CFR 47 FCC PART 15 SUBPART C

CERTIFICATION TEST REPORT

For

SWITCH

MODEL NUMBER: HSA11FWB

FCC ID: 2AB2QHSA11FWB

REPORT NUMBER: 4789572661-3

ISSUE DATE: August 26, 2020

LEEDARSON LIGHTING CO.,Ltd.
XINGDA RD, XINGTAI INDUSTRIAL ZONE, CHANGTAI COUNTY, ZHANGZHOU, FUJIAN, 363900, CHINA

Prepared by

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

Rev.	Issue Date	Revisions	Revised By
V0	08/26/2020	Initial Issue	

Summary of Test Results			
Clause	**Test Items**	**FCC Rules**	**Test Results**
1	6dB Bandwidth and 99% Occupied 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.			

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UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch   FORM No: 10-SL-F0088

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: LEEDARSON LIGHTING CO.,Ltd.
Address: XINGDA RD, XINGTAI INDUSTRIAL ZONE, CHANGTAI COUNTY, ZHANGZHOU, FUJIAN, 363900, CHINA

Manufacturer Information

Company Name: LEEDARSON LIGHTING CO.,Ltd.
Address: XINGDA RD, XINGTAI INDUSTRIAL ZONE, CHANGTAI COUNTY, ZHANGZHOU, FUJIAN, 363900, CHINA

EUT Information

EUT Name: SWITCH
Model: HSA11FWB
Sample Status: Normal
Sample ID: 3220786
Sample Received Date: July 29, 2020
Date of Tested: July 29, 2020~ August 7, 2020

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

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, 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 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz 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	3.62dB
Radiation Emission test(include Fundamental emission) (9KHz-30MHz)	2.2dB
Radiation Emission test(include Fundamental emission) (30MHz-1GHz)	4.00dB
Radiation Emission test (1GHz to 26GHz)(include Fundamental emission)	5.78dB (1GHz-18GHz)
	5.23dB (18GHz-26GHz)
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

Equipment	SWITCH
Model Name	HSA11FWB
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	AC120V,60Hz

5.2. MAXIMUM OUTPUT POWER

Number of Transmit Chains (NTX)	IEE Std. 802.11	Frequency (MHz)	Channel Number	Max AV Conducted Power (dBm)
1	IEEE 802.11b	2412-2462	1-11[11]	17.26
1	IEEE 802.11g	2412-2462	1-11[11]	15.87
1	IEEE 802.11nHT20	2412-2462	1-11[11]	13.36
1	IEEE 802.11nHT40	2422-2452	3-9[7]	12.46

5.3. 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	/	/

5.4. 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 Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band							
Test Software		ESP_RF_test_tool_v1.1.0					
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	Default	Default	Default			
802.11g	1	7	7	7	/		
802.11n HT20	1	14	14	14			
802.11n HT40	1	/			22	22	22

5.6. THE WORSE CASE CONFIGURATIONS

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

5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	PCB antenna	-1.7

Test Mode	Transmit and Receive Mode	Description
IEEE 802.11b	☒1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.
IEEE 802.11g	☒1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.
IEEE 802.11n HT20	☒1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.
IEEE 802.11n HT40	☒1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.

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

5.8. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests	
Relative Humidity	45 ~ 70%	
Atmospheric Pressure:	1025Pa	
Temperature	TN	22 ~ 28°C
Voltage :	VL	N/A
	VN	AC120V,60Hz
	VH	N/A

Note: VL= Lower Extreme Test Voltage

VN= Nominal Voltage

VH= Upper Extreme Test Voltage

TN= Normal Temperature

5.9.　DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	ThinkPad	X230i	/
2	USB TO UART	/	/	/
3	LED Lamp	/	/	100W

I/O CABLES

Item	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	NA	NA	1	/

ACCESSORY

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

TEST SETUP

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

SETUP DIAGRAM FOR TEST
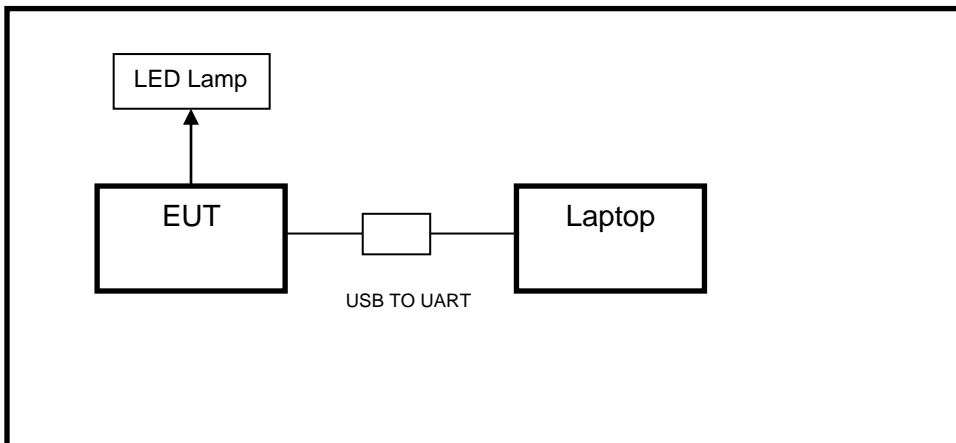
6. MEASURING INSTRUMENT AND SOFTWARE USED

			Conducted Emissions			
			Instrument			
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
☑	EMI Test Receiver	R&S	ESR3	101961	Dec.05,2019	Dec.05,2020
☑	Two-Line V-Network	R&S	ENV216	101983	Dec.05,2019	Dec.05,2020
☑	Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Dec.05,2019	Dec.05,2020
			Software			
Used	Description			Manufacturer	Name	Version
☑	Test Software for Conducted disturbance			Farad	EZ-EMC	Ver. UL-3A1
			Radiated Emissions			
			Instrument			
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
☑	MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Dec.06,2019	Dec.05,2020
☑	Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Sep.17,2018	Sep.17,2021
☑	Preamplifier	HP	8447D	2944A09099	Dec.05,2019	Dec.05,2020
☑	EMI Measurement Receiver	R&S	ESR26	101377	Dec.05,2019	Dec.05,2020
☑	Horn Antenna	TDK	HRN-0118	130939	Sep.17,2018	Sep.17,2021
☑	High Gain Horn Antenna	Schwarzbeck	BBHA-9170	691	Aug.11,2018	Aug.11,2021
☑	Preamplifier	TDK	PA-02-0118	TRS-305-00067	Dec.05,2019	Dec.05,2020
☑	Preamplifier	TDK	PA-02-2	TRS-307-00003	Dec.05,2019	Dec.05,2020
☑	Loop antenna	Schwarzbeck	1519B	00008	Jan.07,2019	Jan.07,2022
☑	Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	4	Dec.05,2019	Dec.05,2020
☑	High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Dec.05,2019	Dec.05,2020
			Software			
Used	Description			Manufacturer	Name	Version
☑	Test Software for Radiated disturbance			Farad	EZ-EMC	Ver. UL-3A1
			Other instruments			
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
☑	Spectrum Analyzer	Keysight	N9030A	MY55410512	Dec.06,2019	Dec.05,2020
☑	Power sensor, Power Meter	R&S	OSP120	100921	Dec.06,2019	Dec.06,2020

7. ANTENNA PORT TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method

TEST SETUP
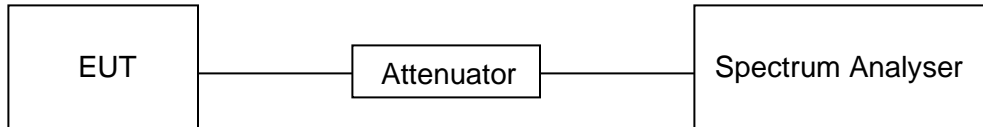
```
┌──────────┐        ┌────────────┐        ┌────────────────────┐
│          │        │            │        │                    │
│   EUT    │────────│ Attenuator │────────│  Spectrum Analyser │
│          │        │            │        │                    │
└──────────┘        └────────────┘        └────────────────────┘
```

TEST ENVIRONMENT

Temperature	25.5°C	Relative Humidity	60.9%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V, 60Hz

RESULTS

Please refer to appendix A.

7.2. 6 dB DTS BANDWIDTH AND 99% OCCUPIED BANDWIDTH

LIMITS

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

TEST PROCEDURE

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

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	For 6dB Bandwidth :100kHz For 99% Occupied Bandwidth :1% to 5% of the occupied bandwidth
VBW	For 6dB Bandwidth : ≥3 × RBW For 99% Occupied Bandwidth : ≥3×RBW
Trace	Max hold
Sweep	Auto couple

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 and 99% relative to the maximum level measured in the fundamental emission.

TEST SETUP

TEST ENVIRONMENT

Temperature	25.5°C	Relative Humidity	60.9%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V, 60Hz

RESULTS

Please refer to appendix B and C.

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)	Output Power	1 watt or 30dBm	2400-2483.5

TEST PROCEDURE

Place the EUT on the table and set it in the transmitting mode.
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.
Measure peak power each channel.
AVG Detector use for AVG result.

TEST SETUP
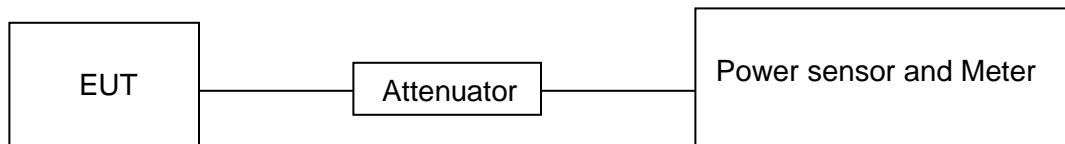
EUT	—	Attenuator	—	Power sensor and Meter

TEST ENVIRONMENT

Temperature	25.5°C	Relative Humidity	60.9%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V, 60Hz

RESULTS

Please refer to appendix D.

7.4. POWER SPECTRAL DENSITY

<u>**LIMITS**</u>

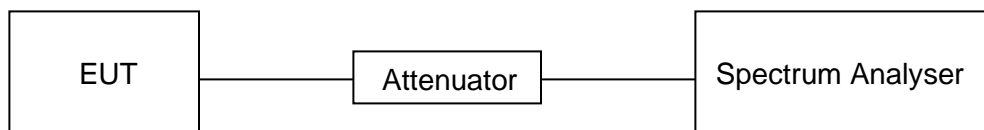| CFR 47 FCC Part15 (15.247) Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC §15.247 (e)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

<u>**TEST PROCEDURE**</u>

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

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

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

<u>**TEST SETUP**</u>
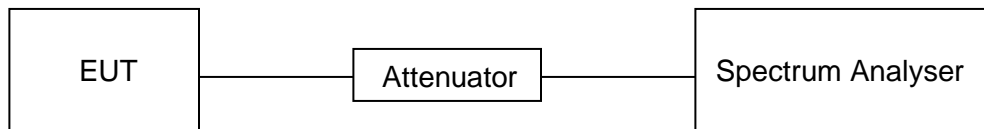
EUT — Attenuator — Spectrum Analyser

<u>**TEST ENVIRONMENT**</u>

Temperature	25.5°C	Relative Humidity	60.9%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V, 60Hz

<u>**RESULTS**</u>

Please refer to appendix E.

7.5. CONDUCTED BANDEDGE 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

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

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

Use the peak marker function to determine the maximum PSD level.

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

Use the peak marker function to determine the maximum amplitude level.

TEST SETUP
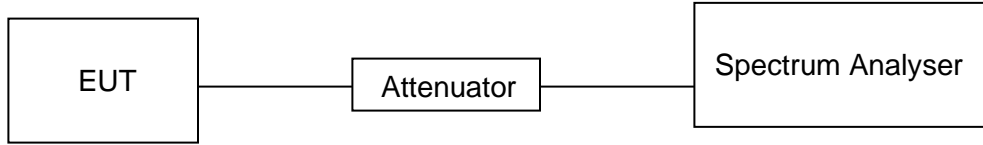
```
┌──────────┐        ┌────────────┐        ┌──────────────────┐
│          │        │            │        │                  │
│   EUT    │────────│ Attenuator │────────│ Spectrum Analyser │
│          │        │            │        │                  │
└──────────┘        └────────────┘        └──────────────────┘
```

TEST ENVIRONMENT

Temperature	25.5°C	Relative Humidity	60.9%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V, 60Hz

RESULTS

Please refer to appendix F and G.

8. RADIATED TEST RESULTS

LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209

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

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

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

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

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

TEST SETUP AND PROCEDURE

Below 30MHz
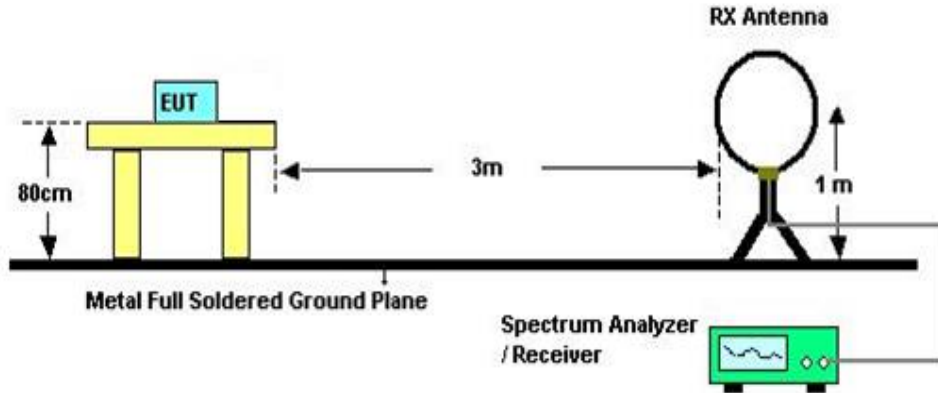
The setting of the spectrum analyser

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

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

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 0.8 meter above ground.

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

5. For measurement below 1GHz, 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.

6. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

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

Below 1G
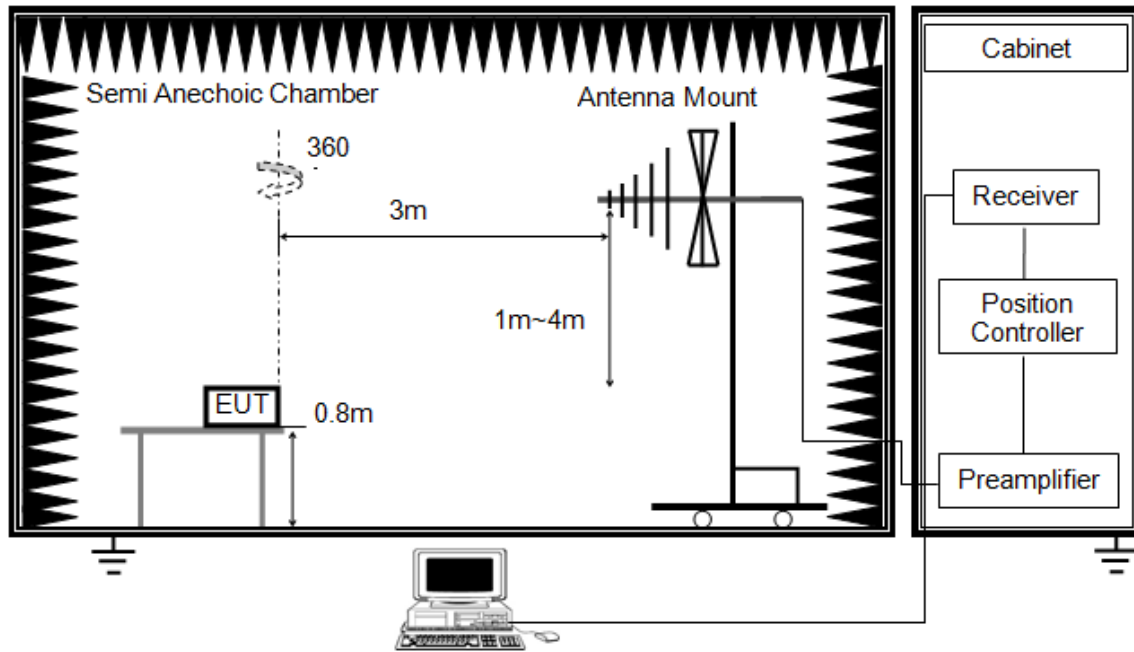
The setting of the spectrum analyser

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

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

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 0.8 meter above ground.

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

5. For measurement below 1GHz, 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 1G
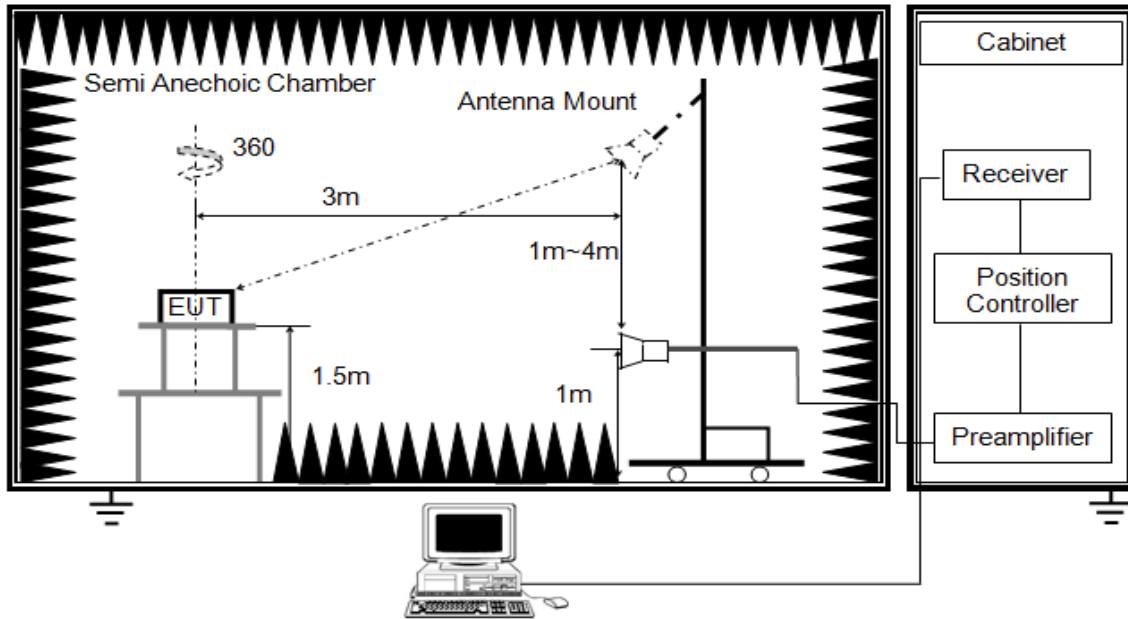
The setting of the spectrum analyser

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

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

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 1.5m 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 1GHz, 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:
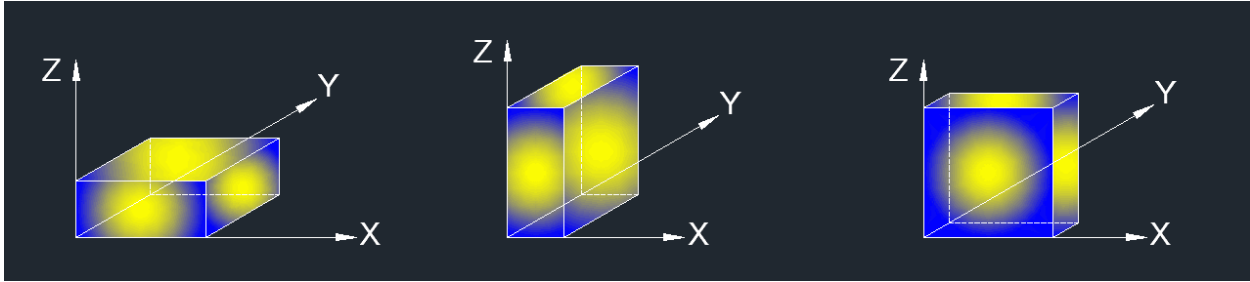
Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

TEST ENVIRONMENT

Temperature	23.2°C	Relative Humidity	58%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V, 60Hz

8.1. RESTRICTED BANDEDGE

8.1.1. 802.11b MODE

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)
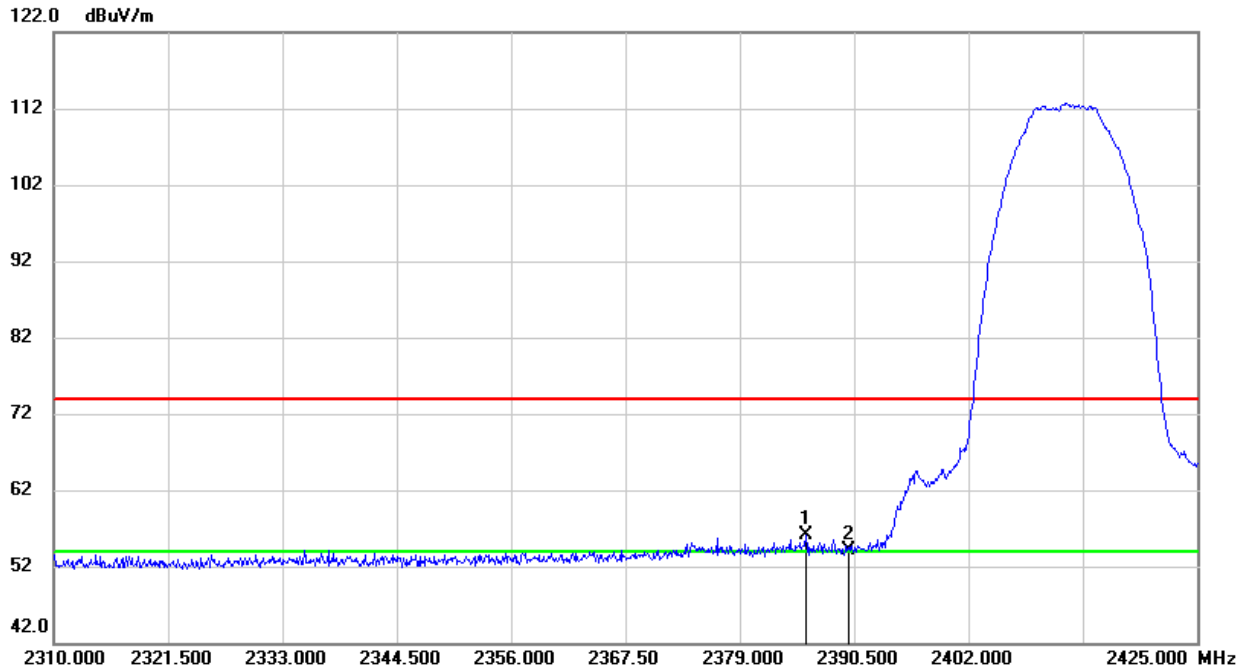
PEAK

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.670	23.10	32.93	56.03	74.00	-17.97	peak
2	2390.000	21.25	32.94	54.19	74.00	-19.81	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG
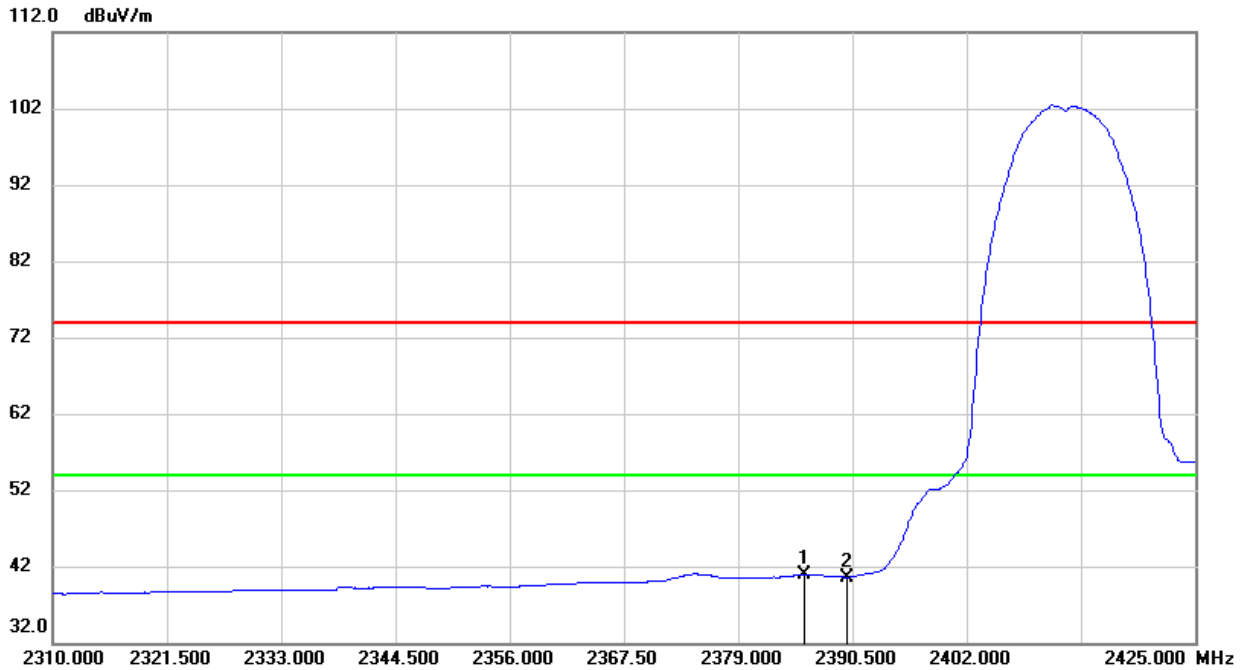
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.670	7.98	32.93	40.91	54.00	-13.09	AVG
2	2390.000	7.63	32.94	40.57	54.00	-13.43	AVG

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. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

PEAK

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.590	22.18	32.94	55.12	74.00	-18.88	peak
2	2390.000	20.09	32.94	53.03	74.00	-20.97	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG
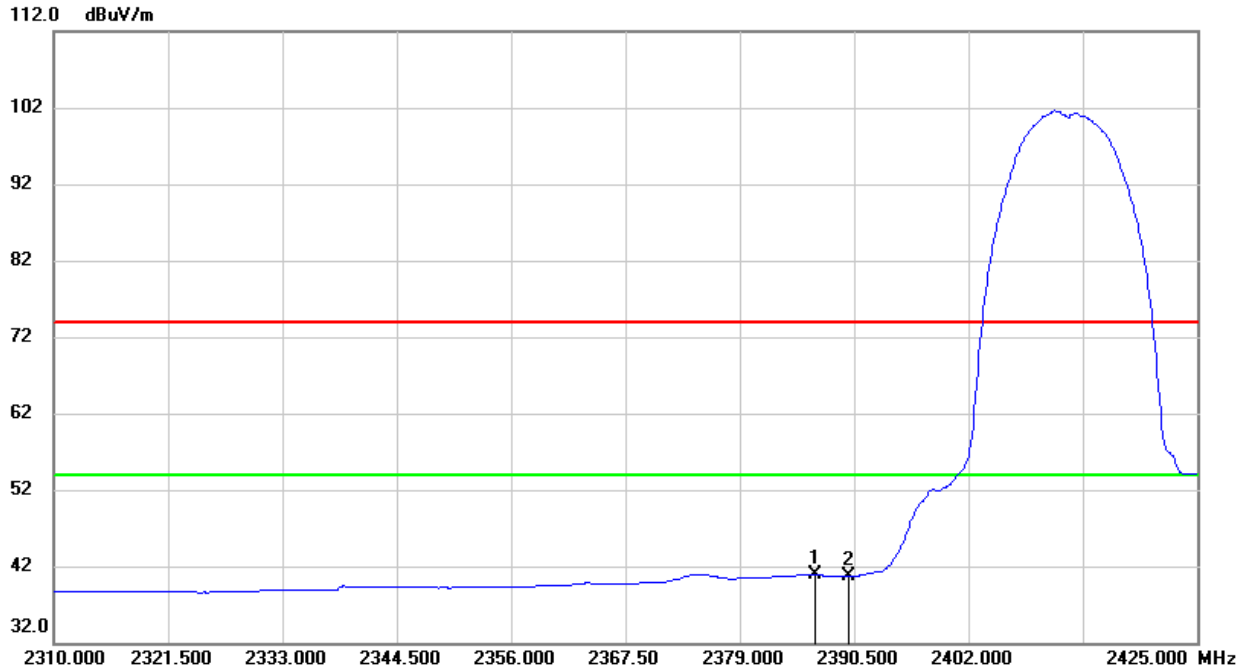
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.590	8.01	32.94	40.95	54.00	-13.05	AVG
2	2390.000	7.66	32.94	40.60	54.00	-13.40	AVG

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. Peak: Peak detector.
　　　　4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
　　　　5. For the transmitting duration, please refer to clause 7.1.
　　　　6. Only the worst case emission 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	21.80	33.58	55.38	74.00	-18.62	peak
2	2488.750	23.55	33.62	57.17	74.00	-16.83	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
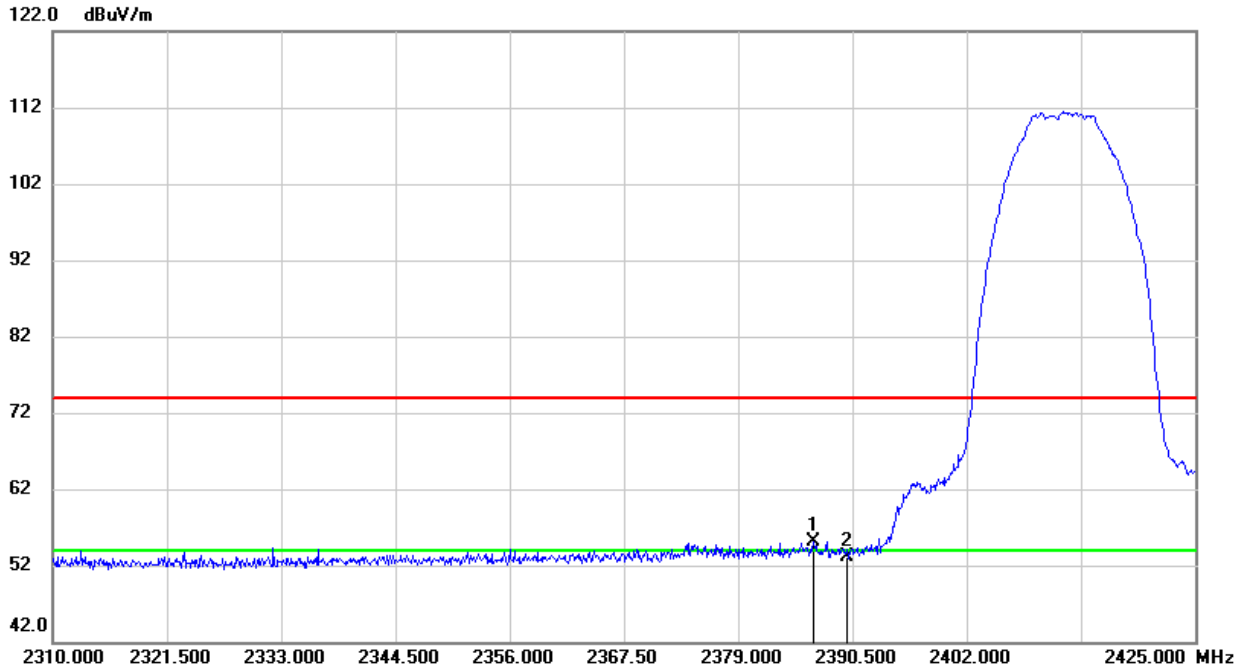
AVG
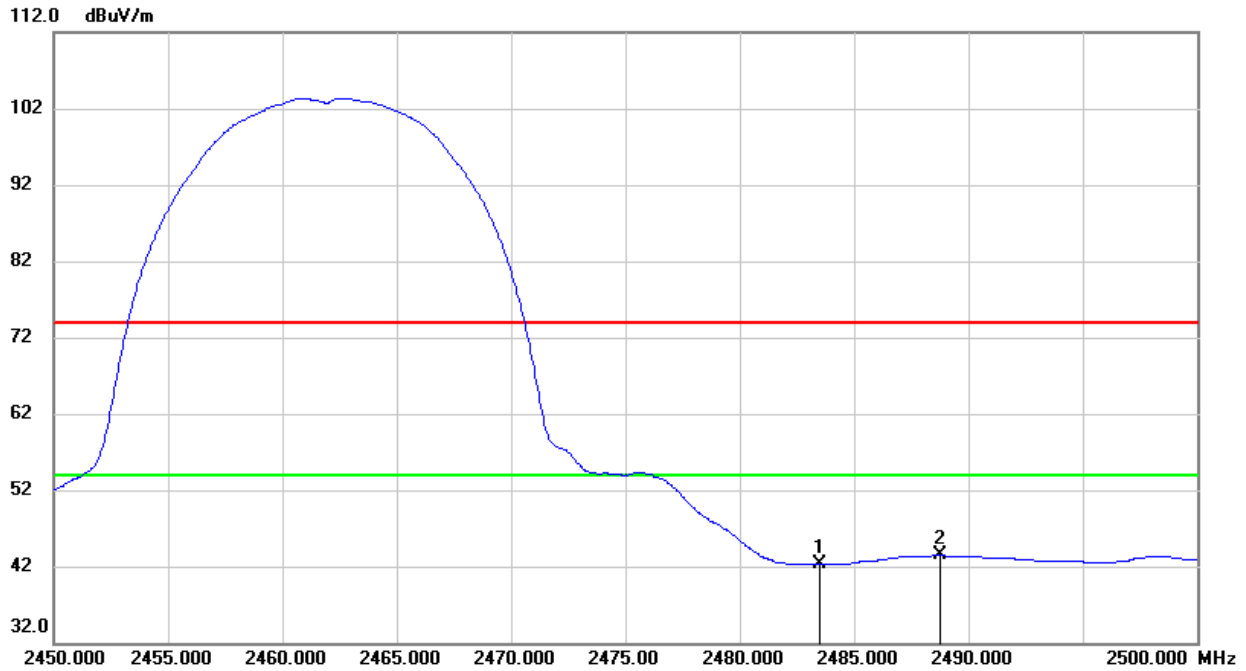
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	8.74	33.58	42.32	54.00	-11.68	AVG
2	2488.750	9.79	33.62	43.41	54.00	-10.59	AVG

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. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission 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	21.68	33.58	55.26	74.00	-18.74	peak
2	2489.550	24.22	33.62	57.84	74.00	-16.16	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
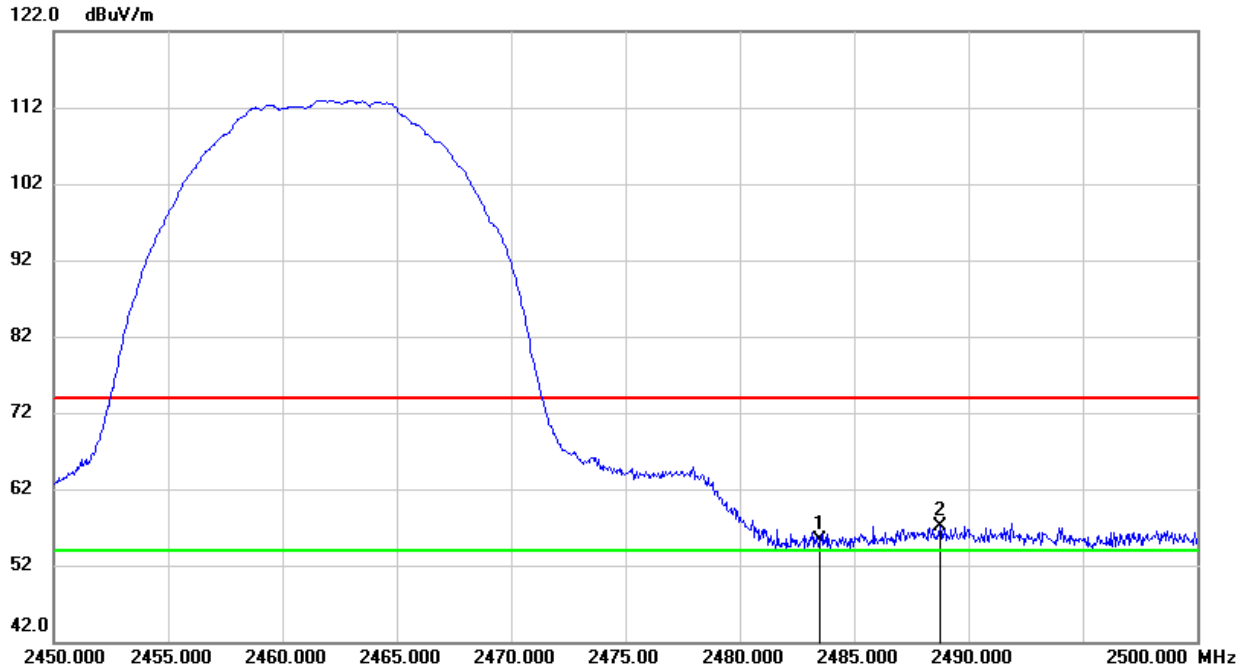
AVG
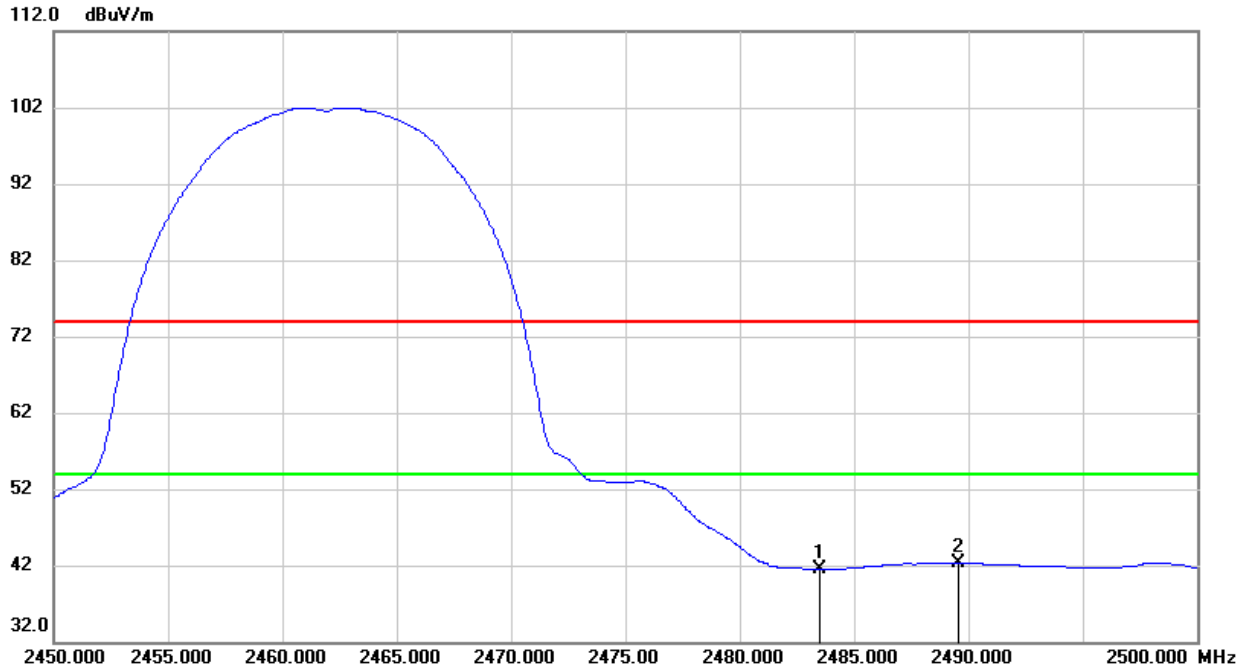
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	7.98	33.58	41.56	54.00	-12.44	AVG
2	2489.550	8.63	33.62	42.25	54.00	-11.75	AVG

