

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

#### **TEST REPORT**

For

WI-FI 600W DIMMER, SNGL POLE, REQUIRES NEUTRAL

**MODEL NUMBER: SQR22601WHW** 

FCC ID: 2AUCU-22601W IC: 25381-22601W

REPORT NUMBER: 4789139401.4-1

ISSUE DATE: September 18, 2019

Prepared for

Schneider Electric (China) Co., Ltd., Shenzhen Branch Room 201, Building A, No. 1 Qianwanyi Road, Shengang Cooperation Zone, Qianhai, Shenzhen, China

Prepared by

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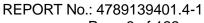
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Revision	1 110101 9

Rev.	Issue Date	Revisions	Revised By
V0	9/18/2019	Initial Issue	





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Summary of Test Results				
Clause Test Items		FCC/ISED Rules	Test Results	
1	6dB Bandwidth and 99% Occupied Bandwidth	FCC Part 15.247 (a) (2) RSS-247 Clause 5.2 (a) ISED RSS-Gen Clause 6.7	Pass	
2	Peak Conducted Output Power	FCC Part 15.247 (b) (3) RSS-247 Clause 5.4 (d)	Pass	
3	Power Spectral Density	FCC Part 15.247 (e) RSS-247 Clause 5.2 (b)	Pass	
4	Conducted Bandedge and Spurious Emission	FCC Part 15.247 (d) RSS-247 Clause 5.5	Pass	
5	Radiated Bandedge and Spurious Emission	FCC Part 15.247 (d) FCC Part 15.209 FCC Part 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 8.9	Pass	
6	Conducted Emission Test For AC Power Port	FCC Part 15.207 RSS-GEN Clause 8.8	Pass	
7	Antenna Requirement	FCC Part 15.203 RSS-GEN Clause 6.8	Pass	

Note: This test report is only published to and used by the applicant, and it is not for evidence purpose in China.



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## 1. ATTESTATION OF TEST RESULTS

**Applicant Information** 

Company Name: Schneider Electric (China) Co., Ltd., Shenzhen Branch Address: Room 201, Building A, No. 1 Qianwanyi Road, Shengang

Cooperation Zone, Qianhai, Shenzhen, China

**Manufacturer Information** 

Company Name: Schneider Electric (China) Co., Ltd., Shenzhen Branch Address: Room 201, Building A, No. 1 Qianwanyi Road, Shengang

Cooperation Zone, Qianhai, Shenzhen, China

**EUT Description** 

EUT Name: WI-FI 600W DIMMER, SNGL POLE, REQUIRES NEUTRAL

Model: SQR22601WHW

Series Model: SQR22601LAW, SQR22601BKW

Model difference: All the same expect have different colors.

Sample Status: Normal Sample ID: 2520850

Sample Received Date: September 03, 2019
Date of Tested: September 04~18, 2019

APPLICABLE STANDARDS				
STANDARD TEST RESULTS				
CFR 47 FCC PART 15 SUBPART C	PASS			
ISED RSS-247 Issue 2	PASS			
ISED RSS-GEN Issue 5	PASS			

13ED R33-247 ISSUE 2		PASS
ISED RSS-GEN Issue 5		PASS
Prepared By:	Checked I	Зу:
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Kebo Zhang

**Engineer Project Associate** 

Shawn Wen Laboratory Leader

Approved By:

Stephen Guo

Laboratory Manager

Sephenbuo



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### 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, CFR 47 FCC Part 2, CFR 47 FCC Part 15, ANSI C63.10-2013, ISED RSS-247 Issue 2 and ISED RSS-GEN Issue 5.

# 3. FACILITIES AND ACCREDITATION

	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
Accreditation Certificate	
	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.



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# 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-18Gz)
(16112 to 266112)( morado i anadmental emission)	5.23dB (18GHz-26Gz)

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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# 5. EQUIPMENT UNDER TEST

# 5.1. DESCRIPTION OF EUT

EUT Name	WI-FI 600W DIMMER, SNGL POLE, REQUIRES NEUTRAL
Model	SQR22601WHW
Series Model:	SQR22601LAW, SQR22601BKW
Model difference:	All the same expect have different colors.
Radio Technology	IEEE802.11b/g/n HT20
Operation frequency	IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE 802.11n HT20: 2412MHz—2462MHz
Modulation	IEEE 802.11b: DSSS(CCK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK)
Rated Input	AC 120V, 60Hz

# 5.2. MAXIMUM OUTPUT POWER

Number of Transmit Chains (NTX)	IEE Std. 802.11	Frequency (MHz)	Channel Number	Max AVG Conducted Power (dBm)
1	IEEE 802.11b	2412-2462	1-11[11]	14.15
1	IEEE 802.11g	2412-2462	1-11[11]	14.50
1	IEEE 802.11nHT20	2412-2462	1-11[11]	13.63

# 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)					Frequency (MHz)		
1	2412	4	2427	7	2442	10	2457
2	2417	5	2432	8	2447	11	2462
3	2422	6	2437	9	2452	/	/

## 5.4. TEST CHANNEL CONFIGURATION

Test Mode Test Channel		Frequency
WiFi TX(802.11b)	Low, Middle, High	2412MHz, 2437MHz, 2462MHz
WiFi TX(802.11g)	Low, Middle, High	2412MHz, 2437MHz, 2462MHz
WiFi TX(802.11n HT20)	Low, Middle, High	2412MHz, 2437MHz, 2462MHz



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## 5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band							
Test Soft		SecureCRT					
Modulation Mode	- · · · ·	Test So	oftware setting	value			
	Transmit Antenna Number	NCB: 20MHz					
		CH 1	CH 6	CH 11			
802.11b	1	20	20	20			
802.11g	1	14	14	14			
802.11n HT20	1	18	18	18			

## 5.6. THE WORSE CASE CONFIGURATIONS

Worst-case data rates as provided by the client were:

802.11b mode: 1 Mbps 802.11g mode: 6 Mbps 802.11n HT20 mode: MCS0

## 5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna Frequency (MHz)		Antenna Type	MAX Antenna Gain (dBi)	
1	2412-2462	PIFA	2.7	

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



5.8. DESCRIPTION OF TEST SETUP

### **SUPPORT EQUIPMENT**

Item	Equipment	Brand Name	Model Name	P/N
1	PC Dell		Vostro 3902	8KNDDB2
2	USB TO UART	/	/	/

### **I/O CABLES**

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

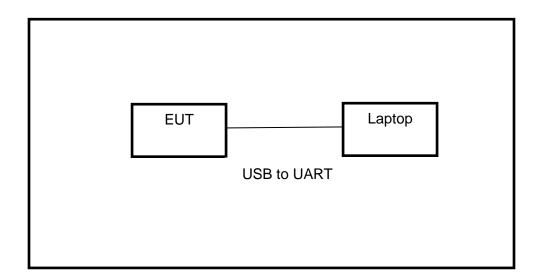
### **ACCESSORIES**

Item	Accessory	Brand Name	Model Name	Description
1	/		/	/

#### **TEST SETUP**

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

### **SETUP DIAGRAM FOR TESTS**





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# 6. MEASURING INSTRUMENT AND SOFTWARE USED

	Conducted Emissions								
	Instrument								
Used	Equipment	Manufacturer	Мо	odel	No.	Seria	al No.	Last Cal.	Next Cal.
V	EMI Test Receiver	R&S		ESF	3	101	1961	Dec.10,2018	Dec.10,2019
V	Two-Line V- Network	R&S	Е	NV2	216	101	1983	Dec.10,2018	Dec.10,2019
V	Artificial Mains Networks	Schwarzbeck	NS	LK	8126	812	6465	Dec.10,2018	Dec.10,2019
			So	ftwa	are				
Used	Des	cription			Manu	ıfactu	ırer	Name	Version
$\overline{\checkmark}$	Test Software for C	Conducted distu	rban	се	F	arad		EZ-EMC	Ver. UL-3A1
		Rad	iated	d En	nissio	ns			
			Inst	rum	ent				
Used	Equipment	Manufacturer	Mo	odel	No.	Seria	al No.	Last Cal.	Next Cal.
V	MXE EMI Receiver	KESIGHT	N	1903	88A	_	6400 36	Dec.10,2018	Dec.10,2019
V	Hybrid Log Periodic Antenna	TDK	HL	P-30	003C	130	960	Sep.17, 2018	Sep.17, 2021
V	Preamplifier	HP	8	3447	7D		IA090 99	Dec.10,2018	Dec.10,2019
V	EMI Measurement Receiver	R&S	E	SR	26	101	1377	Dec.10,2018	Dec.10,2019
$\checkmark$	Horn Antenna	TDK	HF	RN-C	)118	130	939	Sep.17, 2018	Sep.17, 2021
V	High Gain Horn Antenna	Schwarzbeck	ВВ	HA-	9170		91	Aug.11, 2018	Aug.11, 2021
V	Preamplifier	TDK	PA:	-02-	0118		-305- 066	Dec.10,2018	Dec.10,2019
V	Preamplifier	TDK	Р	A-0	2-2		-307- 003	Dec.10,2018	Dec.10,2019
$\overline{\checkmark}$	Loop antenna	Schwarzbeck		1519	9B	00	800	Jan.07,2019	Jan.07, 2022
	Band Reject Filter	Wainwright	WRCJV8- 2350-2400- 2483.5- 2533.5-40SS			4	Dec.10,2018	Dec.10,2019	
	High Pass Filter	Wi	WHKX10- 2700-3000- 18000-40SS		2	23	Dec.10,2018	Dec.10,2019	
			So	ftwa	are				
Used	Descr	ription		Ма	nufact	urer		Name	Version
$\overline{\checkmark}$	Test Software for R	adiated disturba	nce		Farac	i		EZ-EMC	Ver. UL-3A1



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Other instruments									
Used	ed Equipment Manufacturer Model No. Serial No. Last Cal. Next Ca								
V	Spectrum Analyzer	Keysight	N9030A	MY55410512	Dec.10,2018	Dec.10,2019			
$\overline{\mathbf{V}}$	Power Meter	Keysight	N1911A	MY55416024	Dec.10,2018	Dec.10,2019			
V	Power Sensor	Keysiaht	112021XA	MV5100022	Dec 10 2018	Dec 10 2019			

# 7. MEASUREMENT METHODS

No.	Test Item KDB Name		Section
1	6dB Bandwidth	KDB 558074 D01 15.247 Meas Guidance v05r02	8.2
2	Peak Output Power	KDB 558074 D01 15.247 Meas Guidance v05r02	8.3.1.3/8.3.2.3
3	Power Spectral Density	KDB 558074 D01 15.247 Meas Guidance v05r02	8.4
4	Out-of-band emissions in non- restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.5
5	Out-of-band emissions in restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.6
6	Band-edge	KDB 558074 D01 15.247 Meas Guidance v05r02	8.7
7	Conducted Emission Test For AC Power Port	ANSI C63.10-2013	6.2
8	99% Bandwidth	ANSI C63.10-2013	6.9.3



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## 8. ANTENNA PORT TEST RESULTS

## 8.1. ON TIME AND DUTY CYCLE

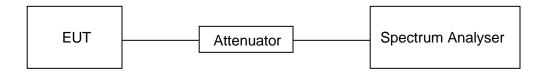
### **LIMITS**

None; for reporting purposes only

### **PROCEDURE**

KDB 558074 Zero-Span Spectrum Analyzer Method

#### **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	24.6°C	Relative Humidity	57%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V,60Hz

### **RESULTS**

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	4.220	4.720	0.894	89.4	0.487	0.24	0.5
11g	0.700	0.795	0.881	88.1	0.550	1.43	1.5
11n20	0.665	0.760	0.875	87.5	0.580	1.50	1.5

Note:

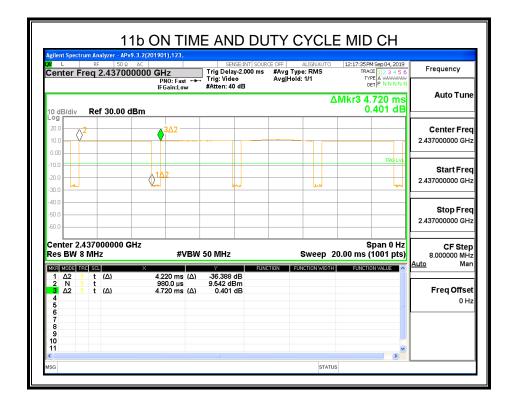
Duty Cycle Correction Factor=10log (1/x).

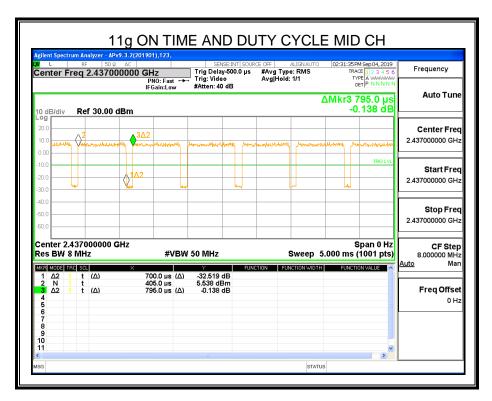
Where: x is Duty Cycle (Linear)

Where: T is On Time

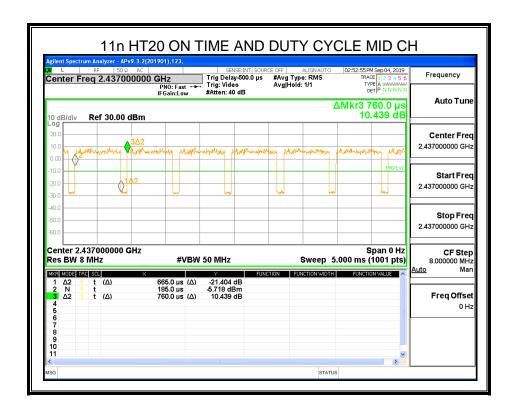
If that calculated VBW is not available on the analyzer then the next higher value should be used.













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### 8.2. 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	

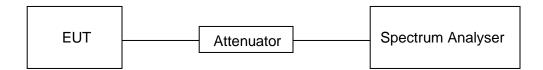
#### TEST PROCEDURE

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 :100K For 99% Occupied Bandwidth :1% to 5% of the occupied bandwidth
VBW	For 6dB Bandwidth : ≥3 × RBW For 99% Occupied Bandwidth : approximately 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	24.6°C	Relative Humidity	57%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V,60Hz

#### **RESULTS**

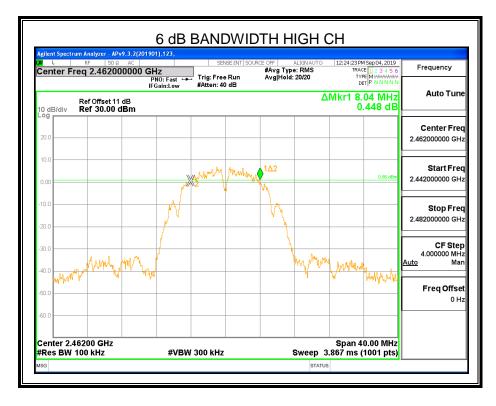
### 8.2.1. 802.11b MODE

Channel	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (kHz)	Result
Low	8.12	11.254	≥500	Pass
Middle	8.60	11.203	≥500	Pass
High	8.04	11.094	≥500	Pass

