



CFR 47 FCC PART 15 SUBPART C

CERTIFICATION TEST REPORT

For

Indoor Camera

MODEL NUMBER: WP01002

FCC ID: 2AYZ8WP01002

REPORT NUMBER: 4789945487-1

ISSUE DATE: July 20, 2021

Prepared for

**Linkzone Technology Co., Limited
Room 510, 5/F, Wayson Commercial Building, 28 Connaught Road West, Sheung
Wan, Hong Kong**

Prepared by

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

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

Tel: +86 769 22038881

Fax: +86 769 33244054

Website: www.ul.com



Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V0	07/20/2021	Initial Issue	



Summary of Test Results			
Clause	Test Items	FCC Rules	Test Results
1	6dB Bandwidth	FCC Part 15.247 (a) (2)	Pass
2	Conducted Output Power	FCC Part 15.247 (b) (3)	Pass
3	Power Spectral Density	FCC Part 15.247 (e)	Pass
4	Conducted Bandedge and Spurious Emission	FCC Part 15.247 (d)	Pass
5	Radiated Bandedge and Spurious Emission	FCC Part 15.247 (d) FCC Part 15.209 FCC Part 15.205	Pass
6	Conducted Emission Test for AC Power Port	FCC Part 15.207	Pass
7	Antenna Requirement	FCC Part 15.203	Pass

Note:

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



TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	6
2. TEST METHODOLOGY	7
3. FACILITIES AND ACCREDITATION	7
4. CALIBRATION AND UNCERTAINTY	8
4.1. <i>MEASURING INSTRUMENT CALIBRATION</i>	8
4.2. <i>MEASUREMENT UNCERTAINTY</i>	8
5. EQUIPMENT UNDER TEST	9
5.1. <i>DESCRIPTION OF EUT</i>	9
5.2. <i>CHANNEL LIST</i>	9
5.3. <i>MAXIMUM OUTPUT POWER</i>	9
5.4. <i>TEST CHANNEL CONFIGURATION</i>	10
5.5. <i>THE WORSE CASE POWER SETTING PARAMETER</i>	10
5.6. <i>THE WORSE CASE CONFIGURATIONS</i>	10
5.7. <i>DESCRIPTION OF AVAILABLE ANTENNAS</i>	11
5.8. <i>DESCRIPTION OF TEST SETUP</i>	12
6. MEASURING INSTRUMENT AND SOFTWARE USED	13
7. ANTENNA PORT TEST RESULTS	15
7.1. <i>ON TIME AND DUTY CYCLE</i>	15
7.2. <i>6 dB DTS BANDWIDTH AND 99 % OCCUPIED BANDWIDTH</i>	16
7.3. <i>CONDUCTED OUTPUT POWER</i>	18
7.4. <i>POWER SPECTRAL DENSITY</i>	19
7.5. <i>CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS</i>	20
8. RADIATED TEST RESULTS	22
8.1. <i>RESTRICTED BANDEDGE</i>	27
8.1.1. <i>802.11b MODE</i>	27
8.1.2. <i>802.11g MODE</i>	30
8.1.3. <i>802.11n HT20 MODE</i>	34
8.1.4. <i>802.11n HT40 MODE</i>	38
8.2. <i>SPURIOUS EMISSIONS (1 GHz ~ 3 GHz)</i>	42
8.2.1. <i>802.11b MODE</i>	42
8.3. <i>SPURIOUS EMISSIONS (3 GHz ~ 18 GHz)</i>	48
8.3.1. <i>802.11b MODE</i>	48
8.3.2. <i>802.11g MODE</i>	54
8.3.3. <i>802.11n HT20 MODE</i>	60
8.3.4. <i>802.11n HT40 MODE</i>	66



8.4.	SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)	72
8.4.1.	802.11b MODE	72
8.5.	SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)	74
8.5.1.	802.11b MODE	74
8.6.	SPURIOUS EMISSIONS BELOW 30 MHz	76
8.6.1.	802.11b MODE	76
9.	AC POWER LINE CONDUCTED EMISSIONS	79
9.1.	802.11b SISO MODE	80
10.	ANTENNA REQUIREMENTS	82
10.1.	Appendix A: DTS Bandwidth	83
10.1.1.	Test Result	83
10.1.2.	Test Graphs	84
10.2.	Appendix B: Occupied Channel Bandwidth	88
10.2.1.	Test Result	88
10.2.2.	Test Graphs	89
10.3.	Appendix C: Maximum conducted output power	93
10.3.1.	Test Result	93
10.4.	Appendix D: Maximum power spectral density	94
10.4.1.	Test Result	94
10.4.2.	Test Graphs	95
10.5.	Appendix E: Band edge measurements	99
10.5.1.	Test Result	99
10.5.2.	Test Graphs	100
10.6.	Appendix F: Conducted Spurious Emission	103
10.6.1.	Test Result	103
10.6.2.	Test Graphs	104
10.7.	Appendix G: Duty Cycle	116
10.7.1.	Test Result	116
10.7.2.	Test Graphs	117



1. ATTESTATION OF TEST RESULTS


Applicant Information

Company Name: Linkzone Technology Co., Limited
Address: Room 510, 5/F, Wayson Commercial Building, 28 Connaught Road West, Sheung Wan, Hong Kong

Manufacturer Information

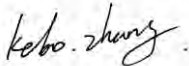
Company Name: Linkzone Technology Co., Limited
Address: Room 510, 5/F, Wayson Commercial Building, 28 Connaught Road West, Sheung Wan, Hong Kong

EUT Information

EUT Name: Indoor Camera
Model Name: WP01002
Brand: 
Sample Received Date: May 19, 2021
Sample Status: Normal
Sample ID: 3917221
Date of Tested: May 19, 2021~ July 13, 2021

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 FCC PART 15 SUBPART C	PASS

Prepared By:



Kebo Zhang
Project Engineer

Checked By:



Shawn Wen
Laboratory Leader

Approved By:



Stephen Guo
Laboratory Manager



2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, CFR 47 FCC Part 2, CFR 47 FCC Part 15 and ANSI C63.10-2013.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p>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.</p> <p>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</p> <p>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. Body Identifier (CABID) is CN0046.</p> <p>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</p>
---------------------------	--

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, 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 recognize 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:	Indoor Camera
Model Name:	WP01002
Radio Technology	IEEE802.11b/g/n HT20/ n HT40
Operation frequency	IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE 802.11n HT20: 2412MHz—2462MHz IEEE 802.11n HT40: 2422MHz—2452MHz
Modulation	IEEE 802.11b: DSSS(CCK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK)
Rated Input	DC 5V via Adapter

5.2. CHANNEL LIST

Channel List for 802.11b/g/n (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 (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 OUTPUT POWER

IEEE Std. 802.11	Frequency (MHz)	Channel Number	Maximum Conducted AVG Output Power (dBm)	Maximum AVG EIRP (dBm)
b	2412 ~ 2462	1-11[11]	15.15	17.65
g	2412 ~ 2462	1-11[11]	13.15	15.65
n HT20	2412 ~ 2462	1-11[11]	12.15	14.65
n HT40	2422 ~ 2452	3-9[7]	12.84	15.34



5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency
WiFi TX(802.11b)	CH 1, CH 6, CH 11/ Low, Middle, High	2412MHz, 2437MHz, 2462MHz
WiFi TX(802.11g)	CH 1, CH 6, CH 11/ Low, Middle, High	2412MHz, 2437MHz, 2462MHz
WiFi TX(802.11n HT20)	CH 1, CH 6, CH 11/ Low, Middle, High	2412MHz, 2437MHz, 2462MHz
WiFi TX(802.11n HT40)	CH 3, CH 6, CH 9/ Low, Middle, High	2422MHz, 2437MHz, 2452MHz

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worst Case Power Setting Parameter under 2400 ~ 2483.5MHz Band							
Test Software		Secure CRT					
Modulation Mode	Transmit Antenna Number	Test Software setting value					
		NCB: 20MHz			NCB: 40MHz		
		CH 1	CH 6	CH 11	CH 3	CH 6	CH 9
802.11b	1	44	44	44	/		
802.11g	1	54	54	51			
802.11n HT20	1	52	52	49			
802.11n HT40	1	/			52	51	48

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 as provided by the client were:

- 802.11b mode: 1 Mbps
- 802.11b mode: 6 Mbps
- 802.11n HT20 mode: MCS0
- 802.11n HT40 mode: MCS0

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



5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	built in welding antenna	2.5

Test Mode	Transmit and Receive Mode	Description
IEEE 802.11b	<input checked="" type="checkbox"/> 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
IEEE 802.11g	<input checked="" type="checkbox"/> 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
IEEE 802.11n HT20	<input checked="" type="checkbox"/> 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
IEEE 802.11n HT40	<input checked="" type="checkbox"/> 1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	laptop	Lenovo	TP00094A	/
2	UART	/	/	/

I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB cable	Unshielded	NO	1.5 m	USB cable

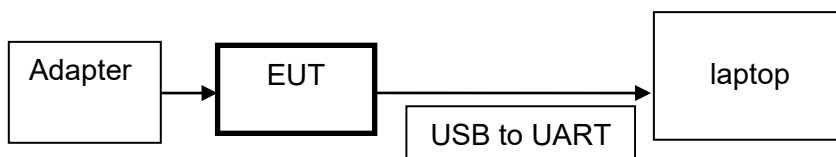
ACCESSORIES

Item	Accessory	Brand Name	Model Name	Description
1	Adapter	/	KA06E-0501000US	INPUT: 100-240 V~50/60 Hz OUTPUT: 5 Vdc, 1 A, 5 W

TEST SETUP

The EUT can work in engineering mode with a software.

SETUP DIAGRAM FOR TESTS





6. MEASURING INSTRUMENT AND SOFTWARE USED

Conducted Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	R&S	ESR3	101961	Nov. 12, 2020	Nov. 11, 2021
Two-Line V-Network	R&S	ENV216	101983	Nov. 12, 2020	Nov. 11, 2021
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Nov. 12, 2020	Nov. 11, 2021
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	Nov. 12, 2020	Nov. 11, 2021
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Aug. 11, 2018	Aug. 10, 2021
Preamplifier	HP	8447D	2944A09099	Nov. 12, 2020	Nov. 11, 2021
EMI Measurement Receiver	R&S	ESR26	101377	Nov. 12, 2020	Nov. 11, 2021
Horn Antenna	TDK	HRN-0118	130939	Sept. 17, 2018	Sept. 17, 2021
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Nov. 20, 2020	Nov. 19, 2021
Horn Antenna	Schwarzbeck	BBHA9170	#691	Aug. 11, 2018	Aug. 11, 2021
Preamplifier	TDK	PA-02-2	TRS-307-00003	Nov. 12, 2020	Nov. 11, 2021
Preamplifier	TDK	PA-02-3	TRS-308-00002	Nov. 12, 2020	Nov. 11, 2021
Loop antenna	Schwarzbeck	1519B	00008	Jan.17, 2019	Jan.17,2022
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Nov. 12, 2020	Nov. 11, 2021
Preamplifier	Mini-Circuits	ZX60-83LN-S+	SUP01201941	Nov. 20, 2020	Nov. 19, 2021
High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Nov. 12, 2020	Nov. 11, 2021
Software					
Description			Manufacturer	Name	Version
Test Software for Radiated Emissions			Farad	EZ-EMC	Ver. UL-3A1



Tonsend RF Test System					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Wideband Radio Communication Tester	R&S	CMW500	155523	Nov.20,2020	Nov.19,2021
PXA Signal Analyzer	Keysight	N9030A	MY55410512	Nov.20,2020	Nov.19,2021
MXG Vector Signal Generator	Keysight	N5182B	MY56200284	Nov.20,2020	Nov.19,2021
MXG Vector Signal Generator	Keysight	N5172B	MY56200301	Nov.20,2020	Nov.19,2021
DC power supply	Keysight	E3642A	MY55159130	Nov.24,2020	Nov.23,2021
Software					
Description	Manufacturer	Name		Version	
Tonsend SRD Test System	Tonsend	JS1120-3 RF Test System		2.6.77.0518	

Other Instruments					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Dual Channel Power Meter	Keysight	N1912A	MY55416024	Nov. 20, 2020	Nov. 19, 2021
Power Sensor	Keysight	USB Wideband Power Sensor	MY5100022	Nov. 20, 2020	Nov. 19, 2021

7. ANTENNA PORT TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

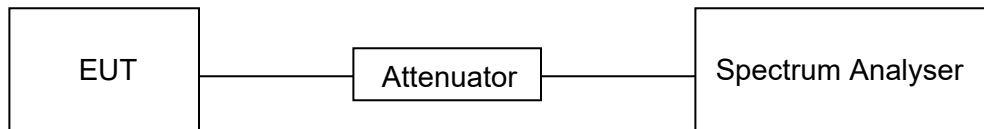
LIMITS

None; for reporting purposes only

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	58.2 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

Please refer to appendix G.



7.2. 6 dB DTS BANDWIDTH AND 99 % OCCUPIED BANDWIDTH

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C			
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 analyser and use the following settings:

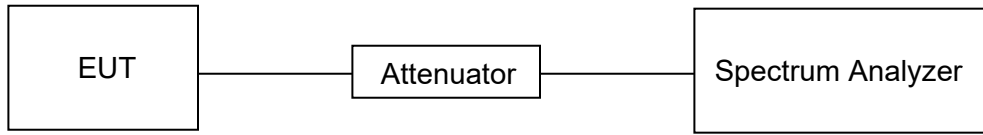
Center Frequency	The center frequency of the channel under test
Frequency Span	Between 1.5 times and 5.0 times the OBW
Detector	Peak
RBW	For 6 dB Bandwidth: 100 kHz
VBW	For 6 dB Bandwidth: $\geq 3 \times$ RBW
Trace	Max hold
Sweep	Auto couple

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	58.2 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

Please refer to appendix A & B.

7.3. CONDUCTED OUTPUT POWER

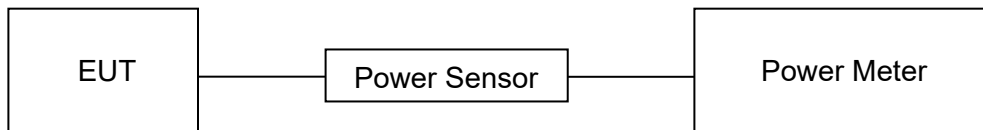
LIMITS

CFR 47 FCC Part15 (15.247) Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(b)(3)	Peak Output Power	1 watt or 30 dBm	2400-2483.5

TEST PROCEDURE

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.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.5 °C	Relative Humidity	58.2 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

Please refer to appendix C.

7.4. POWER SPECTRAL DENSITY

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC §15.247 (e)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

TEST PROCEDURE

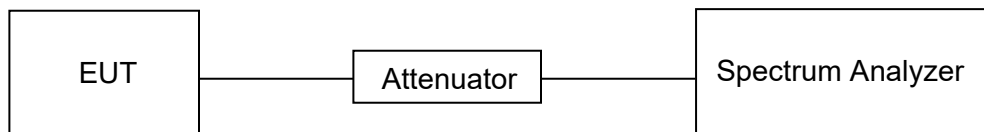
Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	$3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
VBW	$\geq 3 \times \text{RBW}$
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 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	58.2 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

Please refer to appendix D.



7.5. CONDUCTED BANDEGE AND SPURIOUS EMISSIONS

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C		
Section	Test Item	Limit
CFR 47 FCC §15.247 (d)	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 analyser 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	$\geq 3 \times \text{RBW}$
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.

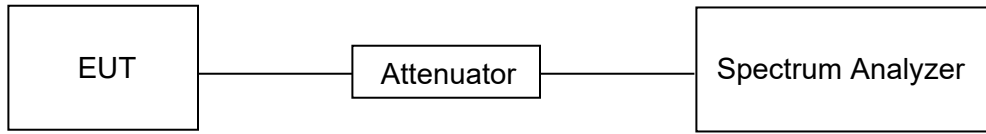
Change the settings for emission level measurement:

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100 kHz
VBW	$\geq 3 \times \text{RBW}$
measurement points	$\geq \text{span}/\text{RBW}$
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	58.2 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

Please refer to appendix E & F.



8. RADIATED TEST RESULTS

LIMITS

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

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

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

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

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

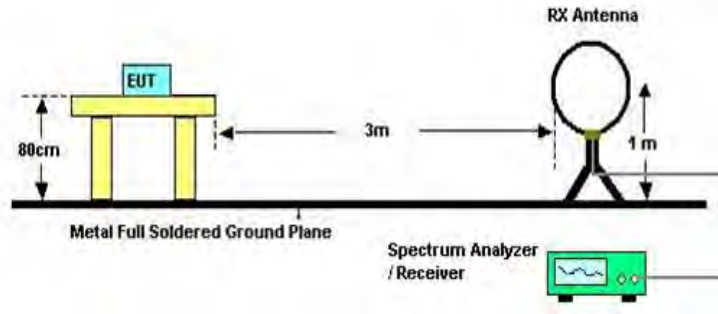
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218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

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

²Above 38.6c

TEST SETUP AND PROCEDURE

Below 30 MHz

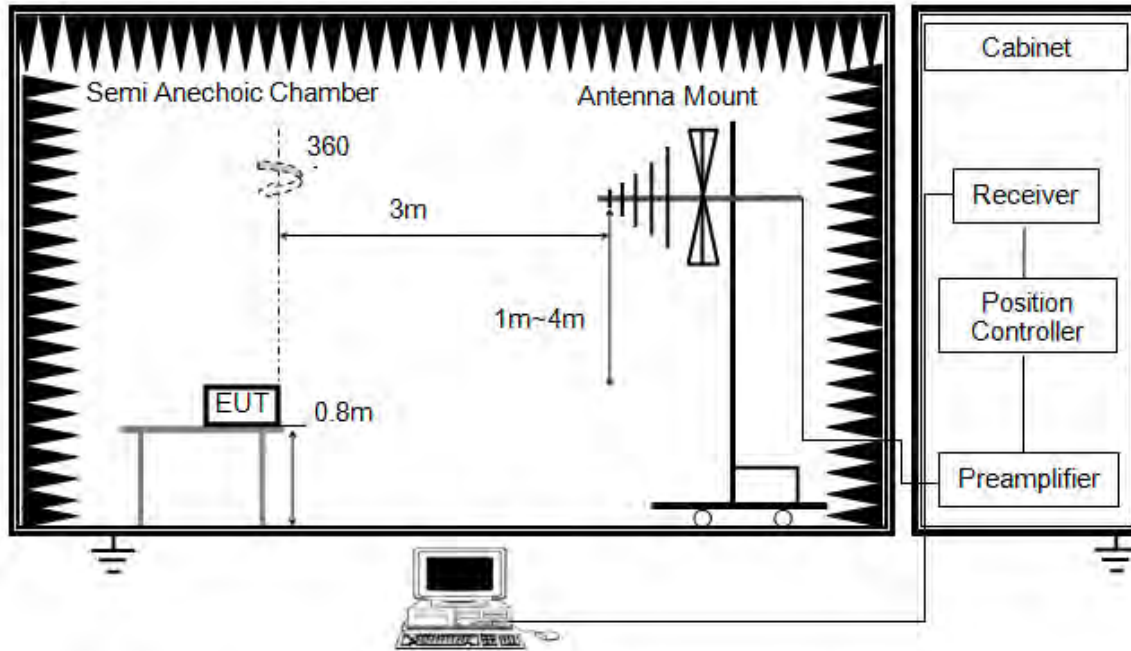


The setting of the spectrum analyser

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

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 80cm 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 30 m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.
8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377 Ω. For example, the measurement frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to $Y-51.5 = Z$ dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit

Below 1 GHz and above 30 MHz

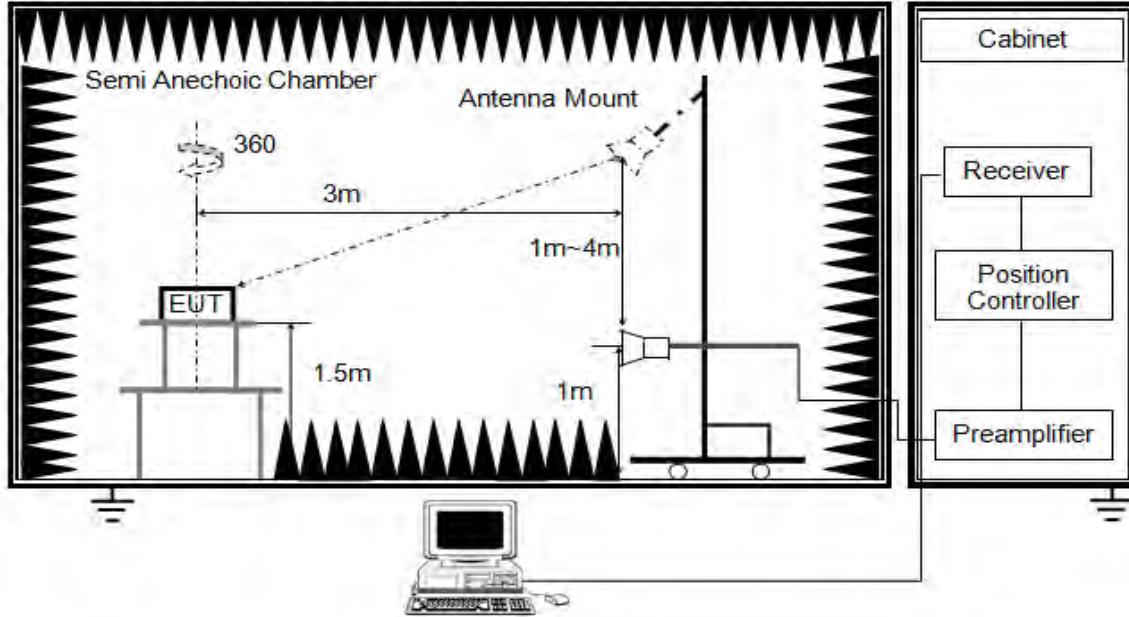


The setting of the spectrum analyser

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

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Above 1 GHz

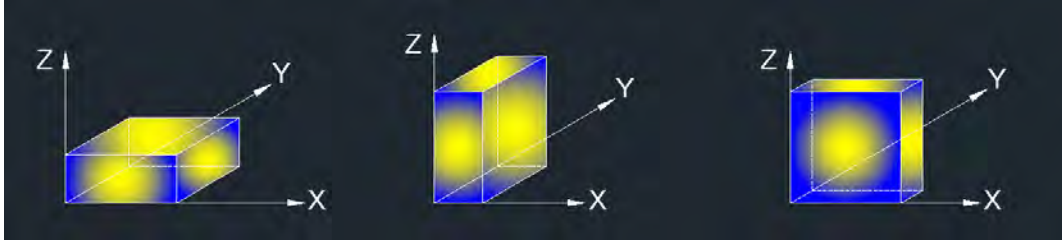


The setting of the spectrum analyser

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

1. The testing follows the guidelines in 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 7.1.ON TIME AND DUTY CYCLE.

X axis, Y axis, Z axis positions:



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

TEST ENVIRONMENT

Temperature	26.2 °C	Relative Humidity	47 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

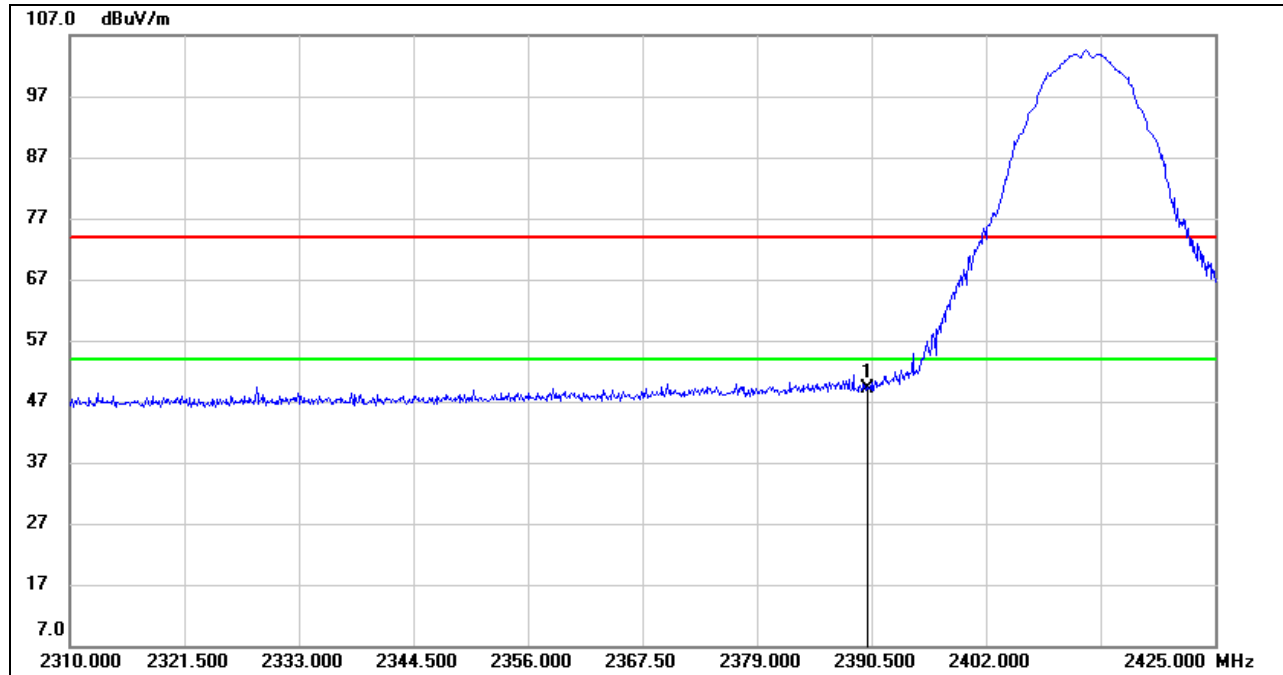


8.1. RESTRICTED BANDEDGE

8.1.1. 802.11b MODE

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

PEAK

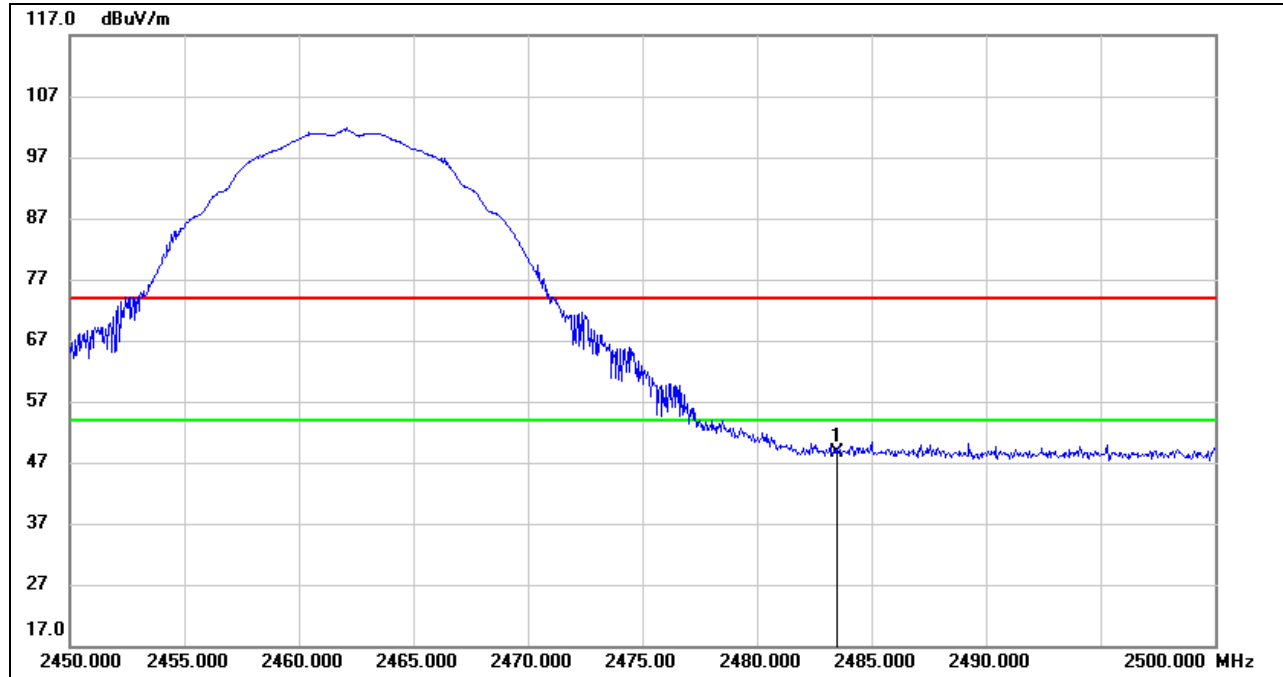


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	15.88	33.35	49.23	74.00	-24.77	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)
PEAK

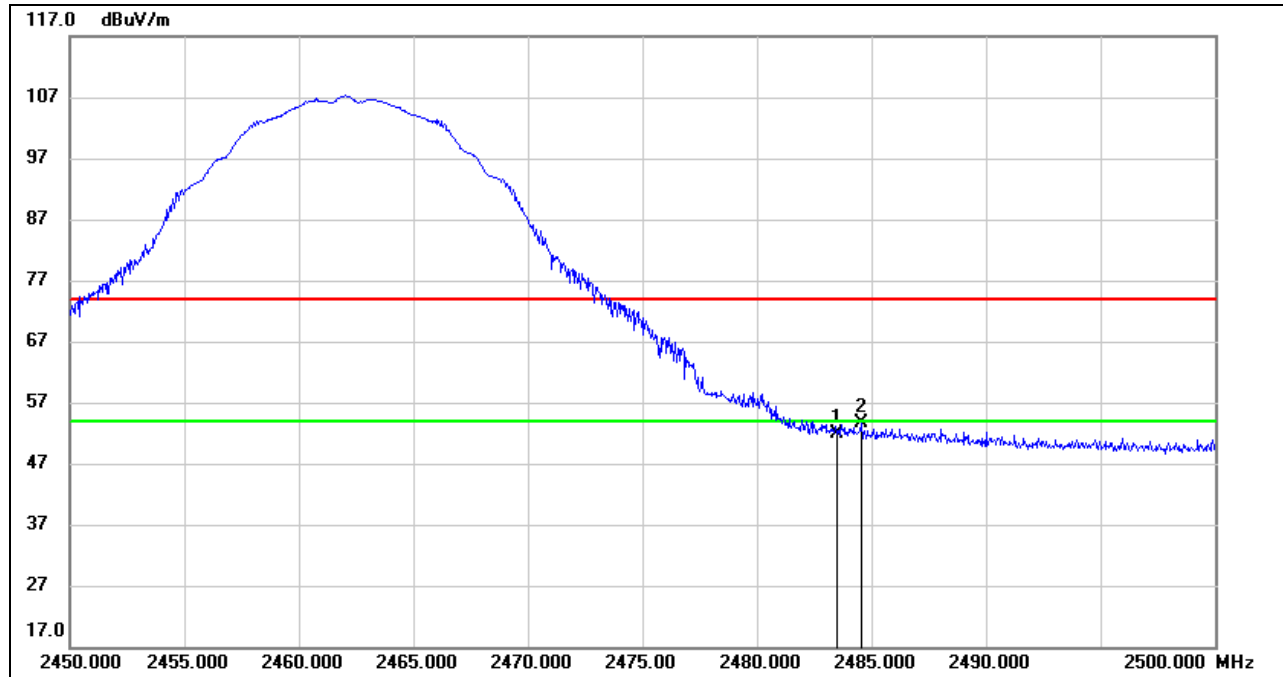


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	14.93	33.71	48.64	74.00	-25.36	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	18.16	33.71	51.87	74.00	-22.13	peak
2	2484.550	19.90	33.71	53.61	74.00	-20.39	peak

Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

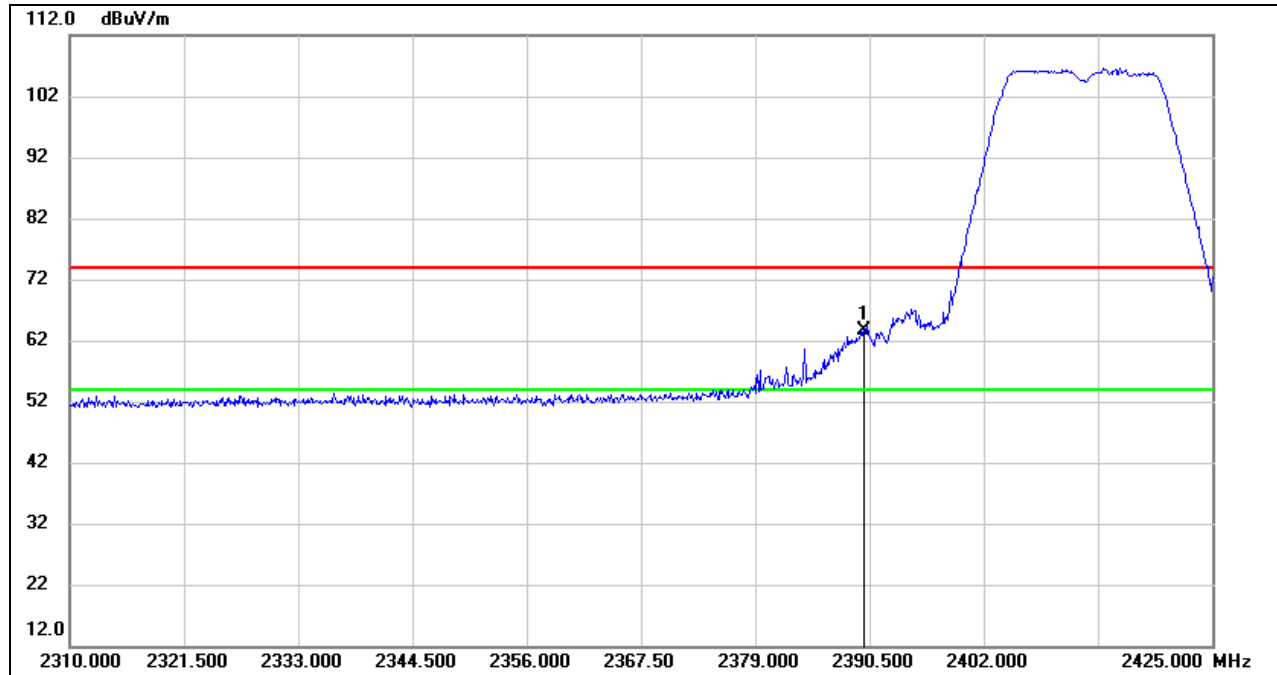
Note: Both horizontal and vertical had been tested, only the worst data was recorded in the report.