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. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

8.1.2. 802.11g MODE

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

PEAK

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	33.07	32.94	66.01	74.00	-7.99	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

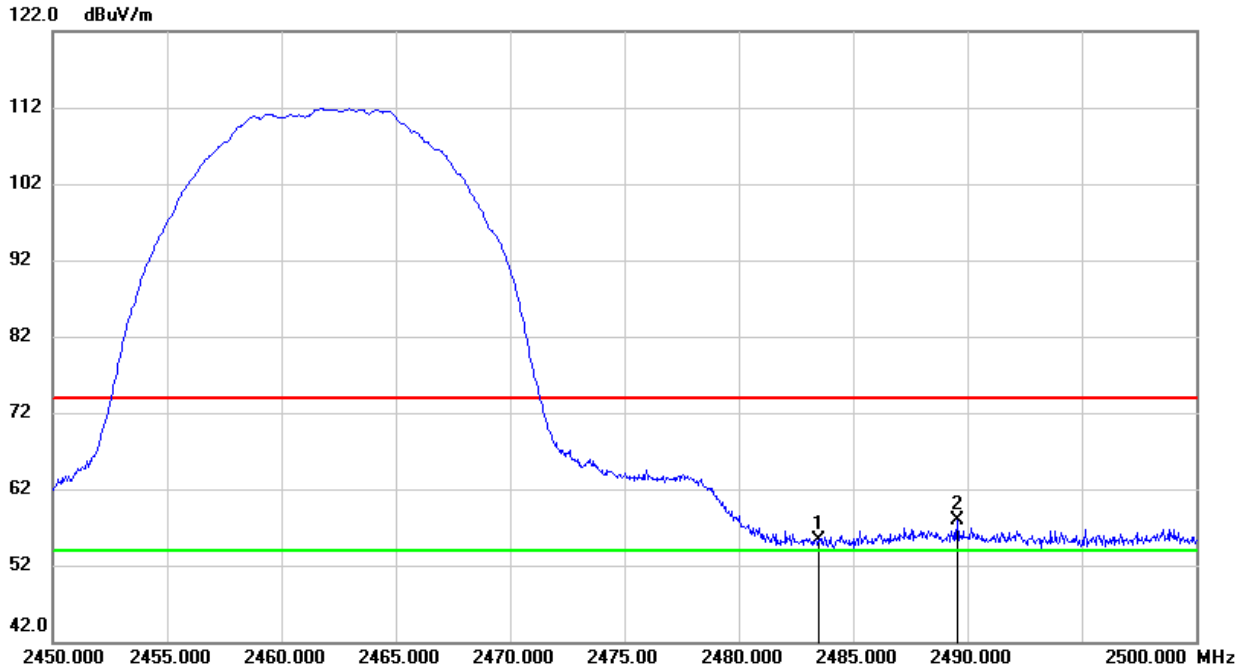| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	16.49	32.94	49.43	54.00	-4.57	AVG

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. Peak: Peak detector.
 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
 5. For the transmitting duration, please refer to clause 7.1.
 6. Only the worst case emission was recorded, if it complies with the limit, the other
emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

PEAK

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	31.98	32.94	64.92	74.00	-9.08	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG
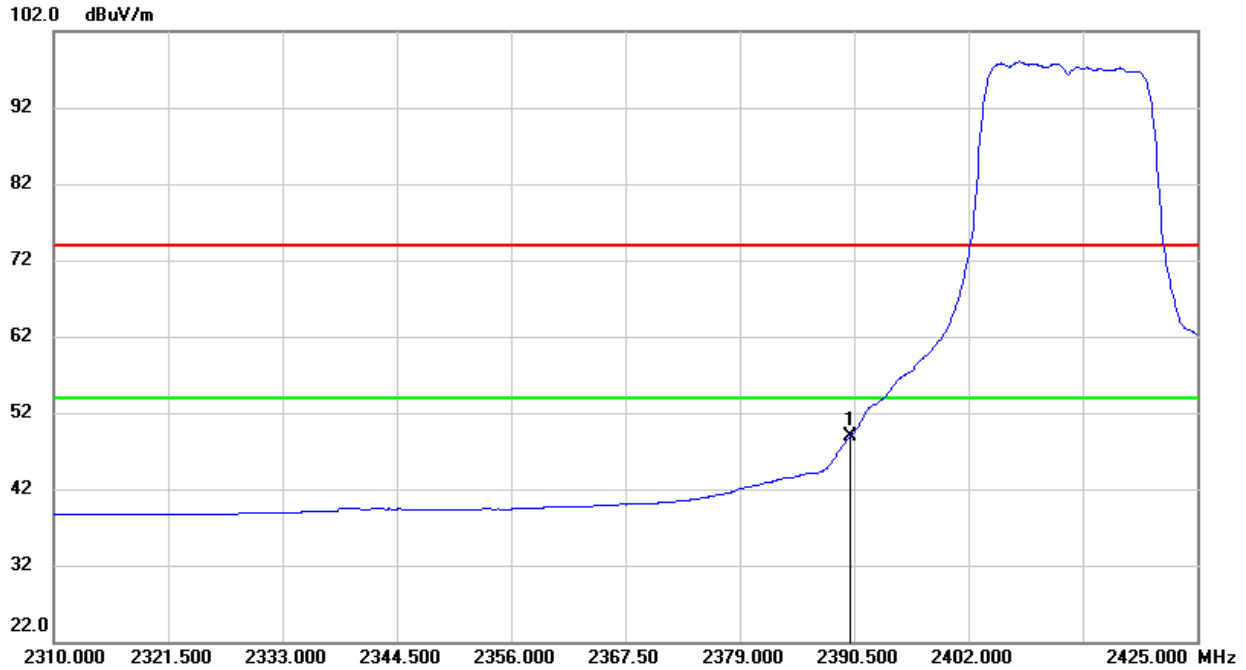
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	15.97	32.94	48.91	54.00	-5.09	AVG

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. Peak: Peak detector.
　　　　4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
　　　　5. For the transmitting duration, please refer to clause 7.1.
　　　　6. Only the worst case emission was recorded, if it complies with the limit, the other
emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

PEAK

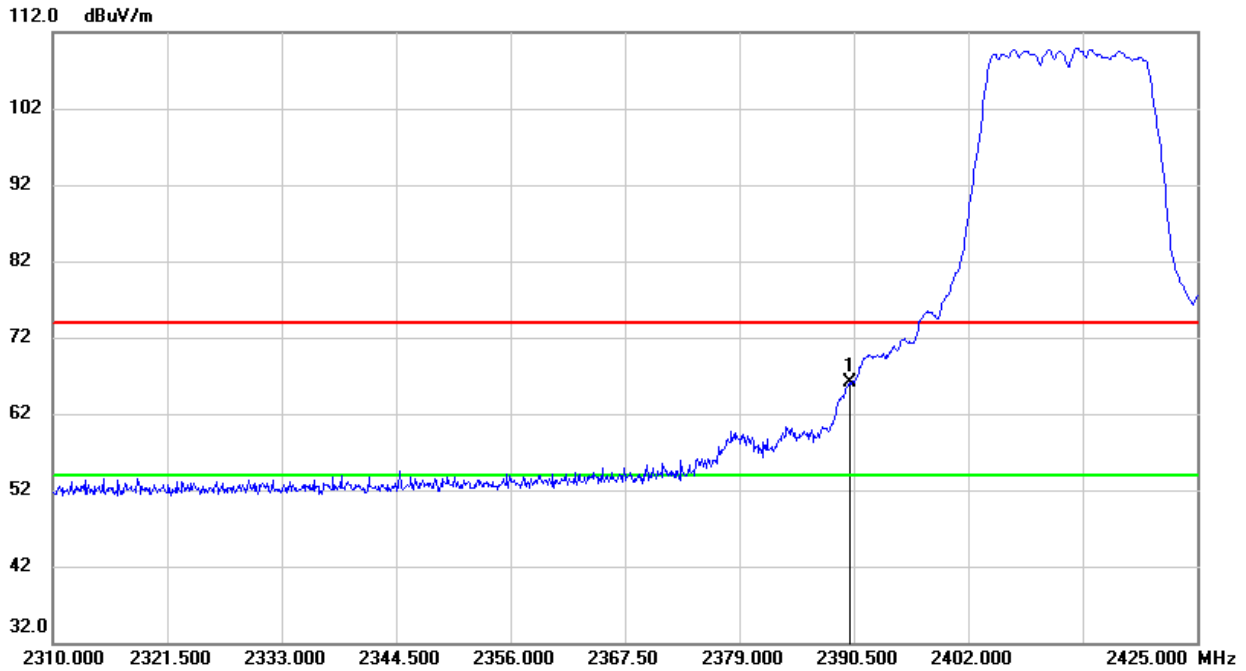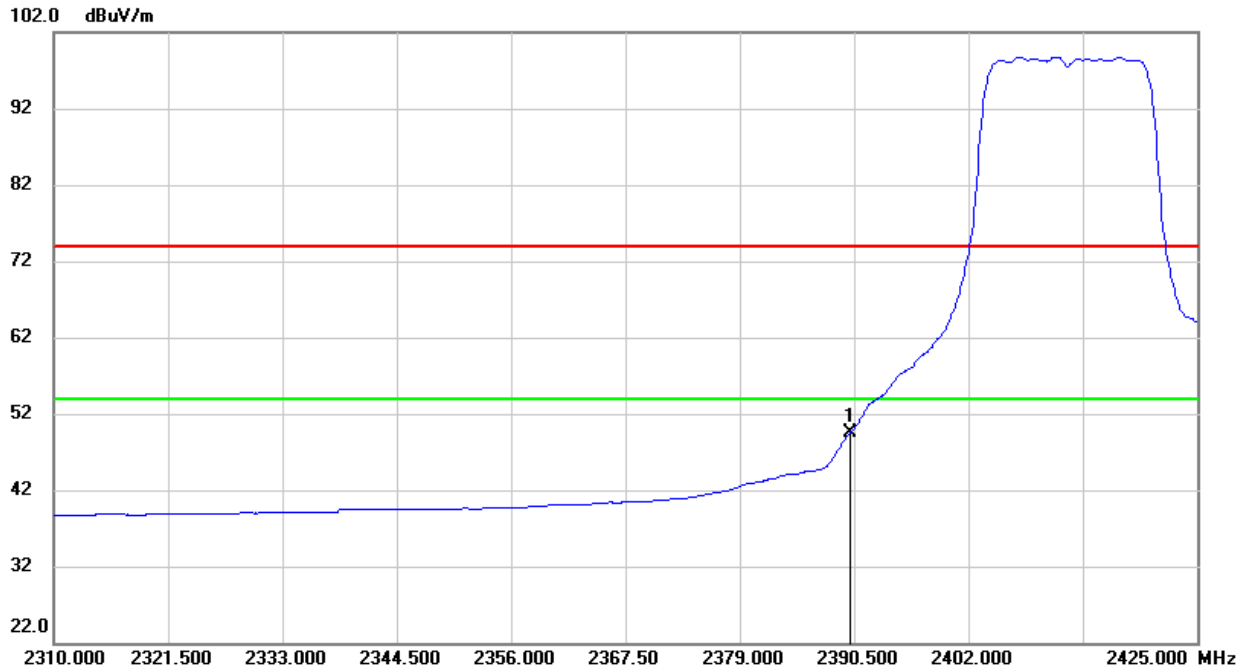| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	30.59	33.58	64.17	74.00	-9.83	peak
2	2484.450	32.23	33.59	65.82	74.00	-8.18	peak

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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

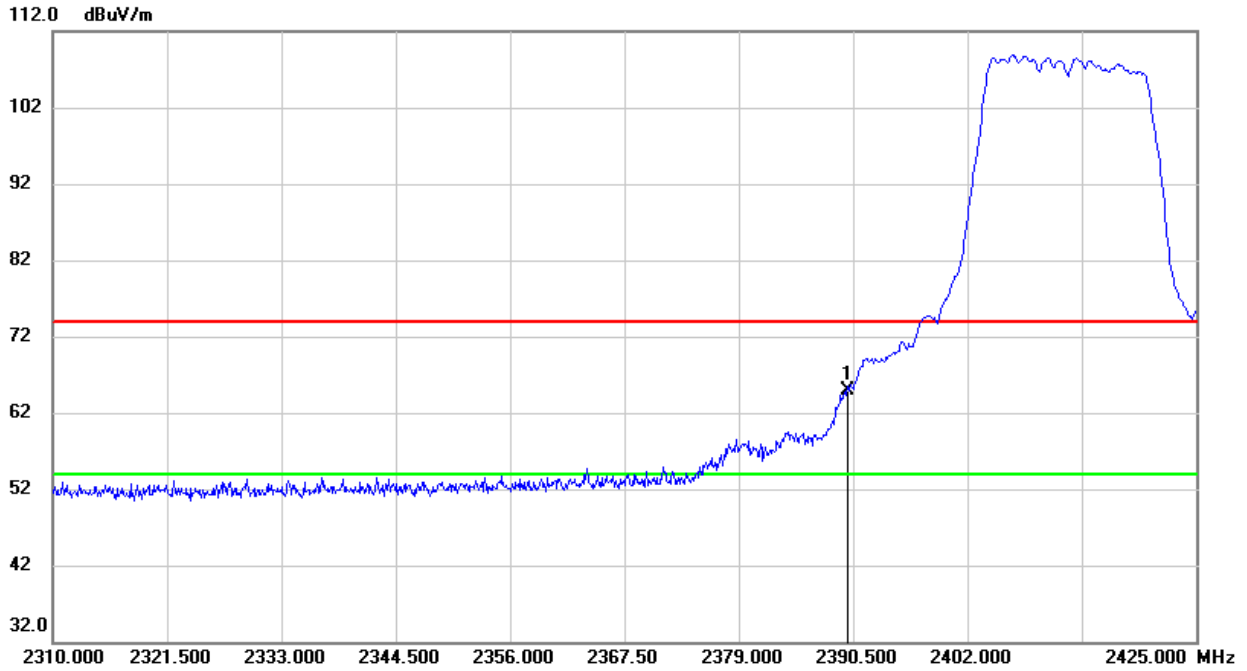UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch   FORM No: 10-SL-F0088

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AVG
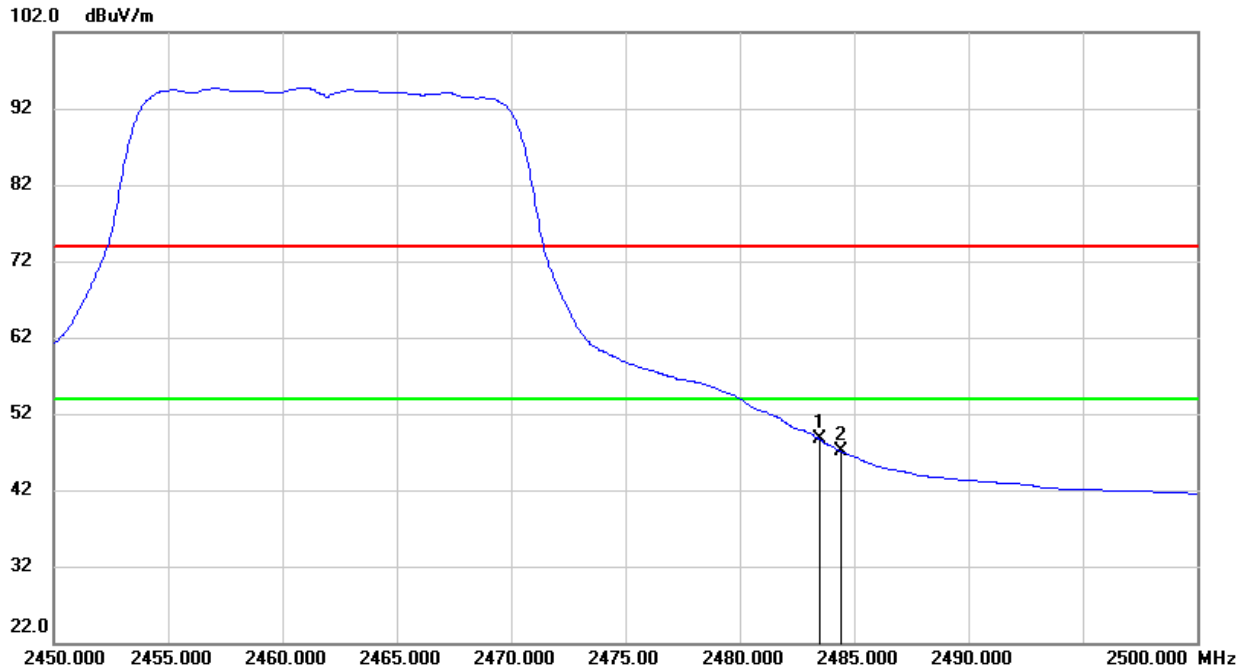
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	15.10	33.58	48.68	54.00	-5.32	AVG
2	2484.450	13.49	33.59	47.08	54.00	-6.92	AVG

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. Peak: Peak detector.
    4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
    5. For the transmitting duration, please refer to clause 7.1.
    6. Only the worst case emission 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	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	33.59	33.58	67.17	74.00	-6.83	peak
2	2484.550	34.73	33.59	68.32	74.00	-5.68	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
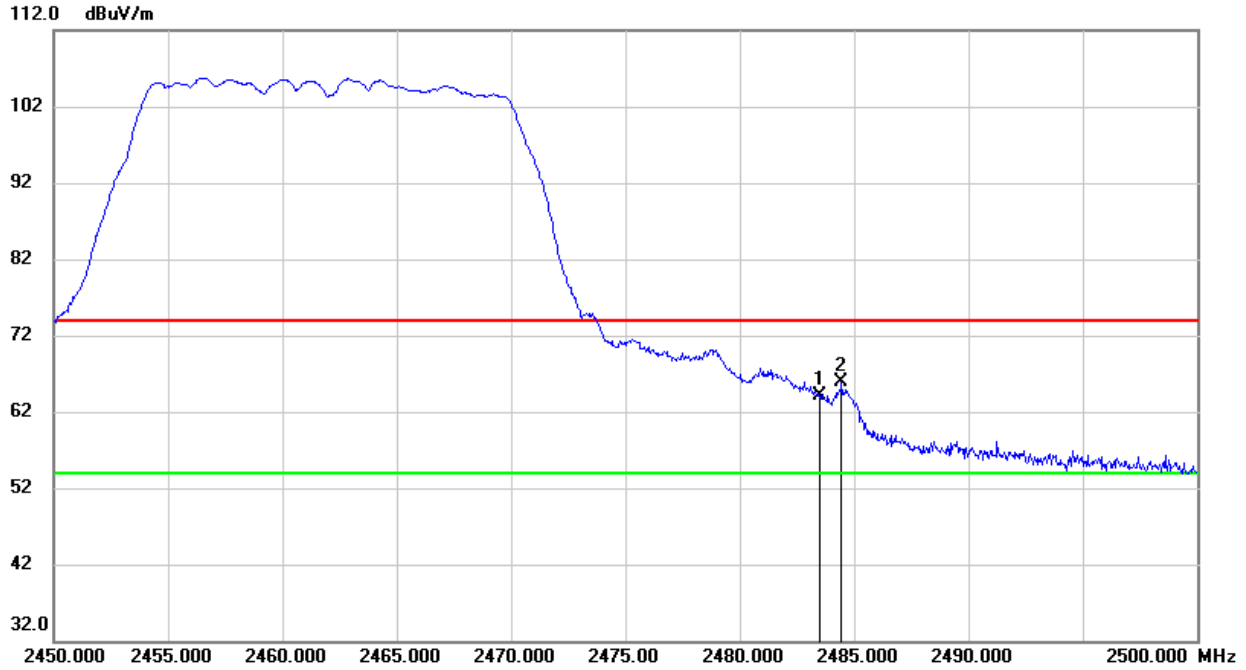
AVG

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	18.32	33.58	51.90	54.00	-2.10	AVG
2	2484.550	16.47	33.59	50.06	54.00	-3.94	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. Peak: Peak detector.
　　　　4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
　　　　5. For the transmitting duration, please refer to clause 7.1.
　　　　6. Only the worst case emission was recorded, if it complies with the limit, the other
emissions deemed to comply with the limit.

8.1.3. 802.11n HT20 MODE

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

PEAK

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	35.25	32.94	68.19	74.00	-5.81	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
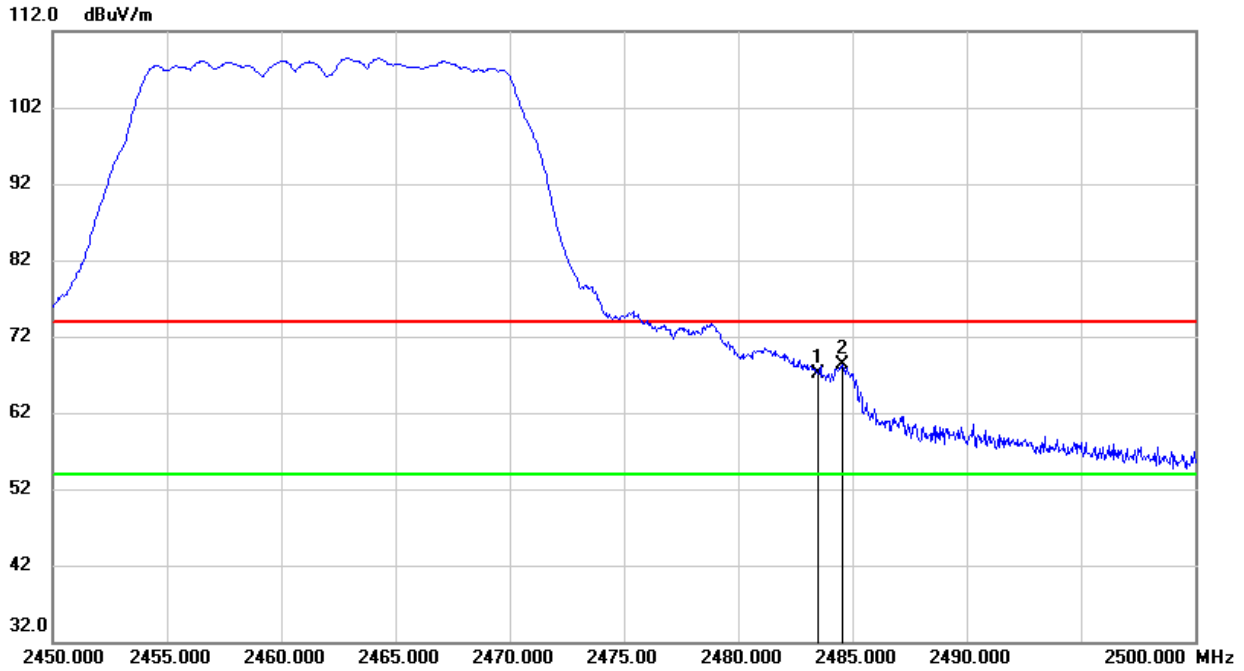
AVG
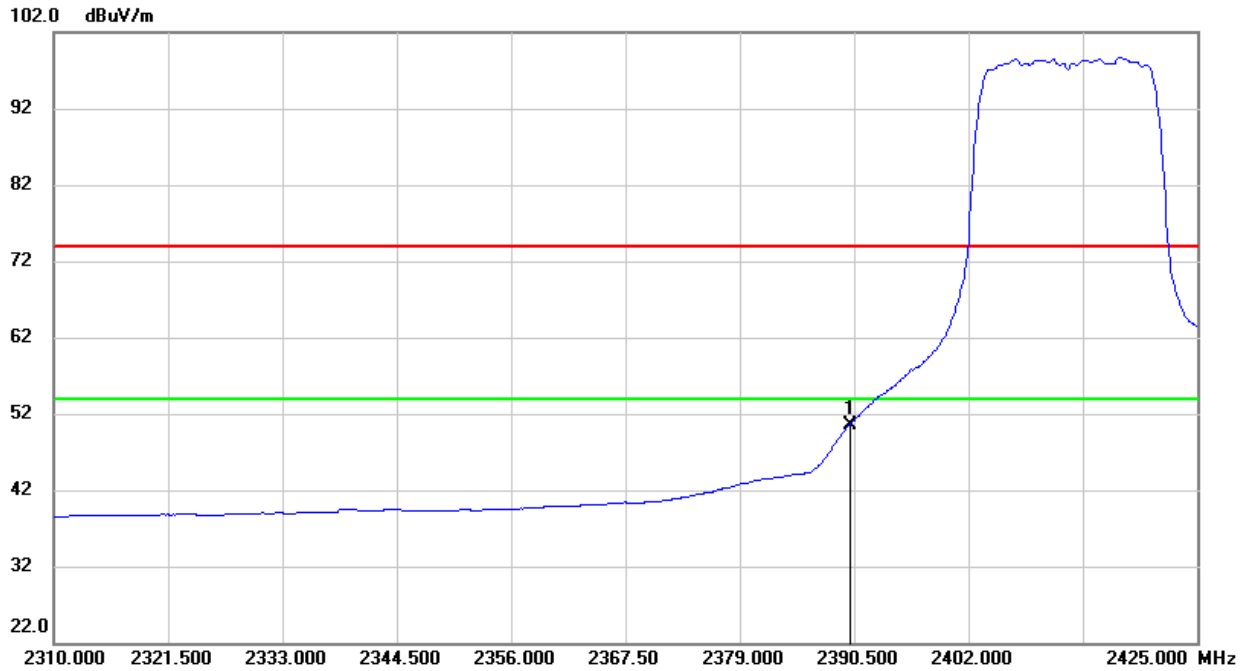
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	17.62	32.94	50.56	54.00	-3.44	AVG

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. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

PEAK

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	34.86	32.94	67.80	74.00	-6.20	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 case emission was recorded, if it complies with the limit, the other
emissions deemed to comply with the limit.

AVG
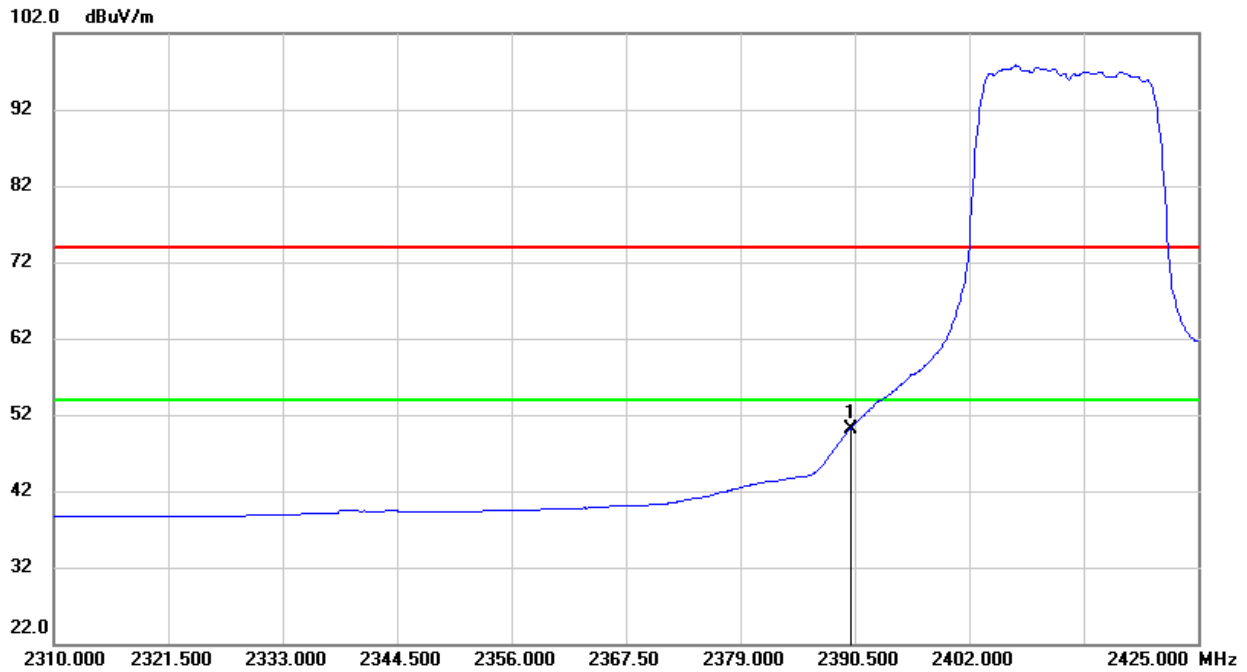
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	17.26	32.94	50.20	54.00	-3.80	AVG

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. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
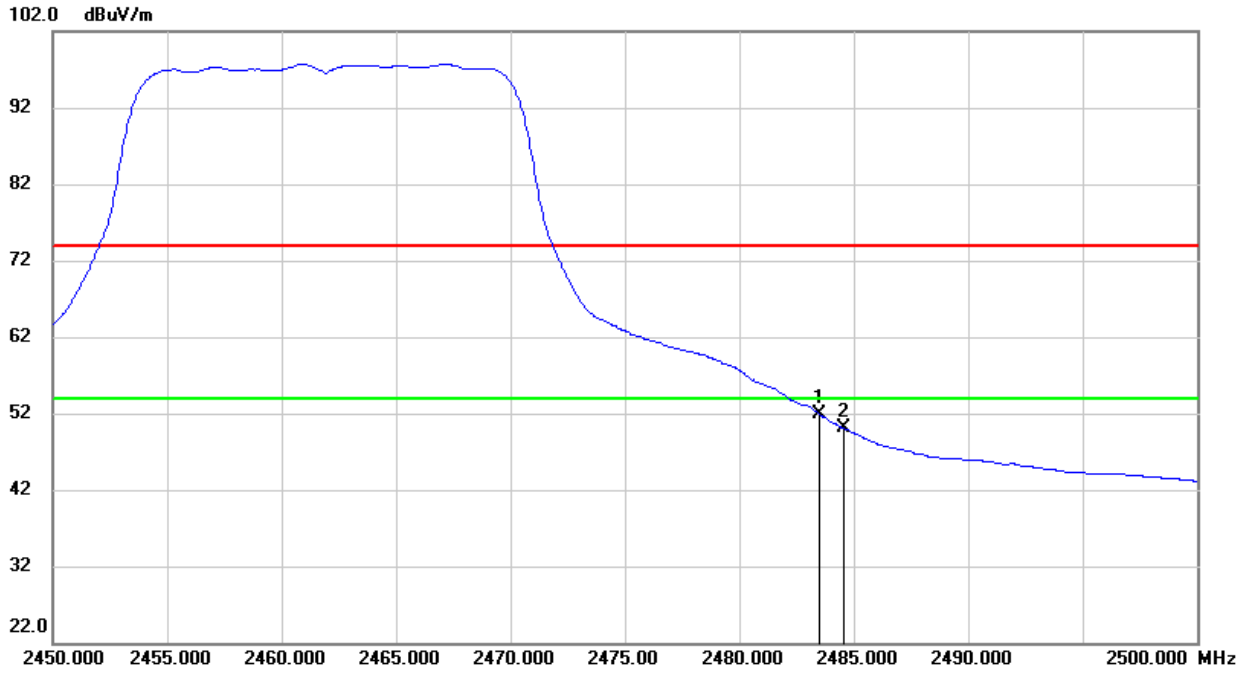
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

PEAK

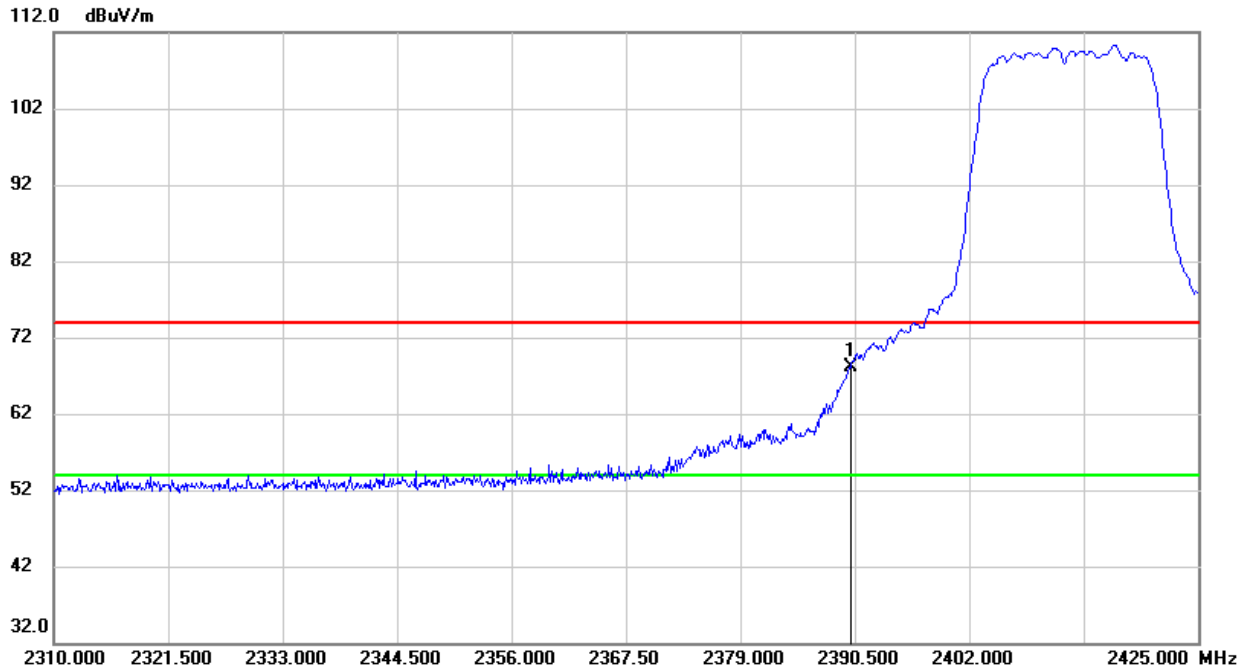| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	29.10	33.58	62.68	74.00	-11.32	peak
2	2483.650	30.38	33.58	63.96	74.00	-10.04	peak

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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG
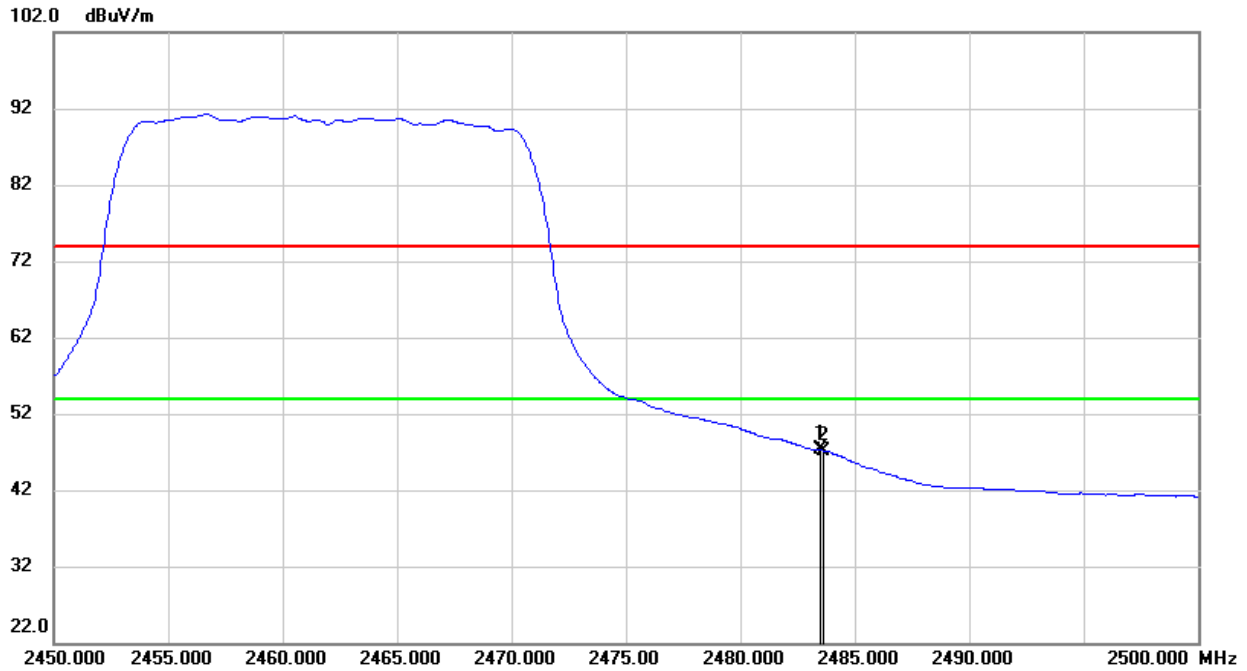
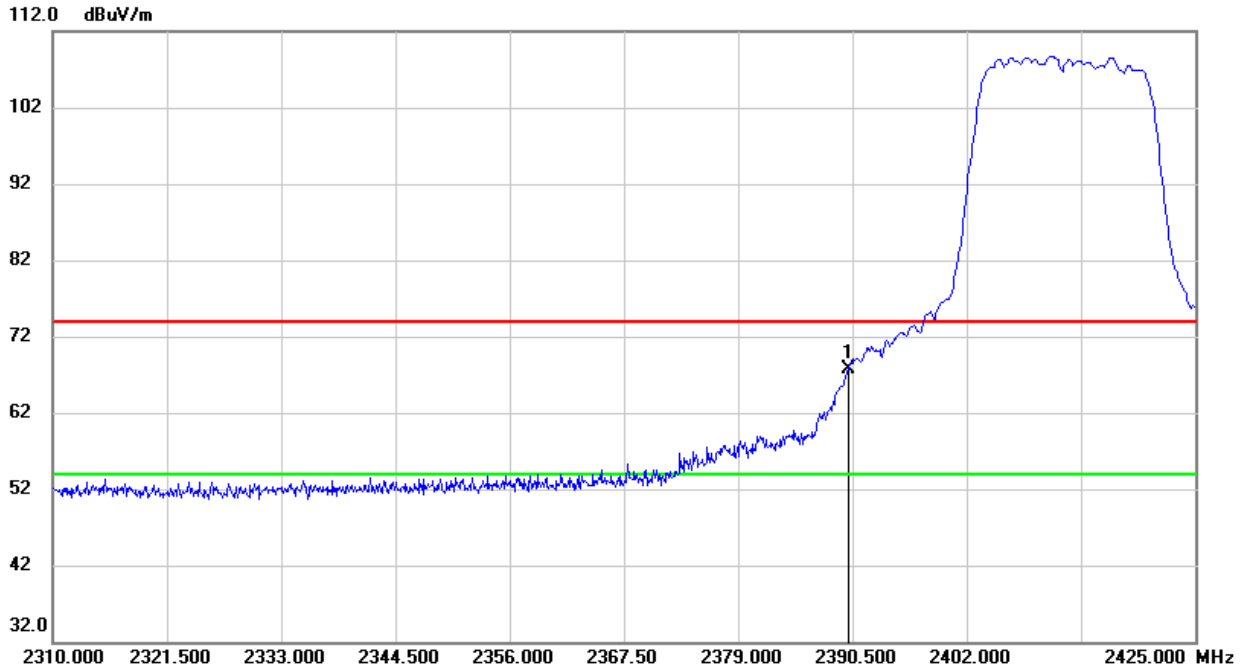| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	13.68	33.58	47.26	54.00	-6.74	AVG
2	2483.650	13.52	33.58	47.10	54.00	-6.90	AVG

