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Issued date : Apr. 13, 2018
FCC ID : 2AMPP-FB00000

RADIO TEST REPORT

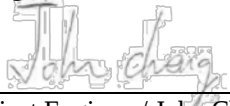
Applicant : Sunrise Technology Co., Ltd
Model Name : FB00000
FCC ID : 2AMPP-FB00000
Test Regulation : FCC 47 CFR Part 15 Subpart C (Section 15.247)
Test Result : Complied

Date of Test : Mar. 20, 2018 ~ Apr. 13, 2018

Date of Sample Received : Mar. 15, 2018

Prepared By : 
Project Engineer / Alan Liu

Representative Test Engineer : 
Engineer / WaterNil Guan

Approved By : 
Project Engineer/ John Cheng



The tested sample is in compliance with the above regulation.

The test results in the report apply only to the sample tested and are traceable to the national or international standards.

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Doc No: 17-EM-F0876 / 1.1



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REVISION HISTORY

Original Test Report No.:

[illegible]

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1. Attestation of Test Results

Applicant

Company Name: Sunrise Technology Co., Ltd
Address: No.28, Longshan St., Xitun Dist., Taichung City 407, Taiwan

Manufacturer

Company Name: Sunrise Technology Co., Ltd
Address: No.28, Longshan St., Xitun Dist., Taichung City 407, Taiwan

APPLICABLE STANDARDS	
STANDARD	Test Results
FCC 47 CFR PART 15 Subpart C (Section 15.247)	PASS

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2. Summary of Test Results

Summary of Test Results		
Test Items	FCC Rules	Test Result
6 dB Bandwidth and 99% Bandwidth	FCC 15.247 (a) (2)	PASS
Peak Conducted Output Power	FCC 15.247 (b) (3) KDB 558074 D01 DTS Meas Guidance v04	PASS
Power Spectral Density	FCC 15.247 (e) KDB 558074 D01 DTS Meas Guidance v04	PASS
Conducted Bandedge and Spurious Emission	FCC 15.247 (d) KDB 558074 D01 DTS Meas Guidance v04	PASS
Radiated Bandedge and Spurious Emission	FCC 15.247 (d) FCC 15.209 FCC 15.205 KDB 558074 D01 DTS Meas Guidance v04	PASS
Conducted Emission Test For AC Power Port	FCC 15.207	PASS

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3. Test Methodology

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013.

4. Facilities and Accreditation

Test Location	Underwriters Laboratories Taiwan Co., Ltd.
Address	Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan
Accreditation Certificate	Underwriters Laboratories Taiwan Co., Ltd. is accredited by TAF, Laboratory Code 3398. The full scope of accreditation can be viewed at http://accreditation.taftw.org.tw/taf/public/basic/viewApplyItems.action?unitNo=3398

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5. Measurement Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor $k=2$.

Test Item	Measurement Frequency Range	K	U(dB)
Conducted disturbance at mains terminals ports	0.15 MHz ~ 30 MHz	2	2.6
RF Conducted	9 kHz - 40 GHz	2	1.0
Radiated disturbance below 30 MHz	9 kHz - 30 MHz	2	2.4
Radiated disturbance below 1 GHz	30 MHz ~ 1 GHz	2	5.5
Radiated disturbance above 1GHz	1 GHz ~ 40 GHz	2	5.0



6. Equipment under Test

6.1. Description of EUT

Product Name	Dual-band WiFi Module
Brand Name	Sunrise
Model Name	FB00000
Radio Technology and Operating Frequency	IEEE 802.11b: 2412 MHz - 2462 MHz IEEE 802.11g: 2412 MHz - 2462 MHz IEEE 802.11n HT20: 2412 MHz - 2462 MHz
Modulation	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Beamforming Function	Without beamforming
Power Supply	DC 3.2~4.5 V
Hardware Version	N/A
Software Version	N/A

6.2. Maximum Output Power

Frequency Range (MHz)	Number of Transmit ANT's (NTX)	IEE Std. 802.11	Channel Number	Max Output Power (dBm)
2412-2462	1	b	1-11[11]	16.66
2412-2462	1	g	1-11[11]	23.33
2412-2462	1	n HT20	1-11[11]	23.15



6.3. Channel List

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

6.4. Test Condition

Test Item	Test Site No.	Relative Humidity	Temperature	Voltage	Test Engineer
Antenna Port Conducted Measurement	SR4	55%	22°C	120 Vac/60 Hz	WaterNil Guan
Radiated Spurious Emission	966-1	52%	25°C	120 Vac/60 Hz	WaterNil Guan
AC power Line Conducted Emission	SR1	54%	26°C	120 Vac/60 Hz	WaterNil Guan

FCC Test Firm Registration Number: 498077.

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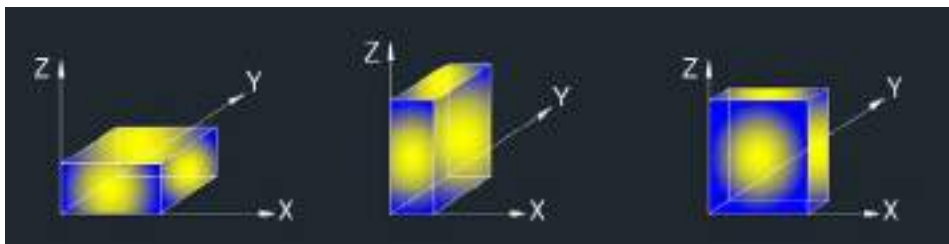
6.5. Description Of Available Antennas

Antenna	Brand Name	Model Name	Antenna Type	Connector Type	Antenna Gain(dBi)
Chain(0)	Shenzhen Xiangboyi Technology Co. Ltd	XBY20170262 (L=220MM)	PCB Antenna	IPEX I	2

6.6. Operating Mode and Worst Case of EUT

For below 1GHz radiated emission, above 18 GHz radiated emission and AC power line conducted emission and were performed with the EUT set to transmit at the channel with highest output power as worst-case.

X axis, Y axis, Z axis positions:



The fundamental of the EUT's antenna was investigated in three orthogonal axes X/Y/Z, it was determined that Y axis was worst-case . Therefore, all final radiated testing was performed with the EUT's antenna in Y axis.

Final test mode of conducted test items and radiated spurious emission are considering the modulation and worse data rates as below:

802.11b mode: 1 Mbps

802.11g mode: 6 Mbps

802.11n HT20 mode: MCS0

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7. Test Equipment

Test Equipment List					
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
Radiated Spurious Emission					
Spectrum Analyzer	Keysight	N9010A	MY56070821	Nov. 28, 2017	1 year
Loop Antenna	ETS lindgren	6502	00213440	Dec. 7, 2017	1 year
Trilog-Broadband Antenna with 5dB Attenuator	Schwarzbeck & EMCI	VULB 9168 & N-6-05	VULB 9168-773 & AT-N0539	Feb. 12, 2018	1 year
Horn Antenna (1-18 GHz)	Schwarzbeck	BBHA 9120 D	BBHA 9120D-01686	Jan. 23, 2018	1 year
Horn Antenna(18-40 GHz)	Schwarzbeck	BBHA 9170	BBHA9170750	Jan.12, 2018	1 year
Preamplifier (30-1000 MHz)	EMCI	RMC330E	980404	Jan. 9, 2018	1 year
Preamplifier (1-18 GHz)	EMCI	EMC051835B E	980407	Jan. 10, 2018	1 year
Preamplifier (18-40GHz)	EMCI	EMC184040S EE	980408	Mar. 13, 2018	1 year
RF Cable (9 KHZ~18 GHz)	UltraPhase & EMC Instrument	A1K50-UP0358-A1K50-1500&EMC106-NM-SM-2500/8000	170111-3&170104/170223	Feb. 1, 2018	1 year
RF Cable (18 GHz~40 GHz)	UltraPhase	K1K50-UP0264-K1K50-500/2500/4000	170214-3/170214-3/170214-1	Feb. 1, 2018	1 year

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Test Equipment List					
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
Antenna Port Conducted Measurement					
Spectrum Analyzer	Keysight	N9010A	MY56070834	Nov. 20, 2017	1 year
Power meter	Anrisu	MA2411B	1531202	Dec. 14, 2017	1 year
Power sensor	Anrisu	ML2495A	1645002	Dec. 14, 2017	1 year
AC power Line Conducted Emission					
EMI Test Receiver	Rohde & Schwarz	ESR7	101753	Nov. 28, 2017	1 year
Two-Line V-Network	Rohde & Schwarz	ENV216	102136	Aug. 2, 2017	1 year
Impuls-Begrenzer Pulse Limiter	Rohde & Schwarz	ESH3-Z2	102219-Qt	July 31, 2017	1 year
Cables	Huber+Suhner	RG 214/U	FCC-BCICF-4_RF	Feb. 1, 2018	1 year
UL Software					
Description			Name		Version
Radiated measurement			EMC-RI		1.0.0.0
Conducted measurement			Keysight.TestSystem		1.0.0.0
AC power Line Conducted Emission			EZ_EMC		1.1.4.2

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8. Description of Test Setup

Support Equipment

Item	Equipment	Brand Name	Model Name	P/N
1	N/A	N/A	N/A	N/A

Accessory

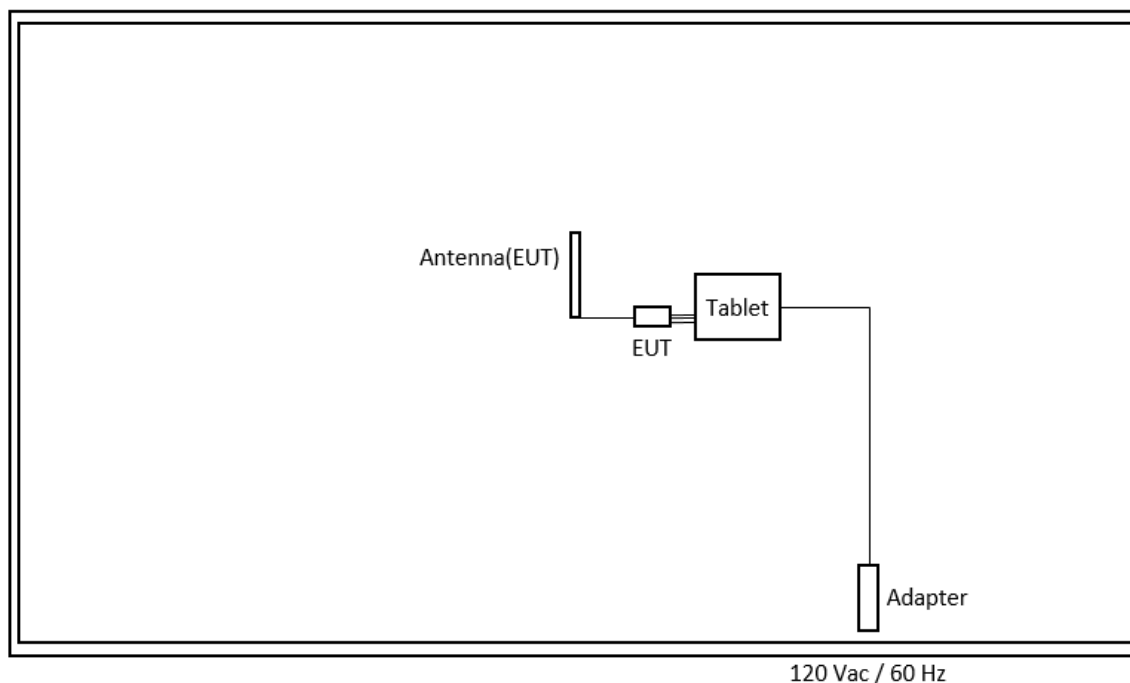
Item	Accessory	Brand Name	Model Name	Description
1	Tablet	N/A	N/A	N/A
2	Adapter	N/A	N/A	N/A

Note: The accessory that is test tools are prepared by client.

Test Setup

The EUT was worked in engineering mode with a software through a Tablet.

Setup Diagram for Test



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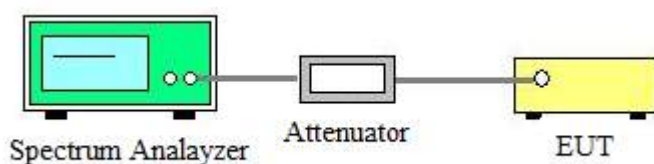
9. Test Result

9.1. Duty Cycle

Requirements

N/A

Test Setup



Test Data

Mode	On Time (ms)	Period (ms)	Duty Cycle x (Linear)	Duty cycle (%)	Duty cycle Correction Factor (dB)	1/B Min VBW (kHz)
802.11b	1	1	1	100.00%	0.00	0.010
802.11g	1.394	1.435	0.9714	97.14%	0.13	0.717
802.11n HT20	1.304	1.345	0.9695	96.95%	0.13	0.767

Note: Duty Cycle Correction Factor = $10 \times \log(1/x)$.

Where: x is Duty Cycle (Linear) Where: B is On Time

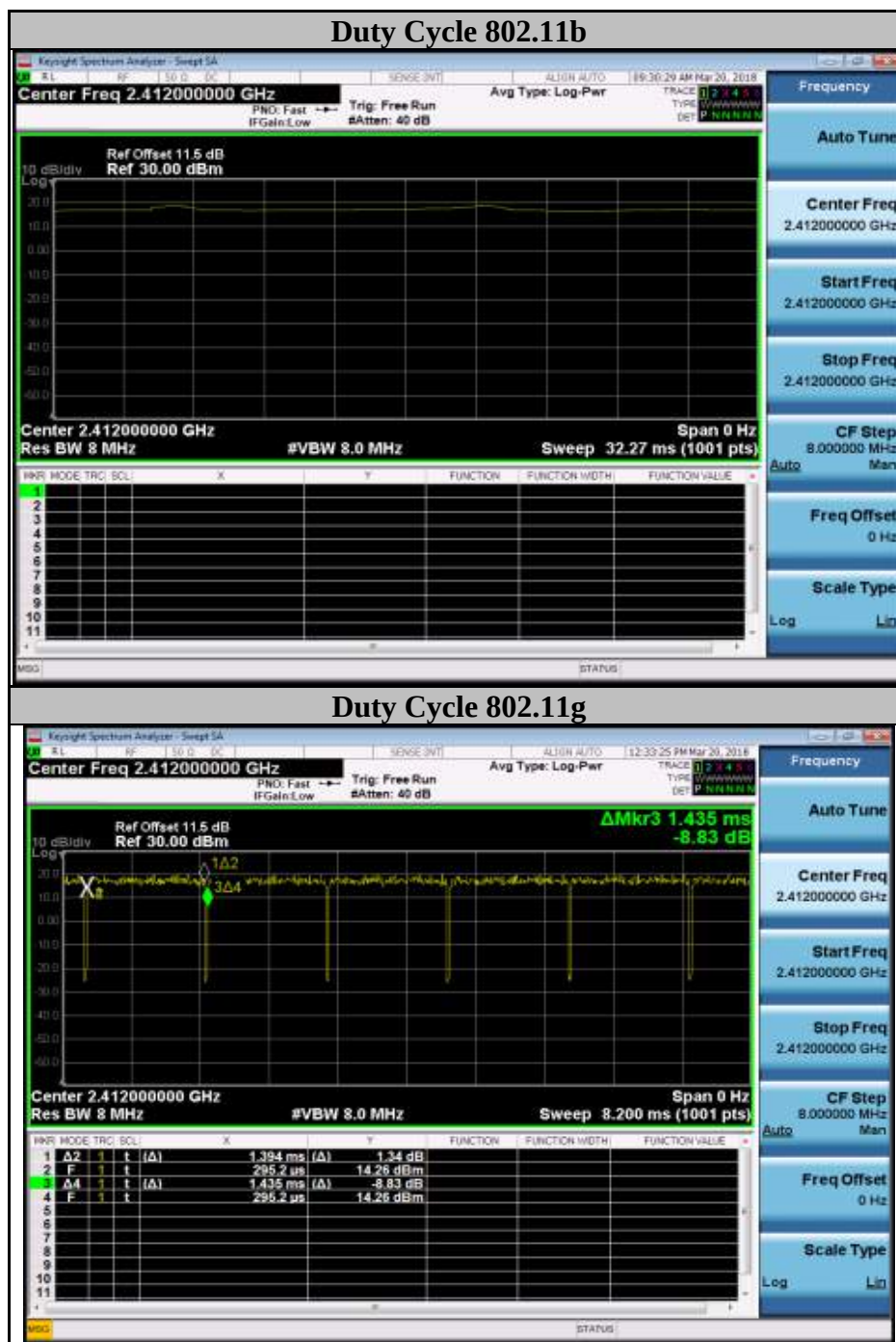
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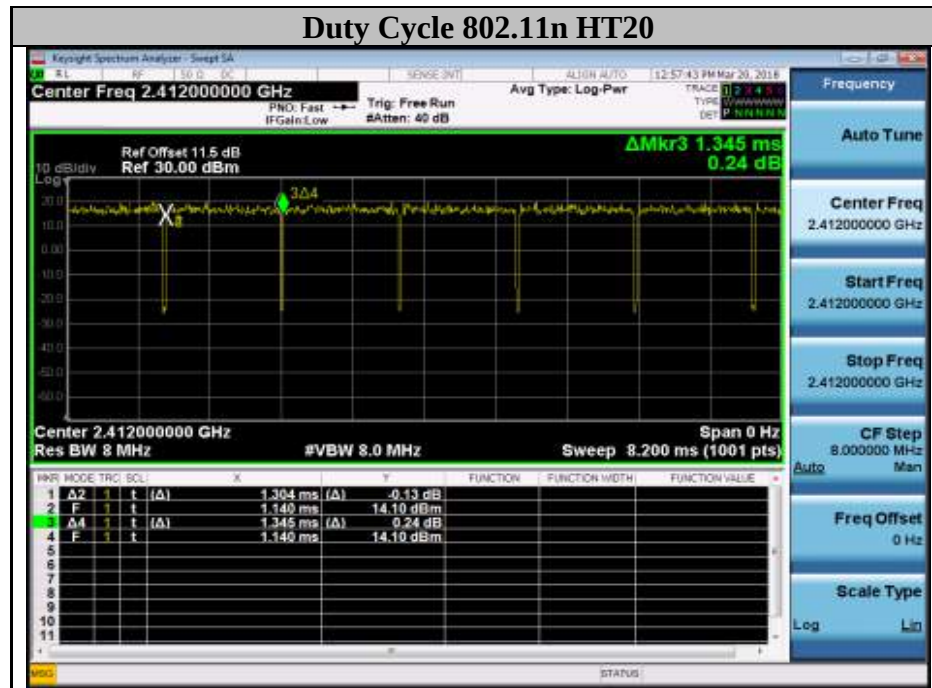
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9.2.6 dB Bandwidth and 99% Bandwidth

Requirements

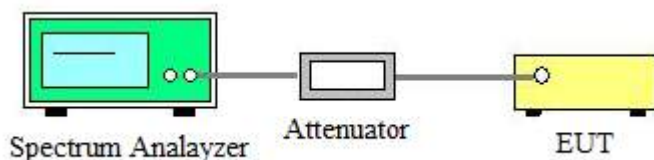
The minimum 6 dB bandwidth shall be at least 500 kHz.