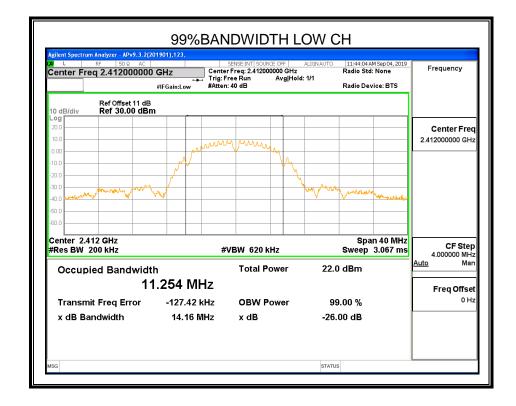


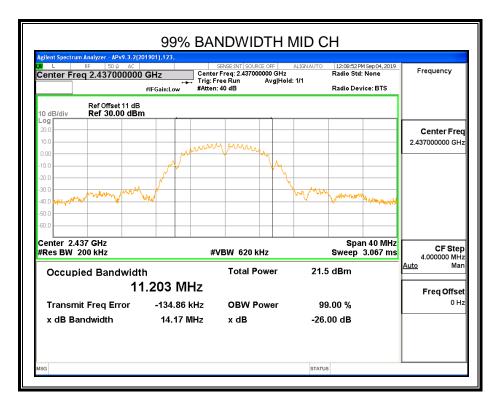




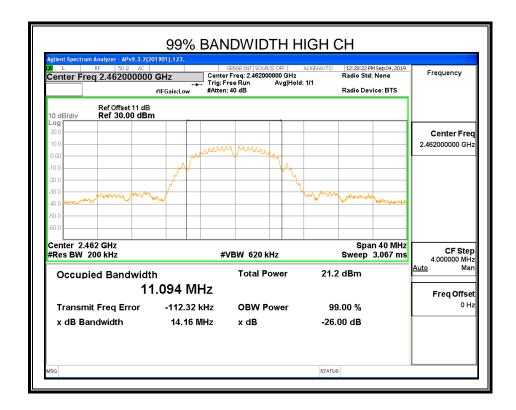








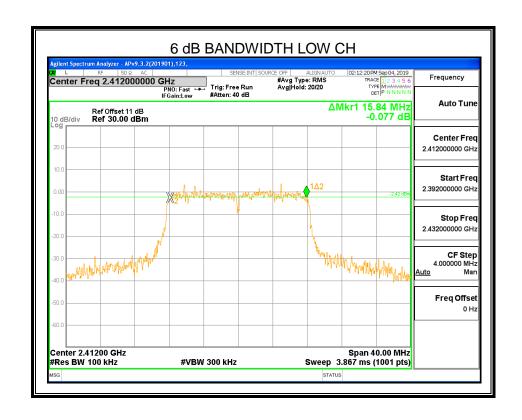




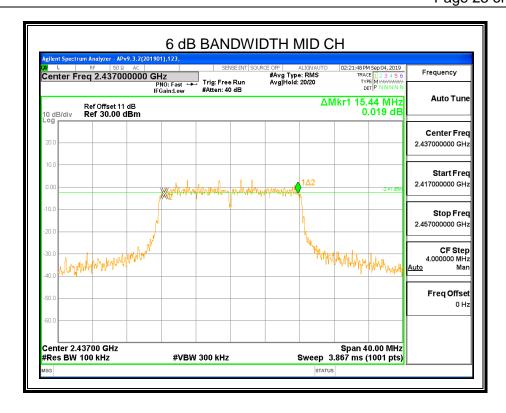


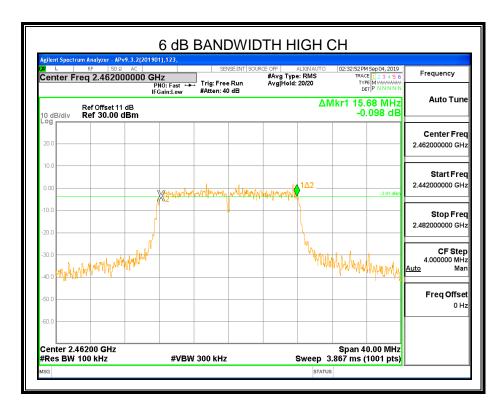
# 8.2.2. 802.11g MODE

Channel	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (kHz)	Result
Low	15.84	16.349	≥500	Pass
Middle	15.44	16.357	≥500	Pass
High	15.68	16.345	≥500	Pass

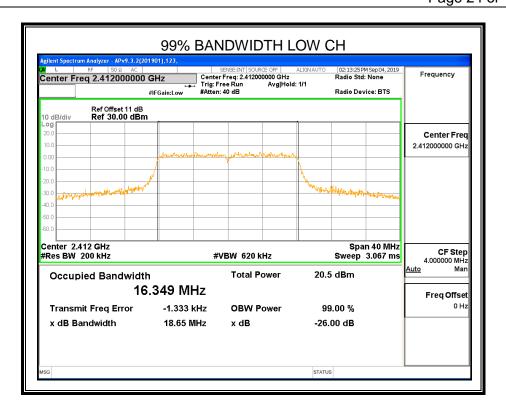


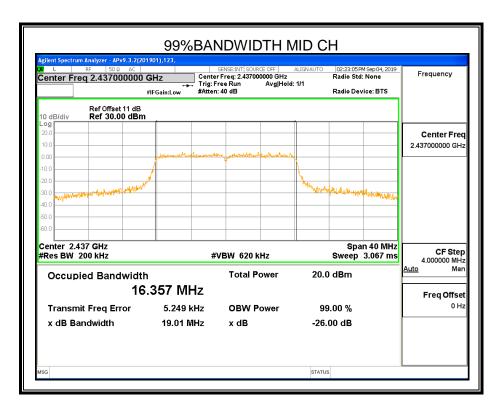




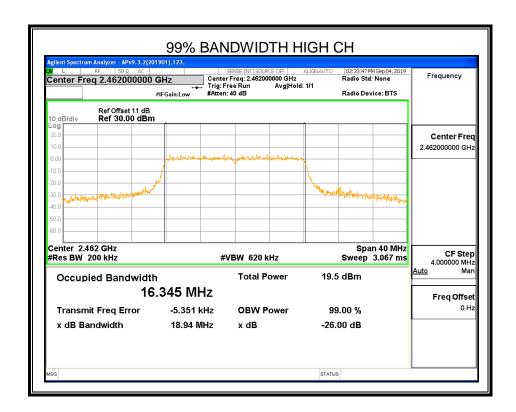








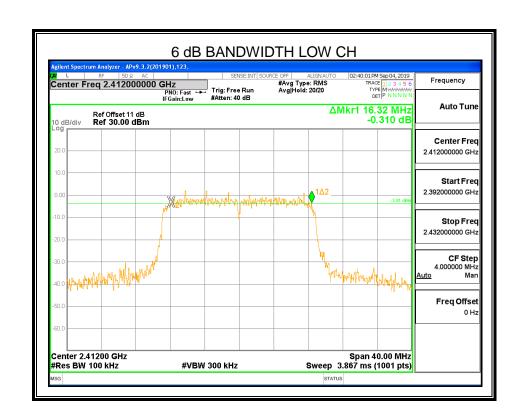




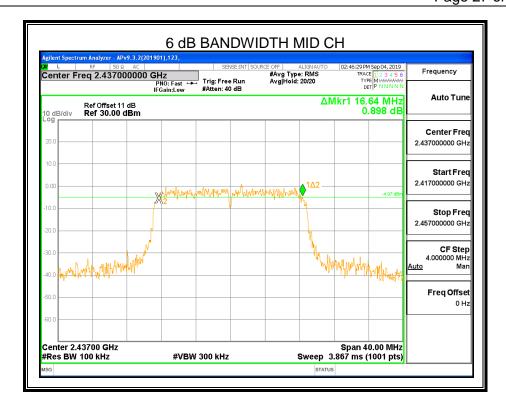


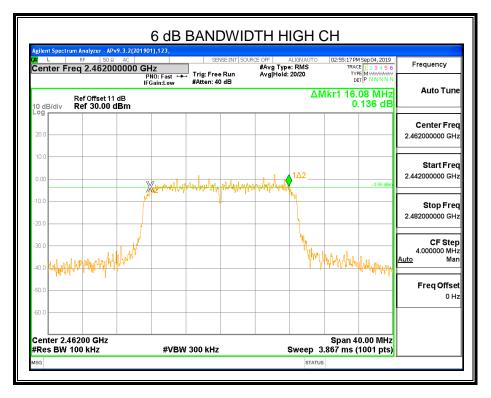
#### 8.2.3. 802.11n HT20 MODE

Channel	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (kHz)	Result
Low	16.32	17.279	≥500	Pass
Middle	16.64	17.291	≥500	Pass
High	16.08	17.279	≥500	Pass

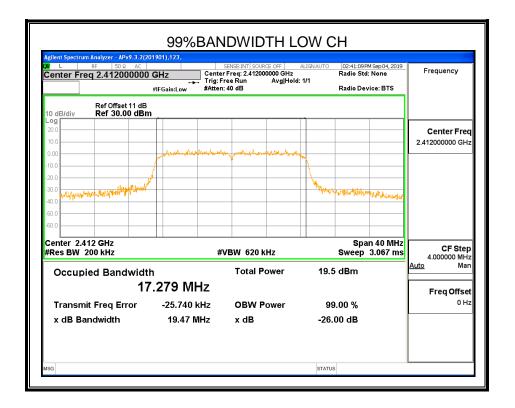


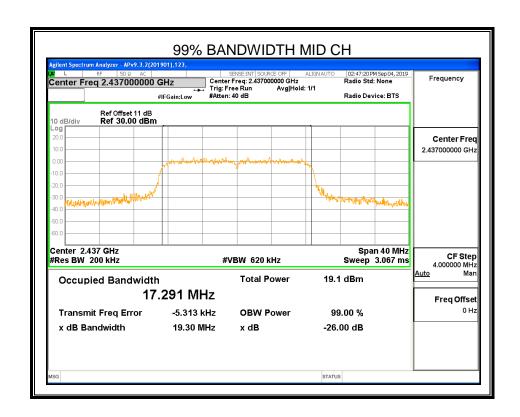




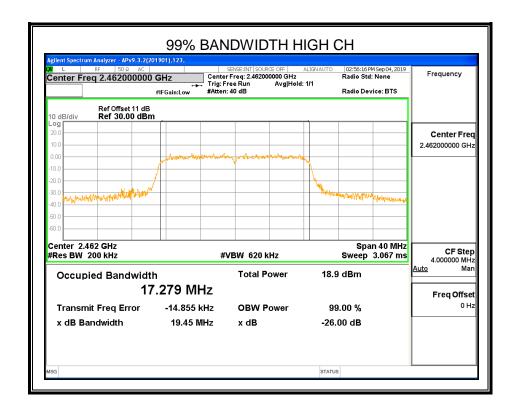












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### 8.3. PEAK CONDUCTED OUTPUT POWER

## **LIMITS**

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

#### **TEST PROCEDURE**

Place the EUT on the table and set it in the transmitting mode.

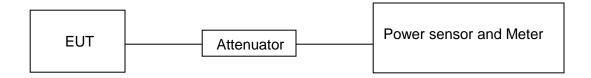
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.

Measure the power of each channel.

Peak Detector use for Peak result.

AVG Detector use for AVG result.

#### **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	24.6°C	Relative Humidity	57%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V,60Hz



## **RESULTS**

### 8.3.1. 802.11b MODE

Test Channel	Maximum Conducted Output Power(PK)	Maximum Conducted Output Power(AV)	LIMIT
	(dBm)	(dBm)	dBm
Low	17.360	14.15	30
Middle	17.340	13.95	30
High	16.720	13.42	30

# 8.3.2. 802.11g MODE

Test Channel	Maximum Conducted Output Power(PK)	Maximum Conducted Output Power(AV)	LIMIT
	(dBm)	(dBm)	dBm
Low	23.697	14.50	30
Middle	23.385	14.42	30
High	22.937	14.22	30

## 8.3.3. 802.11n HT20 MODE

Test Channel	Maximum Conducted Output Power(PK)	Maximum Conducted Output Power(AV)	LIMIT
	(dBm)	(dBm)	dBm
Low	23.346	13.63	30
Middle	23.257	13.50	30
High	22.710	13.20	30



8.4. POWER SPECTRAL DENSITY

### **LIMITS**

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

### **TEST PROCEDURE**

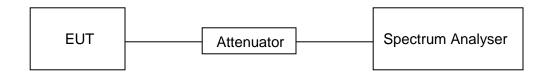
Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	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.

## **TEST SETUP**



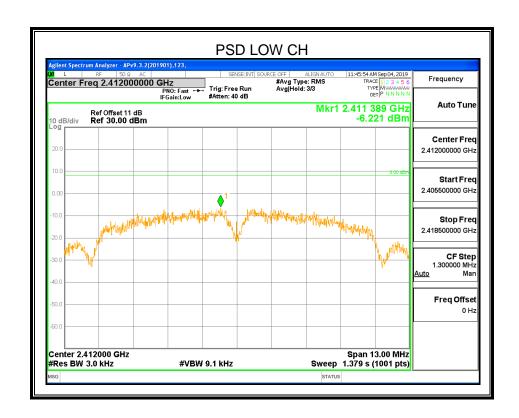
#### **TEST ENVIRONMENT**

Temperature	24.6°C	Relative Humidity	57%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V,60Hz

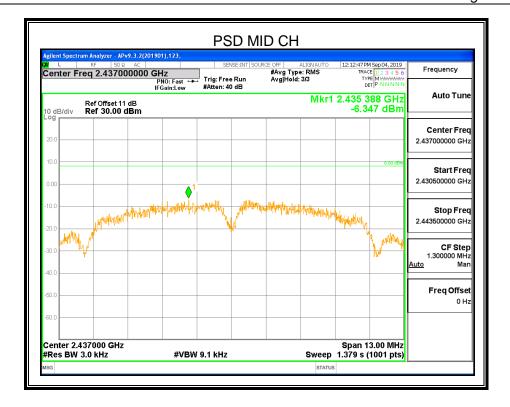


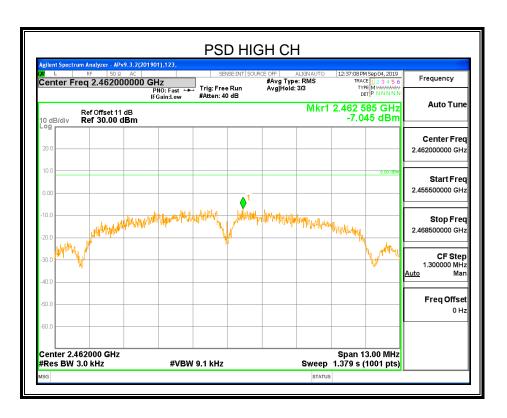
### 8.4.1. 802.11b MODE

Test Channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low	-6.221	8	PASS
Middle	-6.347	8	PASS
High	-7.045	8	PASS





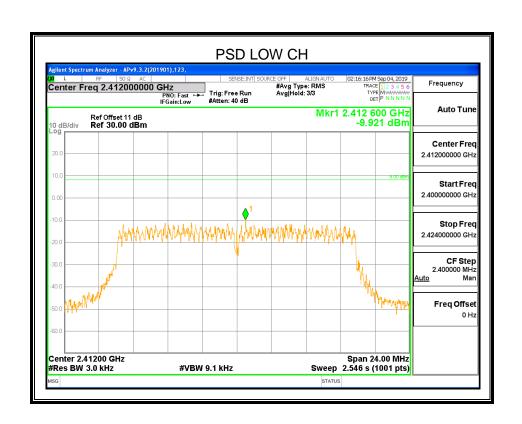




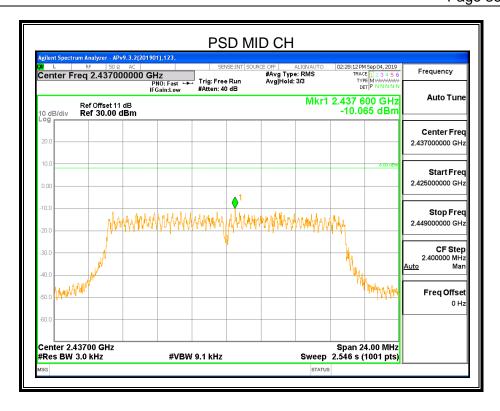


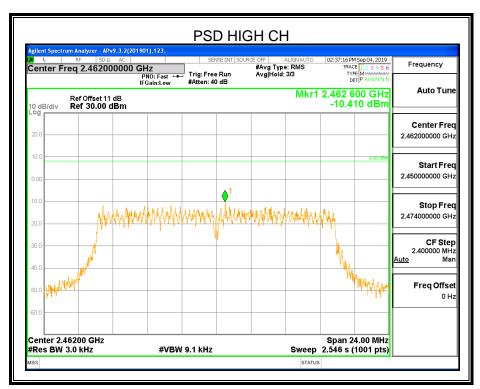
# 8.4.2. 802.11g MODE

Test Channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low	-9.921	8	PASS
Middle	-10.065	8	PASS
High	-10.410	8	PASS





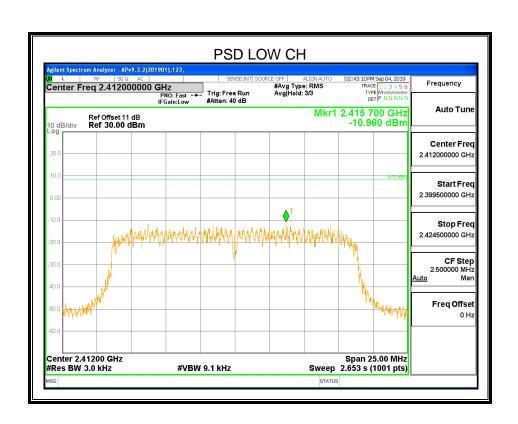




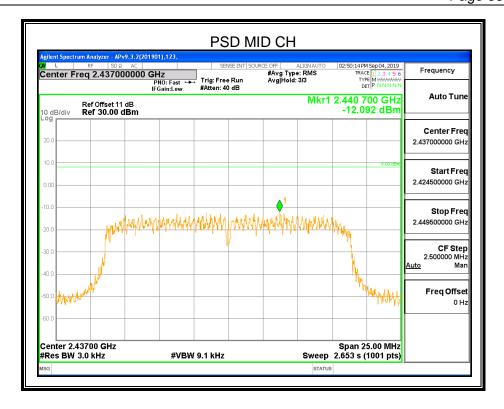


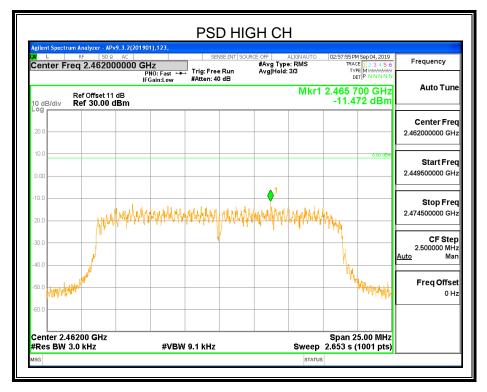
# 8.4.3. 802.11n HT20 MODE

Test Channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low	-10.960	8	PASS
Middle	-12.092	8	PASS
High	-11.472	8	PASS









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# 8.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

# **LIMITS**

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section Test Item Limit			
CFR 47 FCC §15.247 (d) ISED RSS-247 5.5	Conducted Bandedge and Spurious Emissions	at least 20 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	100K
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

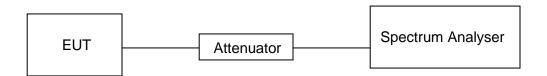
Use the peak marker function to determine the maximum PSD level.