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. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

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RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

PEAK

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	33.51	33.58	67.09	74.00	-6.91	peak
2	2483.950	34.14	33.58	67.72	74.00	-6.28	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
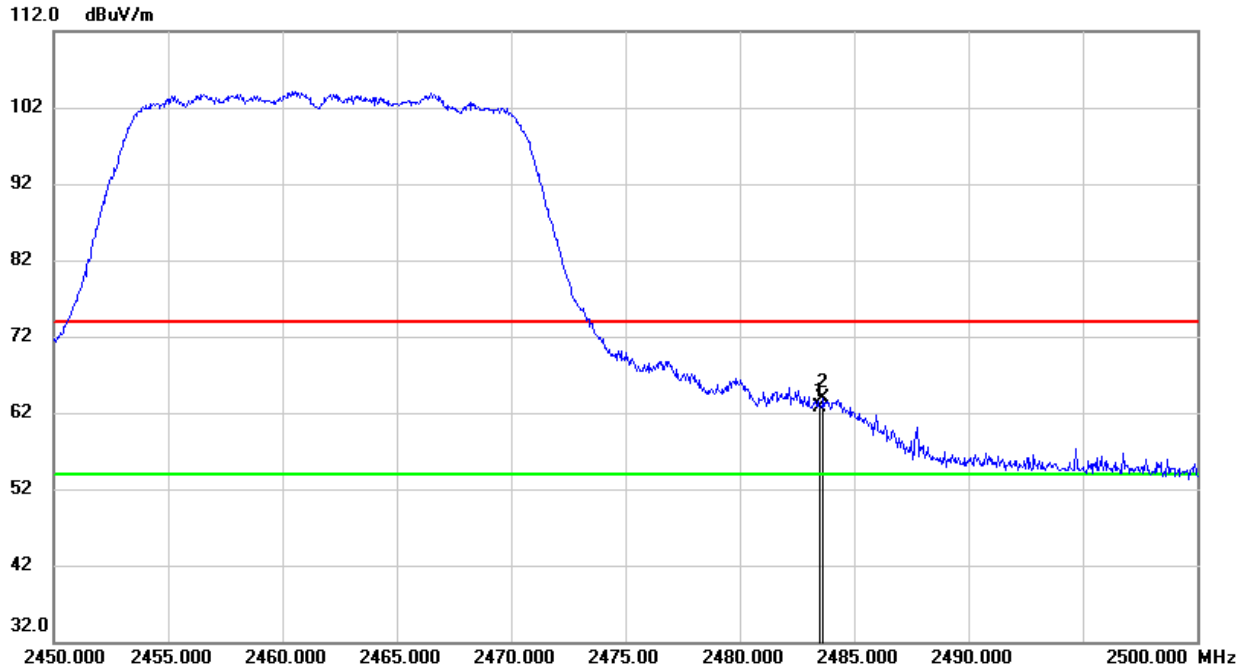
AVG
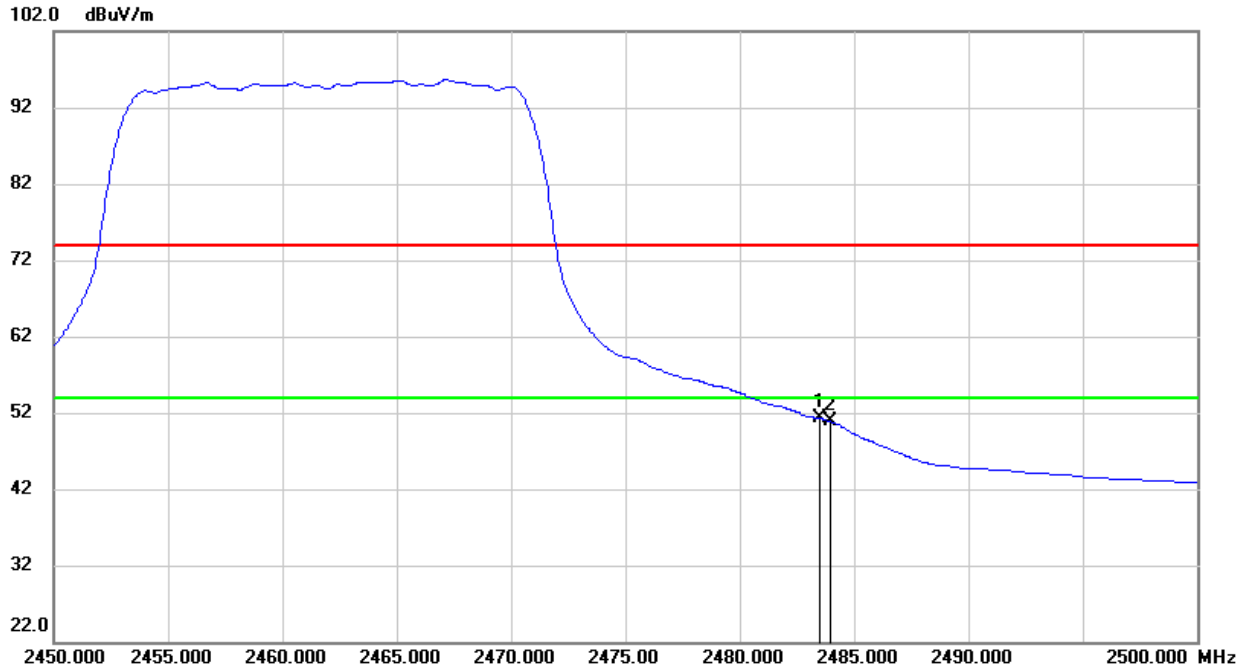
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	17.64	33.58	51.22	54.00	-2.78	AVG
2	2483.950	17.34	33.58	50.92	54.00	-3.08	AVG

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. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

8.1.4. 802.11n HT40 MODE

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

PEAK

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2386.275	30.42	32.94	63.36	74.00	-10.64	peak
2	2390.000	28.58	32.94	61.52	74.00	-12.48	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG
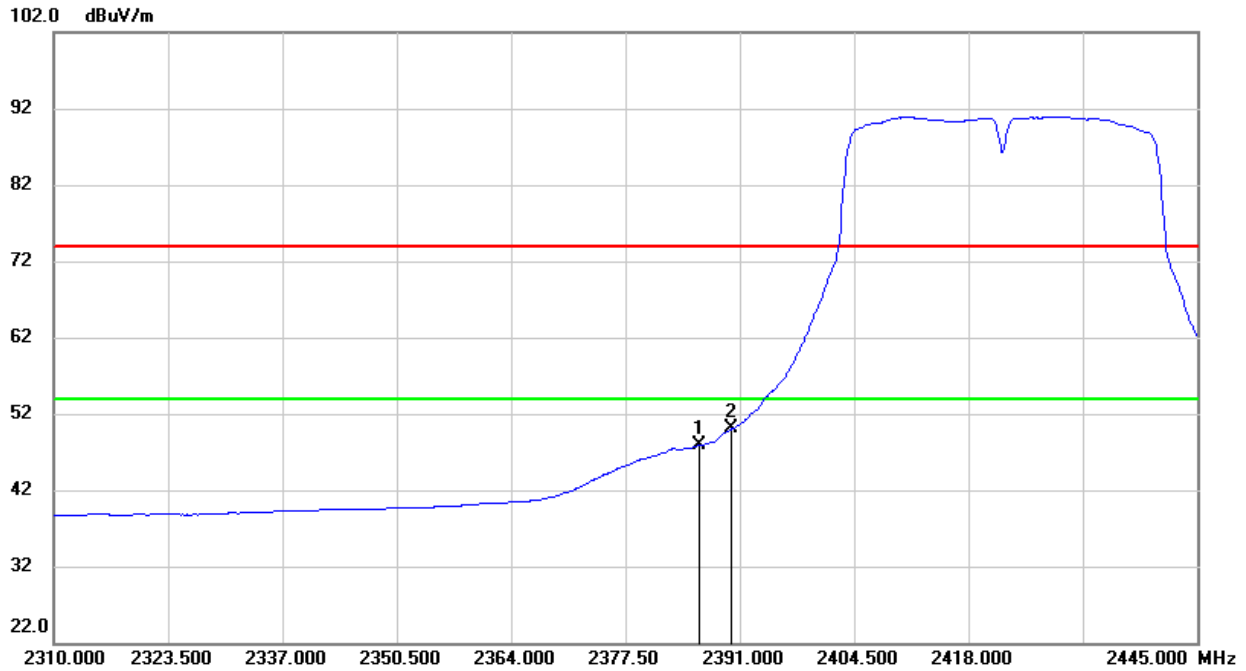
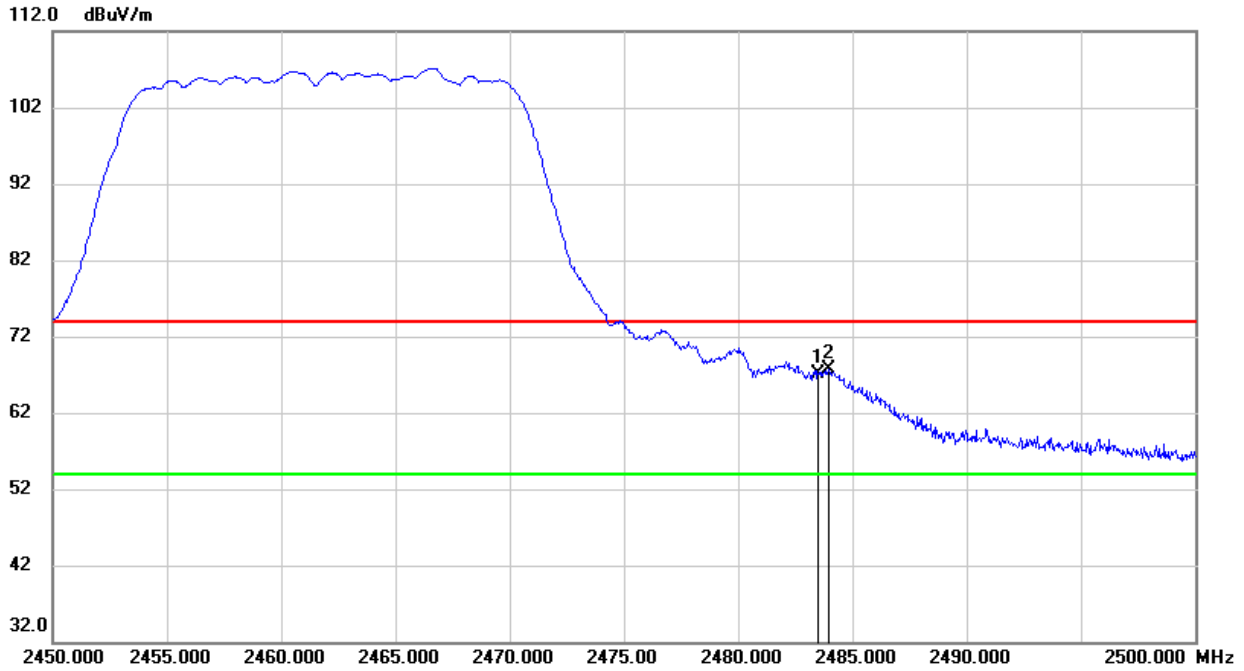| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.275	14.92	32.94	47.86	54.00	-6.14	AVG
2	2390.000	17.10	32.94	50.04	54.00	-3.96	AVG

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. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

PEAK

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.840	31.91	32.94	64.85	74.00	-9.15	peak
2	2390.000	30.02	32.94	62.96	74.00	-11.04	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG
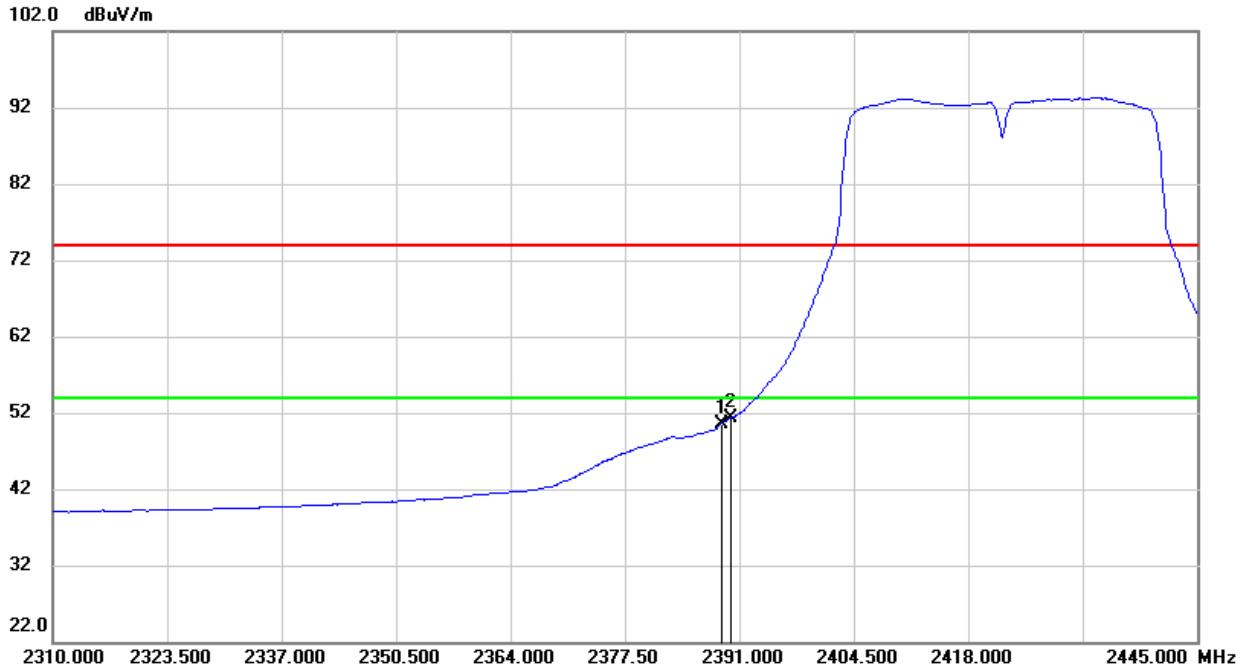
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.840	17.66	32.94	50.60	54.00	-3.40	AVG
2	2390.000	18.44	32.94	51.38	54.00	-2.62	AVG

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. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

PEAK

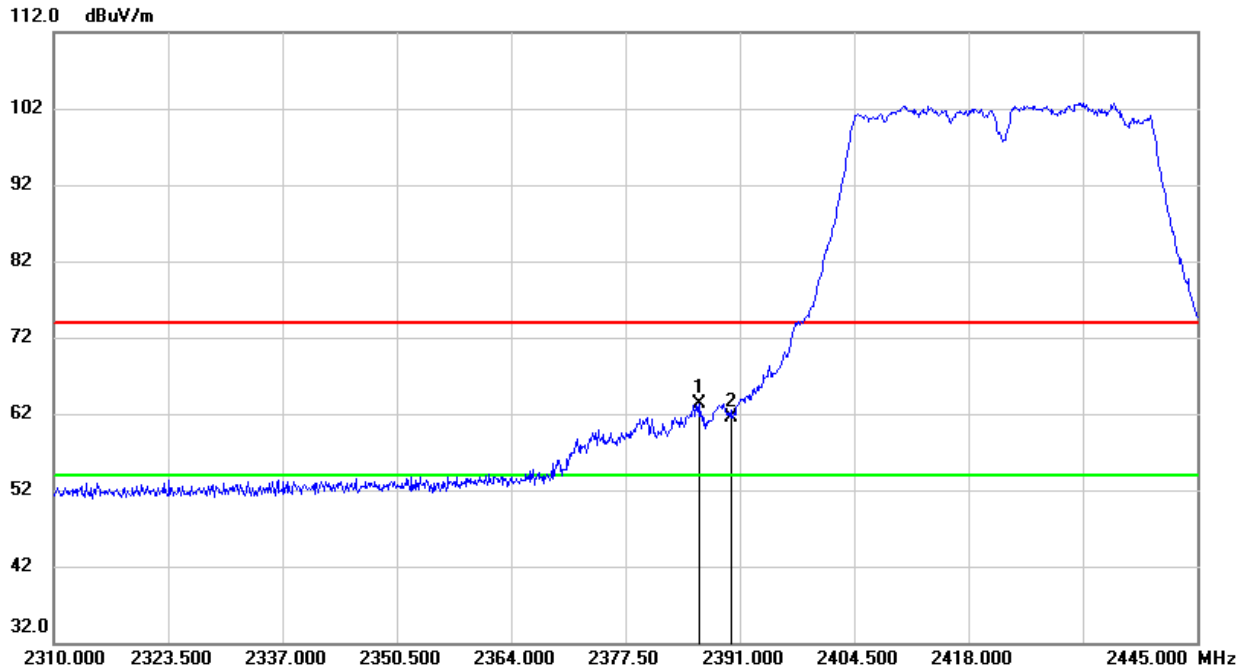| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	30.72	33.58	64.30	74.00	-9.70	peak
2	2486.465	31.23	33.61	64.84	74.00	-9.16	peak

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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG
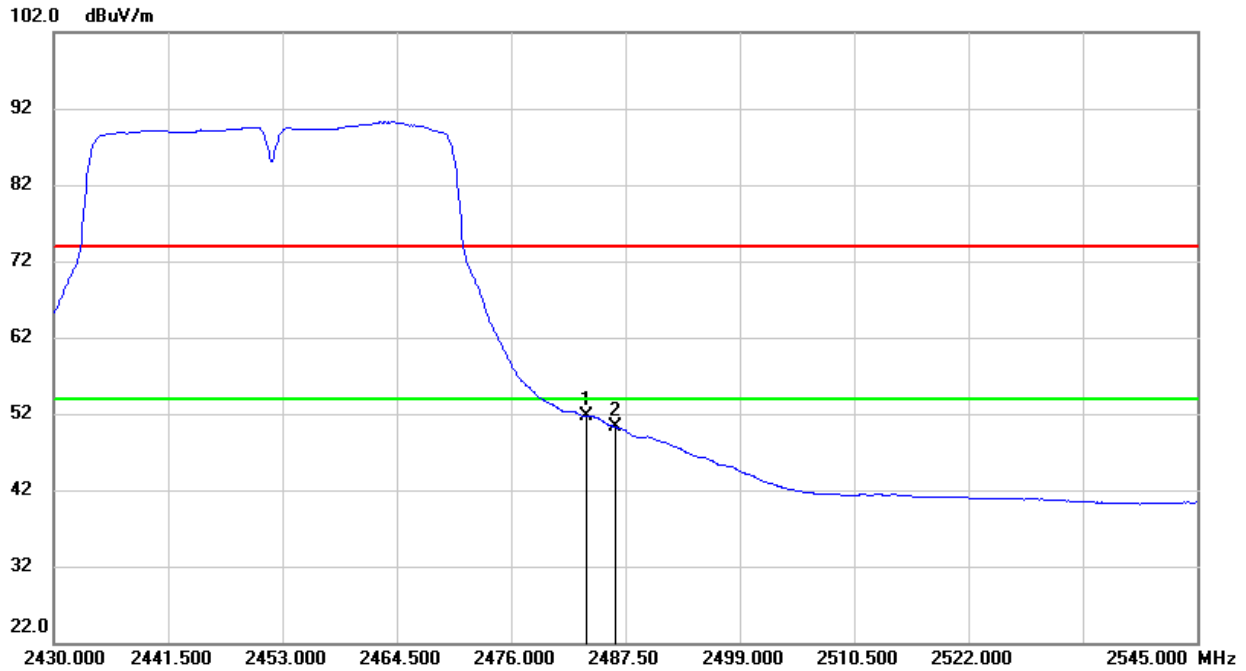
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	18.19	33.58	51.77	54.00	-2.23	AVG
2	2486.465	16.66	33.61	50.27	54.00	-3.73	AVG

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. Peak: Peak detector.
    4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
    5. For the transmitting duration, please refer to clause 7.1.
    6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
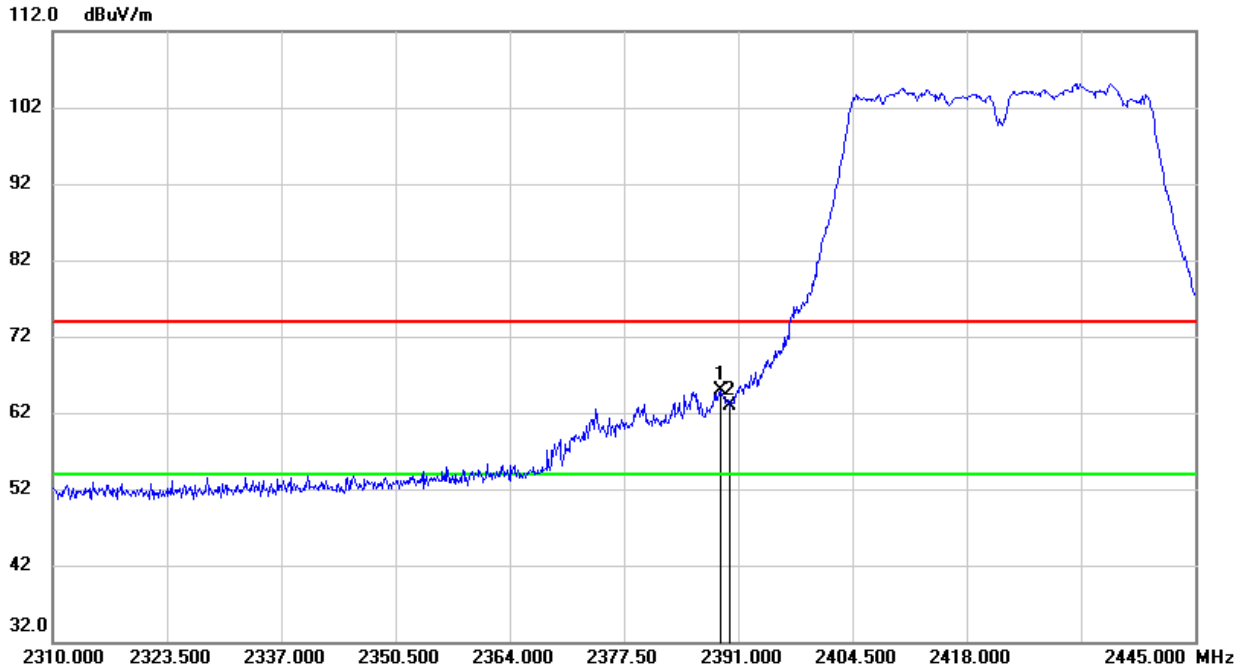
RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

PEAK

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	30.21	33.58	63.79	74.00	-10.21	peak
2	2486.810	30.80	33.61	64.41	74.00	-9.59	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 case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG
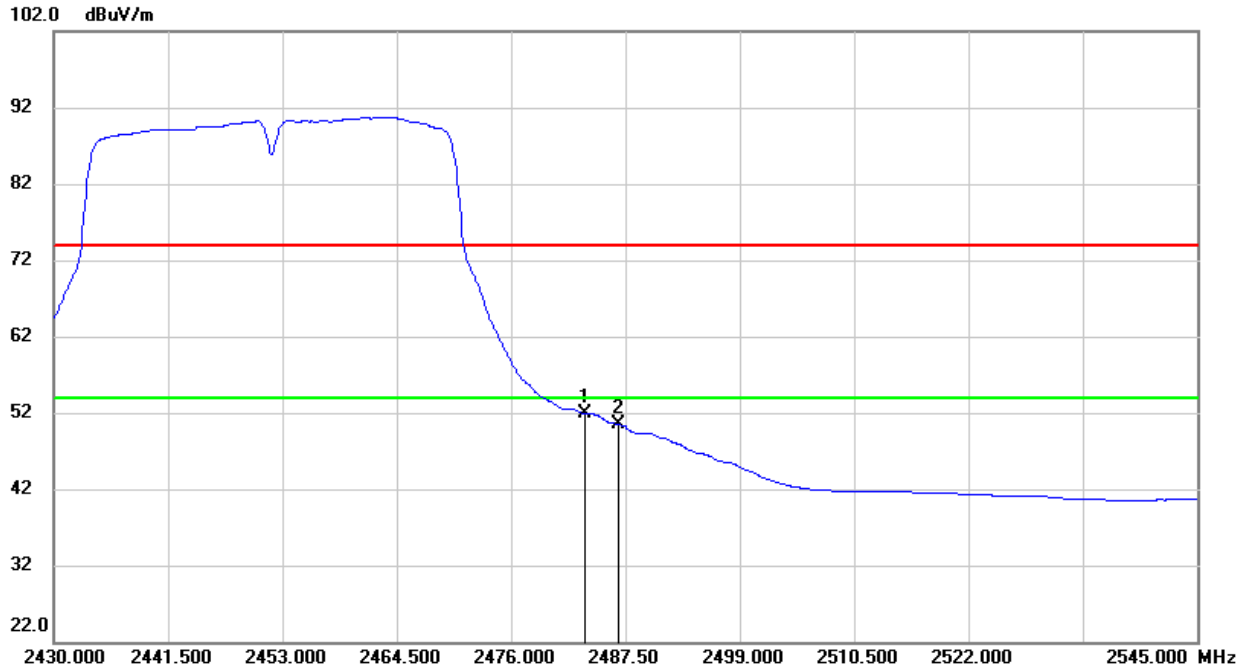
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	18.38	33.58	51.96	54.00	-2.04	AVG
2	2486.810	16.85	33.61	50.46	54.00	-3.54	AVG

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. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

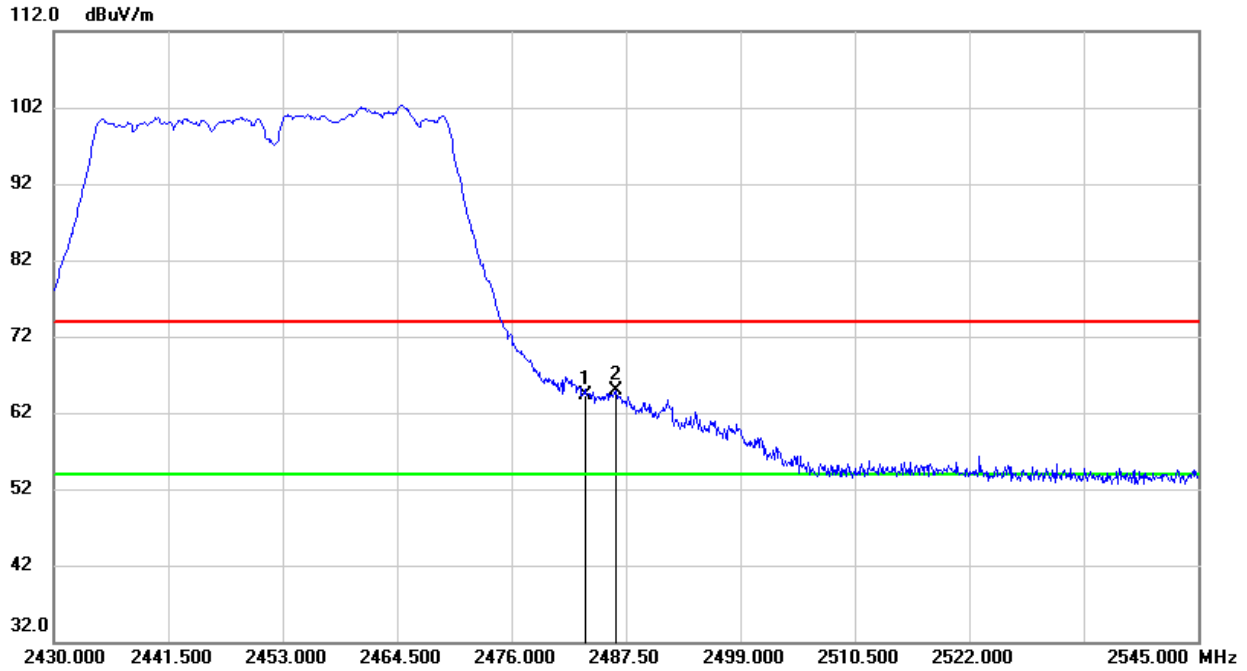## 8.2. SPURIOUS EMISSIONS (3~18GHz)

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	4815.000	55.52	0.51	56.03	74.00	-17.97	peak
2	4815.000	45.43	0.51	45.94	54.00	-8.06	AVG
3	7230.000	41.76	5.89	47.65	74.00	-26.35	peak
4	9645.000	45.82	9.66	55.48	74.00	-18.52	peak
5	9645.000	40.33	9.66	49.99	54.00	-4.01	AVG
6	13110.000	35.41	15.19	50.60	74.00	-23.40	peak
7	16455.000	32.66	19.00	51.66	74.00	-22.34	peak
8	17820.000	29.82	23.30	53.12	74.00	-20.88	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	4815.000	54.60	0.51	55.11	74.00	-18.89	peak
2	4815.000	45.33	0.51	45.84	54.00	-8.16	AVG
3	7845.000	37.77	7.62	45.39	74.00	-28.61	peak
4	9645.000	44.02	9.66	53.68	74.00	-20.32	peak
5	13800.000	33.66	17.10	50.76	74.00	-23.24	peak
6	16215.000	32.56	18.48	51.04	74.00	-22.96	peak
7	17805.000	29.96	23.31	53.27	74.00	-20.73	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)
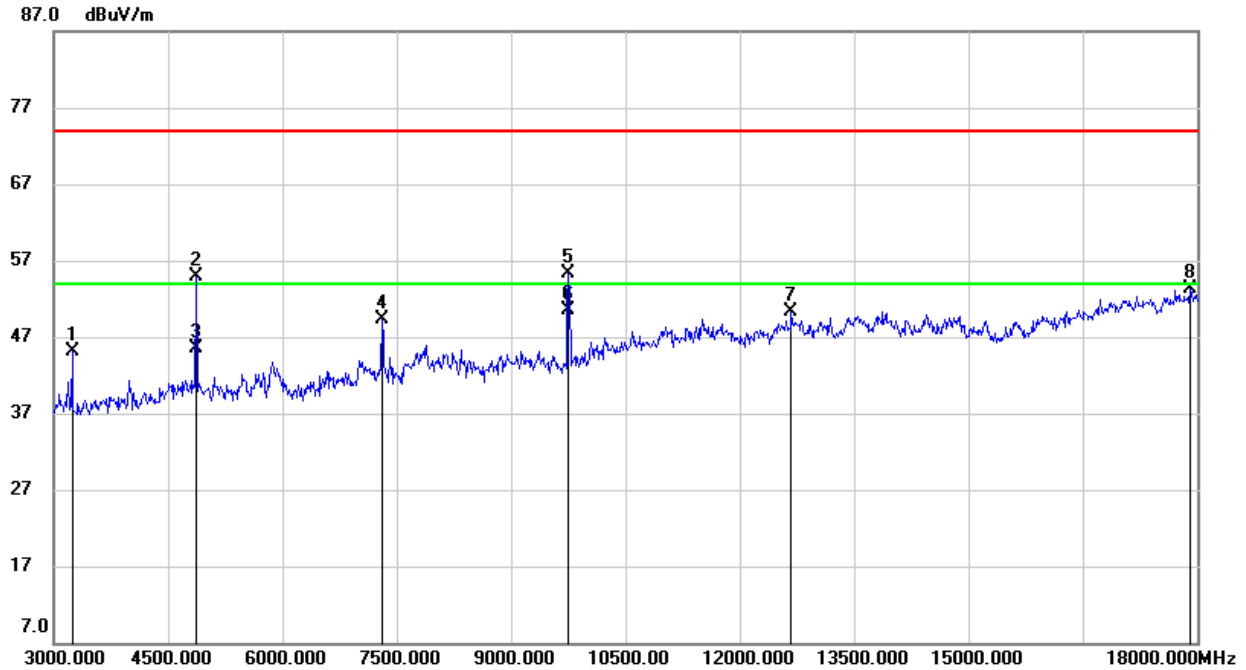
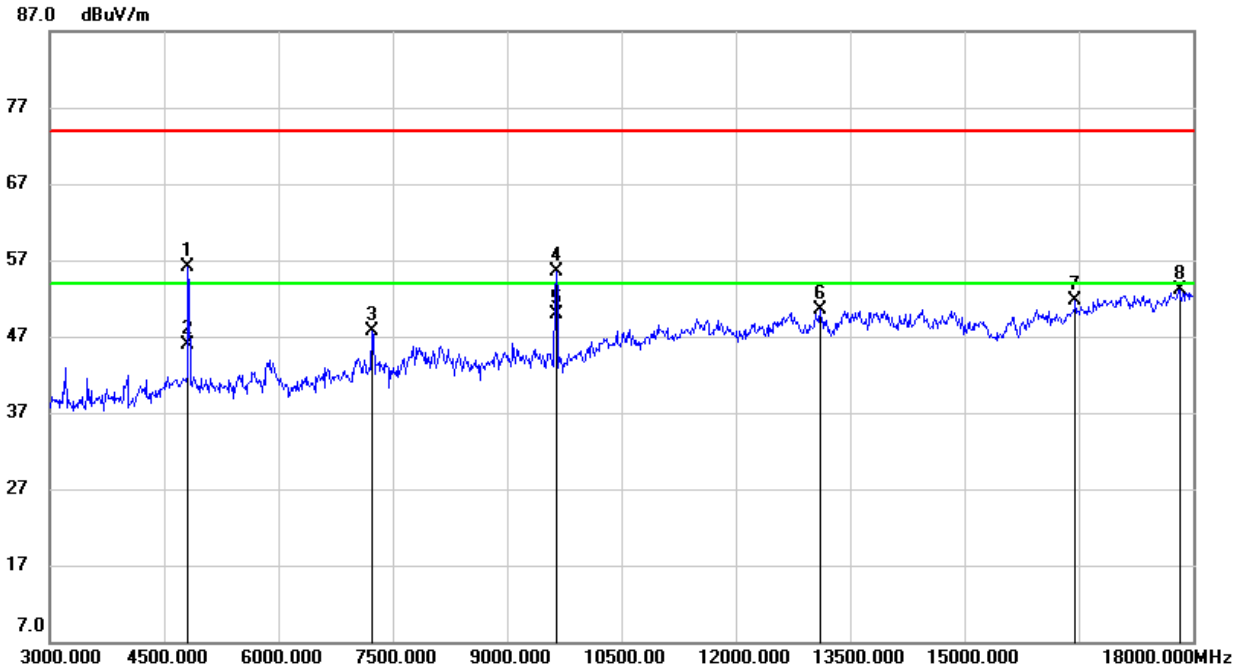| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3240.000	49.45	-4.37	45.08	74.00	-28.92	peak
2	4875.000	54.14	0.76	54.90	74.00	-19.10	peak
3	4875.000	44.73	0.76	45.49	54.00	-8.51	AVG
4	7305.000	43.30	6.08	49.38	74.00	-24.62	peak
5	9750.000	45.70	9.68	55.38	74.00	-18.62	peak
6	9750.000	40.90	9.68	50.58	54.00	-3.42	AVG
7	12675.000	36.00	14.21	50.21	74.00	-23.79	peak
8	17910.000	29.87	23.35	53.22	74.00	-20.78	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	3990.000	51.15	-2.89	48.26	74.00	-25.74	peak
2	4875.000	51.89	0.76	52.65	74.00	-21.35	peak
3	7305.000	41.02	6.08	47.10	74.00	-26.90	peak
4	9750.000	44.52	9.68	54.20	74.00	-19.80	peak
5	9750.000	38.03	9.68	47.71	54.00	-6.29	AVG
6	14430.000	34.02	16.35	50.37	74.00	-23.63	peak
7	17760.000	30.26	22.95	53.21	74.00	-20.79	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. 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)
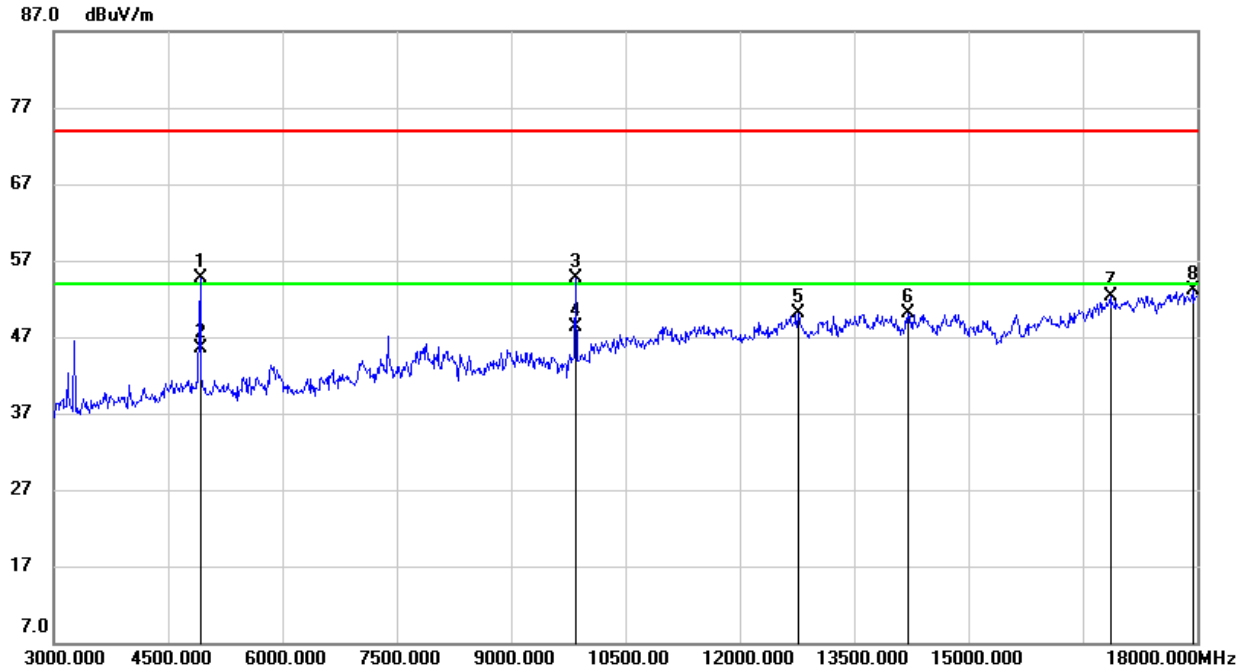
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	53.78	0.96	54.74	74.00	-19.26	peak
2	4920.000	44.51	0.96	45.47	54.00	-8.53	AVG
3	9840.000	44.77	9.86	54.63	74.00	-19.37	peak
4	9840.000	38.47	9.86	48.33	54.00	-5.67	AVG
5	12765.000	34.89	15.18	50.07	74.00	-23.93	peak
6	14205.000	33.66	16.36	50.02	74.00	-23.98	peak
7	16860.000	32.28	19.95	52.23	74.00	-21.77	peak
8	17940.000	29.76	23.39	53.15	74.00	-20.85	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.
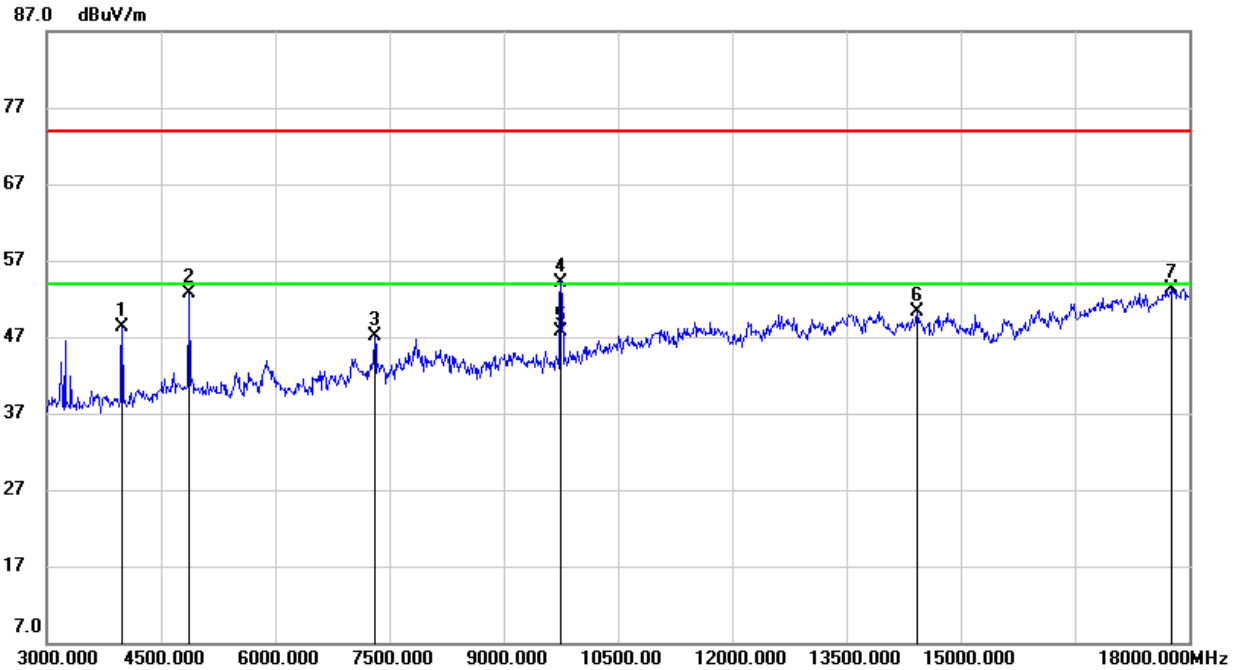
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	49.82	-2.89	46.93	74.00	-27.07	peak
2	4920.000	51.13	0.96	52.09	74.00	-21.91	peak
3	9840.000	44.58	9.86	54.44	74.00	-19.56	peak
4	9840.000	38.16	9.86	48.02	54.00	-5.98	AVG
5	11835.000	36.21	13.21	49.42	74.00	-24.58	peak
6	13620.000	34.03	15.99	50.02	74.00	-23.98	peak
7	17805.000	29.95	23.31	53.26	74.00	-20.74	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.

