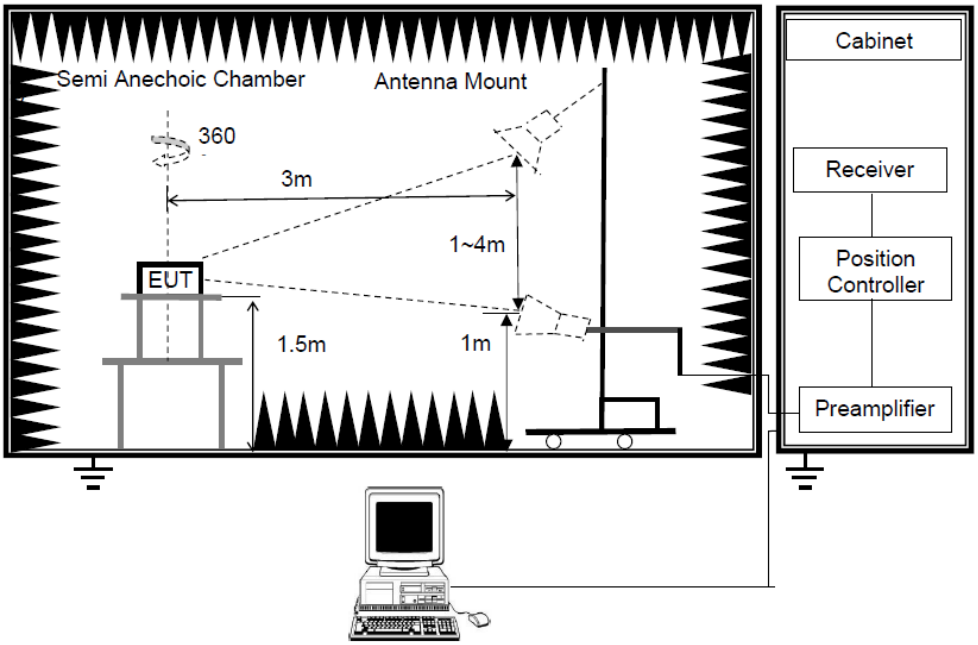
TEST SETUP



Below 1 GHz and above 30 MHz



Above 1GHz



TEST ENVIRONMENT

Temperature	20.2℃	Relative Humidity	58.2%
Atmosphere Pressure	101kPa	Test Voltage	

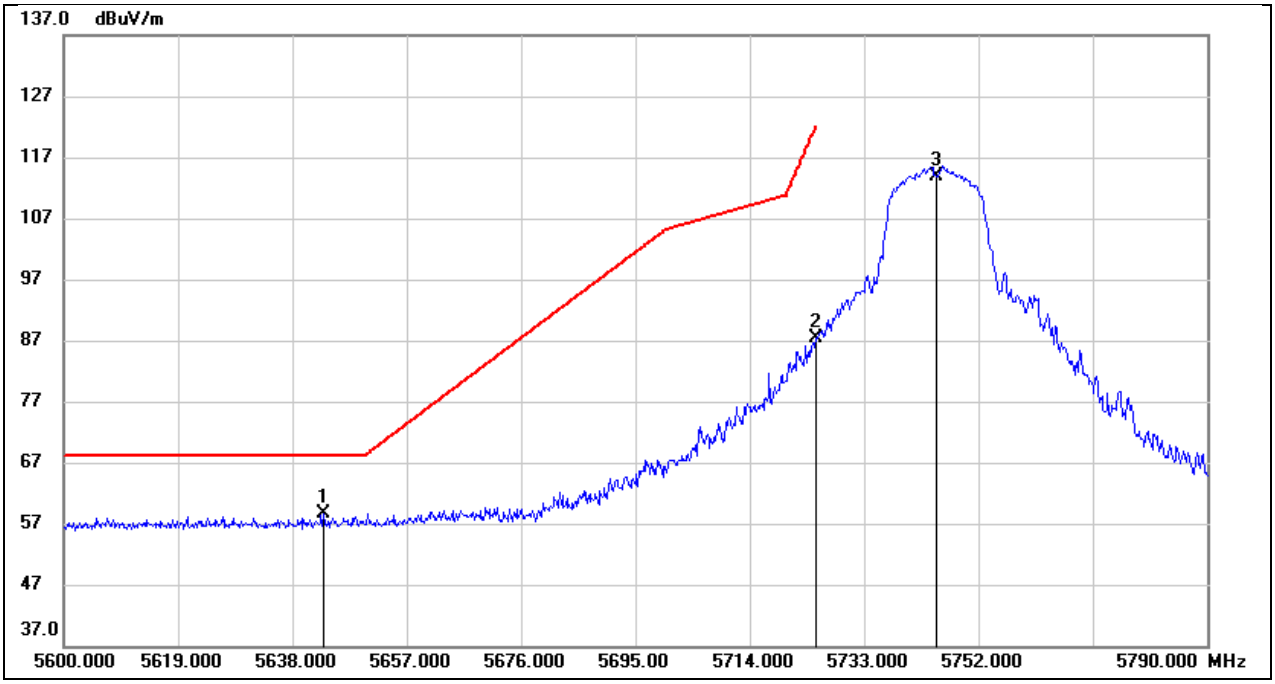
TEST DATE / ENGINEER

Test Date	March 18, 2025	Test By	Mason Wang

TEST RESULTS

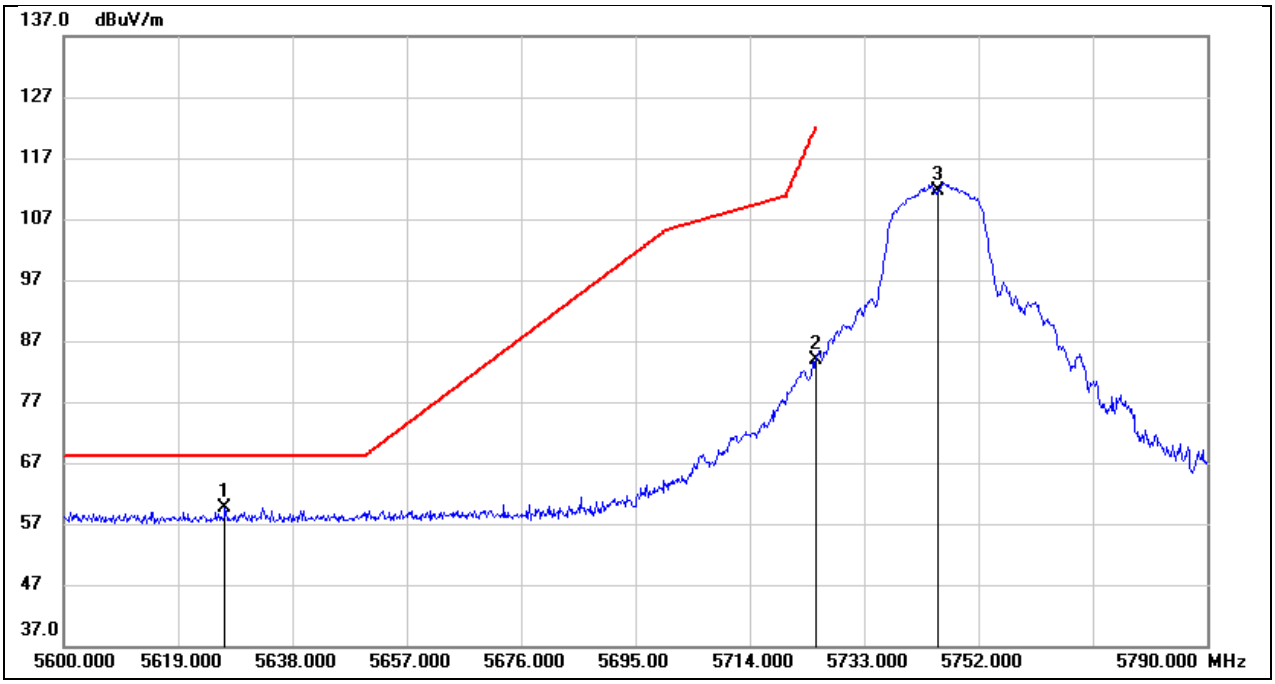
8.1. RESTRICTED BANDEDGE

Test Mode:	802.11a 20 PK	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	DC 5V



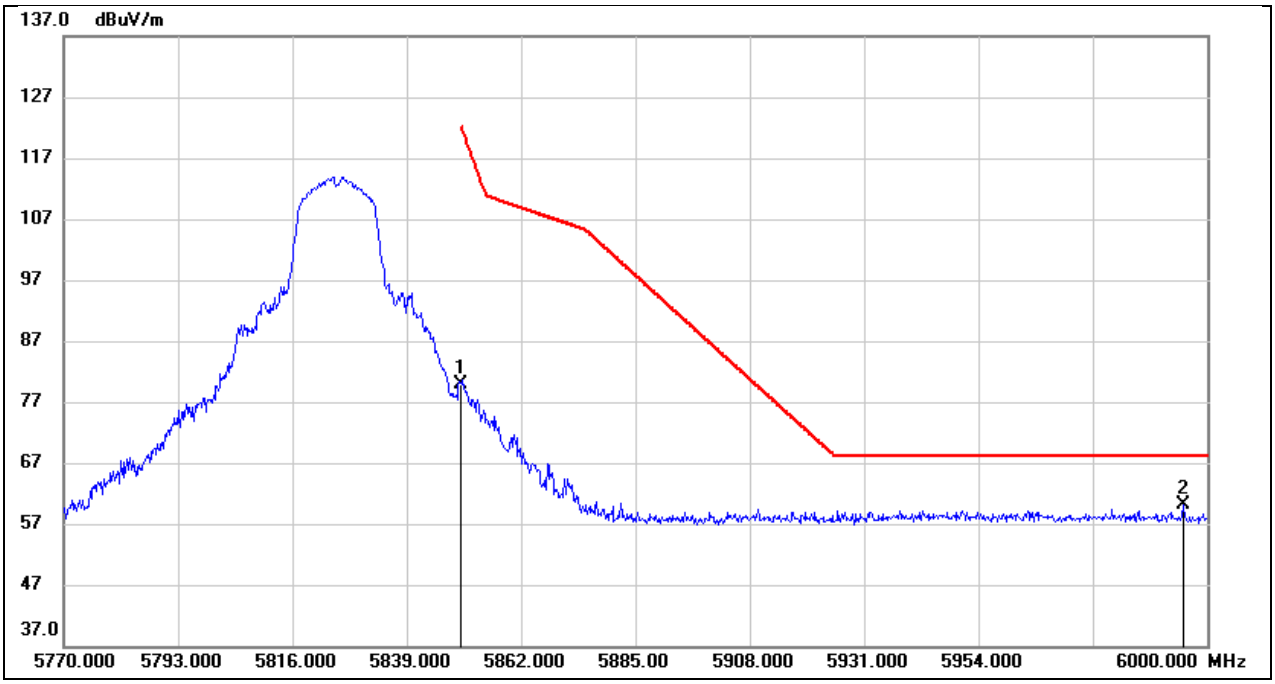
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5643.130	18.53	39.98	58.51	68.20	-9.69	peak
2	5725.000	47.21	40.09	87.30	122.20	-34.90	peak
3	5745.000	73.78	40.11	113.89			peak

Test Mode:	802.11a 20 PK	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	DC 5V



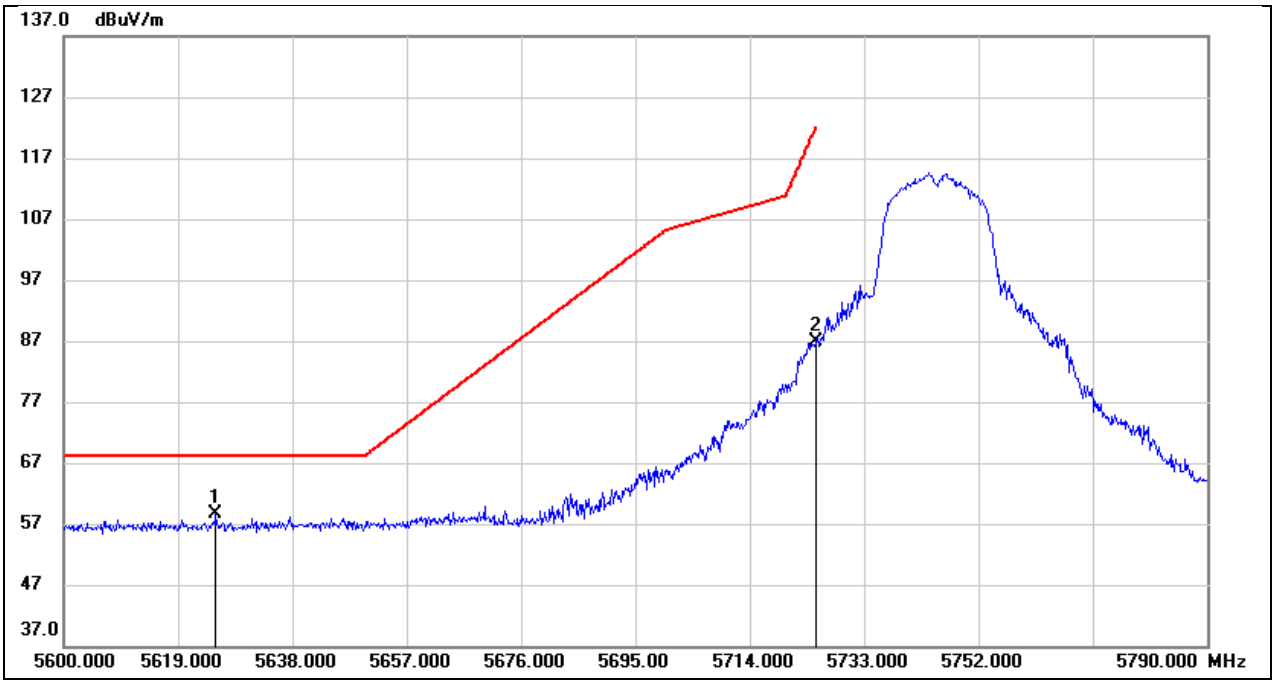
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5626.790	18.60	41.11	59.71	68.20	-8.49	peak
2	5725.000	42.59	41.20	83.79	122.20	-38.41	peak
3	5745.000	70.33	41.21	111.54			peak

Test Mode:	802.11a 20 PK	Frequency(MHz):	5825
Polarity:	Horizontal	Test Voltage:	DC 5V



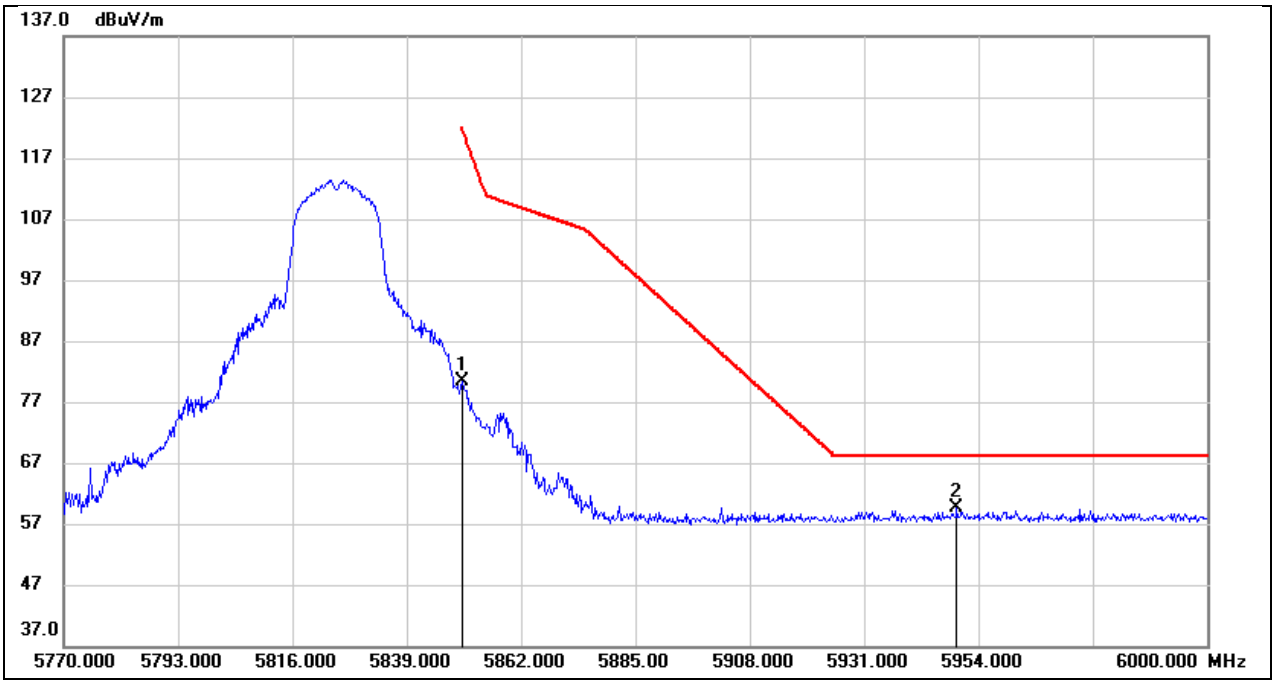
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	39.64	40.30	79.94	122.20	-42.26	peak
2	5995.170	19.43	40.64	60.07	68.20	-8.13	peak

Test Mode:	802.11n HT20 PK	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5625.270	18.71	39.96	58.67	68.20	-9.53	peak
2	5725.000	46.90	40.09	86.99	122.20	-35.21	peak

