CFR 47 FCC PART 15 SUBPART E

TEST REPORT

For

XAG XRTK7 Mobile Station

MODEL NUMBER: M3RTK7AH

REPORT NUMBER: 4791806224-1-RF-5

ISSUE DATE: July 12, 2025

FCC ID: 2A46G-M3RTK7AH

Prepared for

Guangzhou Xaircraft Technology CO.,LTD
Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong, P.R. 510663 China

Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	July 12, 2025	Initial Issue	

Summary of Test Results

Test Item	Clause	Limit/Requirement	Result
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		FCC 15.407 (g)	Pass
Dynamic Frequency Selection (Slave)	KDB 905462 D03 Client Without DFS New Rules v01r02	FCC Part 15.407 (h),	Pass
Dynamic Frequency Selection (Master)	KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02	FCC Part 15.407 (h),	N/A
Antenna Requirement	N/A	FCC 47 CFR Part 15.203/ 15.407(a)(1) (2),	Pass

*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

Applicant Information

Company Name:	Guangzhou Xaircraft Technology CO.,LTD
Address:	Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong, P.R. 510663 China

Manufacturer Information

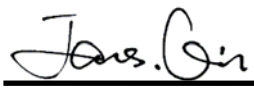
Company Name:	Guangzhou Xaircraft Technology CO.,LTD
Address:	Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong, P.R. 510663 China

EUT Information

EUT Name:	XAG XRTK7 Mobile Station
Model:	M3RTK7AH
Sample Received Date:	May 23, 2025
Sample Status:	Normal
Sample ID:	8526717
Date of Tested:	May 24, 2025 to July 11, 2025

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

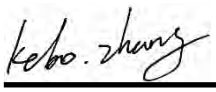
Prepared By:



James Qin

Project Engineer

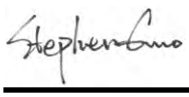
Checked By:



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, 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, KDB 905462 D04 Operational Modes for DFS Testing New Rules v01 and KDB 905462 D06 802 11 Channel Plans New Rules v02.

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.: C-20202, G-20240, R-20248 and T-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 E, the VCCI registration No. is G-20240 and R-20248 Shielding Room F, the VCCI registration No. is C-20202 and T-20202

Note 1:
All tests measurement facilities use to collect the measurement data are located at Room 101, Building 2, No.4, Information Road, Songshan Lake, Dongguan, Guangdong, 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 XRTK7 Mobile Station
Model	M3RTK7AH

Frequency Bands:	5725 MHz to 5875 MHz
Frequency Range:	5745 MHz to 5825 MHz
Type of Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK)
Radio Technology:	IEEE802.11a, IEEE802.11n HT20
Antenna Type:	PCB antenna
Antenna Gain:	RTL8733: 2.61dBi XL100: Ant1: 3.73dBi; Ant2: 6.75dBi
Battery Rating input:	DC 3.65 V

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

UNII-3 BAND(FCC)

RTL8733:

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)
a	5725 ~ 5850	19.66
n HT20		19.26

XL100:

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)
a	5725 ~ 5850	22.45
n HT20		25.74

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

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter	
Test Software	MobaXterm_Personal_23.3

RTL8733:

UNII-3

Mode	Rate	Channel	Soft set value
			ANT1
11a	6M	149	default
		157	default
		165	default
11n HT20	MCS0	149	default
		157	default
		165	default

XL100:

UNII-3

Mode	Rate	Channel	Soft set value
			ANT1
11a	6M	149	default
		157	default
		165	default
11n HT20	MCS0	149	default
		157	default
		165	default

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

RTL8733:

802.11a/n HT20 only support SISO mode.

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

XL100:

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

802.11a SISO mode, Antenna 1 and Antenna 2 has the same power setting, both Antenna 1&2 test data were recorded in the report.

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

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

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

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

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

RTL8733:

Antenna No.	Frequency Band	Antenna Type	Max Antenna Gain (dBi)
1	5725-5850	PCB antenna	2.61

XL100:

Antenna No.	Frequency Band	Antenna Type	Max Antenna Gain (dBi)
1	5725-5850	PCB antenna	3.73
2	5725-5850	PCB antenna	6.75

The EUT support Cyclic Shift Diversity(CDD) mode.

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

For output power measurements:
Directional gain= G_{ANT+} Array Gain = 6.75 dBi
G_{ANT} : equal to the gain of the antenna having the highest gain
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$

For power spectral density (PSD) measurements:
Directional gain= G_{ANT+} Array Gain = 9.76 dBi
Array Gain = 10 log(N_{ANT}/N_{SS}) dB.
N_{ANT} : number of transmit antennas
N_{SS} : number of spatial streams, The worst case directional gain will occur when N_{SS} = 1

RTL8733:

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.

XL100:

IEE Std. 802.11	Transmit and Receive Mode	Description
802.11a	☒2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
802.11n HT20	☒2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.

5.7. SUPPORT UNITS FOR SYSTEM TEST

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	Lenovo	E42-80	/
2	DC power supply	SophPower	ADC50-10D	50V 10A

I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	RJ45	/	/	0.3	/

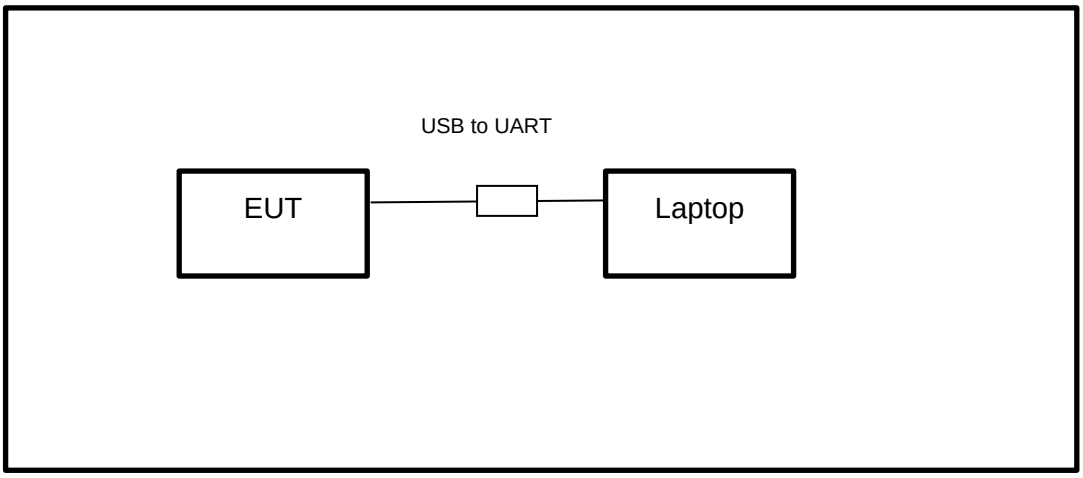
ACCESSORIES

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

TEST SETUP

The EUT has been tested as an independent unit.

5.8. SETUP DIAGRAM



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	Dec.27,2024	Dec.26,2025
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	Dec.27,2024	Dec.26,2025
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	130940	Dec.10, 2024	Dec.11, 2027
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
Highpass Filter	Wainwright	WHKX10-5850-6500-1800-40SS	4	Sep.28, 2024	Sep.27, 2025
Band Reject Filter	Wainwright	WRCJV12-5695-5725-5850-5880-40SS	4	Sep.28, 2024	Sep.27, 2025
Band Reject Filter	Wainwright	WRCJV20-5120-5150-5350-5380-60SS	2	Sep.28, 2024	Sep.27, 2025
Band Reject Filter	Wainwright	WRCJV20-5440-5470-5725-5755-60SS	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

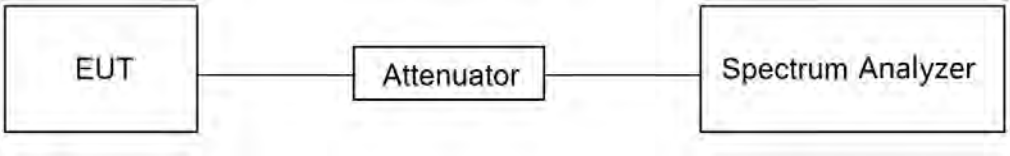
None; for reporting purposes only.

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	24.3℃	Relative Humidity	63.2%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.65 V

TEST DATE / ENGINEER

Test Date	June 9, 2025	Test By	Bairong Liu

TEST RESULTS

Please refer to section "Test Data" - Appendix G

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

LIMITS

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

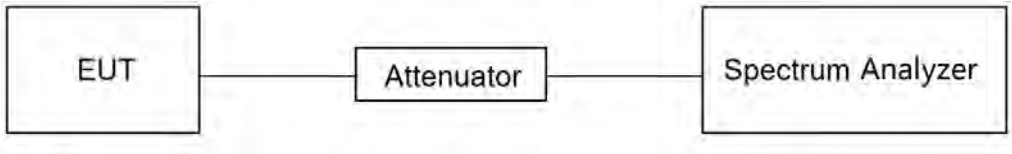
TEST PROCEDURE

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	24.3℃	Relative Humidity	63.2%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.65 V

TEST DATE / ENGINEER

Test Date	June 9, 2025	Test By	Bairong Liu

TEST RESULTS

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

7.3. CONDUCTED OUTPUT POWER

LIMITS

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

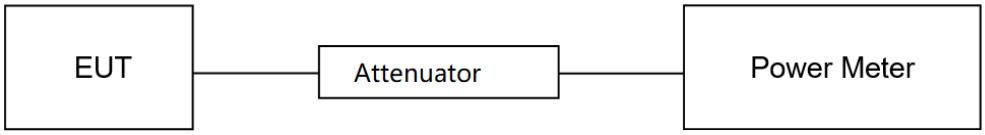
Note:
The above limits are based upon the maximum antenna gain does not exceed 6 dBi.
If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

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

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

TEST SETUP



TEST ENVIRONMENT

Temperature	24.3℃	Relative Humidity	63.2%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.65 V

TEST DATE / ENGINEER

Test Date	June 9, 2025	Test By	Bairong Liu

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:

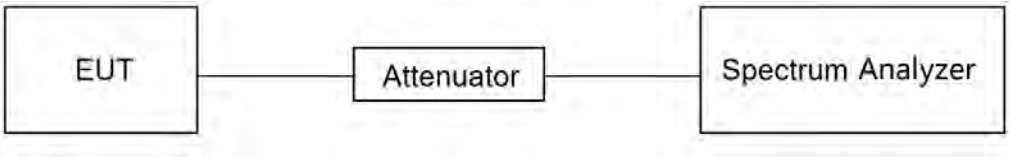
Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	1 MHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Average
Sweep time	Auto

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	24.3℃	Relative Humidity	63.2%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.65 V

TEST DATE / ENGINEER

Test Date	June 9, 2025	Test By	Bairong Liu

TEST RESULTS

Please refer to section "Test Data" - Appendix E

7.5. FREQUENCY STABILITY

LIMITS

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

TEST PROCEDURE

1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -10 °C ~ 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 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

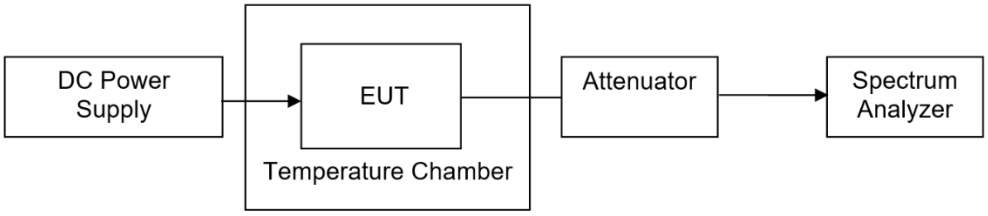
4. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5minutes, and 10 minutes after the EUT is energized.

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): -10 °C
		T_H (High Temperature): 40 °C
Supply Voltage	V_N (Normal Voltage): DC 3.65 V	V_L (Low Voltage): DC 3.10 V
		V_H (High Voltage): DC 4.20 V

TEST SETUP



TEST ENVIRONMENT

Temperature	24.3℃	Relative Humidity	63.2%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.65 V

TEST DATE / ENGINEER

Test Date	June 9, 2025	Test By	Bairong Liu

TEST RESULTS

Please refer to section "Test Data" - Appendix F

8. RADIATED TEST RESULTS

LIMITS

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

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

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

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

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

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

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

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

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.

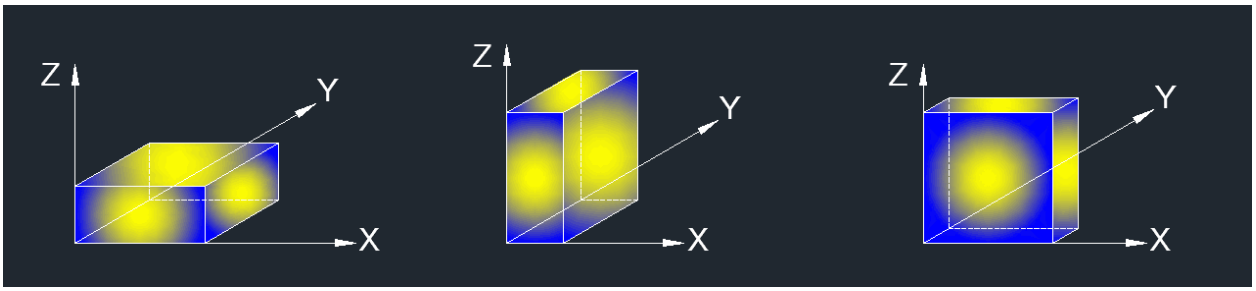
3. The EUT was placed on a turntable with 1.5 m above ground.

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.

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.

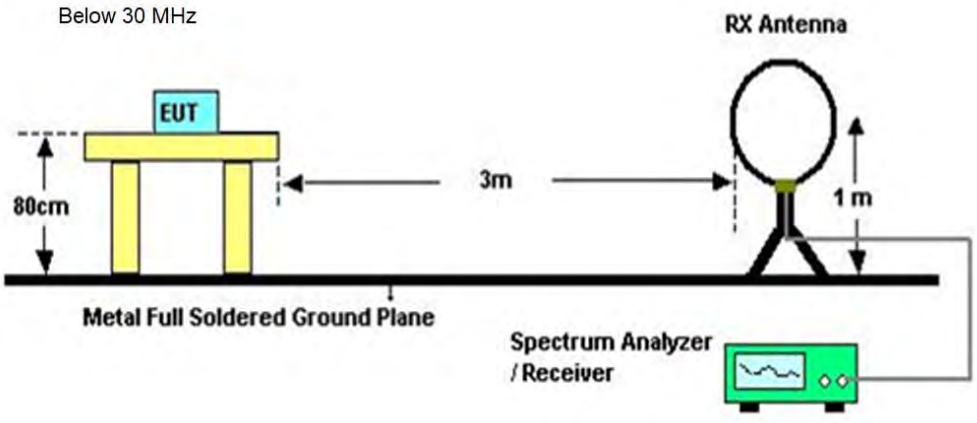
For Radiate Spurious Emission (1 GHz ~ 7 GHz):
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
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.

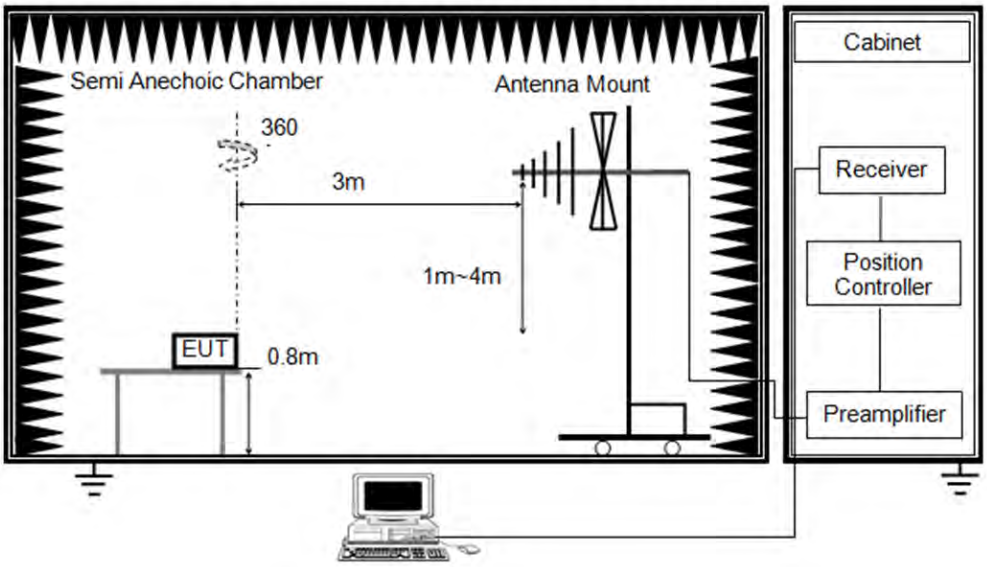
For Radiate Spurious emission (18 GHz ~ 26 GHz):
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. All modes have been tested, but only the worst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

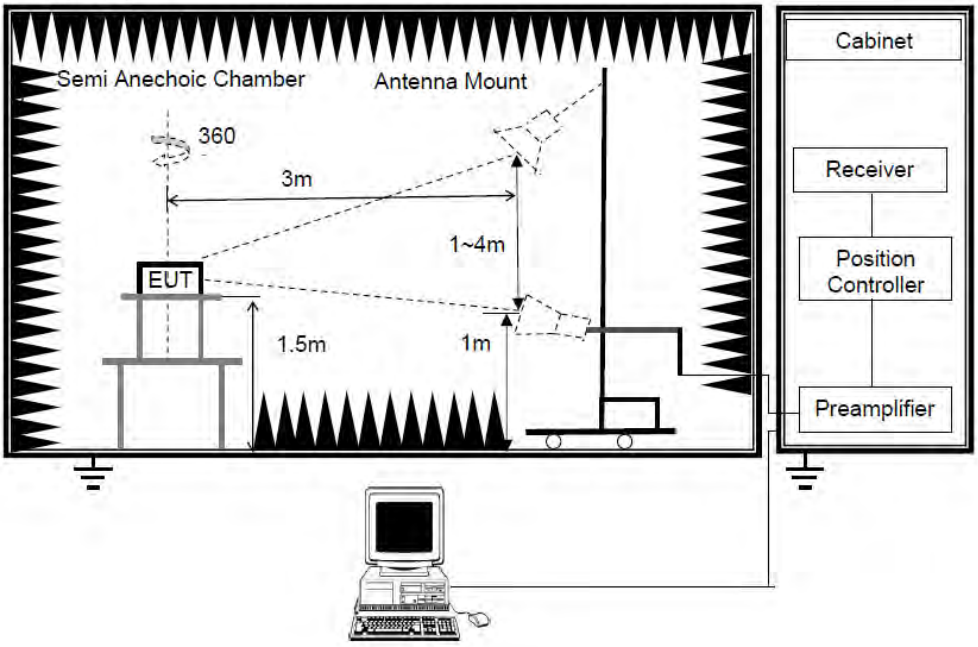
TEST SETUP



Below 1 GHz and above 30 MHz



Above 1GHz



TEST ENVIRONMENT

Temperature	22.3℃	Relative Humidity	58.8%
Atmosphere Pressure	101kPa	Test Voltage	

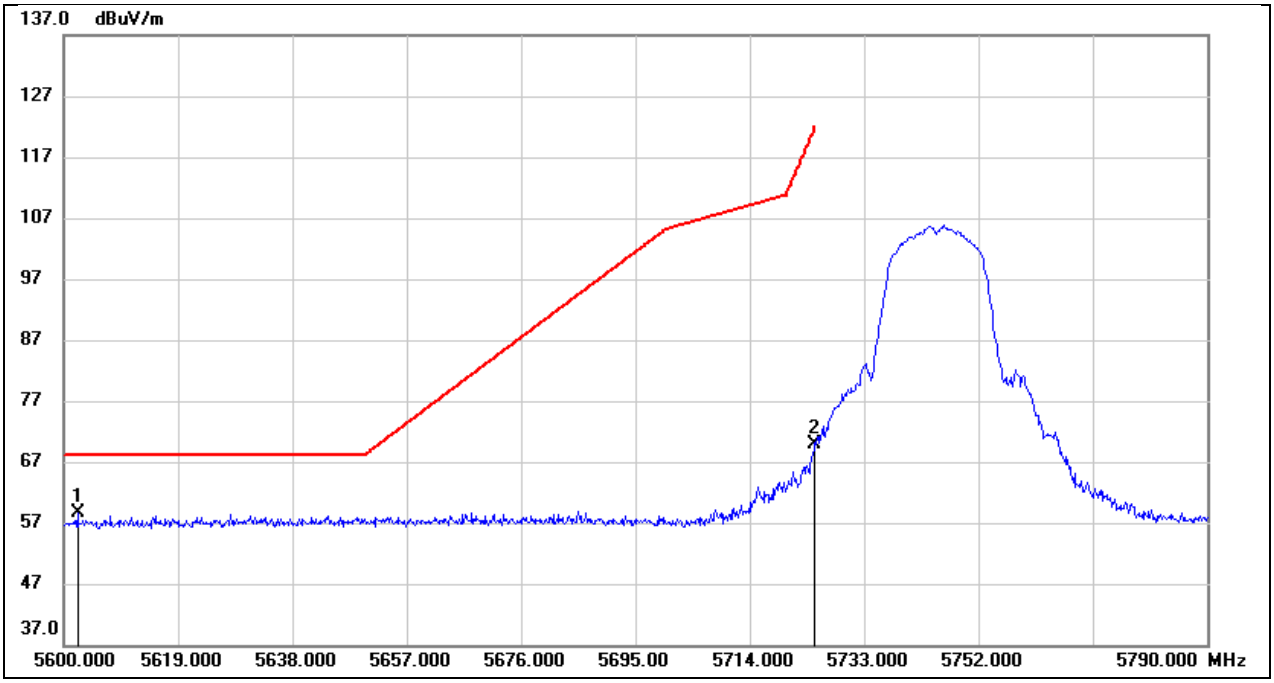
TEST DATE / ENGINEER

Test Date	July 11, 2025	Test By	Mason Wang

TEST RESULTS

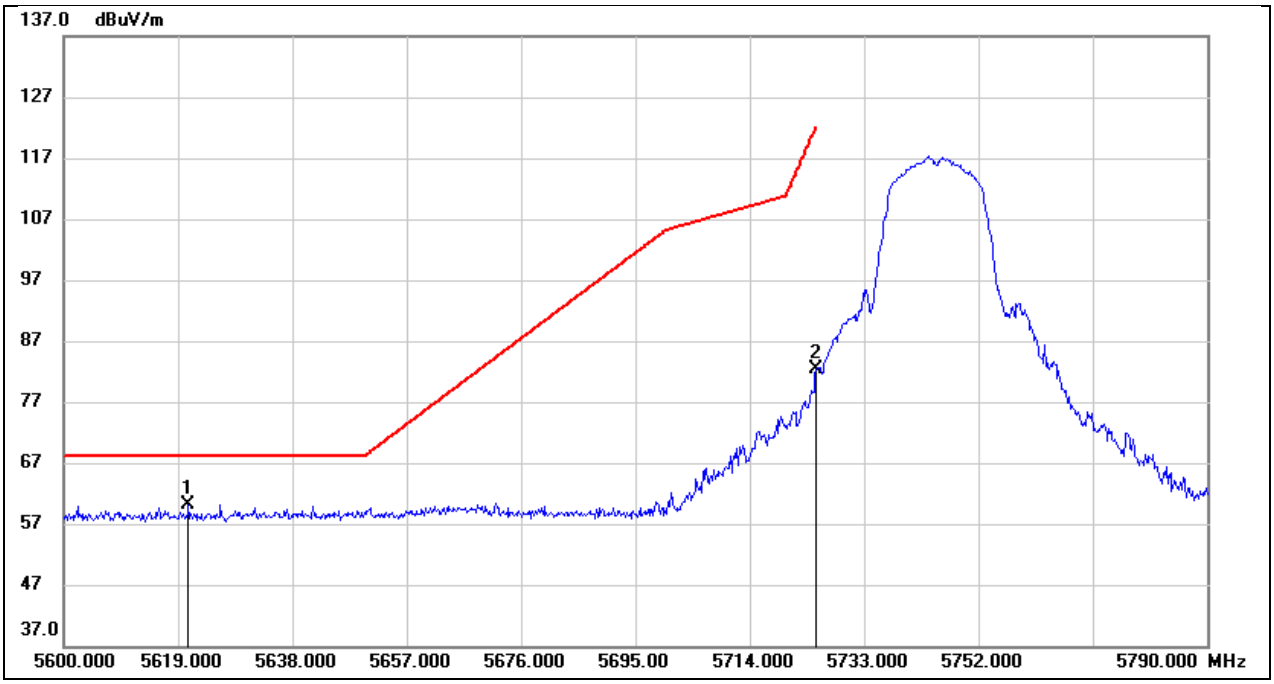
8.1. RESTRICTED BANDEDGE OF RTL8733

Test Mode:	802.11a 20 PK	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	DC 3.65 V



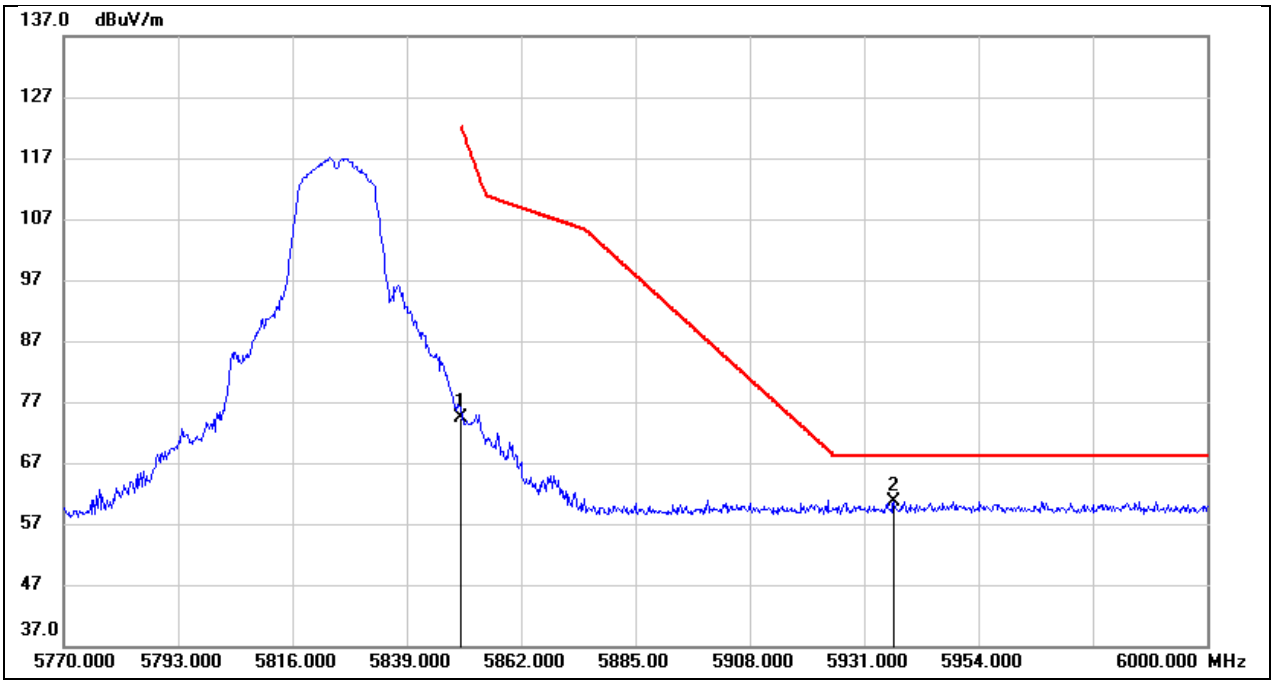
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5602.280	18.71	39.93	58.64	68.20	-9.56	peak
2	5725.000	29.80	40.09	69.89	122.20	-52.31	peak

Test Mode:	802.11a 20 PK	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	DC 3.65 V



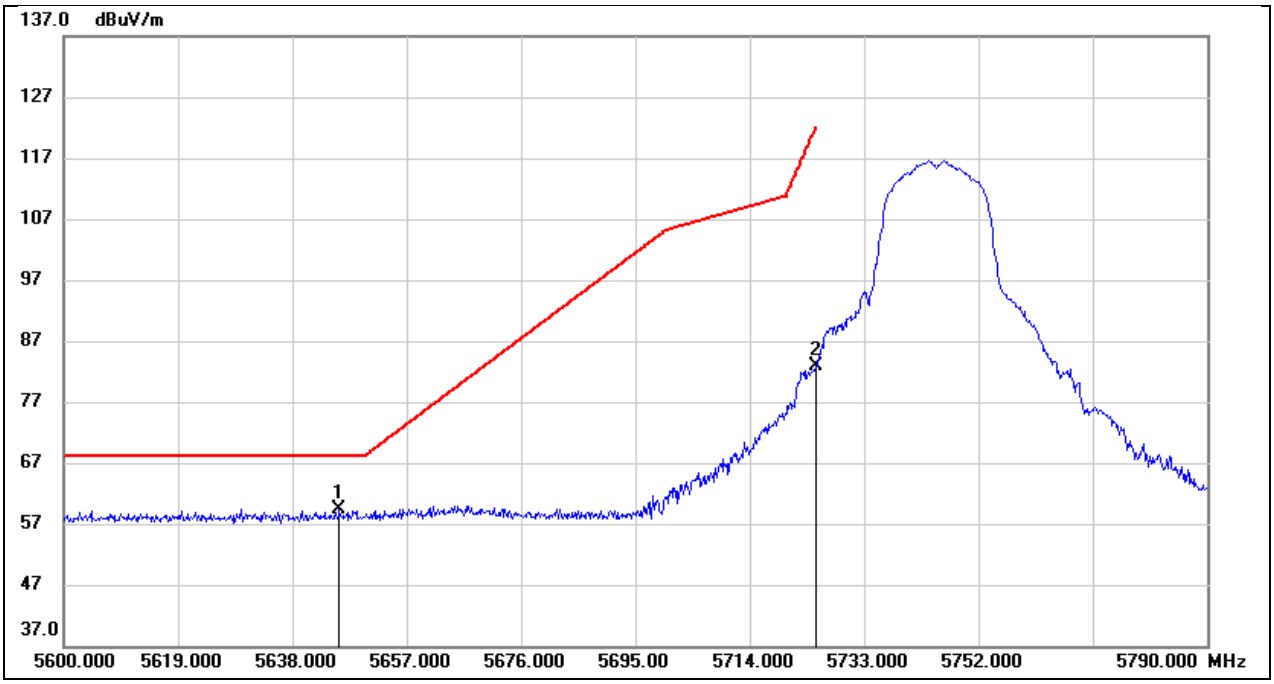
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5620.710	19.10	41.10	60.20	68.20	-8.00	peak
2	5725.000	41.14	41.20	82.34	122.20	-39.86	peak

Test Mode:	802.11a 20 PK	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	DC 3.65 V



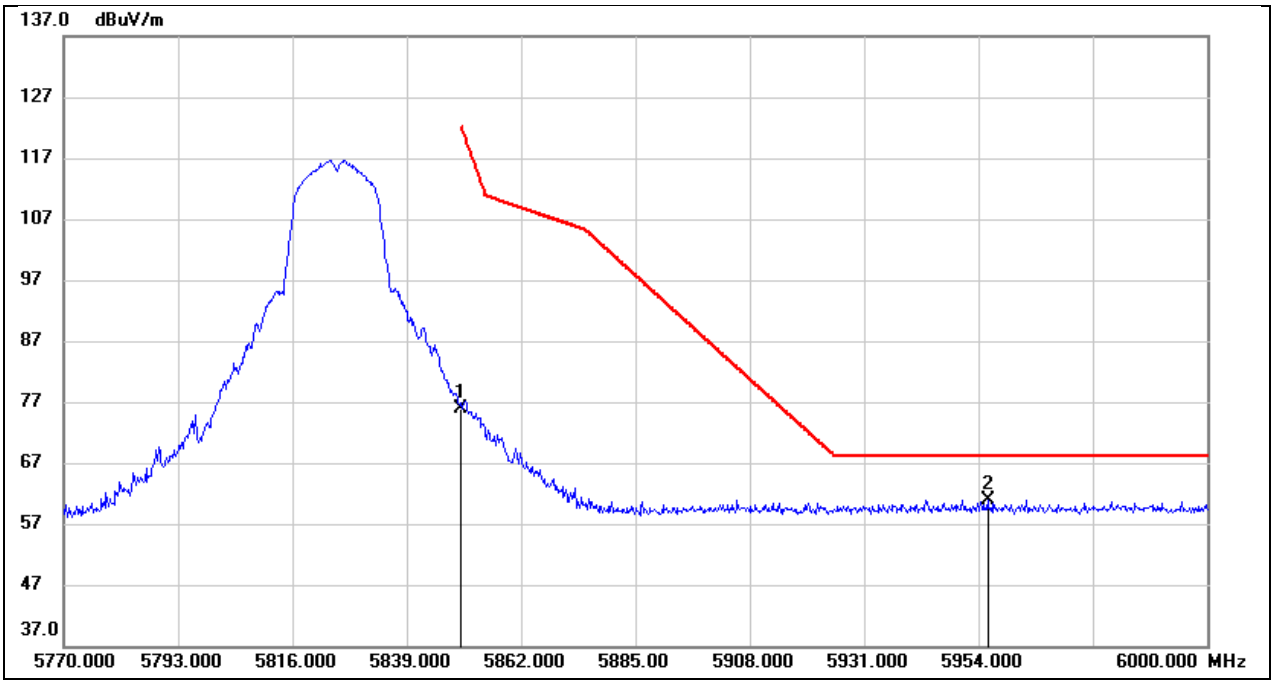
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	33.08	41.36	74.44	122.20	-47.76	peak
2	5936.980	19.14	41.52	60.66	68.20	-7.54	peak

Test Mode:	802.11n HT20 PK	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	DC 3.65 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5645.790	18.28	41.12	59.40	68.20	-8.80	peak
2	5725.000	41.60	41.20	82.80	122.20	-39.40	peak

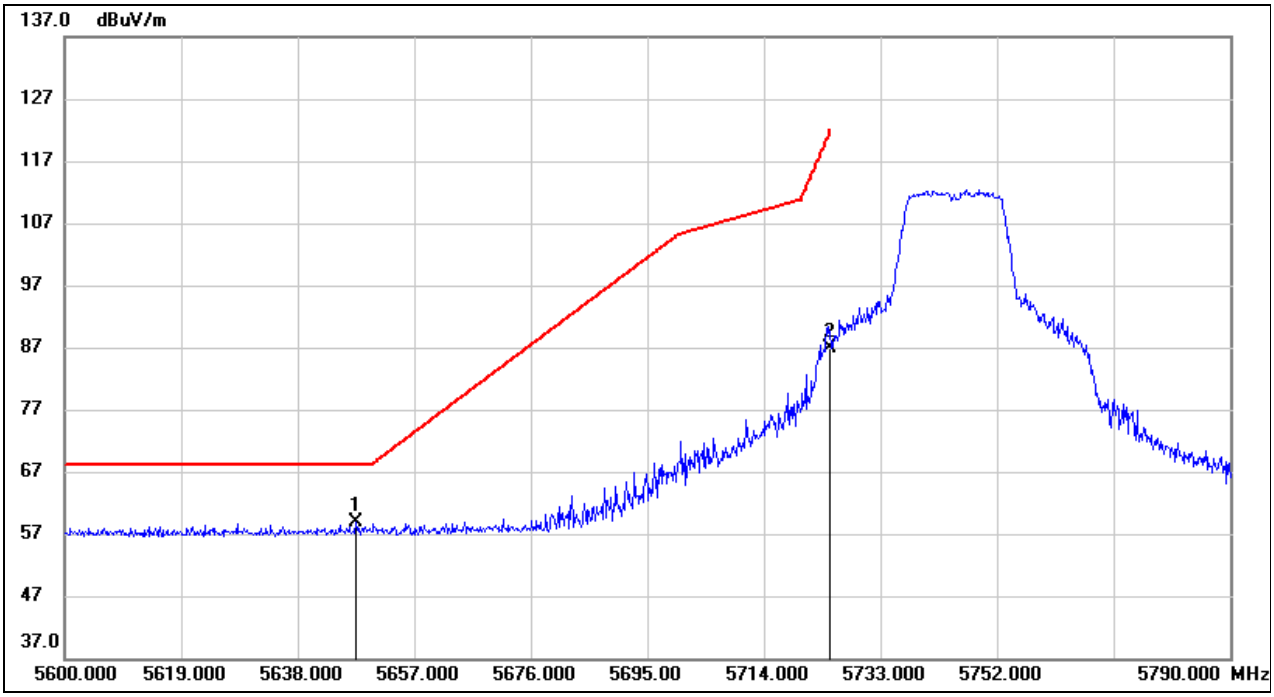
Test Mode:	802.11n HT20 PK	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	DC 3.65 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	34.46	41.36	75.82	122.20	-46.38	peak
2	5955.840	19.37	41.57	60.94	68.20	-7.26	peak