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100K
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**



# **TEST ENVIRONMENT**

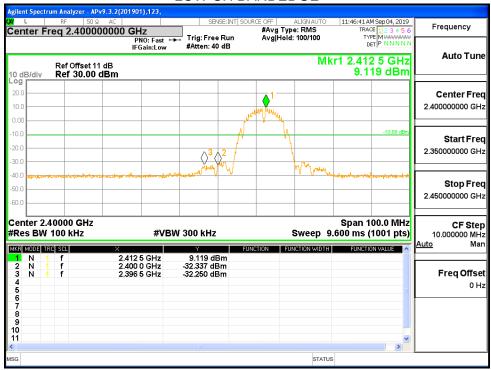
Temperature	24.7°C	Relative Humidity	57%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V,60Hz

# **RESULTS**

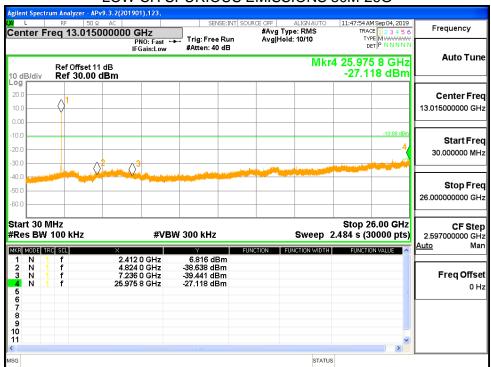


### 8.5.1. 802.11b MODE

### LOW CH BANDEDGE

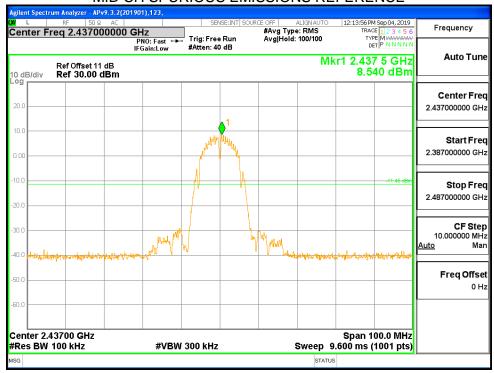


# LOW CH SPURIOUS EMISSIONS 30M-26G

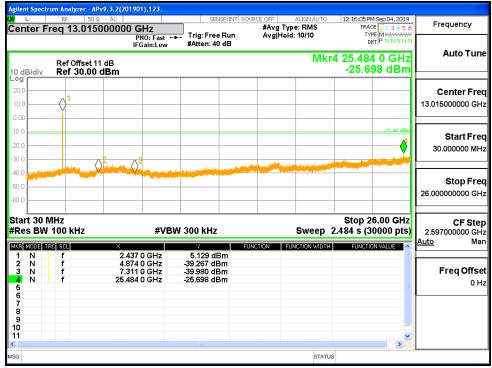




# MID CH SPURIOUS EMISSIONS REFERENCE

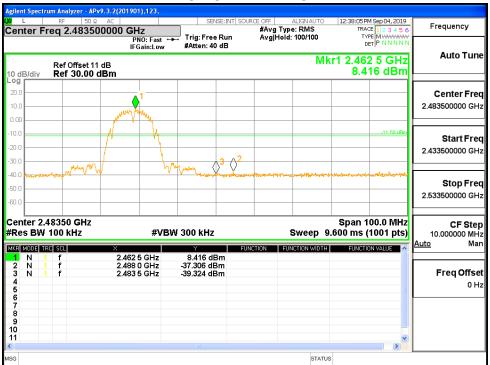


# MID CH SPURIOUS EMISSIONS 30M-26G

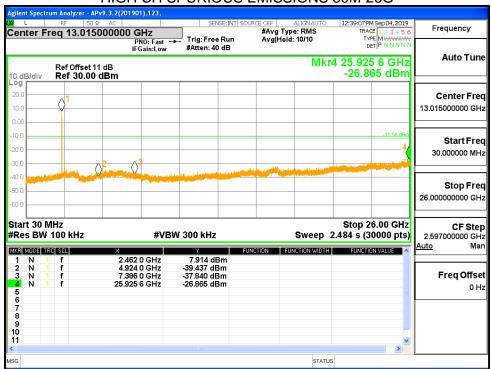




### HIGH CH BANDEDGE



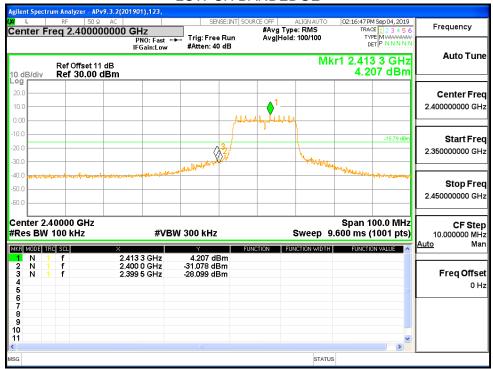
### HIGH CH SPURIOUS EMISSIONS 30M-26G



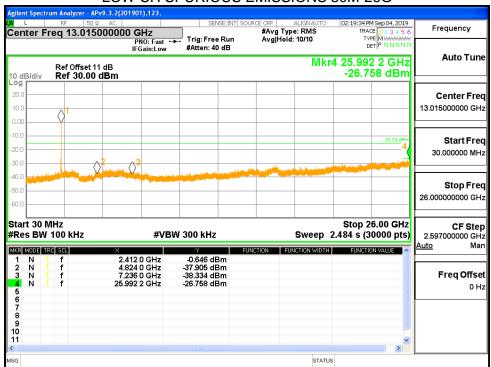


# 8.5.1. 802.11g MODE

### LOW CH BANDEDGE

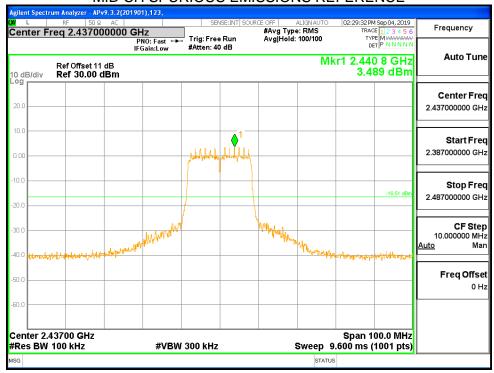


# LOW CH SPURIOUS EMISSIONS 30M-26G

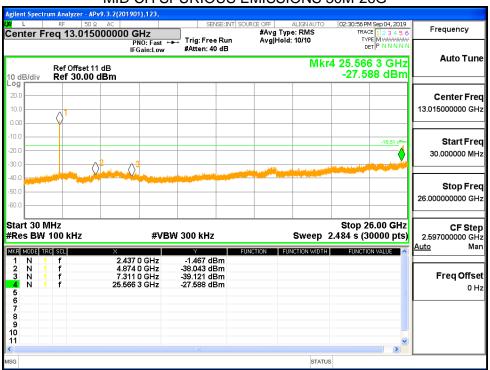




# MID CH SPURIOUS EMISSIONS REFERENCE

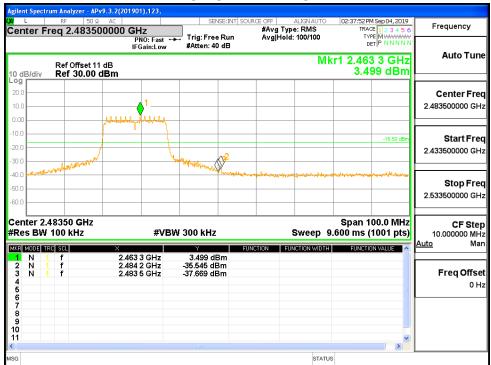


# MID CH SPURIOUS EMISSIONS 30M-26G

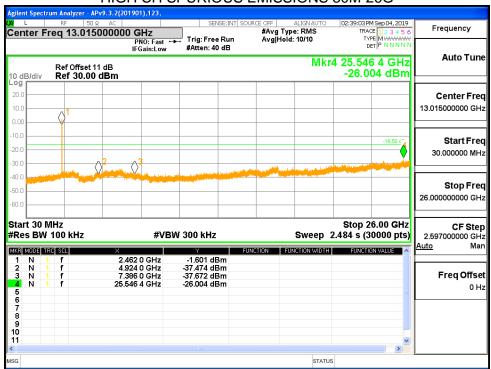




### HIGH CH BANDEDGE



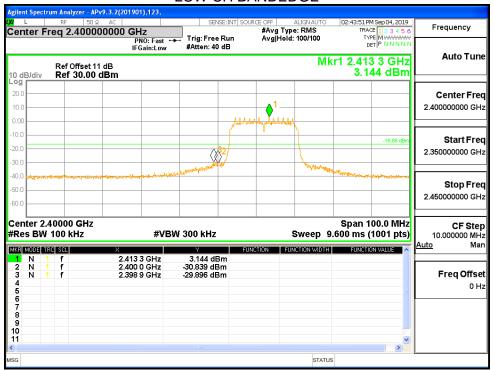
### HIGH CH SPURIOUS EMISSIONS 30M-26G





## 8.5.1. 802.11n HT20 MODE

# LOW CH BANDEDGE

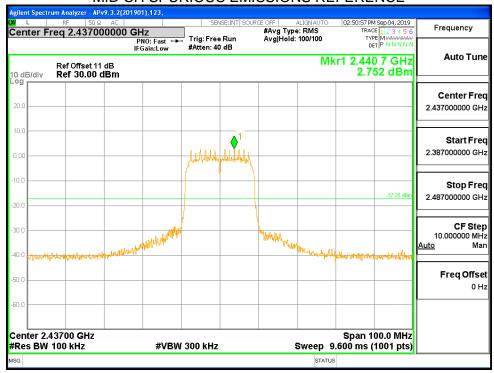


# LOW CH SPURIOUS EMISSIONS 30M-26G

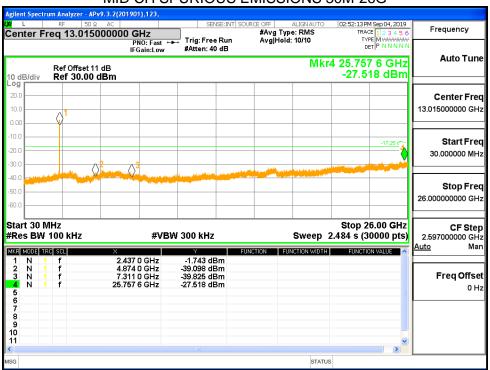




# MID CH SPURIOUS EMISSIONS REFERENCE

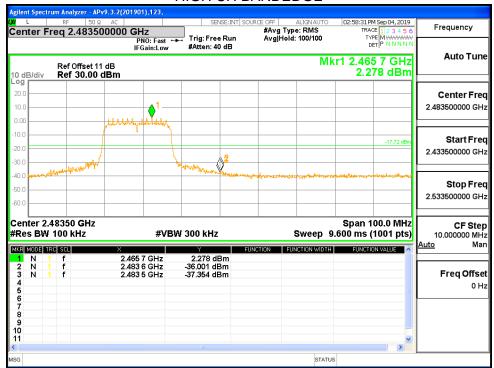


# MID CH SPURIOUS EMISSIONS 30M-26G

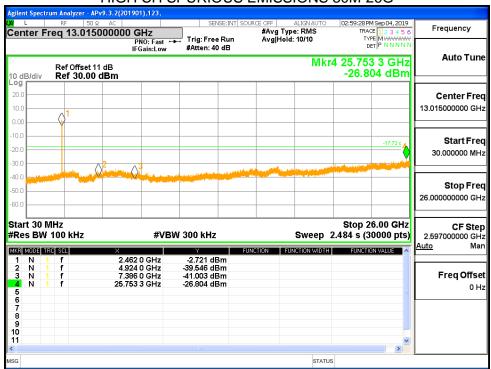




## HIGH CH BANDEDGE



### HIGH CH SPURIOUS EMISSIONS 30M-26G





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# 9. RADIATED TEST RESULTS

# **LIMITS**

Please refer to CFR 47 FCC §15.205 and §15.209

Please refer to ISED RSS-GEN Clause 8.9 (Transmitter)

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

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
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Note: 1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.



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# Radiation Disturbance Test Limit for FCC (Above 1G)

Frequency (MHz)	dB(uV/m) (at 3 meters)	
Frequency (Miriz)	Peak	Average
Above 1000	74	54

IC Restricted bands please refer to ISED RSS-GEN Clause 8.10 FCC Restricted bands of operation:

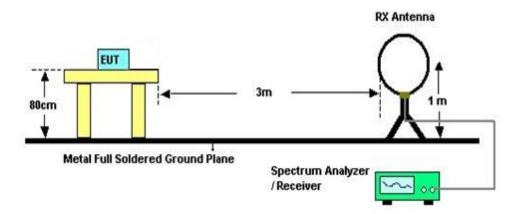
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
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	( <sup>2</sup> )
13.36-13.41			•

Note: <sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. <sup>2</sup>Above 38.6c



### TEST SETUP AND PROCEDURE

#### Below 30MHz



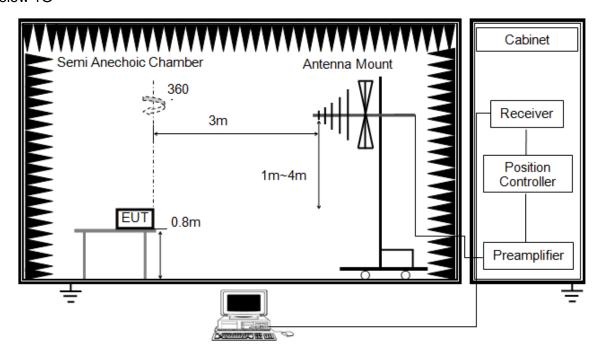
#### The setting of the spectrum analyser

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. 3 polarizations(Horizontal, Face-on and Face-off) of the loop 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.
- 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



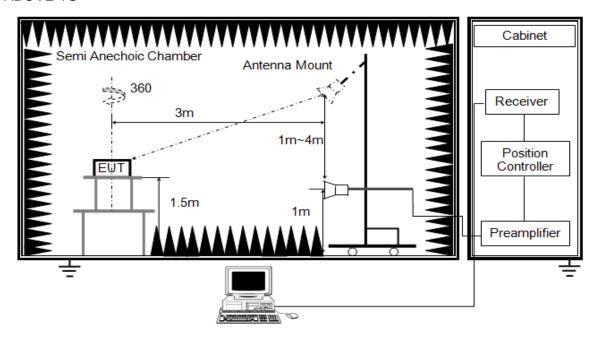
The setting of the spectrum analyser

RBW	120K
VBW	300K
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**



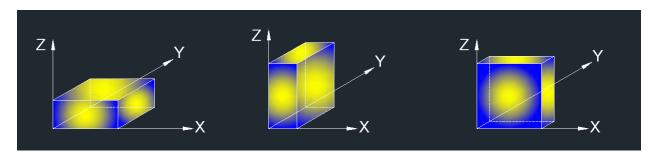
The setting of the spectrum analyser

RBW	1M
IVBW	PEAK: 3M 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 8.1.ON TIME AND DUTY CYCLE.



