CFR 47 FCC PART 15 SUBPART C
ISED RSS-247 ISSUE 2

TEST REPORT

For

KAON AP GATEWAY

MODEL NUMBER: AR1840, EVO1840AP

REPORT NUMBER: 4790724057-RF-1

ISSUE DATE: March 30, 2023

FCC ID: 2AXCW-AP1840

IC: 28198-AP1840

Prepared for

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884-3, Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	March 30, 2023	Initial Issue	

Summary of Test Results

Test Item	Clause	Limit/Requirement	Result
Antenna Requirement	/	FCC Part 15.203/15.247 (c) RSS-GEN Clause 6.8	Pass
AC Power Line Conducted Emission	ANSI C63.10-2013, Clause 6.2	FCC Part 15.207 RSS-GEN Clause 8.8	Pass
Conducted Output Power	ANSI C63.10-2013, Clause 11.9.1.3	FCC Part 15.247 (b)(3) RSS-247 Clause 5.4 (d)	Pass
6dB Bandwidth and 99% Occupied Bandwidth	ANSI C63.10-2013, Clause 11.8.1	FCC Part 15.247 (a)(2) RSS-247 Clause 5.2 (a) ISED RSS-Gen Clause 6.7	Pass
Power Spectral Density	ANSI C63.10-2013, Clause 11.10.2	FCC Part 15.247 (e) RSS-247 Clause 5.2 (b)	Pass
Conducted Band edge and spurious emission	ANSI C63.10-2013, Clause 11.11	FCC Part 15.247(d) RSS-247 Clause 5.5	Pass
Radiated Band edge and Spurious Emission	ANSI C63.10-2013, Clause 11.12 & Clause 11.13	FCC Part 15.247 (d) FCC Part 15.205/15.209 RSS-247 Clause 5.5 RSS-GEN Clause 8.9	Pass
Duty Cycle	ANSI C63.10-2013, Clause 11.6	None; for reporting purposes only.	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 C and ISED RSS-247 ISSUE 2> when <Accuracy Method> decision rule is applied.

CONTENTS

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Kaonbroadband CO., LTD.
Address:	884-3, Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

Manufacturer Information

Company Name:	Kaonbroadband CO., LTD.
Address:	884-3, Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

EUT Information

EUT Name:	KAON AP GATEWAY
Model:	AR1840
Serial Model:	EVO1840AP
Model Difference:	Please refer the clause 5.1 DESCRIPTION OF EUT
Sample Received Date:	February 7, 2023
Sample Status:	Normal
Sample ID:	5739139
Date of Tested:	February 13, 2023 to March 29, 2023

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 FCC PART 15 SUBPART C	**PASS**
ISED RSS-247 ISSUE 2	**PASS**

Prepared By:

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Checked By:

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Stephen Guo

Operations Manager

2. TEST METHODOLOGY

All tests were performed in accordance with the standard CFR 47 FCC PART 15 SUBPART C ISED RSS-247 ISSUE 2, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, KDB 662911 D01 Multiple Transmitter Output v02r01, CFR 47 FCC Part 2, CFR 47 FCC Part 15, ANSI C63.10-2013, ISED RSS-247 Issue 2 and ISED RSS-GEN Issue 5.

3. FACILITIES AND ACCREDITATION

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

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

Note 2:
The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd.
Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. MEASUREMENT UNCERTAINTY

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

Test Item	Uncertainty
Conduction emission	3.62 dB
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB
Radiated Emission (Included Fundamental Emission) (1 GHz to 26 GHz)	5.78 dB (1 GHz ~ 18 GHz)
	5.23 dB (18 GHz ~ 26 GHz)
Duty Cycle	±0.028%
DTS and 99% Occupied Bandwidth	±0.0196%
Maximum Conducted Output Power	±0.686 dB
Maximum Power Spectral Density Level	±0.743 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	KAON AP GATEWAY
Model:	AR1840
Serial Model:	EVO1840AP
Model Difference:	The PCB is for common use, and 2 types of Tact keys (removed WPS, Reset Button) and 1 LED SILK device (replacing WPS LED with BT LED) are different. 1. AR1840(Basic) – There are WPS, Reset Button / There is WPS LED 2. EVO1840AP(Derivative) – There are no WPS, Reset Button / There is BT LED. All RF circuits and parameter are the same, we selected AR1840 for RF tested, the differences above were evaluated in FCC Part 15B.
Radio Technology	IEEE802.11b/g/n HT20/n HT40/ax HE20/ax HE40
Operation Frequency	IEEE 802.11b: 2412 MHz ~ 2462 MHz IEEE 802.11g: 2412 MHz ~ 2462 MHz IEEE 802.11n HT20: 2412 MHz ~ 2462 MHz IEEE 802.11n HT40: 2422 MHz ~ 2452 MHz IEEE 802.11ax HE20: 2412 MHz ~ 2462 MHz IEEE 802.11ax HE40: 2422 MHz ~ 2452 MHz
Modulation	IEEE 802.11b: DSSS(CCK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT40: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax HE20: OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax HE40: OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
Power Supply	DC 12 V

5.2. CHANNEL LIST

Channel List for 802.11b/g/n/ax (20 MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	4	2427	7	2442	10	2457
2	2417	5	2432	8	2447	11	2462
3	2422	6	2437	9	2452	/	/

Channel List for 802.11n/ax (40 MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	5	2432	7	2442	9	2452
4	2427	6	2437	8	2447	/	/

5.3. MAXIMUM EIRP

IEEE Std. 802.11	Frequency (MHz)	Channel Number	Maximum Conducted Average Output Power (dBm)	Maximum Average EIRP (dBm)
b	2412 ~ 2462	1-11[11]	20.90	25.81
g	2412 ~ 2462	1-11[11]	19.65	24.56
n HT20	2412 ~ 2462	1-11[11]	19.93	24.84
n HT40	2422 ~ 2452	3-9[7]	18.68	23.59
ax HE20	2412 ~ 2462	1-11[11]	20.23	25.14
ax HE40	2422 ~ 2452	3-9[7]	18.88	23.79

5.4. TEST CHANNEL CONFIGURATION

IEEE Std. 802.11	Test Channel Number	Frequency
b	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
g	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
n HT20	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
n HT40	CH 3(Low Channel), CH 6(MID Channel), CH 9(High Channel)	2422 MHz, 2437 MHz, 2452 MHz
ax HE20	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
ax HE40	CH 3(Low Channel), CH 6(MID Channel), CH 9(High Channel)	2422 MHz, 2437 MHz, 2452 MHz

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5 MHz Band							
Test Software		accessMTool					
Modulation Mode	Transmit Antenna Number	Test Channel					
		NCB: 20MHz			NCB: 40MHz		
		CH 1	CH 6	CH 11	CH 3	CH 6	CH 9
802.11b	5	74	74	74	/		
	6	74	74	74			
802.11g	5	68	68	68			
	6	68	68	68			
802.11n HT20	5	70	70	70			
	6	70	70	70			
802.11n HT40	5	/			65	65	65
	6	/			65	65	65
802.11ax HE20	5	70	70	70	/		
	6	70	70	70			
802.11ax HE40	5	/			65	65	65
	6	/			65	65	65

5.6. THE 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:

IEEE 802.11b / CDD – DBPSK / 1 Mbps
IEEE 802.11g / CDD – BPSK / 6 Mbps
IEEE 802.11n HT20 / CDD / TxBF – BPSK / MCS0
IEEE 802.11n HT40 / CDD / TxBF – BPSK / MCS0
IEEE 802.11ax HE20 / CDD / TxBF – BPSK / MCS0
IEEE 802.11ax HE40 / CDD / TxBF – BPSK / MCS0

The EUT support CDD and TxBF (Tx Beamforming) modes, all the modes had been tested, but only the worst data was recorded in the report.

The EUT has 2 separate antennas which correspond to 2 separate antenna ports. Core 5 and Core 6 correspond to antenna 5 and antenna 6 respectively.

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

Radiated emissions tests were performed with the worst case 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.

The 2.4 GHz beamforming function is enabled by test program, the carrier wave will be under radio chip phase control and sent to the antennas through the test program.

5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	Maximum Antenna Gain (dBi)
5	2412-2462	Dipole	1.9
6	2412-2462	Dipole	1.9

The EUT support Cyclic Shift Diversity (CDD) mode.
MIMO output power port and MIMO PSD port summing was performed in accordance with KDB 662911 D01. For the CDD mode results the Directional Gain was calculated in accordance with the following method.

For output power measurements:
Directional gain= G_{ANT} + Array Gain = 1.9 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 = 4.91 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

The EUT support Tx beamforming mode.
MIMO output power port and MIMO PSD port summing was performed in accordance with KDB 662911 D01. For the Tx beamforming mode results the Directional Gain was calculated in accordance with the following method.

For output power measurements:
Directional gain= G_{ANT} + 10 log (N_{ANT}) dBi = 4.91 dBi
G_{ANT}: equal to the gain of the antenna having the highest gain

For power spectral density (PSD) measurements:
Directional gain= G_{ANT} + 10 log (N_{ANT}) dBi = 4.91 dBi
G_{ANT}: equal to the gain of the antenna having the highest gain

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	ThinkPad	X230i	/

I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	2.5G WAN	RJ45	Unshielded	1.0 m	/
2	LAN1	RJ45	Unshielded	1.0 m	/
3	LAN2	RJ45	Unshielded	1.0 m	/
4	LAN3	RJ45	Unshielded	1.0 m	/
5	DC IN	/	Unshielded	2.0 m	/

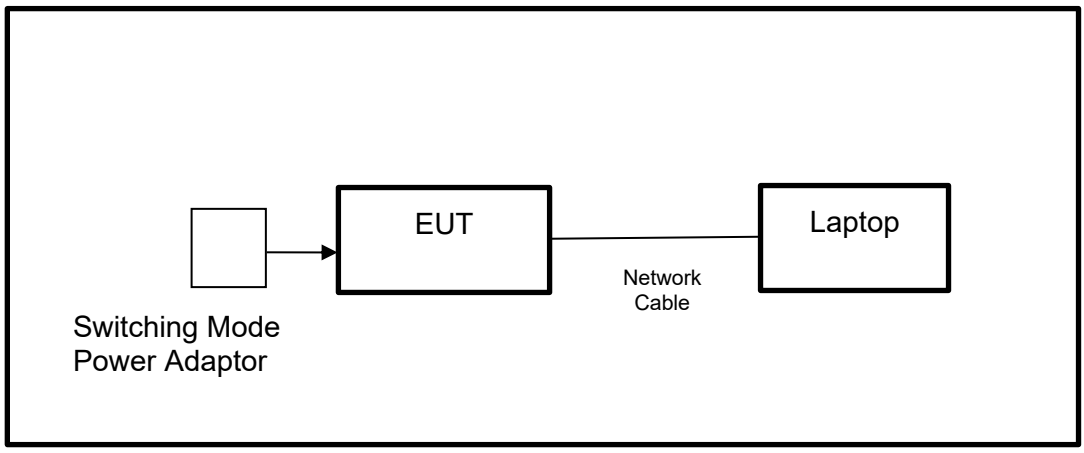
ACCESSORIES

Item	Accessory	Brand Name	Model Name	Description
1	Switching Mode Power Adaptor	/	F24L9-120200SPKU	Input: AC 100-240 V, 50 / 60 Hz, 0.6 A Output: DC 12.0 V, 2 A, 24 W

TEST SETUP

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

SETUP DIAGRAM FOR TESTS



6. MEASURING EQUIPMENT AND SOFTWARE USED

R&S TS 8997 Test System					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Power sensor, Power Meter	R&S	OSP120	100921	Apr.02,2022	Apr.01,2023
Vector Signal Generator	R&S	SMBV100A	261637	Oct.17, 2022	Oct.16, 2023
Signal Generator	R&S	SMB100A	178553	Oct.17, 2022	Oct.16, 2023
Signal Analyzer	R&S	FSV40	101118	Oct.17, 2022	Oct.16, 2023
Software					
Description	Manufacturer	Name	Version		
For R&S TS 8997 Test System	Rohde & Schwarz	EMC 32	10.60.10		

Tonsend RF Test System					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
PXA Signal Analyzer	Keysight	N9030A	MY55410512	Oct.17, 2022	Oct.16, 2023
MXG Vector Signal Generator	Keysight	N5182B	MY56200284	Oct.17, 2022	Oct.16, 2023
MXG Vector Signal Generator	Keysight	N5172B	MY56200301	Oct.17, 2022	Oct.16, 2023
Attenuator	Agilent	8495B	2814a12853	Oct.18, 2022	Oct.17, 2023
Software					
Description	Manufacturer	Name	Version		
Tonsend SRD Test System	Tonsend	JS1120-3 RF Test System	2.6.77.0518		

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

Radiated Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Oct.17, 2022	Oct.16, 2023
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	Aug.02, 2021	Aug.01, 2024
Preamplifier	HP	8447D	2944A09099	Oct.17, 2022	Oct.16, 2023
EMI Measurement Receiver	R&S	ESR26	101377	Oct.17, 2022	Oct.16, 2023
Horn Antenna	TDK	HRN-0118	130940	July 20, 2021	July 19, 2024
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct.17, 2022	Oct.16, 2023
Horn Antenna	Schwarzbeck	BBHA9170	697	July 20, 2021	July 19, 2024
Preamplifier	TDK	PA-02-2	TRS-307-00003	Oct.17, 2022	Oct.16, 2023
Preamplifier	TDK	PA-02-3	TRS-308-00002	Oct.17, 2022	Oct.16, 2023
Loop antenna	Schwarzbeck	1519B	00008	Dec.14, 2021	Dec.13, 2024
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Oct.17, 2022	Oct.16, 2023
High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	/	/
Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	4	/	/
Band Reject Filter	Wainwright	WRCJV20-5440-5470-5725-5755-60SS	1	/	/
Band Reject Filter	Xingbo	XBLBQ-DZA175	210922-2-1	/	/
High Pass Filter	Xingbo	XBLBQ-GTA68	211115-2-1	/	/
Thermohygro	VICTOR	VC230A	/	Feb.09, 2023	Feb.08, 2024

Software			
Description	Manufacturer	Name	Version
Test Software for Radiated Emissions	Farad	EZ-EMC	Ver. UL-3A1

7. ANTENNA PORT TEST RESULTS

7.1. CONDUCTED OUTPUT POWER

LIMITS

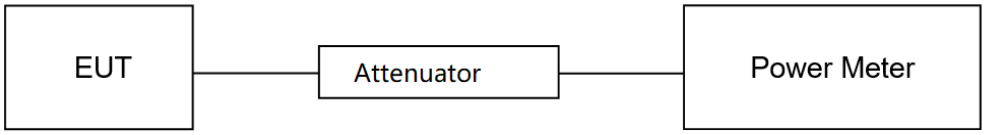
CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(b)(3) ISED RSS-247 5.4 (d)	AVG Output Power	1 watt or 30 dBm	2400-2483.5

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.9.2.3.1.

Connect the EUT to a low loss RF cable from the antenna port to the power sensor (video bandwidth is greater than the occupied bandwidth).
Measure peak emission level, the indicated level is the average output power, after any corrections for external attenuators and cables.
The test result in dBm by adding [10 log (1 / D)], where D is the duty cycle.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.5 °C	Relative Humidity	54.2%
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 V

TEST RESULTS

Please refer to section "Test Data" - Appendix C

7.2. 6DB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(a)(2) ISED RSS-247 5.2 (a)	6 dB Bandwidth	≥ 500 kHz	2400-2483.5
ISED RSS-Gen Clause 6.7	99 % Occupied Bandwidth	For reporting purposes only.	2400-2483.5

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.8 for DTS bandwidth and clause 6.9 for Occupied Bandwidth.

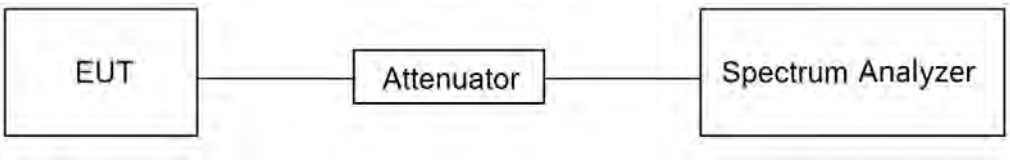
Connect the EUT to the spectrum analyzer and use the following settings:

Center Frequency	The center frequency of the channel under test
Frequency Span	For 6 dB Bandwidth: Enough to capture all products of the modulation carrier emission For 99 % Occupied Bandwidth: Between 1.5 times and 5.0 times the OBW
Detector	Peak
RBW	For 6 dB Bandwidth: 100 kHz For 99 % Occupied Bandwidth: 1 % to 5 % of the occupied bandwidth
VBW	For 6 dB Bandwidth: ≥3 × RBW For 99 % Occupied 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 dB relative to the maximum level measured in the fundamental emission.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.5 °C	Relative Humidity	54.2%
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 V

TEST RESULTS

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

7.3. POWER SPECTRAL DENSITY

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC §15.247 (e) ISED RSS-247 5.2 (b)	Power Spectral Density	8 dBm in any 3 kHz band	2400-2483.5

TEST PROCEDURE

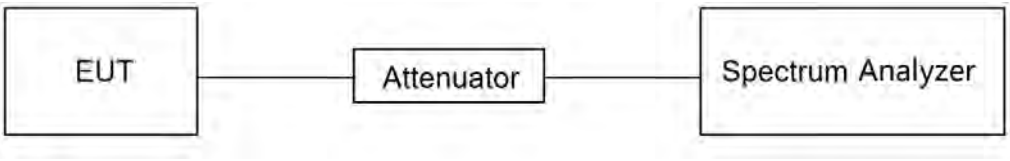
Refer to ANSI C63.10-2013 clause 11.10.5.

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

Center Frequency	The center frequency of the channel under test
Detector	power averaging (rms)
RBW	3 kHz ≤ RBW ≤ 100 kHz
VBW	≥3 × RBW
Span	1.5 x OBW bandwidth
Trace	Average
Sweep time	Auto couple

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.
If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.5 °C	Relative Humidity	54.2%
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 V

TEST RESULTS

Please refer to section "Test Data" - Appendix D

7.4. CONDUCTED BAND EDGE AND SPURIOUS EMISSION

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2		
Section	Test Item	Limit
CFR 47 FCC §15.247 (d) ISED RSS-247 5.5	Conducted Bandedge and Spurious Emissions	at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.11 and 11.13.

Connect the EUT to the spectrum analyzer and use the following settings for reference level measurement:

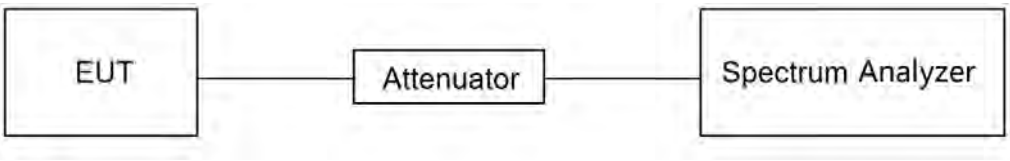
Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum PSD level.
Change the settings for emission level measurement:

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100 kHz
VBW	≥3 × RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum PSD level. Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.5 °C	Relative Humidity	54.2%
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 V

TEST RESULTS

Please refer to section "Test Data" - Appendix E & F

7.5. DUTY CYCLE

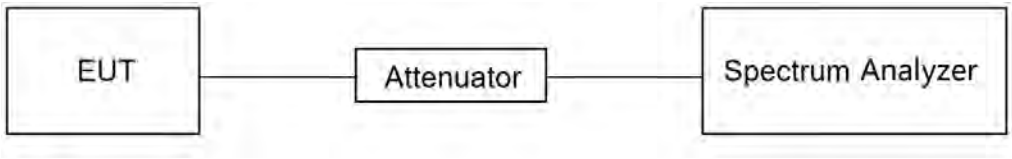
LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.6 Zero – Span Spectrum Analyzer method.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.5 °C	Relative Humidity	54.2%
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 V

TEST RESULTS

Please refer to section "Test Data" - Appendix G

8. RADIATED TEST RESULTS

LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209.

Please refer to ISED RSS-GEN Clause 8.9 and Clause 8.10.

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

ISED General field strength limits at frequencies below 30 MHz

Table 6 – General field strength limits at frequencies below 30 MHz

Frequency	Magnetic field strength (H-Field) (µA/m)	Measurement distance (m)
9 - 490 kHz[Note 1]	6.37/F (F in kHz)	300
490 - 1705 kHz	63.7/F (F in kHz)	30
1.705 - 30 MHz	0.08	30

Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

ISED Restricted bands please refer to ISED RSS-GEN Clause 8.10

Table 7 – Restricted frequency bands[Note 1]		
MHz	MHz	GHz
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 – 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 – 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 – 8500	
108 – 138		

Note 1: Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

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

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 ANSI C63.10-2013 clause 6.6.

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 7.5.ON TIME AND DUTY CYCLE.

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

For Restricted Bandedge:
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.5.
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, channels and antennas have been tested, 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, channels and antennas have been tested, only the worst data was recorded in the report.

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, channels and antennas have been tested, only the worst data was recorded in the report.

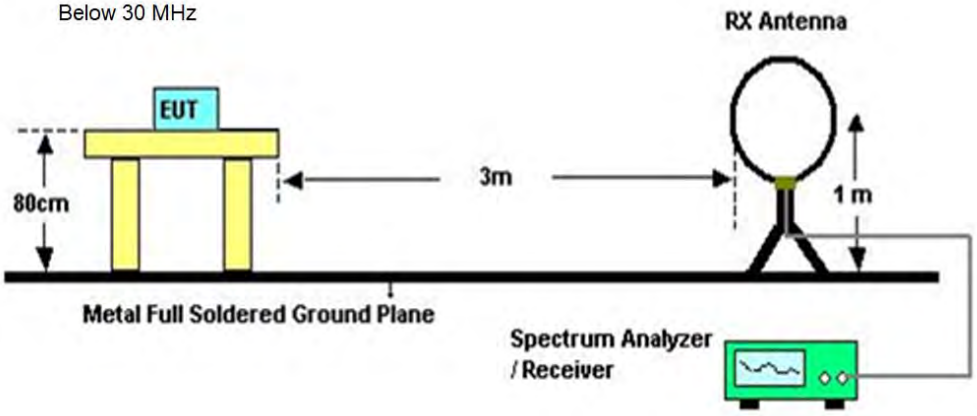
For Radiate Spurious Emission (1 GHz ~ 3 GHz):
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.5.
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. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious Emission (3 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 7.5.
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. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

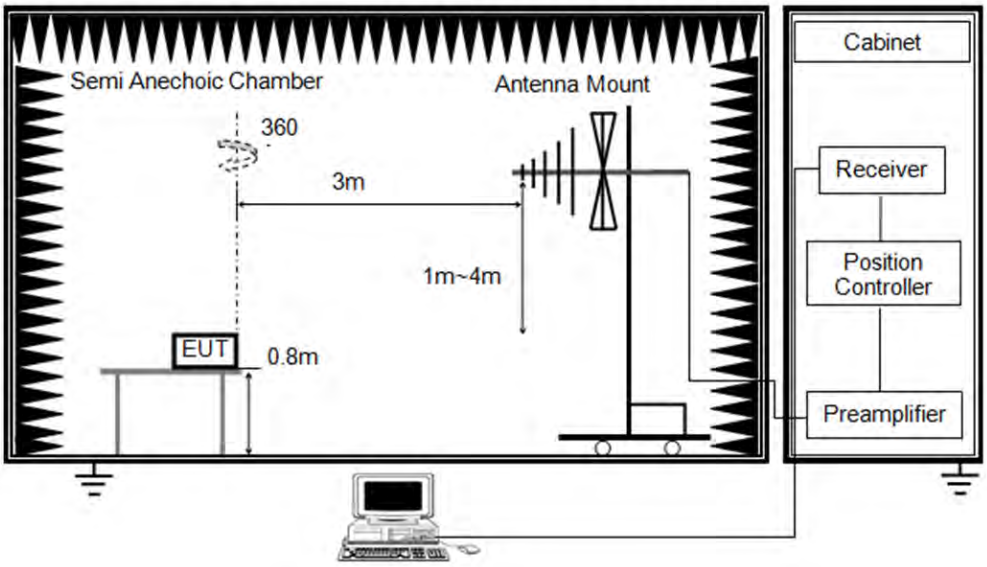
For Radiate Spurious emission (18 GHz ~ 26 GHz):
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. All modes, channels and antennas have been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

TEST SETUP

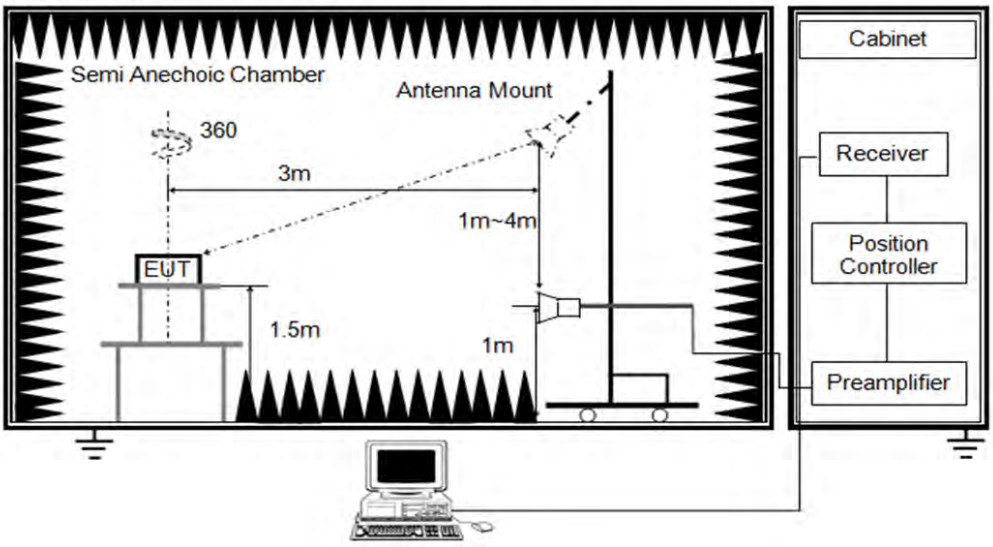
Below 30 MHz



Below 1 GHz and above 30 MHz



Above 1 GHz



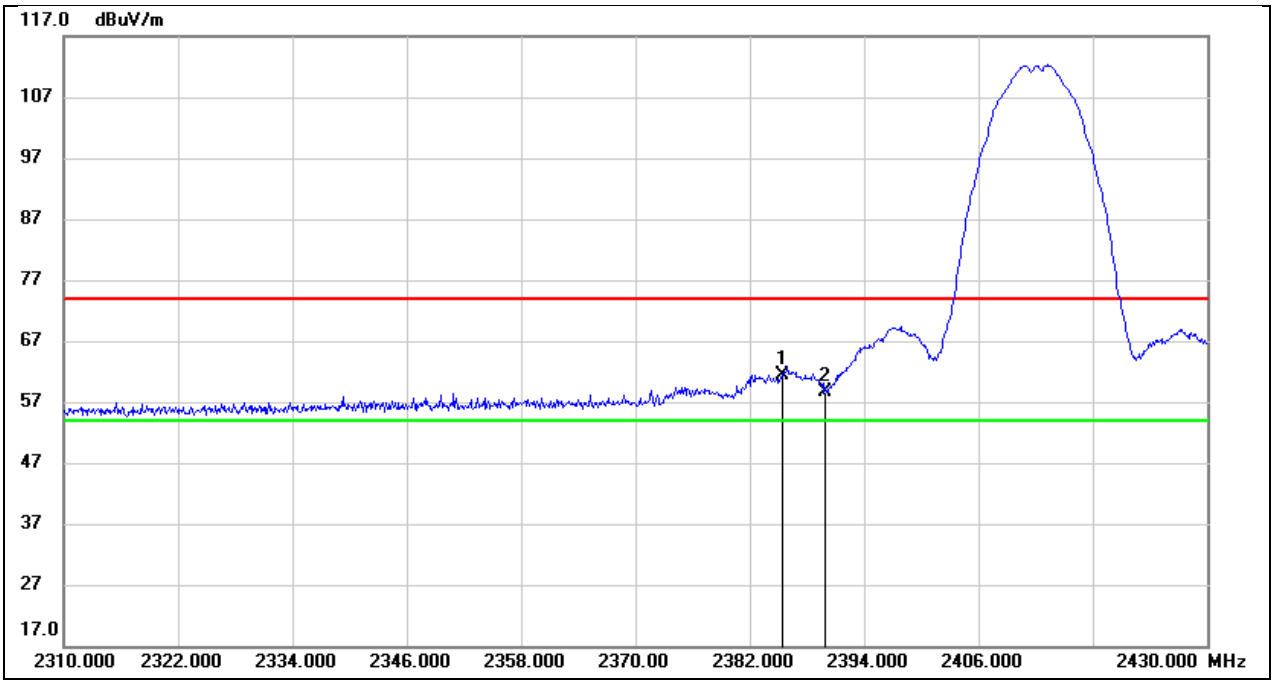
TEST ENVIRONMENT

Temperature	23.6 °C	Relative Humidity	54%
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 V

TEST RESULTS

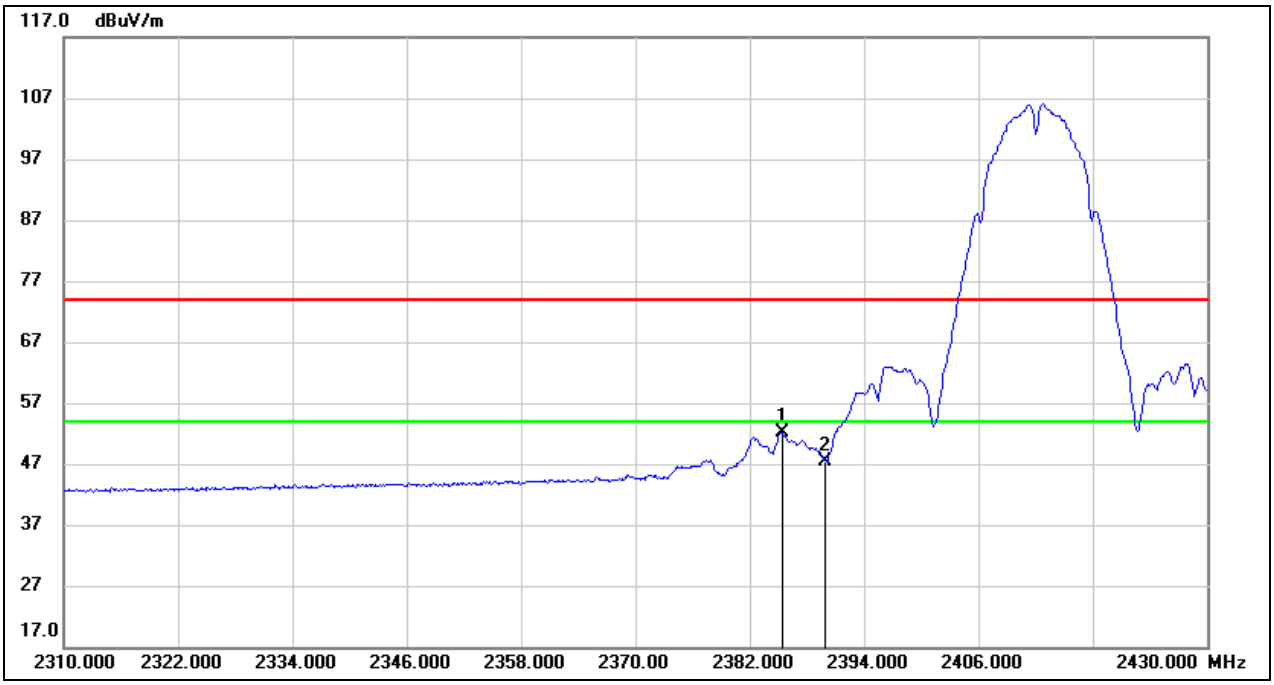
8.1. RESTRICTED BANDEDGE

Test Mode:	802.11b Peak	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



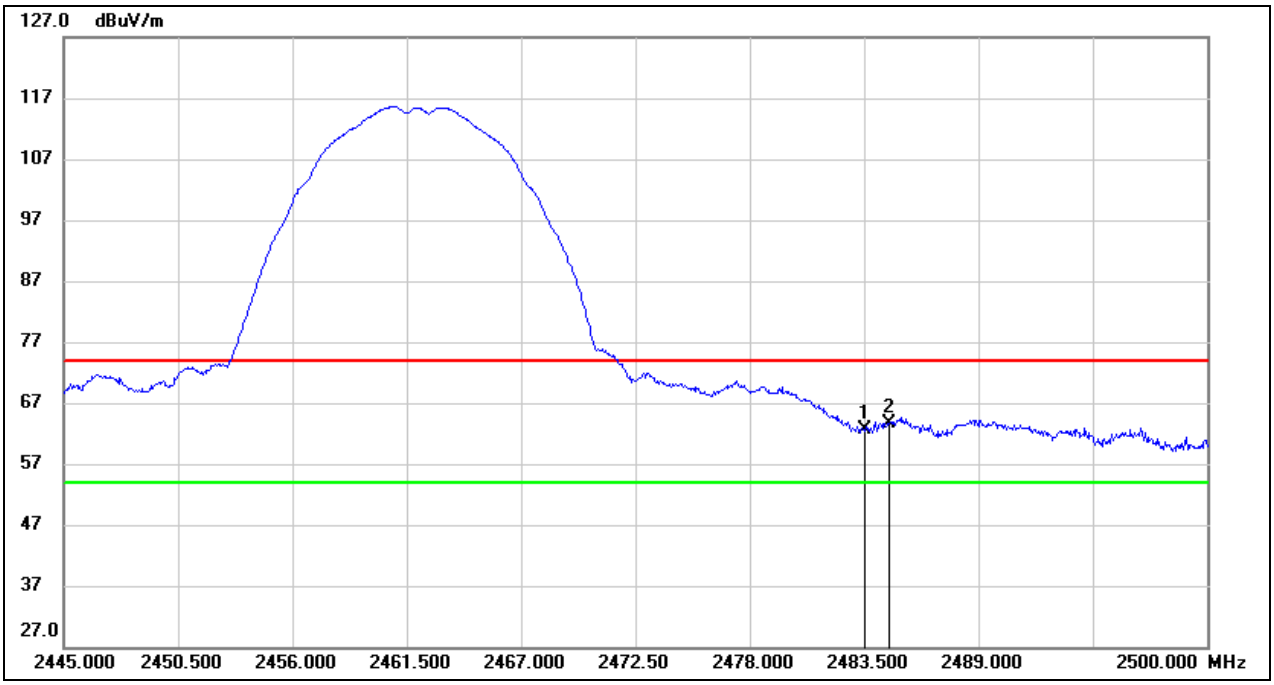
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.480	29.21	32.14	61.35	74.00	-12.65	peak
2	2390.000	26.36	32.16	58.52	74.00	-15.48	peak

Test Mode:	802.11b Average	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



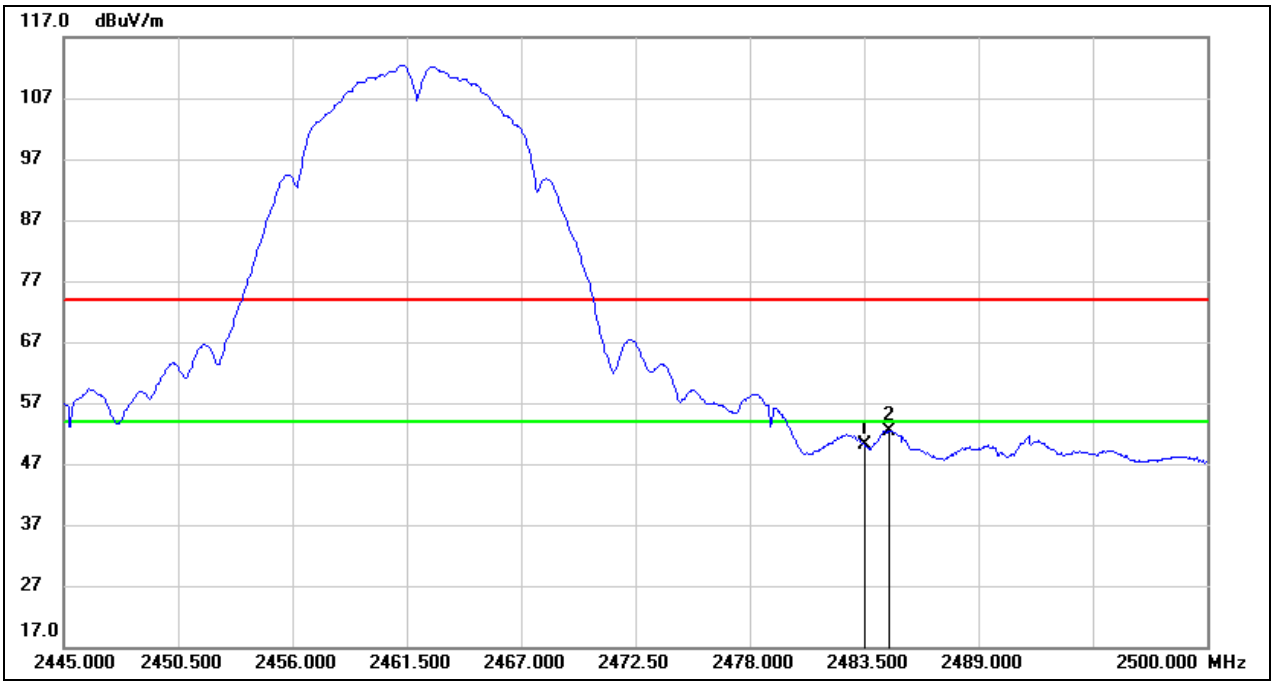
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.480	19.95	32.14	52.09	54.00	-1.91	AVG
2	2390.000	15.16	32.16	47.32	54.00	-6.68	AVG

Test Mode:	802.11b Peak	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



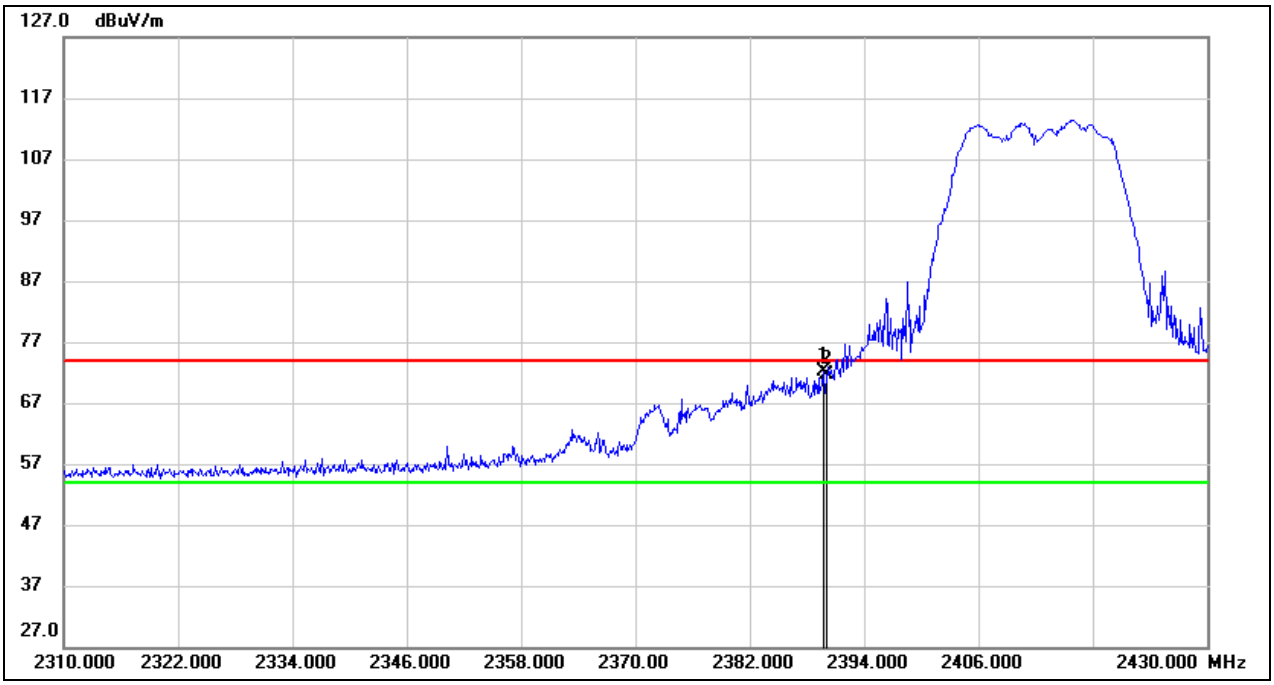
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	30.15	32.44	62.59	74.00	-11.41	peak
2	2484.710	31.08	32.44	63.52	74.00	-10.48	peak

Test Mode:	802.11b Average	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



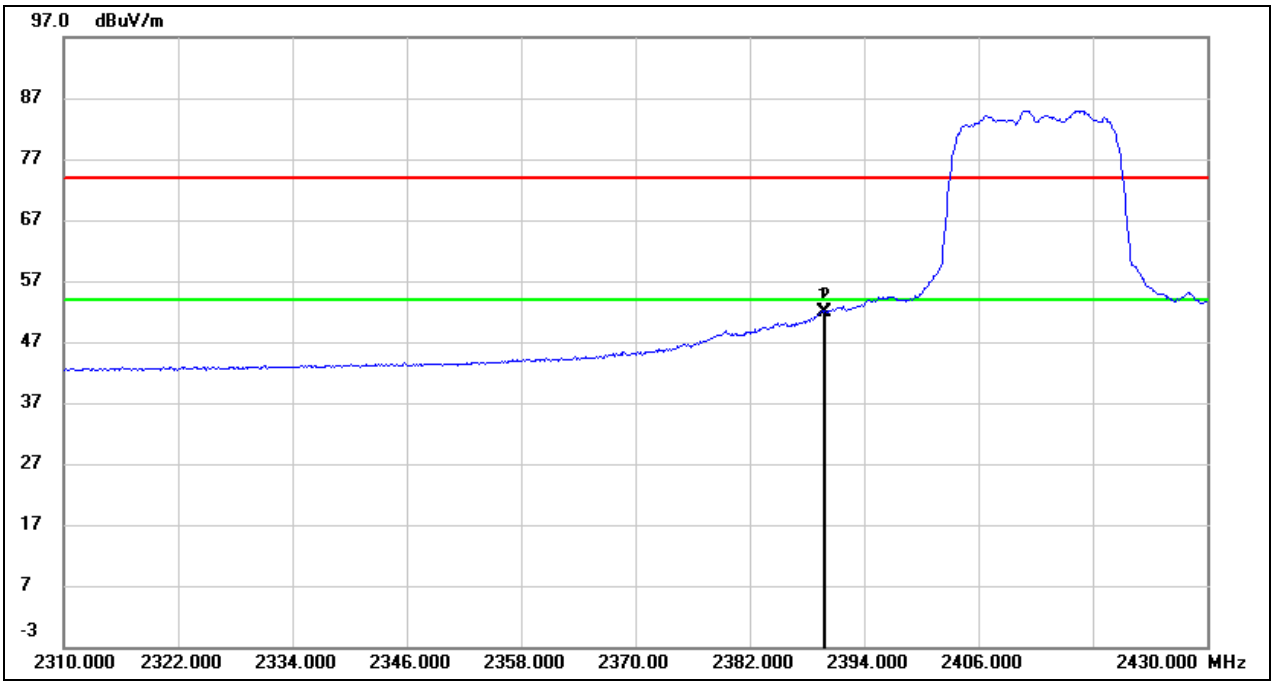
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	17.69	32.44	50.13	54.00	-3.87	AVG
2	2484.710	20.05	32.44	52.49	54.00	-1.51	AVG

Test Mode:	802.11g Peak	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



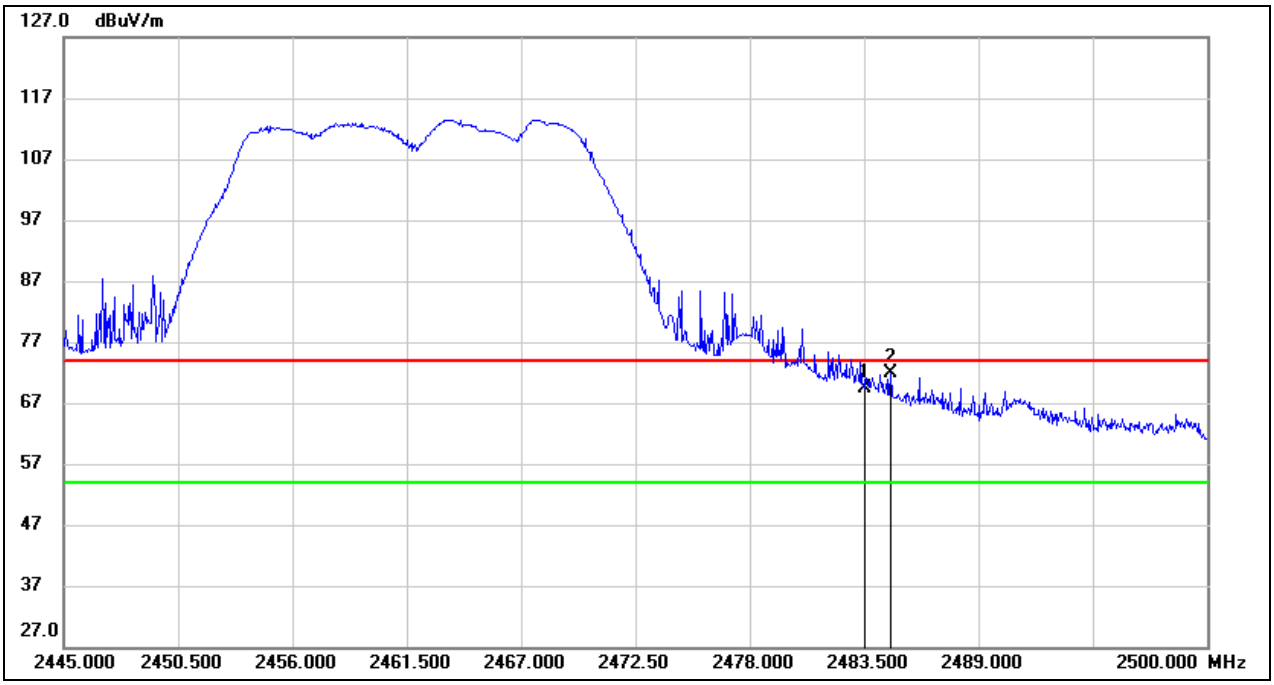
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.800	39.98	32.16	72.14	74.00	-1.86	peak
2	2390.000	39.49	32.16	71.65	74.00	-2.35	peak