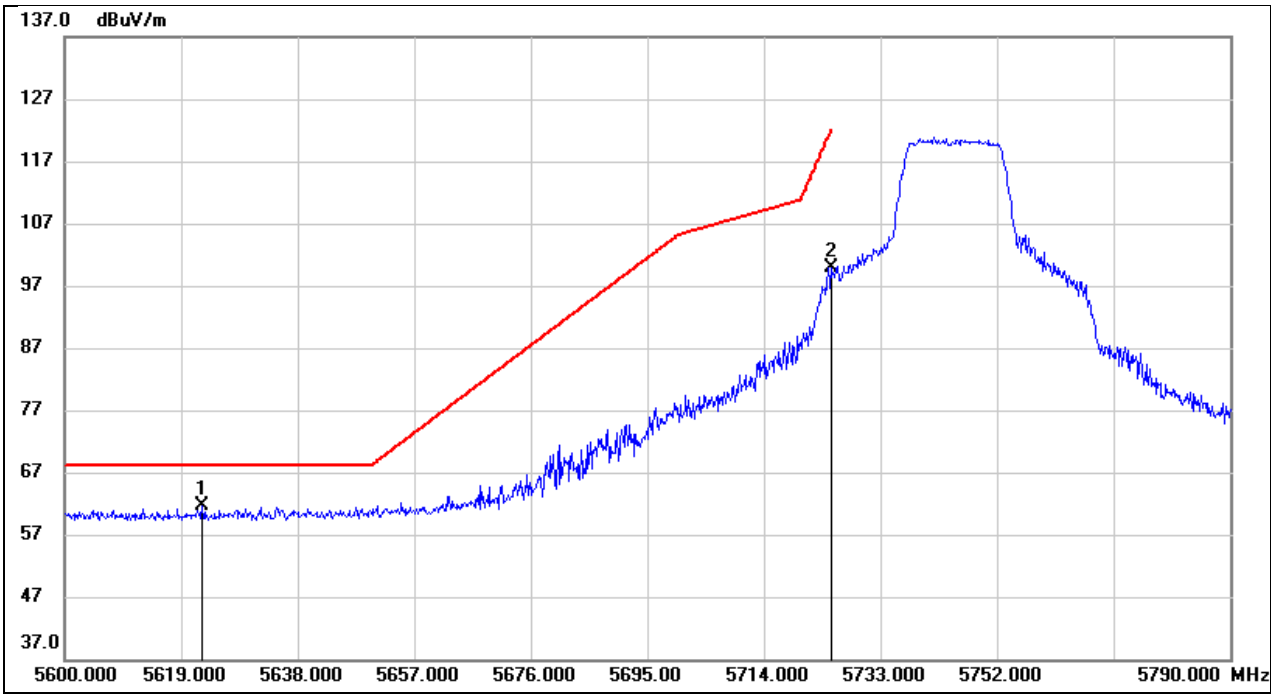
8.2. RESTRICTED BANDEDGE OF XL100

Test Mode:	802.11a 20 PK	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



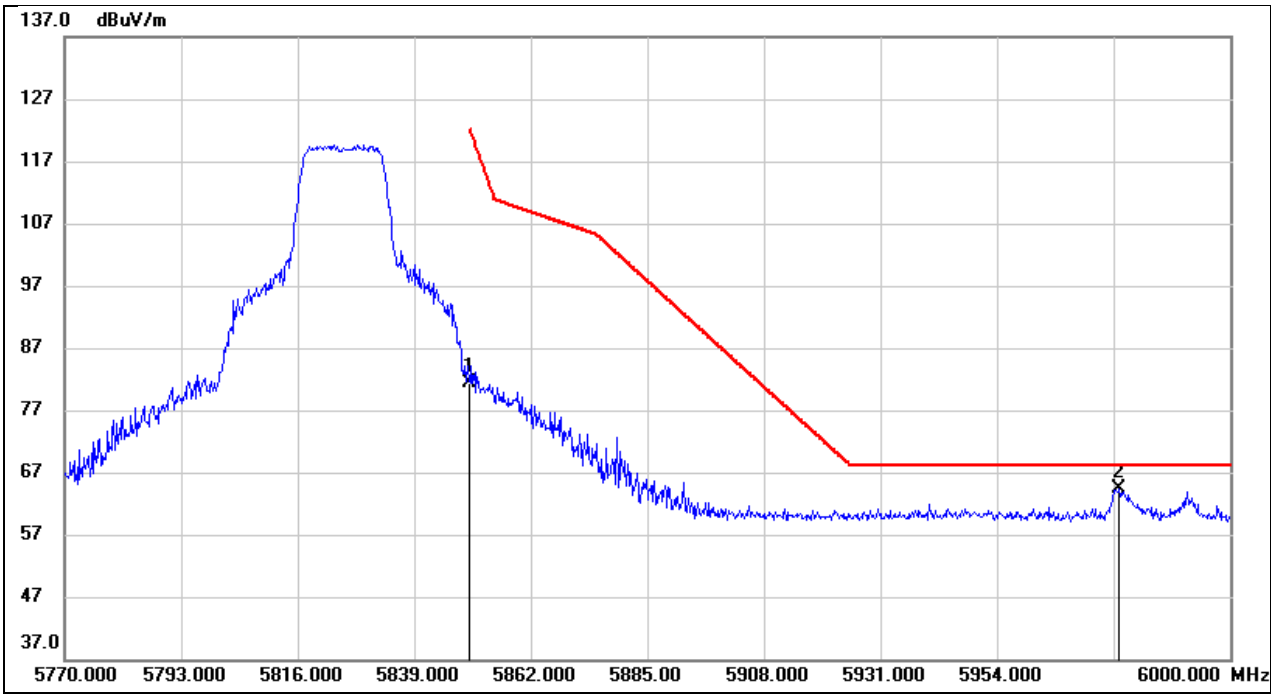
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5647.500	18.79	39.99	58.78	68.20	-9.42	peak
2	5725.000	46.86	40.09	86.95	122.20	-35.25	peak

Test Mode:	802.11a 20 PK	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



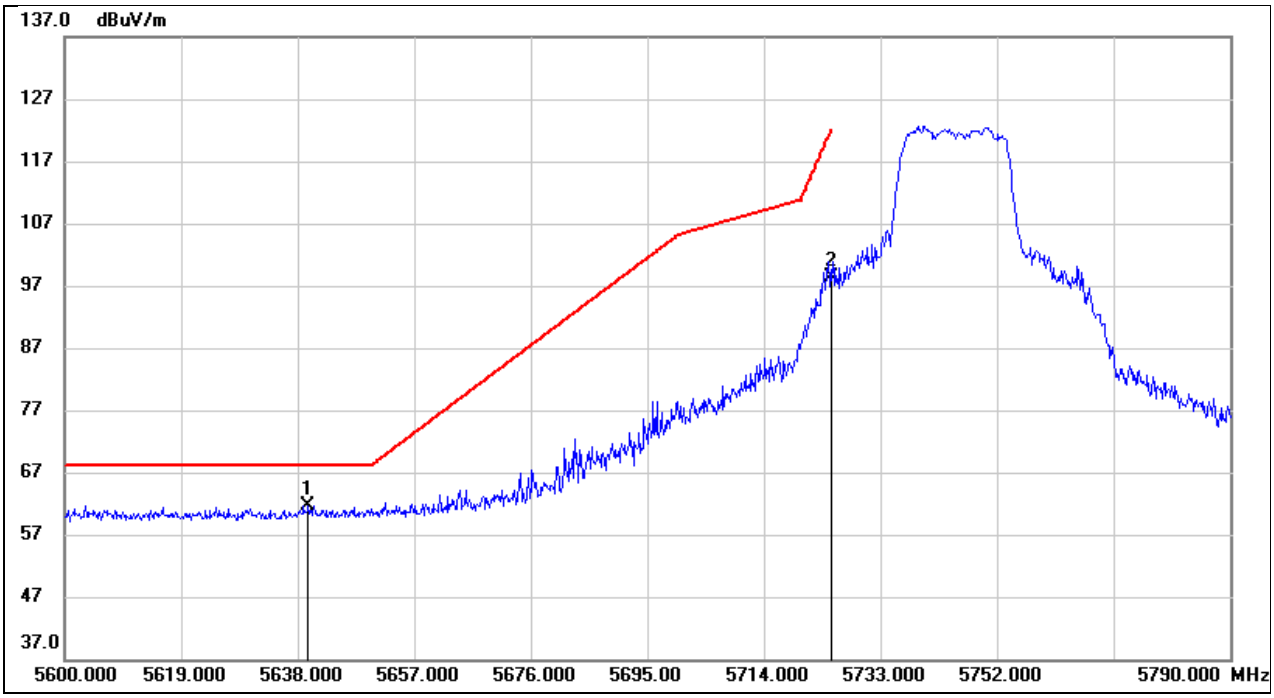
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5622.420	20.50	41.11	61.61	68.20	-6.59	peak
2	5725.000	58.78	41.20	99.98	122.20	-22.22	peak

Test Mode:	802.11a 20 PK	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



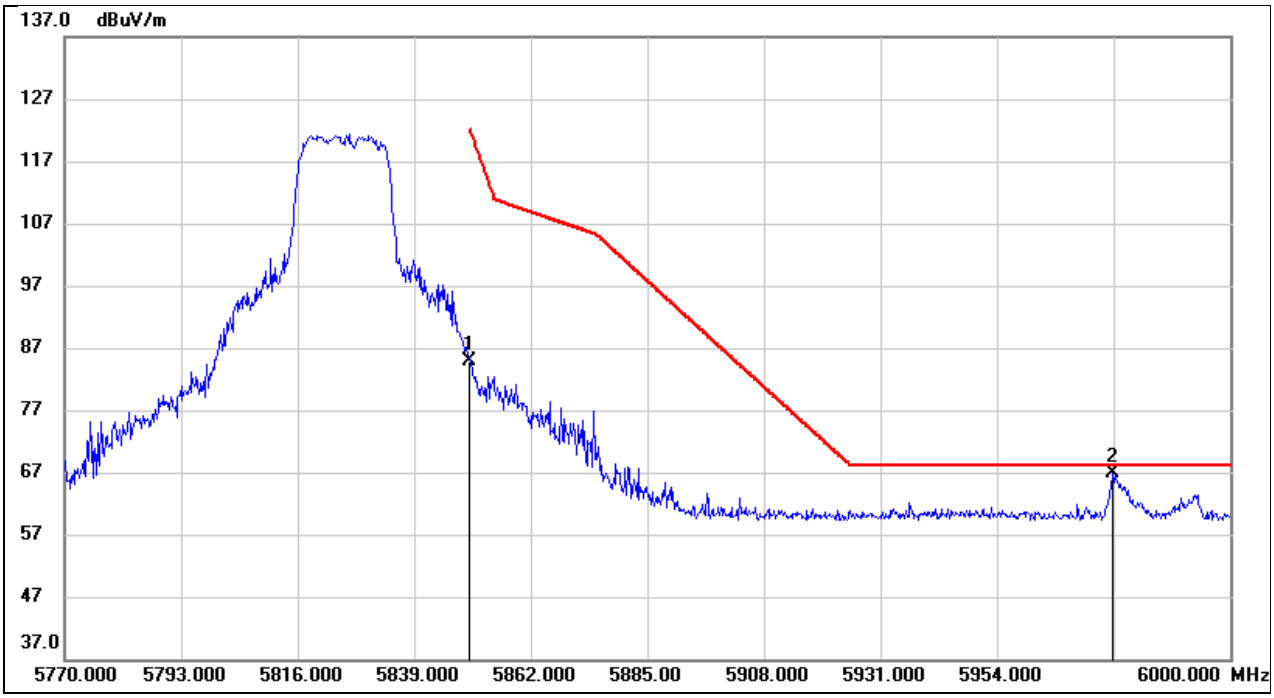
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	40.13	41.36	81.49	122.20	-40.71	peak
2	5978.150	22.72	41.60	64.32	68.20	-3.88	peak

Test Mode:	802.11n HT20 PK	Frequency(MHz):	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	5639.710	20.61	41.13	61.74	68.20	-6.46	peak
2	5725.000	57.11	41.20	98.31	122.20	-23.89	peak

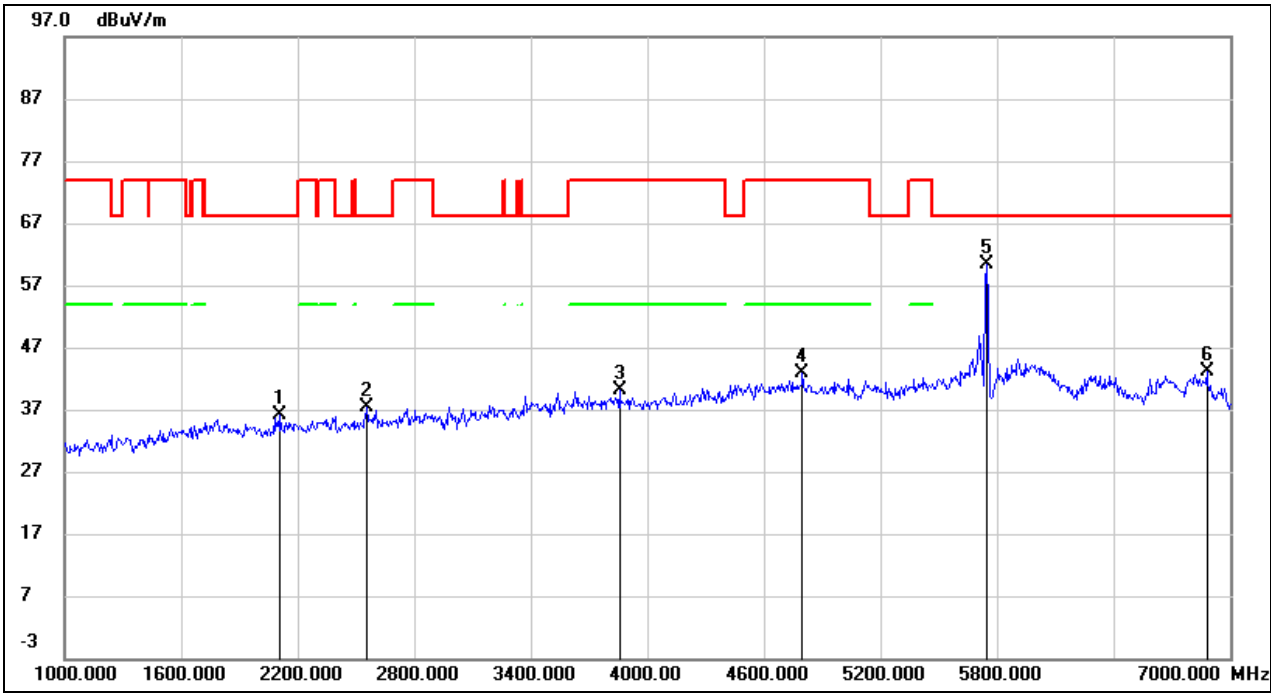
Test Mode:	802.11n HT20 PK	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	43.44	41.36	84.80	122.20	-37.40	peak
2	5976.770	25.24	41.60	66.84	68.20	-1.36	peak

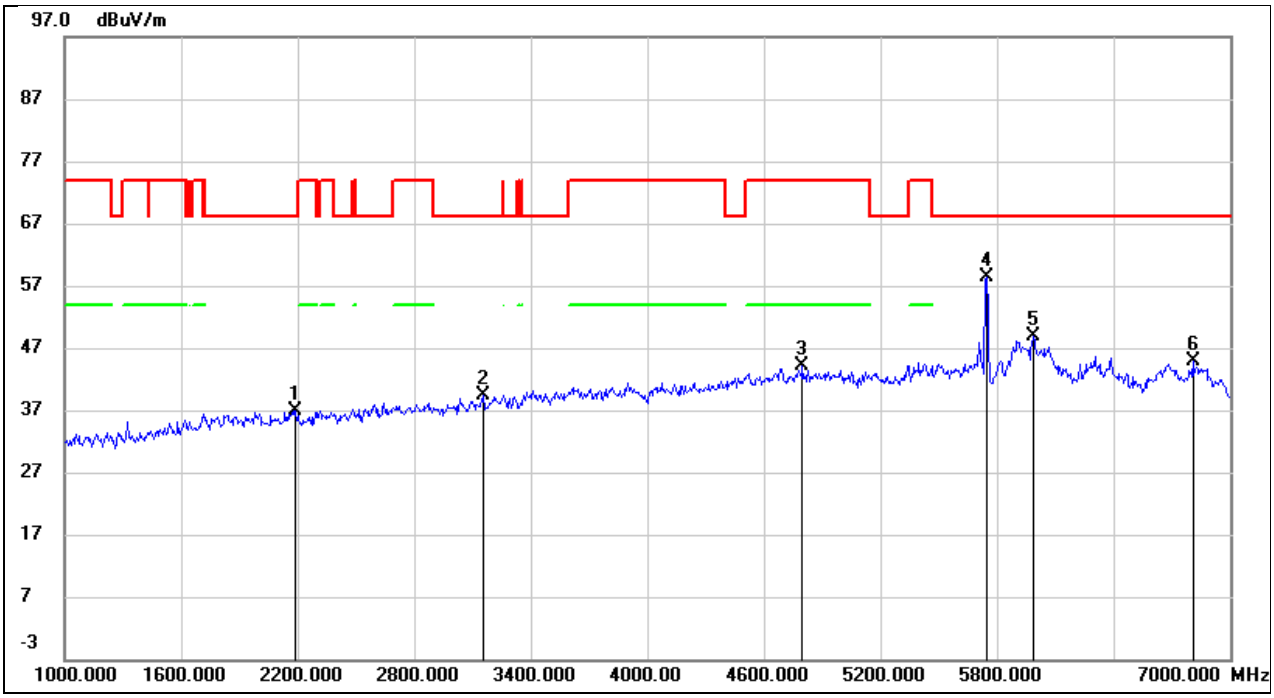
8.3. SPURIOUS EMISSIONS OF RTL8733 (1 GHZ~7 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



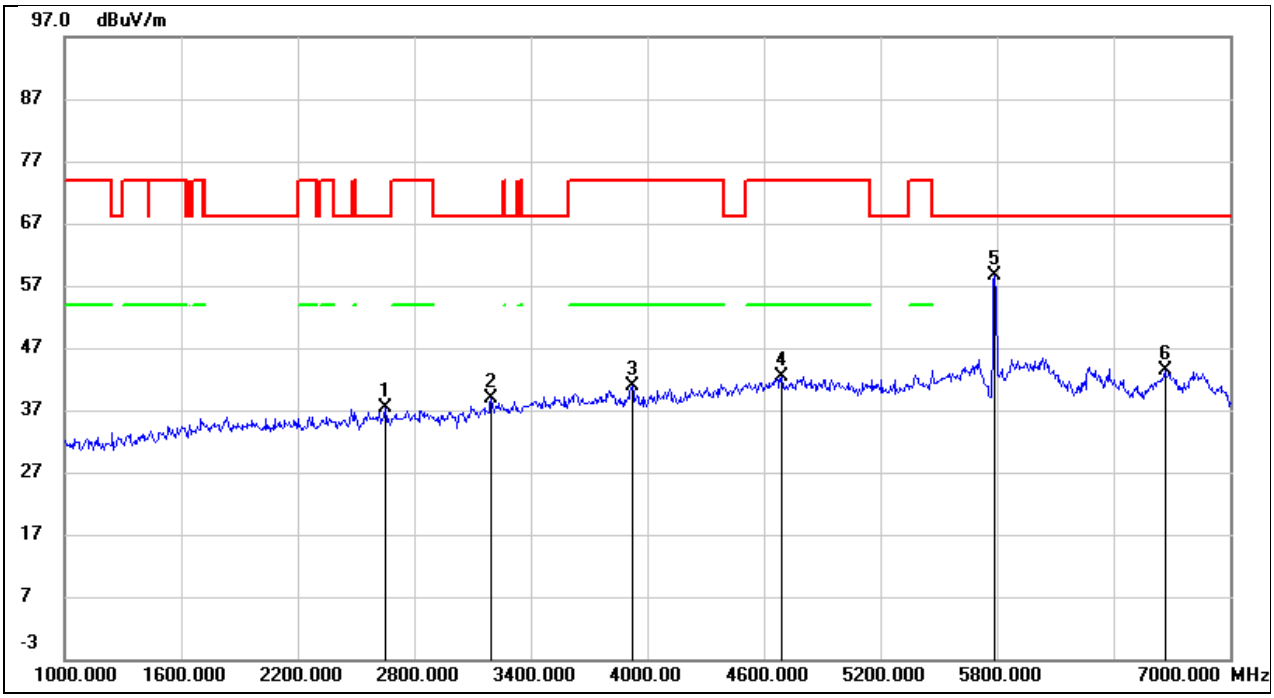
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2110.000	45.81	-9.68	36.13	68.20	-32.07	peak
2	2554.000	45.44	-7.97	37.47	68.20	-30.73	peak
3	3856.000	42.73	-2.69	40.04	74.00	-33.96	peak
4	4798.000	42.05	0.87	42.92	74.00	-31.08	peak
5	5745.000	56.01	4.26	60.27	\	\	fundamental
6	6880.000	36.54	6.55	43.09	68.20	-25.11	peak

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



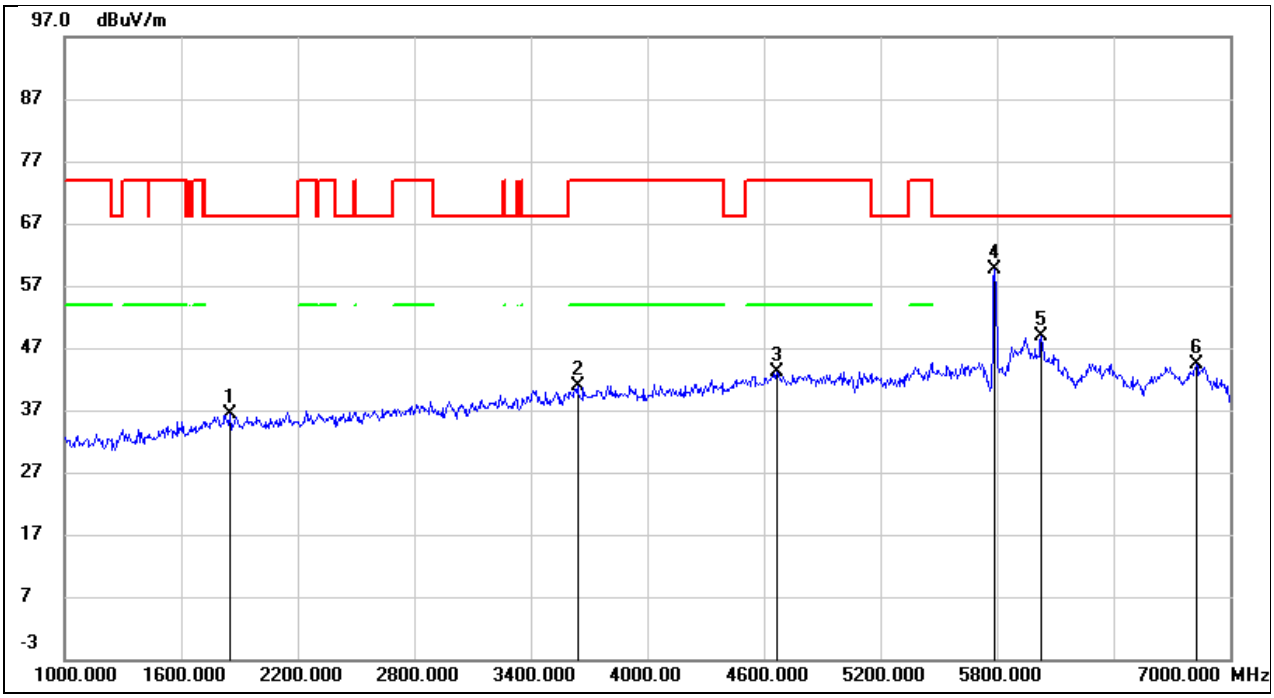
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2188.000	45.50	-8.52	36.98	68.20	-31.22	peak
2	3154.000	43.45	-4.08	39.37	68.20	-28.83	peak
3	4798.000	42.06	1.95	44.01	74.00	-29.99	peak
4	5745.000	53.03	5.37	58.40	\	\	fundamental
5	5986.000	42.20	6.56	48.76	68.20	-19.44	peak
6	6808.000	37.40	7.46	44.86	68.20	-23.34	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



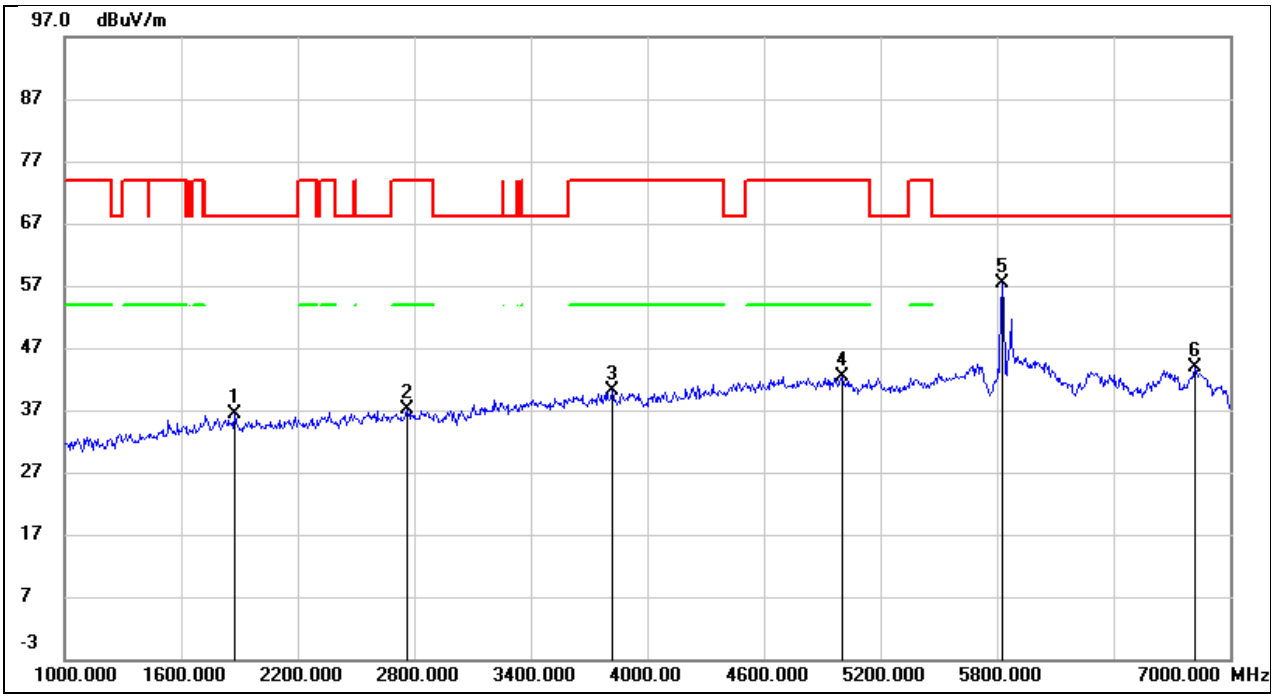
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2650.000	44.87	-7.55	37.32	68.20	-30.88	peak
2	3196.000	43.93	-5.09	38.84	68.20	-29.36	peak
3	3922.000	43.35	-2.56	40.79	74.00	-33.21	peak
4	4690.000	41.94	0.43	42.37	74.00	-31.63	peak
5	5785.000	54.17	4.46	58.63	\	\	fundamental
6	6664.000	37.09	6.25	43.34	68.20	-24.86	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



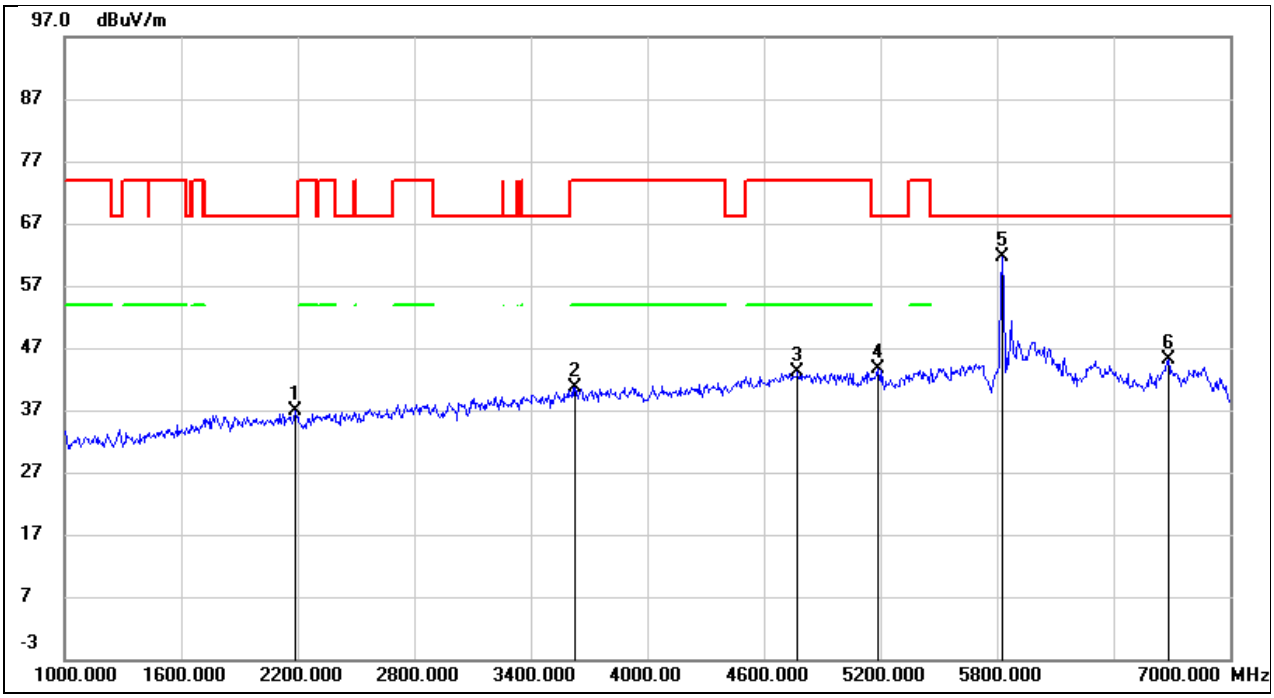
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1852.000	45.69	-9.33	36.36	68.20	-31.84	peak
2	3640.000	43.07	-2.17	40.90	74.00	-33.10	peak
3	4666.000	41.75	1.35	43.10	74.00	-30.90	peak
4	5785.000	54.20	5.55	59.75	\	\	fundamental
5	6028.000	42.16	6.72	48.88	68.20	-19.32	peak
6	6826.000	36.88	7.46	44.34	68.20	-23.86	peak

Test Mode:	802.11a 20	Frequency(MHz):	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	1876.000	46.32	-10.01	36.31	68.20	-31.89	peak
2	2764.000	44.08	-7.07	37.01	74.00	-36.99	peak
3	3820.000	42.79	-2.76	40.03	74.00	-33.97	peak
4	5002.000	40.54	1.80	42.34	74.00	-31.66	peak
5	5825.000	52.82	4.68	57.50	\	\	fundamental
6	6820.000	37.38	6.59	43.97	68.20	-24.23	peak

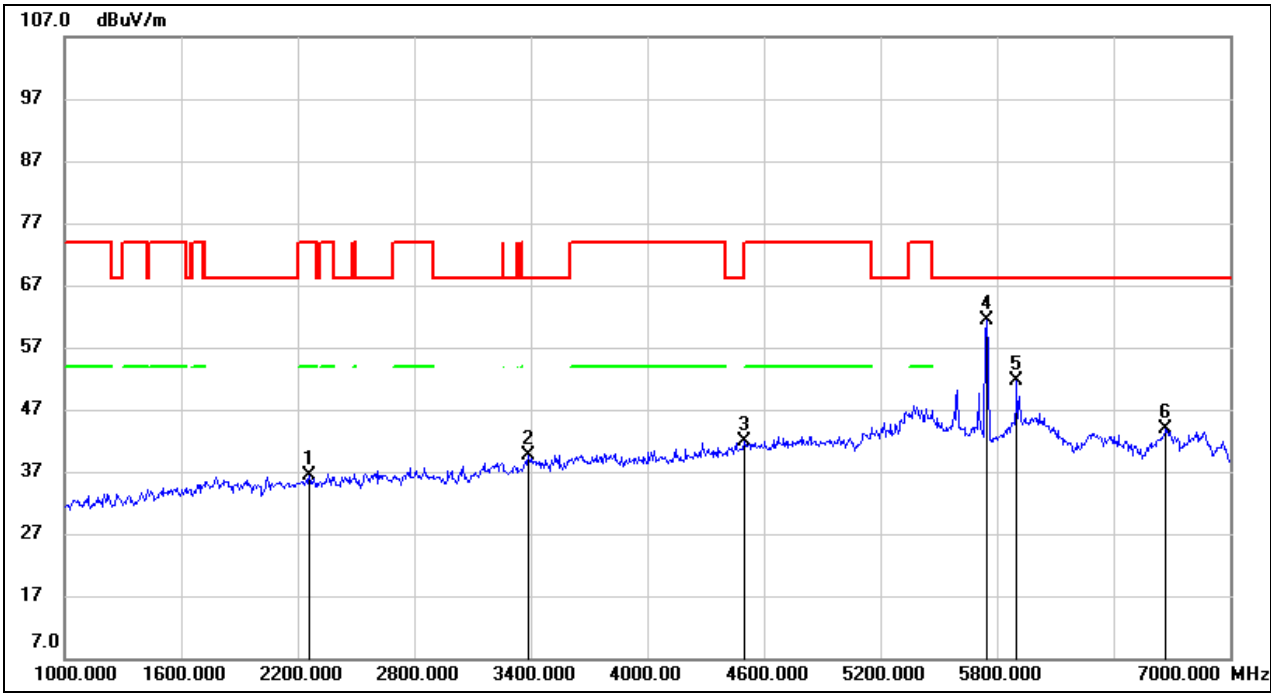
Test Mode:	802.11a 20	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2188.000	45.30	-8.52	36.78	68.20	-31.42	peak
2	3628.000	42.85	-2.20	40.65	74.00	-33.35	peak
3	4774.000	41.29	1.83	43.12	74.00	-30.88	peak
4	5188.000	40.29	3.23	43.52	68.20	-24.68	peak
5	5825.000	55.82	5.75	61.57	\	\	fundamental
6	6682.000	37.90	7.14	45.04	68.20	-23.16	peak

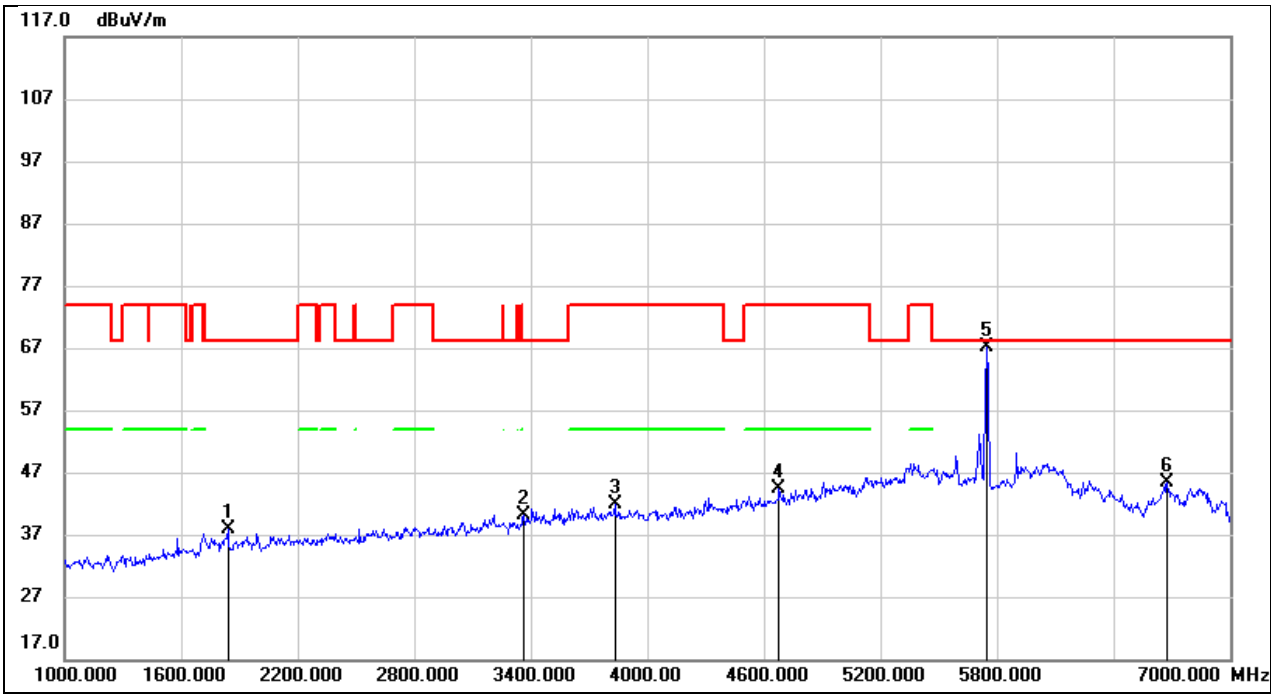
8.4. SPURIOUS EMISSIONS OF XL100 (1 GHZ~7 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



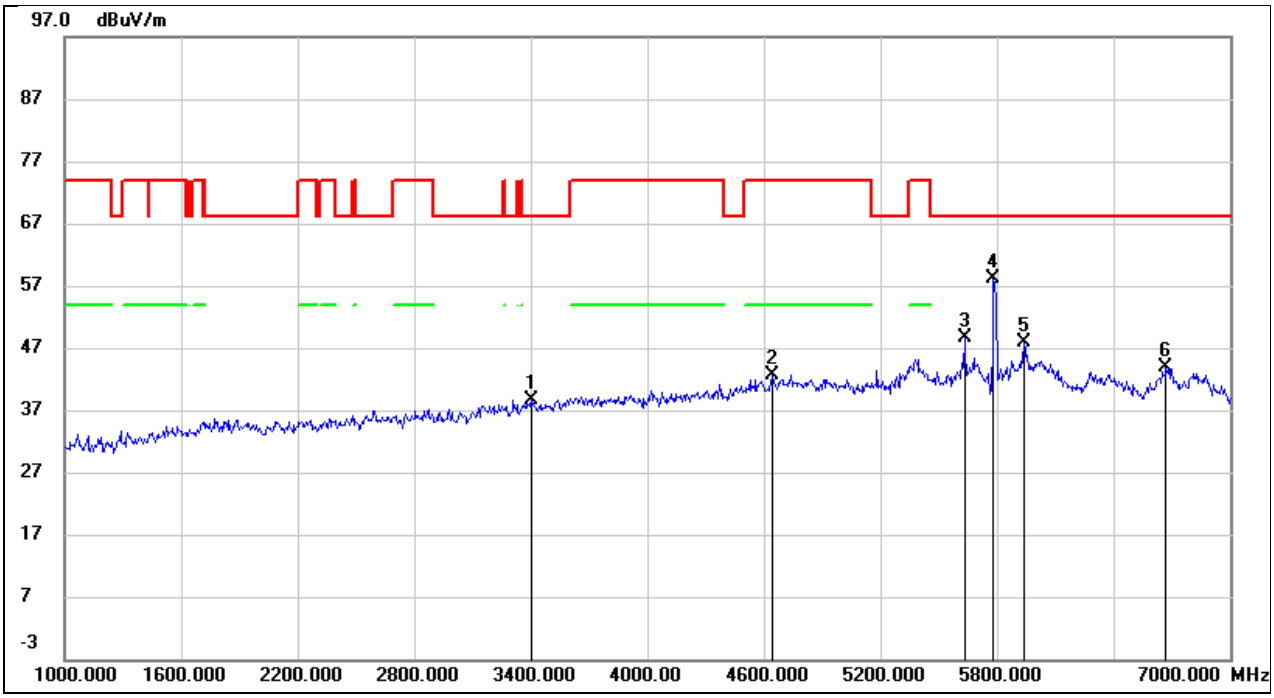
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2260.000	45.47	-9.11	36.36	74.00	-37.64	peak
2	3388.000	43.97	-4.27	39.70	68.20	-28.50	peak
3	4498.000	42.21	-0.44	41.77	68.20	-26.43	peak
4	5745.000	57.19	4.26	61.45	\	\	fundamental
5	5902.000	46.46	5.08	51.54	68.20	-16.66	peak
6	6670.000	37.68	6.26	43.94	68.20	-24.26	peak