Test procedure

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	For 6dB Bandwidth : 100 KHz For 99% Bandwidth : 1% to 5% of the occupied bandwidth
VBW	For 6dB Bandwidth : $\geq 3 \times \text{RBW}$ For 99% Bandwidth : approximately $3 \times \text{RBW}$
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



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Test Data

Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Pass/Fail
802.11b	1	2412	9.06	≥ 0.5	Pass
	6	2437	9.06	≥ 0.5	Pass
	11	2462	9.03	≥ 0.5	Pass
802.11g	1	2412	16.02	≥ 0.5	Pass
	6	2437	16.26	≥ 0.5	Pass
	11	2462	16.29	≥ 0.5	Pass
802.11n HT20	1	2412	16.96	≥ 0.5	Pass
	6	2437	17.04	≥ 0.5	Pass
	11	2462	17.28	≥ 0.5	Pass

Mode	Channel	Frequency (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Pass/Fail
802.11b	1	2412	11.995	N/A	Pass
	6	2437	11.976	N/A	Pass
	11	2462	11.970	N/A	Pass
802.11g	1	2412	17.013	N/A	Pass
	6	2437	16.970	N/A	Pass
	11	2462	17.034	N/A	Pass
802.11n HT20	1	2412	18.226	N/A	Pass
	6	2437	18.194	N/A	Pass
	11	2462	18.183	N/A	Pass

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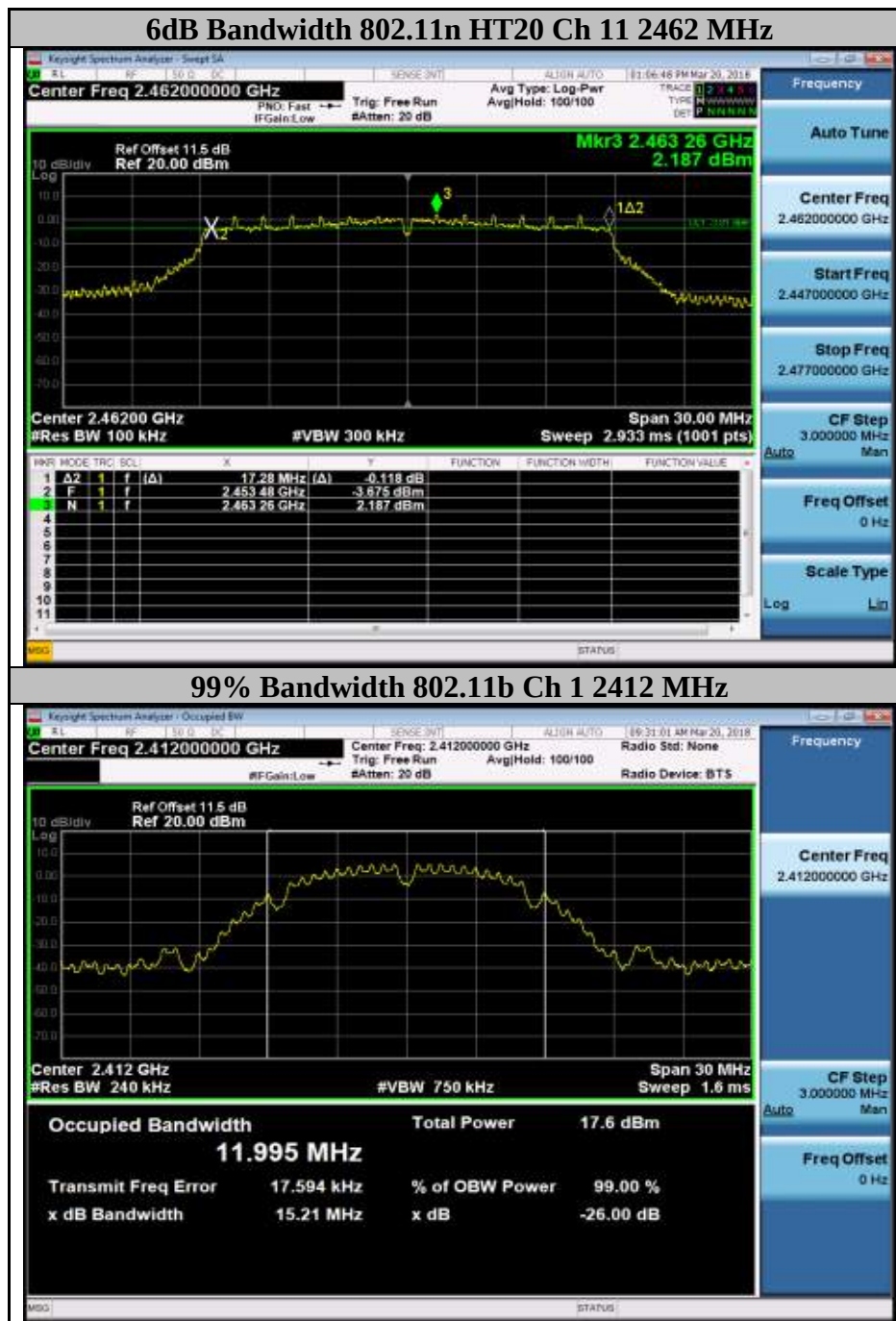
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99% Bandwidth 802.11b Ch 6 2437 MHz



99% Bandwidth 802.11b Ch 11 2462 MHz



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9.3. Maximum conducted output power

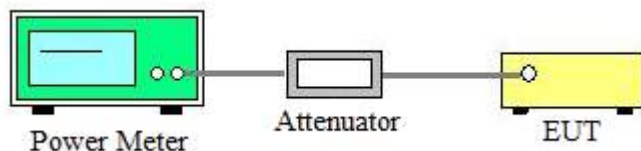
Requirements

For systems using digital modulation in the 2400-2483.5 MHz bands: 1 Watt.

Test Procedure

- To place the EUT on the table and set it in the transmitting mode.
- To remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.
- To measure peak power for each channel

Test Setup





Test Data

Mode	Channel	Frequency (MHz)	Output Power (PK) (dBm)	Total Power (PK) (dBm)	Limit (dBm)	Margin (dB)
802.11b	1	2412	15.96	15.96	30	-14.04
	6	2437	16.16	16.16	30	-13.84
	11	2462	16.66	16.66	30	-13.34
802.11g	1	2412	22.48	22.48	30	-7.52
	6	2437	22.60	22.60	30	-7.4
	11	2462	23.33	23.33	30	-6.67
802.11n HT20	1	2412	22.16	22.16	30	-7.84
	6	2437	22.54	22.54	30	-7.46
	11	2462	23.15	23.15	30	-6.85

Note: Margin (dB) = Total Power (PK) (dBm) - Limit (dBm)

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9.4. Power Spectral Density

Requirements

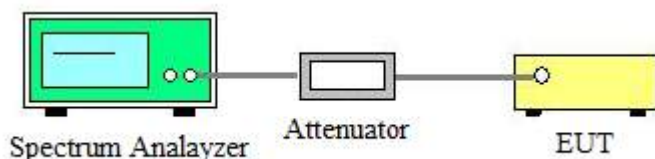
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Test procedure

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

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	$3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
VBW	$\geq 3 \times \text{RBW}$
Span	$1.5 \times \text{DTS bandwidth}$
Trace	Max hold
Sweep Time	Auto couple

Test Setup





Test Data

Mode	Channel	Frequency (MHz)	Total PSD (dBm/3 kHz)	Limit (dBm/ 3 kHz)	Margin (dB)
802.11b	1	2412	-9.316	8	-17.050
	6	2437	-8.722	8	-16.654
	11	2462	-7.320	8	-16.069
802.11g	1	2412	-10.560	8	-18.568
	6	2437	-10.668	8	-17.961
	11	2462	-10.220	8	-17.868
802.11n HT20	1	2412	-10.807	8	-19.245
	6	2437	-10.985	8	-18.717
	11	2462	-10.796	8	-18.542

Note: Margin (dB) = Total PSD (dBm/3 kHz) - Limit (dBm/3 kHz)

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9.5. Out of Band Emission

Requirements

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b) (3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209 (a) is not required.

Test procedure

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

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	$3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
VBW	$\geq 3 \times \text{RBW}$
Span	$1.5 \times \text{DTS bandwidth}$
Trace	Max hold
Sweep Time	Auto couple

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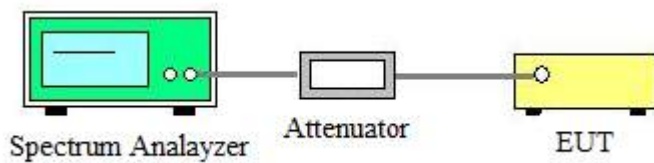


Use the peak marker function to determine the maximum PSD level.

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	100 kHz.
VBW	$\geq 3 \times \text{RBW}$
Span	$1.5 \times \text{DTS bandwidth}$
Trace	Max hold
Sweep Time	Auto couple