8.2.2. 802.11g MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)
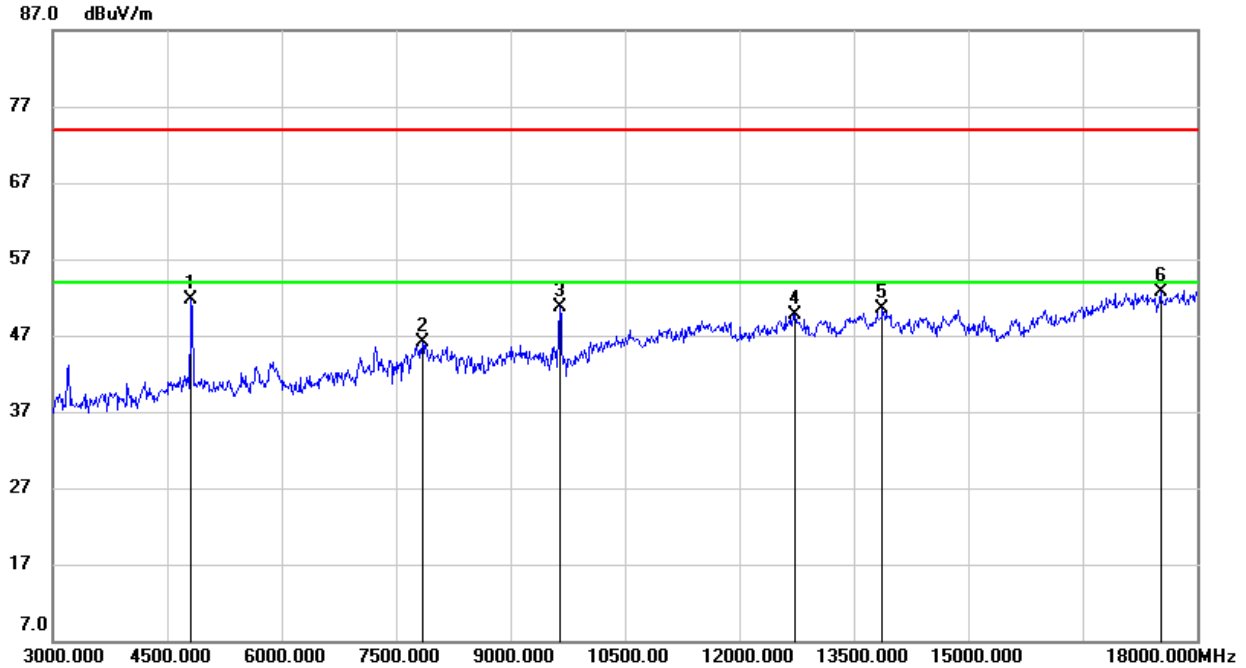
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	51.20	0.51	51.71	74.00	-22.29	peak
2	7845.000	38.39	7.62	46.01	74.00	-27.99	peak
3	9645.000	40.97	9.66	50.63	74.00	-23.37	peak
4	12735.000	34.99	14.77	49.76	74.00	-24.24	peak
5	13875.000	34.01	16.44	50.45	74.00	-23.55	peak
6	17520.000	31.20	21.44	52.64	74.00	-21.36	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.

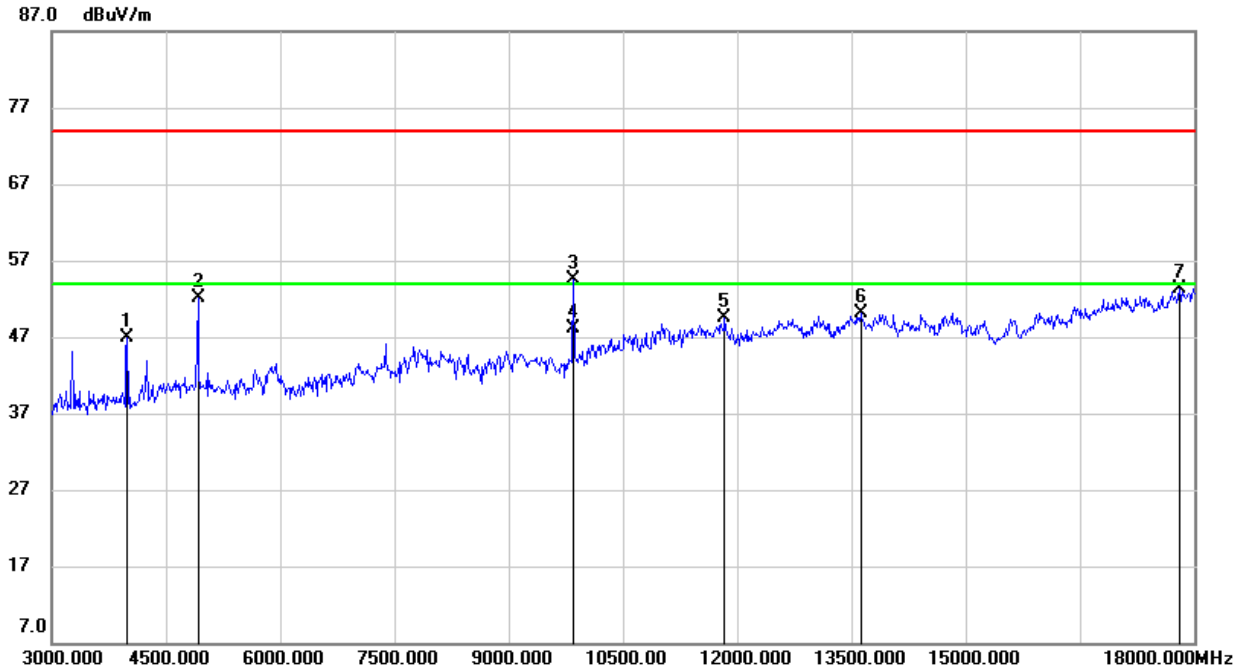## HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	50.04	-2.89	47.15	74.00	-26.85	peak
2	4815.000	52.22	0.51	52.73	74.00	-21.27	peak
3	9645.000	40.98	9.66	50.64	74.00	-23.36	peak
4	14400.000	34.67	16.35	51.02	74.00	-22.98	peak
5	17130.000	32.39	20.72	53.11	74.00	-20.89	peak
6	17595.000	31.55	21.77	53.32	74.00	-20.68	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 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, HORIZONTAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	51.54	0.76	52.30	74.00	-21.70	peak
2	7305.000	42.80	6.08	48.88	74.00	-25.12	peak
3	9750.000	41.26	9.68	50.94	74.00	-23.06	peak
4	13980.000	34.50	16.07	50.57	74.00	-23.43	peak
5	17385.000	31.70	21.46	53.16	74.00	-20.84	peak
6	17850.000	29.86	23.32	53.18	74.00	-20.82	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 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)

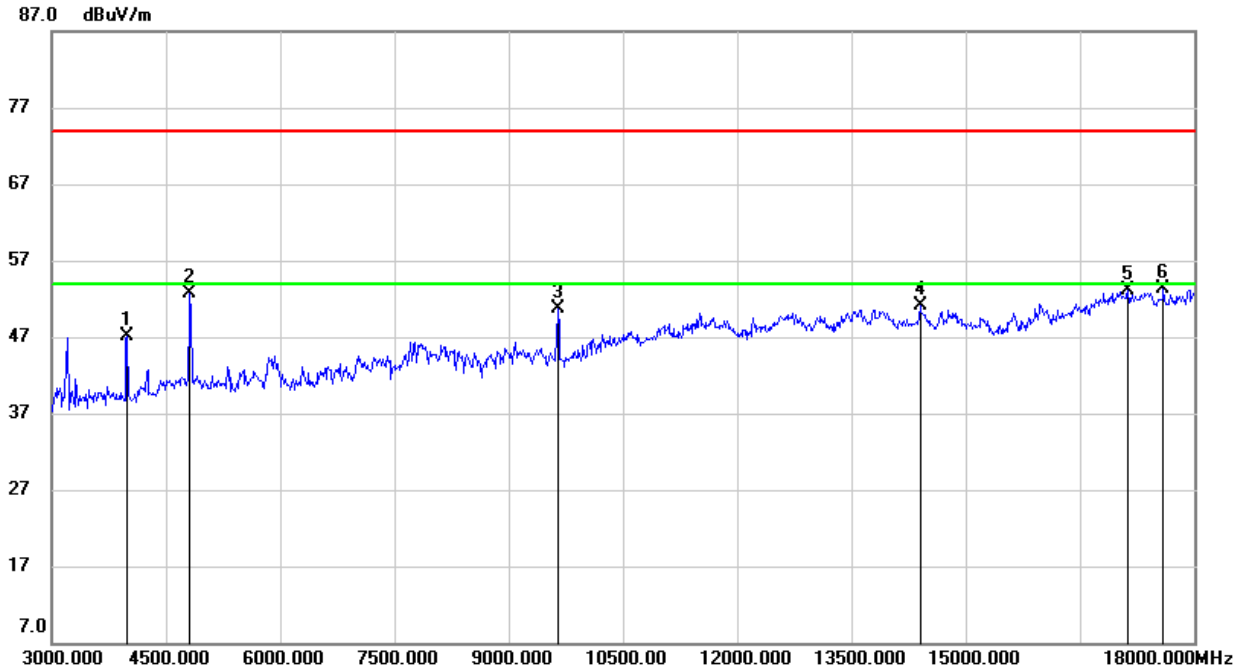| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	50.78	-2.89	47.89	74.00	-26.11	peak
2	4860.000	50.13	0.70	50.83	74.00	-23.17	peak
3	7305.000	41.41	6.08	47.49	74.00	-26.51	peak
4	9750.000	39.58	9.68	49.26	74.00	-24.74	peak
5	13920.000	34.31	16.17	50.48	74.00	-23.52	peak
6	17715.000	30.55	22.56	53.11	74.00	-20.89	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 High Pass Filter losses.

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

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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	3270.000	50.45	-4.29	46.16	74.00	-27.84	peak
2	4920.000	50.33	0.96	51.29	74.00	-22.71	peak
3	9840.000	39.07	9.86	48.93	74.00	-25.07	peak
4	12555.000	35.78	14.24	50.02	74.00	-23.98	peak
5	14865.000	34.54	15.98	50.52	74.00	-23.48	peak
6	17715.000	30.64	22.56	53.20	74.00	-20.80	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 High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

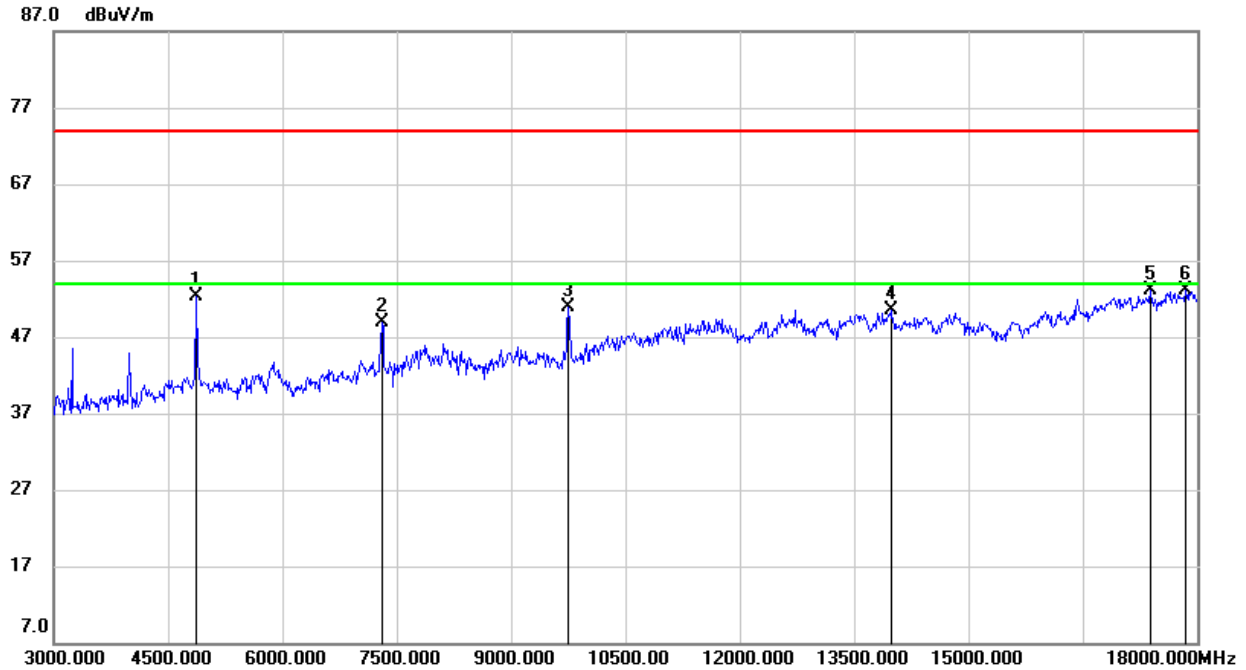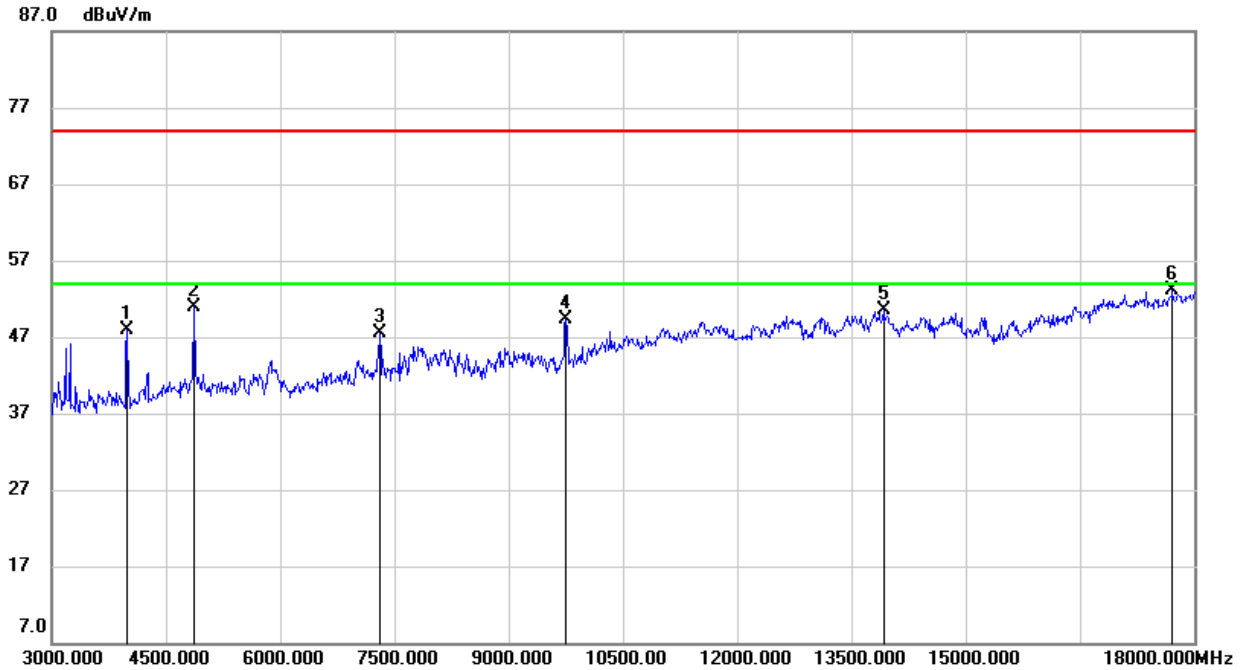## HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	49.84	-2.89	46.95	74.00	-27.05	peak
2	4920.000	48.66	0.96	49.62	74.00	-24.38	peak
3	9840.000	39.48	9.86	49.34	74.00	-24.66	peak
4	13440.000	34.91	15.98	50.89	74.00	-23.11	peak
5	13905.000	34.73	16.20	50.93	74.00	-23.07	peak
6	17790.000	30.18	23.22	53.40	74.00	-20.60	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 High Pass Filter losses.
   5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

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8.2.3. 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	51.59	0.51	52.10	74.00	-21.90	peak
2	9645.000	40.93	9.66	50.59	74.00	-23.41	peak
3	13875.000	33.69	16.44	50.13	74.00	-23.87	peak
4	14430.000	34.13	16.35	50.48	74.00	-23.52	peak
5	17025.000	31.88	20.46	52.34	74.00	-21.66	peak
6	17850.000	29.74	23.32	53.06	74.00	-20.94	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 High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

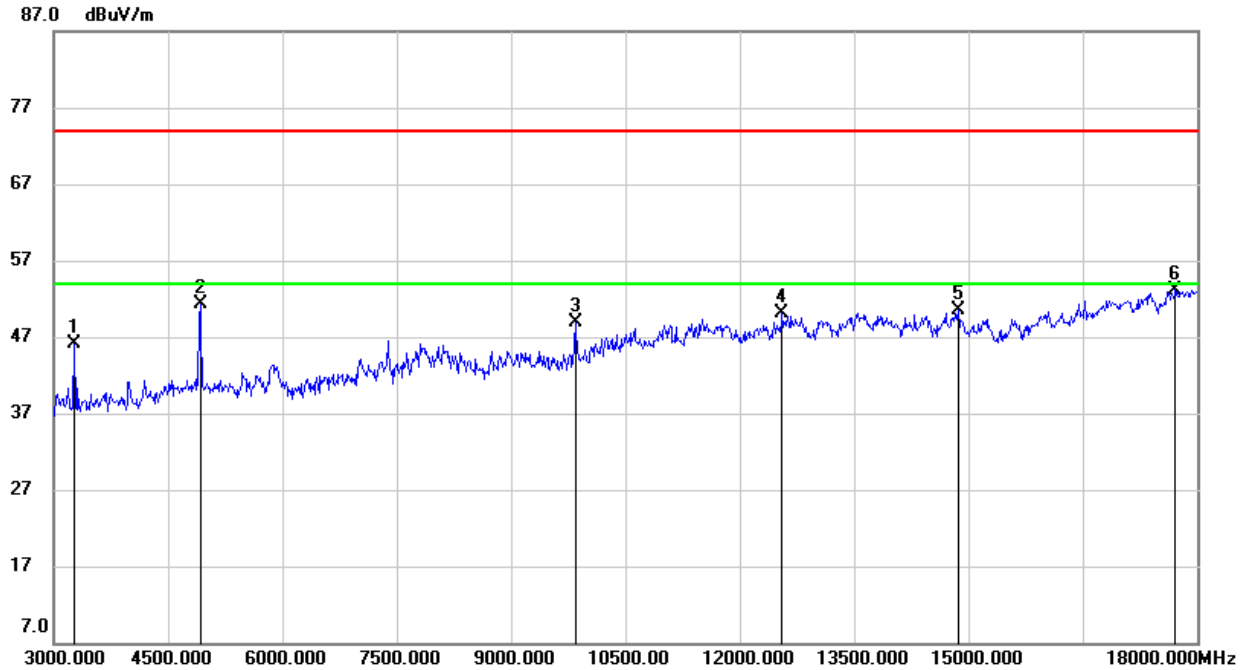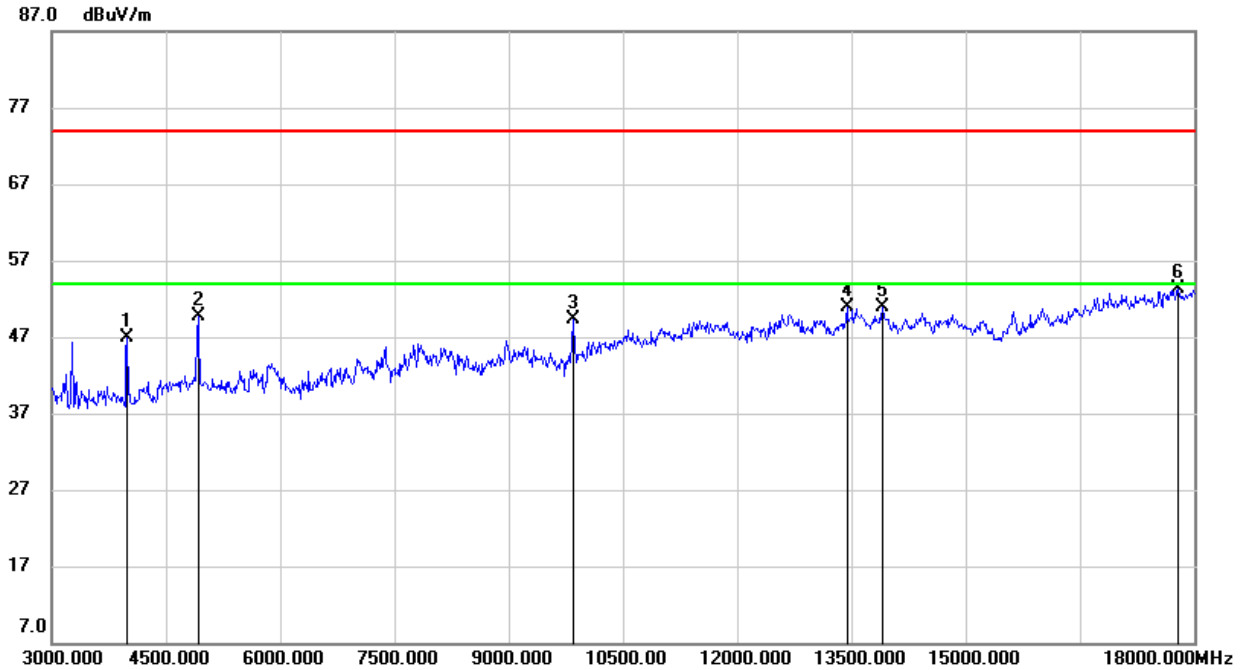## HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3210.000	51.14	-4.43	46.71	74.00	-27.29	peak
2	4815.000	52.03	0.51	52.54	74.00	-21.46	peak
3	9645.000	39.47	9.66	49.13	74.00	-24.87	peak
4	13605.000	33.44	16.02	49.46	74.00	-24.54	peak
5	16005.000	33.42	17.71	51.13	74.00	-22.87	peak
6	17910.000	29.84	23.35	53.19	74.00	-20.81	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 High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
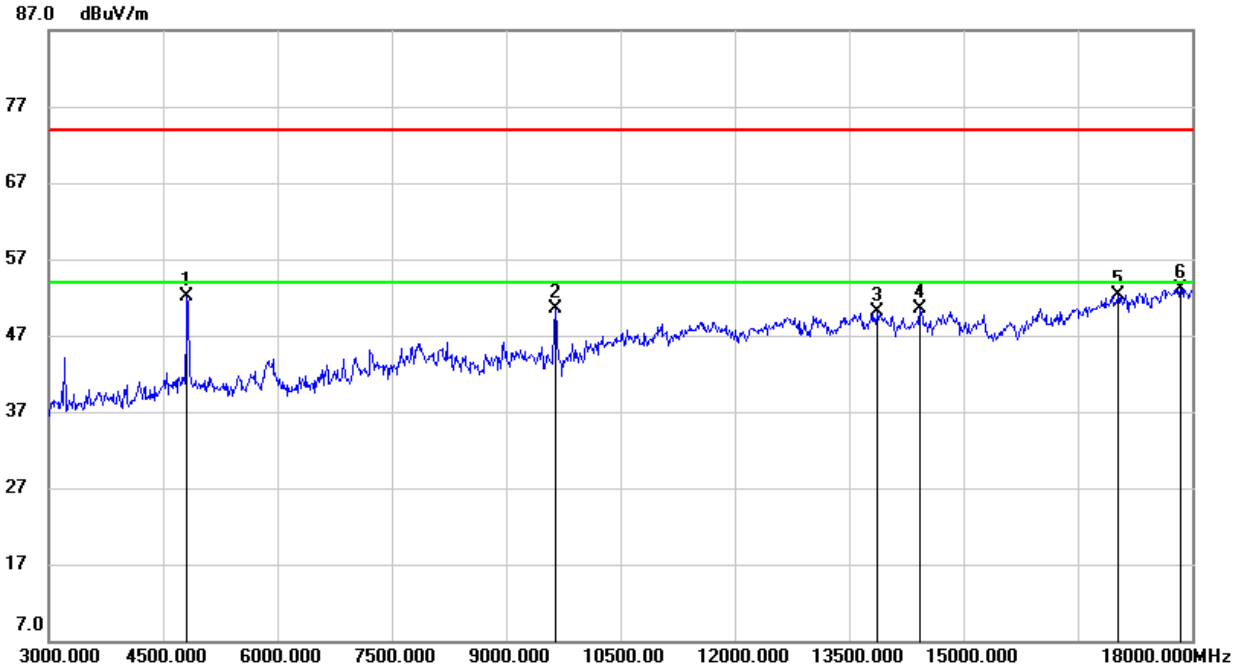
HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)
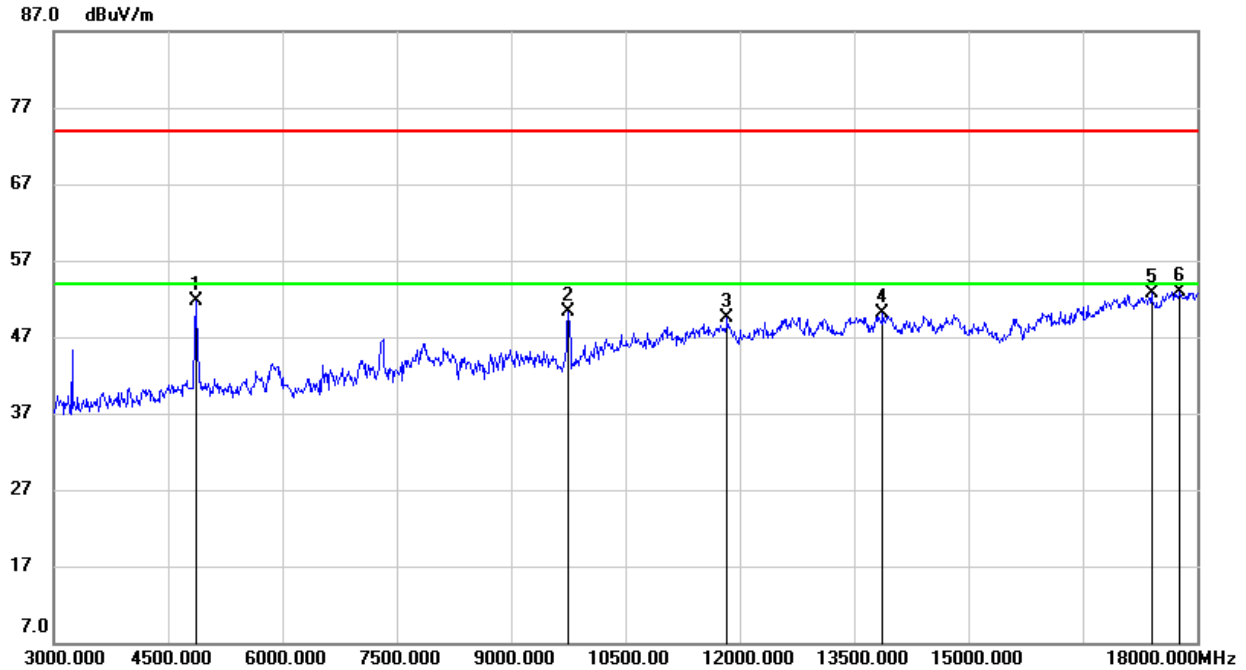
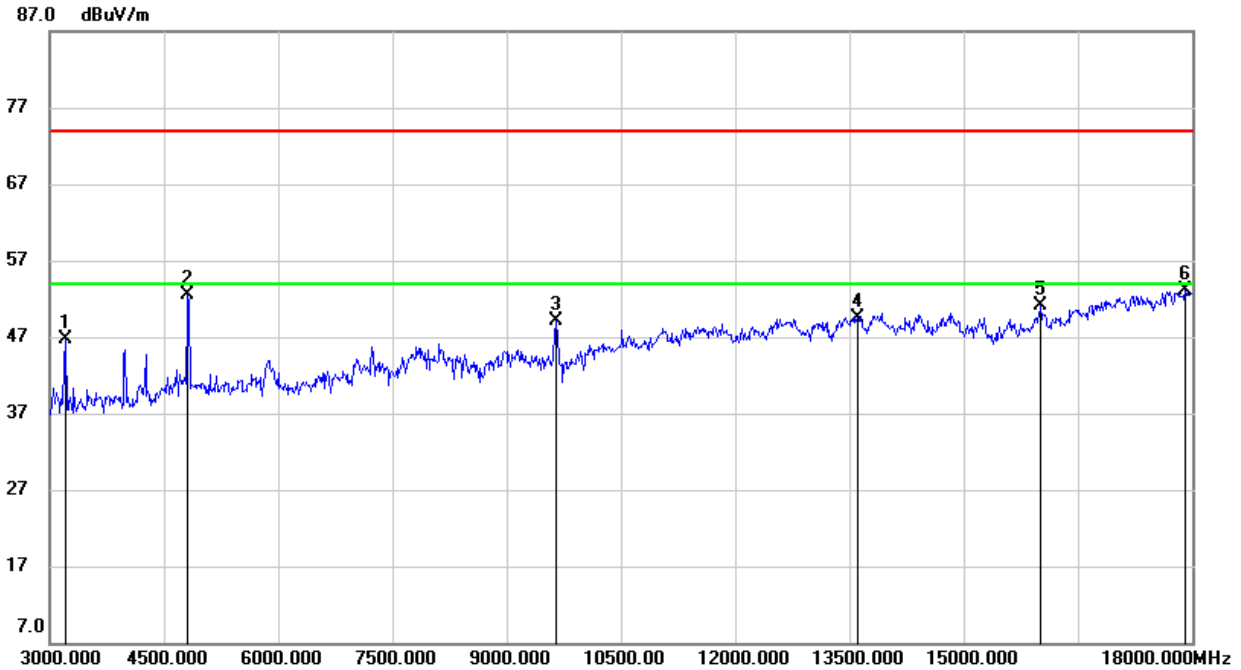| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4860.000	51.07	0.70	51.77	74.00	-22.23	peak
2	9750.000	40.67	9.68	50.35	74.00	-23.65	peak
3	11835.000	36.22	13.21	49.43	74.00	-24.57	peak
4	13875.000	33.61	16.44	50.05	74.00	-23.95	peak
5	17400.000	31.29	21.41	52.70	74.00	-21.30	peak
6	17775.000	29.80	23.09	52.89	74.00	-21.11	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 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)
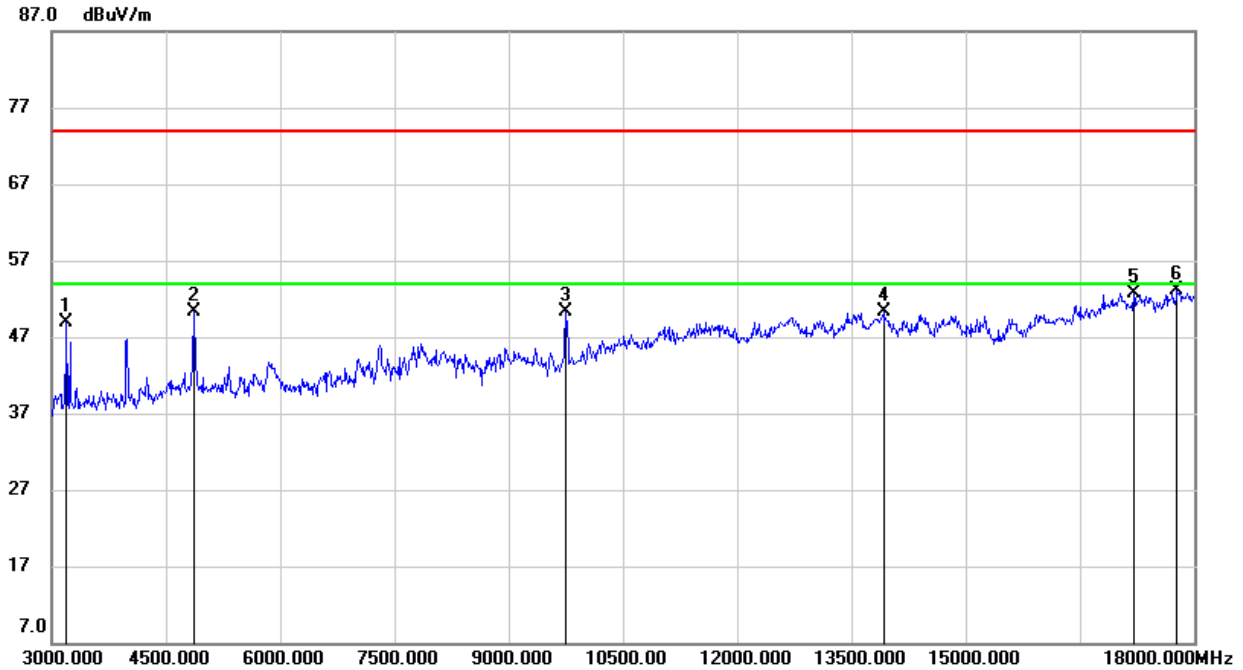
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3195.000	53.41	-4.42	48.99	74.00	-25.01	peak
2	4860.000	49.52	0.70	50.22	74.00	-23.78	peak
3	9750.000	40.53	9.68	50.21	74.00	-23.79	peak
4	13920.000	34.06	16.17	50.23	74.00	-23.77	peak
5	17205.000	31.80	20.95	52.75	74.00	-21.25	peak
6	17775.000	30.07	23.09	53.16	74.00	-20.84	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 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	3270.000	50.17	-4.29	45.88	74.00	-28.12	peak
2	4920.000	50.25	0.96	51.21	74.00	-22.79	peak
3	9855.000	39.47	9.92	49.39	74.00	-24.61	peak
4	11505.000	36.50	13.42	49.92	74.00	-24.08	peak
5	14835.000	34.59	15.95	50.54	74.00	-23.46	peak
6	17325.000	31.67	21.67	53.34	74.00	-20.66	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 High Pass Filter losses.