X axis, Y axis, Z axis positions:



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

Note 2: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

### **TEST ENVIRONMENT**

Temperature	22.6°C	Relative Humidity	54%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V,60Hz

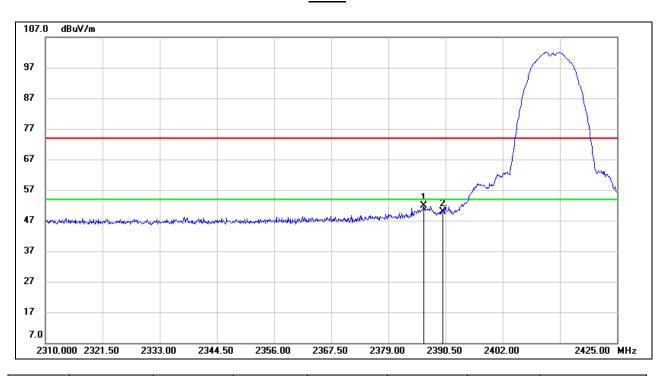


# 9.1. RESTRICTED BANDEDGE

### 9.1.1. 802.11b MODE

# **RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)**

#### **PEAK**



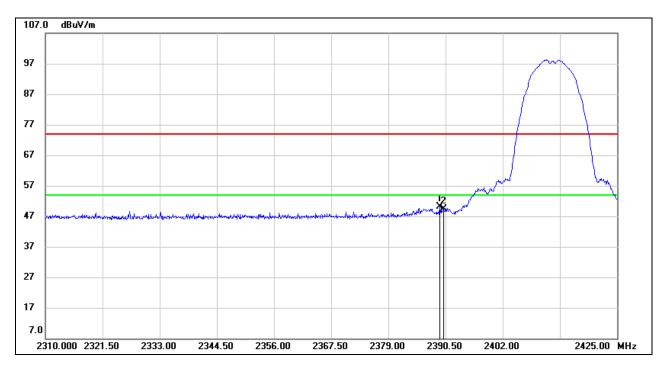
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2386.130	19.06	32.93	51.99	74.00	-22.01	peak
2	2390.000	17.00	32.94	49.94	74.00	-24.06	peak

- 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.



### RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

# **PEAK**



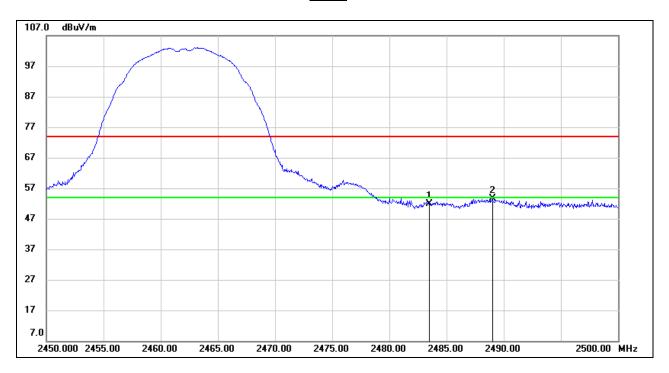
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.350	17.15	32.94	50.09	74.00	-23.91	peak
2	2390.000	16.32	32.94	49.26	74.00	-24.74	peak

- 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.



## RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

### **PEAK**



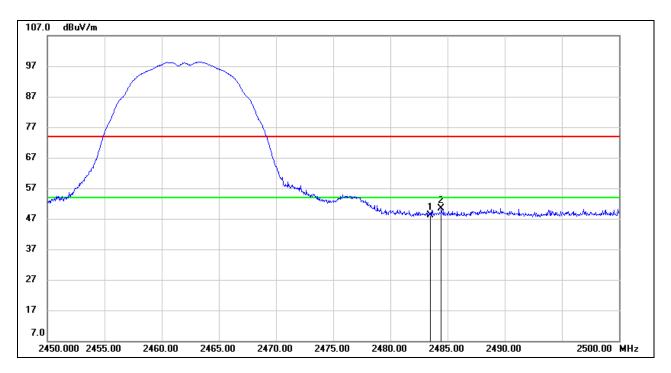
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	18.24	33.58	51.82	74.00	-22.18	peak
2	2489.000	19.93	33.62	53.55	74.00	-20.45	peak

- 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.



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)** 

### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	14.67	33.58	48.25	74.00	-25.75	peak
2	2484.450	16.83	33.59	50.42	74.00	-23.58	peak

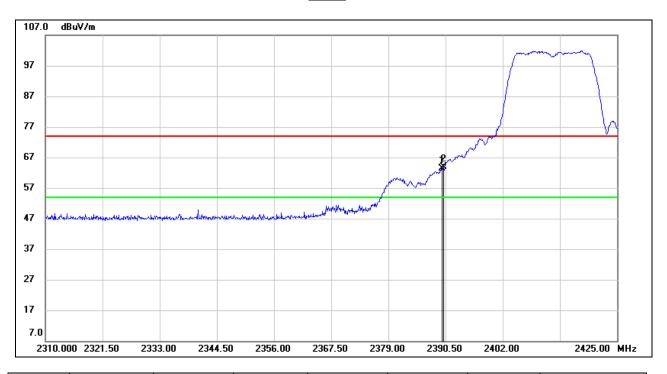
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



# 9.1.2. 802.11g MODE

# RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

## **PEAK**

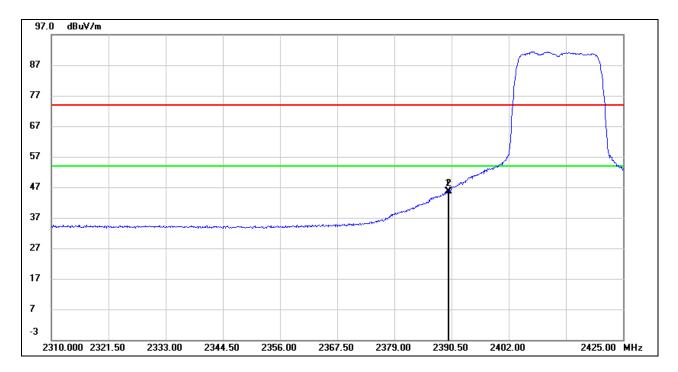


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.810	30.40	32.94	63.34	74.00	-10.66	peak
2	2390.000	30.85	32.94	63.79	74.00	-10.21	peak

- 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**



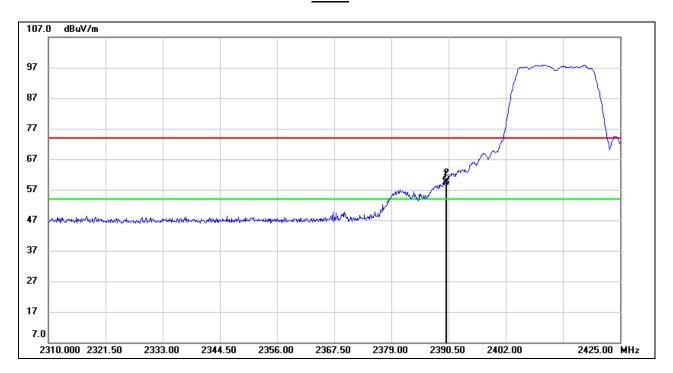
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.810	12.67	32.94	45.61	54.00	-8.39	AVG
2	2390.000	12.77	32.94	45.71	54.00	-8.29	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton where: ton is transmit duration.
- 4. For transmit duration, please refer to clause 8.1.
- 5. 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**

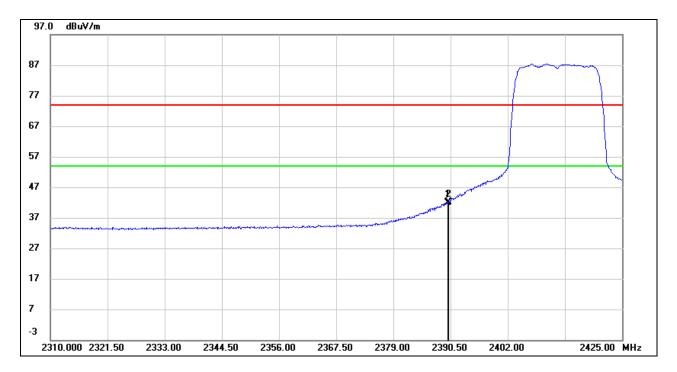


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.925	26.51	32.94	59.45	74.00	-14.55	peak
2	2390.000	27.00	32.94	59.94	74.00	-14.06	peak

- 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**



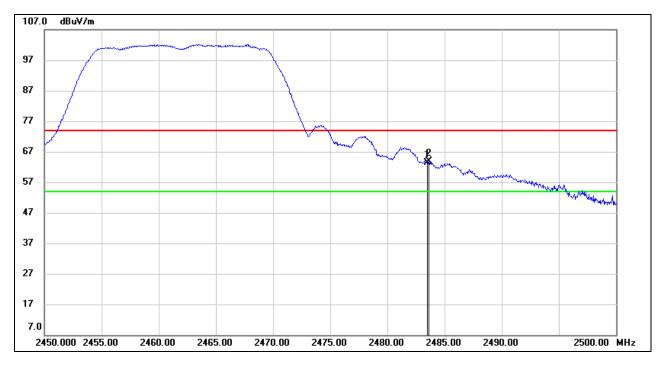
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.925	8.92	32.94	41.86	54.00	-12.14	AVG
2	2390.000	9.08	32.94	42.02	54.00	-11.98	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton where: ton is transmit duration.
- 4. For transmit duration, please refer to clause 8.1.
- 5. 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)

# <u>PEAK</u>

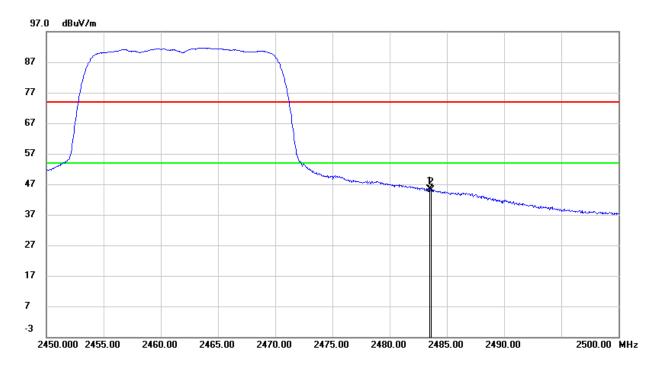


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	29.85	33.58	63.43	74.00	-10.57	peak
2	2483.600	30.34	33.58	63.92	74.00	-10.08	peak

- 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.

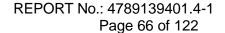


### **AVG**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	11.77	33.58	45.35	54.00	-8.65	AVG
2	2483.600	11.60	33.58	45.18	54.00	-8.82	AVG

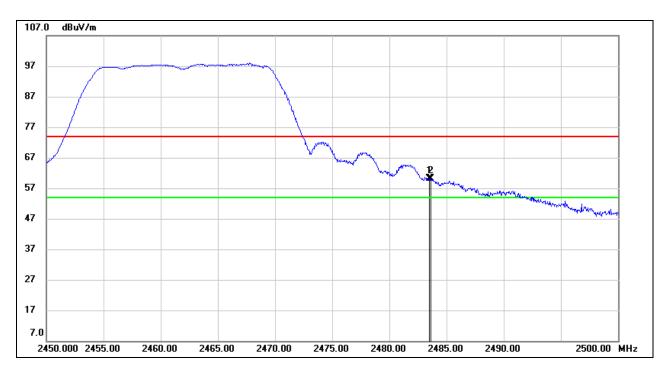
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton where: ton is transmit duration.
- 4. For transmit duration, please refer to clause 8.1.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)** 

### **PEAK**

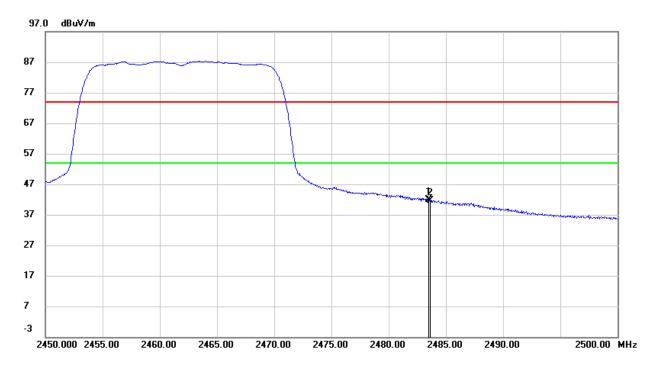


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	26.61	33.58	60.19	74.00	-13.81	peak
2	2483.600	26.52	33.58	60.10	74.00	-13.90	peak

- 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/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	8.27	33.58	41.85	54.00	-12.15	AVG
2	2483.600	7.99	33.58	41.57	54.00	-12.43	AVG

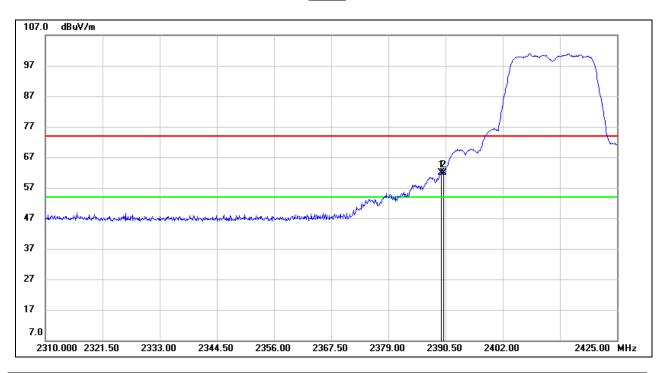
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton where: ton is transmit duration.
- 4. For transmit duration, please refer to clause 8.1.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## 9.1.3. 802.11n HT20 MODE

### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

### **PEAK**

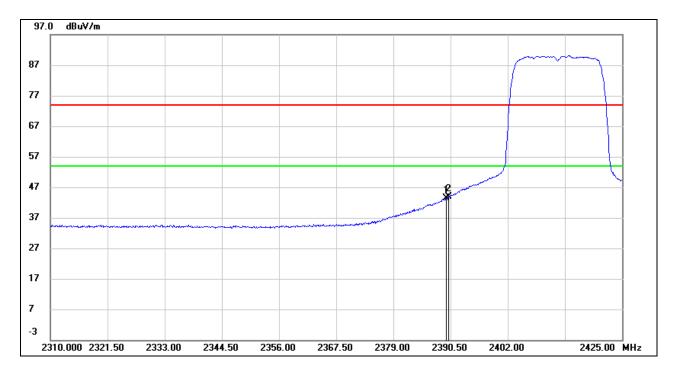


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.695	28.91	32.94	61.85	74.00	-12.15	peak
2	2390.000	28.85	32.94	61.79	74.00	-12.21	peak

- 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**



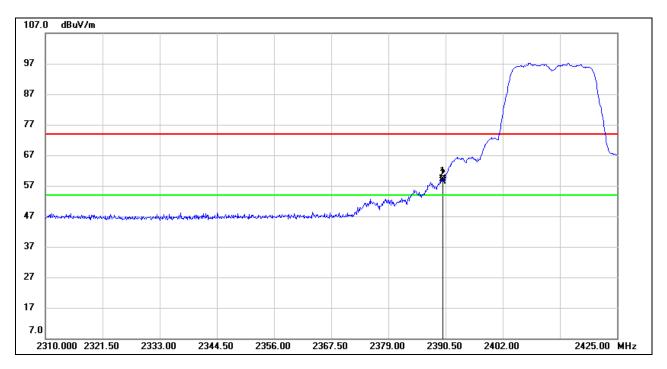
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.695	10.44	32.94	43.38	54.00	-10.62	AVG
2	2390.000	10.87	32.94	43.81	54.00	-10.19	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton where: ton is transmit duration.
- 4. For transmit duration, please refer to clause 8.1.
- 5. 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**