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

Test Setup



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Test Data



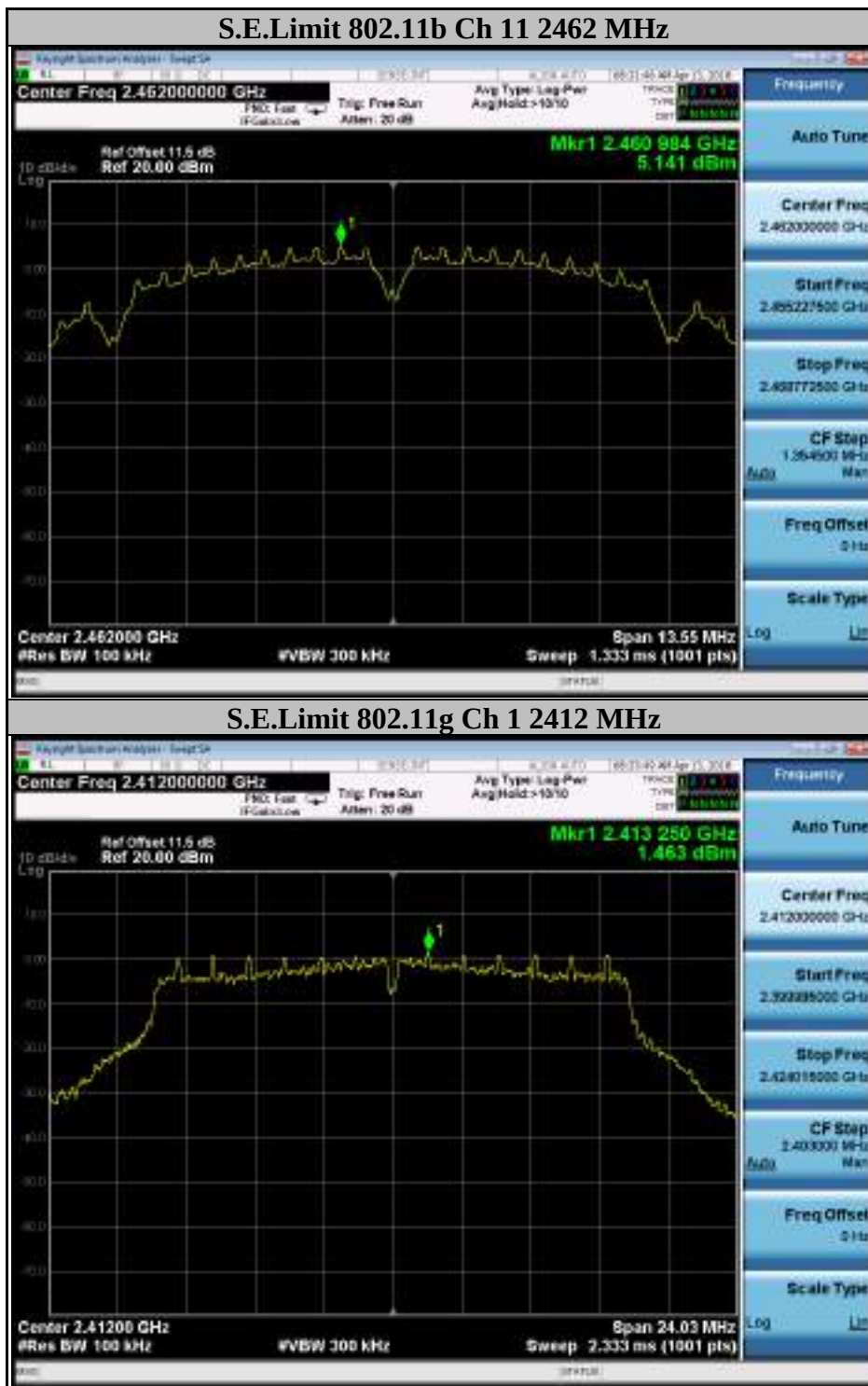
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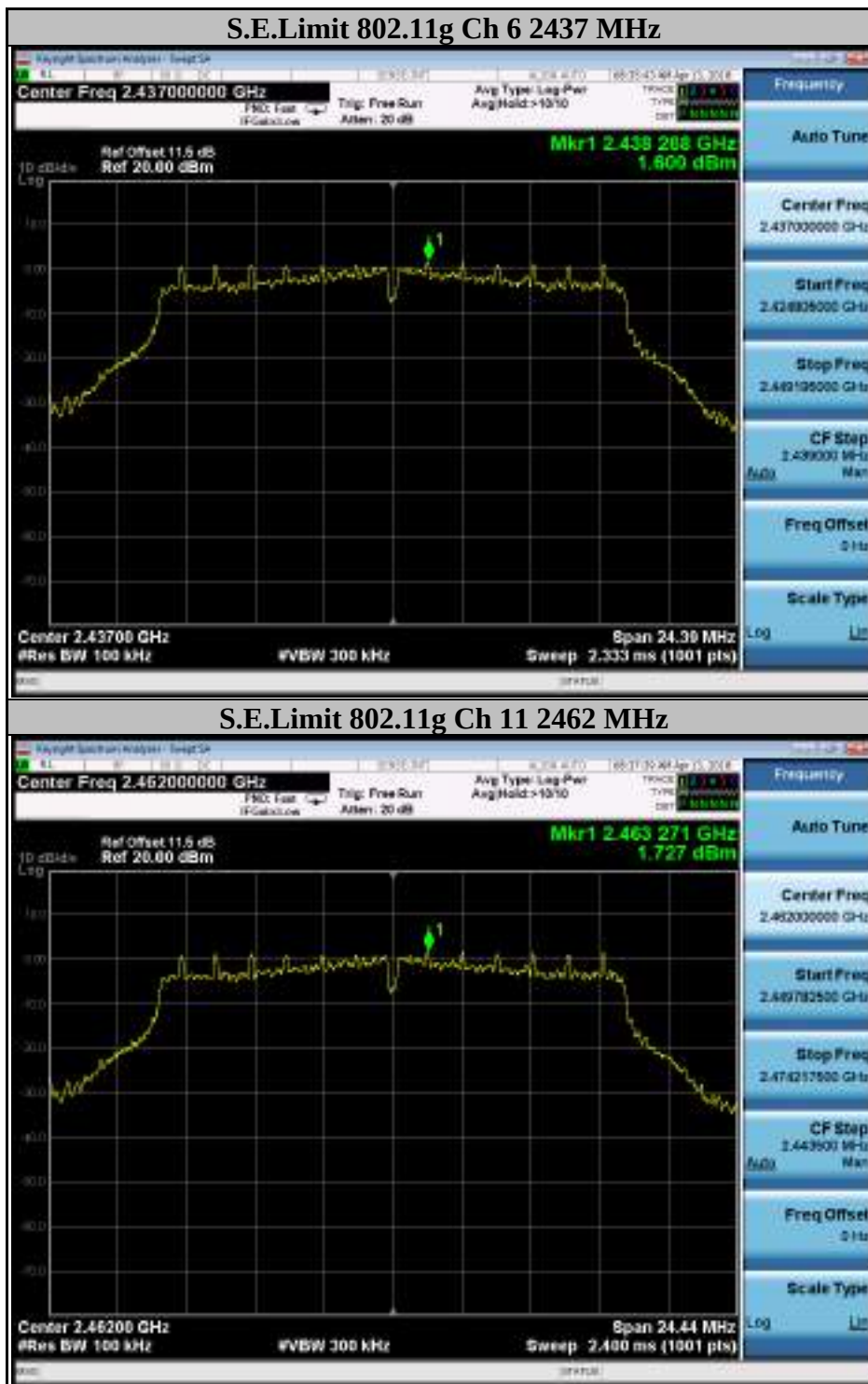
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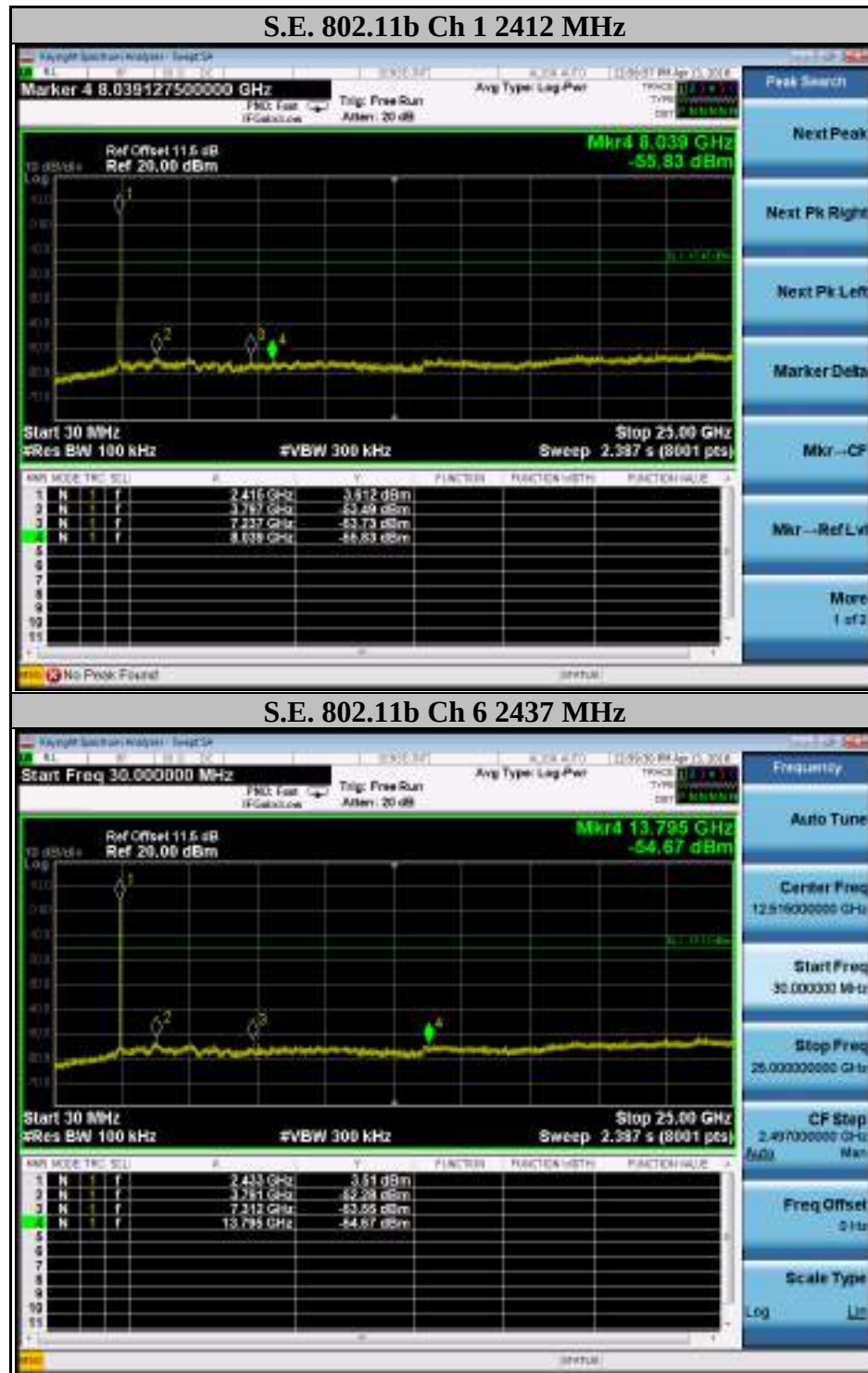
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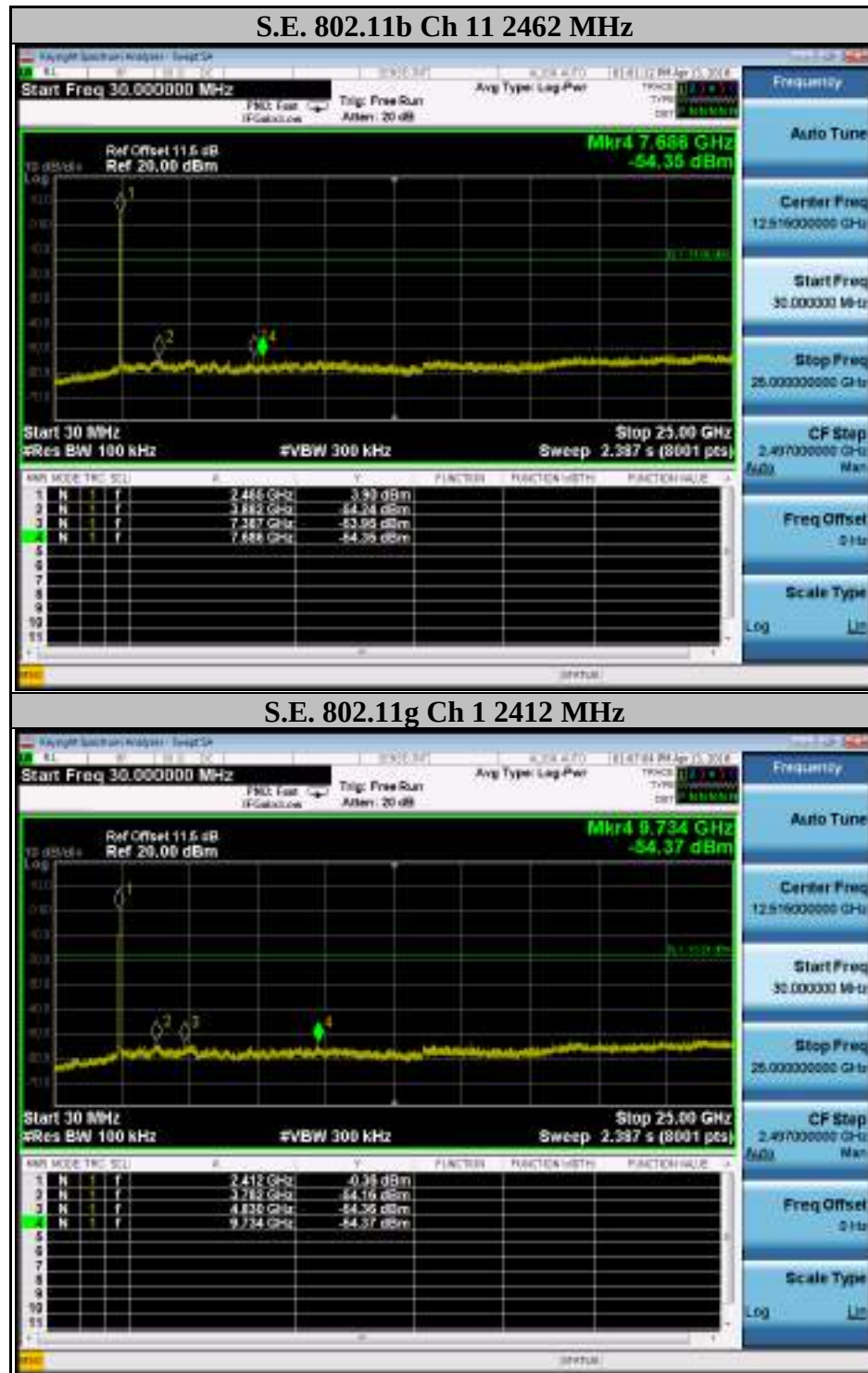
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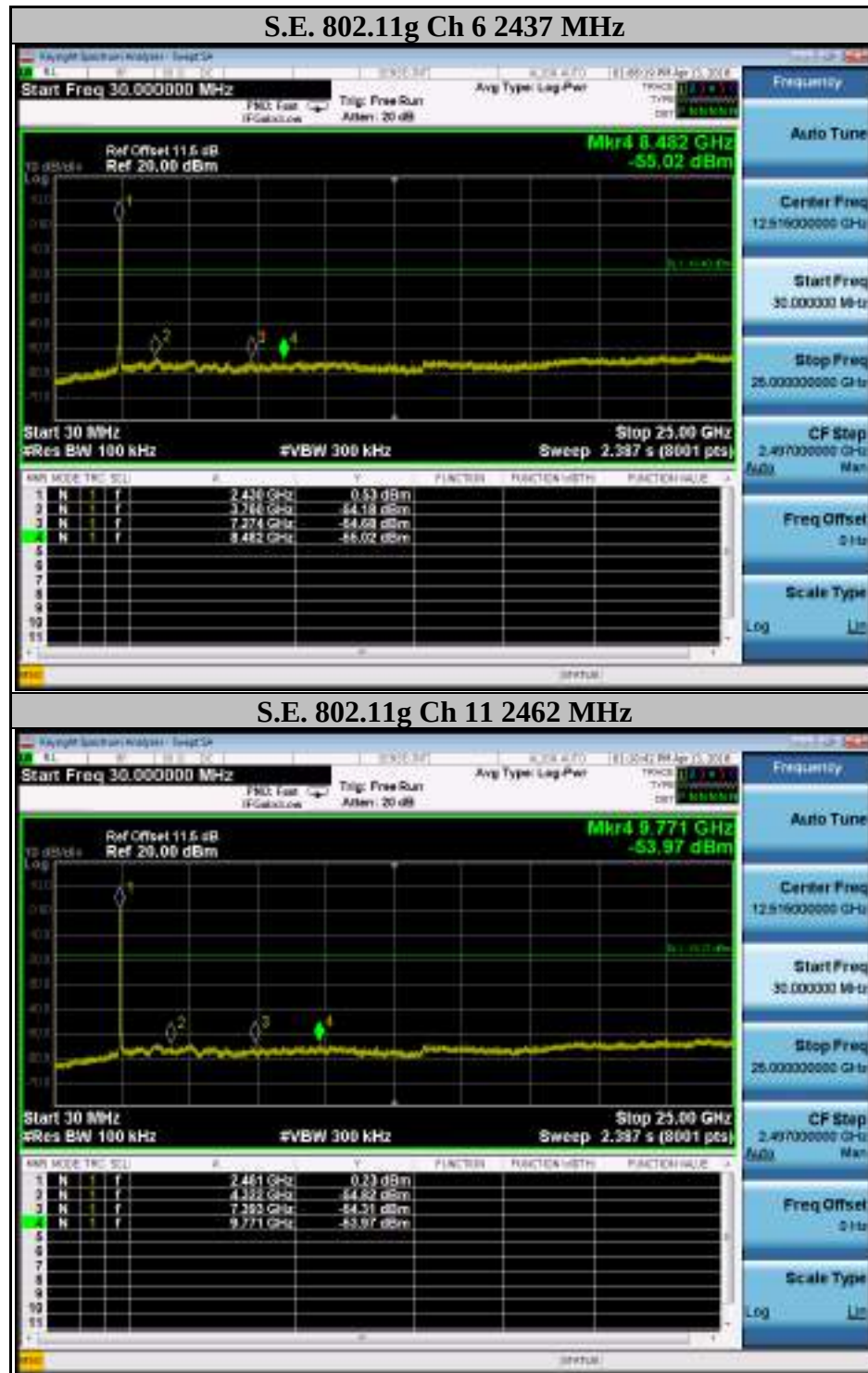
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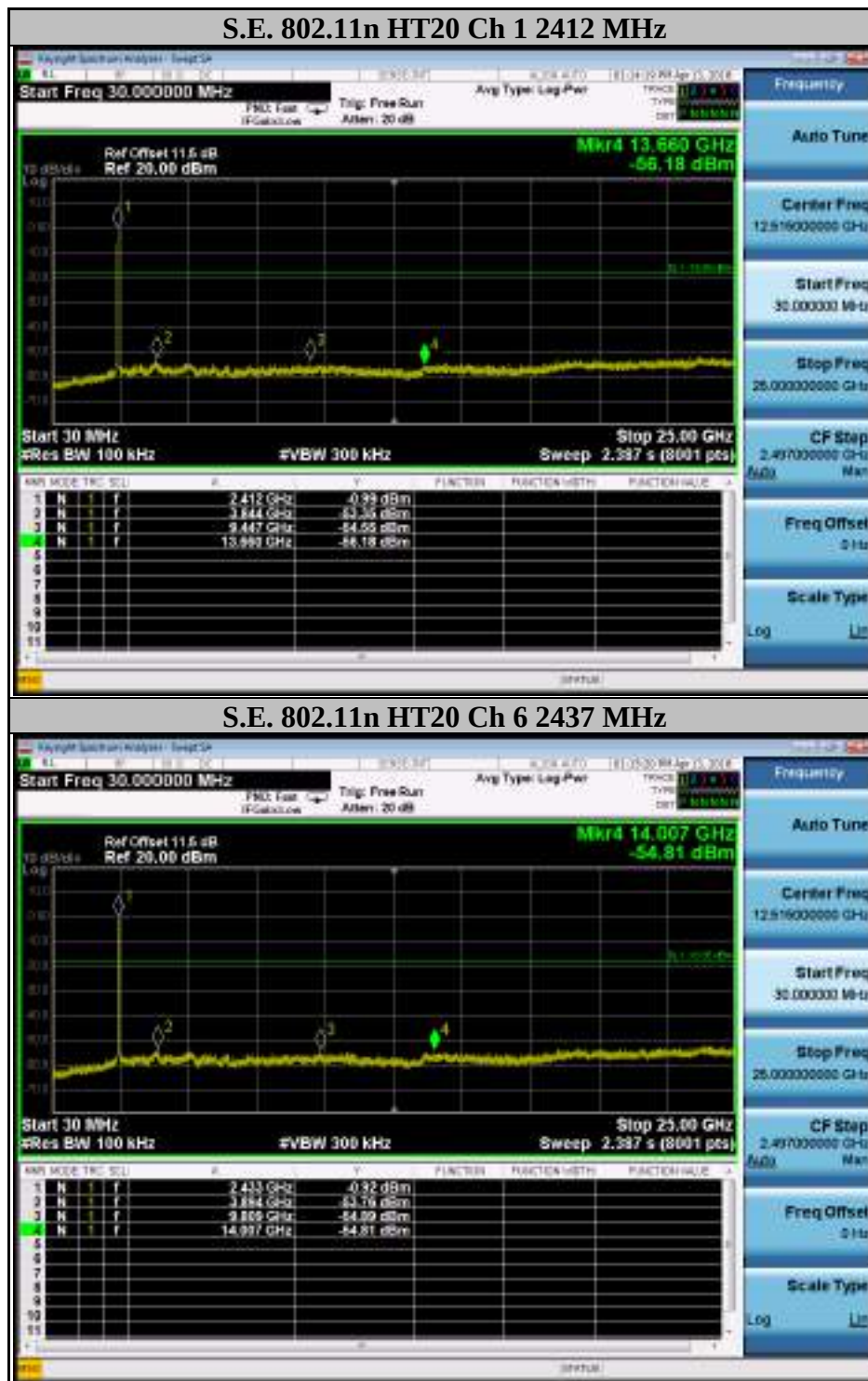
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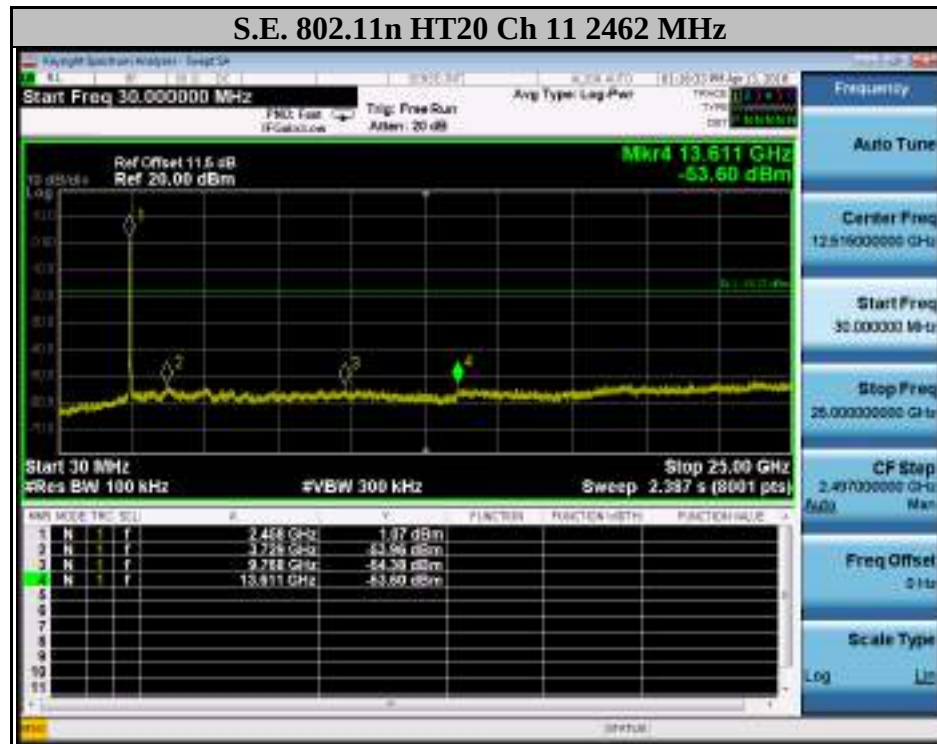
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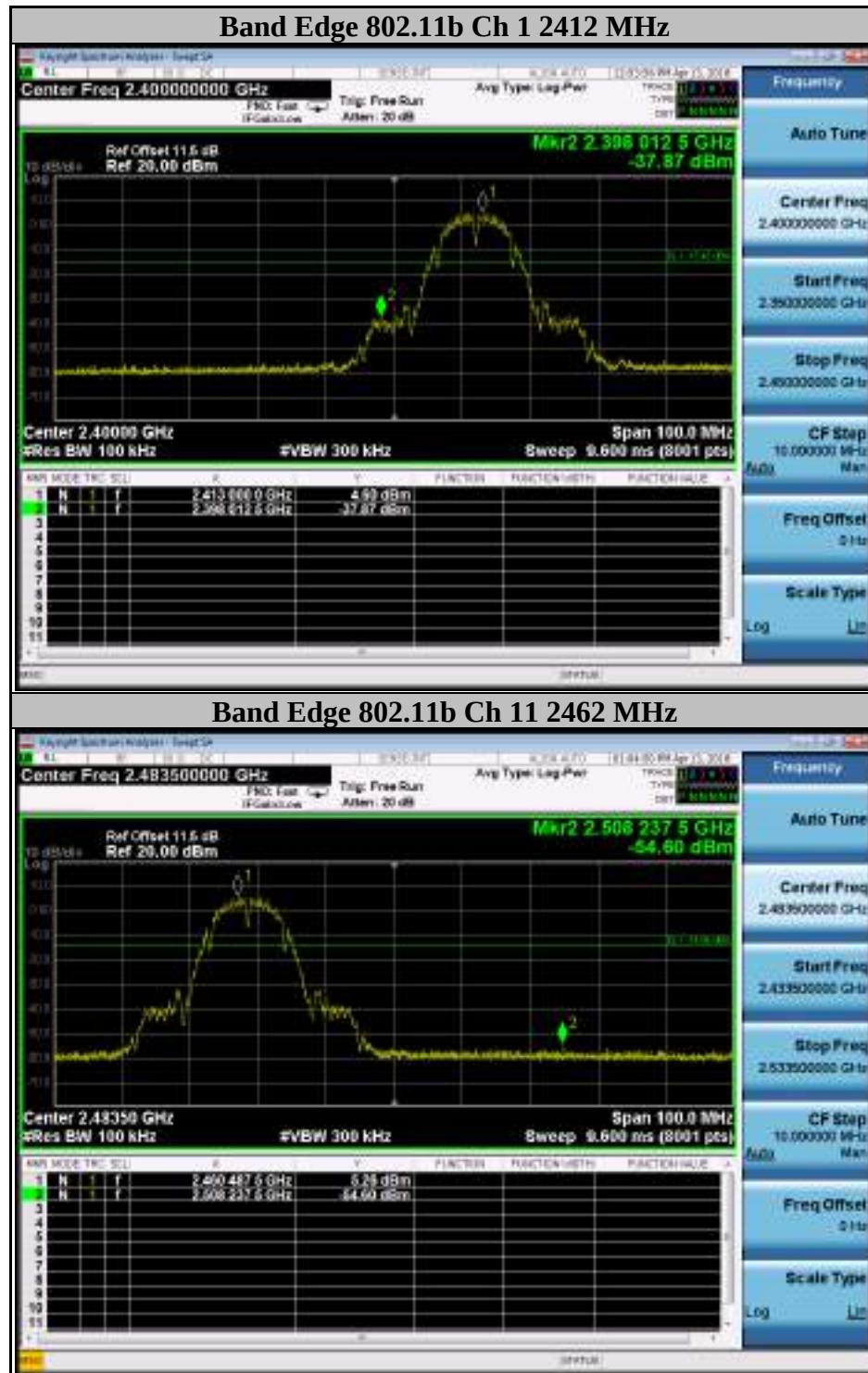
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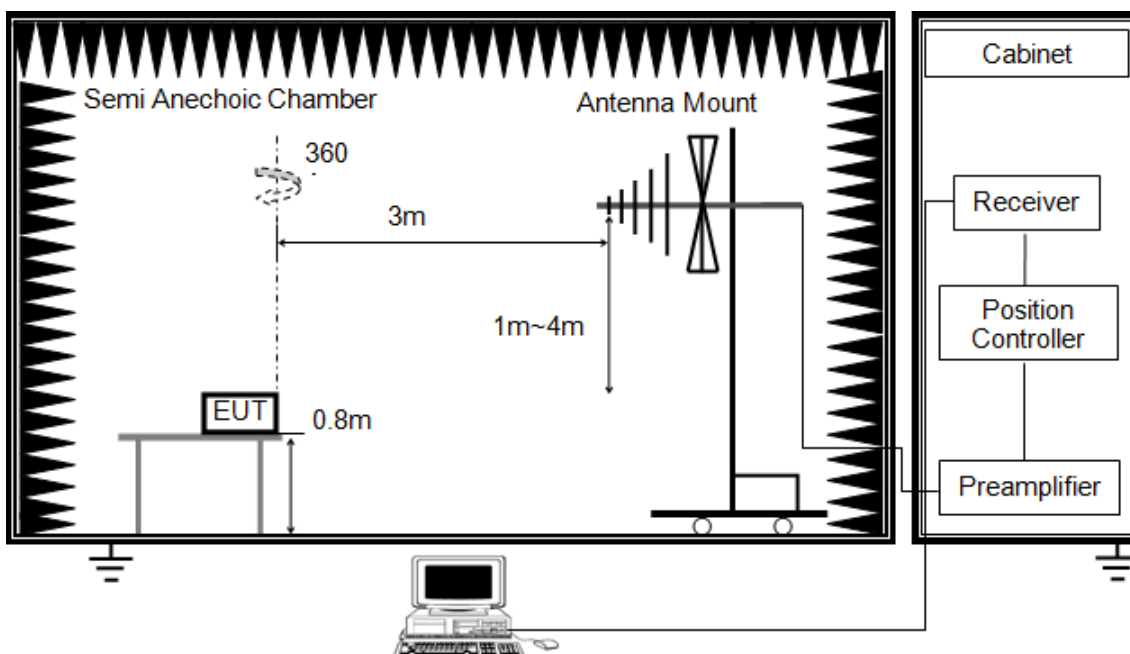
9.6. Radiated Spurious Emission