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

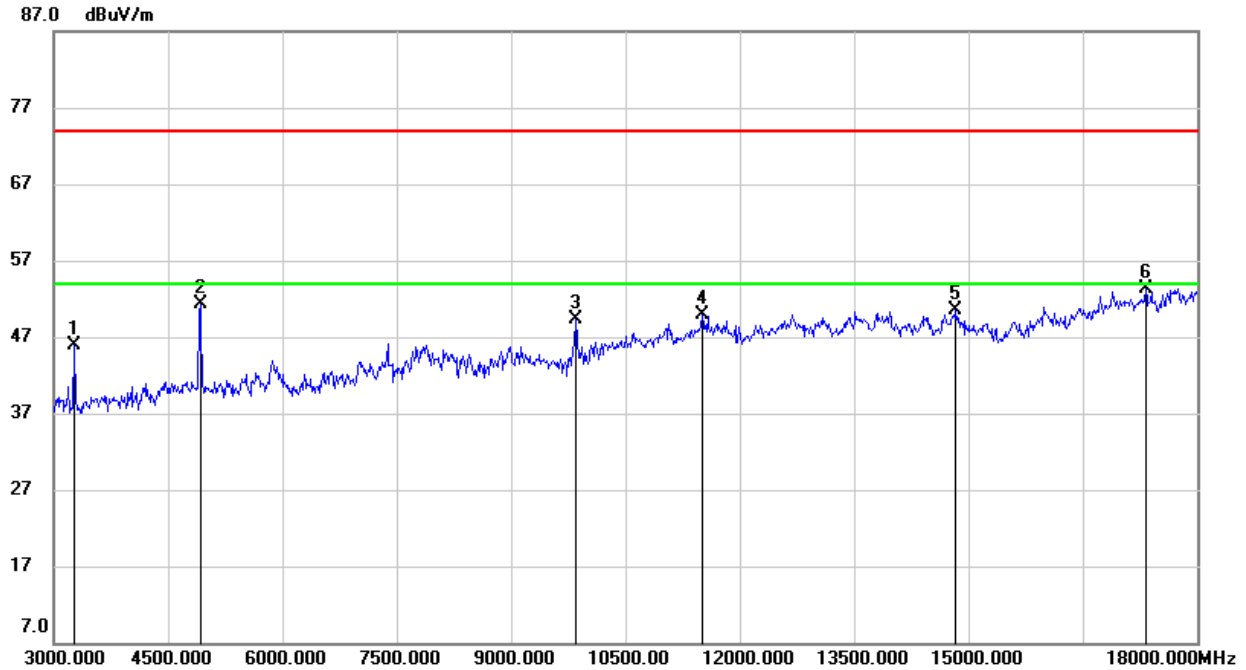## HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	49.79	-2.89	46.90	74.00	-27.10	peak
2	4920.000	48.57	0.96	49.53	74.00	-24.47	peak
3	9855.000	40.05	9.92	49.97	74.00	-24.03	peak
4	11835.000	36.20	13.21	49.41	74.00	-24.59	peak
5	13920.000	34.13	16.17	50.30	74.00	-23.70	peak
6	17940.000	29.67	23.39	53.06	74.00	-20.94	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 High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8.2.4. 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	4845.000	51.12	0.64	51.76	74.00	-22.24	peak
2	9690.000	42.92	9.63	52.55	74.00	-21.45	peak
3	11745.000	36.78	13.05	49.83	74.00	-24.17	peak
4	13800.000	33.66	17.10	50.76	74.00	-23.24	peak
5	16920.000	33.00	20.06	53.06	74.00	-20.94	peak
6	17925.000	29.81	23.37	53.18	74.00	-20.82	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 High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

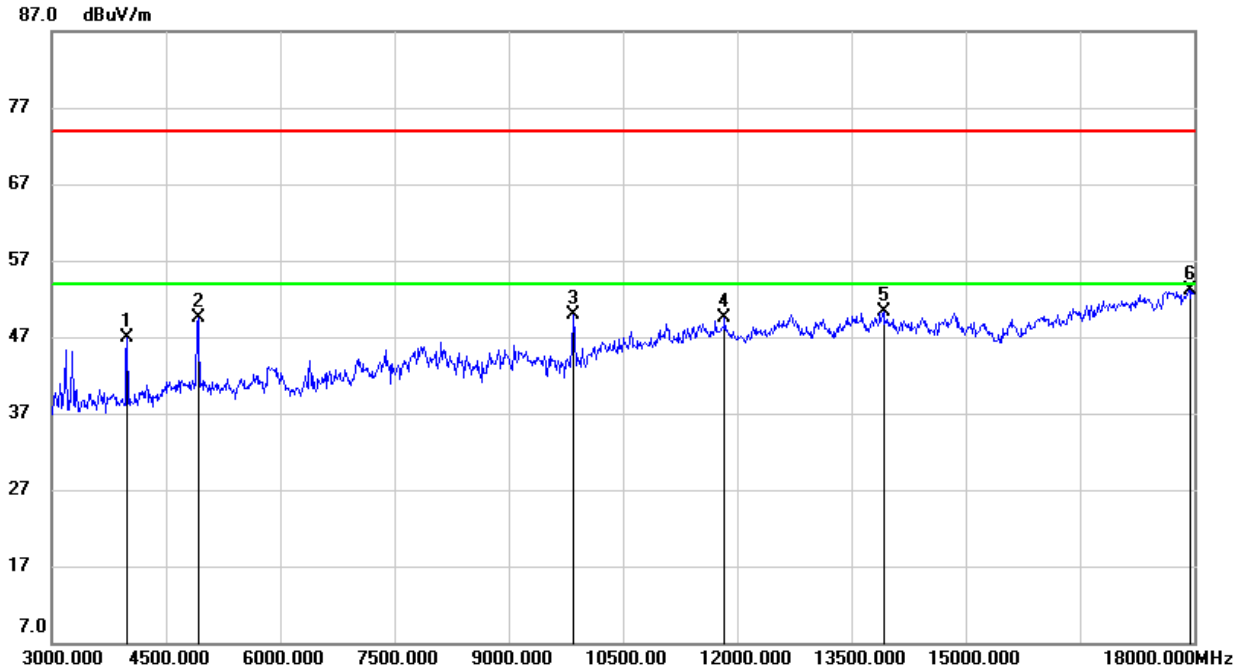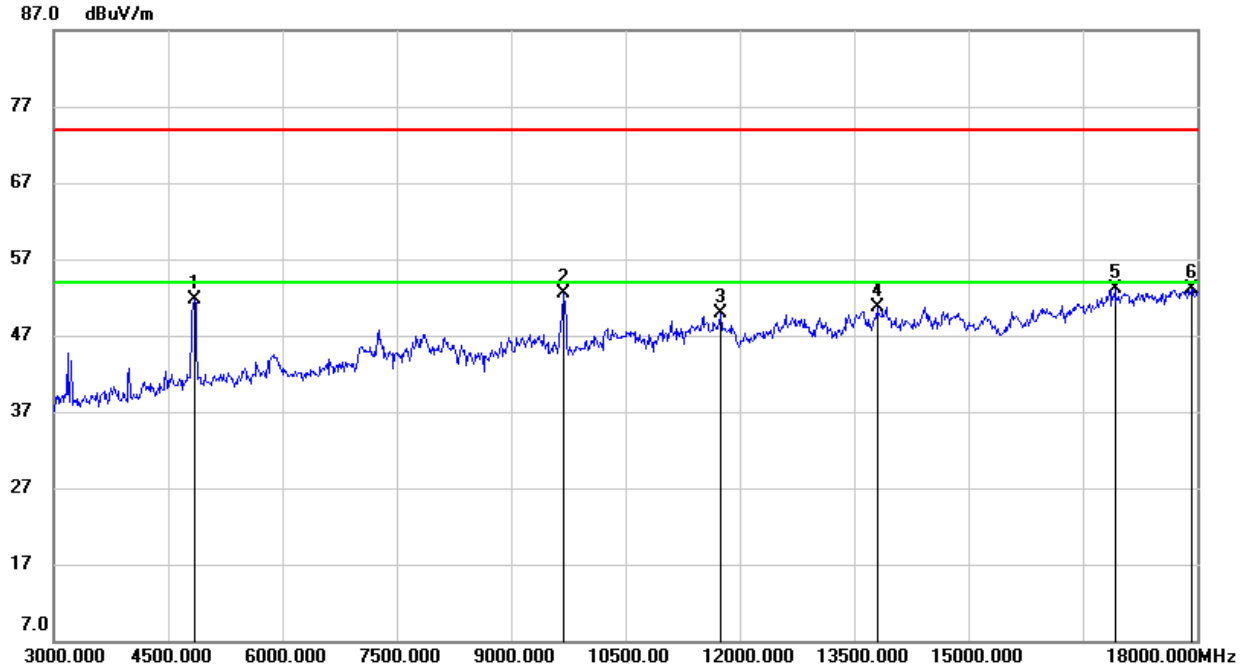## HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4845.000	50.16	0.64	50.80	74.00	-23.20	peak
2	7275.000	41.86	6.00	47.86	74.00	-26.14	peak
3	9690.000	41.58	9.63	51.21	74.00	-22.79	peak
4	13920.000	33.88	16.17	50.05	74.00	-23.95	peak
5	16815.000	32.49	19.96	52.45	74.00	-21.55	peak
6	17685.000	30.73	22.33	53.06	74.00	-20.94	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 High Pass Filter losses.

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

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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	51.00	0.76	51.76	74.00	-22.24	peak
2	7305.000	42.01	6.08	48.09	74.00	-25.91	peak
3	9720.000	40.80	9.64	50.44	74.00	-23.56	peak
4	12810.000	33.73	15.59	49.32	74.00	-24.68	peak
5	14430.000	34.09	16.35	50.44	74.00	-23.56	peak
6	17700.000	30.52	22.43	52.95	74.00	-21.05	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 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	4875.000	49.54	0.76	50.30	74.00	-23.70	peak
2	7305.000	41.87	6.08	47.95	74.00	-26.05	peak
3	9750.000	39.86	9.68	49.54	74.00	-24.46	peak
4	11520.000	36.19	13.38	49.57	74.00	-24.43	peak
5	13920.000	33.83	16.17	50.00	74.00	-24.00	peak
6	17685.000	31.03	22.33	53.36	74.00	-20.64	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 High Pass Filter losses.
   5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
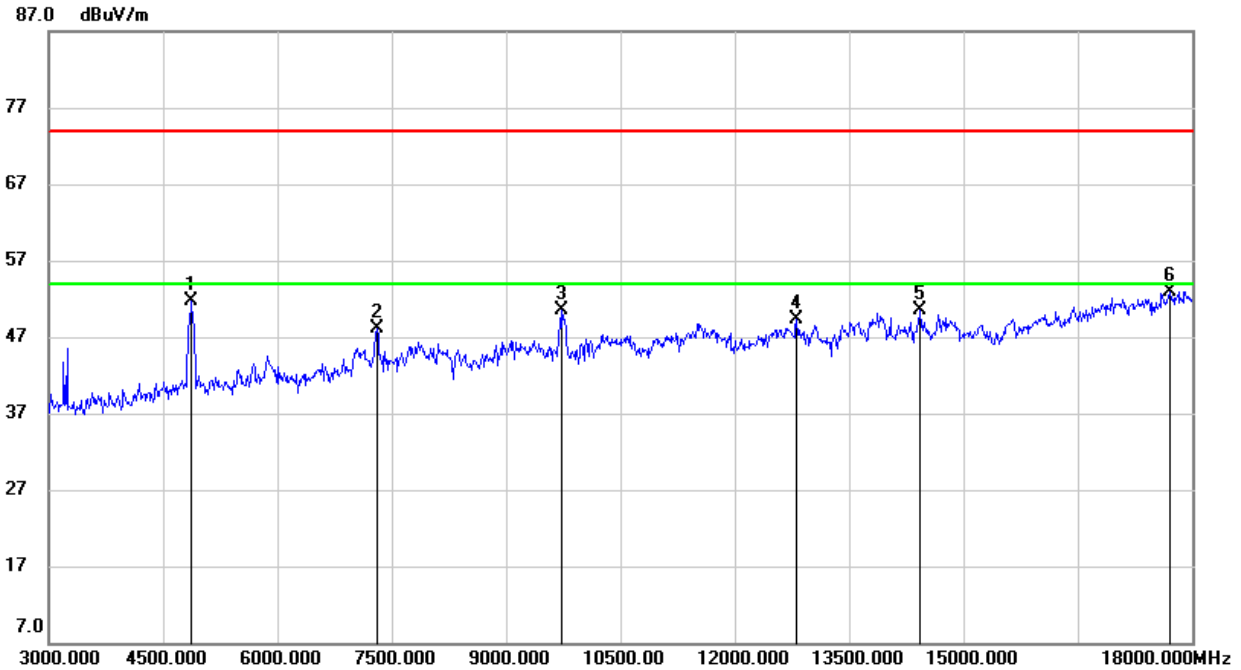
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)
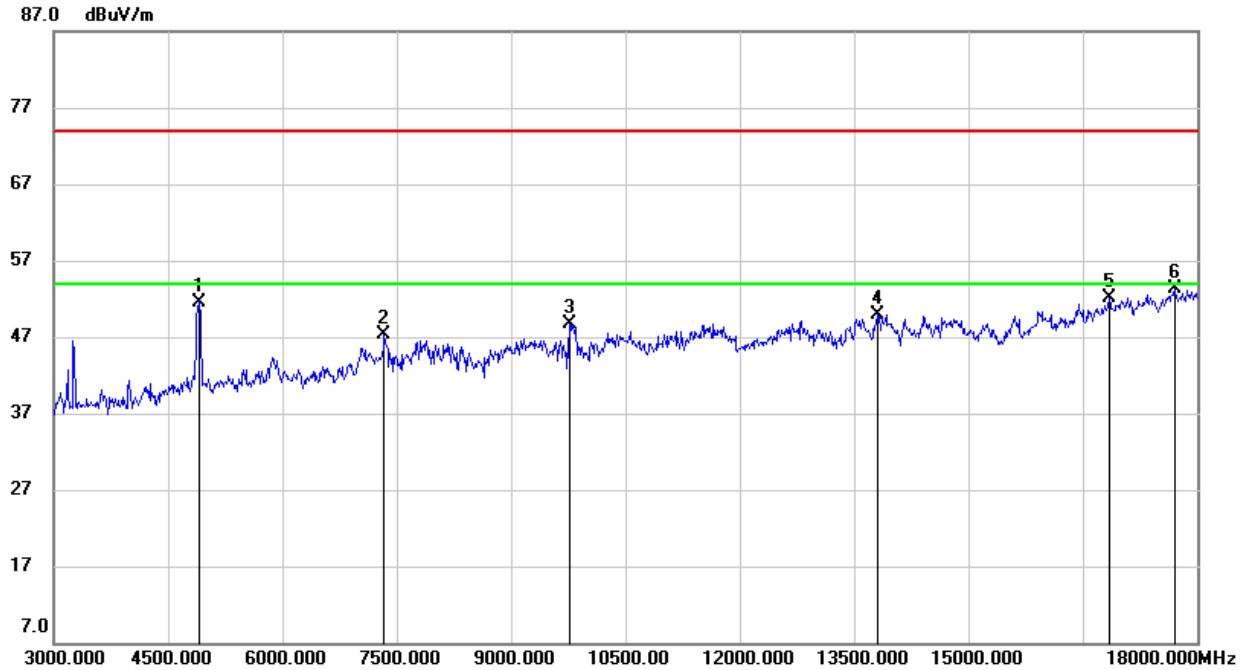
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	50.72	0.88	51.60	74.00	-22.40	peak
2	7335.000	41.03	6.21	47.24	74.00	-26.76	peak
3	9765.000	39.09	9.69	48.78	74.00	-25.22	peak
4	13815.000	32.95	16.97	49.92	74.00	-24.08	peak
5	16845.000	32.06	19.96	52.02	74.00	-21.98	peak
6	17700.000	30.91	22.43	53.34	74.00	-20.66	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 High Pass Filter losses.
     5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
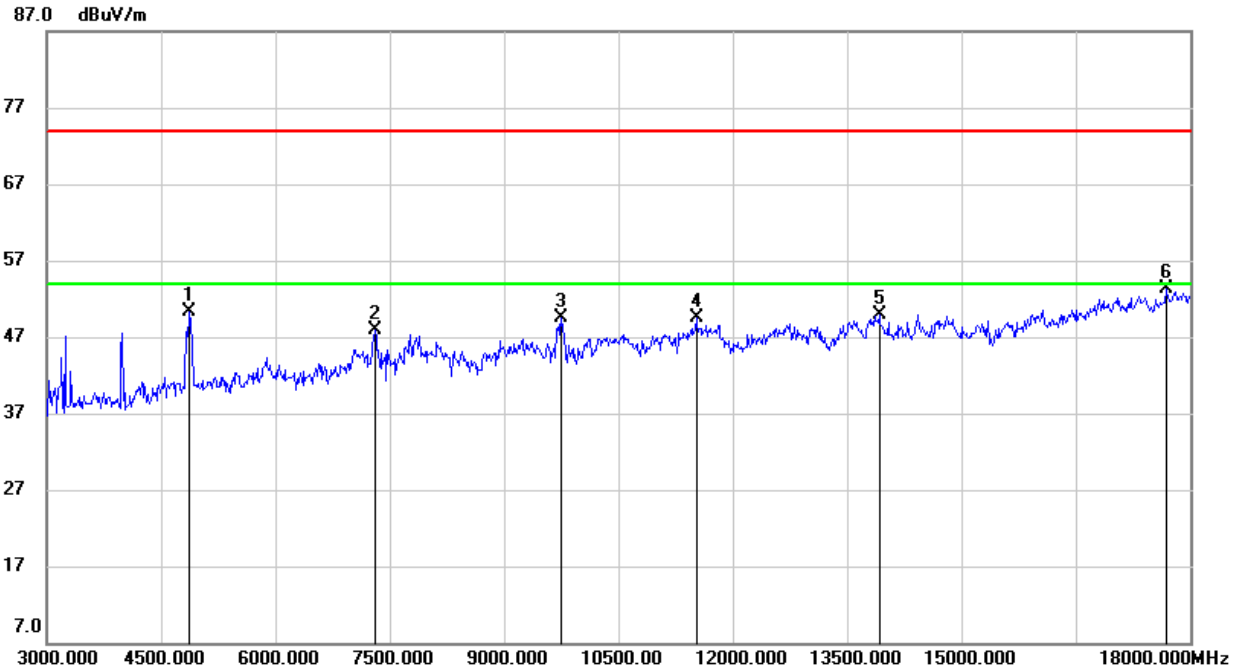
## HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3990.000	50.86	-2.89	47.97	74.00	-26.03	peak
2	4905.000	50.56	0.88	51.44	74.00	-22.56	peak
3	9810.000	39.84	9.76	49.60	74.00	-24.40	peak
4	13785.000	32.71	16.91	49.62	74.00	-24.38	peak
5	14430.000	33.27	16.35	49.62	74.00	-24.38	peak
6	17820.000	30.02	23.30	53.32	74.00	-20.68	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 High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8.3. SPURIOUS EMISSIONS (1~3GHz)

8.3.1. 802.11b MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)
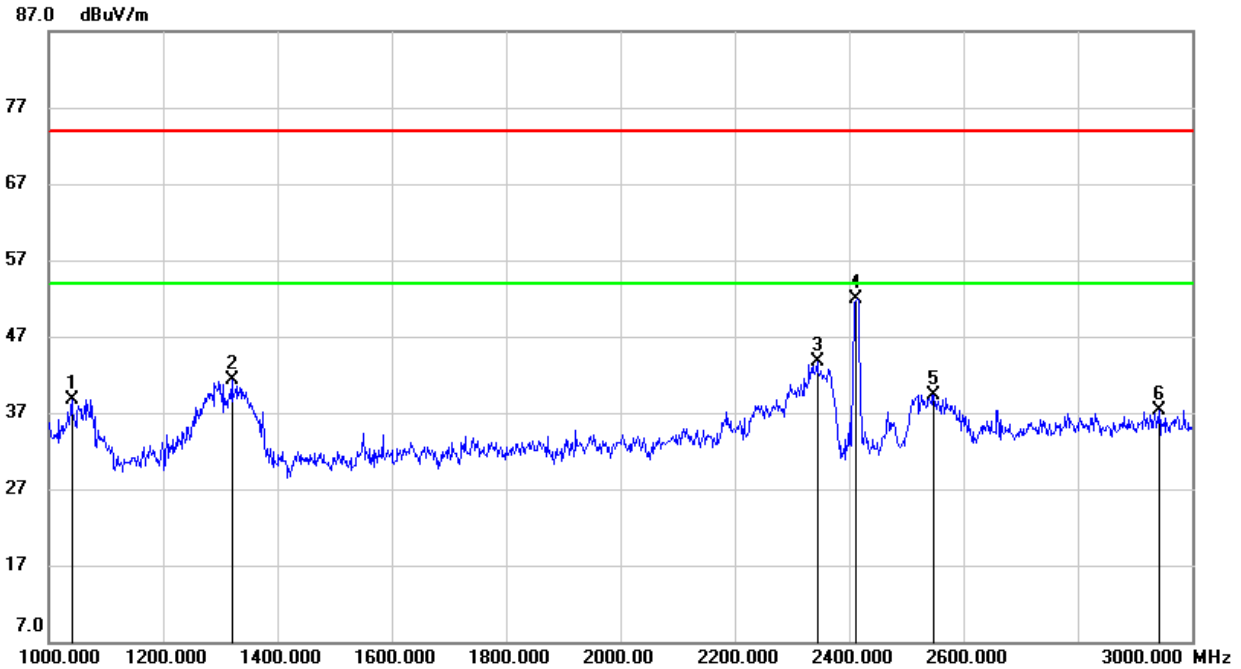
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1040.000	52.33	-13.57	38.76	74.00	-35.24	peak
2	1320.000	53.59	-12.35	41.24	74.00	-32.76	peak
3	2344.000	51.68	-8.05	43.63	74.00	-30.37	peak
4	2412.000	59.71	-7.77	51.94	/	/	fundamental
5	2548.000	46.69	-7.43	39.26	74.00	-34.74	peak
6	2942.000	42.73	-5.43	37.30	74.00	-36.70	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.

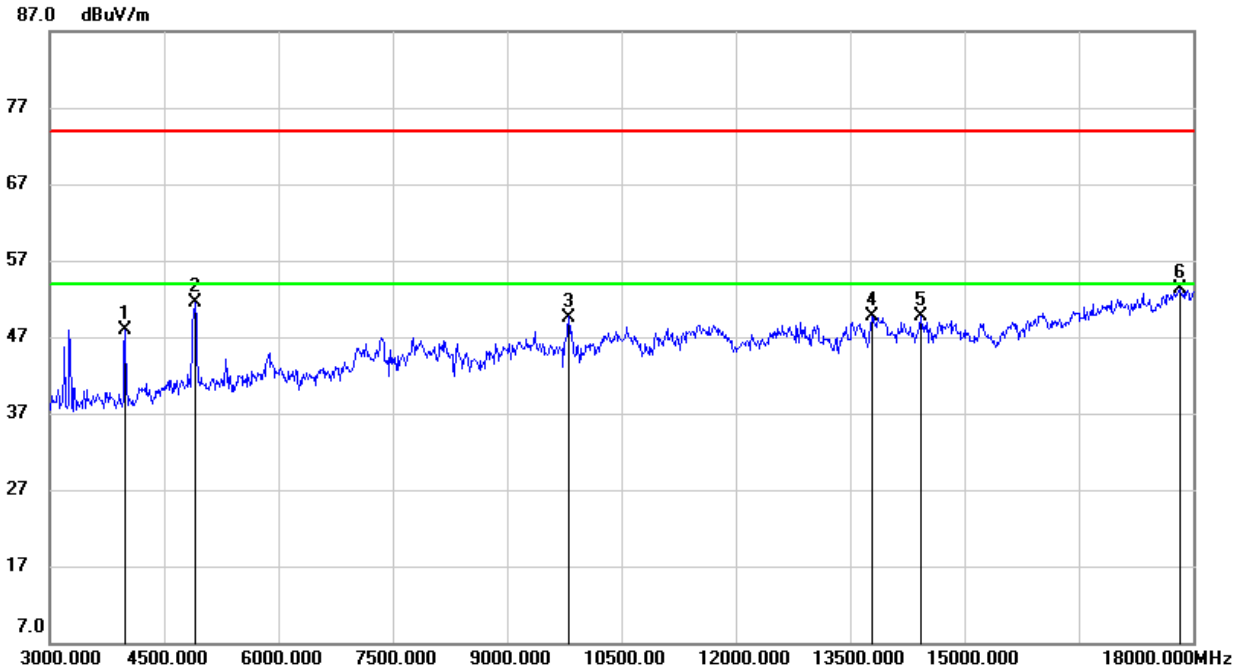## HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)
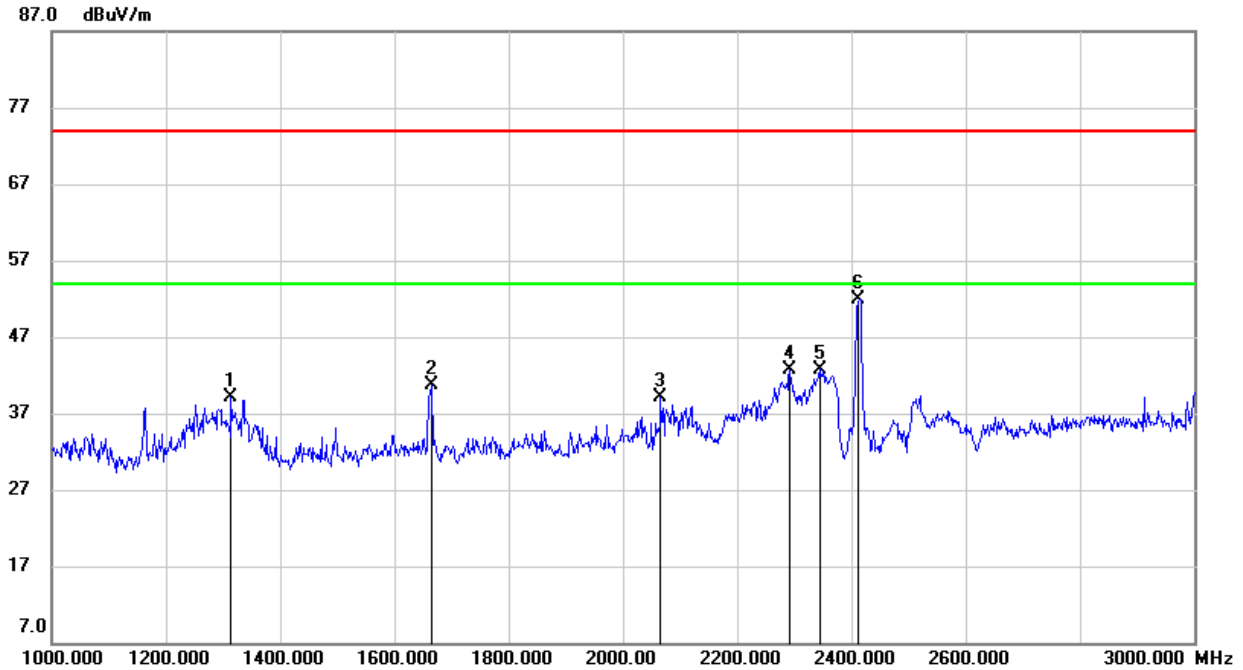
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1314.000	51.39	-12.35	39.04	74.00	-34.96	peak
2	1666.000	51.84	-11.07	40.77	74.00	-33.23	peak
3	2066.000	48.49	-9.39	39.10	74.00	-34.90	peak
4	2292.000	51.02	-8.23	42.79	74.00	-31.21	peak
5	2344.000	50.85	-8.05	42.80	74.00	-31.20	peak
6	2412.000	59.71	-7.77	51.94	/	/	fundamental

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	1062.000	52.81	-13.55	39.26	74.00	-34.74	peak
2	1288.000	54.22	-12.38	41.84	74.00	-32.16	peak
3	2344.000	51.13	-8.05	43.08	74.00	-30.92	peak
4	2437.000	59.41	-7.60	51.81	/	/	fundamental
5	2546.000	47.50	-7.41	40.09	74.00	-33.91	peak
6	2878.000	42.80	-5.64	37.16	74.00	-36.84	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)
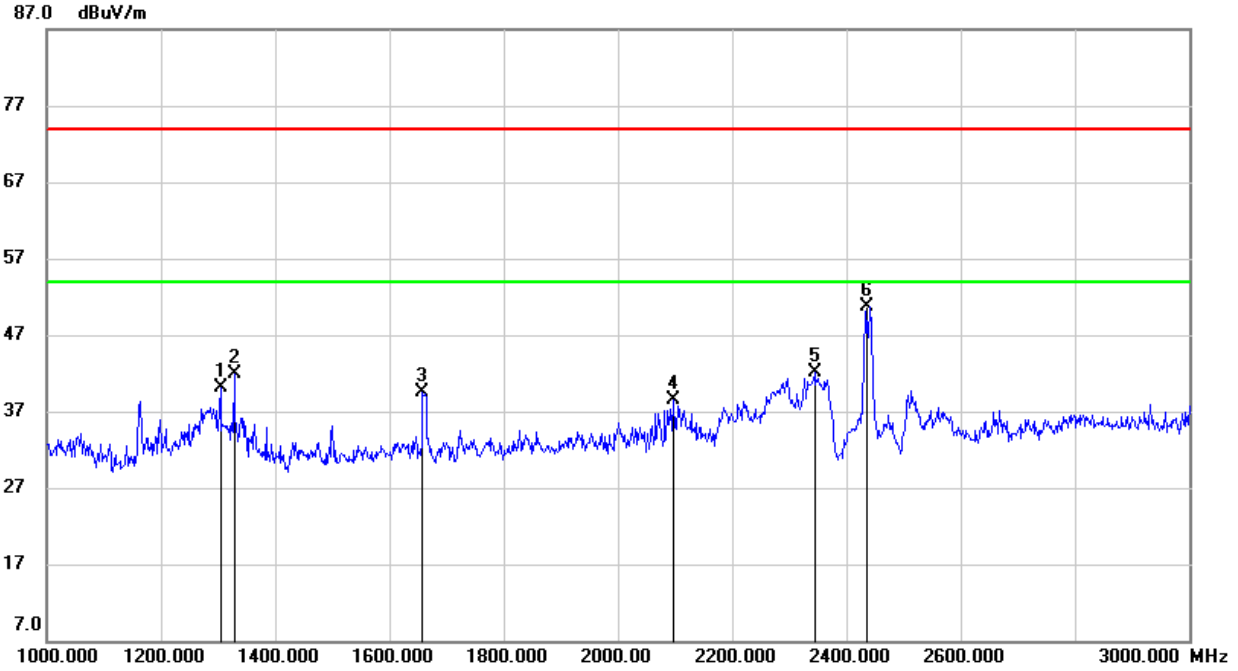
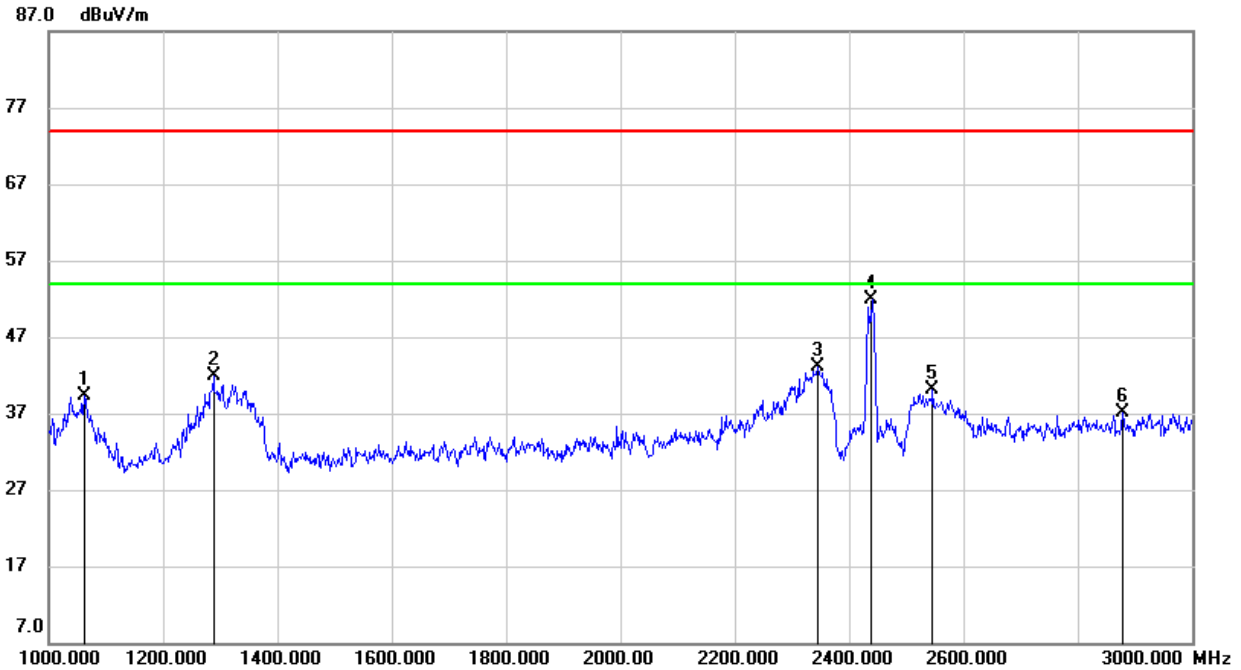| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1304.000	52.37	-12.34	40.03	74.00	-33.97	peak
2	1328.000	54.20	-12.36	41.84	74.00	-32.16	peak
3	1658.000	50.53	-11.11	39.42	74.00	-34.58	peak
4	2096.000	47.66	-9.19	38.47	74.00	-35.53	peak
5	2344.000	50.10	-8.05	42.05	74.00	-31.95	peak
6	2437.000	58.31	-7.60	50.71	/	/	fundamental

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.

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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	1040.000	52.83	-13.57	39.26	74.00	-34.74	peak
2	1294.000	53.67	-12.36	41.31	74.00	-32.69	peak
3	2294.000	48.76	-8.21	40.55	74.00	-33.45	peak
4	2344.000	50.66	-8.05	42.61	74.00	-31.39	peak
5	2462.000	56.06	-7.43	48.63	/	/	fundamental
6	2522.000	47.37	-7.28	40.09	74.00	-33.91	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.

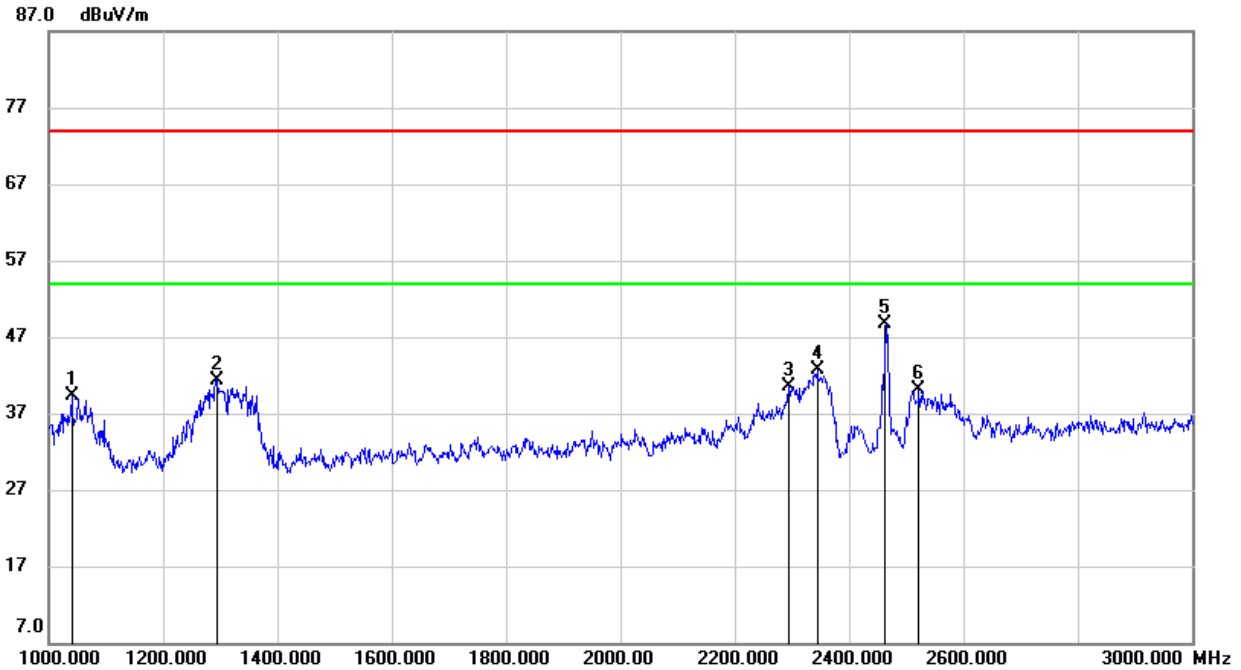## HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1162.000	52.62	-13.00	39.62	74.00	-34.38	peak
2	1232.000	50.12	-12.57	37.55	74.00	-36.45	peak
3	1658.000	50.55	-11.11	39.44	74.00	-34.56	peak
4	2132.000	50.22	-9.00	41.22	74.00	-32.78	peak
5	2344.000	49.73	-8.05	41.68	74.00	-32.32	peak
6	2462.000	57.51	-7.43	50.08	/	/	fundamental

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.