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



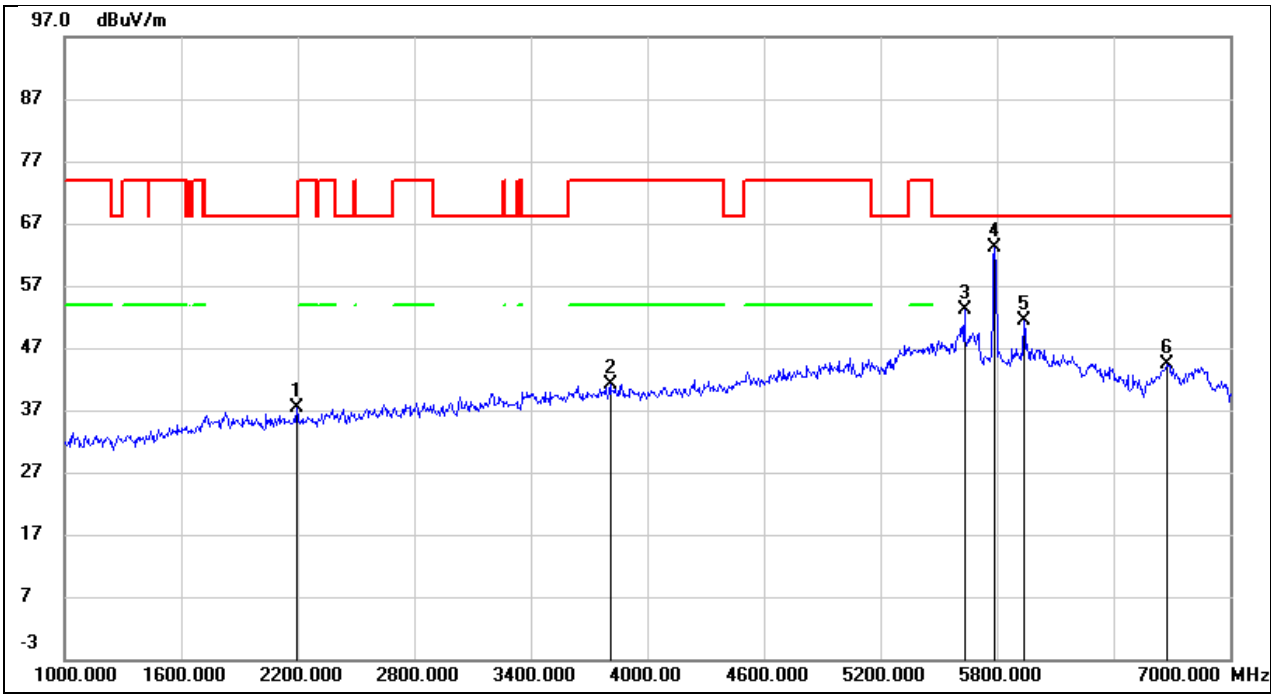
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1840.000	47.10	-9.34	37.76	68.20	-30.44	peak
2	3364.000	43.53	-3.29	40.24	68.20	-27.96	peak
3	3832.000	43.52	-1.68	41.84	74.00	-32.16	peak
4	4678.000	42.99	1.39	44.38	74.00	-29.62	peak
5	5745.000	61.83	5.37	67.20	\	\	fundamental
6	6676.000	38.30	7.12	45.42	68.20	-22.78	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



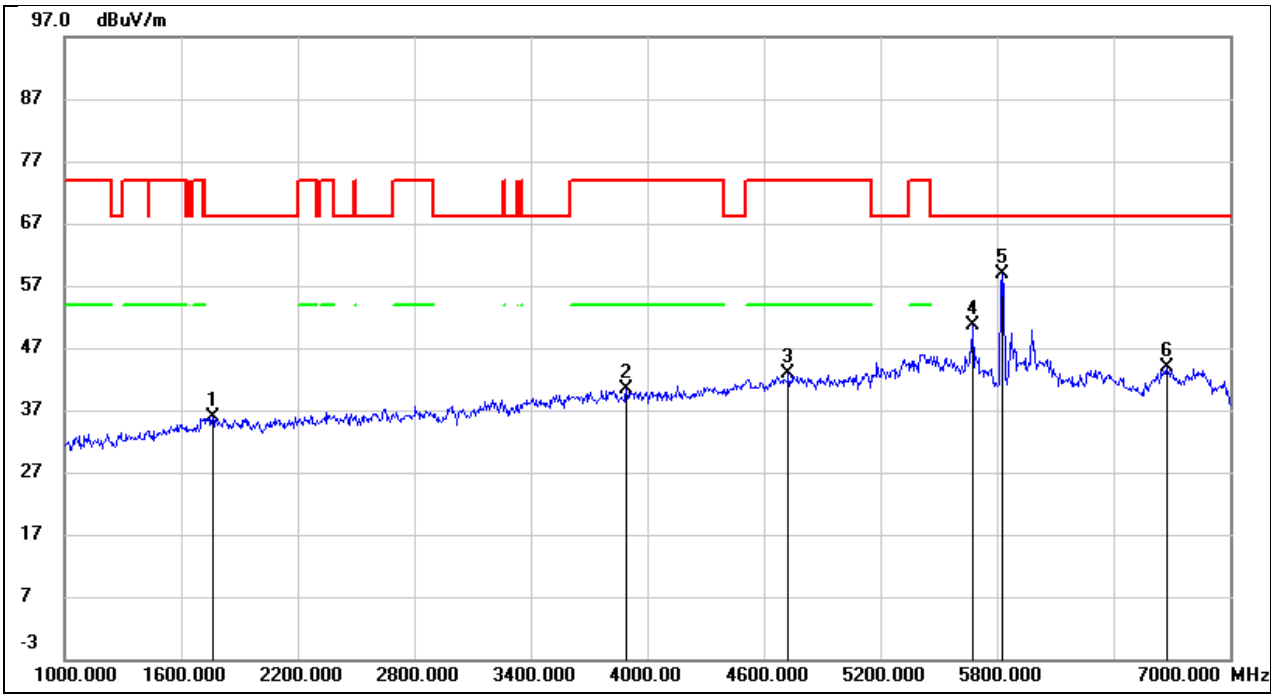
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3400.000	42.85	-4.21	38.64	68.20	-29.56	peak
2	4642.000	42.30	0.25	42.55	74.00	-31.45	peak
3	5632.000	44.92	3.76	48.68	68.20	-19.52	peak
4	5785.000	53.65	4.43	58.08	\	\	fundamental
5	5938.000	42.50	5.28	47.78	68.20	-20.42	peak
6	6670.000	37.70	6.26	43.96	68.20	-24.24	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



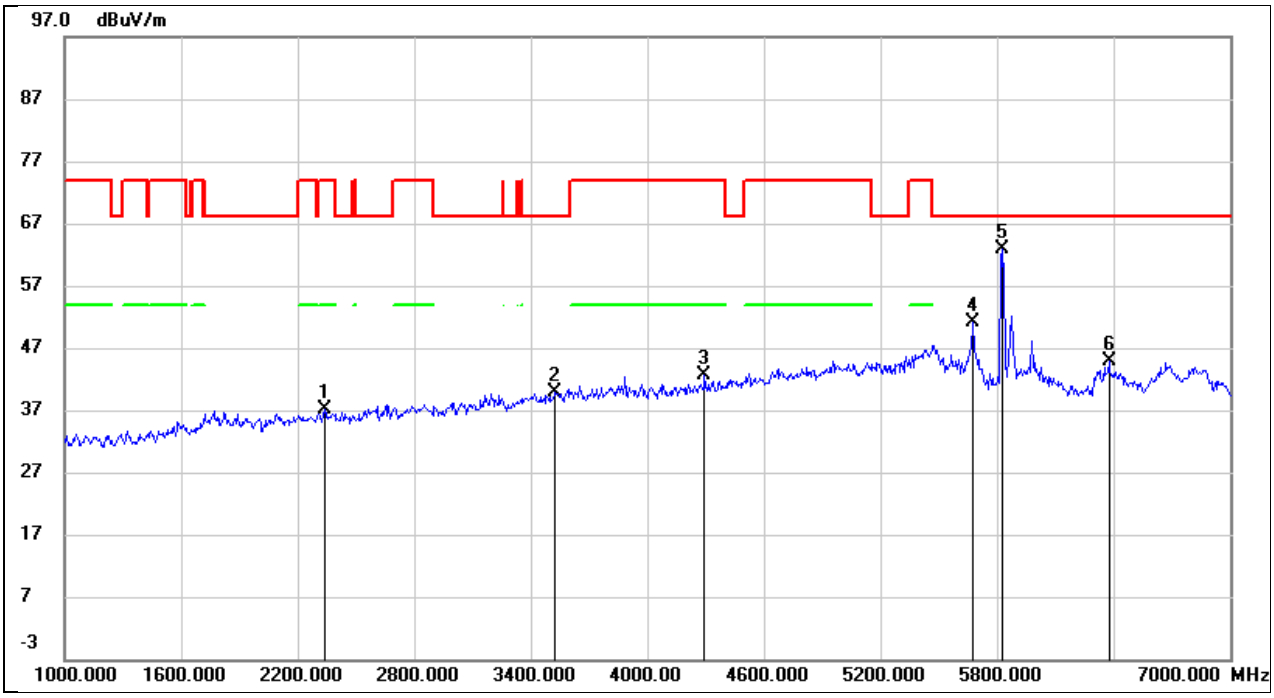
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2194.000	46.00	-8.50	37.50	68.20	-30.70	peak
2	3808.000	42.75	-1.73	41.02	74.00	-32.98	peak
3	5632.000	48.12	4.91	53.03	68.20	-15.17	peak
4	5785.000	57.47	5.55	63.02	\	\	fundamental
5	5938.000	44.95	6.31	51.26	68.20	-16.94	peak
6	6676.000	37.36	7.12	44.48	68.20	-23.72	peak

Test Mode:	802.11a 20	Frequency(MHz):	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	1762.000	46.15	-10.23	35.92	68.20	-32.28	peak
2	3892.000	42.90	-2.61	40.29	74.00	-33.71	peak
3	4726.000	42.38	0.58	42.96	74.00	-31.04	peak
4	5674.000	46.60	3.94	50.54	68.20	-17.66	peak
5	5825.000	54.25	4.68	58.93	\	\	fundamental
6	6676.000	37.63	6.28	43.91	68.20	-24.29	peak

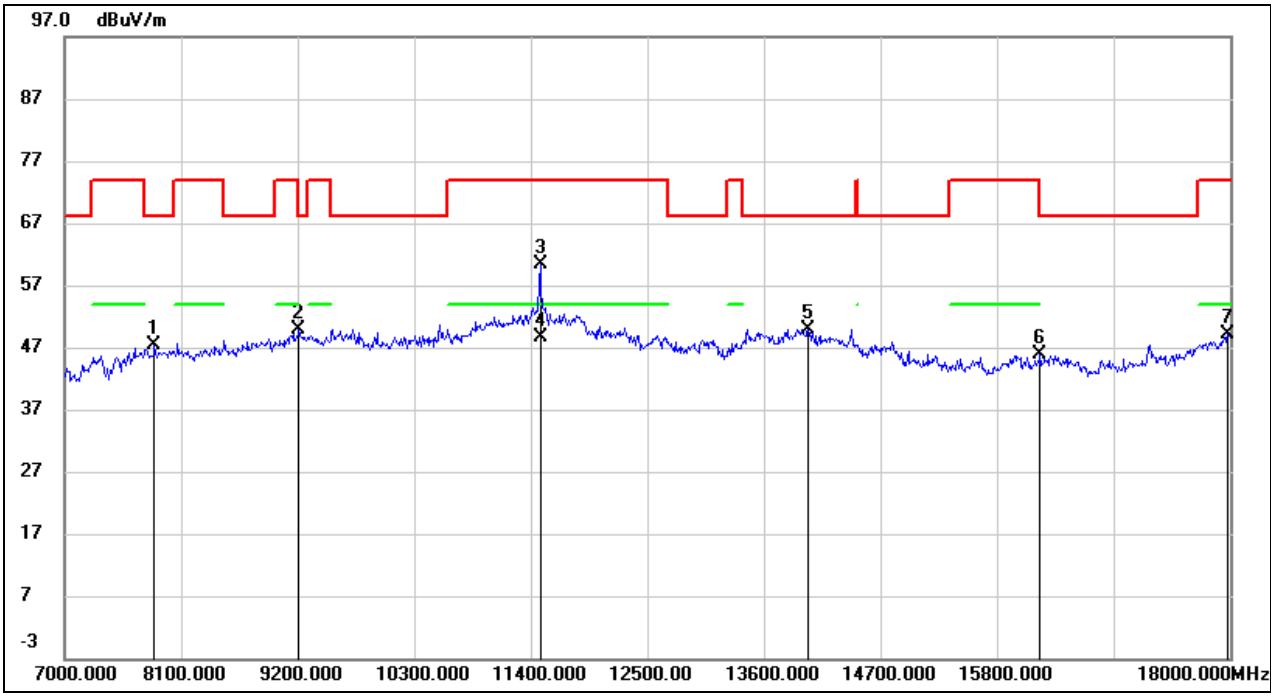
Test Mode:	802.11a 20	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2338.000	45.24	-7.99	37.25	74.00	-36.75	peak
2	3526.000	42.57	-2.64	39.93	68.20	-28.27	peak
3	4294.000	43.12	-0.38	42.74	74.00	-31.26	peak
4	5674.000	46.13	5.07	51.20	68.20	-17.00	peak
5	5825.000	57.24	5.75	62.99	\	\	fundamental
6	6376.000	38.21	6.71	44.92	68.20	-23.28	peak

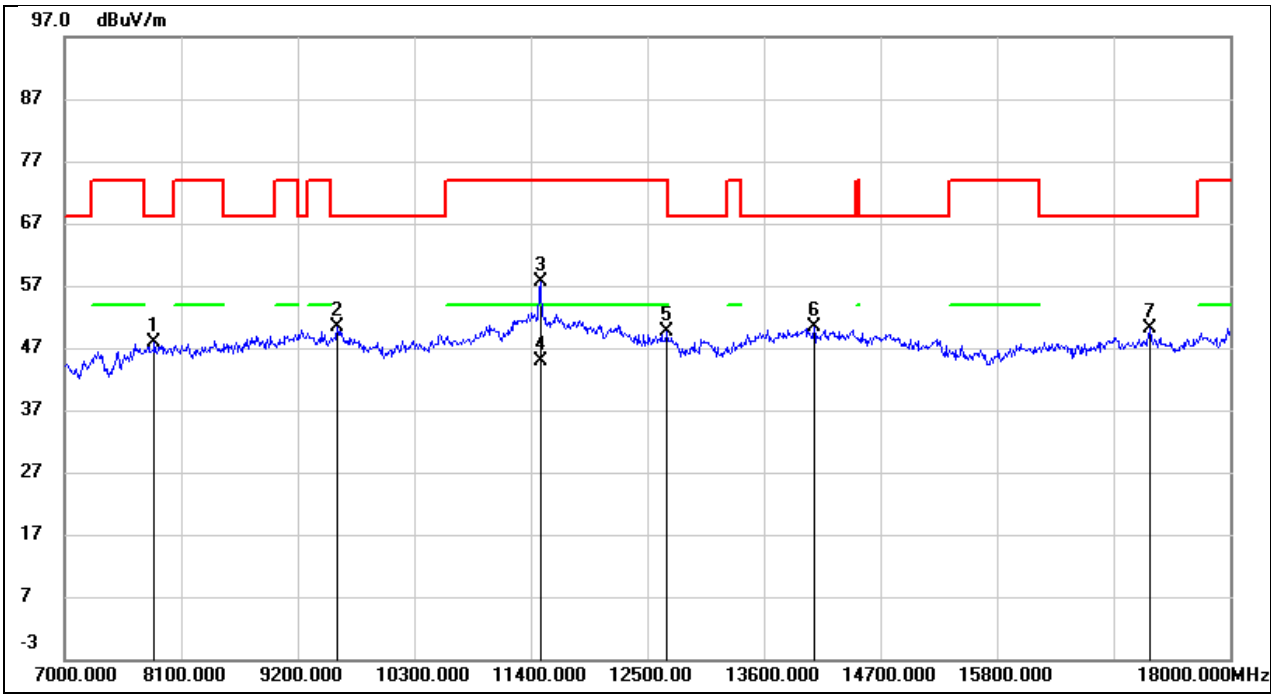
8.5. SPURIOUS EMISSIONS OF RTL8733 (7 GHZ~18 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



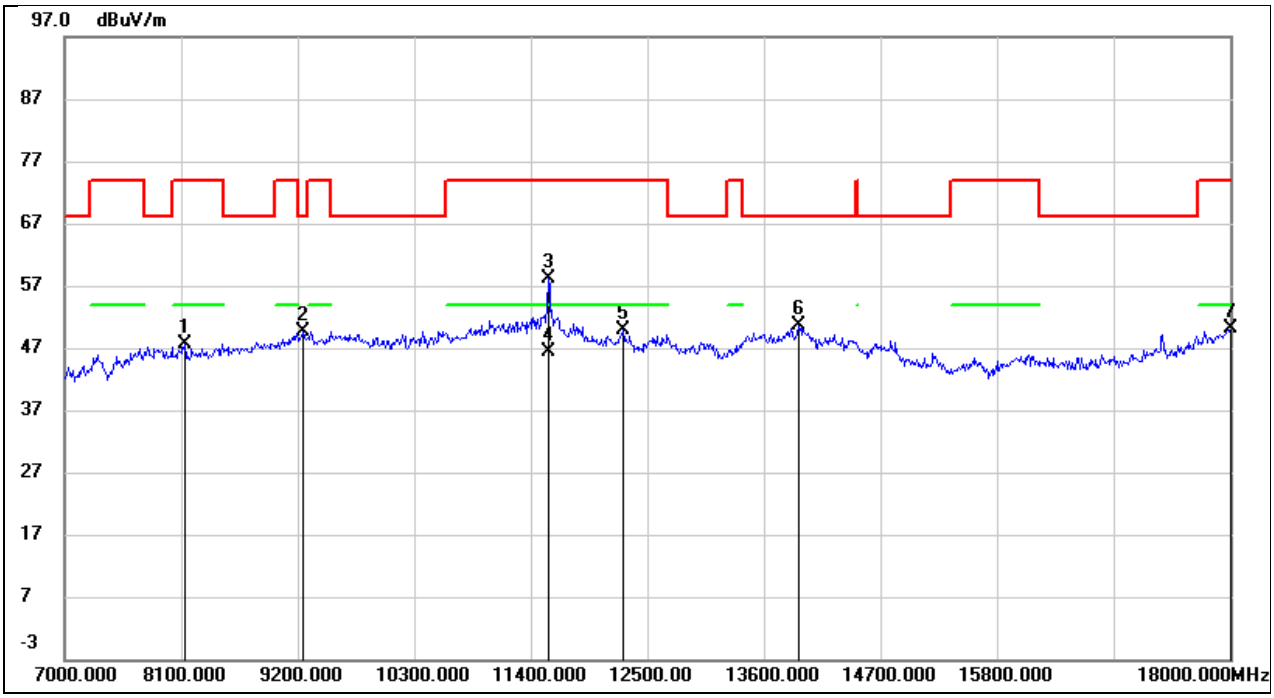
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7847.000	39.31	8.03	47.34	68.20	-20.86	peak
2	9211.000	38.36	11.59	49.95	68.20	-18.25	peak
3	11488.000	42.66	17.77	60.43	74.00	-13.57	peak
4	11488.000	30.86	17.77	48.63	54.00	-5.37	AVG
5	14018.000	26.34	23.54	49.88	68.20	-18.32	peak
6	16207.000	23.78	22.03	45.81	68.20	-22.39	peak
7	17978.000	19.71	29.38	49.09	74.00	-24.91	peak

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



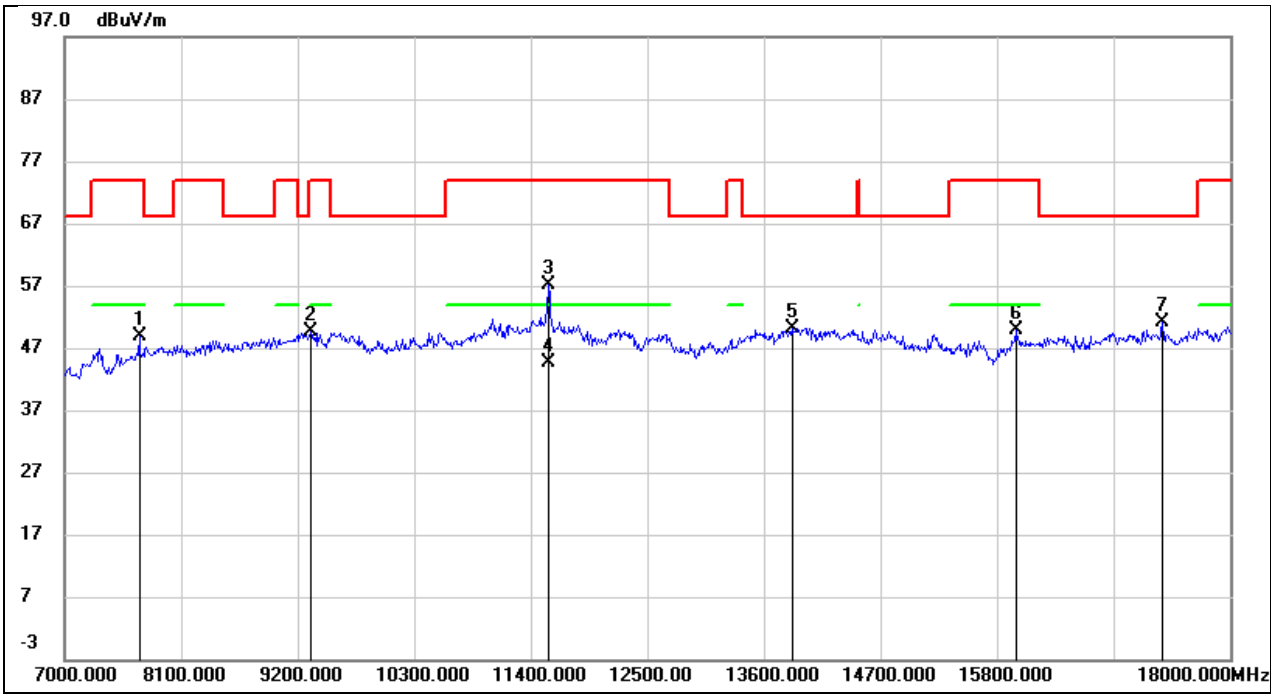
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7847.000	39.29	8.53	47.82	68.20	-20.38	peak
2	9574.000	37.07	13.21	50.28	68.20	-17.92	peak
3	11488.000	41.38	16.29	57.67	74.00	-16.33	peak
4	11488.000	28.56	16.29	44.85	54.00	-9.15	AVG
5	12687.000	31.14	18.51	49.65	74.00	-24.35	peak
6	14073.000	28.47	21.90	50.37	68.20	-17.83	peak
7	17241.000	25.30	24.94	50.24	68.20	-17.96	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



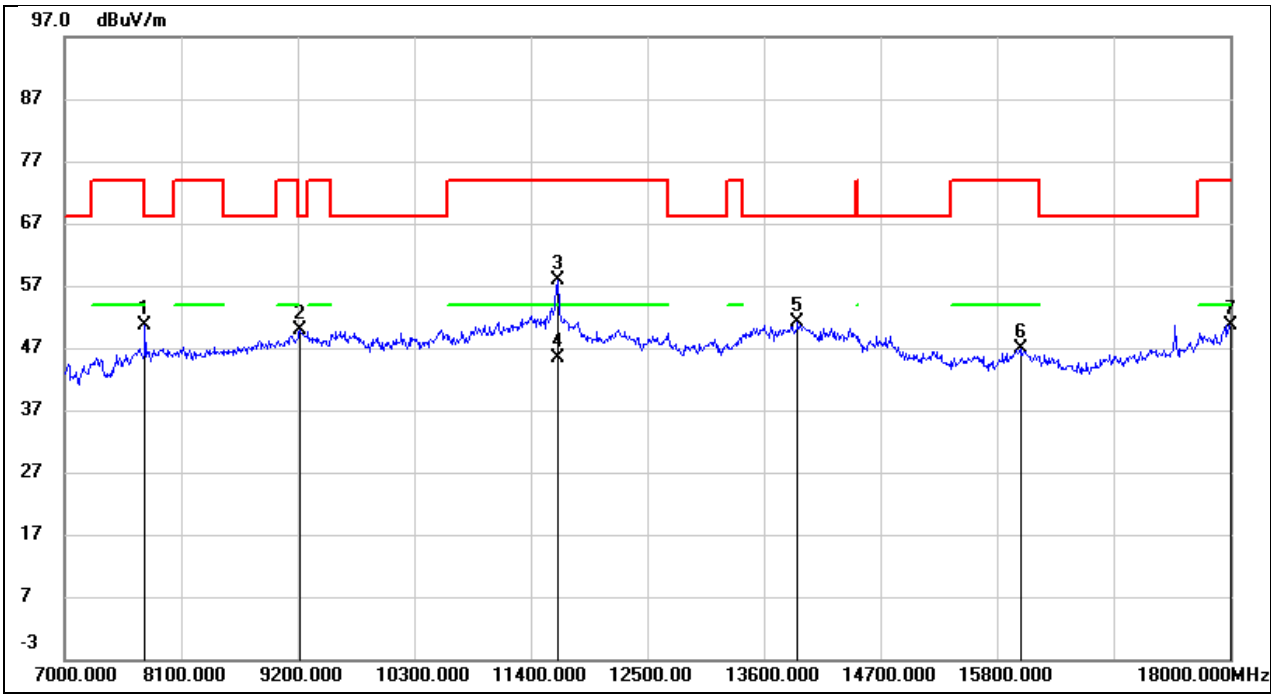
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8133.000	39.25	8.26	47.51	74.00	-26.49	peak
2	9255.000	38.00	11.74	49.74	68.20	-18.46	peak
3	11565.000	40.22	18.01	58.23	74.00	-15.77	peak
4	11565.000	28.27	18.01	46.28	54.00	-7.72	AVG
5	12269.000	31.10	18.80	49.90	74.00	-24.10	peak
6	13930.000	27.22	23.32	50.54	68.20	-17.66	peak
7	18000.000	20.63	29.61	50.24	74.00	-23.76	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



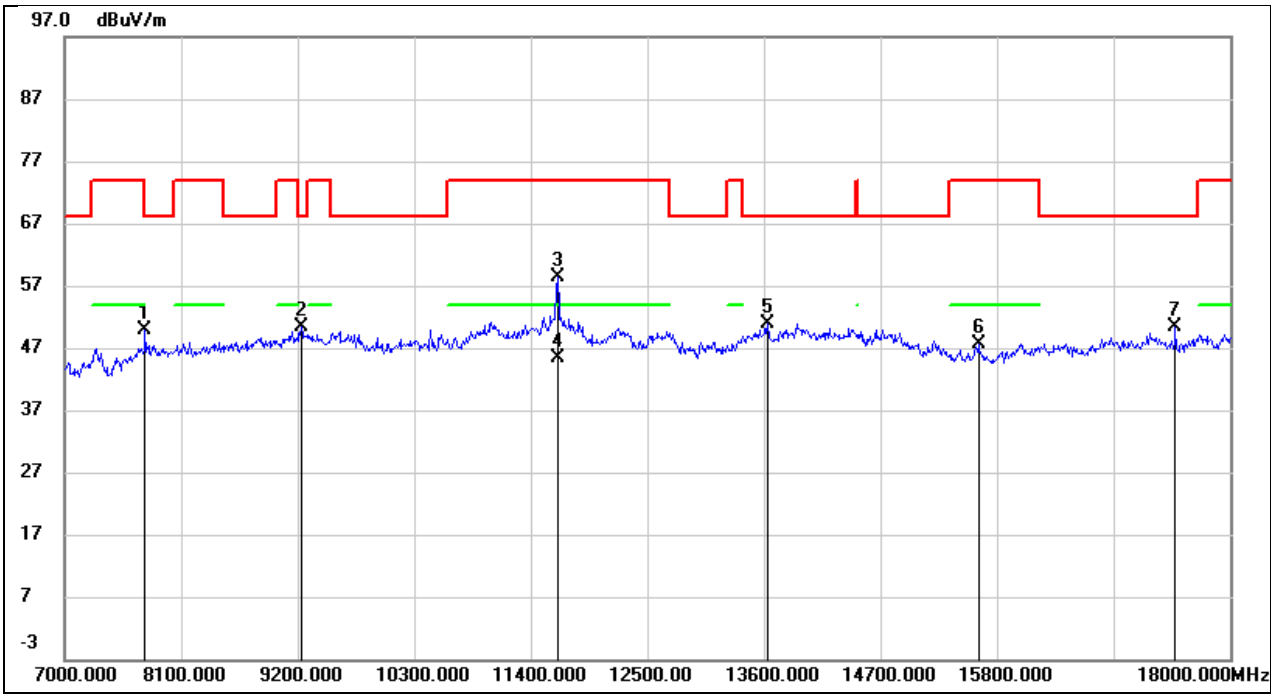
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7704.000	40.45	8.43	48.88	74.00	-25.12	peak
2	9321.000	37.62	12.10	49.72	74.00	-24.28	peak
3	11565.000	40.47	16.56	57.03	74.00	-16.97	peak
4	11565.000	28.12	16.56	44.68	54.00	-9.32	AVG
5	13864.000	28.80	21.43	50.23	68.20	-17.97	peak
6	15976.000	27.22	22.73	49.95	74.00	-24.05	peak
7	17362.000	26.20	25.03	51.23	68.20	-16.97	peak

Test Mode:	802.11a 20	Frequency(MHz):	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



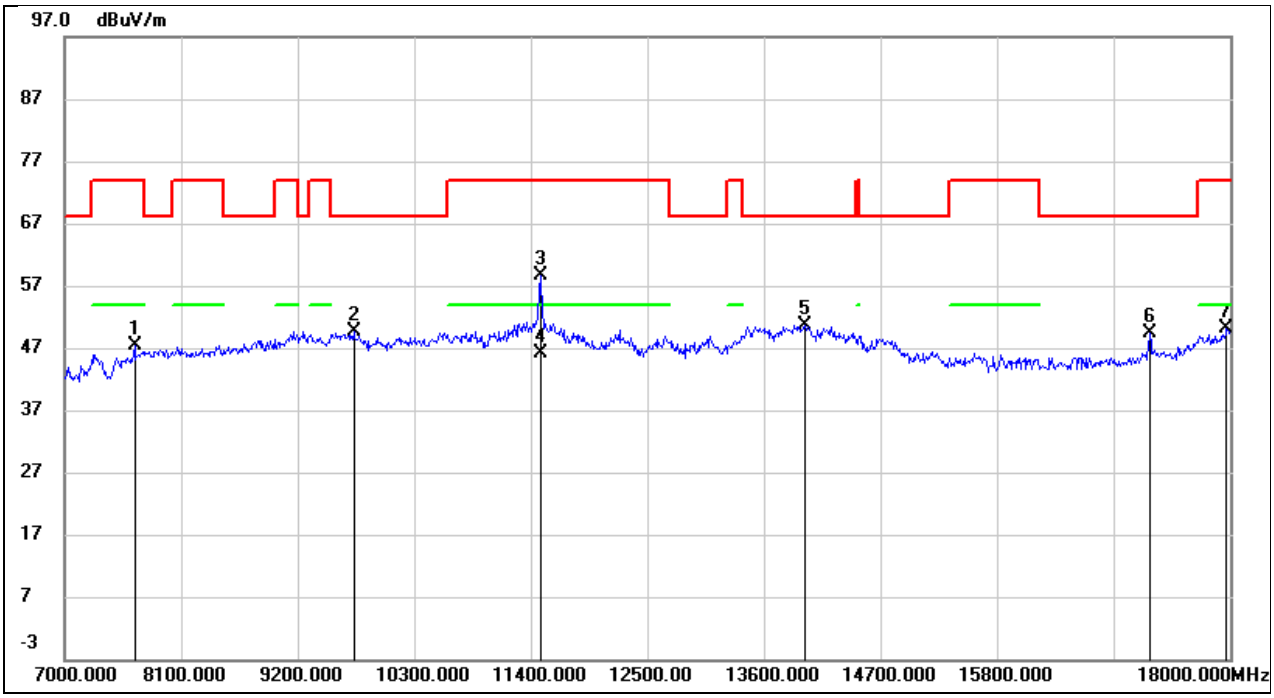
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	42.61	7.97	50.58	68.20	-17.62	peak
2	9222.000	38.19	11.64	49.83	68.20	-18.37	peak
3	11653.000	39.87	18.06	57.93	74.00	-16.07	peak
4	11653.000	27.30	18.06	45.36	54.00	-8.64	AVG
5	13919.000	27.79	23.28	51.07	68.20	-17.13	peak
6	16020.000	26.32	20.63	46.95	74.00	-27.05	peak
7	18000.000	21.03	29.61	50.64	74.00	-23.36	peak

Test Mode:	802.11a 20	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



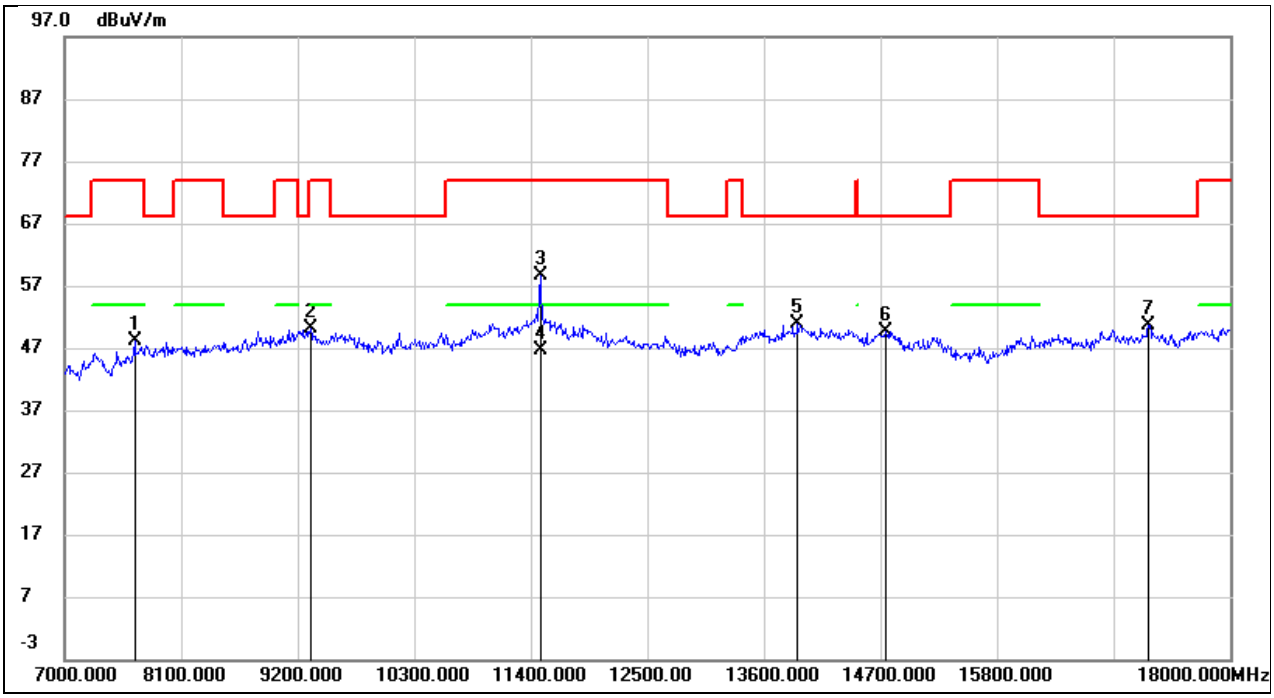
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	41.35	8.47	49.82	68.20	-18.38	peak
2	9233.000	38.61	11.88	50.49	68.20	-17.71	peak
3	11653.000	41.65	16.68	58.33	74.00	-15.67	peak
4	11653.000	28.78	16.68	45.46	54.00	-8.54	AVG
5	13633.000	30.25	20.64	50.89	68.20	-17.31	peak
6	15624.000	26.74	20.96	47.70	74.00	-26.30	peak
7	17483.000	25.46	24.99	50.45	68.20	-17.75	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



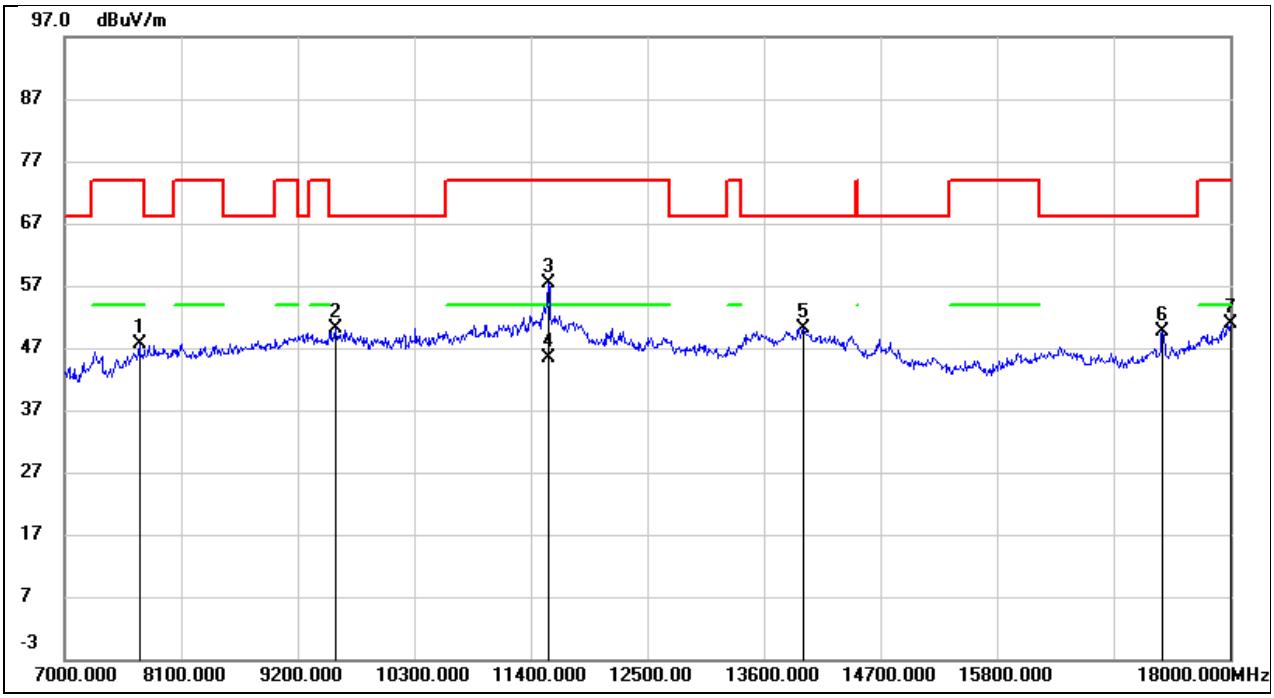
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7660.000	39.41	7.89	47.30	74.00	-26.70	peak
2	9728.000	36.03	13.68	49.71	68.20	-18.49	peak
3	11488.000	40.86	17.77	58.63	74.00	-15.37	peak
4	11488.000	28.36	17.77	46.13	54.00	-7.87	AVG
5	13985.000	27.01	23.55	50.56	68.20	-17.64	peak
6	17241.000	25.32	24.06	49.38	68.20	-18.82	peak
7	17967.000	20.87	29.26	50.13	74.00	-23.87	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