Requirements

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
Above 960	500	3

Test Procedures

[For below 1 GHz]



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The setting of the spectrum analyzer:

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

- The testing follows the guidelines in ANSI C63.10-2013.
- 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.
- The EUT was placed on a turntable with 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 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.
- For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

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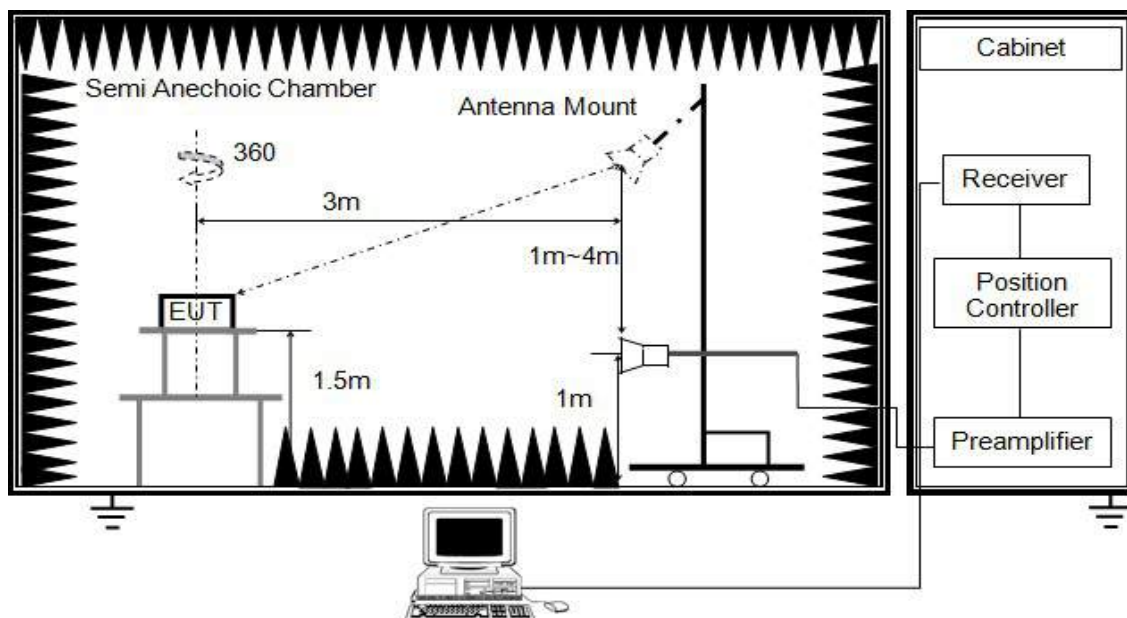
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[For above 1 GHz]



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The setting of the spectrum analyzer:

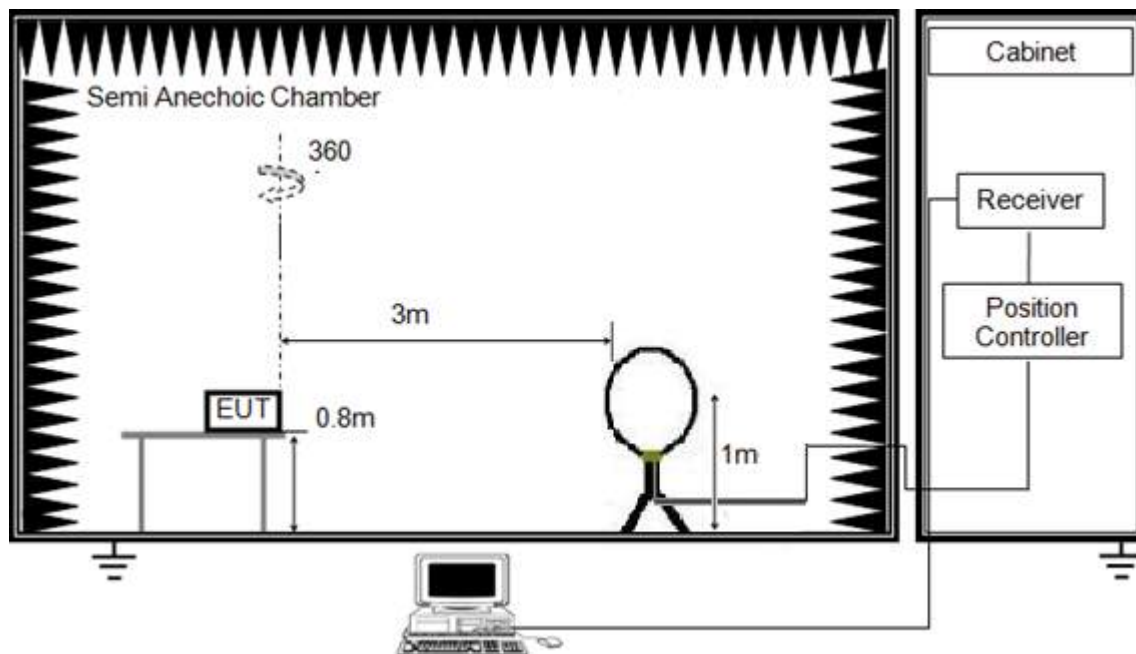
RBW	1 MHz
VBW	PEAK: 3MHz AVG: see note f
Sweep	Auto
Detector	Peak
Trace	Max hold

Note:

- The testing follows the guidelines in ANSI C63.10-2013.
- 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.
- The EUT was placed on a turntable with 1.5m above ground.
- The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 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.
- 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 the Duty Cycle and Correction Factor please refer to clause 9.1. DUTY CYCLE. The EUT is configured to transmit with $D \geq 98\%$, then set $VBW \leq RBW / 100$, but not less than 10 Hz.
- For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)



[For below 30 MHz]



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The setting of the spectrum analyzer

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

Note:

- The testing follows the guidelines in ANSI C63.10-2013
- The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The EUT was placed on a turntable with 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 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.
- For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

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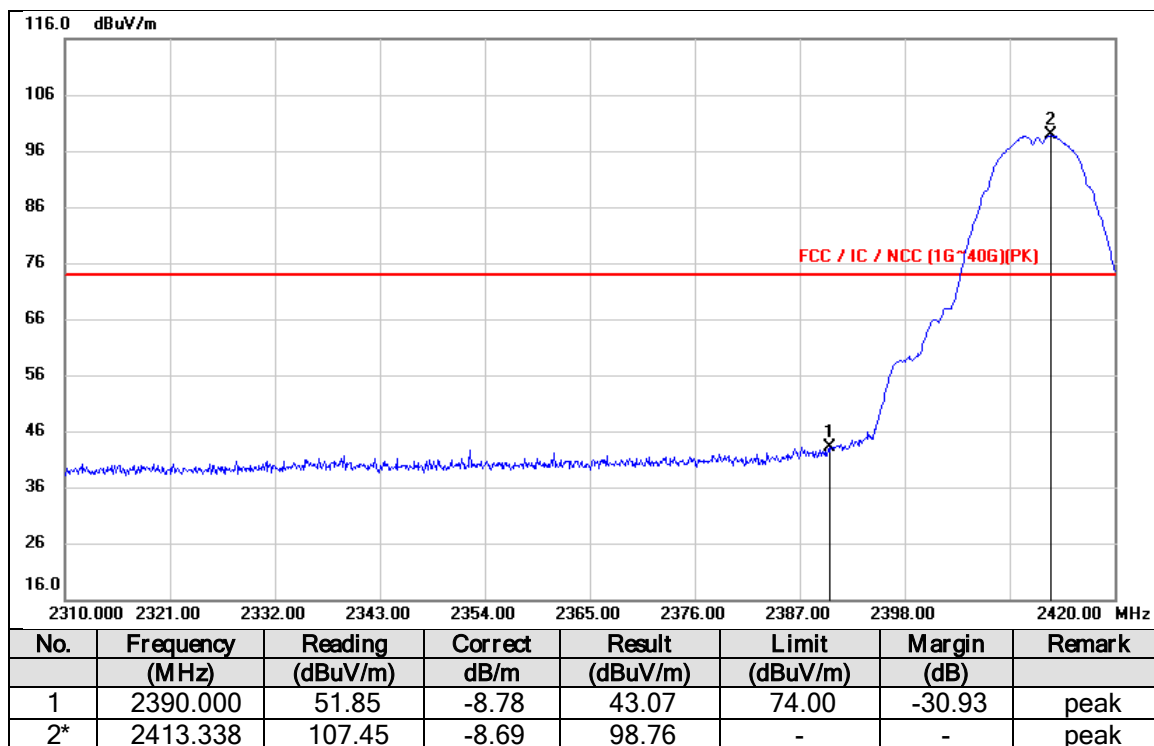
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Test Data

Restricted Band Edge 802.11b Ch 1 2412 MHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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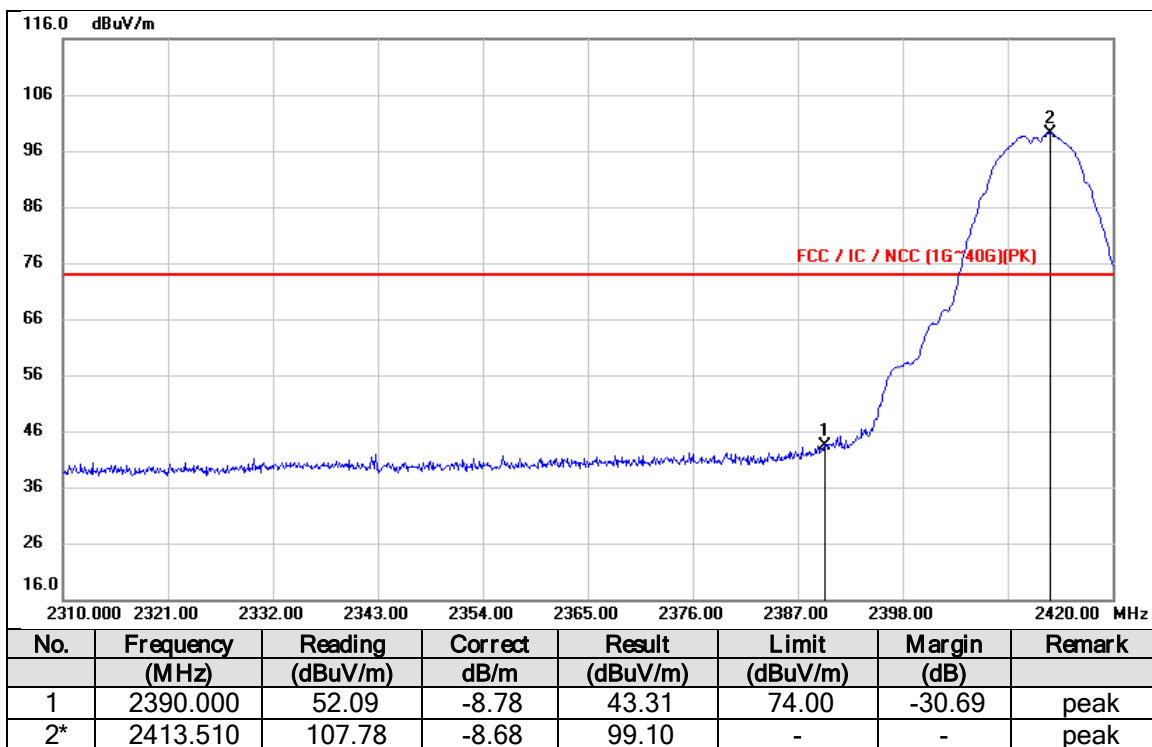
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Restricted Band Edge 802.11b Ch 1 2412 MHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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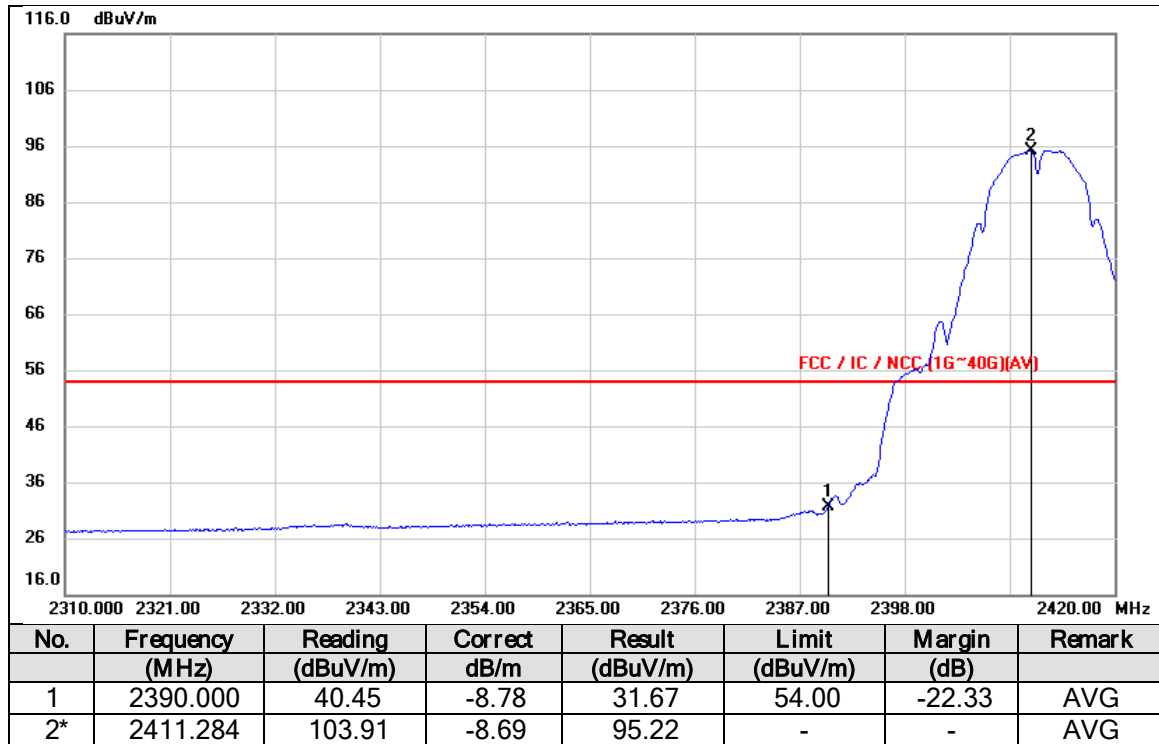
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Restricted Band Edge 802.11b Ch 1 2412 MHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 10 Hz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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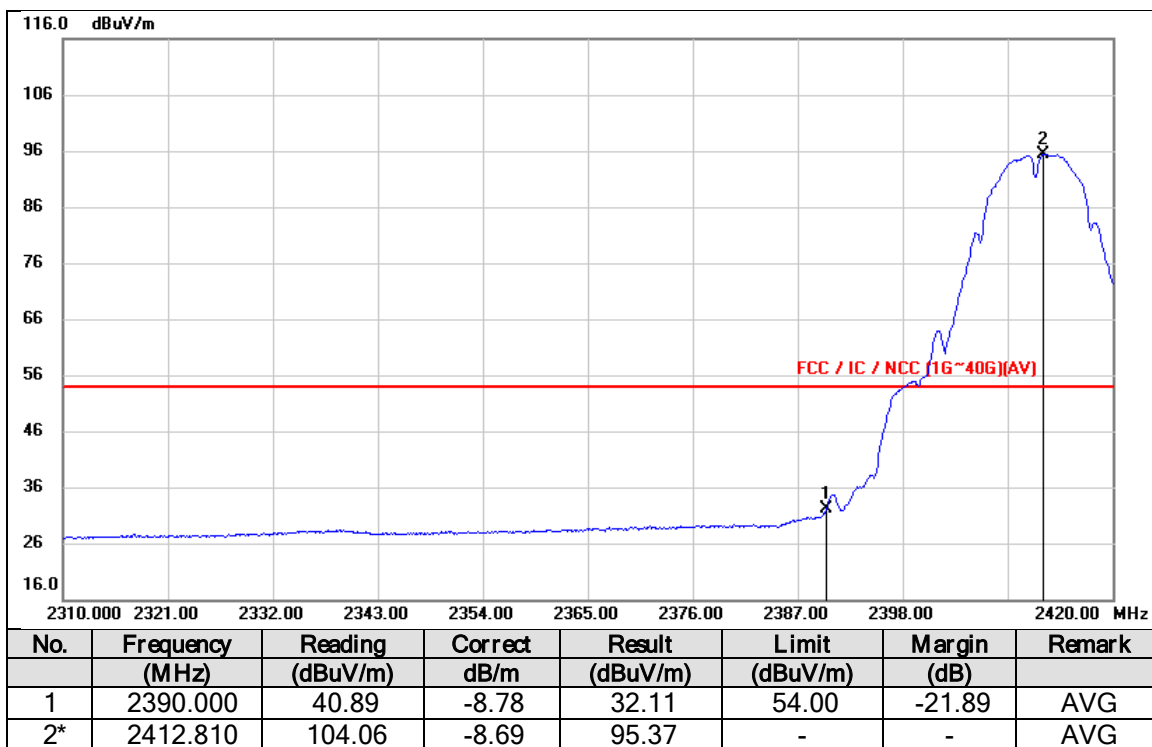
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Restricted Band Edge 802.11b Ch 1 2412 MHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 10 Hz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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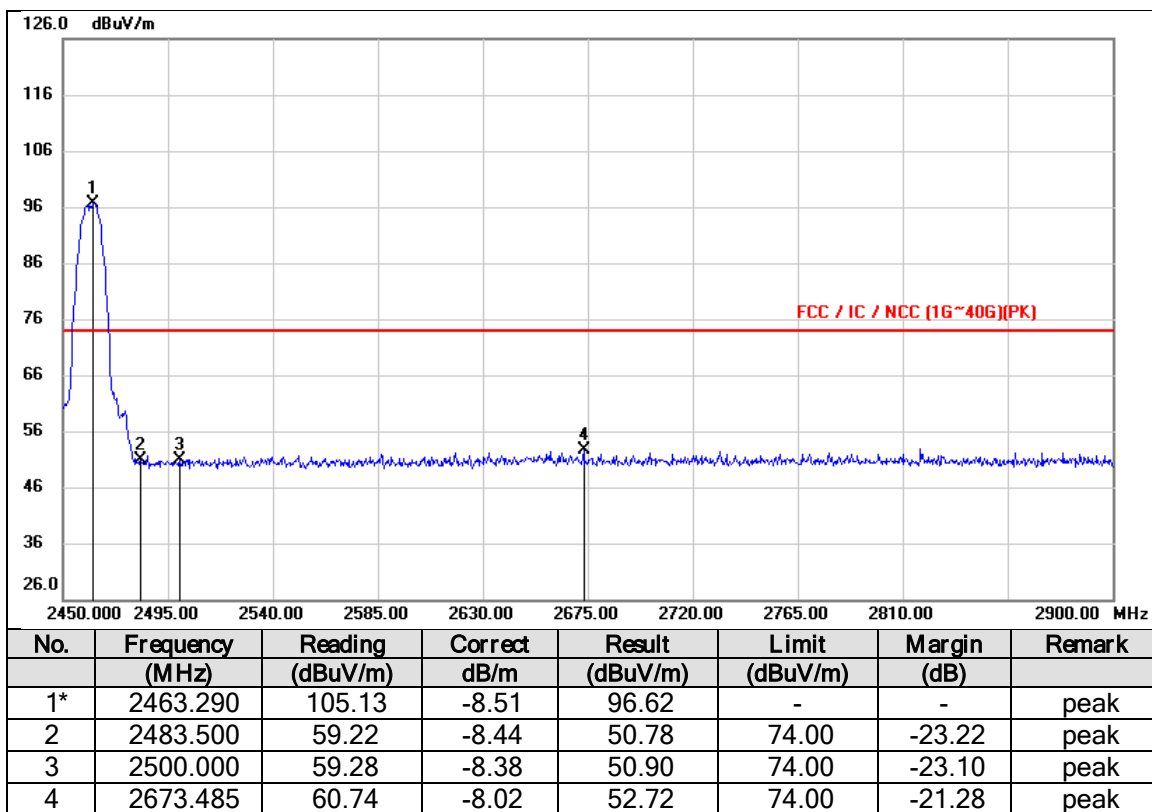
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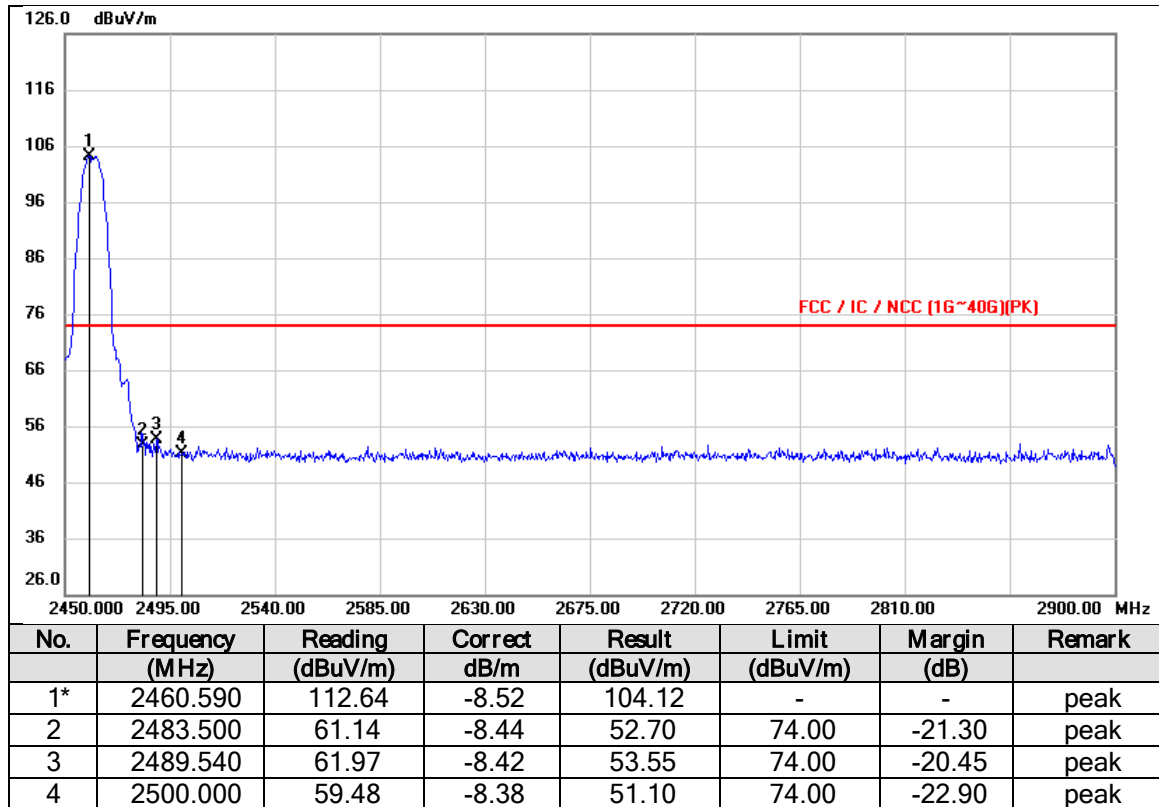