8.1.2. 802.11g MODE

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

PEAK

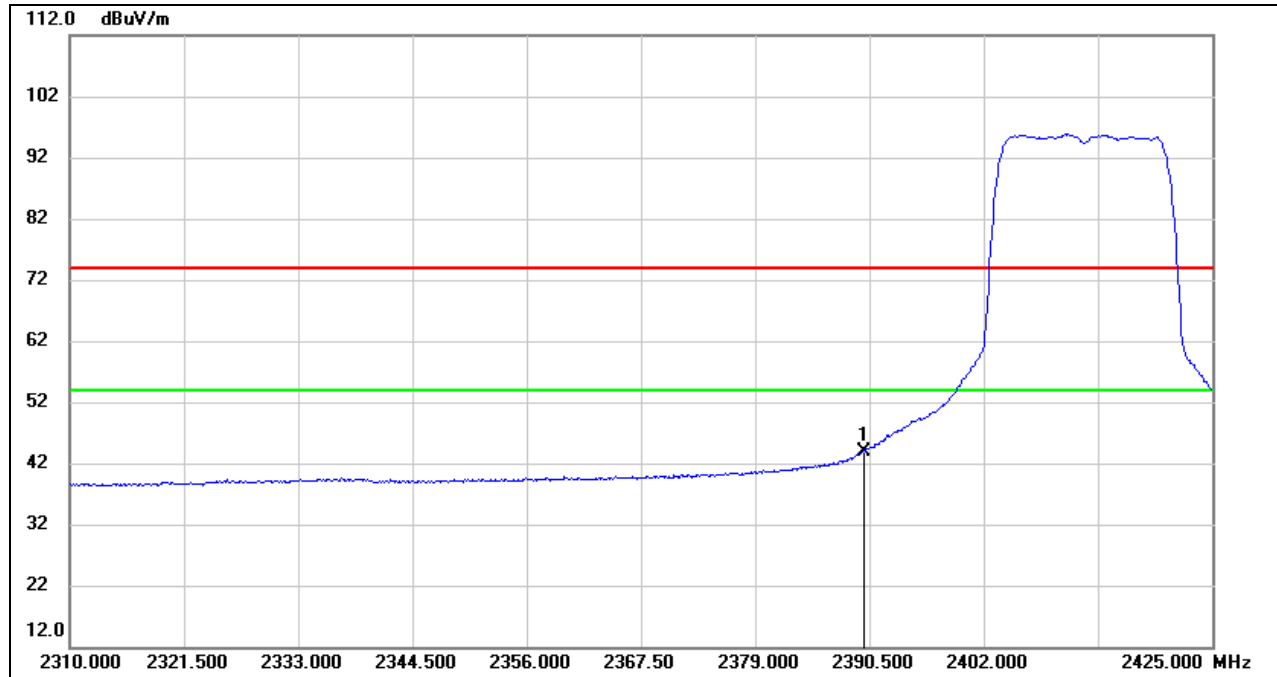


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	30.29	33.35	63.64	74.00	-10.36	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



AVG

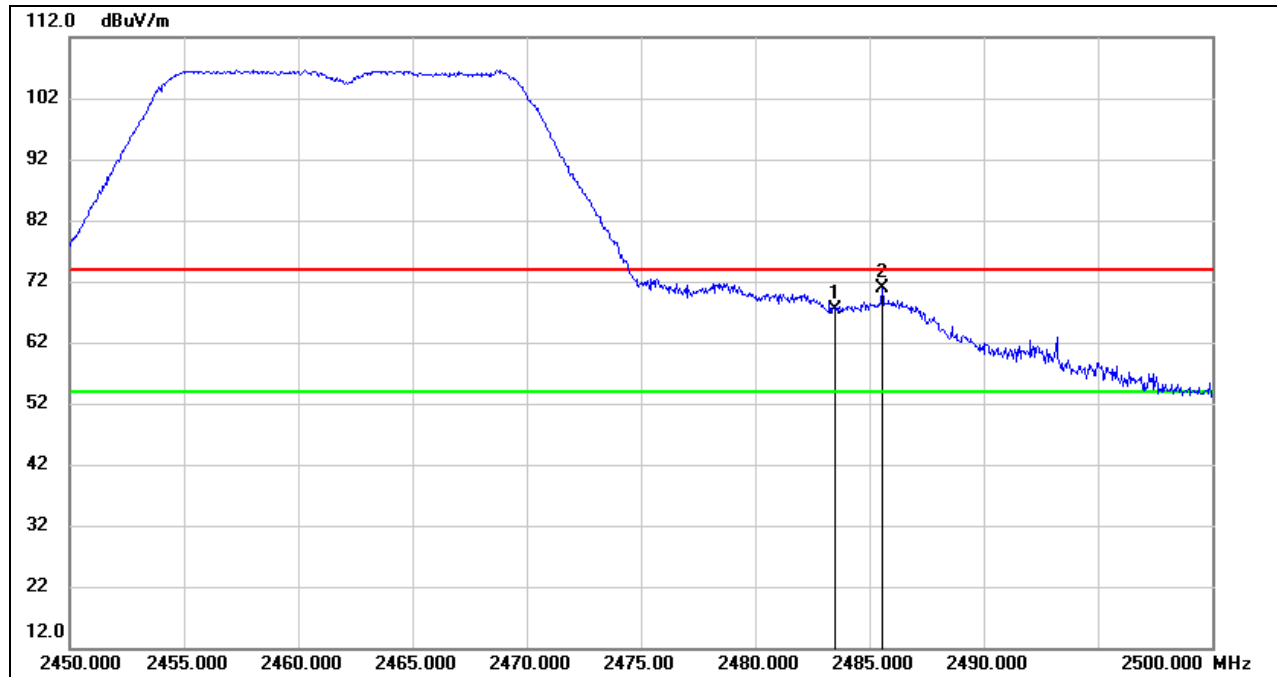


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	10.51	33.35	43.86	54.00	-10.14	AVG

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. AVG: $VBW=1/T_{on}$, where: T_{on} is the transmitting duration.
 4. For the transmitting duration, please refer to clause 7.1.
 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)
PEAK

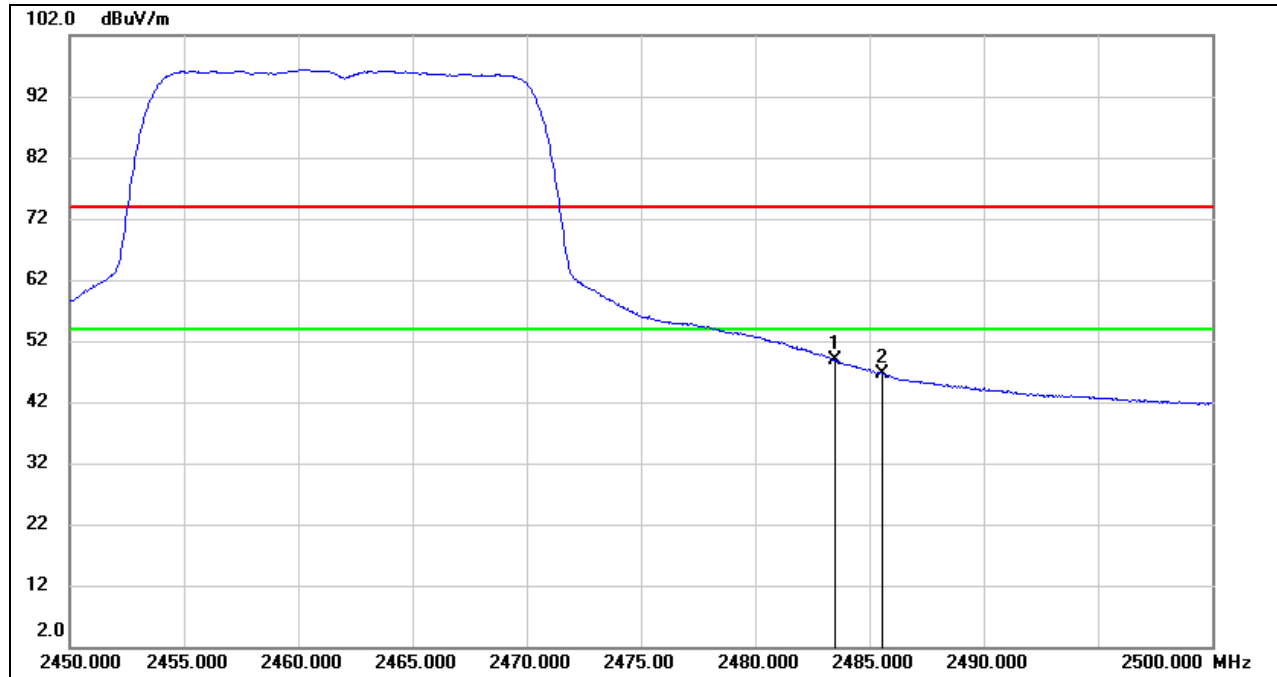


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	33.73	33.71	67.44	74.00	-6.56	peak
2	2485.550	37.25	33.71	70.96	74.00	-3.04	peak

Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	15.19	33.71	48.90	54.00	-5.10	AVG
2	2485.550	12.90	33.71	46.61	54.00	-7.39	AVG

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. AVG: $VBW=1/T_{on}$, where: T_{on} is the transmitting duration.
 4. For the transmitting duration, please refer to clause 7.1.
 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

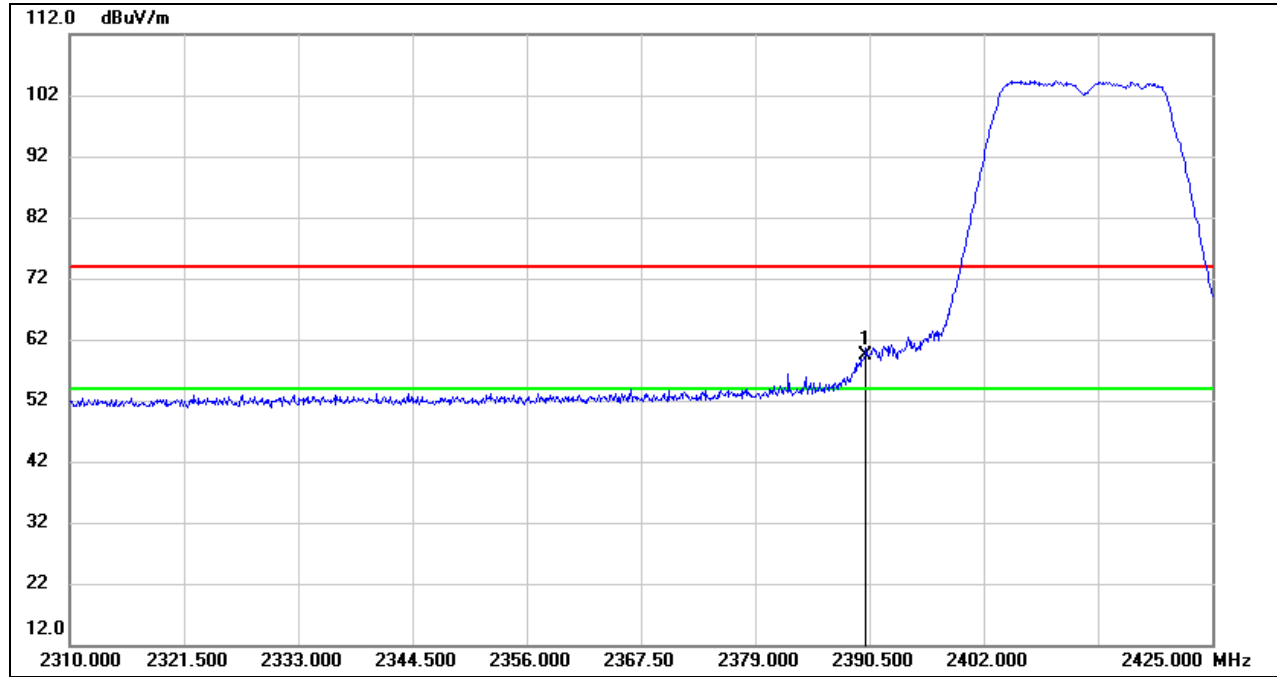
Note: Both horizontal and vertical had been tested, only the worst data was recorded in the report.



8.1.3. 802.11n HT20 MODE

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

PEAK

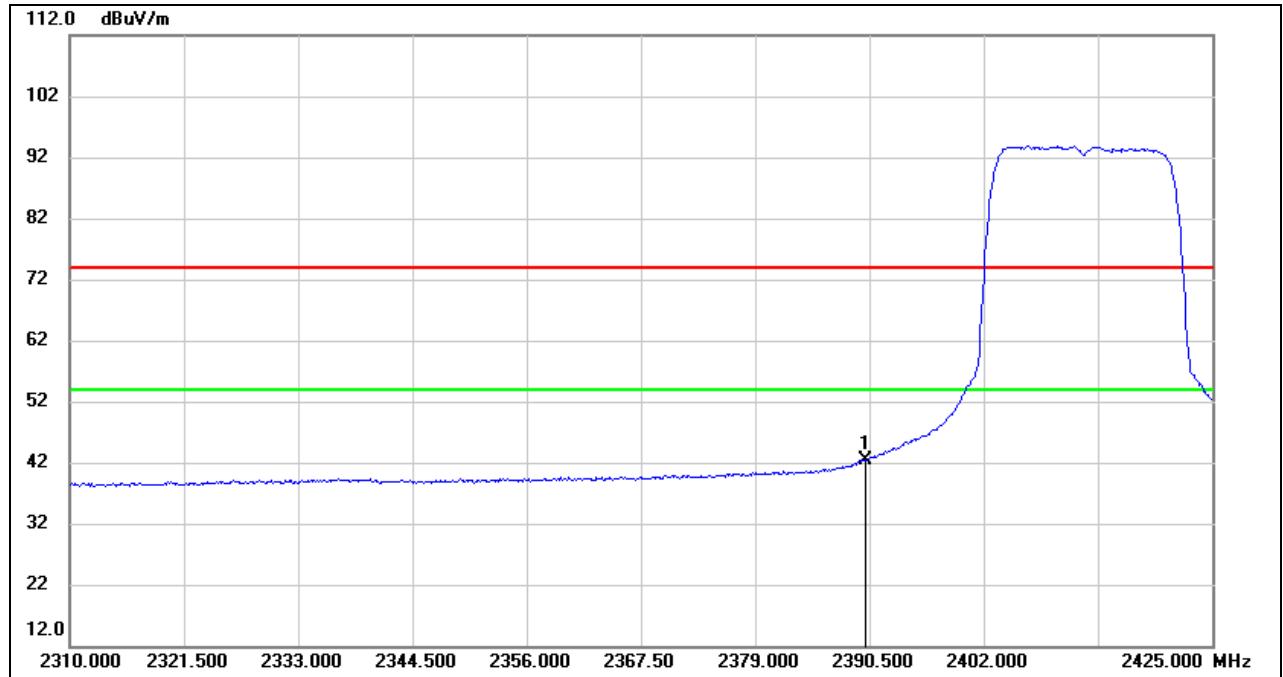


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	26.07	33.35	59.42	74.00	-14.58	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



AVG

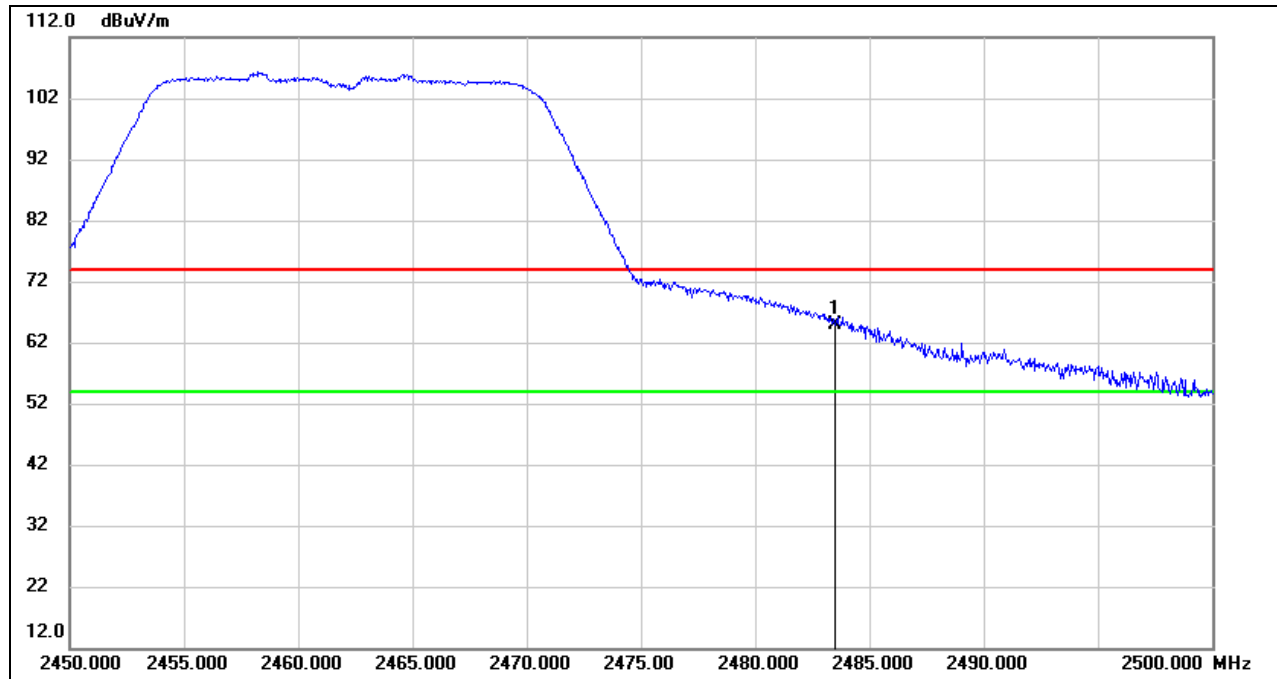


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	9.11	33.35	42.46	74.00	-31.54	peak

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 4. For the transmitting duration, please refer to clause 7.1.
 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)
PEAK

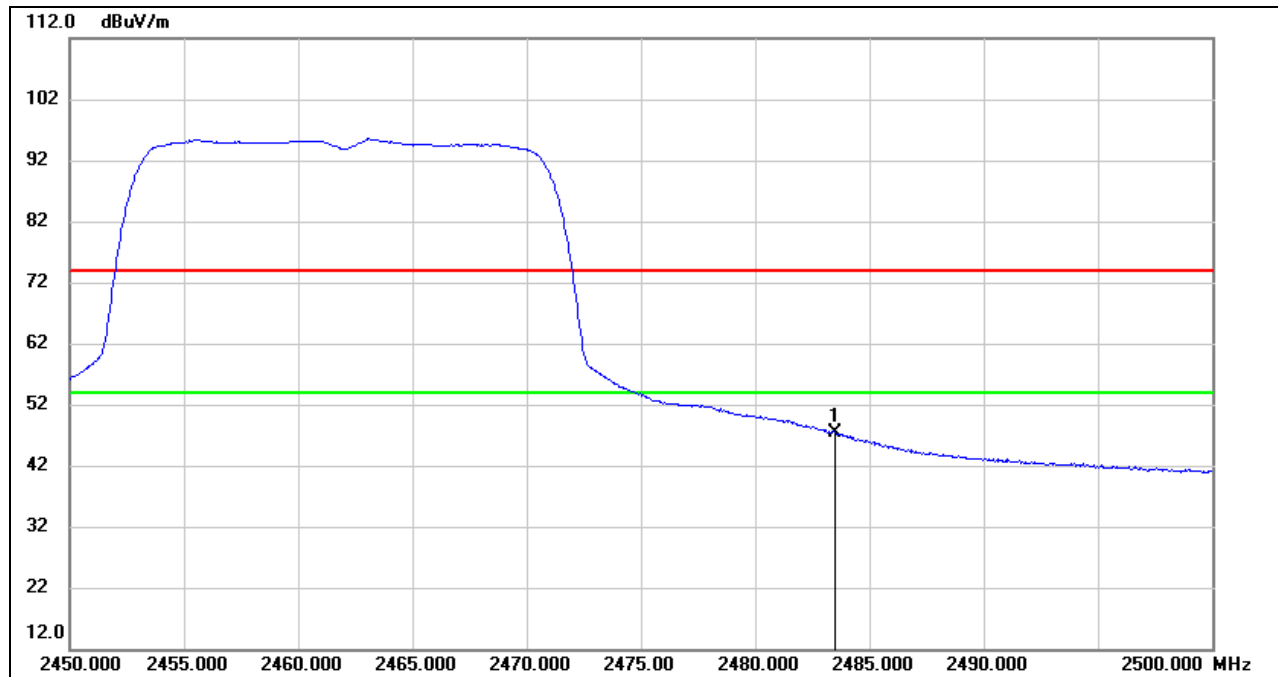


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	31.23	33.71	64.94	74.00	-9.06	peak

Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	13.79	33.71	47.50	54.00	-6.50	AVG

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 4. For the transmitting duration, please refer to clause 7.1.
 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

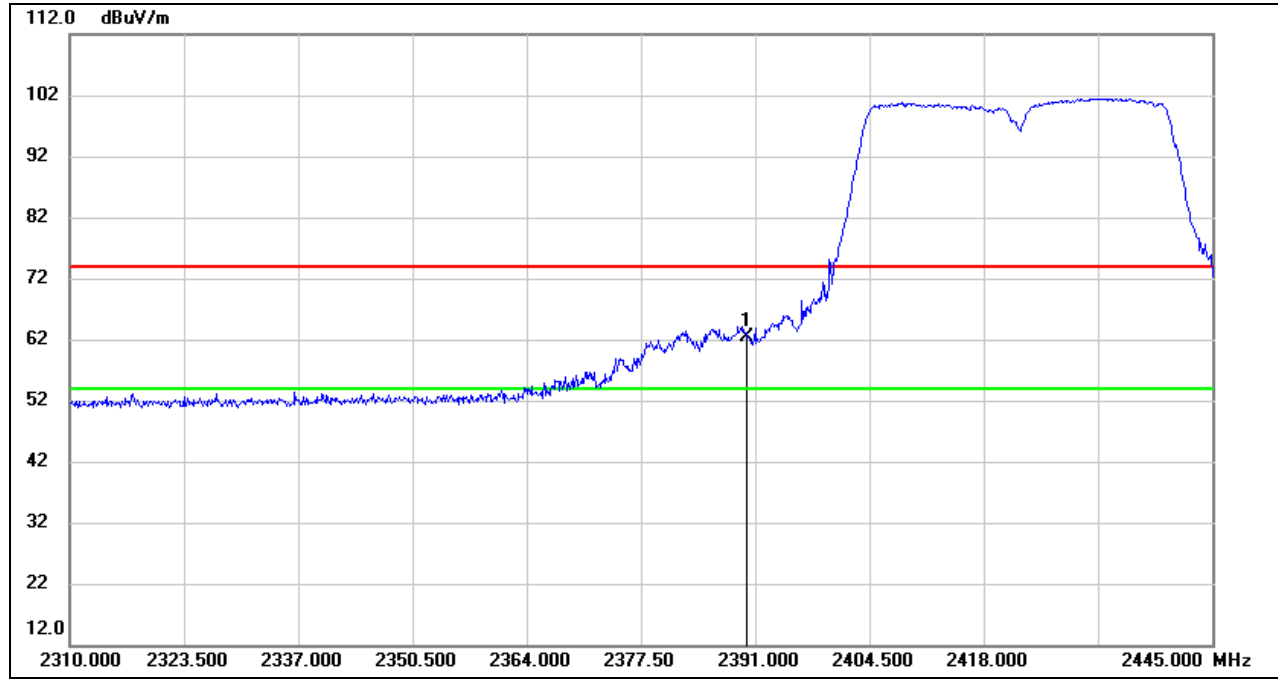
Note: Both horizontal and vertical had been tested, only the worst data was recorded in the report.



8.1.4. 802.11n HT40 MODE

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

PEAK

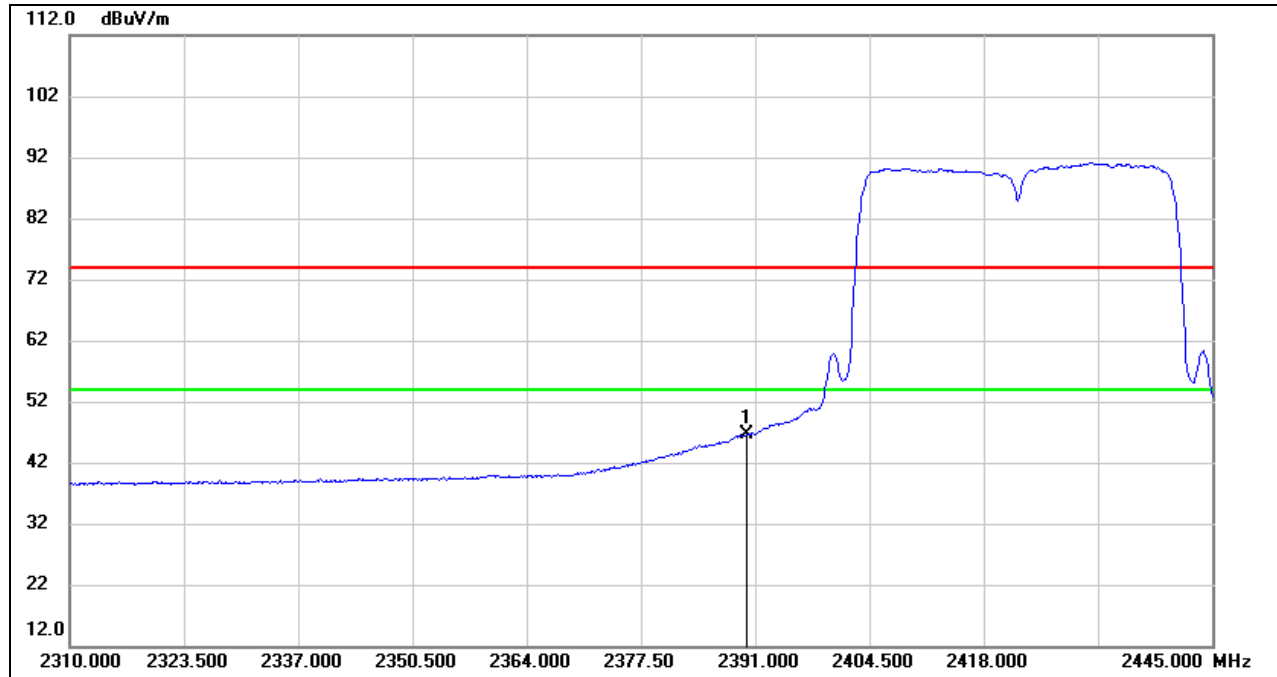


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	29.03	33.35	62.38	74.00	-11.62	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



AVG



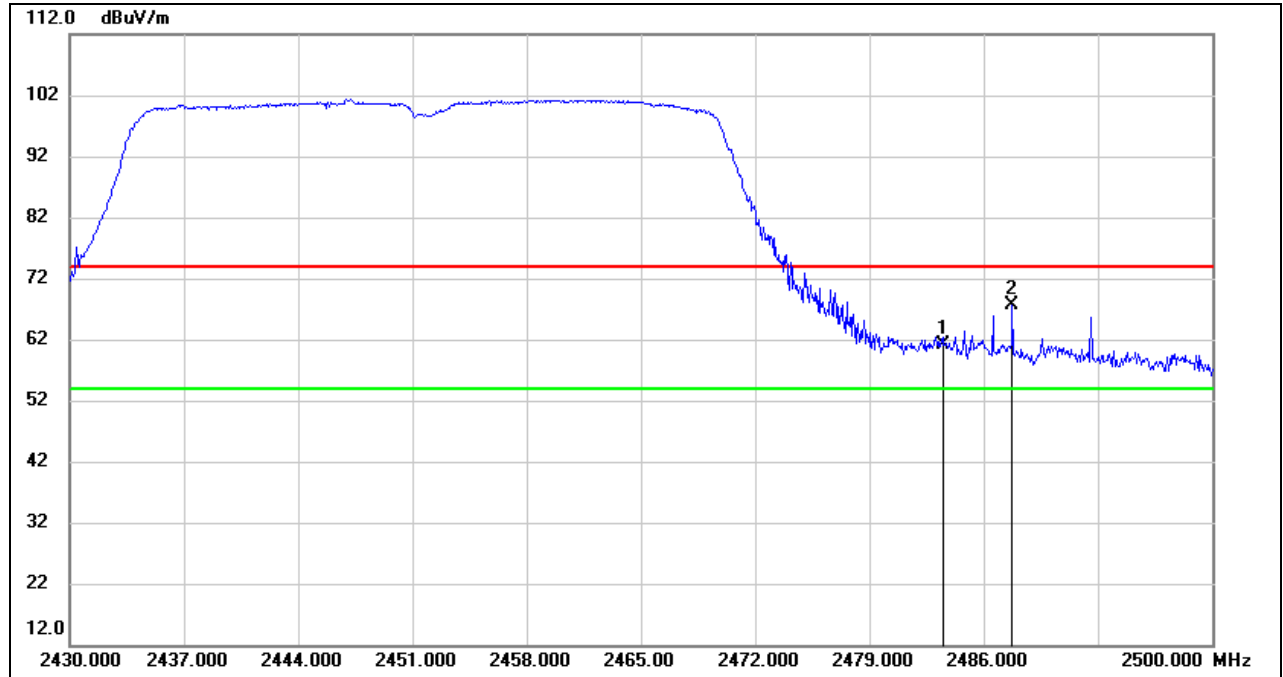
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	13.26	33.35	46.61	74.00	-27.39	peak

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 4. For the transmitting duration, please refer to clause 7.1.
 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

PEAK

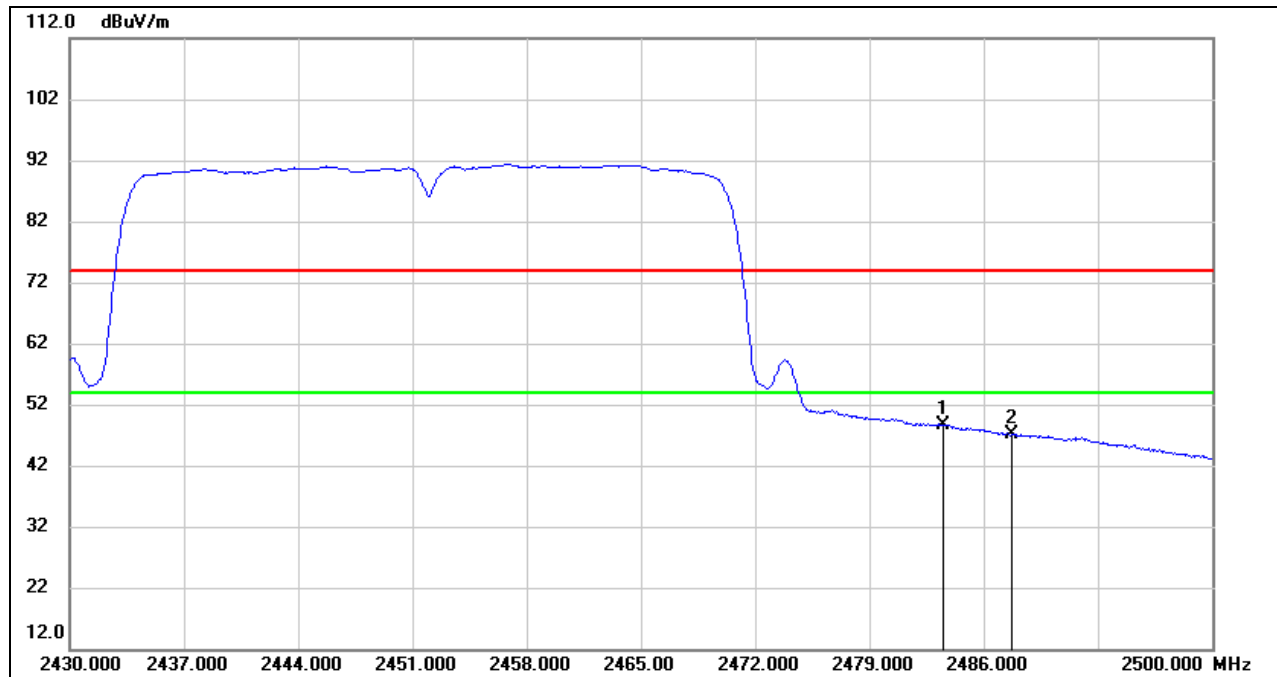


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	27.51	33.71	61.22	74.00	-12.78	peak
2	2487.750	33.80	33.72	67.52	74.00	-6.48	peak

Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	14.83	33.71	48.54	54.00	-5.46	AVG
2	2487.750	13.31	33.72	47.03	54.00	-6.97	AVG

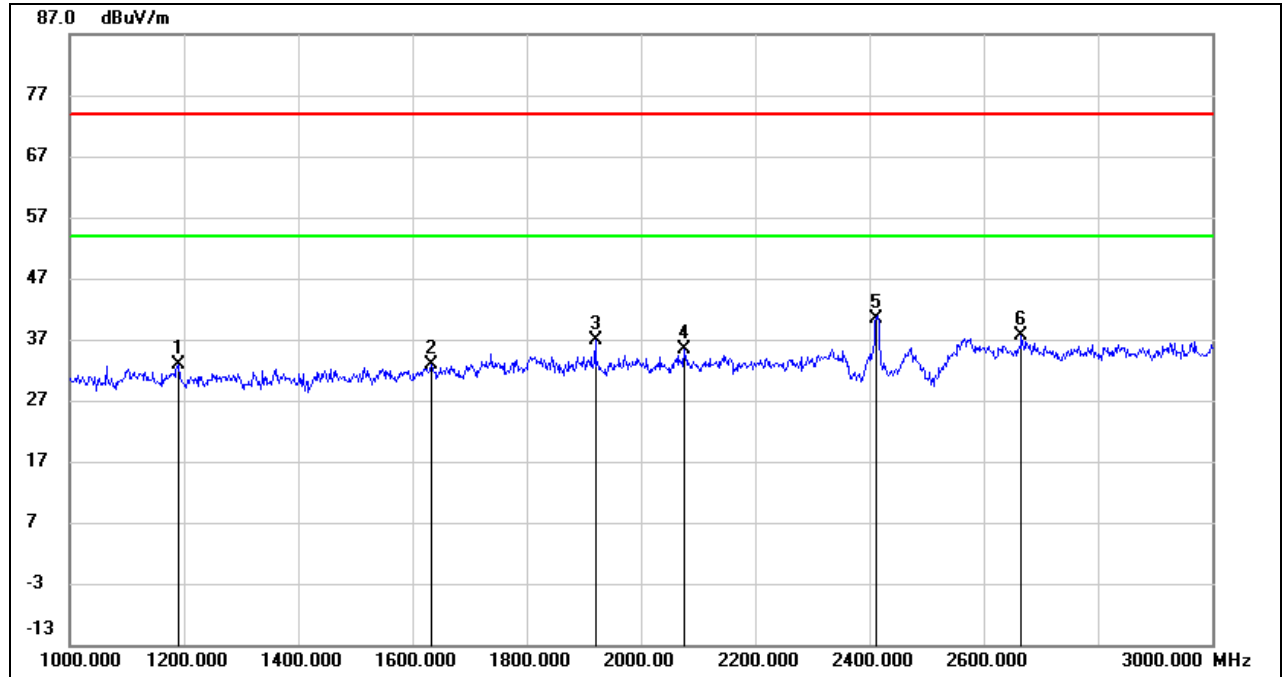
- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 4. For the transmitting duration, please refer to clause 7.1.
 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: Both horizontal and vertical had been tested, only the worst data was recorded in the report.

8.2. SPURIOUS EMISSIONS (1 GHz ~ 3 GHz)

8.2.1. 802.11b MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1190.000	45.88	-13.04	32.84	74.00	-41.16	peak
2	1634.000	44.22	-11.30	32.92	74.00	-41.08	peak
3	1920.000	46.92	-10.13	36.79	74.00	-37.21	peak
4	2076.000	45.11	-9.76	35.35	74.00	-38.65	peak
5	2412.000	48.70	-8.37	40.33	/	/	fundamental
6	2666.000	45.02	-7.43	37.59	74.00	-36.41	peak

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

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

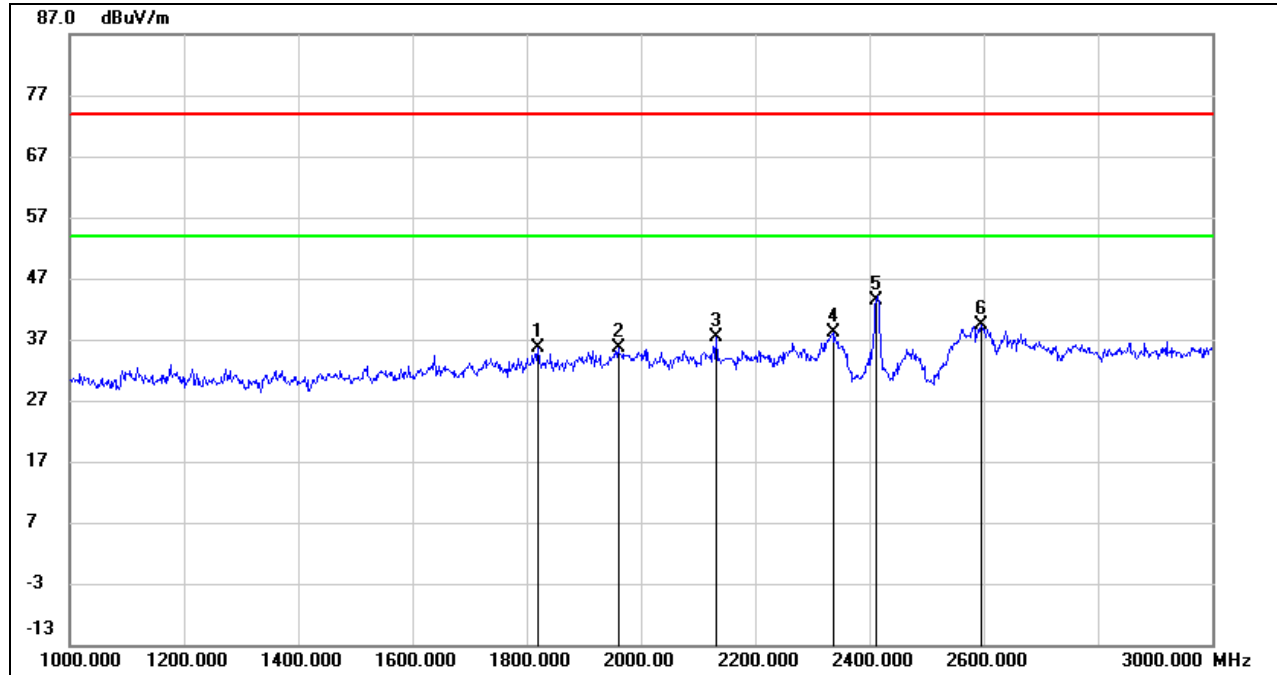
3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



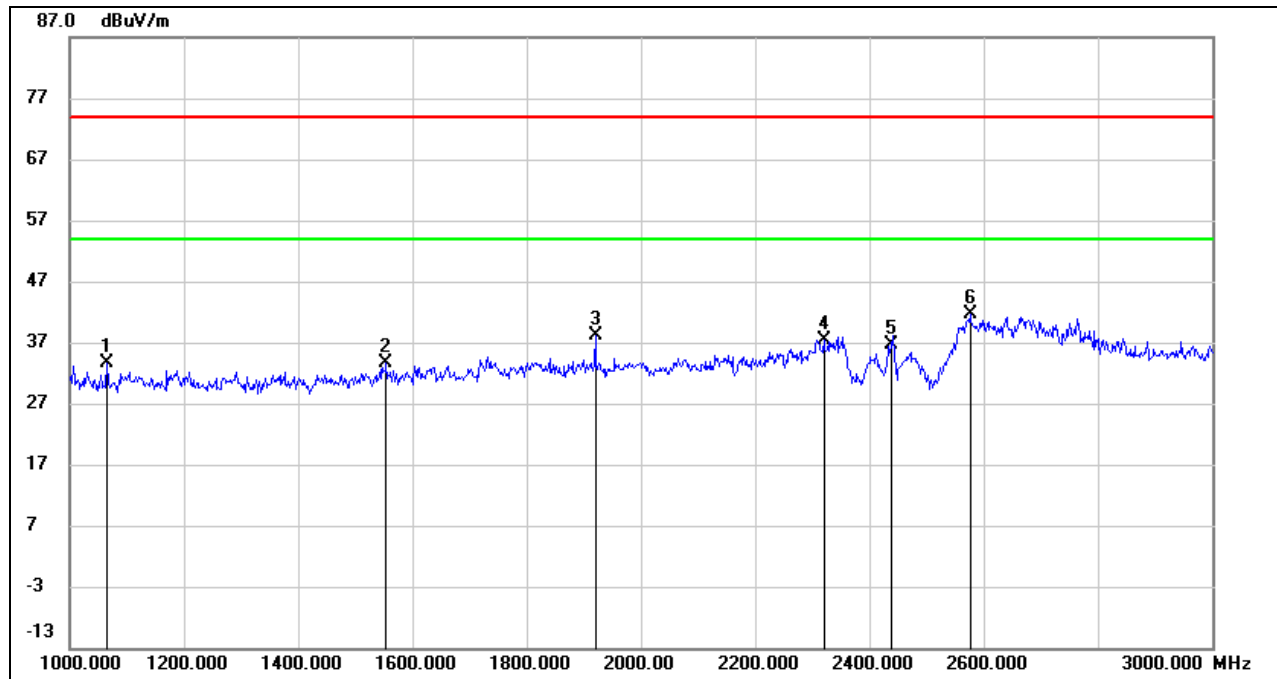
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1820.000	45.64	-10.06	35.58	74.00	-38.42	peak
2	1960.000	45.73	-10.16	35.57	74.00	-38.43	peak
3	2132.000	46.69	-9.43	37.26	74.00	-36.74	peak
4	2336.000	46.65	-8.61	38.04	74.00	-35.96	peak
5	2412.000	51.73	-8.37	43.36	/	/	fundamental
6	2596.000	47.22	-7.88	39.34	74.00	-34.66	peak