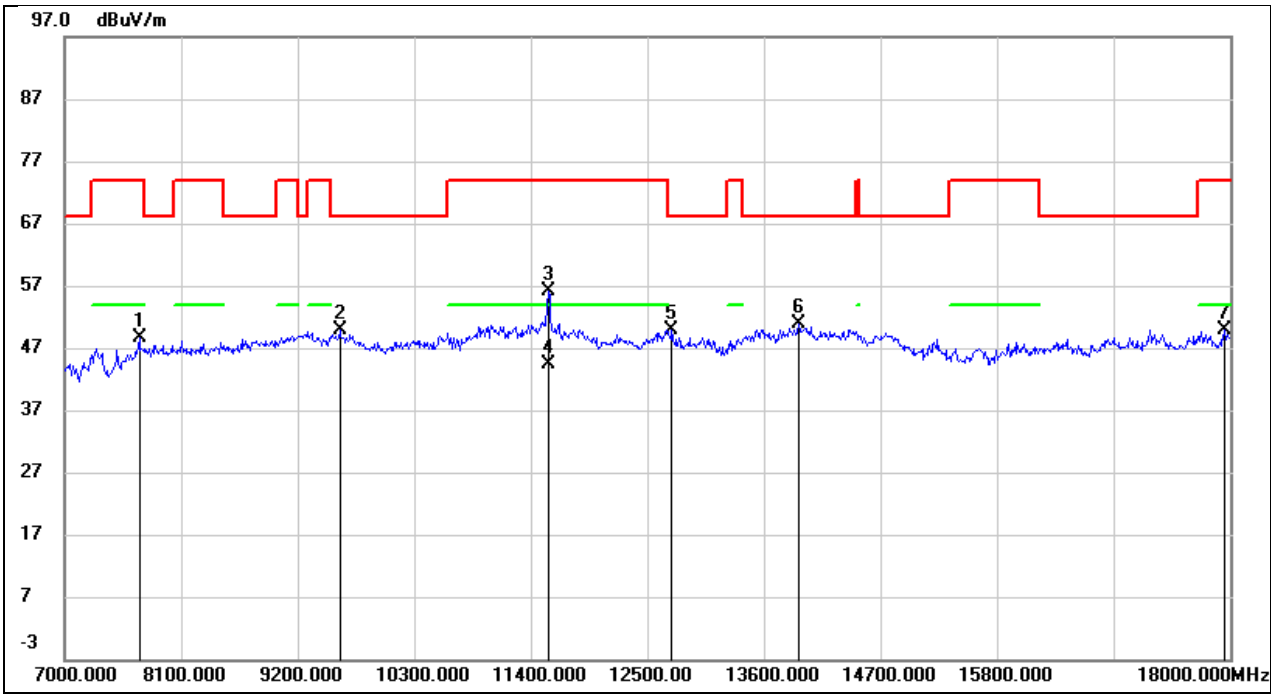
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7660.000	39.85	8.39	48.24	74.00	-25.76	peak
2	9321.000	37.91	12.10	50.01	74.00	-23.99	peak
3	11488.000	42.28	16.29	58.57	74.00	-15.43	peak
4	11488.000	30.25	16.29	46.54	54.00	-7.46	AVG
5	13919.000	29.22	21.66	50.88	68.20	-17.32	peak
6	14744.000	28.98	20.68	49.66	68.20	-18.54	peak
7	17230.000	25.73	24.93	50.66	68.20	-17.54	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



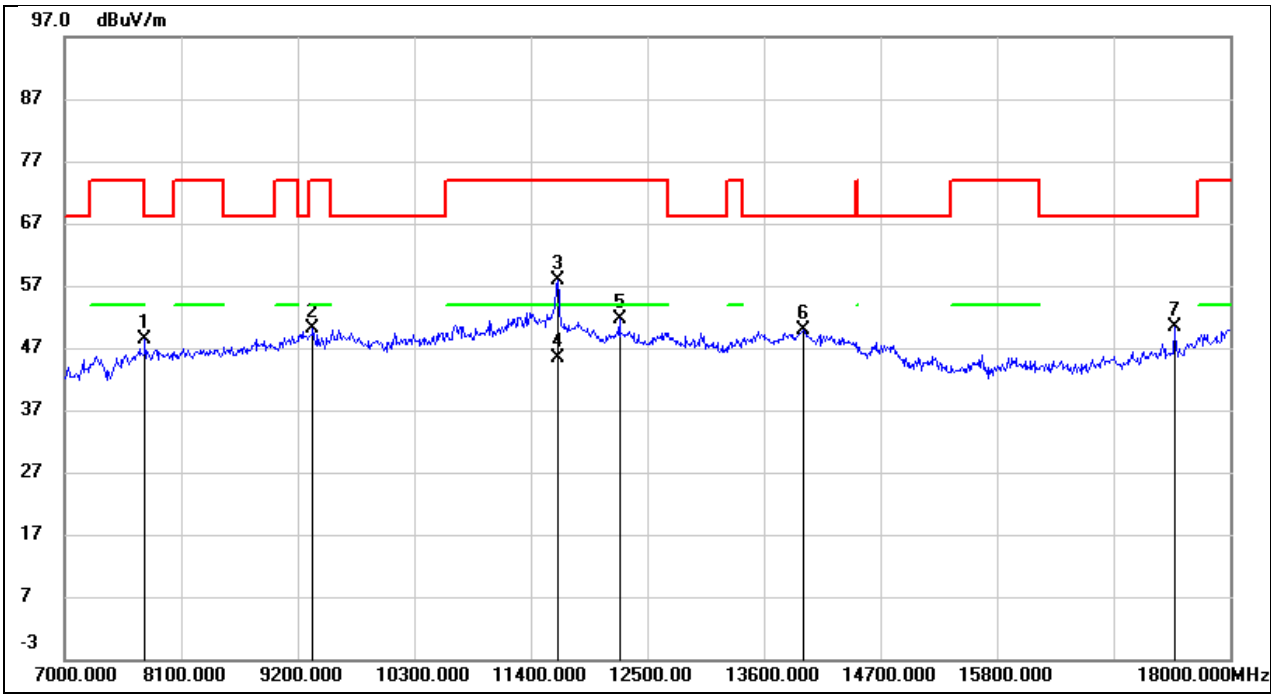
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7704.000	39.72	7.93	47.65	74.00	-26.35	peak
2	9552.000	36.89	13.17	50.06	68.20	-18.14	peak
3	11565.000	39.46	18.01	57.47	74.00	-16.53	peak
4	11565.000	27.31	18.01	45.32	54.00	-8.68	AVG
5	13974.000	26.53	23.50	50.03	68.20	-18.17	peak
6	17362.000	25.19	24.56	49.75	68.20	-18.45	peak
7	18000.000	21.30	29.61	50.91	74.00	-23.09	peak

Test Mode:	802.11n HT20	Frequency(MHz):	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	7704.000	40.26	8.43	48.69	74.00	-25.31	peak
2	9596.000	36.62	13.30	49.92	68.20	-18.28	peak
3	11565.000	39.60	16.56	56.16	74.00	-17.84	peak
4	11565.000	27.70	16.56	44.26	54.00	-9.74	AVG
5	12731.000	31.19	18.66	49.85	68.20	-18.35	peak
6	13930.000	29.09	21.71	50.80	68.20	-17.40	peak
7	17945.000	22.78	27.07	49.85	74.00	-24.15	peak

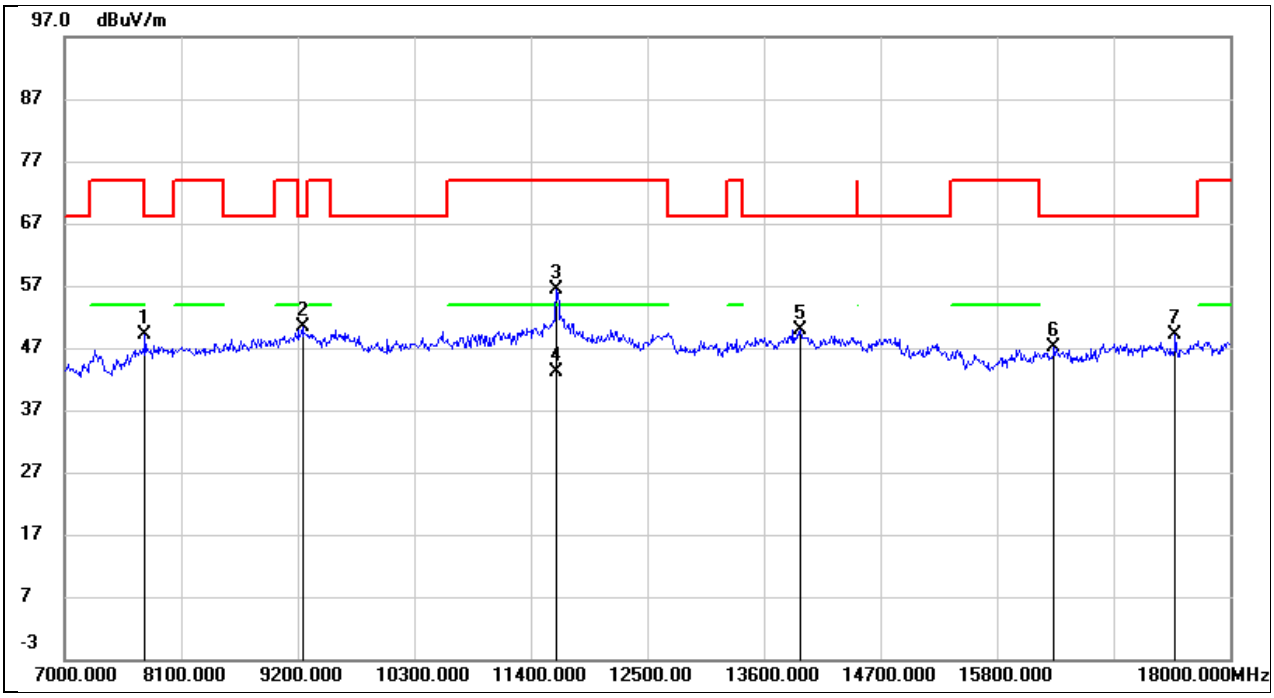
Test Mode:	802.11n HT20	Frequency(MHz):	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	40.45	7.97	48.42	68.20	-19.78	peak
2	9343.000	37.99	12.03	50.02	74.00	-23.98	peak
3	11653.000	39.78	18.06	57.84	74.00	-16.16	peak
4	11653.000	27.33	18.06	45.39	54.00	-8.61	AVG
5	12236.000	32.87	18.76	51.63	74.00	-22.37	peak
6	13974.000	26.47	23.50	49.97	68.20	-18.23	peak
7	17472.000	25.55	24.90	50.45	68.20	-17.75	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz

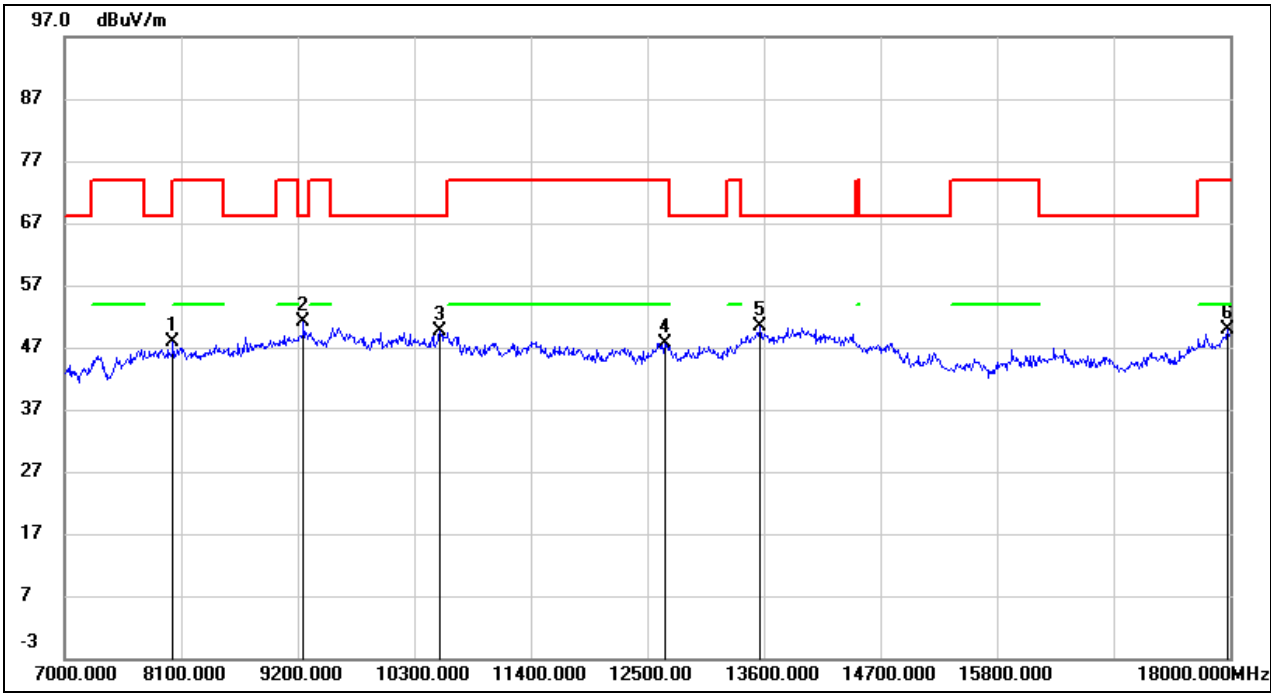
Project No.:	spurious	Polarziation:	Vertical
Standard:	FCC Part 15E Radiation Peak (Above 1G)	Power Source:	AC 120V_60Hz
Test item:	Radiation Test	Date:	2025/6/13
Temp./Hum.(%RH):	24.1(C)/57%RH	Time:	14:23:39
EUT:		Test By:	
Model:	09	Distance:	3m
Mode:	802.11n HT20-5825		
Note:	X		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	40.60	8.47	49.07	68.20	-19.13	peak
2	9244.000	38.37	11.92	50.29	68.20	-17.91	peak
3	11642.000	39.75	16.68	56.43	74.00	-17.57	peak
4	11642.000	26.51	16.68	43.19	54.00	-10.81	AVG
5	13941.000	28.03	21.76	49.79	68.20	-18.41	peak
6	16339.000	23.35	23.77	47.12	68.20	-21.08	peak
7	17483.000	24.12	24.99	49.11	68.20	-19.09	peak

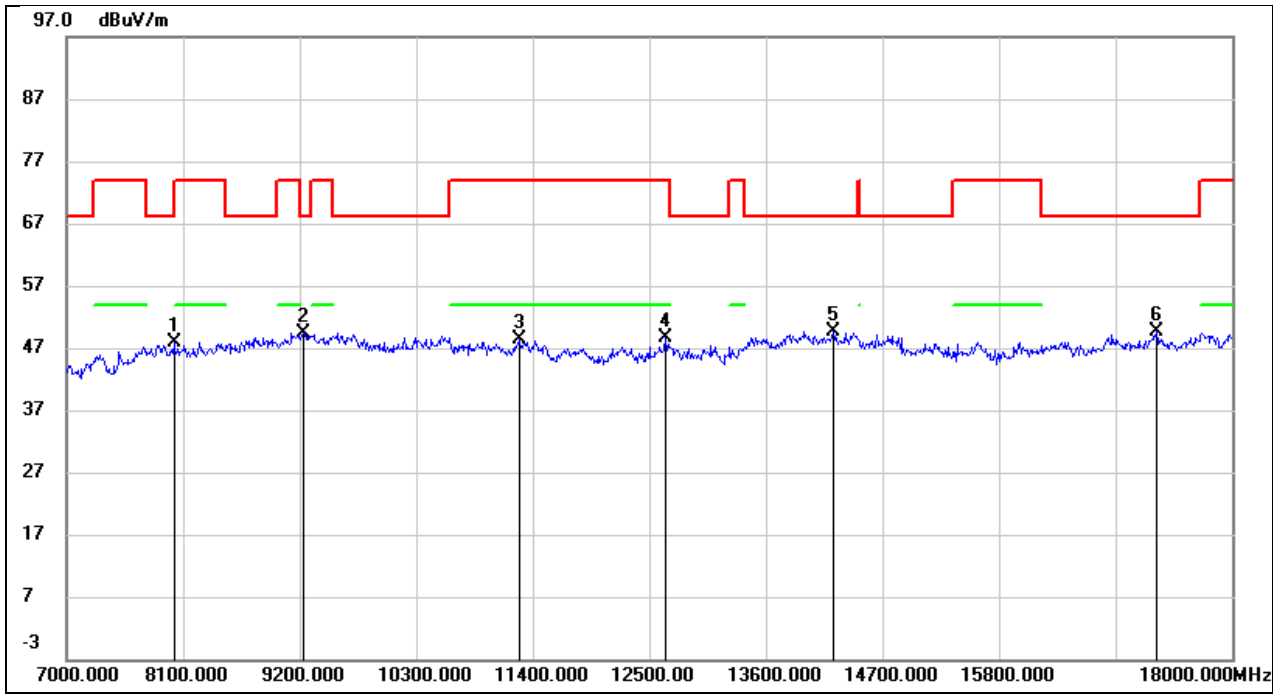
8.6. SPURIOUS EMISSIONS OF XL100 (7 GHZ~18 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



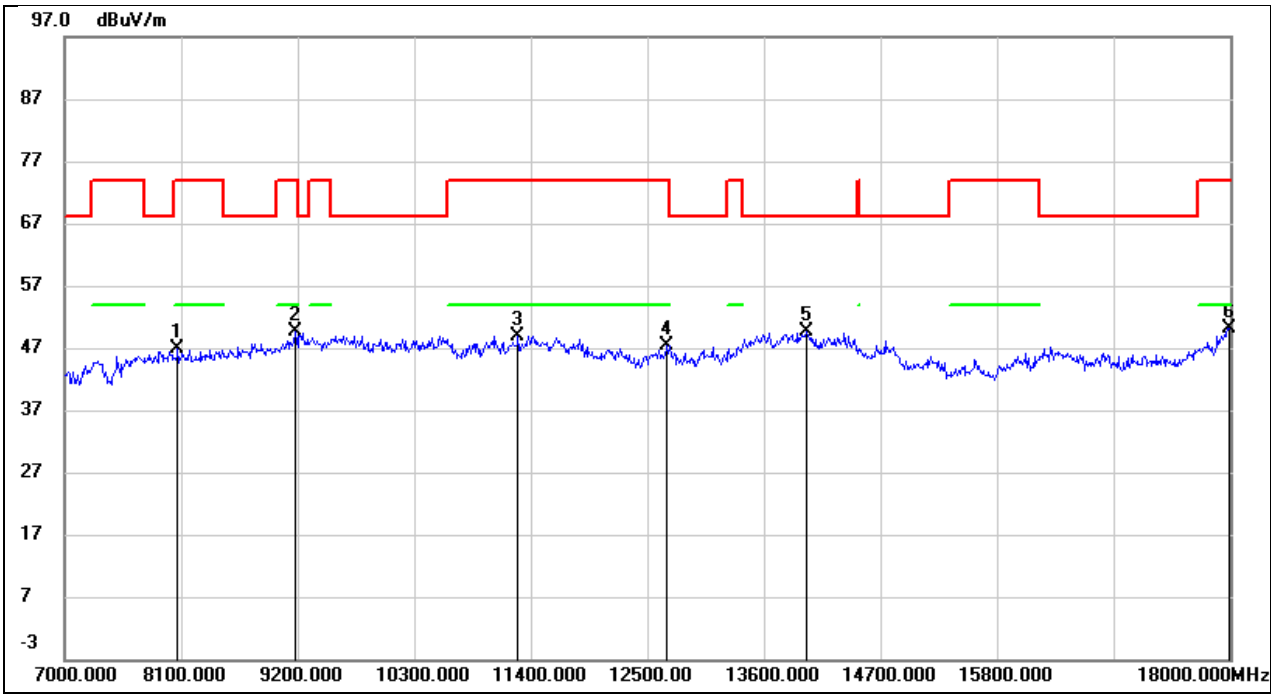
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8023.000	39.86	8.11	47.97	68.20	-20.23	peak
2	9255.000	39.27	11.74	51.01	68.20	-17.19	peak
3	10542.000	35.90	13.66	49.56	68.20	-18.64	peak
4	12665.000	28.16	19.42	47.58	74.00	-26.42	peak
5	13567.000	28.16	22.16	50.32	68.20	-17.88	peak
6	17978.000	20.52	29.38	49.90	74.00	-24.10	peak

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



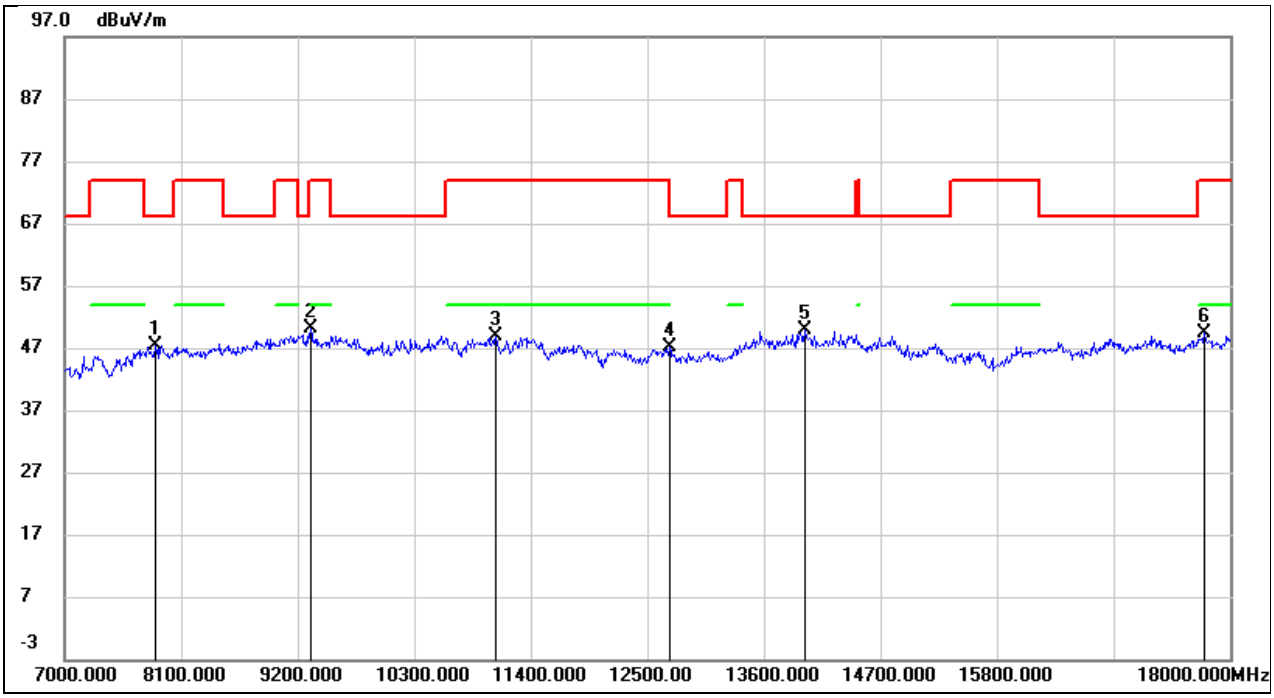
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8012.000	39.36	8.59	47.95	68.20	-20.25	peak
2	9233.000	37.56	11.88	49.44	68.20	-18.76	peak
3	11268.000	32.92	15.39	48.31	74.00	-25.69	peak
4	12654.000	30.20	18.39	48.59	74.00	-25.41	peak
5	14238.000	28.01	21.58	49.59	68.20	-18.61	peak
6	17285.000	24.76	24.97	49.73	68.20	-18.47	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



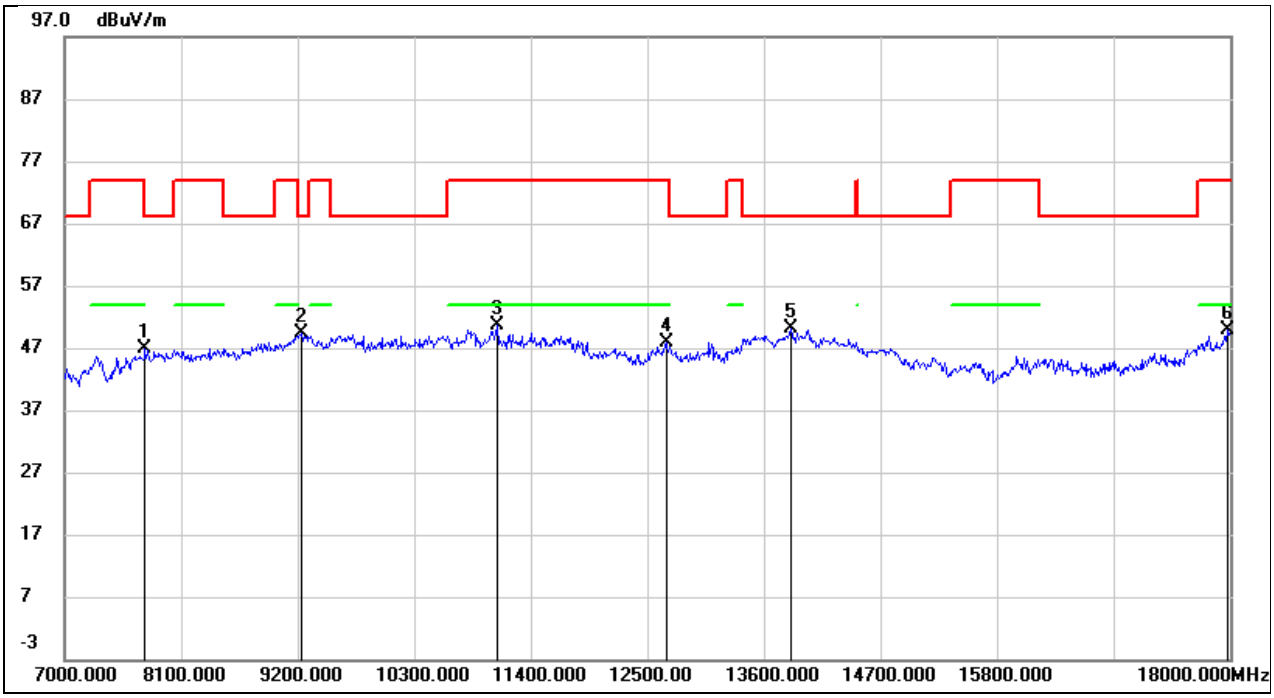
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8067.000	38.74	8.16	46.90	74.00	-27.10	peak
2	9178.000	38.24	11.45	49.69	74.00	-24.31	peak
3	11279.000	32.25	16.63	48.88	74.00	-25.12	peak
4	12687.000	27.78	19.52	47.30	74.00	-26.70	peak
5	14007.000	26.15	23.59	49.74	68.20	-18.46	peak
6	17989.000	20.69	29.49	50.18	74.00	-23.82	peak

Test Mode:	802.11a 20	Frequency(MHz):	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



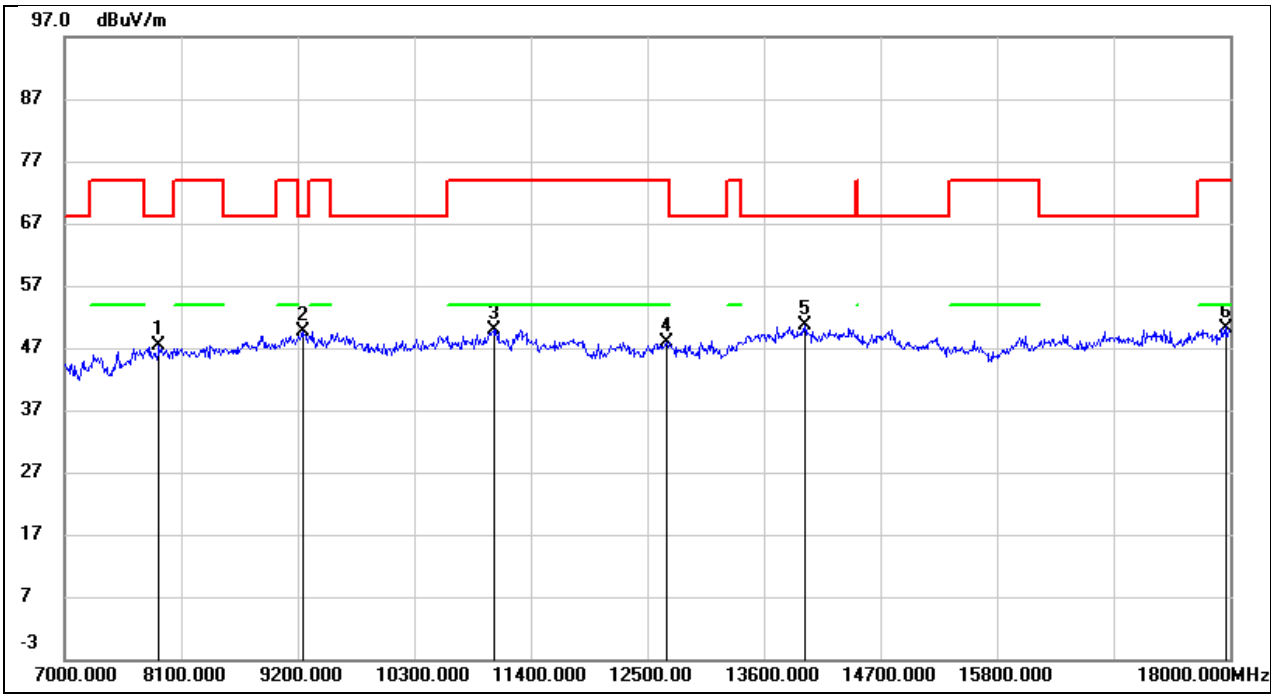
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7858.000	38.84	8.52	47.36	68.20	-20.84	peak
2	9321.000	38.00	12.10	50.10	74.00	-23.90	peak
3	11070.000	34.30	14.55	48.85	74.00	-25.15	peak
4	12709.000	28.56	18.58	47.14	68.20	-21.06	peak
5	13985.000	27.86	21.95	49.81	68.20	-18.39	peak
6	17758.000	23.43	25.94	49.37	74.00	-24.63	peak

Test Mode:	802.11a 20	Frequency(MHz):	5825
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



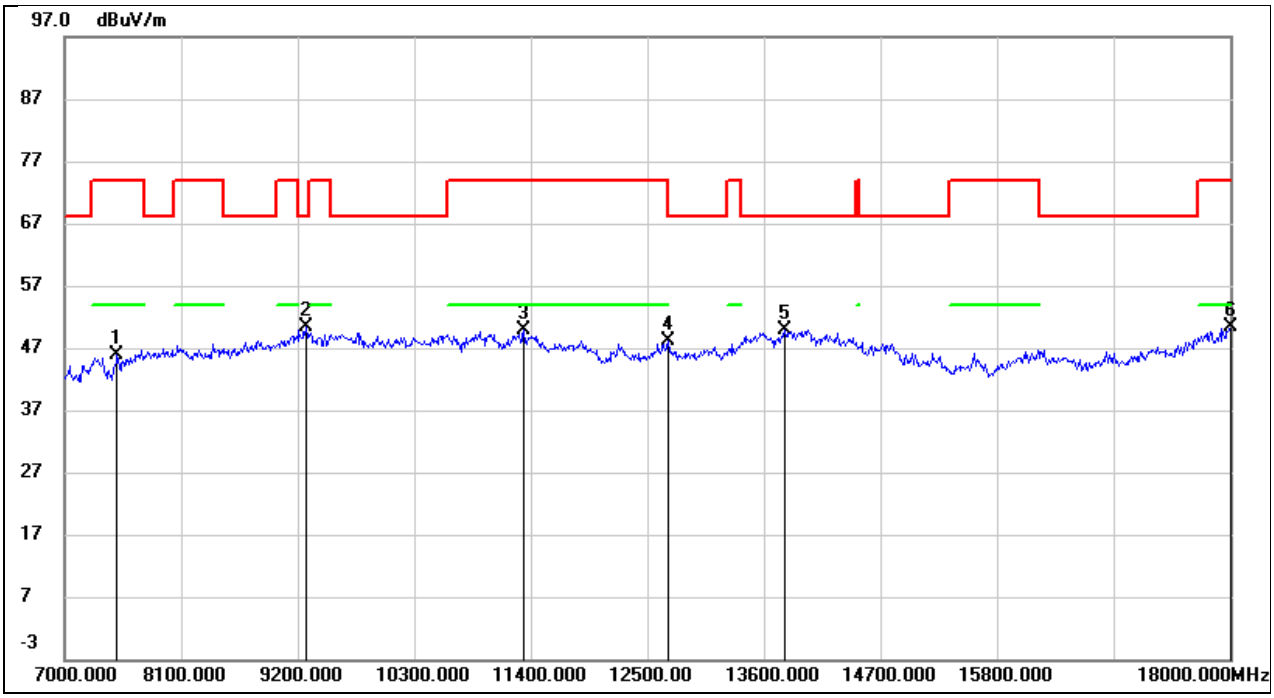
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	38.82	7.97	46.79	68.20	-21.41	peak
2	9233.000	37.70	11.66	49.36	68.20	-18.84	peak
3	11081.000	35.04	15.51	50.55	74.00	-23.45	peak
4	12676.000	28.29	19.48	47.77	74.00	-26.23	peak
5	13853.000	27.13	23.01	50.14	68.20	-18.06	peak
6	17978.000	20.40	29.38	49.78	74.00	-24.22	peak

Test Mode:	802.11a 20	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



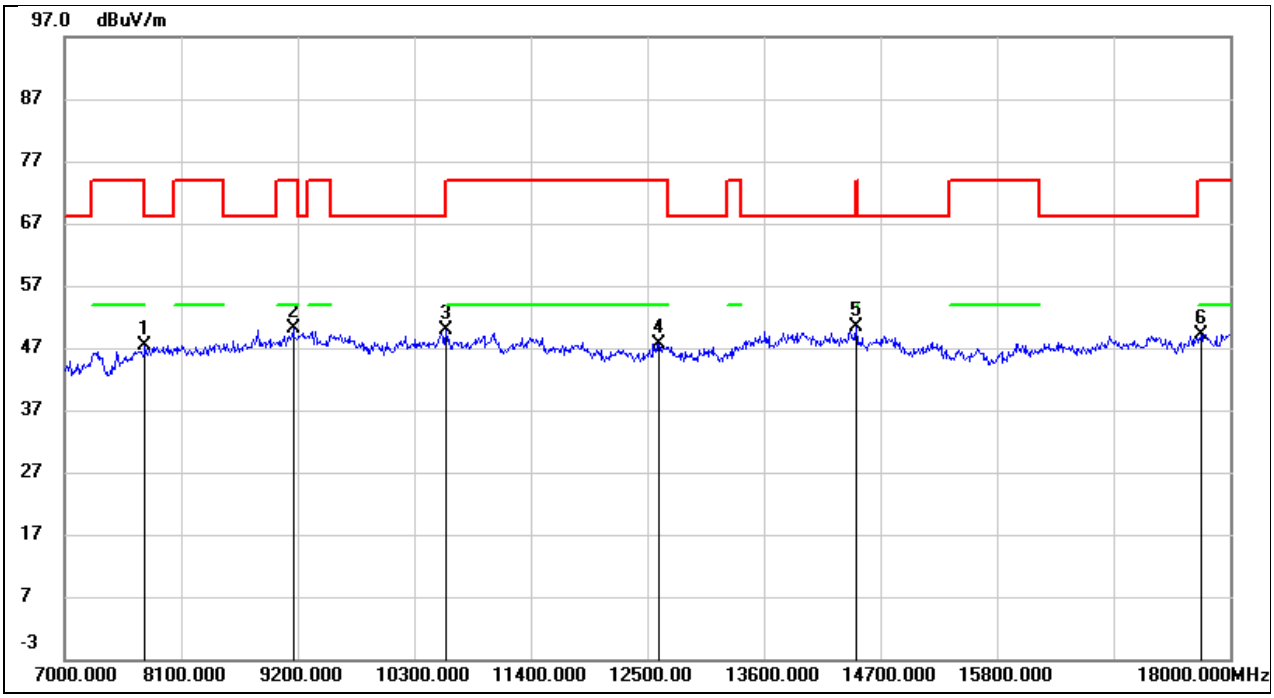
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7891.000	38.94	8.54	47.48	68.20	-20.72	peak
2	9244.000	37.74	11.92	49.66	68.20	-18.54	peak
3	11048.000	35.52	14.46	49.98	74.00	-24.02	peak
4	12687.000	29.44	18.51	47.95	74.00	-26.05	peak
5	13985.000	28.61	21.95	50.56	68.20	-17.64	peak
6	17956.000	23.12	27.13	50.25	74.00	-23.75	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