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.



Restricted Band Edge 802.11b Ch 11 2462 MHz Vertical

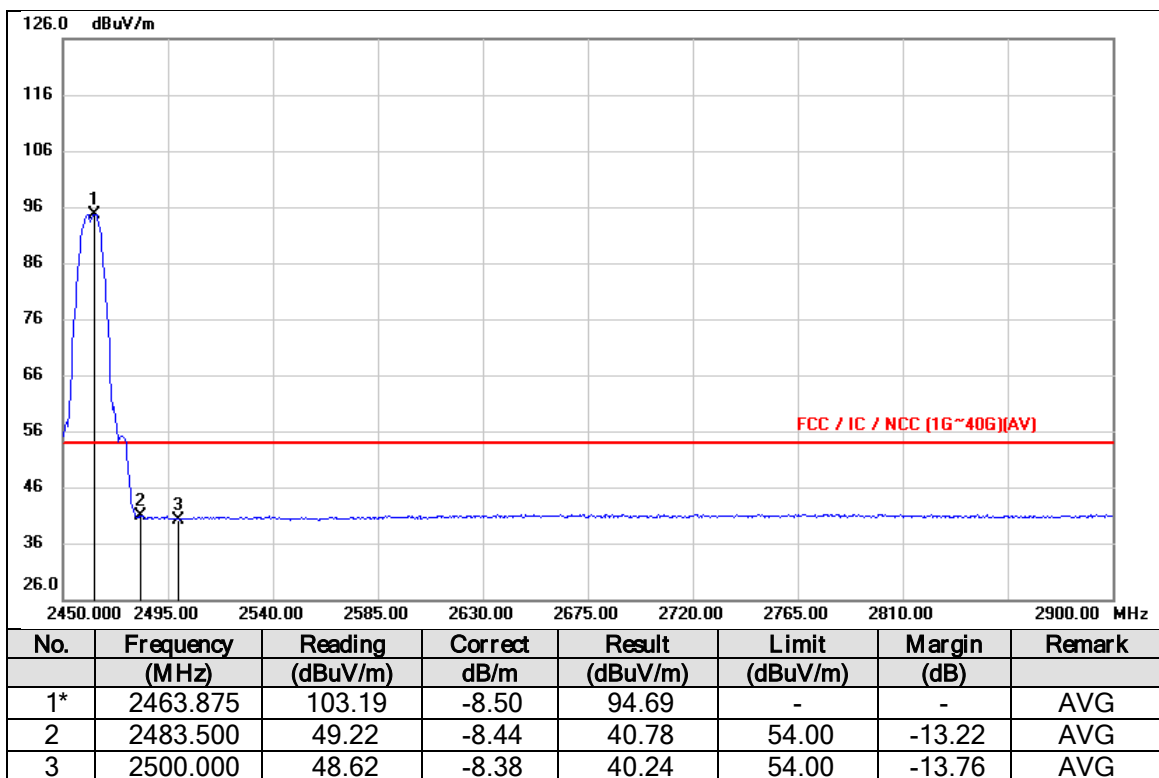


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.



Restricted Band Edge 802.11b Ch 11 2462 MHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 10 Hz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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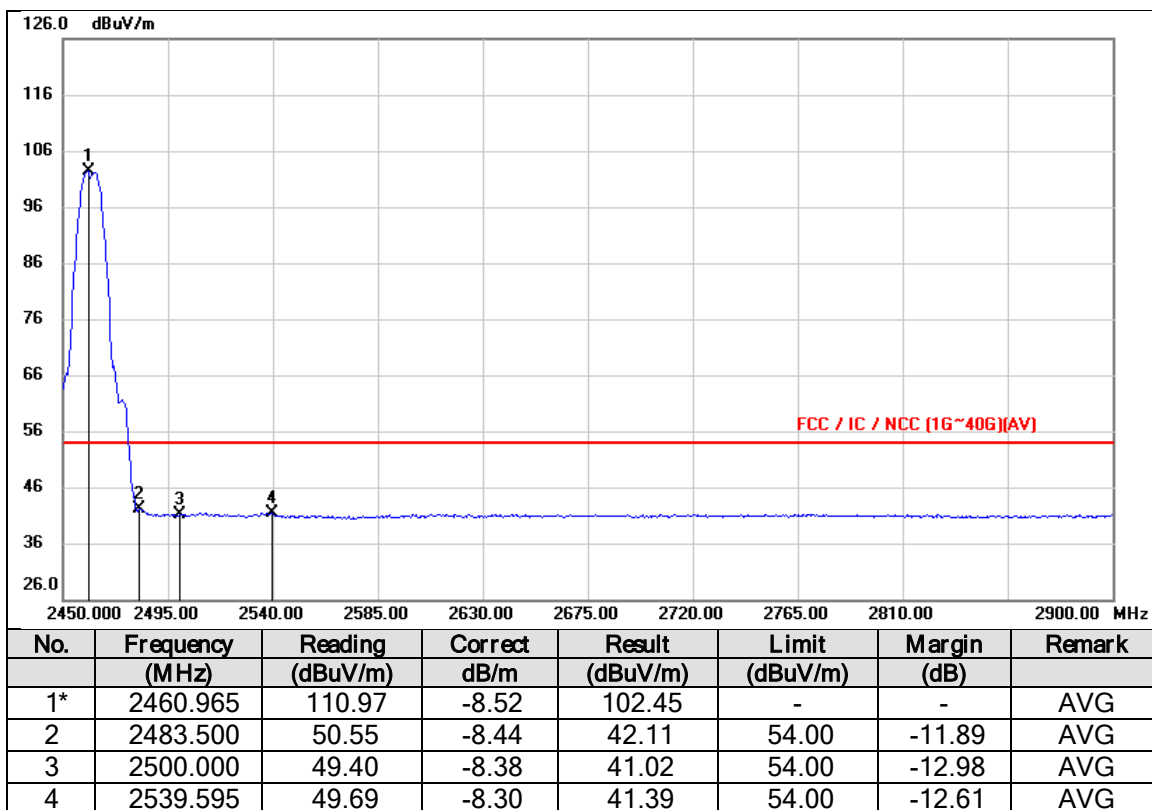
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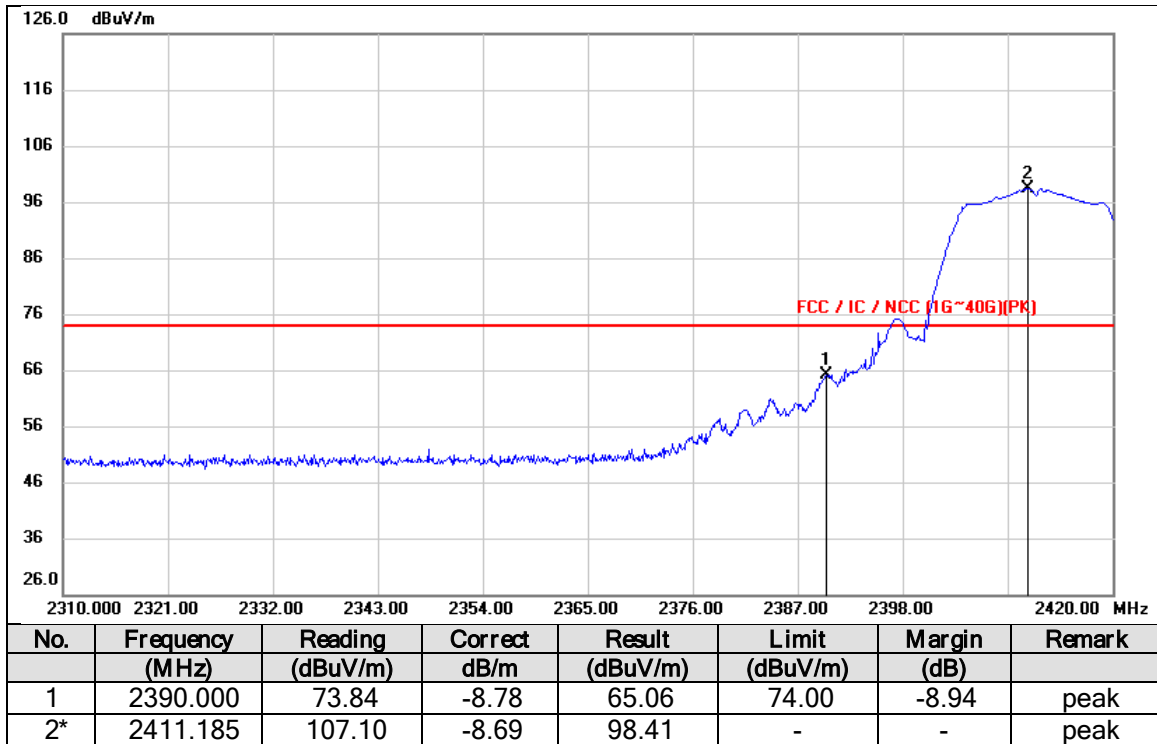


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 10 Hz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.



Restricted Band Edge 802.11g Ch 1 2412 MHz Horizontal

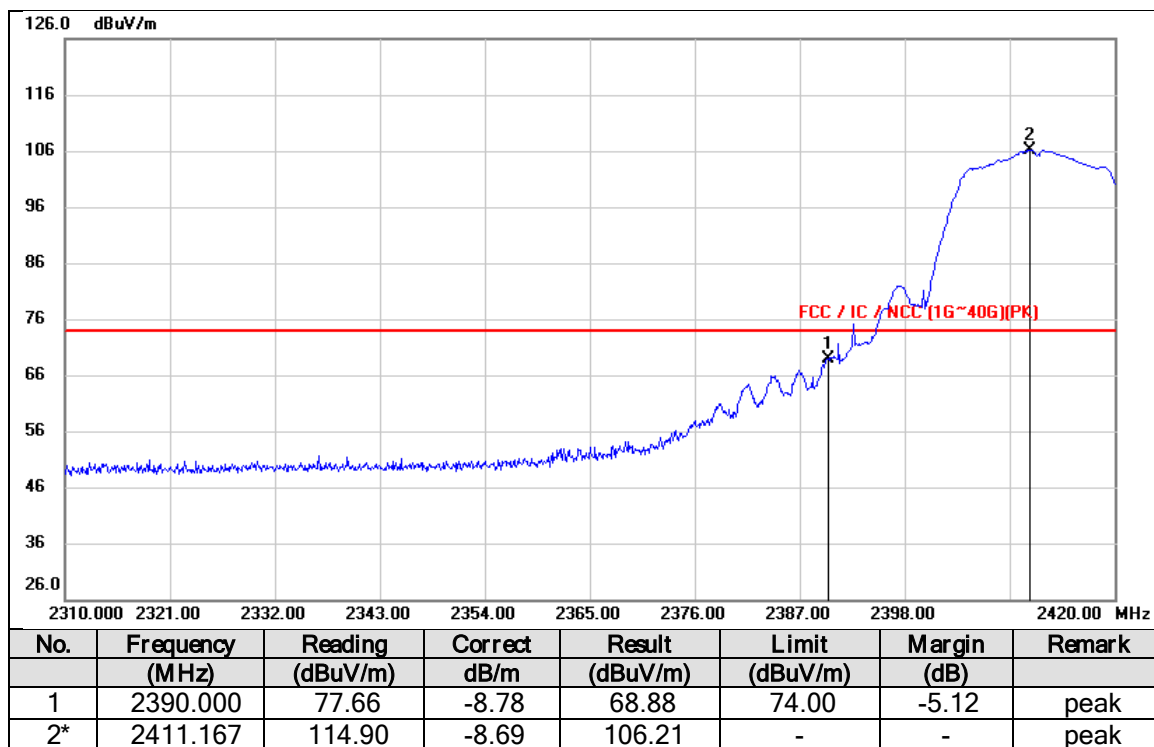


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.



Restricted Band Edge 802.11g Ch 1 2412 MHz Vertical

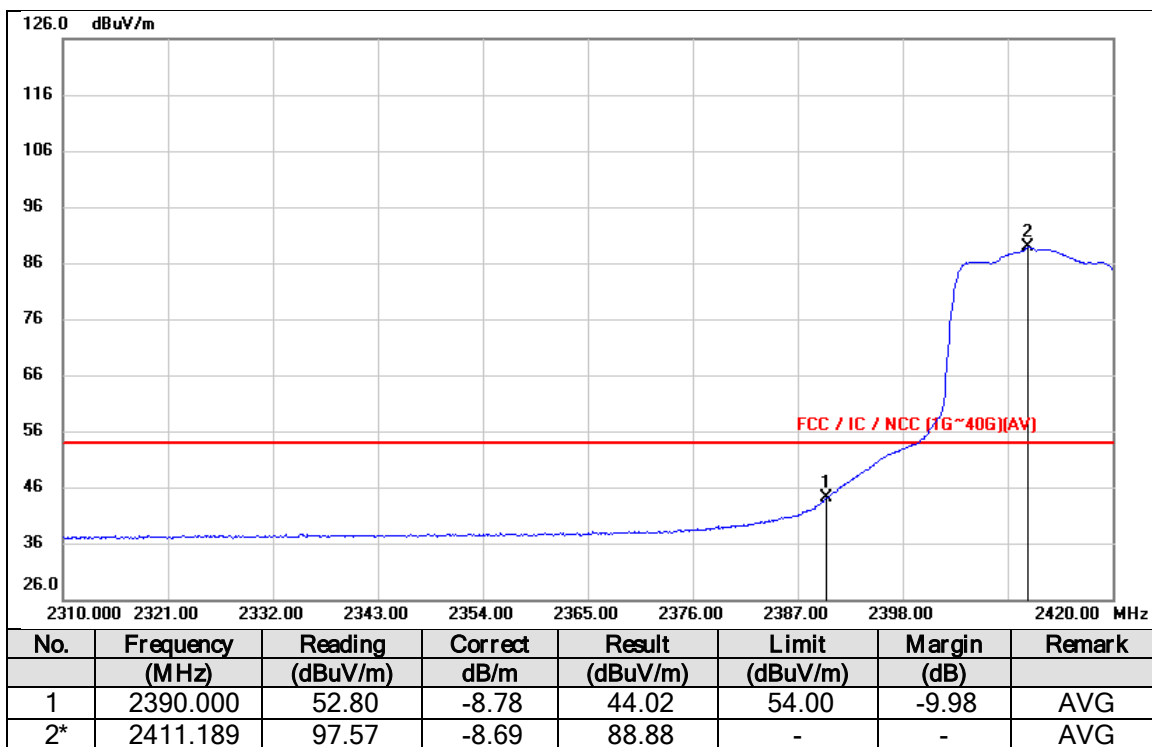


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.