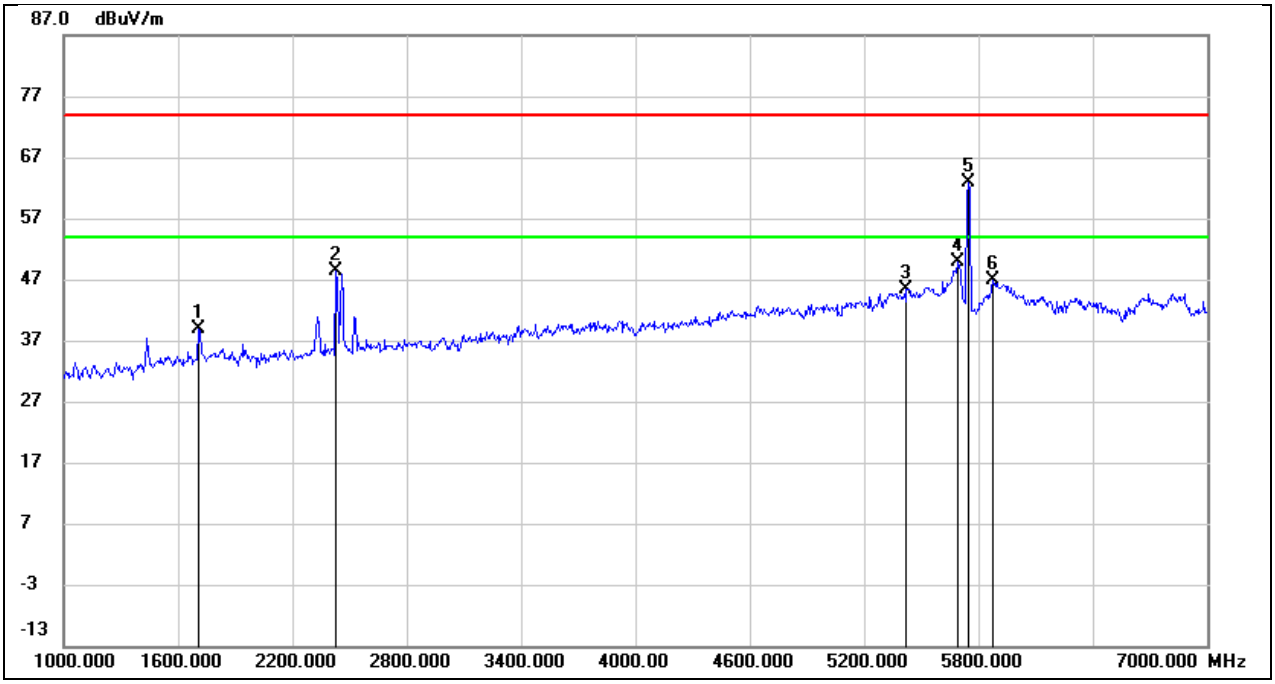
Test Mode:	802.11n HT20 PK	Frequency(MHz):	5825
Polarity:	Horizontal	Test Voltage:	DC 5V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.000	40.04	40.30	80.34	122.20	-41.86	peak
2	5949.630	19.04	40.53	59.57	68.20	-8.63	peak

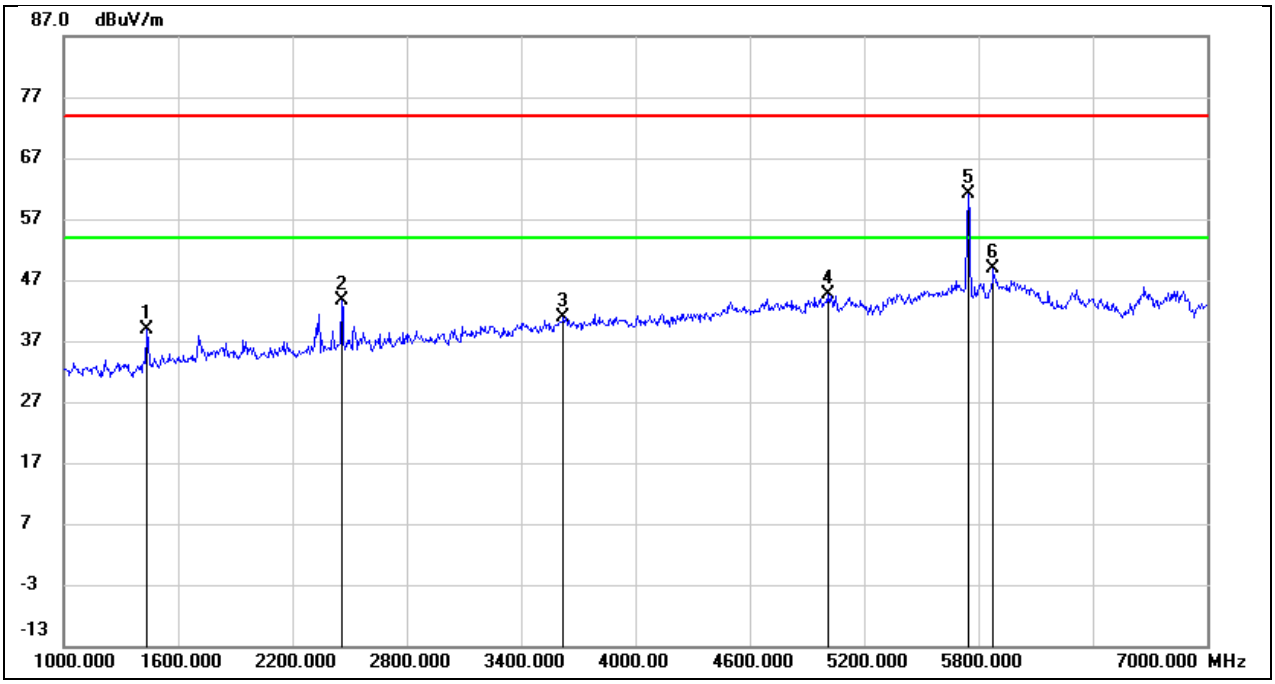
8.2. SPURIOUS EMISSIONS(1 GHZ~7 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	DC 5V



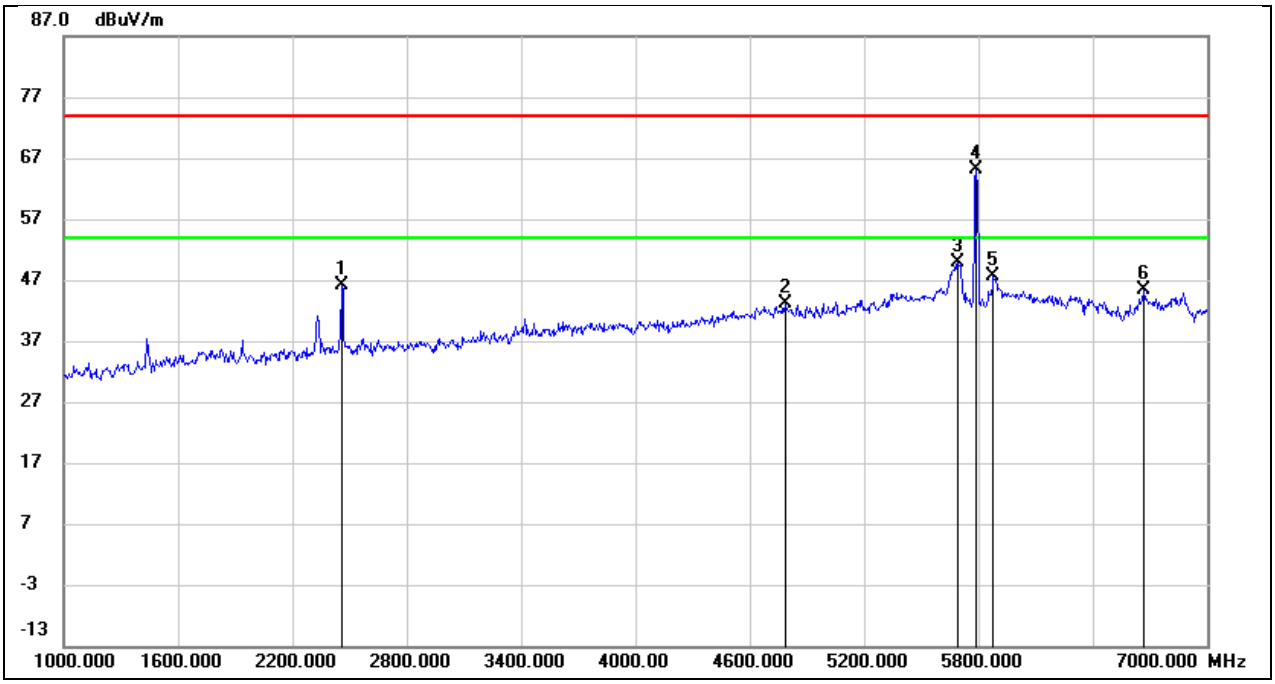
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1708.000	49.44	-10.61	38.83	74.00	-35.17	peak
2	2428.000	56.90	-8.48	48.42	74.00	-25.58	peak
3	5422.000	42.43	2.99	45.42	74.00	-28.58	peak
4	5692.000	45.82	4.03	49.85	74.00	-24.15	peak
5	5745.000	58.65	4.26	62.91	\	\	fundamental
6	5872.000	42.05	4.91	46.96	74.00	-27.04	peak

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	DC 5V



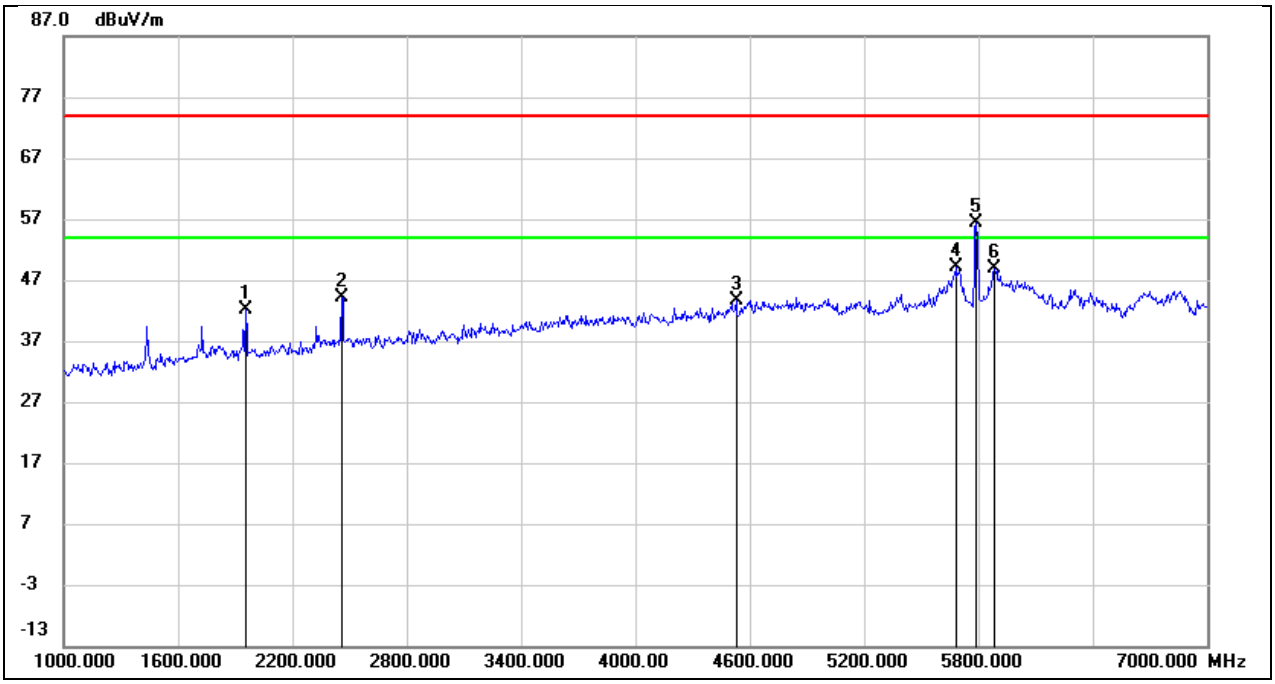
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1438.000	50.97	-12.06	38.91	74.00	-35.09	peak
2	2458.000	51.11	-7.57	43.54	74.00	-30.46	peak
3	3622.000	43.06	-2.22	40.84	74.00	-33.16	peak
4	5008.000	41.58	3.01	44.59	74.00	-29.41	peak
5	5745.000	55.66	5.37	61.03	\	\	fundamental
6	5878.000	42.79	6.00	48.79	74.00	-25.21	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Horizontal	Test Voltage:	DC 5V



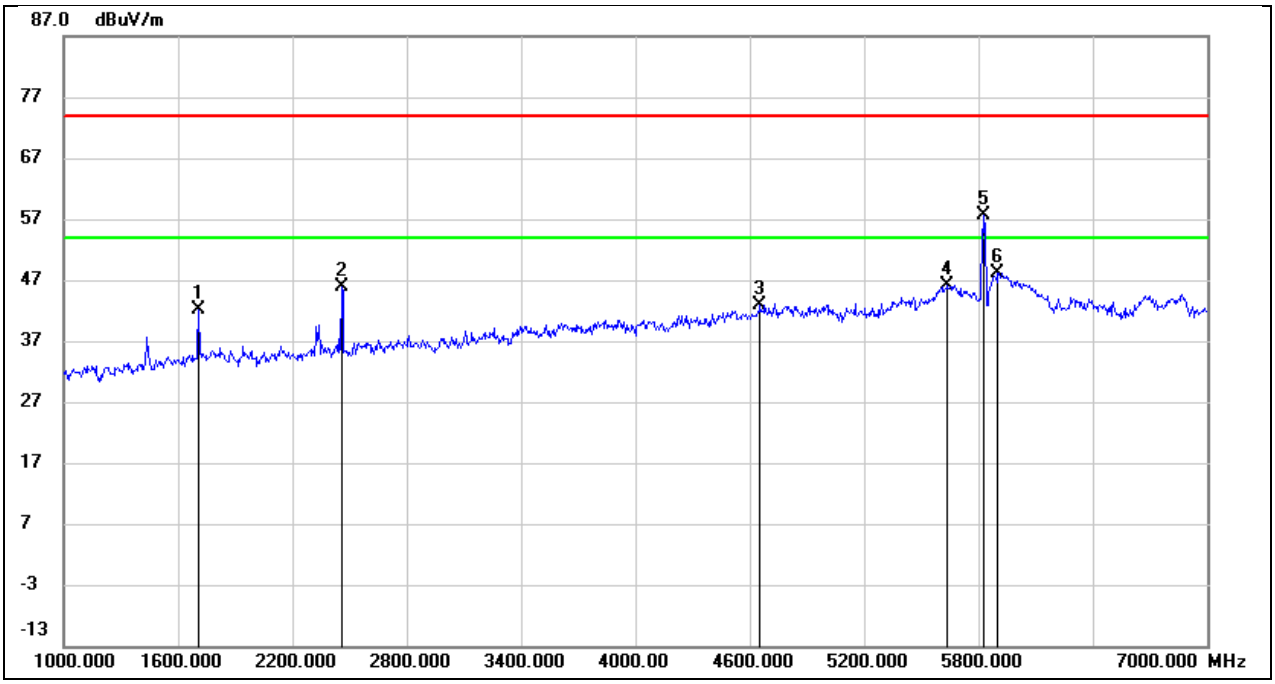
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2458.000	54.41	-8.37	46.04	74.00	-27.96	peak
2	4786.000	42.27	0.82	43.09	74.00	-30.91	peak
3	5692.000	45.93	4.03	49.96	74.00	-24.04	peak
4	5785.000	60.64	4.46	65.10	\	\	fundamental
5	5878.000	42.61	4.95	47.56	74.00	-26.44	peak
6	6670.000	39.21	6.26	45.47	74.00	-28.53	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Vertical	Test Voltage:	DC 5V



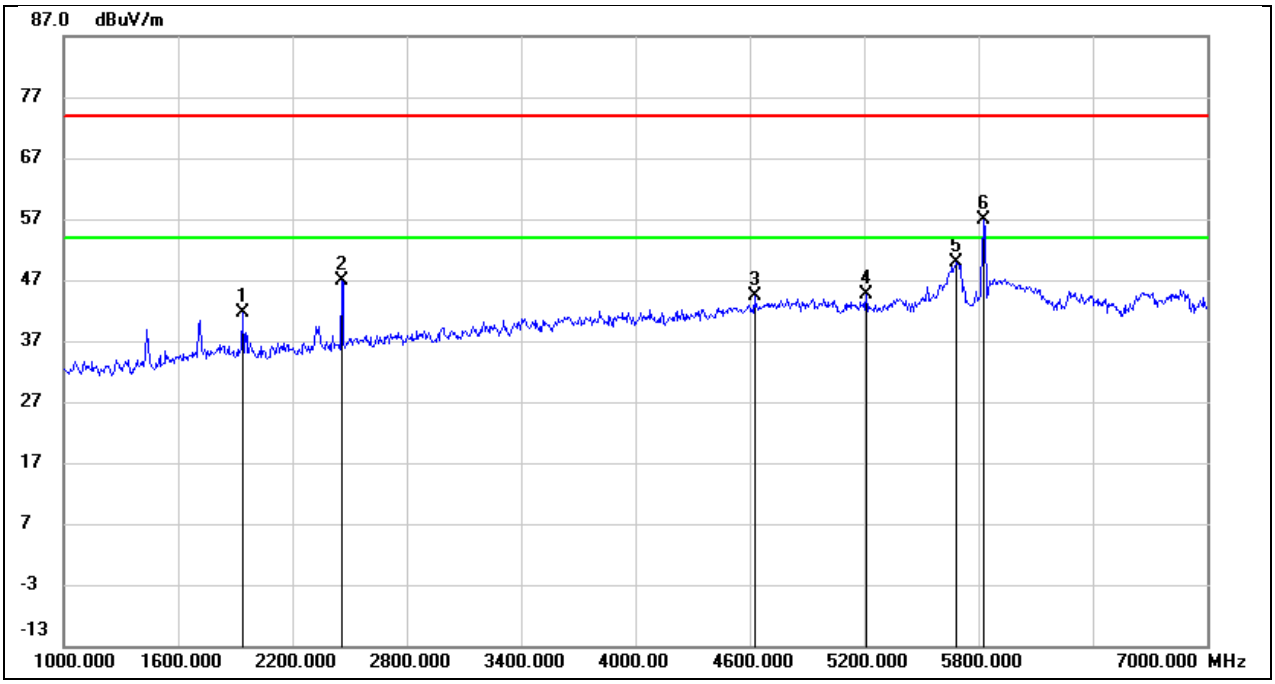
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1954.000	51.29	-9.24	42.05	74.00	-31.95	peak
2	2458.000	51.74	-7.57	44.17	74.00	-29.83	peak
3	4528.000	43.01	0.62	43.63	74.00	-30.37	peak
4	5680.000	44.05	5.11	49.16	74.00	-24.84	peak
5	5785.000	50.94	5.55	56.49	\	\	fundamental
6	5884.000	42.86	6.03	48.89	74.00	-25.11	peak

Test Mode:	802.11a 20	Frequency(MHz):	5825
Polarity:	Horizontal	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1708.000	52.62	-10.61	42.01	74.00	-31.99	peak
2	2458.000	54.30	-8.37	45.93	74.00	-28.07	peak
3	4654.000	42.60	0.30	42.90	74.00	-31.10	peak
4	5638.000	42.43	3.78	46.21	74.00	-27.79	peak
5	5825.000	52.86	4.68	57.54	\	\	fundamental
6	5902.000	43.15	5.08	48.23	74.00	-25.77	peak