8.3.2. 802.11g MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)
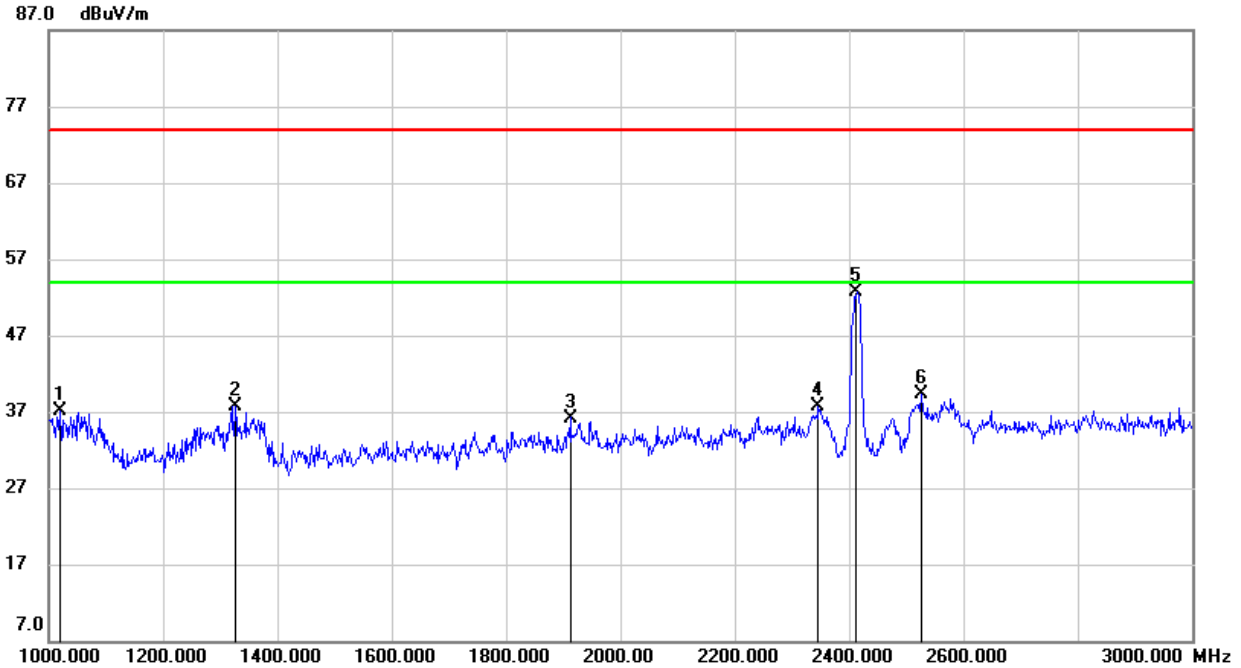
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1020.000	50.58	-13.57	37.01	74.00	-36.99	peak
2	1326.000	50.00	-12.35	37.65	74.00	-36.35	peak
3	1912.000	46.13	-9.93	36.20	74.00	-37.80	peak
4	2346.000	45.68	-8.04	37.64	74.00	-36.36	peak
5	2412.000	60.56	-7.77	52.79	/	/	fundamental
6	2526.000	46.65	-7.31	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.

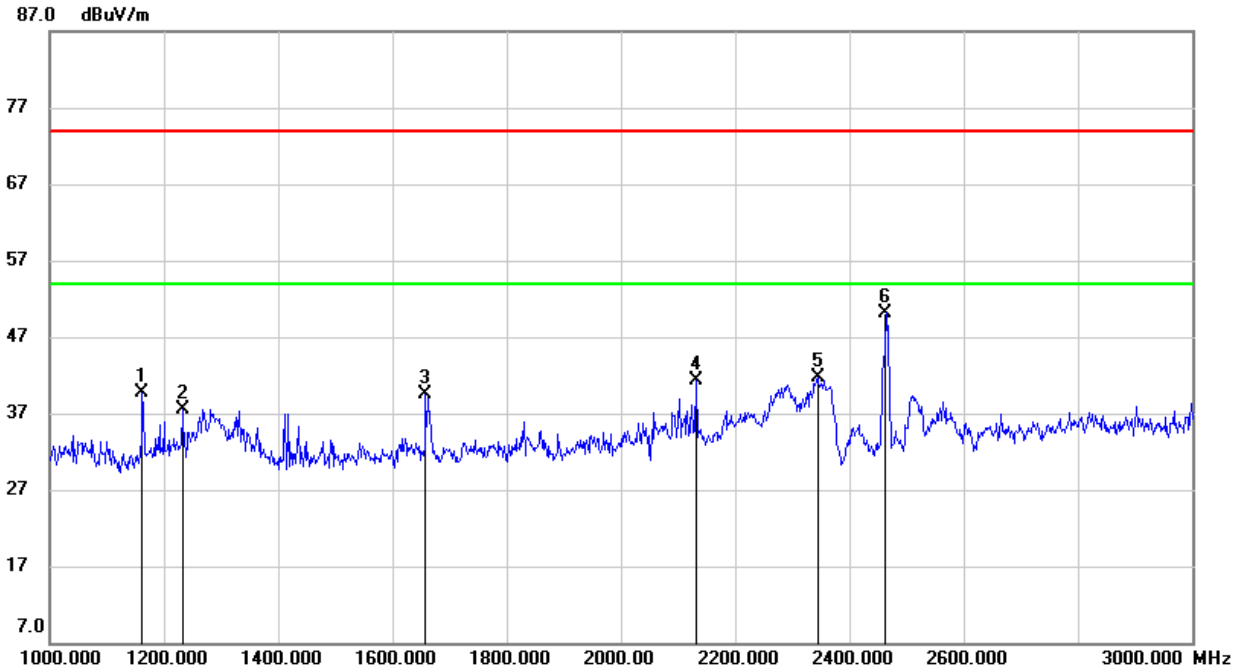## HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1028.000	50.42	-13.58	36.84	74.00	-37.16	peak
2	1162.000	54.23	-13.00	41.23	74.00	-32.77	peak
3	1390.000	49.28	-12.38	36.90	74.00	-37.10	peak
4	2288.000	49.42	-8.25	41.17	74.00	-32.83	peak
5	2368.000	51.65	-7.96	43.69	74.00	-30.31	peak
6	2412.000	59.97	-7.77	52.20	/	/	fundamental

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)

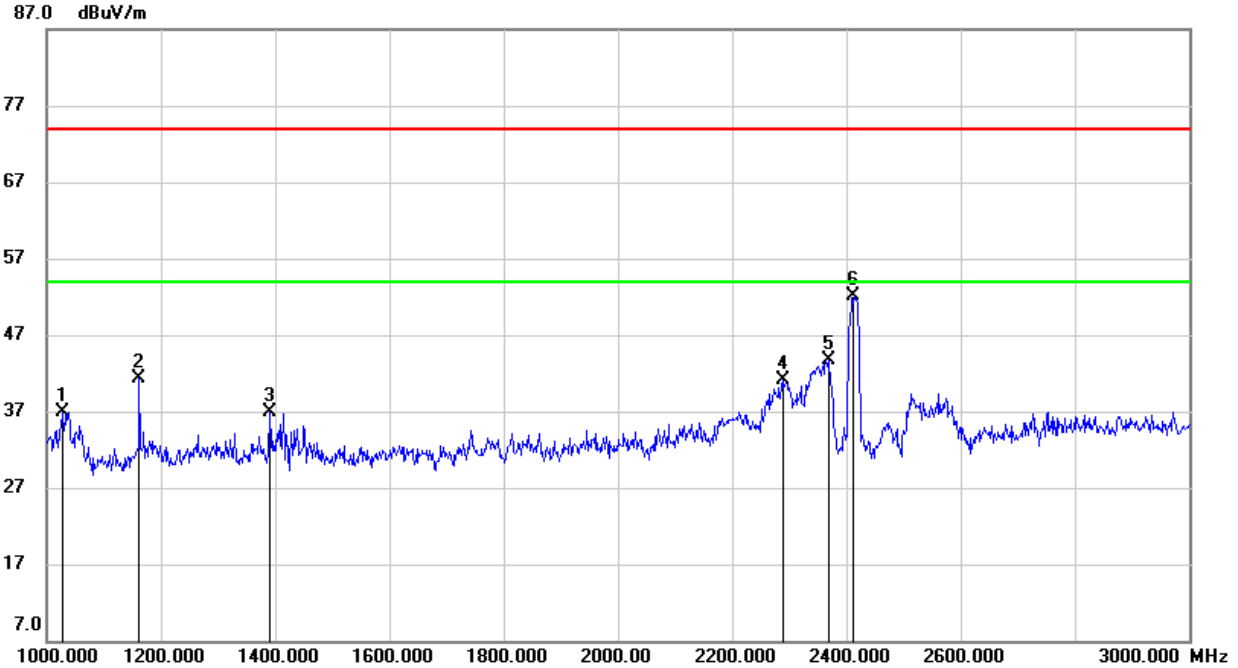| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1040.000	51.39	-13.57	37.82	74.00	-36.18	peak
2	1324.000	49.59	-12.36	37.23	74.00	-36.77	peak
3	2346.000	45.53	-8.04	37.49	74.00	-36.51	peak
4	2430.000	53.62	-7.65	45.97	74.00	-28.03	peak
5	2437.000	57.40	-7.55	49.85	/	/	fundamental
6	2524.000	45.80	-7.29	38.51	74.00	-35.49	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.

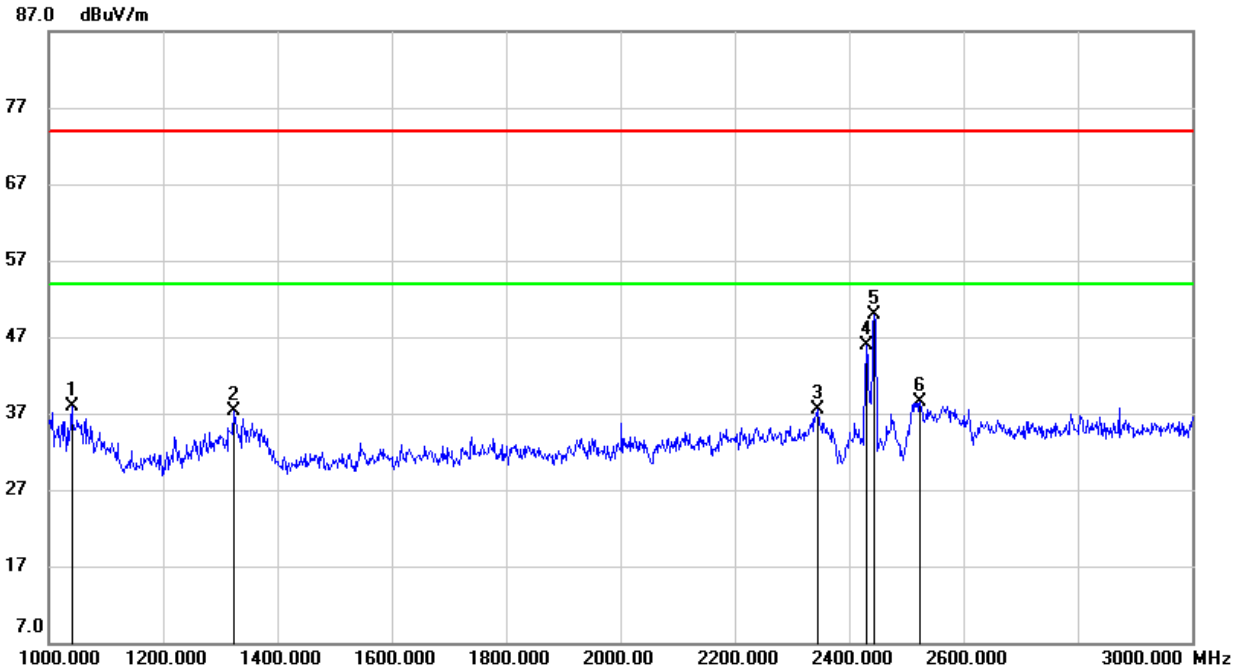## HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1164.000	54.30	-12.97	41.33	74.00	-32.67	peak
2	1258.000	52.79	-12.49	40.30	74.00	-33.70	peak
3	1394.000	50.72	-12.38	38.34	74.00	-35.66	peak
4	2344.000	51.11	-8.05	43.06	74.00	-30.94	peak
5	2430.000	58.11	-7.65	50.46	74.00	-23.54	peak
6	2437.000	58.52	-7.60	50.92	/	/	fundamental

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.

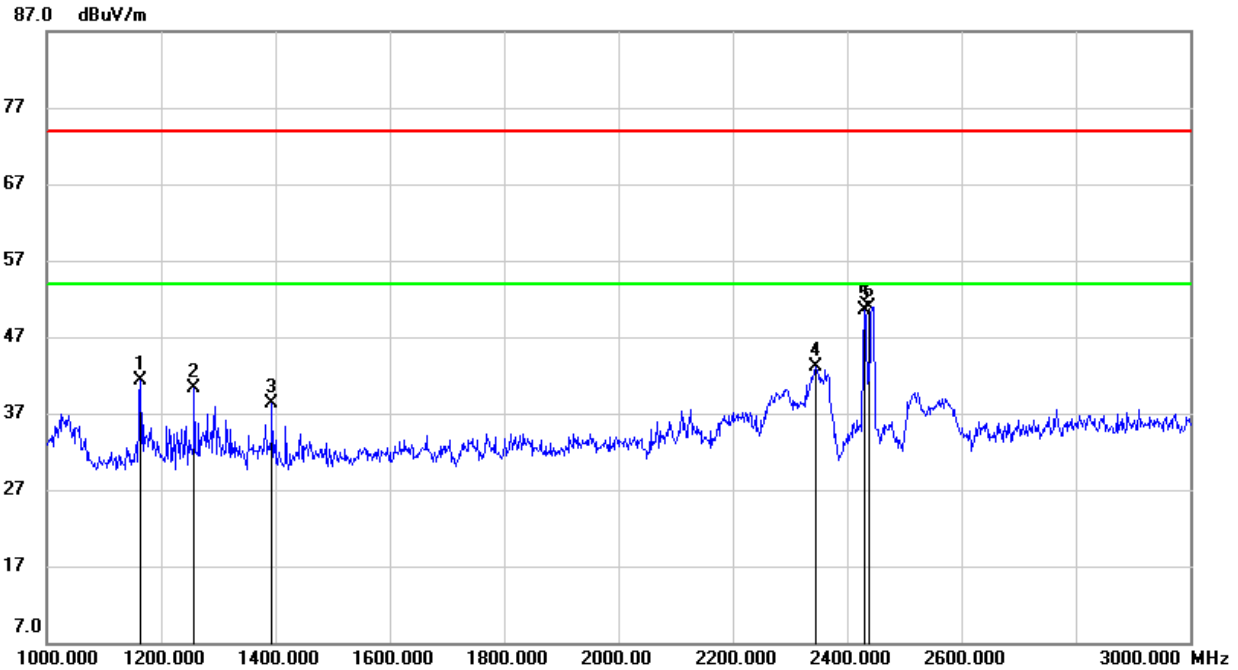## HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1040.000	50.89	-13.57	37.32	74.00	-36.68	peak
2	1320.000	52.01	-12.35	39.66	74.00	-34.34	peak
3	2040.000	45.45	-9.56	35.89	74.00	-38.11	peak
4	2456.000	56.87	-7.47	49.40	74.00	-24.60	peak
5	2462.000	59.30	-7.43	51.87	/	/	fundamental
6	2516.000	46.31	-7.25	39.06	74.00	-34.94	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.

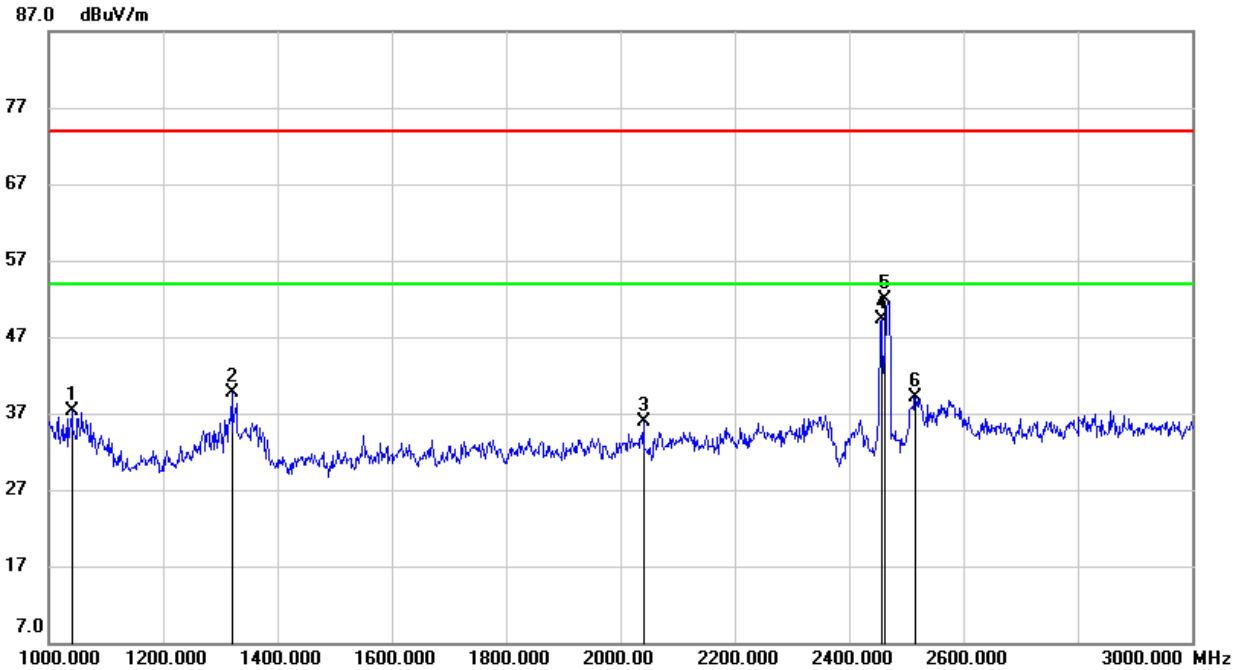**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1162.000	53.18	-13.00	40.18	74.00	-33.82	peak
2	1228.000	49.94	-12.58	37.36	74.00	-36.64	peak
3	2294.000	49.48	-8.21	41.27	74.00	-32.73	peak
4	2350.000	50.61	-8.02	42.59	74.00	-31.41	peak
5	2456.000	57.92	-7.47	50.45	74.00	-23.55	peak
6	2462.000	60.35	-7.43	52.92	/	/	fundamental

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.

8.3.3. 802.11n HT20 MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)
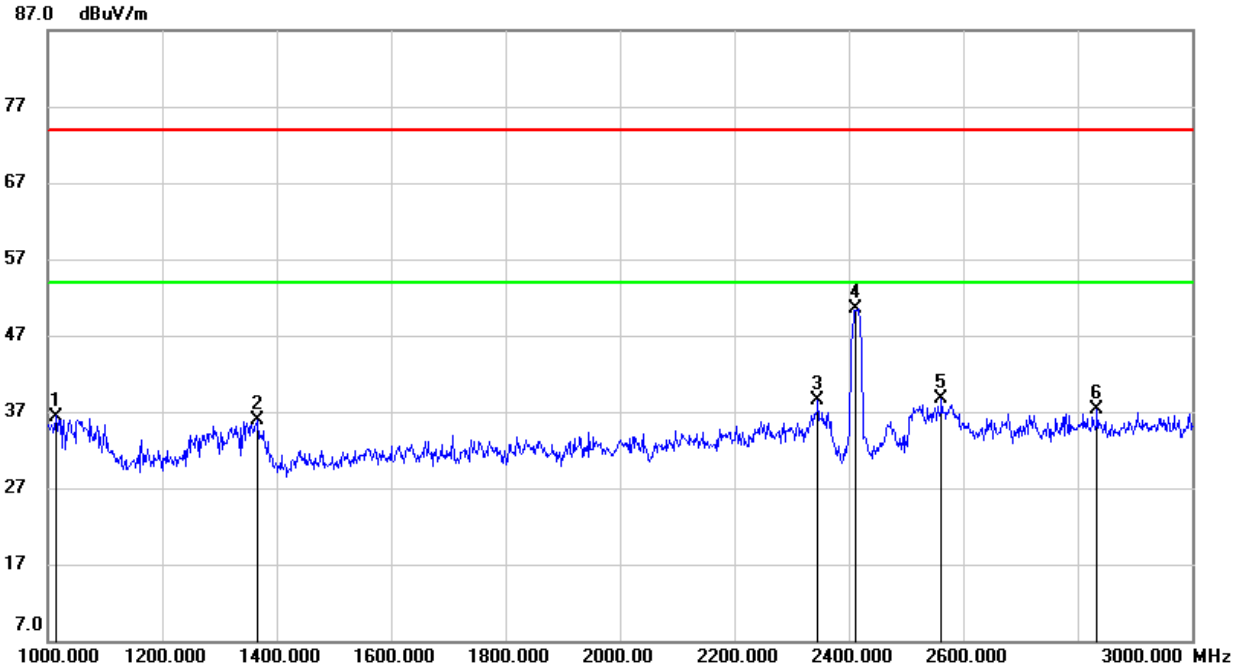
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1014.000	49.97	-13.57	36.40	74.00	-37.60	peak
2	1366.000	48.32	-12.37	35.95	74.00	-38.05	peak
3	2346.000	46.63	-8.04	38.59	74.00	-35.41	peak
4	2412.000	58.29	-7.77	50.52	/	/	fundamental
5	2562.000	46.25	-7.50	38.75	74.00	-35.25	peak
6	2834.000	43.18	-5.88	37.30	74.00	-36.70	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.

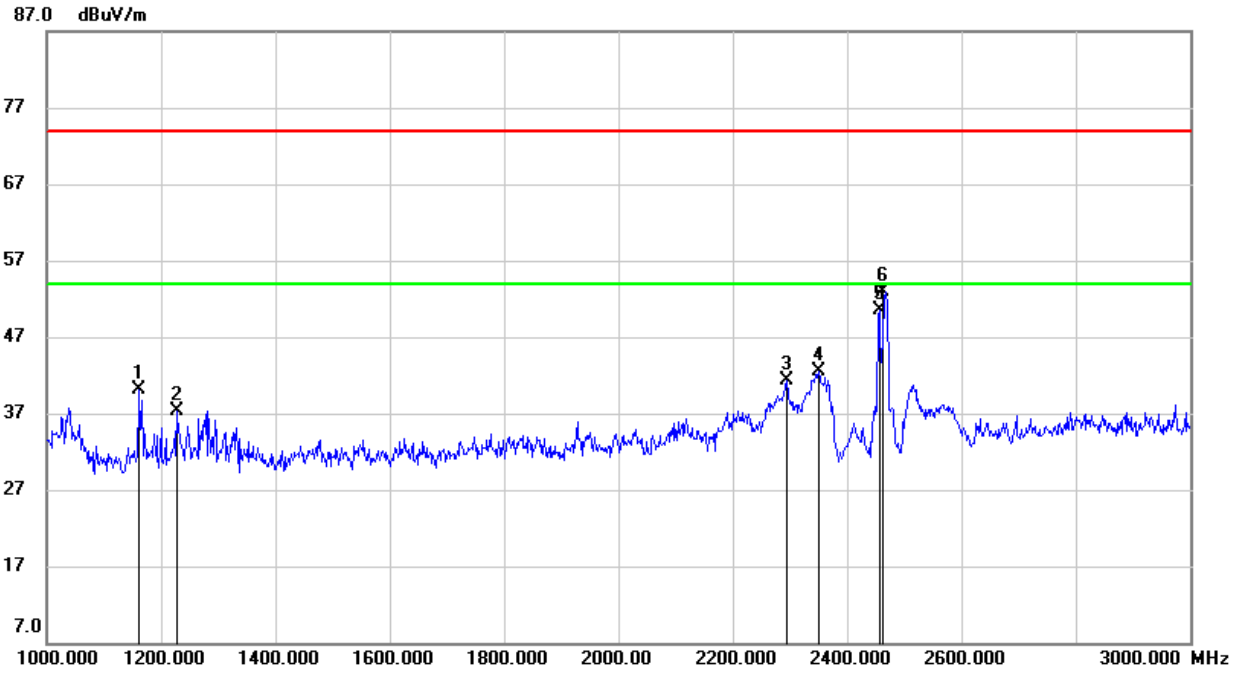## HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1044.000	50.96	-13.56	37.40	74.00	-36.60	peak
2	1162.000	50.35	-13.00	37.35	74.00	-36.65	peak
3	1358.000	49.93	-12.37	37.56	74.00	-36.44	peak
4	2294.000	49.91	-8.21	41.70	74.00	-32.30	peak
5	2366.000	53.92	-7.97	45.95	74.00	-28.05	peak
6	2412.000	59.09	-7.77	51.32	/	/	fundamental

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)
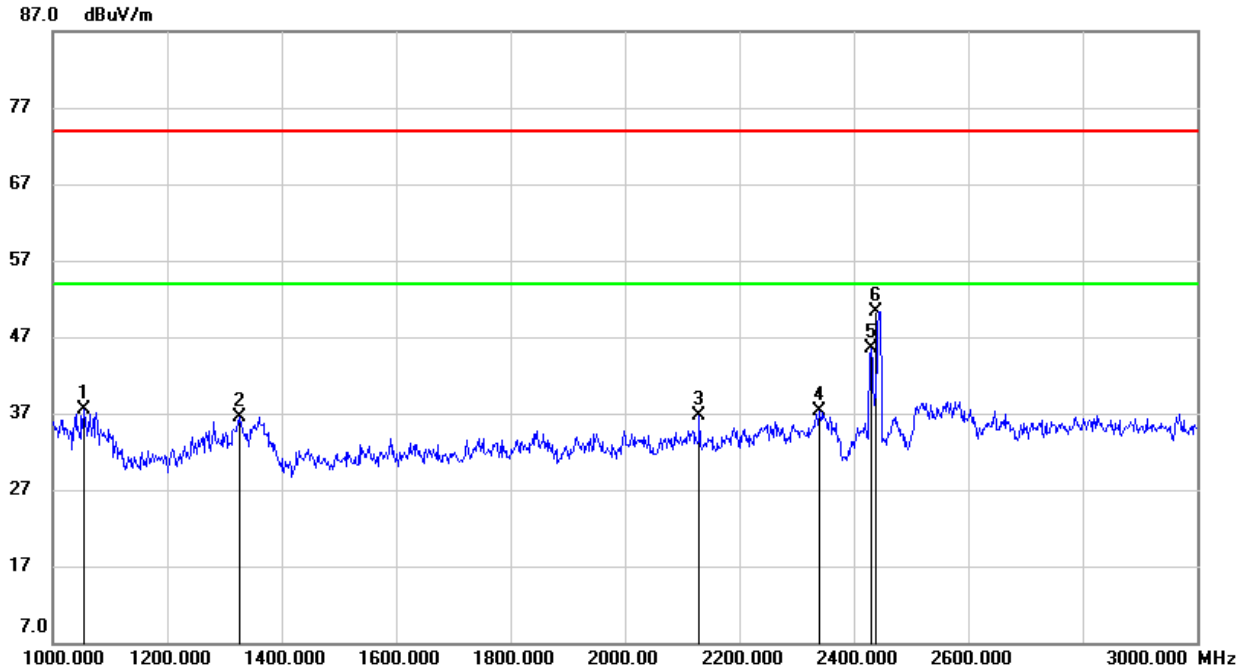
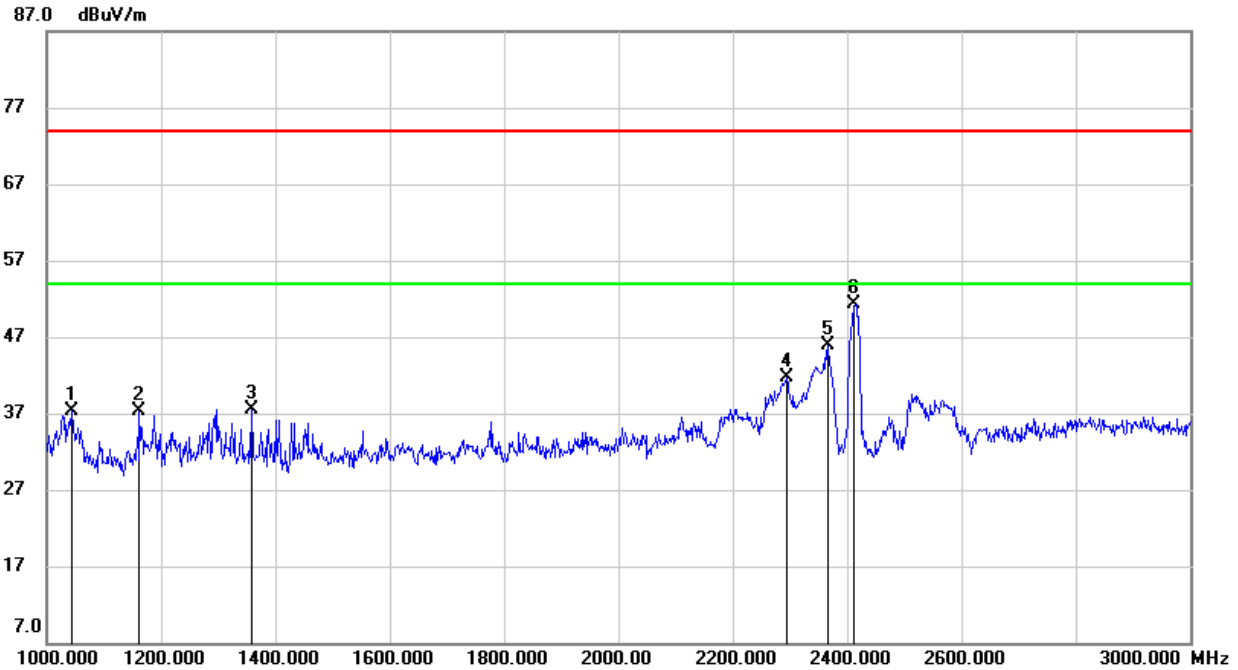| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1054.000	51.01	-13.55	37.46	74.00	-36.54	peak
2	1326.000	48.84	-12.35	36.49	74.00	-37.51	peak
3	2130.000	45.78	-9.01	36.77	74.00	-37.23	peak
4	2340.000	45.29	-8.06	37.23	74.00	-36.77	peak
5	2430.000	53.06	-7.65	45.41	74.00	-28.59	peak
6	2437.000	57.97	-7.60	50.37	/	/	fundamental

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)
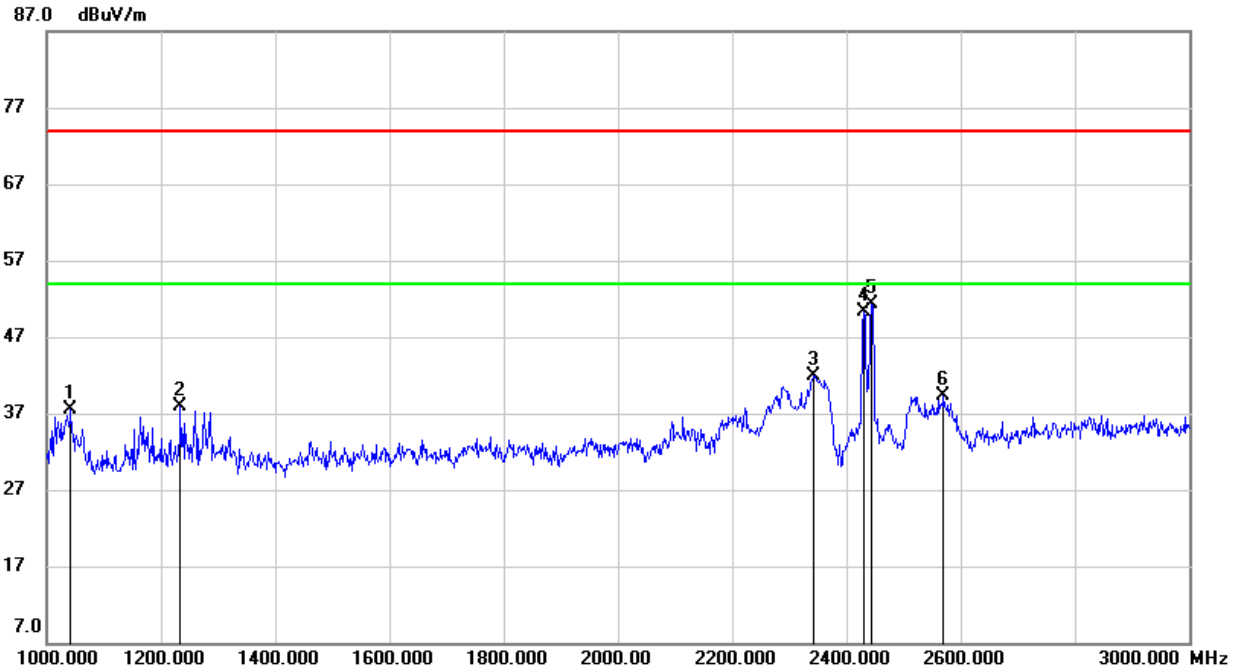
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1042.000	51.14	-13.56	37.58	74.00	-36.42	peak
2	1234.000	50.50	-12.56	37.94	74.00	-36.06	peak
3	2342.000	50.02	-8.05	41.97	74.00	-32.03	peak
4	2430.000	57.93	-7.65	50.28	74.00	-23.72	peak
5	2437.000	58.92	-7.55	51.37	/	/	fundamental
6	2570.000	46.79	-7.54	39.25	74.00	-34.75	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)**
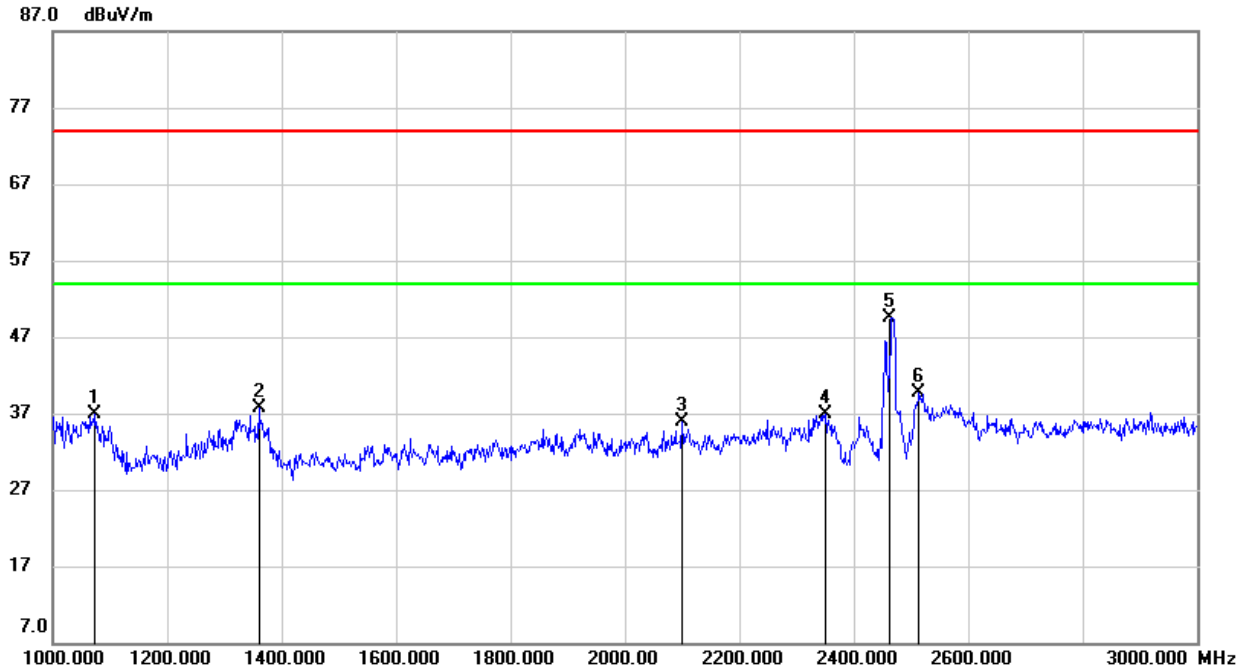
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1074.000	50.51	-13.54	36.97	74.00	-37.03	peak
2	1360.000	50.02	-12.36	37.66	74.00	-36.34	peak
3	2100.000	45.01	-9.16	35.85	74.00	-38.15	peak
4	2350.000	44.98	-8.02	36.96	74.00	-37.04	peak
5	2462.000	56.90	-7.43	49.47	/	/	fundamental
6	2514.000	46.85	-7.24	39.61	74.00	-34.39	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. 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.