Restricted Band Edge 802.11g Ch 1 2412 MHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 1 kHz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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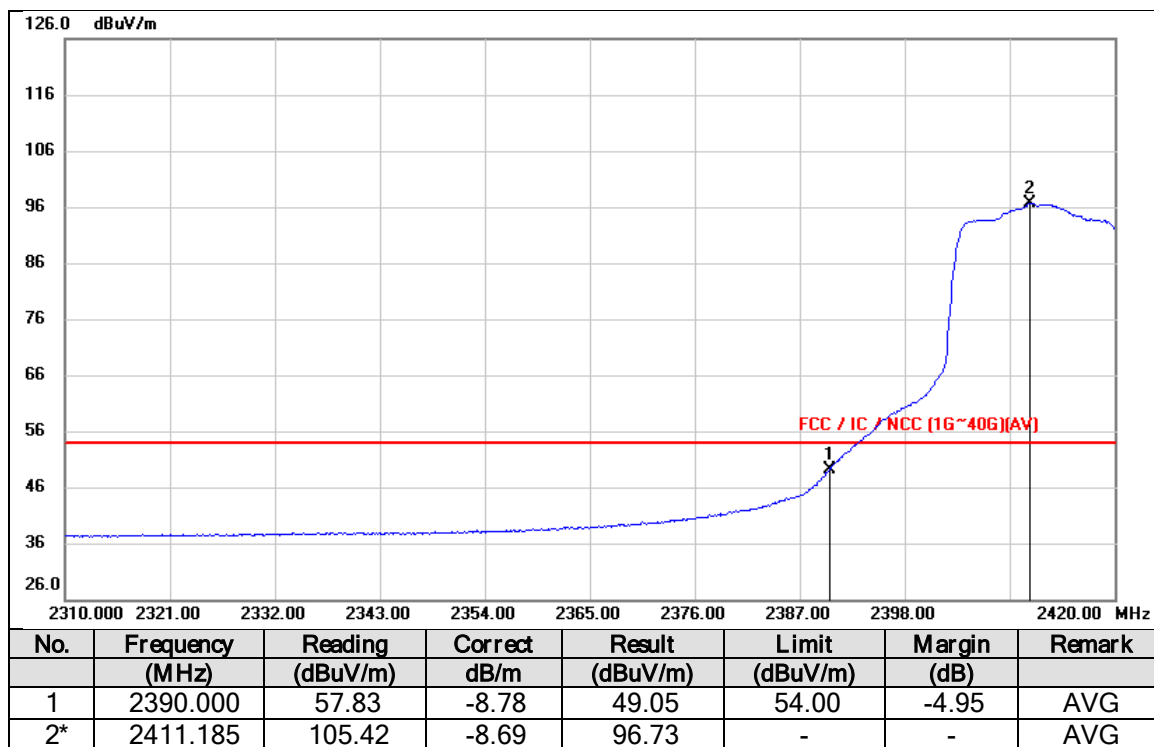
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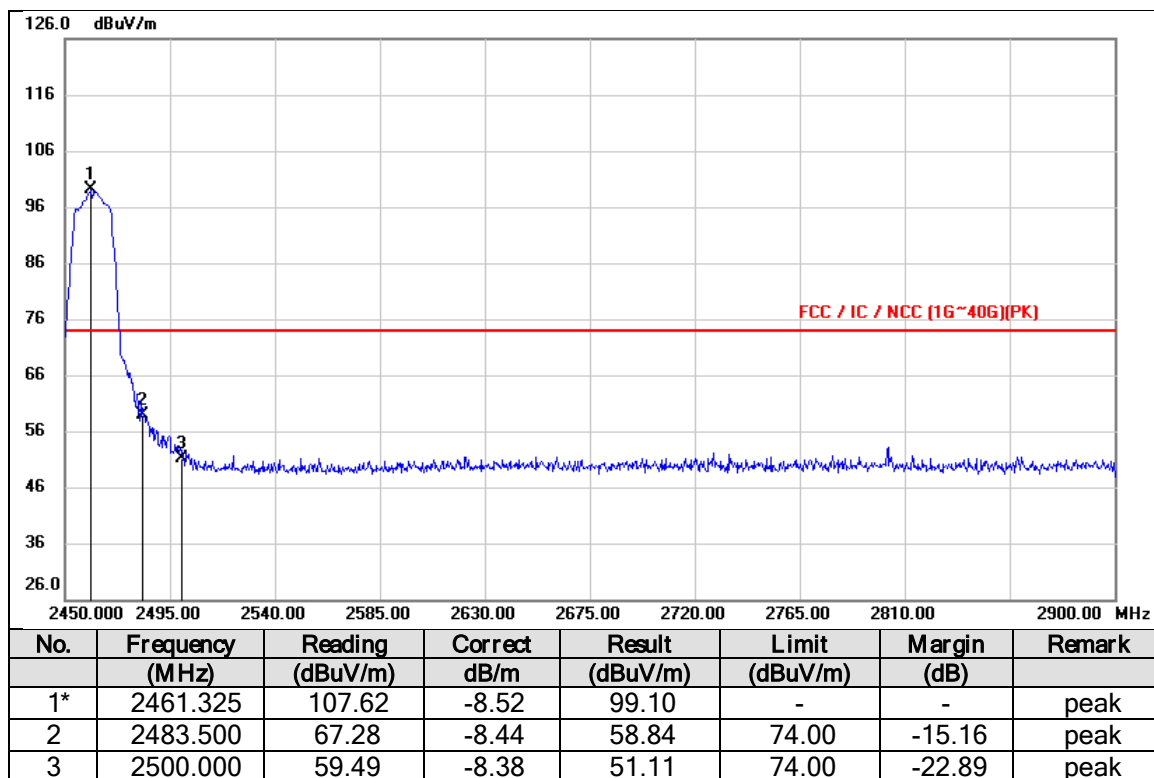


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 1 kHz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.



Restricted Band Edge 802.11g Ch 11 2462 MHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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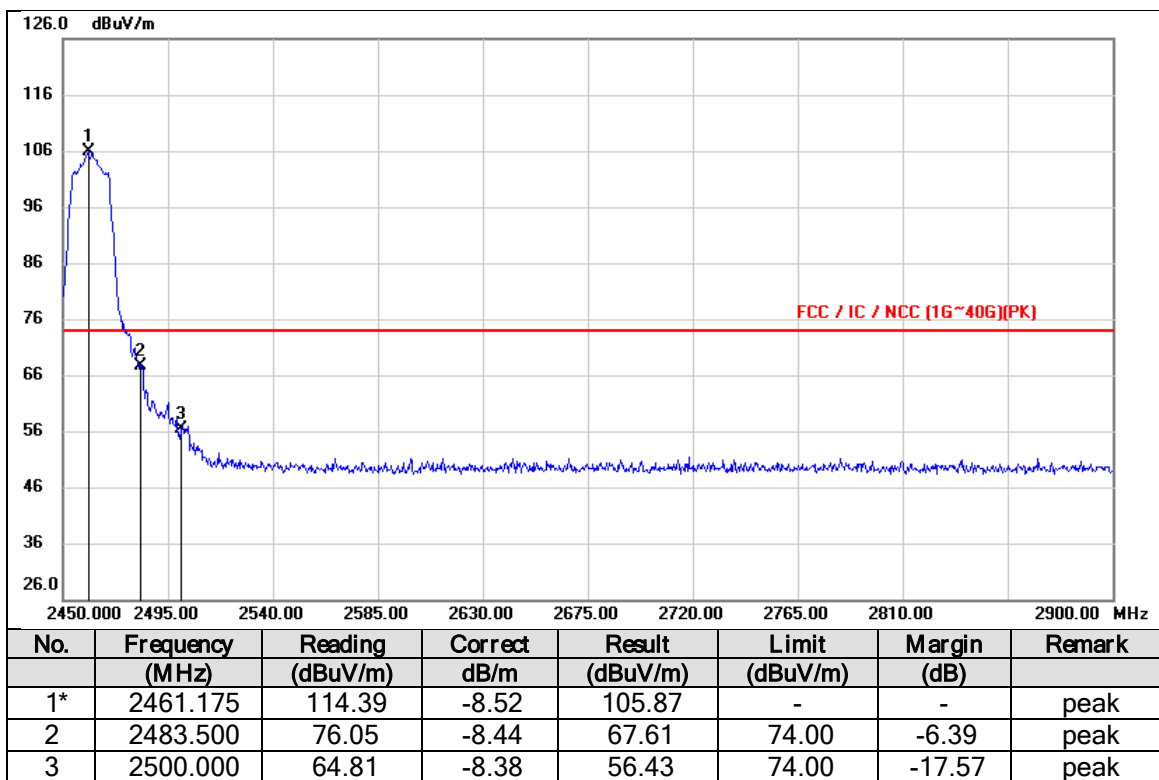
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Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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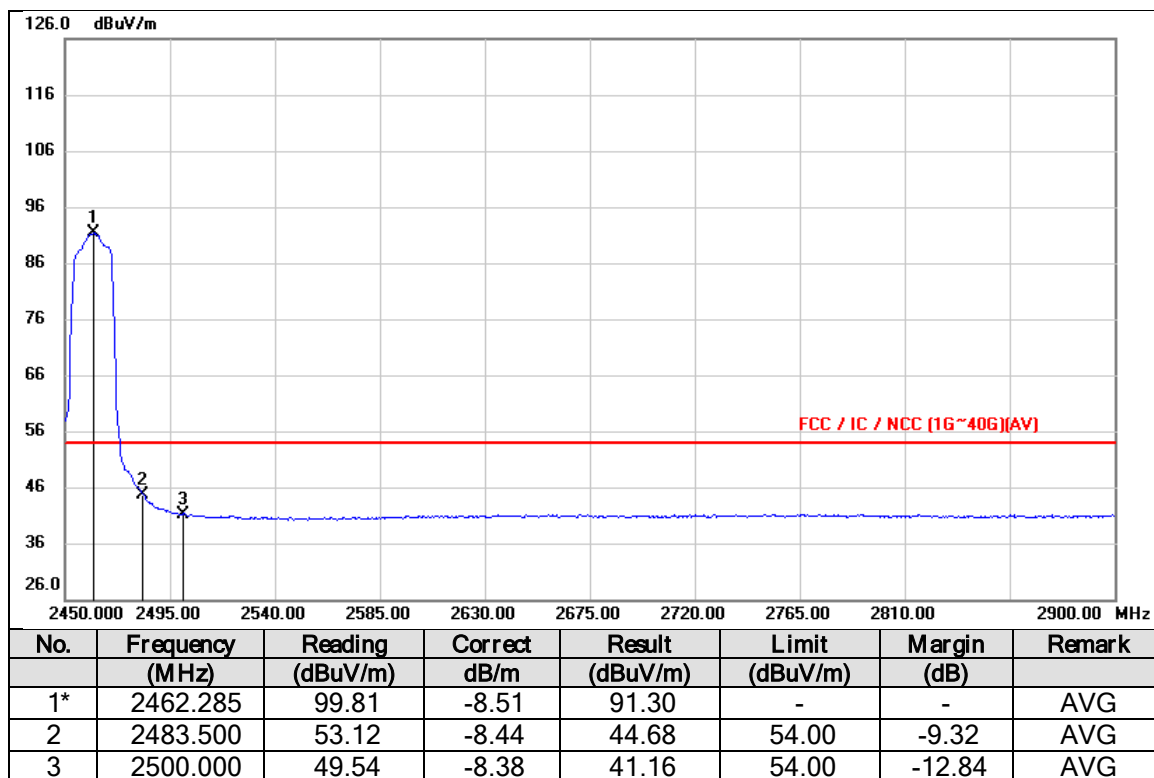
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Restricted Band Edge 802.11g Ch 11 2462 MHz Horizontal

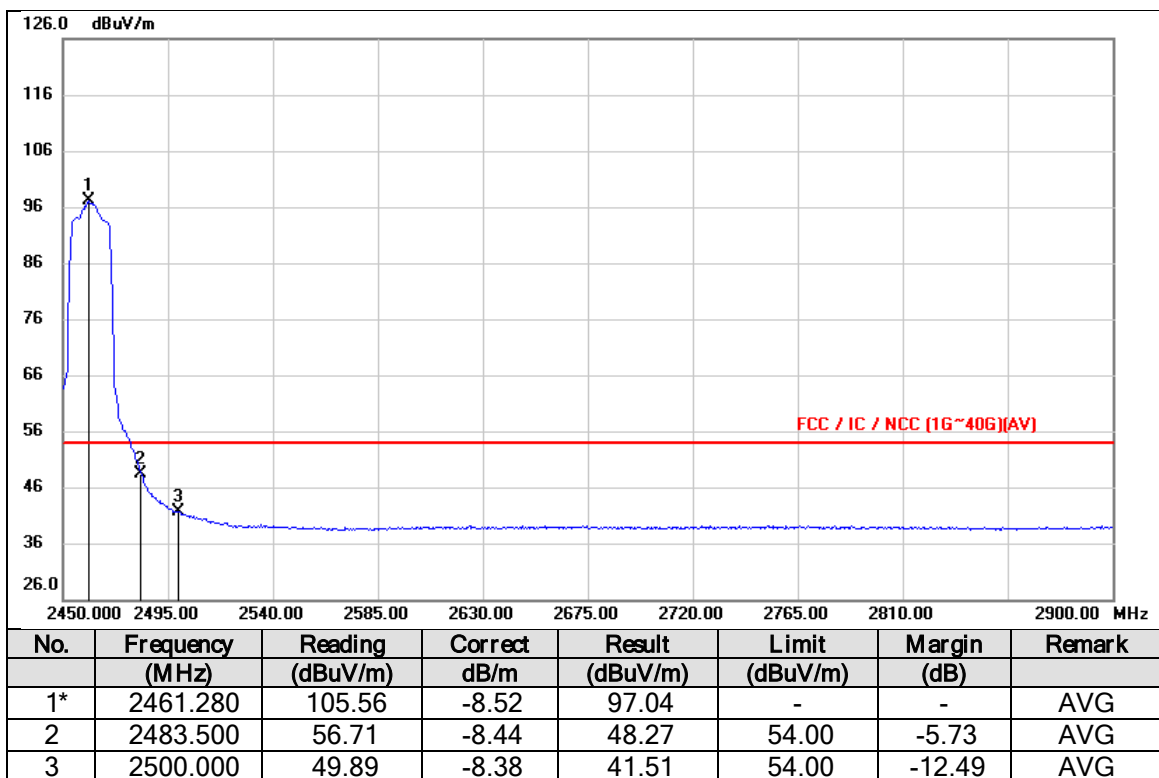


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 1 kHz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.



Restricted Band Edge 802.11g Ch 11 2462 MHz Vertical

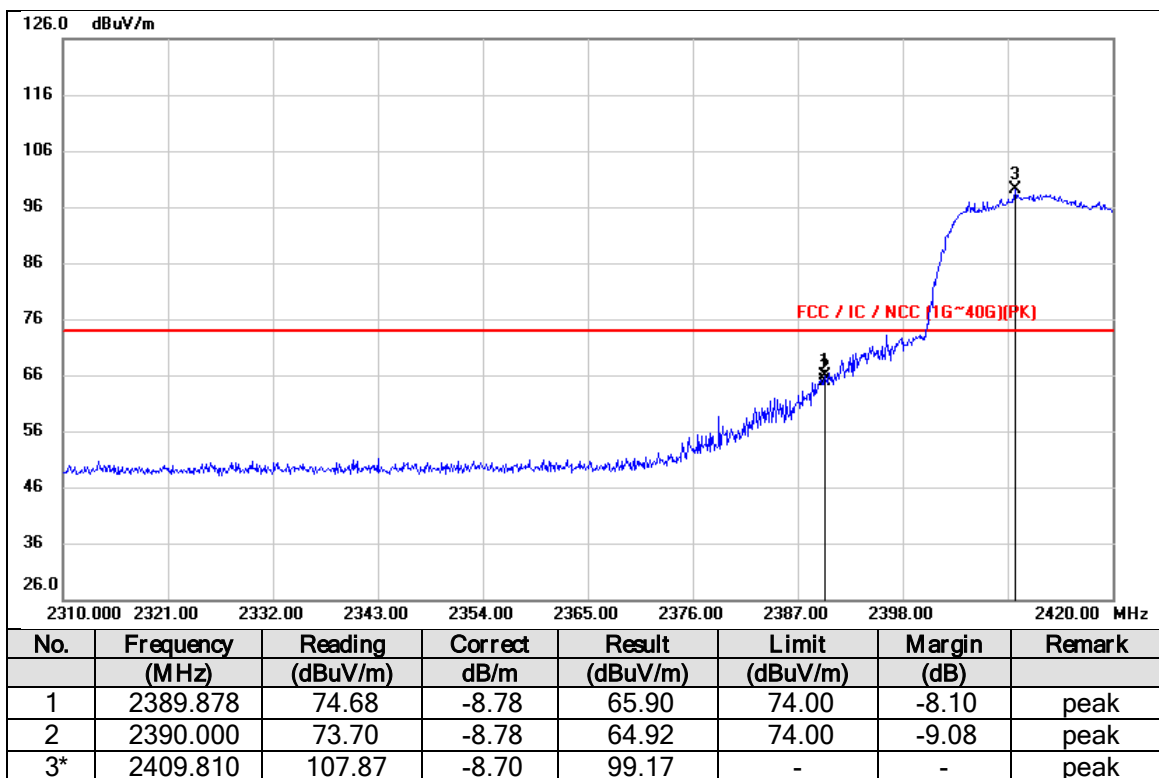


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 1 kHz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.



Restricted Band Edge 802.11n HT20 Ch 1 2412 MHz Horizontal

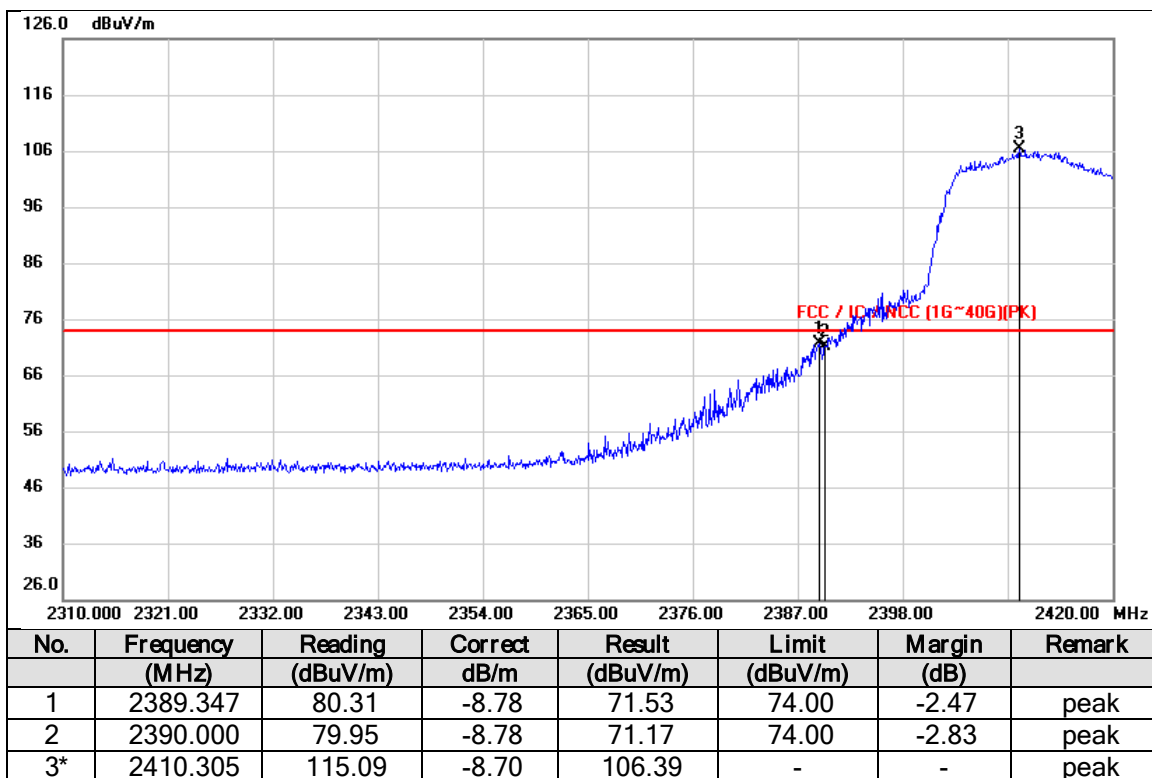


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.