Test Mode:	802.11g Average	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



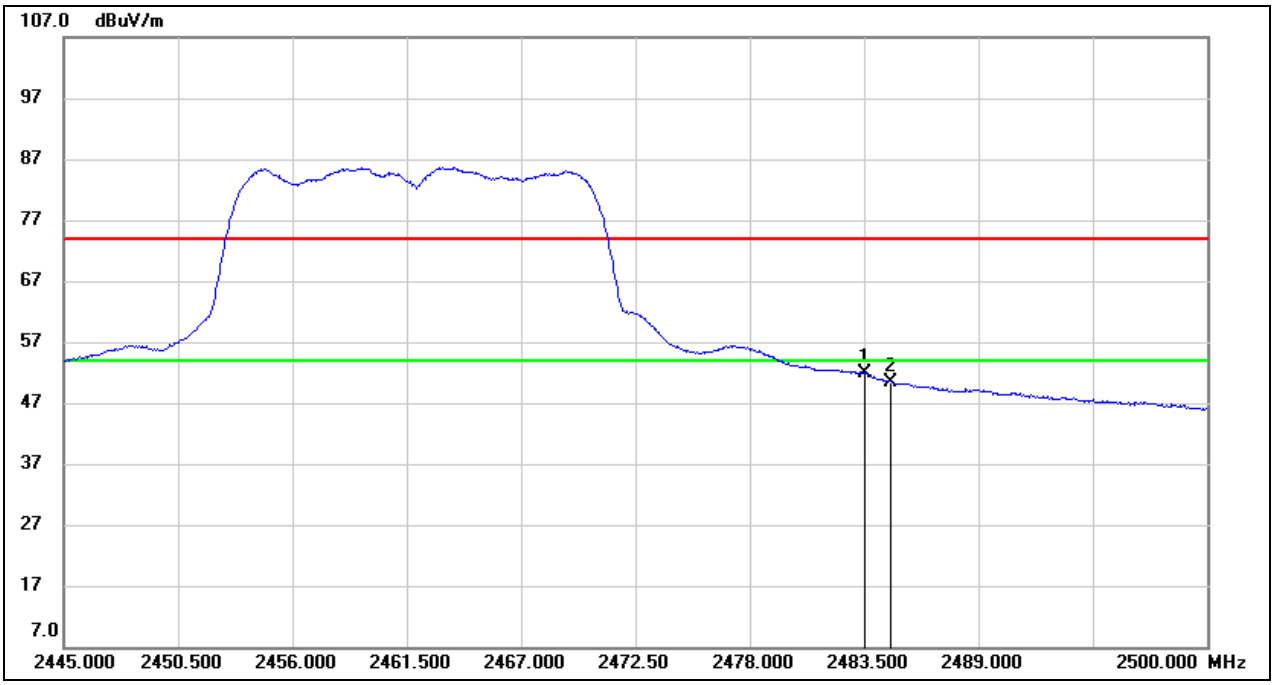
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.800	19.78	32.16	51.94	54.00	-2.06	AVG
2	2390.000	19.71	32.16	51.87	54.00	-2.13	AVG

Test Mode:	802.11g Peak	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



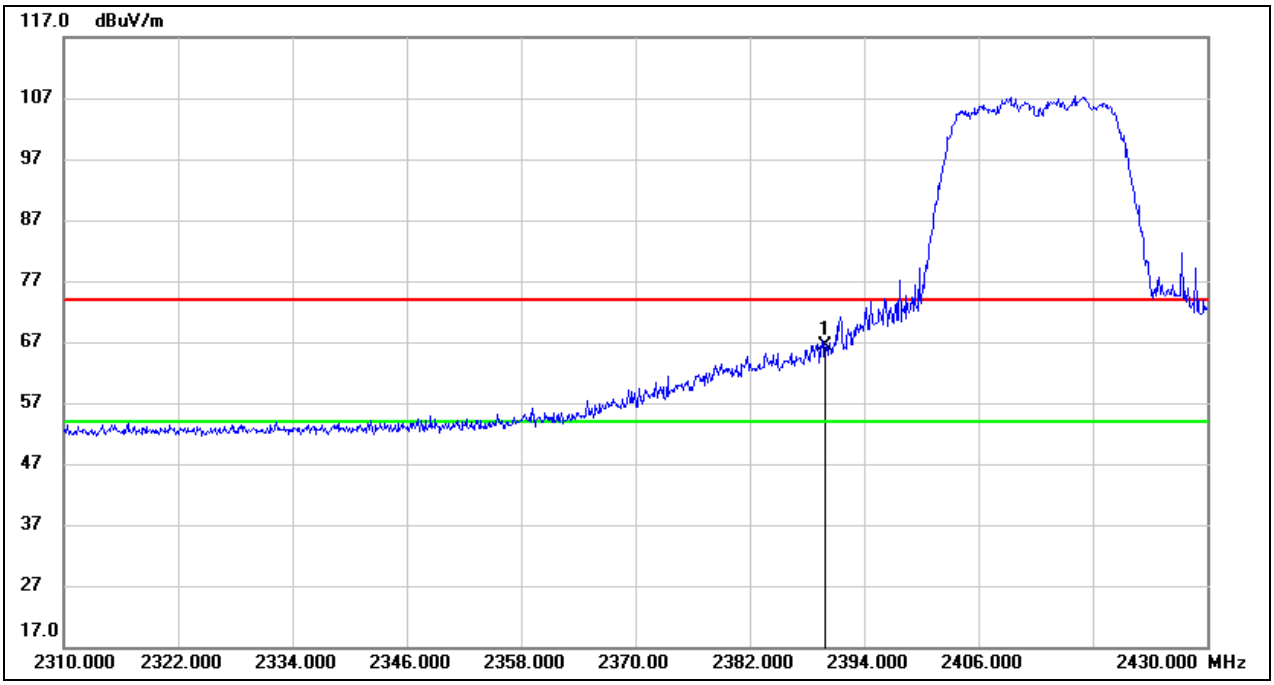
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	36.97	32.44	69.41	74.00	-4.59	peak
2	2484.765	39.38	32.44	71.82	74.00	-2.18	peak

Test Mode:	802.11g Average	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



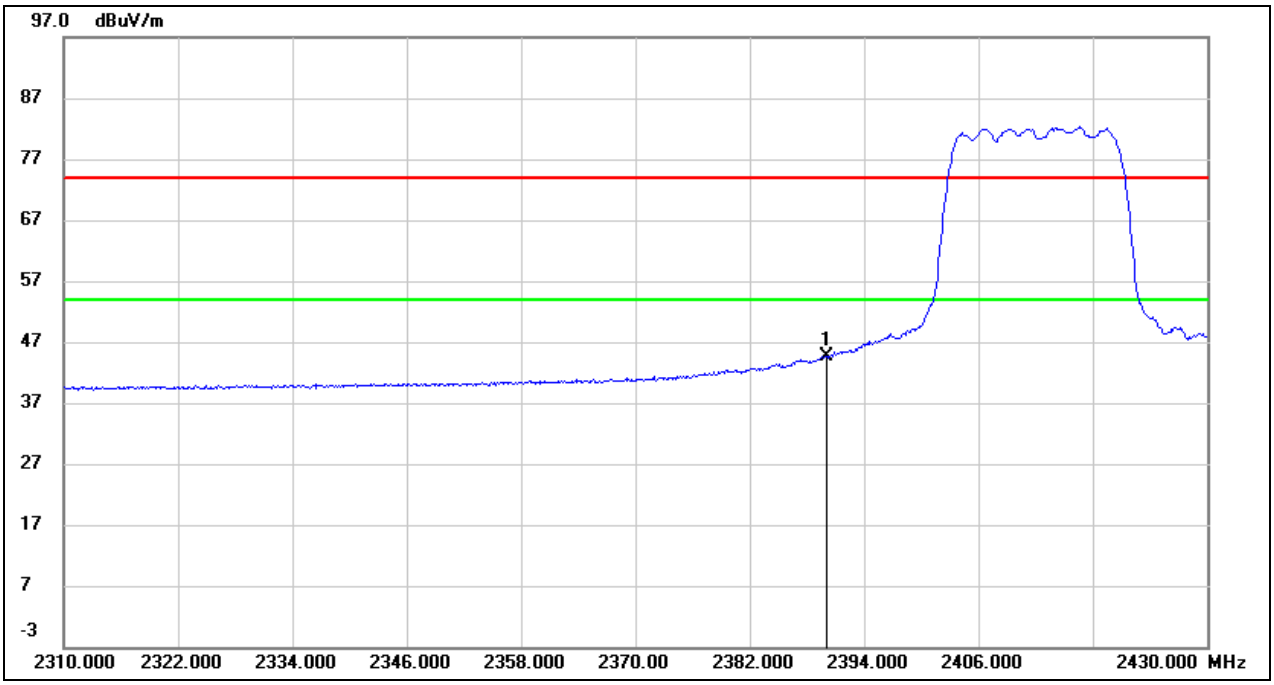
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	19.49	32.44	51.93	54.00	-2.07	AVG
2	2484.765	17.93	32.44	50.37	54.00	-3.63	AVG

Test Mode:	802.11n HT20 Peak	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



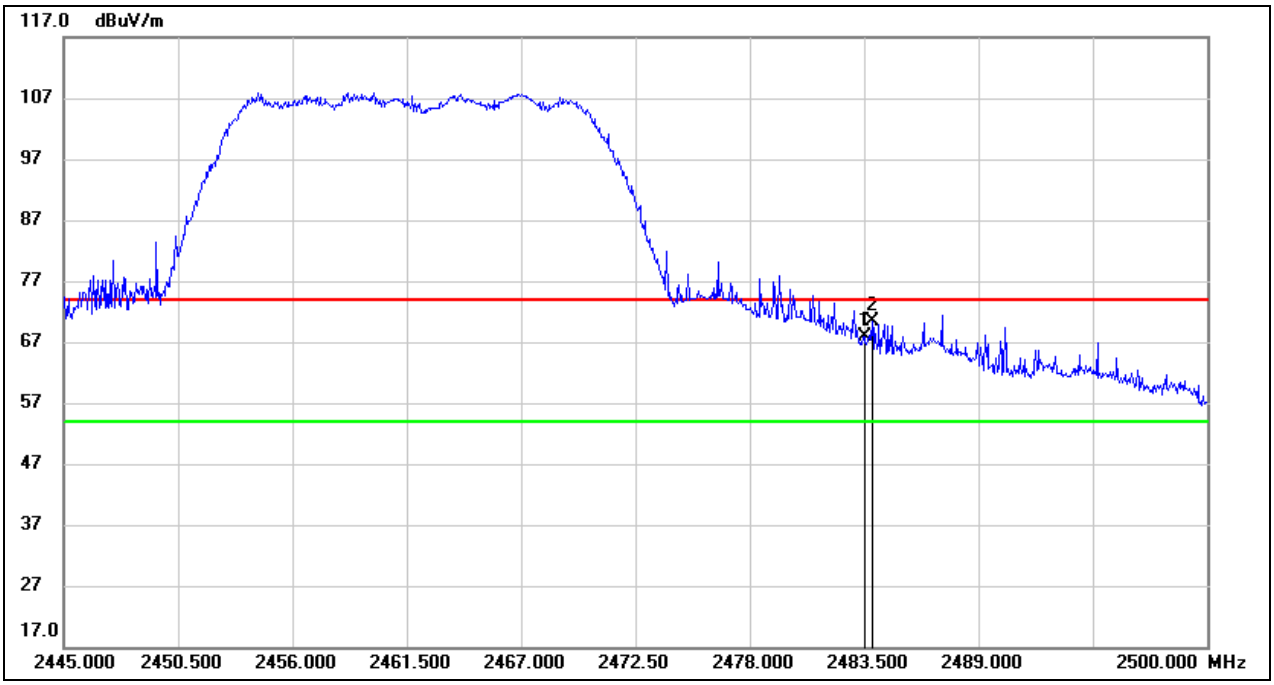
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	37.29	29.16	66.45	74.00	-7.55	peak

Test Mode:	802.11n HT20 Average	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



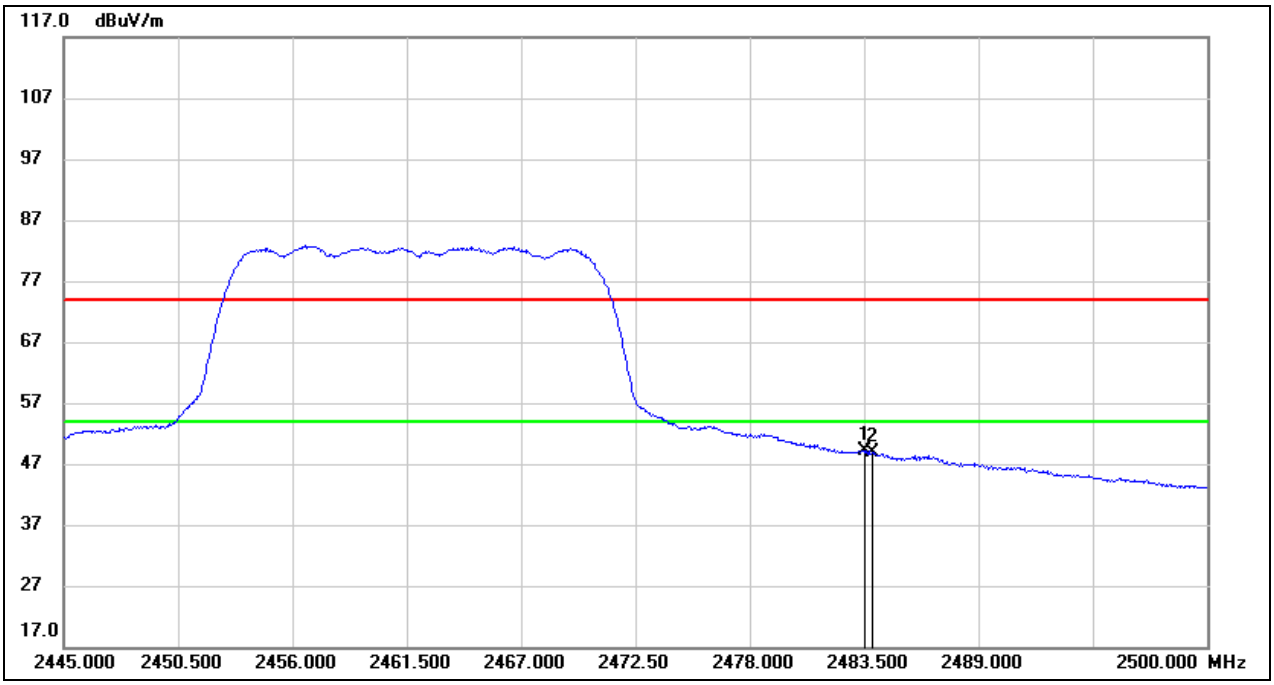
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	15.51	29.16	44.67	54.00	-9.33	AVG

Test Mode:	802.11n HT20 Peak	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



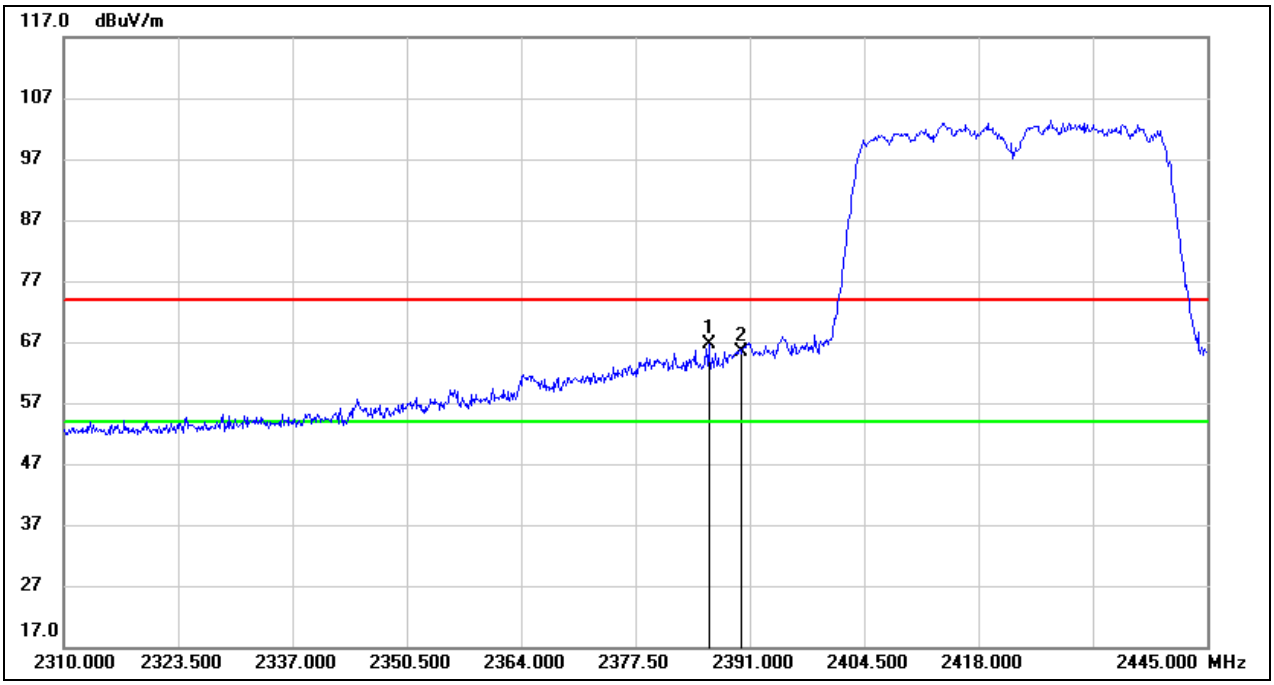
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	38.40	29.44	67.84	74.00	-6.16	peak
2	2483.885	41.06	29.44	70.50	74.00	-3.50	peak

Test Mode:	802.11n HT20 Average	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



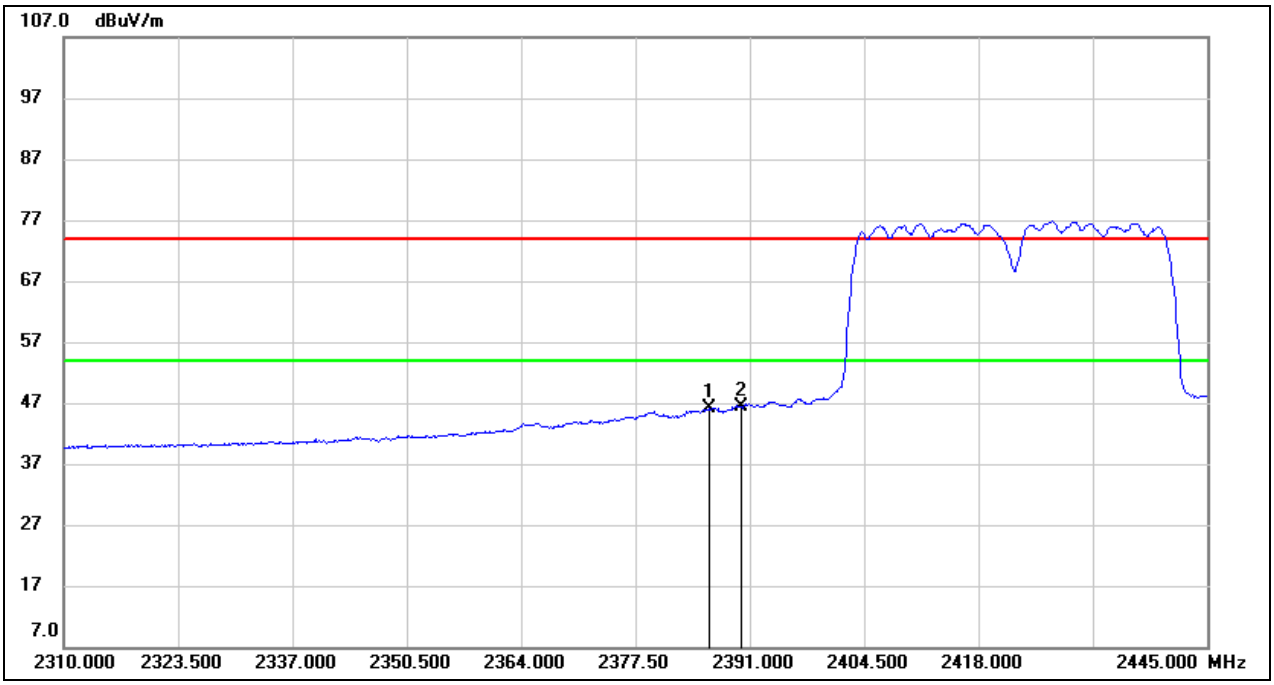
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	19.67	29.44	49.11	54.00	-4.89	AVG
2	2483.885	19.50	29.44	48.94	54.00	-5.06	AVG

Test Mode:	802.11n HT40 Peak	Channel:	2422 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



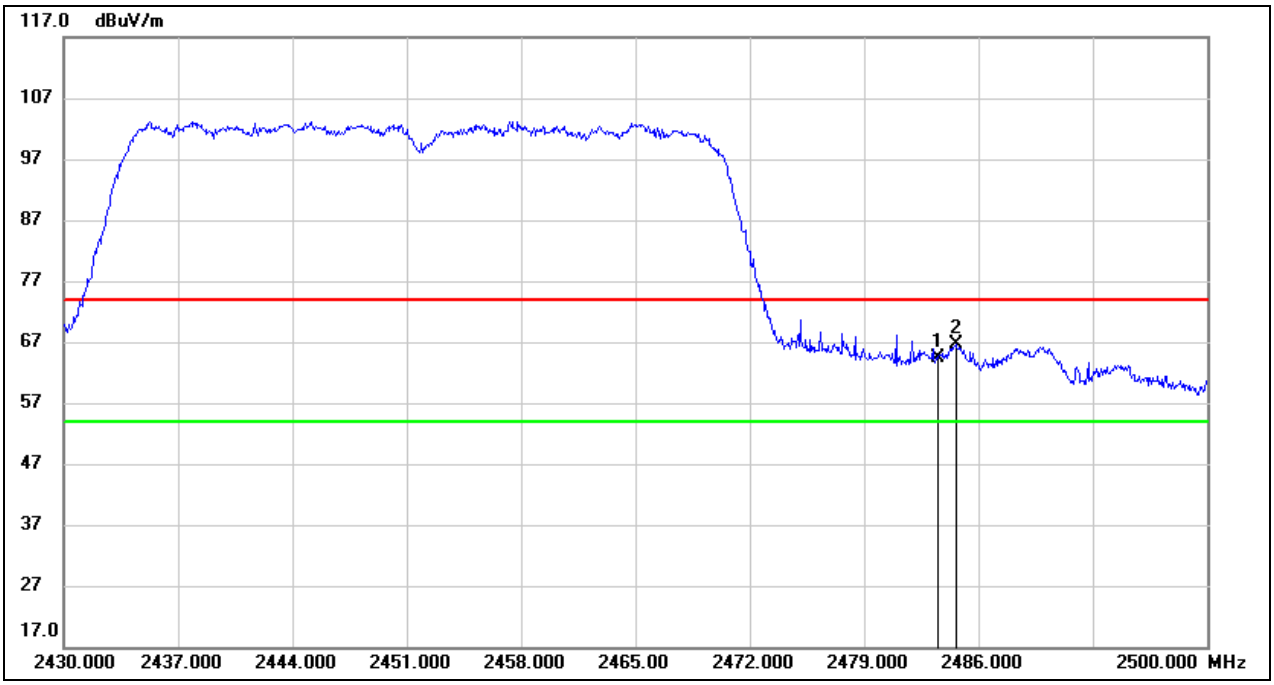
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.140	37.41	29.14	66.55	74.00	-7.45	peak
2	2390.000	36.31	29.16	65.47	74.00	-8.53	peak

Test Mode:	802.11n HT40 Average	Channel:	2422 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



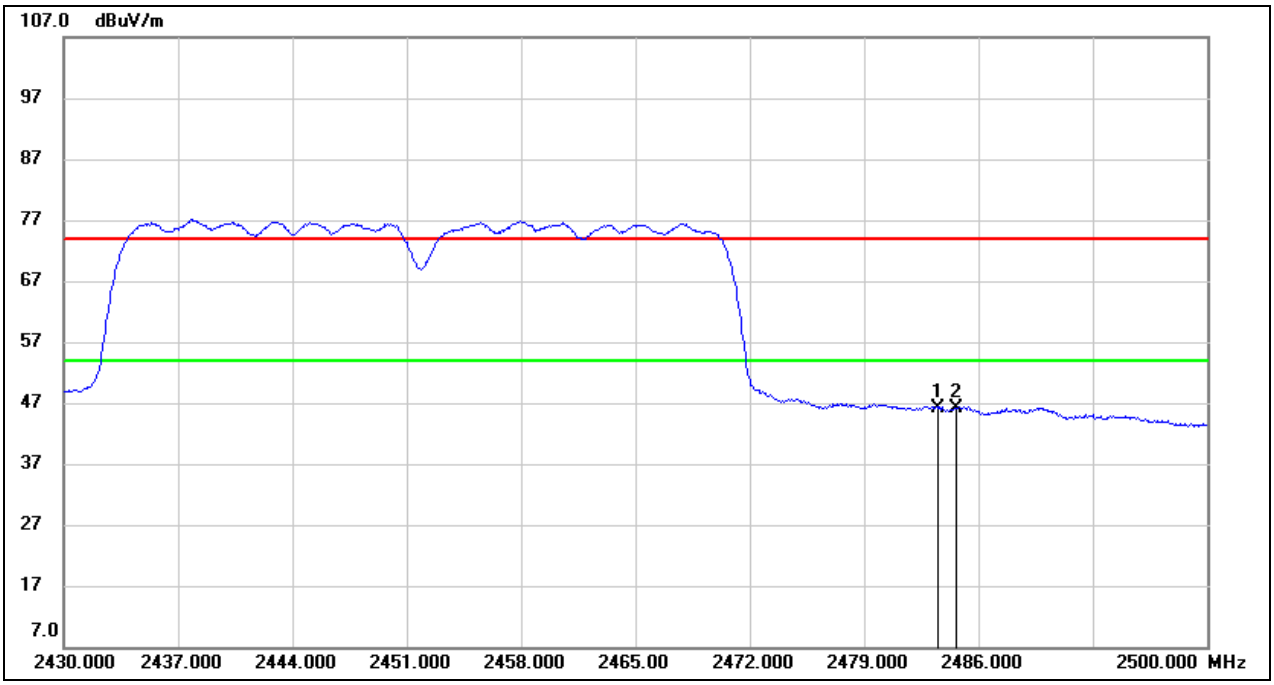
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.140	17.00	29.14	46.14	54.00	-7.86	AVG
2	2390.000	17.16	29.16	46.32	54.00	-7.68	AVG

Test Mode:	802.11n HT40 Peak	Channel:	2452 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



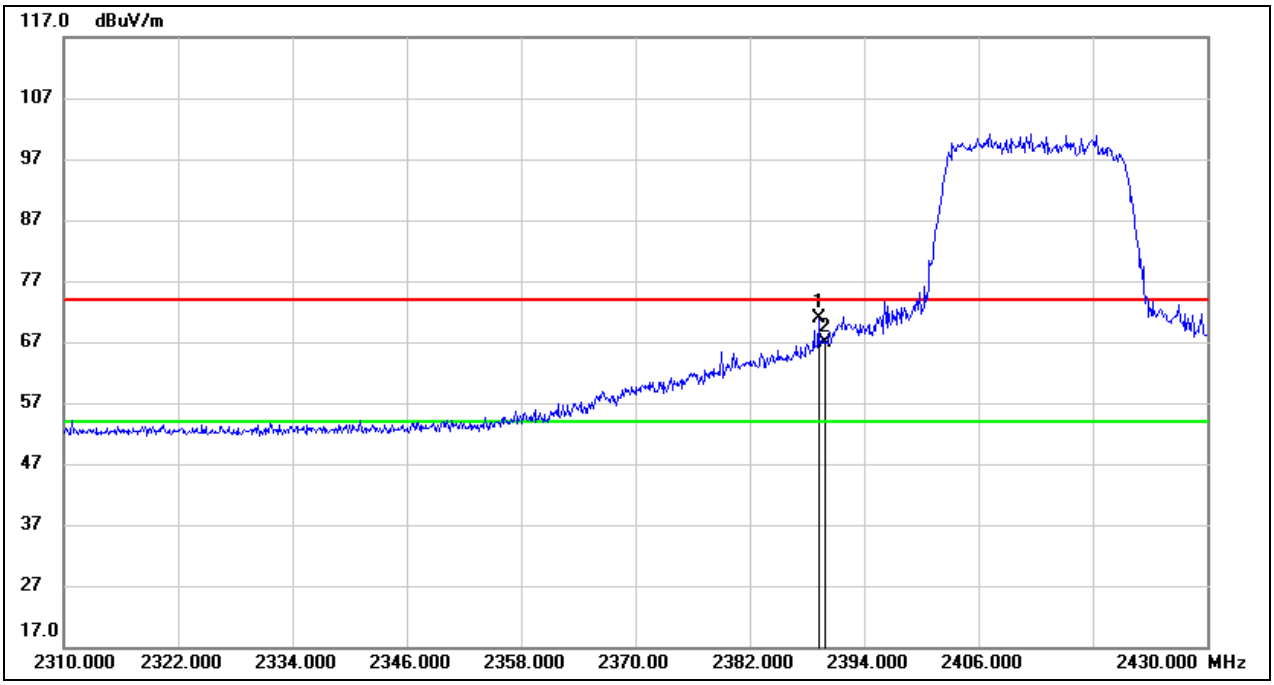
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	34.85	29.44	64.29	74.00	-9.71	peak
2	2484.600	37.24	29.44	66.68	74.00	-7.32	peak

Test Mode:	802.11n HT40 Average	Channel:	2452 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



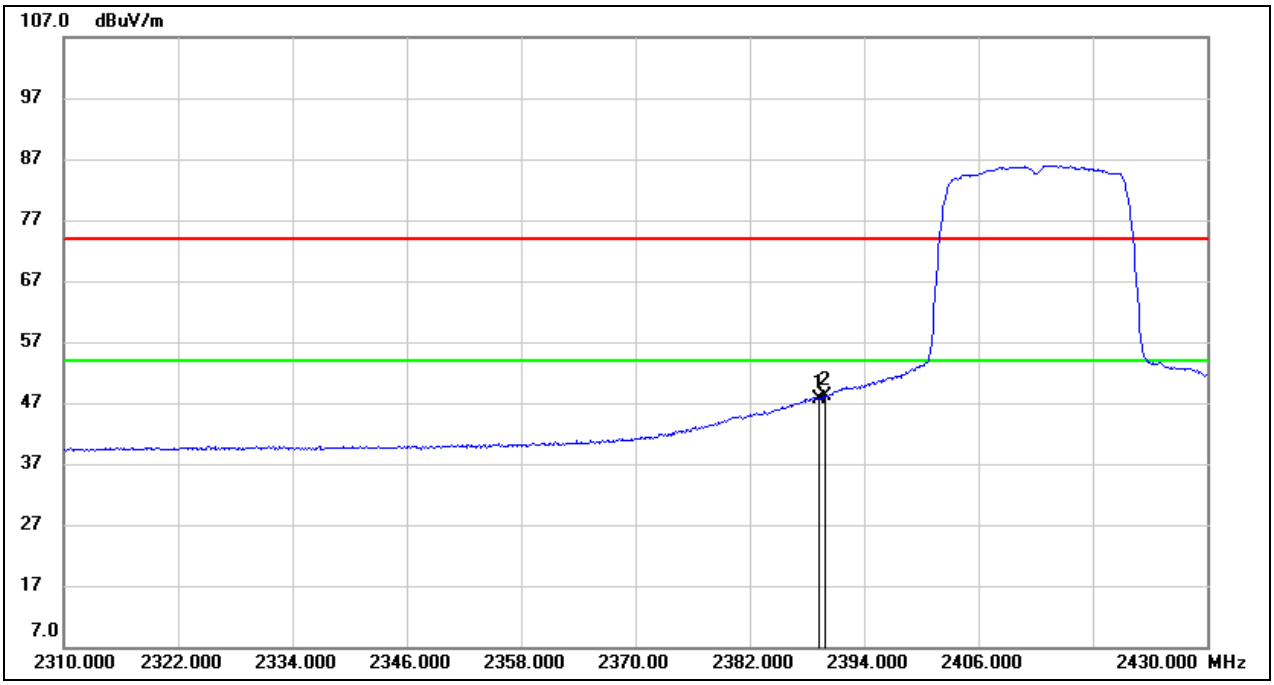
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	16.67	29.44	46.11	54.00	-7.89	AVG
2	2484.600	16.71	29.44	46.15	54.00	-7.85	AVG

Test Mode:	802.11ax HE20 Peak	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



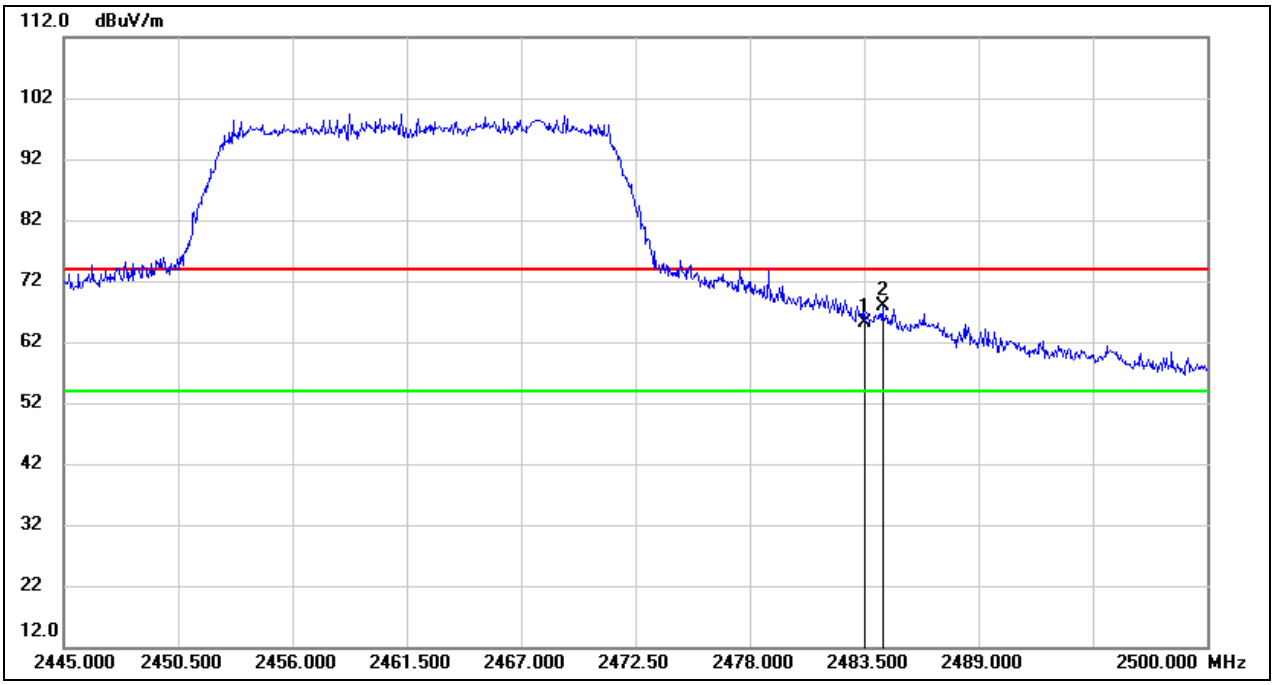
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.200	41.73	29.16	70.89	74.00	-3.11	peak
2	2390.000	37.70	29.16	66.86	74.00	-7.14	peak

Test Mode:	802.11ax HE20 Average	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



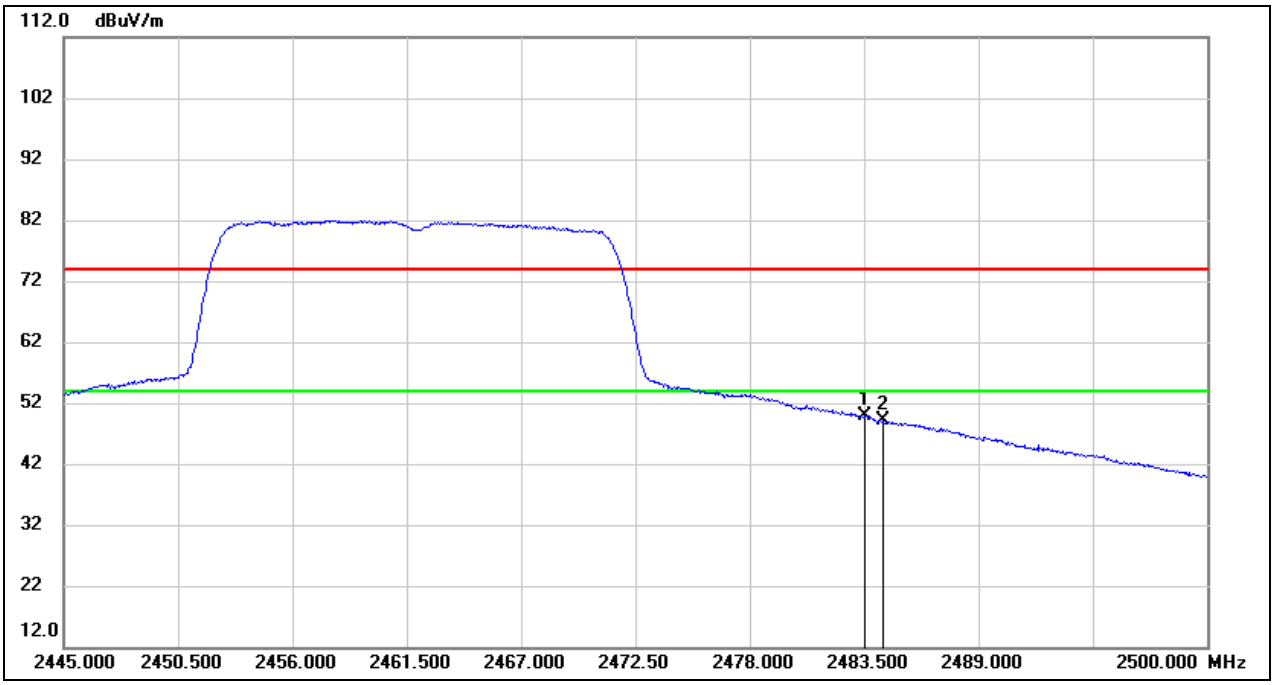
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.200	18.54	29.16	47.70	54.00	-6.30	AVG
2	2390.000	18.88	29.16	48.04	54.00	-5.96	AVG

Test Mode:	802.11ax HE20 Peak	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



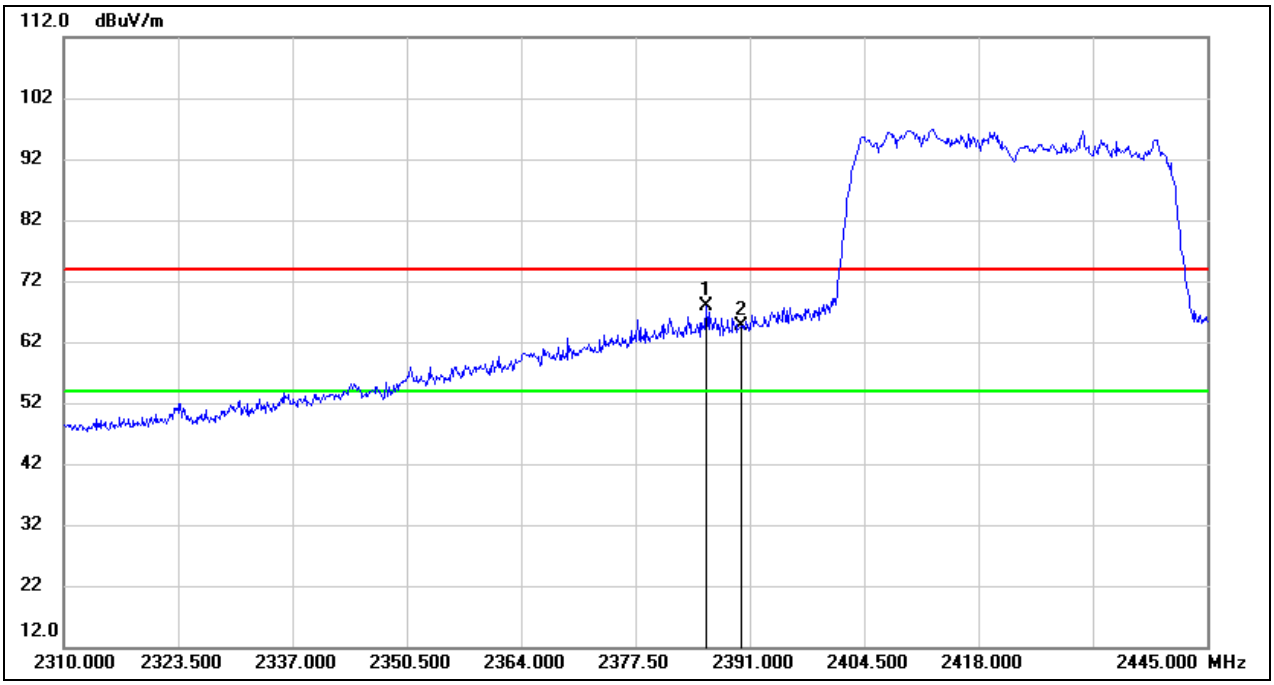
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	35.77	29.44	65.21	74.00	-8.79	peak
2	2484.380	38.49	29.44	67.93	74.00	-6.07	peak

Test Mode:	802.11ax HE20 Average	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



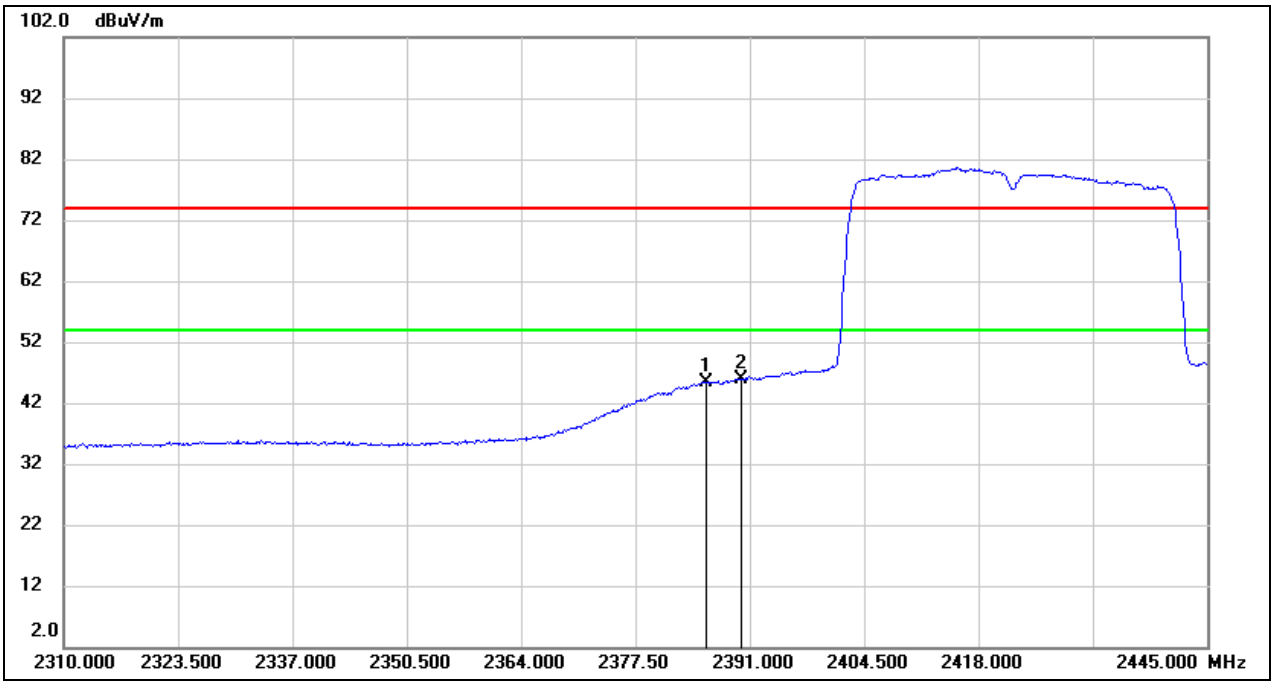
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	20.35	29.44	49.79	54.00	-4.21	AVG
2	2484.380	19.79	29.44	49.23	54.00	-4.77	AVG

Test Mode:	802.11ax HE40 Peak	Channel:	2422 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



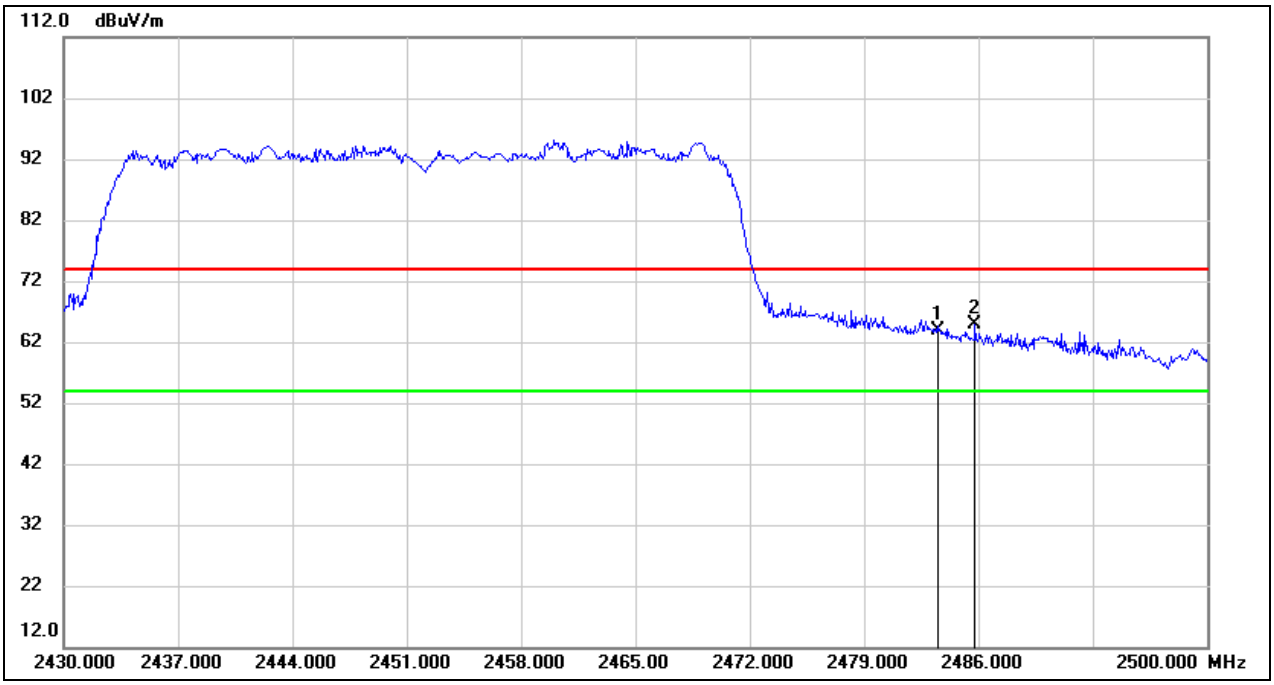
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.870	38.70	29.14	67.84	74.00	-6.16	peak
2	2390.000	35.56	29.16	64.72	74.00	-9.28	peak

Test Mode:	802.11ax HE40 Average	Channel:	2422 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