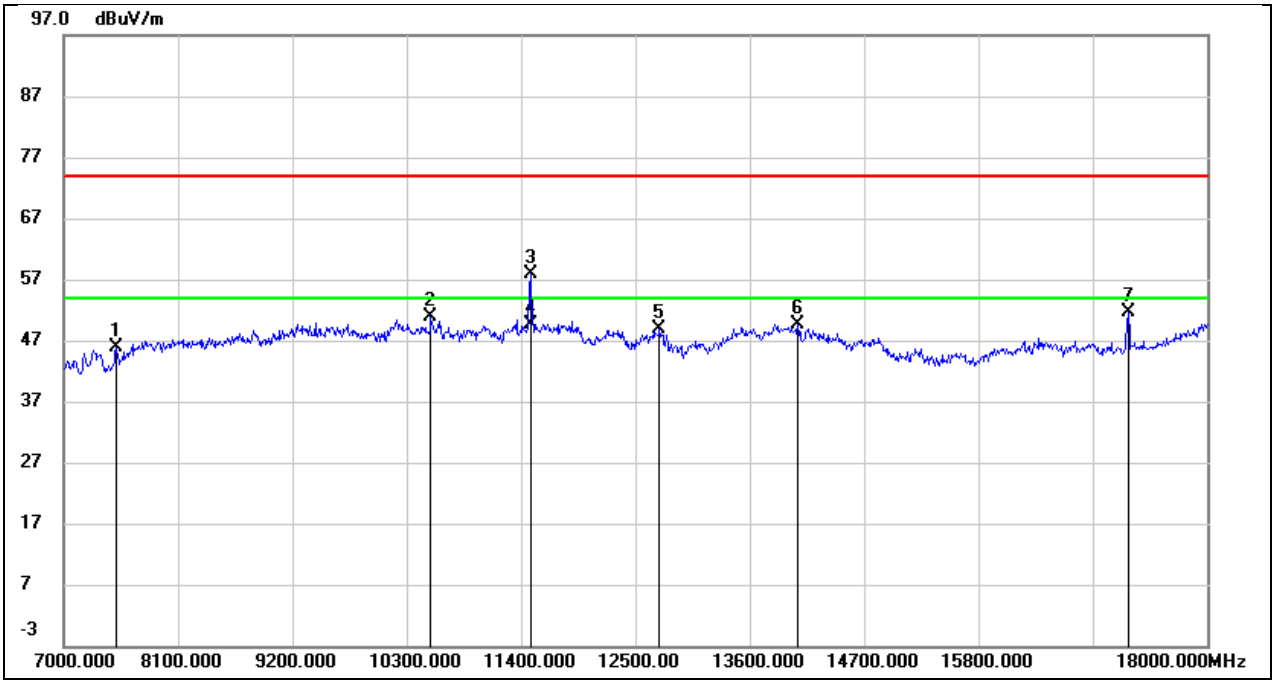
Test Mode:	802.11a 20	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1942.000	50.99	-9.25	41.74	74.00	-32.26	peak
2	2458.000	54.34	-7.57	46.77	74.00	-27.23	peak
3	4624.000	43.27	1.15	44.42	74.00	-29.58	peak
4	5212.000	41.38	3.29	44.67	74.00	-29.33	peak
5	5686.000	44.75	5.12	49.87	74.00	-24.13	peak
6	5825.000	51.14	5.75	56.89	\	\	fundamental

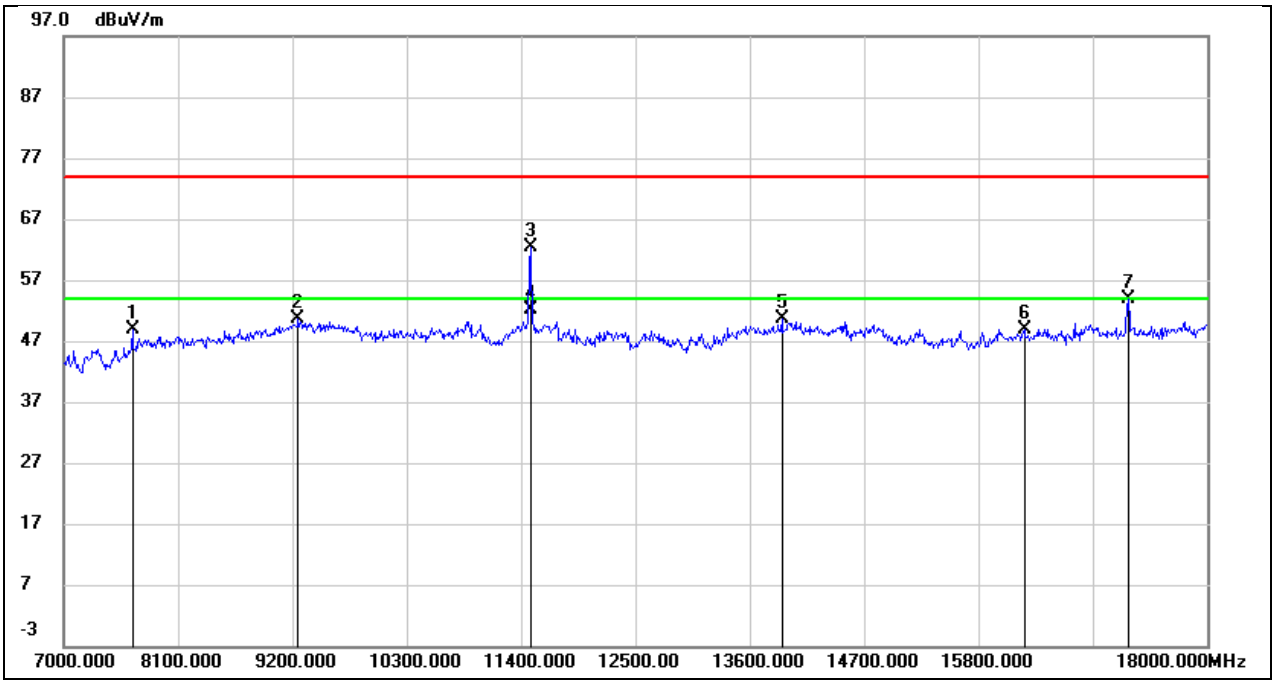
8.3. SPURIOUS EMISSIONS(7 GHZ~18 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	DC 5V



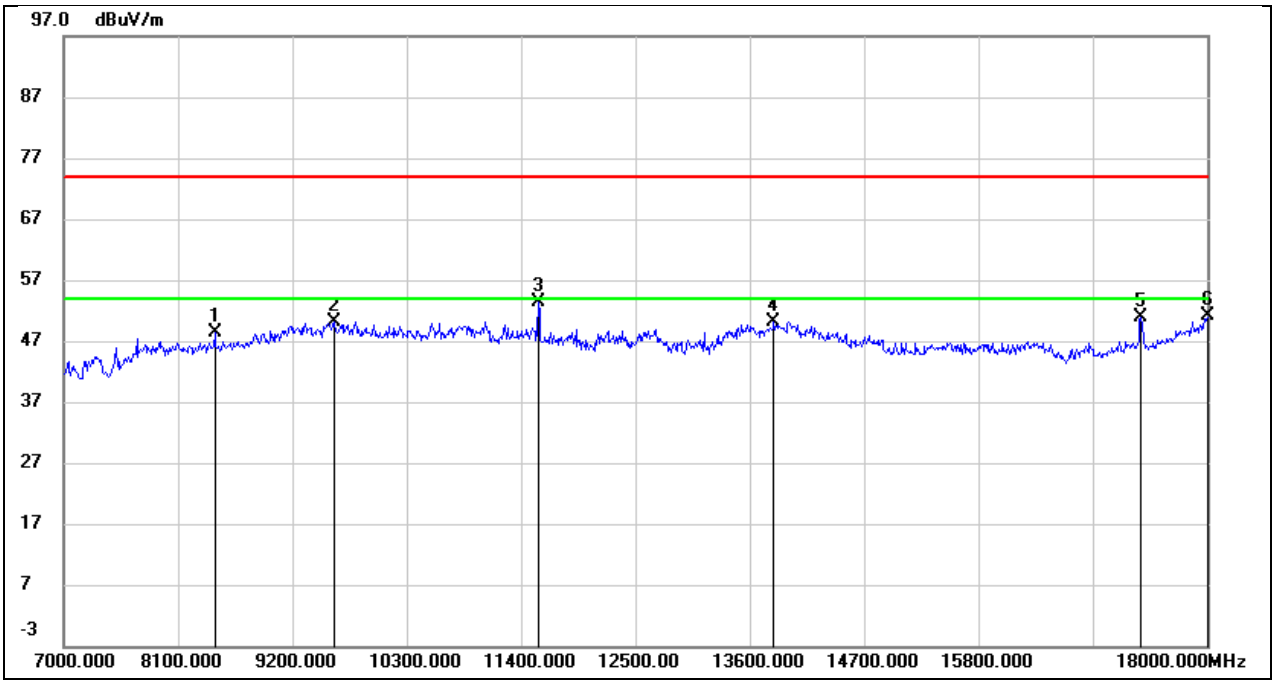
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7506.000	37.97	7.84	45.81	74.00	-28.19	peak
2	10531.000	37.14	13.63	50.77	74.00	-23.23	peak
3	11488.000	39.99	17.77	57.76	74.00	-16.24	peak
4	11488.000	31.86	17.77	49.63	54.00	-4.37	AVG
5	12731.000	29.11	19.70	48.81	74.00	-25.19	peak
6	14062.000	26.21	23.35	49.56	74.00	-24.44	peak
7	17241.000	27.51	24.06	51.57	74.00	-22.43	peak

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	DC 5V



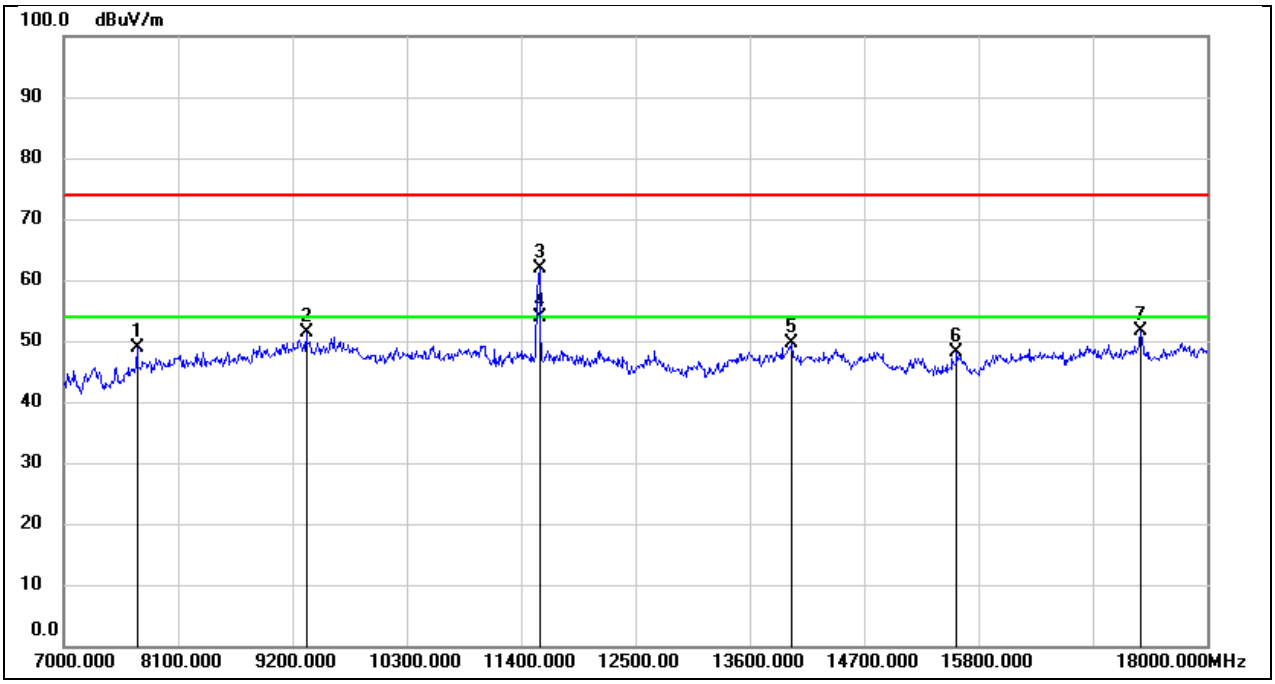
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7660.000	40.56	8.39	48.95	74.00	-25.05	peak
2	9255.000	38.68	11.93	50.61	74.00	-23.39	peak
3	11488.000	46.16	16.29	62.45	74.00	-11.55	peak
4	11488.000	35.72	16.29	52.01	54.00	-1.99	AVG
5	13908.000	29.08	21.62	50.70	74.00	-23.30	peak
6	16240.000	24.94	24.05	48.99	74.00	-25.01	peak
7	17241.000	28.86	24.94	53.80	74.00	-20.20	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Horizontal	Test Voltage:	DC 5V



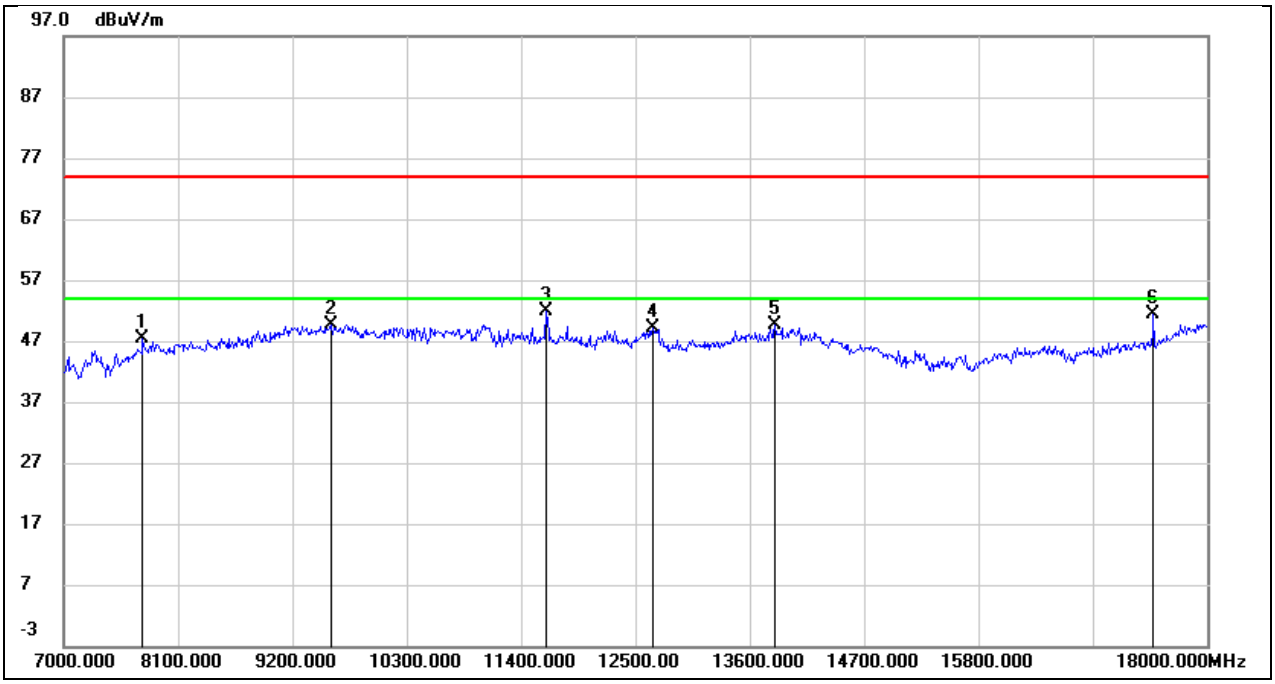
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8452.000	39.79	8.61	48.40	74.00	-25.60	peak
2	9596.000	36.79	13.44	50.23	74.00	-23.77	peak
3	11565.000	35.48	18.01	53.49	74.00	-20.51	peak
4	13831.000	27.10	22.93	50.03	74.00	-23.97	peak
5	17362.000	26.30	24.56	50.86	74.00	-23.14	peak
6	18000.000	21.43	29.61	51.04	74.00	-22.96	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Vertical	Test Voltage:	DC 5V



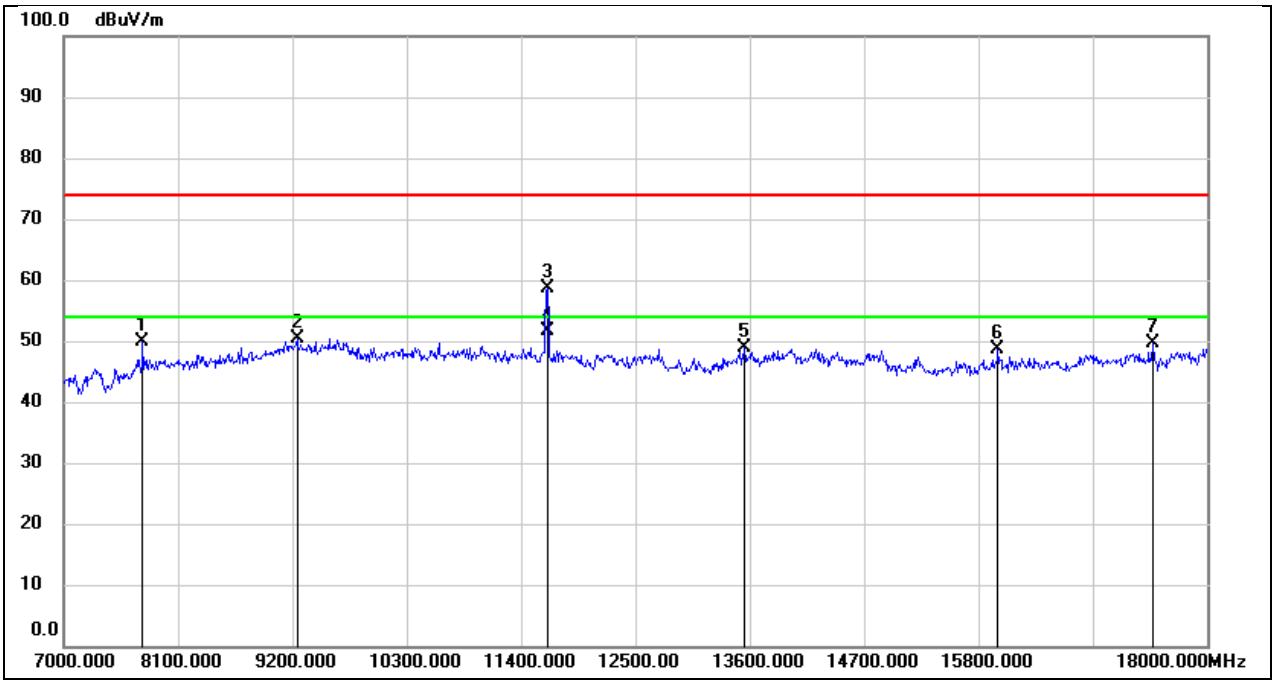
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7704.000	40.45	8.43	48.88	74.00	-25.12	peak
2	9332.000	39.28	12.13	51.41	74.00	-22.59	peak
3	11576.000	45.30	16.60	61.90	74.00	-12.10	peak
4	11576.000	37.27	16.60	53.87	54.00	-0.13	AVG
5	14007.000	27.67	22.01	49.68	74.00	-24.32	peak
6	15591.000	27.20	20.85	48.05	74.00	-25.95	peak
7	17362.000	26.58	25.03	51.61	74.00	-22.39	peak