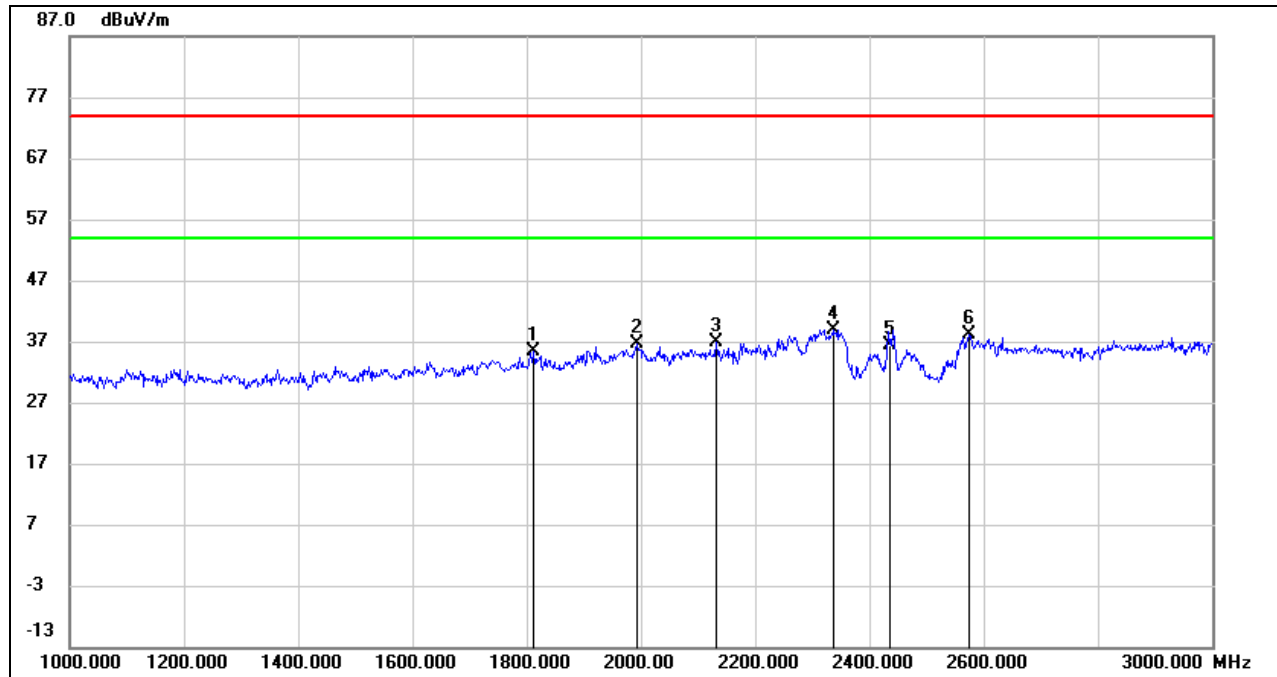
- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1064.000	47.41	-13.66	33.75	74.00	-40.25	peak
2	1554.000	45.59	-11.86	33.73	74.00	-40.27	peak
3	1920.000	48.30	-10.13	38.17	74.00	-35.83	peak
4	2320.000	46.05	-8.65	37.40	74.00	-36.60	peak
5	2437.000	45.03	-8.33	36.70	/	/	fundamental
6	2576.000	49.53	-7.96	41.57	74.00	-32.43	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

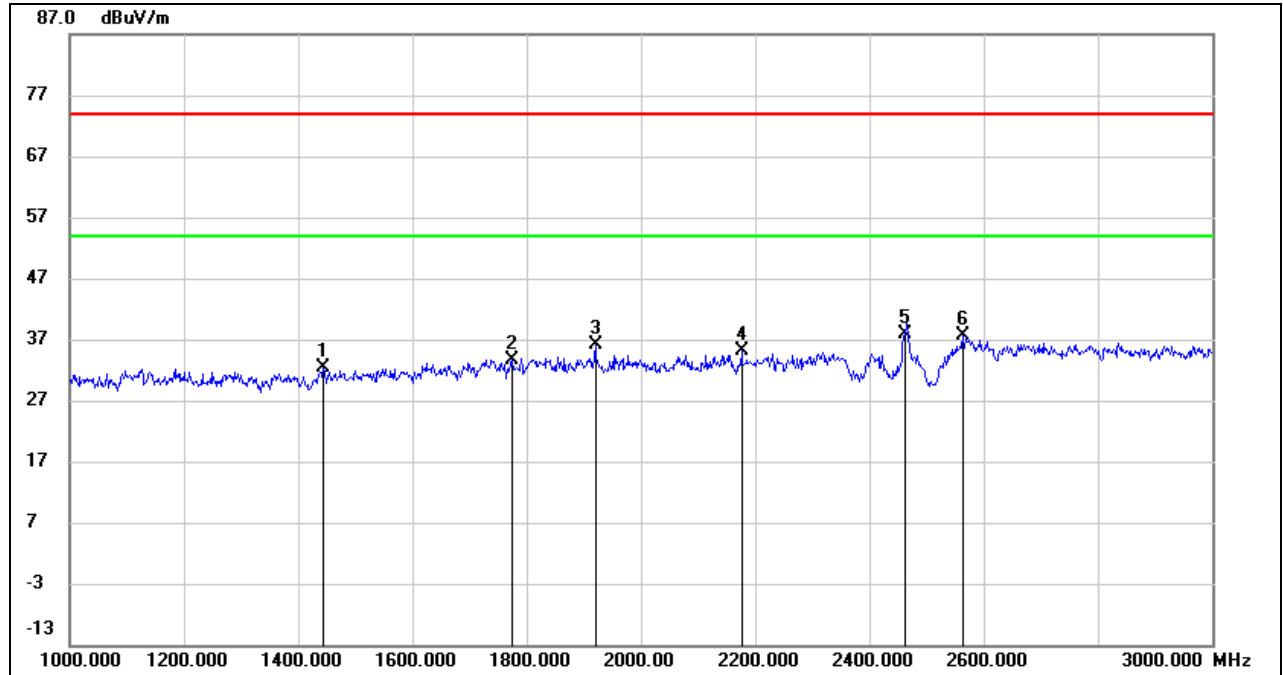
HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1812.000	45.39	-10.05	35.34	74.00	-38.66	peak
2	1992.000	46.83	-10.19	36.64	74.00	-37.36	peak
3	2132.000	46.41	-9.43	36.98	74.00	-37.02	peak
4	2336.000	47.59	-8.61	38.98	74.00	-35.02	peak
5	2437.000	44.70	-8.33	36.37	/	/	fundamental
6	2574.000	46.08	-7.95	38.13	74.00	-35.87	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



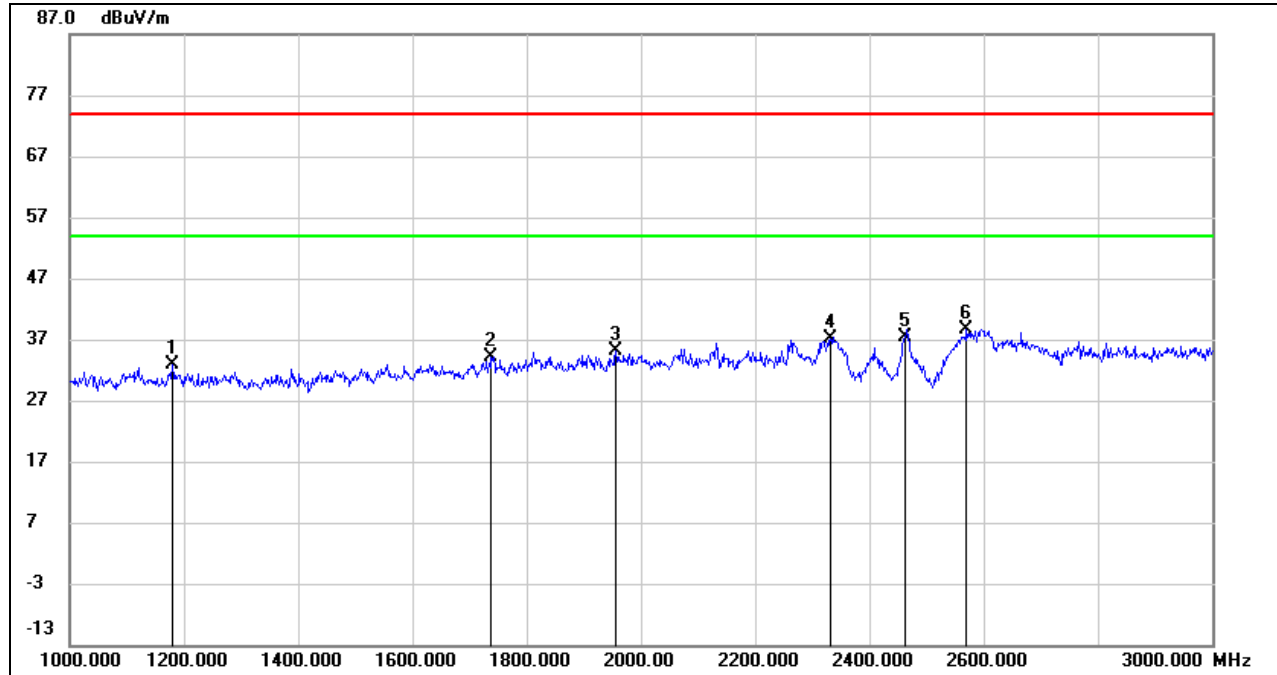
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1444.000	44.79	-12.49	32.30	74.00	-41.70	peak
2	1774.000	43.96	-10.24	33.72	74.00	-40.28	peak
3	1920.000	46.29	-10.13	36.16	74.00	-37.84	peak
4	2176.000	44.33	-9.18	35.15	74.00	-38.85	peak
5	2462.000	46.20	-8.29	37.91	/	/	fundamental
6	2564.000	45.51	-7.99	37.52	74.00	-36.48	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1180.000	46.05	-13.10	32.95	74.00	-41.05	peak
2	1738.000	44.73	-10.51	34.22	74.00	-39.78	peak
3	1956.000	45.25	-10.16	35.09	74.00	-38.91	peak
4	2332.000	45.71	-8.61	37.10	74.00	-36.90	peak
5	2462.000	45.67	-8.29	37.38	/	/	fundamental
6	2570.000	46.66	-7.97	38.69	74.00	-35.31	peak

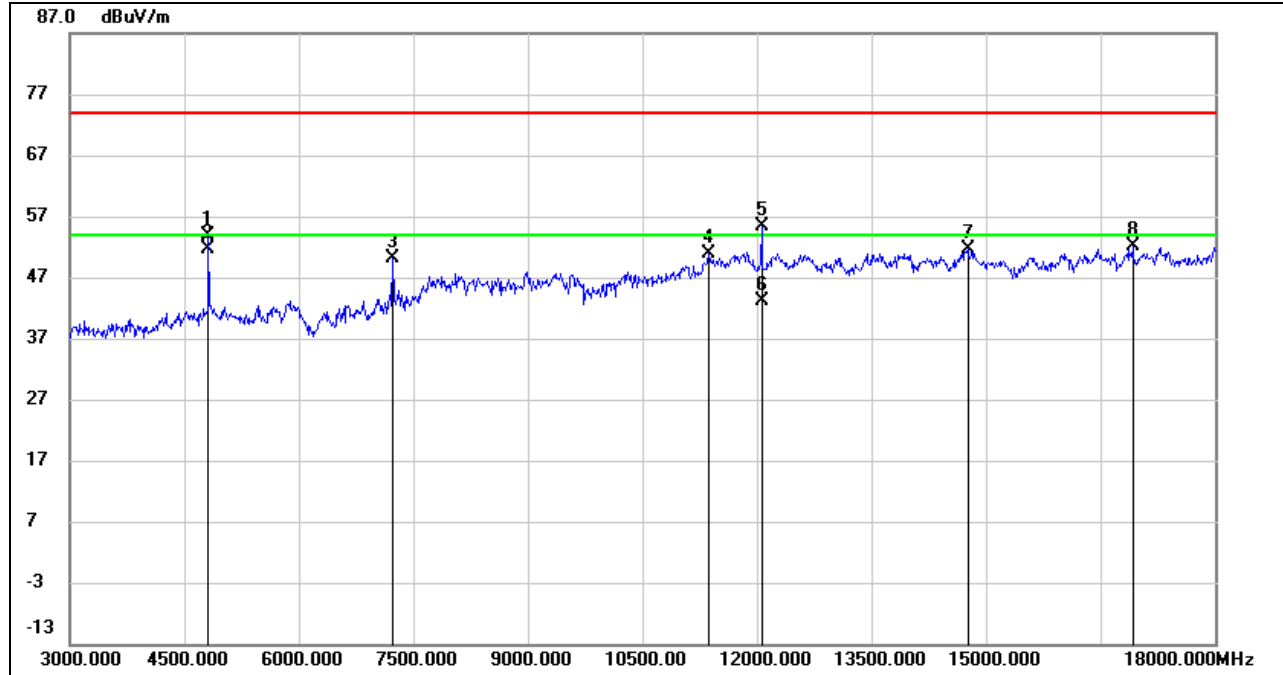
- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

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

8.3. SPURIOUS EMISSIONS (3 GHz ~ 18 GHz)

8.3.1. 802.11b MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

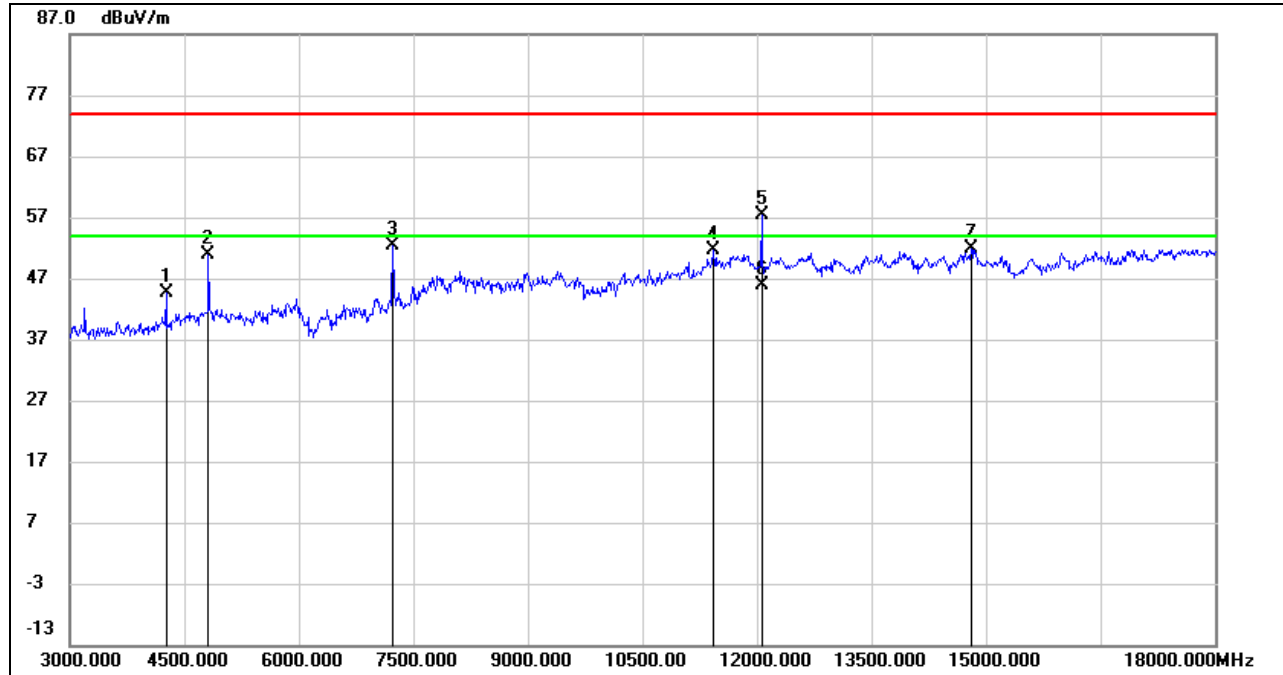


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	52.44	1.38	53.82	74.00	-20.18	peak
2	4815.000	50.33	1.38	51.71	54.00	-2.29	AVG
3	7230.000	42.92	7.28	50.20	74.00	-23.80	peak
4	11370.000	36.37	14.49	50.86	74.00	-23.14	peak
5	12060.000	40.05	15.44	55.49	74.00	-18.51	peak
6	12060.000	27.63	15.44	43.07	54.00	-10.93	AVG
7	14760.000	33.62	17.90	51.52	74.00	-22.48	peak
8	16920.000	30.53	21.51	52.04	74.00	-21.96	peak

- Note:
1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

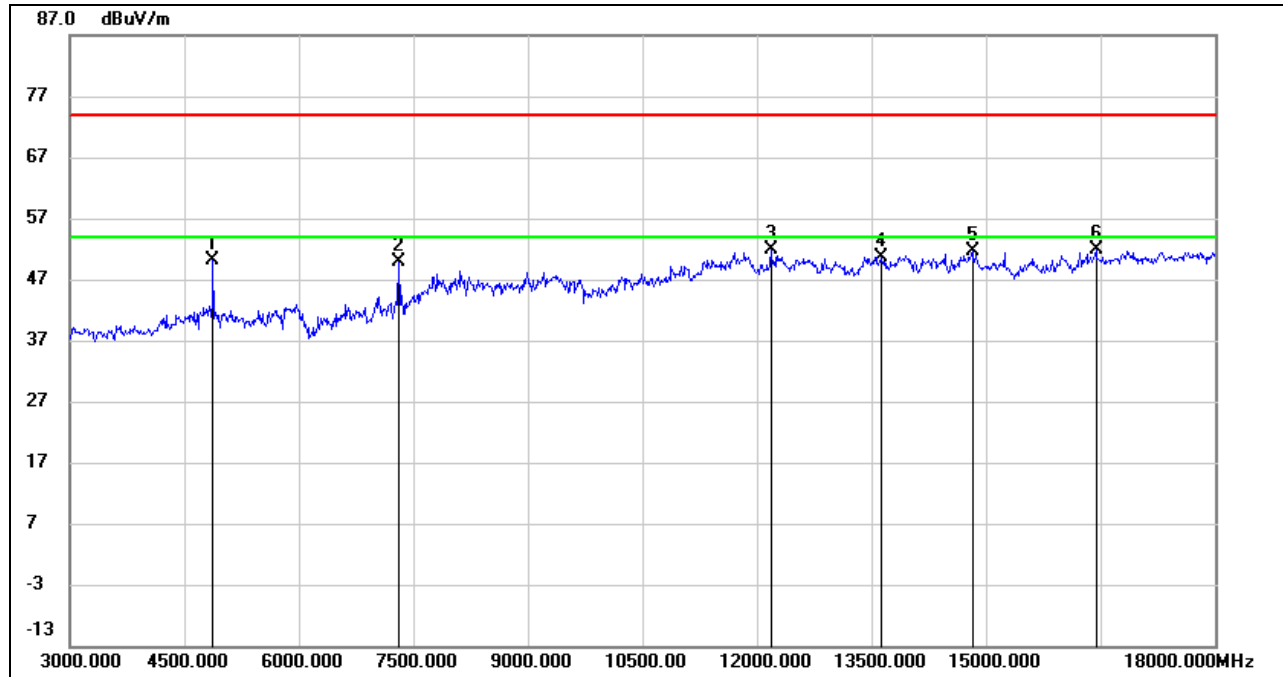


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4260.000	46.06	-1.36	44.70	74.00	-29.30	peak
2	4815.000	49.57	1.38	50.95	74.00	-23.05	peak
3	7230.000	45.08	7.28	52.36	74.00	-21.64	peak
4	11430.000	36.93	14.72	51.65	74.00	-22.35	peak
5	12060.000	41.82	15.44	57.26	74.00	-16.74	peak
6	12060.000	30.48	15.44	45.92	54.00	-8.08	AVG
7	14805.000	33.88	18.00	51.88	74.00	-22.12	peak

- Note:
1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

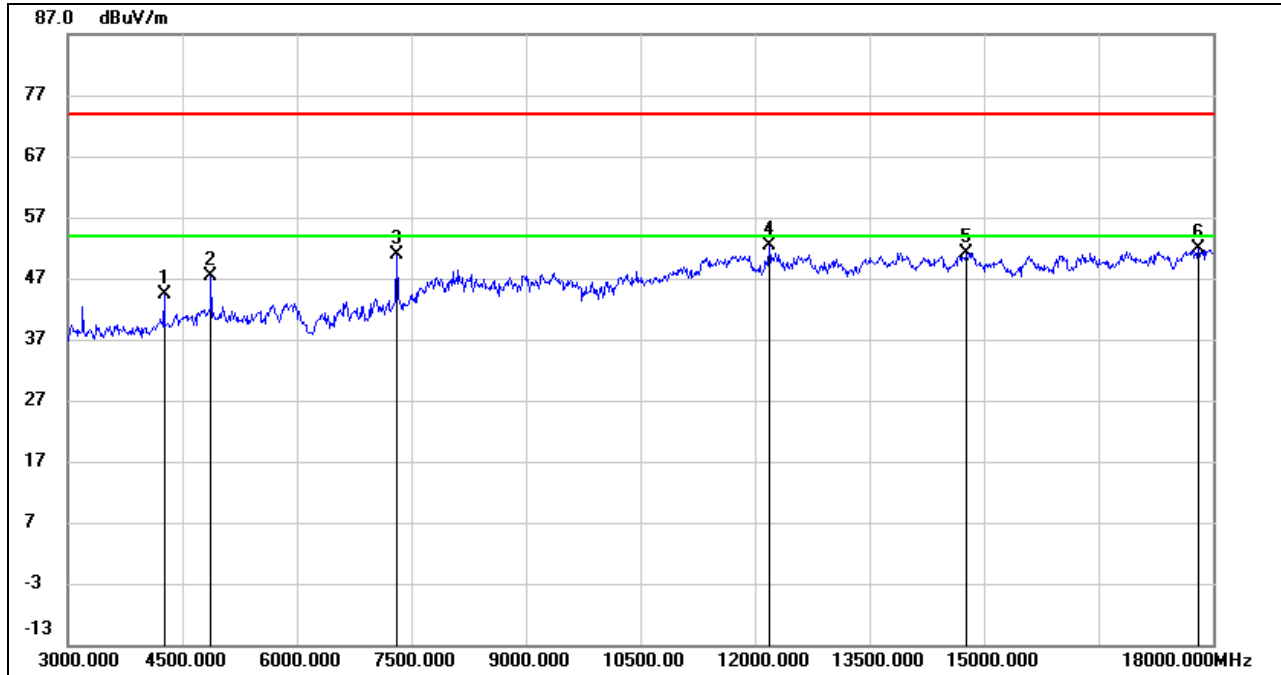


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	48.72	1.32	50.04	74.00	-23.96	peak
2	7305.000	42.83	7.14	49.97	74.00	-24.03	peak
3	12180.000	36.14	15.84	51.98	74.00	-22.02	peak
4	13620.000	33.44	17.19	50.63	74.00	-23.37	peak
5	14820.000	33.64	17.91	51.55	74.00	-22.45	peak
6	16440.000	32.29	19.68	51.97	74.00	-22.03	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

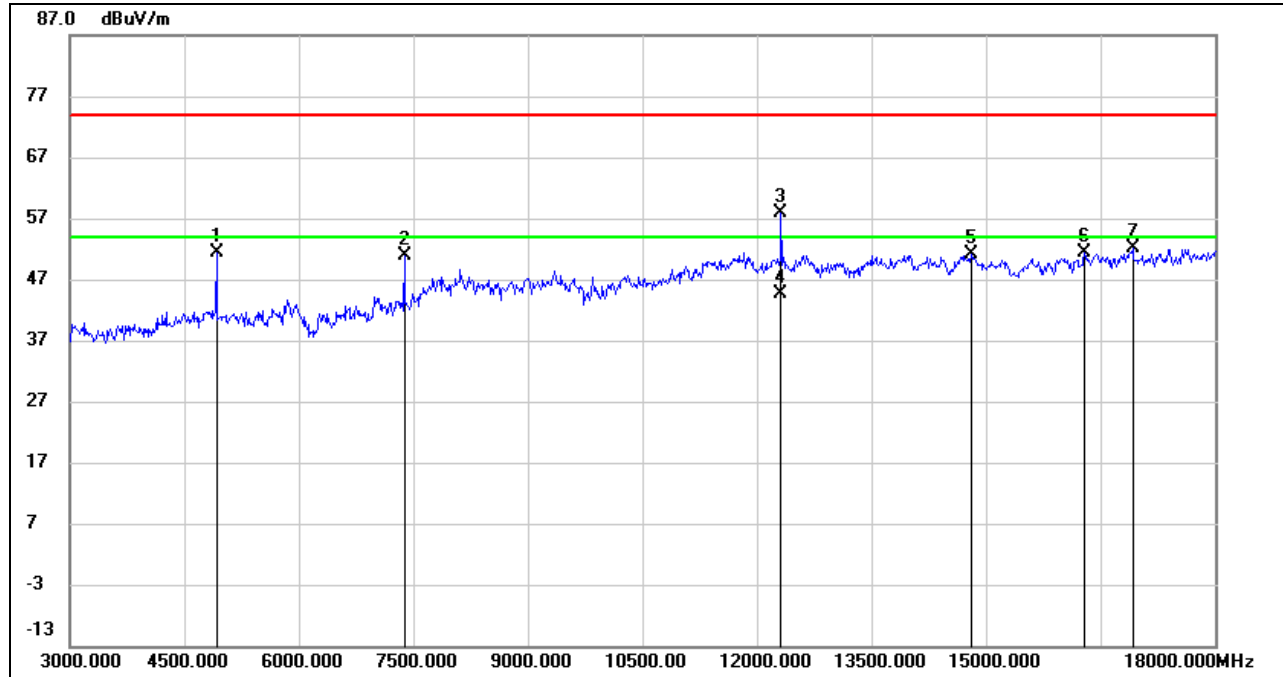


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4260.000	45.71	-1.36	44.35	74.00	-29.65	peak
2	4875.000	45.98	1.32	47.30	74.00	-26.70	peak
3	7305.000	43.71	7.14	50.85	74.00	-23.15	peak
4	12195.000	36.50	15.93	52.43	74.00	-21.57	peak
5	14775.000	33.16	17.95	51.11	74.00	-22.89	peak
6	17805.000	27.93	24.05	51.98	74.00	-22.02	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

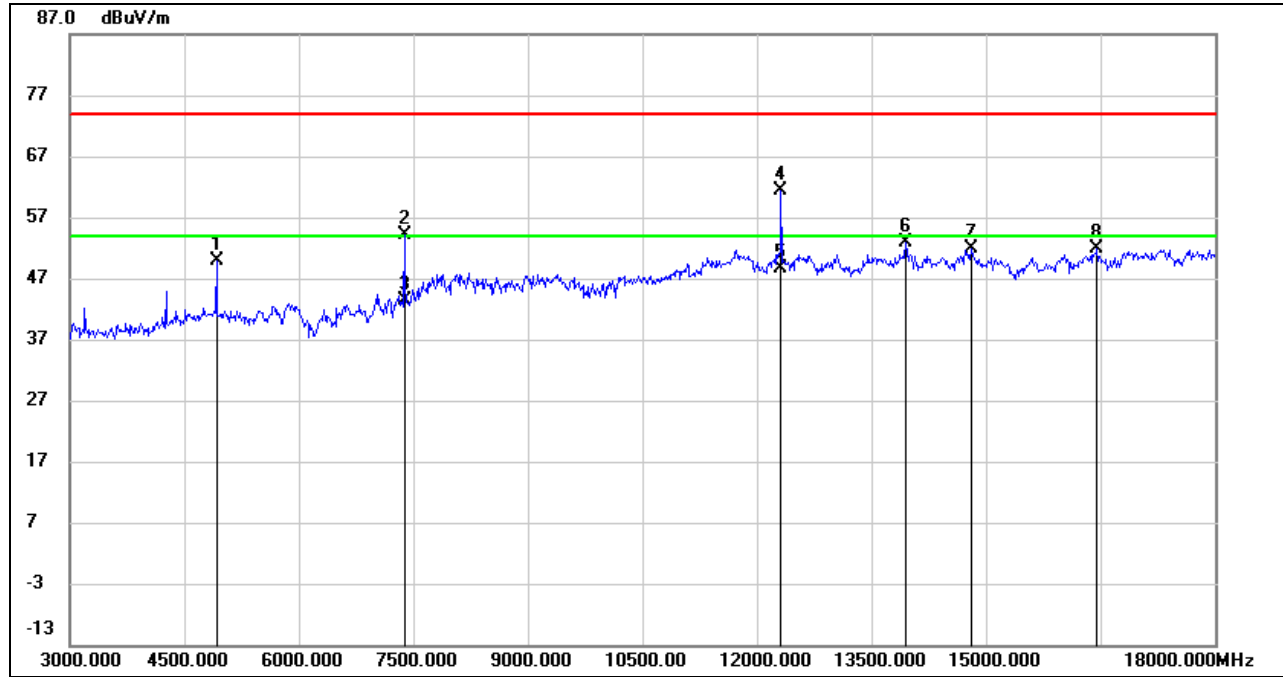


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	49.96	1.45	51.41	74.00	-22.59	peak
2	7380.000	43.05	7.79	50.84	74.00	-23.16	peak
3	12315.000	41.75	16.06	57.81	74.00	-16.19	peak
4	12315.000	28.65	16.06	44.71	54.00	-9.29	AVG
5	14805.000	33.11	18.00	51.11	74.00	-22.89	peak
6	16290.000	31.80	19.52	51.32	74.00	-22.68	peak
7	16920.000	30.57	21.51	52.08	74.00	-21.92	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

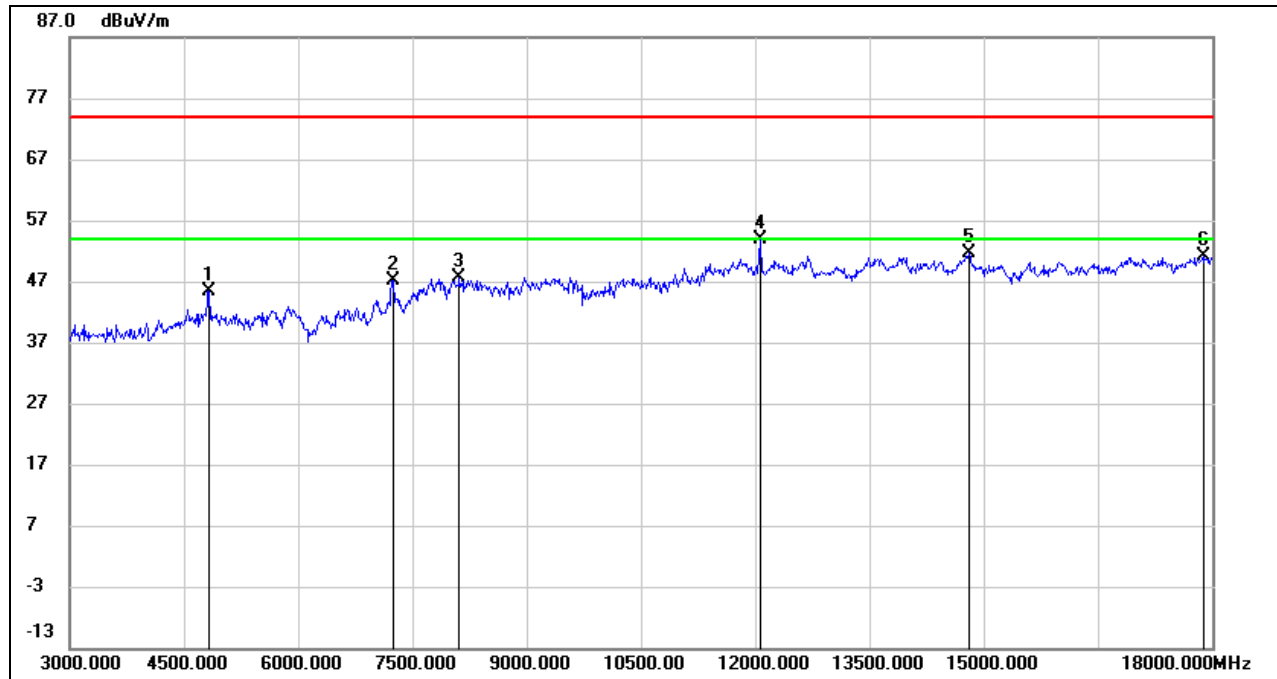


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	48.39	1.45	49.84	74.00	-24.16	peak
2	7380.000	46.37	7.79	54.16	74.00	-19.84	peak
3	7380.000	35.47	7.79	43.26	54.00	-10.74	AVG
4	12315.000	45.33	16.06	61.39	74.00	-12.61	peak
5	12315.000	32.63	16.06	48.69	54.00	-5.31	AVG
6	13950.000	35.19	17.60	52.79	74.00	-21.21	peak
7	14805.000	33.80	18.00	51.80	74.00	-22.20	peak
8	16455.000	32.11	19.68	51.79	74.00	-22.21	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8.3.2. 802.11g MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

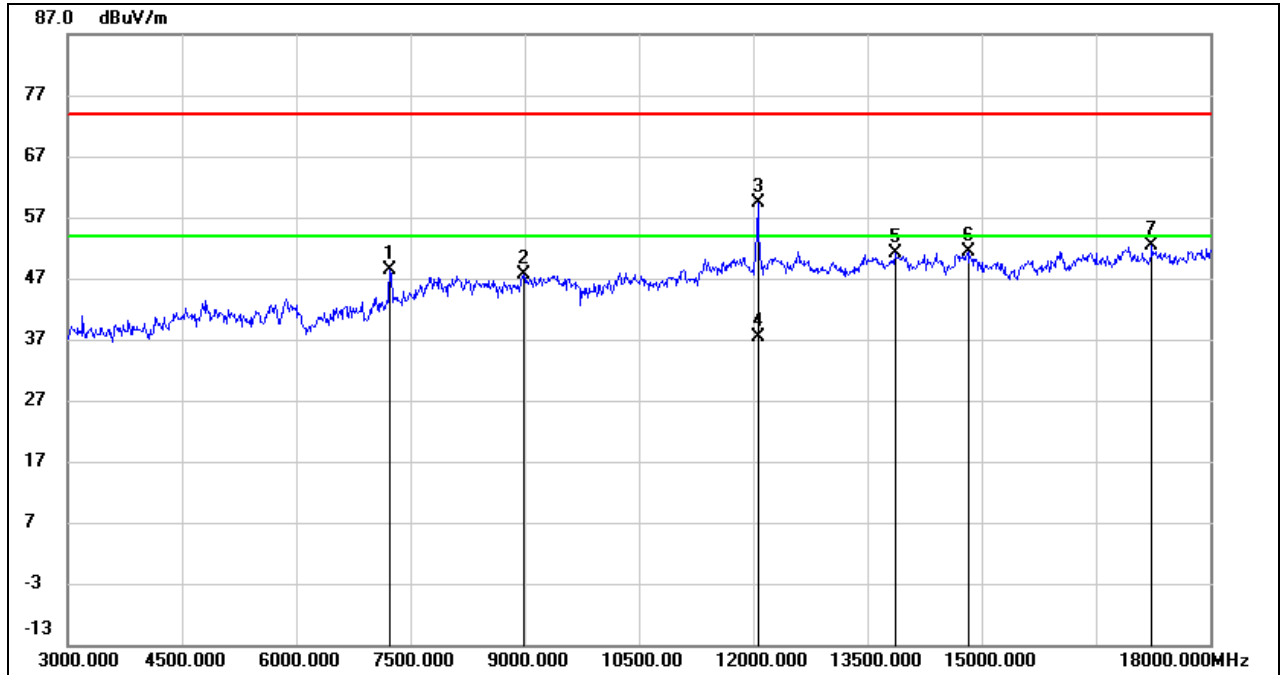


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4830.000	44.11	1.37	45.48	74.00	-28.52	peak
2	7245.000	39.84	7.25	47.09	74.00	-26.91	peak
3	8115.000	37.54	10.13	47.67	74.00	-26.33	peak
4	12060.000	38.52	15.44	53.96	74.00	-20.04	peak
5	14805.000	33.55	18.00	51.55	74.00	-22.45	peak
6	17880.000	27.28	23.93	51.21	74.00	-22.79	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