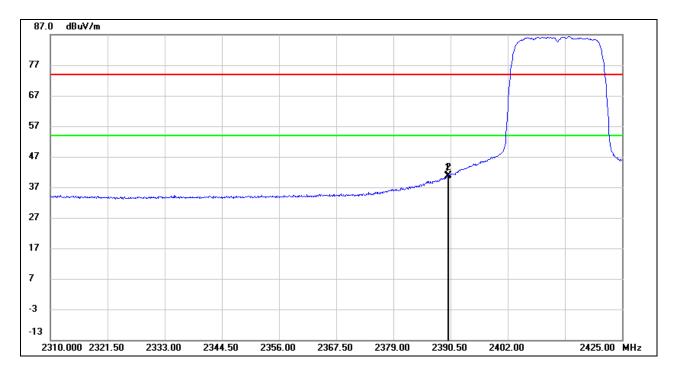


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.925	26.23	32.94	59.17	74.00	-14.83	peak
2	2390.000	25.44	32.94	58.38	74.00	-15.62	peak

- 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**



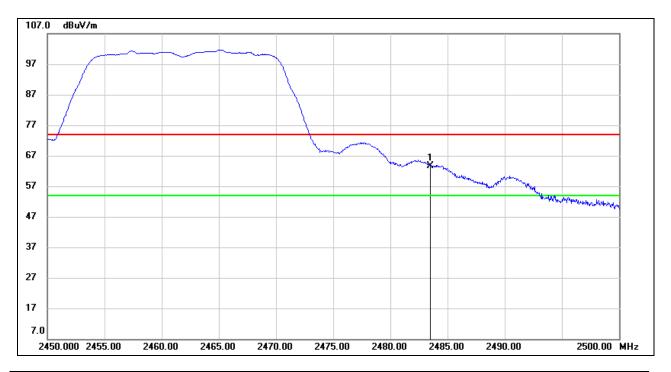
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.925	7.61	32.94	40.55	54.00	-13.45	AVG
2	2390.000	7.92	32.94	40.86	54.00	-13.14	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton where: ton is transmit duration.
- 4. For transmit duration, please refer to clause 8.1.
- 5. 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)

# <u>PEAK</u>

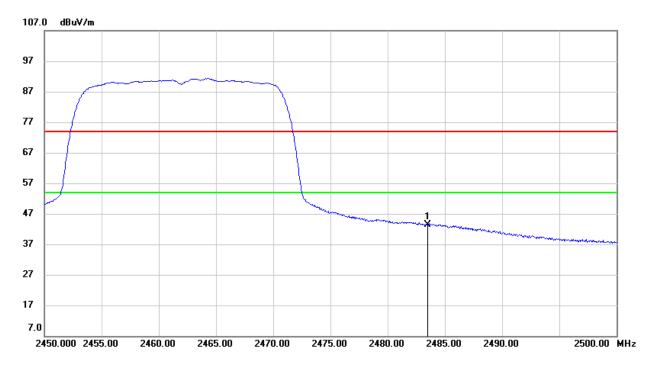


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	30.17	33.58	63.75	74.00	-10.25	peak

- 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.

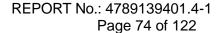


#### **AVG**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	9.81	33.58	43.39	54.00	-10.61	AVG

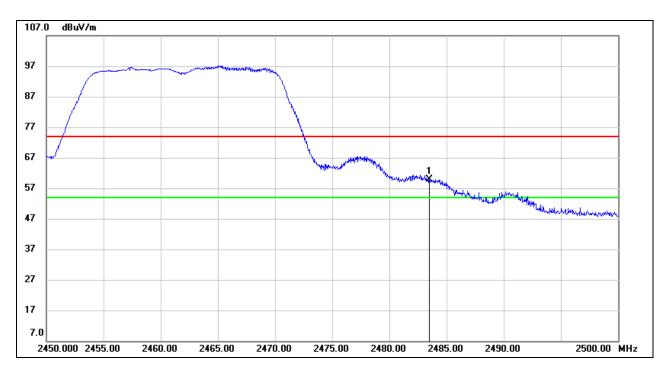
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton where: ton is transmit duration.
- 4. For transmit duration, please refer to clause 8.1.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)** 

#### PEAK

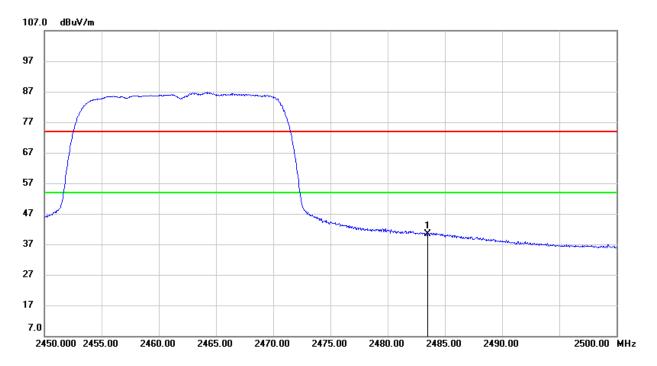


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	26.29	33.58	59.87	74.00	-14.13	peak

- 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/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	6.86	33.58	40.44	54.00	-13.56	AVG

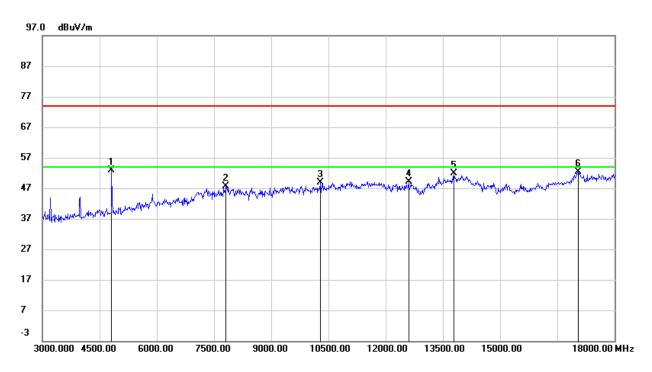
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton where: ton is transmit duration.
- 4. For transmit duration, please refer to clause 8.1.
- 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



# 9.2. SPURIOUS EMISSIONS (3~18GHz)

#### 9.2.1. 802.11b MODE

# **HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)**

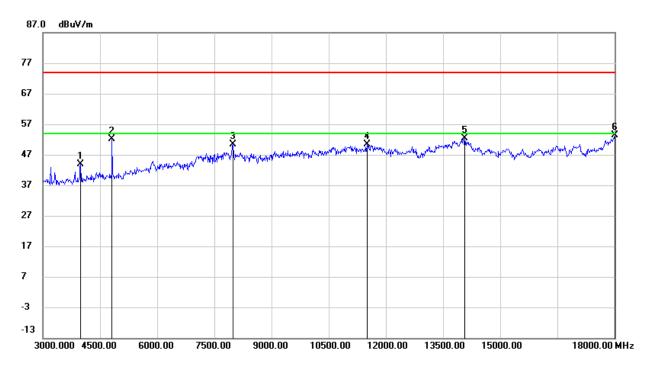


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4815.000	52.91	0.03	52.94	74.00	-21.06	peak
2	7815.000	38.00	9.57	47.57	74.00	-26.43	peak
3	10290.000	37.17	11.69	48.86	74.00	-25.14	peak
4	12600.000	35.53	13.53	49.06	74.00	-24.94	peak
5	13785.000	33.06	18.84	51.90	74.00	-22.10	peak
6	17055.000	28.26	24.10	52.36	74.00	-21.64	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

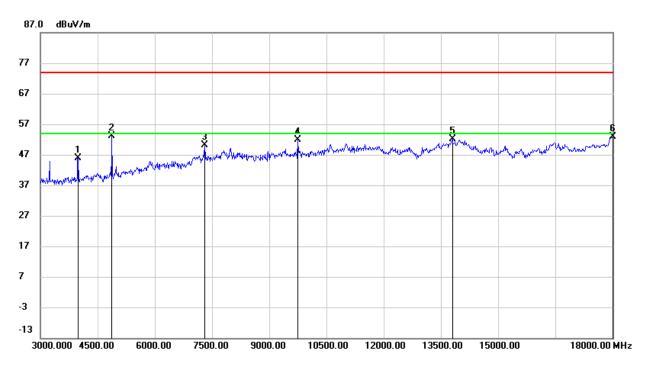


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3990.000	46.56	-2.59	43.97	74.00	-30.03	peak
2	4815.000	52.12	0.03	52.15	74.00	-21.85	peak
3	7995.000	41.63	8.72	50.35	74.00	-23.65	peak
4	11505.000	36.02	14.36	50.38	74.00	-23.62	peak
5	14070.000	34.09	18.20	52.29	74.00	-21.71	peak
6	18000.000	28.96	24.44	53.40	74.00	-20.60	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

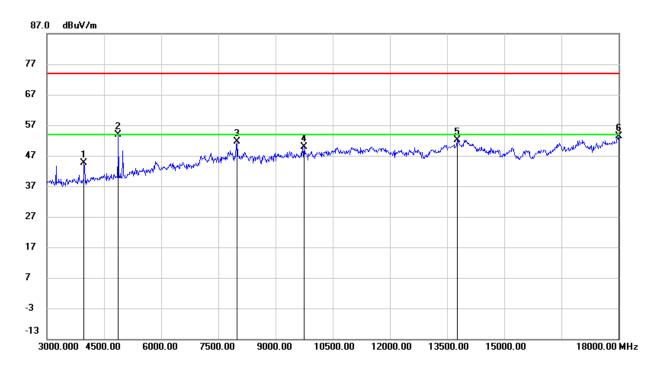


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3990.000	48.51	-2.59	45.92	74.00	-28.08	peak
2	4875.000	53.05	0.17	53.22	74.00	-20.78	peak
3	7305.000	42.51	7.68	50.19	74.00	-23.81	peak
4	9750.000	40.77	11.10	51.87	74.00	-22.13	peak
5	13800.000	33.08	19.04	52.12	74.00	-21.88	peak
6	18000.000	28.49	24.44	52.93	74.00	-21.07	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

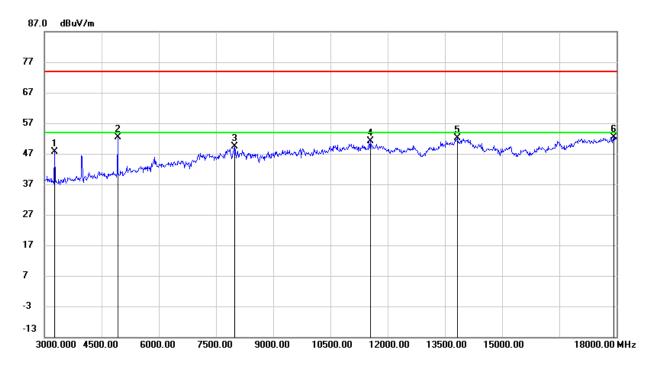


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3975.000	47.26	-2.57	44.69	74.00	-29.31	peak
2	4875.000	53.60	0.17	53.77	74.00	-20.23	peak
3	7995.000	42.90	8.72	51.62	74.00	-22.38	peak
4	9750.000	38.72	11.10	49.82	74.00	-24.18	peak
5	13770.000	33.52	18.64	52.16	74.00	-21.84	peak
6	18000.000	28.90	24.44	53.34	74.00	-20.66	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

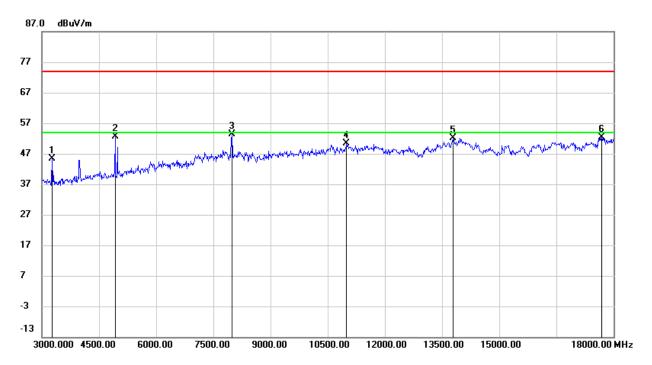


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	51.53	-3.91	47.62	74.00	-26.38	peak
2	4920.000	51.93	0.34	52.27	74.00	-21.73	peak
3	7995.000	40.73	8.72	49.45	74.00	-24.55	peak
4	11550.000	36.86	14.28	51.14	74.00	-22.86	peak
5	13830.000	33.55	18.56	52.11	74.00	-21.89	peak
6	17925.000	28.47	24.00	52.47	74.00	-21.53	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



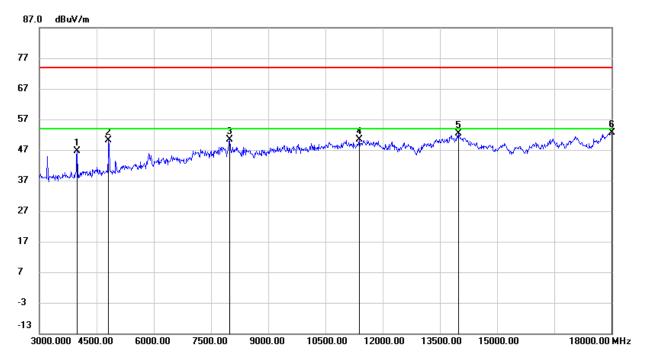
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	49.35	-3.91	45.44	74.00	-28.56	peak
2	4920.000	52.20	0.34	52.54	74.00	-21.46	peak
3	7995.000	44.69	8.72	53.41	74.00	-20.59	peak
4	10995.000	36.96	13.49	50.45	74.00	-23.55	peak
5	13785.000	33.34	18.84	52.18	74.00	-21.82	peak
6	17685.000	29.20	23.26	52.46	74.00	-21.54	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# 9.2.2. 802.11g MODE

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

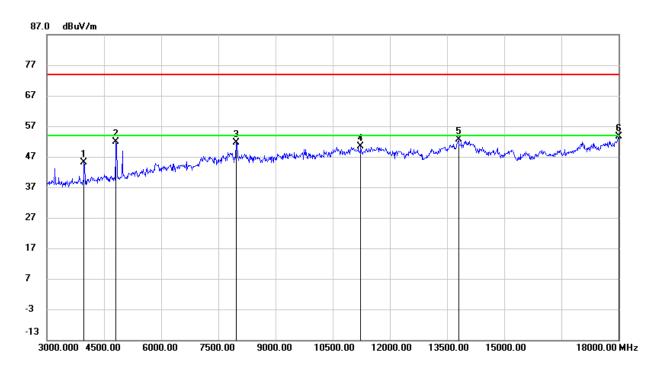


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3990.000	49.21	-2.59	46.62	74.00	-27.38	peak
2	4815.000	50.04	0.03	50.07	74.00	-23.93	peak
3	7995.000	41.59	8.72	50.31	74.00	-23.69	peak
4	11385.000	36.91	13.53	50.44	74.00	-23.56	peak
5	13980.000	34.42	18.03	52.45	74.00	-21.55	peak
6	18000.000	28.07	24.44	52.51	74.00	-21.49	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

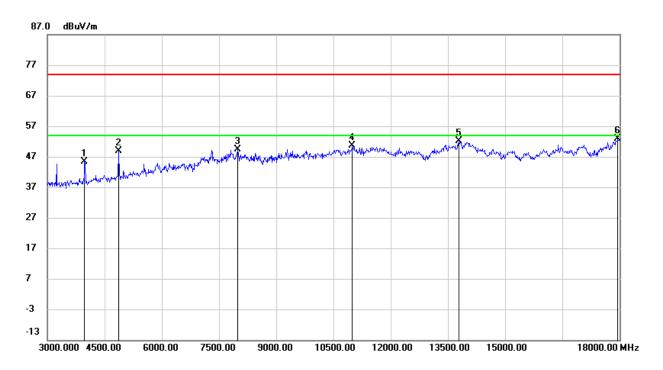


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3975.000	47.72	-2.57	45.15	74.00	-28.85	peak
2	4815.000	51.89	0.03	51.92	74.00	-22.08	peak
3	7965.000	42.82	8.84	51.66	74.00	-22.34	peak
4	11235.000	36.90	13.43	50.33	74.00	-23.67	peak
5	13800.000	33.52	19.04	52.56	74.00	-21.44	peak
6	18000.000	29.11	24.44	53.55	74.00	-20.45	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