Test Mode:	802.11a 20	Frequency(MHz):	5825
Polarity:	Horizontal	Test Voltage:	DC 5V



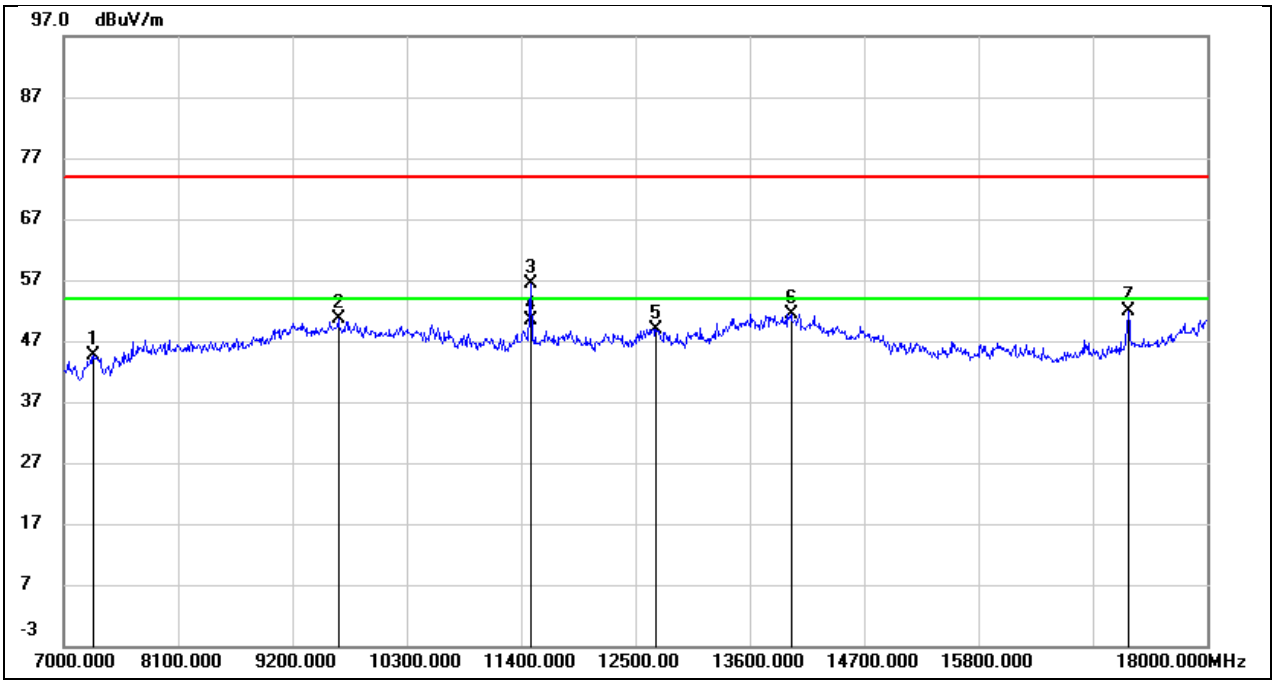
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	39.35	7.97	47.32	74.00	-26.68	peak
2	9574.000	36.40	13.31	49.71	74.00	-24.29	peak
3	11642.000	33.71	18.07	51.78	74.00	-22.22	peak
4	12665.000	29.66	19.42	49.08	74.00	-24.92	peak
5	13842.000	26.66	22.96	49.62	74.00	-24.38	peak
6	17483.000	26.47	24.93	51.40	74.00	-22.60	peak

Test Mode:	802.11a 20	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	DC 5V



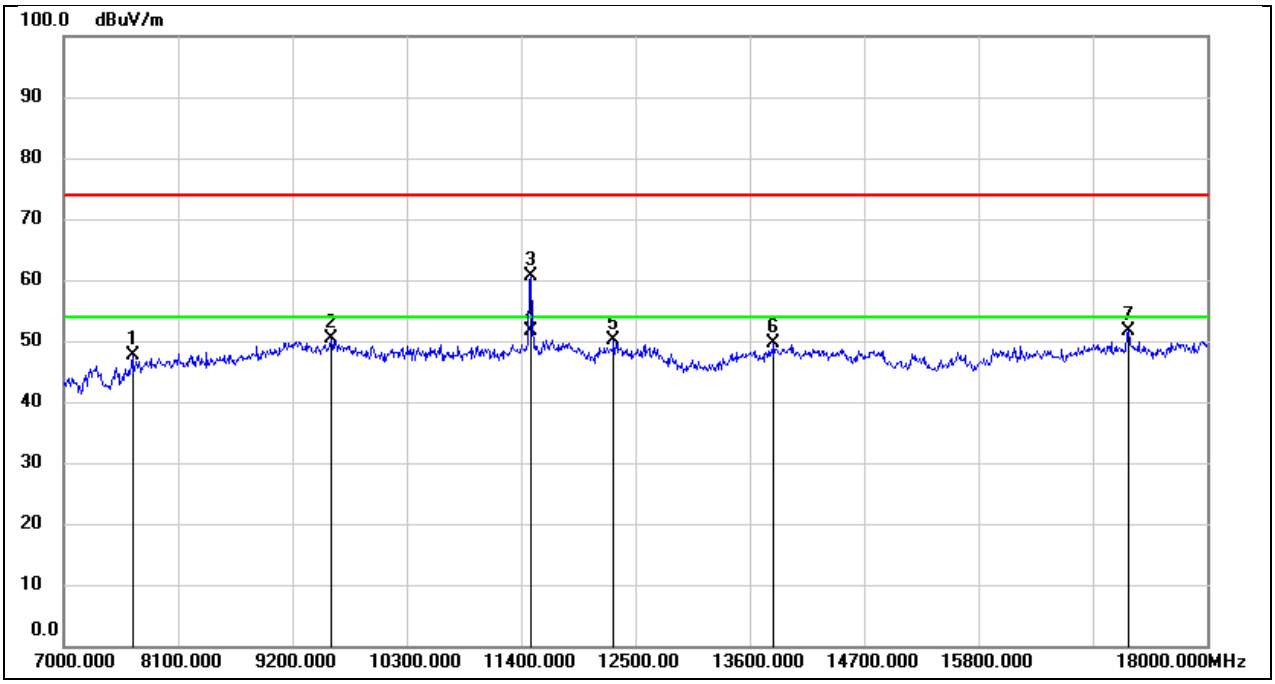
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	41.40	8.47	49.87	74.00	-24.13	peak
2	9244.000	38.52	11.92	50.44	74.00	-23.56	peak
3	11653.000	41.90	16.68	58.58	74.00	-15.42	peak
4	11653.000	34.94	16.68	51.62	54.00	-2.38	AVG
5	13545.000	28.46	20.43	48.89	74.00	-25.11	peak
6	15987.000	25.88	22.78	48.66	74.00	-25.34	peak
7	17472.000	24.61	25.00	49.61	74.00	-24.39	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	DC 5V



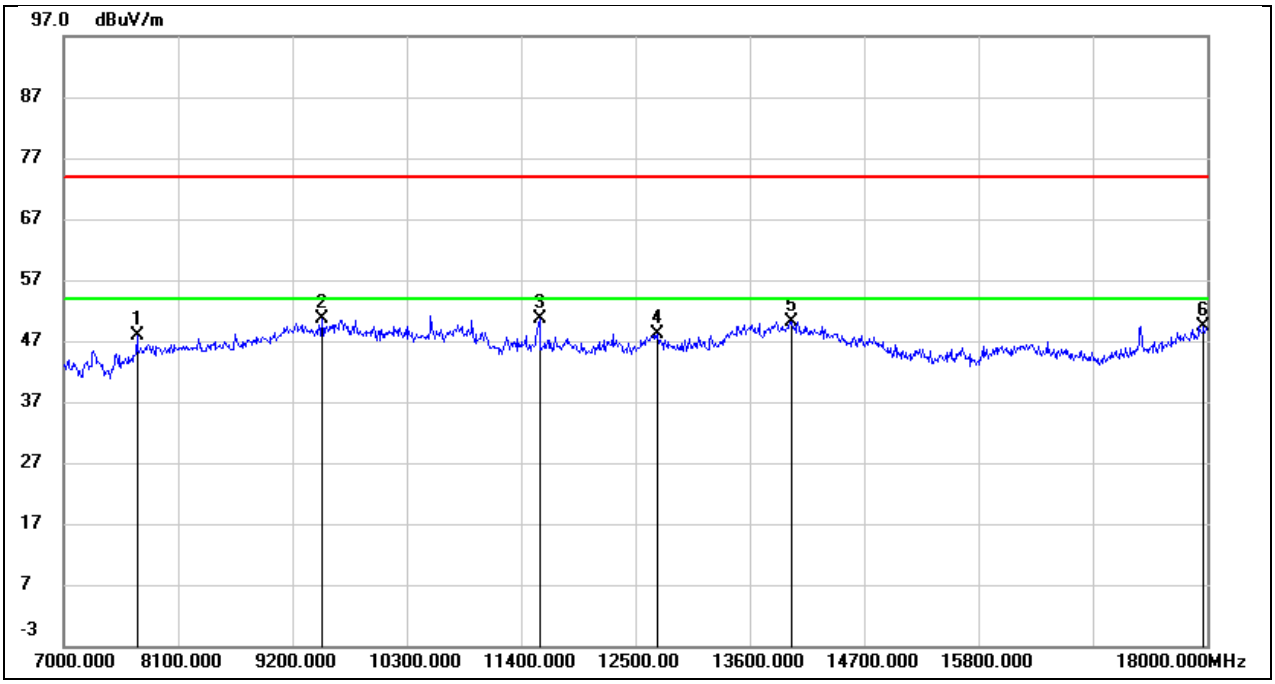
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7286.000	37.03	7.62	44.65	74.00	-29.35	peak
2	9640.000	37.05	13.53	50.58	74.00	-23.42	peak
3	11488.000	38.53	17.77	56.30	74.00	-17.70	peak
4	11488.000	32.55	17.77	50.32	54.00	-3.68	AVG
5	12698.000	29.43	19.56	48.99	74.00	-25.01	peak
6	13996.000	27.90	23.59	51.49	74.00	-22.51	peak
7	17241.000	27.79	24.06	51.85	74.00	-22.15	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	DC 5V



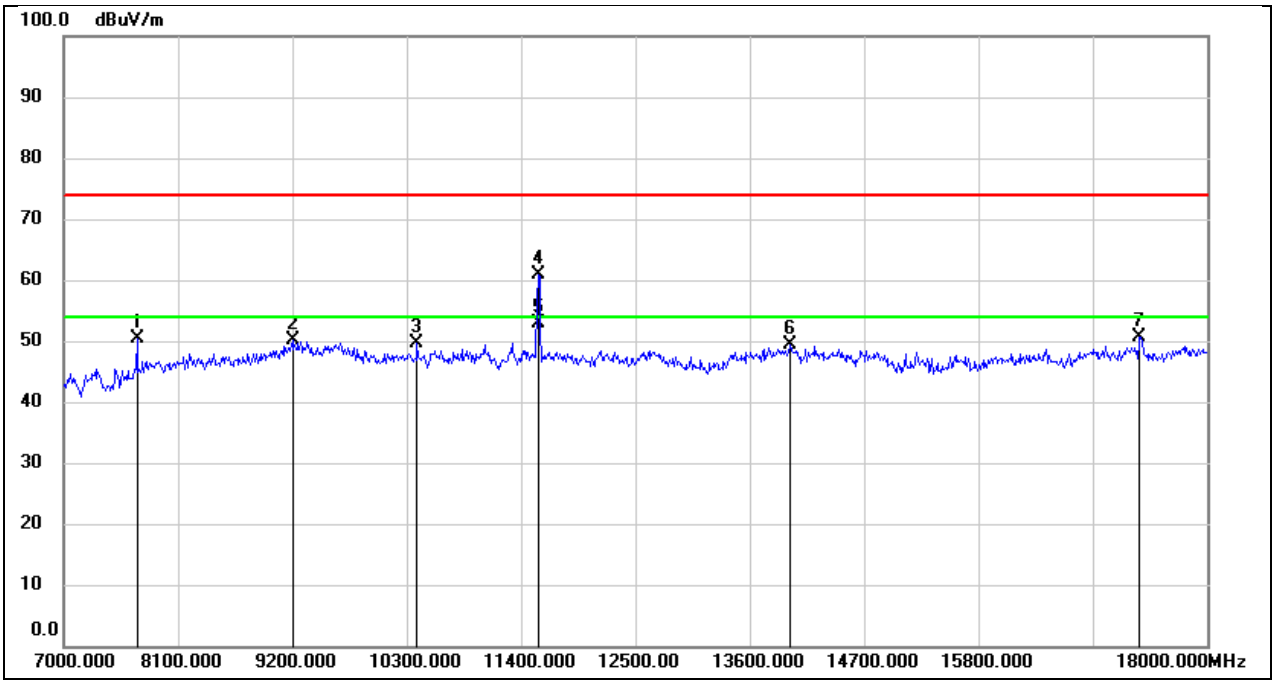
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7660.000	39.17	8.39	47.56	74.00	-26.44	peak
2	9574.000	37.22	13.21	50.43	74.00	-23.57	peak
3	11488.000	44.42	16.29	60.71	74.00	-13.29	peak
4	11488.000	35.43	16.29	51.72	54.00	-2.28	AVG
5	12291.000	32.31	17.85	50.16	74.00	-23.84	peak
6	13831.000	28.30	21.30	49.60	74.00	-24.40	peak
7	17241.000	26.71	24.94	51.65	74.00	-22.35	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5785
Polarity:	Horizontal	Test Voltage:	DC 5V



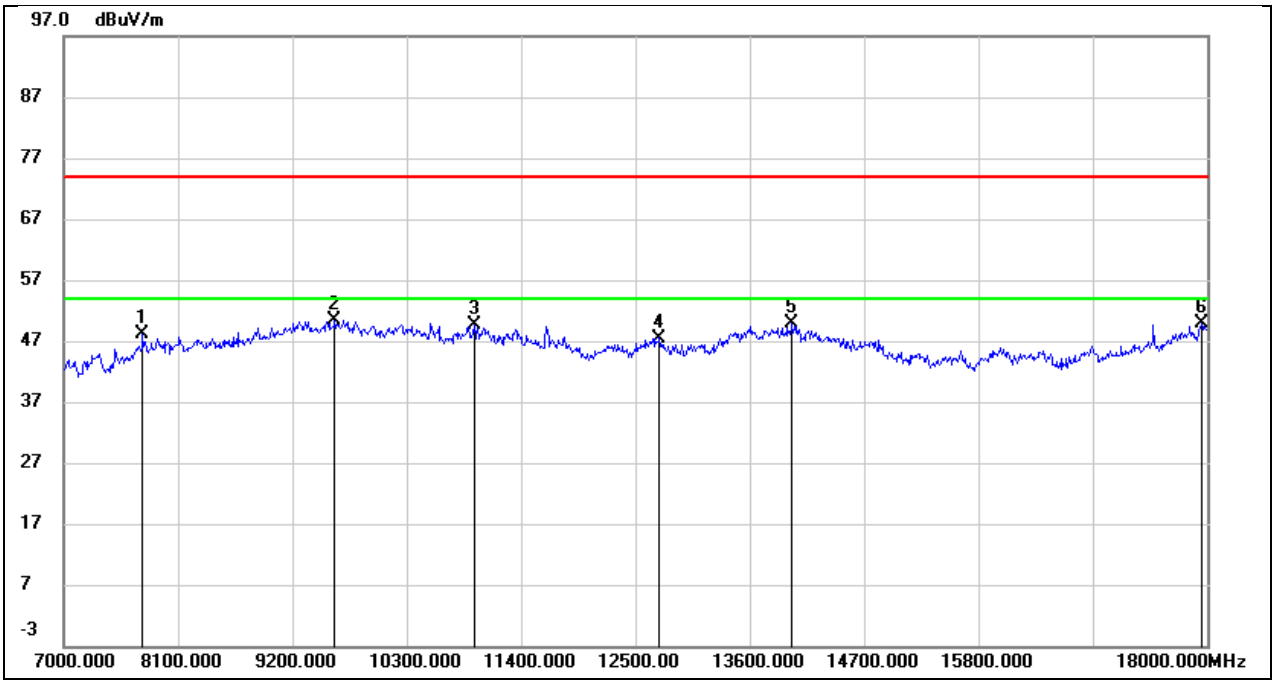
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7704.000	39.90	7.93	47.83	74.00	-26.17	peak
2	9486.000	37.75	12.77	50.52	74.00	-23.48	peak
3	11576.000	32.53	18.04	50.57	74.00	-23.43	peak
4	12709.000	28.55	19.60	48.15	74.00	-25.85	peak
5	14007.000	26.63	23.59	50.22	74.00	-23.78	peak
6	17967.000	20.22	29.26	49.48	74.00	-24.52	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5785
Polarity:	Vertical	Test Voltage:	DC 5V