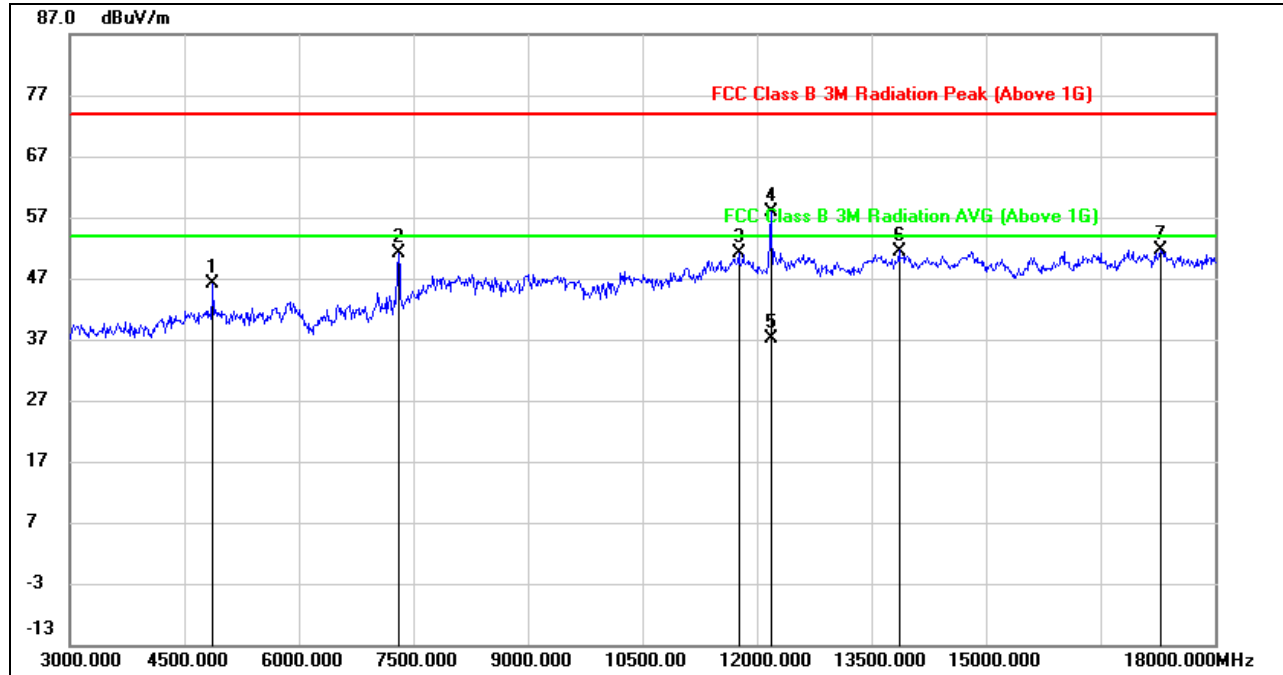


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7230.000	40.98	7.28	48.26	74.00	-25.74	peak
2	8985.000	36.75	10.99	47.74	74.00	-26.26	peak
3	12060.000	43.82	15.44	59.26	74.00	-14.74	peak
4	12060.000	21.92	15.44	37.36	54.00	-16.64	AVG
5	13860.000	33.59	17.55	51.14	74.00	-22.86	peak
6	14820.000	33.47	17.91	51.38	74.00	-22.62	peak
7	17235.000	30.17	22.21	52.38	74.00	-21.62	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

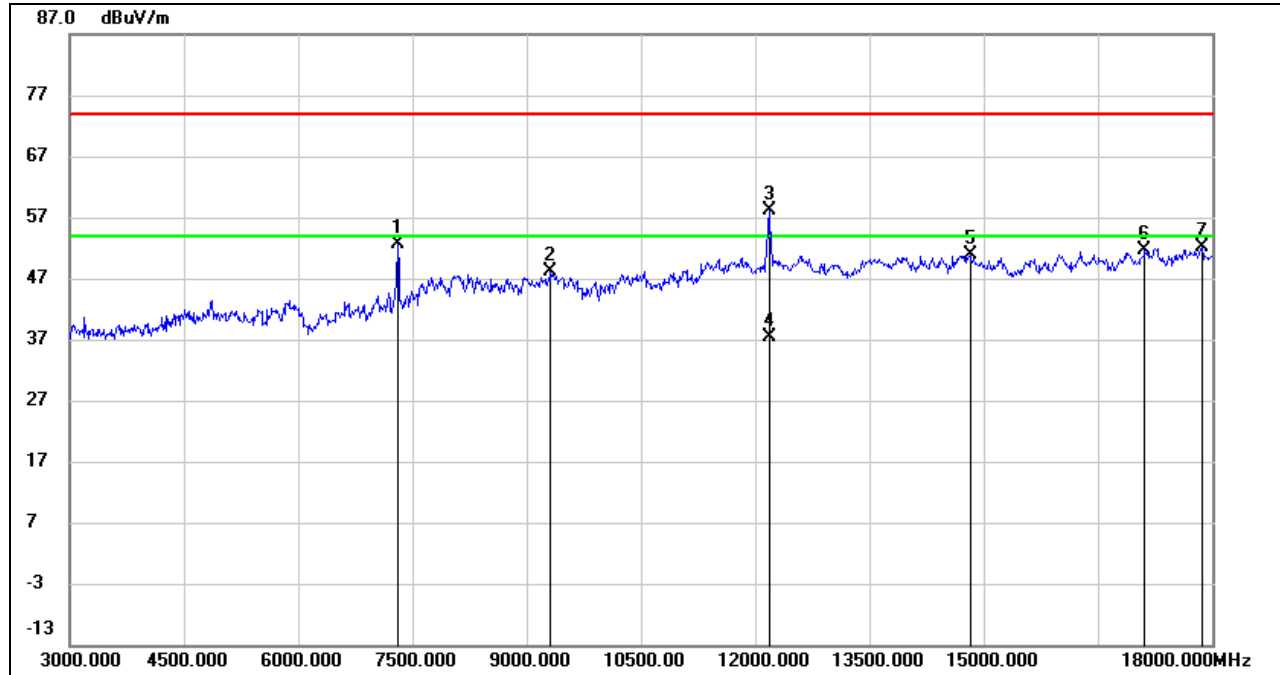


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	44.78	1.32	46.10	74.00	-27.90	peak
2	7305.000	43.98	7.14	51.12	74.00	-22.88	peak
3	11760.000	35.95	15.29	51.24	74.00	-22.76	peak
4	12180.000	41.94	15.84	57.78	74.00	-16.22	peak
5	12180.000	21.18	15.84	37.02	54.00	-16.98	AVG
6	13860.000	33.95	17.55	51.50	74.00	-22.50	peak
7	17280.000	29.21	22.48	51.69	74.00	-22.31	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

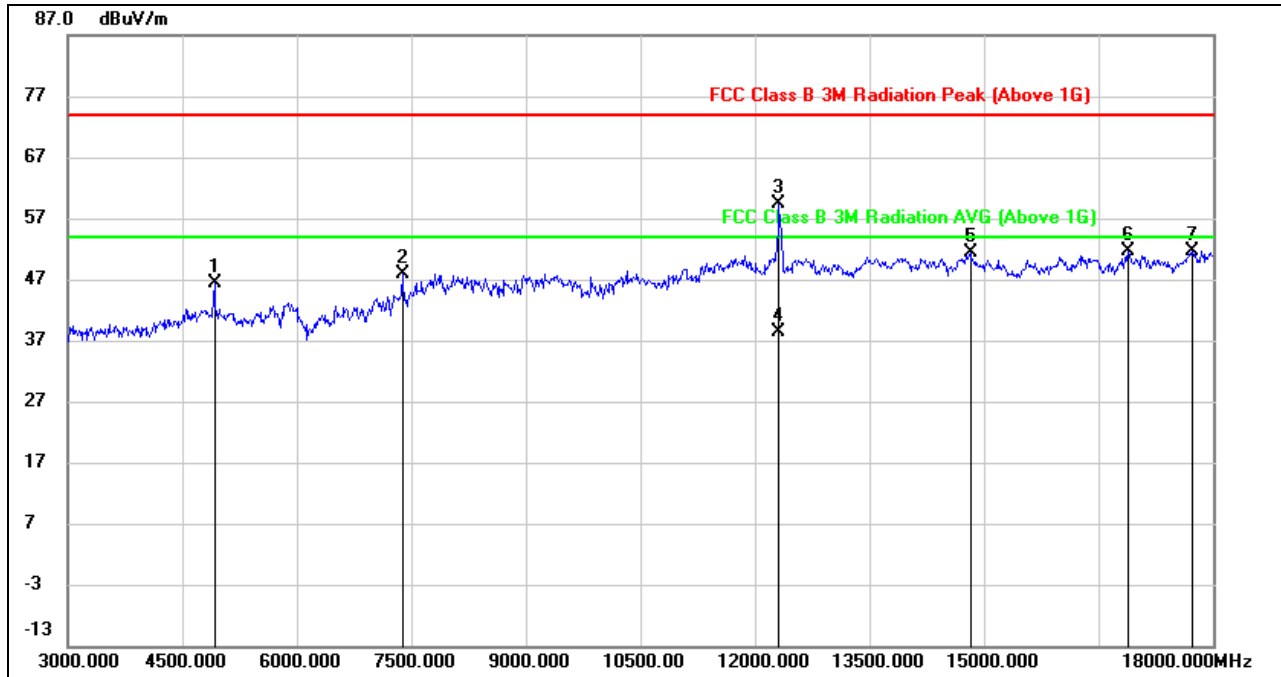


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7305.000	45.60	7.14	52.74	74.00	-21.26	peak
2	9315.000	37.69	10.48	48.17	74.00	-25.83	peak
3	12180.000	42.26	15.84	58.10	74.00	-15.90	peak
4	12180.000	21.52	15.84	37.36	54.00	-16.64	AVG
5	14820.000	33.03	17.91	50.94	74.00	-23.06	peak
6	17115.000	29.71	21.91	51.62	74.00	-22.38	peak
7	17865.000	28.22	23.95	52.17	74.00	-21.83	peak

- Note:
1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

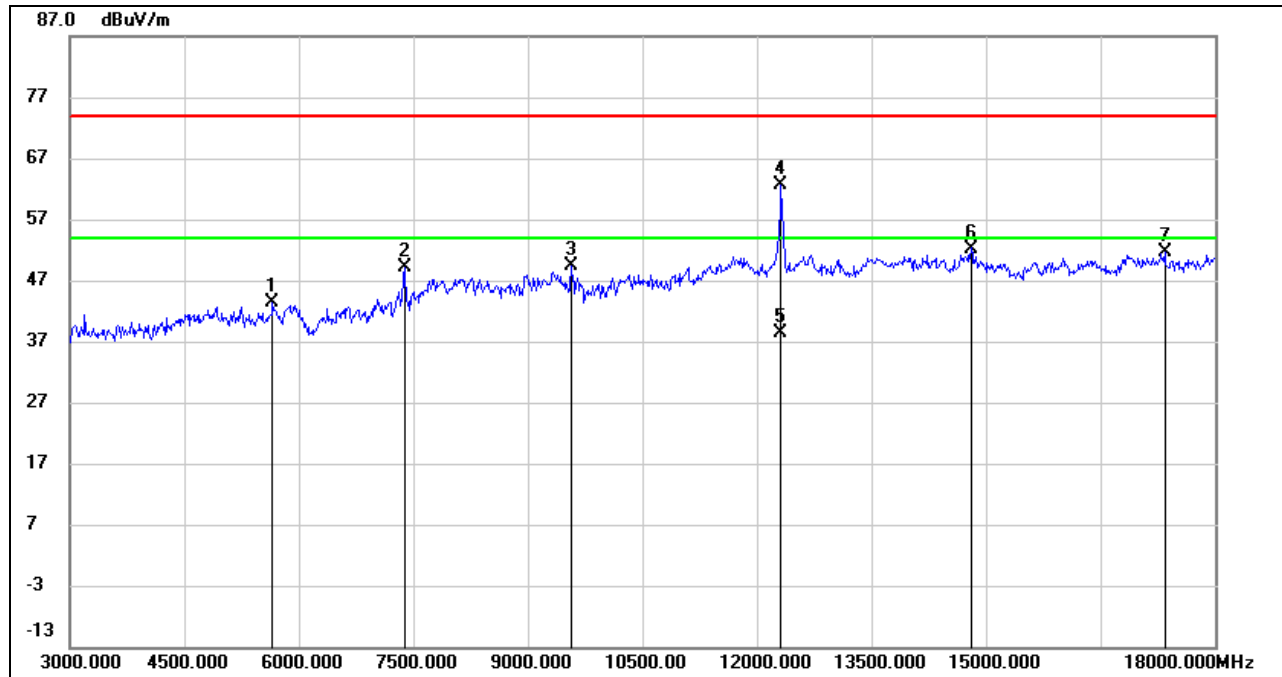


HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	44.98	1.45	46.43	74.00	-27.57	peak
2	7380.000	40.14	7.79	47.93	74.00	-26.07	peak
3	12315.000	43.22	16.06	59.28	74.00	-14.72	peak
4	12315.000	22.21	16.06	38.27	54.00	-15.73	AVG
5	14820.000	33.49	17.91	51.40	74.00	-22.60	peak
6	16890.000	30.18	21.49	51.67	74.00	-22.33	peak
7	17730.000	28.11	23.64	51.75	74.00	-22.25	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

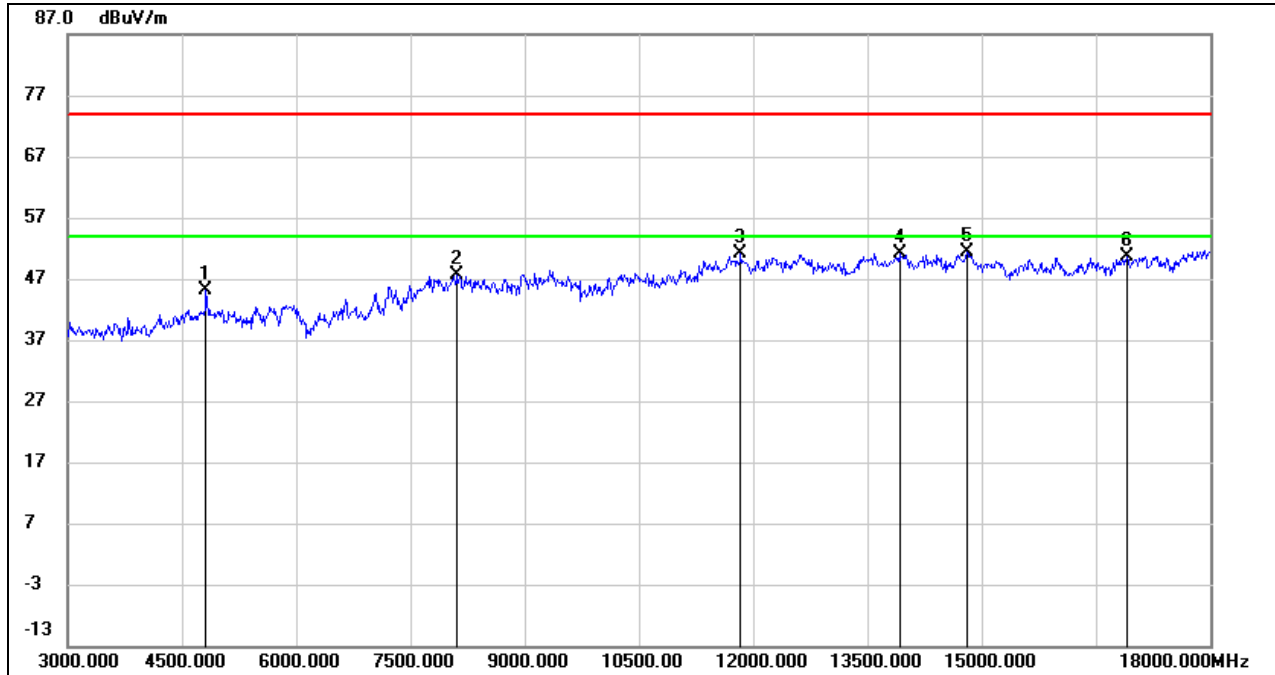
**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5655.000	40.36	3.04	43.40	74.00	-30.60	peak
2	7380.000	41.42	7.79	49.21	74.00	-24.79	peak
3	9570.000	38.40	10.88	49.28	74.00	-24.72	peak
4	12315.000	46.52	16.06	62.58	74.00	-11.42	peak
5	12315.000	22.23	16.06	38.29	54.00	-15.71	AVG
6	14805.000	34.25	18.00	52.25	74.00	-21.75	peak
7	17340.000	29.38	22.31	51.69	74.00	-22.31	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8.3.3. 802.11n HT20 MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

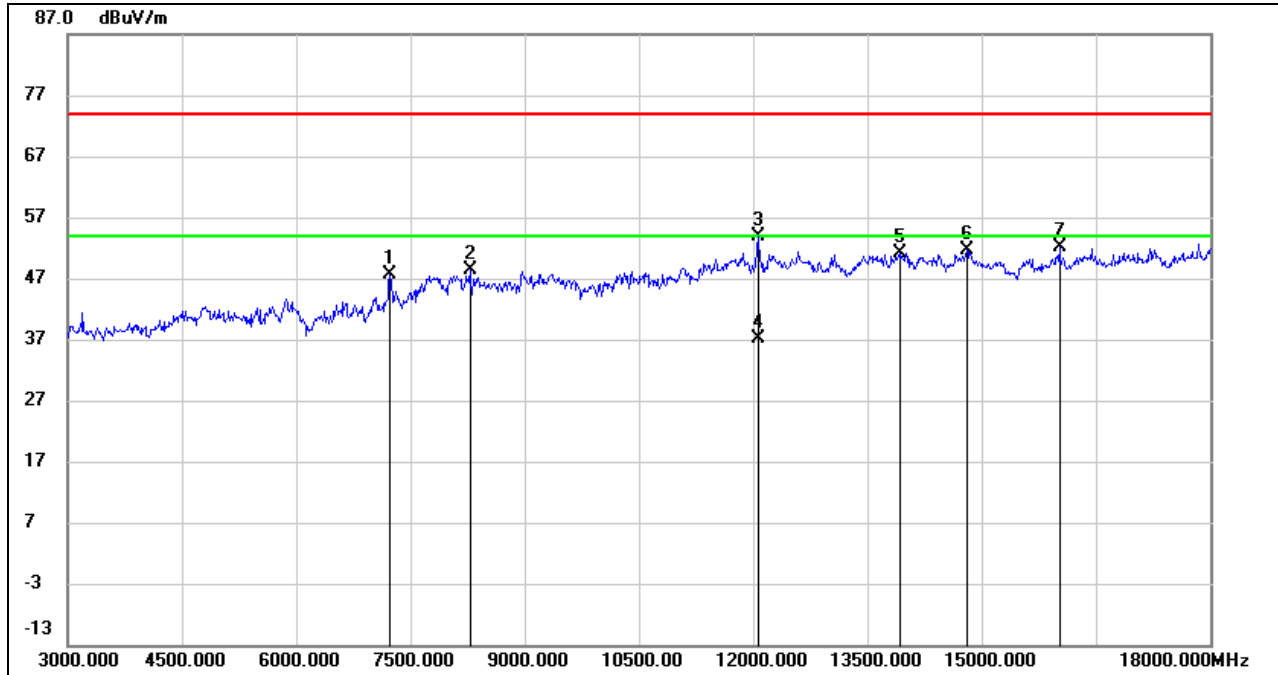


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	43.64	1.38	45.02	74.00	-28.98	peak
2	8115.000	37.48	10.13	47.61	74.00	-26.39	peak
3	11835.000	35.73	15.34	51.07	74.00	-22.93	peak
4	13920.000	33.63	17.55	51.18	74.00	-22.82	peak
5	14805.000	33.29	18.00	51.29	74.00	-22.71	peak
6	16905.000	29.20	21.55	50.75	74.00	-23.25	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

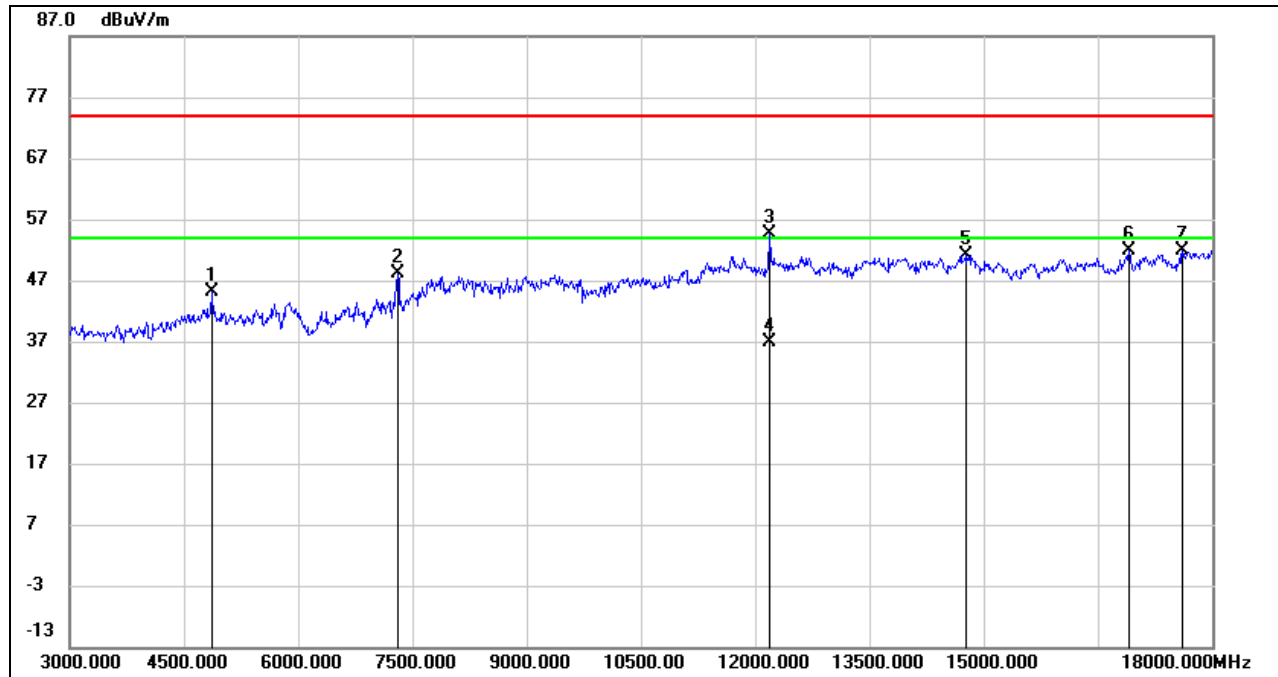


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7230.000	40.47	7.28	47.75	74.00	-26.25	peak
2	8280.000	38.78	9.71	48.49	74.00	-25.51	peak
3	12060.000	38.32	15.44	53.76	74.00	-20.24	peak
4	12060.000	21.74	15.44	37.18	54.00	-16.82	AVG
5	13920.000	33.69	17.55	51.24	74.00	-22.76	peak
6	14805.000	33.51	18.00	51.51	74.00	-22.49	peak
7	16020.000	33.73	18.41	52.14	74.00	-21.86	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

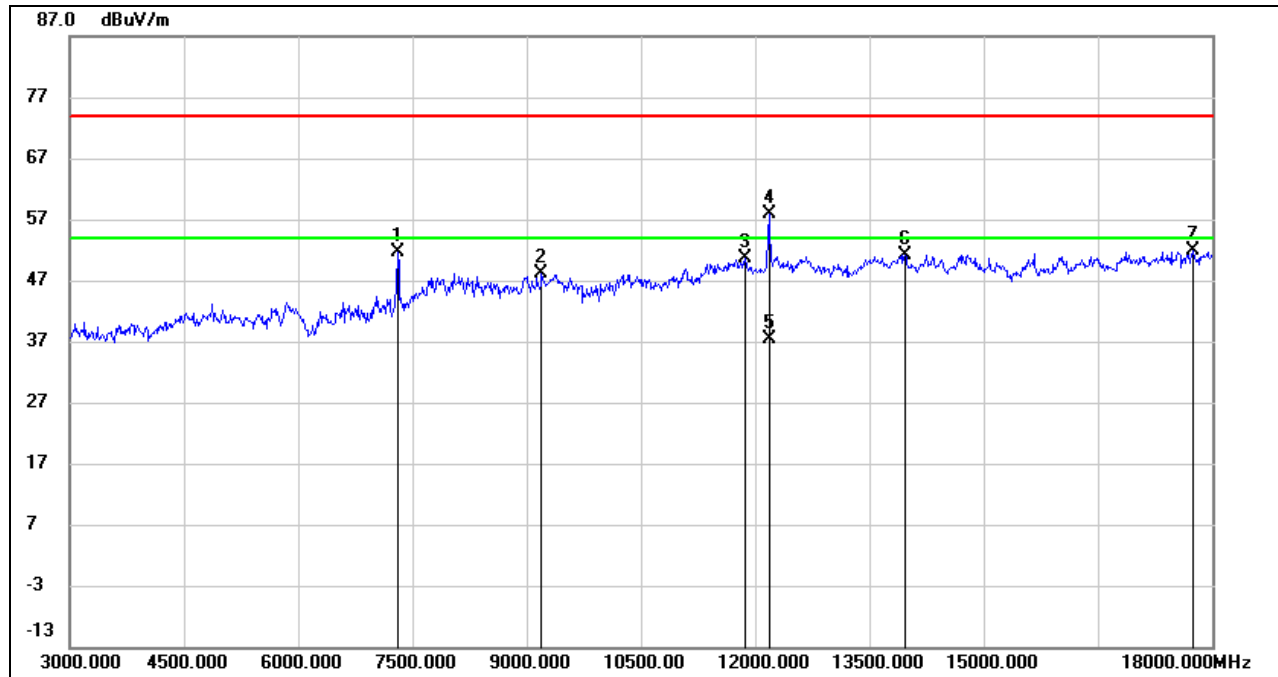


HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4860.000	43.69	1.33	45.02	74.00	-28.98	peak
2	7305.000	40.91	7.14	48.05	74.00	-25.95	peak
3	12180.000	38.78	15.84	54.62	74.00	-19.38	peak
4	12180.000	21.10	15.84	36.94	54.00	-17.06	AVG
5	14760.000	33.27	17.90	51.17	74.00	-22.83	peak
6	16905.000	30.23	21.55	51.78	74.00	-22.22	peak
7	17610.000	28.99	22.80	51.79	74.00	-22.21	peak

- Note:
1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

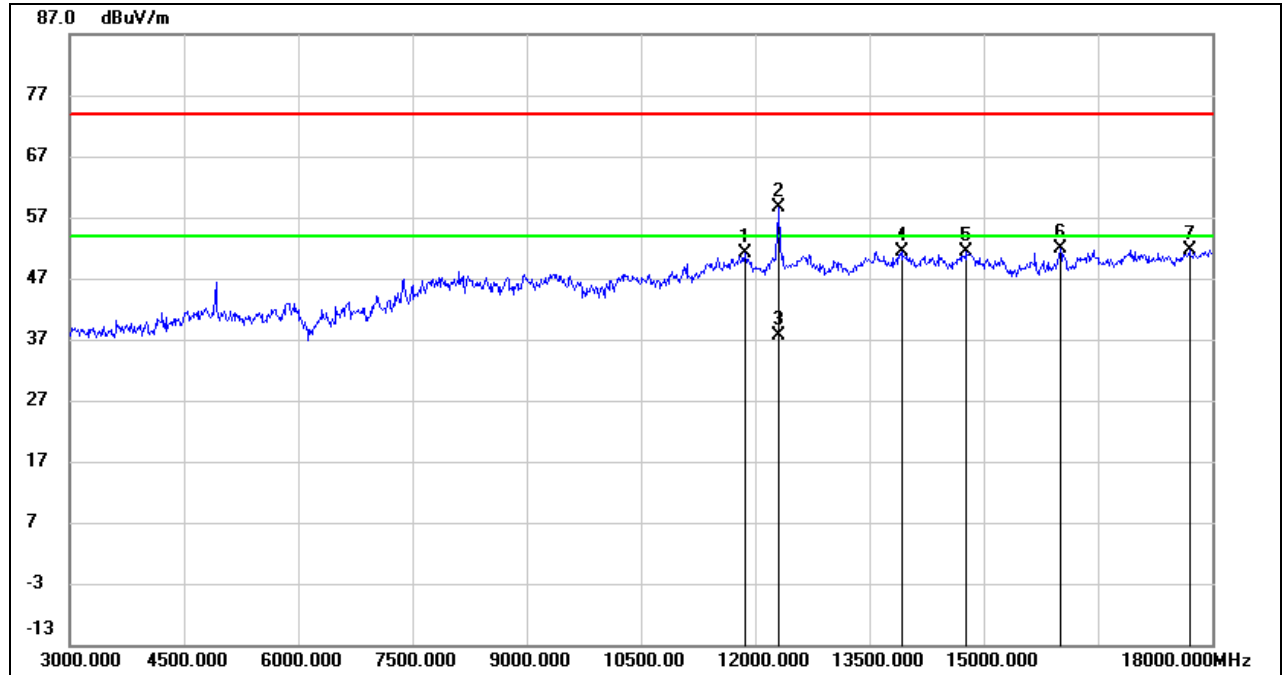
**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7305.000	44.48	7.14	51.62	74.00	-22.38	peak
2	9195.000	38.19	9.92	48.11	74.00	-25.89	peak
3	11865.000	35.27	15.42	50.69	74.00	-23.31	peak
4	12180.000	41.94	15.84	57.78	74.00	-16.22	peak
5	12180.000	21.42	15.84	37.26	54.00	-16.74	AVG
6	13965.000	33.54	17.62	51.16	74.00	-22.84	peak
7	17745.000	28.22	23.72	51.94	74.00	-22.06	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

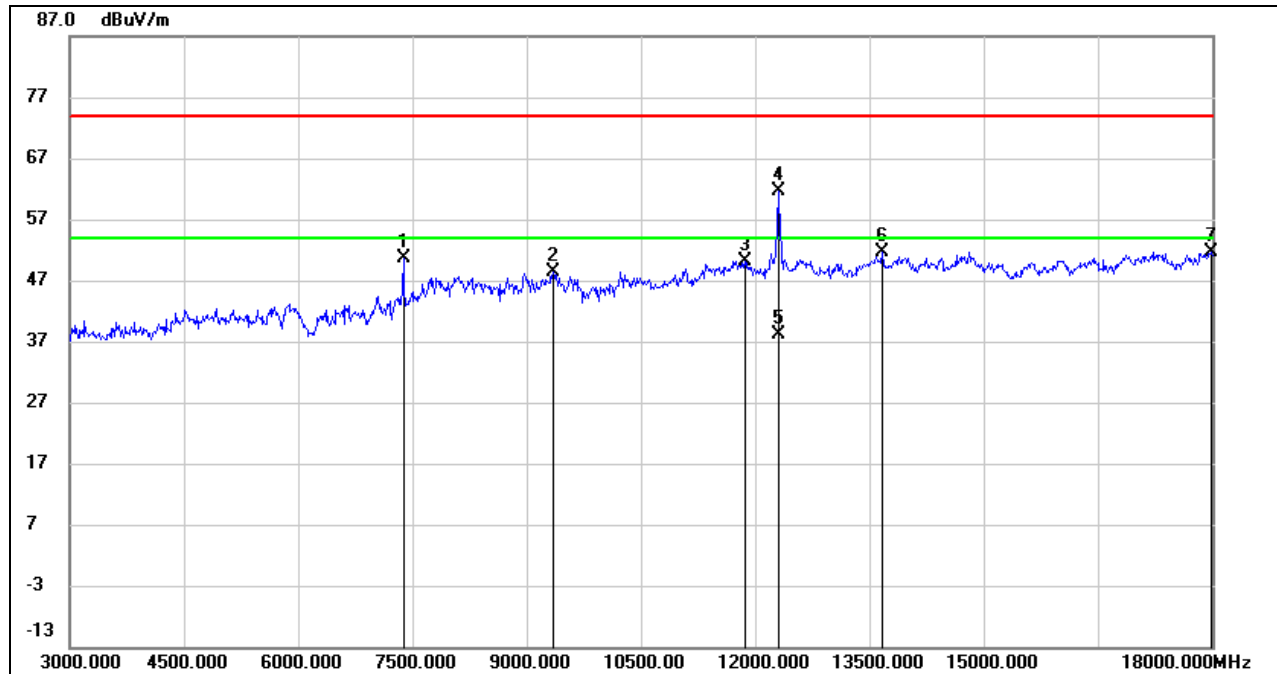


HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11865.000	35.67	15.42	51.09	74.00	-22.91	peak
2	12315.000	42.68	16.06	58.74	74.00	-15.26	peak
3	12315.000	21.62	16.06	37.68	54.00	-16.32	AVG
4	13920.000	33.95	17.55	51.50	74.00	-22.50	peak
5	14775.000	33.47	17.95	51.42	74.00	-22.58	peak
6	16005.000	33.38	18.42	51.80	74.00	-22.20	peak
7	17700.000	28.19	23.47	51.66	74.00	-22.34	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)**

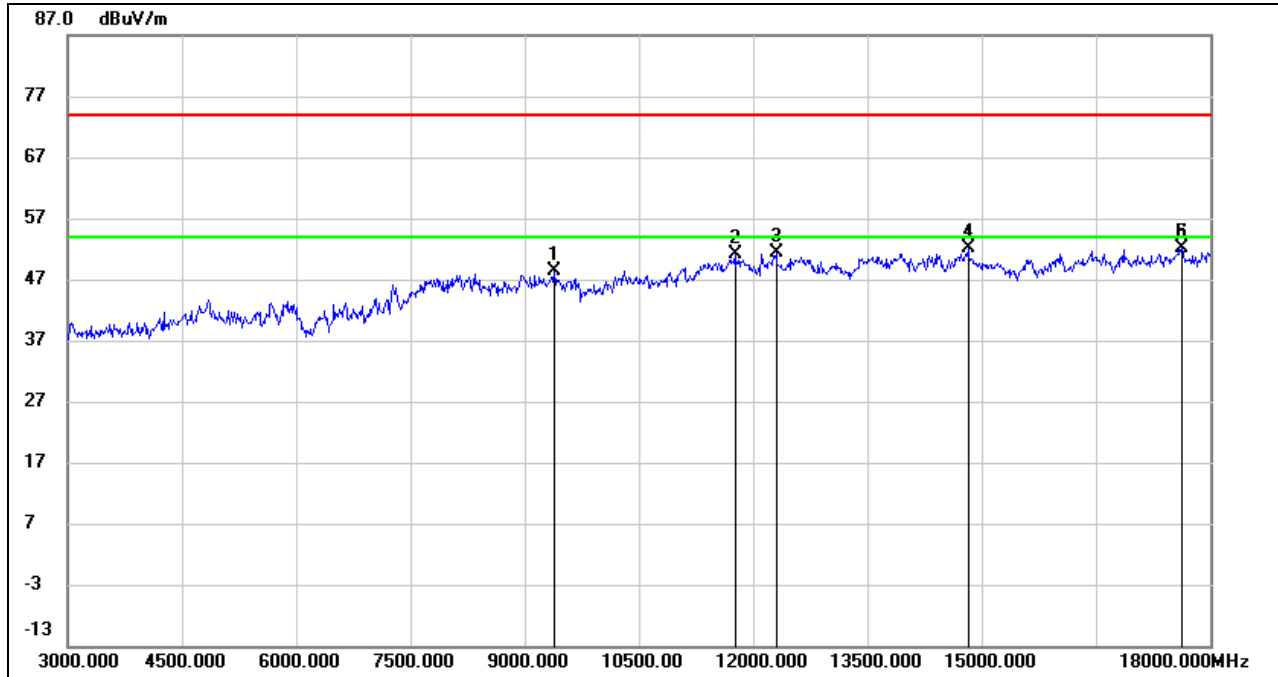
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7380.000	42.78	7.79	50.57	74.00	-23.43	peak
2	9345.000	37.75	10.66	48.41	74.00	-25.59	peak
3	11865.000	34.78	15.42	50.20	74.00	-23.80	peak
4	12300.000	45.47	16.09	61.56	74.00	-12.44	peak
5	12300.000	22.08	16.09	38.17	54.00	-15.83	AVG
6	13665.000	34.11	17.43	51.54	74.00	-22.46	peak
7	17985.000	27.54	24.21	51.75	74.00	-22.25	peak

- Note:
1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



8.3.4. 802.11n HT40 MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

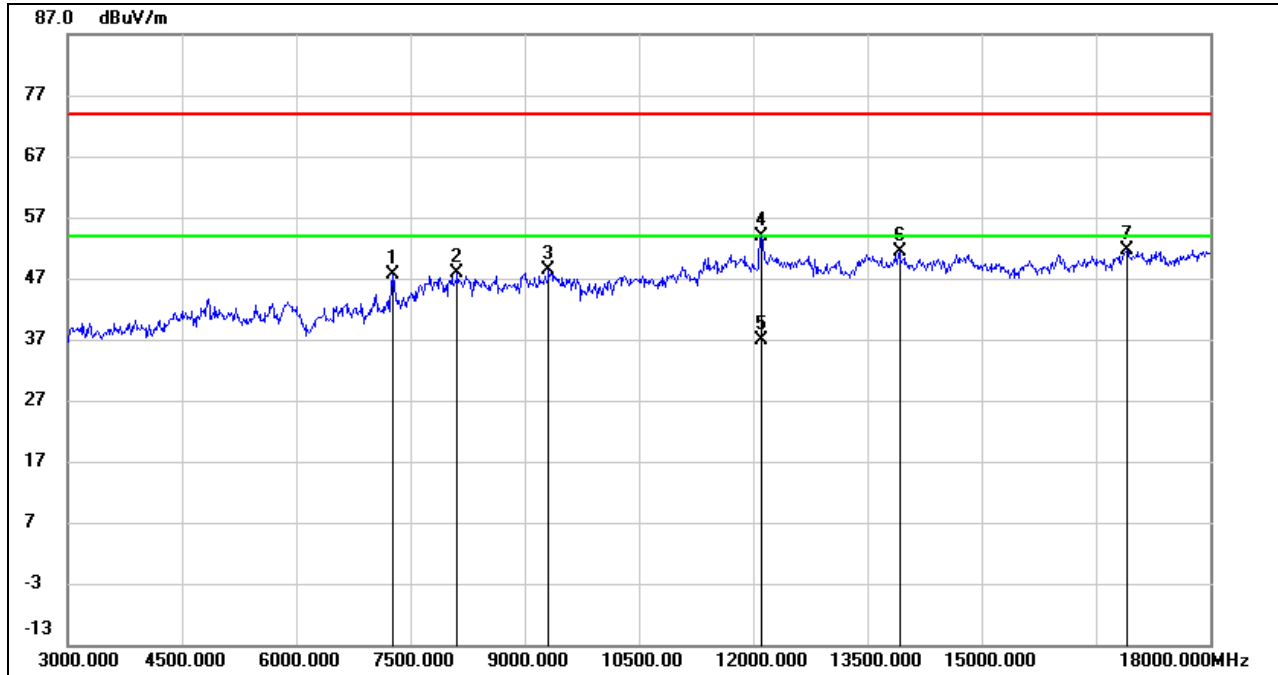


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9390.000	37.50	10.92	48.42	74.00	-25.58	peak
2	11760.000	35.73	15.29	51.02	74.00	-22.98	peak
3	12300.000	35.37	16.09	51.46	74.00	-22.54	peak
4	14820.000	34.31	17.91	52.22	74.00	-21.78	peak
5	17625.000	29.22	22.92	52.14	74.00	-21.86	peak
6	17625.000	29.22	22.92	52.14	74.00	-21.86	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