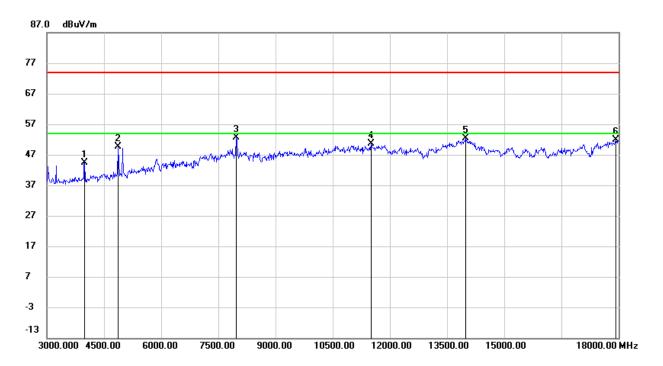


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3975.000	48.06	-2.57	45.49	74.00	-28.51	peak
2	4860.000	48.74	0.13	48.87	74.00	-25.13	peak
3	7995.000	40.75	8.72	49.47	74.00	-24.53	peak
4	10995.000	37.04	13.49	50.53	74.00	-23.47	peak
5	13785.000	33.17	18.84	52.01	74.00	-21.99	peak
6	17955.000	28.61	24.18	52.79	74.00	-21.21	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

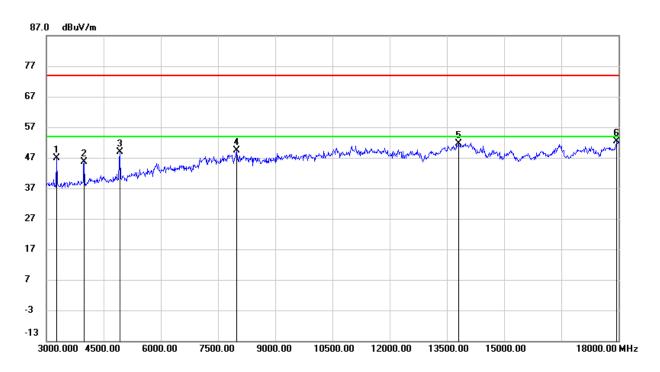


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3990.000	47.05	-2.59	44.46	74.00	-29.54	peak
2	4875.000	49.41	0.17	49.58	74.00	-24.42	peak
3	7965.000	43.68	8.84	52.52	74.00	-21.48	peak
4	11505.000	36.26	14.36	50.62	74.00	-23.38	peak
5	13980.000	34.38	18.03	52.41	74.00	-21.59	peak
6	17925.000	27.91	24.00	51.91	74.00	-22.09	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

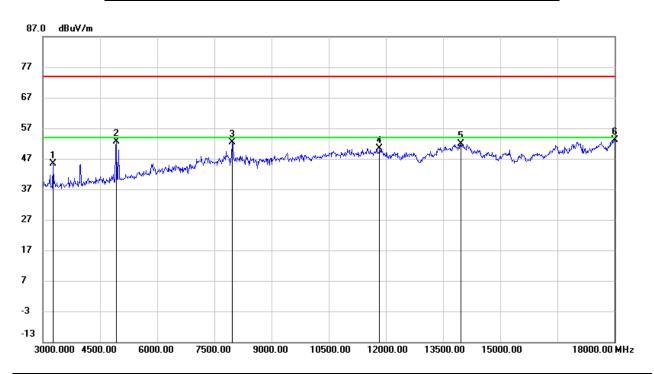


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	50.74	-3.91	46.83	74.00	-27.17	peak
2	3990.000	48.15	-2.59	45.56	74.00	-28.44	peak
3	4920.000	48.50	0.34	48.84	74.00	-25.16	peak
4	7995.000	40.57	8.72	49.29	74.00	-24.71	peak
5	13800.000	32.58	19.04	51.62	74.00	-22.38	peak
6	17955.000	28.21	24.18	52.39	74.00	-21.61	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



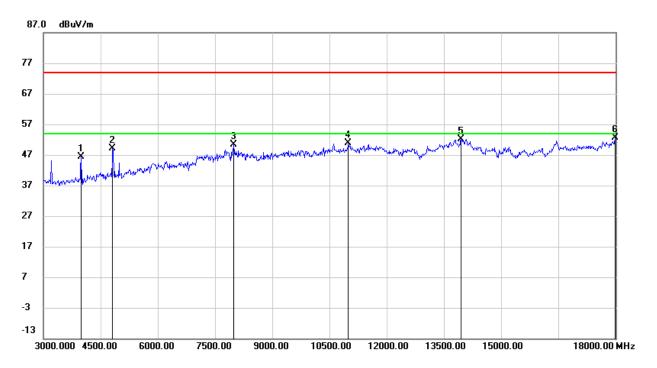
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	49.38	-3.91	45.47	74.00	-28.53	peak
2	4920.000	52.25	0.34	52.59	74.00	-21.41	peak
3	7965.000	43.61	8.84	52.45	74.00	-21.55	peak
4	11835.000	36.59	13.86	50.45	74.00	-23.55	peak
5	13965.000	33.96	17.91	51.87	74.00	-22.13	peak
6	18000.000	28.74	24.44	53.18	74.00	-20.82	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



9.2.3. 802.11n HT20 MODE

# **HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)**

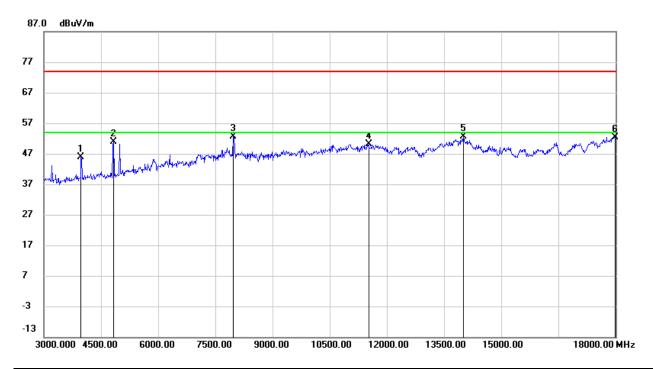


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3990.000	48.91	-2.59	46.32	74.00	-27.68	peak
2	4815.000	49.01	0.03	49.04	74.00	-24.96	peak
3	7995.000	41.77	8.72	50.49	74.00	-23.51	peak
4	10995.000	37.39	13.49	50.88	74.00	-23.12	peak
5	13950.000	34.31	17.79	52.10	74.00	-21.90	peak
6	17985.000	28.24	24.35	52.59	74.00	-21.41	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

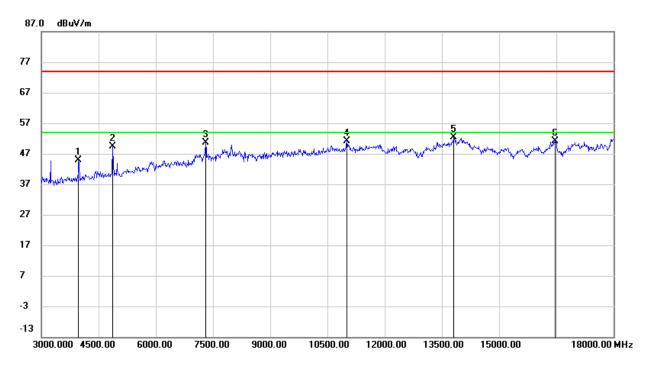


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3975.000	48.34	-2.57	45.77	74.00	-28.23	peak
2	4830.000	50.86	0.07	50.93	74.00	-23.07	peak
3	7965.000	43.67	8.84	52.51	74.00	-21.49	peak
4	11520.000	35.91	14.33	50.24	74.00	-23.76	peak
5	14010.000	34.46	18.18	52.64	74.00	-21.36	peak
6	17985.000	27.99	24.35	52.34	74.00	-21.66	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

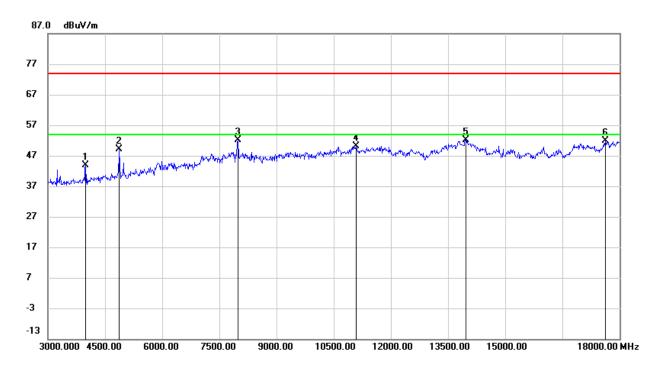


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3975.000	47.48	-2.57	44.91	74.00	-29.09	peak
2	4860.000	49.30	0.13	49.43	74.00	-24.57	peak
3	7305.000	42.99	7.68	50.67	74.00	-23.33	peak
4	11010.000	37.60	13.54	51.14	74.00	-22.86	peak
5	13800.000	33.32	19.04	52.36	74.00	-21.64	peak
6	16470.000	32.04	19.06	51.10	74.00	-22.90	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

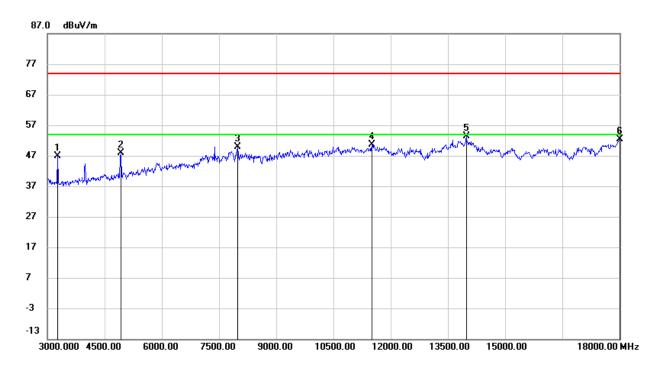


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3990.000	46.46	-2.59	43.87	74.00	-30.13	peak
2	4875.000	48.99	0.17	49.16	74.00	-24.84	peak
3	7995.000	43.49	8.72	52.21	74.00	-21.79	peak
4	11085.000	36.40	13.65	50.05	74.00	-23.95	peak
5	13965.000	34.15	17.91	52.06	74.00	-21.94	peak
6	17625.000	28.36	23.40	51.76	74.00	-22.24	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

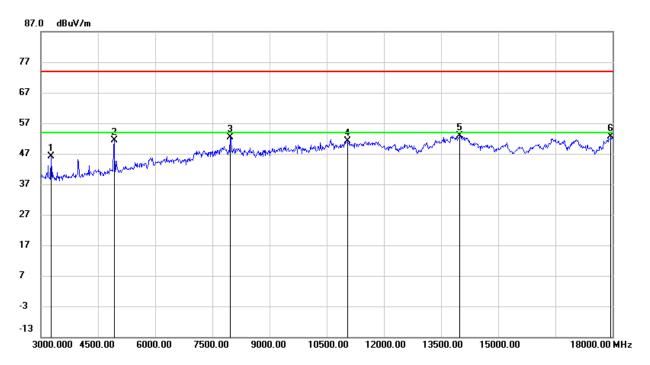


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	50.73	-3.91	46.82	74.00	-27.18	peak
2	4920.000	47.46	0.34	47.80	74.00	-26.20	peak
3	7995.000	41.27	8.72	49.99	74.00	-24.01	peak
4	11505.000	36.27	14.36	50.63	74.00	-23.37	peak
5	13980.000	35.33	18.03	53.36	74.00	-20.64	peak
6	18000.000	27.97	24.44	52.41	74.00	-21.59	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF 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	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	49.99	-3.91	46.08	74.00	-27.92	peak
2	4920.000	50.96	0.34	51.30	74.00	-22.70	peak
3	7965.000	43.58	8.84	52.42	74.00	-21.58	peak
4	11040.000	37.64	13.58	51.22	74.00	-22.78	peak
5	13995.000	34.84	18.14	52.98	74.00	-21.02	peak
6	17955.000	28.36	24.18	52.54	74.00	-21.46	peak

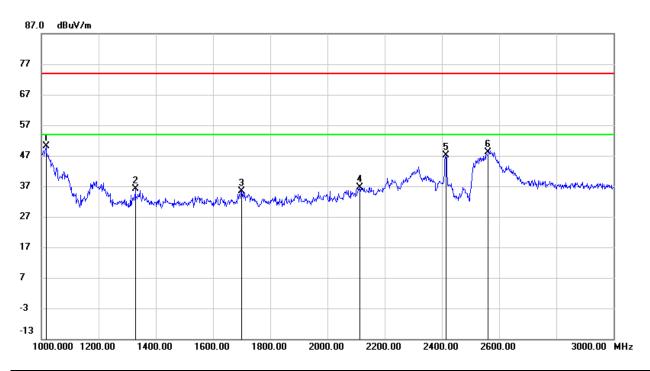
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# 9.3. SPURIOUS EMISSIONS (1~3GHz)

#### 9.3.1. 802.11b MODE

# **HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)**

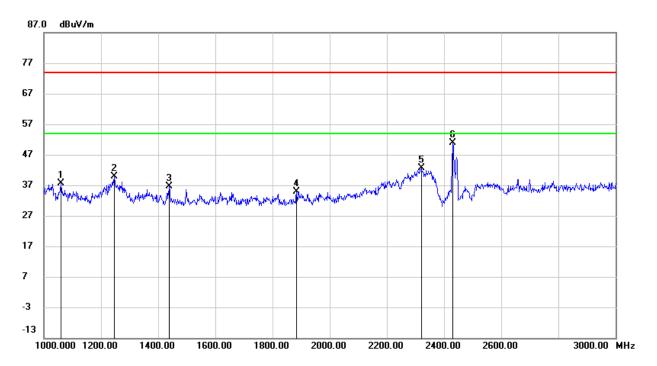


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1016.000	63.13	-13.03	50.10	74.00	-23.90	peak
2	1328.000	47.65	-11.41	36.24	74.00	-37.76	peak
3	1700.000	46.00	-10.71	35.29	74.00	-38.71	peak
4	2114.000	45.06	-8.33	36.73	74.00	-37.27	peak
5	2414.000	54.21	-7.00	47.21	74.00	-26.79	peak
6	2562.000	54.86	-6.63	48.23	74.00	-25.77	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

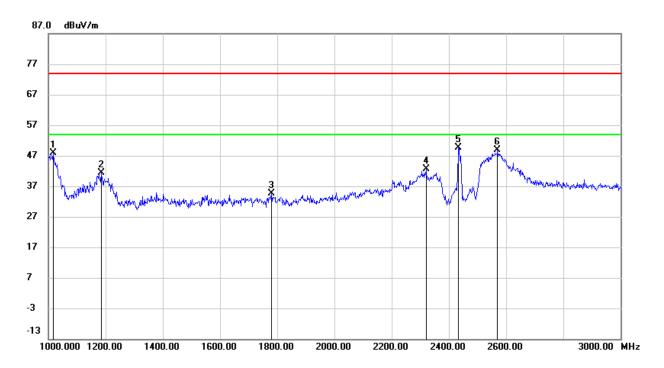


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1060.000	50.40	-12.81	37.59	74.00	-36.41	peak
2	1246.000	51.70	-11.87	39.83	74.00	-34.17	peak
3	1438.000	48.30	-11.79	36.51	74.00	-37.49	peak
4	1884.000	44.20	-9.32	34.88	74.00	-39.12	peak
5	2320.000	49.93	-7.41	42.52	74.00	-31.48	peak
6	2430.000	57.73	-6.88	50.85	74.00	-23.15	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

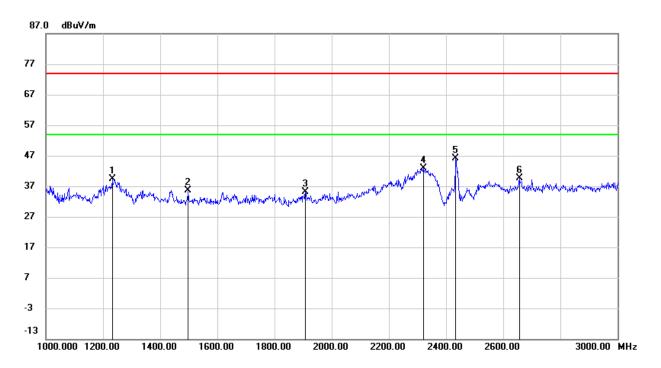


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1016.000	60.90	-13.03	47.87	74.00	-26.13	peak
2	1184.000	53.85	-12.47	41.38	74.00	-32.62	peak
3	1780.000	44.26	-9.68	34.58	74.00	-39.42	peak
4	2320.000	50.09	-7.41	42.68	74.00	-31.32	peak
5	2434.000	56.58	-6.84	49.74	74.00	-24.26	peak
6	2570.000	55.57	-6.66	48.91	74.00	-25.09	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