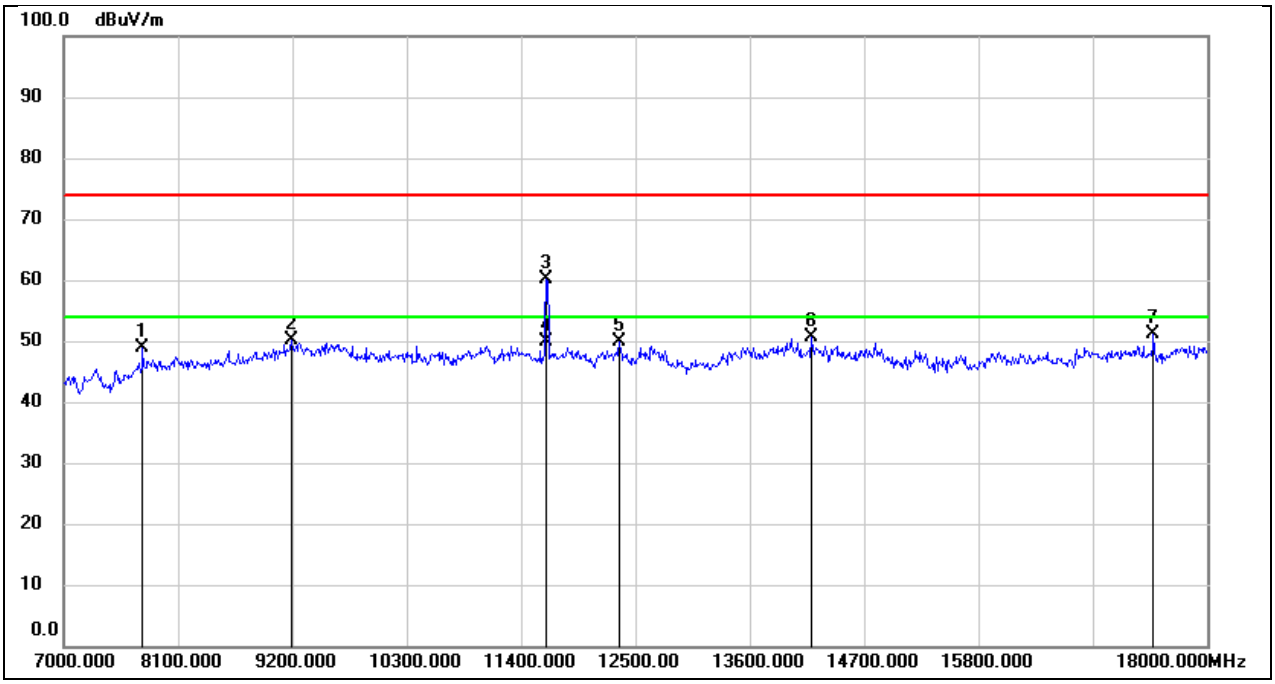
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7704.000	41.88	8.43	50.31	74.00	-23.69	peak
2	9200.000	38.42	11.80	50.22	74.00	-23.78	peak
3	10399.000	36.59	13.05	49.64	74.00	-24.36	peak
4	11565.000	44.35	16.56	60.91	74.00	-13.09	peak
5	11565.000	36.32	16.56	52.88	54.00	-1.12	AVG
6	13985.000	27.34	21.95	49.29	74.00	-24.71	peak
7	17351.000	25.50	25.02	50.52	74.00	-23.48	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5825
Polarity:	Horizontal	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	40.10	7.97	48.07	74.00	-25.93	peak
2	9607.000	36.94	13.48	50.42	74.00	-23.58	peak
3	10949.000	34.70	14.89	49.59	74.00	-24.41	peak
4	12731.000	27.80	19.70	47.50	74.00	-26.50	peak
5	14007.000	26.31	23.59	49.90	74.00	-24.10	peak
6	17945.000	20.74	29.03	49.77	74.00	-24.23	peak

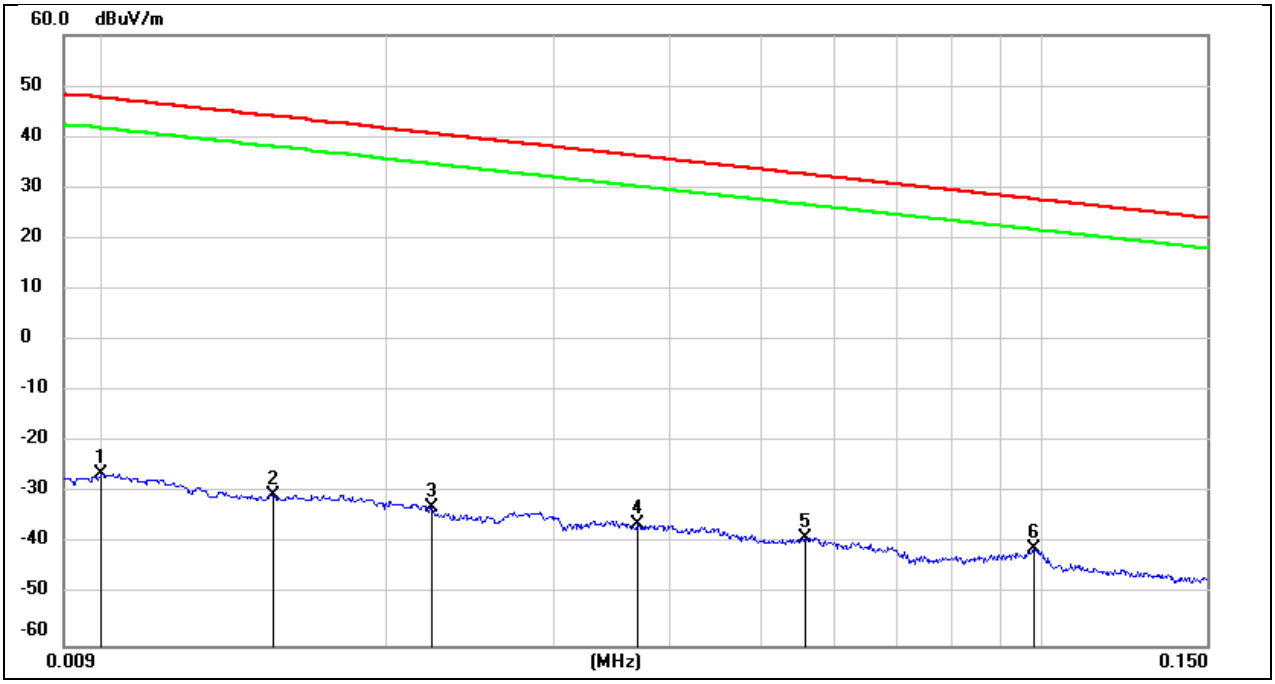
Test Mode:	802.11n HT20	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	40.44	8.47	48.91	74.00	-25.09	peak
2	9189.000	38.34	11.76	50.10	74.00	-23.90	peak
3	11642.000	43.50	16.68	60.18	74.00	-13.82	peak
4	11642.000	33.31	16.68	49.99	54.00	-4.01	AVG
5	12346.000	32.00	17.95	49.95	74.00	-24.05	peak
6	14194.000	29.02	21.71	50.73	74.00	-23.27	peak
7	17483.000	26.20	24.99	51.19	74.00	-22.81	peak

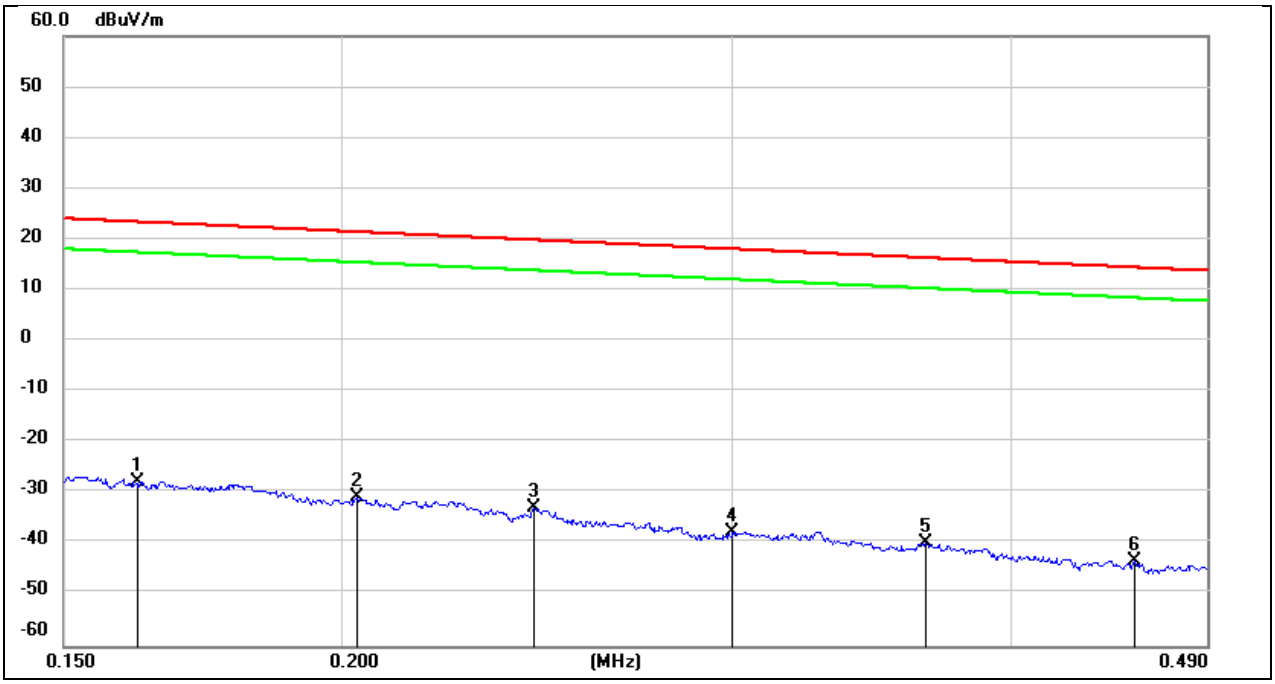
8.4. SPURIOUS EMISSIONS(9 KHZ~30 MHZ)

Test Mode:	802.11a20	Frequency(MHz):	5180
Polarity:	Horizontal	Test Voltage:	DC 5V



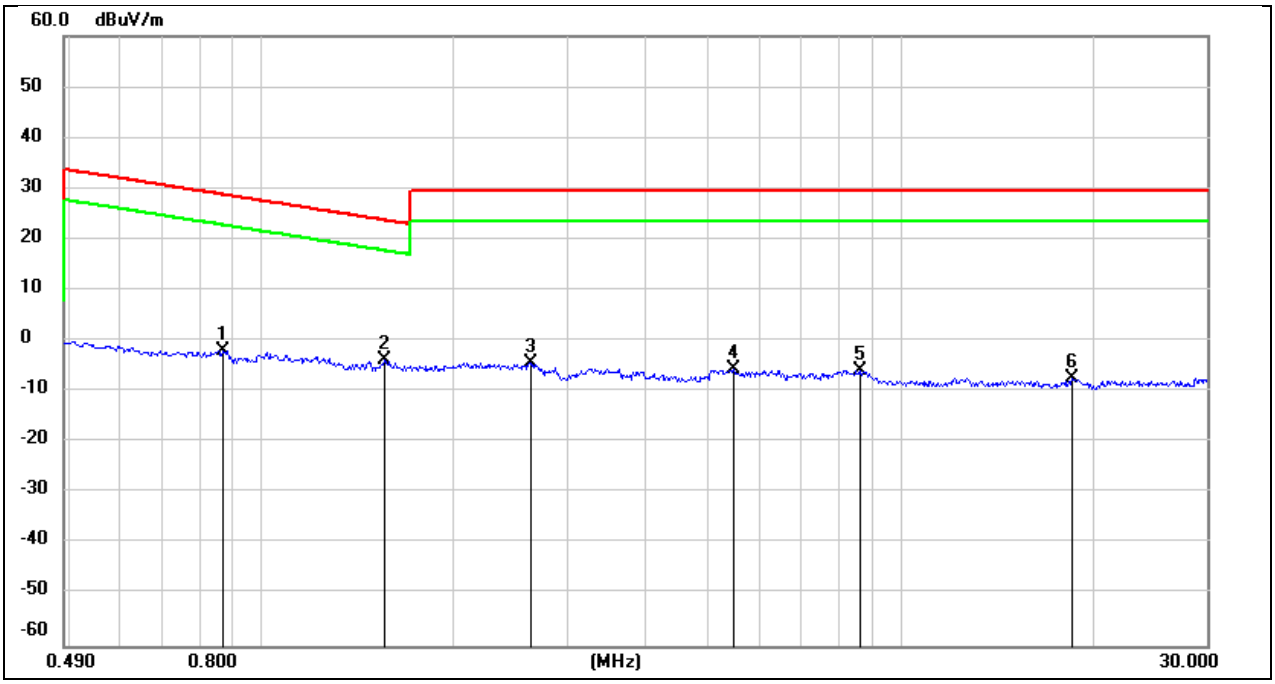
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0100	75.22	-101.40	-26.18	47.60	-73.78	peak
2	0.0151	70.87	-101.37	-30.50	44.02	-74.52	peak
3	0.0223	68.36	-101.35	-32.99	40.63	-73.62	peak
4	0.0369	65.19	-101.42	-36.23	36.26	-72.49	peak
5	0.0558	62.77	-101.50	-38.73	32.67	-71.40	peak
6	0.0981	60.77	-101.78	-41.01	27.77	-68.78	peak

Test Mode:	802.11a20	Frequency(MHz):	5180
Polarity:	Horizontal	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1621	73.92	-101.65	-27.73	23.41	-51.14	peak
2	0.2033	70.90	-101.72	-30.82	21.44	-52.26	peak
3	0.2442	69.03	-101.79	-32.76	19.85	-52.61	peak
4	0.2998	64.15	-101.85	-37.70	18.07	-55.77	peak
5	0.3662	62.08	-101.93	-39.85	16.33	-56.18	peak
6	0.4550	58.64	-102.02	-43.38	14.44	-57.82	peak

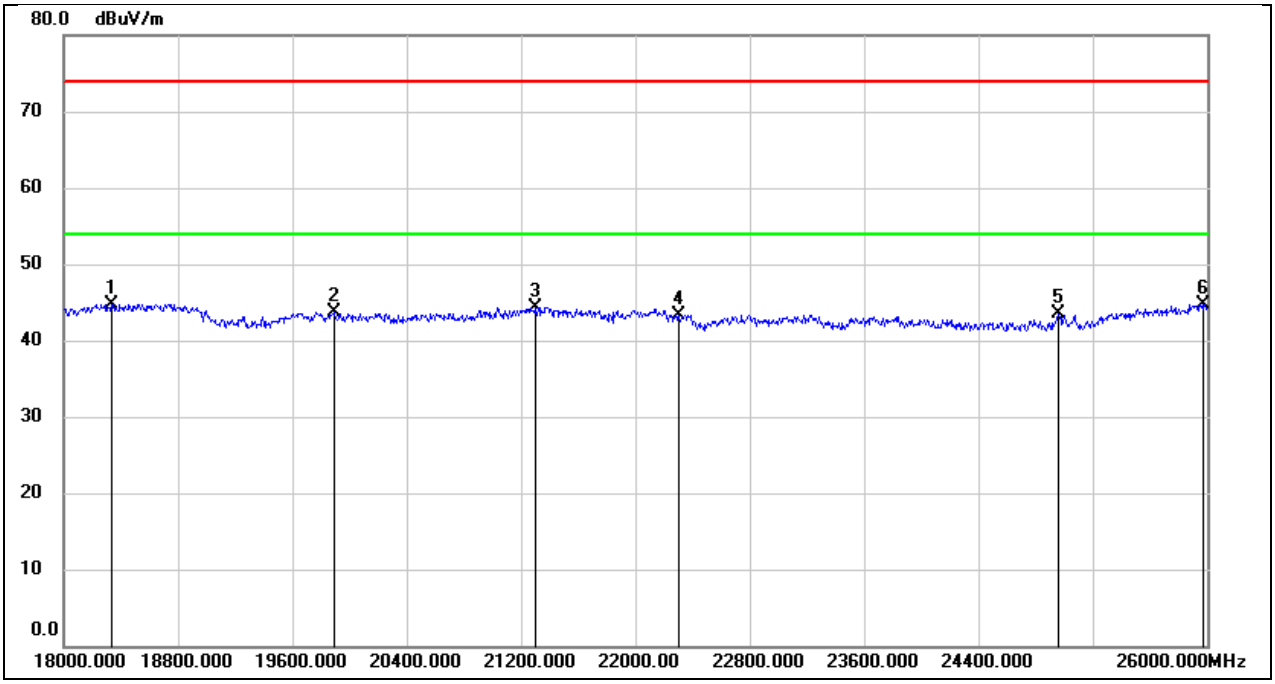
Test Mode:	802.11a20	Frequency(MHz):	5180
Polarity:	Horizontal	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.8679	60.35	-62.18	-1.83	28.83	-30.66	peak
2	1.5564	58.18	-62.02	-3.84	23.76	-27.60	peak
3	2.6442	57.30	-61.67	-4.37	29.54	-33.91	peak
4	5.4770	55.79	-61.42	-5.63	29.54	-35.17	peak
5	8.6051	55.21	-61.00	-5.79	29.54	-35.33	peak
6	18.4908	53.56	-60.89	-7.33	29.54	-36.87	peak

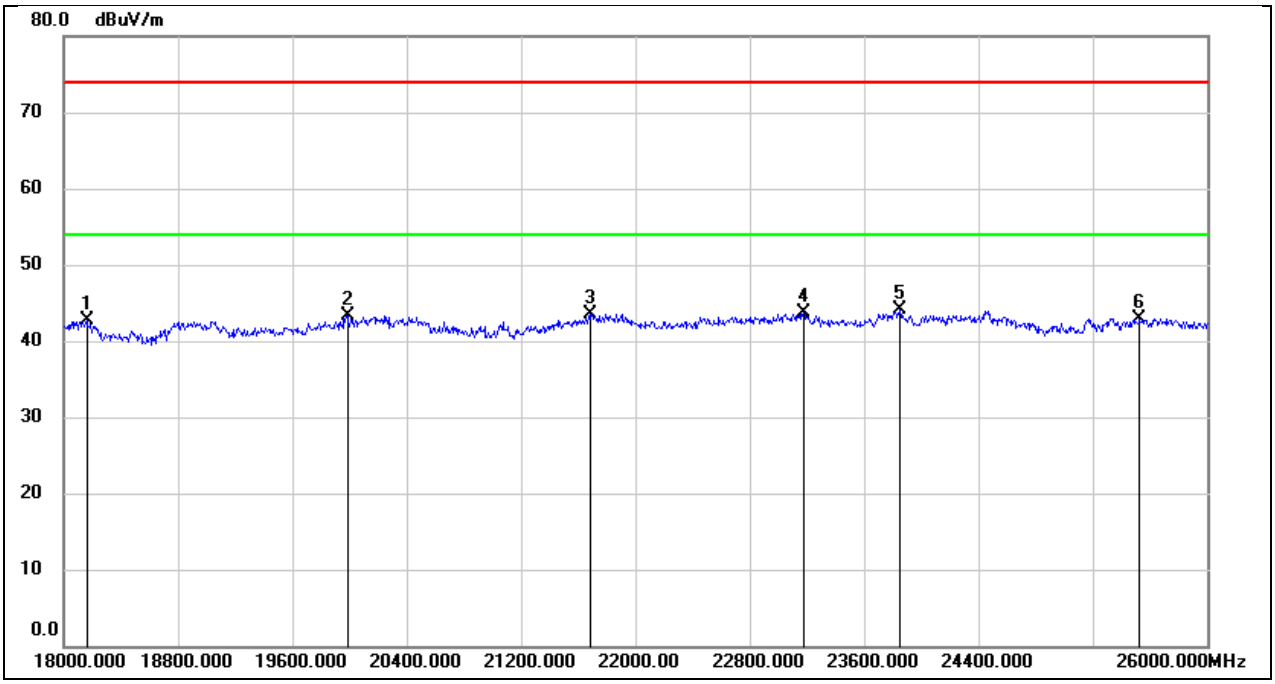
8.5. SPURIOUS EMISSIONS(18 GHZ~26 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	5180
Polarity:	Horizontal	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18336.000	50.26	-5.46	44.80	74.00	-29.20	peak
2	19888.000	49.07	-5.36	43.71	74.00	-30.29	peak
3	21296.000	49.03	-4.75	44.28	74.00	-29.72	peak
4	22304.000	47.55	-4.15	43.40	74.00	-30.60	peak
5	24960.000	45.64	-2.14	43.50	74.00	-30.50	peak
6	25968.000	45.63	-1.00	44.63	74.00	-29.37	peak