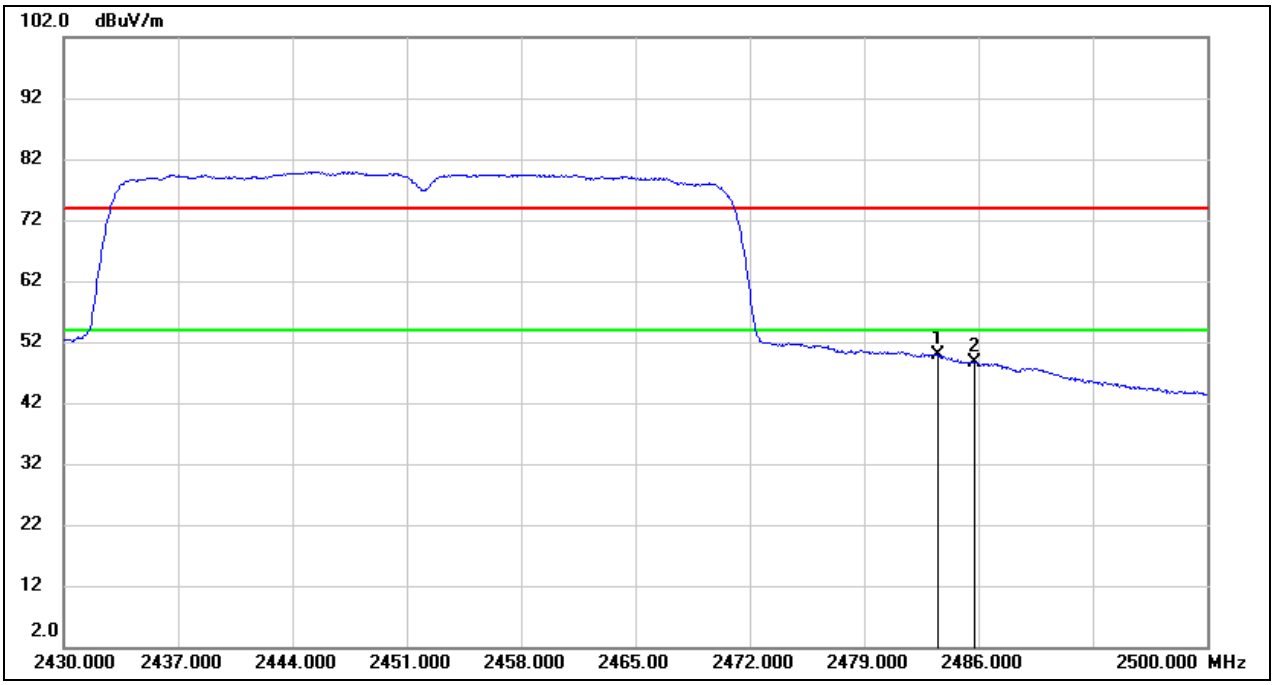
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.870	16.35	29.14	45.49	54.00	-8.51	AVG
2	2390.000	16.68	29.16	45.84	54.00	-8.16	AVG

Test Mode:	802.11ax HE40 Peak	Channel:	2452 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	34.35	29.44	63.79	74.00	-10.21	peak
2	2485.790	35.50	29.44	64.94	74.00	-9.06	peak

Test Mode:	802.11ax HE40 Average	Channel:	2452 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V

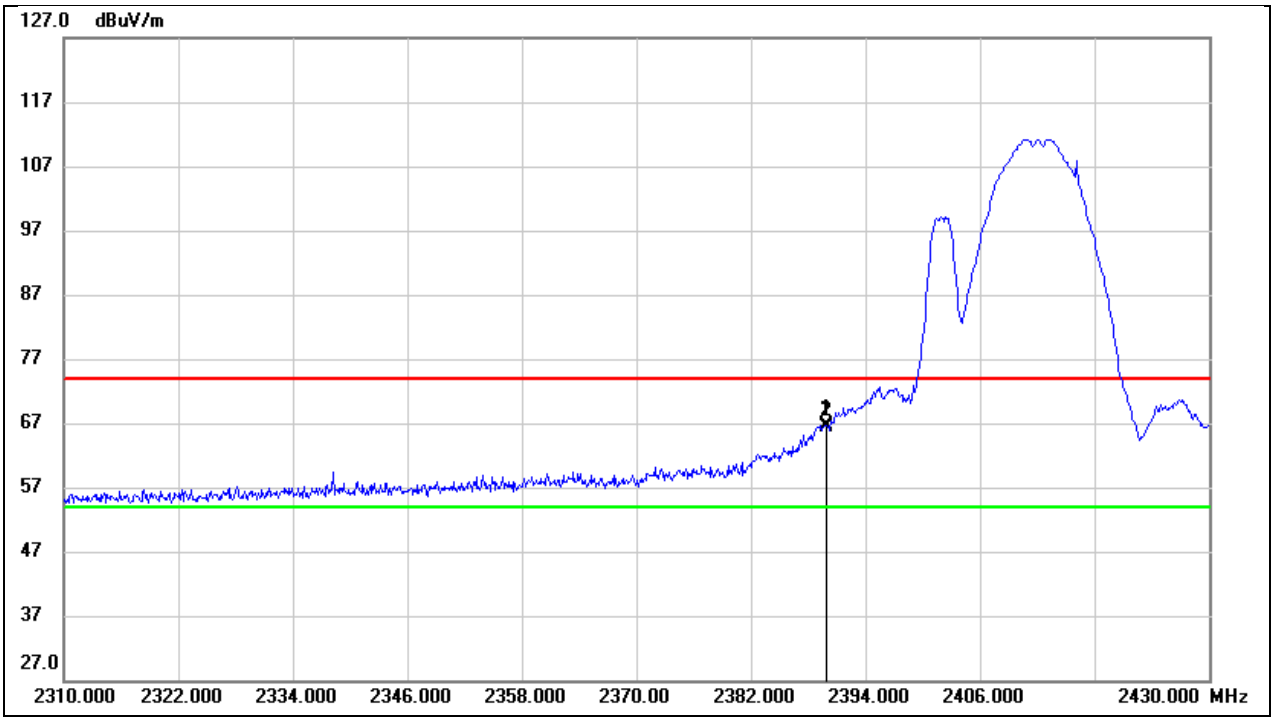


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	20.35	29.44	49.79	54.00	-4.21	AVG
2	2485.790	19.18	29.44	48.62	54.00	-5.38	AVG

8.2. RESTRICTED BANDEDGE FOR SIMULTANEOUS TRANSMISSION

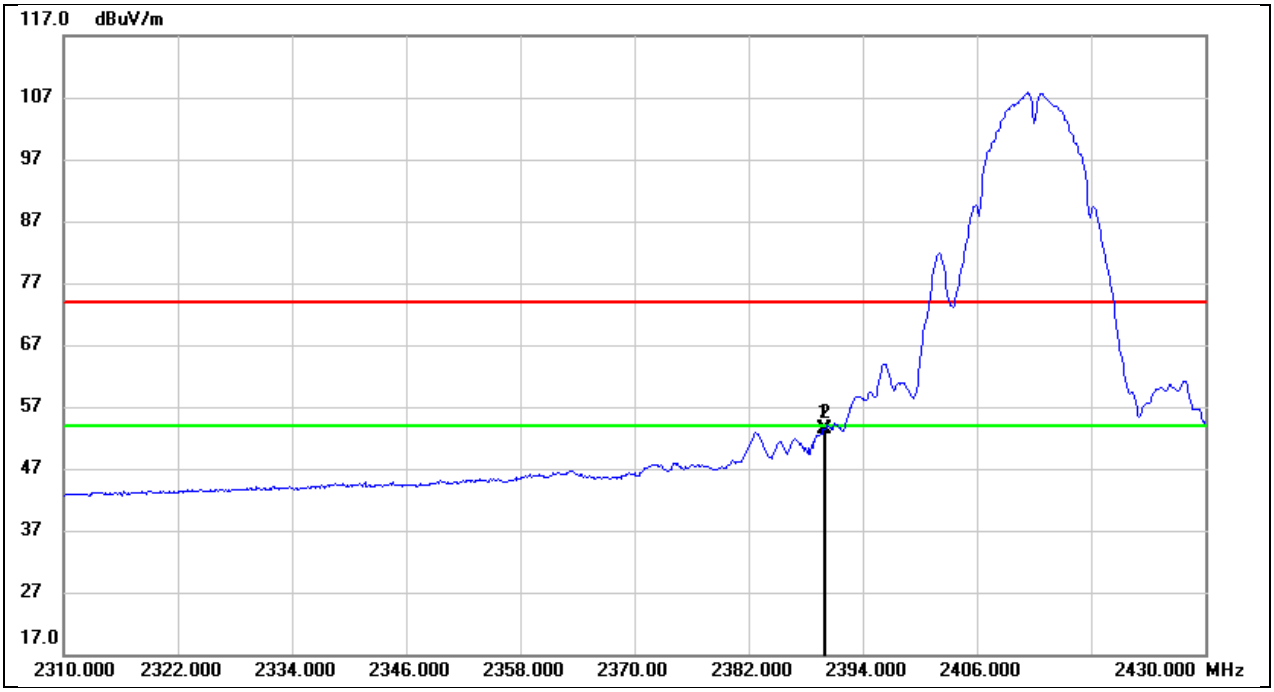
SPURIOUS EMISSIONS (BLE 2402MHZ CHANNEL, 2.4G BAND 802.11ax HE20 MODE 2412MHZ CHANNEL, UNII-3 BAND 802.11ac VHT80 MODE 5775MHZ CHANNEL, UNII-7 BAND 802.11ax HE160 MODE 6825MHZ CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)

Detector:	Peak	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.920	34.52	32.16	66.68	74.00	-7.32	peak
2	2390.000	34.25	32.16	66.41	74.00	-7.59	peak

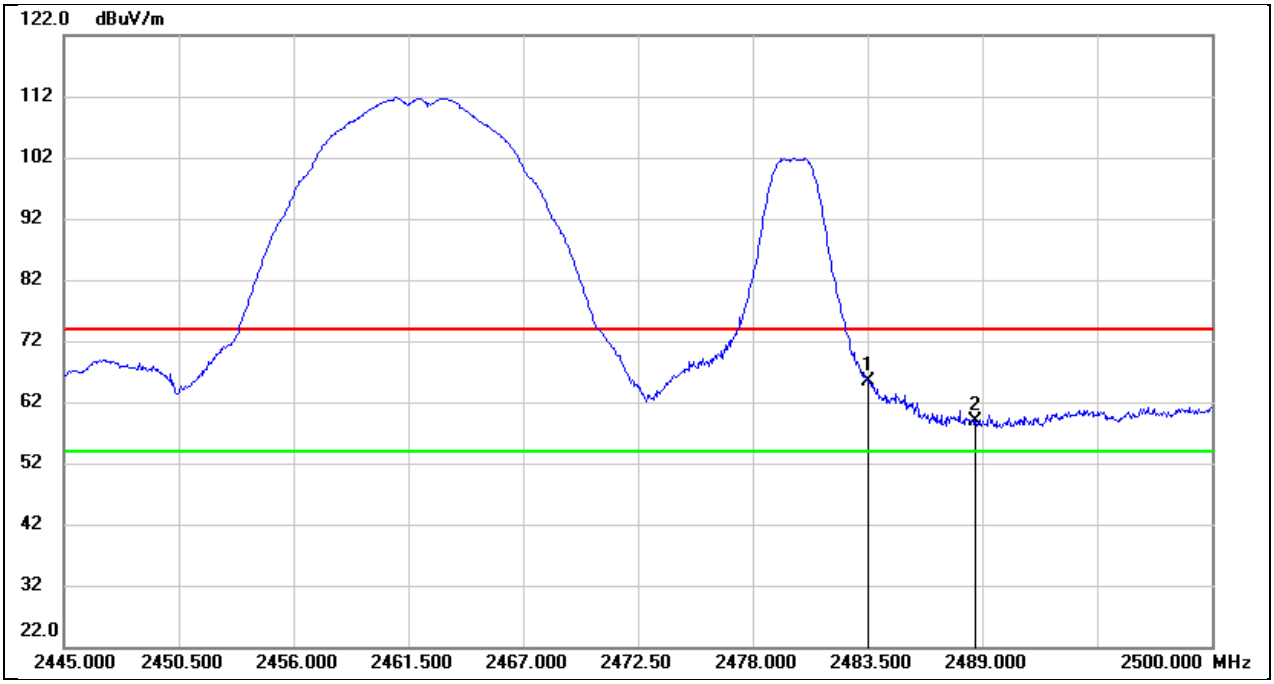
Detector:	Average	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.920	21.24	32.16	53.40	54.00	-0.60	AVG
2	2390.000	21.30	32.16	53.46	54.00	-0.54	AVG

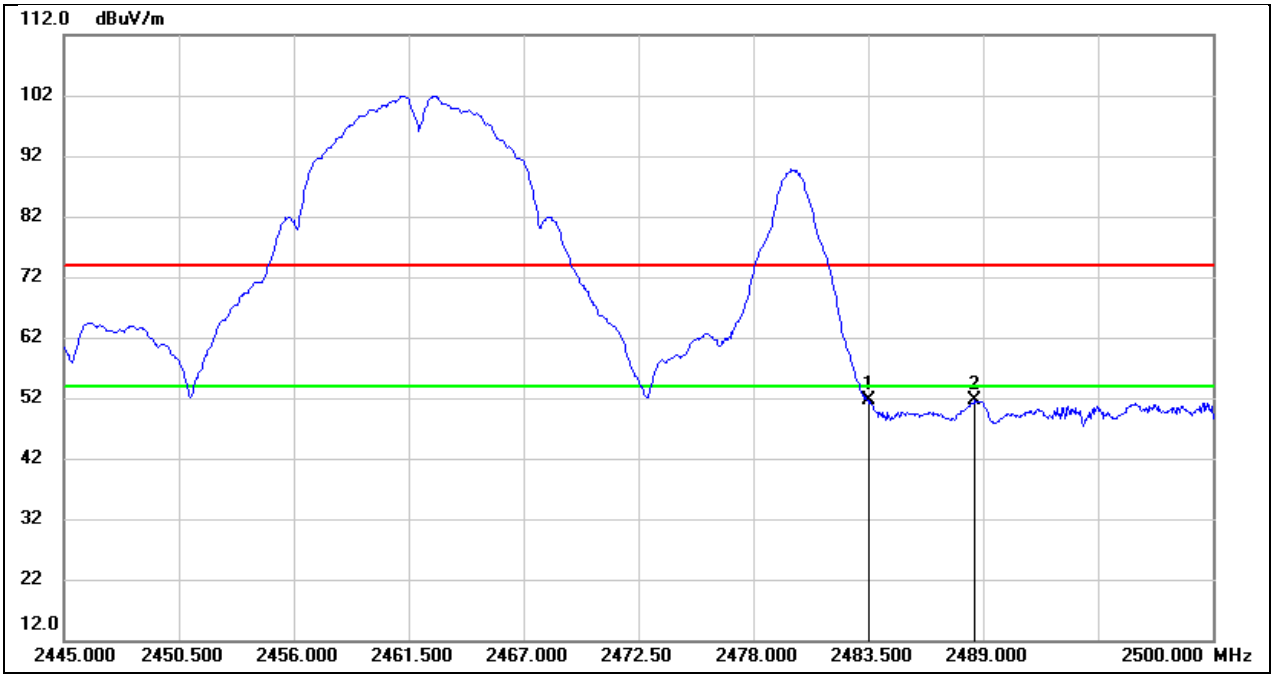
SPURIOUS EMISSIONS (BLE 2480MHZ CHANNEL, 2.4G BAND 802.11ax HE20 MODE 2462MHZ CHANNEL, UNII-3 BAND 802.11ac VHT80 MODE 5775MHZ CHANNEL, UNII-7 BAND 802.11ax HE160 MODE 6825MHZ CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)

Detector:	Peak	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	32.83	32.44	65.27	74.00	-8.73	peak
2	2488.615	26.37	32.46	58.83	74.00	-15.17	peak

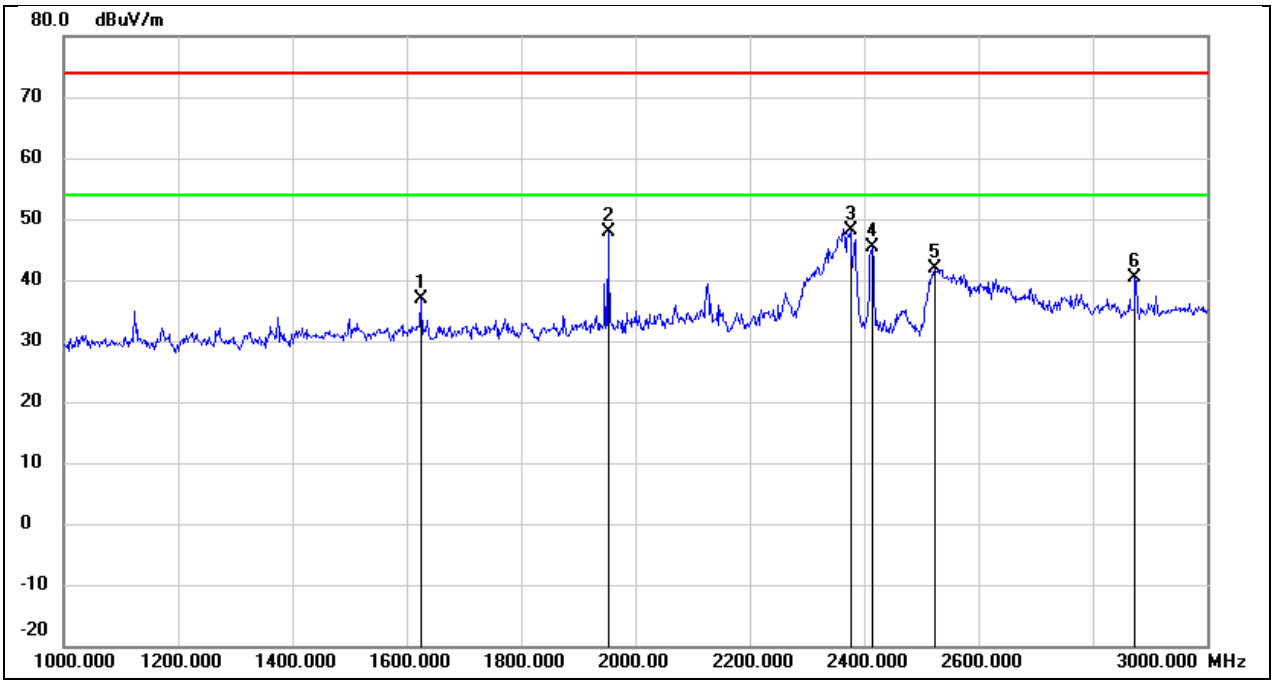
Detector:	Average	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	19.10	32.44	51.54	54.00	-2.46	AVG
2	2488.615	19.08	32.46	51.54	54.00	-2.46	AVG

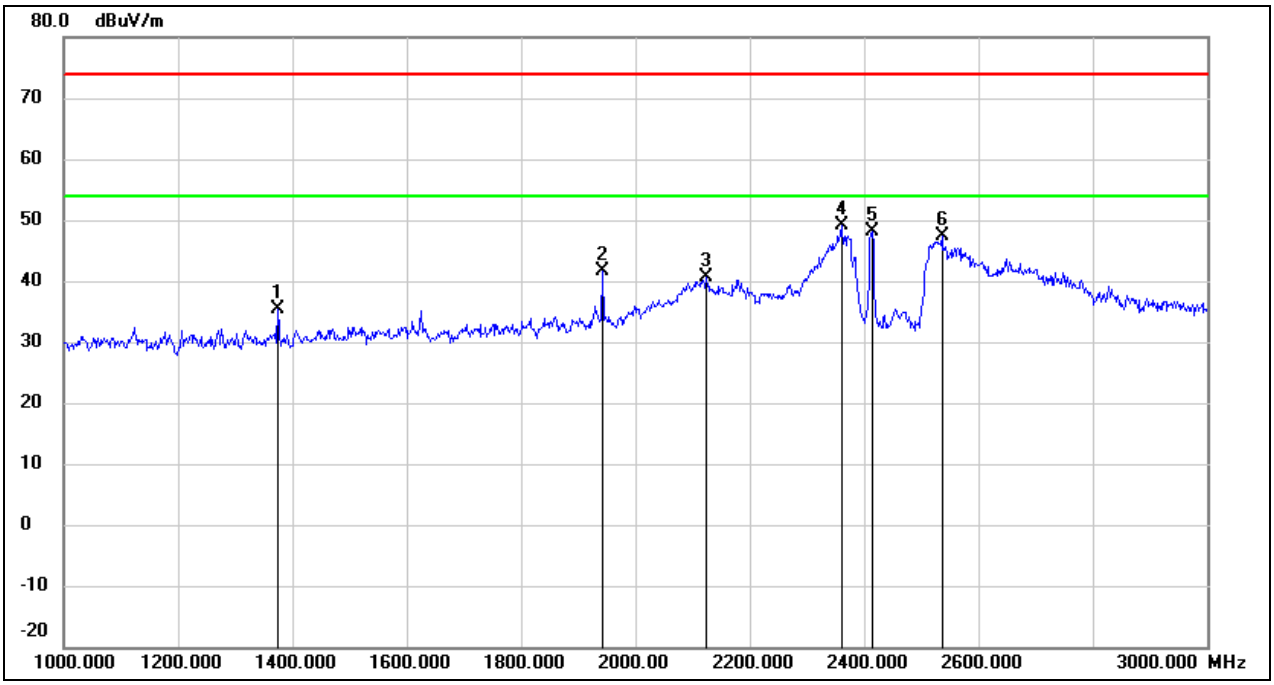
8.3. SPURIOUS EMISSIONS (1 GHZ ~ 3 GHZ)

Test Mode:	802.11b	Channel:	2412 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



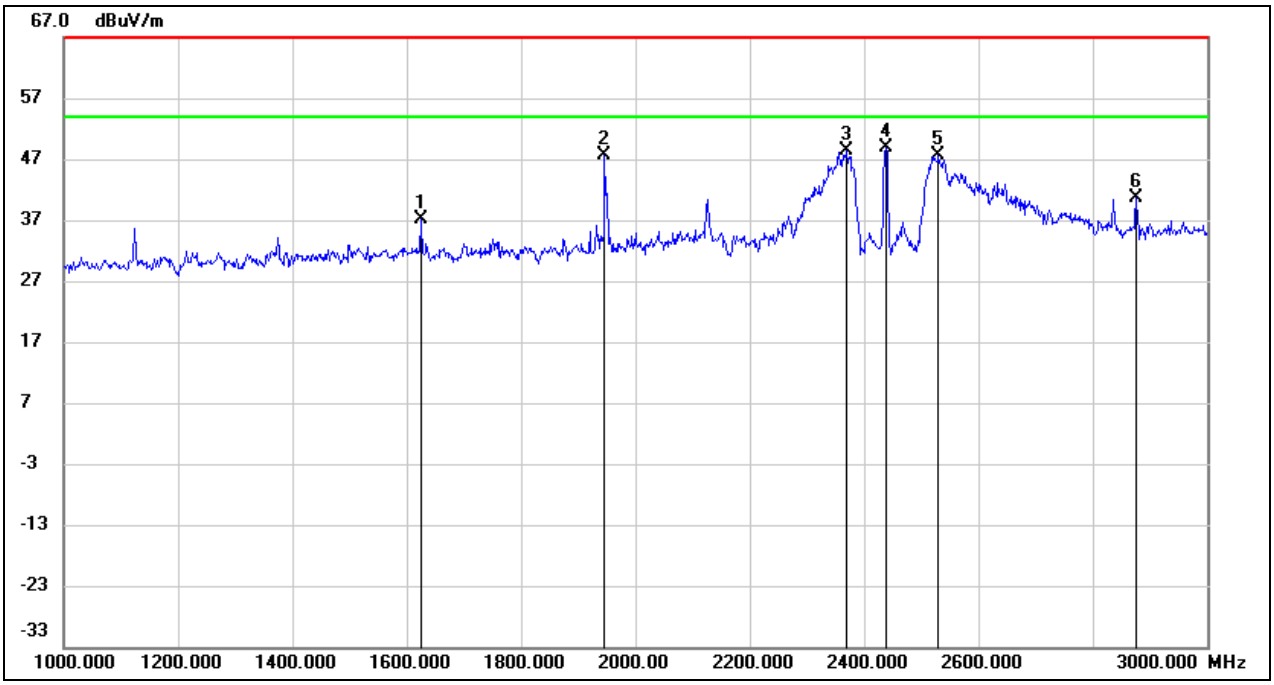
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1624.000	49.29	-12.30	36.99	74.00	-37.01	peak
2	1952.000	59.16	-11.22	47.94	74.00	-26.06	peak
3	2376.000	57.30	-9.13	48.17	74.00	-25.83	peak
4	2412.000	54.24	-8.93	45.31	/	/	Fundamental
5	2524.000	50.31	-8.42	41.89	74.00	-32.11	peak
6	2874.000	47.66	-7.37	40.29	74.00	-33.71	peak

Test Mode:	802.11b	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



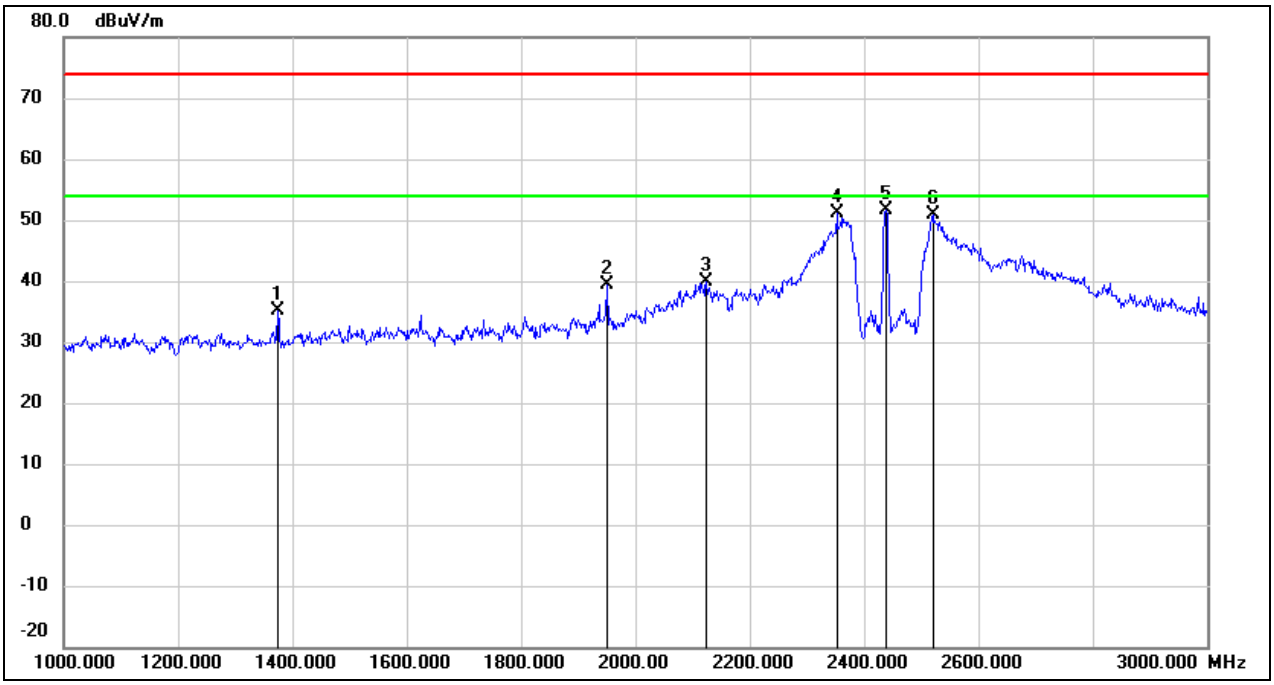
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	48.62	-13.30	35.32	74.00	-38.68	peak
2	1942.000	52.89	-11.25	41.64	74.00	-32.36	peak
3	2124.000	51.04	-10.42	40.62	74.00	-33.38	peak
4	2360.000	58.31	-9.21	49.10	74.00	-24.90	peak
5	2412.000	57.11	-8.93	48.18	/	/	Fundamental
6	2536.000	55.70	-8.38	47.32	74.00	-26.68	peak

Test Mode:	802.11b	Channel:	2437 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



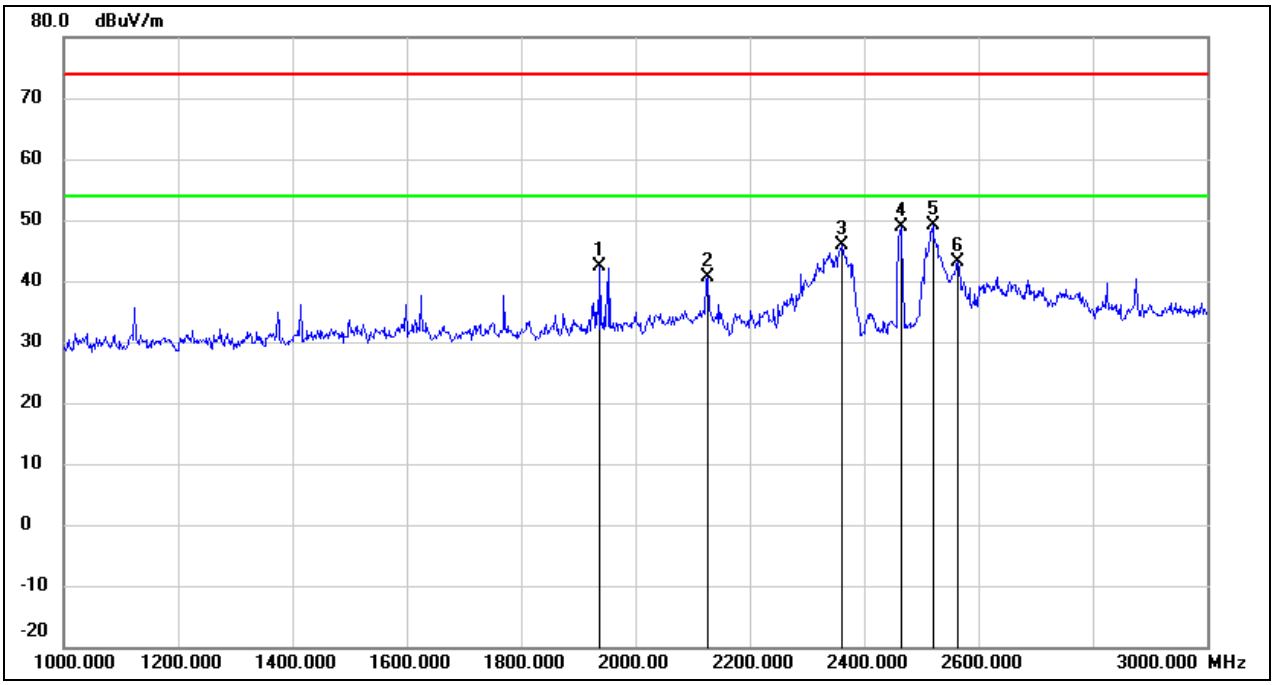
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1624.000	49.53	-12.30	37.23	74.00	-36.77	peak
2	1946.000	58.92	-11.24	47.68	74.00	-26.32	peak
3	2370.000	57.65	-9.16	48.49	74.00	-25.51	peak
4	2437.000	57.61	-8.80	48.81	/	/	Fundamental
5	2530.000	55.99	-8.40	47.59	74.00	-26.41	peak
6	2876.000	47.99	-7.35	40.64	74.00	-33.36	peak

Test Mode:	802.11b	Channel:	2437 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



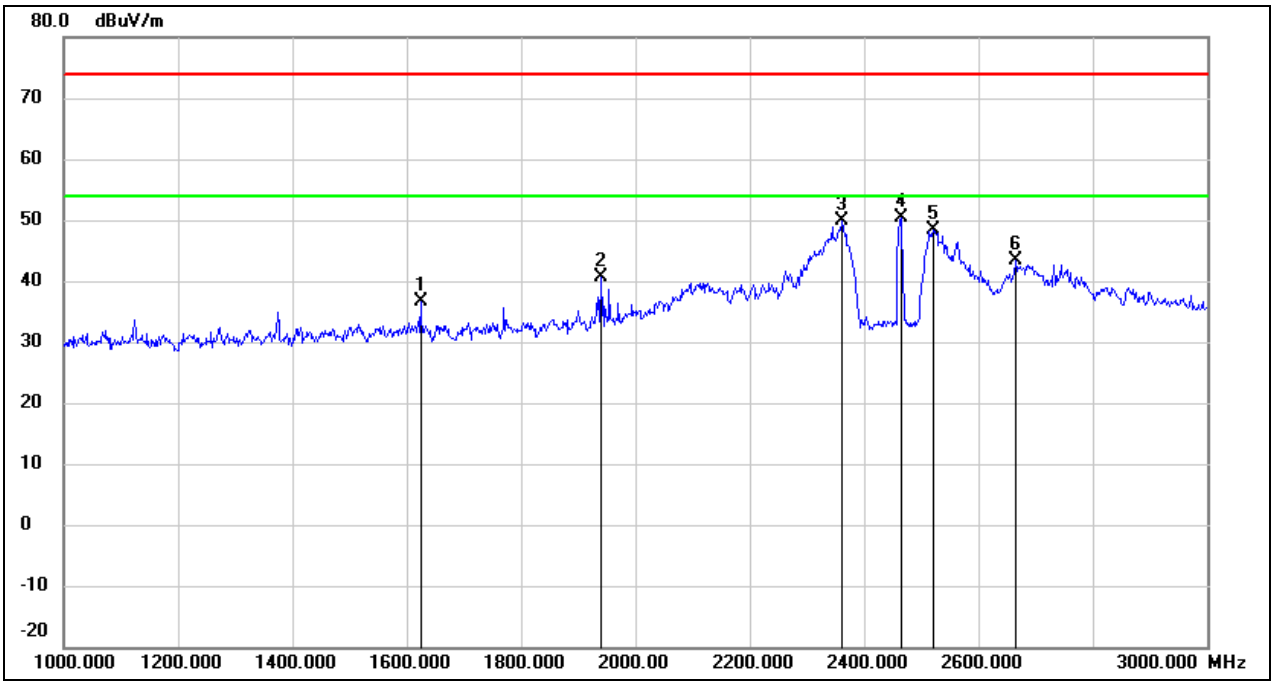
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1374.000	48.52	-13.30	35.22	74.00	-38.78	peak
2	1950.000	50.59	-11.22	39.37	74.00	-34.63	peak
3	2124.000	50.23	-10.42	39.81	74.00	-34.19	peak
4	2352.000	60.42	-9.24	51.18	74.00	-22.82	peak
5	2437.000	60.31	-8.80	51.51	/	/	Fundamental
6	2520.000	59.20	-8.43	50.77	74.00	-23.23	peak

Test Mode:	802.11b	Channel:	2462 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1938.000	53.55	-11.27	42.28	74.00	-31.72	peak
2	2126.000	51.13	-10.41	40.72	74.00	-33.28	peak
3	2362.000	55.11	-9.20	45.91	74.00	-28.09	peak
4	2462.000	57.67	-8.68	48.99	/	/	Fundamental
5	2520.000	57.51	-8.43	49.08	74.00	-24.92	peak
6	2564.000	51.42	-8.30	43.12	74.00	-30.88	peak

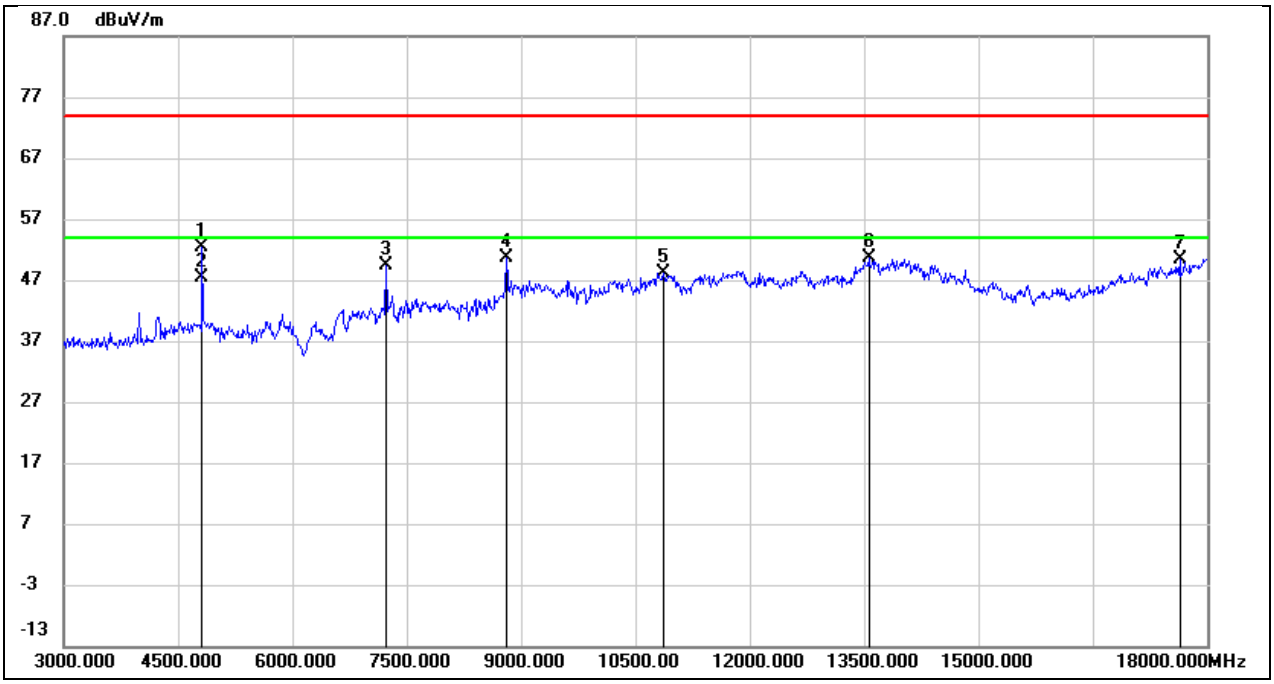
Test Mode:	802.11b	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1624.000	49.01	-12.30	36.71	74.00	-37.29	peak
2	1940.000	51.99	-11.25	40.74	74.00	-33.26	peak
3	2362.000	59.19	-9.20	49.99	74.00	-24.01	peak
4	2462.000	59.05	-8.68	50.37	/	/	Fundamental
5	2520.000	56.83	-8.43	48.40	74.00	-25.60	peak
6	2666.000	51.40	-7.98	43.42	74.00	-30.58	peak

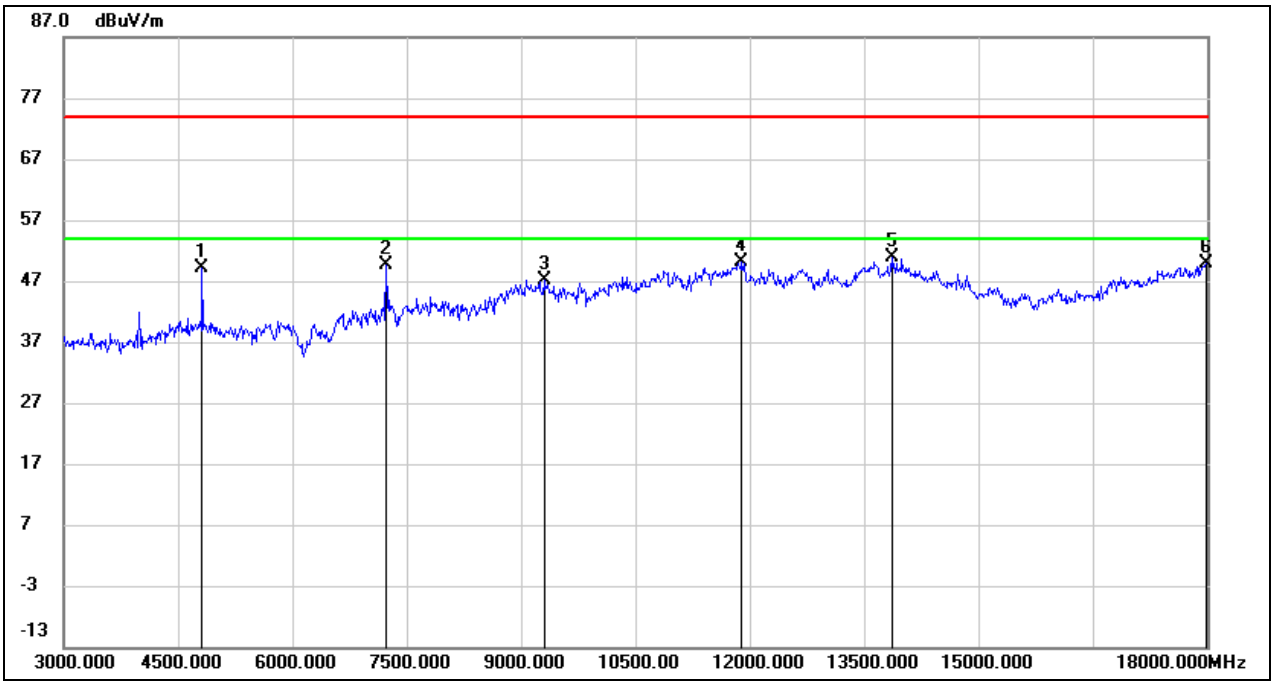
8.4. SPURIOUS EMISSIONS (3 GHZ ~ 18 GHZ)

Test Mode:	802.11b	Channel:	2412 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



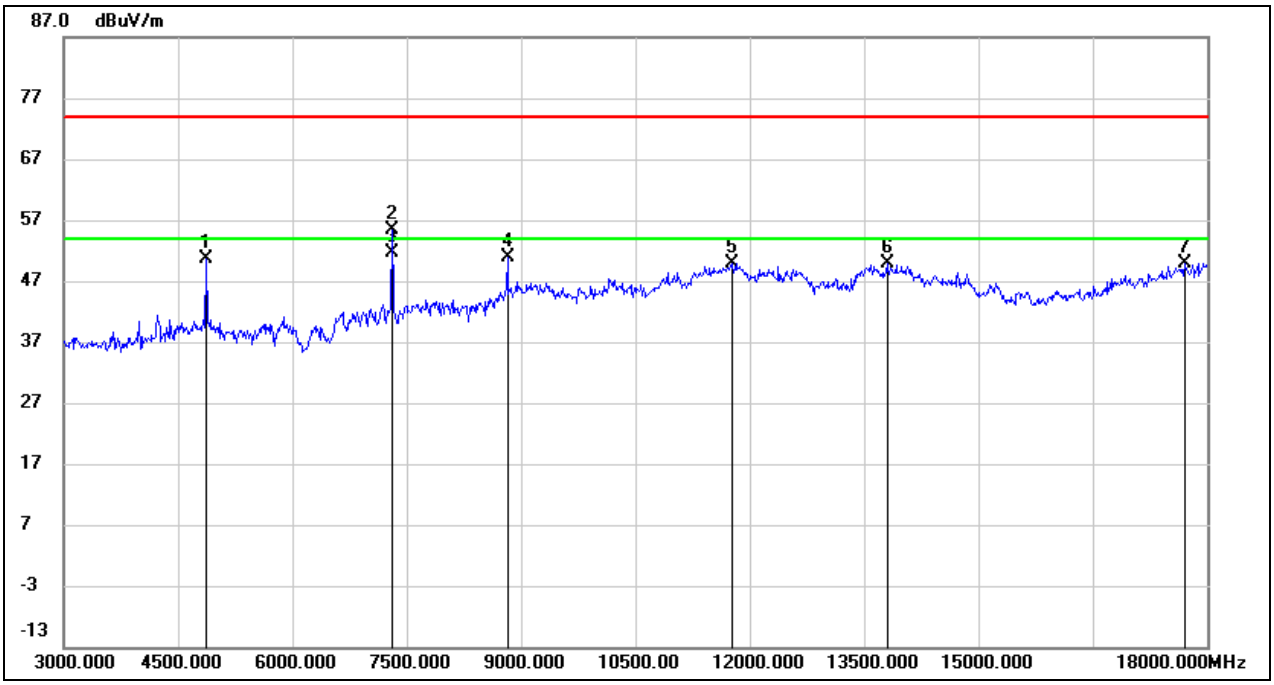
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	52.52	-0.26	52.26	74.00	-21.74	peak
2	4815.000	47.53	-0.26	47.27	54.00	-6.73	AVG
3	7230.000	42.74	6.53	49.27	74.00	-24.73	peak
4	8805.000	41.55	9.07	50.62	74.00	-23.38	peak
5	10875.000	33.74	14.32	48.06	74.00	-25.94	peak
6	13560.000	29.53	21.04	50.57	74.00	-23.43	peak
7	17640.000	26.84	23.56	50.40	74.00	-23.60	peak

Test Mode:	802.11b	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



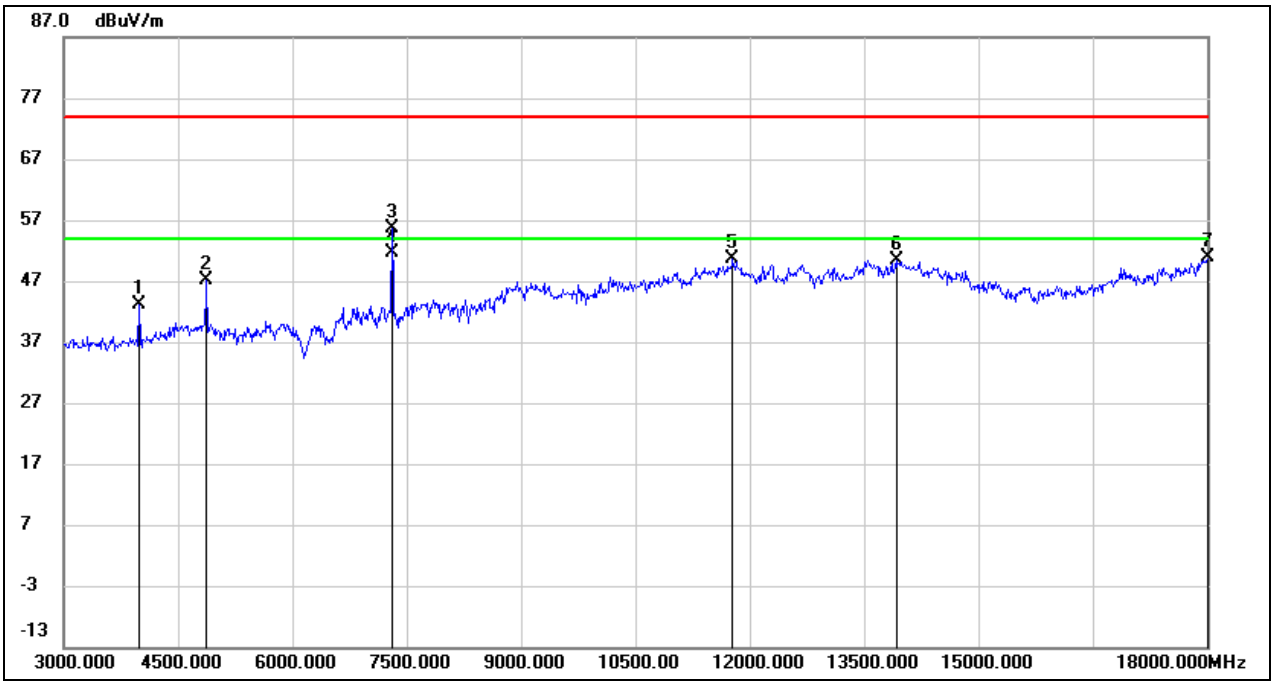
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	49.44	-0.26	49.18	74.00	-24.82	peak
2	7230.000	43.07	6.53	49.60	74.00	-24.40	peak
3	9300.000	36.63	10.61	47.24	74.00	-26.76	peak
4	11895.000	32.43	17.68	50.11	74.00	-23.89	peak
5	13860.000	29.17	21.67	50.84	74.00	-23.16	peak
6	17985.000	24.38	25.60	49.98	74.00	-24.02	peak