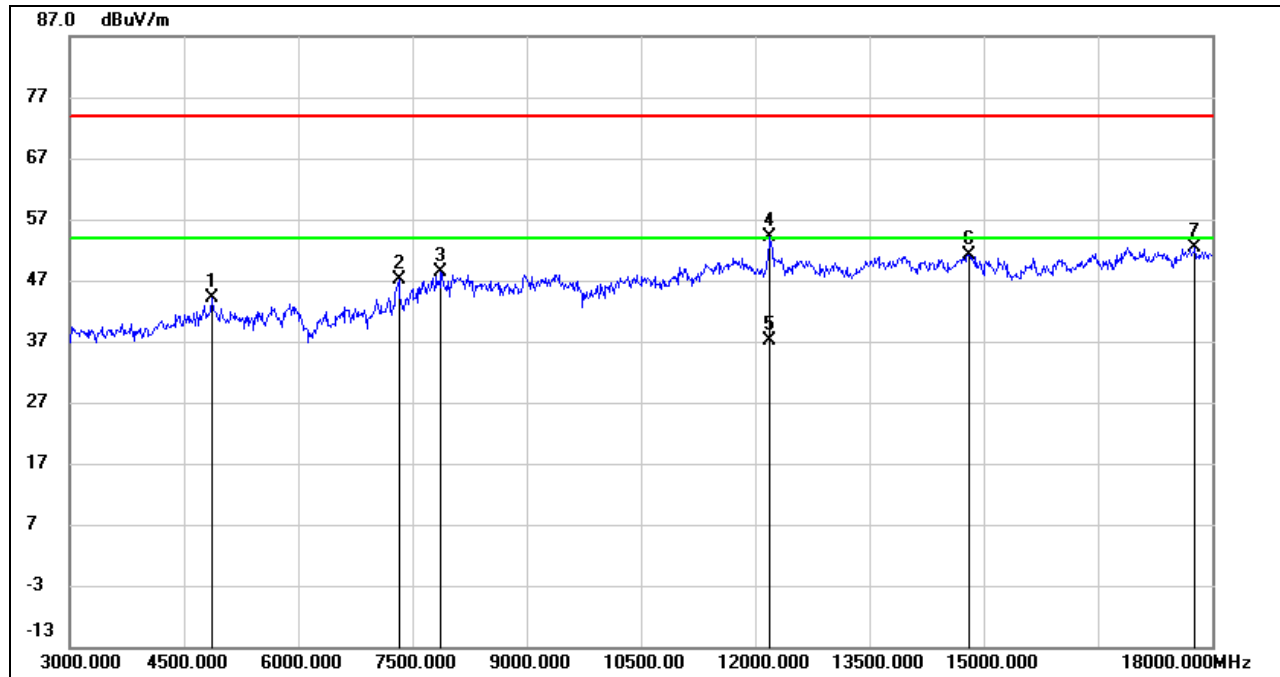


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7275.000	40.44	7.16	47.60	74.00	-26.40	peak
2	8115.000	37.82	10.13	47.95	74.00	-26.05	peak
3	9315.000	37.94	10.48	48.42	74.00	-25.58	peak
4	12105.000	38.53	15.38	53.91	74.00	-20.09	peak
5	12105.000	21.56	15.38	36.94	54.00	-17.06	AVG
6	13920.000	33.76	17.55	51.31	74.00	-22.69	peak
7	16905.000	29.99	21.55	51.54	74.00	-22.46	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



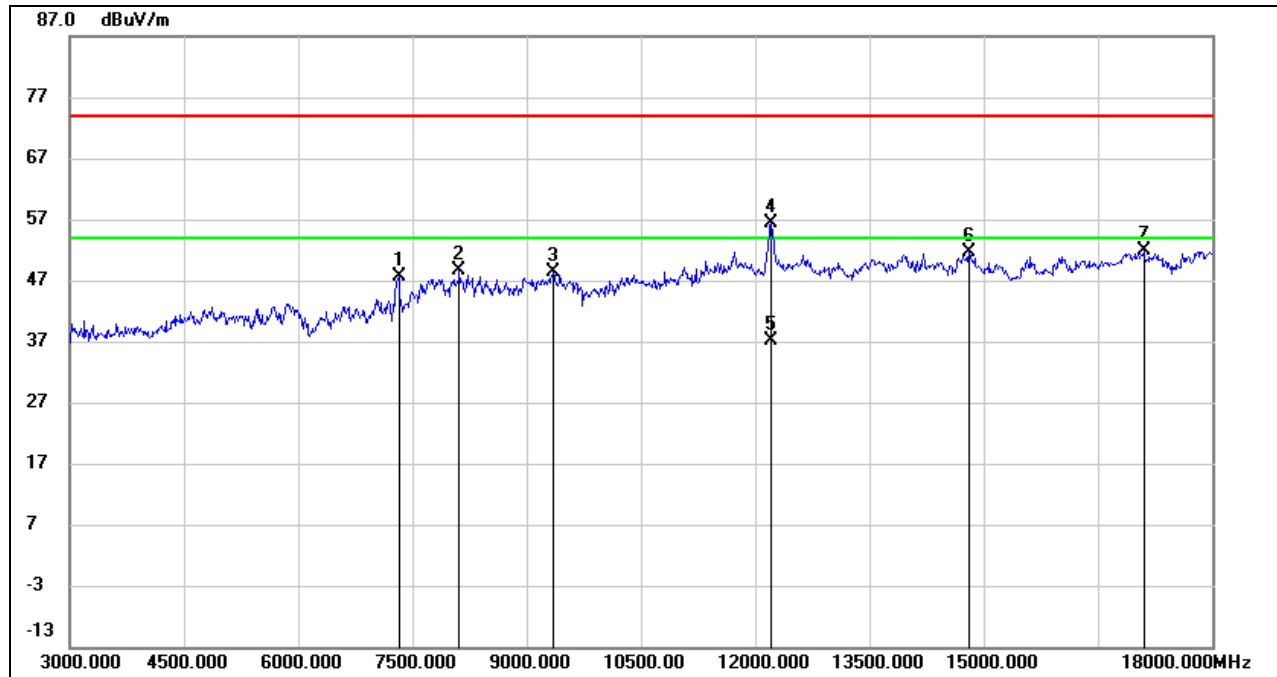
HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	42.83	1.32	44.15	74.00	-29.85	peak
2	7320.000	39.84	7.28	47.12	74.00	-26.88	peak
3	7875.000	39.45	8.98	48.43	74.00	-25.57	peak
4	12195.000	38.16	15.93	54.09	74.00	-19.91	peak
5	12195.000	21.20	15.93	37.13	54.00	-16.87	AVG
6	14805.000	33.15	18.00	51.15	74.00	-22.85	peak
7	17775.000	28.45	23.91	52.36	74.00	-21.64	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

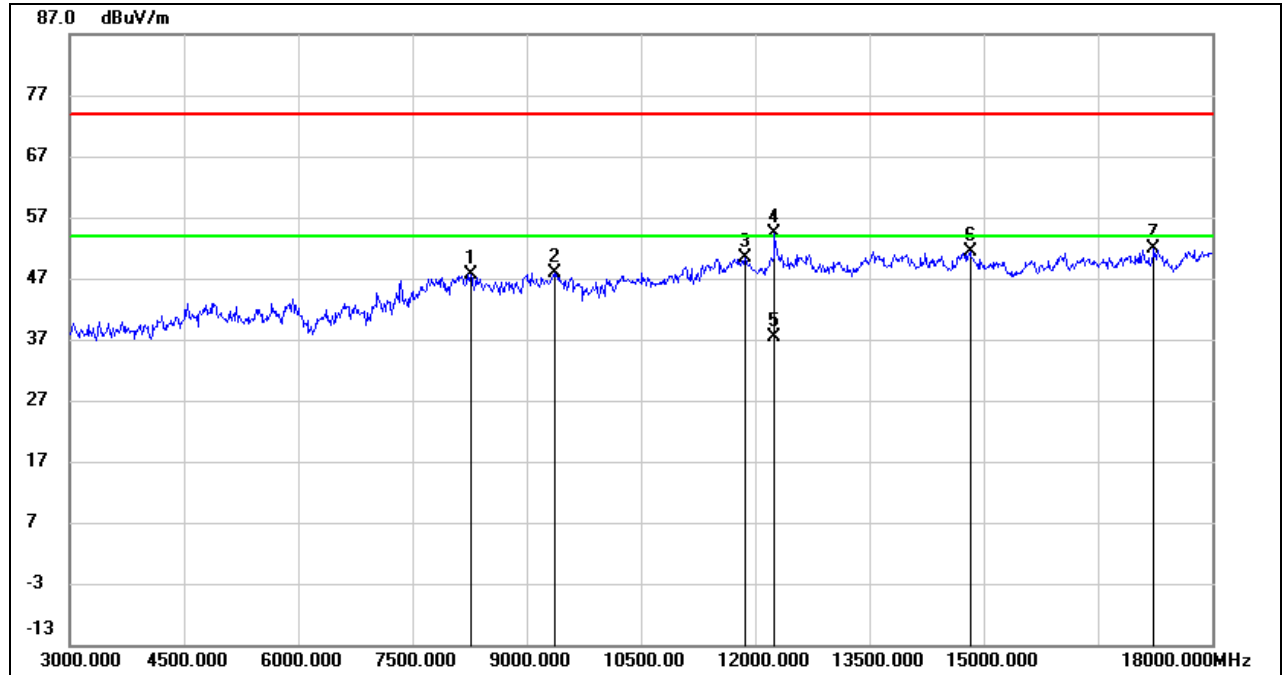


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7320.000	40.26	7.28	47.54	74.00	-26.46	peak
2	8115.000	38.61	10.13	48.74	74.00	-25.26	peak
3	9345.000	37.67	10.66	48.33	74.00	-25.67	peak
4	12210.000	40.35	15.97	56.32	74.00	-17.68	peak
5	12210.000	21.17	15.97	37.14	54.00	-16.86	AVG
6	14805.000	33.51	18.00	51.51	74.00	-22.49	peak
7	17100.000	30.03	21.90	51.93	74.00	-22.07	peak

- Note:
1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



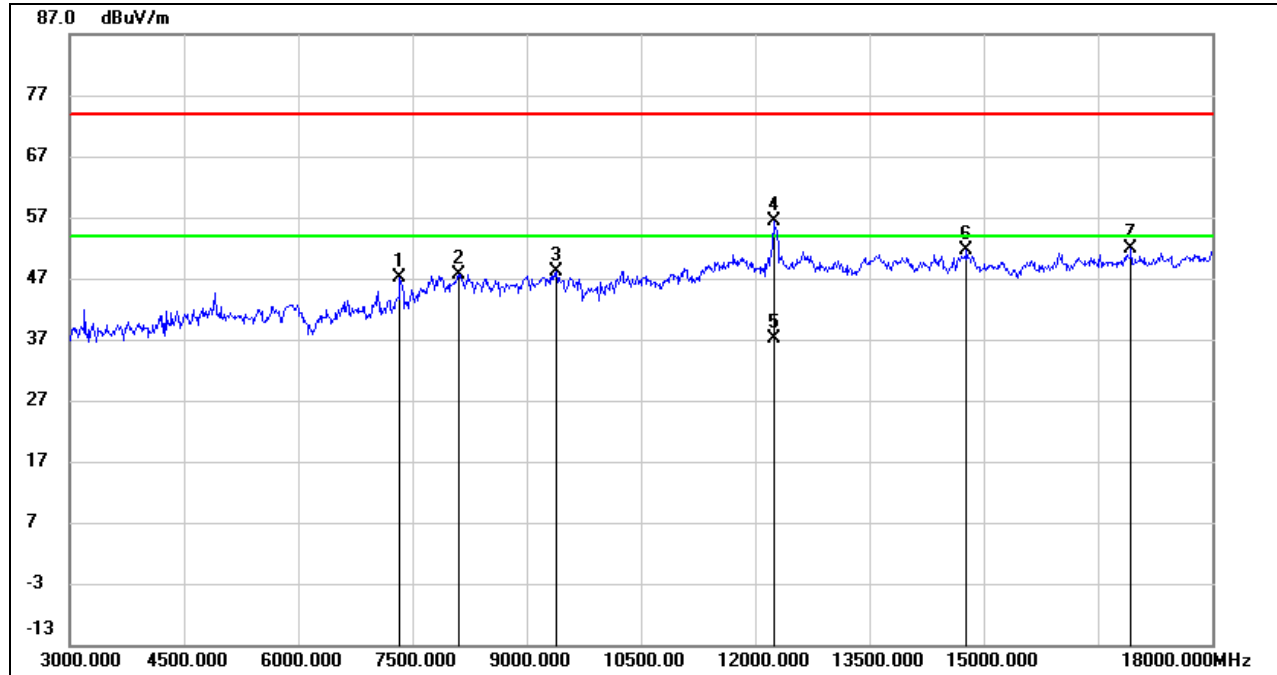
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8265.000	38.00	9.73	47.73	74.00	-26.27	peak
2	9375.000	37.05	10.83	47.88	74.00	-26.12	peak
3	11865.000	34.84	15.42	50.26	74.00	-23.74	peak
4	12255.000	38.24	16.03	54.27	74.00	-19.73	peak
5	12255.000	21.32	16.03	37.35	54.00	-16.65	AVG
6	14820.000	33.46	17.91	51.37	74.00	-22.63	peak
7	17235.000	29.61	22.21	51.82	74.00	-22.18	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



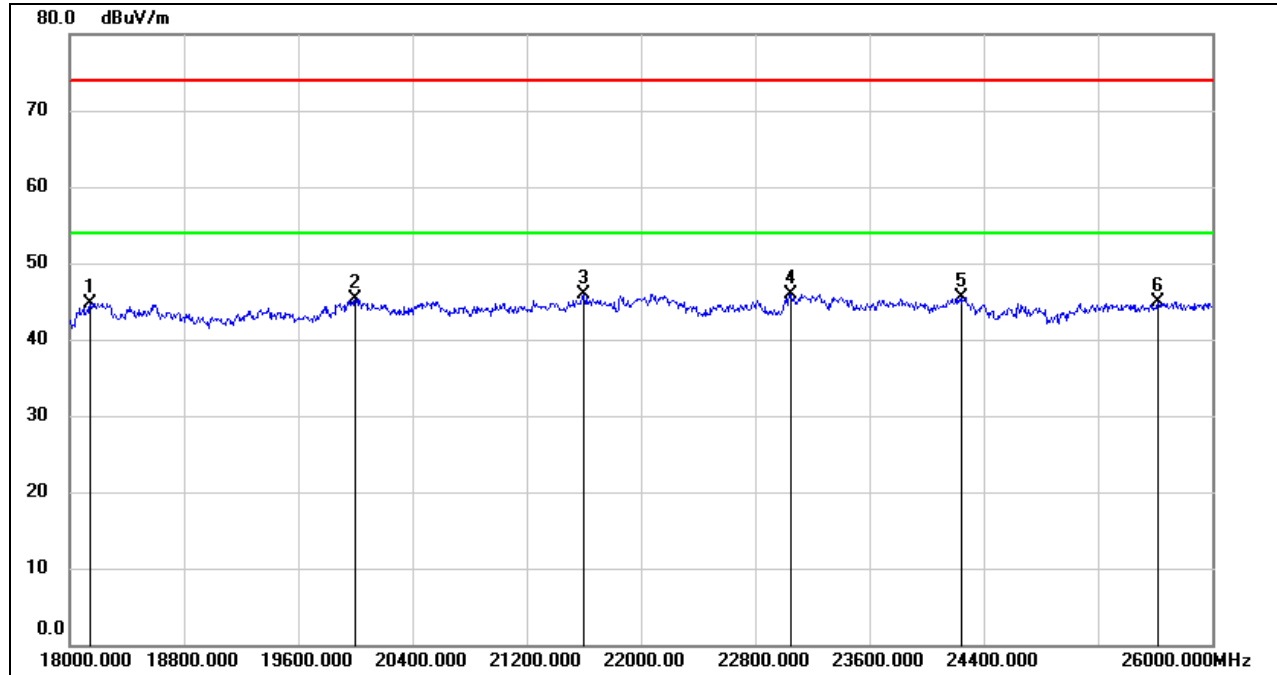
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7335.000	39.63	7.41	47.04	74.00	-26.96	peak
2	8100.000	37.52	10.18	47.70	74.00	-26.30	peak
3	9390.000	37.28	10.92	48.20	74.00	-25.80	peak
4	12240.000	40.27	16.01	56.28	74.00	-17.72	peak
5	12240.000	21.19	16.01	37.20	54.00	-16.80	AVG
6	14775.000	33.58	17.95	51.53	74.00	-22.47	peak
7	16935.000	30.38	21.45	51.83	74.00	-22.17	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. AVG: $VBW=1/T_{on}$, where: T_{on} is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8.4. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

8.4.1. 802.11b MODE

SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)

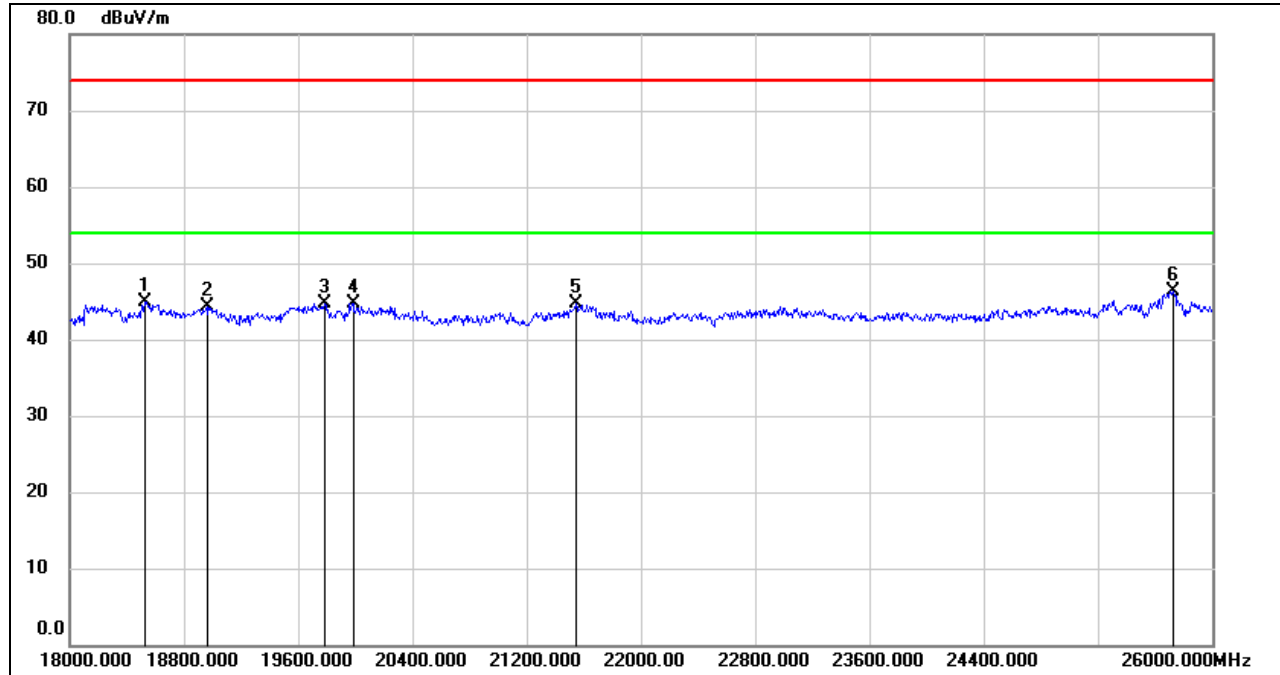


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18144.000	50.27	-5.48	44.79	74.00	-29.21	peak
2	20000.000	50.81	-5.45	45.36	74.00	-28.64	peak
3	21600.000	50.52	-4.54	45.98	74.00	-28.02	peak
4	23048.000	49.43	-3.43	46.00	74.00	-28.00	peak
5	24248.000	48.32	-2.83	45.49	74.00	-28.51	peak
6	25616.000	46.18	-1.24	44.94	74.00	-29.06	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.



SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18528.000	50.11	-5.26	44.85	74.00	-29.15	peak
2	18960.000	49.51	-5.25	44.26	74.00	-29.74	peak
3	19784.000	50.07	-5.28	44.79	74.00	-29.21	peak
4	19984.000	50.21	-5.44	44.77	74.00	-29.23	peak
5	21544.000	49.26	-4.63	44.63	74.00	-29.37	peak
6	25728.000	47.11	-0.72	46.39	74.00	-27.61	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.

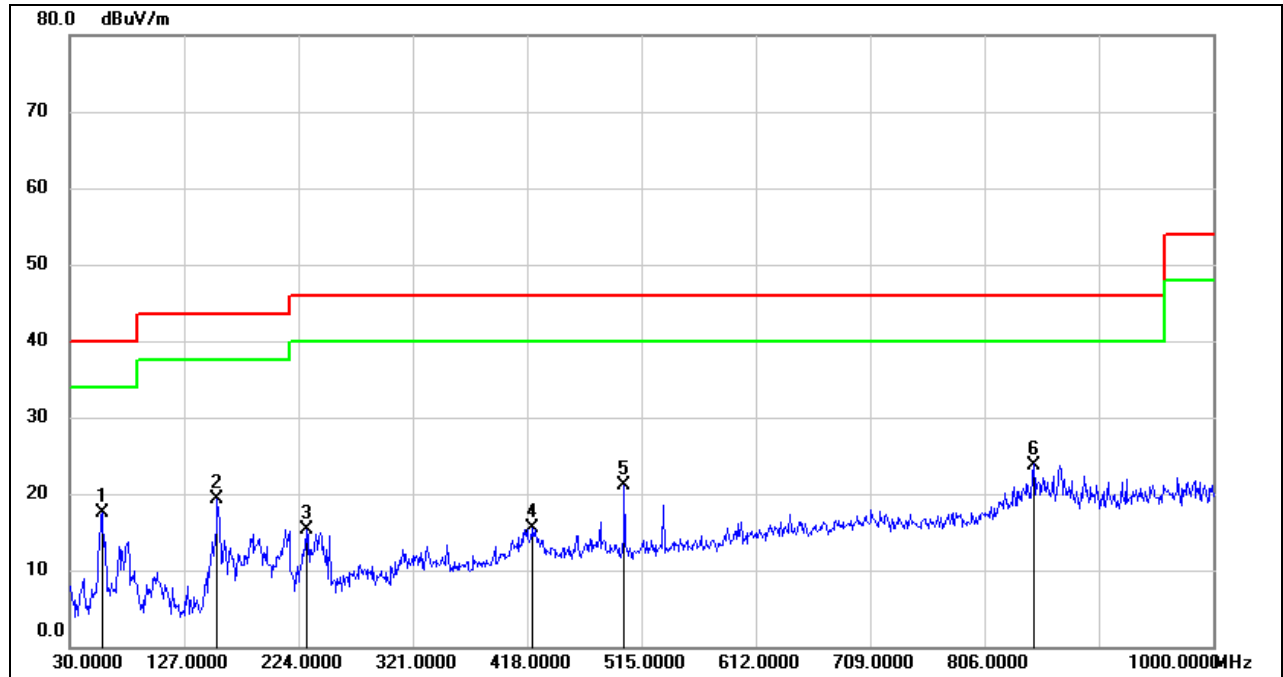
Note: All the modes and channels have been tested, but only the worst data was recorded in the report.



8.5. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

8.5.1. 802.11b MODE

SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)

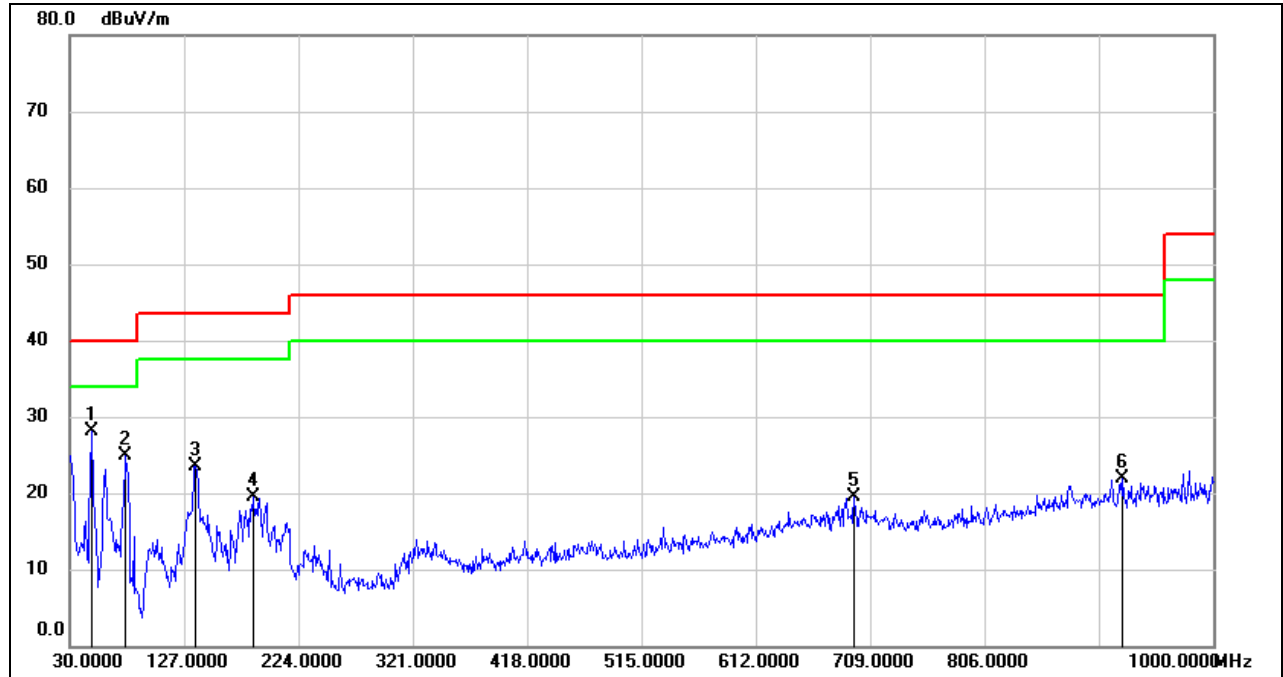


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	57.1600	38.13	-20.58	17.55	40.00	-22.45	QP
2	155.1300	37.32	-18.01	19.31	43.50	-24.19	QP
3	230.7900	34.02	-18.71	15.31	46.00	-30.69	QP
4	421.8800	28.36	-12.94	15.42	46.00	-30.58	QP
5	500.4500	32.47	-11.46	21.01	46.00	-24.99	QP
6	847.7100	30.11	-6.31	23.80	46.00	-22.20	QP

- Note: 1. Result Level = Read Level + Correct Factor.
 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.



SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	48.4300	48.70	-20.63	28.07	40.00	-11.93	QP
2	77.5300	45.96	-21.14	24.82	40.00	-15.18	QP
3	136.7000	42.58	-19.02	23.56	43.50	-19.94	QP
4	185.2000	36.27	-16.75	19.52	43.50	-23.98	QP
5	695.4200	27.83	-8.32	19.51	46.00	-26.49	QP
6	923.3700	26.72	-4.76	21.96	46.00	-24.04	QP

- Note: 1. Result Level = Read Level + Correct Factor.
 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

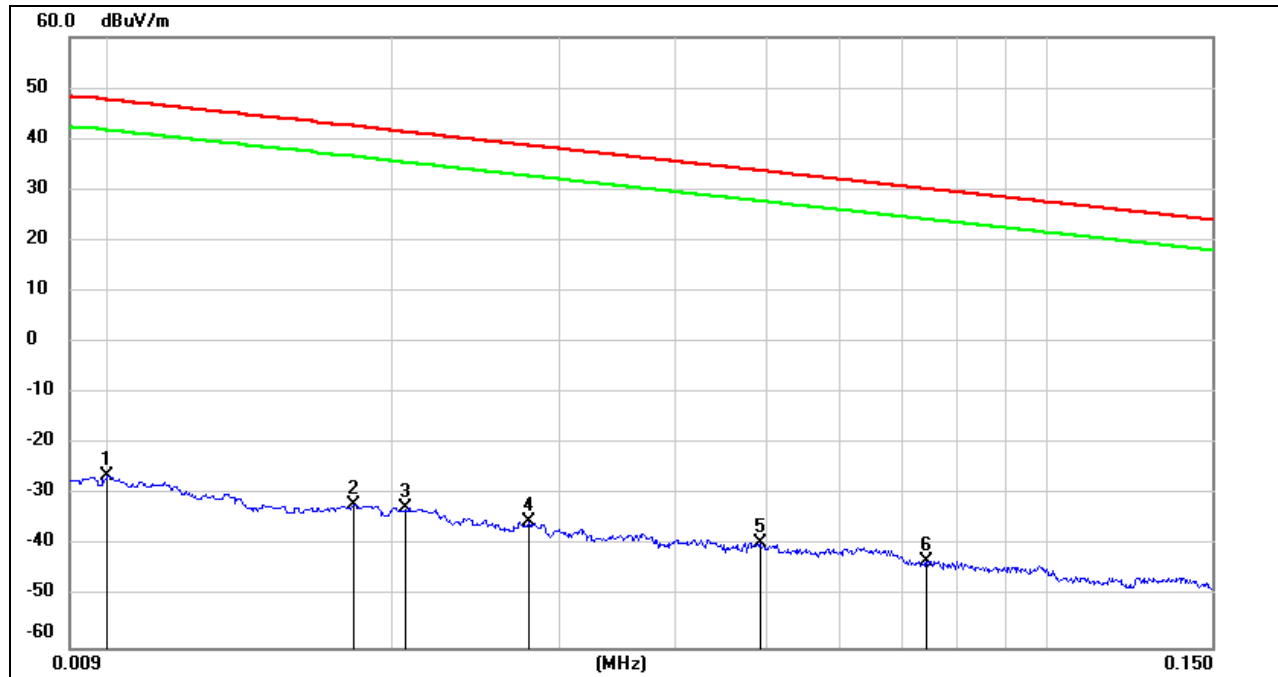
Note: All the modes and channels have been tested, but only the worst data was recorded in the report.

8.6. SPURIOUS EMISSIONS BELOW 30 MHz

8.6.1. 802.11b MODE

SPURIOUS EMISSIONS (LOW CHANNEL, LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)

9 kHz~ 150 kHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	Margin (dB)	Remark
1	0.0100	75.22	-101.40	-26.18	47.6	-73.78	peak
2	0.0181	69.35	-101.36	-32.01	42.45	-74.46	peak
3	0.0206	68.92	-101.35	-32.43	41.32	-73.75	peak
4	0.0279	66.17	-101.38	-35.21	38.69	-73.90	peak
5	0.0492	62.05	-101.47	-39.42	33.76	-73.18	peak
6	0.0743	58.58	-101.59	-43.01	30.18	-73.19	peak

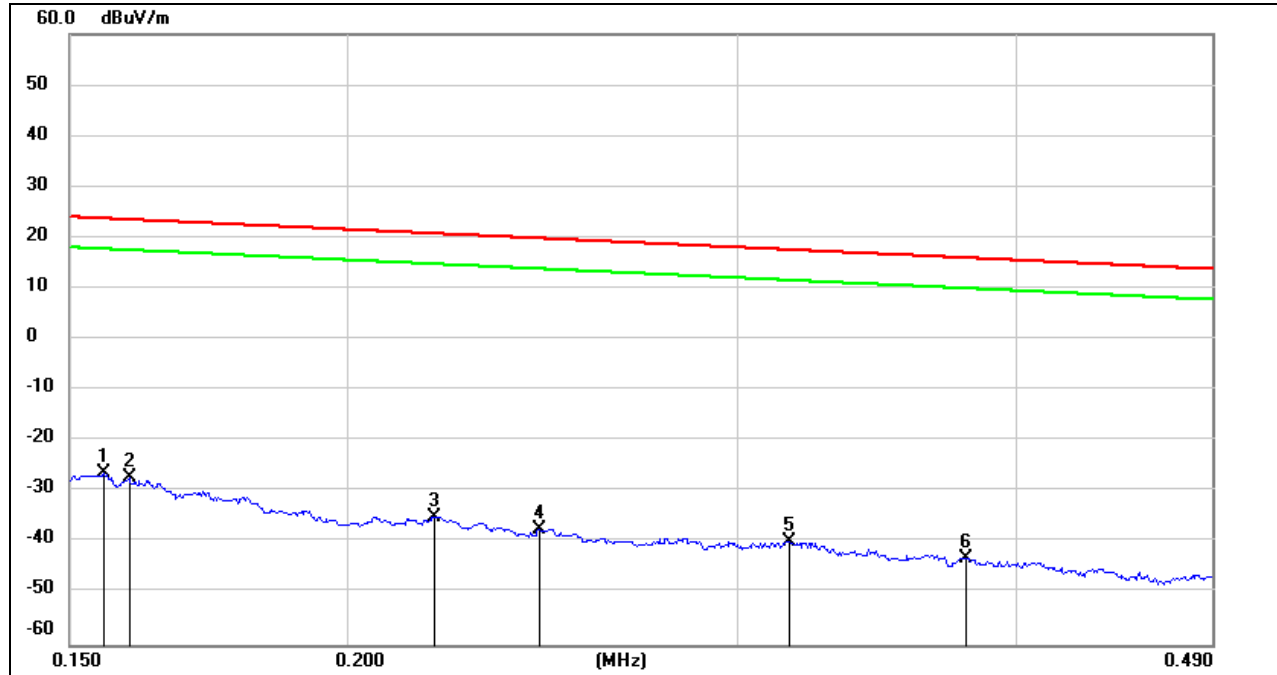
Note: 1. Measurement = Reading Level + Correct Factor

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.



150 kHz ~ 490 kHz

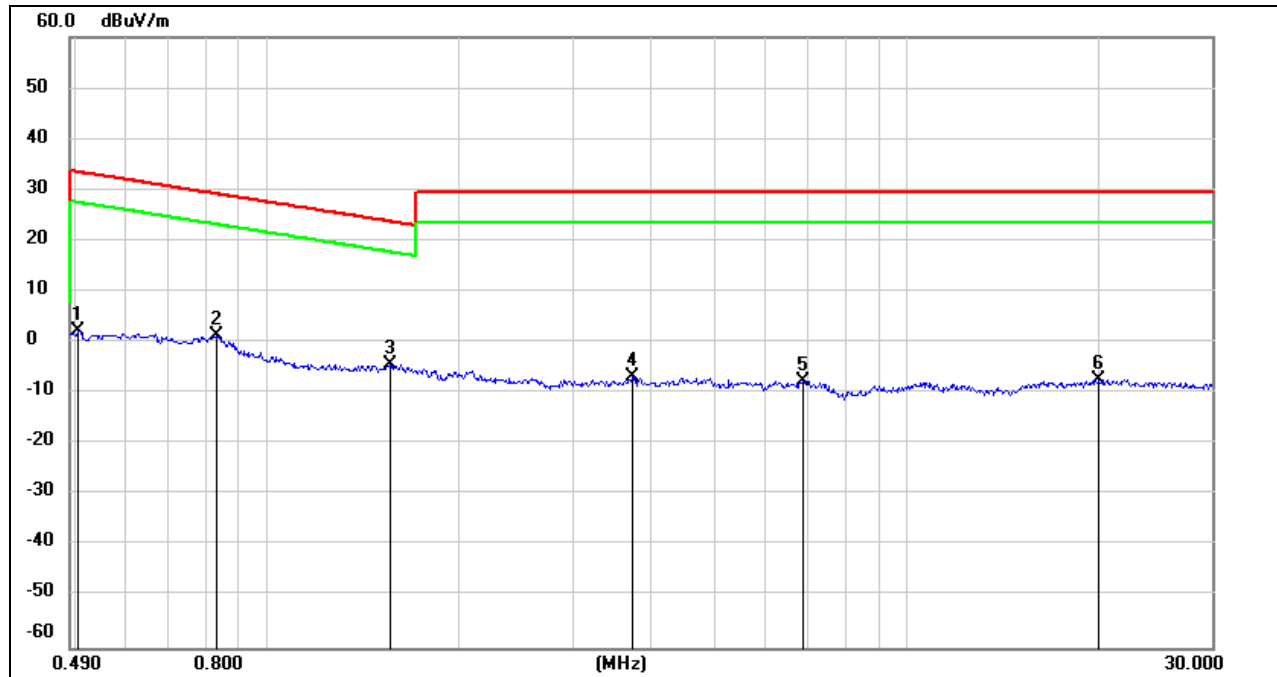


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	Margin (dB)	Remark
1	0.1554	75.27	-101.65	-26.38	23.77	-50.15	peak
2	0.1595	74.36	-101.65	-27.29	23.55	-50.84	peak
3	0.2190	66.77	-101.75	-34.98	20.79	-55.77	peak
4	0.2442	64.53	-101.79	-37.26	19.85	-57.11	peak
5	0.3163	62.20	-101.87	-39.67	17.6	-57.27	peak
6	0.3800	59.02	-101.94	-42.92	16.01	-58.93	peak

Note: 1. Measurement = Reading Level + Correct Factor
 2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
 3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.