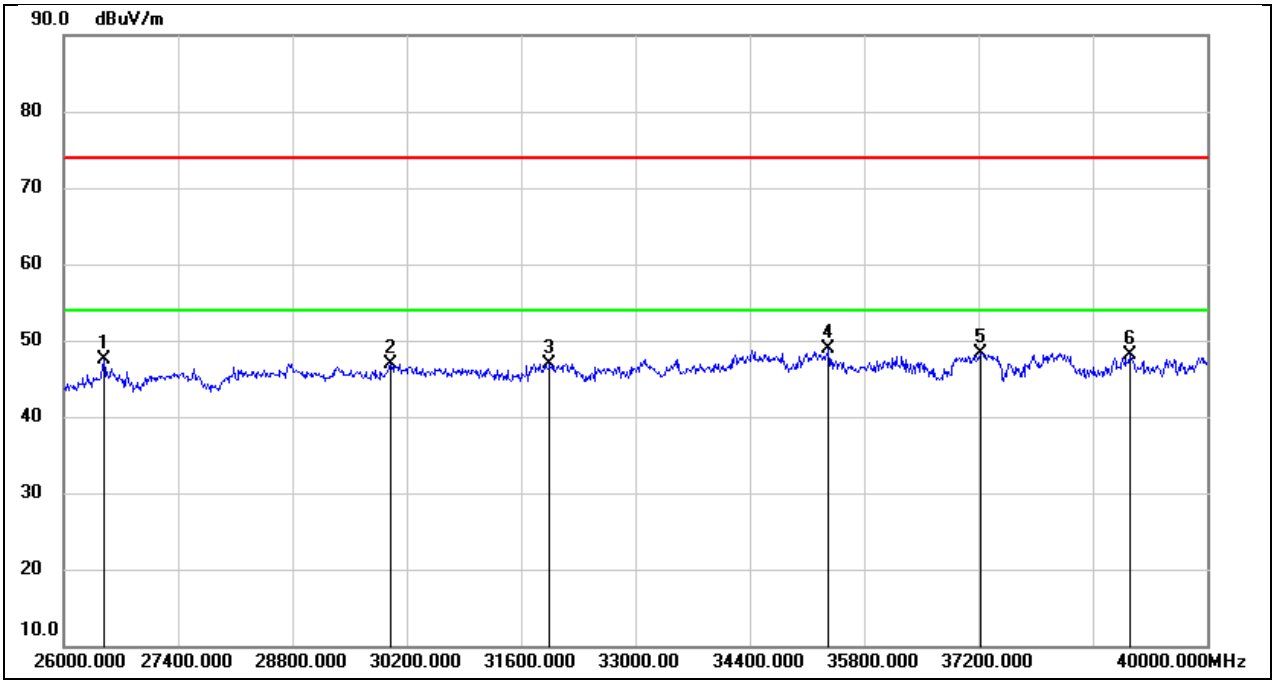
Test Mode:	802.11a 20	Frequency(MHz):	5180
Polarity:	Vertical	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18160.000	48.11	-5.49	42.62	74.00	-31.38	peak
2	19984.000	48.71	-5.44	43.27	74.00	-30.73	peak
3	21680.000	48.02	-4.43	43.59	74.00	-30.41	peak
4	23176.000	47.03	-3.39	43.64	74.00	-30.36	peak
5	23848.000	47.18	-3.03	44.15	74.00	-29.85	peak
6	25528.000	44.62	-1.65	42.97	74.00	-31.03	peak

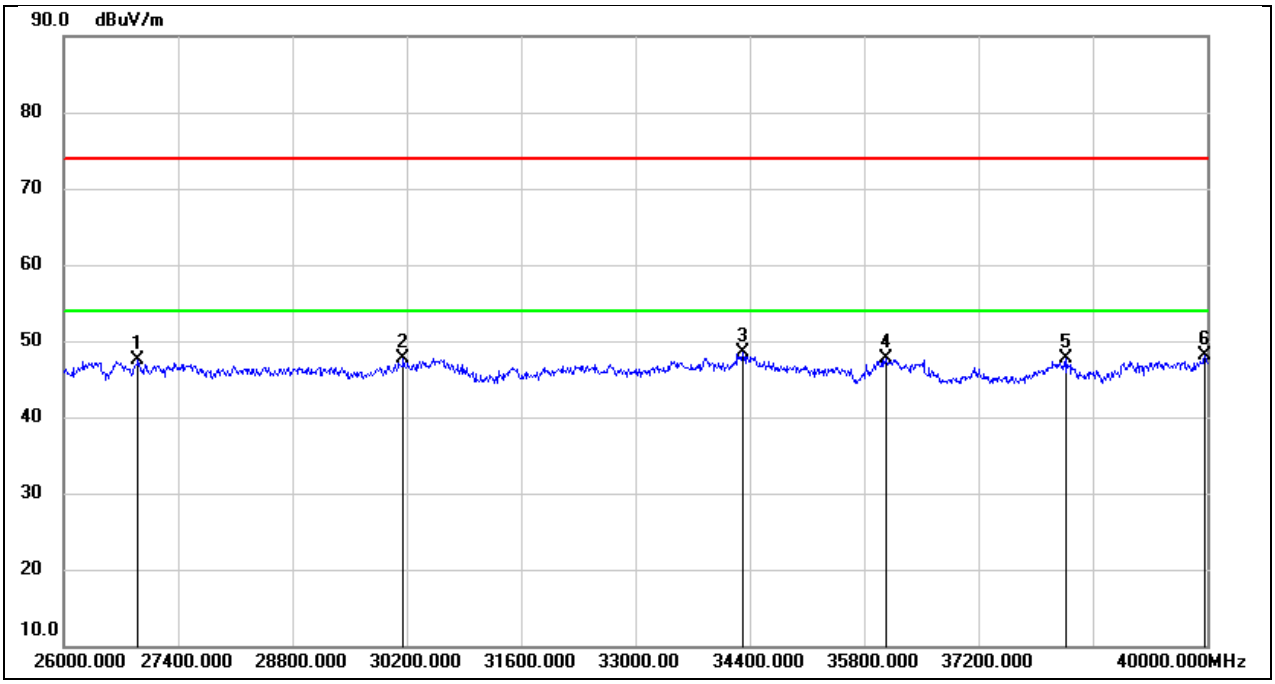
8.6. SPURIOUS EMISSIONS(26 GHZ~40 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	5180
Polarity:	Horizontal	Test Voltage:	DC 5V



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	30004.000	48.13	-1.27	46.86	74.00	-27.14	peak
3	31950.000	48.84	-1.97	46.87	74.00	-27.13	peak
4	35366.000	46.40	2.59	48.99	74.00	-25.01	peak
5	37228.000	45.23	3.14	48.37	74.00	-25.63	peak
6	39062.000	43.81	4.30	48.11	74.00	-25.89	peak

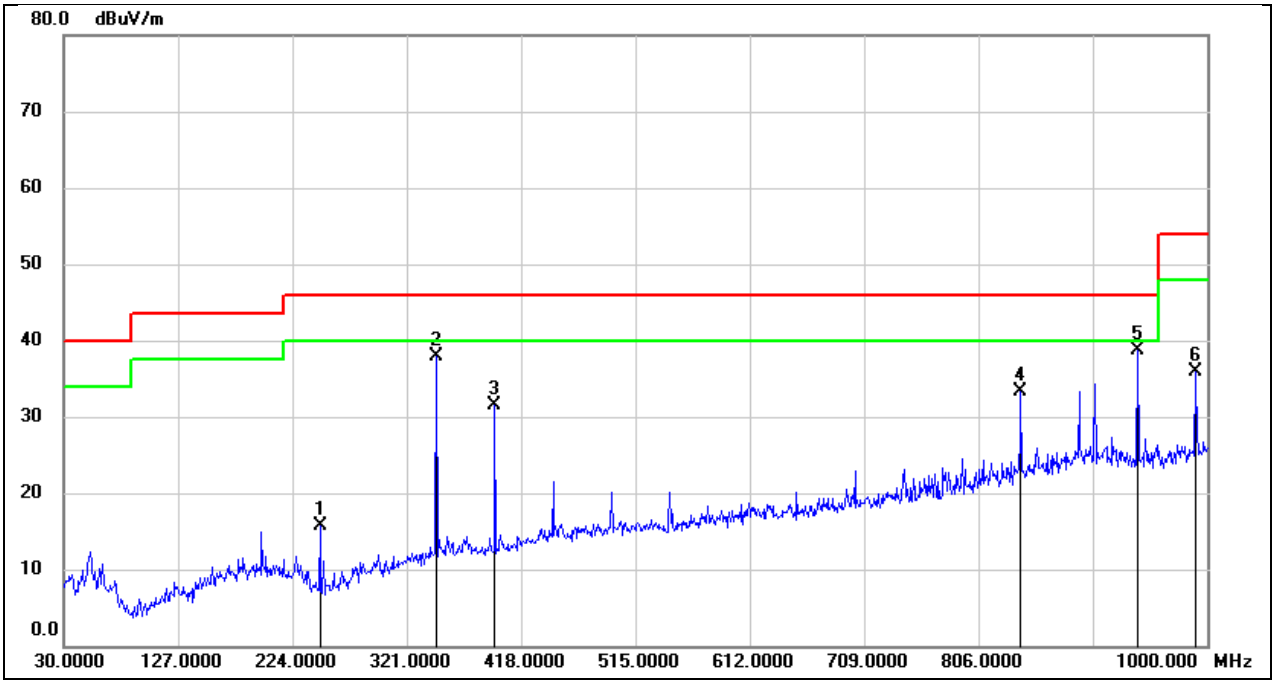
Test Mode:	802.11a 20	Frequency(MHz):	5180
Polarity:	Vertical	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26910.000	51.64	-4.11	47.53	74.00	-26.47	peak
2	30158.000	49.01	-1.30	47.71	74.00	-26.29	peak
3	34316.000	47.36	1.09	48.45	74.00	-25.55	peak
4	36066.000	43.85	3.83	47.68	74.00	-26.32	peak
5	38278.000	43.82	3.82	47.64	74.00	-26.36	peak
6	39972.000	42.95	5.13	48.08	74.00	-25.92	peak

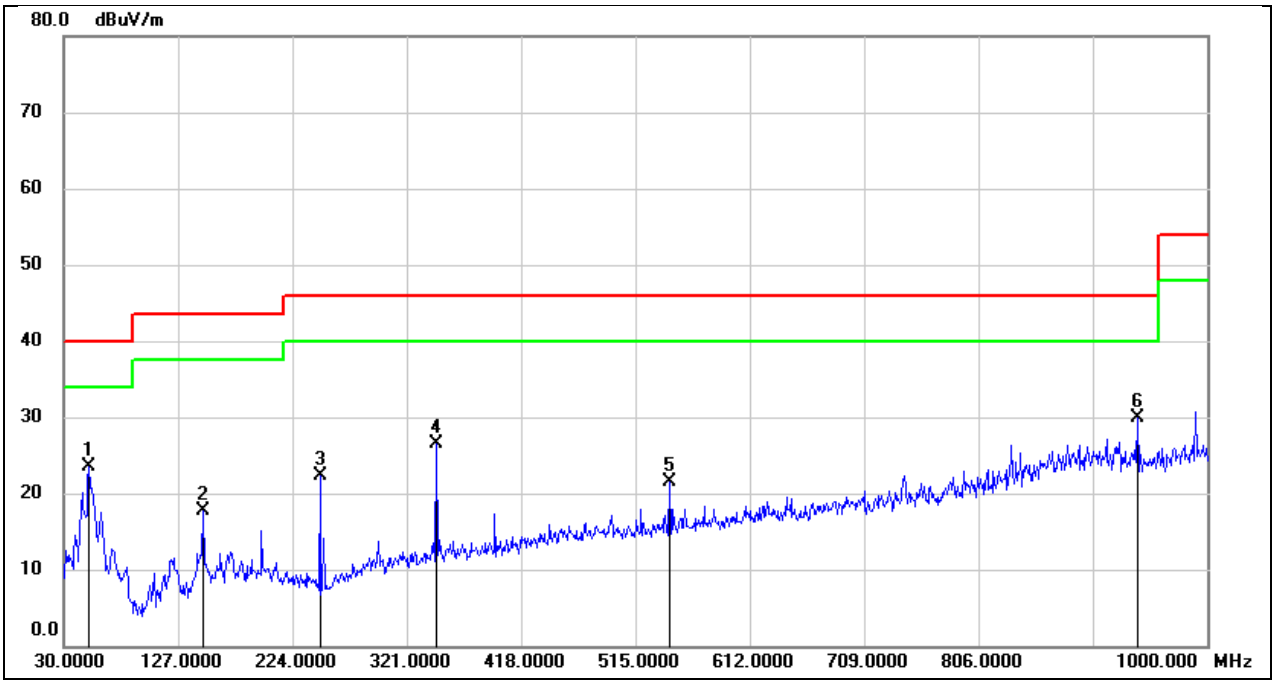
8.7. SPURIOUS EMISSIONS(30 MHZ~1 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	5180
Polarity:	Horizontal	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	247.2800	30.20	-14.43	15.77	46.00	-30.23	QP
2	346.2200	47.58	-9.69	37.89	46.00	-8.11	QP
3	395.6900	41.11	-9.62	31.49	46.00	-14.51	QP
4	841.8900	34.75	-1.47	33.28	46.00	-12.72	QP
5	940.8300	39.48	-0.74	38.74	46.00	-7.26	QP
6	990.3000	36.07	-0.23	35.84	54.00	-18.16	QP

Test Mode:	802.11a 20	Frequency(MHz):	5180
Polarity:	Vertical	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	51.3400	38.49	-15.07	23.42	40.00	-16.58	QP
2	148.3400	31.26	-13.56	17.70	43.50	-25.80	QP
3	247.2800	36.70	-14.43	22.27	46.00	-23.73	QP
4	346.2200	36.26	-9.69	26.57	46.00	-19.43	QP
5	544.1000	28.54	-7.13	21.41	46.00	-24.59	QP
6	940.8300	30.70	-0.74	29.96	46.00	-16.04	QP

9. AC POWER LINE CONDUCTED EMISSION

LIMITS

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

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

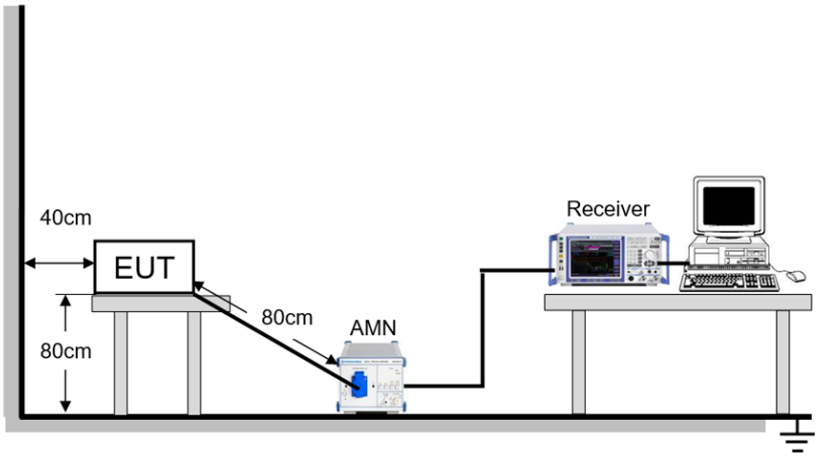
TEST PROCEDURE

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

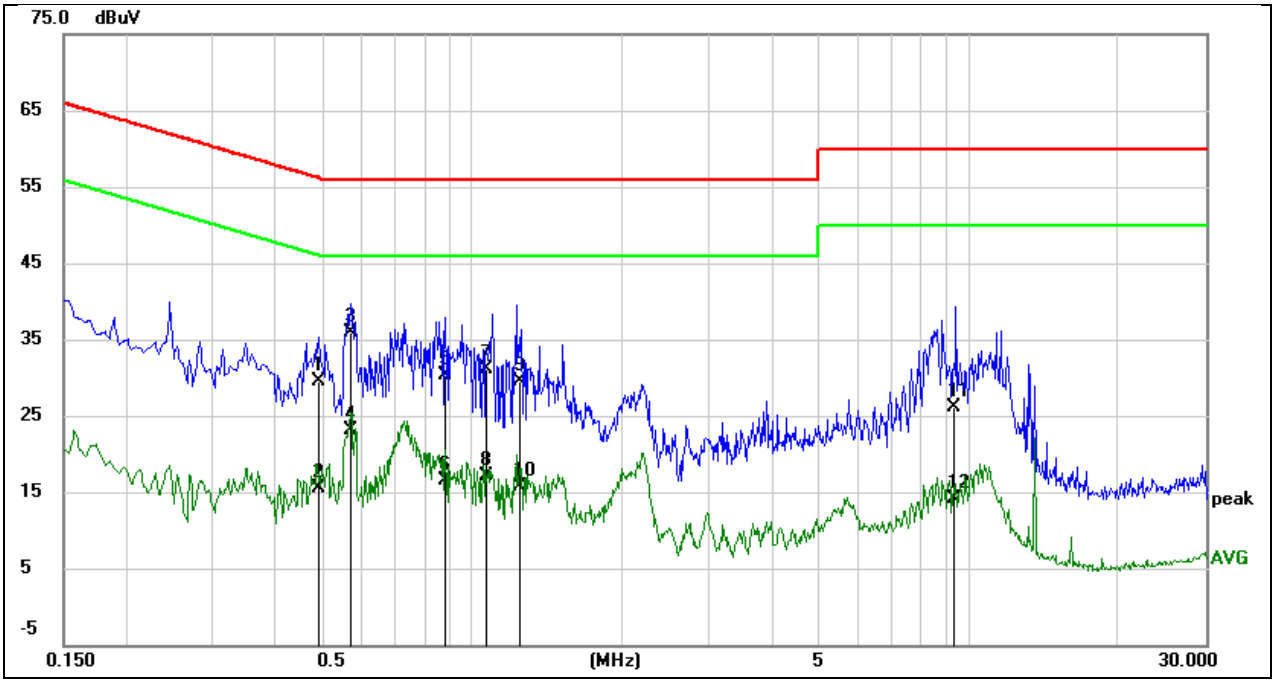
Temperature	21.4℃	Relative Humidity	52%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V/60 Hz