Test Mode:	802.11b	Channel:	2437 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



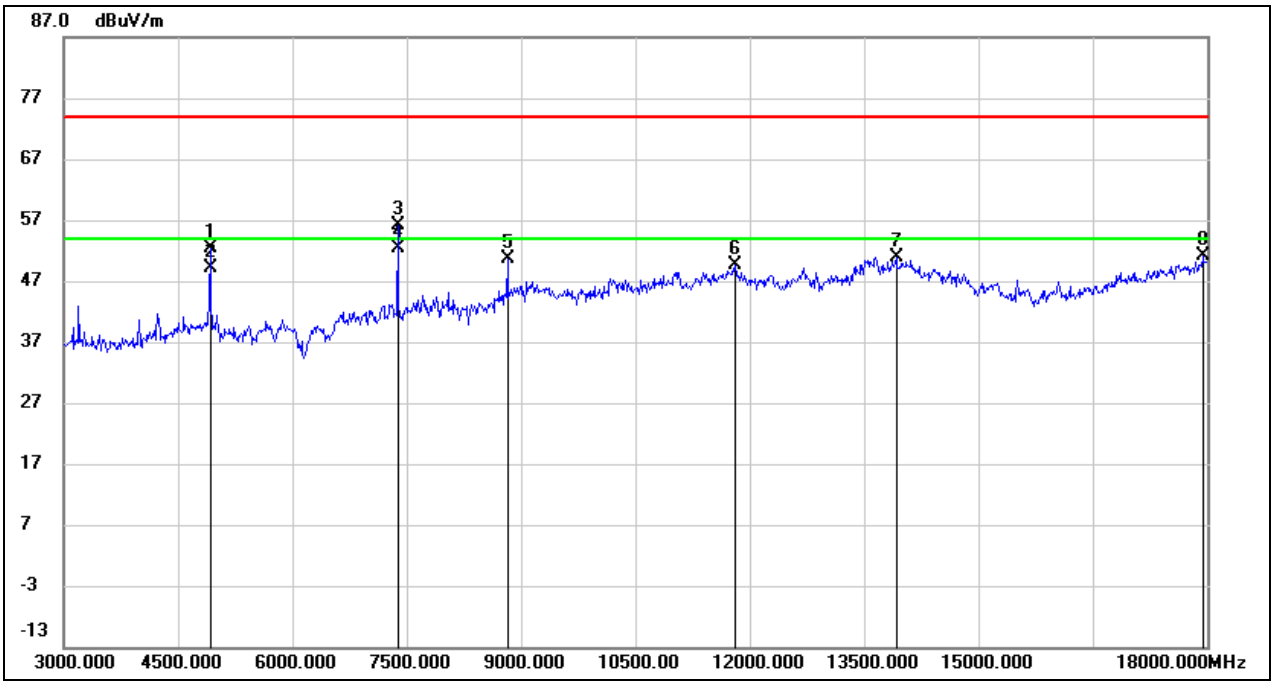
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	50.67	-0.03	50.64	74.00	-23.36	peak
2	7305.000	49.00	6.47	55.47	74.00	-18.53	peak
3	7305.000	45.05	6.47	51.52	54.00	-2.48	AVG
4	8820.000	41.76	9.16	50.92	74.00	-23.08	peak
5	11775.000	32.50	17.35	49.85	74.00	-24.15	peak
6	13800.000	28.26	21.54	49.80	74.00	-24.20	peak
7	17700.000	26.04	23.91	49.95	74.00	-24.05	peak

Test Mode:	802.11b	Channel:	2437 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



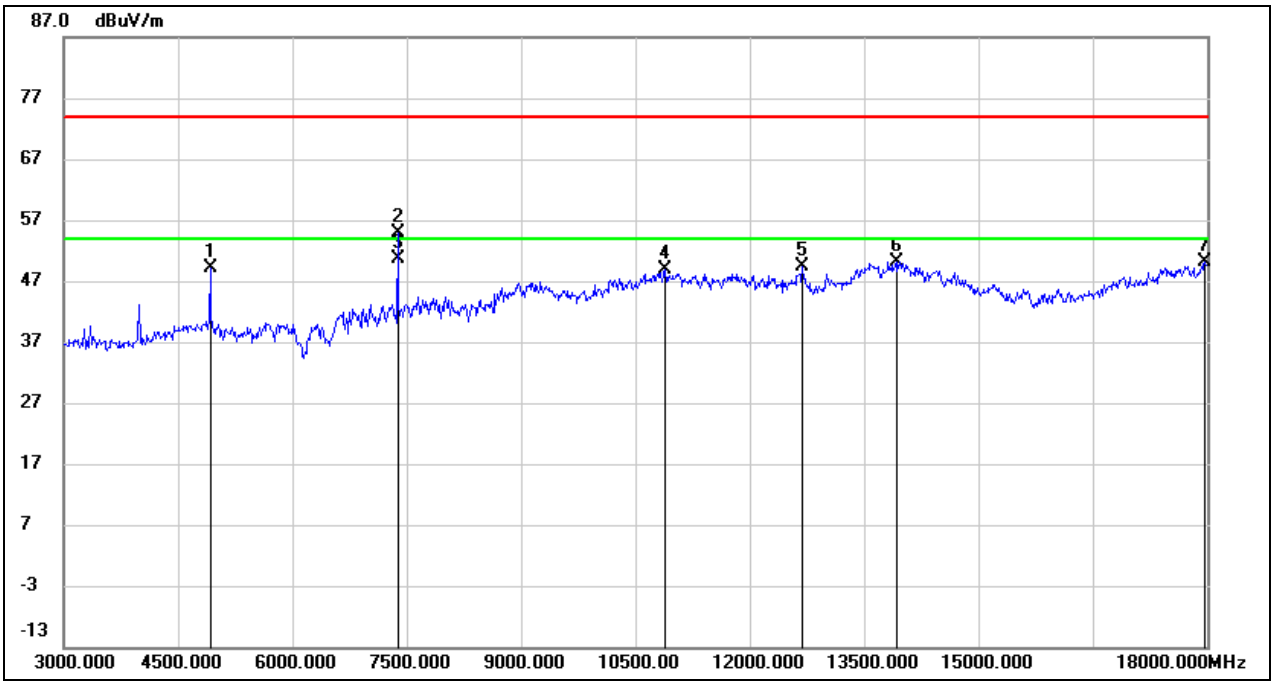
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	46.84	-3.82	43.02	74.00	-30.98	peak
2	4875.000	47.07	-0.03	47.04	74.00	-26.96	peak
3	7305.000	49.21	6.47	55.68	74.00	-18.32	peak
4	7305.000	45.17	6.47	51.64	54.00	-2.36	AVG
5	11775.000	33.25	17.35	50.60	74.00	-23.40	peak
6	13920.000	28.66	21.79	50.45	74.00	-23.55	peak
7	18000.000	25.23	25.69	50.92	74.00	-23.08	peak

Test Mode:	802.11b	Channel:	2462 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



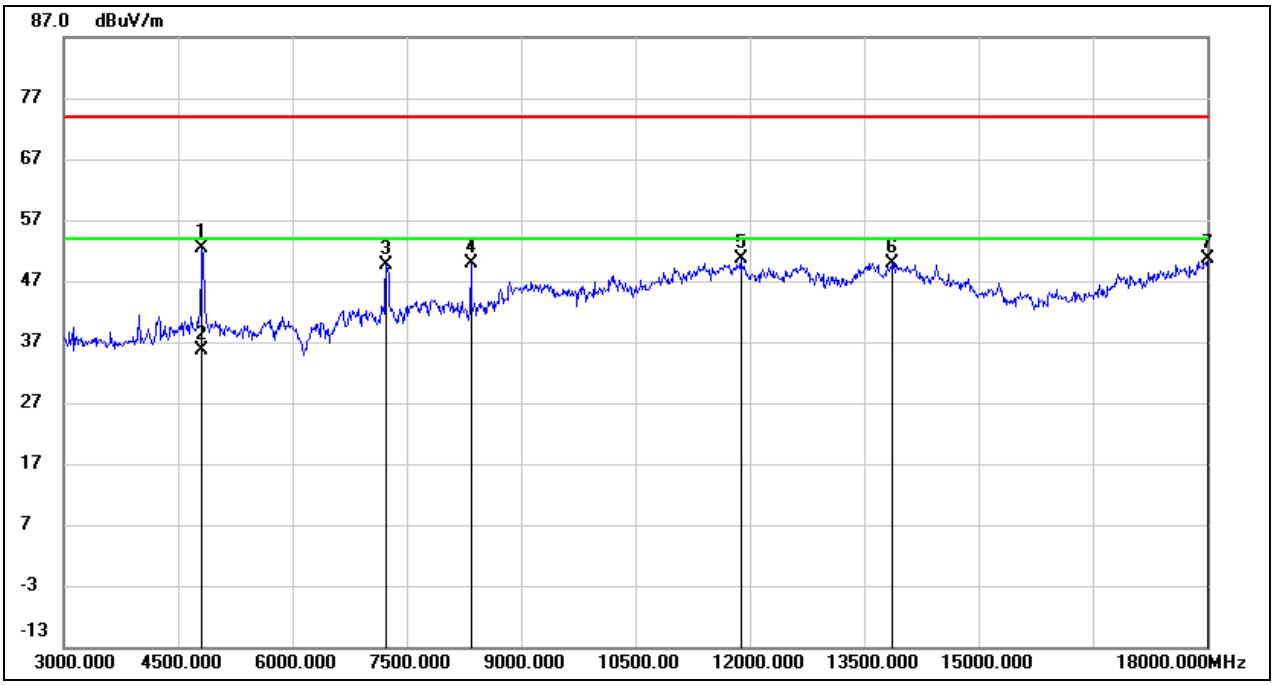
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	52.23	0.14	52.37	74.00	-21.63	peak
2	4920.000	48.99	0.14	49.13	54.00	-4.87	AVG
3	7380.000	49.67	6.42	56.09	74.00	-17.91	peak
4	7380.000	45.98	6.42	52.40	54.00	-1.60	AVG
5	8820.000	41.37	9.16	50.53	74.00	-23.47	peak
6	11805.000	32.29	17.43	49.72	74.00	-24.28	peak
7	13920.000	29.03	21.79	50.82	74.00	-23.18	peak
8	17940.000	25.70	25.34	51.04	74.00	-22.96	peak

Test Mode:	802.11b	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



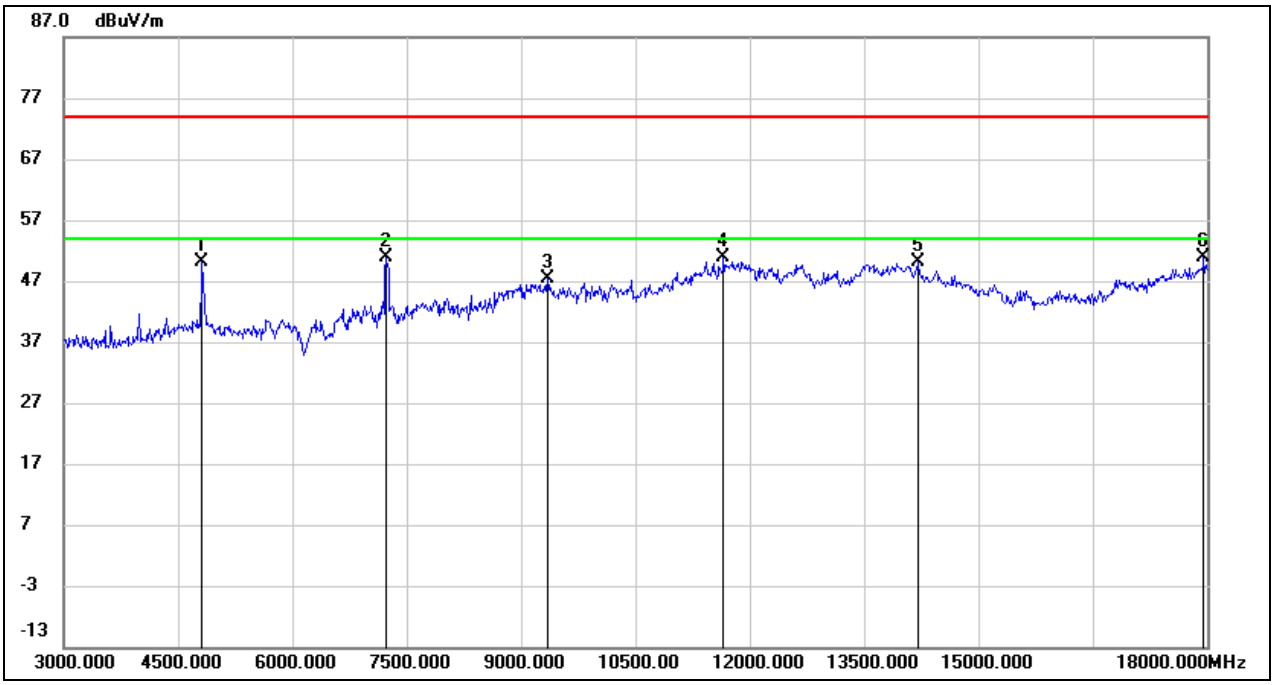
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	49.06	0.14	49.20	74.00	-24.80	peak
2	7380.000	48.39	6.42	54.81	74.00	-19.19	peak
3	7380.000	44.15	6.42	50.57	54.00	-3.43	AVG
4	10890.000	34.43	14.39	48.82	74.00	-25.18	peak
5	12690.000	31.31	18.02	49.33	74.00	-24.67	peak
6	13920.000	28.37	21.79	50.16	74.00	-23.84	peak
7	17970.000	24.57	25.51	50.08	74.00	-23.92	peak

Test Mode:	802.11g	Channel:	2412 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



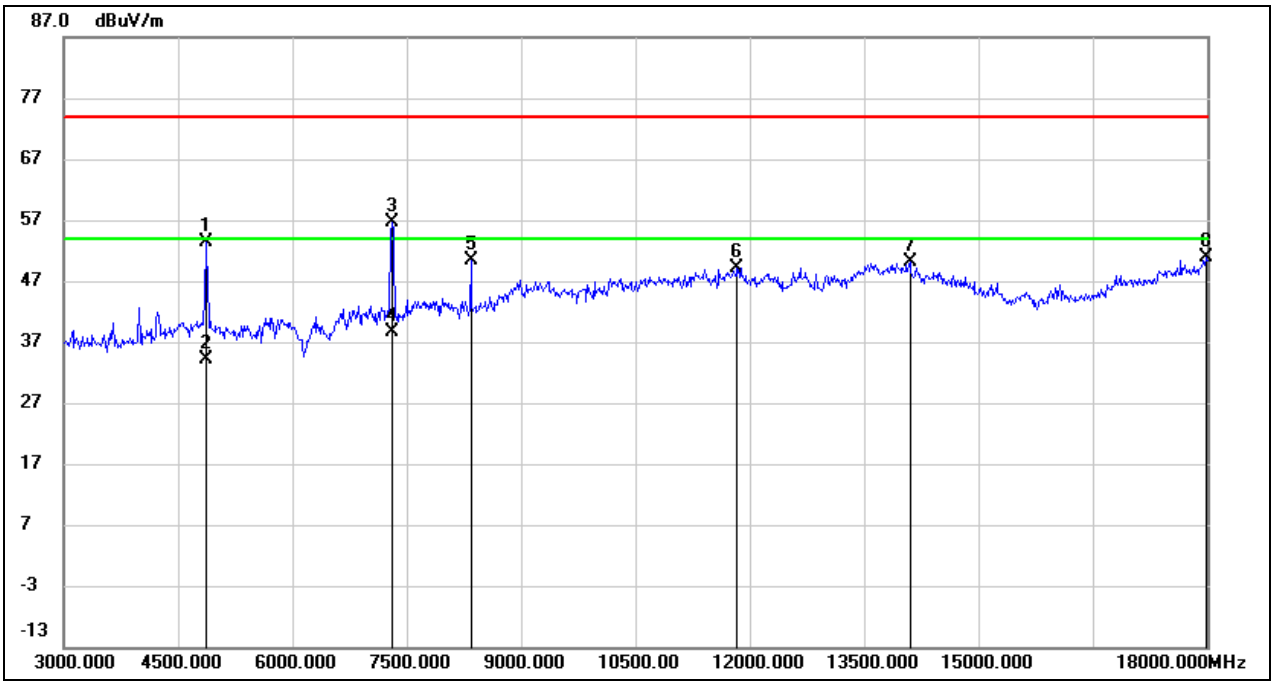
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	52.75	-0.26	52.49	74.00	-21.51	peak
2	4815.000	35.86	-0.26	35.60	54.00	-18.40	AVG
3	7230.000	43.01	6.53	49.54	74.00	-24.46	peak
4	8340.000	43.19	6.66	49.85	74.00	-24.15	peak
5	11880.000	33.02	17.63	50.65	74.00	-23.35	peak
6	13860.000	28.17	21.67	49.84	74.00	-24.16	peak
7	18000.000	25.06	25.69	50.75	74.00	-23.25	peak

Test Mode:	802.11g	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



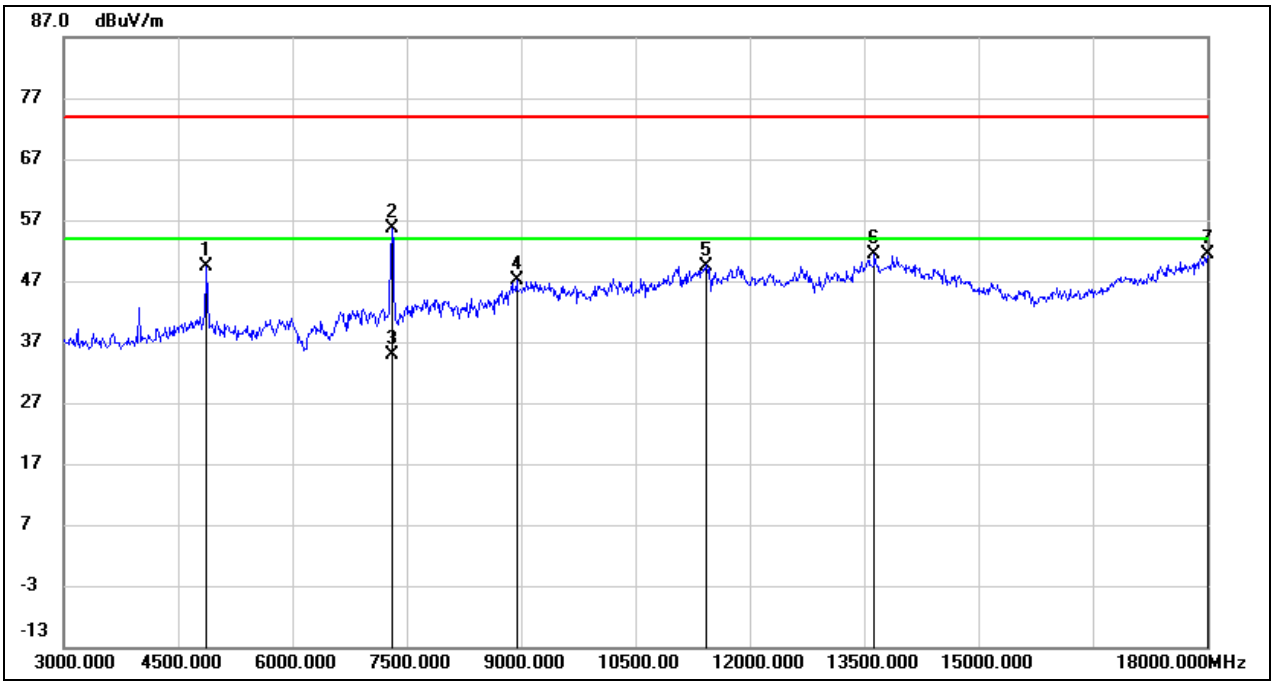
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	50.42	-0.26	50.16	74.00	-23.84	peak
2	7230.000	44.44	6.53	50.97	74.00	-23.03	peak
3	9345.000	36.75	10.63	47.38	74.00	-26.62	peak
4	11655.000	33.82	17.01	50.83	74.00	-23.17	peak
5	14205.000	28.92	21.11	50.03	74.00	-23.97	peak
6	17955.000	25.38	25.42	50.80	74.00	-23.20	peak

Test Mode:	802.11g	Channel:	2437 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



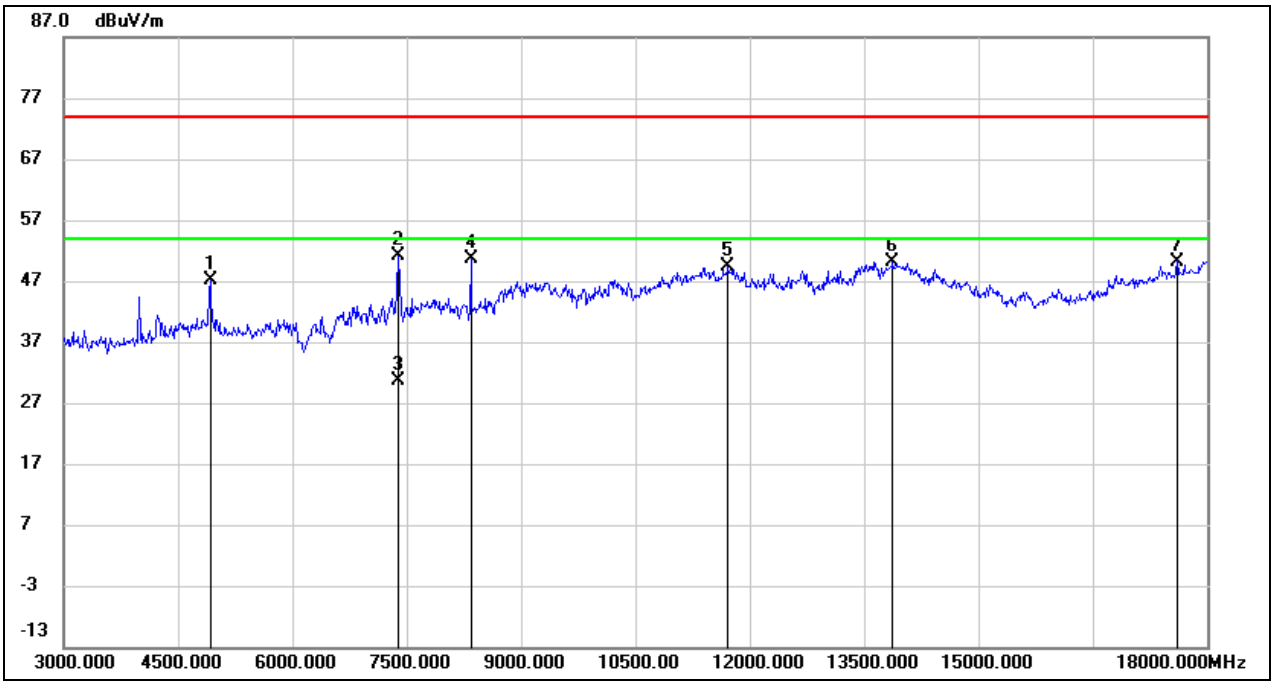
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4860.000	53.43	-0.09	53.34	74.00	-20.66	peak
2	4860.000	34.19	-0.09	34.10	54.00	-19.90	AVG
3	7305.000	50.04	6.47	56.51	74.00	-17.49	peak
4	7305.000	32.12	6.47	38.59	54.00	-15.41	AVG
5	8340.000	43.83	6.66	50.49	74.00	-23.51	peak
6	11835.000	31.72	17.51	49.23	74.00	-24.77	peak
7	14100.000	28.51	21.55	50.06	74.00	-23.94	peak
8	17985.000	25.32	25.60	50.92	74.00	-23.08	peak

Test Mode:	802.11g	Channel:	2437 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



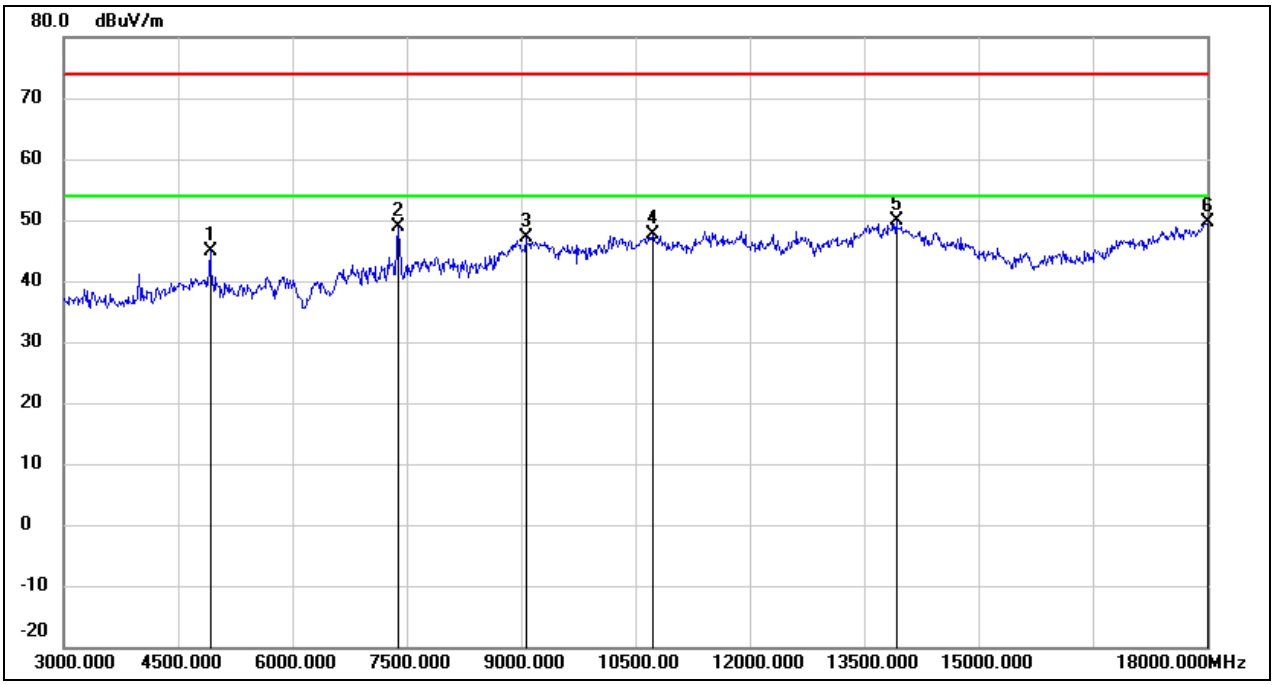
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	49.36	-0.03	49.33	74.00	-24.67	peak
2	7305.000	49.25	6.47	55.72	74.00	-18.28	peak
3	7305.000	28.36	6.47	34.83	54.00	-19.17	AVG
4	8940.000	37.18	10.04	47.22	74.00	-26.78	peak
5	11430.000	33.16	16.34	49.50	74.00	-24.50	peak
6	13635.000	30.22	21.19	51.41	74.00	-22.59	peak
7	18000.000	25.64	25.69	51.33	74.00	-22.67	peak

Test Mode:	802.11g	Channel:	2462 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



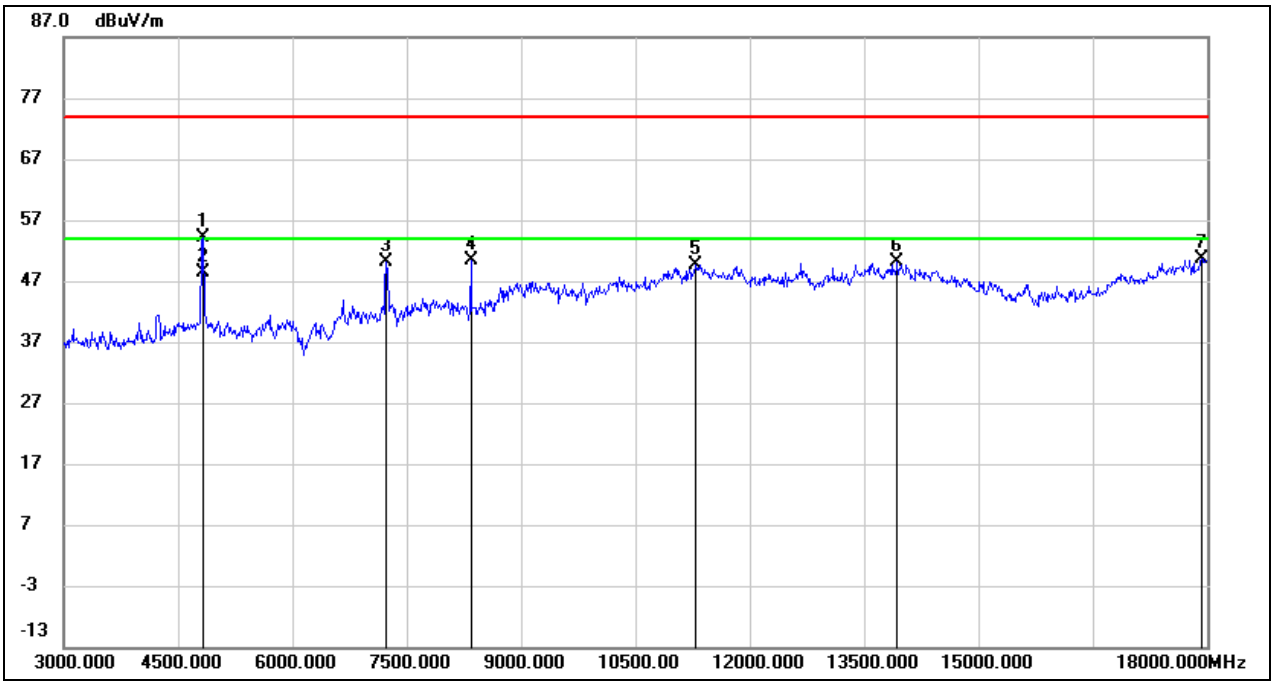
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	47.02	0.14	47.16	74.00	-26.84	peak
2	7380.000	44.70	6.42	51.12	74.00	-22.88	peak
3	7380.000	24.31	6.42	30.73	54.00	-23.27	AVG
4	8340.000	44.02	6.66	50.68	74.00	-23.32	peak
5	11715.000	32.24	17.19	49.43	74.00	-24.57	peak
6	13875.000	28.39	21.70	50.09	74.00	-23.91	peak
7	17610.000	26.87	23.38	50.25	74.00	-23.75	peak

Test Mode:	802.11g	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



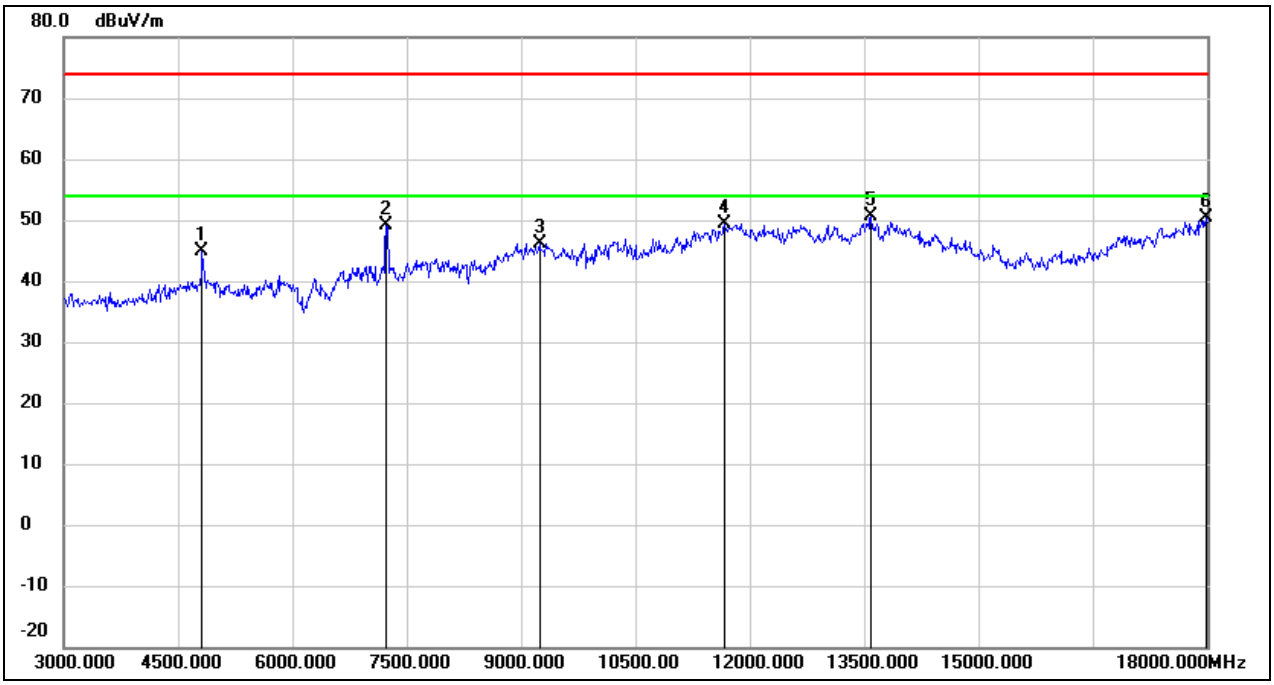
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	44.78	0.14	44.92	74.00	-29.08	peak
2	7380.000	42.35	6.42	48.77	74.00	-25.23	peak
3	9060.000	36.59	10.51	47.10	74.00	-26.90	peak
4	10725.000	33.79	13.79	47.58	74.00	-26.42	peak
5	13920.000	28.12	21.79	49.91	74.00	-24.09	peak
6	18000.000	23.88	25.69	49.57	74.00	-24.43	peak

Test Mode:	802.11n HT20	Channel:	2412 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



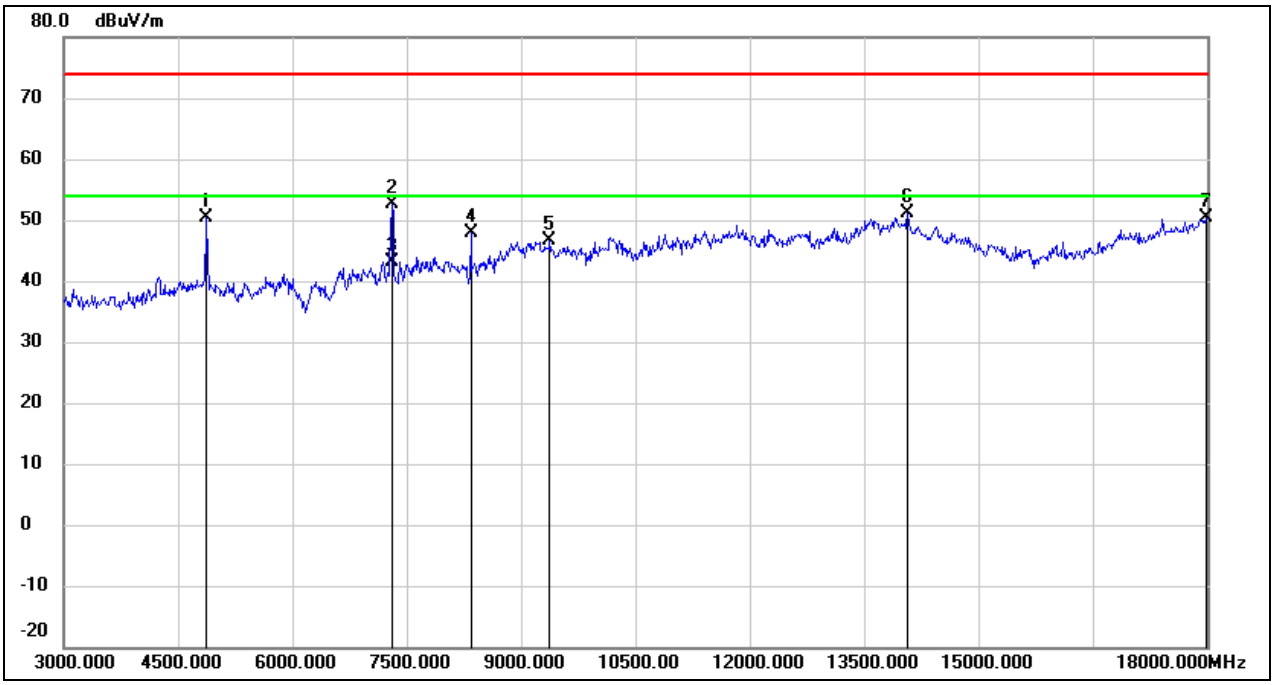
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4830.000	54.34	-0.20	54.14	74.00	-19.86	peak
2	4830.000	48.70	-0.20	48.50	54.00	-5.50	AVG
3	7230.000	43.59	6.53	50.12	74.00	-23.88	peak
4	8340.000	43.71	6.66	50.37	74.00	-23.63	peak
5	11295.000	33.77	15.85	49.62	74.00	-24.38	peak
6	13935.000	28.34	21.82	50.16	74.00	-23.84	peak
7	17925.000	25.41	25.25	50.66	74.00	-23.34	peak

Test Mode:	802.11n HT20	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



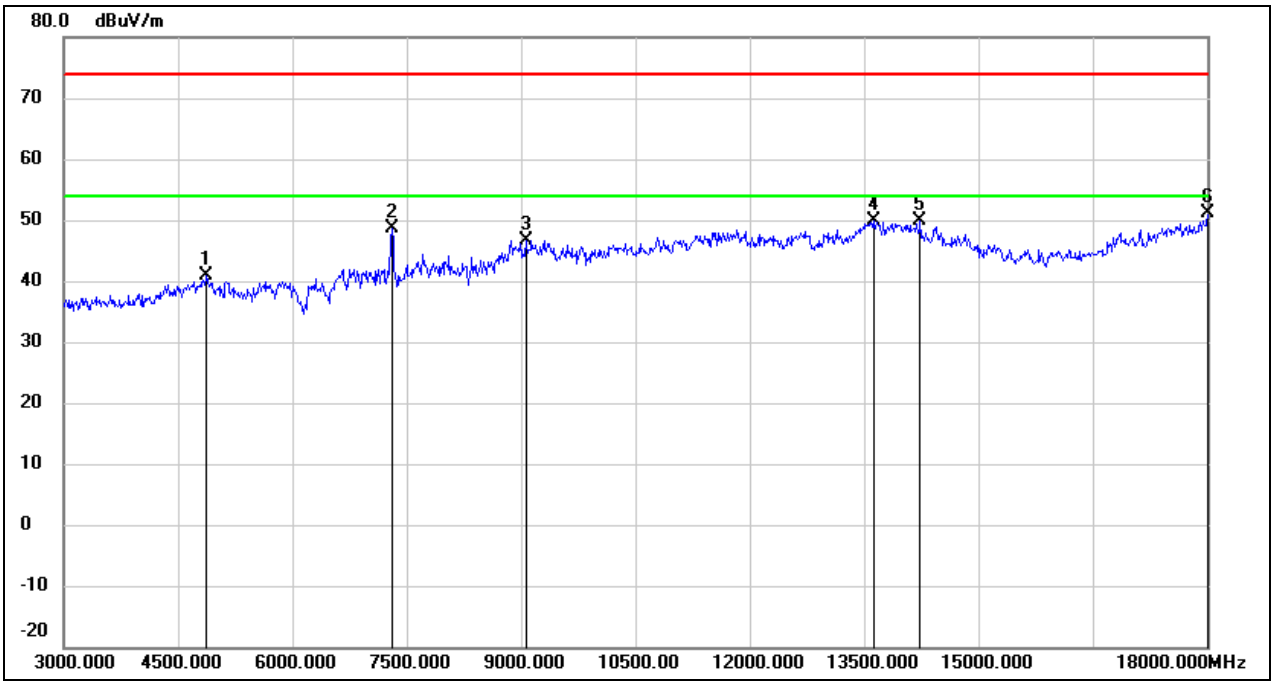
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	45.10	-0.26	44.84	74.00	-29.16	peak
2	7230.000	42.60	6.53	49.13	74.00	-24.87	peak
3	9240.000	35.65	10.58	46.23	74.00	-27.77	peak
4	11670.000	32.25	17.07	49.32	74.00	-24.68	peak
5	13590.000	29.52	21.09	50.61	74.00	-23.39	peak
6	17985.000	24.70	25.60	50.30	74.00	-23.70	peak

Test Mode:	802.11n HT20	Channel:	2437 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



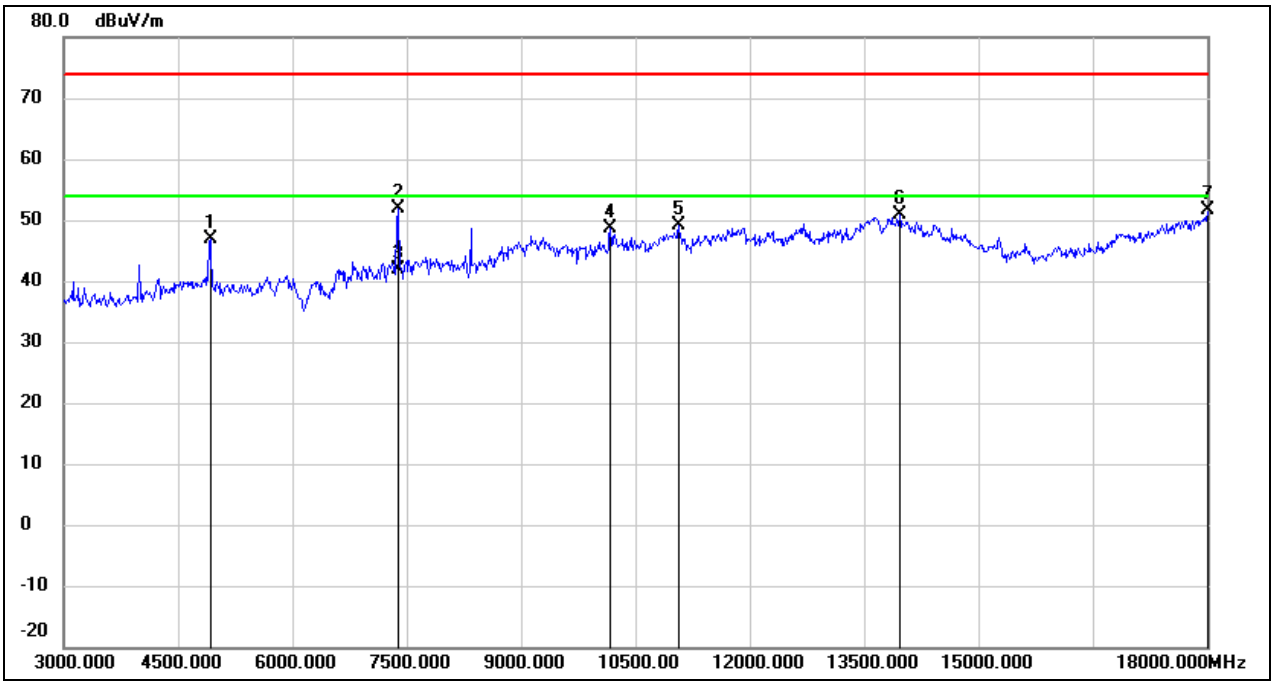
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	50.49	-0.03	50.46	74.00	-23.54	peak
2	7305.000	46.27	6.47	52.74	74.00	-21.26	peak
3	7305.000	36.63	6.47	43.10	54.00	-10.90	AVG
4	8340.000	41.15	6.66	47.81	74.00	-26.19	peak
5	9375.000	36.04	10.64	46.68	74.00	-27.32	peak
6	14070.000	29.53	21.67	51.20	74.00	-22.80	peak
7	17985.000	24.70	25.60	50.30	74.00	-23.70	peak

Test Mode:	802.11n HT20	Channel:	2437 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



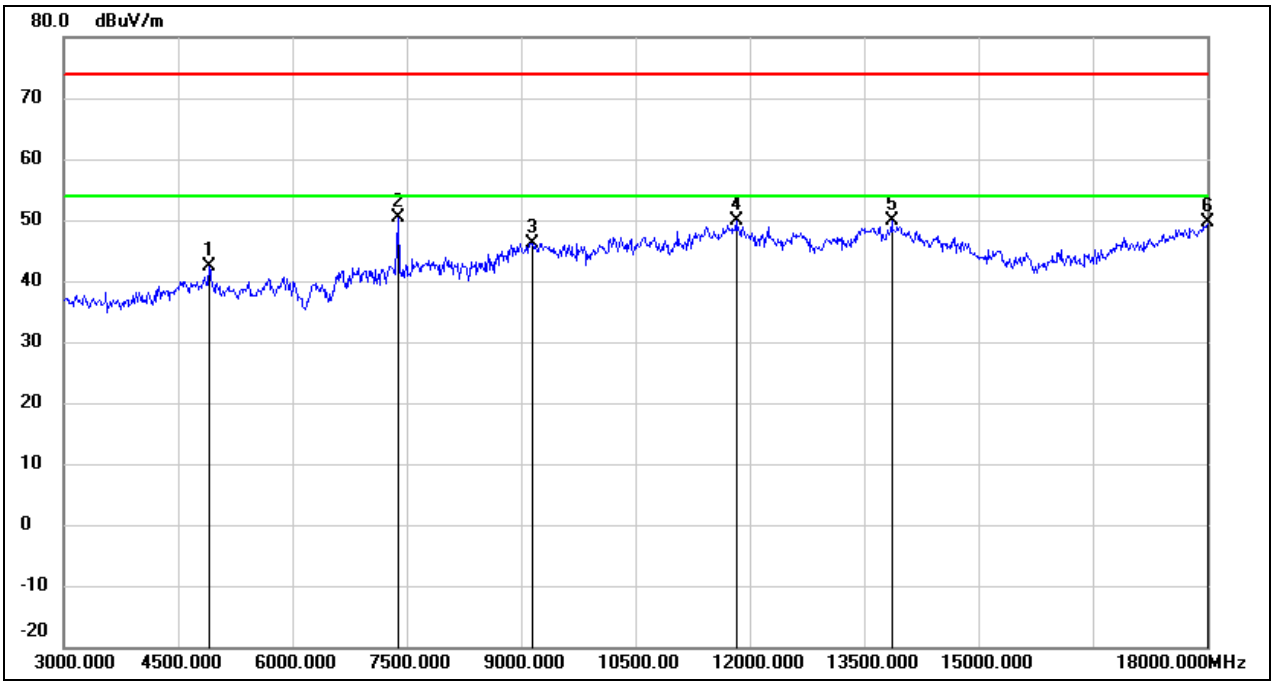
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	40.87	-0.03	40.84	74.00	-33.16	peak
2	7305.000	42.09	6.47	48.56	74.00	-25.44	peak
3	9060.000	36.21	10.51	46.72	74.00	-27.28	peak
4	13620.000	28.61	21.15	49.76	74.00	-24.24	peak
5	14235.000	28.93	20.99	49.92	74.00	-24.08	peak
6	18000.000	25.44	25.69	51.13	74.00	-22.87	peak

Test Mode:	802.11n HT20	Channel:	2462 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