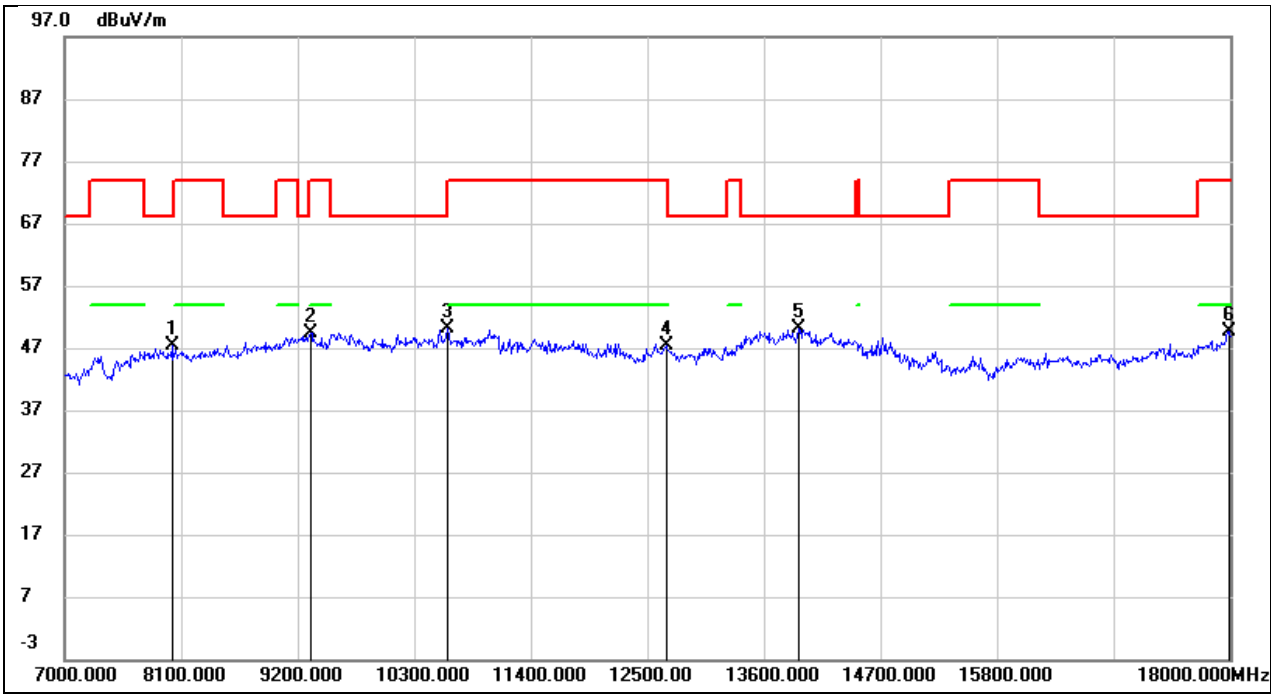
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7495.000	38.01	7.84	45.85	74.00	-28.15	peak
2	9277.000	38.48	11.81	50.29	68.20	-17.91	peak
3	11334.000	32.80	16.96	49.76	74.00	-24.24	peak
4	12698.000	28.55	19.56	48.11	74.00	-25.89	peak
5	13798.000	27.17	22.79	49.96	68.20	-18.24	peak
6	18000.000	20.77	29.61	50.38	74.00	-23.62	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



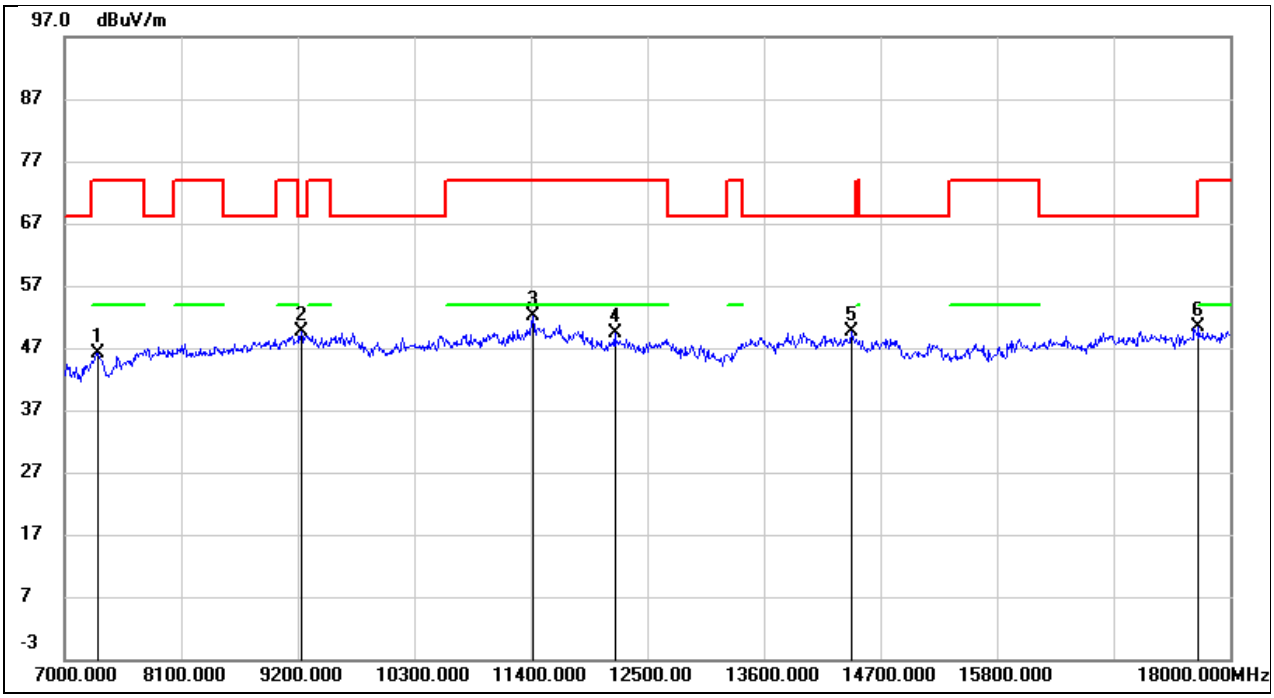
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7759.000	38.88	8.47	47.35	68.20	-20.85	peak
2	9156.000	38.60	11.63	50.23	74.00	-23.77	peak
3	10597.000	36.25	13.51	49.76	68.20	-18.44	peak
4	12610.000	29.44	18.24	47.68	74.00	-26.32	peak
5	14469.000	29.38	20.97	50.35	68.20	-17.85	peak
6	17725.000	23.48	25.76	49.24	74.00	-24.76	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5785
Polarity:	Horizontal	Test Voltage:	AC 120V_60Hz



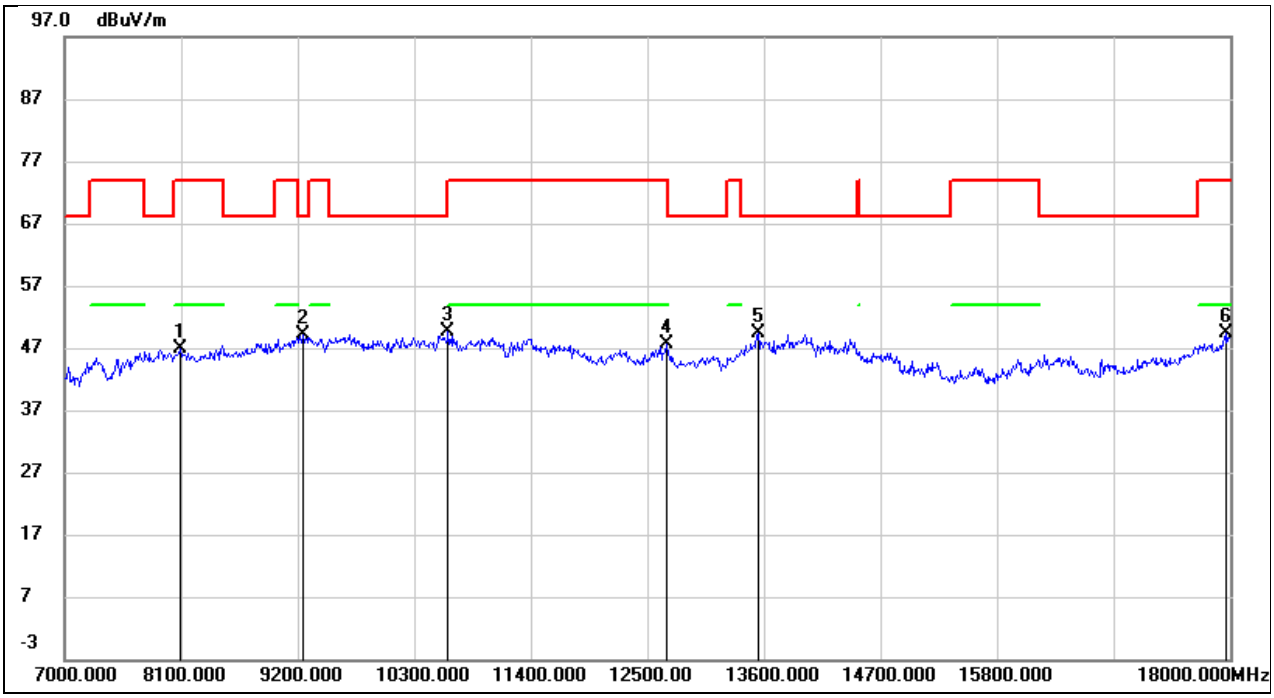
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8012.000	39.40	8.09	47.49	68.20	-20.71	peak
2	9321.000	37.44	11.95	49.39	74.00	-24.61	peak
3	10608.000	36.16	13.85	50.01	74.00	-23.99	peak
4	12676.000	27.95	19.48	47.43	74.00	-26.57	peak
5	13930.000	26.93	23.32	50.25	68.20	-17.95	peak
6	17989.000	20.16	29.49	49.65	74.00	-24.35	peak

Test Mode:	802.11n HT20	Frequency(MHz):	5785
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



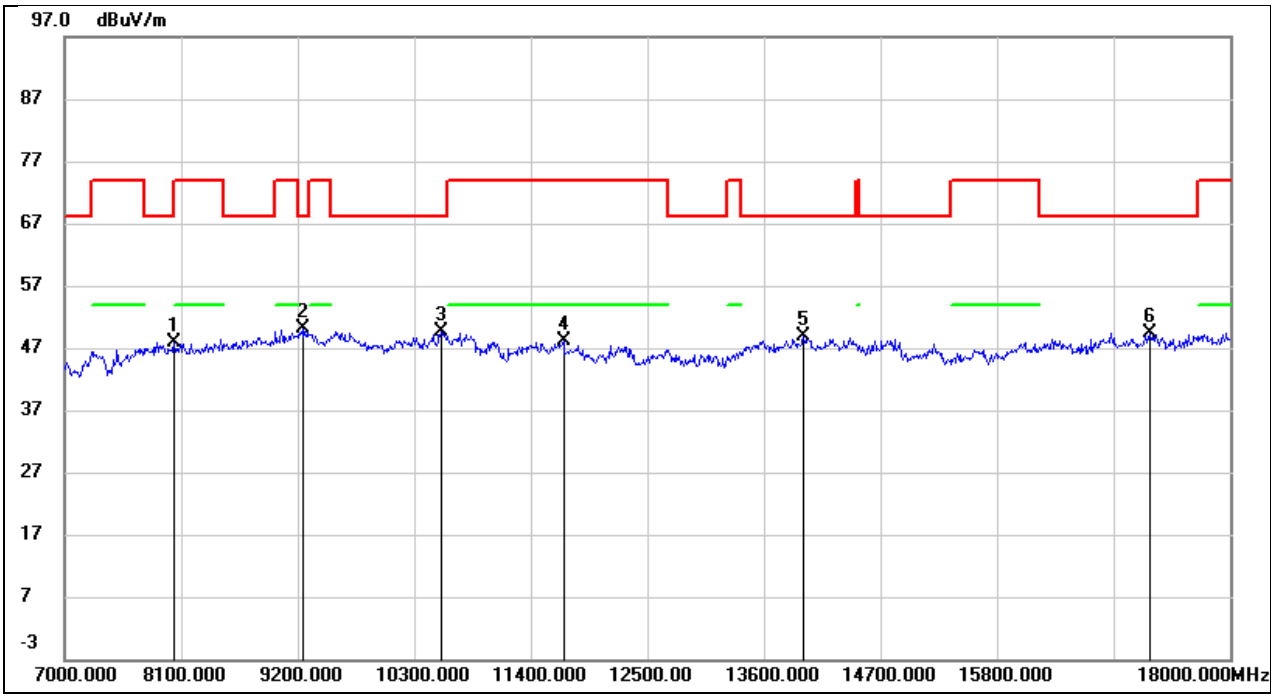
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7308.000	37.84	8.29	46.13	74.00	-27.87	peak
2	9233.000	37.67	11.88	49.55	68.20	-18.65	peak
3	11422.000	36.09	16.07	52.16	74.00	-21.84	peak
4	12192.000	31.61	17.68	49.29	74.00	-24.71	peak
5	14425.000	28.68	20.98	49.66	68.20	-18.54	peak
6	17703.000	24.64	25.65	50.29	74.00	-23.71	peak

Test Mode:	802.11n HT20	Frequency(MHz):	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	8089.000	38.69	8.19	46.88	74.00	-27.12	peak
2	9244.000	37.52	11.71	49.23	68.20	-18.97	peak
3	10619.000	35.70	13.88	49.58	74.00	-24.42	peak
4	12676.000	28.08	19.48	47.56	74.00	-26.44	peak
5	13545.000	27.25	22.12	49.37	68.20	-18.83	peak
6	17967.000	20.20	29.26	49.46	74.00	-24.54	peak

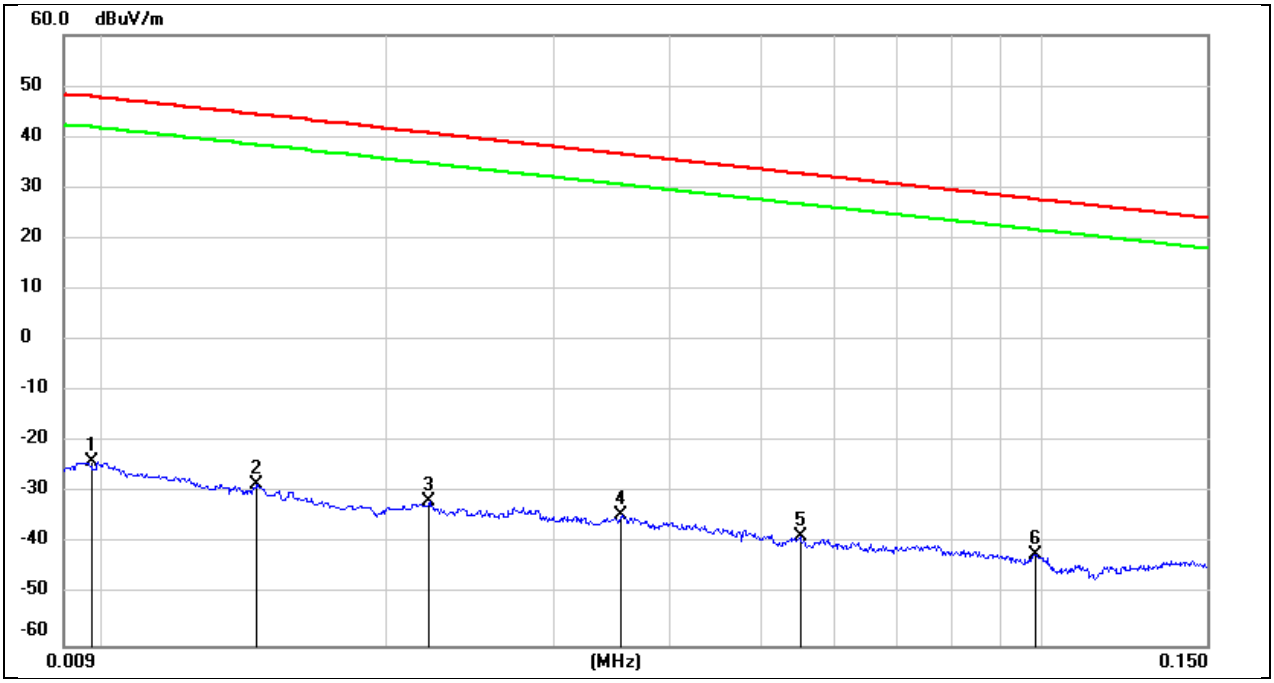
Test Mode:	802.11n HT20	Frequency(MHz):	5825
Polarity:	Vertical	Test Voltage:	AC 120V_60Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8034.000	39.29	8.62	47.91	74.00	-26.09	peak
2	9255.000	38.23	11.93	50.16	68.20	-18.04	peak
3	10553.000	36.08	13.43	49.51	68.20	-18.69	peak
4	11708.000	31.48	16.71	48.19	74.00	-25.81	peak
5	13974.000	26.88	21.89	48.77	68.20	-19.43	peak
6	17241.000	24.43	24.94	49.37	68.20	-18.83	peak

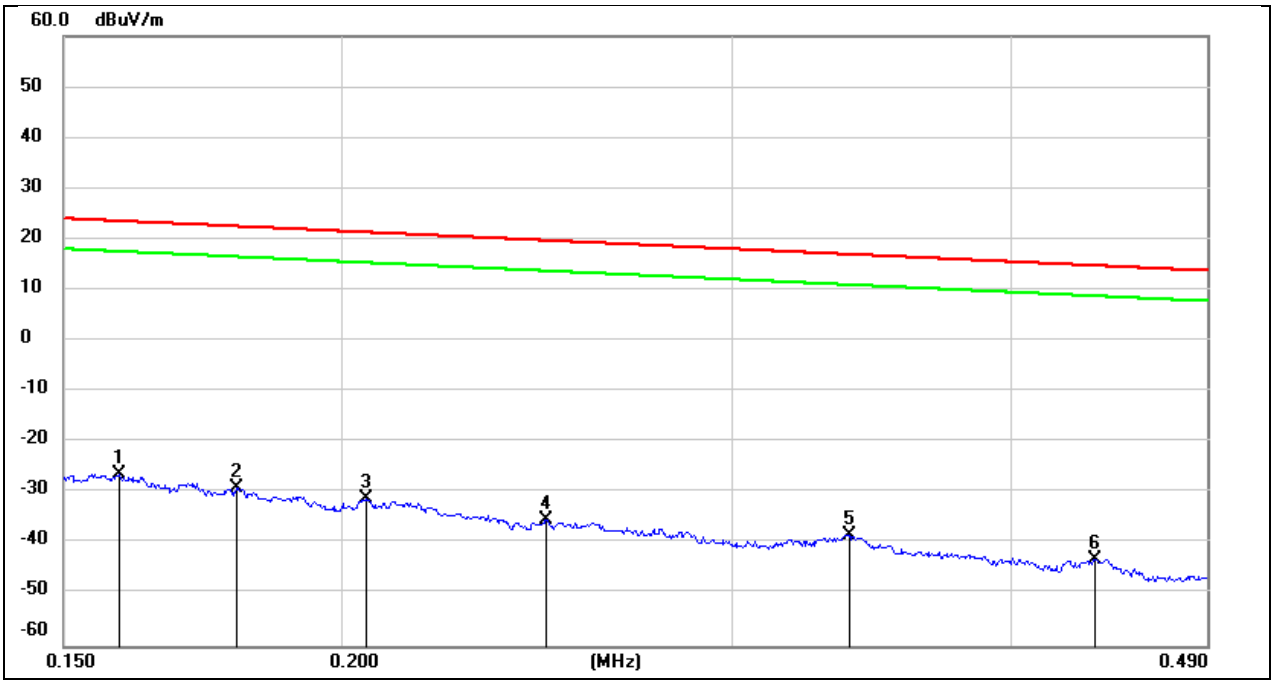
8.7. SPURIOUS EMISSIONS OF RTL8733 (9 KHZ~30 MHZ)

Test Mode:	802.11a20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60HZ



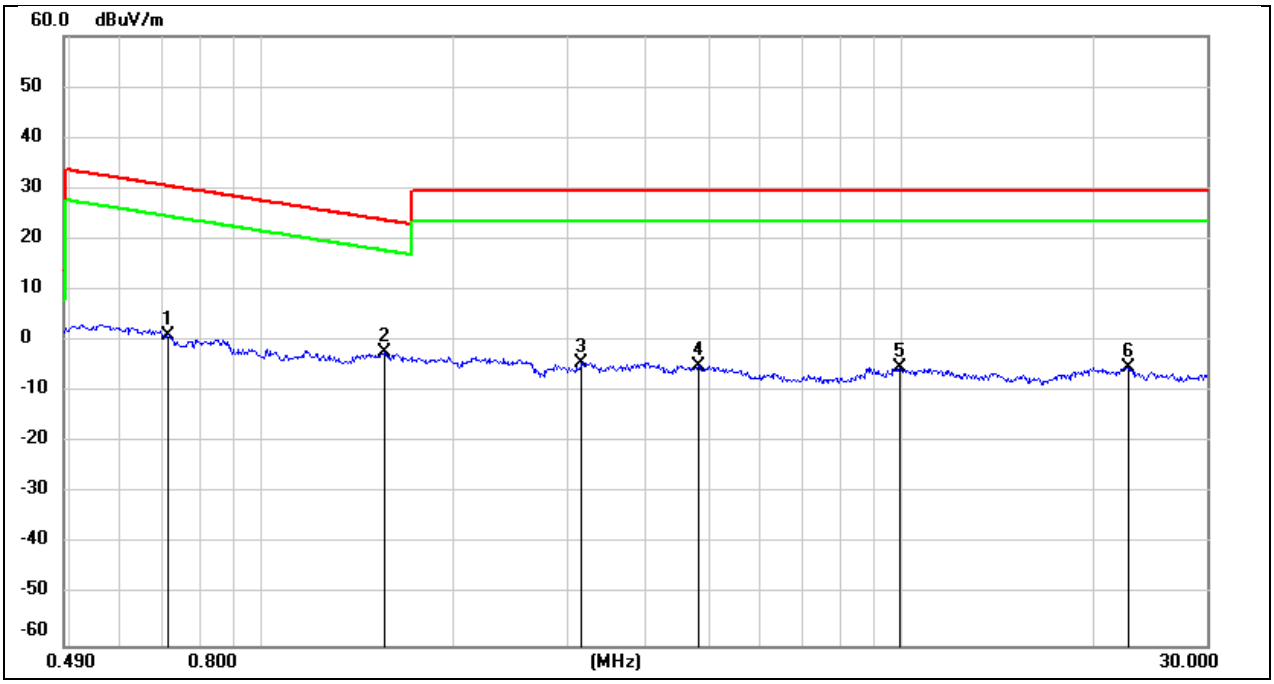
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0097	77.43	-101.38	-23.95	47.82	-71.77	peak
2	0.0145	73.05	-101.38	-28.33	44.37	-72.70	peak
3	0.0221	69.63	-101.35	-31.72	40.71	-72.43	peak
4	0.0354	66.97	-101.41	-34.44	36.62	-71.06	peak
5	0.0551	62.95	-101.50	-38.55	32.78	-71.33	peak
6	0.0985	59.55	-101.78	-42.23	27.73	-69.96	peak

Test Mode:	802.11a20	Frequency(MHz):	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	0.1590	75.32	-101.65	-26.33	23.57	-49.90	peak
2	0.1794	72.77	-101.68	-28.91	22.53	-51.44	peak
3	0.2053	70.80	-101.73	-30.93	21.35	-52.28	peak
4	0.2472	66.45	-101.80	-35.35	19.74	-55.09	peak
5	0.3382	63.73	-101.90	-38.17	17.02	-55.19	peak
6	0.4364	58.86	-101.99	-43.13	14.80	-57.93	peak

Test Mode:	802.11a20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60HZ

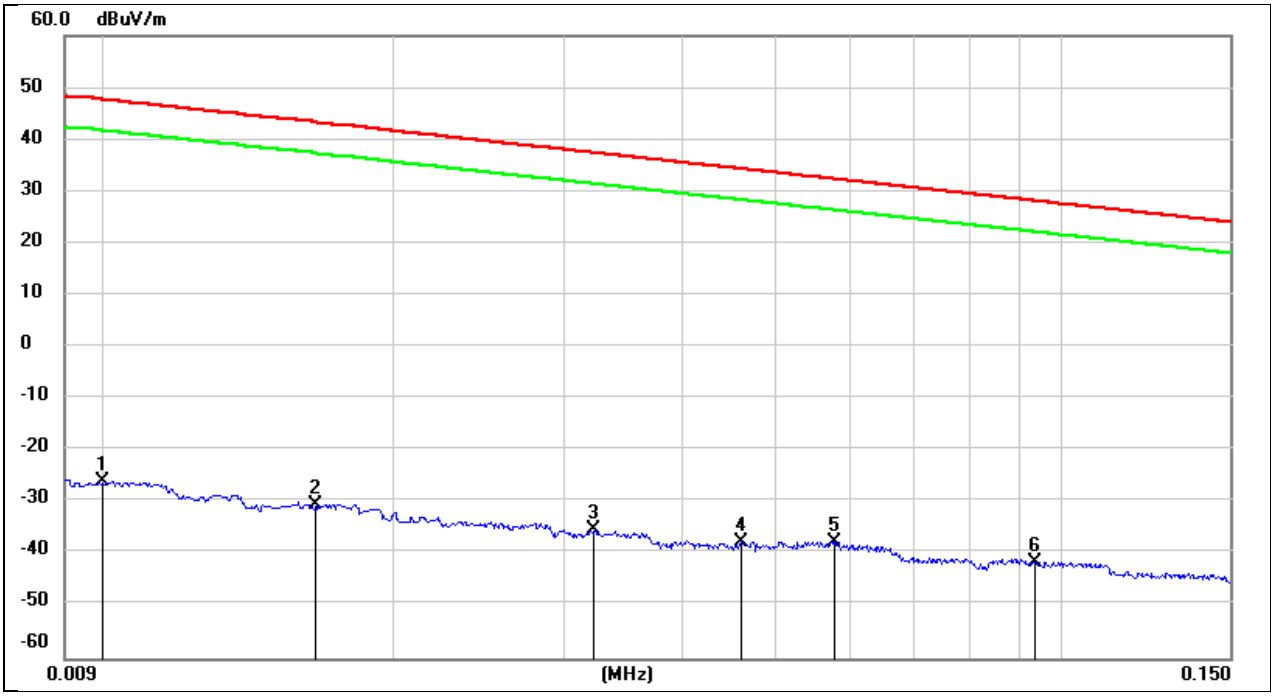


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.7125	63.32	-62.12	1.20	30.55	-29.35	peak
2	1.5564	59.68	-62.02	-2.34	23.76	-26.10	peak
3	3.1598	57.23	-61.53	-4.30	29.54	-33.84	peak
4	4.8075	56.53	-61.45	-4.92	29.54	-34.46	peak
5	9.9329	55.49	-60.81	-5.32	29.54	-34.86	peak
6	22.6520	55.52	-60.63	-5.11	29.54	-34.65	peak

8.8. SPURIOUS EMISSIONS OF XL100 (9 KHZ~30 MHZ)

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

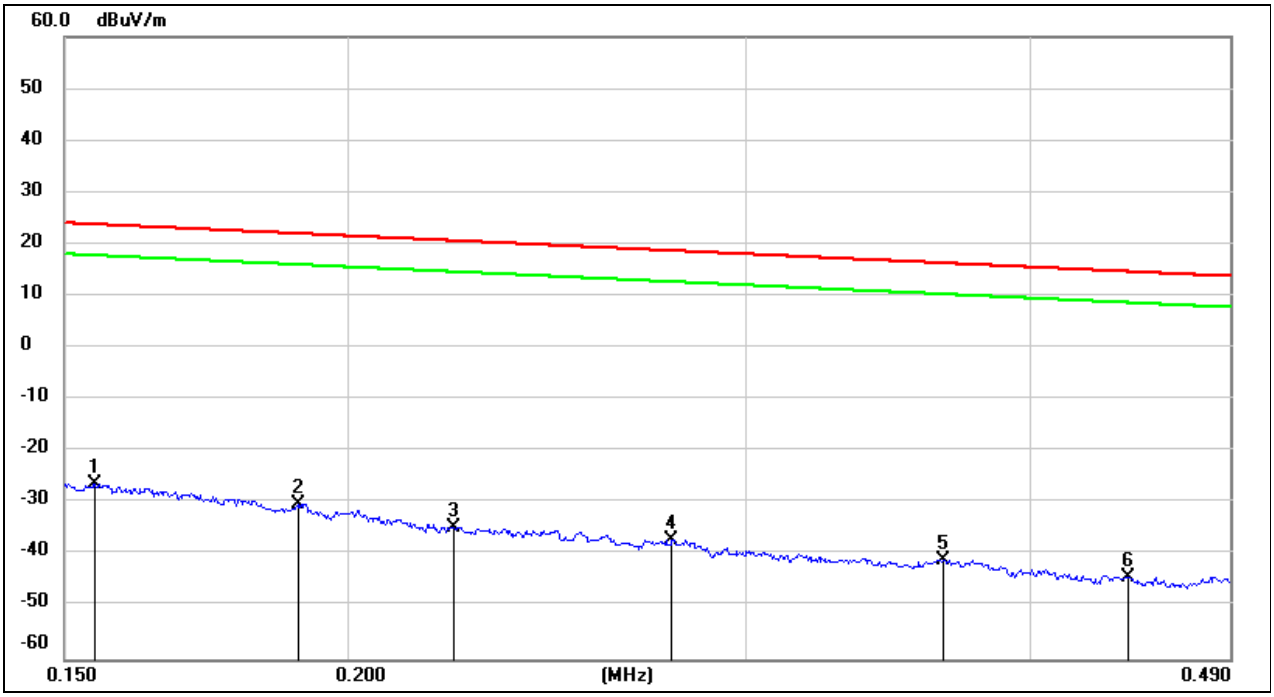
Project No.:	FCC part 15C 9K-30M loop ant test data	Polarziation:	Horizontal
Standard:	FCC Part 15C 9KHz-30MHz- limit	Power Source:	DC 5V
Test item:	Radiation Test	Date:	04/06/2021
Temp./Hum.(%RH):	22.7(C)/60%RH	Time:	10:11:08 AM
EUT:		Test By:	Peter Peng
Model:	01	Distance:	3m
Mode:	802.11a20-5180		
Note:			



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0100	75.35	-101.40	-26.05	47.60	-73.65	peak
2	0.0165	70.89	-101.37	-30.48	43.25	-73.73	peak
3	0.0323	66.00	-101.40	-35.40	37.42	-72.82	peak
4	0.0461	63.96	-101.46	-37.50	34.33	-71.83	peak
5	0.0577	63.84	-101.51	-37.67	32.38	-70.05	peak
6	0.0937	60.31	-101.75	-41.44	28.17	-69.61	peak

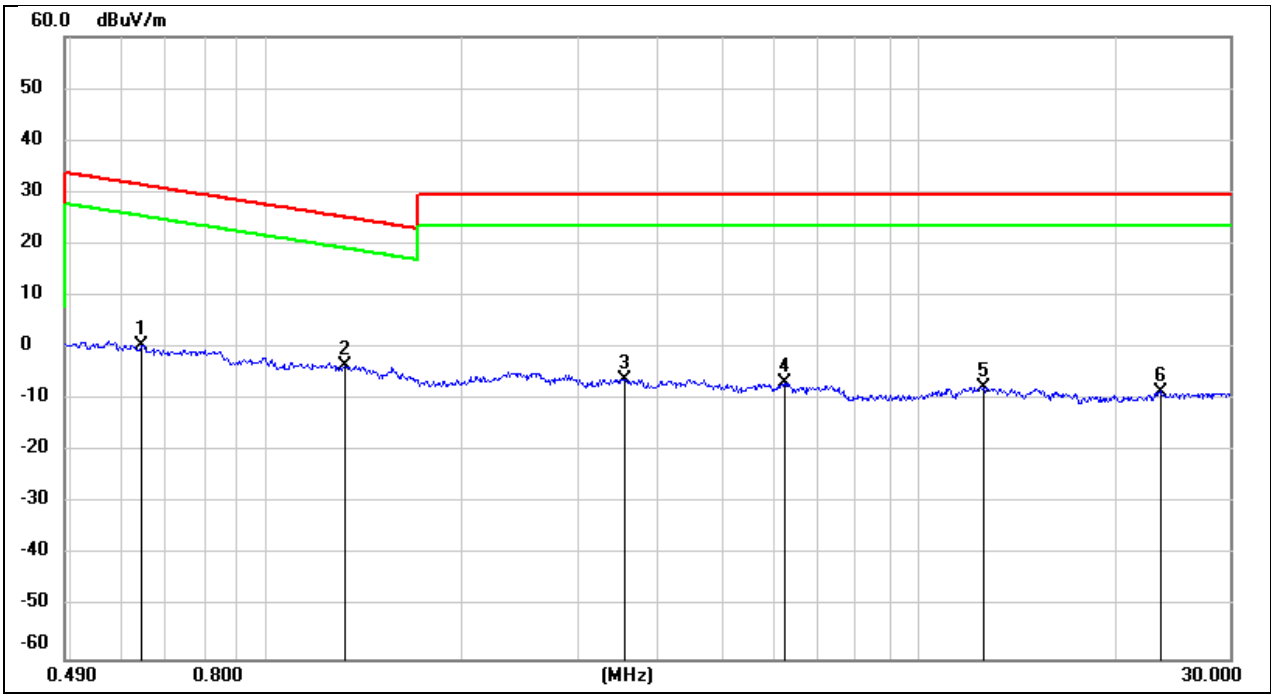
Test Mode:	802.11a20	Frequency(MHz):	5180
Polarity:	Horizontal	Test Voltage:	DC 5V

Project No.:	FCC part 15C 9K-30M loop ant test data	Polarziation:	Horizontal
Standard:	FCC Part 15C 9KHz-30MHz- limit	Power Source:	DC 5V
Test item:	Radiation Test	Date:	04/06/2021
Temp./Hum.(%RH):	22.7(C)/60%RH	Time:	10:09:21 AM
EUT:		Test By:	Peter Peng
Model:	02	Distance:	3m
Mode:	802.11a20-5180		
Note:			



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1547	75.31	-101.65	-26.34	23.81	-50.15	peak
2	0.1900	71.61	-101.70	-30.09	22.03	-52.12	peak
3	0.2227	67.15	-101.75	-34.60	20.65	-55.25	peak
4	0.2782	64.79	-101.83	-37.04	18.71	-55.75	peak
5	0.3662	61.08	-101.93	-40.85	16.33	-57.18	peak
6	0.4415	57.85	-102.01	-44.16	14.70	-58.86	peak

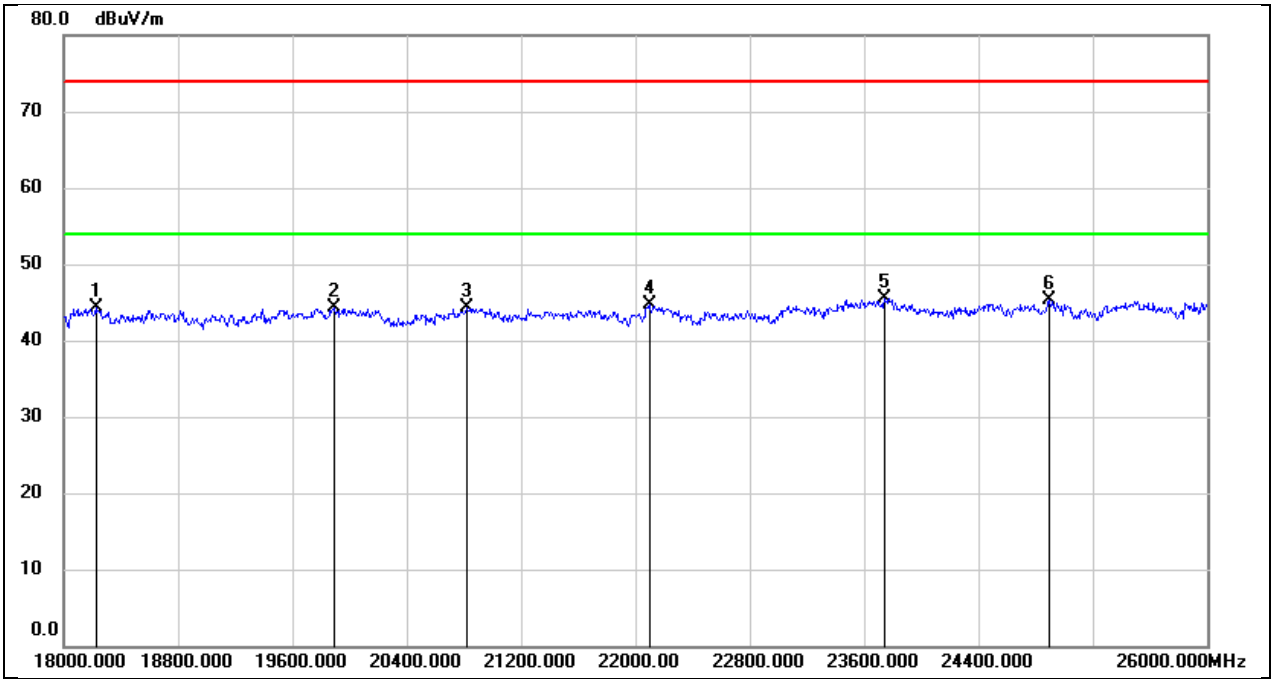
Test Mode:	802.11a20	Frequency(MHz):	5180
Polarity:	Horizontal	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.6429	62.65	-62.09	0.56	31.44	-30.88	peak
2	1.3163	58.70	-62.14	-3.44	25.22	-28.66	peak
3	3.5590	55.42	-61.44	-6.02	29.54	-35.56	peak
4	6.2445	54.63	-61.32	-6.69	29.54	-36.23	peak
5	12.6186	53.38	-60.92	-7.54	29.54	-37.08	peak
6	23.5960	52.05	-60.56	-8.51	29.54	-38.05	peak