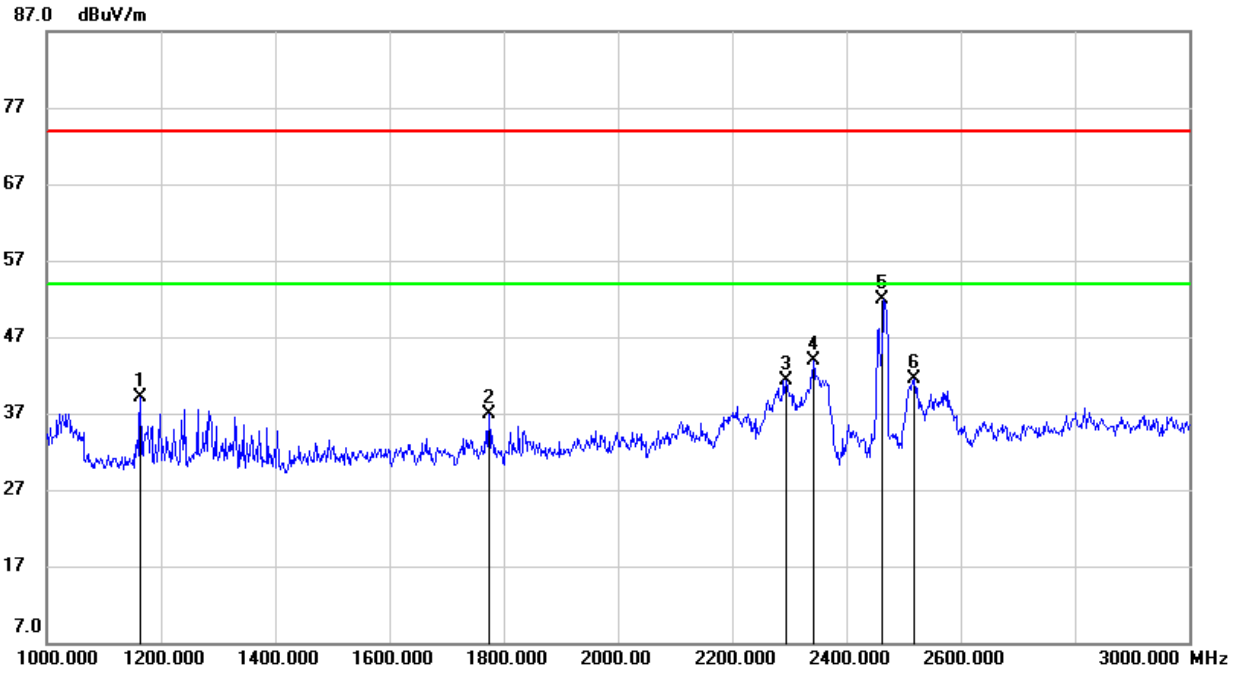## HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1164.000	52.13	-12.97	39.16	74.00	-34.84	peak
2	1774.000	46.98	-10.17	36.81	74.00	-37.19	peak
3	2294.000	49.56	-8.21	41.35	74.00	-32.65	peak
4	2342.000	51.99	-8.05	43.94	74.00	-30.06	peak
5	2462.000	59.26	-7.43	51.83	/	/	fundamental
6	2518.000	48.85	-7.27	41.58	74.00	-32.42	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.

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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	1058.000	50.49	-13.55	36.94	74.00	-37.06	peak
2	1320.000	49.14	-12.35	36.79	74.00	-37.21	peak
3	2352.000	47.88	-8.02	39.86	74.00	-34.14	peak
4	2422.000	59.51	-7.71	51.80	/	/	fundamental
5	2514.000	46.39	-7.24	39.15	74.00	-34.85	peak
6	2576.000	46.23	-7.57	38.66	74.00	-35.34	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.

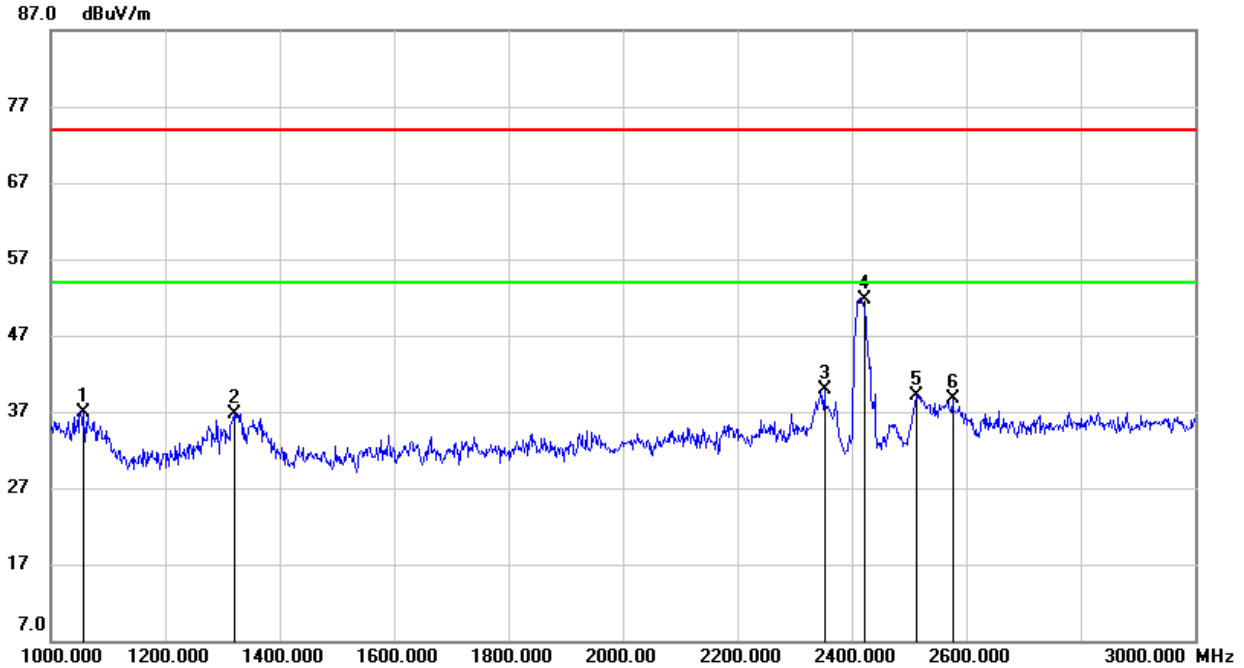## HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)
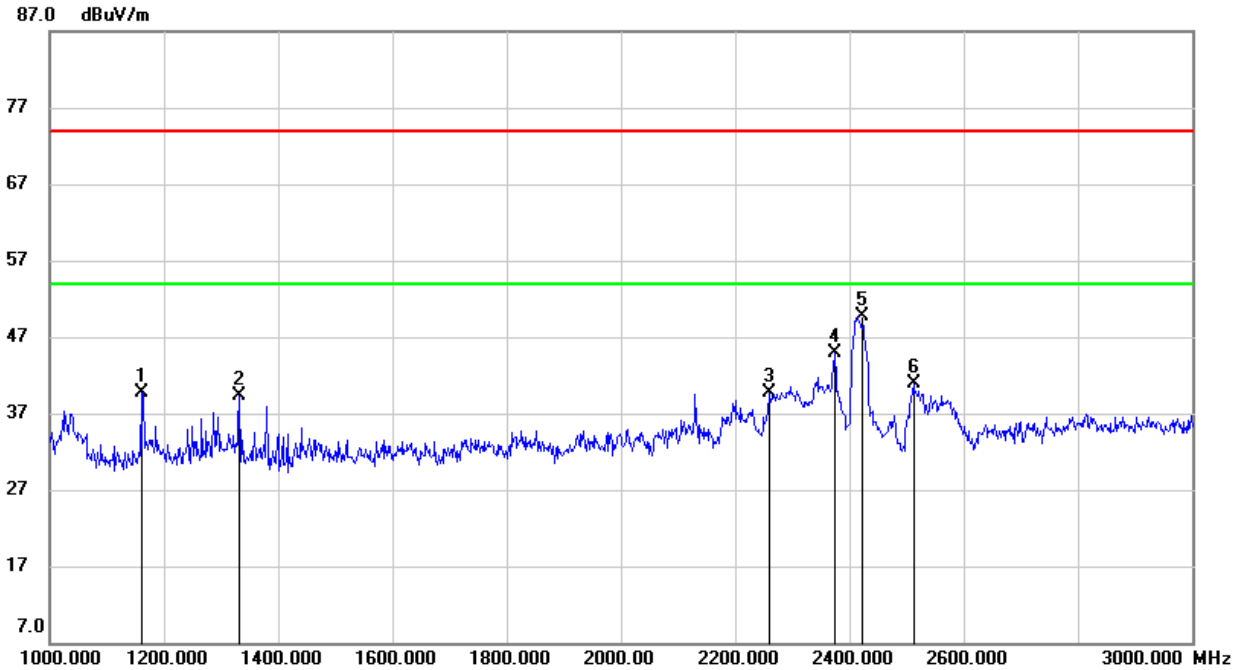
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1160.000	52.72	-13.01	39.71	74.00	-34.29	peak
2	1332.000	51.65	-12.35	39.30	74.00	-34.70	peak
3	2260.000	48.16	-8.38	39.78	74.00	-34.22	peak
4	2374.000	52.85	-7.95	44.90	74.00	-29.10	peak
5	2422.000	57.32	-7.71	49.61	/	/	fundamental
6	2512.000	48.13	-7.23	40.90	74.00	-33.10	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)**
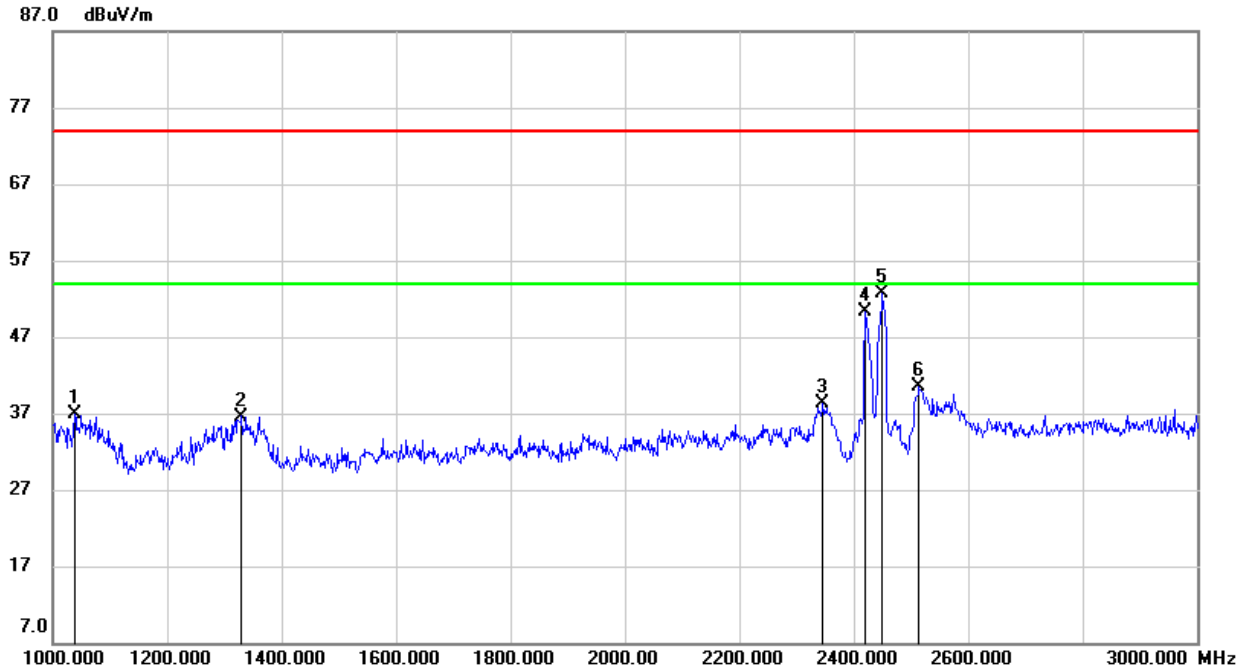
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1038.000	50.51	-13.56	36.95	74.00	-37.05	peak
2	1330.000	48.96	-12.36	36.60	74.00	-37.40	peak
3	2346.000	46.35	-8.04	38.31	74.00	-35.69	peak
4	2420.000	57.99	-7.72	50.27	74.00	-23.73	peak
5	2437.000	60.15	-7.51	52.64	/	/	fundamental
6	2514.000	47.76	-7.24	40.52	74.00	-33.48	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 (MID CHANNEL, VERTICAL)**
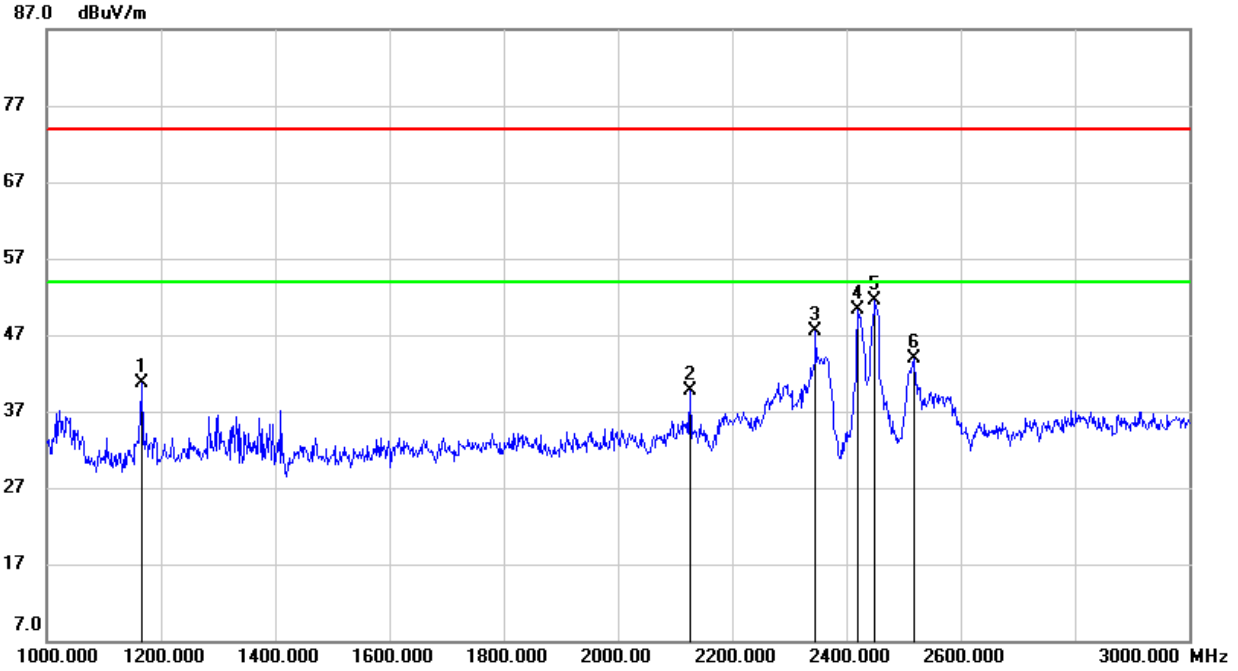
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1166.000	53.74	-12.96	40.78	74.00	-33.22	peak
2	2126.000	48.75	-9.02	39.73	74.00	-34.27	peak
3	2346.000	55.58	-8.04	47.54	74.00	-26.46	peak
4	2420.000	58.03	-7.72	50.31	74.00	-23.69	peak
5	2437.000	59.04	-7.51	51.53	/	/	fundamental
6	2518.000	51.13	-7.27	43.86	74.00	-30.14	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)
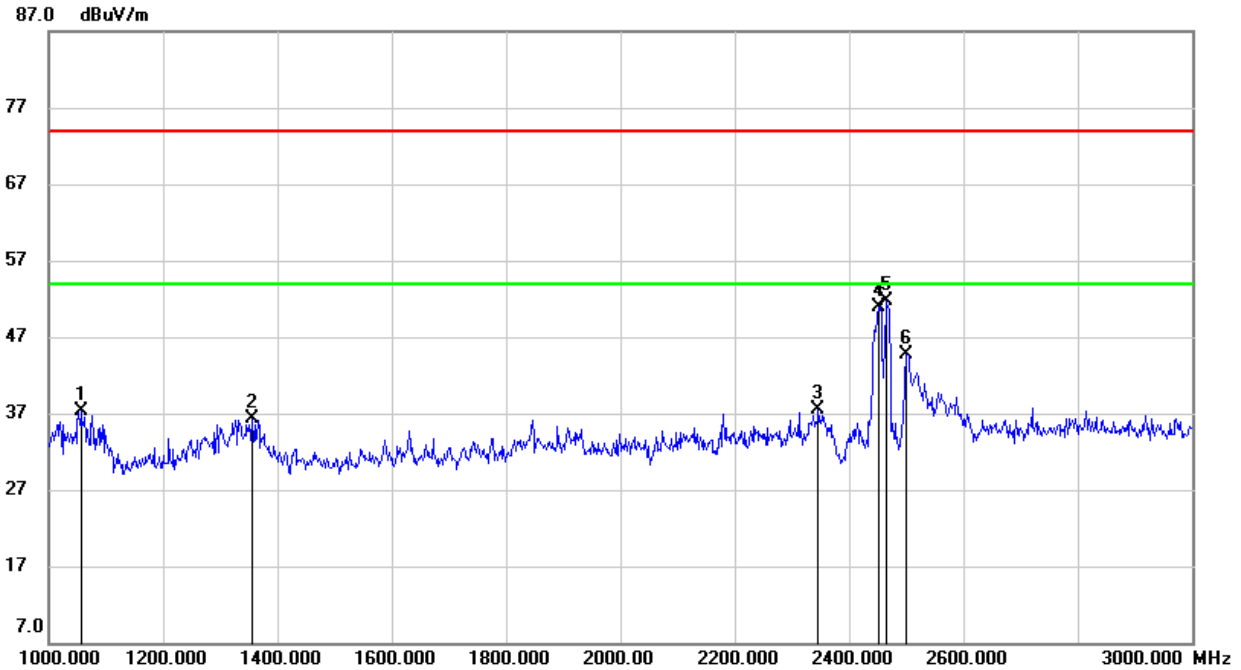
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1056.000	50.90	-13.55	37.35	74.00	-36.65	peak
2	1356.000	48.75	-12.36	36.39	74.00	-37.61	peak
3	2346.000	45.51	-8.04	37.47	74.00	-36.53	peak
4	2452.000	58.41	-7.50	50.91	/	/	fundamental
5	2466.000	59.18	-7.40	51.78	74.00	-22.22	peak
6	2500.000	51.95	-7.17	44.78	74.00	-29.22	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.

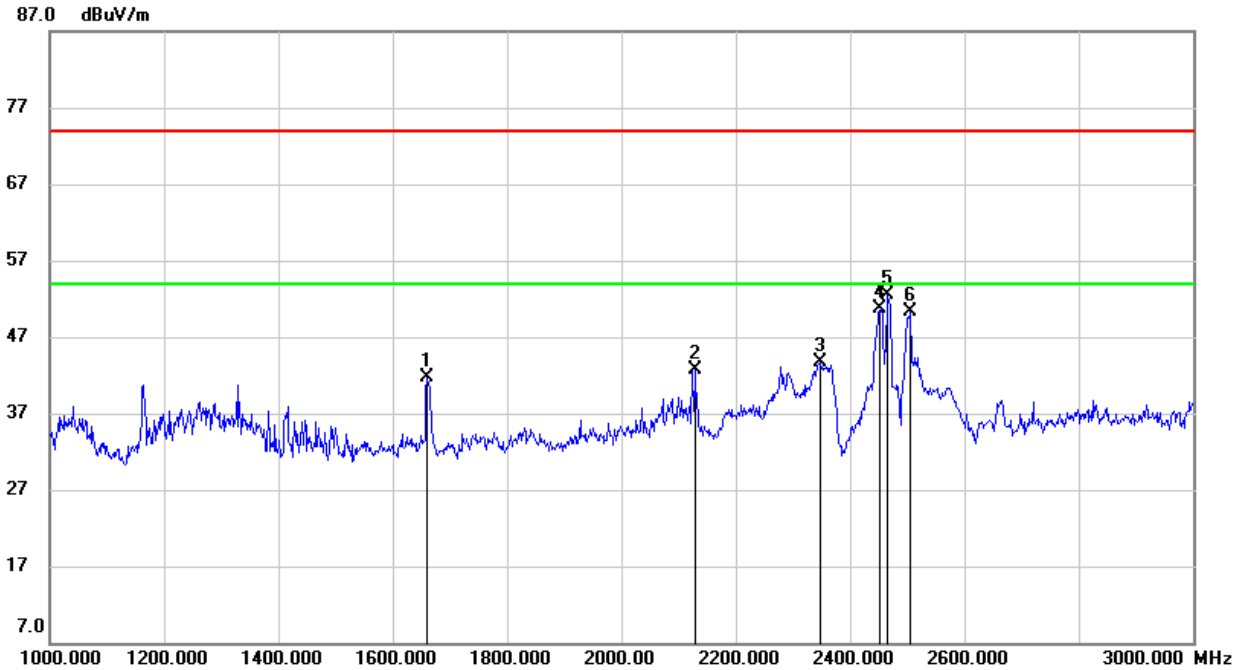## HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1660.000	52.73	-11.10	41.63	74.00	-32.37	peak
2	2128.000	51.73	-9.02	42.71	74.00	-31.29	peak
3	2348.000	51.81	-8.03	43.78	74.00	-30.22	peak
4	2452.000	58.20	-7.50	50.70	/	/	fundamental
5	2466.000	59.81	-7.40	52.41	74.00	-21.59	peak
6	2506.000	57.57	-7.20	50.37	74.00	-23.63	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.

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8.4. SPURIOUS EMISSIONS (18~26GHz)

8.4.1. 802.11b MODE

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

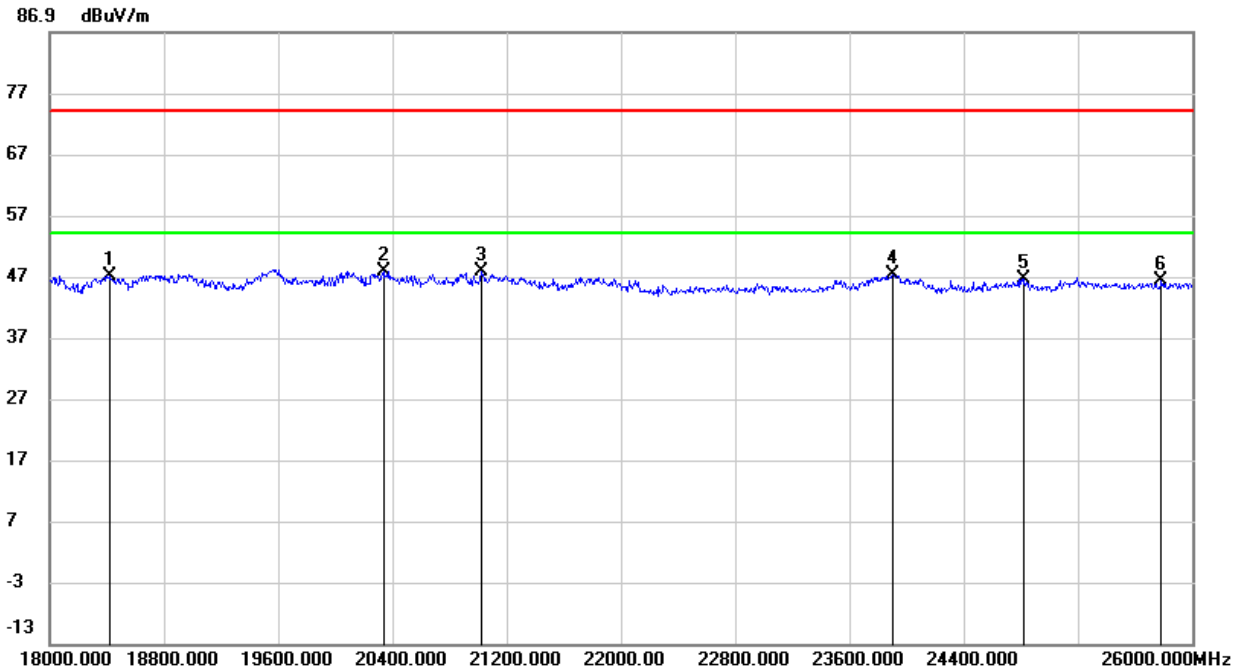| No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18424.000	51.41	-4.38	47.03	74.00	-26.97	peak
2	20336.000	52.78	-4.91	47.87	74.00	-26.13	peak
3	21024.000	53.12	-5.30	47.82	74.00	-26.18	peak
4	23904.000	51.54	-4.25	47.29	74.00	-26.71	peak
5	24824.000	48.27	-1.69	46.58	74.00	-27.42	peak
6	25784.000	47.73	-1.49	46.24	74.00	-27.76	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)
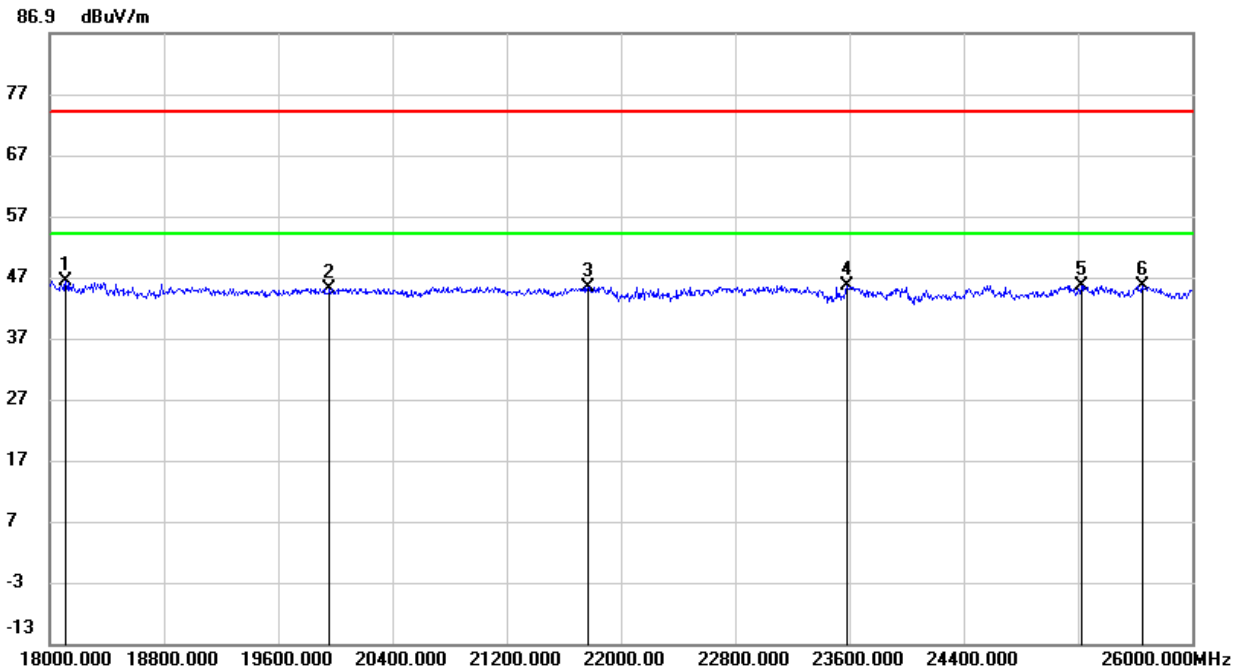
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18112.000	50.35	-4.10	46.25	74.00	-27.75	peak
2	19960.000	49.52	-4.37	45.15	74.00	-28.85	peak
3	21768.000	51.17	-5.79	45.38	74.00	-28.62	peak
4	23584.000	50.15	-4.71	45.44	74.00	-28.56	peak
5	25224.000	46.65	-1.17	45.48	74.00	-28.52	peak
6	25648.000	47.12	-1.53	45.59	74.00	-28.41	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.

Note: All the test modes have been tested, only the worst data record in the report.

8.5. SPURIOUS EMISSIONS (0.03 ~ 1 GHz)

8.5.1. 802.11b MODE

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


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	54.2500	53.82	-20.80	33.02	40.00	-6.98	QP
2	320.0300	49.73	-15.11	34.62	46.00	-11.38	QP
3	399.5700	48.13	-13.51	34.62	46.00	-11.38	QP
4	480.0800	44.90	-11.98	32.92	46.00	-13.08	QP
5	640.1300	38.61	-9.46	29.15	46.00	-16.85	QP
6	800.1800	38.25	-7.71	30.54	46.00	-15.46	QP

Note: 1. Result Level = Read Level + Correct Factor.
2. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)
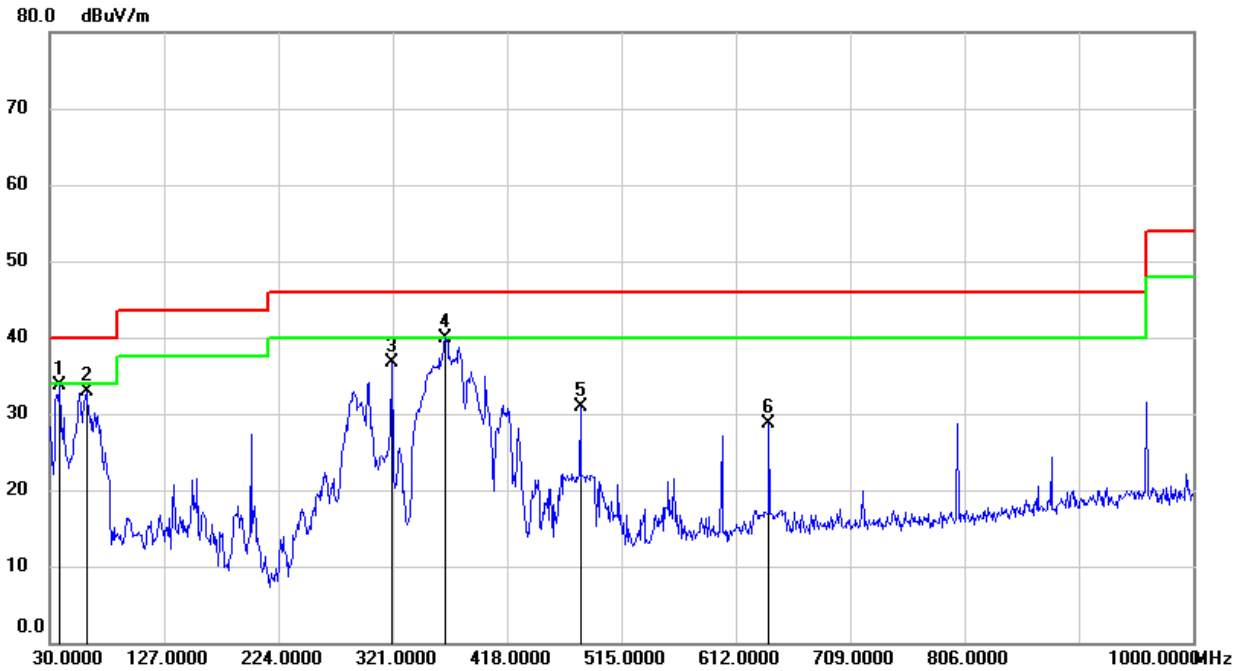
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	38.7300	53.66	-19.92	33.74	40.00	-6.26	QP
2	61.0400	53.39	-20.58	32.81	40.00	-7.19	QP
3	320.0300	51.81	-15.11	36.70	46.00	-9.30	QP
4	365.6200	54.01	-14.17	39.84	46.00	-6.16	QP
5	480.0800	42.89	-11.98	30.91	46.00	-15.09	QP
6	640.1300	38.12	-9.46	28.66	46.00	-17.34	QP

Note: 1. Result Level = Read Level + Correct Factor.
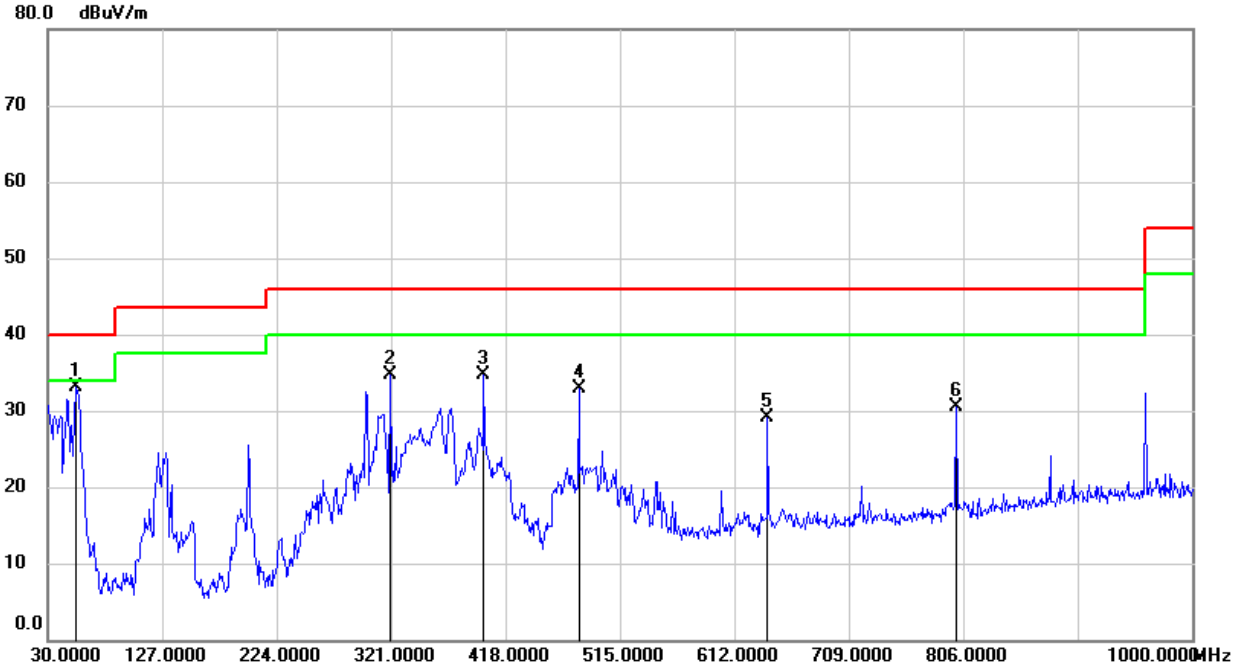2. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Note: All the test modes have been tested, only the worst data record in the report.

8.6. SPURIOUS EMISSIONS BELOW 30M

8.6.1. 802.11b MODE

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

9kHz~ 150kHz

No.	Frequency	Reading	Correct	FCC Result	FCC Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.0106	73.38	-101.39	-28.01	47.09	-75.10	peak
2	0.0206	67.92	-101.35	-33.43	41.32	-74.75	peak
3	0.0279	66.17	-101.38	-35.21	38.69	-73.90	peak
4	0.0427	62.14	-101.45	-39.31	34.99	-74.30	peak
5	0.0675	60.14	-101.56	-41.42	31.02	-72.44	peak
6	0.1300	53.93	-101.70	-47.77	25.33	-73.10	peak

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

150kHz ~ 490kHz
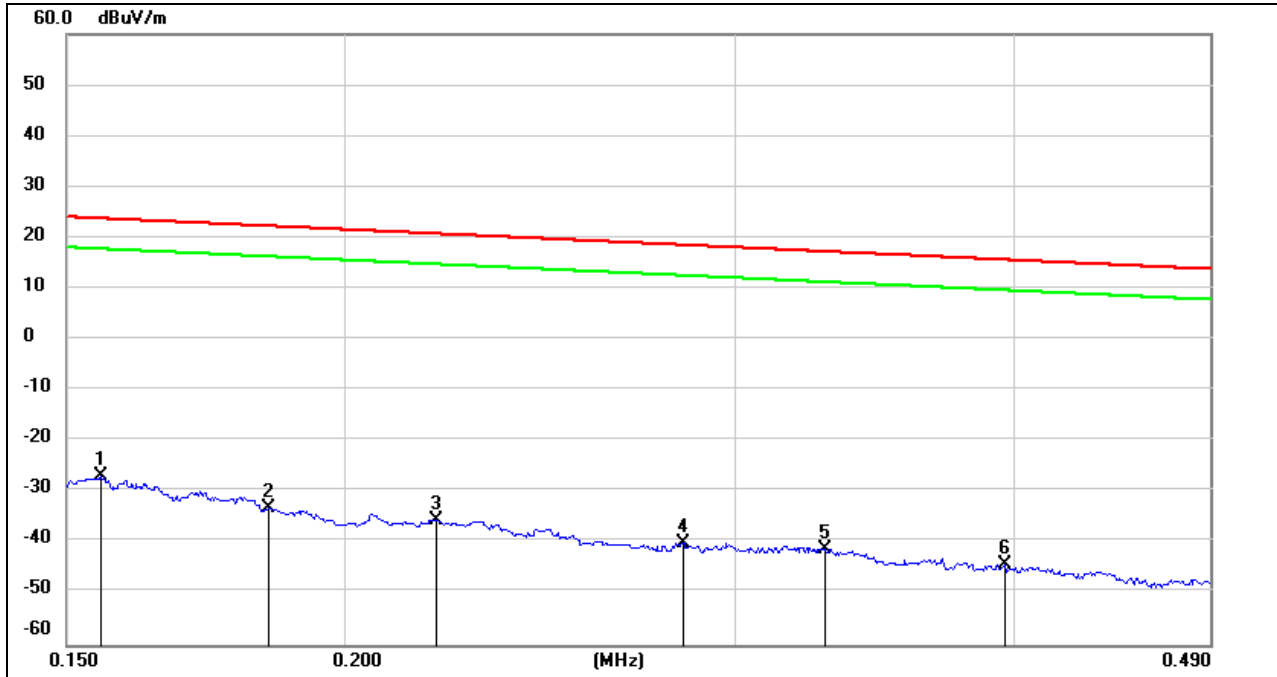
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	Margin (dB)	Remark
1	0.1554	74.77	-101.65	-26.88	23.77	-50.65	peak
2	0.1847	68.61	-101.70	-33.09	22.28	-55.37	peak
3	0.2200	66.24	-101.75	-35.51	20.75	-56.26	peak
4	0.2837	61.72	-101.83	-40.11	18.54	-58.65	peak
5	0.3286	60.71	-101.88	-41.17	17.27	-58.44	peak
6	0.3966	57.68	-101.96	-44.28	15.63	-59.91	peak

Note:
    1. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
    2. 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.
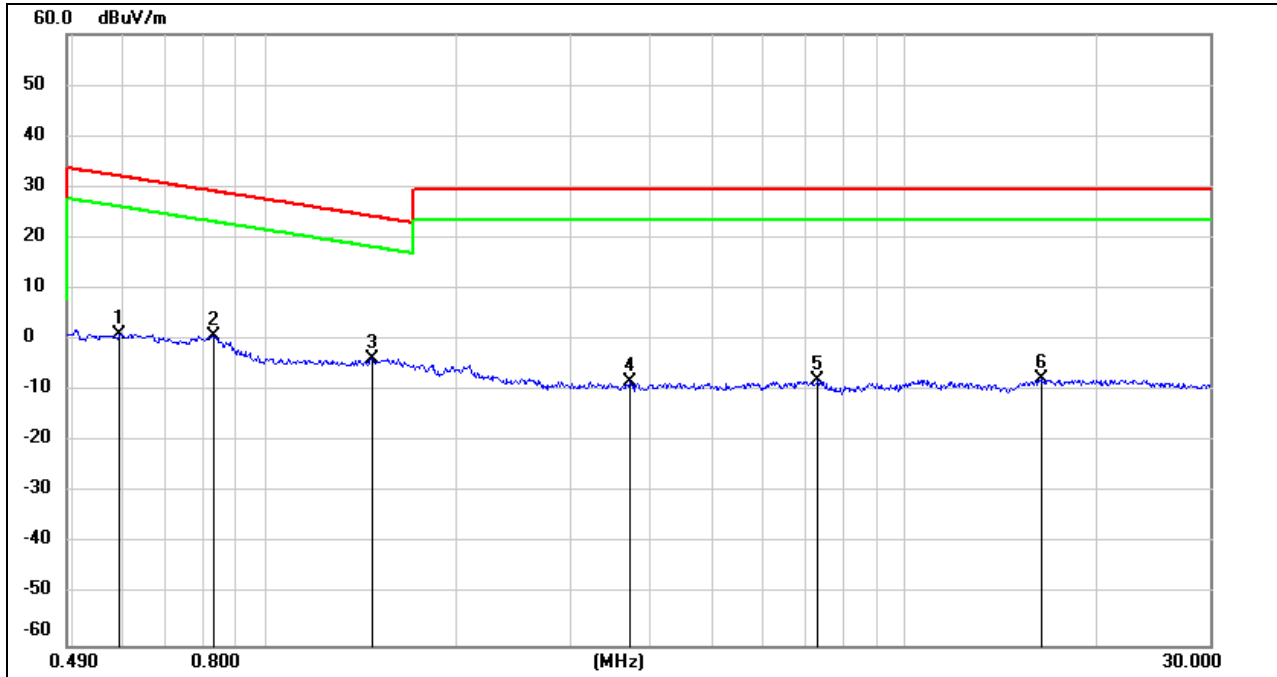
490kHz ~ 30MHz

No.	Frequency	Reading	Correct	FCC Result	FCC Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.5917	63.24	-62.08	1.16	32.16	-31.00	peak
2	0.8296	62.94	-62.17	0.77	29.23	-28.46	peak
3	1.4700	58.39	-62.05	-3.66	24.26	-27.92	peak
4	3.7100	53.20	-61.41	-8.21	29.54	-37.75	peak
5	7.3361	53.08	-61.17	-8.09	29.54	-37.63	peak
6	16.3959	53.17	-60.96	-7.79	29.54	-37.33	peak

Note:
1. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
2. 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 test modes have been tested, only the worst data record in the report.
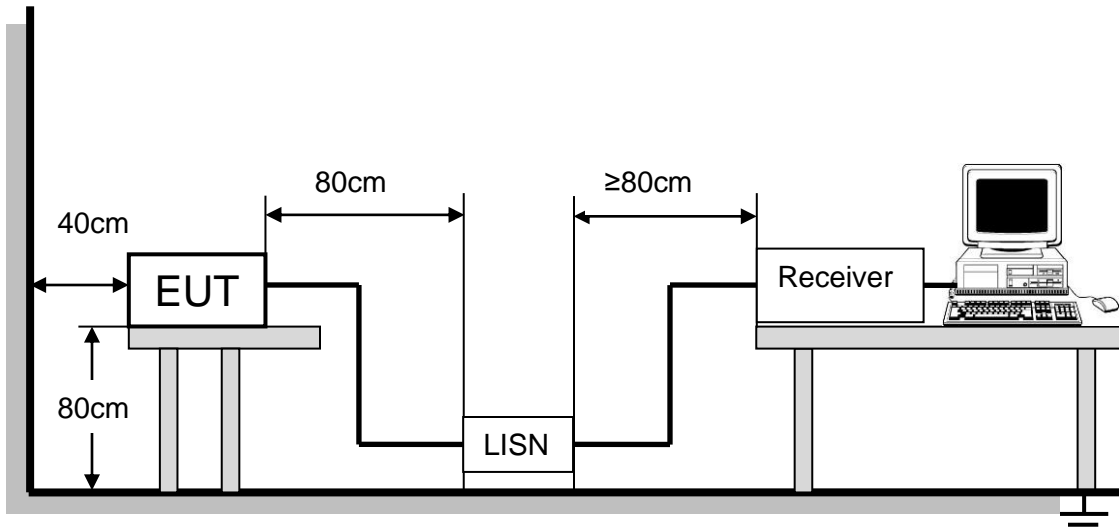
9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

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

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

TEST SETUP AND PROCEDURE

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm 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 30MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9kHz.