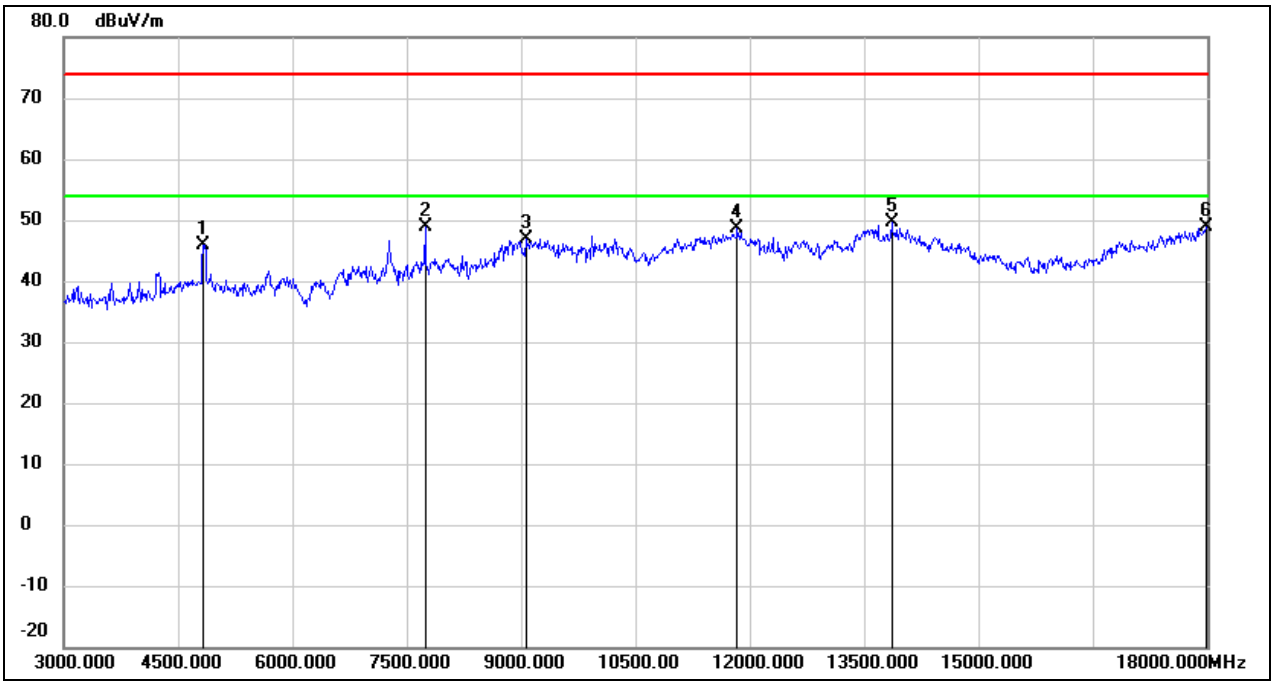
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	46.75	0.14	46.89	74.00	-27.11	peak
2	7380.000	45.36	6.42	51.78	74.00	-22.22	peak
3	7380.000	35.48	6.42	41.90	54.00	-12.10	AVG
4	10170.000	36.21	12.34	48.55	74.00	-25.45	peak
5	11070.000	34.17	15.03	49.20	74.00	-24.80	peak
6	13965.000	29.02	21.89	50.91	74.00	-23.09	peak
7	18000.000	25.94	25.69	51.63	74.00	-22.37	peak

Test Mode:	802.11n HT20	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



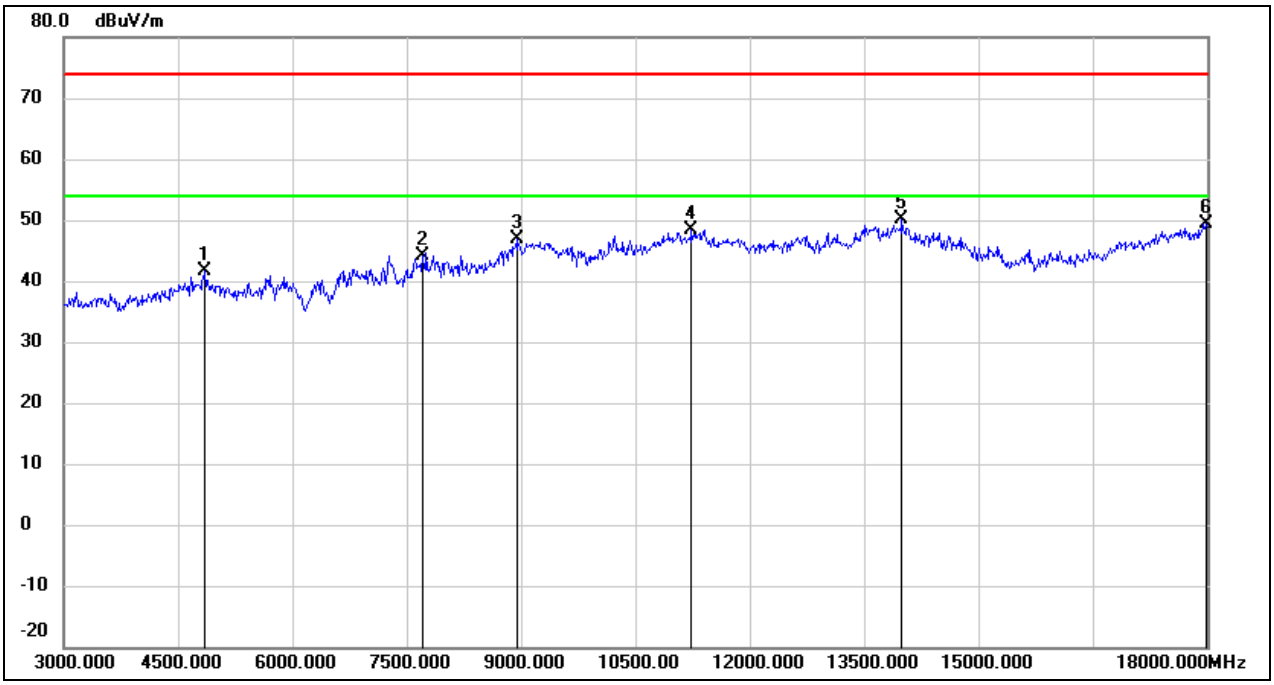
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	42.33	0.09	42.42	74.00	-31.58	peak
2	7395.000	43.99	6.40	50.39	74.00	-23.61	peak
3	9150.000	35.70	10.54	46.24	74.00	-27.76	peak
4	11820.000	32.29	17.47	49.76	74.00	-24.24	peak
5	13860.000	28.09	21.67	49.76	74.00	-24.24	peak
6	18000.000	23.90	25.69	49.59	74.00	-24.41	peak

Test Mode:	802.11n HT40	Channel:	2422 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



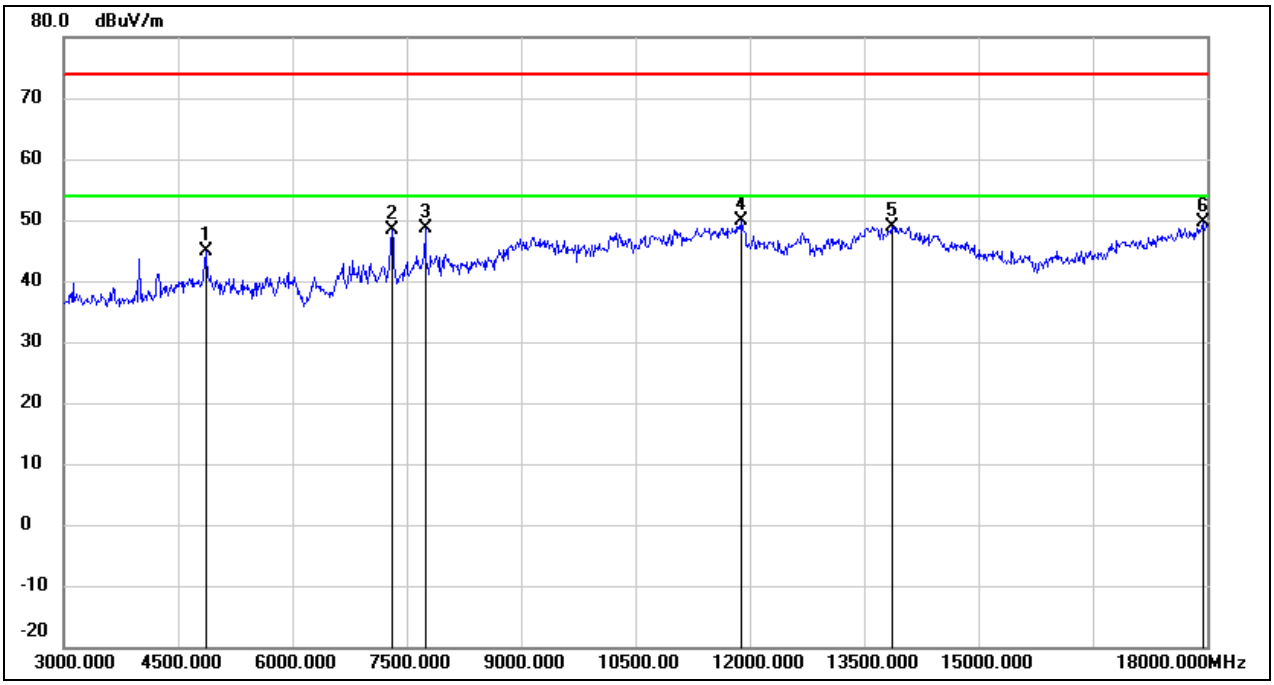
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4830.000	46.08	-0.20	45.88	74.00	-28.12	peak
2	7740.000	42.57	6.32	48.89	74.00	-25.11	peak
3	9060.000	36.48	10.51	46.99	74.00	-27.01	peak
4	11835.000	31.02	17.51	48.53	74.00	-25.47	peak
5	13860.000	27.85	21.67	49.52	74.00	-24.48	peak
6	17985.000	23.24	25.60	48.84	74.00	-25.16	peak

Test Mode:	802.11n HT40	Channel:	2422 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



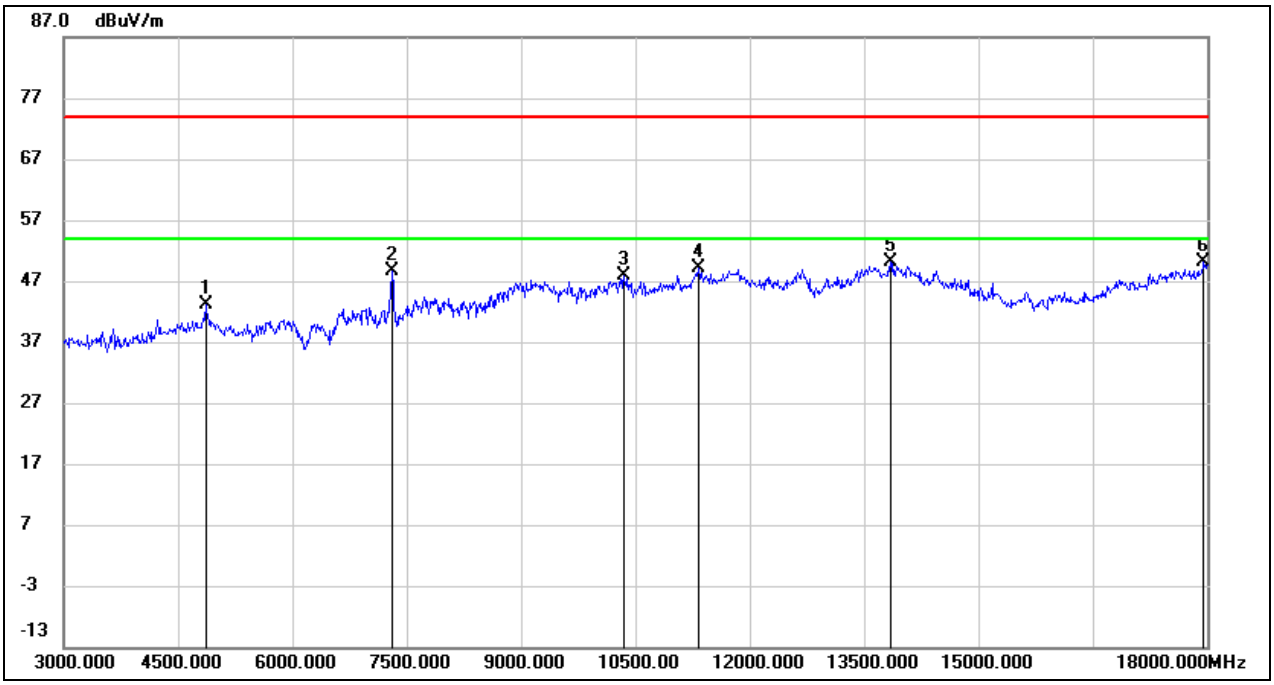
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4845.000	41.76	-0.15	41.61	74.00	-32.39	peak
2	7710.000	37.91	6.33	44.24	74.00	-29.76	peak
3	8940.000	36.77	10.04	46.81	74.00	-27.19	peak
4	11235.000	32.76	15.63	48.39	74.00	-25.61	peak
5	13995.000	28.25	21.95	50.20	74.00	-23.80	peak
6	17985.000	23.76	25.60	49.36	74.00	-24.64	peak

Test Mode:	802.11n HT40	Channel:	2437 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



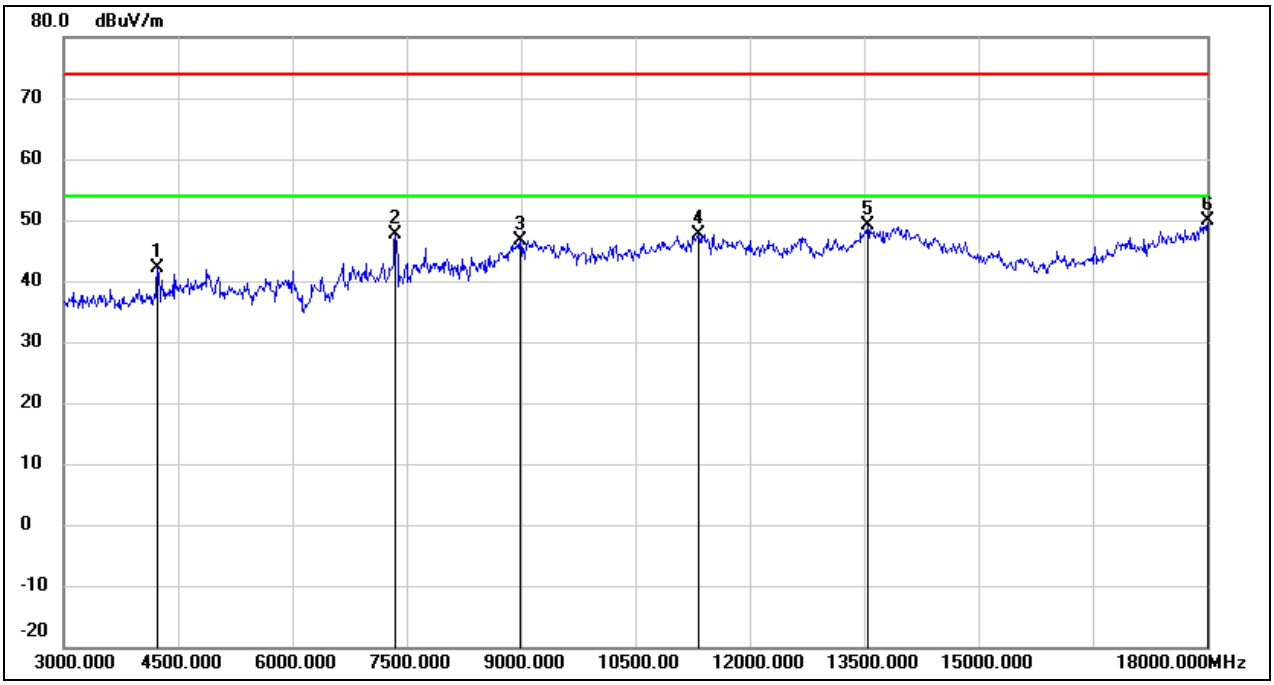
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4860.000	44.98	-0.09	44.89	74.00	-29.11	peak
2	7305.000	41.98	6.47	48.45	74.00	-25.55	peak
3	7740.000	42.40	6.32	48.72	74.00	-25.28	peak
4	11895.000	32.27	17.68	49.95	74.00	-24.05	peak
5	13860.000	27.29	21.67	48.96	74.00	-25.04	peak
6	17940.000	24.28	25.34	49.62	74.00	-24.38	peak

Test Mode:	802.11n HT40	Channel:	2437 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



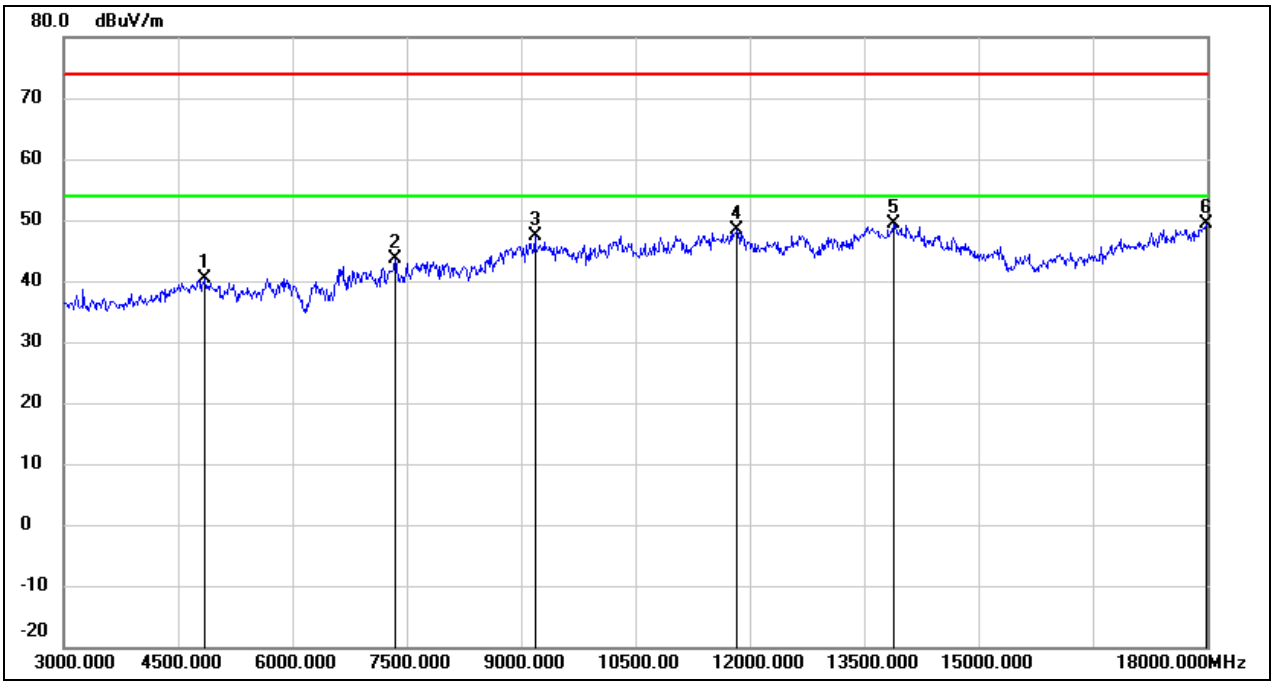
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4860.000	43.11	-0.09	43.02	74.00	-30.98	peak
2	7305.000	42.21	6.47	48.68	74.00	-25.32	peak
3	10350.000	35.10	12.70	47.80	74.00	-26.20	peak
4	11325.000	33.07	15.95	49.02	74.00	-24.98	peak
5	13845.000	28.51	21.62	50.13	74.00	-23.87	peak
6	17955.000	24.81	25.42	50.23	74.00	-23.77	peak

Test Mode:	802.11n HT40	Channel:	2452 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



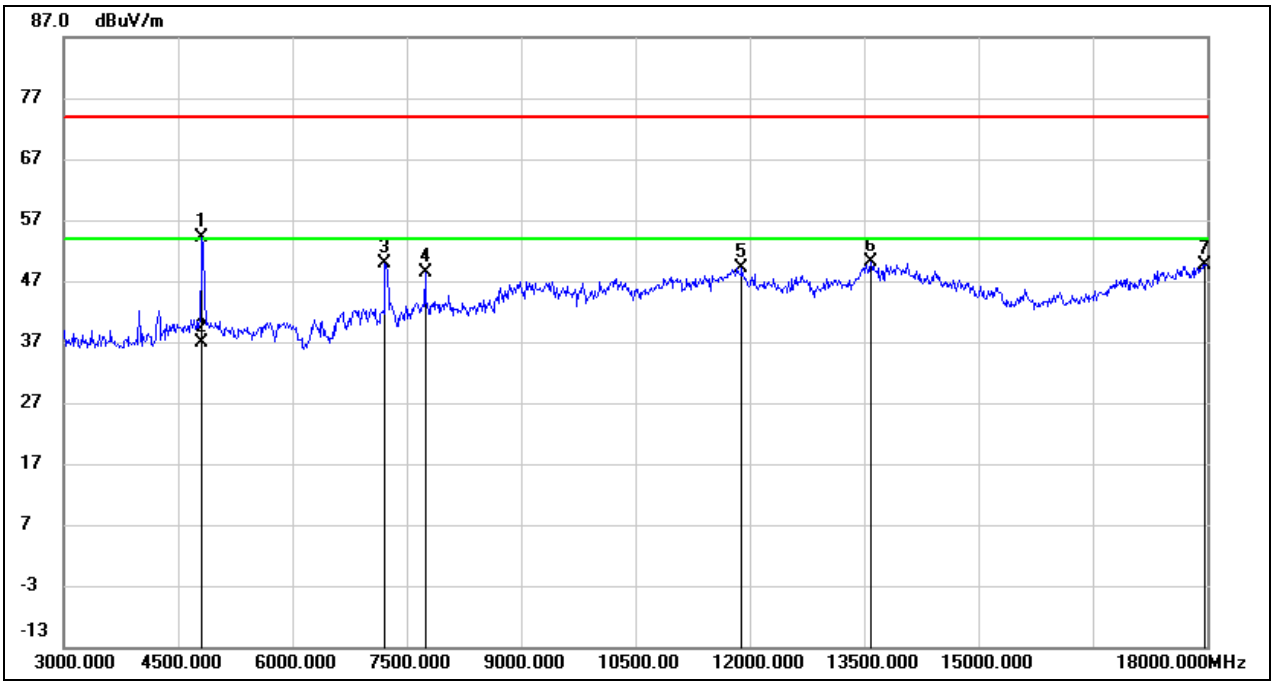
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4230.000	44.80	-2.72	42.08	74.00	-31.92	peak
2	7350.000	41.09	6.44	47.53	74.00	-26.47	peak
3	8985.000	36.38	10.37	46.75	74.00	-27.25	peak
4	11325.000	31.76	15.95	47.71	74.00	-26.29	peak
5	13545.000	28.09	20.99	49.08	74.00	-24.92	peak
6	18000.000	24.12	25.69	49.81	74.00	-24.19	peak

Test Mode:	802.11n HT40	Channel:	2452 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



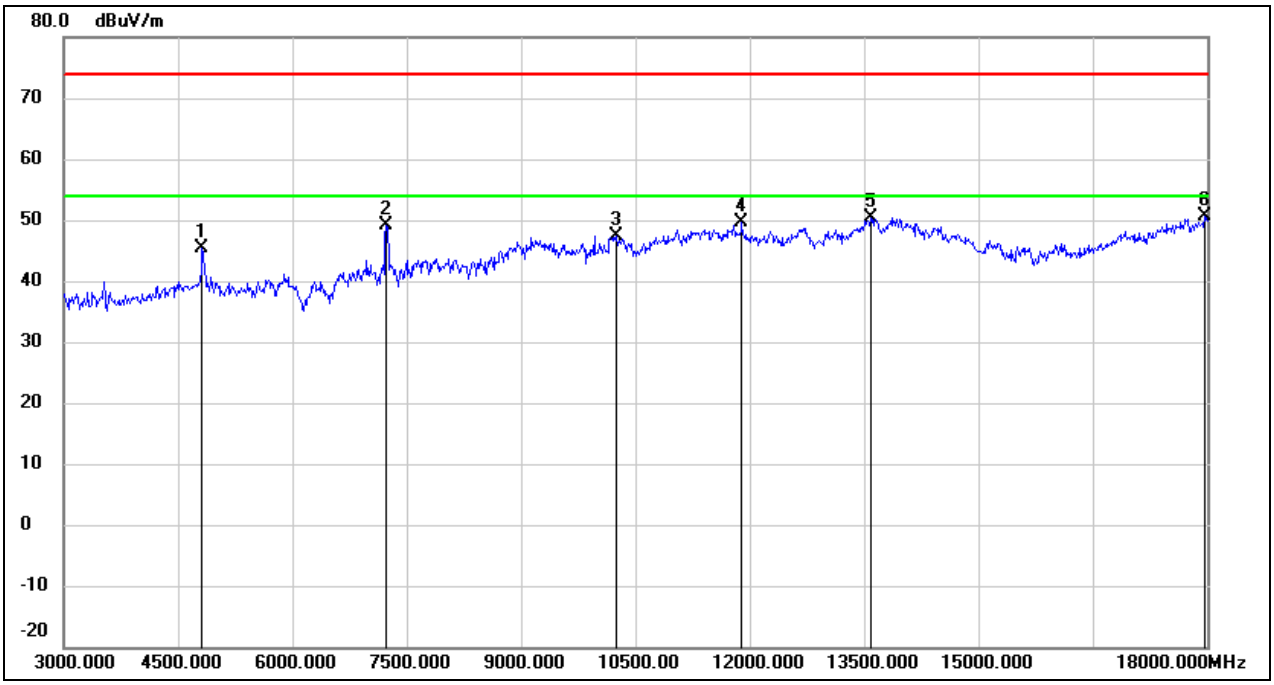
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4845.000	40.62	-0.15	40.47	74.00	-33.53	peak
2	7350.000	37.18	6.44	43.62	74.00	-30.38	peak
3	9180.000	36.93	10.56	47.49	74.00	-26.51	peak
4	11835.000	30.98	17.51	48.49	74.00	-25.51	peak
5	13890.000	27.57	21.72	49.29	74.00	-24.71	peak
6	17985.000	23.89	25.60	49.49	74.00	-24.51	peak

Test Mode:	802.11ax HE20	Channel:	2412 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



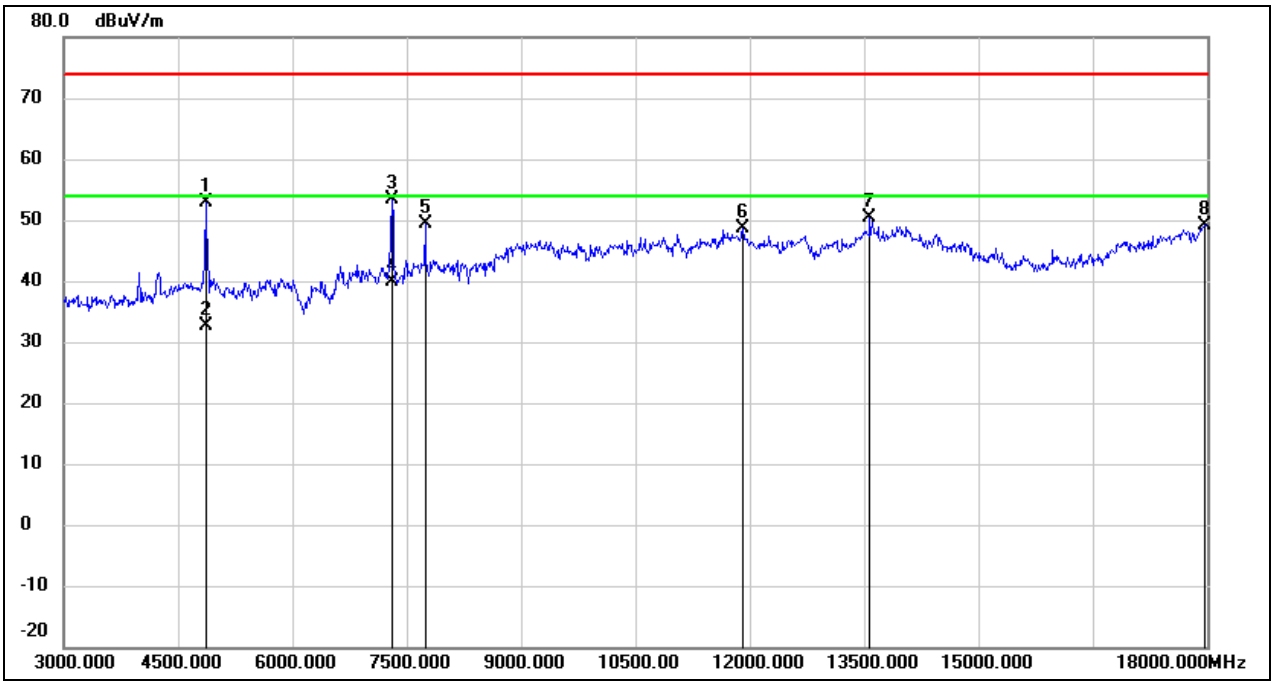
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	54.41	-0.26	54.15	74.00	-19.85	peak
2	4815.000	37.13	-0.26	36.87	54.00	-17.13	AVG
3	7215.000	43.24	6.54	49.78	74.00	-24.22	peak
4	7740.000	42.16	6.32	48.48	74.00	-25.52	peak
5	11895.000	31.43	17.68	49.11	74.00	-24.89	peak
6	13590.000	29.10	21.09	50.19	74.00	-23.81	peak
7	17970.000	24.22	25.51	49.73	74.00	-24.27	peak

Test Mode:	802.11ax HE20	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



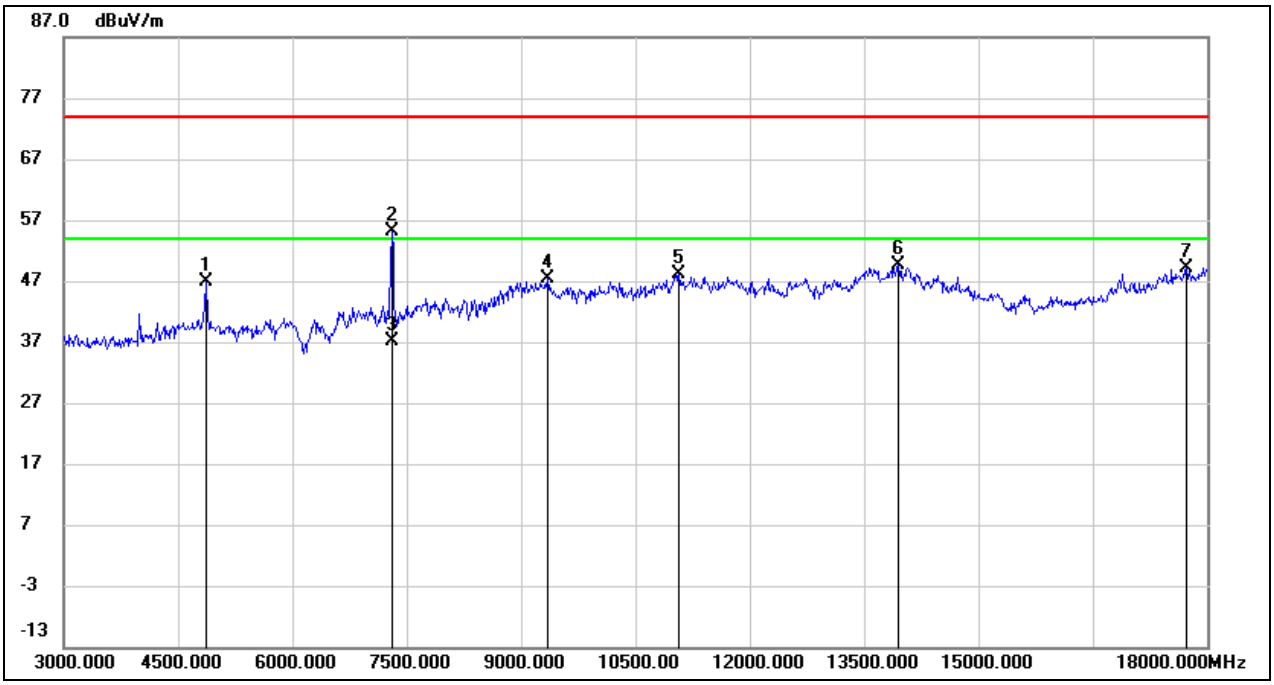
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	45.74	-0.26	45.48	74.00	-28.52	peak
2	7230.000	42.72	6.53	49.25	74.00	-24.75	peak
3	10245.000	35.02	12.48	47.50	74.00	-26.50	peak
4	11895.000	31.89	17.68	49.57	74.00	-24.43	peak
5	13590.000	29.23	21.09	50.32	74.00	-23.68	peak
6	17970.000	25.01	25.51	50.52	74.00	-23.48	peak

Test Mode:	802.11ax HE20	Channel:	2437 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



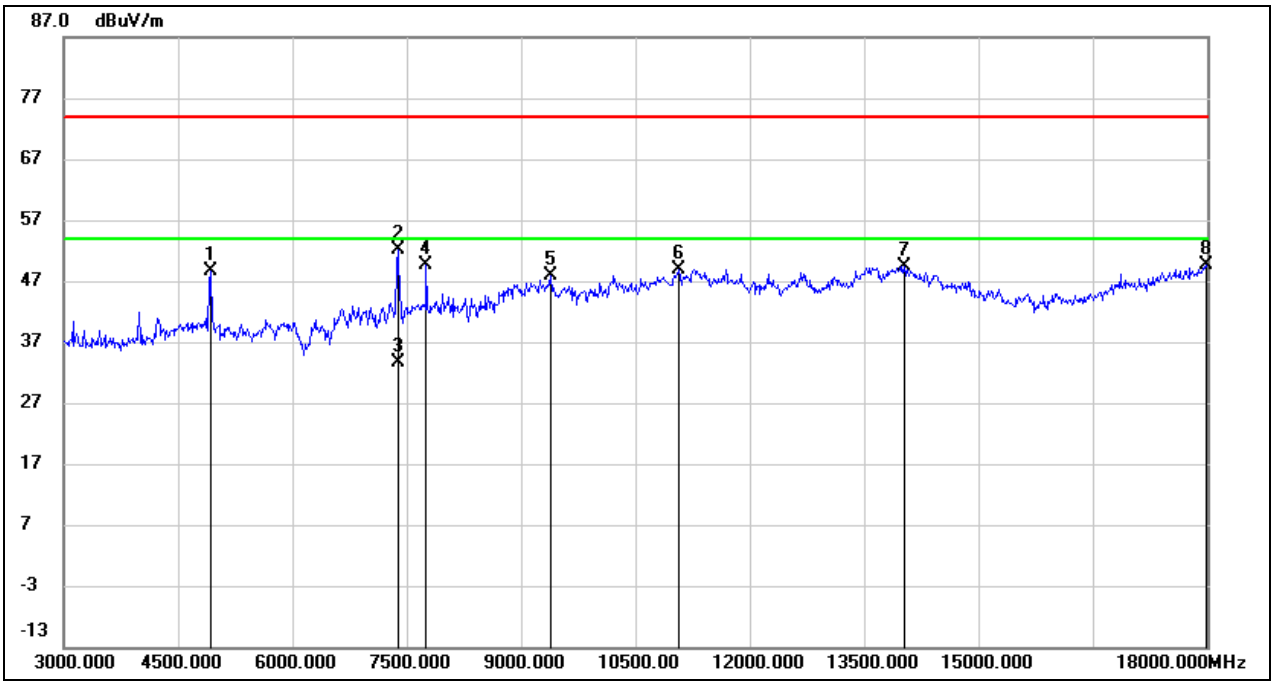
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4860.000	52.99	-0.09	52.90	74.00	-21.10	peak
2	4860.000	32.79	-0.09	32.70	54.00	-21.30	AVG
3	7305.000	47.00	6.47	53.47	74.00	-20.53	peak
4	7305.000	33.34	6.47	39.81	54.00	-14.19	AVG
5	7740.000	43.00	6.32	49.32	74.00	-24.68	peak
6	11910.000	30.99	17.72	48.71	74.00	-25.29	peak
7	13575.000	29.23	21.06	50.29	74.00	-23.71	peak
8	17970.000	23.55	25.51	49.06	74.00	-24.94	peak

Test Mode:	802.11ax HE20	Channel:	2437 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



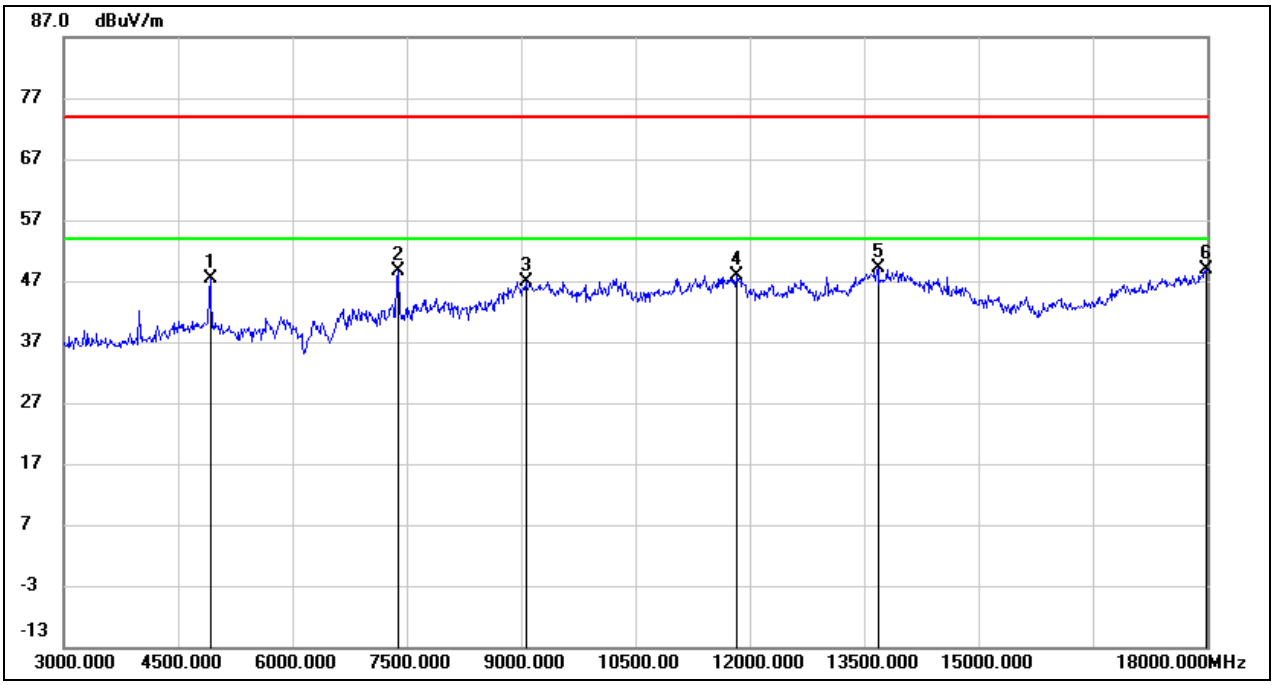
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4860.000	47.00	-0.09	46.91	74.00	-27.09	peak
2	7305.000	48.73	6.47	55.20	74.00	-18.80	peak
3	7305.000	30.76	6.47	37.23	54.00	-16.77	AVG
4	9345.000	36.82	10.63	47.45	74.00	-26.55	peak
5	11070.000	33.10	15.03	48.13	74.00	-25.87	peak
6	13950.000	27.81	21.86	49.67	74.00	-24.33	peak
7	17730.000	25.10	24.09	49.19	74.00	-24.81	peak

Test Mode:	802.11ax HE20	Channel:	2462 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



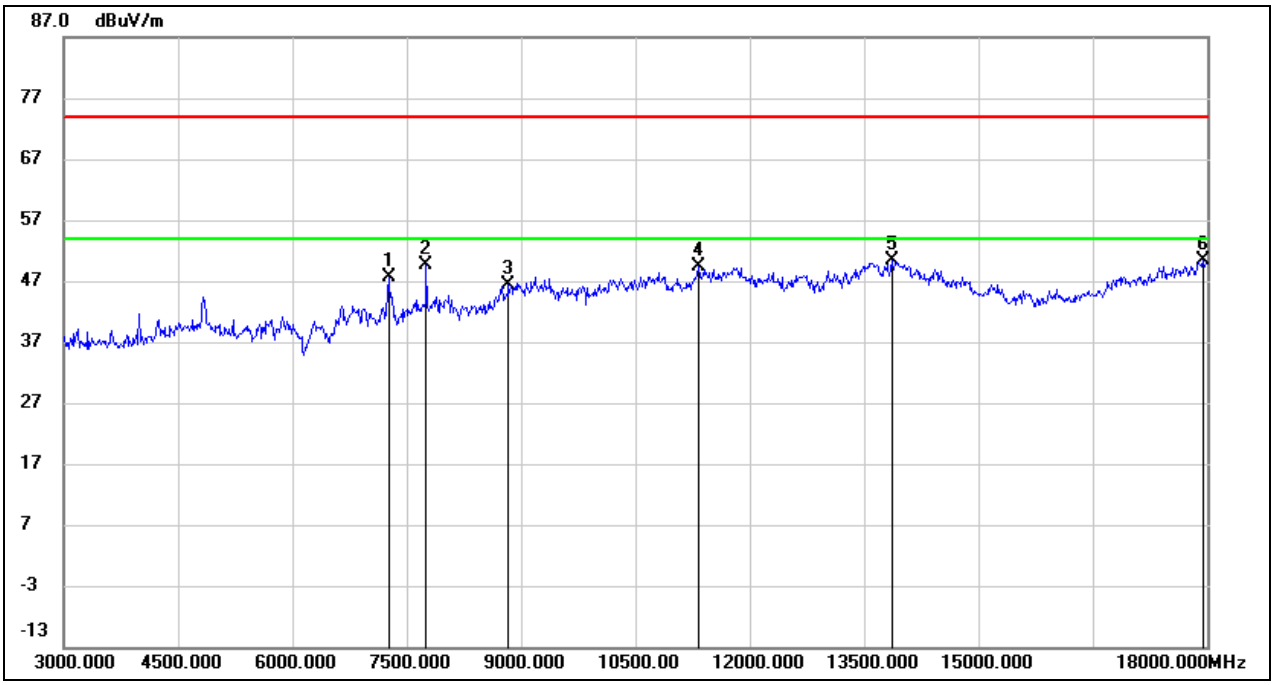
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	48.48	0.14	48.62	74.00	-25.38	peak
2	7380.000	45.70	6.42	52.12	74.00	-21.88	peak
3	7380.000	27.09	6.42	33.51	54.00	-20.49	AVG
4	7755.000	43.31	6.31	49.62	74.00	-24.38	peak
5	9390.000	37.24	10.64	47.88	74.00	-26.12	peak
6	11070.000	33.88	15.03	48.91	74.00	-25.09	peak
7	14025.000	27.50	21.86	49.36	74.00	-24.64	peak
8	17985.000	24.03	25.60	49.63	74.00	-24.37	peak

Test Mode:	802.11ax HE20	Channel:	2462 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



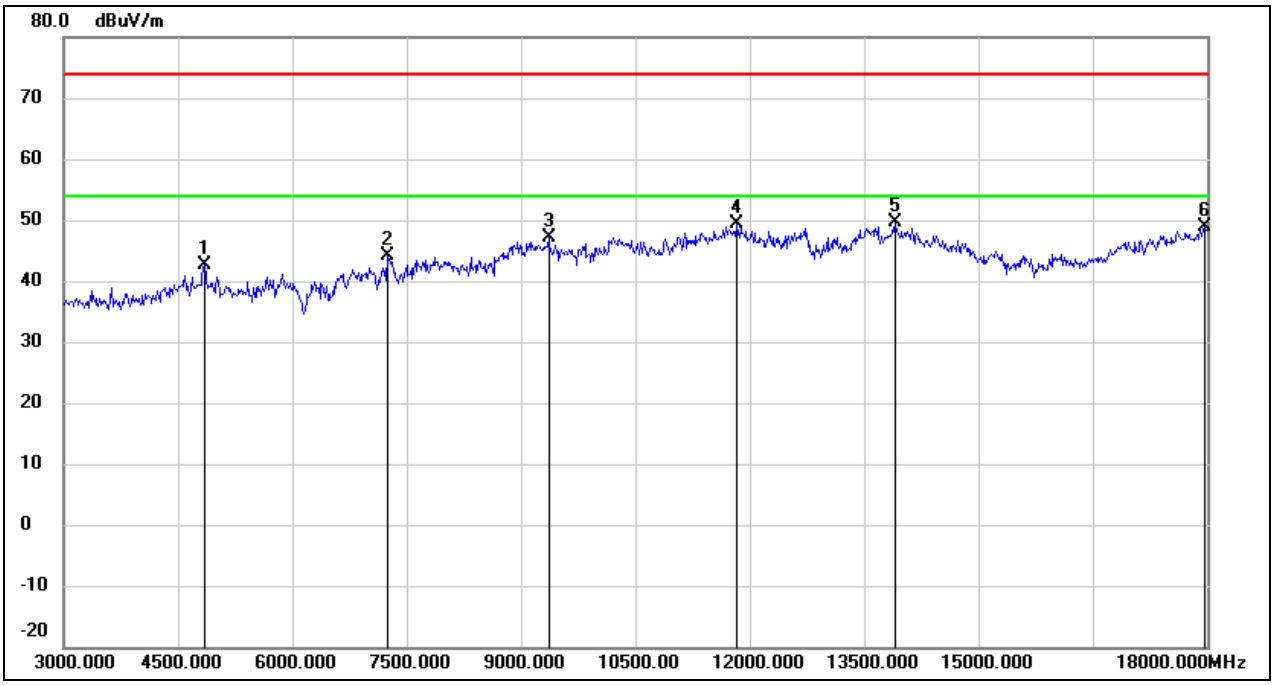
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	47.21	0.14	47.35	74.00	-26.65	peak
2	7380.000	42.29	6.42	48.71	74.00	-25.29	peak
3	9060.000	36.39	10.51	46.90	74.00	-27.10	peak
4	11820.000	30.47	17.47	47.94	74.00	-26.06	peak
5	13680.000	27.72	21.29	49.01	74.00	-24.99	peak
6	17985.000	23.38	25.60	48.98	74.00	-25.02	peak

Test Mode:	802.11ax HE40	Channel:	2422 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