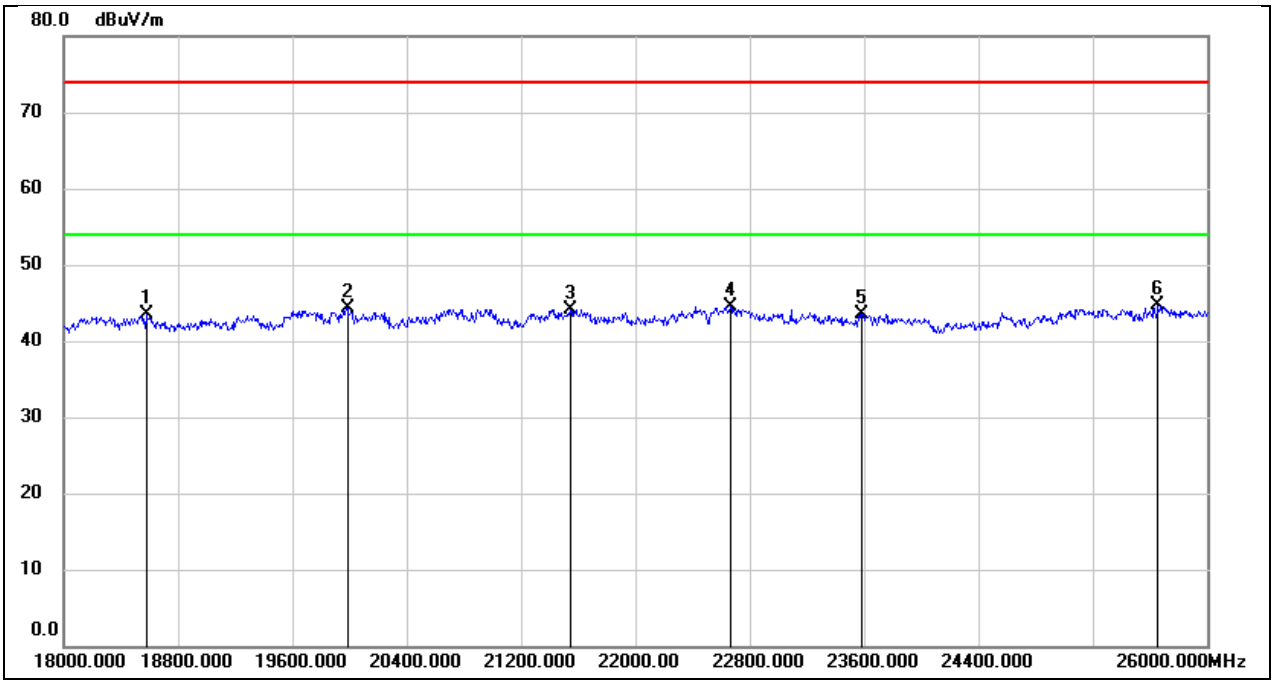
8.9. SPURIOUS EMISSIONS OF RTL8733 (18 GHZ~26 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	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	18224.000	49.77	-5.53	44.24	74.00	-29.76	peak
2	19888.000	49.57	-5.36	44.21	74.00	-29.79	peak
3	20824.000	49.33	-5.04	44.29	74.00	-29.71	peak
4	22096.000	49.04	-4.38	44.66	74.00	-29.34	peak
5	23744.000	48.65	-3.20	45.45	74.00	-28.55	peak
6	24896.000	47.41	-2.19	45.22	74.00	-28.78	peak

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60HZ

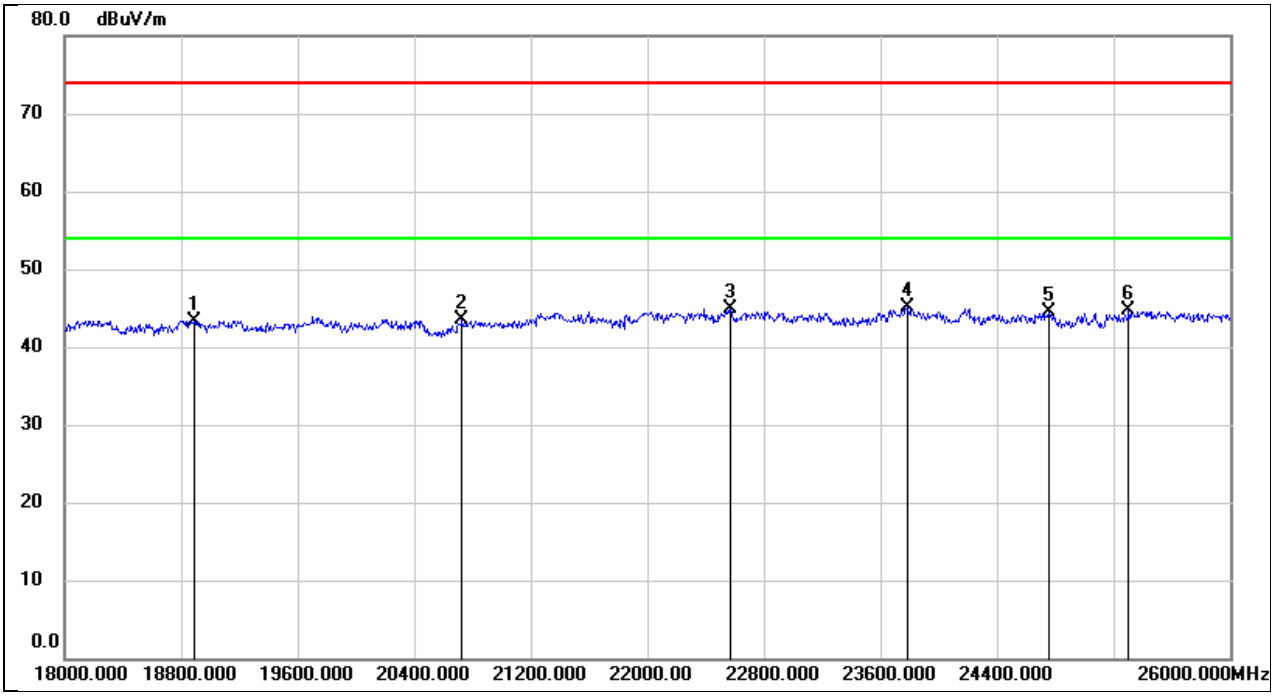


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18576.000	48.79	-5.30	43.49	74.00	-30.51	peak
2	19984.000	49.71	-5.44	44.27	74.00	-29.73	peak
3	21544.000	48.76	-4.63	44.13	74.00	-29.87	peak
4	22664.000	48.21	-3.76	44.45	74.00	-29.55	peak
5	23584.000	46.66	-3.15	43.51	74.00	-30.49	peak
6	25656.000	45.68	-1.05	44.63	74.00	-29.37	peak

8.10. SPURIOUS EMISSIONS OF XL100 (18 GHZ~26 GHZ)

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

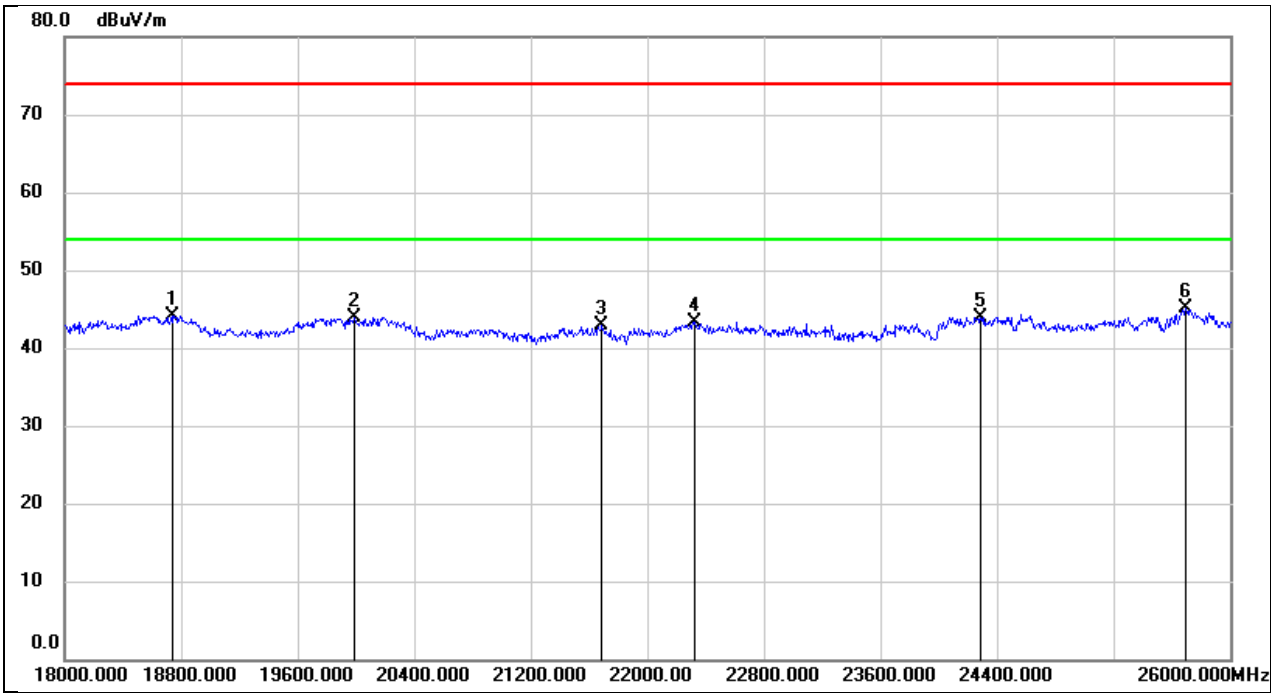
Project No.:	18-26	Polarziation:	Horizontal
Standard:	FCC Class B 3M Radiation Peak (Above 1G)	Power Source:	DC 5V
Test item:	Radiation Test	Date:	11/6/2018
Temp./Hum.(%RH):	23.5(C)/58%RH	Time:	7:02:56 PM
EUT:		Test By:	Peter Peng
Model:	01	Distance:	3m
Mode:	802.11a 20-5180		
Note:			



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18888.000	48.69	-5.31	43.38	74.00	-30.62	peak
2	20728.000	48.66	-5.14	43.52	74.00	-30.48	peak
3	22568.000	48.67	-3.84	44.83	74.00	-29.17	peak
4	23784.000	48.16	-3.13	45.03	74.00	-28.97	peak
5	24760.000	46.79	-2.32	44.47	74.00	-29.53	peak
6	25304.000	46.39	-1.70	44.69	74.00	-29.31	peak

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

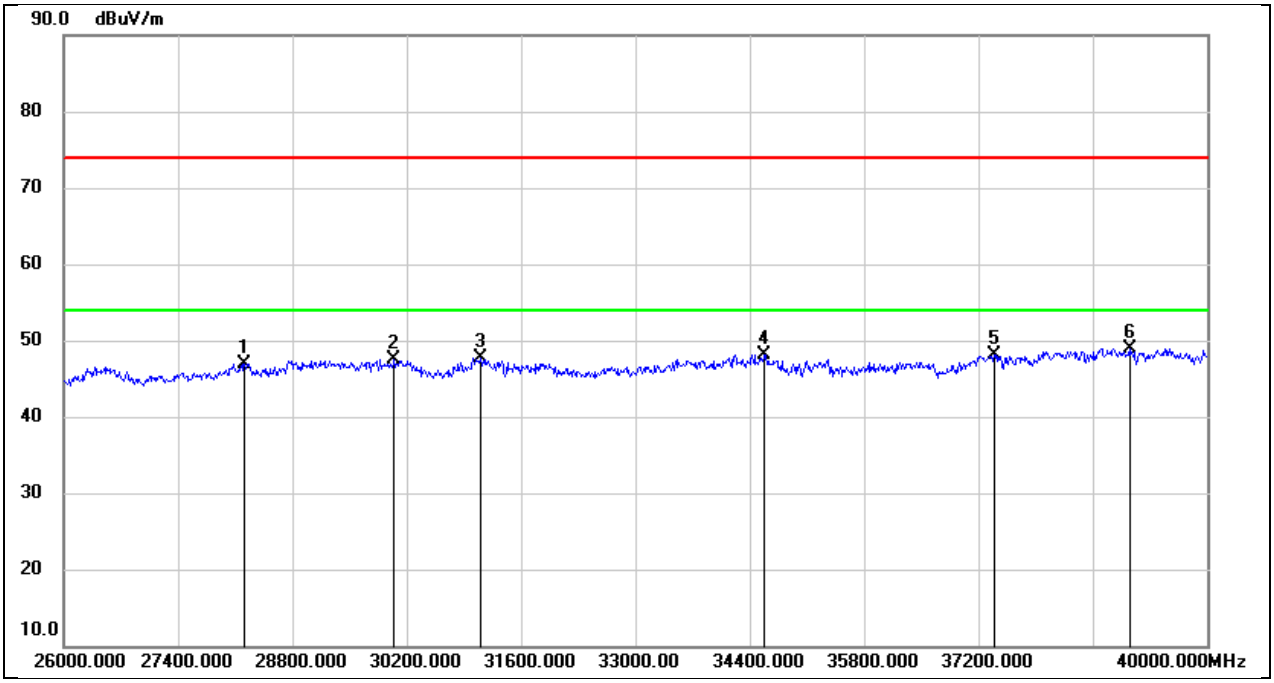
Project No.:	18-26	Polarziation:	Vertical
Standard:	FCC Class B 3M Radiation Peak (Above 1G)	Power Source:	DC 5V
Test item:	Radiation Test	Date:	11/5/2018
Temp./Hum.(%RH):	22.7(C)/60%RH	Time:	7:02:02 PM
EUT:		Test By:	Peter Peng
Model:	02	Distance:	3m
Mode:	802.11a 20-5180		
Note:			



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18736.000	49.51	-5.41	44.10	74.00	-29.90	peak
2	19992.000	49.35	-5.45	43.90	74.00	-30.10	peak
3	21688.000	47.22	-4.41	42.81	74.00	-31.19	peak
4	22320.000	47.51	-4.13	43.38	74.00	-30.62	peak
5	24288.000	46.74	-2.75	43.99	74.00	-30.01	peak
6	25696.000	45.94	-0.86	45.08	74.00	-28.92	peak

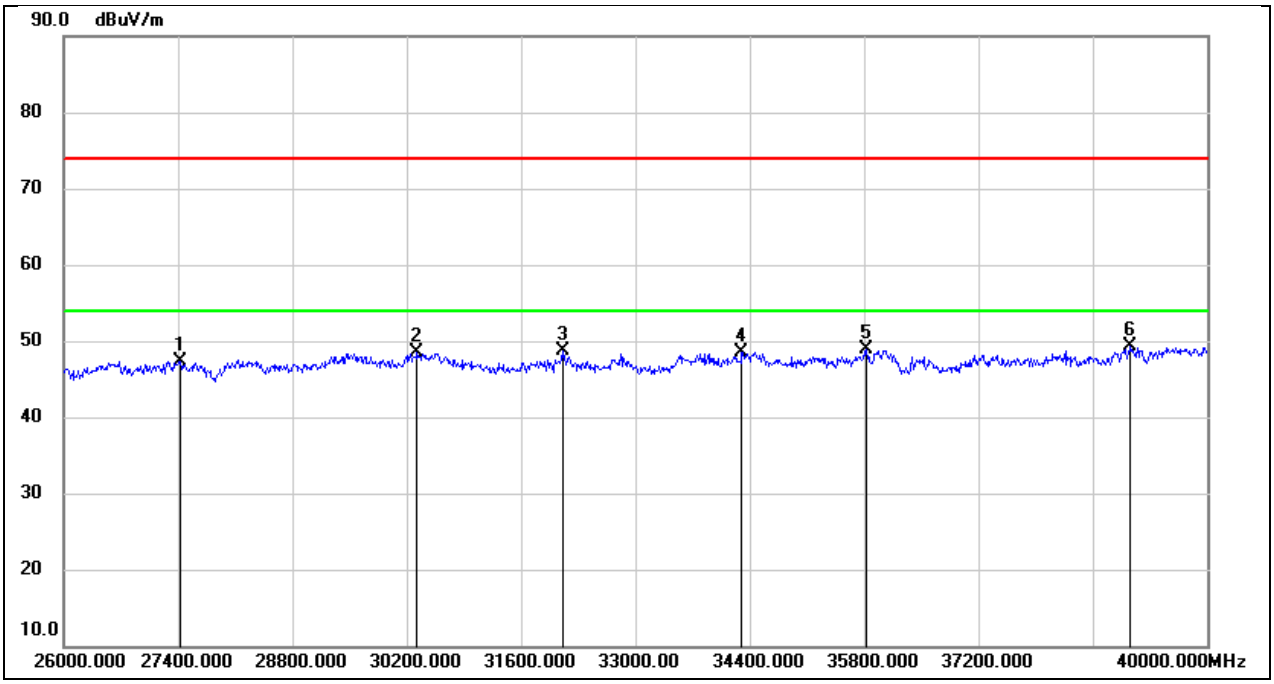
8.11. SPURIOUS EMISSIONS OF RTL8733 (26 GHZ~40 GHZ)

Test Mode:	802.11a 20	Frequency(MHz):	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	28212.000	49.62	-2.64	46.98	74.00	-27.02	peak
2	30046.000	48.71	-1.28	47.43	74.00	-26.57	peak
3	31110.000	48.37	-0.75	47.62	74.00	-26.38	peak
4	34582.000	47.07	1.13	48.20	74.00	-25.80	peak
5	37396.000	45.01	3.18	48.19	74.00	-25.81	peak
6	39048.000	44.57	4.32	48.89	74.00	-25.11	peak

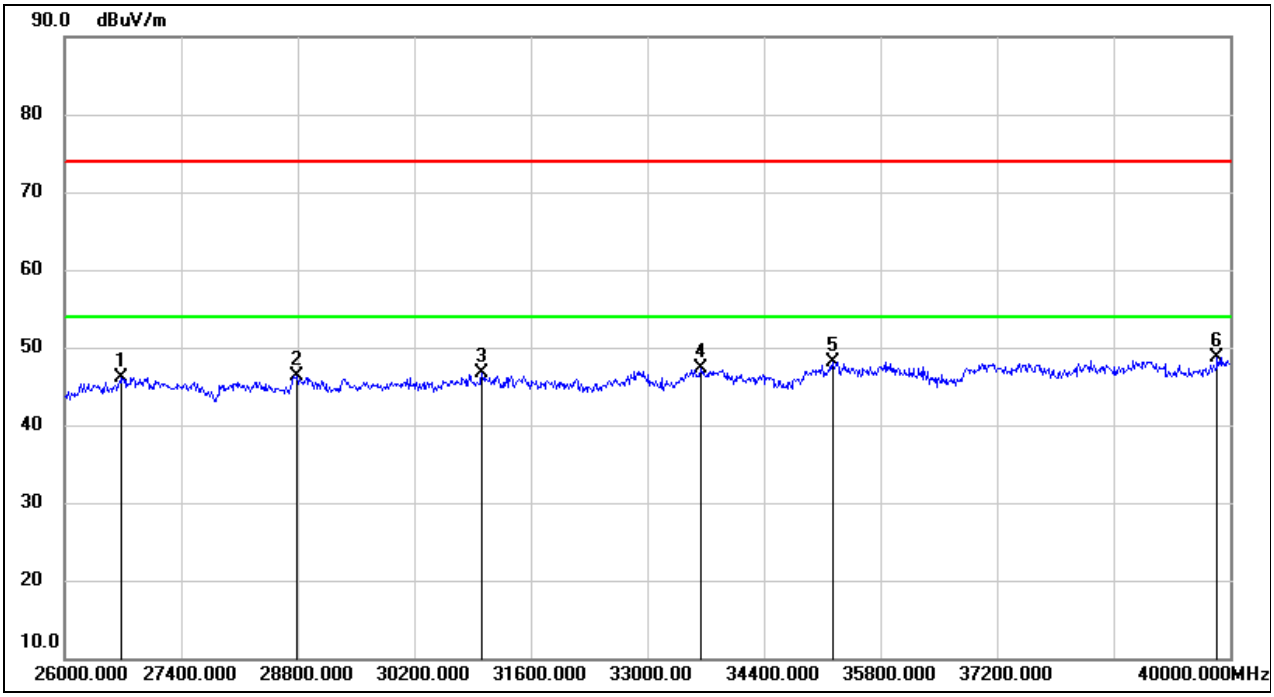
Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	AC 120V_60HZ



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	27428.000	51.07	-3.68	47.39	74.00	-26.61	peak
2	30326.000	49.63	-1.20	48.43	74.00	-25.57	peak
3	32104.000	50.49	-1.75	48.74	74.00	-25.26	peak
4	34302.000	47.45	1.10	48.55	74.00	-25.45	peak
5	35828.000	45.25	3.67	48.92	74.00	-25.08	peak
6	39062.000	44.98	4.30	49.28	74.00	-24.72	peak

8.12. SPURIOUS EMISSIONS OF XL100 (26 GHZ~40 GHZ)

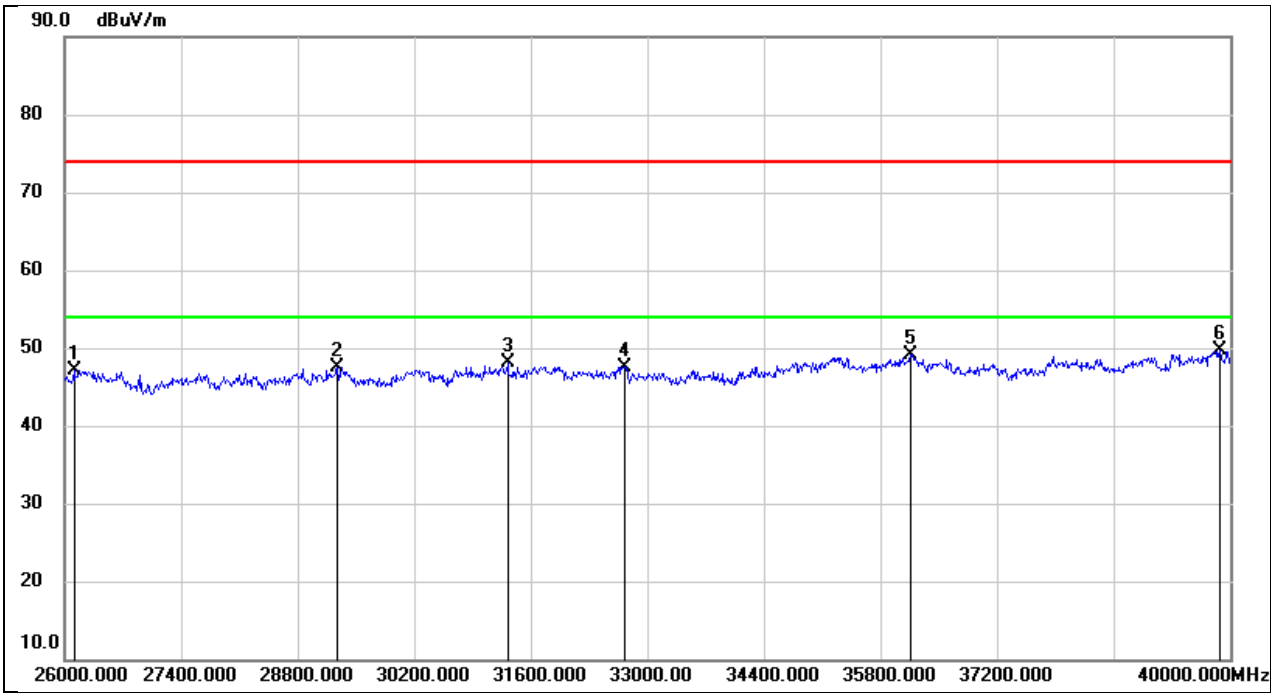
Test Mode:	802.11a 20	Frequency(MHz):	5180
Polarity:	Horizontal	Test Voltage:	DC 5V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26686.000	51.08	-4.88	46.20	74.00	-27.80	peak
2	28786.000	46.99	-0.64	46.35	74.00	-27.65	peak
3	31012.000	47.33	-0.71	46.62	74.00	-27.38	peak
4	33644.000	46.81	0.42	47.23	74.00	-26.77	peak
5	35226.000	45.56	2.53	48.09	74.00	-25.91	peak
6	39846.000	43.70	4.94	48.64	74.00	-25.36	peak

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

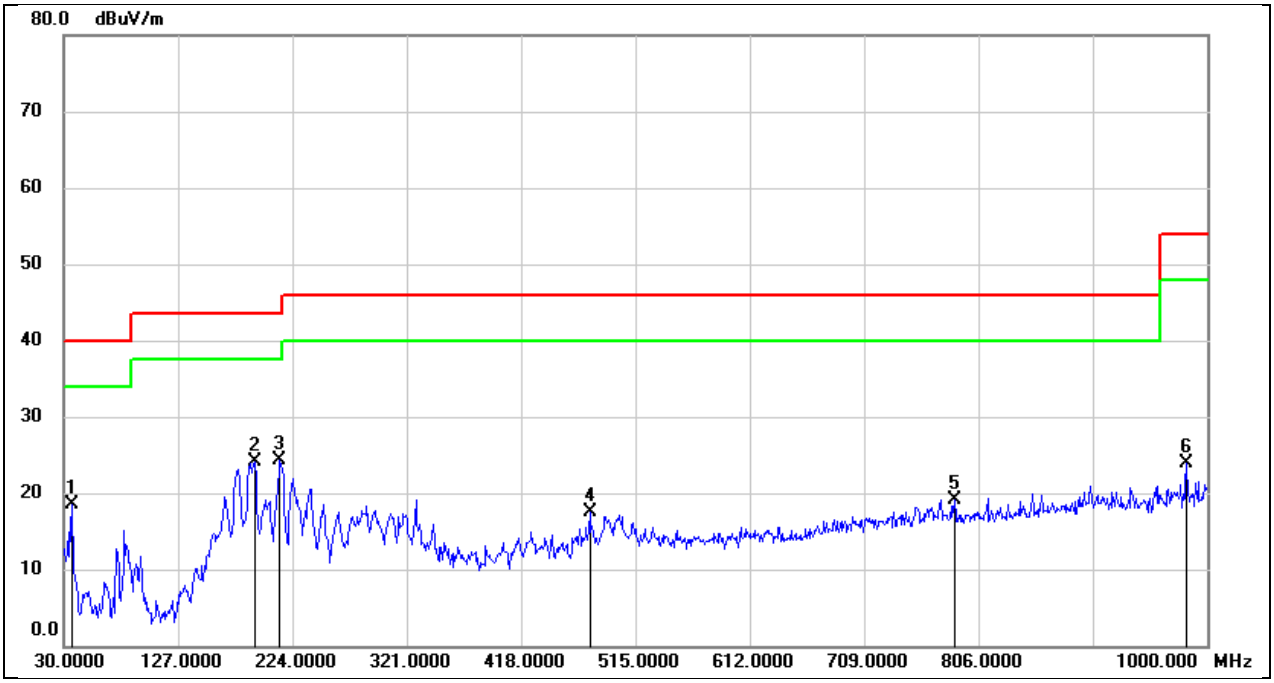
Project No.:	18-40GHz	Polarziation:	Vertical
Standard:	FCC Class B 3M Radiation Peak (Above 1G)	Power Source:	DC 5V
Test item:	Radiation Test	Date:	11/24/2021
Temp./Hum.(%RH):	22.7(C)/50%RH	Time:	7:46:25 PM
EUT:		Test By:	Peter Peng
Model:	02	Distance:	3m
Mode:	802.11a 20-5180		
Note:			



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26112.000	52.89	-5.79	47.10	74.00	-26.90	peak
2	29276.000	48.51	-1.01	47.50	74.00	-26.50	peak
3	31320.000	49.11	-0.93	48.18	74.00	-25.82	peak
4	32720.000	48.88	-1.28	47.60	74.00	-26.40	peak
5	36164.000	45.56	3.52	49.08	74.00	-24.92	peak
6	39874.000	44.65	4.98	49.63	74.00	-24.37	peak

8.13. SPURIOUS EMISSIONS(30 MHZ~1 GHZ)

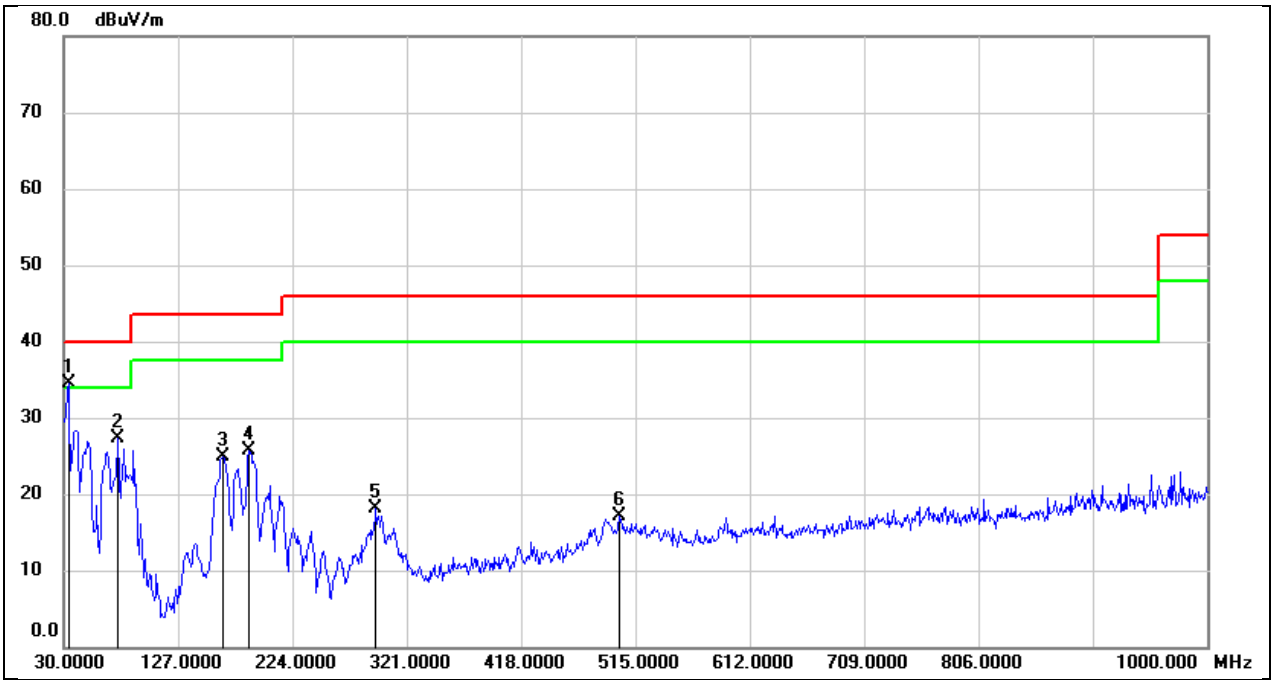
Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Horizontal	Test Voltage:	AC 120V_60HZ



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	36.7900	37.40	-18.83	18.57	40.00	-21.43	QP
2	191.9900	40.09	-16.00	24.09	43.50	-19.41	QP
3	213.3300	40.71	-16.49	24.22	43.50	-19.28	QP
4	476.2000	28.31	-10.84	17.47	46.00	-28.53	QP
5	785.6300	25.59	-6.39	19.20	46.00	-26.80	QP
6	982.5400	27.80	-3.95	23.85	54.00	-30.15	QP

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

Test Mode:	802.11a 20	Frequency(MHz):	5745
Polarity:	Vertical	Test Voltage:	DC 3.65 V

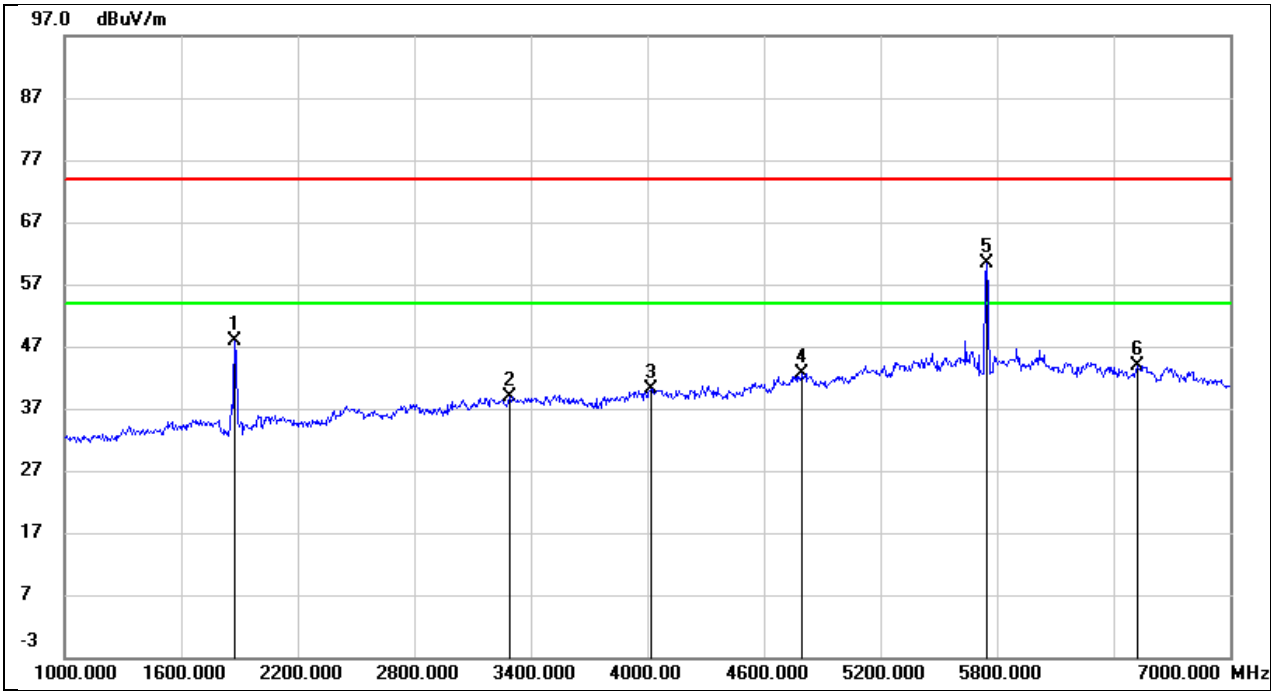


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.8800	52.96	-18.37	34.59	40.00	-5.41	QP
2	75.5899	48.05	-20.68	27.37	40.00	-12.63	QP
3	164.8300	41.59	-16.68	24.91	43.50	-18.59	QP
4	187.1400	41.76	-16.01	25.75	43.50	-17.75	QP
5	294.8100	33.25	-15.17	18.08	46.00	-27.92	QP
6	501.4200	27.36	-10.33	17.03	46.00	-28.97	QP

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

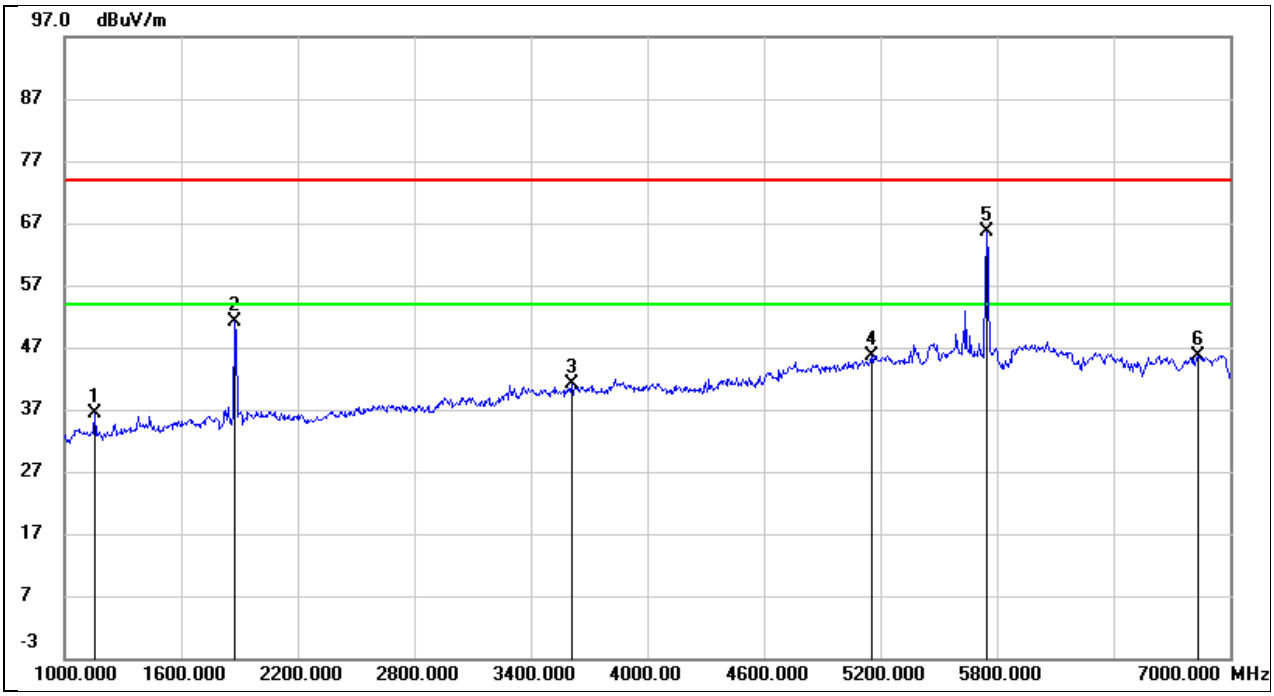
8.14. SIMULTANEOUS TRANSMISSION

Test Mode:	LTE B2 + 5.8 GHz WiFi	Frequency(MHz):	\
Polarity:	Horizontal	Test Voltage:	DC 3.65 V