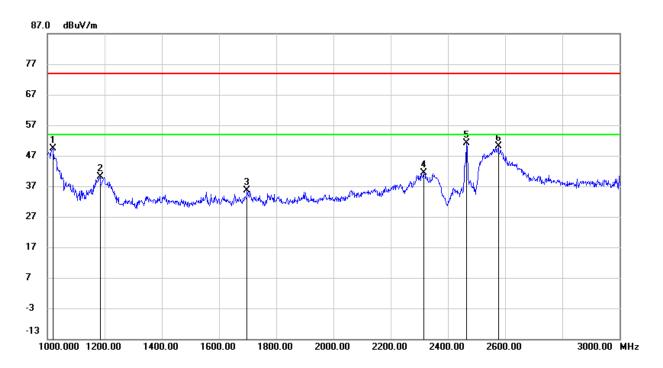


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1232.000	51.52	-12.04	39.48	74.00	-34.52	peak
2	1498.000	47.14	-11.60	35.54	74.00	-38.46	peak
3	1908.000	44.40	-9.34	35.06	74.00	-38.94	peak
4	2320.000	50.17	-7.41	42.76	74.00	-31.24	peak
5	2434.000	52.91	-6.84	46.07	74.00	-27.93	peak
6	2656.000	46.68	-7.15	39.53	74.00	-34.47	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

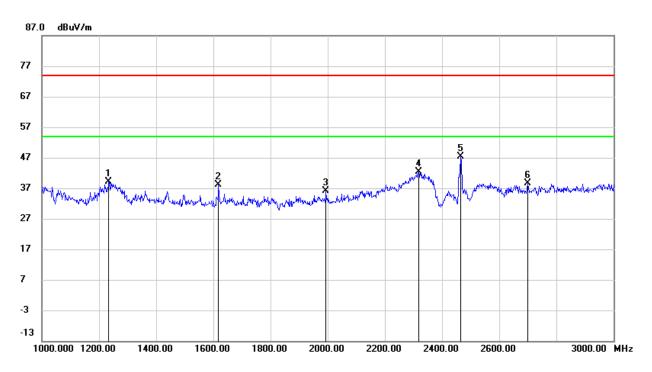


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1020.000	62.47	-13.00	49.47	74.00	-24.53	peak
2	1184.000	52.67	-12.47	40.20	74.00	-33.80	peak
3	1698.000	46.30	-10.71	35.59	74.00	-38.41	peak
4	2316.000	48.70	-7.43	41.27	74.00	-32.73	peak
5	2466.000	57.85	-6.60	51.25	74.00	-22.75	peak
6	2576.000	56.84	-6.69	50.15	74.00	-23.85	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



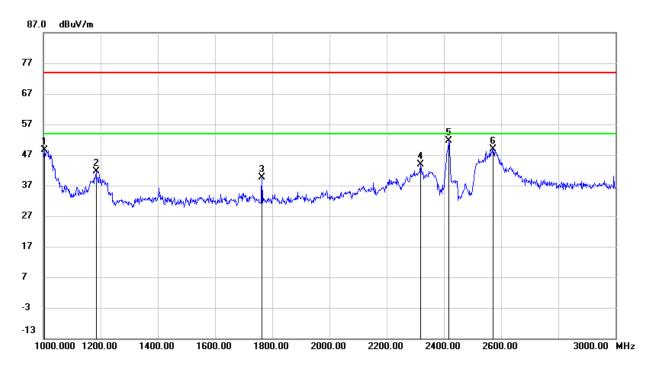
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1234.000	51.08	-12.02	39.06	74.00	-34.94	peak
2	1618.000	48.74	-10.62	38.12	74.00	-35.88	peak
3	1994.000	45.76	-9.75	36.01	74.00	-37.99	peak
4	2318.000	49.71	-7.43	42.28	74.00	-31.72	peak
5	2466.000	53.97	-6.60	47.37	74.00	-26.63	peak
6	2700.000	46.14	-7.42	38.72	74.00	-35.28	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# 9.3.2. 802.11g MODE

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

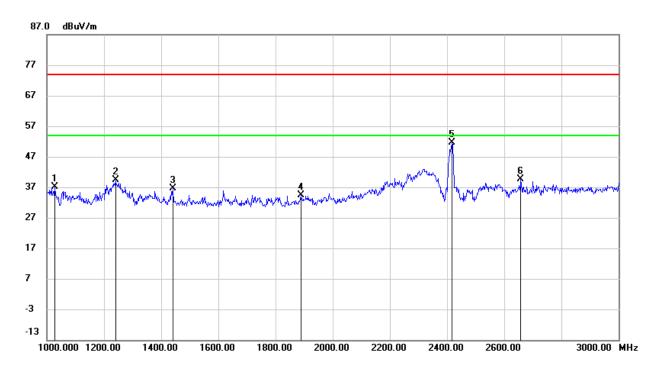


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1004.000	61.65	-13.09	48.56	74.00	-25.44	peak
2	1184.000	54.07	-12.47	41.60	74.00	-32.40	peak
3	1764.000	49.58	-9.89	39.69	74.00	-34.31	peak
4	2318.000	51.21	-7.43	43.78	74.00	-30.22	peak
5	2418.000	58.65	-6.97	51.68	74.00	-22.32	peak
6	2572.000	55.58	-6.67	48.91	74.00	-25.09	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

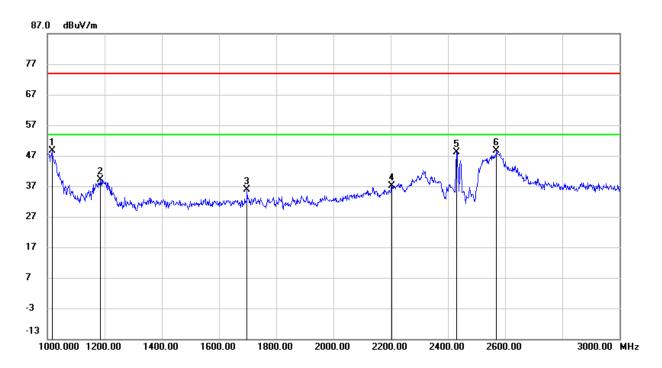


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1028.000	50.20	-12.96	37.24	74.00	-36.76	peak
2	1240.000	51.28	-11.95	39.33	74.00	-34.67	peak
3	1440.000	48.49	-11.79	36.70	74.00	-37.30	peak
4	1888.000	43.76	-9.32	34.44	74.00	-39.56	peak
5	2418.000	58.65	-6.97	51.68	74.00	-22.32	peak
6	2658.000	46.85	-7.16	39.69	74.00	-34.31	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

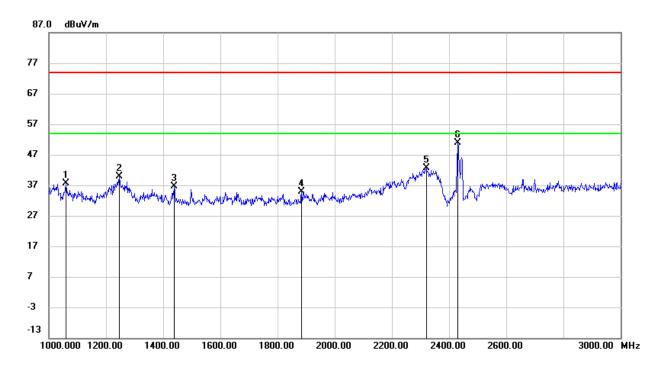


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1016.000	61.65	-13.03	48.62	74.00	-25.38	peak
2	1184.000	51.60	-12.47	39.13	74.00	-34.87	peak
3	1698.000	46.67	-10.71	35.96	74.00	-38.04	peak
4	2204.000	45.60	-8.40	37.20	74.00	-36.80	peak
5	2430.000	54.89	-6.88	48.01	74.00	-25.99	peak
6	2570.000	55.38	-6.66	48.72	74.00	-25.28	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

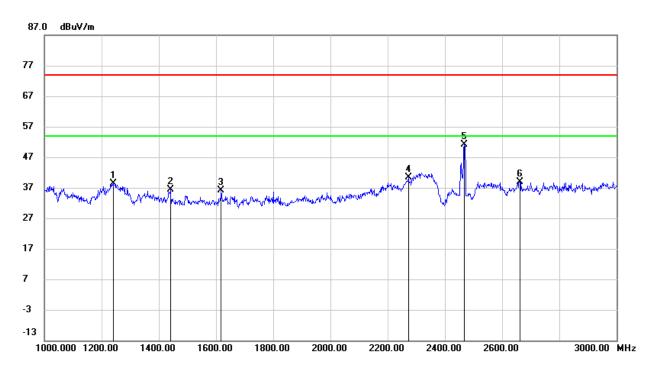


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1060.000	50.40	-12.81	37.59	74.00	-36.41	peak
2	1246.000	51.70	-11.87	39.83	74.00	-34.17	peak
3	1438.000	48.30	-11.79	36.51	74.00	-37.49	peak
4	1884.000	44.20	-9.32	34.88	74.00	-39.12	peak
5	2320.000	49.93	-7.41	42.52	74.00	-31.48	peak
6	2430.000	57.73	-6.88	50.85	74.00	-23.15	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

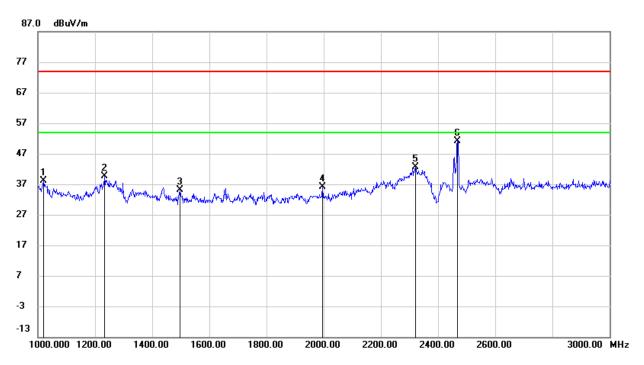


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1242.000	50.32	-11.91	38.41	74.00	-35.59	peak
2	1440.000	48.28	-11.79	36.49	74.00	-37.51	peak
3	1618.000	46.70	-10.62	36.08	74.00	-37.92	peak
4	2272.000	48.19	-7.76	40.43	74.00	-33.57	peak
5	2468.000	57.67	-6.59	51.08	74.00	-22.92	peak
6	2662.000	46.06	-7.19	38.87	74.00	-35.13	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



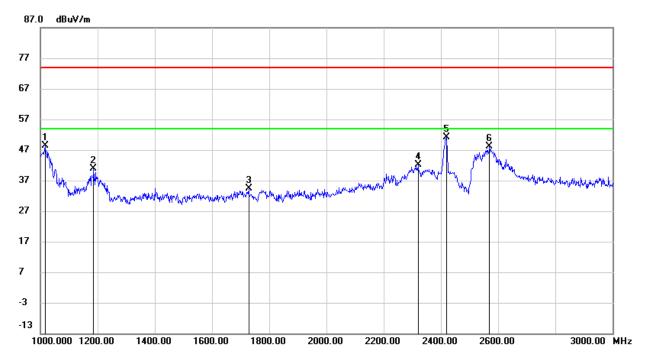
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1020.000	51.23	-13.00	38.23	74.00	-35.77	peak
2	1234.000	51.77	-12.02	39.75	74.00	-34.25	peak
3	1498.000	46.72	-11.60	35.12	74.00	-38.88	peak
4	1996.000	45.93	-9.77	36.16	74.00	-37.84	peak
5	2320.000	50.02	-7.41	42.61	74.00	-31.39	peak
6	2468.000	57.82	-6.59	51.23	74.00	-22.77	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



#### 9.3.3. 802.11n HT20 MODE

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

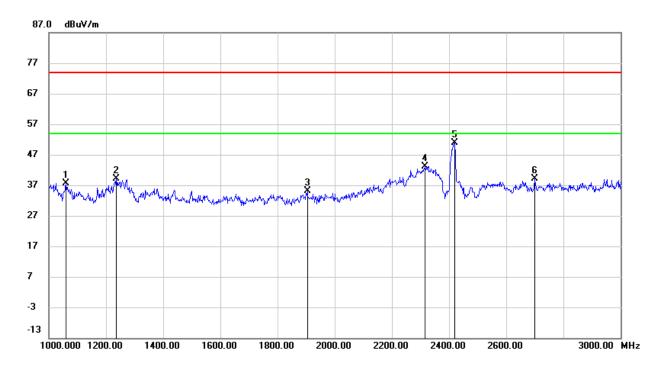


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1016.000	61.46	-13.03	48.43	74.00	-25.57	peak
2	1186.000	53.29	-12.47	40.82	74.00	-33.18	peak
3	1728.000	44.72	-10.34	34.38	74.00	-39.62	peak
4	2320.000	49.51	-7.41	42.10	74.00	-31.90	peak
5	2420.000	58.11	-6.95	51.16	74.00	-22.84	peak
6	2570.000	54.67	-6.66	48.01	74.00	-25.99	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

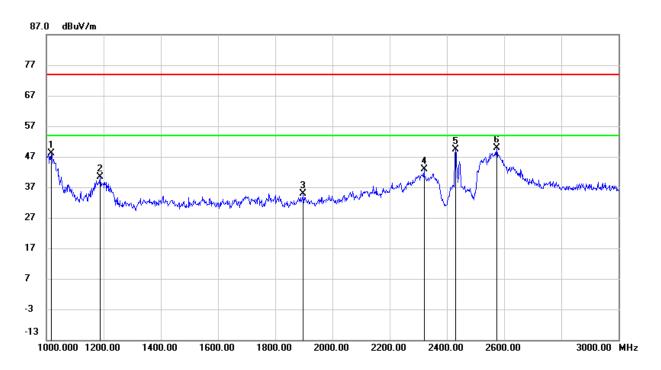


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1060.000	50.34	-12.81	37.53	74.00	-36.47	peak
2	1236.000	51.15	-12.00	39.15	74.00	-34.85	peak
3	1904.000	44.41	-9.31	35.10	74.00	-38.90	peak
4	2316.000	50.63	-7.43	43.20	74.00	-30.80	peak
5	2420.000	57.95	-6.95	51.00	74.00	-23.00	peak
6	2700.000	46.56	-7.42	39.14	74.00	-34.86	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

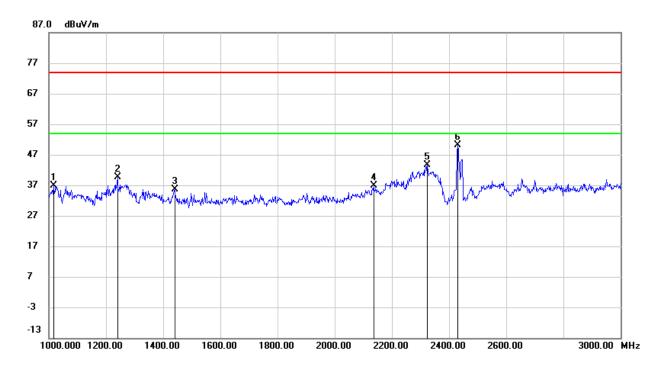


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1018.000	61.15	-13.02	48.13	74.00	-25.87	peak
2	1188.000	52.92	-12.46	40.46	74.00	-33.54	peak
3	1898.000	44.16	-9.30	34.86	74.00	-39.14	peak
4	2320.000	50.19	-7.41	42.78	74.00	-31.22	peak
5	2430.000	56.28	-6.88	49.40	74.00	-24.60	peak
6	2574.000	56.48	-6.68	49.80	74.00	-24.20	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

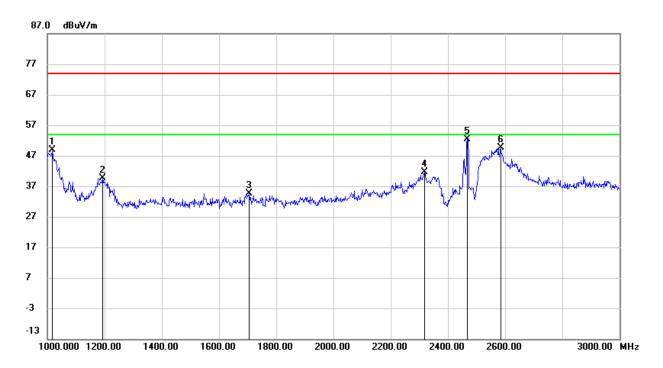


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1016.000	49.91	-13.03	36.88	74.00	-37.12	peak
2	1240.000	51.50	-11.95	39.55	74.00	-34.45	peak
3	1440.000	47.34	-11.79	35.55	74.00	-38.45	peak
4	2136.000	45.19	-8.37	36.82	74.00	-37.18	peak
5	2324.000	50.92	-7.40	43.52	74.00	-30.48	peak
6	2430.000	57.07	-6.88	50.19	74.00	-23.81	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