Restricted Band Edge 802.11n HT20 Ch 1 2412 MHz Vertical

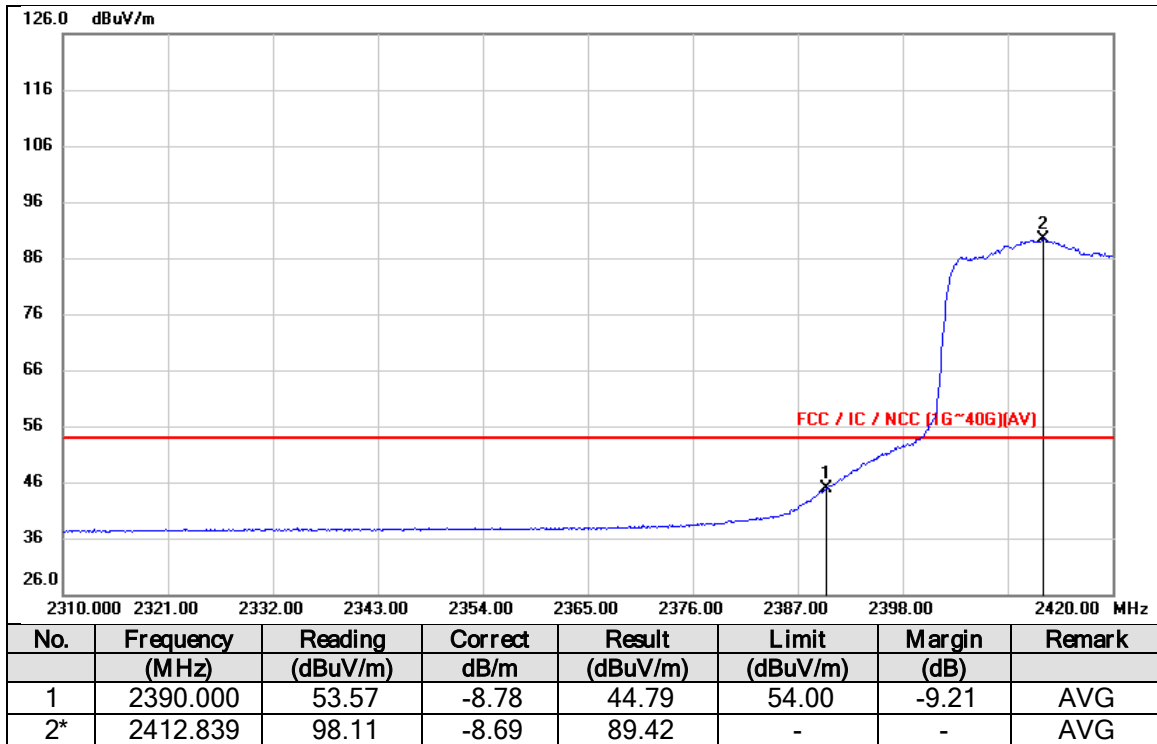


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.



Restricted Band Edge 802.11n HT20 Ch 1 2412 MHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 1 kHz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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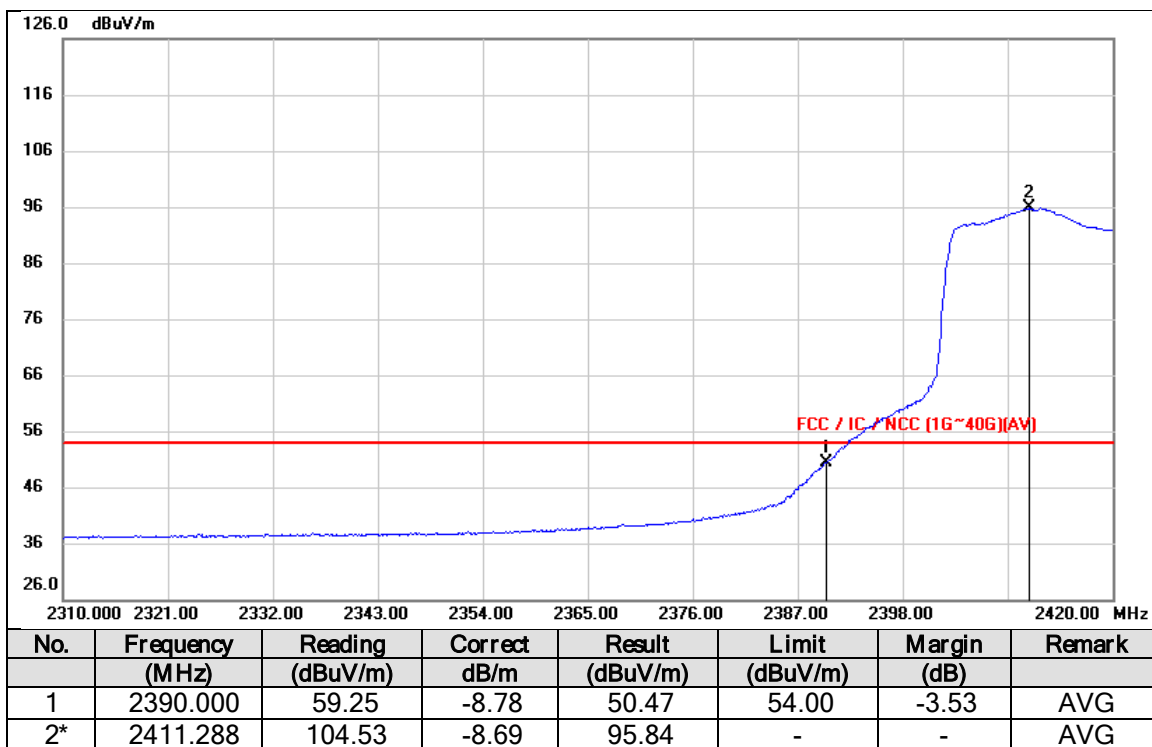
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Restricted Band Edge 802.11n HT20 Ch 1 2412 MHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 1 kHz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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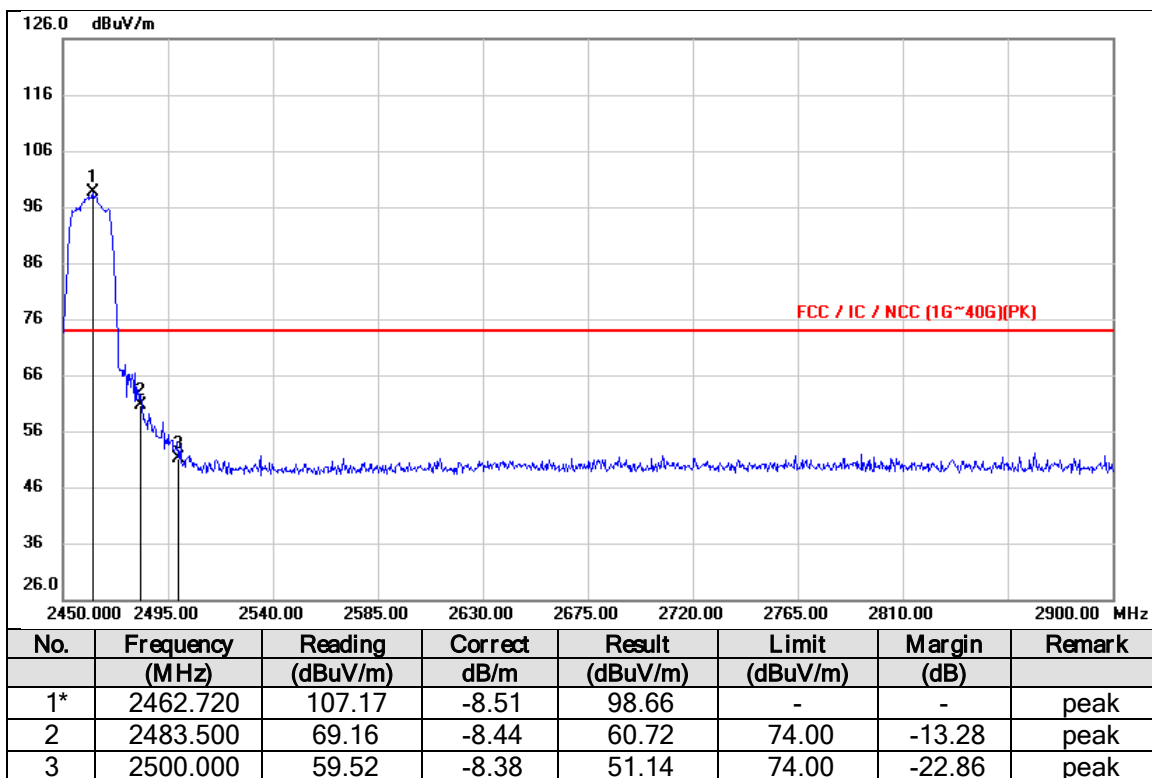
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Restricted Band Edge 802.11n HT20 Ch 11 2462 MHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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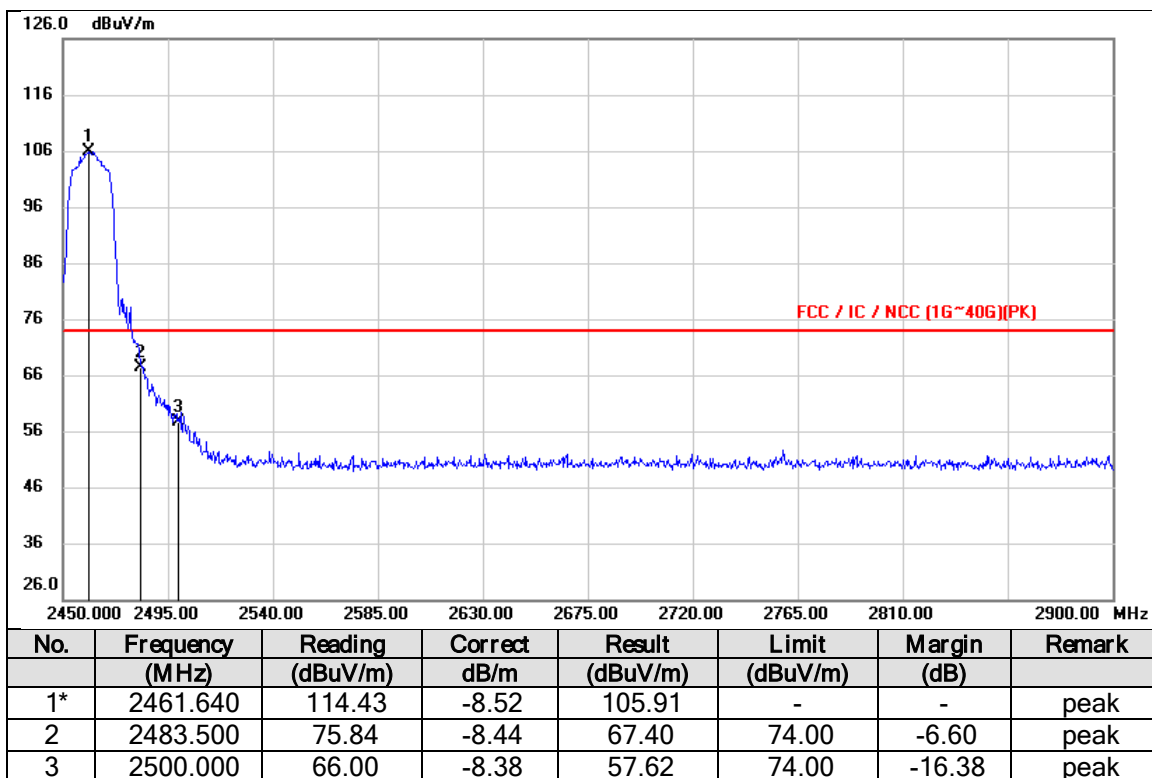
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Restricted Band Edge 802.11n HT20 Ch 11 2462 MHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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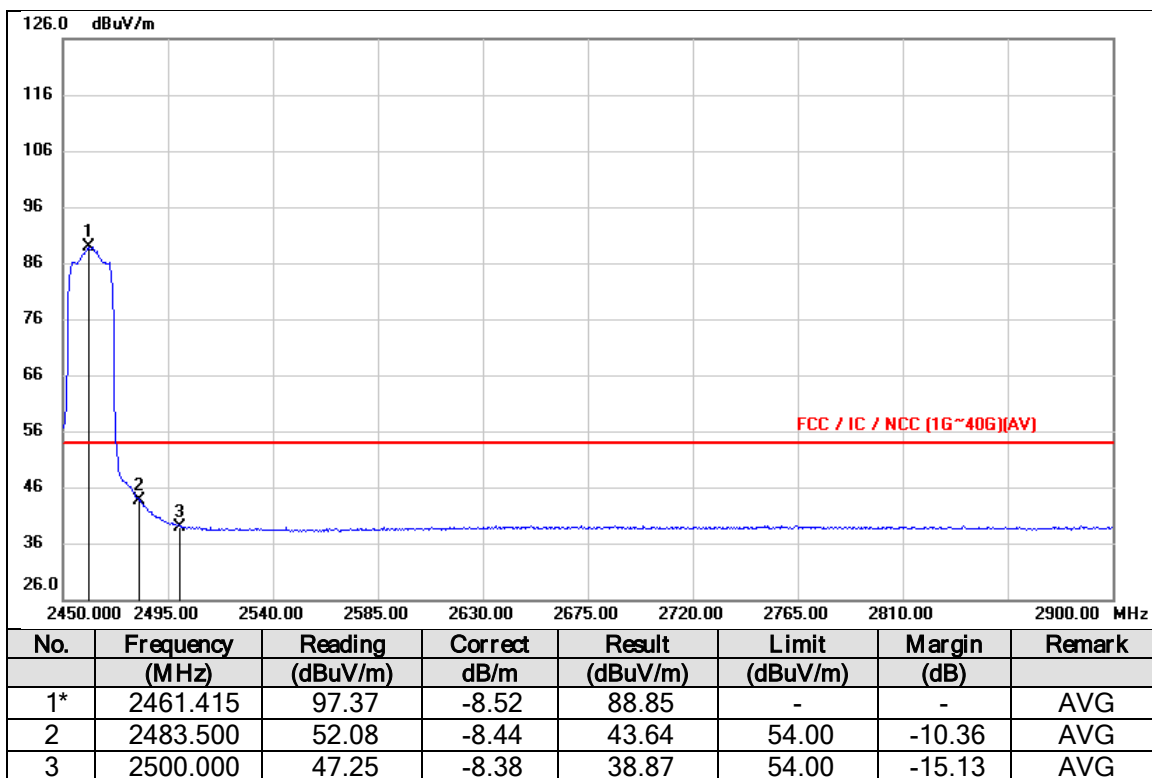
Telephone :+886-2-7737-3000

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Restricted Band Edge 802.11n HT20 Ch 11 2462 MHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 1 kHz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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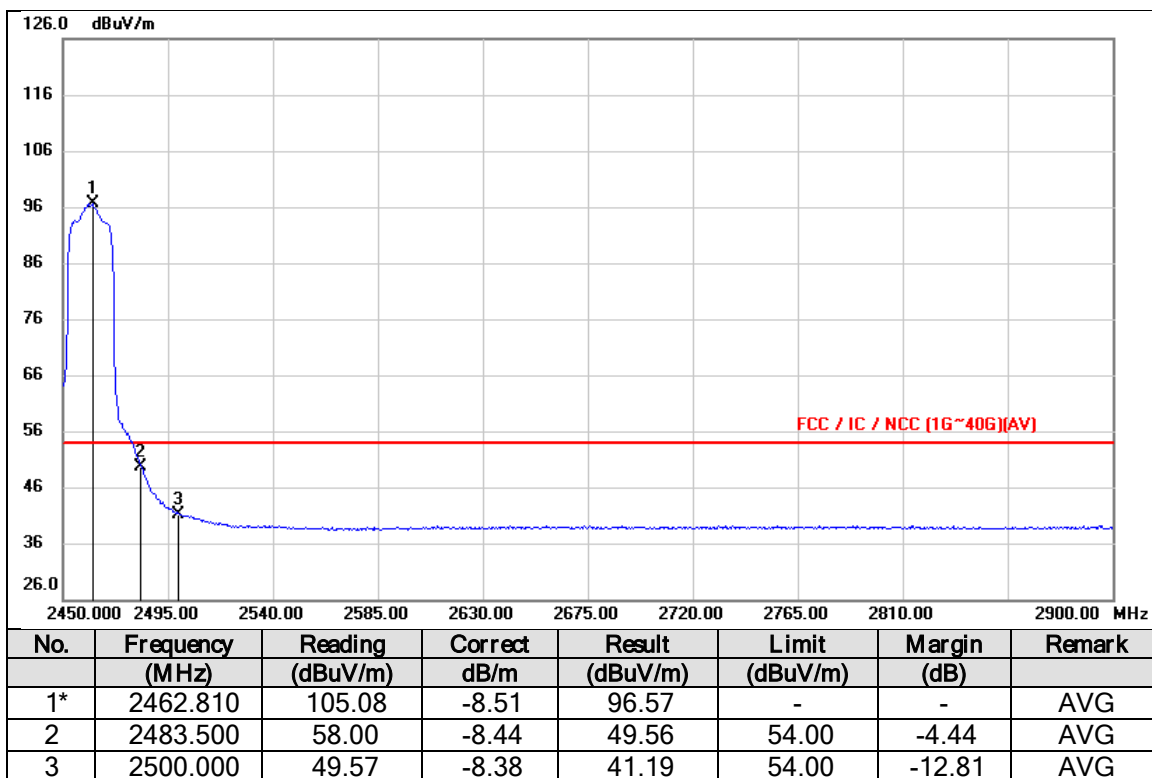
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Restricted Band Edge 802.11n HT20 Ch 11 2462 MHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
 2. Result = Reading + Correct
 3. Margin = Result - Limit
 4. VBW = 1 kHz
- *. Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

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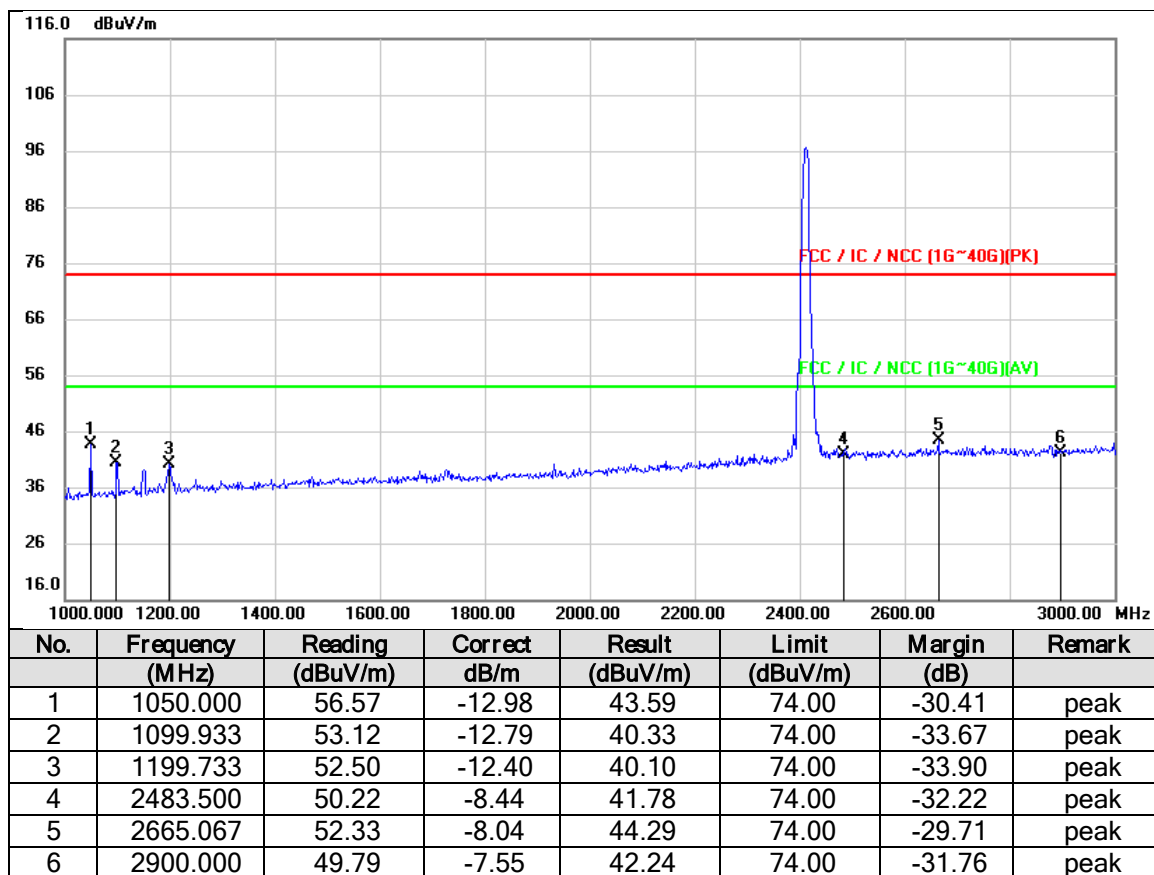
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Spurious Emission 802.11b Ch 1 2412 MHz 1-3 GHz Horizontal