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.
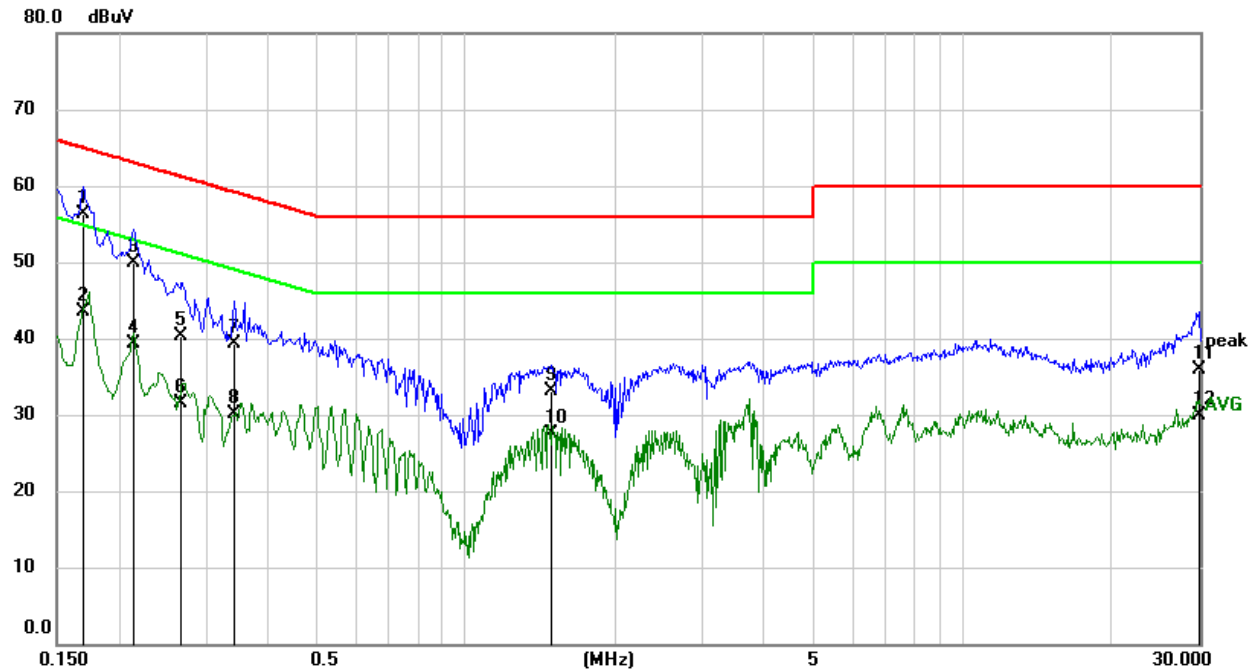
TEST ENVIRONMENT

Temperature	24.7°C	Relative Humidity	59%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V, 60Hz

TEST RESULTS

9.1. 802.11b MODE

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

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1700	46.65	9.60	56.25	64.96	-8.71	QP
2	0.1700	33.89	9.60	43.49	54.96	-11.47	AVG
3	0.2139	40.22	9.60	49.82	63.05	-13.23	QP
4	0.2139	29.64	9.60	39.24	53.05	-13.81	AVG
5	0.2671	30.68	9.60	40.28	61.21	-20.93	QP
6	0.2671	21.87	9.60	31.47	51.21	-19.74	AVG
7	0.3420	29.62	9.60	39.22	59.15	-19.93	QP
8	0.3420	20.47	9.60	30.07	49.15	-19.08	AVG
9	1.4939	23.58	9.61	33.19	56.00	-22.81	QP
10	1.4939	17.85	9.61	27.46	46.00	-18.54	AVG
11	29.8460	25.94	9.88	35.82	60.00	-24.18	QP
12	29.8460	20.08	9.88	29.96	50.00	-20.04	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: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

LINE L RESULTS (LOW CHANNEL, WORST-CASE CONFIGURATION)
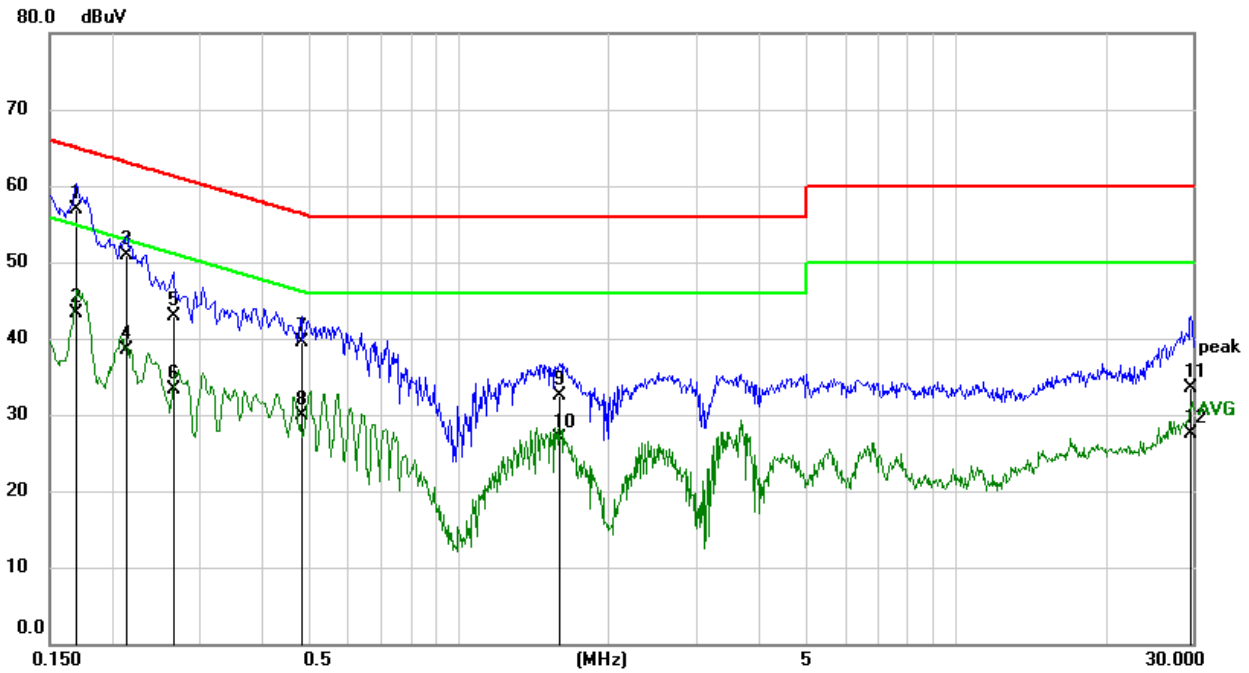
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1693	47.26	9.61	56.87	64.99	-8.12	QP
2	0.1693	33.67	9.61	43.28	54.99	-11.71	AVG
3	0.2139	41.29	9.60	50.89	63.05	-12.16	QP
4	0.2139	28.89	9.60	38.49	53.05	-14.56	AVG
5	0.2657	33.28	9.60	42.88	61.25	-18.37	QP
6	0.2657	23.68	9.60	33.28	51.25	-17.97	AVG
7	0.4812	29.87	9.60	39.47	56.32	-16.85	QP
8	0.4812	20.25	9.60	29.85	46.32	-16.47	AVG
9	1.5933	22.85	9.62	32.47	56.00	-23.53	QP
10	1.5933	17.23	9.62	26.85	46.00	-19.15	AVG
11	29.6838	23.70	9.79	33.49	60.00	-26.51	QP
12	29.6838	17.69	9.79	27.48	50.00	-22.52	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: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

Note: All the test modes have been tested, only the worst data record in the report.

10. ANTENNA REQUIREMENTS

APPLICABLE REQUIREMENTS

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

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

RESULTS

Complies

11. Appendix

11.1. Appendix A: Duty Cycle
11.1.1. Test Result

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	100	100	1.0	100	0	0.01	0.02
11g	100	100	1.0	100	0	0.01	0.02
11n HT20	100	100	1.0	100	0	0.01	0.02
11n HT40	100	100	1.0	100	0	0.01	0.02

Note:
Duty Cycle Correction Factor=10log (1/x).
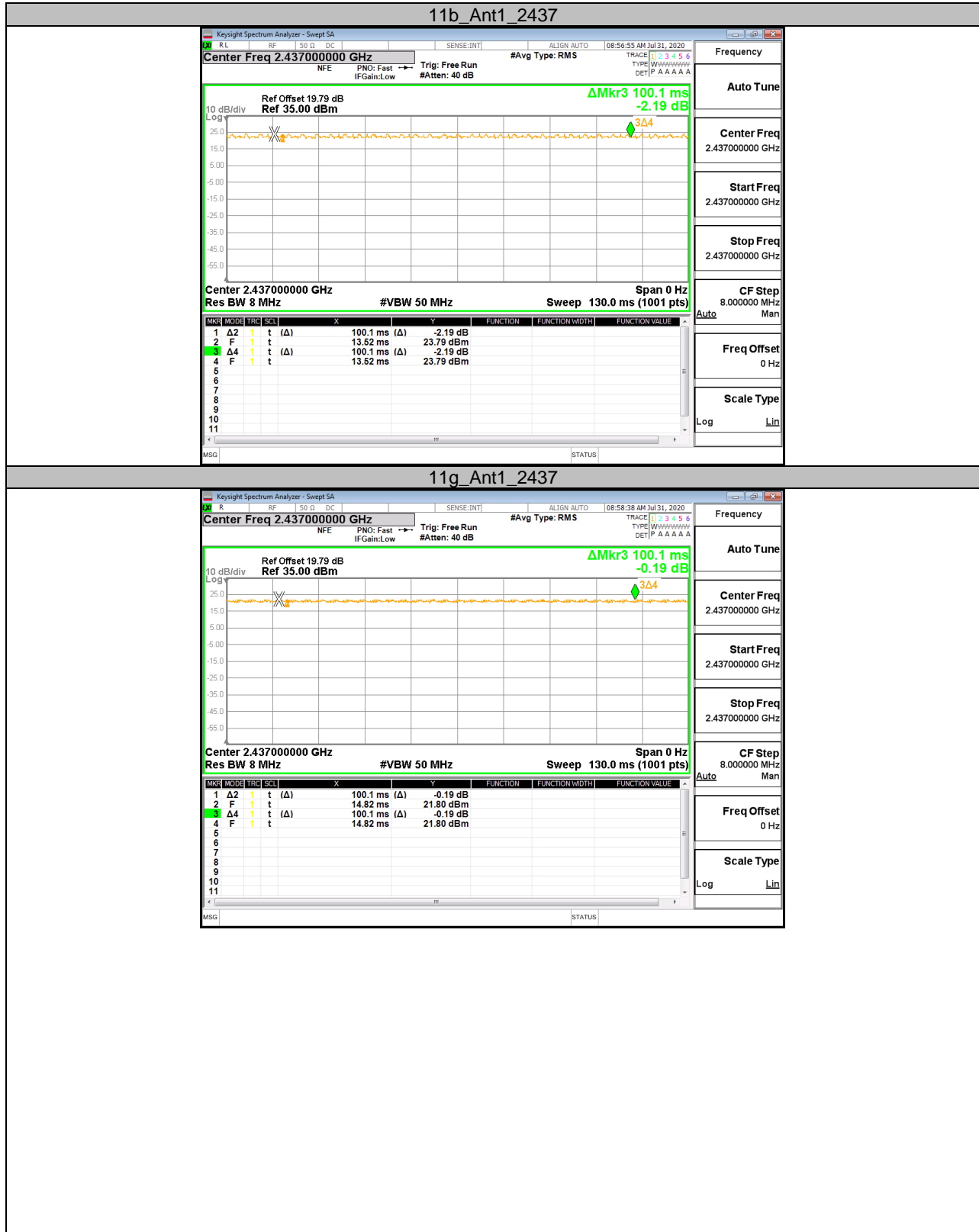Where: x is Duty Cycle (Linear)
Where: T is On Time
If that calculated VBW is not available on the analyzer, then the next higher value should be used.
For all the test mode, the duty cycle is greater than 98%, so it can set VBW to 10Hz.

11.1.2. Test Graphs

11b_Ant1_2437

11g_Ant1_2437

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11n20SISO_Ant1_2437

11n40SISO_Ant1_2437
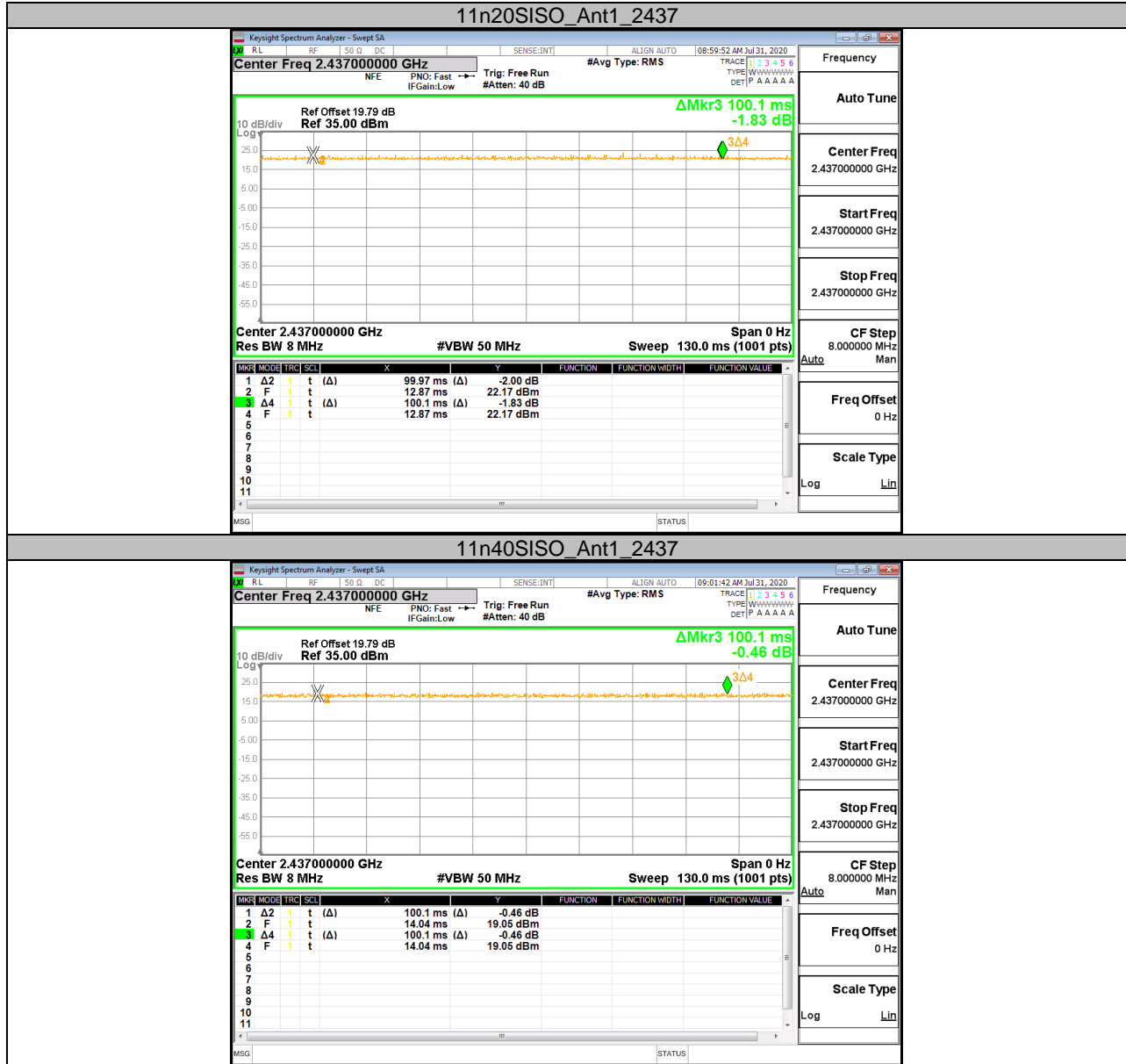
11.2. Appendix B: DTS Bandwidth
11.2.1.   Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.280	2406.960	2416.240	0.5	PASS
		2437	10.120	2431.920	2442.040	0.5	PASS
		2462	10.320	2456.800	2467.120	0.5	PASS
11G	Ant1	2412	16.440	2403.760	2420.200	0.5	PASS
		2437	16.440	2428.760	2445.200	0.5	PASS
		2462	16.440	2453.760	2470.200	0.5	PASS
11N20SISO	Ant1	2412	17.400	2403.400	2420.800	0.5	PASS
		2437	17.400	2428.400	2445.800	0.5	PASS
		2462	17.400	2453.400	2470.800	0.5	PASS
11N40SISO	Ant1	2422	36.480	2403.760	2440.240	0.5	PASS
		2437	36.480	2418.760	2455.240	0.5	PASS
		2452	36.480	2433.760	2470.240	0.5	PASS

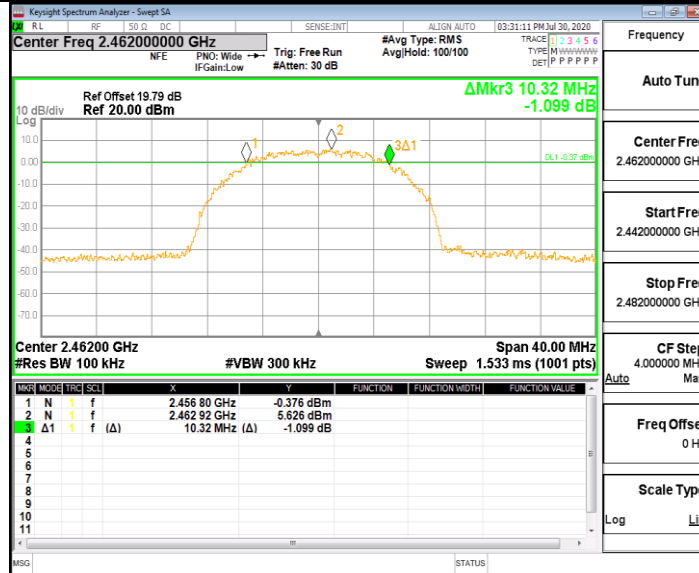### 11.2.2.   Test Graphs

11B_Ant1_2412

11B_Ant1_2437

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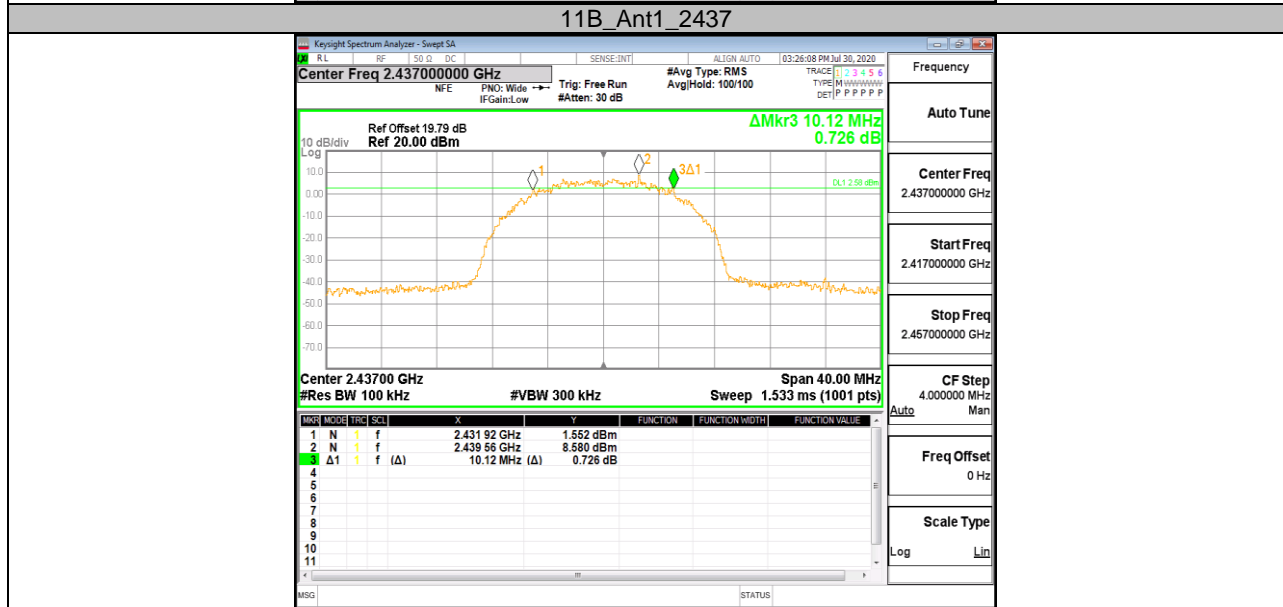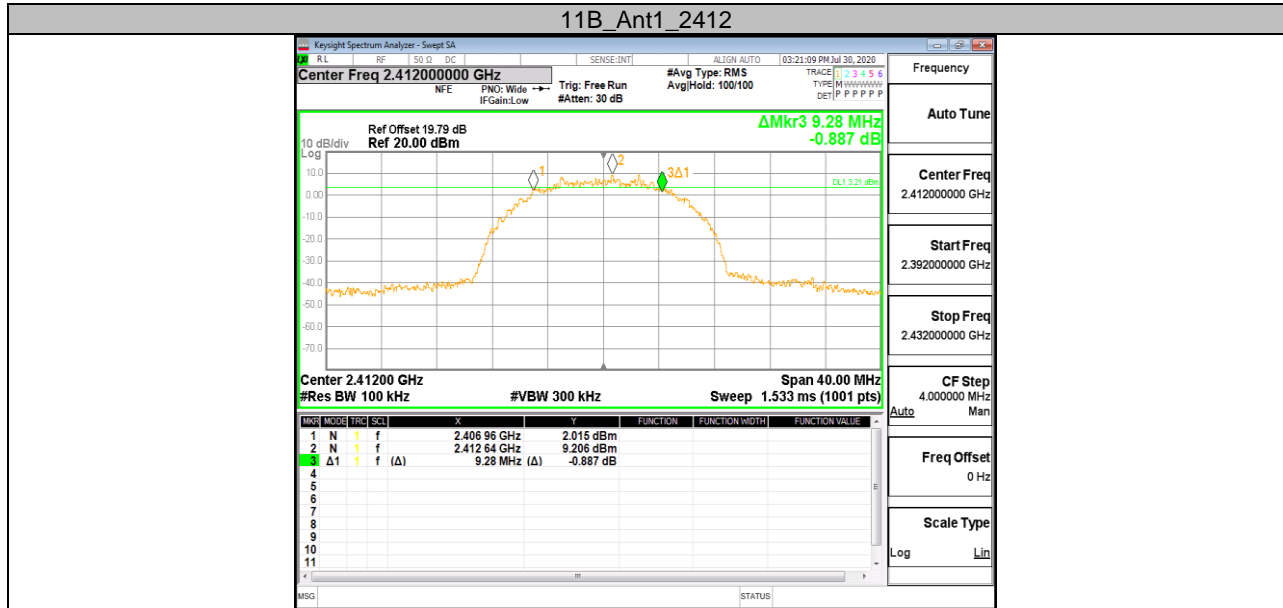
11B_Ant1_2462

11G_Ant1_2412

11G_Ant1_2437

11G_Ant1_2462

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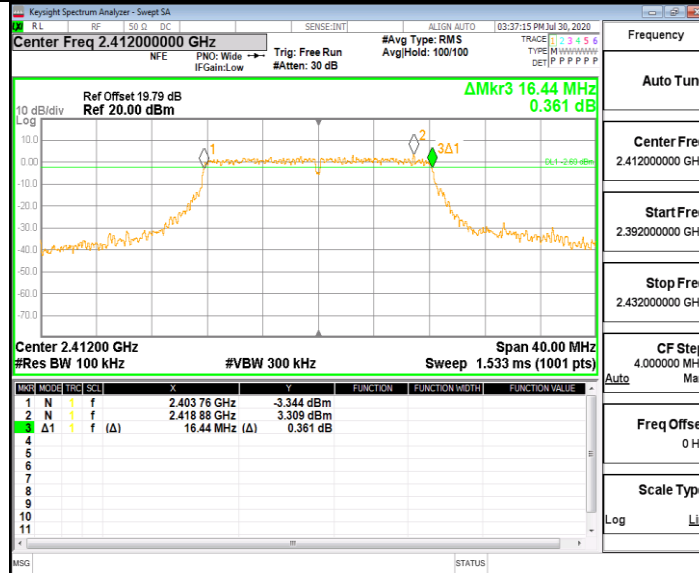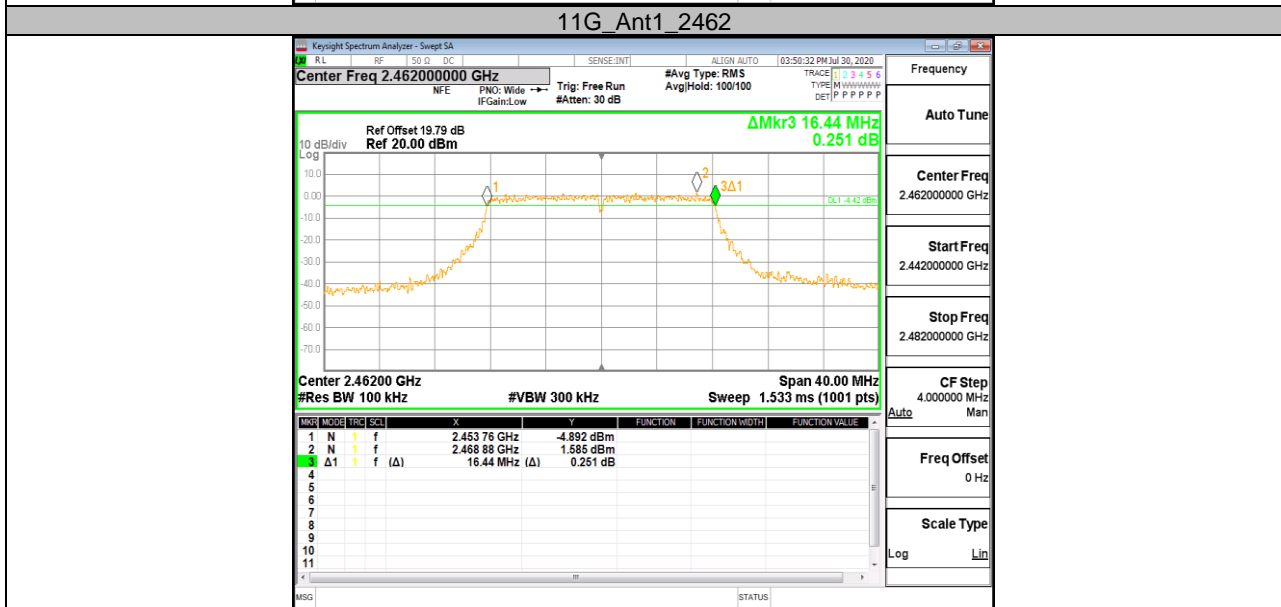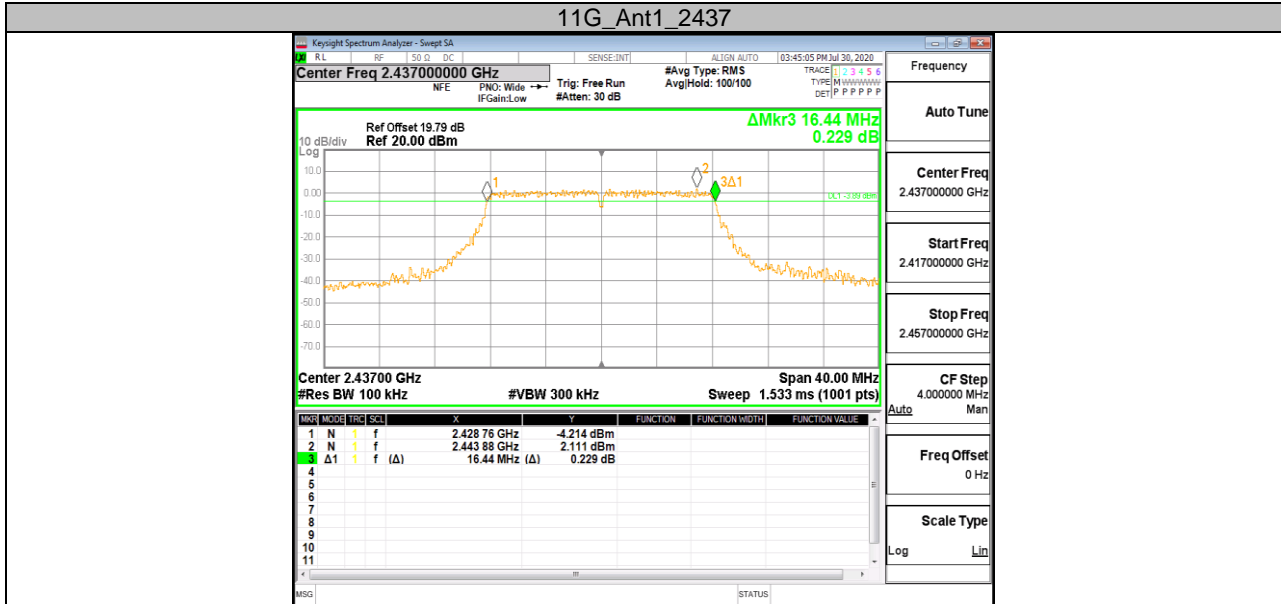
11N20SISO_Ant1_2412

11N20SISO_Ant1_2437

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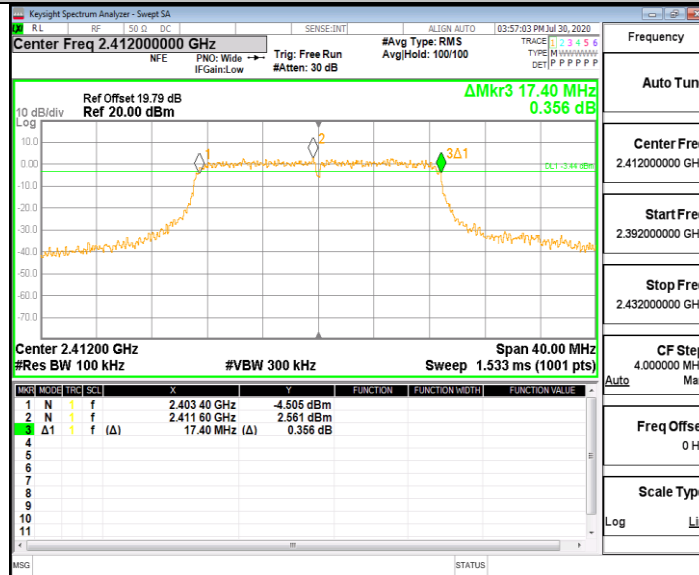
11N20SISO_Ant1_2462

11N40SISO_Ant1_2422

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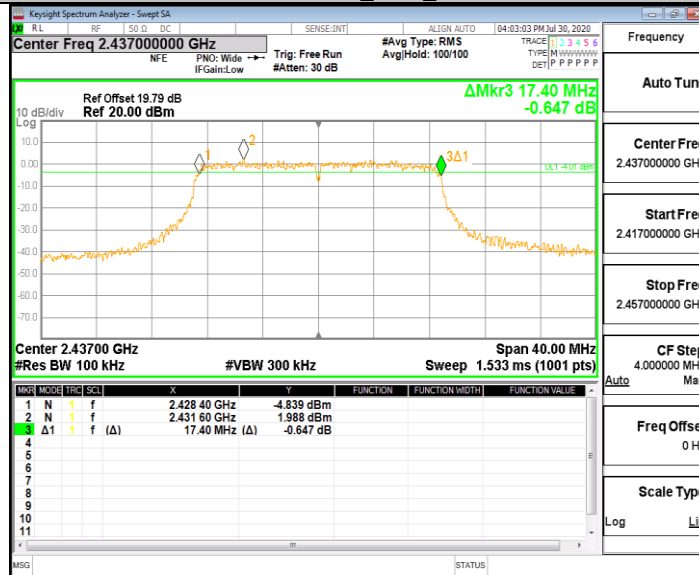*This report shall not be reproduced except in full, without the written approval of UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch.*

11N40SISO_Ant1_2437

11N40SISO_Ant1_2452

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11.3. Appendix C: Occupied Channel Bandwidth
11.3.1.   Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11B	Ant1	2412	13.108	2405.445	2418.553	PASS
		2437	13.037	2430.484	2443.521	PASS
		2462	13.036	2455.485	2468.521	PASS
11G	Ant1	2412	16.578	2403.734	2420.312	PASS
		2437	16.570	2428.739	2445.309	PASS
		2462	16.590	2453.726	2470.316	PASS
11N20SISO	Ant1	2412	17.406	2403.320	2420.726	PASS
		2437	17.367	2428.316	2445.683	PASS
		2462	17.384	2453.312	2470.696	PASS
11N40SISO	Ant1	2422	36.401	2403.911	2440.312	PASS
		2437	36.312	2418.908	2455.220	PASS
		2452	36.348	2433.907	2470.255	PASS

11.3.2. Test Graphs

11B_Ant1_2412

11B_Ant1_2437

11B_Ant1_2462

Occupied Bandwidth **13.036 MHz** Total Power 23.1 dBm

| Transmit Freq Error | 3.435 kHz | % of OBW Power | 99.00 % |
| x dB Bandwidth | 16.14 MHz | x dB | -26.00 dB |

11G_Ant1_2412

Occupied Bandwidth **16.578 MHz** Total Power 22.7 dBm

| Transmit Freq Error | 23.489 kHz | % of OBW Power | 99.00 % |
| x dB Bandwidth | 19.87 MHz | x dB | -26.00 dB |

11G_Ant1_2437

11G_Ant1_2462

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