TEST DATE / ENGINEER

Test Date	March 19, 2025	Test By	James Qin

TEST RESULTS

Test Mode:	802.11a	Frequency(MHz):	5745
Line:	Line		

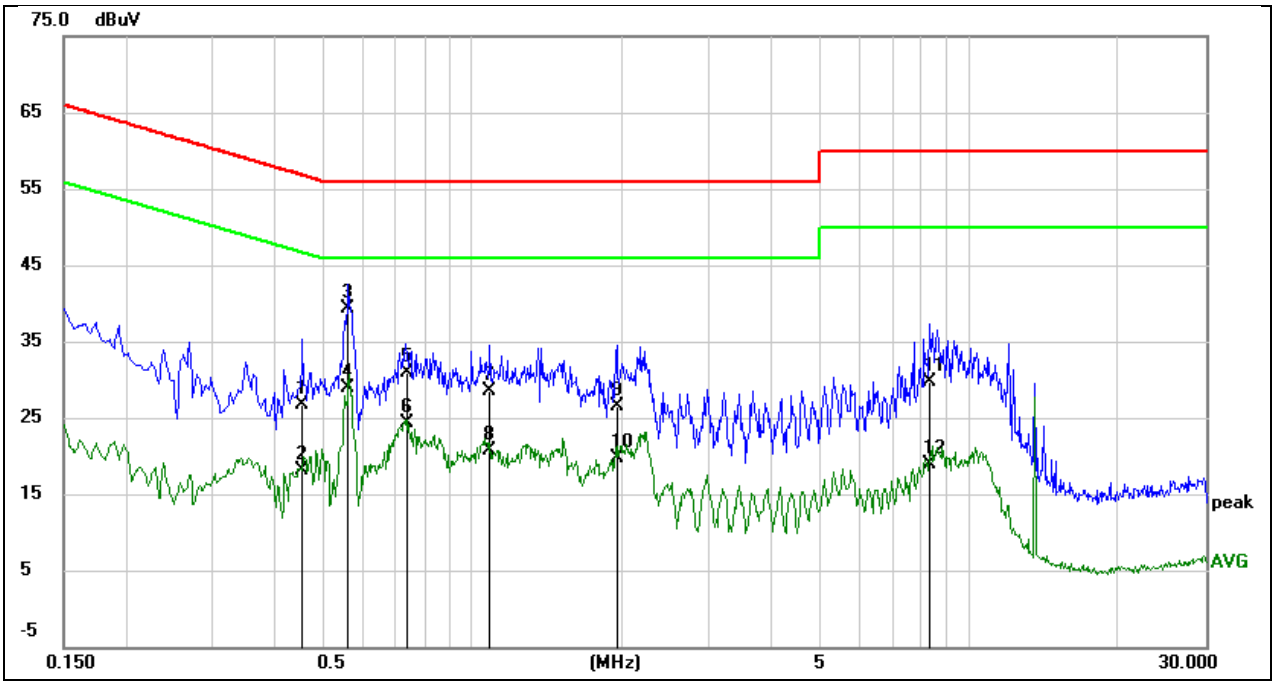


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.4895	19.86	9.64	29.50	56.18	-26.68	QP
2	0.4895	5.86	9.64	15.50	46.18	-30.68	AVG
3	0.5695	26.22	9.64	35.86	56.00	-20.14	QP
4	0.5695	13.53	9.64	23.17	46.00	-22.83	AVG
5	0.8840	20.60	9.63	30.23	56.00	-25.77	QP
6	0.8840	6.90	9.63	16.53	46.00	-29.47	AVG
7	1.0630	21.51	9.64	31.15	56.00	-24.85	QP
8	1.0630	7.37	9.64	17.01	46.00	-28.99	AVG
9	1.2493	19.88	9.65	29.53	56.00	-26.47	QP
10	1.2493	5.96	9.65	15.61	46.00	-30.39	AVG
11	9.3433	16.40	9.73	26.13	60.00	-33.87	QP
12	9.3433	4.40	9.73	14.13	50.00	-35.87	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	Frequency(MHz):	5745
Line:	Neutral		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.4539	17.06	9.64	26.70	56.80	-30.10	QP
2	0.4539	8.41	9.64	18.05	46.80	-28.75	AVG
3	0.5636	29.60	9.64	39.24	56.00	-16.76	QP
4	0.5636	19.33	9.64	28.97	46.00	-17.03	AVG
5	0.7393	21.29	9.63	30.92	56.00	-25.08	QP
6	0.7393	14.69	9.63	24.32	46.00	-21.68	AVG
7	1.0782	18.84	9.63	28.47	56.00	-27.53	QP
8	1.0782	11.17	9.63	20.80	46.00	-25.20	AVG
9	1.9569	16.77	9.64	26.41	56.00	-29.59	QP
10	1.9569	10.02	9.64	19.66	46.00	-26.34	AVG
11	8.4083	20.06	9.73	29.79	60.00	-30.21	QP
12	8.4083	9.18	9.73	18.91	50.00	-31.09	AVG

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

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

10. ANTENNA REQUIREMENT

REQUIREMENT

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

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

DESCRIPTION

Pass

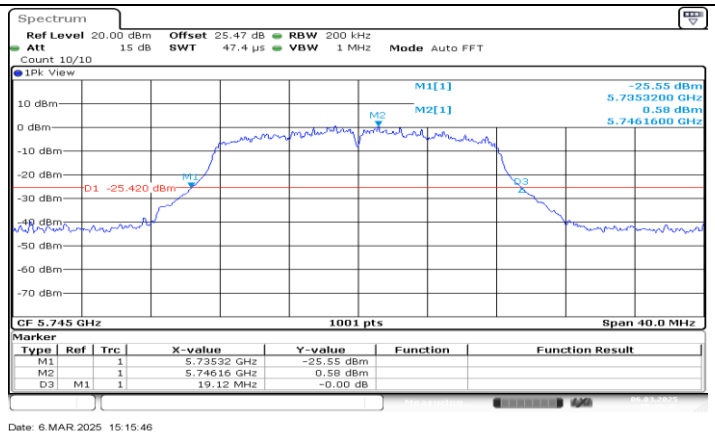
11. TEST DATA

11.1. APPENDIX A: EMISSION BANDWIDTH

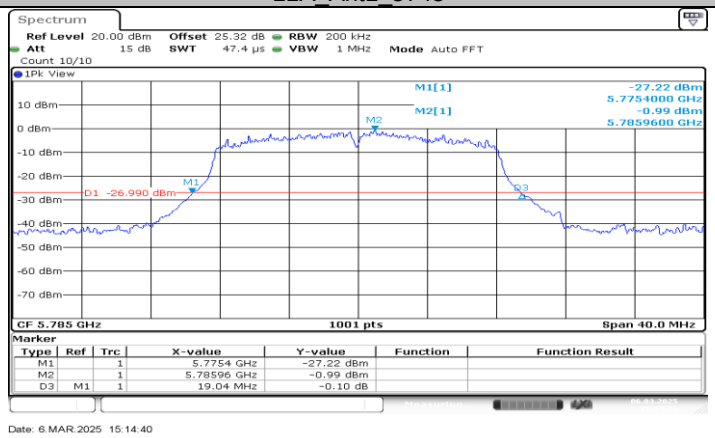
11.1.1. Test Result

Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5745	19.12	5735.32	5754.44	PASS
		5785	19.04	5775.40	5794.44	PASS
		5825	19.36	5814.80	5834.16	PASS
11N20SISO	Ant1	5745	19.80	5734.80	5754.60	PASS
		5785	20.08	5774.60	5794.68	PASS
		5825	20.00	5814.92	5834.92	PASS

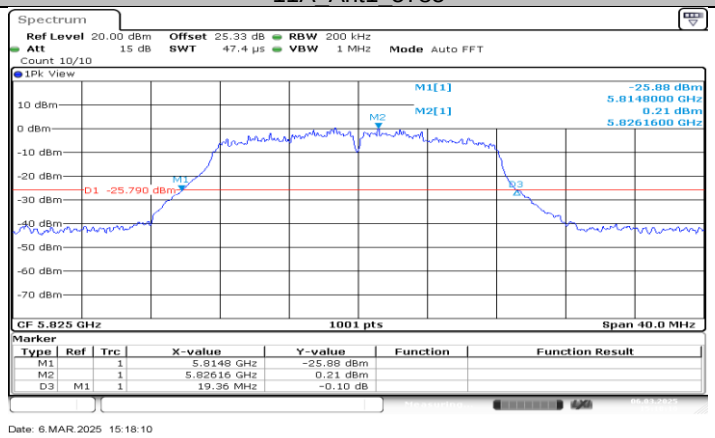
11.1.2. Test Graphs



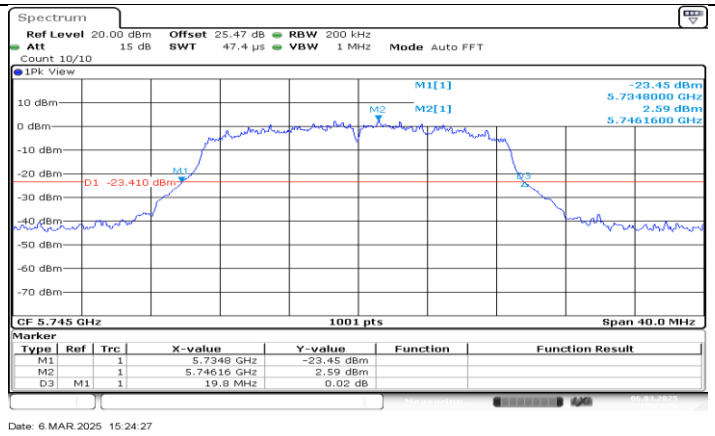
11A_Ant1_5745



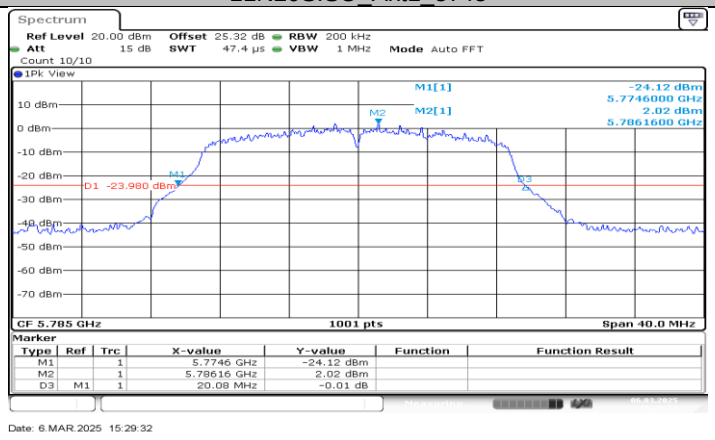
11A_Ant1_5785



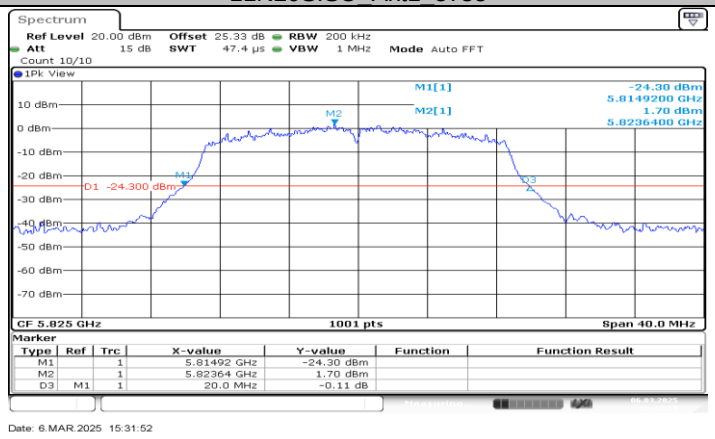
11A_Ant1_5825



11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



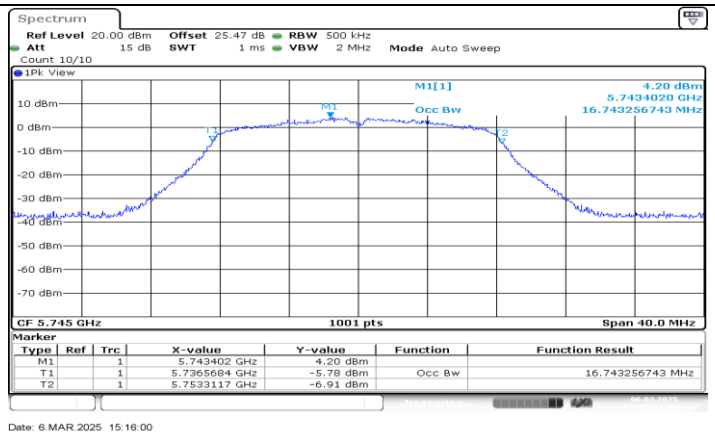
11N20SISO_Ant1_5825

11.2. APPENDIX B: OCCUPIED CHANNEL BANDWIDTH

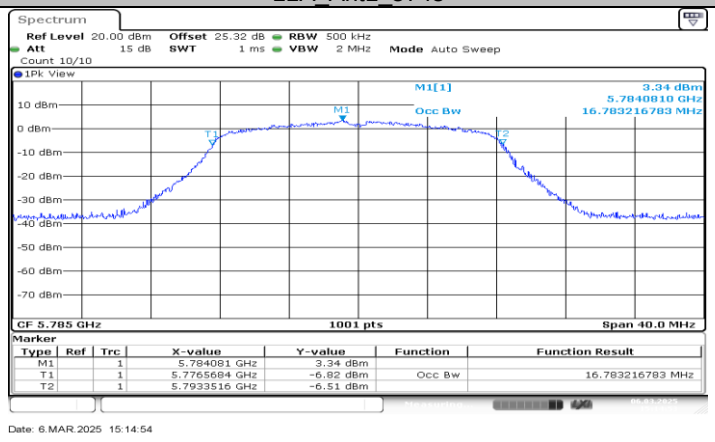
11.2.1. Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5745	16.743	5736.5684	5753.3117	PASS
		5785	16.783	5776.5684	5793.3516	PASS
		5825	16.903	5816.3686	5833.2717	PASS
11N20SISO	Ant1	5745	17.782	5736.0090	5753.7912	PASS
		5785	17.742	5775.9690	5793.7113	PASS
		5825	17.782	5816.0090	5833.7912	PASS

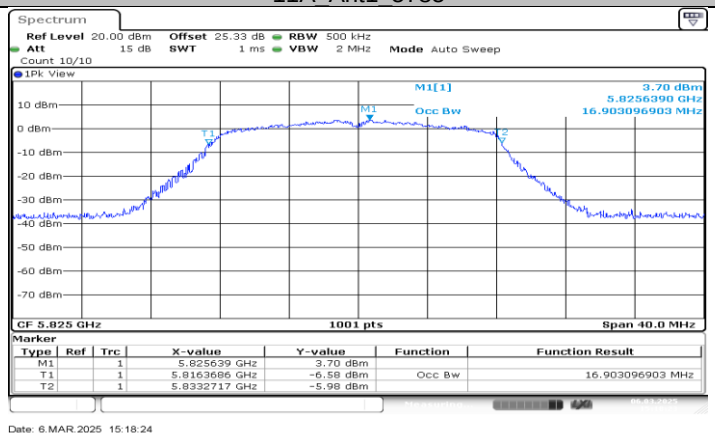
11.2.2. Test Graphs



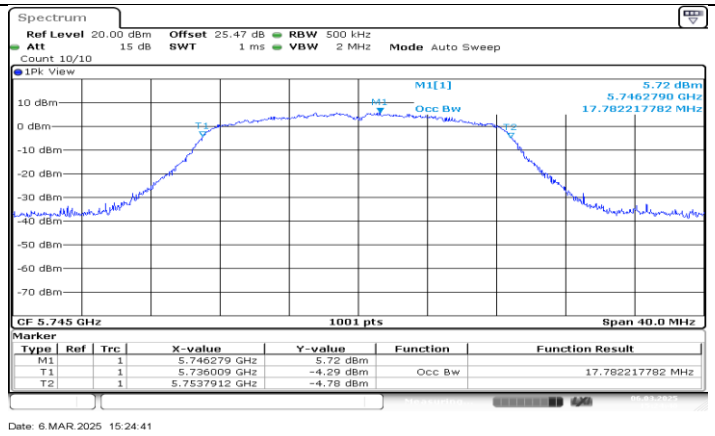
11A_Ant1_5745



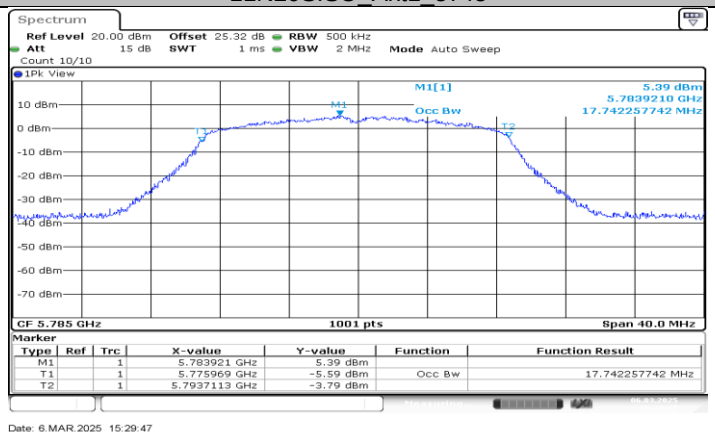
11A_Ant1_5785



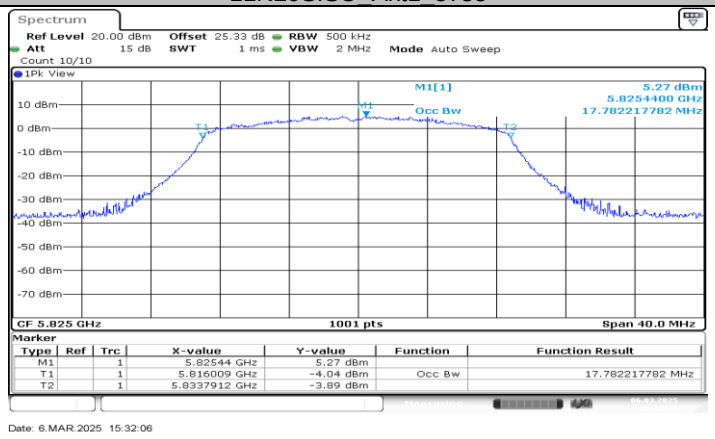
11A_Ant1_5825



11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



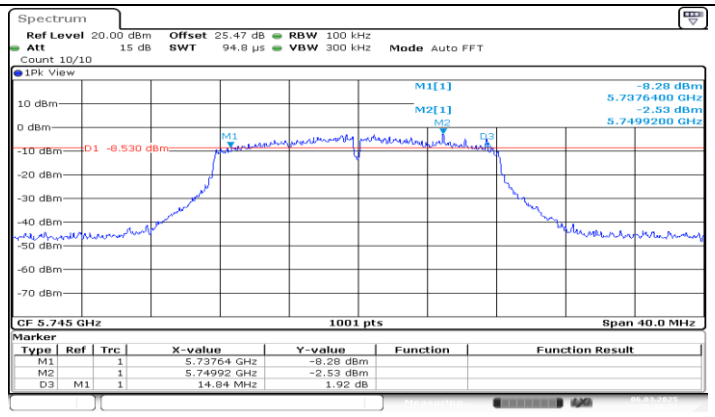
11N20SISO_Ant1_5825

11.3. APPENDIX C: MIN EMISSION BANDWIDTH

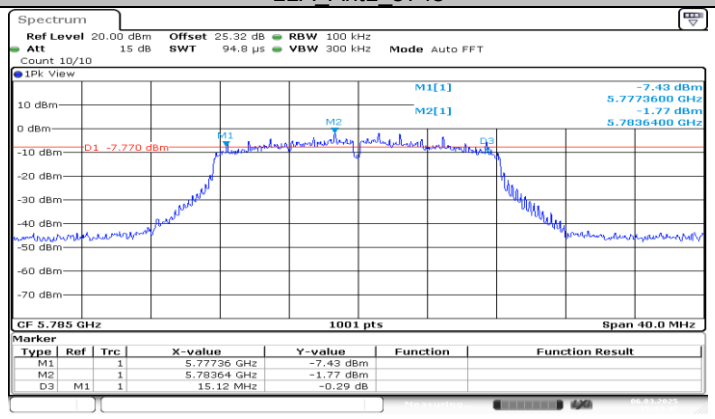
11.3.1. Test Result

Test Mode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	14.84	5737.64	5752.48	≥0.5	PASS
		5785	15.12	5777.36	5792.48	≥0.5	PASS
		5825	15.12	5817.36	5832.48	≥0.5	PASS
11N20SISO	Ant1	5745	14.48	5738.00	5752.48	≥0.5	PASS
		5785	15.12	5777.36	5792.48	≥0.5	PASS
		5825	15.04	5817.36	5832.40	≥0.5	PASS