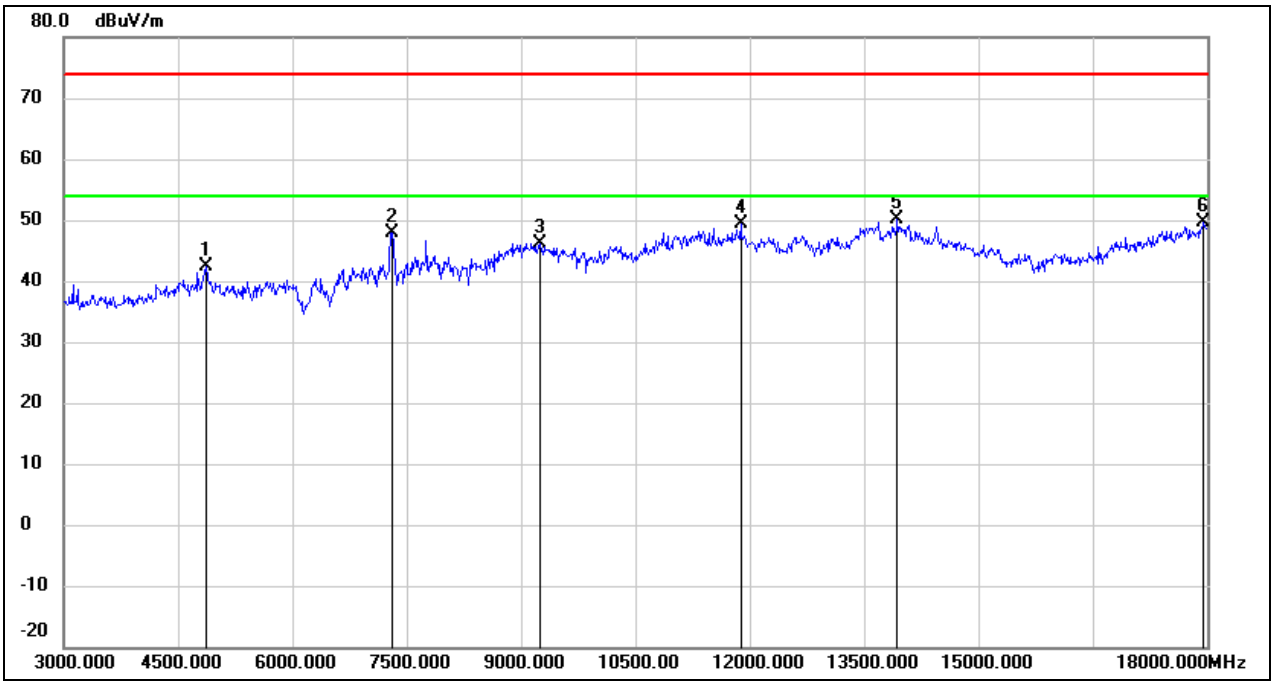
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7260.000	41.14	6.50	47.64	74.00	-26.36	peak
2	7755.000	43.38	6.31	49.69	74.00	-24.31	peak
3	8835.000	37.07	9.28	46.35	74.00	-27.65	peak
4	11325.000	33.36	15.95	49.31	74.00	-24.69	peak
5	13860.000	28.74	21.67	50.41	74.00	-23.59	peak
6	17955.000	24.87	25.42	50.29	74.00	-23.71	peak

Test Mode:	802.11ax HE40	Channel:	2422 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



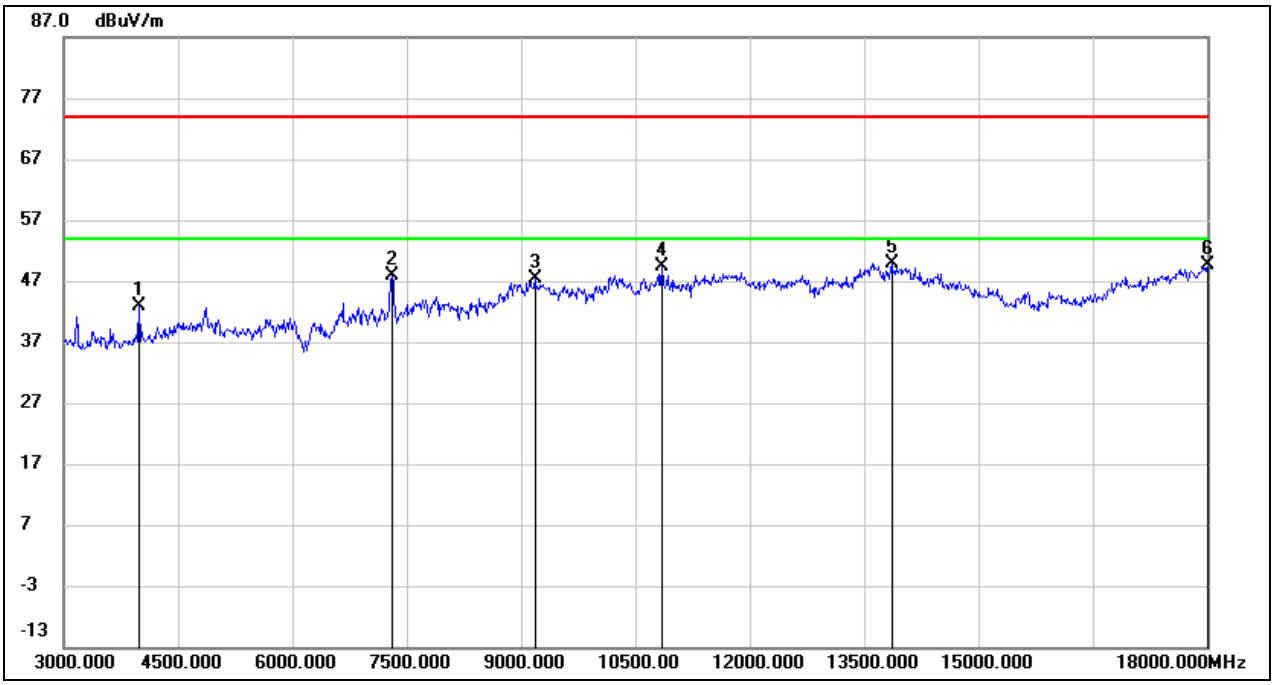
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4845.000	42.90	-0.15	42.75	74.00	-31.25	peak
2	7245.000	37.63	6.51	44.14	74.00	-29.86	peak
3	9360.000	36.48	10.64	47.12	74.00	-26.88	peak
4	11835.000	31.85	17.51	49.36	74.00	-24.64	peak
5	13905.000	27.88	21.76	49.64	74.00	-24.36	peak
6	17970.000	23.31	25.51	48.82	74.00	-25.18	peak

Test Mode:	802.11ax HE40	Channel:	2437 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



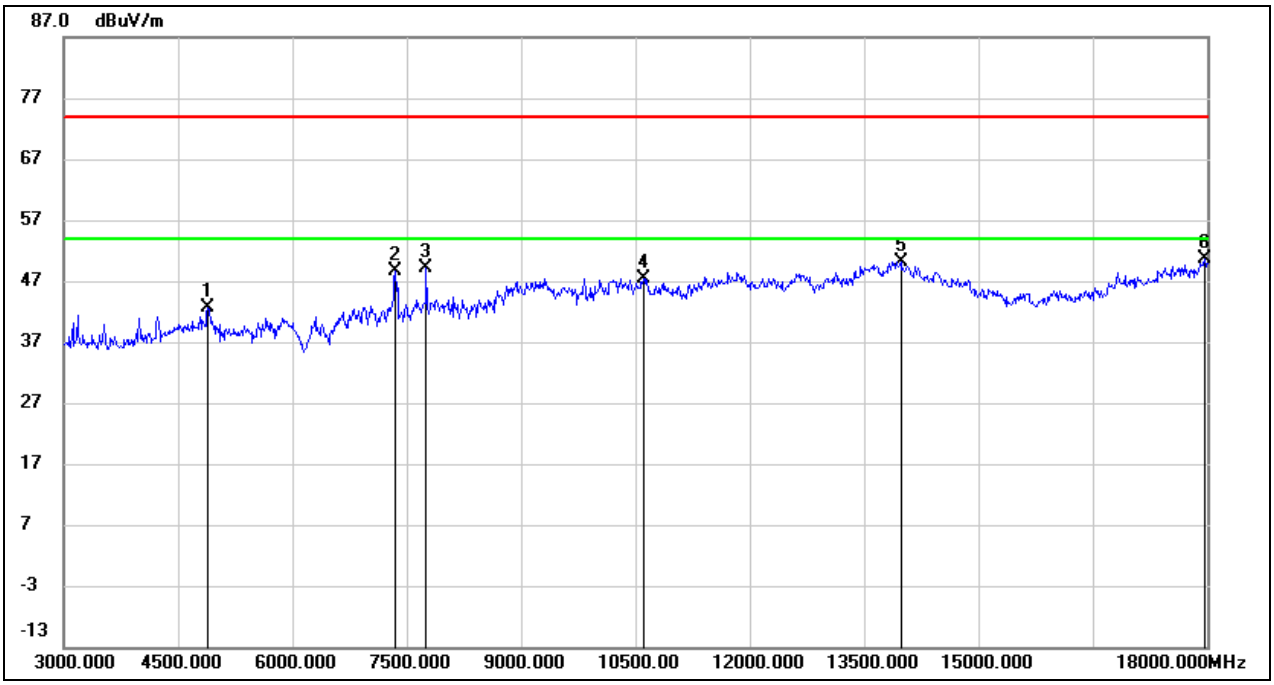
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4860.000	42.49	-0.09	42.40	74.00	-31.60	peak
2	7305.000	41.48	6.47	47.95	74.00	-26.05	peak
3	9255.000	35.59	10.59	46.18	74.00	-27.82	peak
4	11880.000	31.64	17.63	49.27	74.00	-24.73	peak
5	13935.000	28.25	21.82	50.07	74.00	-23.93	peak
6	17955.000	24.30	25.42	49.72	74.00	-24.28	peak

Test Mode:	802.11ax HE40	Channel:	2437 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



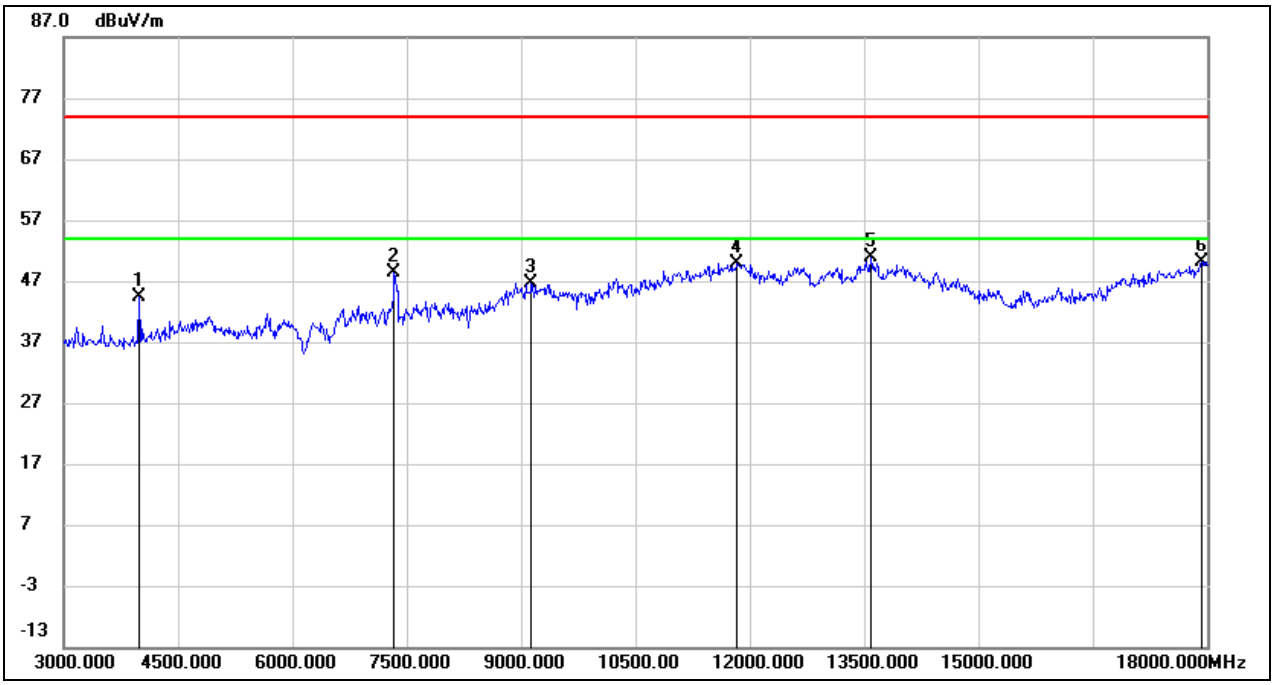
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	46.80	-3.82	42.98	74.00	-31.02	peak
2	7305.000	41.50	6.47	47.97	74.00	-26.03	peak
3	9180.000	36.80	10.56	47.36	74.00	-26.64	peak
4	10845.000	35.27	14.21	49.48	74.00	-24.52	peak
5	13860.000	28.26	21.67	49.93	74.00	-24.07	peak
6	18000.000	24.04	25.69	49.73	74.00	-24.27	peak

Test Mode:	802.11ax HE40	Channel:	2452 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4890.000	42.59	0.03	42.62	74.00	-31.38	peak
2	7350.000	42.14	6.44	48.58	74.00	-25.42	peak
3	7755.000	42.90	6.31	49.21	74.00	-24.79	peak
4	10605.000	34.04	13.37	47.41	74.00	-26.59	peak
5	13980.000	28.29	21.92	50.21	74.00	-23.79	peak
6	17970.000	25.07	25.51	50.58	74.00	-23.42	peak

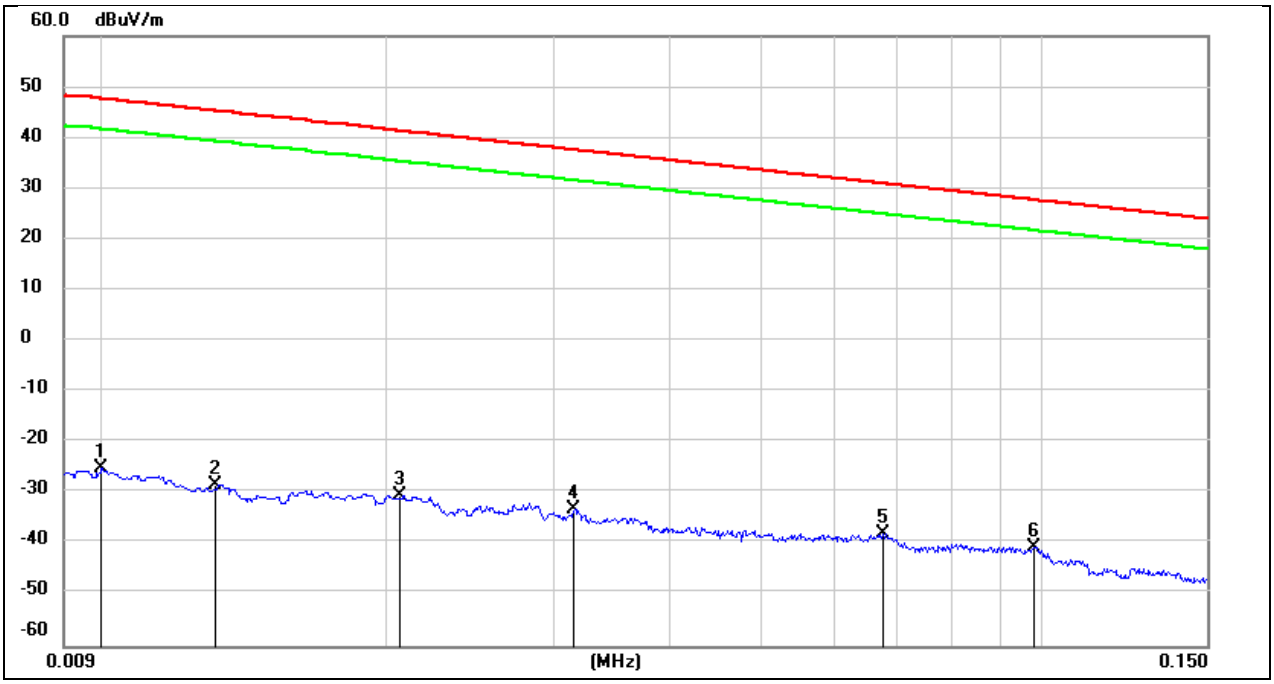
Test Mode:	802.11ax HE40	Channel:	2452v
Polarity:	Vertical	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	48.27	-3.82	44.45	74.00	-29.55	peak
2	7335.000	42.01	6.45	48.46	74.00	-25.54	peak
3	9135.000	35.98	10.55	46.53	74.00	-27.47	peak
4	11835.000	32.38	17.51	49.89	74.00	-24.11	peak
5	13590.000	29.76	21.09	50.85	74.00	-23.15	peak
6	17925.000	24.98	25.25	50.23	74.00	-23.77	peak

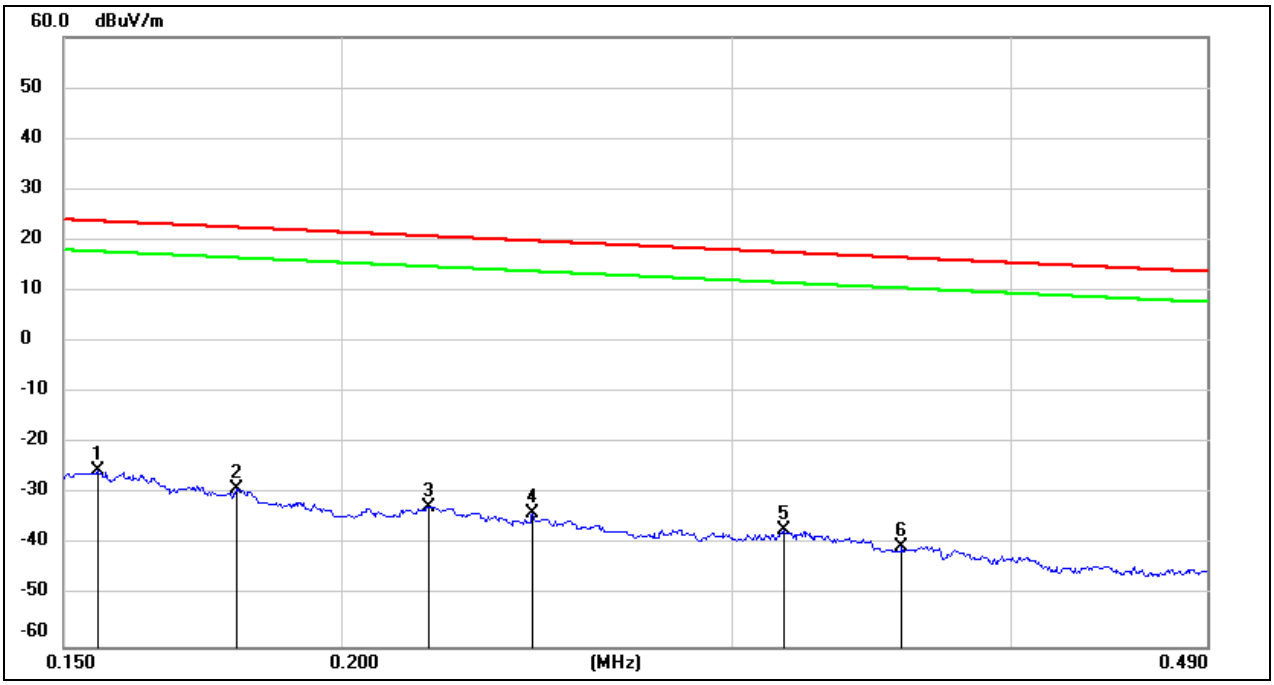
8.5. SPURIOUS EMISSIONS (9 KHZ ~ 30 MHZ)

Test Mode:	802.11ax HE20	Channel:	2412 MHz
Polarity:	Loop Antenna Face On To The EUT	Test Voltage:	DC 12 V



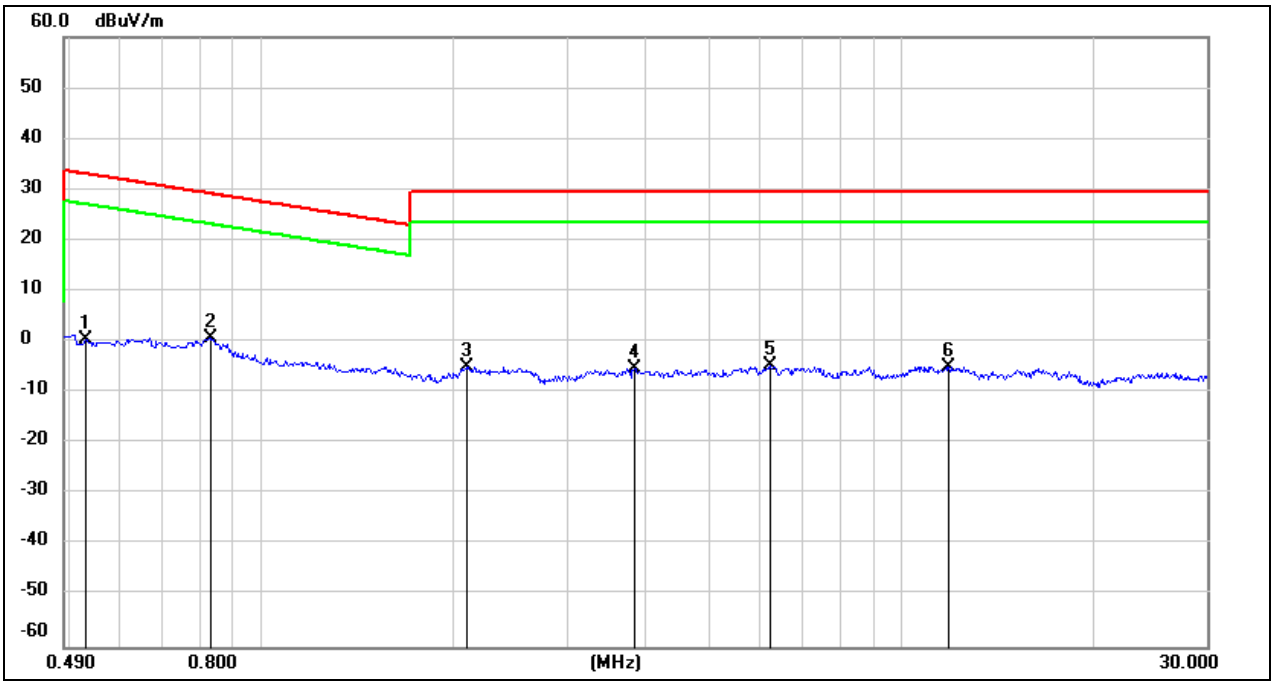
No.	Frequency	Reading	Correct	Result	Result	Limit	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuA/m)	(dBuV/m)	(dBuA/m)	(dB)	
1	0.01	76.22	-101.4	-25.18	-76.68	47.6	-3.90	-72.78	peak
2	0.0131	72.97	-101.38	-28.41	-79.91	45.25	-6.25	-73.66	peak
3	0.0206	70.92	-101.35	-30.43	-81.93	41.32	-10.18	-71.75	peak
4	0.0316	68.24	-101.4	-33.16	-84.66	37.61	-13.89	-70.77	peak
5	0.0675	63.64	-101.56	-37.92	-89.42	31.02	-20.48	-68.94	peak
6	0.0981	61.27	-101.78	-40.51	-92.01	27.77	-23.73	-68.28	peak

Test Mode:	802.11ax HE20	Channel:	2412 MHz
Polarity:	Loop Antenna Face On To The EUT	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result	Result	Limit	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuA/m)	(dBuV/m)	(dBuA/m)	(dB)	
1	0.1554	76.27	-101.65	-25.38	-76.88	23.77	-27.73	-49.15	peak
2	0.1794	72.77	-101.68	-28.91	-80.41	22.53	-28.97	-51.44	peak
3	0.219	69.27	-101.75	-32.48	-83.98	20.79	-30.71	-53.27	peak
4	0.2436	67.96	-101.79	-33.83	-85.33	19.87	-31.63	-53.70	peak
5	0.3163	64.7	-101.87	-37.17	-88.67	17.6	-33.90	-54.77	peak
6	0.3573	61.58	-101.91	-40.33	-91.83	16.54	-34.96	-56.87	peak

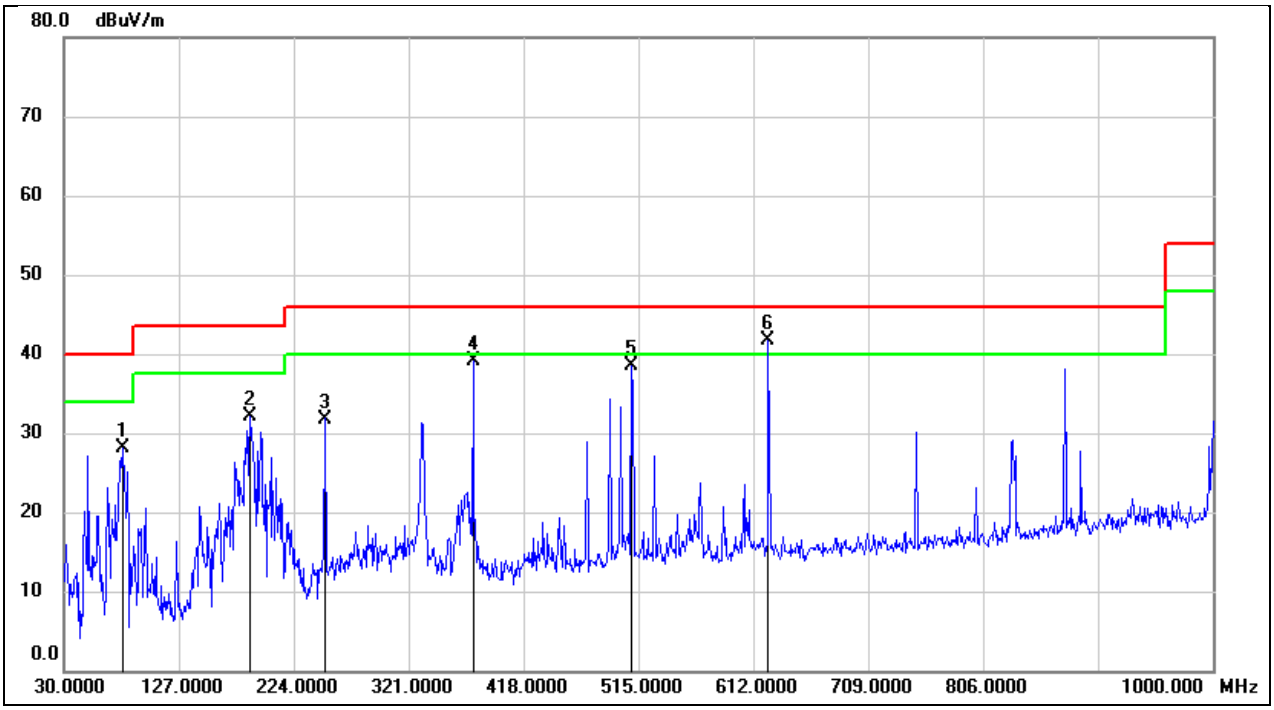
Test Mode:	802.11ax HE20	Channel:	2412 MHz
Polarity:	Loop Antenna Face On To The EUT	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result	Result	Limit	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuA/m)	(dBuV/m)	(dBuA/m)	(dB)	
1	0.5298	62.53	-62.08	0.45	-51.05	33.12	-18.38	-32.67	peak
2	0.8296	62.94	-62.17	0.77	-50.73	29.23	-22.27	-28.46	peak
3	2.0939	56.89	-61.79	-4.9	-56.40	29.54	-21.96	-34.44	peak
4	3.8246	56.2	-61.38	-5.18	-56.68	29.54	-21.96	-34.72	peak
5	6.2445	56.63	-61.32	-4.69	-56.19	29.54	-21.96	-34.23	peak
6	11.8513	56.06	-60.88	-4.82	-56.32	29.54	-21.96	-34.36	peak

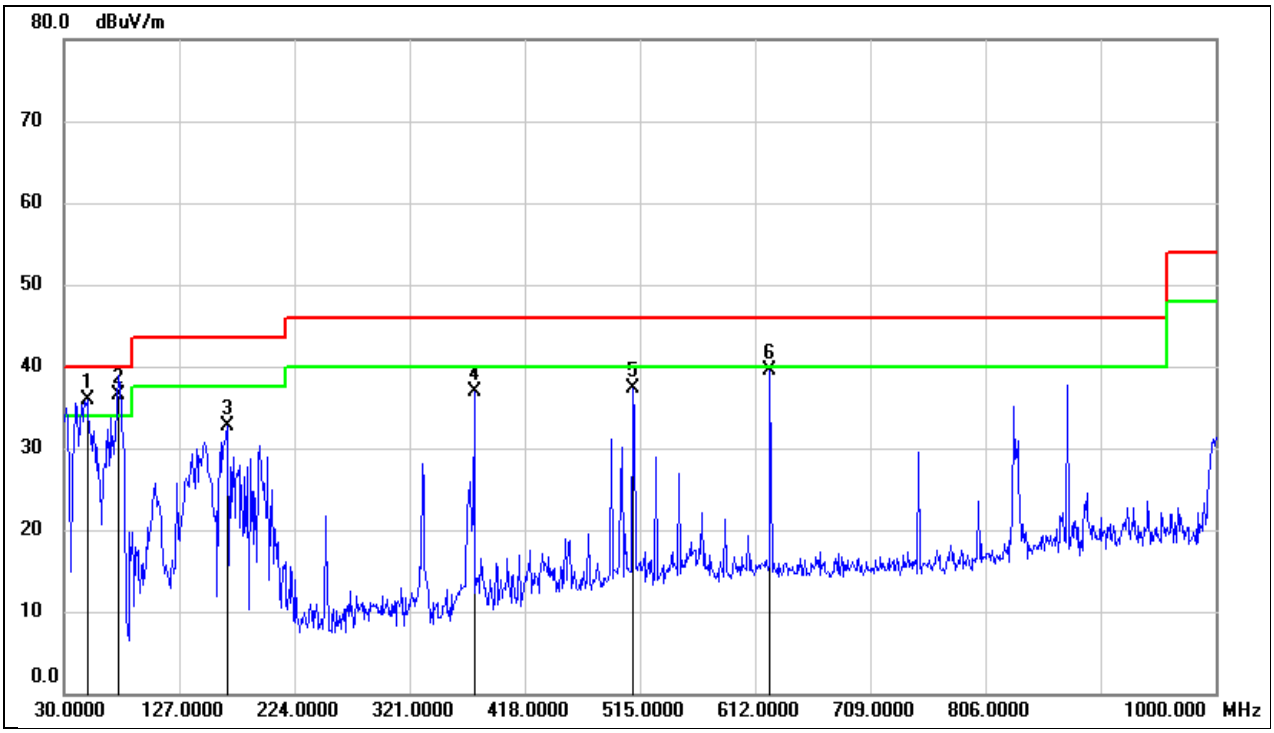
8.6. SPURIOUS EMISSIONS (30 MHZ ~ 1 GHZ)

Test Mode:	802.11ax HE20	Channel:	2412 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	79.4700	49.38	-21.30	28.08	40.00	-11.92	QP
2	187.1400	48.77	-16.69	32.08	43.50	-11.42	QP
3	250.1900	50.71	-18.91	31.80	46.00	-14.20	QP
4	375.3200	52.90	-13.79	39.11	46.00	-6.89	QP
5	509.1800	49.67	-11.26	38.41	46.00	-7.59	QP
6	624.6100	51.03	-9.31	41.72	46.00	-4.28	QP

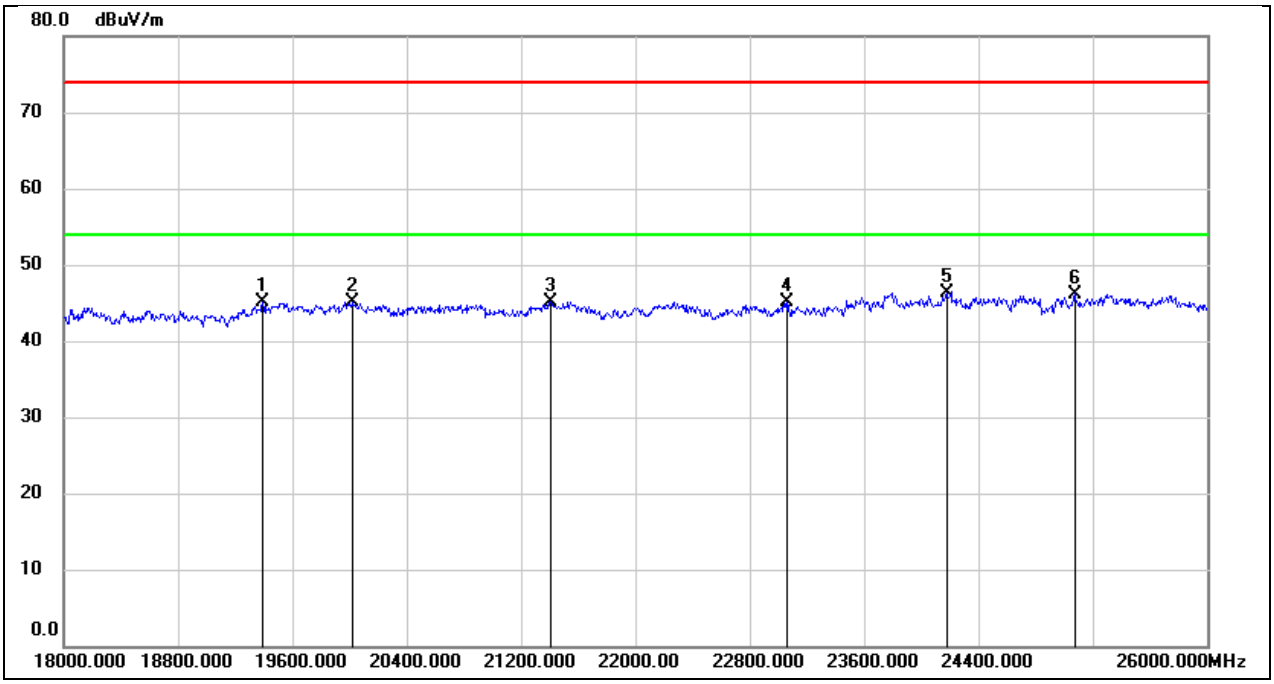
Test Mode:	802.11ax HE20	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	49.4000	56.56	-20.72	35.84	40.00	-4.16	QP
2	75.5899	57.49	-20.99	36.50	40.00	-3.50	QP
3	167.7400	50.08	-17.41	32.67	43.50	-10.83	QP
4	375.3200	50.60	-13.79	36.81	46.00	-9.19	QP
5	509.1800	48.53	-11.26	37.27	46.00	-8.73	QP
6	624.6100	48.89	-9.31	39.58	46.00	-6.42	QP

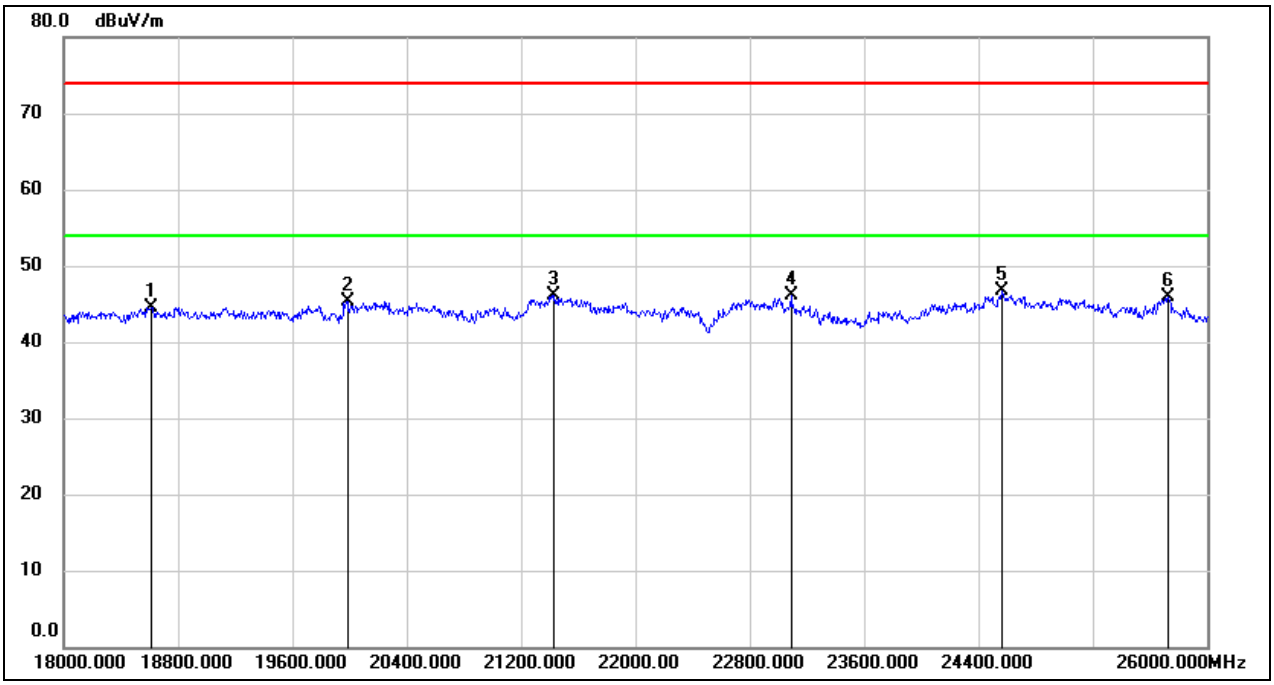
8.7. SPURIOUS EMISSIONS (18 GHZ ~ 26 GHZ)

Test Mode:	802.11ax HE20	Channel:	2412 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	19392.000	50.62	-5.57	45.05	74.00	-28.95	peak
2	20016.000	50.56	-5.47	45.09	74.00	-28.91	peak
3	21408.000	49.88	-4.72	45.16	74.00	-28.84	peak
4	23064.000	48.49	-3.42	45.07	74.00	-28.93	peak
5	24176.000	49.19	-2.80	46.39	74.00	-27.61	peak
6	25072.000	48.17	-1.97	46.20	74.00	-27.80	peak

Test Mode:	802.11ax HE20	Channel:	2412 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V

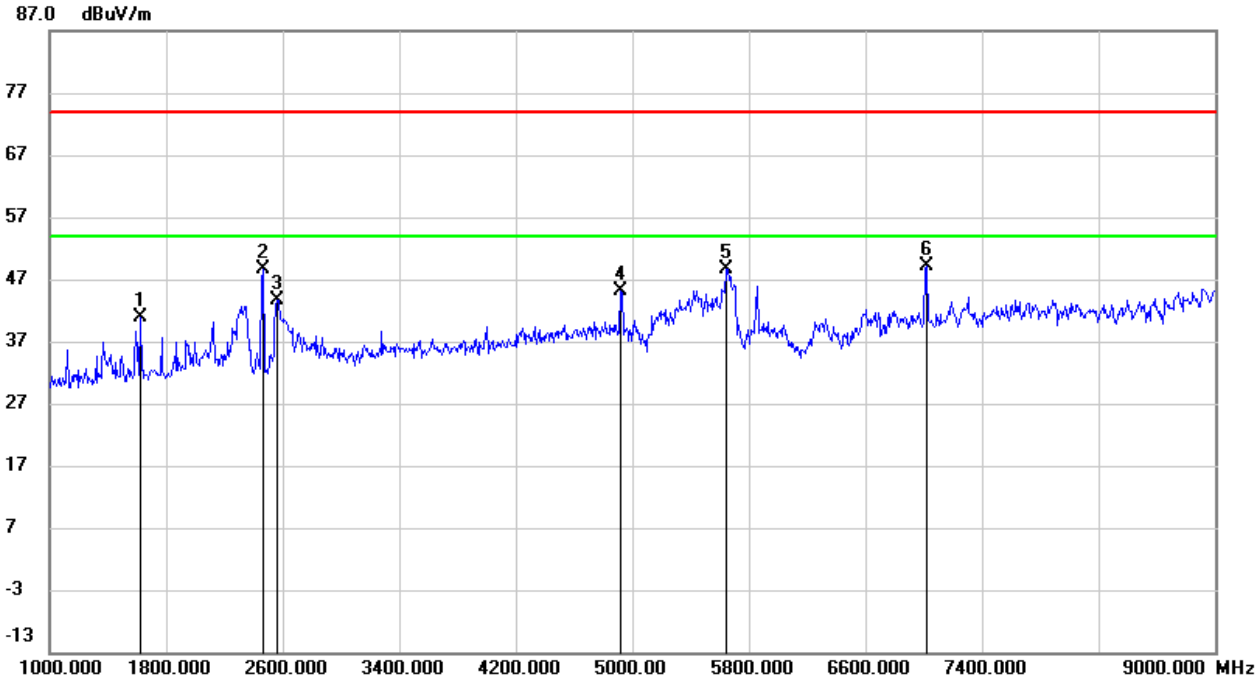


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18616.000	49.89	-5.34	44.55	74.00	-29.45	peak
2	19984.000	50.71	-5.44	45.27	74.00	-28.73	peak
3	21432.000	50.74	-4.71	46.03	74.00	-27.97	peak
4	23088.000	49.52	-3.41	46.11	74.00	-27.89	peak
5	24568.000	49.10	-2.33	46.77	74.00	-27.23	peak
6	25728.000	46.61	-0.72	45.89	74.00	-28.11	peak

8.8. SPURIOUS EMISSIONS FOR SIMULTANEOUS TRANSMISSION

SPURIOUS EMISSIONS (BLE 2480MHZ CHANNEL, 2.4G BAND 802.11ax HE20 MODE 2412MHZ CHANNEL, UNII-3 BAND 802.11ac VHT80 MODE 5775MHZ CHANNEL, UNII-7 BAND 802.11ax HE160 MODE 6825MHZ CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)

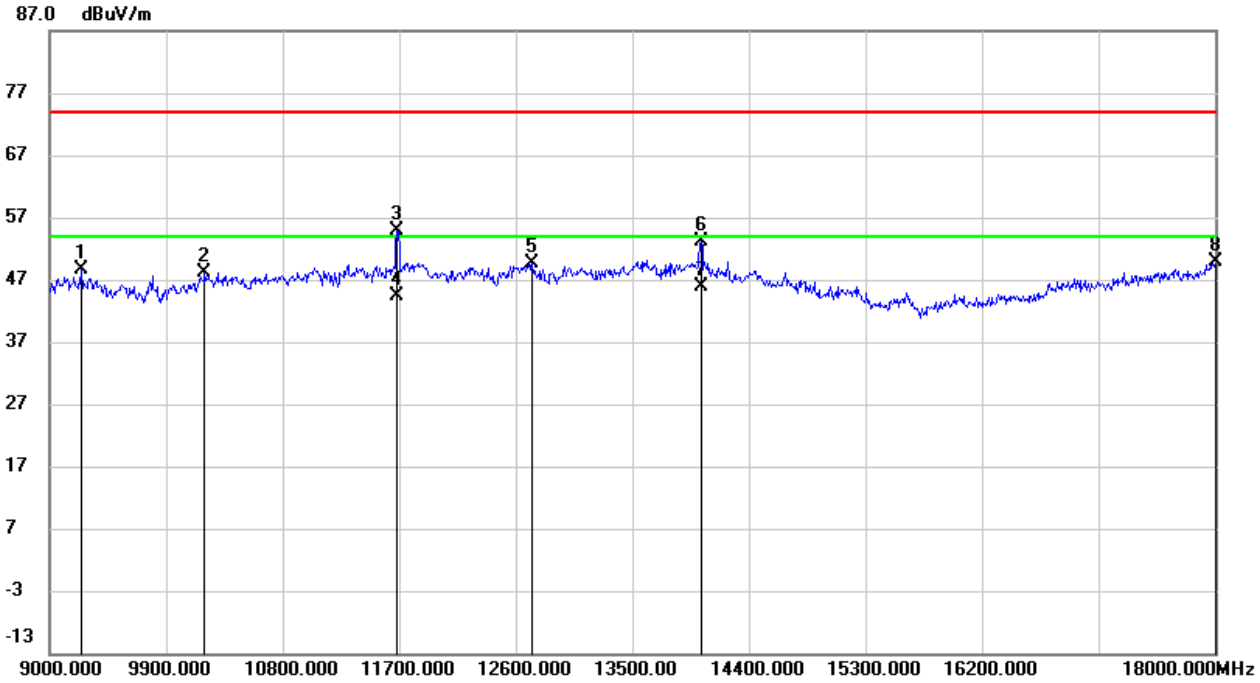
1-9 GHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1624.000	53.15	-12.30	40.85	74.00	-33.15	peak
2	2464.000	57.20	-8.68	48.52	74.00	-25.48	peak
3	2560.000	52.03	-8.31	43.72	74.00	-30.28	peak
4	4920.000	45.53	-0.47	45.06	74.00	-28.94	peak
5	5640.000	47.88	0.82	48.70	74.00	-25.30	peak
6	7024.000	42.91	6.18	49.09	74.00	-24.91	peak

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 7.5.
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. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

9-18 GHz

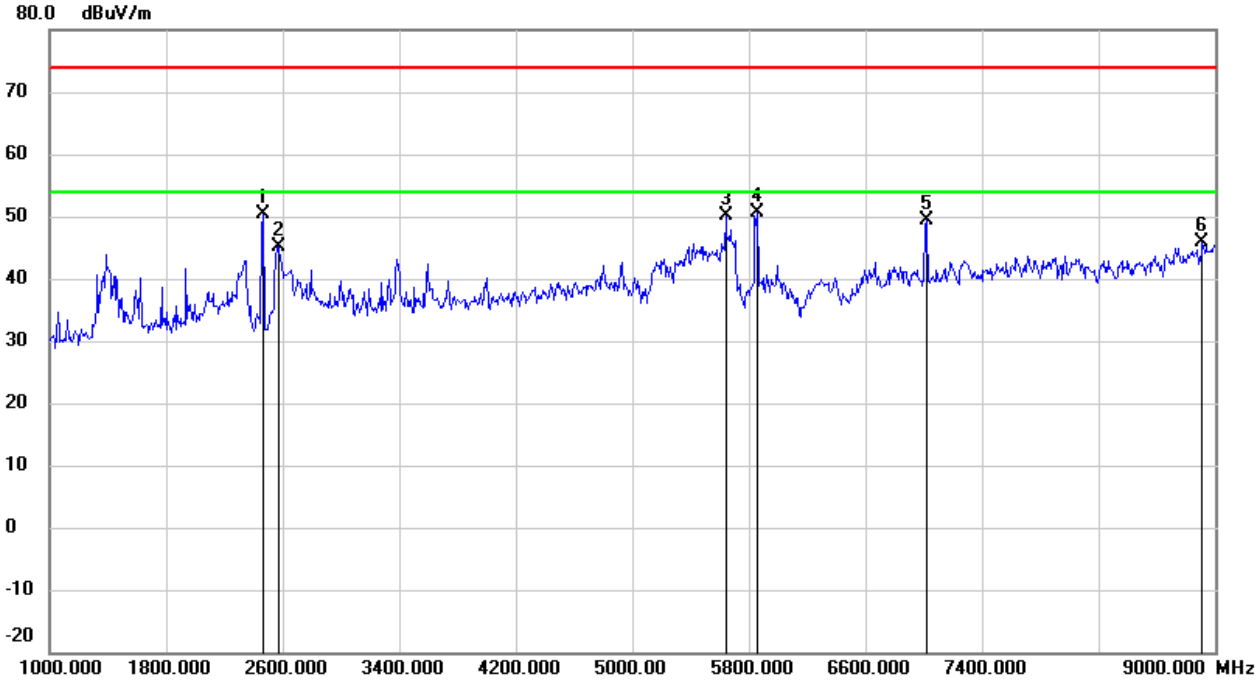


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9243.000	37.75	10.85	48.60	74.00	-25.40	peak
2	10197.000	35.62	12.49	48.11	74.00	-25.89	peak
3	11682.000	37.94	17.04	54.98	74.00	-19.02	peak
4	11682.000	27.46	17.04	44.50	54.00	-9.50	AVG
5	12726.000	31.47	18.14	49.61	74.00	-24.39	peak
6	14031.000	31.33	21.74	53.07	74.00	-20.93	peak
7	14031.000	24.06	21.74	45.80	54.00	-8.20	AVG
8	18000.000	24.69	25.16	49.85	74.00	-24.15	peak

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 7.5.
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. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

SPURIOUS EMISSIONS (BLE 2480MHZ CHANNEL, 2.4G BAND 802.11ax HE20 MODE 2412MHZ CHANNEL, UNII-3 BAND 802.11ac VHT80 MODE 5775MHZ CHANNEL, UNII-7 BAND 802.11ax HE160 MODE 6825MHZ CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)