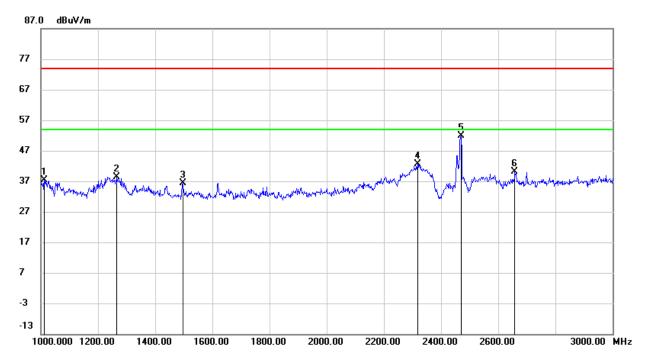


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1018.000	61.95	-13.02	48.93	74.00	-25.07	peak
2	1192.000	52.03	-12.45	39.58	74.00	-34.42	peak
3	1704.000	45.39	-10.65	34.74	74.00	-39.26	peak
4	2318.000	49.05	-7.43	41.62	74.00	-32.38	peak
5	2468.000	58.97	-6.59	52.38	74.00	-21.62	peak
6	2584.000	56.42	-6.73	49.69	74.00	-24.31	peak

- 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 then spurious frequency bands and the authorized band was not corrected for BRF 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	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1012.000	50.42	-13.05	37.37	74.00	-36.63	peak
2	1266.000	50.02	-11.63	38.39	74.00	-35.61	peak
3	1496.000	48.07	-11.62	36.45	74.00	-37.55	peak
4	2318.000	50.06	-7.43	42.63	74.00	-31.37	peak
5	2470.000	58.39	-6.57	51.82	74.00	-22.18	peak
6	2658.000	47.27	-7.16	40.11	74.00	-33.89	peak

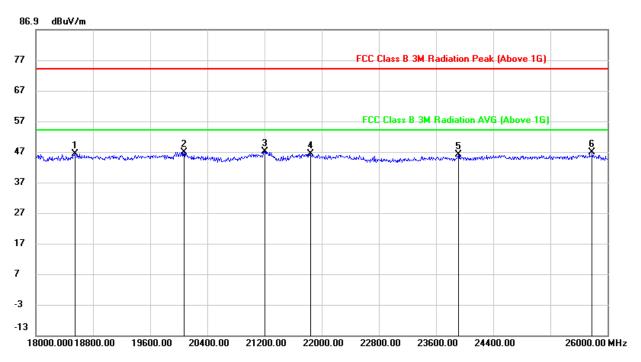
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in then spurious frequency bands and the authorized band was not corrected for BRF losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# 9.4. SPURIOUS EMISSIONS (18~26GHz)

# 9.4.1. 802.11g MODE

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

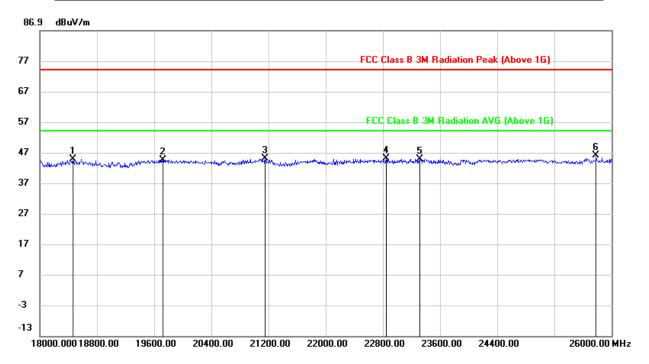


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18544.000	50.76	-4.46	46.30	74.00	-27.70	peak
2	20072.000	51.34	-4.51	46.83	74.00	-27.17	peak
3	21208.000	52.46	-5.47	46.99	74.00	-27.01	peak
4	21840.000	52.09	-5.93	46.16	74.00	-27.84	peak
5	23912.000	50.32	-4.23	46.09	74.00	-27.91	peak
6	25784.000	48.23	-1.49	46.74	74.00	-27.26	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18464.000	49.20	-4.39	44.81	74.00	-29.19	peak
2	19720.000	49.00	-4.39	44.61	74.00	-29.39	peak
3	21152.000	50.56	-5.42	45.14	74.00	-28.86	peak
4	22848.000	50.60	-5.69	44.91	74.00	-29.09	peak
5	23320.000	49.96	-5.12	44.84	74.00	-29.16	peak
6	25784.000	47.58	-1.49	46.09	74.00	-27.91	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. Proper operation of the transmitter prior to adding the filter to the measurement chain.

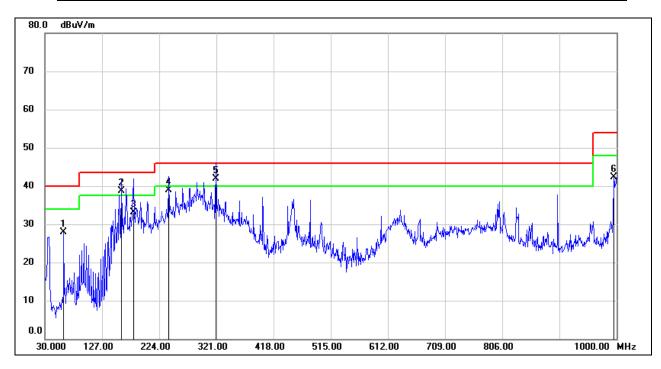
Note: All the test modes have been tested, only the worst data record in the report.



# 9.5. SPURIOUS EMISSIONS (0.03 ~ 1 GHz)

# 9.5.1. 802.11g MODE

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



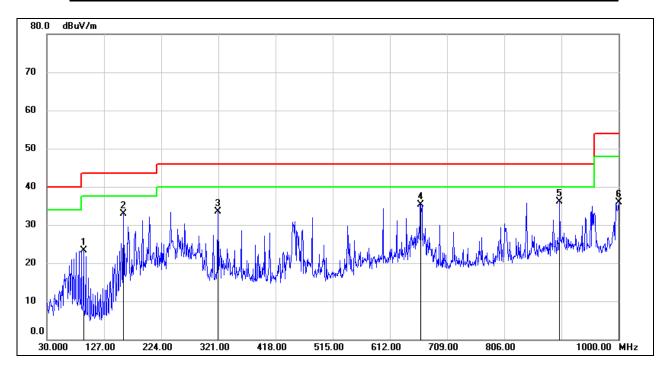
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	62.0100	47.34	-19.41	27.93	40.00	-12.07	QP
2	159.9800	56.15	-17.41	38.74	43.50	-4.76	QP
3	180.3500	49.14	-16.10	33.04	43.50	-10.46	QP
4	240.4900	55.41	-16.43	38.98	46.00	-7.02	QP
5	320.0300	55.27	-13.27	42.00	46.00	-4.00	QP
6	995.1500	45.29	-2.94	42.35	54.00	-11.65	QP

Note: 1. Result Level = Read Level + Correct Factor.

- 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
- 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	92.0800	44.26	-20.98	23.28	43.50	-20.22	QP
2	159.9800	50.38	-17.41	32.97	43.50	-10.53	QP
3	320.0300	46.69	-13.27	33.42	46.00	-12.58	QP
4	664.3800	42.17	-6.90	35.27	46.00	-10.73	QP
5	900.0900	39.95	-3.75	36.20	46.00	-9.80	QP
6	1000.0000	38.70	-2.88	35.82	54.00	-18.18	QP

Note: 1. Result Level = Read Level + Correct Factor.

- 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
- 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

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

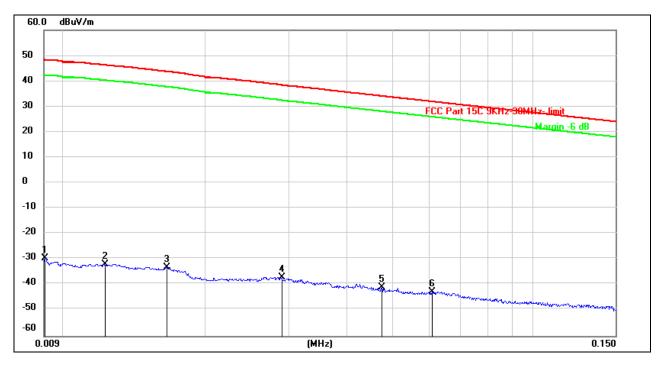


## 9.6. SPURIOUS EMISSIONS BELOW 30M

# 9.6.1. 802.11g MODE

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

## 0.09kHz~ 150kHz

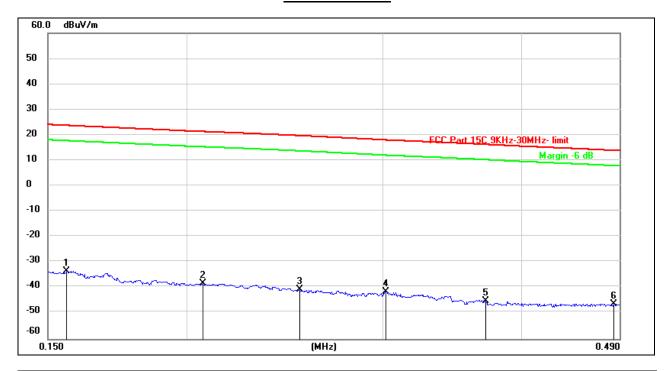


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.0091	71.79	-101.33	-29.54	48.29	-77.83	peak
2	0.0122	69.50	-101.39	-31.89	46.28	-78.17	peak
3	0.0165	68.14	-101.37	-33.23	43.69	-76.92	peak
4	0.0290	64.25	-101.38	-37.13	38.41	-75.54	peak
5	0.0475	60.44	-101.47	-41.03	34.10	-75.13	peak
6	0.0609	58.83	-101.53	-42.70	31.92	-74.62	peak

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





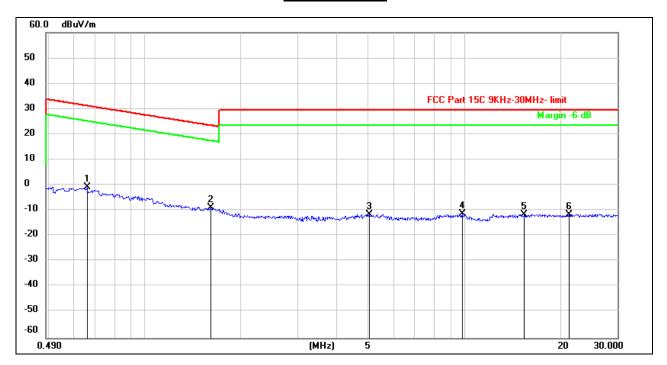


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.1559	68.15	-101.65	-33.50	23.75	-57.25	peak
2	0.2068	63.45	-101.73	-38.28	21.34	-59.62	peak
3	0.2530	61.09	-101.80	-40.71	19.71	-60.42	peak
4	0.3019	60.43	-101.85	-41.42	18.01	-59.43	peak
5	0.3714	56.78	-101.93	-45.15	16.27	-61.42	peak
6	0.4842	55.75	-102.05	-46.30	13.91	-60.21	peak

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



#### 490kHz ~ 30MHz



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.6590	61.38	-62.10	-0.72	31.25	-31.97	peak
2	1.6026	53.19	-62.00	-8.81	23.51	-32.32	peak
3	5.0345	50.02	-61.49	-11.47	29.54	-41.01	peak
4	9.8152	49.58	-60.82	-11.24	29.54	-40.78	peak
5	15.3925	49.50	-61.00	-11.50	29.54	-41.04	peak
6	21.2056	49.23	-60.74	-11.51	29.54	-41.05	peak

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

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

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



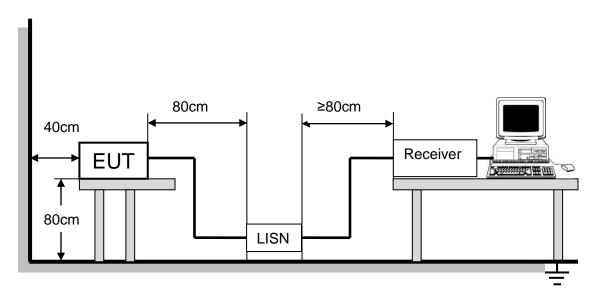
# 10. AC POWER LINE CONDUCTED EMISSIONS

## **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 an 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**

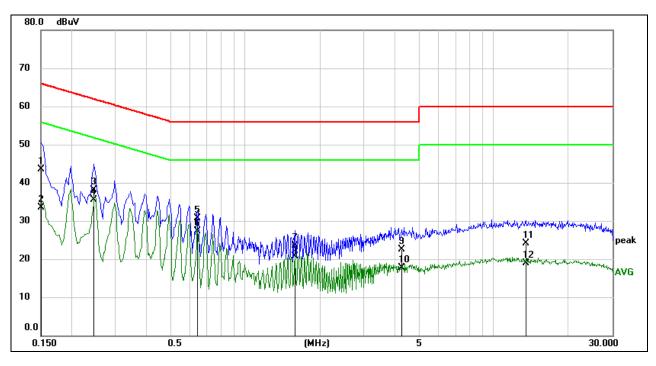
Temperature	23.0°C	Relative Humidity	60%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V,60Hz



#### **TEST RESULTS**

# 10.1. 802.11g MODE

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



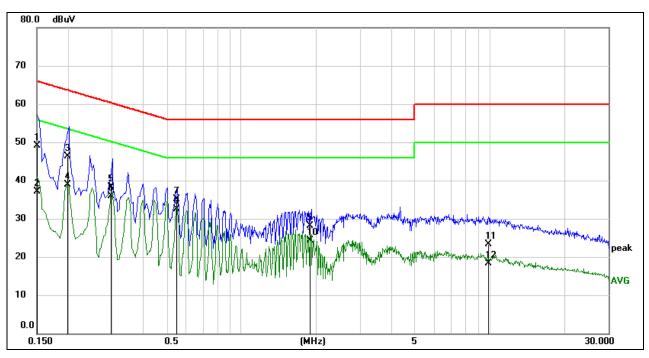
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1500	34.00	9.60	43.60	66.00	-22.40	QP
2	0.1500	24.00	9.60	33.60	56.00	-22.40	AVG
3	0.2450	28.58	9.60	38.18	61.92	-23.74	QP
4	0.2450	25.95	9.60	35.55	51.92	-16.37	AVG
5	0.6400	21.12	9.60	30.72	56.00	-25.28	QP
6	0.6400	17.75	9.60	27.35	46.00	-18.65	AVG
7	1.5783	13.85	9.62	23.47	56.00	-32.53	QP
8	1.5783	11.18	9.62	20.80	46.00	-25.20	AVG
9	4.2813	12.83	9.66	22.49	56.00	-33.51	QP
10	4.2813	8.04	9.66	17.70	46.00	-28.30	AVG
11	13.4404	14.25	9.85	24.10	60.00	-35.90	QP
12	13.4404	8.96	9.85	18.81	50.00	-31.19	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	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1500	39.49	9.61	49.10	66.00	-16.90	QP
2	0.1500	27.49	9.61	37.10	56.00	-18.90	AVG
3	0.1989	36.65	9.60	46.25	63.66	-17.41	QP
4	0.1989	29.35	9.60	38.95	53.66	-14.71	AVG
5	0.2986	28.61	9.60	38.21	60.28	-22.07	QP
6	0.2986	26.31	9.60	35.91	50.28	-14.37	AVG
7	0.5464	25.52	9.60	35.12	56.00	-20.88	QP
8	0.5464	22.94	9.60	32.54	46.00	-13.46	AVG
9	1.8868	18.47	9.62	28.09	56.00	-27.91	QP
10	1.8868	14.71	9.62	24.33	46.00	-21.67	AVG
11	9.8966	13.52	9.74	23.26	60.00	-36.74	QP
12	9.8966	8.55	9.74	18.29	50.00	-31.71	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 test modes have been tested, only the worst data record in the report.



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## 11. 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

**END OF REPORT**