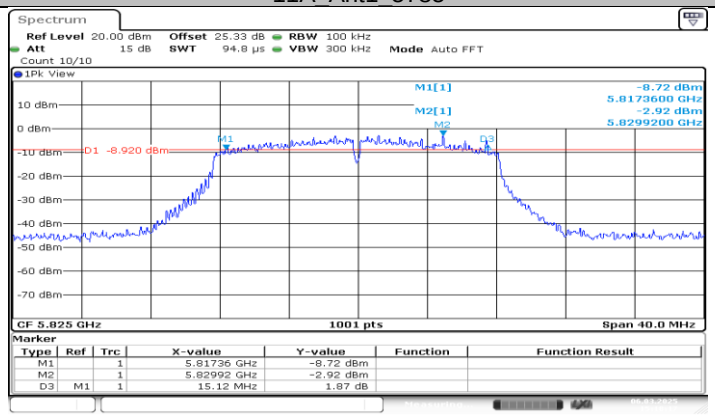
11.3.2. Test Graphs



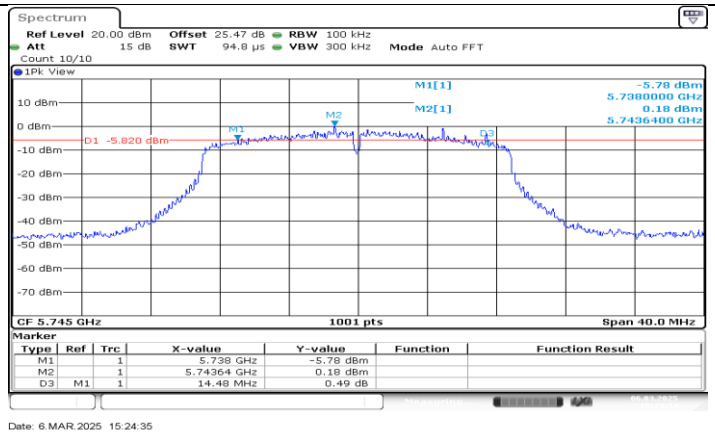
11A_Ant1_5745



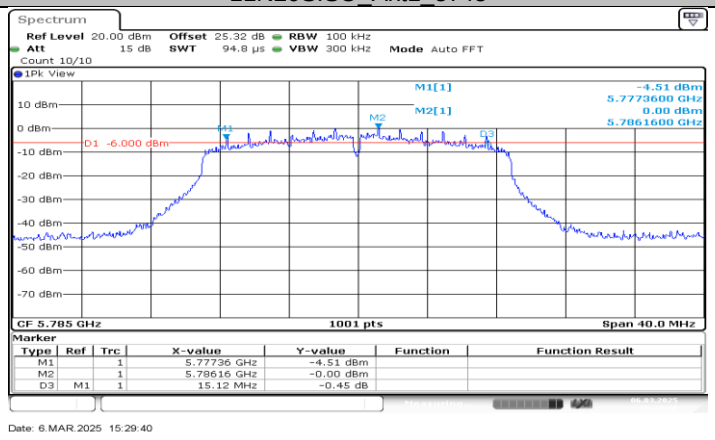
11A_Ant1_5785



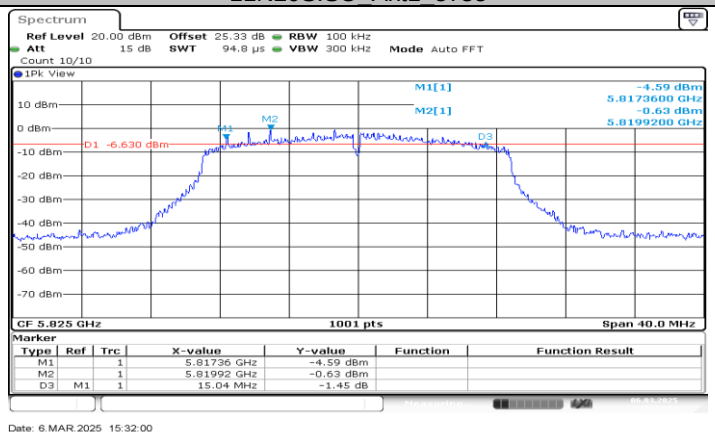
11A_Ant1_5825



11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



11N20SISO_Ant1_5825

11.4. APPENDIX D: MAXIMUM CONDUCTED OUTPUT POWER

11.4.1. Test Result

Test Mode	Antenna	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	5745	16.66	≤30.00	PASS
		5785	16.15	≤30.00	PASS
		5825	16.51	≤30.00	PASS
11N20SISO	Ant1	5745	16.46	≤30.00	PASS
		5785	15.74	≤30.00	PASS
		5825	16.10	≤30.00	PASS

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

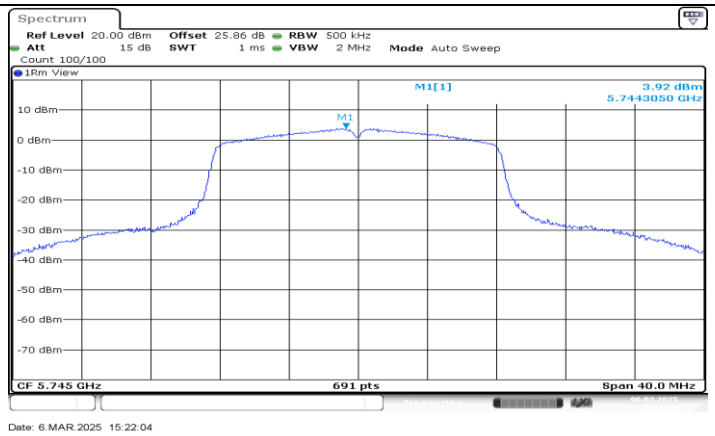
11.5. APPENDIX E: MAXIMUM POWER SPECTRAL DENSITY

11.5.1. Test Result

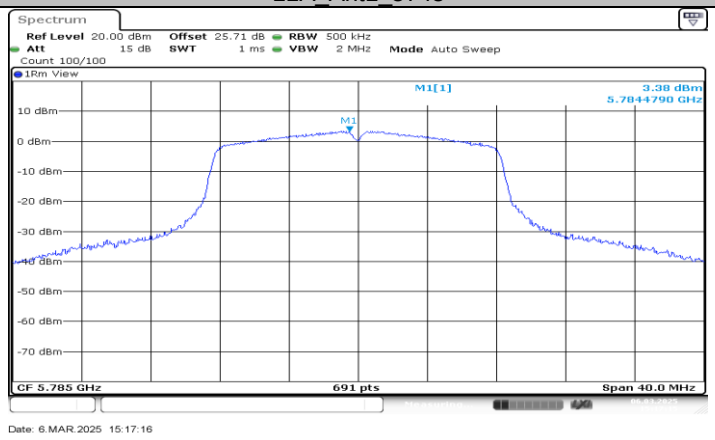
Test Mode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5745	3.92	≤30.00	PASS
		5785	3.38	≤30.00	PASS
		5825	3.63	≤30.00	PASS
11N20SISO	Ant1	5745	3.24	≤30.00	PASS
		5785	3.08	≤30.00	PASS
		5825	3.74	≤30.00	PASS

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.

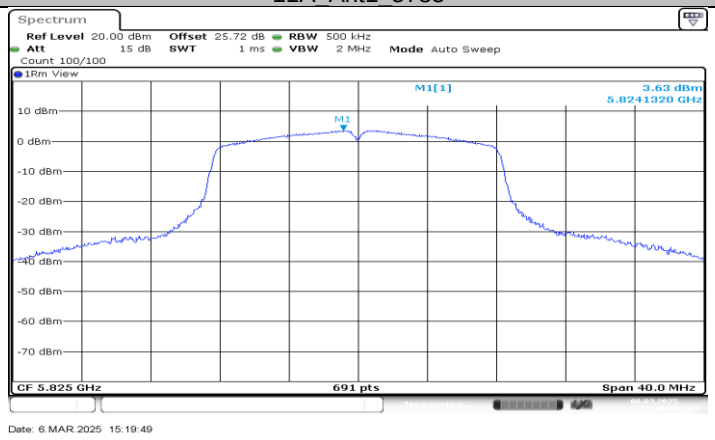
11.5.2. Test Graphs



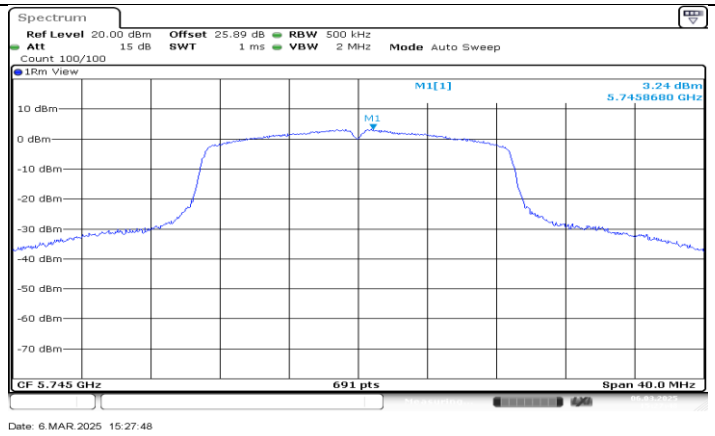
11A_Ant1_5745



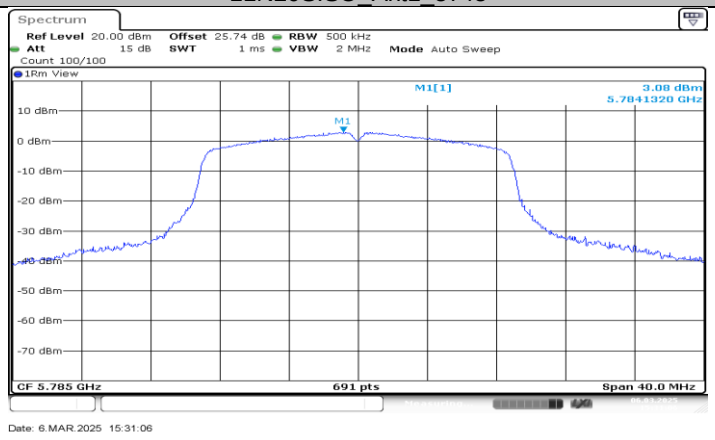
11A_Ant1_5785



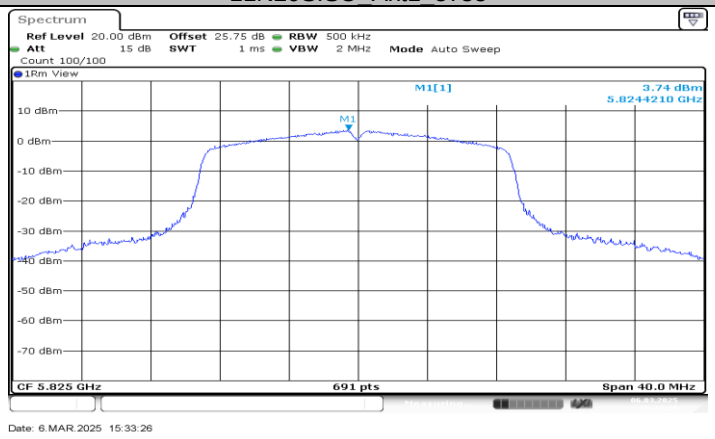
11A_Ant1_5825



11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



11N20SISO_Ant1_5825

11.6. APPENDIX F: FREQUENCY STABILITY

11.6.1. Test Result

Frequency Error vs. Voltage									
802.11a:5745MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
TN	VL	5745.0240	4.19	5744.9828	-3.00	5745.0210	3.65	5745.0214	3.72
TN	VN	5745.0119	2.07	5744.9811	-3.28	5745.0012	0.20	5744.9897	-1.80
TN	VH	5745.0248	4.31	5745.0234	4.07	5744.9922	-1.36	5745.0106	1.85
Frequency Error vs. Temperature									
802.11a:5745MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
50	VN	5745.0006	0.11	5745.0072	1.26	5744.9910	-1.57	5744.9971	-0.51
40	VN	5745.0068	1.19	5745.0158	2.75	5744.9854	-2.54	5745.0206	3.59
30	VN	5744.9775	-3.92	5745.0038	0.66	5744.9793	-3.60	5744.9891	-1.89
20	VN	5744.9909	-1.58	5744.9974	-0.44	5744.9966	-0.60	5745.0064	1.12
10	VN	5744.9969	-0.54	5744.9759	-4.20	5745.0132	2.29	5744.9911	-1.55
0	VN	5744.9983	-0.30	5745.0092	1.60	5744.9750	-4.35	5745.0236	4.10
-10	VN	5744.9908	-1.60	5744.9799	-3.49	5744.9782	-3.79	5744.9979	-0.37
-20	VN	5744.9767	-4.06	5744.9921	-1.37	5744.9910	-1.56	5745.0077	1.35

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

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	5825.0095	1.63	5824.9759	-4.13	5824.9965	-0.61	5824.9957	-0.74
TN	VN	5825.0218	3.75	5824.9803	-3.38	5825.0004	0.06	5824.9816	-3.17
TN	VH	5825.0095	1.63	5824.9940	-1.03	5825.0151	2.58	5825.0194	3.33
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)
50	VN	5824.9878	-2.10	5824.9972	-0.49	5825.0011	0.19	5824.9772	-3.92
40	VN	5824.9816	-3.15	5824.9900	-1.72	5825.0086	1.47	5825.0026	0.45
30	VN	5824.9808	-3.29	5825.0117	2.01	5825.0186	3.19	5825.0218	3.74
20	VN	5824.9943	-0.97	5825.0059	1.02	5824.9970	-0.51	5825.0063	1.08
10	VN	5825.0052	0.89	5824.9778	-3.82	5825.0150	2.57	5825.0154	2.65
0	VN	5824.9859	-2.43	5825.0132	2.27	5825.0123	2.12	5824.9785	-3.69
-10	VN	5825.0051	0.87	5825.0162	2.79	5825.0076	1.30	5824.9972	-0.49
-20	VN	5825.0001	0.02	5824.9958	-0.72	5825.0121	2.08	5825.0185	3.17

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

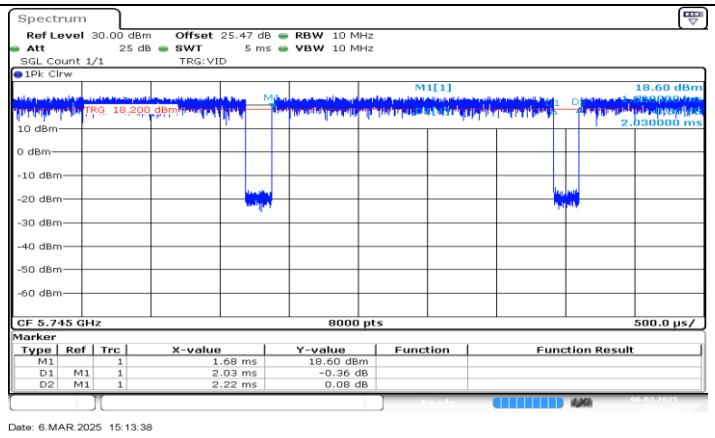
11.7. APPENDIX G: DUTY CYCLE

11.7.1. Test Result

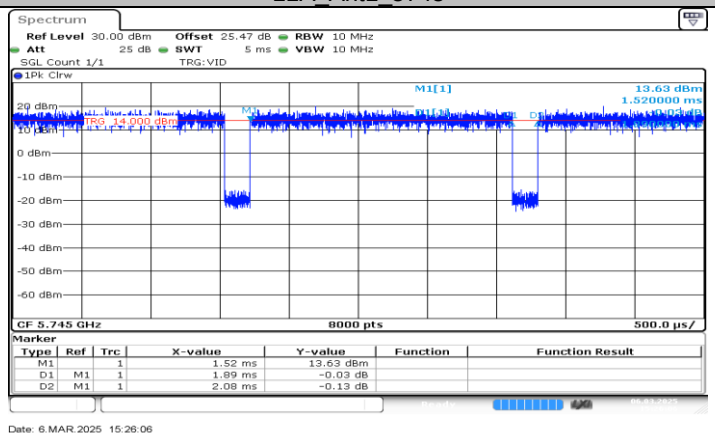
Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11A	2.03	2.22	0.9144	91.44	0.39	0.49	1
11N20SISO	1.89	2.08	0.9087	90.87	0.42	0.53	1

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_5745



11N20SISO_Ant1_5745

END OF REPORT