490 kHz ~ 30 MHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	Margin (dB)	Remark
1	0.5039	64.44	-62.07	2.37	33.56	-31.19	peak
2	0.8296	63.44	-62.17	1.27	29.23	-27.96	peak
3	1.5564	57.68	-62.02	-4.34	23.76	-28.10	peak
4	3.7100	54.70	-61.41	-6.71	29.54	-36.25	peak
5	6.8936	53.59	-61.22	-7.63	29.54	-37.17	peak
6	19.9954	53.44	-60.83	-7.39	29.54	-36.93	peak

- Note: 1. Measurement = Reading Level + Correct Factor
 2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
 3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

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

9. AC POWER LINE CONDUCTED EMISSIONS

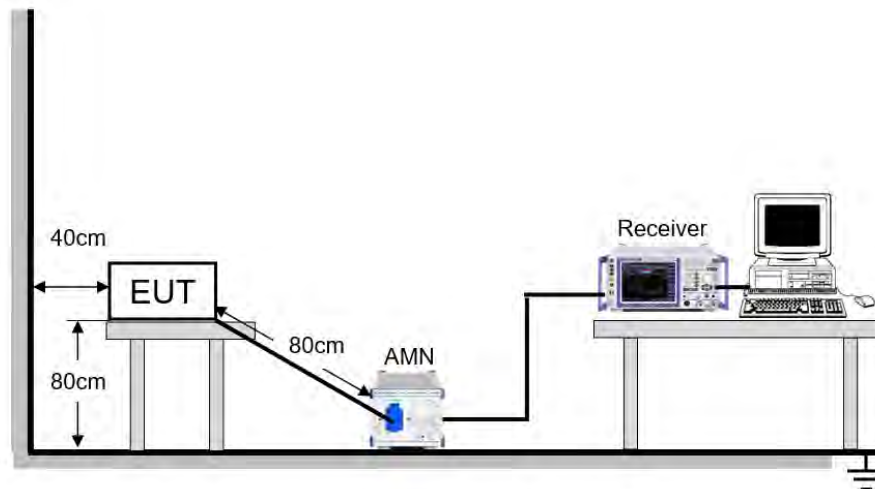
LIMITS

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

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

TEST SETUP AND PROCEDURE

Refer to ANSI C63.10-2013 clause 6.2.



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

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



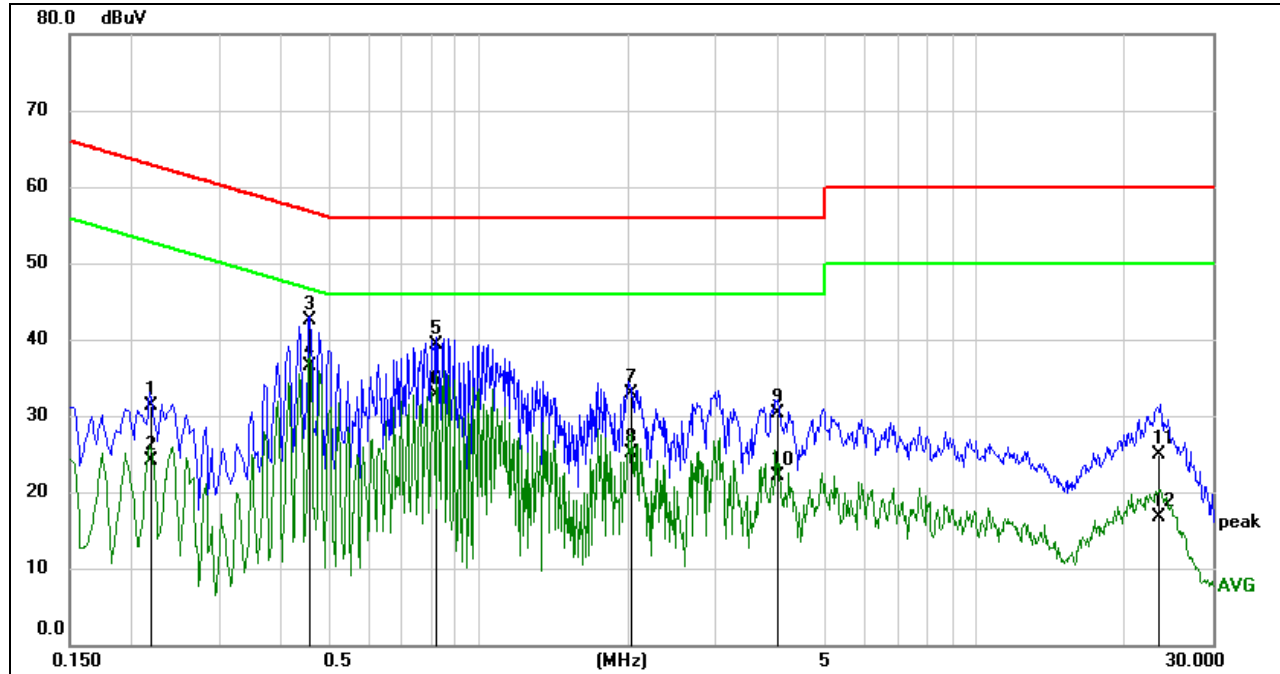
TEST ENVIRONMENT

Temperature	24.6 °C	Relative Humidity	67.6 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

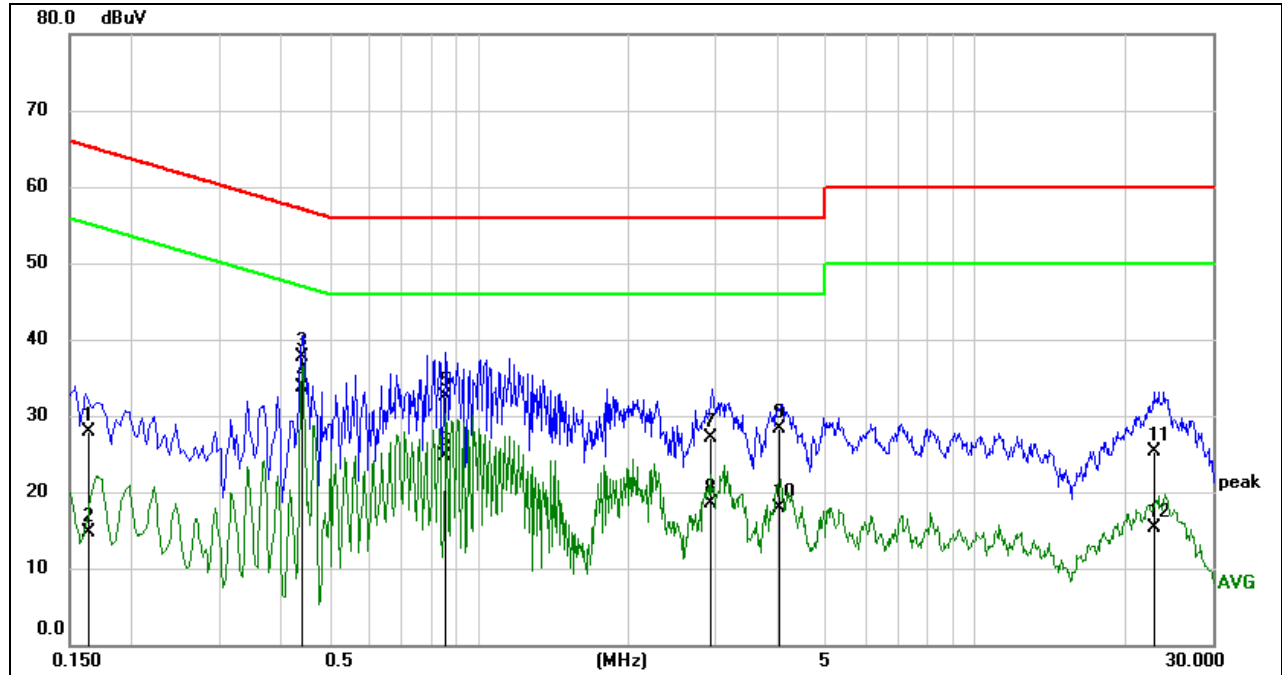
9.1. 802.11b SISO MODE

LINE N RESULTS (LOW CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.2186	21.64	9.59	31.23	62.87	-31.64	QP
2	0.2186	14.55	9.59	24.14	52.87	-28.73	AVG
3	0.4572	32.97	9.60	42.57	56.74	-14.17	QP
4	0.4572	26.85	9.60	36.45	46.74	-10.29	AVG
5	0.8282	29.72	9.60	39.32	56.00	-16.68	QP
6	0.8282	23.04	9.60	32.64	46.00	-13.36	AVG
7	2.0260	23.24	9.63	32.87	56.00	-23.13	QP
8	2.0260	15.56	9.63	25.19	46.00	-20.81	AVG
9	3.9887	20.69	9.60	30.29	56.00	-25.71	QP
10	3.9887	12.48	9.60	22.08	46.00	-23.92	AVG
11	23.4790	15.10	9.75	24.85	60.00	-35.15	QP
12	23.4790	6.92	9.75	16.67	50.00	-33.33	AVG

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

**LINE L RESULTS (LOW CHANNEL, WORST-CASE CONFIGURATION)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1643	18.25	9.59	27.84	65.24	-37.40	QP
2	0.1643	5.10	9.59	14.69	55.24	-40.55	AVG
3	0.4418	28.15	9.60	37.75	57.03	-19.28	QP
4	0.4418	24.19	9.60	33.79	47.03	-13.24	AVG
5	0.8616	23.00	9.60	32.60	56.00	-23.40	QP
6	0.8616	15.01	9.60	24.61	46.00	-21.39	AVG
7	2.9172	17.44	9.62	27.06	56.00	-28.94	QP
8	2.9172	8.84	9.62	18.46	46.00	-27.54	AVG
9	4.0263	18.79	9.60	28.39	56.00	-27.61	QP
10	4.0263	8.21	9.60	17.81	46.00	-28.19	AVG
11	22.9338	15.37	9.86	25.23	60.00	-34.77	QP
12	22.9338	5.42	9.86	15.28	50.00	-34.72	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 and channels have been tested, but only the worst data was recorded in the report.



10. ANTENNA REQUIREMENTS

APPLICABLE REQUIREMENTS

Please refer to FCC §15.203

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

Please refer to FCC §15.247(b)(4)

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

RESULTS

Complies



10.1. Appendix A: DTS Bandwidth
10.1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.160	2407.920	2416.080	0.5	PASS
		2437	8.640	2432.920	2441.560	0.5	PASS
		2462	8.600	2457.440	2466.040	0.5	PASS
11G	Ant1	2412	16.440	2403.800	2420.240	0.5	PASS
		2437	16.400	2428.800	2445.200	0.5	PASS
		2462	16.440	2453.800	2470.240	0.5	PASS
11N20SISO	Ant1	2412	17.640	2403.200	2420.840	0.5	PASS
		2437	17.440	2428.400	2445.840	0.5	PASS
		2462	17.640	2453.160	2470.800	0.5	PASS
11N40SISO	Ant1	2422	36.240	2404.000	2440.240	0.5	PASS
		2437	36.160	2419.000	2455.160	0.5	PASS
		2452	36.480	2433.760	2470.240	0.5	PASS



10.1.2. Test Graphs



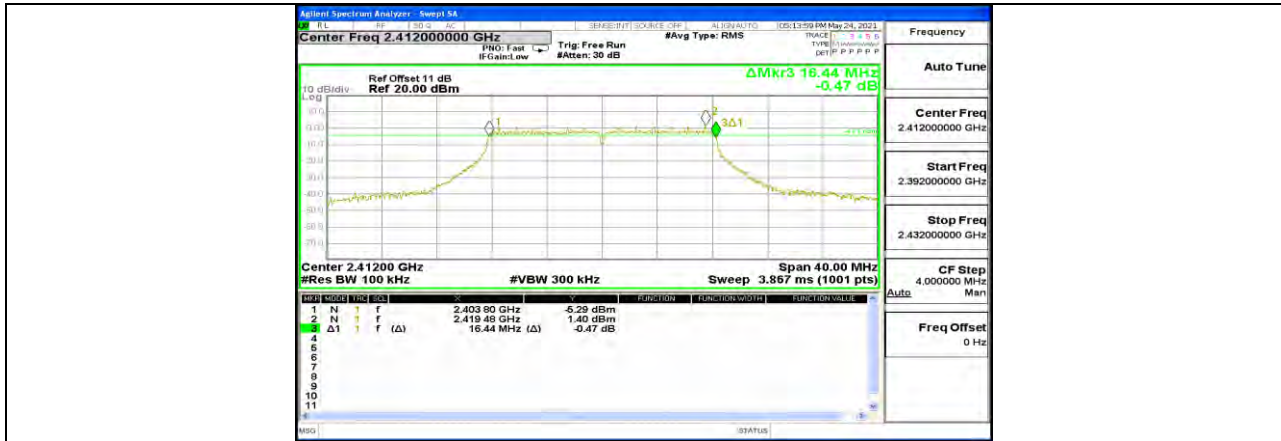
11B Ant1 2412



11B Ant1 2437



11B Ant1 2462



11G Ant1 2412



11G Ant1 2437



11G Ant1 2462



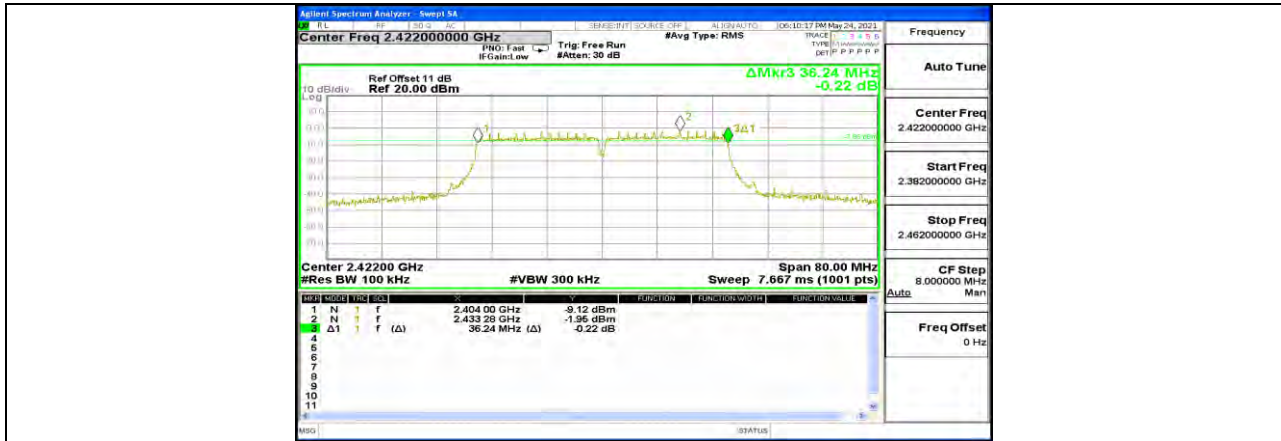
11N20SISO Ant1 2412



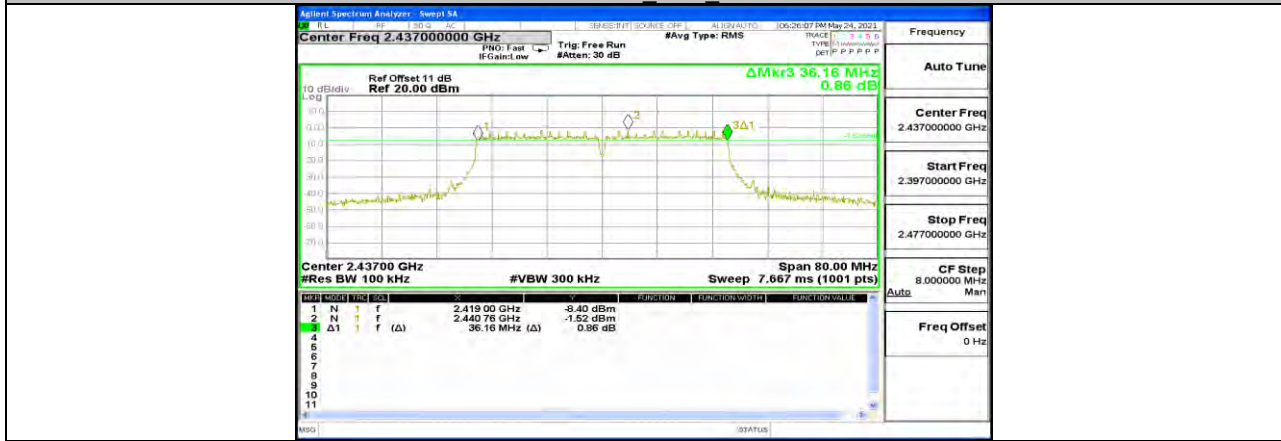
11N20SISO Ant1 2437



11N20SISO Ant1 2462



11N40SISO Ant1 2422



11N40SISO Ant1 2437



11N40SISO Ant1 2452



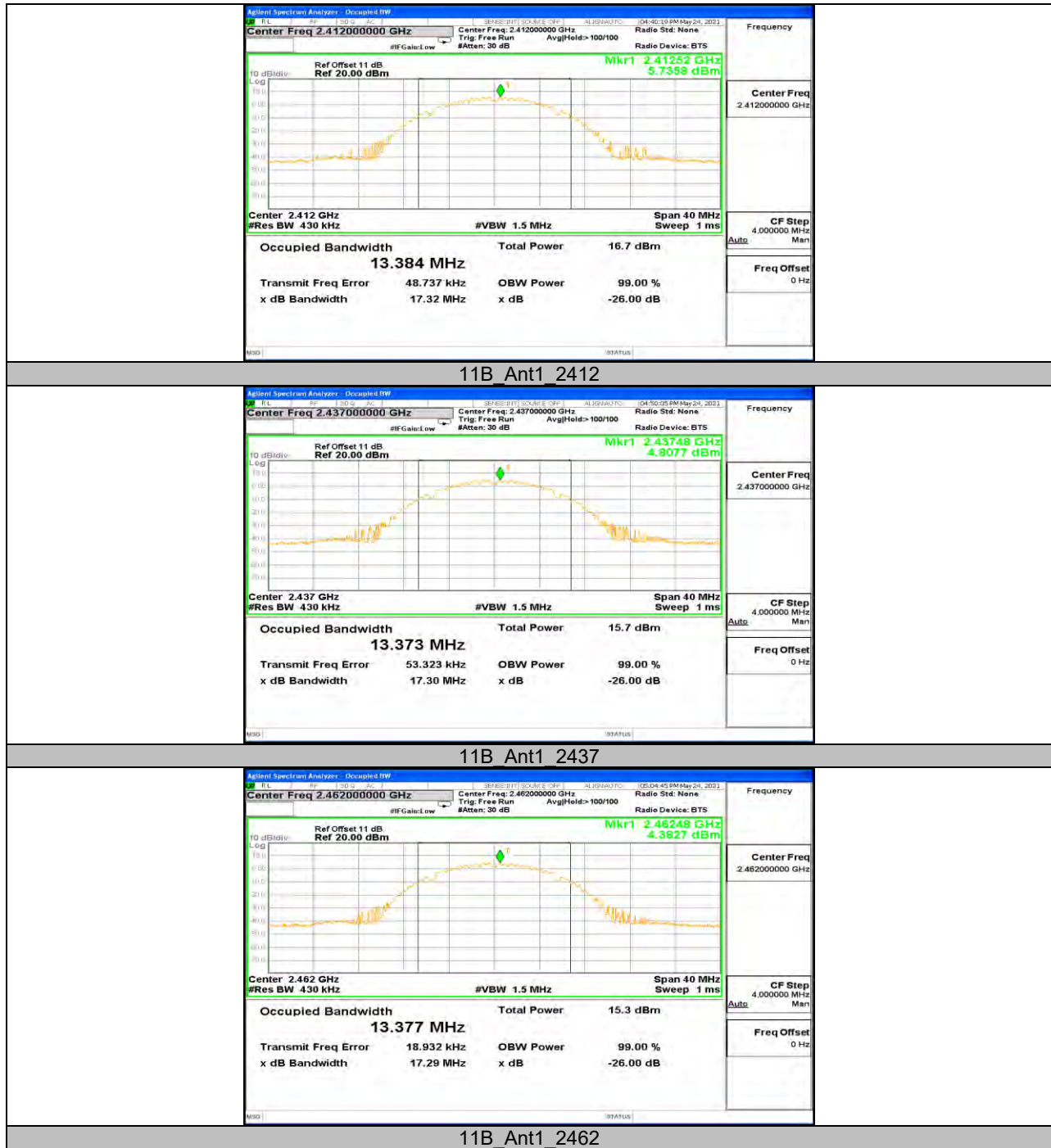
10.2. Appendix B: Occupied Channel Bandwidth

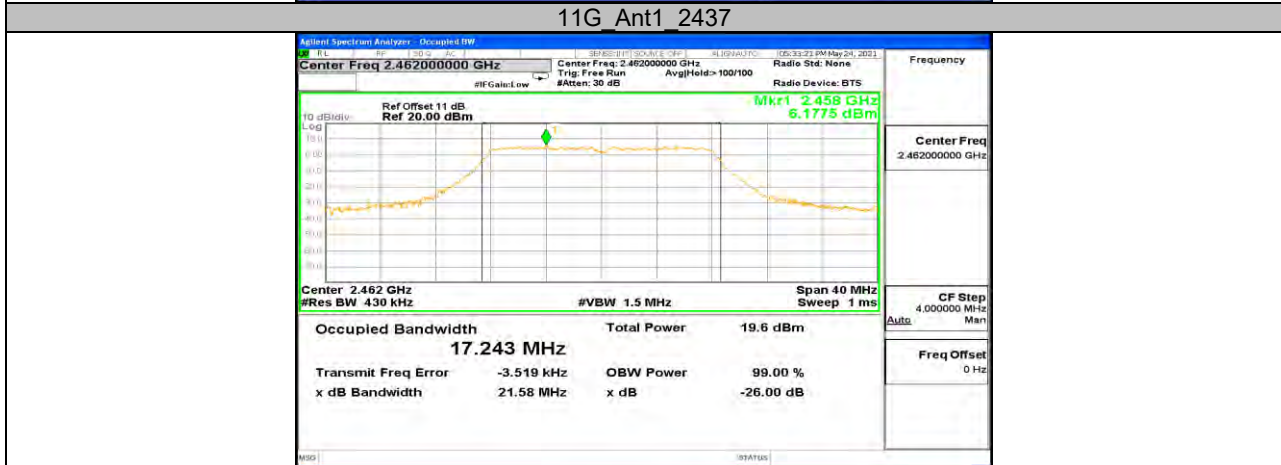
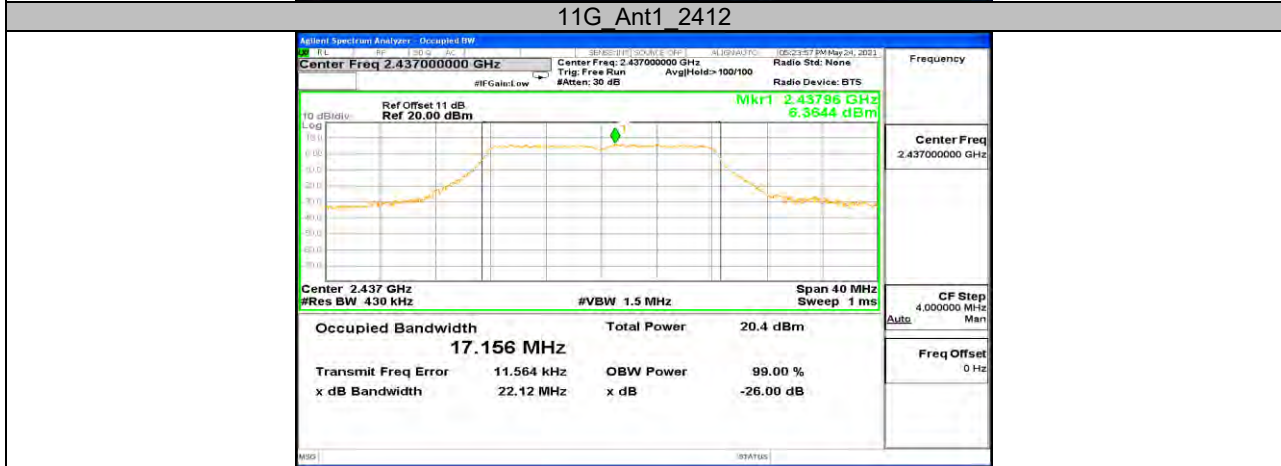
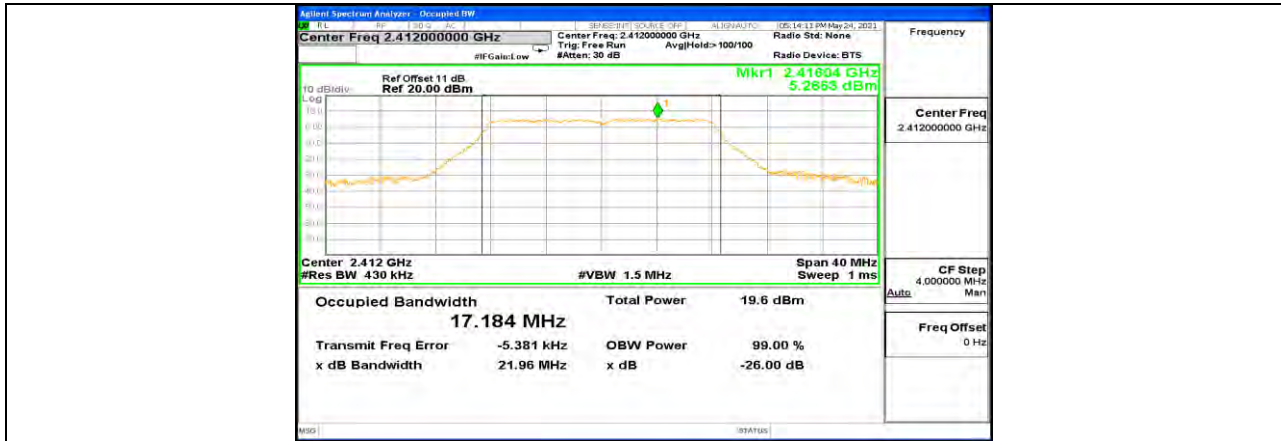
10.2.1. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11B	Ant1	2412	13.382	2405.358	2418.740	PASS
		2437	13.371	2430.368	2443.739	PASS
		2462	13.373	2455.334	2468.707	PASS
11G	Ant1	2412	17.184	2403.403	2420.587	PASS
		2437	17.159	2428.434	2445.593	PASS
		2462	17.243	2453.377	2470.620	PASS
11N20SISO	Ant1	2412	18.262	2402.825	2421.087	PASS
		2437	18.258	2427.913	2446.171	PASS
		2462	18.171	2452.895	2471.066	PASS
11N40SISO	Ant1	2422	36.830	2403.761	2440.591	PASS
		2437	36.608	2418.716	2455.324	PASS
		2452	36.715	2433.603	2470.318	PASS

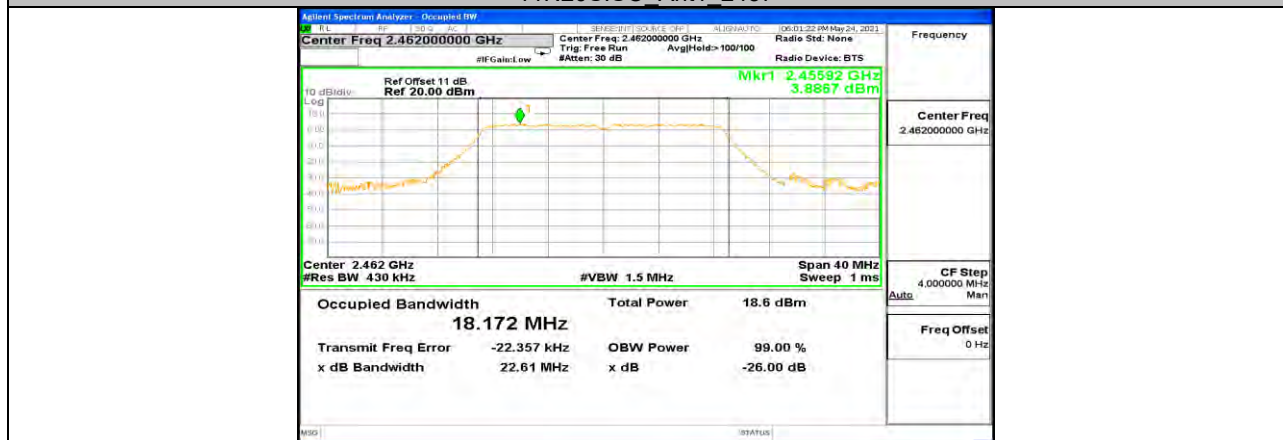
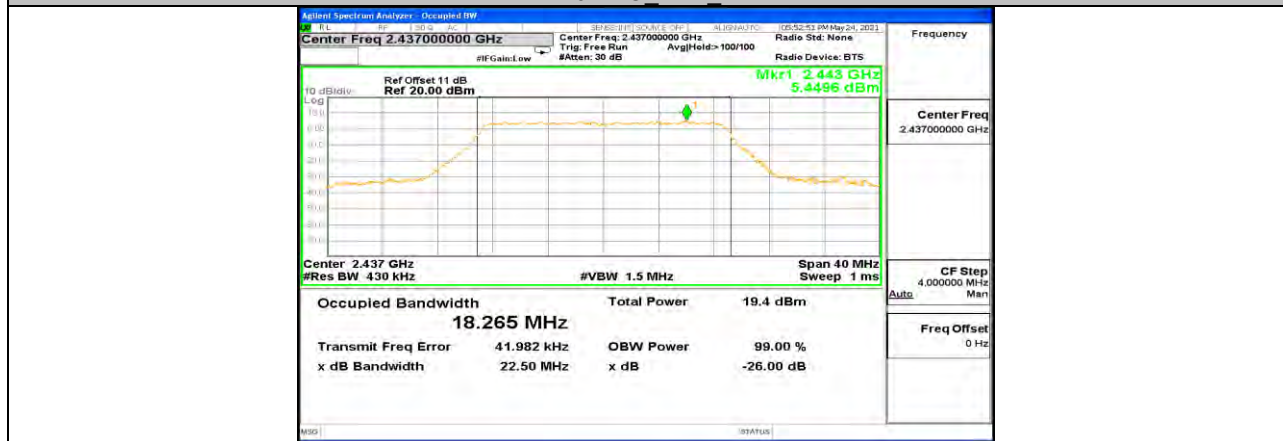
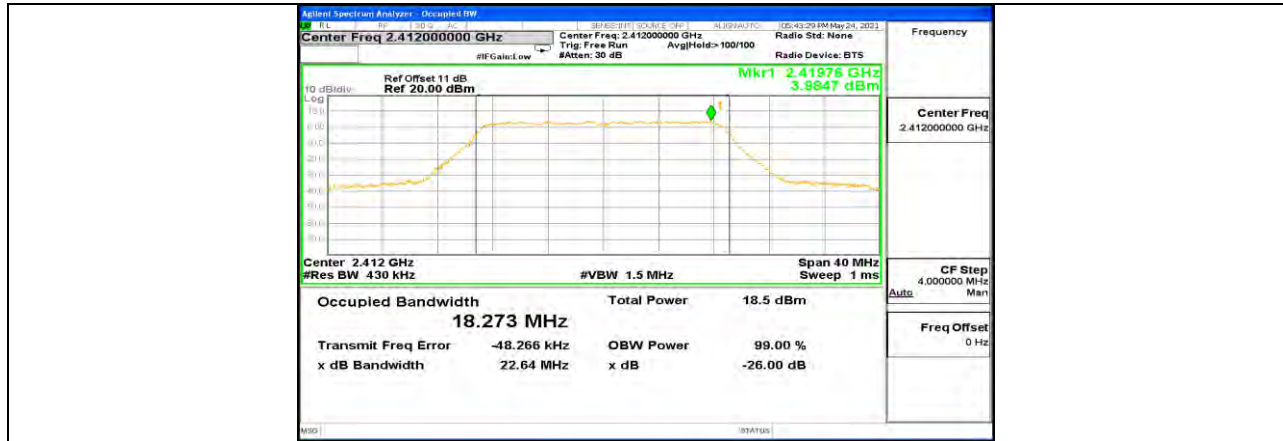


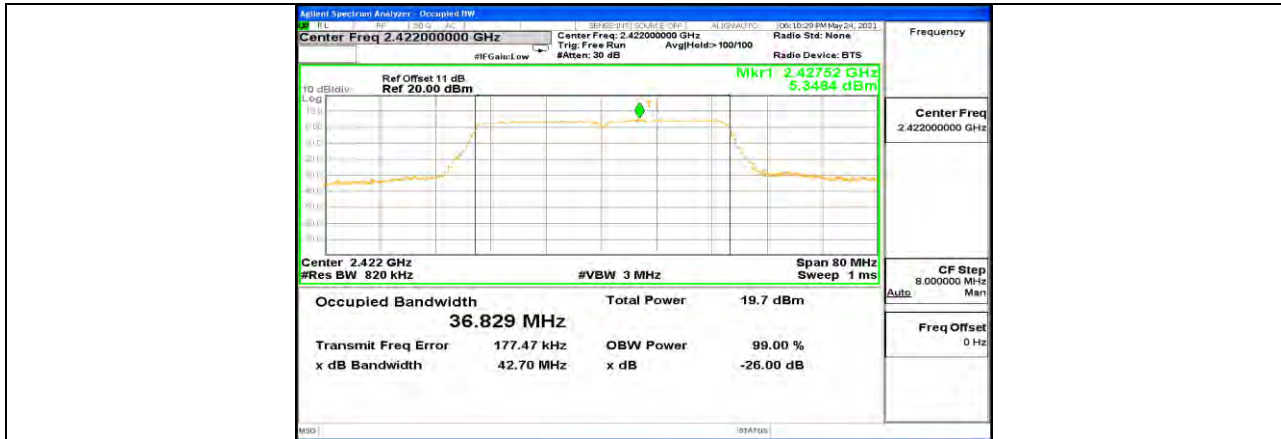
10.2.2. Test Graphs



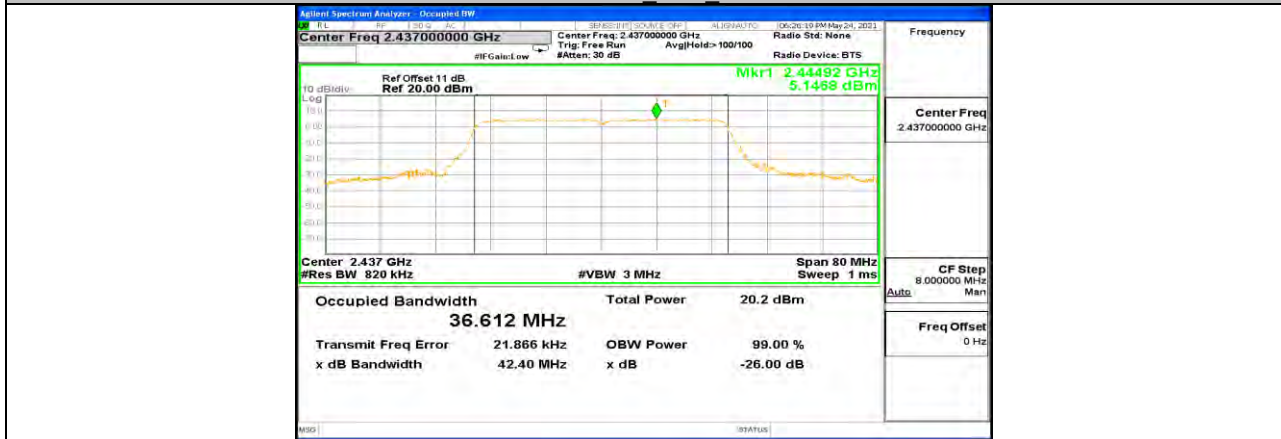


11G Ant1 2462

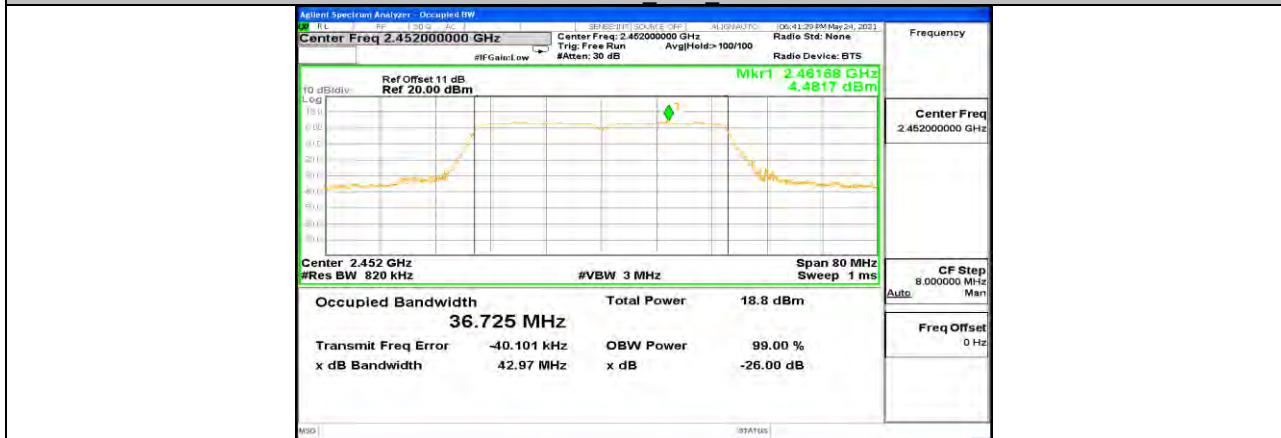




11N40SISO Ant1 2422



11N40SISO Ant1 2437



11N40SISO Ant1 2452



10.3. Appendix C: Maximum conducted output power

10.3.1. Test Result

Test Mode	Antenna	Channel	Result[dBm]	EIRP[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	14.91	16.91	<=30	PASS
		2437	15.15	17.15	<=30	PASS
		2462	14.85	16.85	<=30	PASS
11G	Ant1	2412	12.68	14.68	<=30	PASS
		2437	13.15	15.15	<=30	PASS
		2462	12.51	14.51	<=30	PASS
11N20SISO	Ant1	2412	11.42	13.42	<=30	PASS
		2437	12.15	14.15	<=30	PASS
		2462	11.57	13.57	<=30	PASS
11N40SISO	Ant1	2422	12.18	14.18	<=30	PASS
		2437	12.84	14.84	<=30	PASS
		2452	11.18	13.18	<=30	PASS