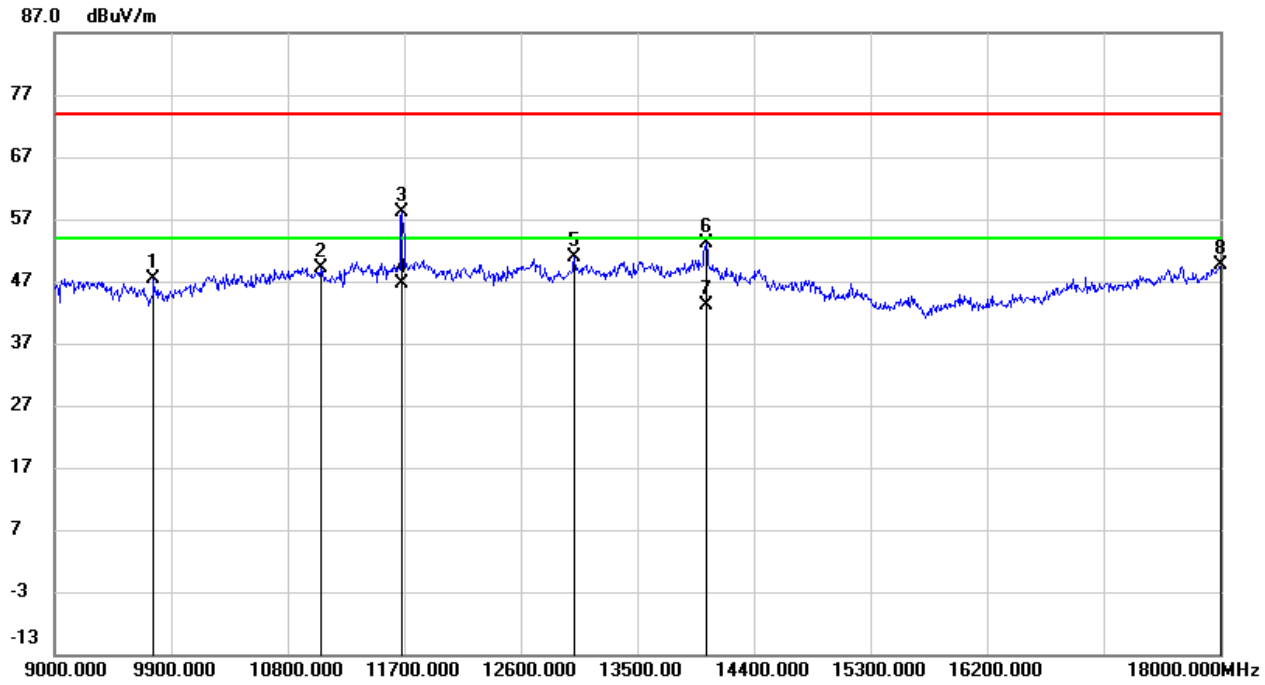
1-9 GHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2464.000	59.07	-8.68	50.39	74.00	-23.61	peak
2	2576.000	53.49	-8.26	45.23	74.00	-28.77	peak
3	5640.000	49.28	0.82	50.10	74.00	-23.90	peak
4	5856.000	49.12	1.45	50.57	74.00	-23.43	peak
5	7016.000	43.20	6.19	49.39	74.00	-24.61	peak
6	8912.000	36.72	9.11	45.83	74.00	-28.17	peak

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 7.5.
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. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

9-18 GHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9765.000	35.91	11.53	47.44	74.00	-26.56	peak
2	11052.000	34.31	14.94	49.25	74.00	-24.75	peak
3	11682.000	41.14	17.04	58.18	74.00	-15.82	peak
4	11682.000	29.66	17.04	46.70	54.00	-7.30	AVG
5	13014.000	32.01	18.94	50.95	74.00	-23.05	peak
6	14031.000	31.41	21.74	53.15	74.00	-20.85	peak
7	14031.000	21.46	21.74	43.20	54.00	-10.80	AVG
8	18000.000	24.53	25.16	49.69	74.00	-24.31	peak

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 7.5.
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. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

9. AC POWER LINE CONDUCTED EMISSION

LIMITS

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

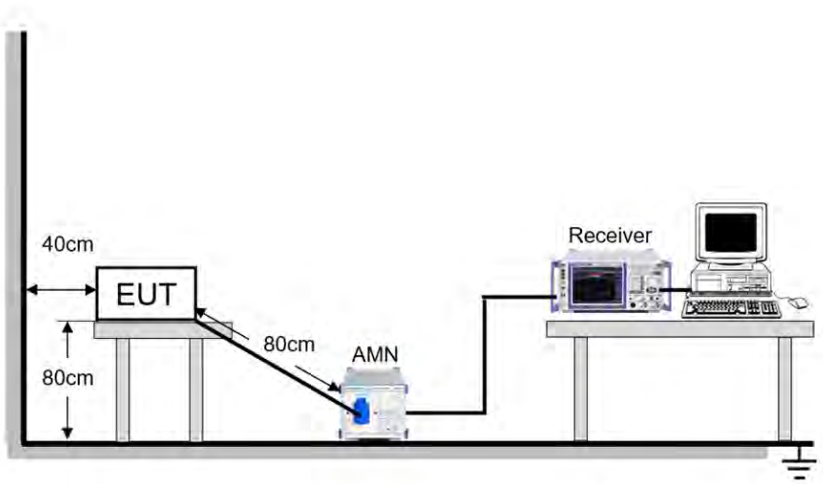
FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

TEST PROCEDURE

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

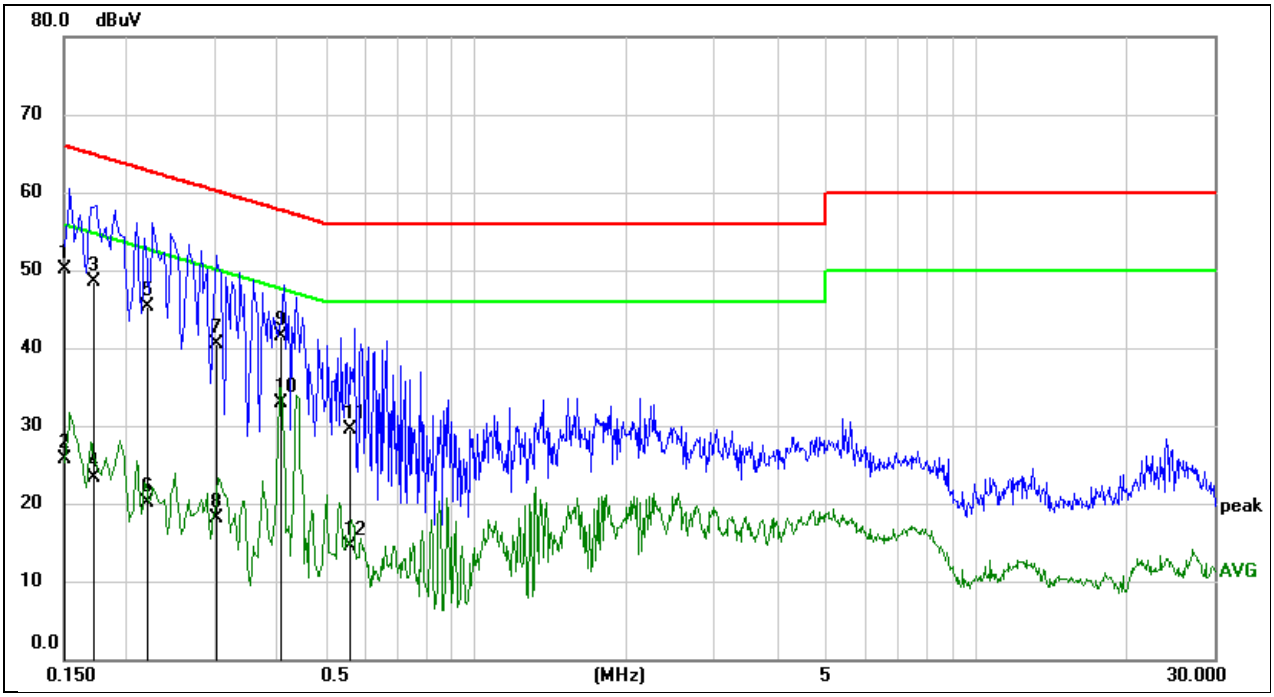


TEST ENVIRONMENT

Temperature	25.5 °C	Relative Humidity	56%
Atmosphere Pressure	101 kPa	Test Voltage	AC 120 V/60 Hz

TEST RESULTS

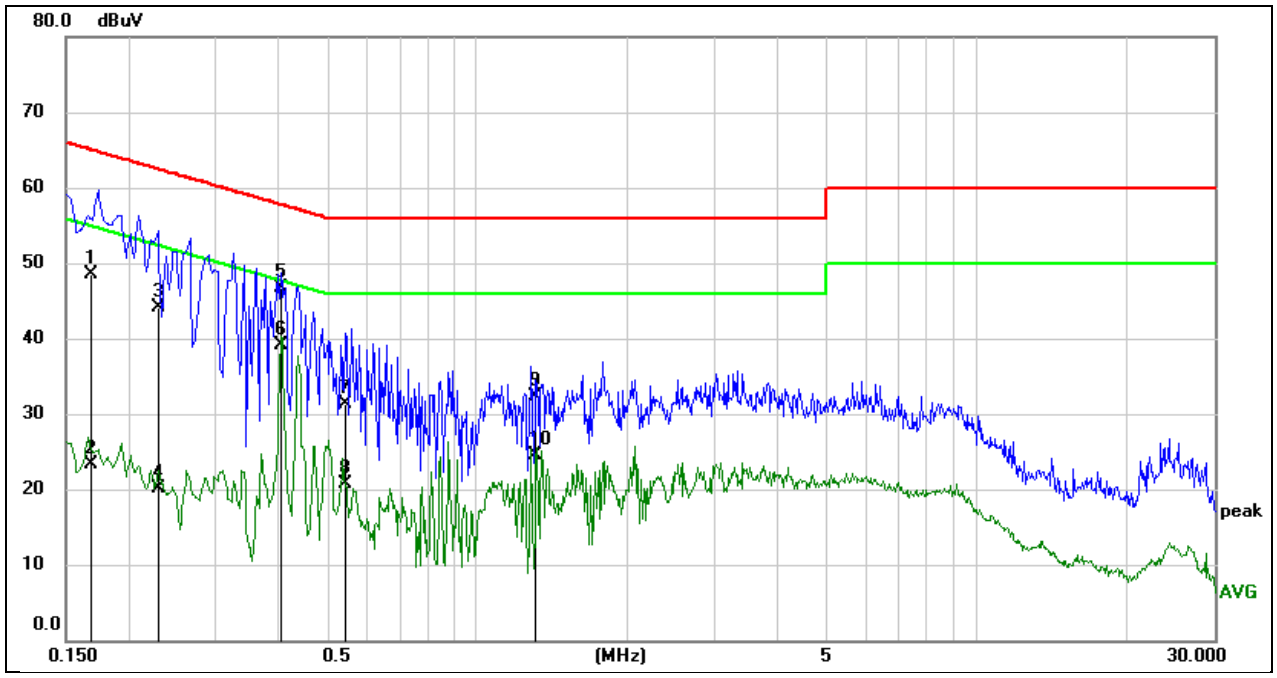
Test Mode:	802.11ax HE20	Channel:	2412 MHz
Line:	L1	Test Voltage	AC 120 V, 60 Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1502	40.45	9.59	50.04	65.99	-15.95	QP
2	0.1502	16.15	9.59	25.74	55.99	-30.25	AVG
3	0.1718	38.94	9.59	48.53	64.87	-16.34	QP
4	0.1718	13.66	9.59	23.25	54.87	-31.62	AVG
5	0.2219	35.63	9.59	45.22	62.75	-17.53	QP
6	0.2219	10.47	9.59	20.06	52.75	-32.69	AVG
7	0.3014	30.94	9.59	40.53	60.20	-19.67	QP
8	0.3014	8.44	9.59	18.03	50.20	-32.17	AVG
9	0.4095	31.91	9.60	41.51	57.66	-16.15	QP
10	0.4095	23.33	9.60	32.93	47.66	-14.73	AVG
11	0.5591	19.81	9.60	29.41	56.00	-26.59	QP
12	0.5591	4.98	9.60	14.58	46.00	-31.42	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.

Test Mode:	802.11ax HE20	Channel:	2412 MHz
Line:	N	Test Voltage	AC 120 V, 60 Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1691	39.00	9.59	48.59	65.00	-16.41	QP
2	0.1691	13.78	9.59	23.37	55.00	-31.63	AVG
3	0.2282	34.50	9.59	44.09	62.51	-18.42	QP
4	0.2282	10.54	9.59	20.13	52.51	-32.38	AVG
5	0.4058	37.04	9.60	46.64	57.73	-11.09	QP
6	0.4058	29.51	9.60	39.11	47.73	-8.62	AVG
7	0.5435	21.71	9.60	31.31	56.00	-24.69	QP
8	0.5435	11.08	9.60	20.68	46.00	-25.32	AVG
9	1.3171	22.69	9.61	32.30	56.00	-23.70	QP
10	1.3171	14.86	9.61	24.47	46.00	-21.53	AVG

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

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

10. ANTENNA REQUIREMENT

APPLICABLE REQUIREMENTS

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

Please refer to FCC §15.247(b)(4)
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

RESULTS

Complies

11. TEST DATA

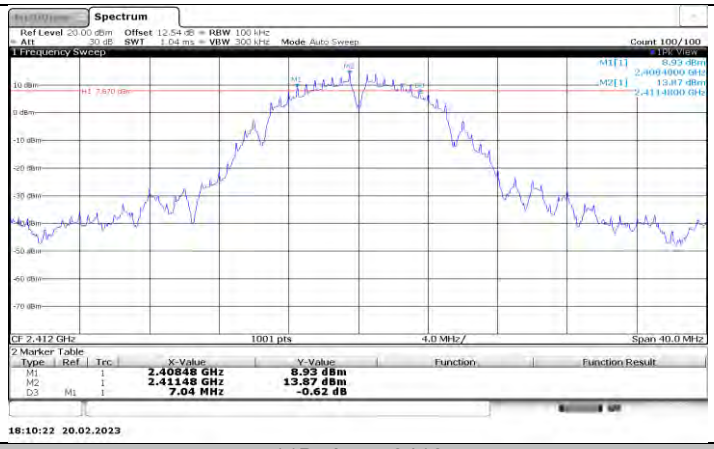
11.1. APPENDIX A: DTS BANDWIDTH

11.1.1. Test Result

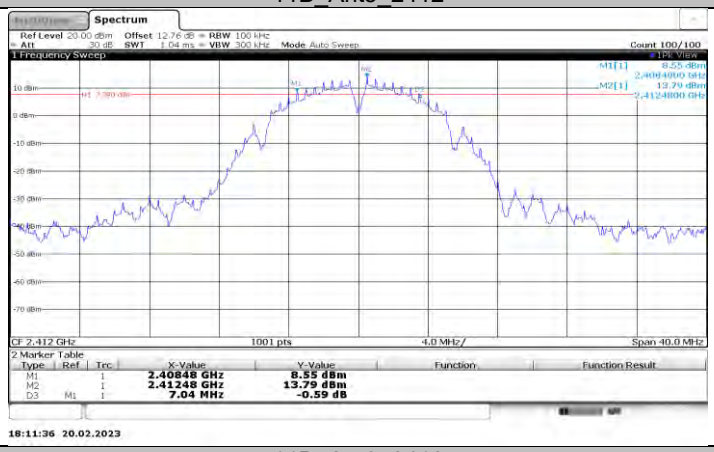
Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant5	2412	7.04	2408.48	2415.52	>=0.5	PASS
	Ant6	2412	7.04	2408.48	2415.52	>=0.5	PASS
	Ant5	2437	7.08	2433.44	2440.52	>=0.5	PASS
	Ant6	2437	7.04	2433.48	2440.52	>=0.5	PASS
	Ant5	2462	7.08	2458.44	2465.52	>=0.5	PASS
	Ant6	2462	7.04	2458.48	2465.52	>=0.5	PASS
11G	Ant5	2412	16.32	2403.84	2420.16	>=0.5	PASS
	Ant6	2412	16.32	2403.84	2420.16	>=0.5	PASS
	Ant5	2437	16.32	2428.84	2445.16	>=0.5	PASS
	Ant6	2437	16.32	2428.84	2445.16	>=0.5	PASS
	Ant5	2462	16.32	2453.84	2470.16	>=0.5	PASS
	Ant6	2462	16.32	2453.84	2470.16	>=0.5	PASS
11N20	Ant5	2412	17.56	2403.20	2420.76	>=0.5	PASS
	Ant6	2412	17.60	2403.20	2420.80	>=0.5	PASS
	Ant5	2437	17.56	2428.24	2445.80	>=0.5	PASS
	Ant6	2437	17.60	2428.20	2445.80	>=0.5	PASS
	Ant5	2462	17.60	2453.20	2470.80	>=0.5	PASS
	Ant6	2462	17.60	2453.20	2470.80	>=0.5	PASS
11N40	Ant5	2422	35.92	2403.84	2439.76	>=0.5	PASS
	Ant6	2422	36.32	2403.84	2440.16	>=0.5	PASS
	Ant5	2437	36.32	2418.84	2455.16	>=0.5	PASS
	Ant6	2437	36.32	2418.84	2455.16	>=0.5	PASS
	Ant5	2452	35.76	2434.00	2469.76	>=0.5	PASS
	Ant6	2452	35.68	2433.84	2469.52	>=0.5	PASS
11AX20	Ant5	2412	18.84	2402.52	2421.36	>=0.5	PASS
	Ant6	2412	18.92	2402.56	2421.48	>=0.5	PASS
	Ant5	2437	18.92	2427.52	2446.44	>=0.5	PASS
	Ant6	2437	18.84	2427.60	2446.44	>=0.5	PASS
	Ant5	2462	18.92	2452.48	2471.40	>=0.5	PASS
	Ant6	2462	18.72	2452.68	2471.40	>=0.5	PASS
11AX40	Ant5	2422	37.28	2403.20	2440.48	>=0.5	PASS
	Ant6	2422	37.28	2403.20	2440.48	>=0.5	PASS
	Ant5	2437	37.52	2418.20	2455.72	>=0.5	PASS
	Ant6	2437	36.88	2418.60	2455.48	>=0.5	PASS
	Ant5	2452	36.32	2433.84	2470.16	>=0.5	PASS
	Ant6	2452	35.92	2433.84	2469.76	>=0.5	PASS

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

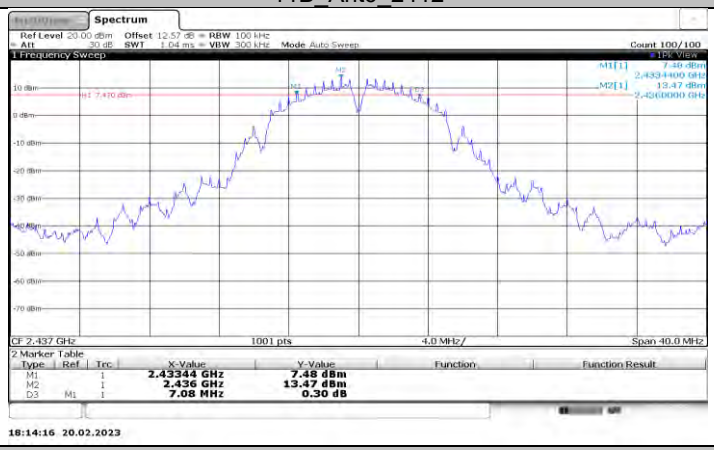
11.1.2. Test Graphs



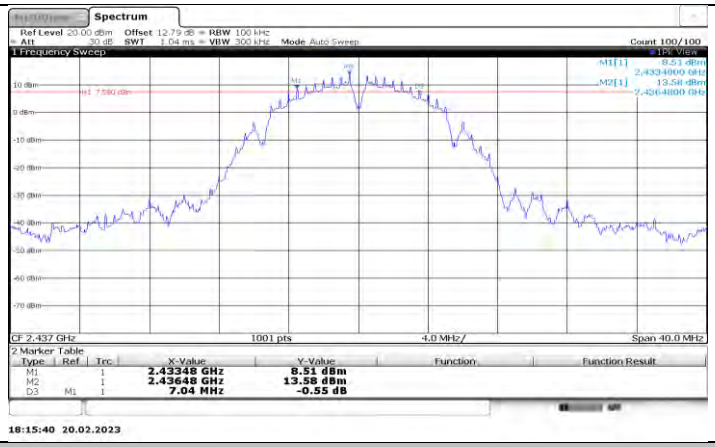
11B_Ant5_2412



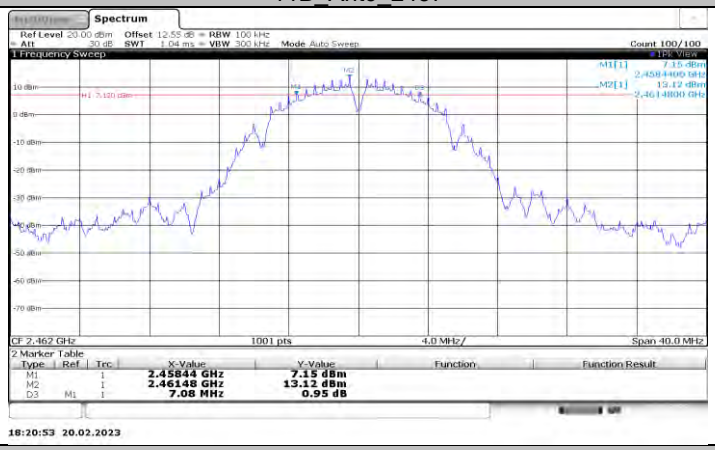
11B_Ant6_2412



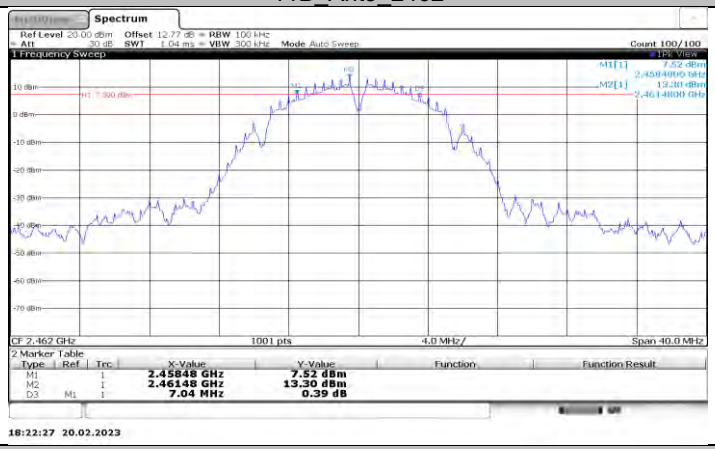
11B_Ant5_2437



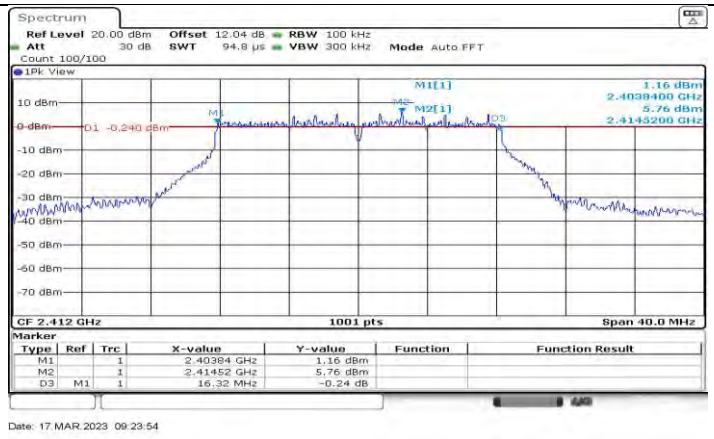
11B_Ant6_2437



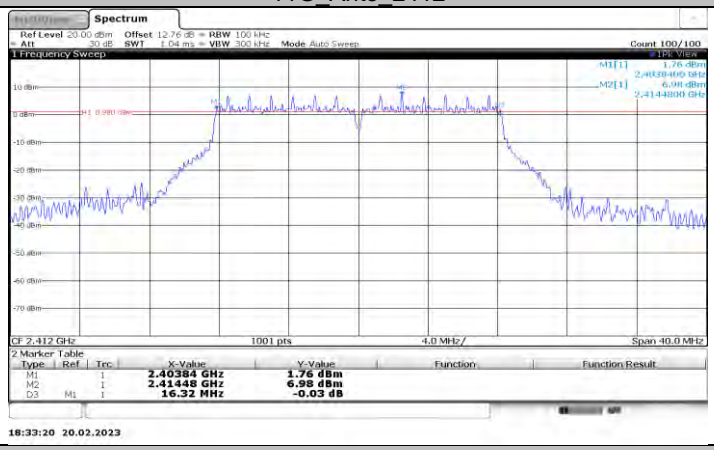
11B_Ant5_2462



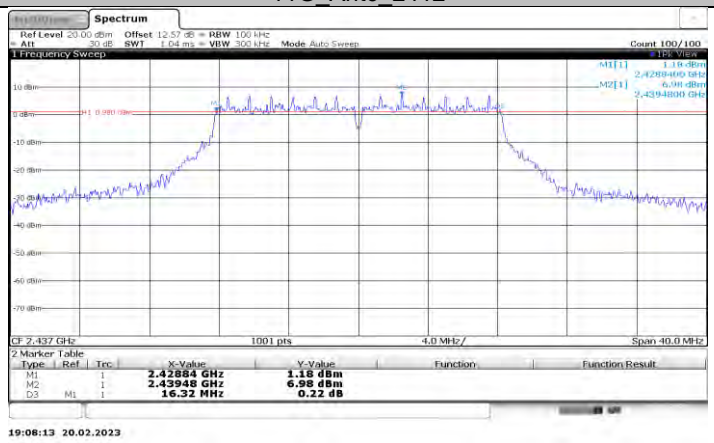
11B_Ant6_2462



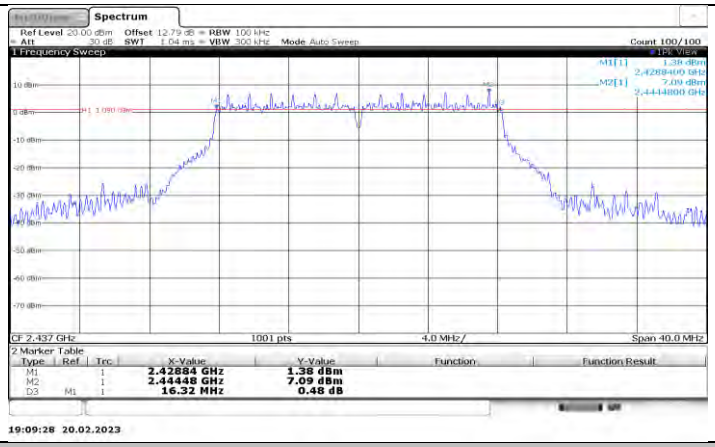
11G_Ant5_2412



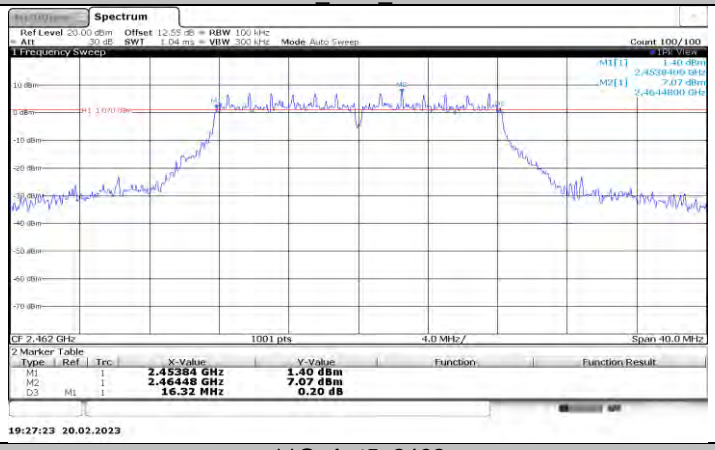
11G_Ant6_2412



11G_Ant5_2437



11G_Ant6_2437



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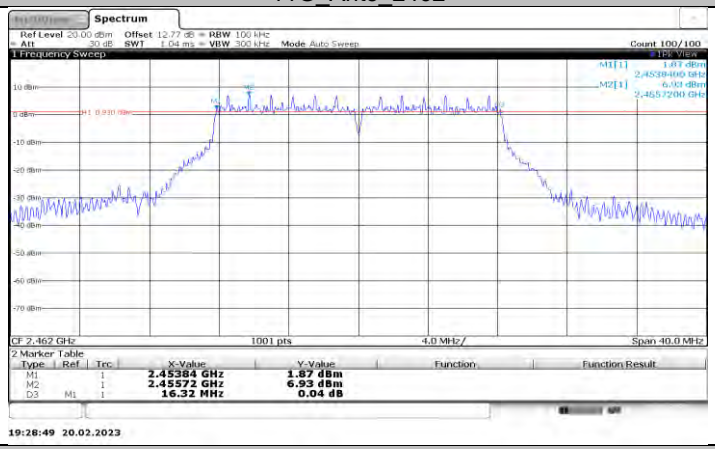
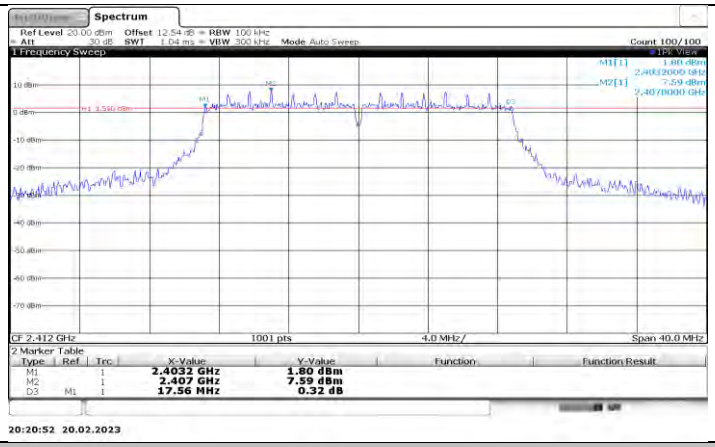
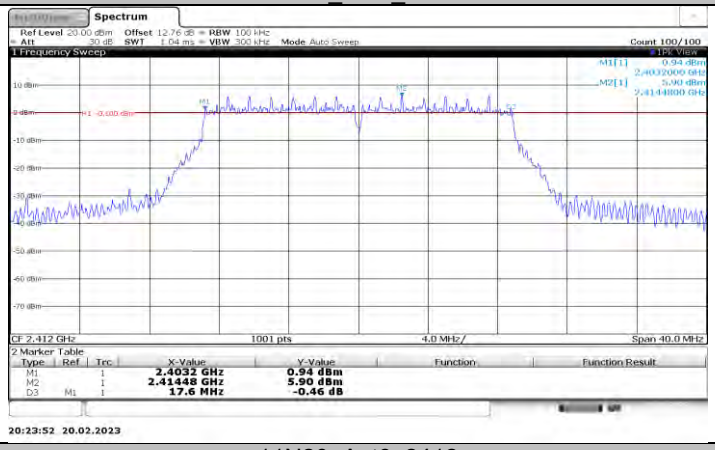


11G_Ant6_2462



11N20_Ant5_2412



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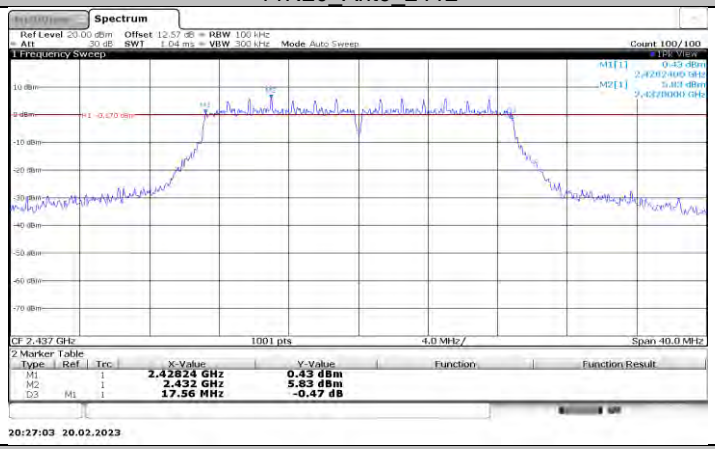

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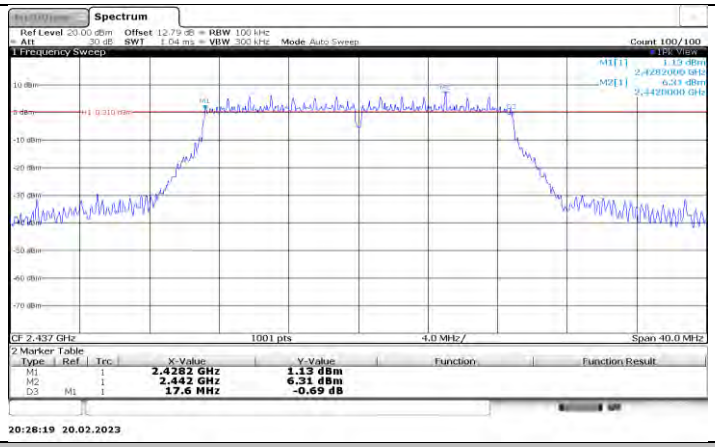

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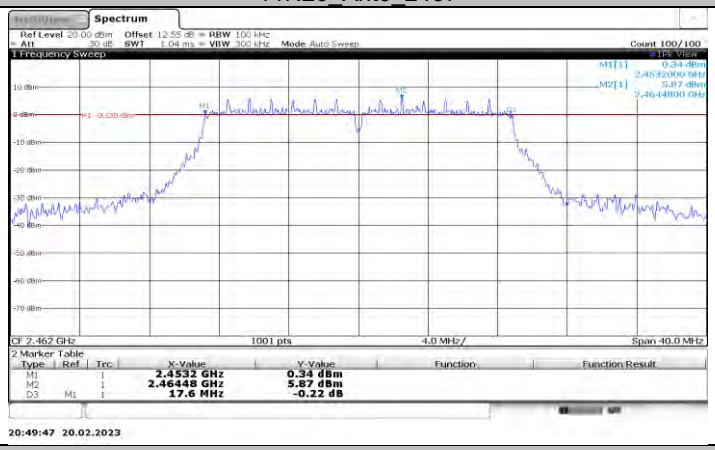

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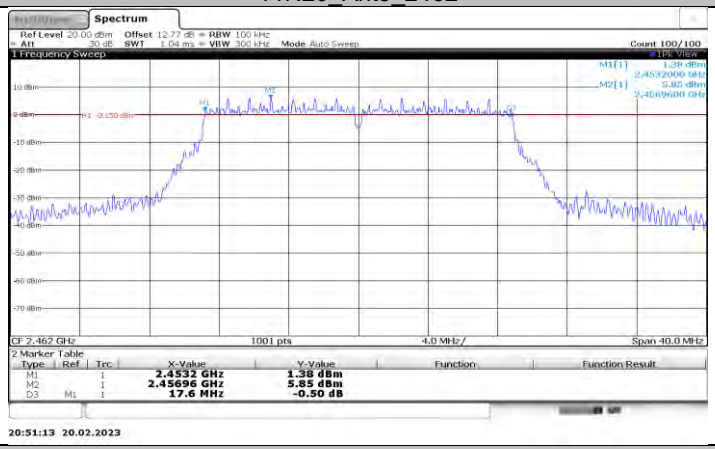

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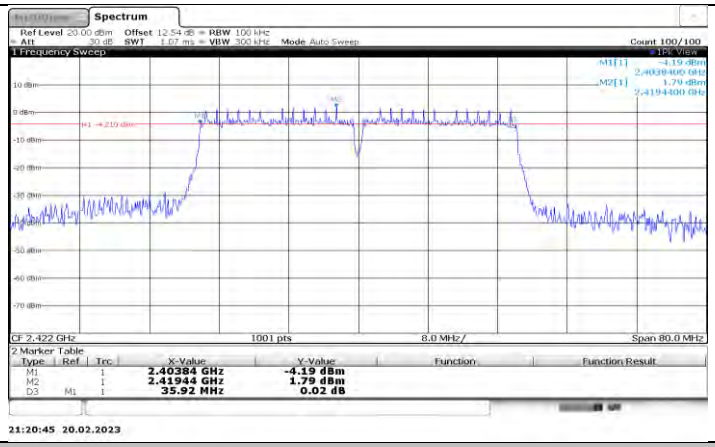

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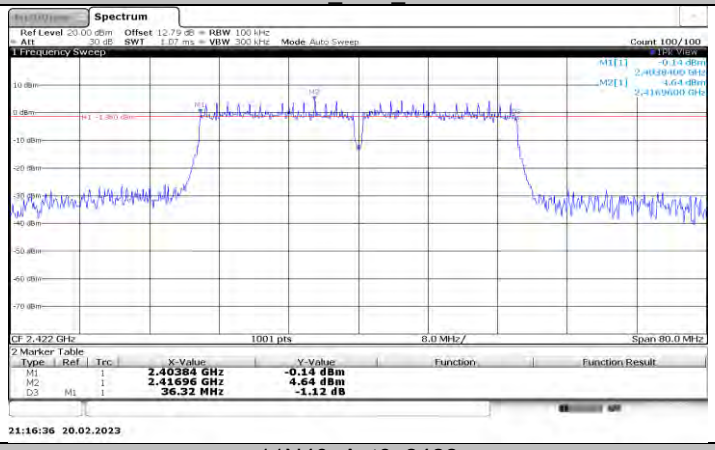

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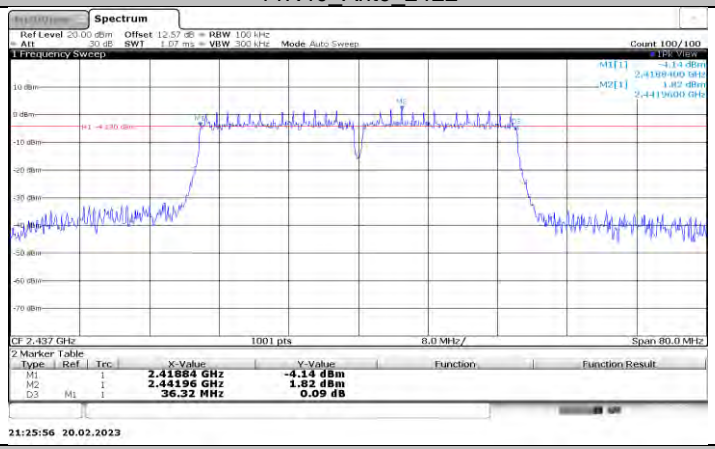

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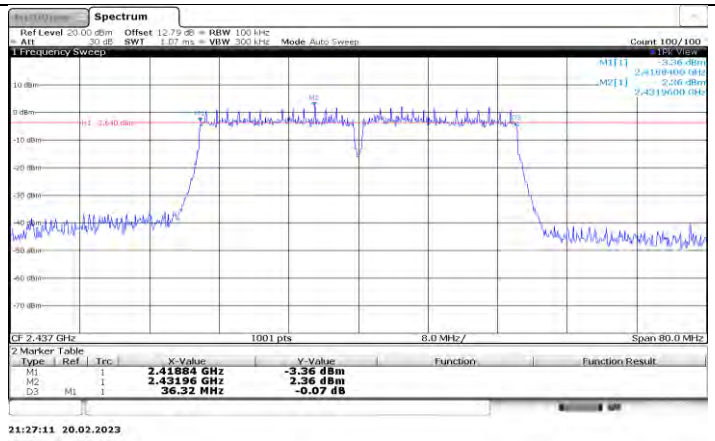

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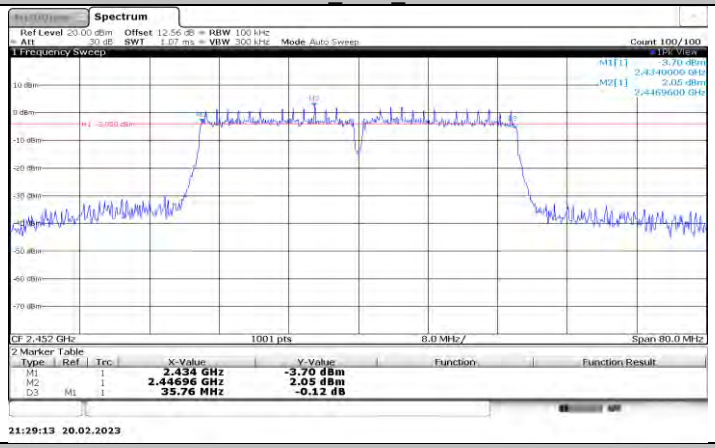
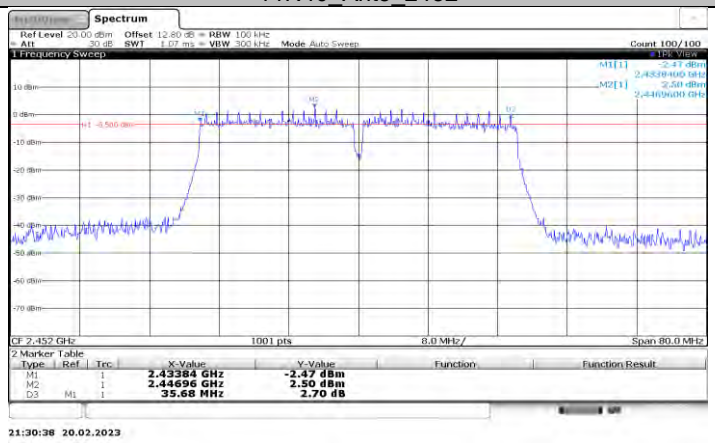
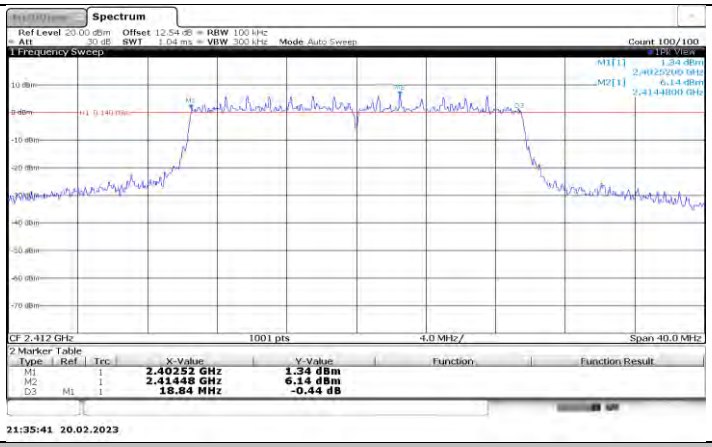


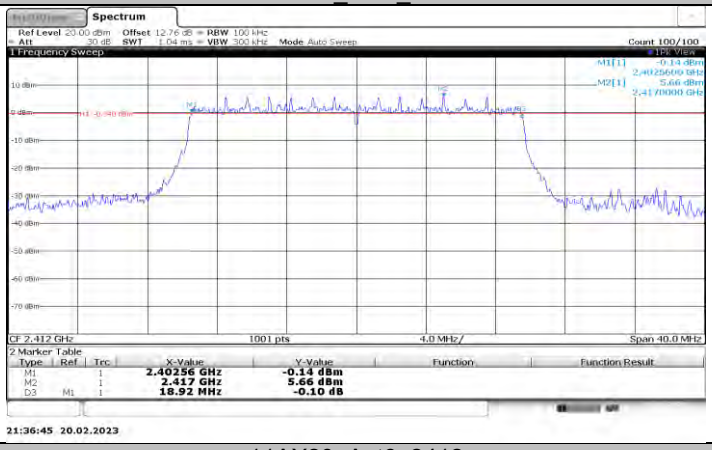
11N40_Ant5_2452



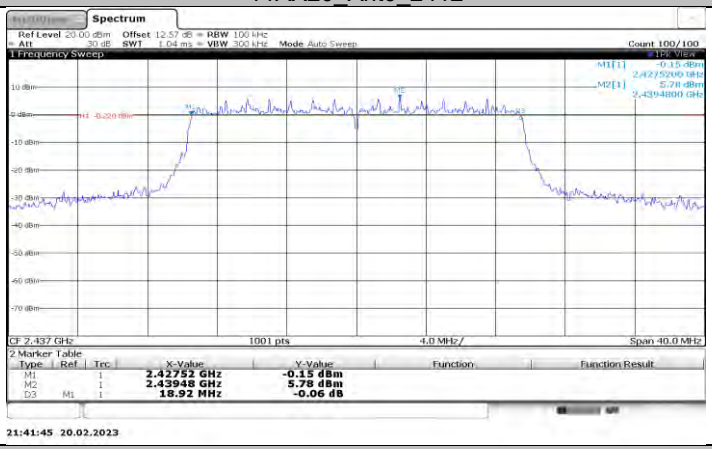
11N40_Ant6_2452



11AX20_Ant5_2412



11AX20_Ant6_2412



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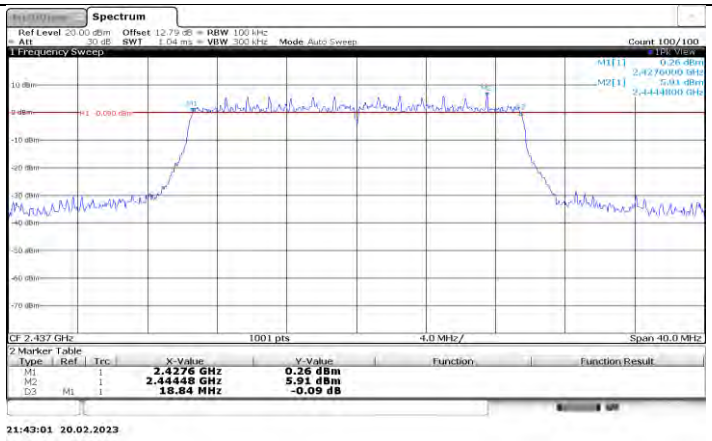

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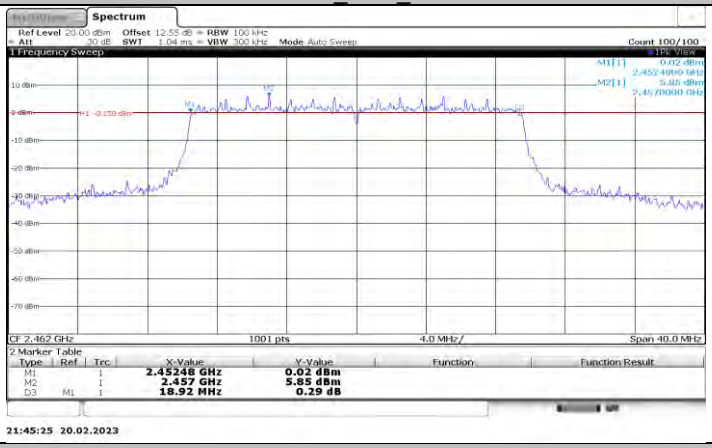