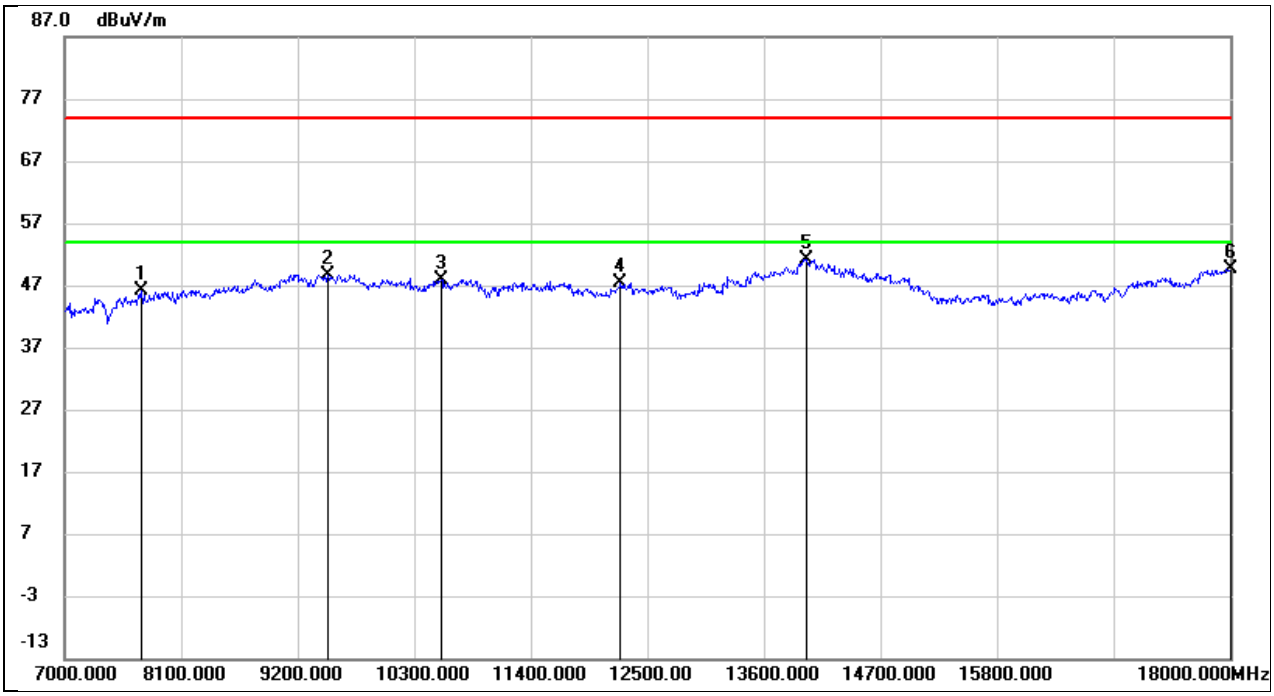
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1876.000	57.97	-10.01	47.96	74.00	-26.04	peak
2	3292.000	43.65	-4.67	38.98	74.00	-35.02	peak
3	4018.000	42.46	-2.33	40.13	74.00	-33.87	peak
4	4798.000	41.83	0.87	42.70	74.00	-31.30	peak
5	5745.000	56.19	4.26	60.45	\	\	fundamental
6	6520.000	37.94	5.98	43.92	74.00	-30.08	peak

Test Mode:	LTE B2 + 5.8 GHz WiFi	Frequency(MHz):	\
Polarity:	Vertical	Test Voltage:	DC 3.65 V



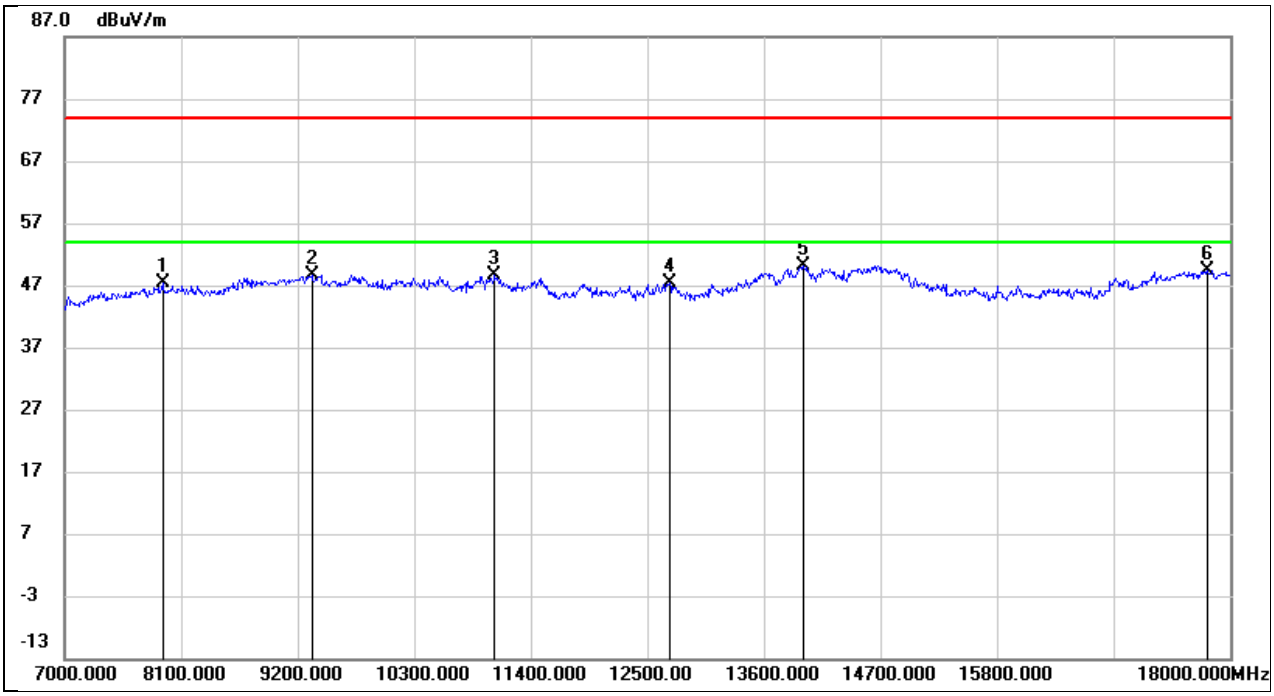
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1156.000	49.59	-13.17	36.42	74.00	-37.58	peak
2	1876.000	60.47	-9.31	51.16	74.00	-22.84	peak
3	3610.000	43.30	-2.25	41.05	74.00	-32.95	peak
4	5152.000	42.52	3.18	45.70	74.00	-28.30	peak
5	5745.000	60.33	5.37	65.70	\	\	fundamental
6	6832.000	38.30	7.45	45.75	74.00	-28.25	peak

Test Mode:	LTE B2 + 5.8 GHz WiFi	Frequency(MHz):	\
Polarity:	Horizontal	Test Voltage:	DC 3.65 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7726.000	38.20	7.95	46.15	74.00	-27.85	peak
2	9486.000	35.93	12.77	48.70	74.00	-25.30	peak
3	10553.000	34.29	13.70	47.99	74.00	-26.01	peak
4	12247.000	28.61	18.77	47.38	74.00	-26.62	peak
5	13996.000	27.56	23.59	51.15	74.00	-22.85	peak
6	18000.000	20.12	29.61	49.73	74.00	-24.27	peak

Test Mode:	LTE B2 + 5.8 GHz WiFi	Frequency(MHz):	\
Polarity:	Vertical	Test Voltage:	DC 3.65 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7924.000	38.82	8.55	47.37	74.00	-26.63	peak
2	9332.000	36.61	12.13	48.74	74.00	-25.26	peak
3	11059.000	34.07	14.51	48.58	74.00	-25.42	peak
4	12709.000	28.82	18.58	47.40	74.00	-26.60	peak
5	13974.000	28.28	21.89	50.17	74.00	-23.83	peak
6	17791.000	23.35	26.11	49.46	74.00	-24.54	peak

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

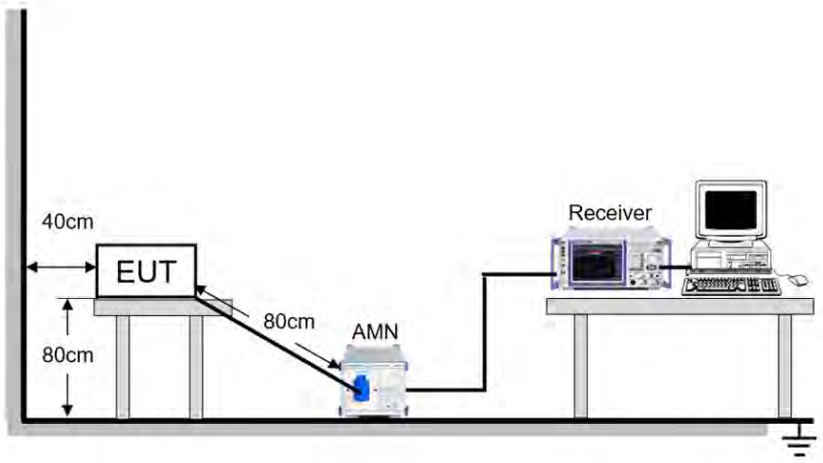
TEST PROCEDURE

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

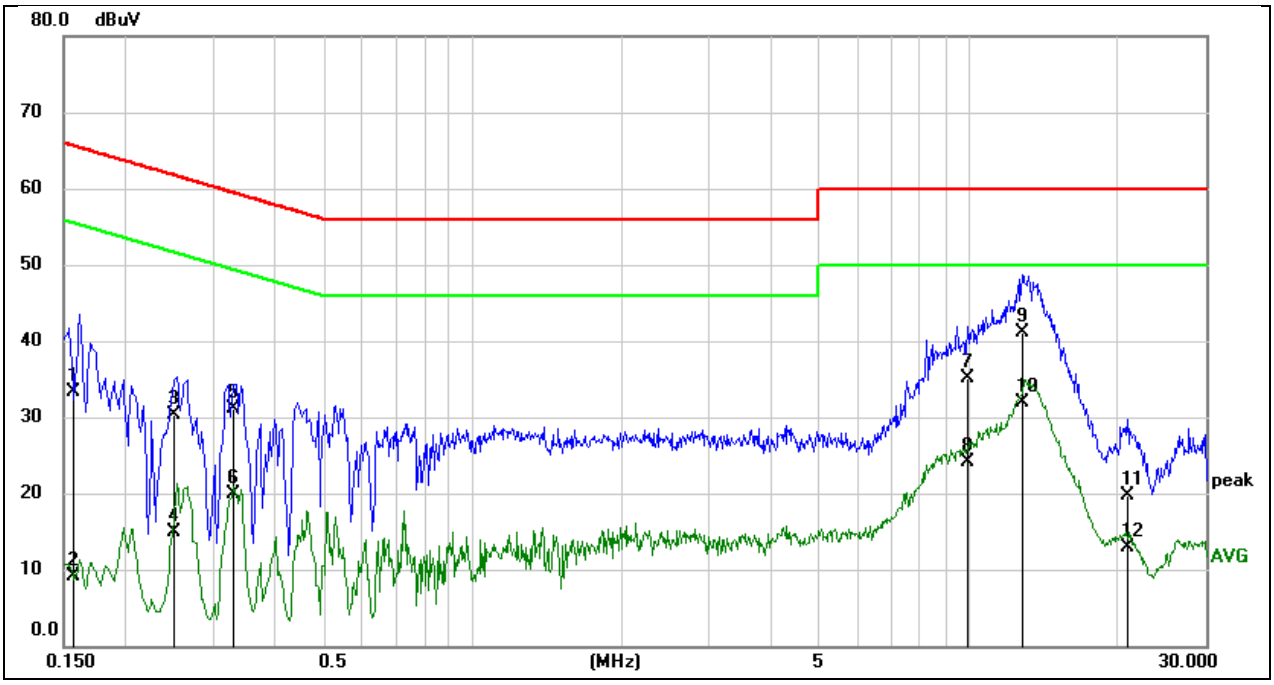
Temperature	23.4℃	Relative Humidity	52%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 Hz

TEST DATE / ENGINEER

Test Date	June 20, 2025	Test By	Deacon Tan

TEST RESULTS

Test Mode:	802.11a 20	Frequency(MHz):	5745
Line:	Line		



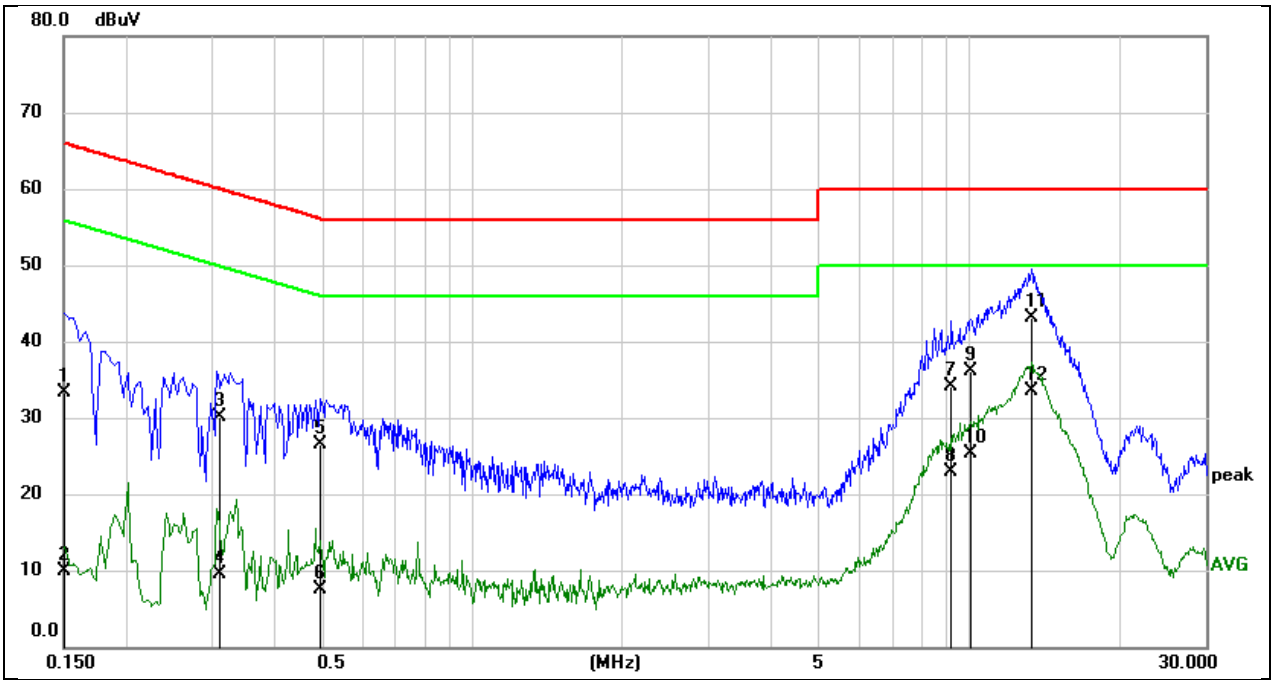
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1575	23.74	9.59	33.33	65.59	-32.26	QP
2	0.1575	-0.52	9.59	9.07	55.59	-46.52	AVG
3	0.2507	20.71	9.59	30.30	61.73	-31.43	QP
4	0.2507	5.41	9.59	15.00	51.73	-36.73	AVG
5	0.3300	21.48	9.59	31.07	59.45	-28.38	QP
6	0.3300	10.35	9.59	19.94	49.45	-29.51	AVG
7	9.9713	25.33	9.72	35.05	60.00	-24.95	QP
8	9.9713	14.41	9.72	24.13	50.00	-25.87	AVG
9	12.8607	31.40	9.76	41.16	60.00	-18.84	QP
10	12.8607	22.20	9.76	31.96	50.00	-18.04	AVG
11	20.8575	9.89	9.83	19.72	60.00	-40.28	QP
12	20.8575	3.01	9.83	12.84	50.00	-37.16	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 of both modules have been tested, only the worst data was recorded in the report.

Test Mode:	802.11a 20	Frequency(MHz):	5745
Line:	Neutral		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1501	23.90	9.49	33.39	65.99	-32.60	QP
2	0.1501	0.36	9.49	9.85	55.99	-46.14	AVG
3	0.3087	20.48	9.55	30.03	60.01	-29.98	QP
4	0.3087	-0.02	9.55	9.53	50.01	-40.48	AVG
5	0.4953	17.06	9.50	26.56	56.08	-29.52	QP
6	0.4953	-2.04	9.50	7.46	46.08	-38.62	AVG
7	9.2603	24.55	9.62	34.17	60.00	-25.83	QP
8	9.2603	13.37	9.62	22.99	50.00	-27.01	AVG
9	10.1453	26.39	9.62	36.01	60.00	-23.99	QP
10	10.1453	15.73	9.62	25.35	50.00	-24.65	AVG
11	13.3593	33.44	9.66	43.10	60.00	-16.90	QP
12	13.3593	23.87	9.66	33.53	50.00	-16.47	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 of both modules 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

RTL8733

Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5745	21.760	5734.080	5755.840	PASS
		5785	20.080	5775.280	5795.360	PASS
		5825	21.160	5815.400	5836.560	PASS
11N20MIMO	Ant1	5745	21.040	5734.600	5755.640	PASS
		5785	20.000	5775.120	5795.120	PASS
		5825	20.680	5815.000	5835.680	PASS

XL100

Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5745	19.760	5735.240	5755.000	PASS
	Ant2	5745	20.160	5734.800	5754.960	PASS
	Ant1	5785	20.640	5774.920	5795.560	PASS
	Ant2	5785	19.880	5774.720	5794.600	PASS
	Ant1	5825	19.840	5814.800	5834.640	PASS
	Ant2	5825	19.960	5814.960	5834.920	PASS
11N20MIMO	Ant1	5745	20.320	5734.760	5755.080	PASS
	Ant2	5745	20.680	5734.560	5755.240	PASS
	Ant1	5785	20.440	5774.720	5795.160	PASS
	Ant2	5785	20.400	5774.840	5795.240	PASS
	Ant1	5825	20.360	5814.680	5835.040	PASS
	Ant2	5825	20.480	5814.600	5835.080	PASS

11.1.2. Test Graphs

RTL8733

11A_Ant1_5745

11A_Ant1_5785

11A_Ant1_5825

11N20MIMO_Ant1_5745

11N20MIMO_Ant1_5785

11N20MIMO_Ant1_5825

XL100

11A_Ant1_5745

11A_Ant2_5745

11A_Ant1_5785

11A_Ant2_5785

11A_Ant1_5825

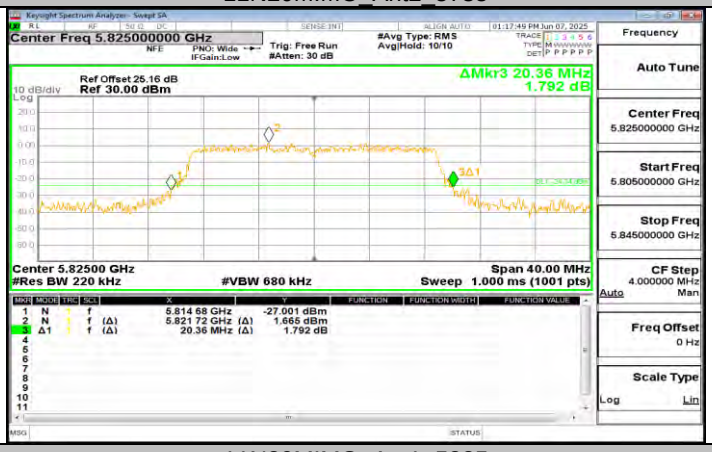
11A_Ant2_5825

11N20MIMO_Ant1_5745

11N20MIMO_Ant2_5745

11N20MIMO_Ant1_5785

11N20MIMO_Ant2_5785



11N20MIMO_Ant1_5825

11N20MIMO_Ant2_5825

11.2. APPENDIX B: OCCUPIED CHANNEL BANDWIDTH

11.2.1. Test Result

RTL8733

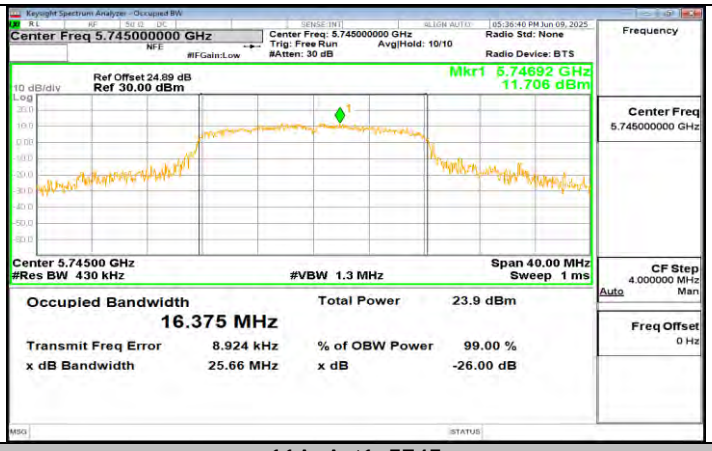
Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5745	16.375	5736.8214	5753.1964	PASS
		5785	16.545	5776.6326	5793.1776	PASS
		5825	16.421	5816.6961	5833.1171	PASS
11N20MIMO	Ant1	5745	17.513	5736.1891	5753.7021	PASS
		5785	17.540	5776.1773	5793.7173	PASS
		5825	17.622	5816.1562	5833.7782	PASS

XL100

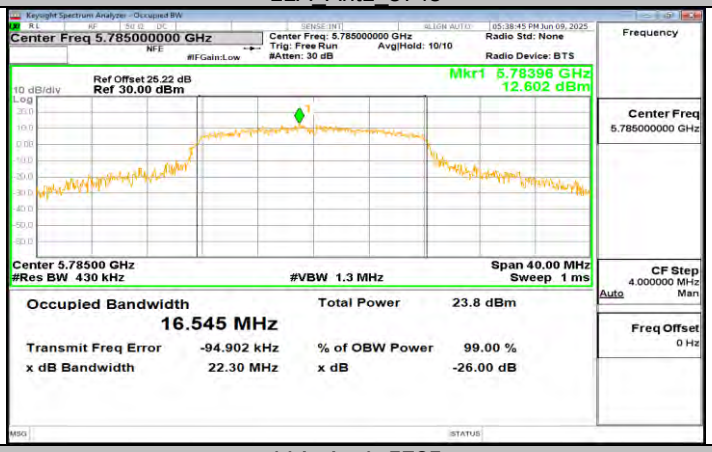
Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5745	16.742	5736.6242	5753.3662	PASS
	Ant2	5745	16.661	5736.6669	5753.3279	PASS
	Ant1	5785	16.689	5776.6387	5793.3277	PASS
	Ant2	5785	16.720	5776.5826	5793.3026	PASS
	Ant1	5825	16.642	5816.6604	5833.3024	PASS
	Ant2	5825	16.696	5816.6183	5833.3143	PASS
11N20MIMO	Ant1	5745	17.814	5736.0596	5753.8736	PASS
	Ant2	5745	17.817	5736.0808	5753.8978	PASS
	Ant1	5785	17.803	5776.1098	5793.9128	PASS
	Ant2	5785	17.838	5776.0912	5793.9292	PASS
	Ant1	5825	17.803	5816.0993	5833.9023	PASS
	Ant2	5825	17.772	5816.0746	5833.8466	PASS

11.2.2. Test Graphs

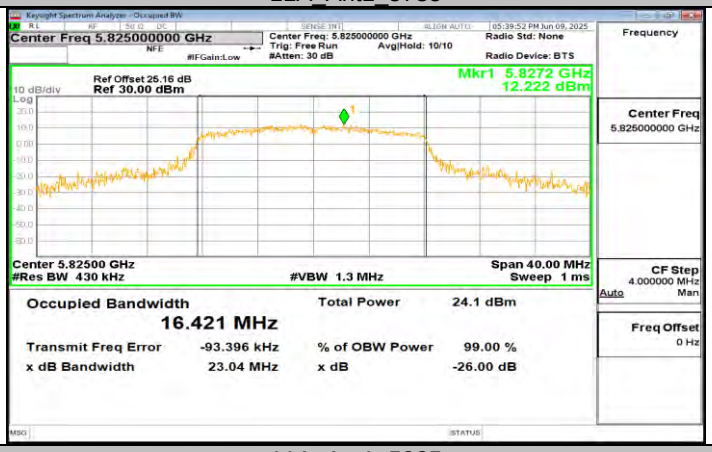
RTL8733



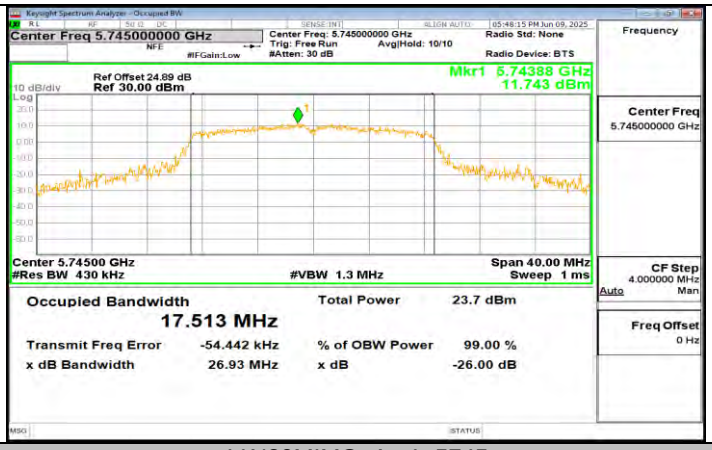
11A_Ant1_5745



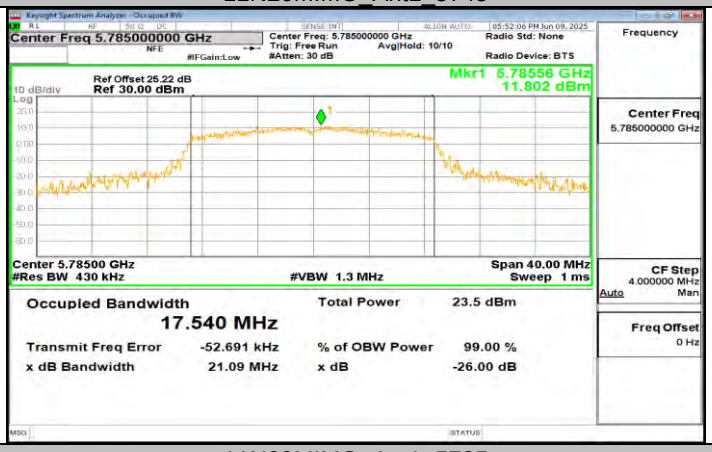
11A_Ant1_5785



11A_Ant1_5825



11N20MIMO_Ant1_5745



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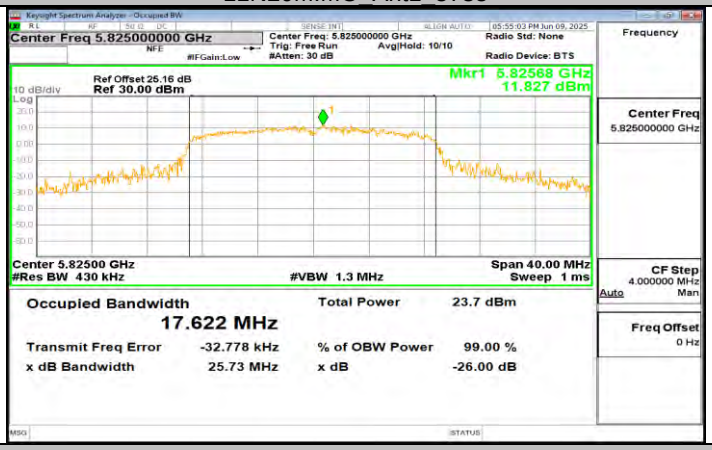
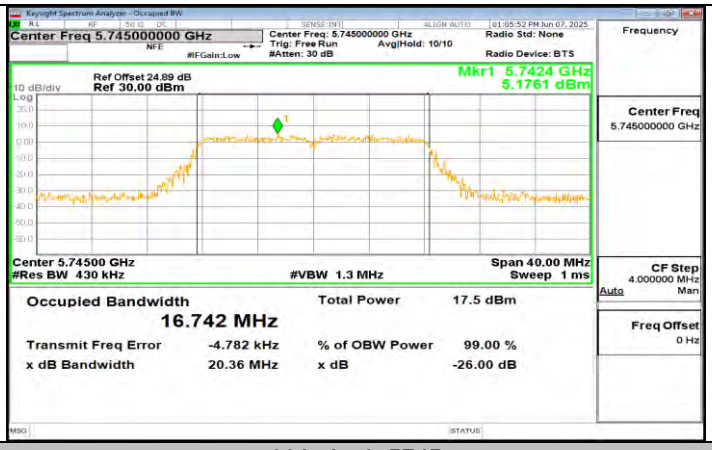
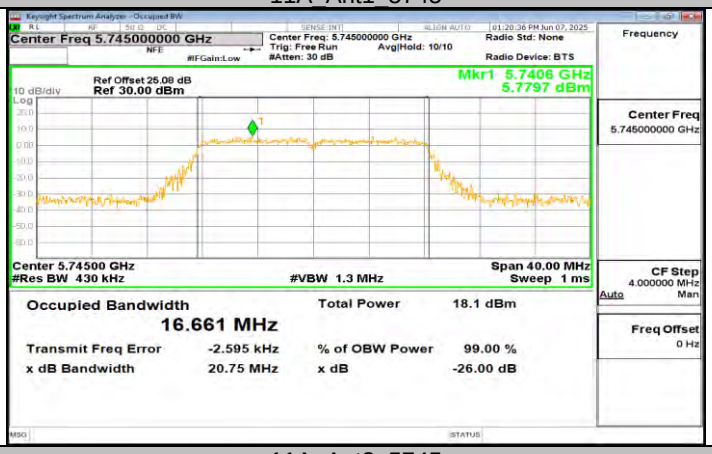


11N20MIMO_Ant1_5825

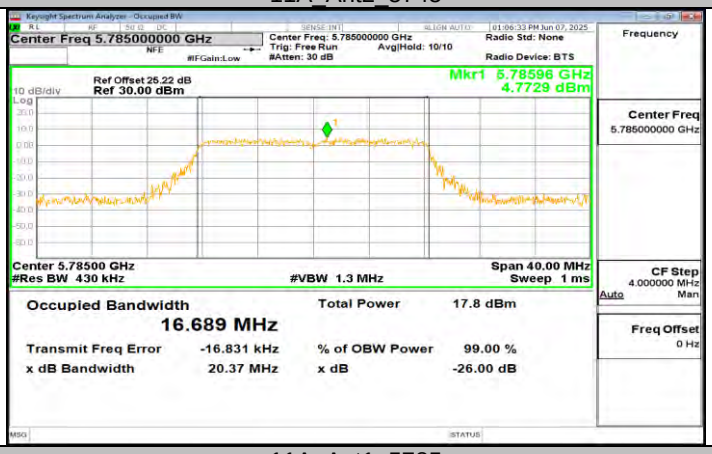
XL100



11A_Ant1_5745



11A_Ant2_5745



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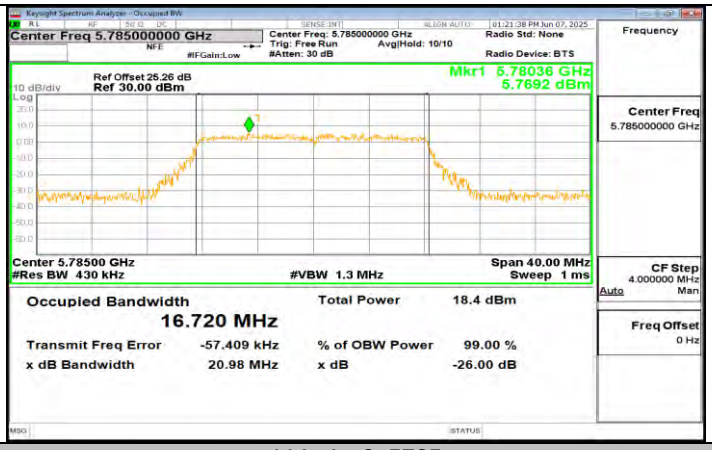

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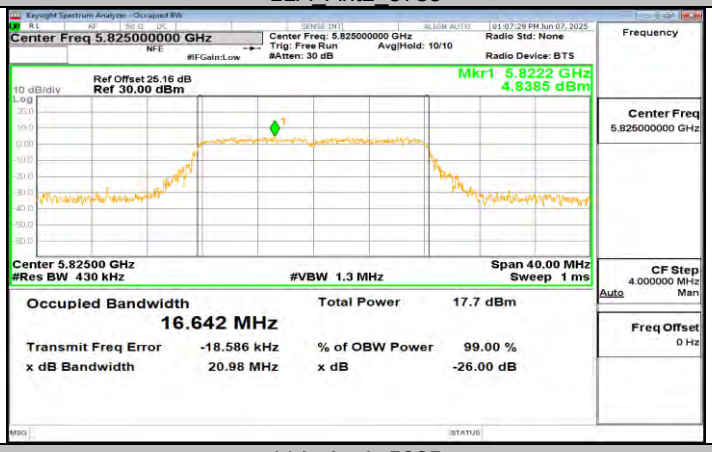

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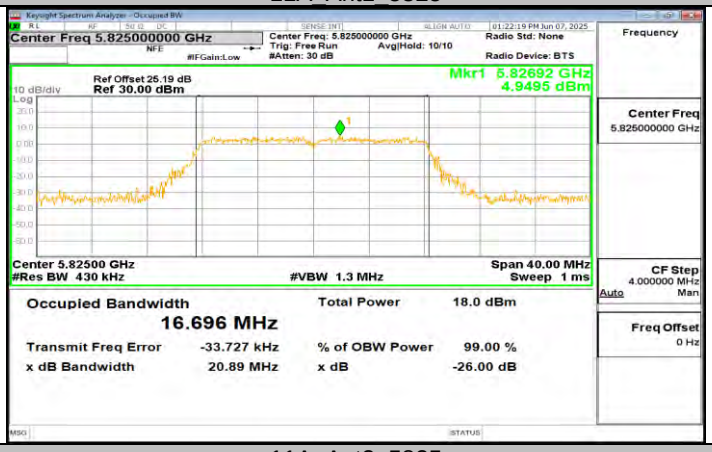

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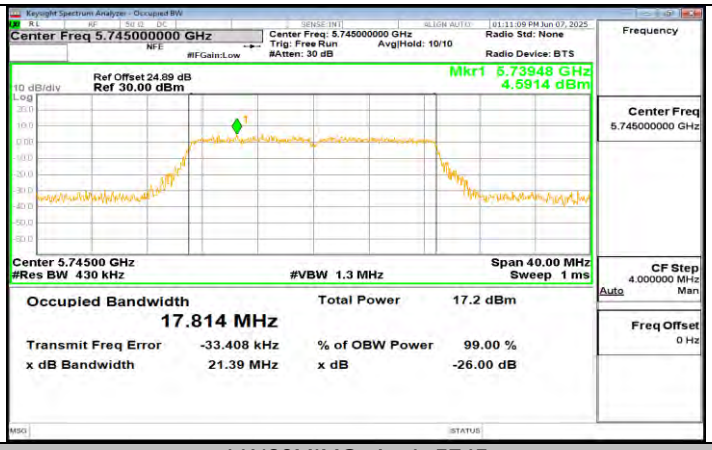
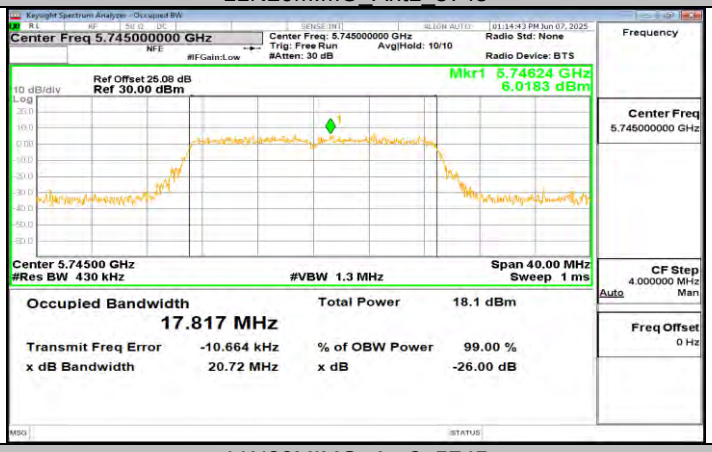
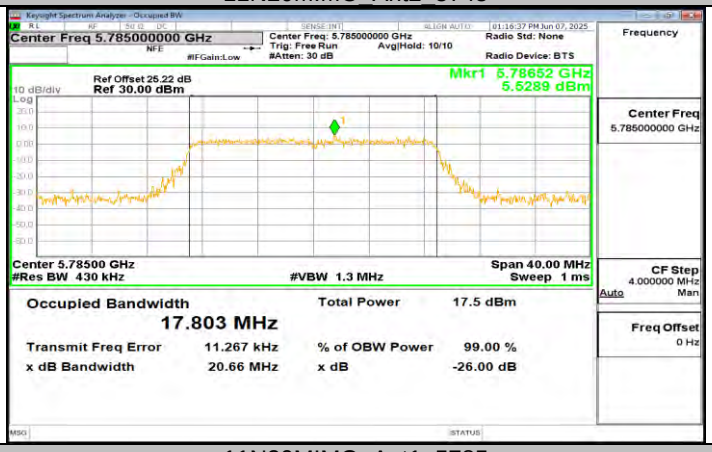


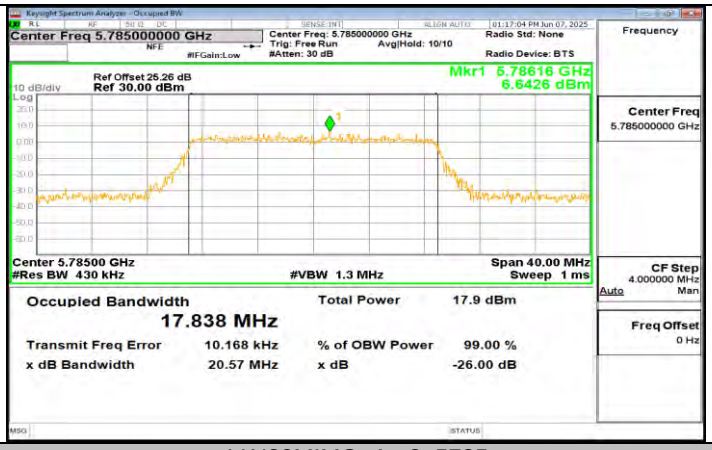
11N20MIMO_Ant1_5745



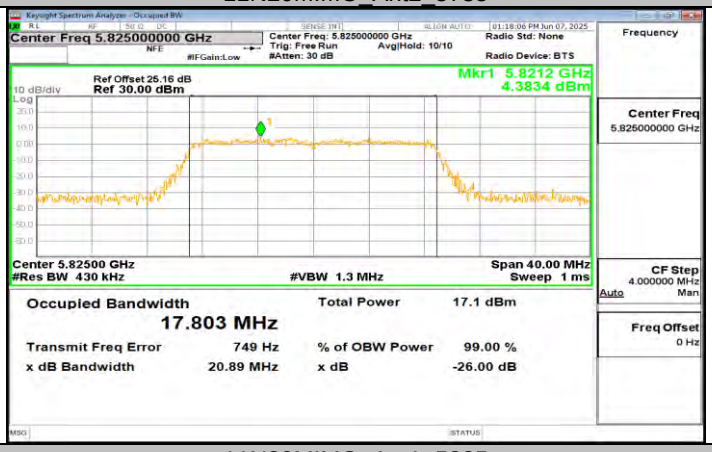
11N20MIMO_Ant2_5745



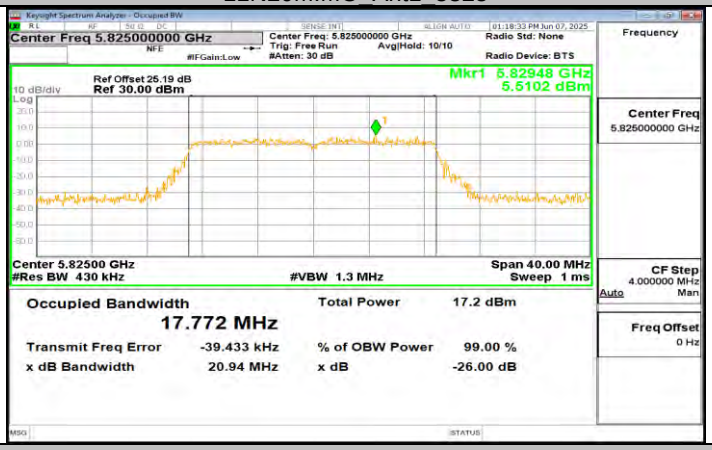
11N20MIMO_Ant1_5785



11N20MIMO_Ant2_5785



11N20MIMO_Ant1_5825



11N20MIMO_Ant2_5825

11.3. APPENDIX C: MIN EMISSION BANDWIDTH

11.3.1. Test Result

RTL8733

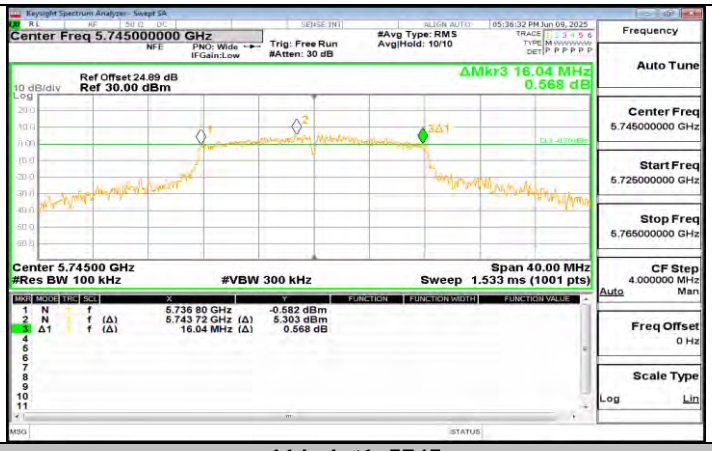
Test Mode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.040	5736.800	5752.840	≥0.5	PASS
		5785	7.520	5779.920	5787.440	≥0.5	PASS
		5825	16.040	5817.040	5833.080	≥0.5	PASS
11N20MIMO	Ant1	5745	17.160	5736.200	5753.360	≥0.5	PASS
		5785	13.400	5777.800	5791.200	≥0.5	PASS
		5825	16.560	5816.800	5833.360	≥0.5	PASS