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

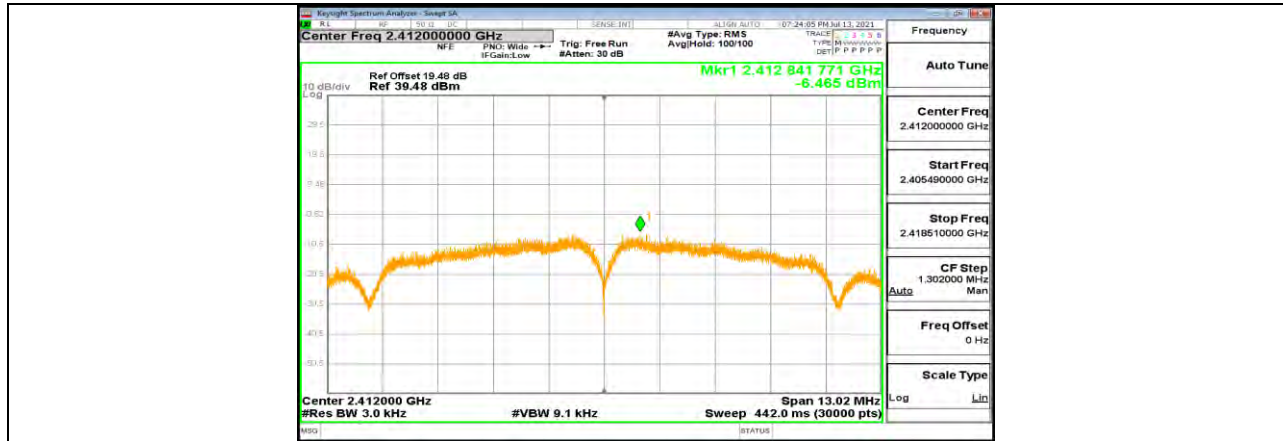


10.4. Appendix D: Maximum power spectral density

10.4.1. Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-6.47	<=8	PASS
		2437	-6.30	<=8	PASS
		2462	-7.12	<=8	PASS
11G	Ant1	2412	-12.68	<=8	PASS
		2437	-11.08	<=8	PASS
		2462	-12.74	<=8	PASS
11N20SISO	Ant1	2412	-12.53	<=8	PASS
		2437	-12.66	<=8	PASS
		2462	-13.77	<=8	PASS
11N40SISO	Ant1	2422	-16.11	<=8	PASS
		2437	-15.64	<=8	PASS
		2452	-16.44	<=8	PASS

10.4.2. Test Graphs



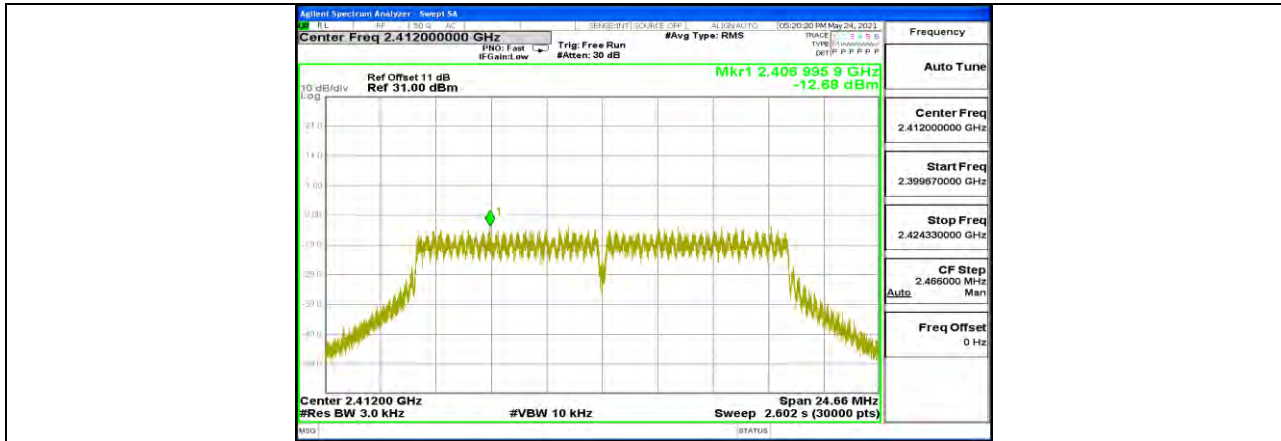
11B Ant1 2412



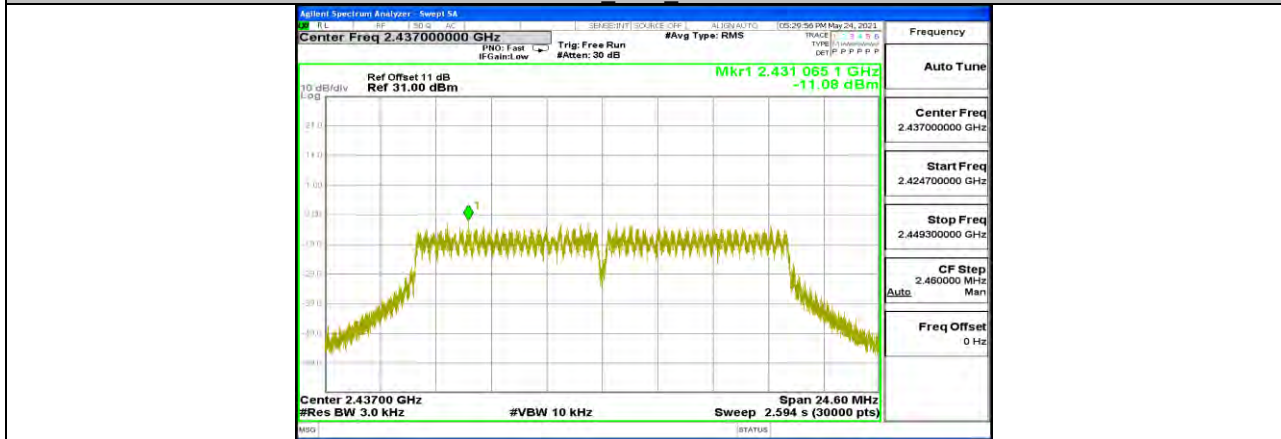
11B Ant1 2437



11B Ant1 2462



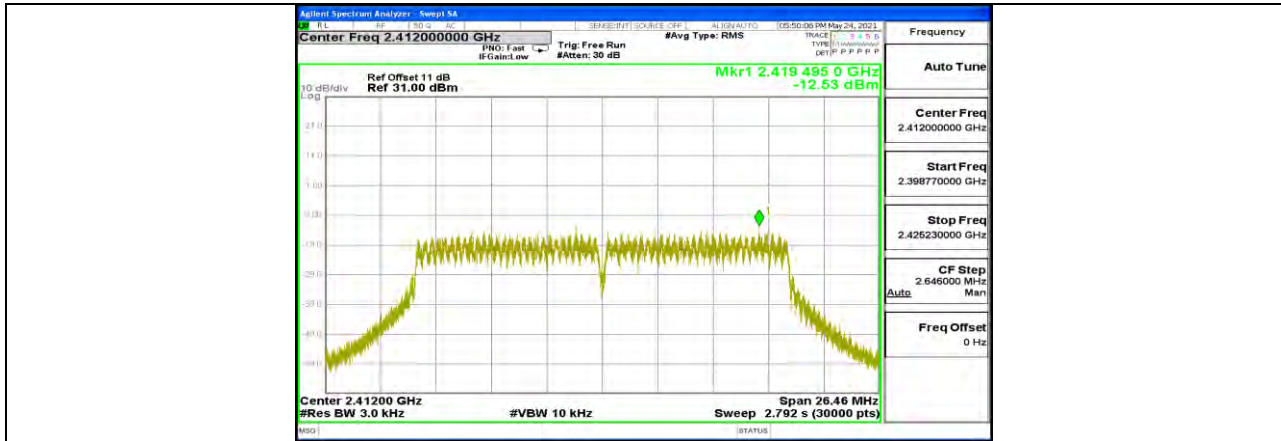
11G Ant1 2412



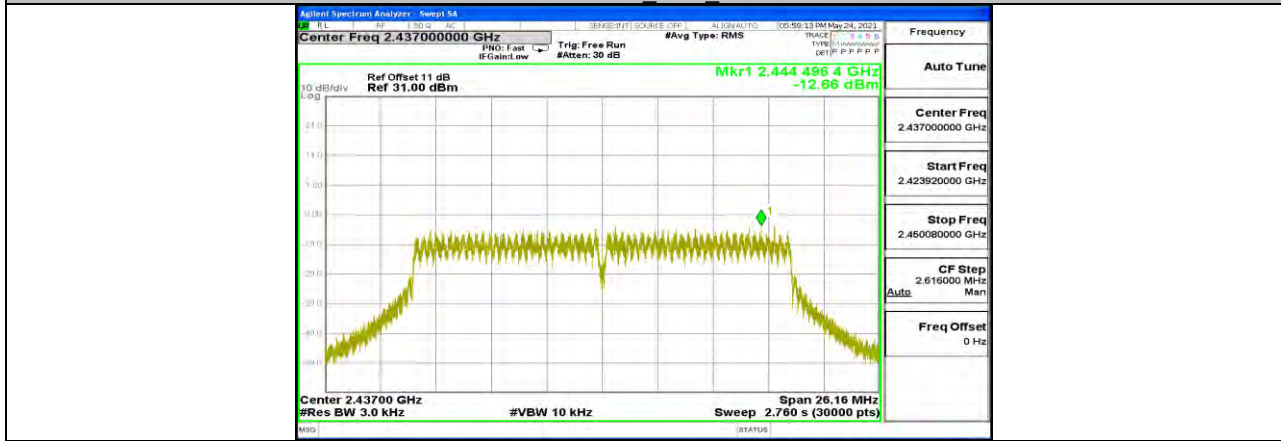
11G Ant1 2437



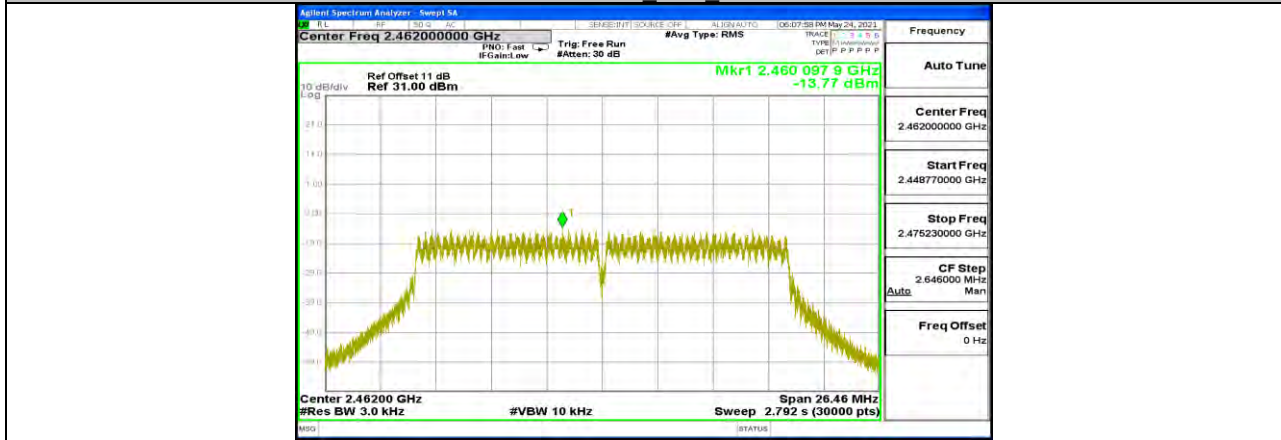
11G Ant1 2462



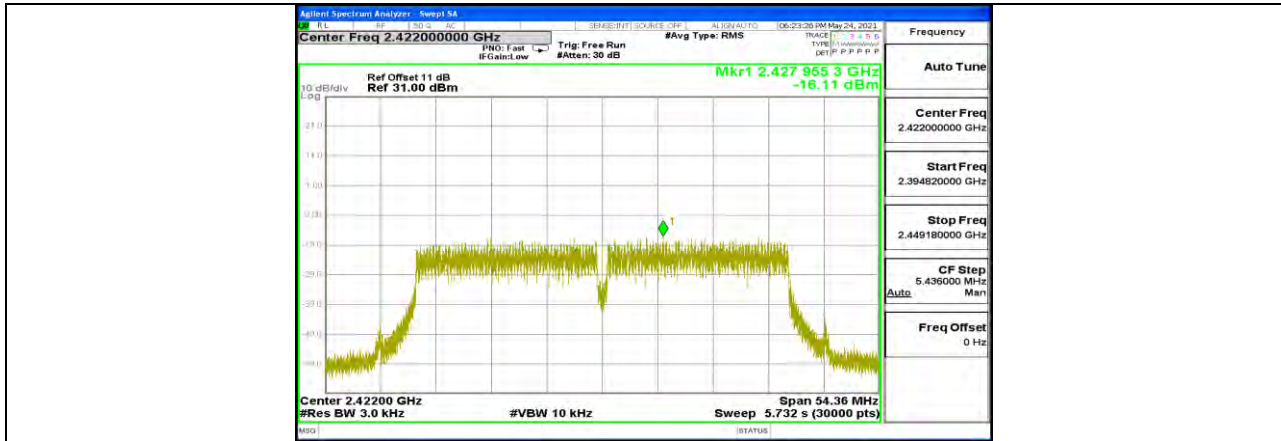
11N20SISO Ant1 2412



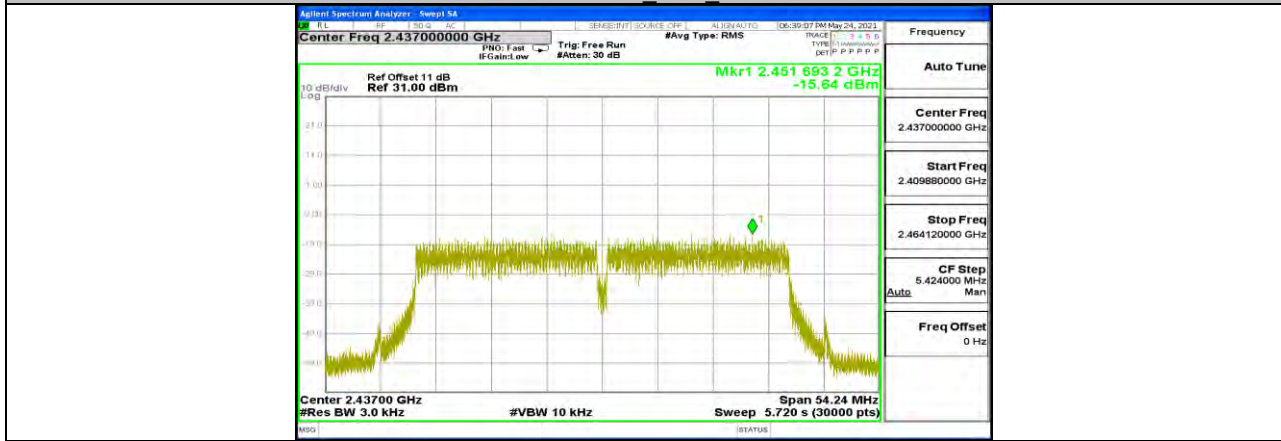
11N20SISO Ant1 2437



11N20SISO Ant1 2462



11N40SISO Ant1 2422



11N40SISO Ant1 2437



11N40SISO Ant1 2452



10.5. Appendix E: Band edge measurements

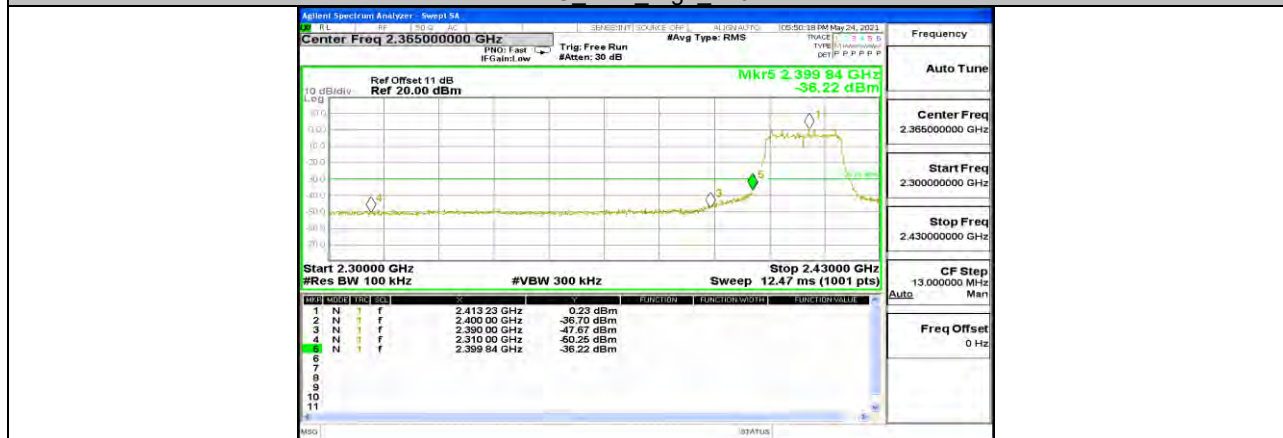
10.5.1. Test Result

Test Mode	Antenna	Ch Name	Channel	Ref Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	5.19	-45.36	<=-24.82	PASS
		High	2462	3.83	-46.33	<=-26.17	PASS
11G	Ant1	Low	2412	0.99	-36.21	<=-29.01	PASS
		High	2462	1.03	-43.4	<=-28.97	PASS
11N20SISO	Ant1	Low	2412	0.23	-36.22	<=-29.78	PASS
		High	2462	0.22	-44.5	<=-29.78	PASS
11N40SISO	Ant1	Low	2422	-1.66	-36.54	<=-31.66	PASS
		High	2452	-2.82	-42.22	<=-32.82	PASS



10.5.2. Test Graphs







10.6. Appendix F: Conducted Spurious Emission
10.6.1. Test Result

Test Mode	Antenna	Channel	Freq Range [Mhz]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	5.28	---	PASS
			30~1000	-58.14	<=-24.72	PASS
			1000~26500	-47.33	<=-24.72	PASS
		2437	Reference	3.93	---	PASS
			30~1000	-58.68	<=-26.07	PASS
			1000~26500	-46.75	<=-26.07	PASS
		2462	Reference	3.89	---	PASS
			30~1000	-58.34	<=-26.11	PASS
			1000~26500	-47.37	<=-26.11	PASS
11G	Ant1	2412	Reference	0.90	---	PASS
			30~1000	-58.77	<=-29.1	PASS
			1000~26500	-47.08	<=-29.1	PASS
		2437	Reference	1.29	---	PASS
			30~1000	-58.11	<=-28.71	PASS
			1000~26500	-46.43	<=-28.71	PASS
		2462	Reference	0.76	---	PASS
			30~1000	-58.27	<=-29.24	PASS
			1000~26500	-47.2	<=-29.24	PASS
11N20SISO	Ant1	2412	Reference	-0.12	---	PASS
			30~1000	-57.61	<=-30.12	PASS
			1000~26500	-46.98	<=-30.12	PASS
		2437	Reference	0.76	---	PASS
			30~1000	-58.18	<=-29.24	PASS
			1000~26500	-47.03	<=-29.24	PASS
		2462	Reference	-0.02	---	PASS
			30~1000	-58.33	<=-30.02	PASS
			1000~26500	-46.83	<=-30.02	PASS
11N40SISO	Ant1	2422	Reference	-1.65	---	PASS
			30~1000	-53.31	<=-31.65	PASS
			1000~26500	-46.48	<=-31.65	PASS
		2437	Reference	-1.83	---	PASS
			30~1000	-55.22	<=-31.83	PASS
			1000~26500	-46.57	<=-31.83	PASS
		2452	Reference	-2.99	---	PASS
			30~1000	-55.92	<=-32.99	PASS
			1000~26500	-47.09	<=-32.99	PASS