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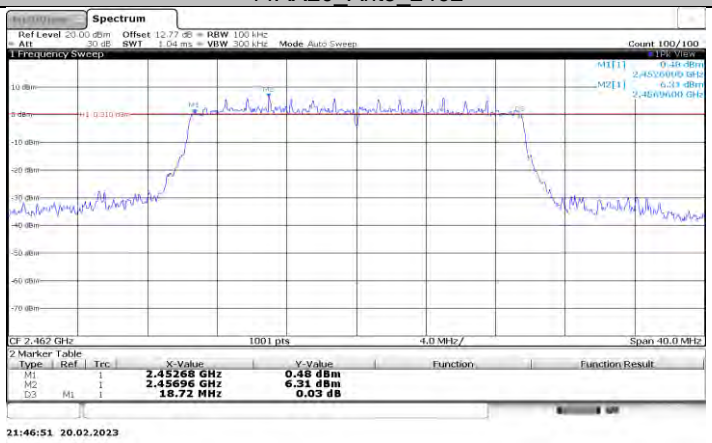

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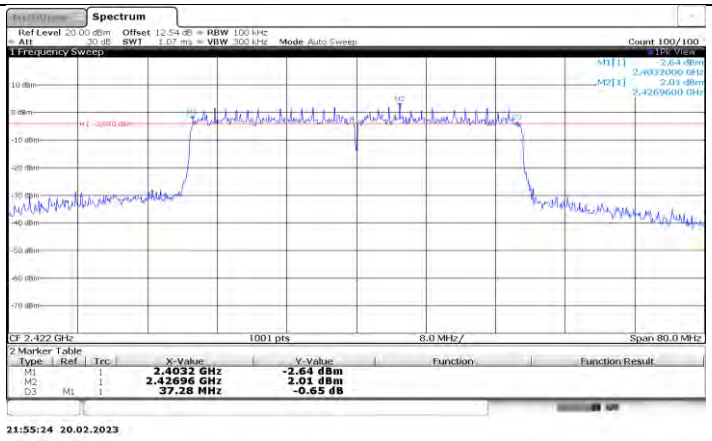
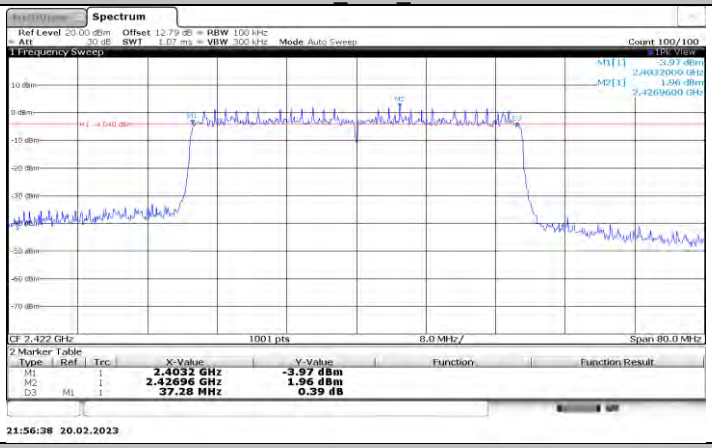


11AX40_Ant5_2422



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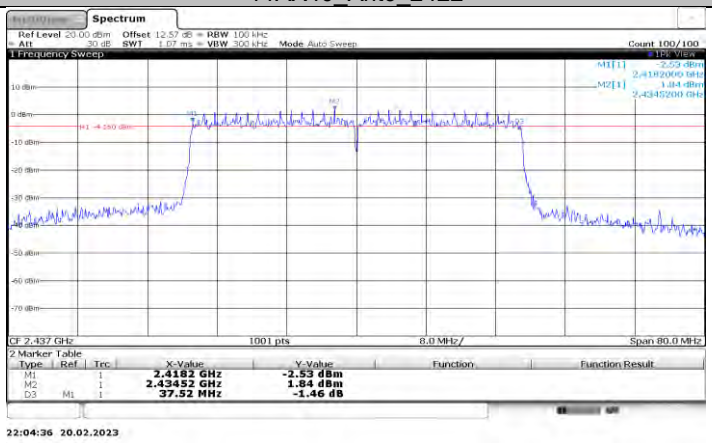
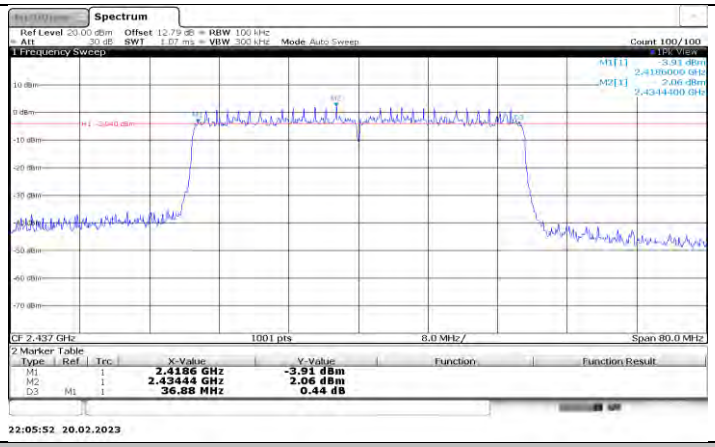
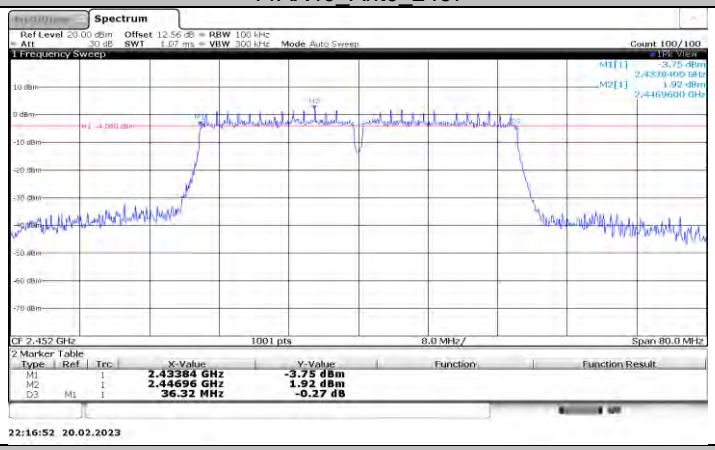


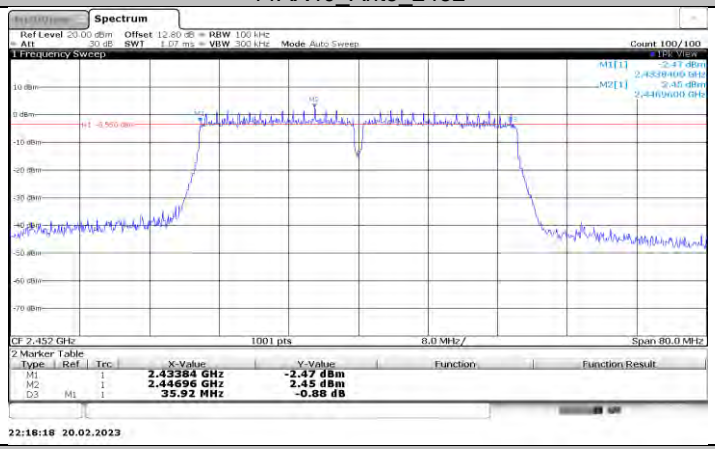
11AX40_Ant5_2437



11AX40_Ant6_2437



11AX40_Ant5_2452



11AX40_Ant6_2452

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

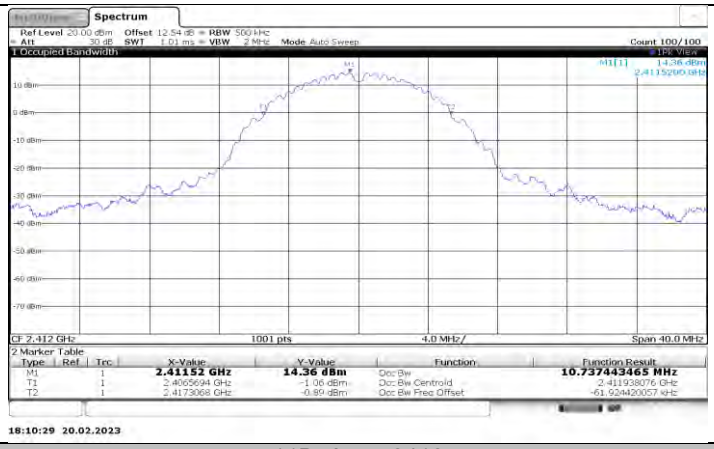
11.2. APPENDIX B: OCCUPIED CHANNEL BANDWIDTH

11.2.1. Test Result

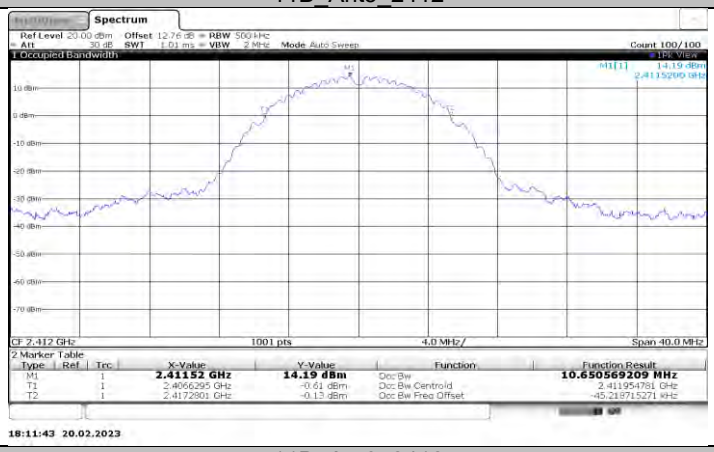
Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant5	2412	10.737	2406.5694	2417.3068	---	---
	Ant6	2412	10.651	2406.6295	2417.2801	---	---
	Ant5	2437	10.537	2431.7167	2442.2537	---	---
	Ant6	2437	10.718	2431.6380	2442.3558	---	---
	Ant5	2462	10.751	2456.5993	2467.3501	---	---
	Ant6	2462	10.754	2456.5549	2467.3093	---	---
11G	Ant5	2412	17.982	2403.1289	2421.1109	---	---
	Ant6	2412	17.421	2403.2999	2420.7213	---	---
	Ant5	2437	18.098	2428.0124	2446.1101	---	---
	Ant6	2437	17.38	2428.3787	2445.7583	---	---
	Ant5	2462	18.085	2452.9477	2471.0332	---	---
	Ant6	2462	17.427	2453.2666	2470.6937	---	---
11N20	Ant5	2412	18.935	2402.5076	2421.4428	---	---
	Ant6	2412	18.313	2402.7708	2421.0840	---	---
	Ant5	2437	18.662	2427.6955	2446.3579	---	---
	Ant6	2437	18.259	2427.8796	2446.1389	---	---
	Ant5	2462	18.672	2452.6915	2471.3632	---	---
	Ant6	2462	18.233	2452.8526	2471.0859	---	---
11N40	Ant5	2422	36.513	2403.6533	2440.1665	---	---
	Ant6	2422	36.762	2403.5619	2440.3237	---	---
	Ant5	2437	36.495	2418.7214	2455.2166	---	---
	Ant6	2437	36.537	2418.6583	2455.1951	---	---
	Ant5	2452	36.467	2433.7129	2470.1803	---	---
	Ant6	2452	36.68	2433.5621	2470.2422	---	---
11AX20	Ant5	2412	19.377	2402.2613	2421.6380	---	---
	Ant6	2412	19.293	2402.3218	2421.6151	---	---
	Ant5	2437	19.243	2427.3794	2446.6222	---	---
	Ant6	2437	19.264	2427.3584	2446.6220	---	---
	Ant5	2462	19.309	2452.3108	2471.6202	---	---
	Ant6	2462	19.337	2452.2677	2471.6051	---	---
11AX40	Ant5	2422	37.754	2403.0460	2440.7997	---	---
	Ant6	2422	37.601	2403.1737	2440.7748	---	---
	Ant5	2437	37.701	2418.1128	2455.8134	---	---
	Ant6	2437	37.558	2418.2192	2455.7771	---	---
	Ant5	2452	36.862	2433.6344	2470.4961	---	---
	Ant6	2452	36.424	2433.7324	2470.1568	---	---

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

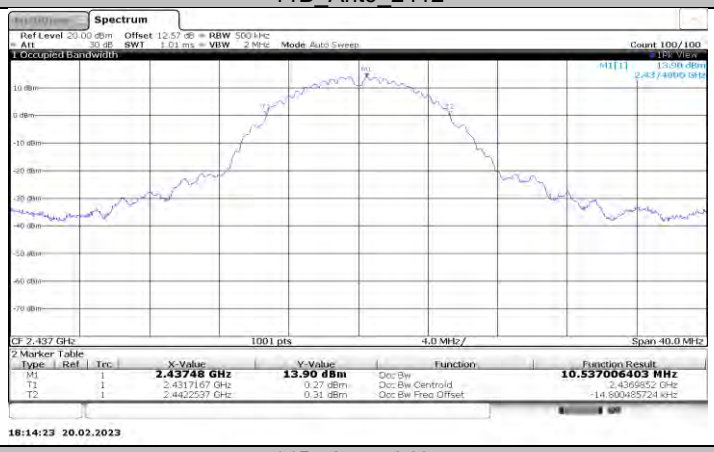
11.2.2. Test Graphs



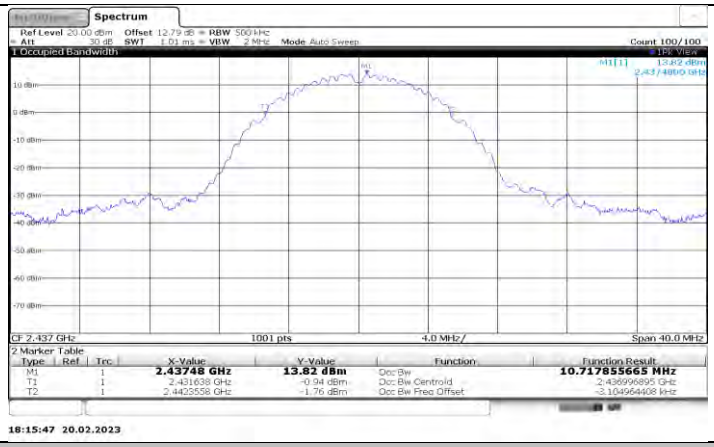
11B_Ant5_2412



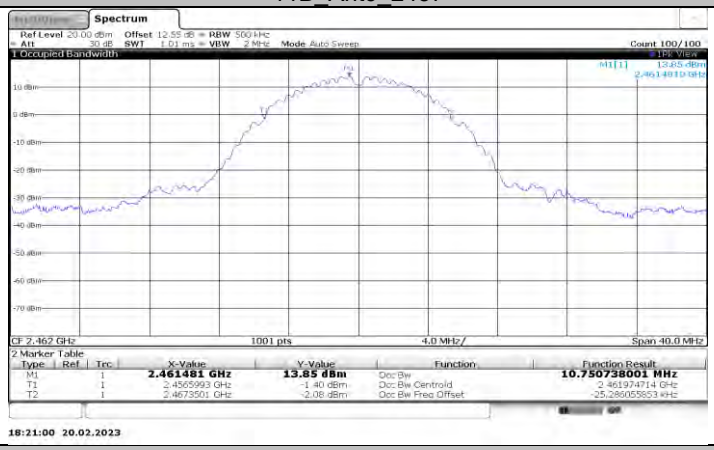
11B_Ant6_2412



11B_Ant5_2437



11B_Ant6_2437



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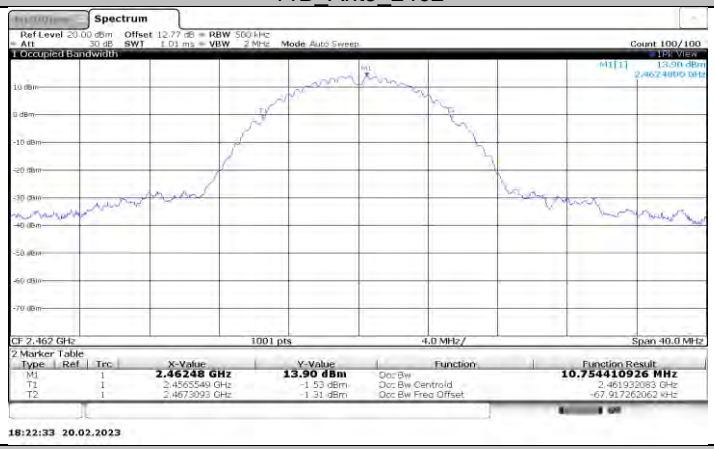
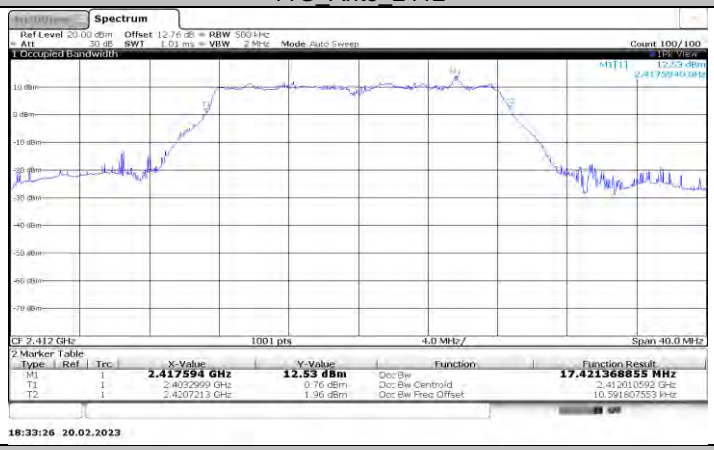


11B_Ant6_2462

11G_Ant5_2412



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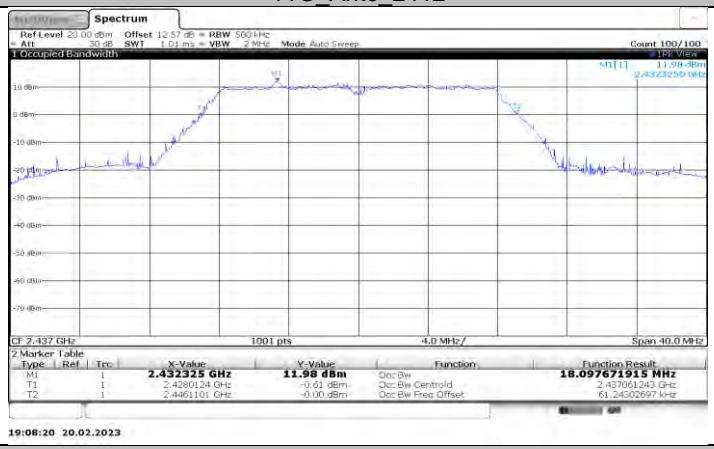

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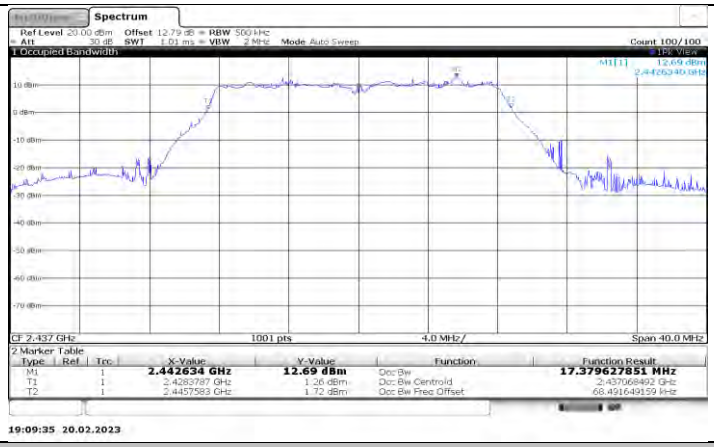

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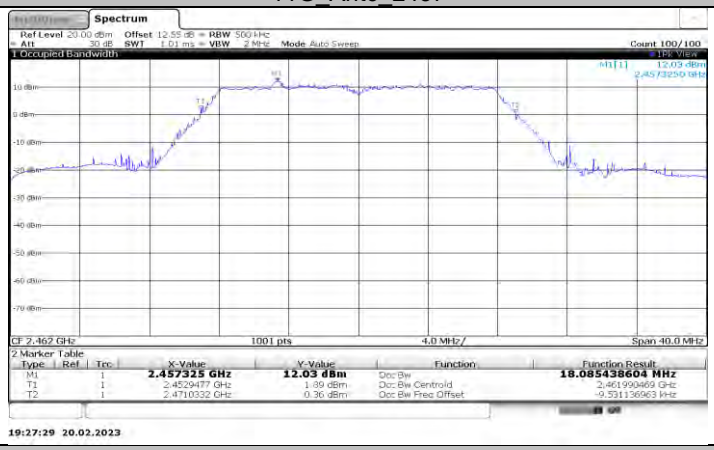

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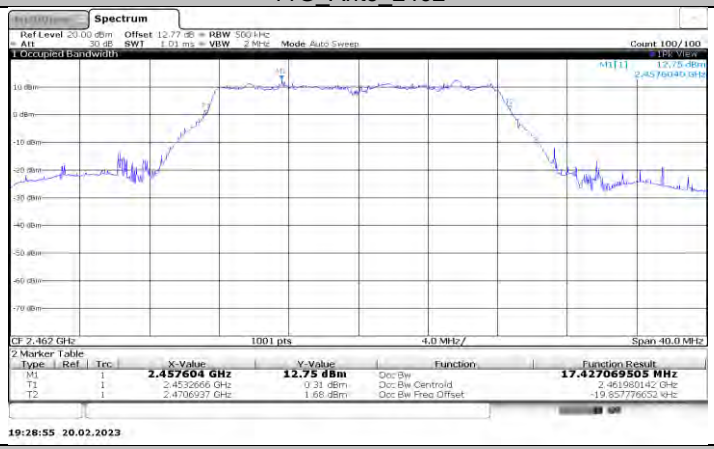

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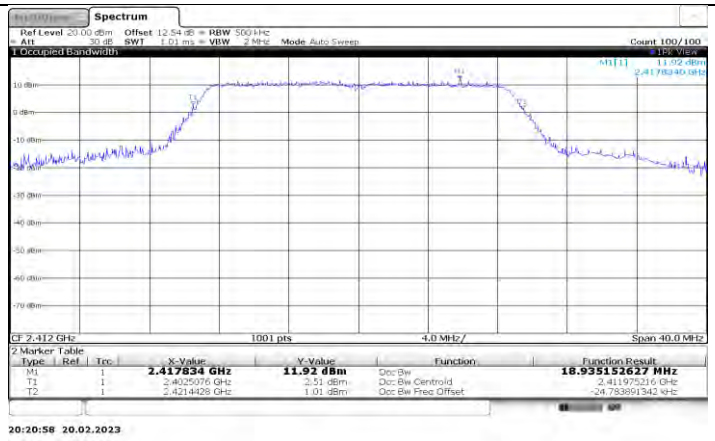
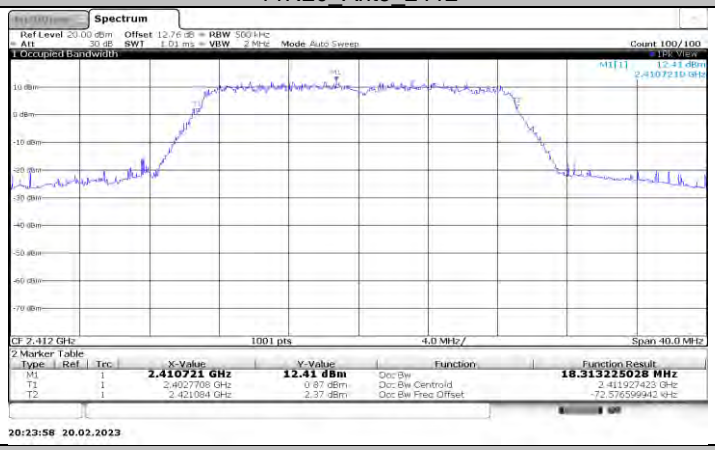


11N20_Ant5_2412



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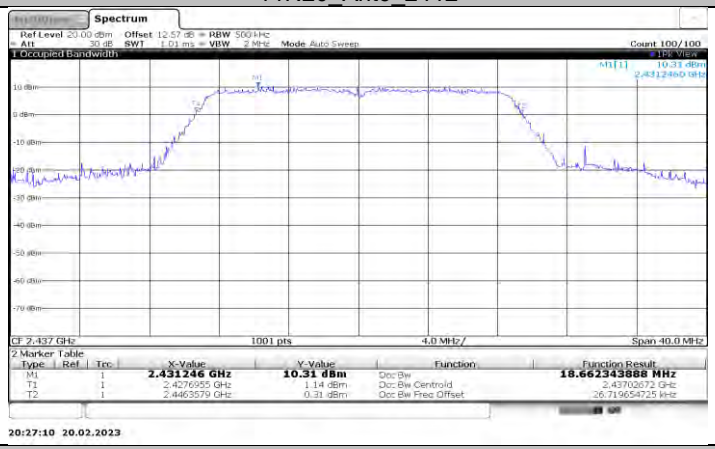

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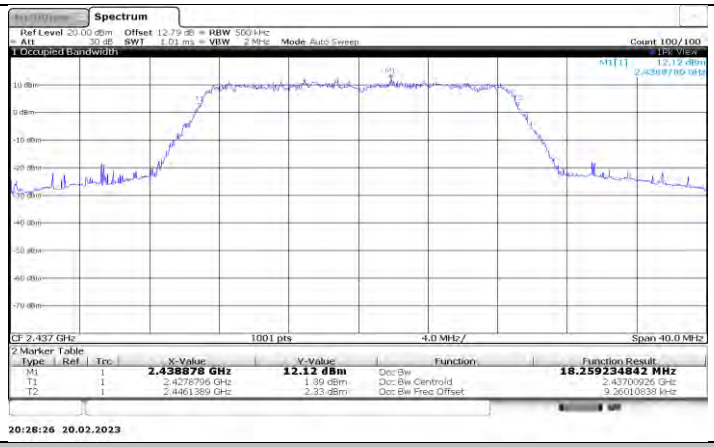

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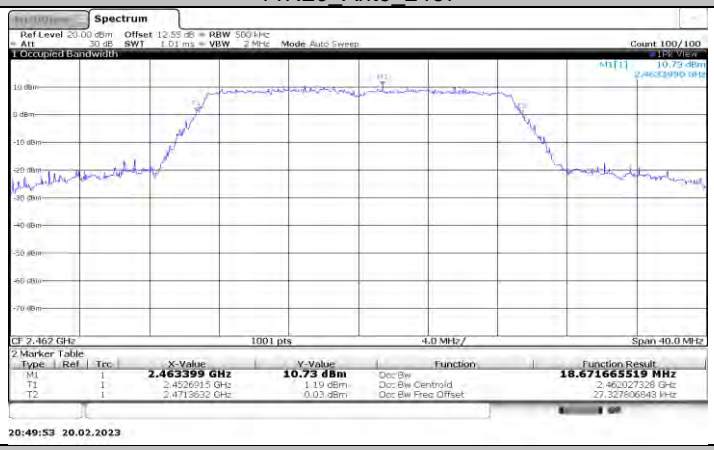

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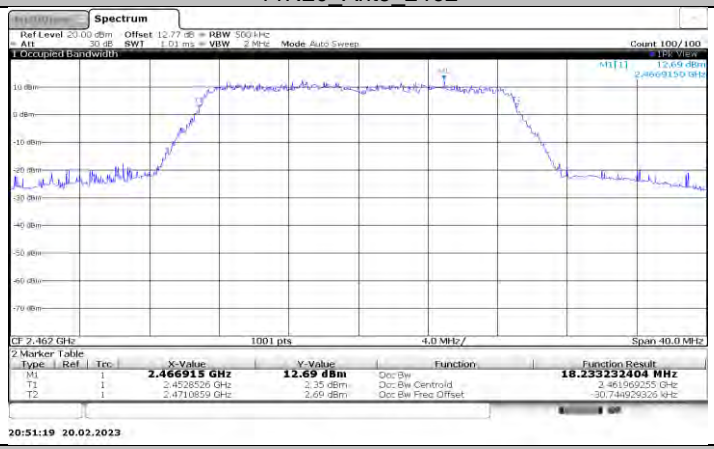

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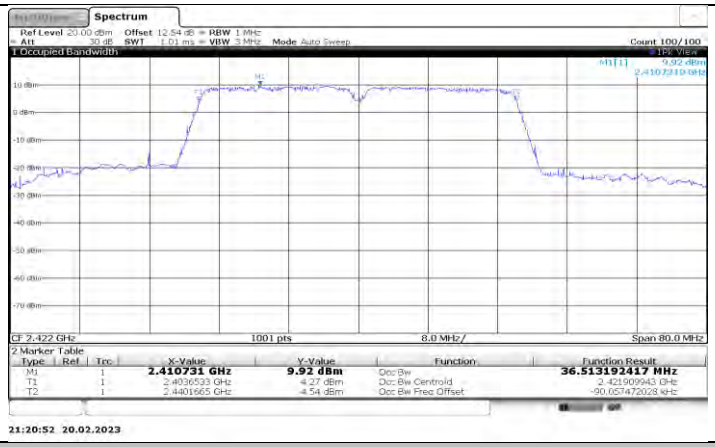

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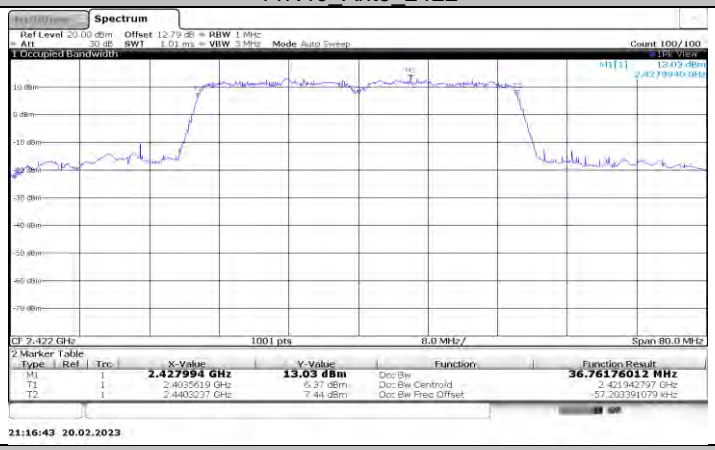

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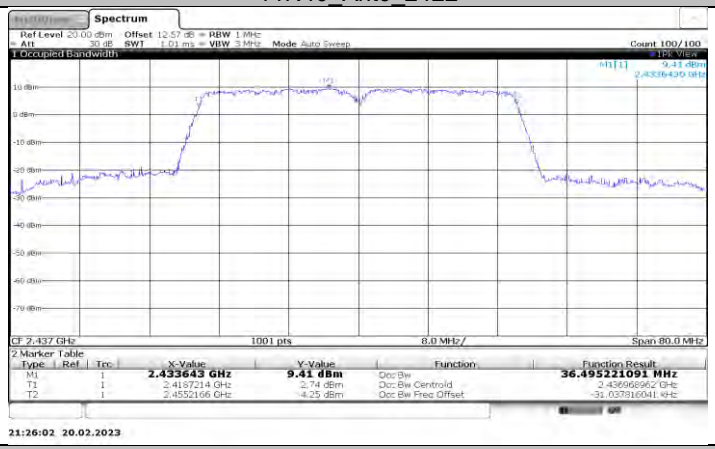

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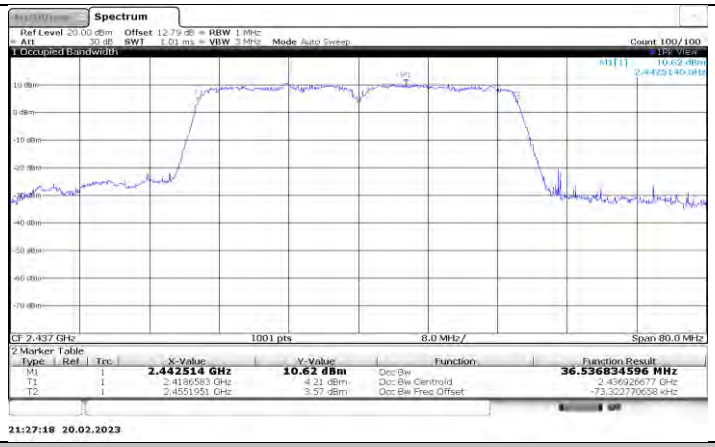
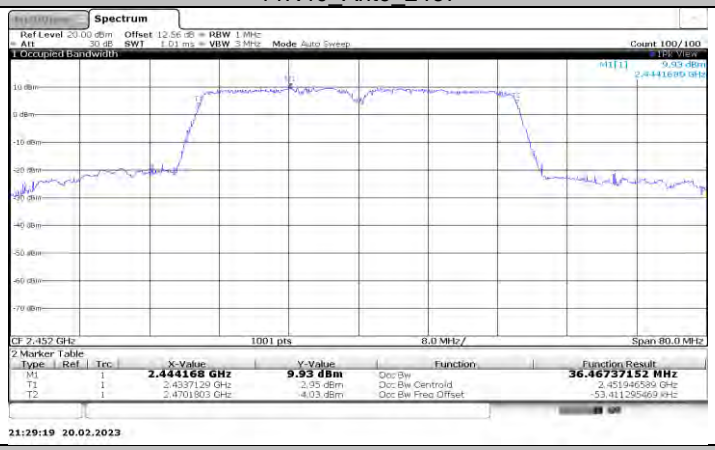
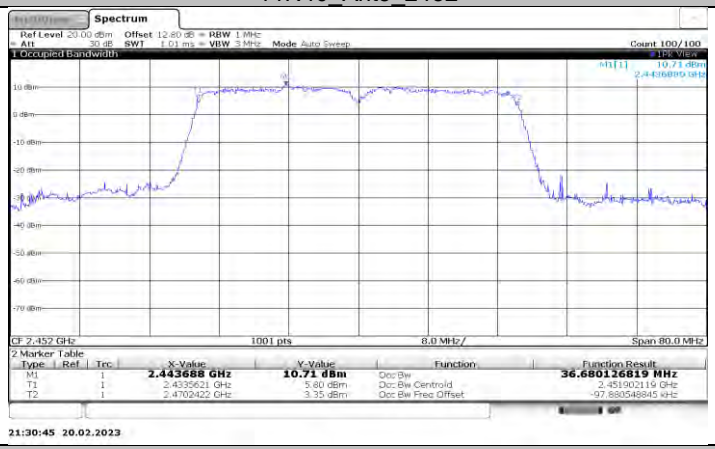


11N40_Ant6_2437



11N40_Ant5_2452



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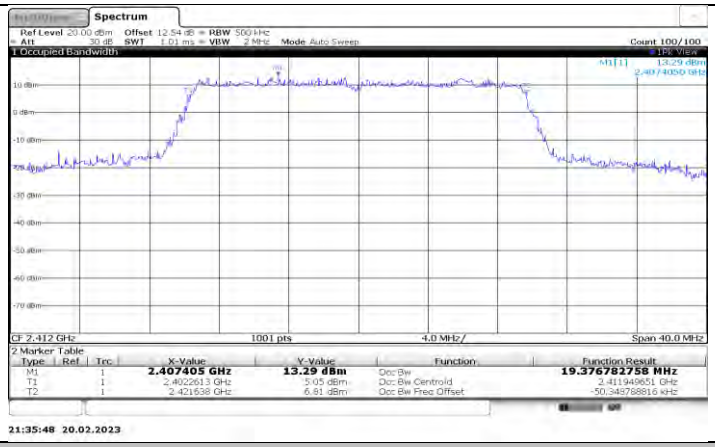
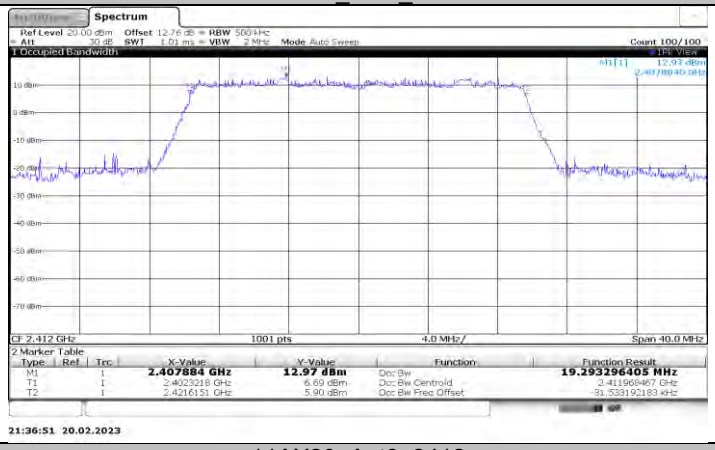


11AX20_Ant5_2412



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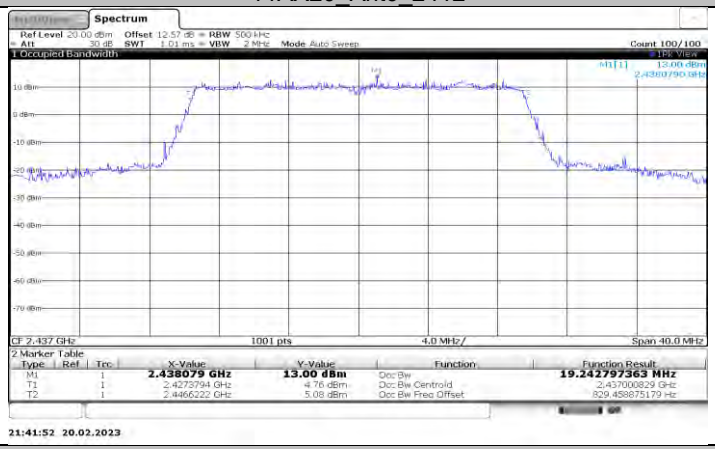

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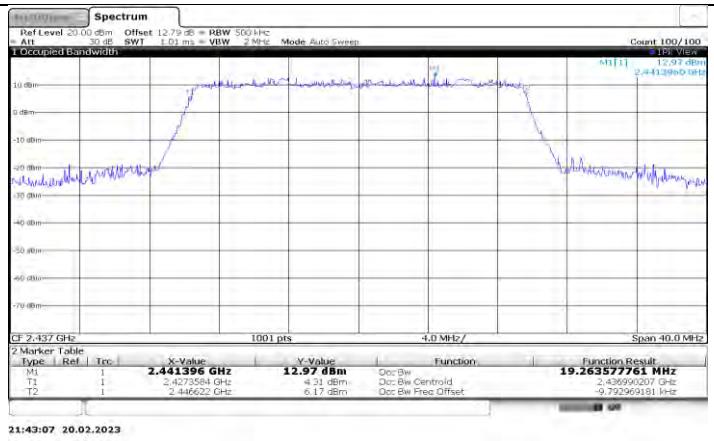

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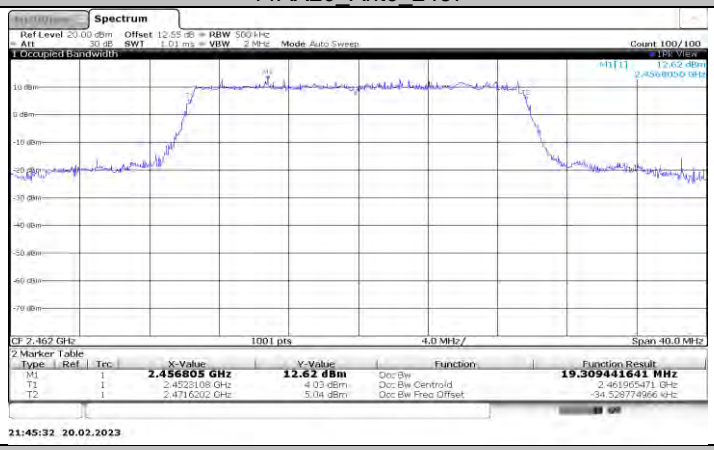
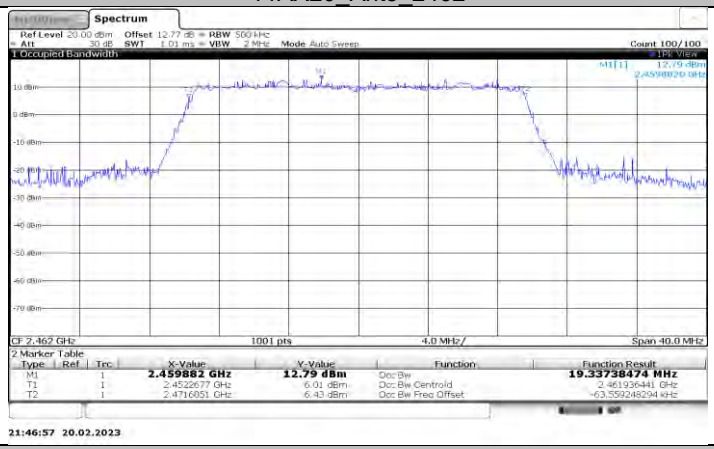
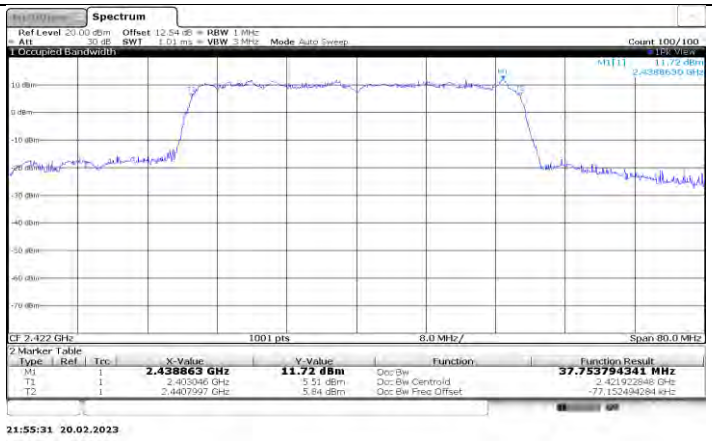


11AX20_Ant5_2462



11AX20_Ant6_2462



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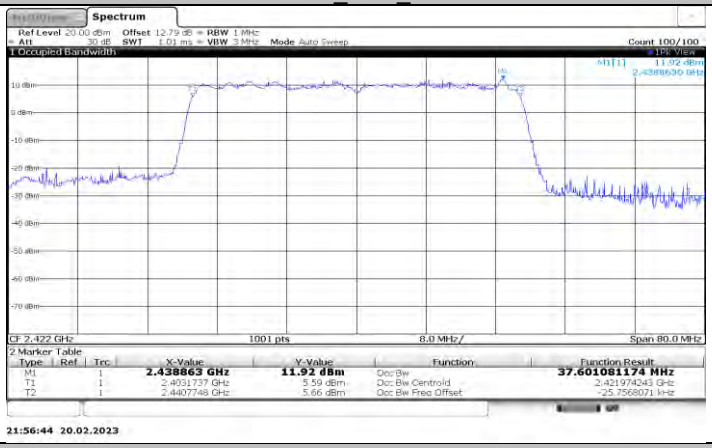

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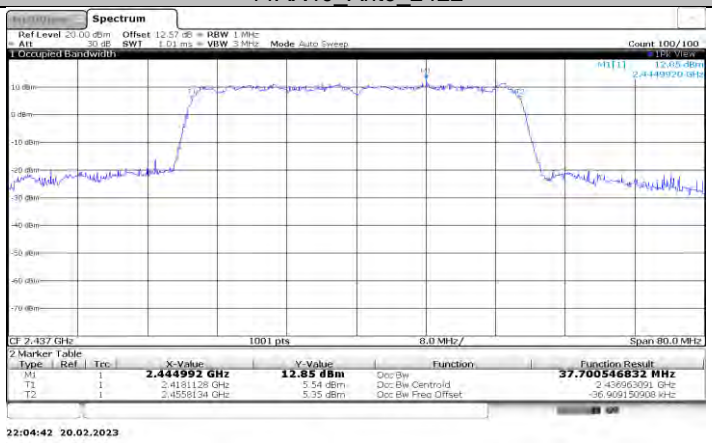

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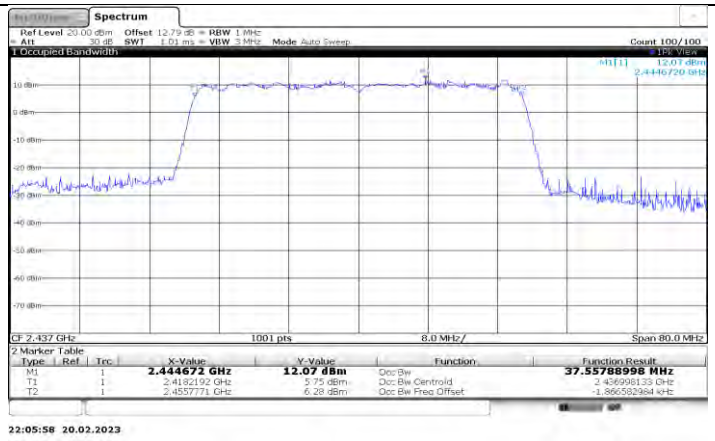
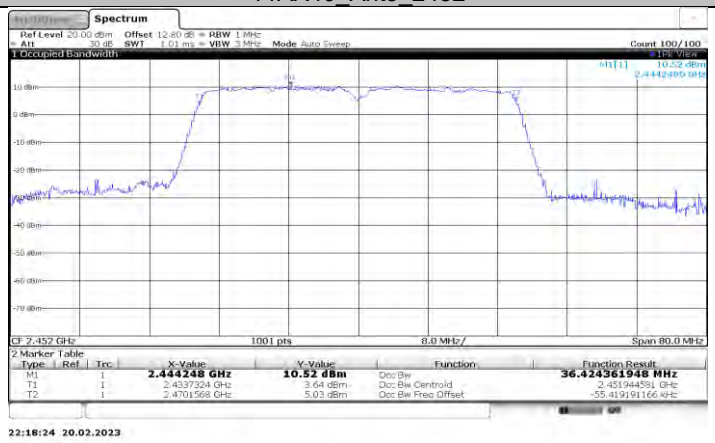


11AX40_Ant6_2437

11AX40_Ant5_2452



11AX40_Ant6_2452

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

11.3. APPENDIX C: MAXIMUM AVERAGE CONDUCTED OUTPUT POWER

11.3.1. Test Result

Mode	Frequency (MHz)	Conducted Average Output Power (dBm)			Directional gain (dBi)	Limit (dBm)
		ANT5	ANT6	Total		
802.11b	2412	18.02	17.75	20.90	1.90	<=30
	2437	17.47	17.77	20.63	1.90	<=30
	2462	16.98	17.51	20.26	1.90	<=30
802.11g	2412	16.43	16.61	19.53	1.90	<=30
	2437	16.63	16.61	19.63	1.90	<=30
	2462	16.53	16.74	19.65	1.90	<=30
802.11N 20M	2412	16.91	16.92	19.93	4.91	<=30
	2437	16.80	17.00	19.91	4.91	<=30
	2462	16.71	16.96	19.85	4.91	<=30
802.11N 40M	2422	15.44	15.70	18.58	4.91	<=30
	2437	15.64	15.70	18.68	4.91	<=30
	2452	15.65	15.55	18.61	4.91	<=30
802.11AX 20M	2412	17.22	17.22	20.23	4.91	<=30
	2437	16.94	17.12	20.04	4.91	<=30
	2462	17.06	17.05	20.06	4.91	<=30
802.11AX 40M	2422	15.83	15.77	18.81	4.91	<=30
	2437	15.89	15.85	18.88	4.91	<=30
	2452	15.50	15.36	18.44	4.91	<=30

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