XL100

Test Mode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.560	5736.720	5753.280	≥0.5	PASS
	Ant2	5745	16.440	5736.800	5753.240	≥0.5	PASS
	Ant1	5785	16.320	5776.840	5793.160	≥0.5	PASS
	Ant2	5785	16.520	5776.760	5793.280	≥0.5	PASS
	Ant1	5825	16.440	5816.760	5833.200	≥0.5	PASS
	Ant2	5825	16.560	5816.720	5833.280	≥0.5	PASS
11N20MIMO	Ant1	5745	17.720	5736.120	5753.840	≥0.5	PASS
	Ant2	5745	17.600	5736.200	5753.800	≥0.5	PASS
	Ant1	5785	17.680	5776.160	5793.840	≥0.5	PASS
	Ant2	5785	17.680	5776.200	5793.880	≥0.5	PASS
	Ant1	5825	17.520	5816.200	5833.720	≥0.5	PASS
	Ant2	5825	17.560	5816.200	5833.760	≥0.5	PASS

11.3.2. Test Graphs

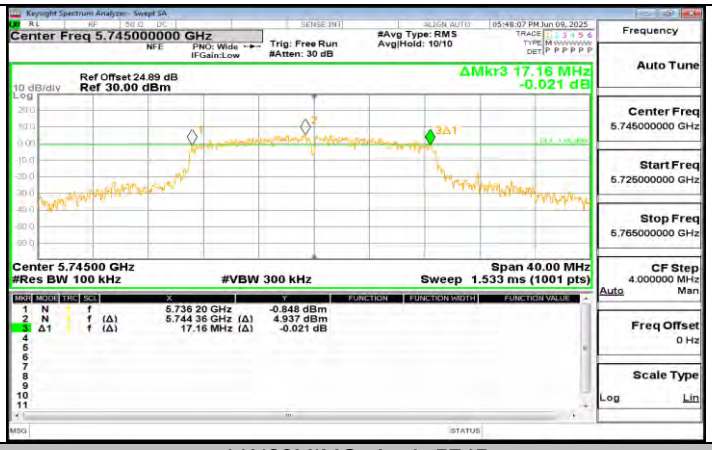
RTL8733



11A_Ant1_5745

11A_Ant1_5785

11A_Ant1_5825

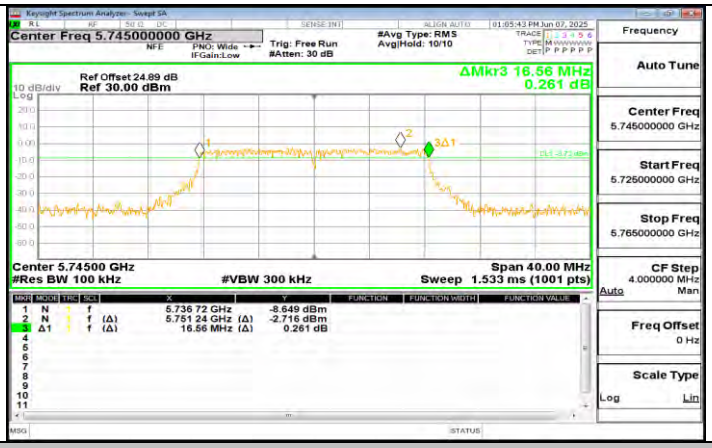


11N20MIMO_Ant1_5745

11N20MIMO_Ant1_5785

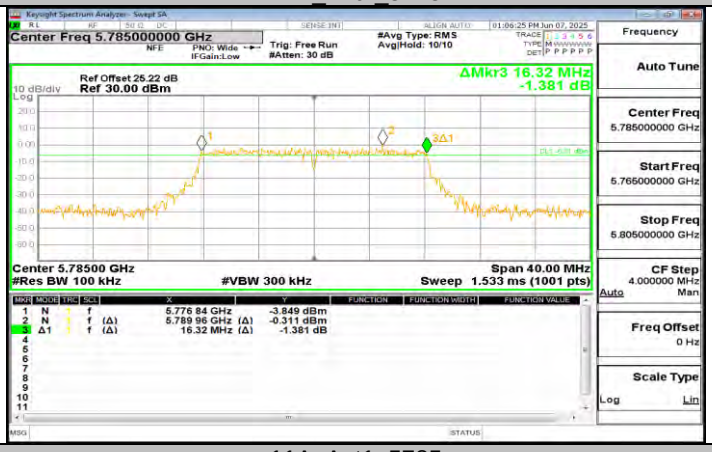
11N20MIMO_Ant1_5825

XL100

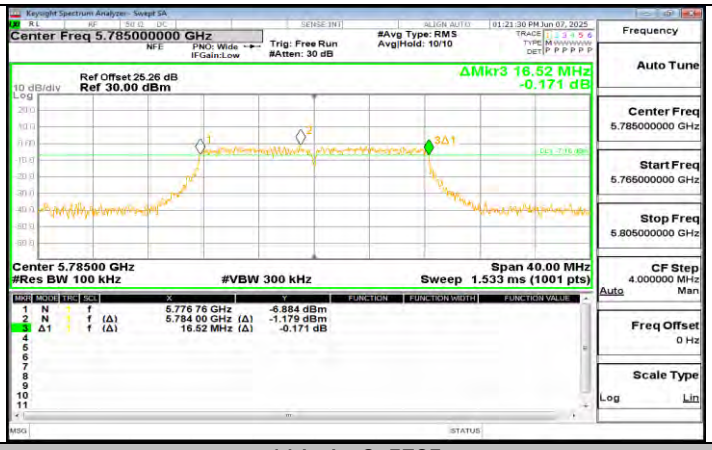


11A_Ant1_5745

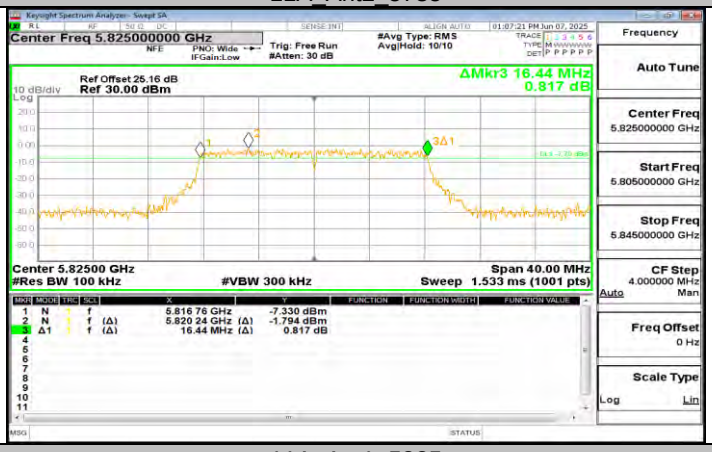
11A_Ant2_5745



11A_Ant1_5785



11A_Ant2_5785

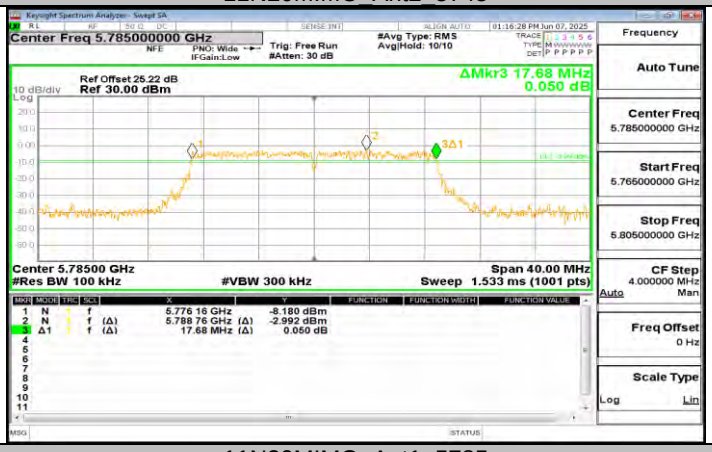


11A_Ant1_5825

11A_Ant2_5825

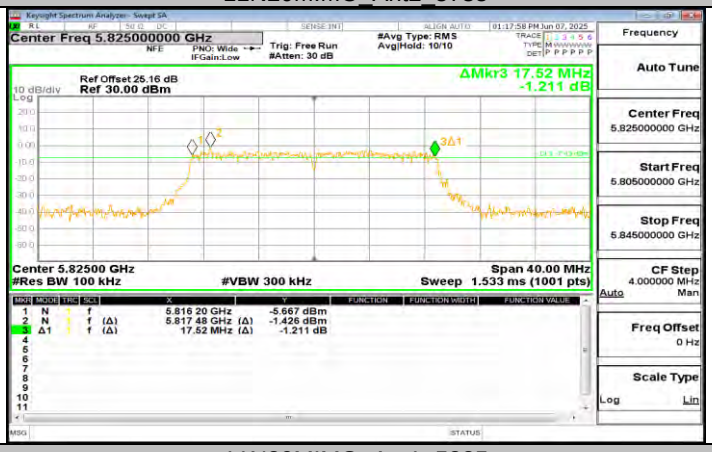
11N20MIMO_Ant1_5745

11N20MIMO_Ant2_5745



11N20MIMO_Ant1_5785

11N20MIMO_Ant2_5785



11N20MIMO_Ant1_5825

11N20MIMO_Ant2_5825

11.4. APPENDIX D: MAXIMUM CONDUCTED OUTPUT POWER

11.4.1. Test Result

RTL8733

Test Mode	Antenna	Frequency[MHz]	Power [dBm]	FCC Limit [dBm]	Verdict
11A	Ant1	5745	19.43	≤30.00	PASS
		5785	19.25	≤30.00	PASS
		5825	19.66	≤30.00	PASS
11N20	Ant1	5745	19.26	≤30.00	PASS
		5785	19.16	≤30.00	PASS
		5825	19.24	≤30.00	PASS

XL100

Test Mode	Antenna	Frequency[MHz]	Power [dBm]	FCC Limit [dBm]	Verdict
11A	Ant1	5745	22.13	≤30.00	PASS
	Ant2	5745	22.45	≤29.25	PASS
	Ant1	5785	22.27	≤30.00	PASS
	Ant2	5785	22.30	≤29.25	PASS
	Ant1	5825	21.85	≤30.00	PASS
	Ant2	5825	21.97	≤29.25	PASS
11N20MIMO	Ant1	5745	22.61	≤26.24	PASS
	Ant2	5745	22.85	≤26.24	PASS
	total	5745	25.74	≤26.24	PASS
	Ant1	5785	22.56	≤26.24	PASS
	Ant2	5785	22.74	≤26.24	PASS
	total	5785	25.66	≤26.24	PASS
	Ant1	5825	22.17	≤26.24	PASS
	Ant2	5825	22.19	≤26.24	PASS
	total	5825	25.19	≤26.24	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

RTL8733

Test Mode	Antenna	Frequency[MHz]	Power [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5745	6.67	≤30.00	PASS
		5785	6.78	≤30.00	PASS
		5825	7.19	≤30.00	PASS
11N20MIMO	Ant1	5745	6.38	≤30.00	PASS
		5785	6.61	≤30.00	PASS
		5825	6.53	≤30.00	PASS

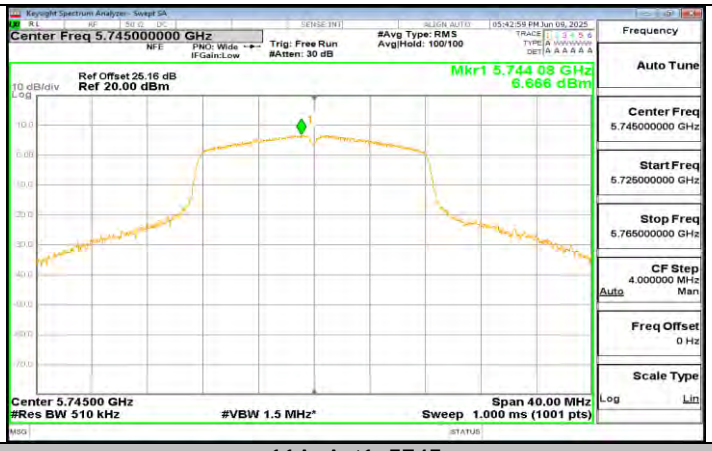
XL100

Test Mode	Antenna	Frequency[MHz]	Power [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5745	7.93	≤30.00	PASS
	Ant2	5745	8.31	≤29.25	PASS
	Ant1	5785	8.21	≤30.00	PASS
	Ant2	5785	8.19	≤29.25	PASS
	Ant1	5825	7.69	≤30.00	PASS
	Ant2	5825	7.91	≤29.25	PASS
11N20MIMO	Ant1	5745	8.11	\	PASS
	Ant2	5745	8.38	\	PASS
	total	5745	11.26	≤26.24	PASS
	Ant1	5785	8.10	\	PASS
	Ant2	5785	8.42	\	PASS
	total	5785	11.27	≤26.24	PASS
	Ant1	5825	7.76	\	PASS
	Ant2	5825	7.80	\	PASS
	total	5825	10.79	≤26.24	PASS

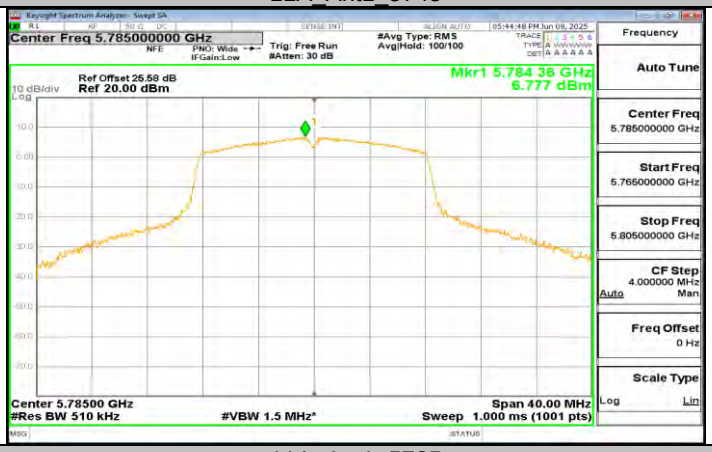
Note：1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

11.5.2. Test Graphs

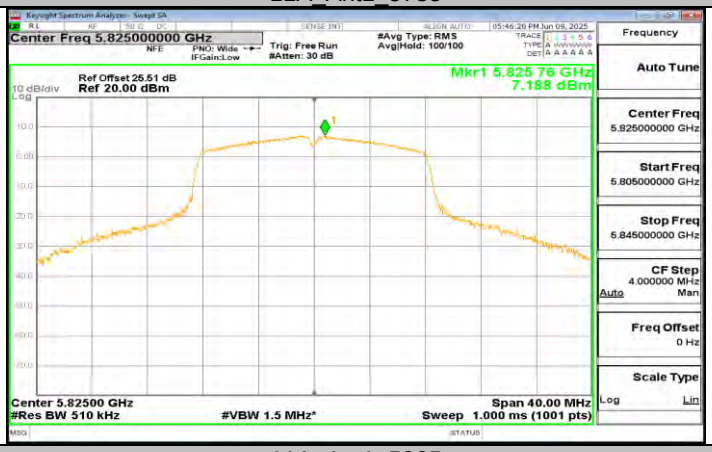
RTL8733



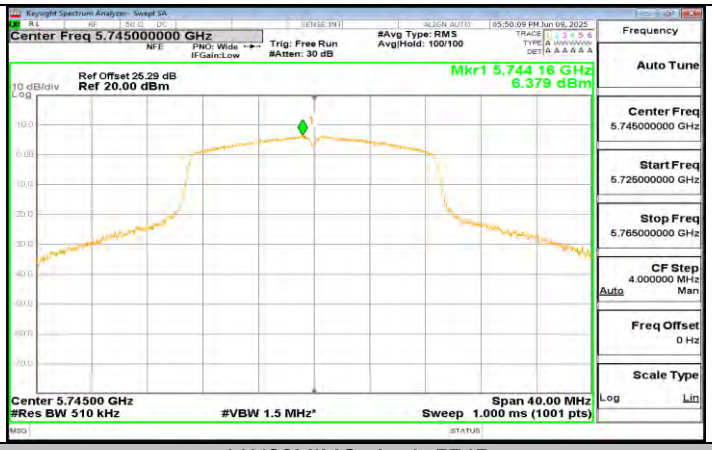
11A_Ant1_5745



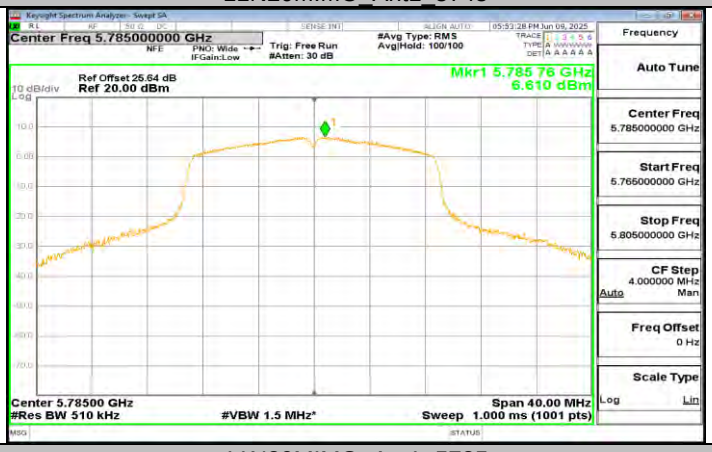
11A_Ant1_5785



11A_Ant1_5825



11N20MIMO_Ant1_5745



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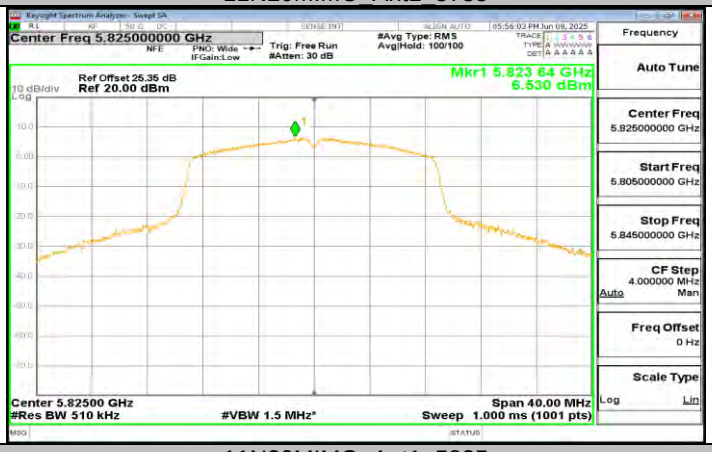
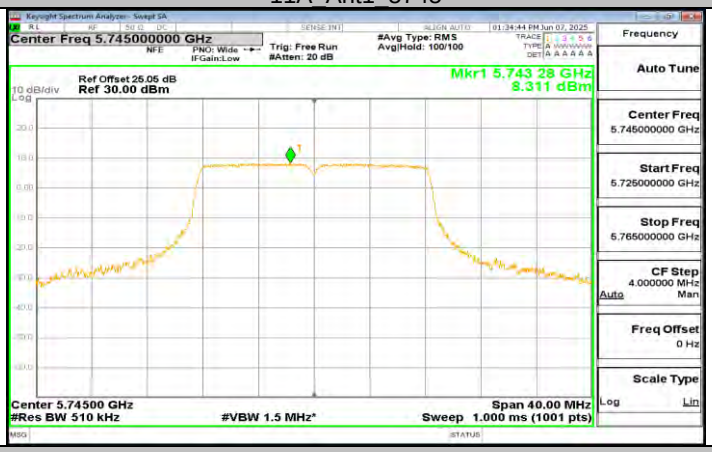


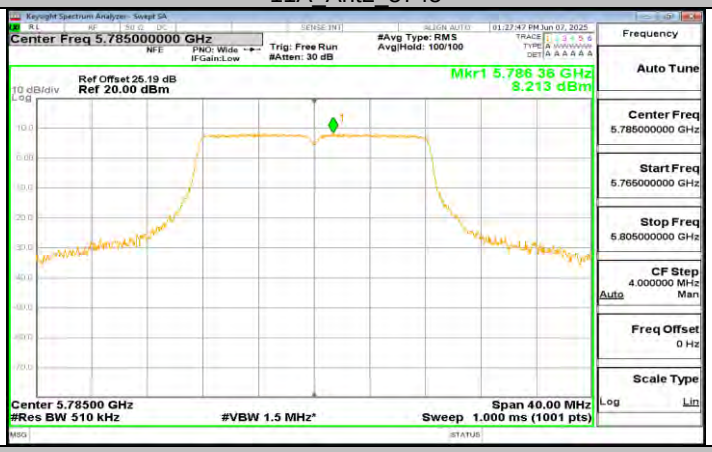
11N20MIMO_Ant1_5825

XL100

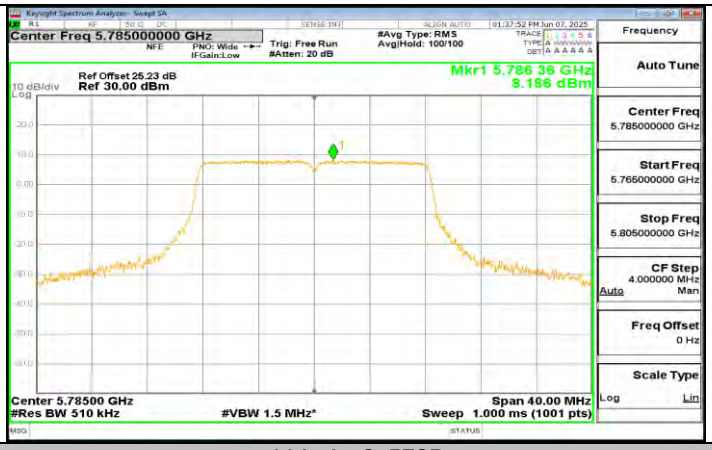
11A_Ant1_5745



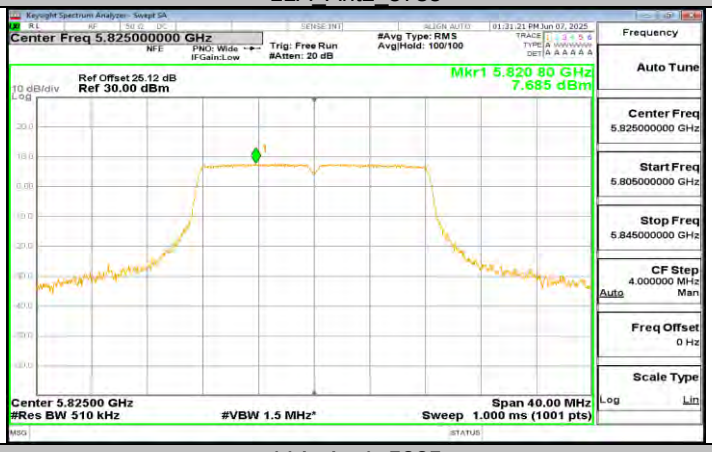
11A_Ant2_5745



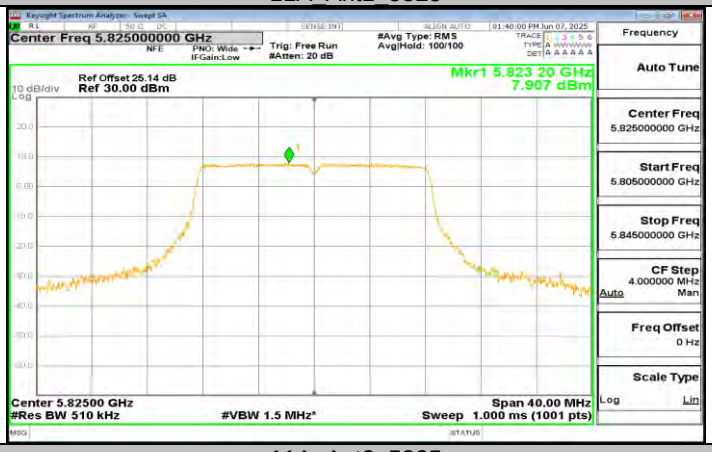
11A_Ant1_5785



11A_Ant2_5785



11A_Ant1_5825



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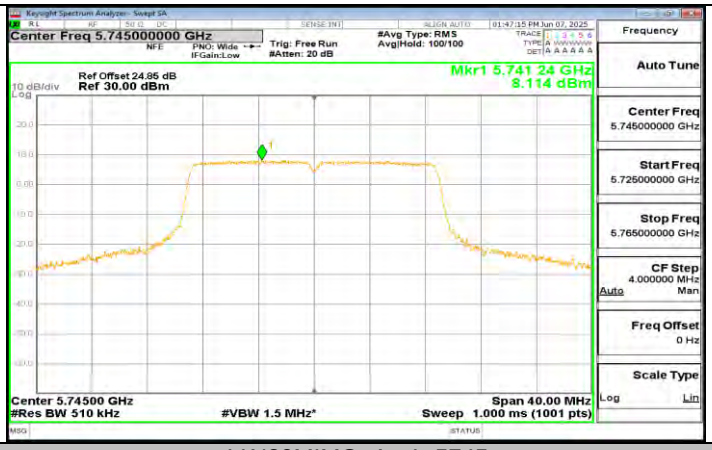
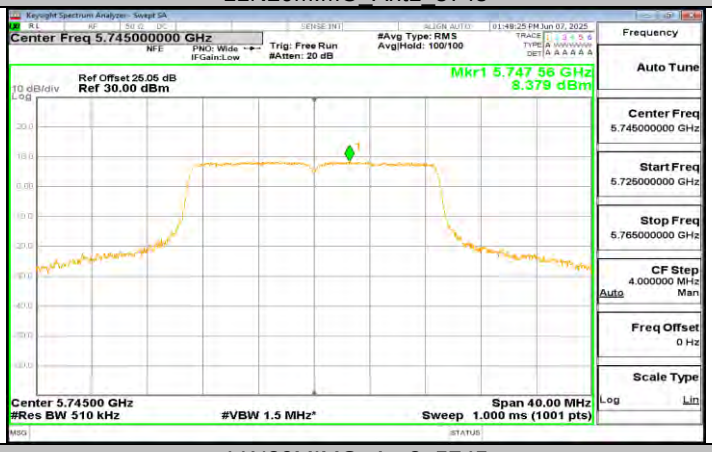


11N20MIMO_Ant1_5745



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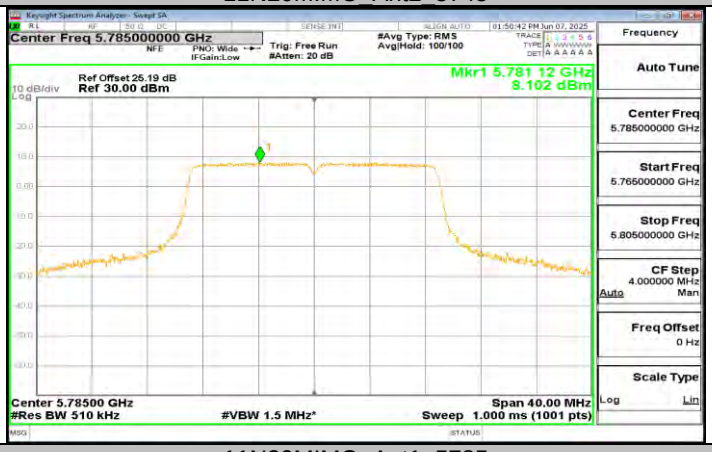

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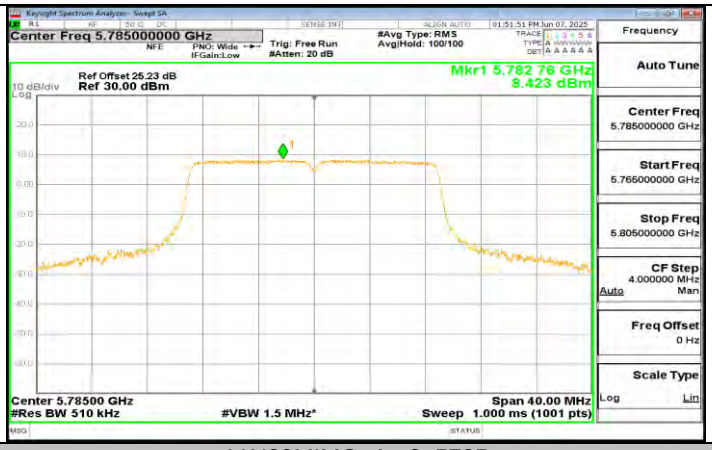

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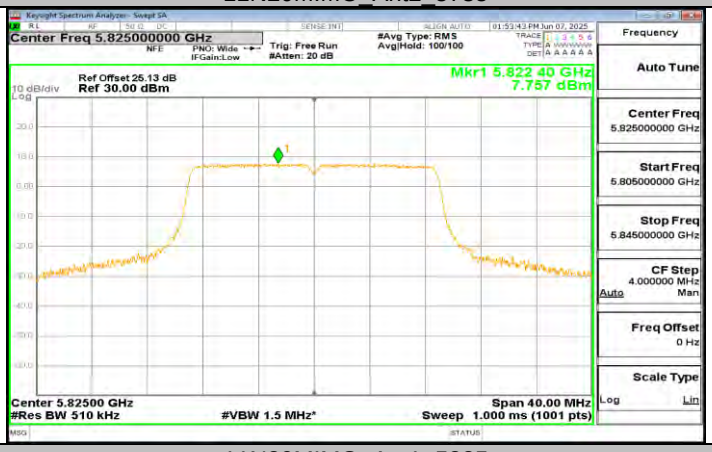

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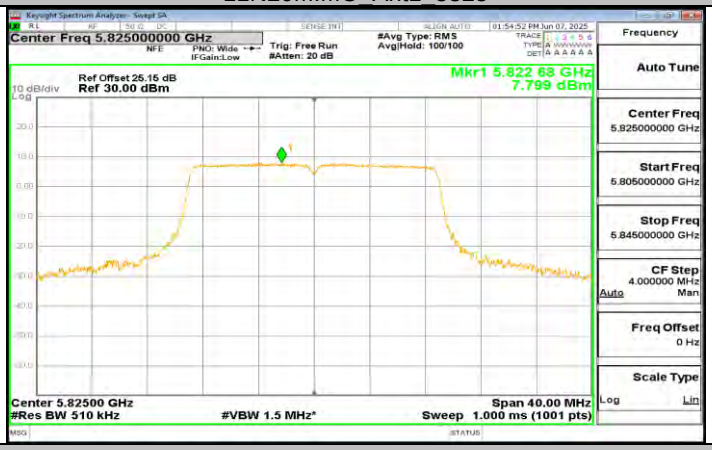


11N20MIMO_Ant2_5825

11.6. APPENDIX F: FREQUENCY STABILITY

11.6.1. Test Result

RTL8733

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	5825.0103	1.77	5824.9981	-0.33	5825.0146	2.50	5825.0161	2.77
TN	VN	5825.0206	3.54	5824.9813	-3.21	5824.9905	-1.64	5825.0101	1.73
TN	VH	5825.0162	2.79	5825.0125	2.14	5824.9770	-3.95	5825.0142	2.43

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)
70	VN	5825.0207	3.55	5824.9831	-2.90	5825.0190	3.26	5825.0112	1.91
60	VN	5824.9928	-1.24	5825.0180	3.10	5825.0095	1.62	5824.9953	-0.80
50	VN	5825.0129	2.22	5824.9826	-2.99	5824.9948	-0.89	5825.0217	3.72
40	VN	5824.9825	-3.01	5824.9952	-0.82	5825.0220	3.77	5824.9955	-0.78
30	VN	5825.0150	2.57	5825.0045	0.77	5825.0123	2.11	5824.9907	-1.59
20	VN	5824.9814	-3.20	5825.0208	3.57	5824.9890	-1.89	5824.9814	-3.19
10	VN	5825.0207	3.55	5824.9831	-2.90	5825.0190	3.26	5825.0112	1.91
0	VN	5824.9928	-1.24	5825.0180	3.10	5825.0095	1.62	5824.9953	-0.80
-10	VN	5825.0129	2.22	5824.9826	-2.99	5824.9948	-0.89	5825.0217	3.72

XL100

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	5824.9789	-3.63	5824.9864	-2.34	5824.9906	-1.61	5824.9978	-0.37
TN	VN	5825.0059	1.01	5825.0023	0.39	5825.0240	4.12	5825.0228	3.91
TN	VH	5824.9983	-0.30	5825.0166	2.85	5824.9844	-2.68	5824.9962	-0.66

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)
70	VN	5824.9939	-1.06	5824.9915	-1.46	5825.0081	1.39	5825.0048	0.82
60	VN	5824.9785	-3.69	5825.0085	1.47	5825.0196	3.37	5825.0013	0.22
50	VN	5825.0208	3.57	5824.9789	-3.63	5824.9890	-1.89	5824.9831	-2.91
40	VN	5825.0012	0.21	5825.0084	1.44	5824.9933	-1.16	5825.0184	3.16
30	VN	5825.0115	1.98	5825.0158	2.72	5825.0147	2.52	5824.9864	-2.33
20	VN	5825.0090	1.55	5824.9925	-1.29	5825.0148	2.54	5824.9766	-4.02
10	VN	5825.0038	0.66	5824.9946	-0.93	5825.0196	3.36	5825.0060	1.04
0	VN	5824.9836	-2.82	5824.9815	-3.17	5824.9780	-3.78	5825.0172	2.95
-10	VN	5824.9939	-1.06	5824.9915	-1.46	5825.0081	1.39	5825.0048	0.82

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

RTL8733

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	2.07	2.25	0.9200	92.00	0.36	0.48	1
11N20MIMO	1.92	2.15	0.8930	89.30	0.49	0.52	1

XL100

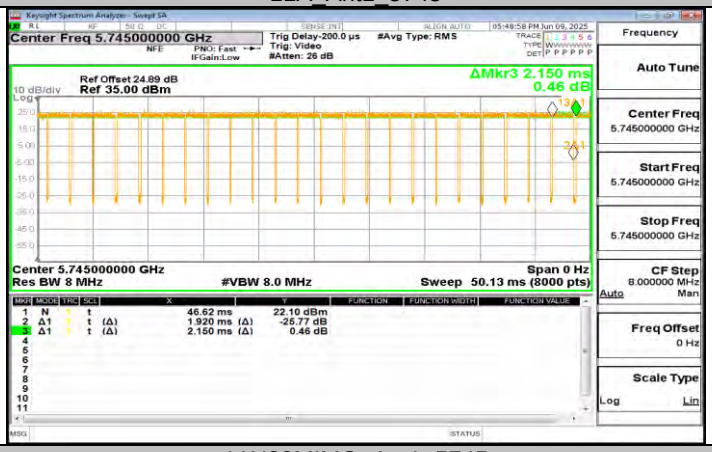
Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11A	2.73	2.75	0.9927	99.27	0.03	0.37	0.01
11N20MIMO	2.53	2.56	0.9883	98.83	0.05	0.40	0.01

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

RTL8733

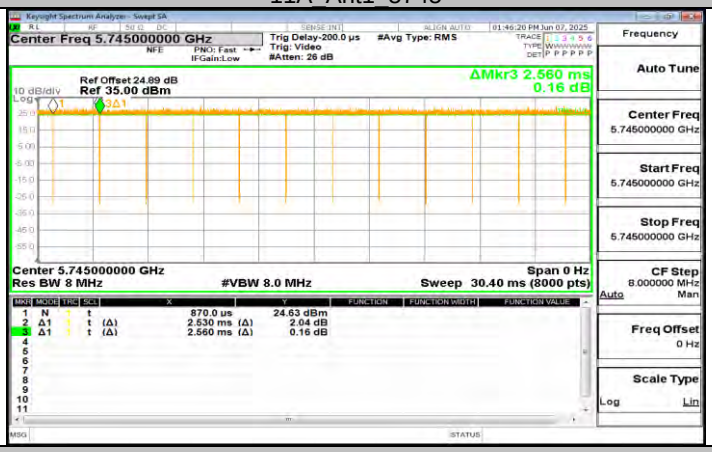
11A_Ant1_5745



11N20MIMO_Ant1_5745

XL100

11A_Ant1_5745



11N20MIMO_Ant1_5745

END OF REPORT