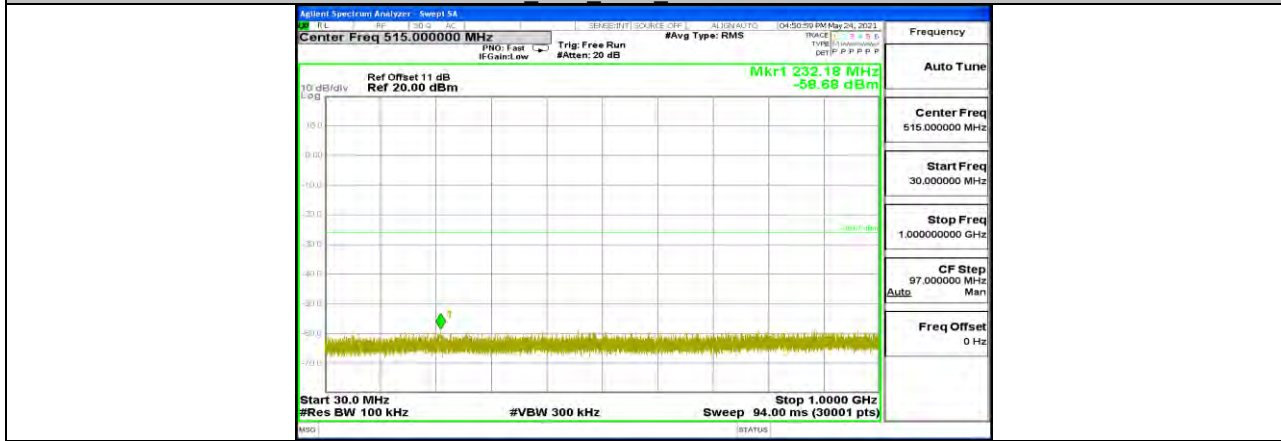


10.6.2. Test Graphs

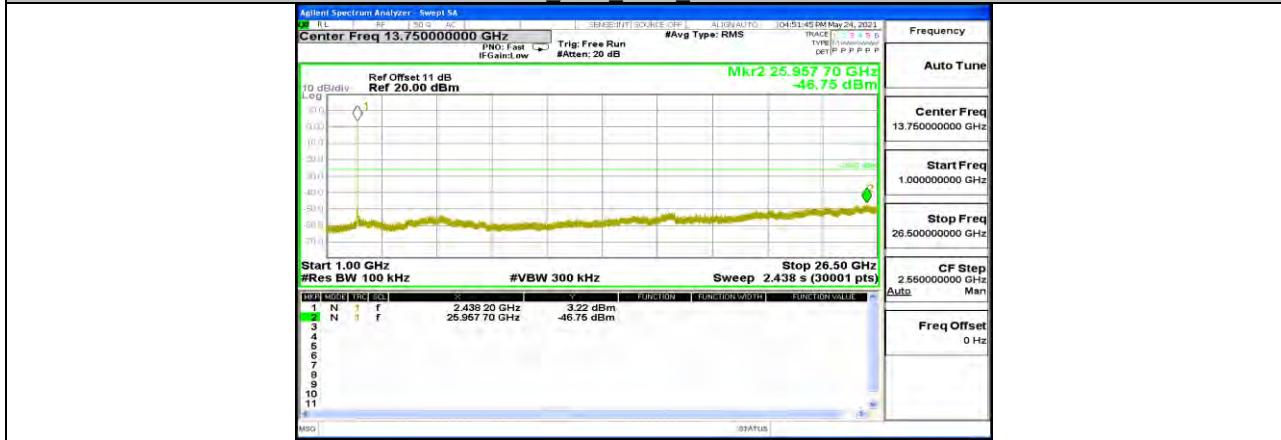




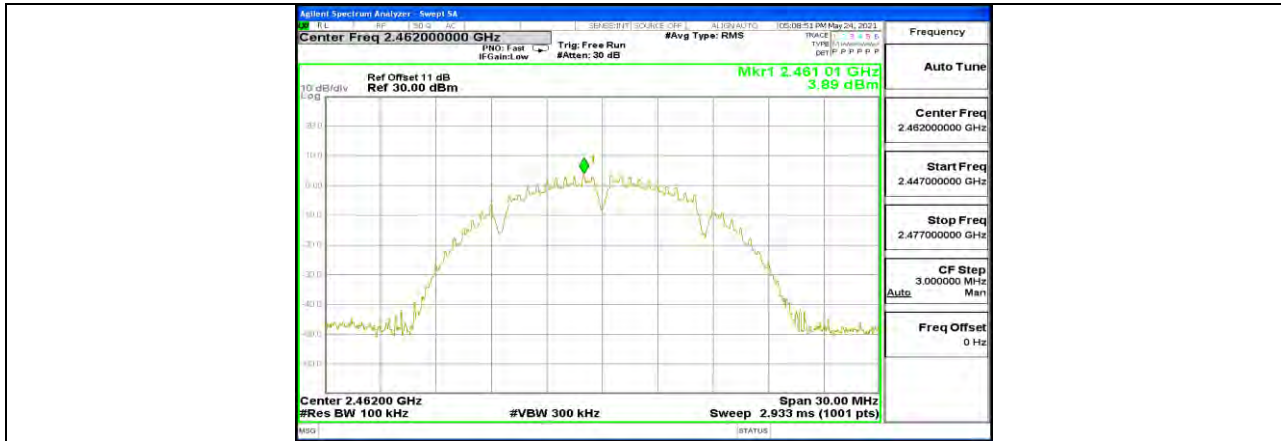
11B Ant1_2437_0~Reference



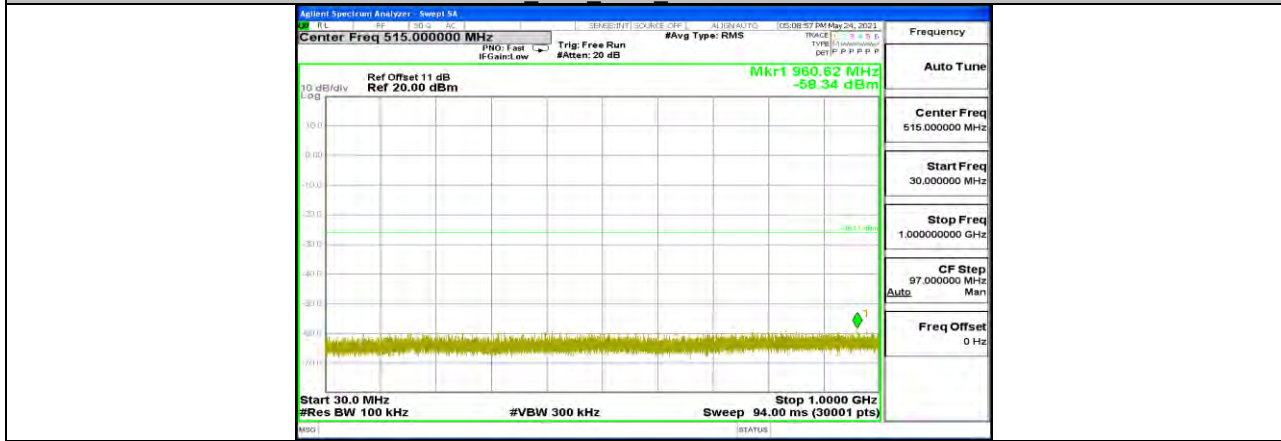
11B Ant1_2437_30~1000



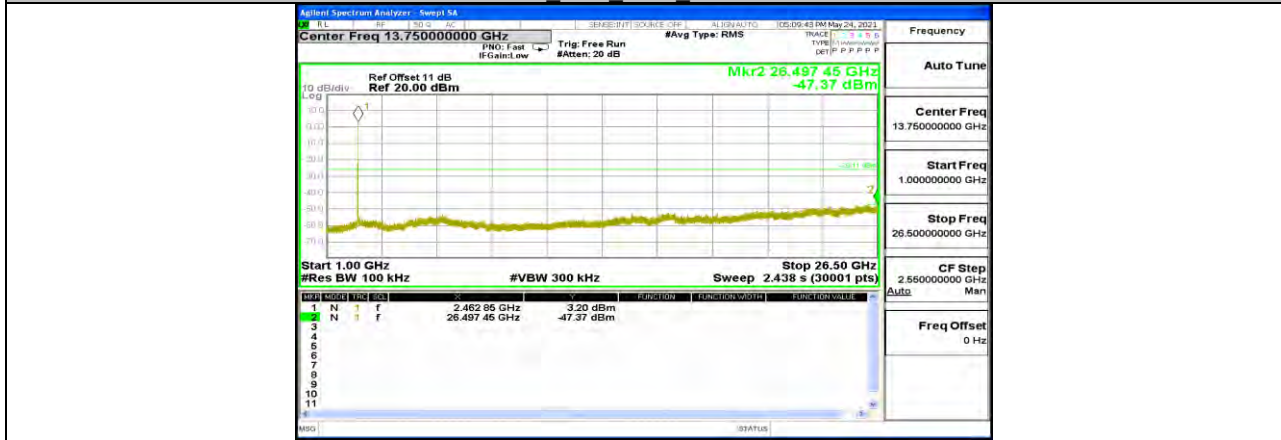
11B Ant1_2437_1000~26500



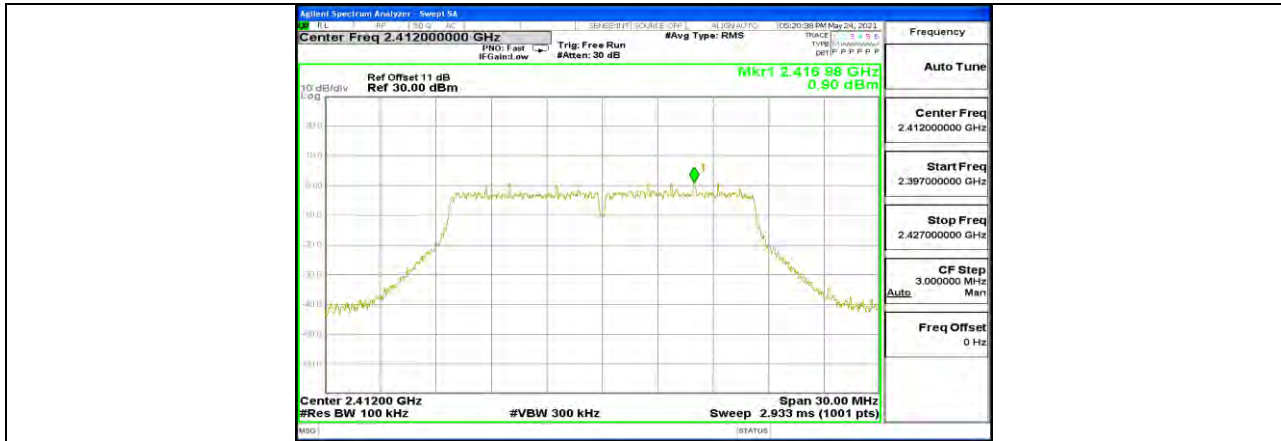
11B_Ant1_2462_0~Reference



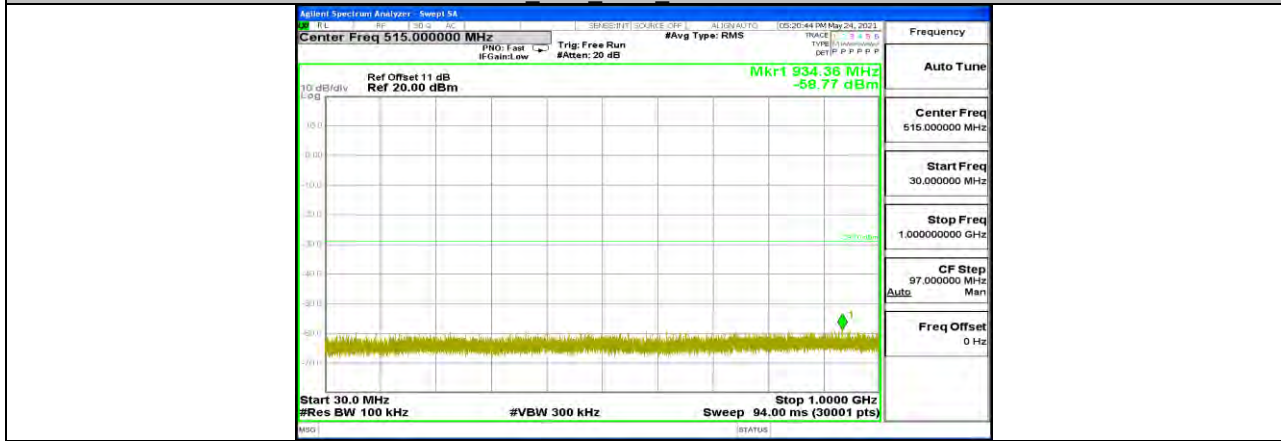
11B_Ant1_2462_30~1000



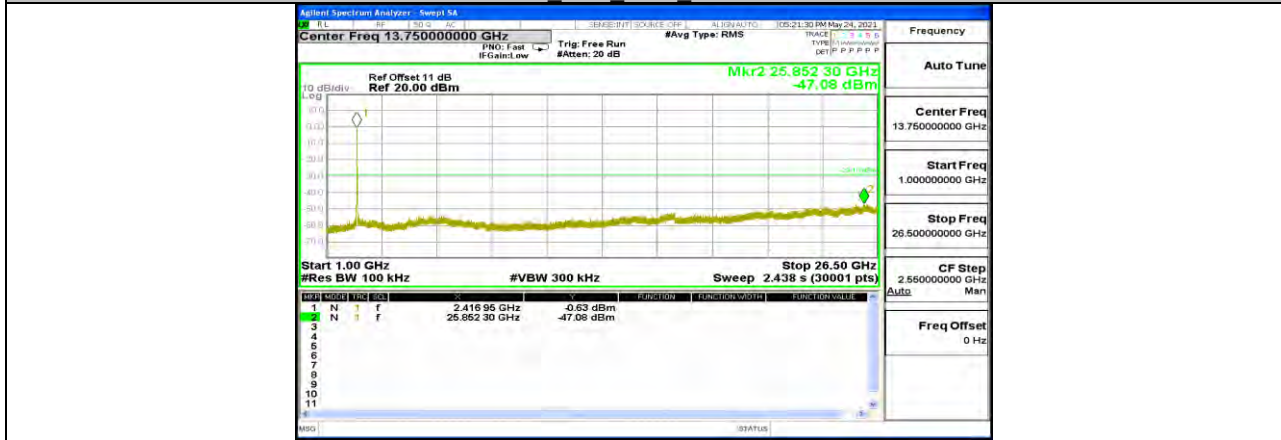
11B_Ant1_2462_1000~26500



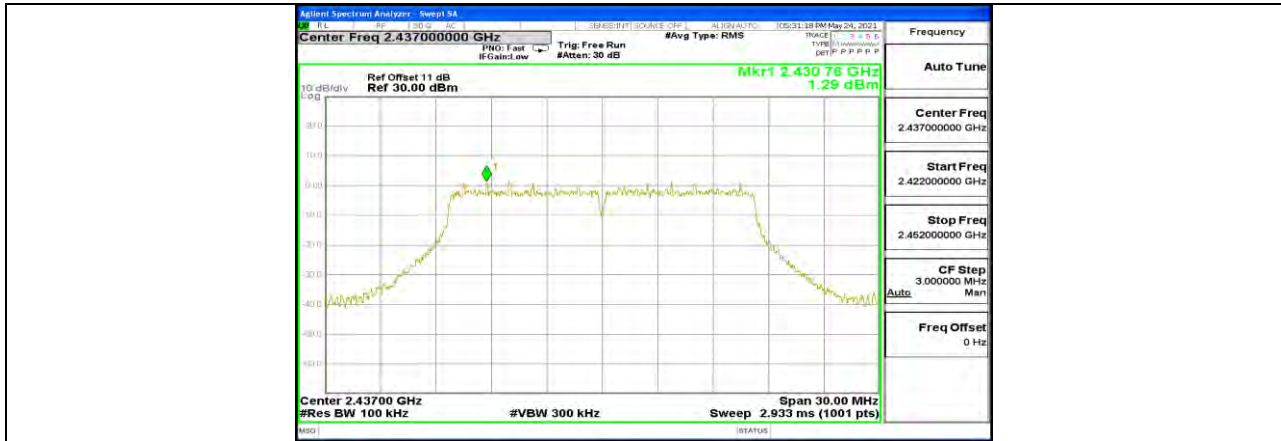
11G Ant1_2412_0~Reference



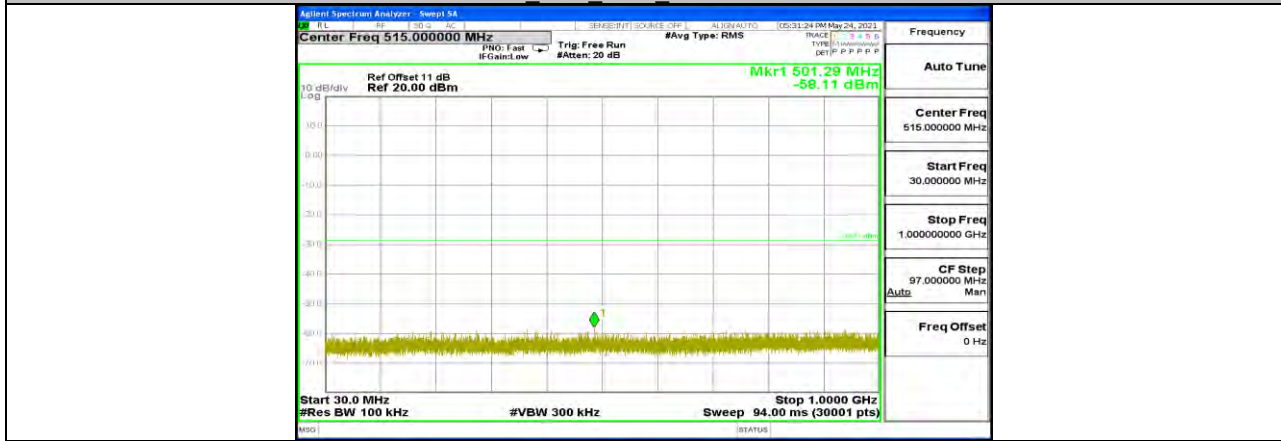
11G Ant1_2412_30~1000



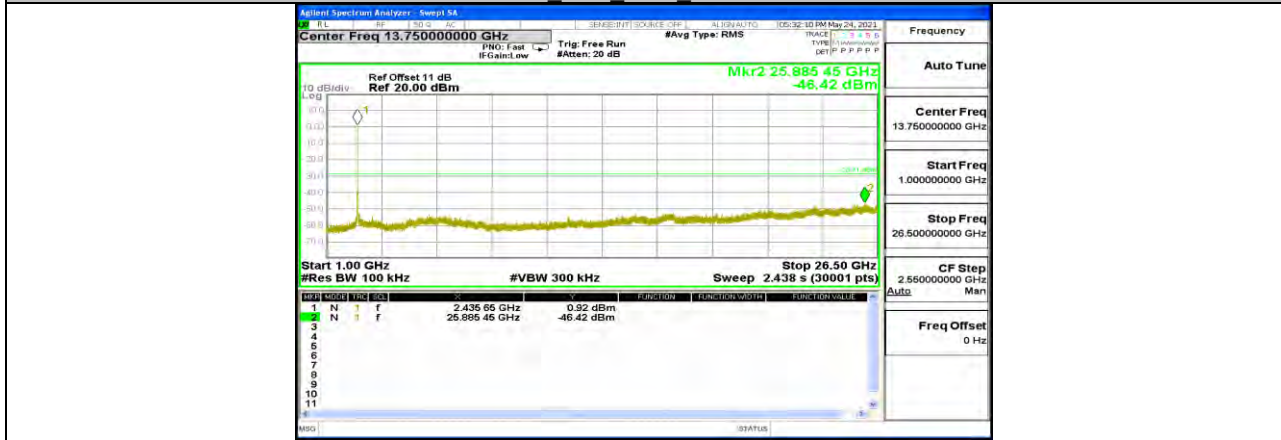
11G Ant1_2412_1000~26500



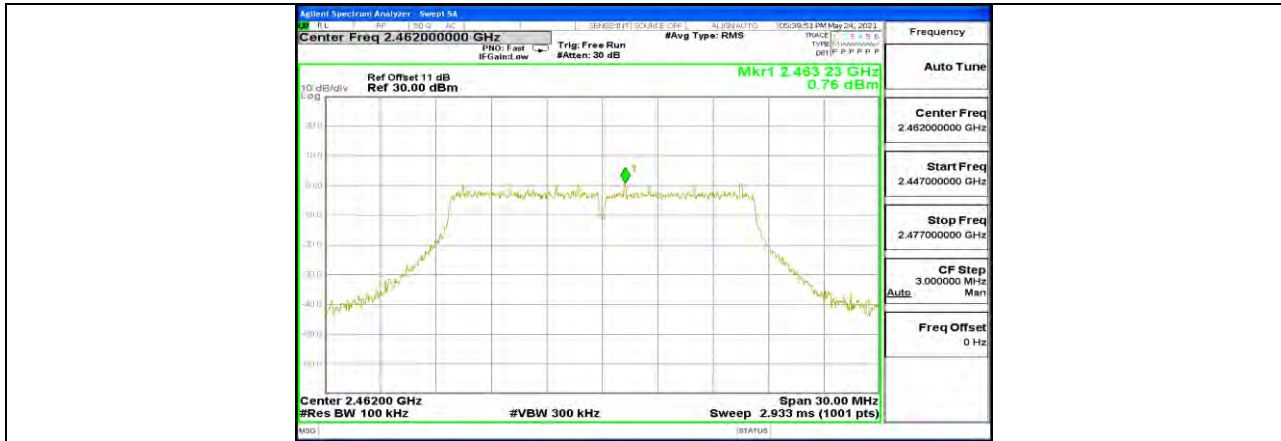
11G Ant1_2437_0~Reference



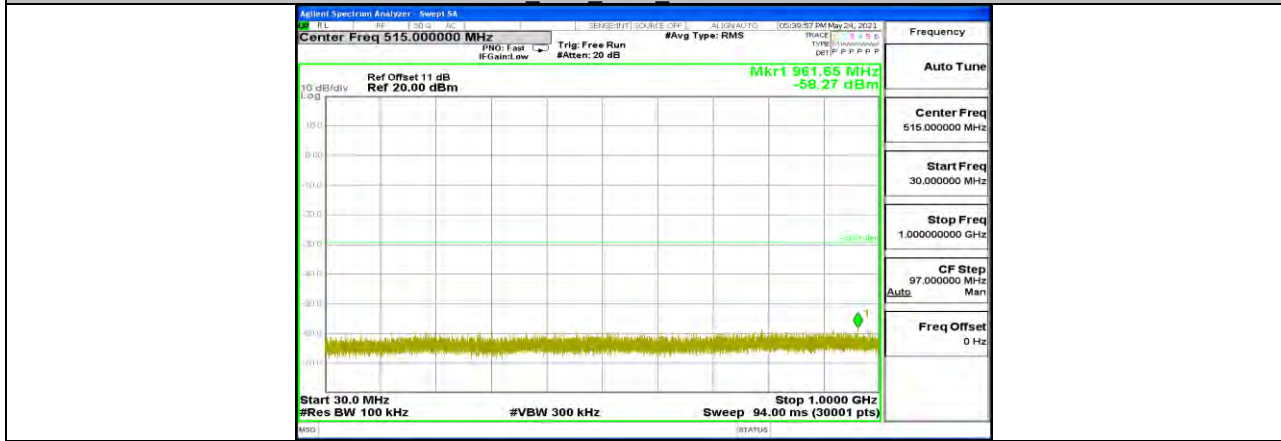
11G Ant1_2437_30~1000



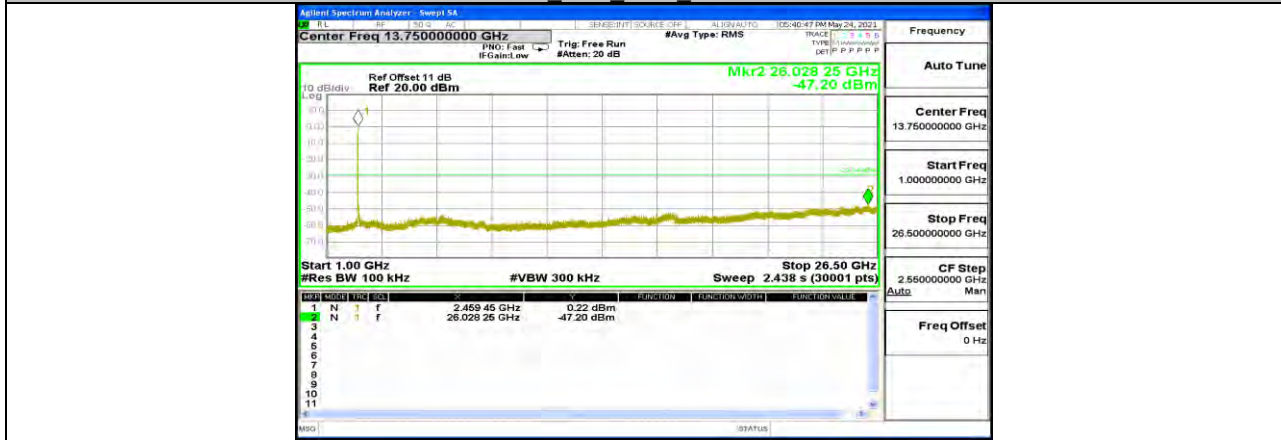
11G Ant1_2437_1000~26500



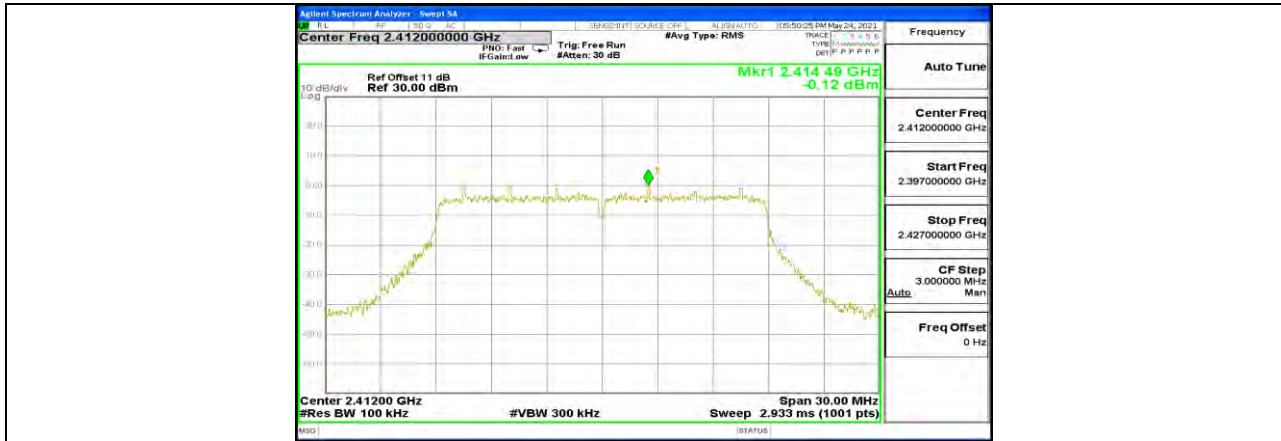
11G Ant1_2462_0~Reference



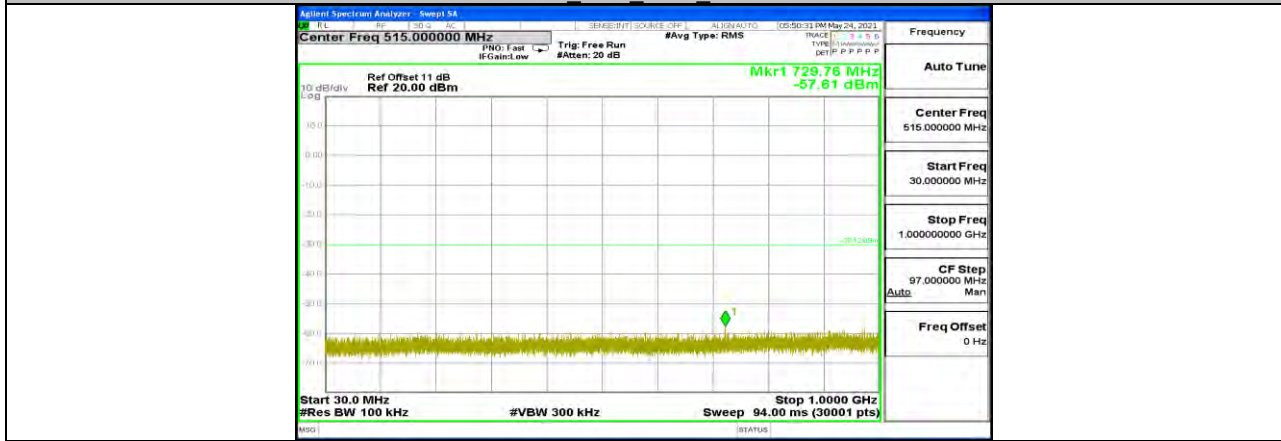
11G Ant1_2462_30~1000



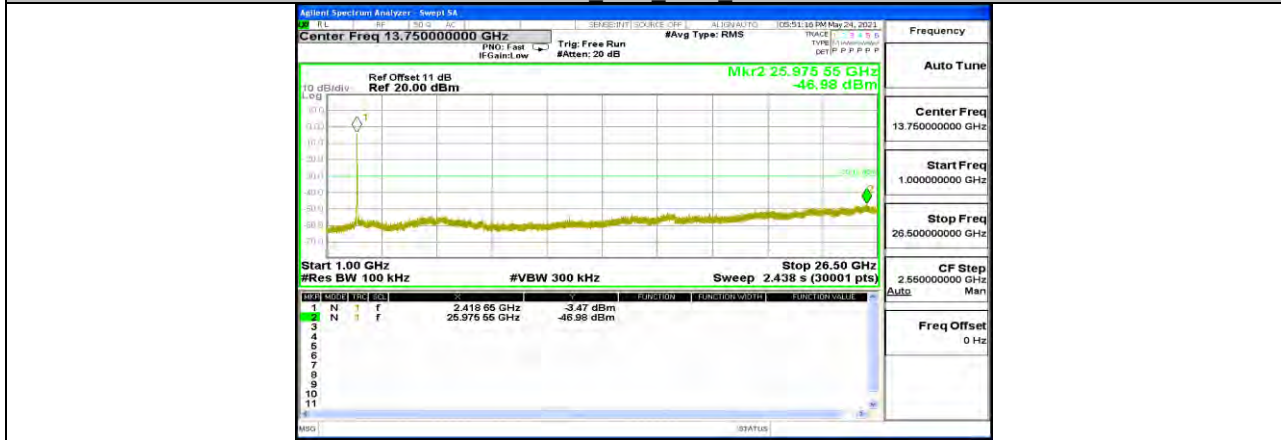
11G Ant1_2462_1000~26500



11N20SISO Ant1 2412 0~Reference



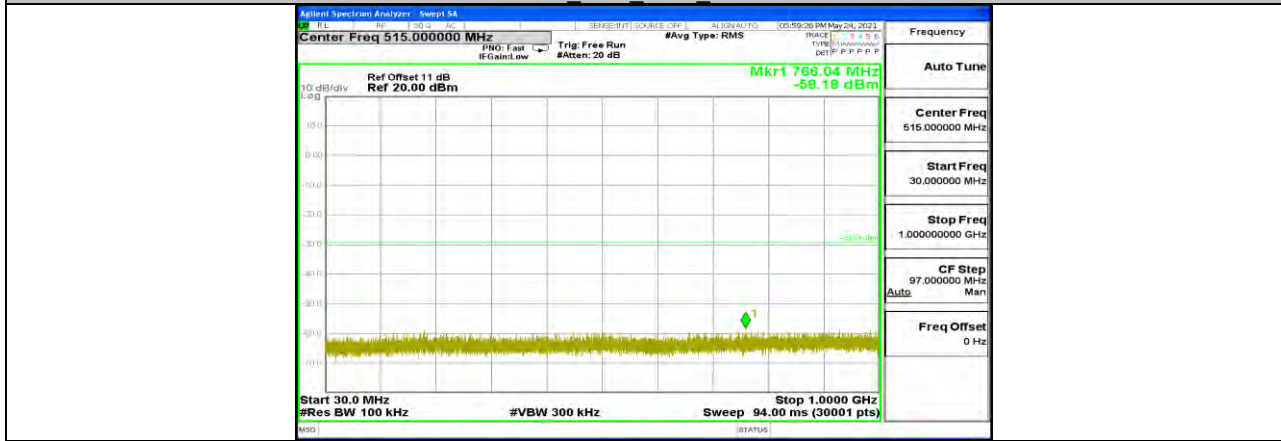
11N20SISO Ant1 2412 30~1000



11N20SISO Ant1 2412 1000~26500



11N20SISO Ant1 2437 0~Reference



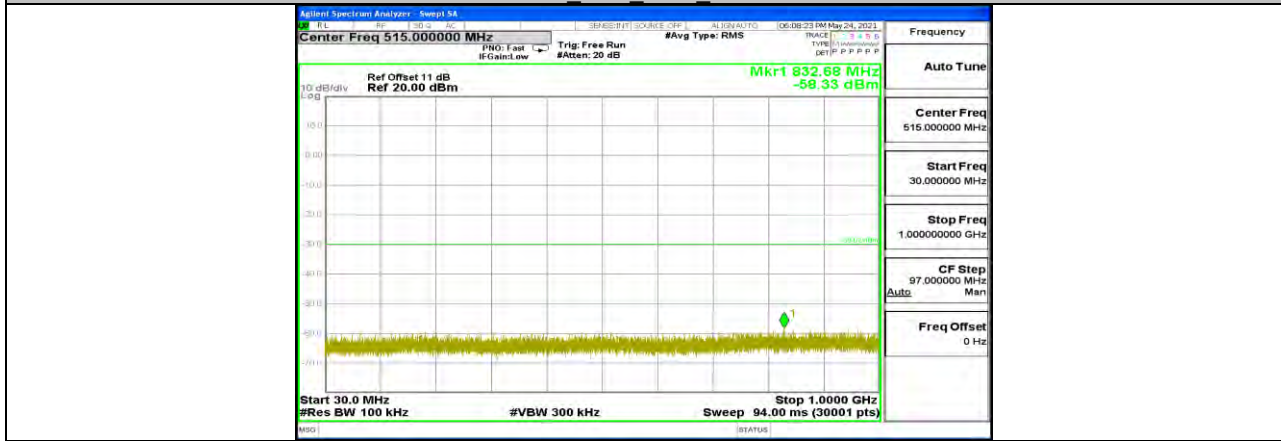
11N20SISO Ant1 2437 30~1000



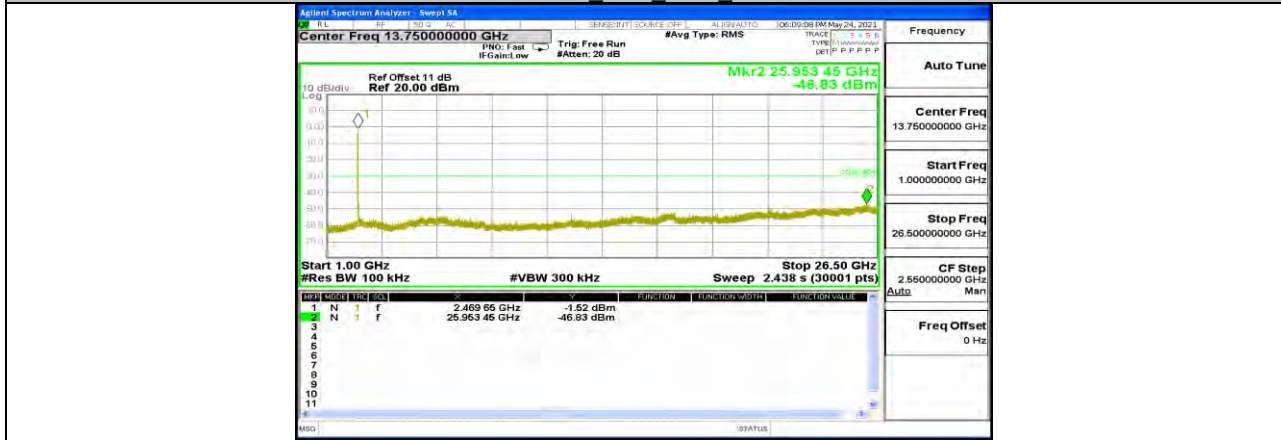
11N20SISO Ant1 2437 1000~26500



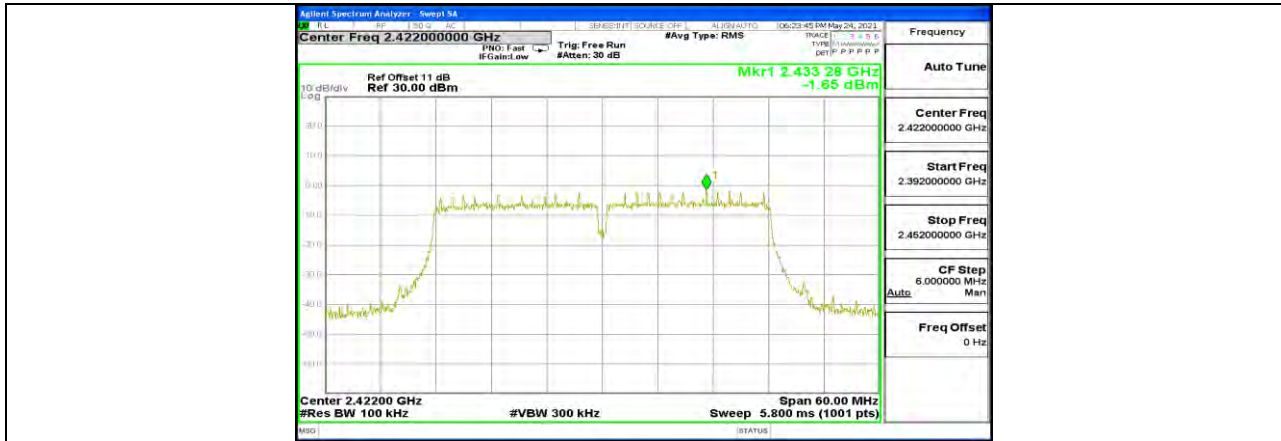
11N20SISO Ant1 2462 0~Reference



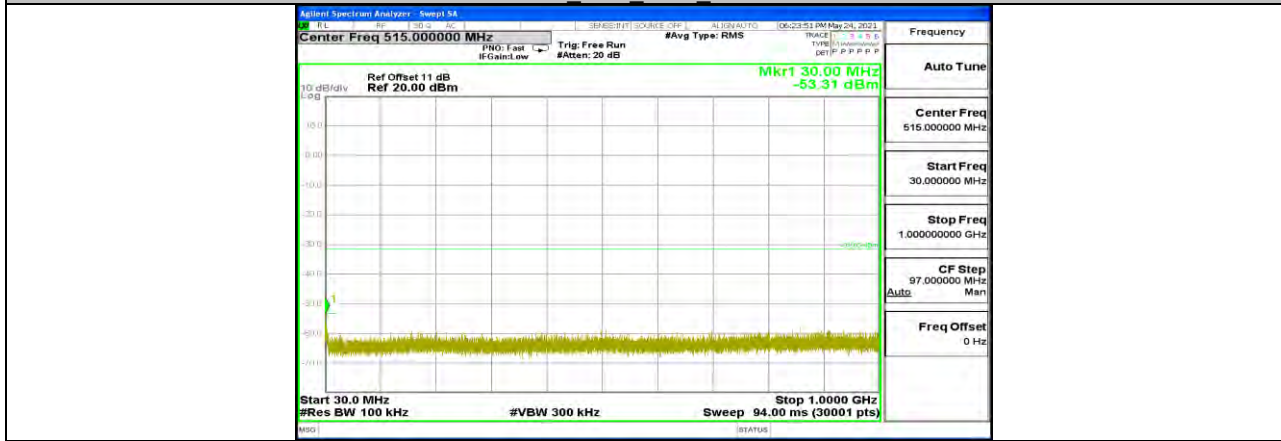
11N20SISO Ant1 2462 30~1000



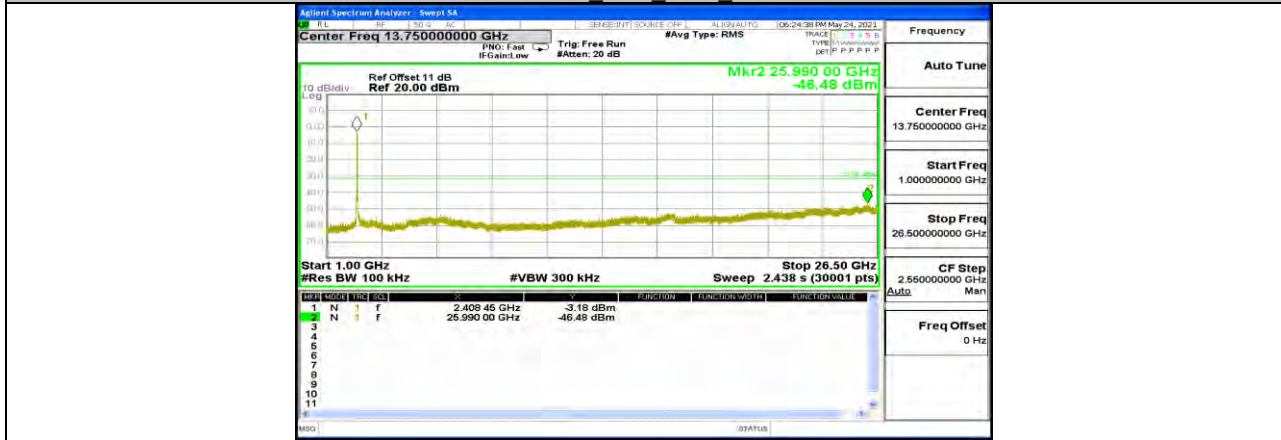
11N20SISO Ant1 2462 1000~26500



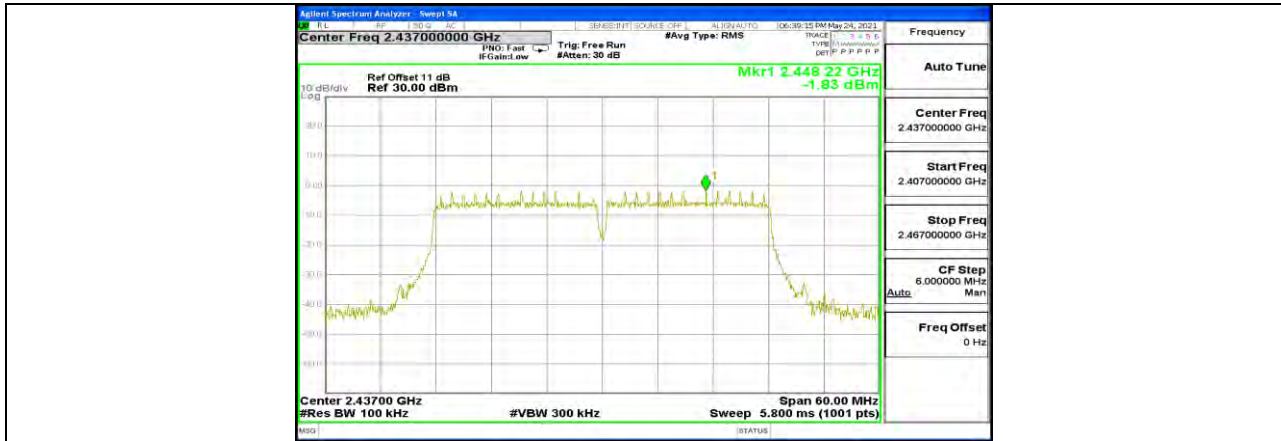
11N40SISO Ant1 2422 0~Reference



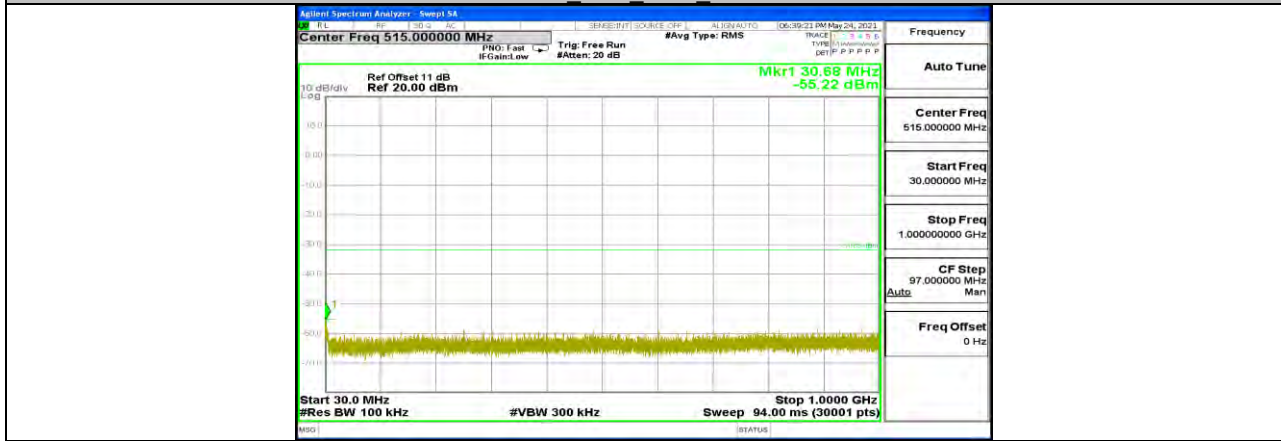
11N40SISO Ant1 2422 30~1000



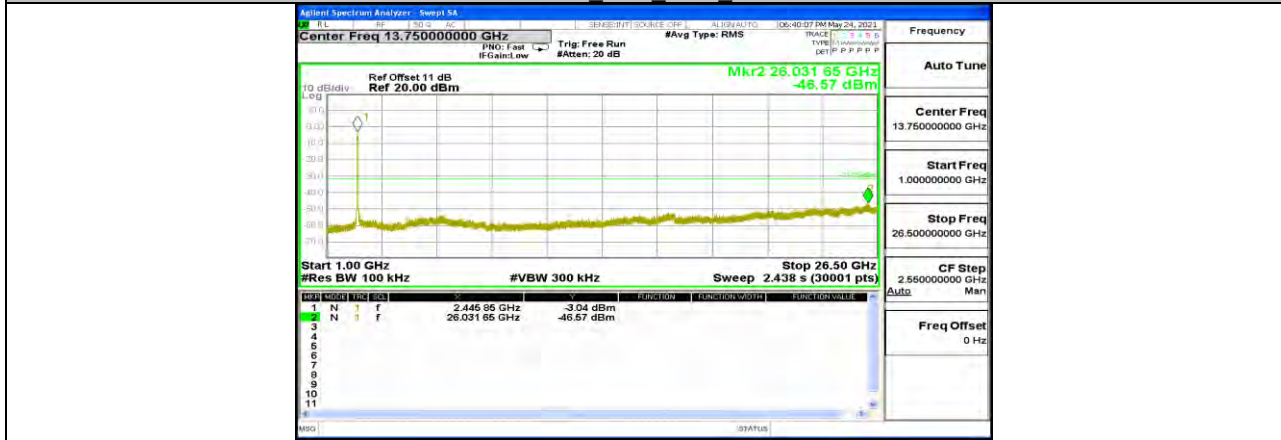
11N40SISO Ant1 2422 1000~26500



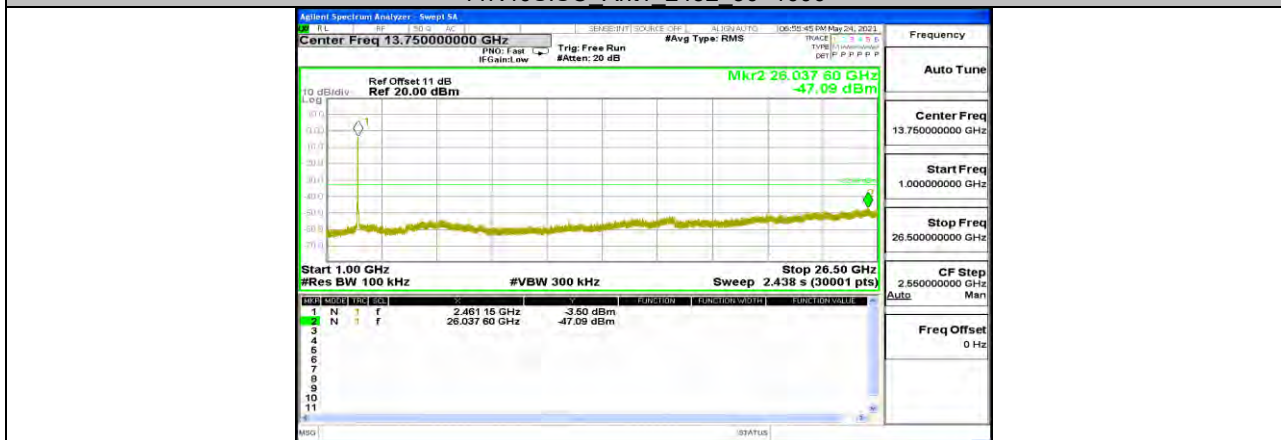
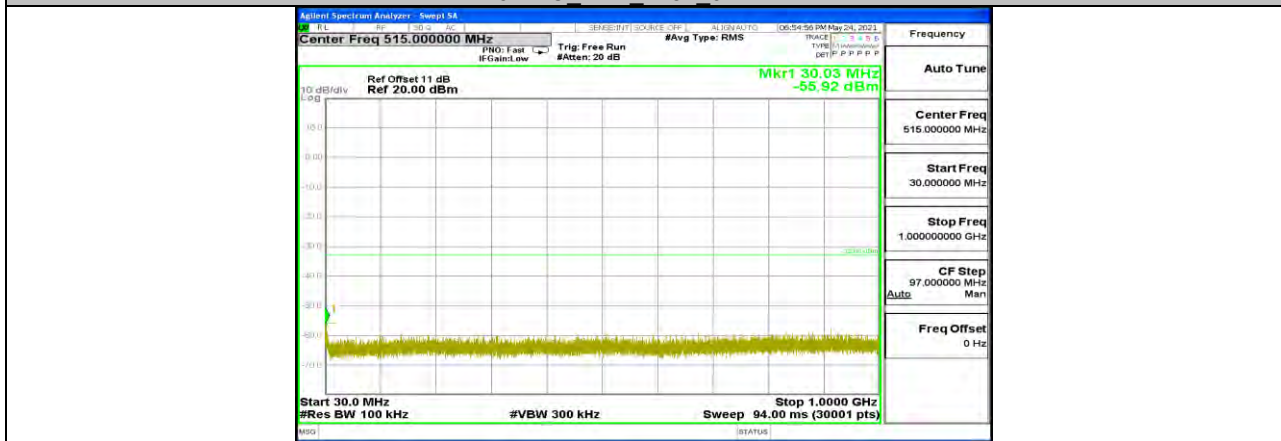
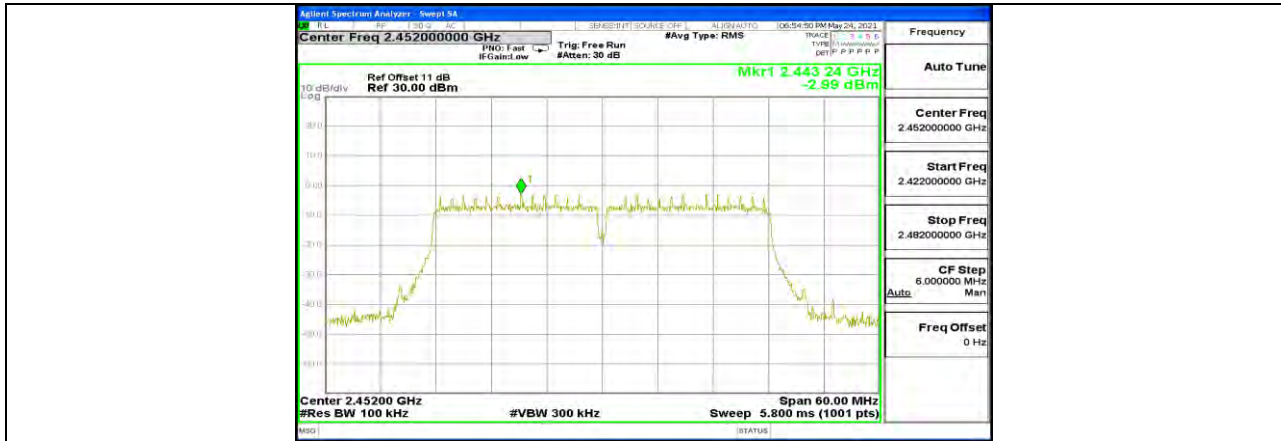
11N40SISO Ant1 2437 0~Reference



11N40SISO Ant1 2437 30~1000



11N40SISO Ant1 2437 1000~26500





10.7. Appendix G: Duty Cycle
10.7.1. Test Result

Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11B	12.41	12.47	0.9952	99.52	0.02	0.08	0.01
11G	2.06	2.20	0.9364	93.64	0.29	0.49	0.5
11N20SISO	1.91	1.99	0.9598	95.98	0.18	0.52	1
11N40SISO	0.94	1.08	0.8704	87.04	0.60	1.06	2

Note:

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

Where: x is Duty Cycle (Linear)

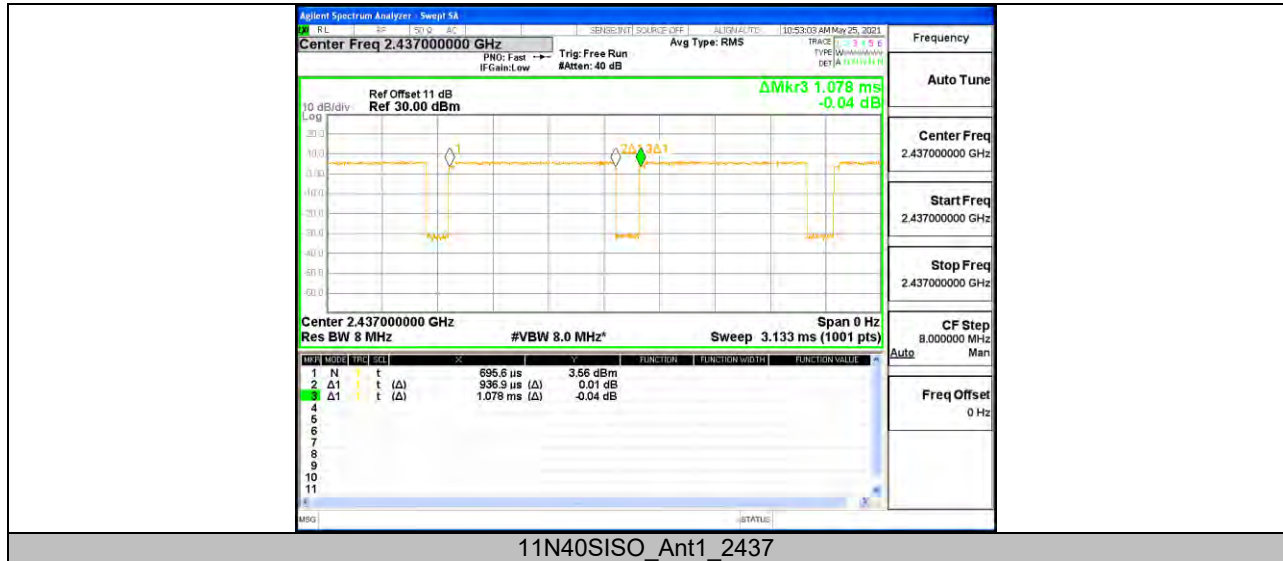
Where: T is On Time

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



10.7.2. Test Graphs





11N40SISO_Ant1_2437

END OF REPORT