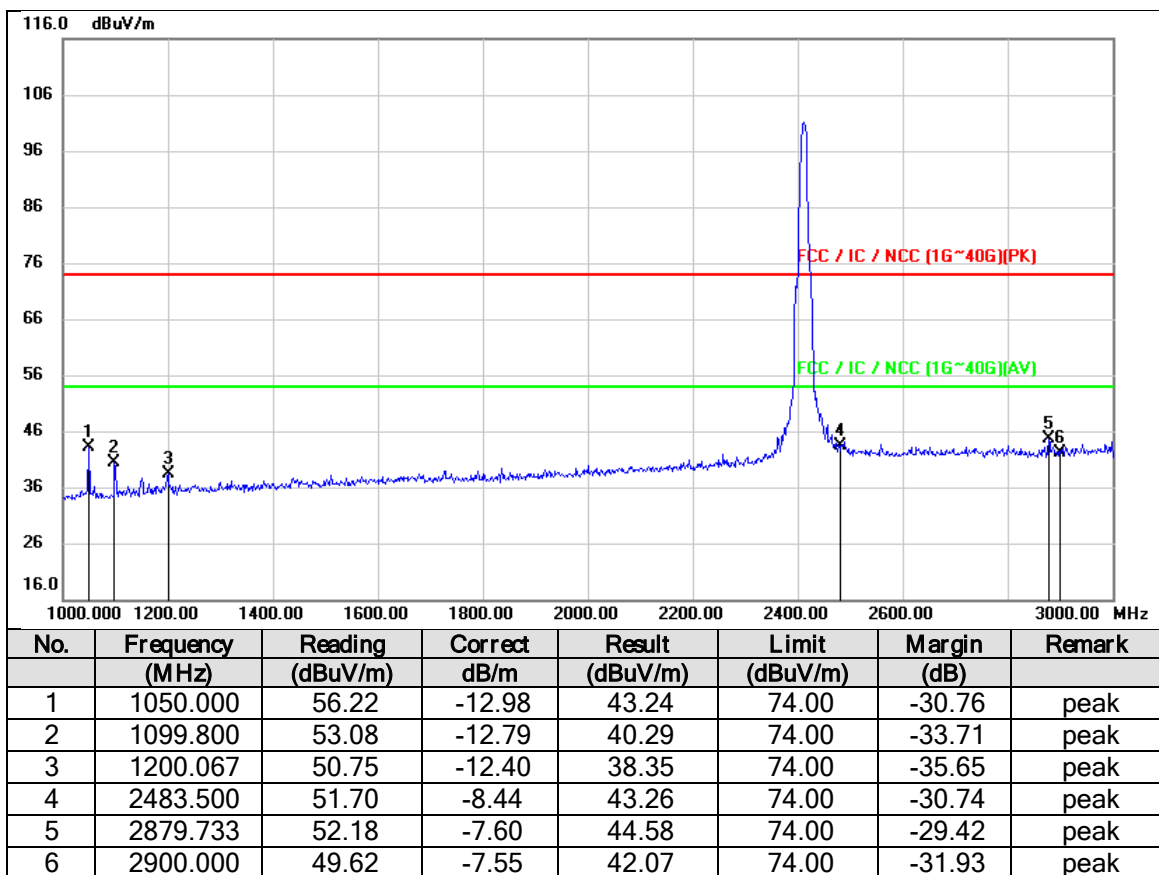


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11b Ch 1 2412 MHz 1-3 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit

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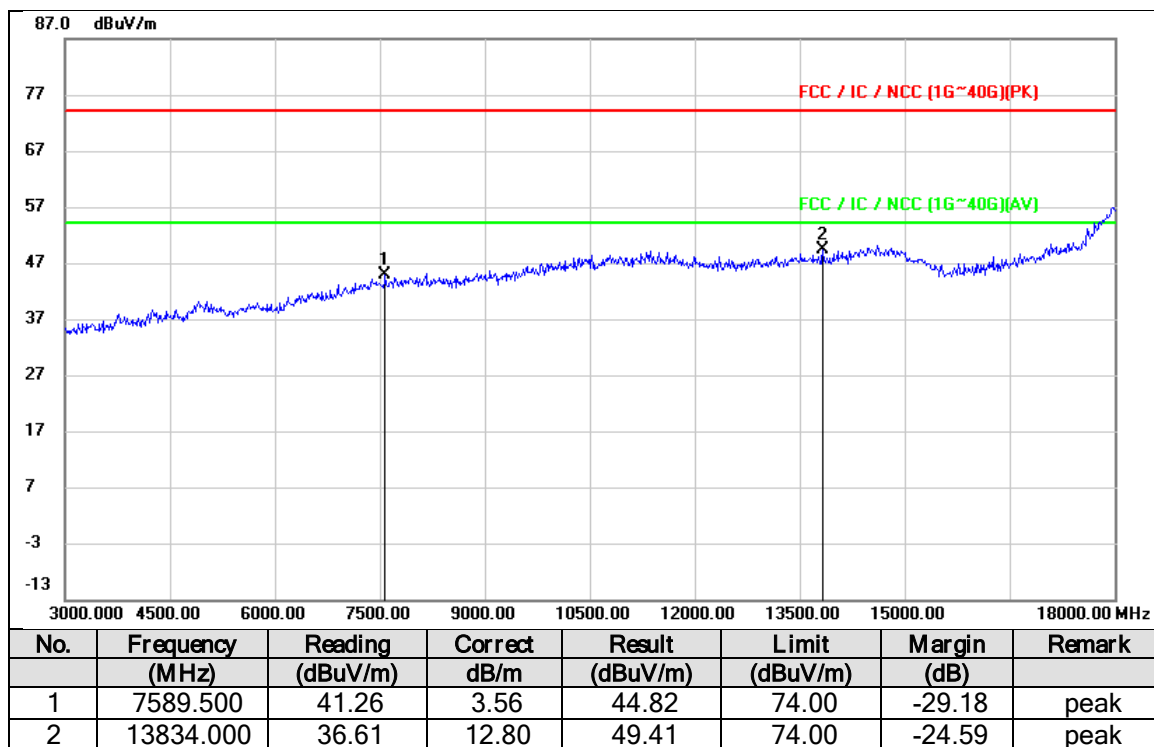
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Spurious Emission 802.11b Ch 1 2412 MHz 3-18 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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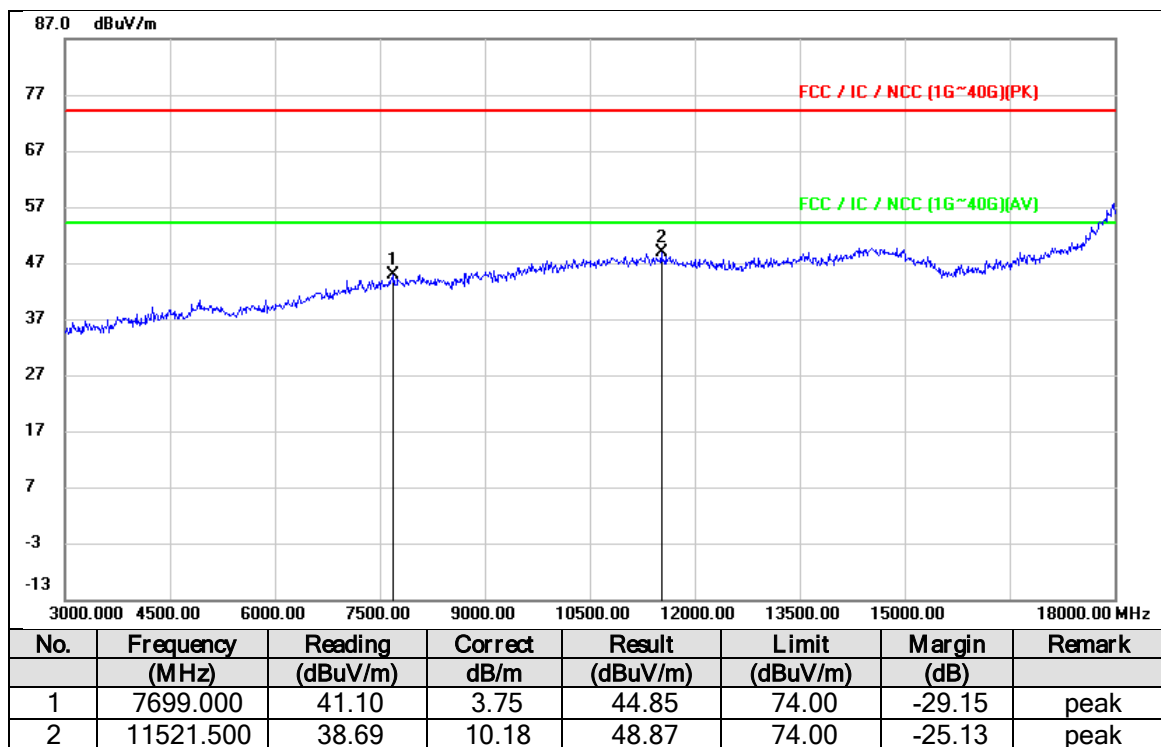
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11b Ch 1 2412 MHz 3-18 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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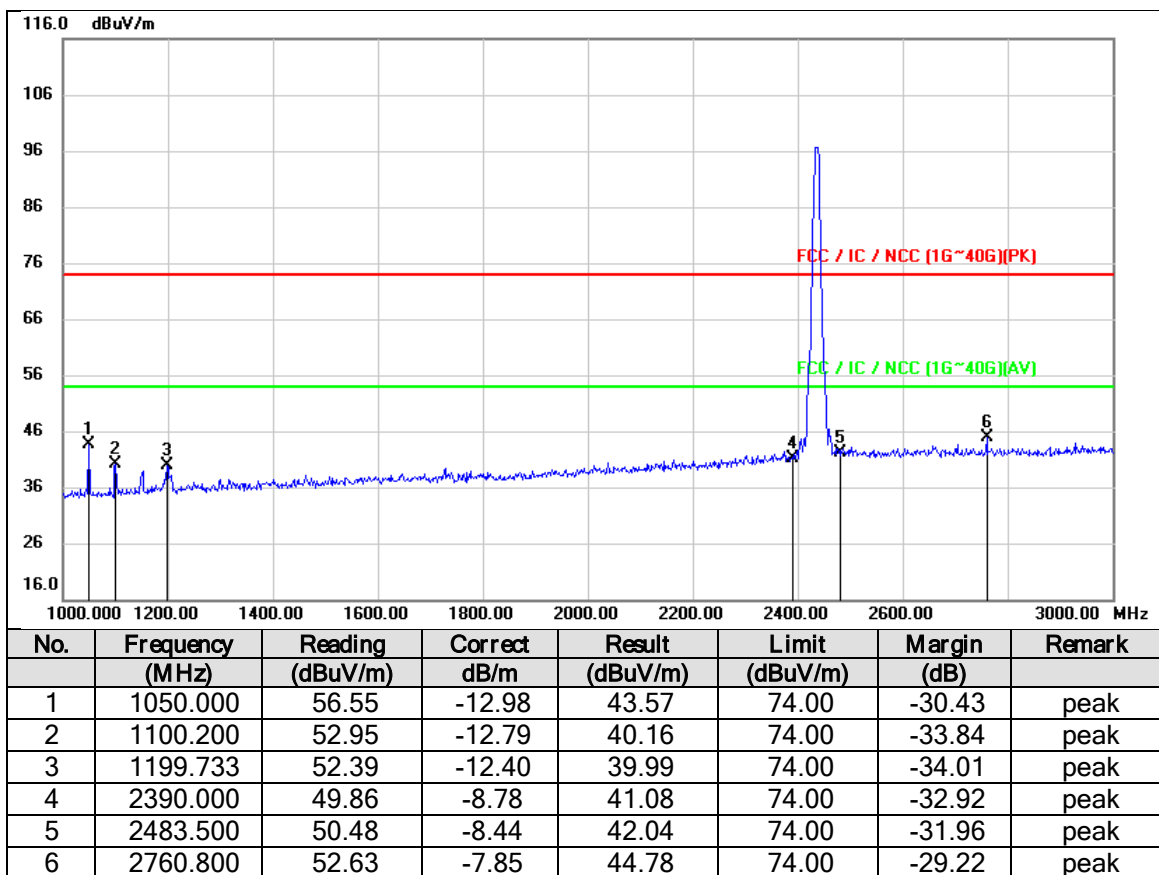
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Spurious Emission 802.11b Ch 6 2437 MHz 1-3 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit

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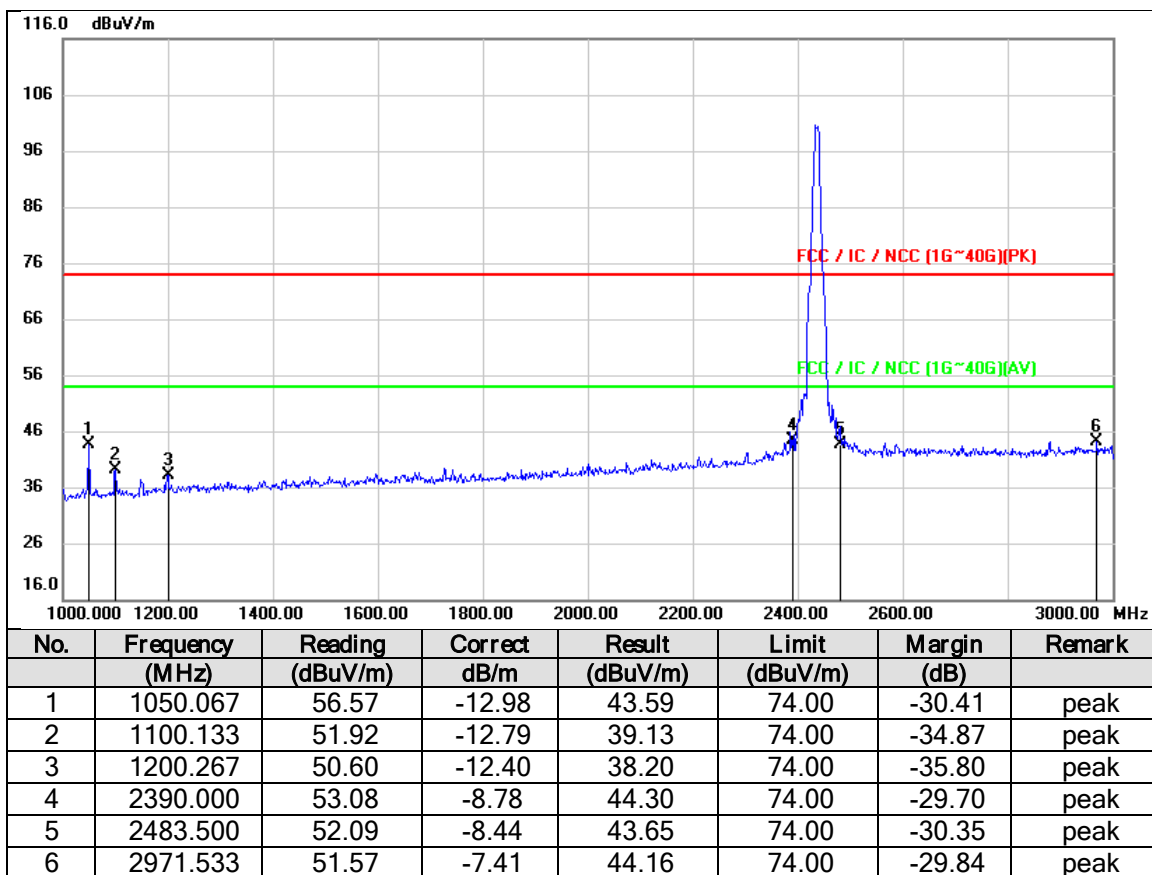
Telephone :+886-2-7737-3000

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Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11b Ch 6 2437 MHz 1-3 GHz Vertical

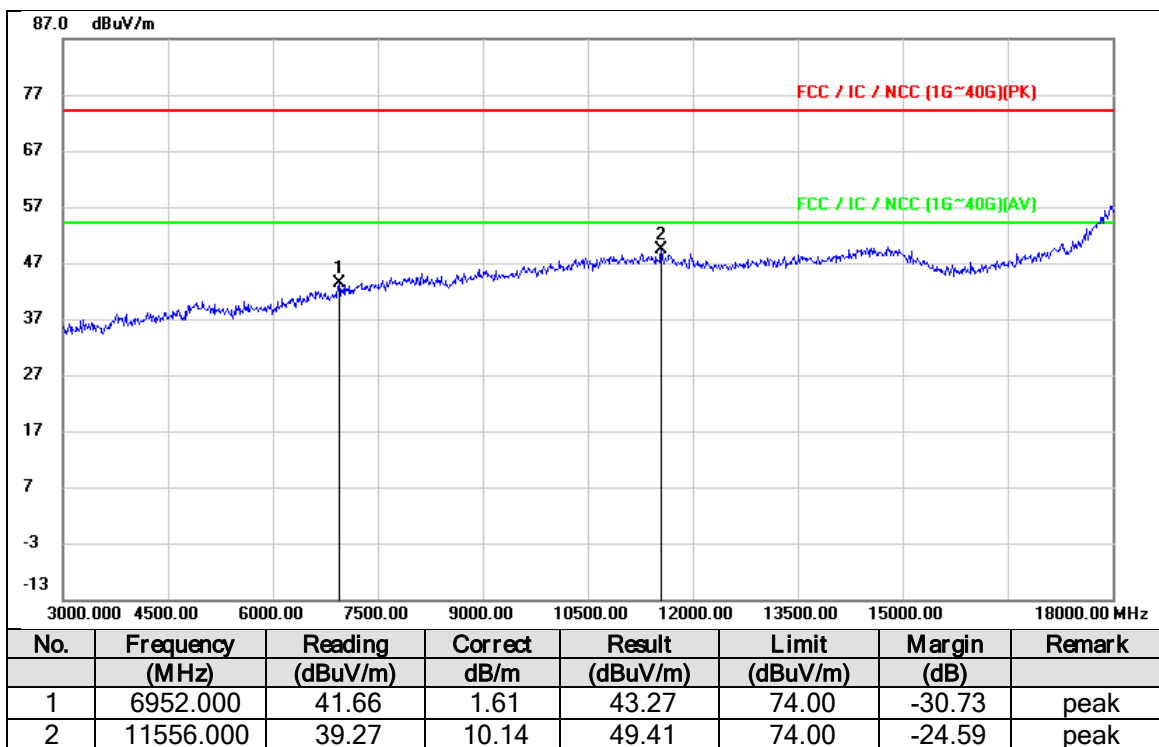


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11b Ch 6 2437 MHz 3-18 GHz Horizontal

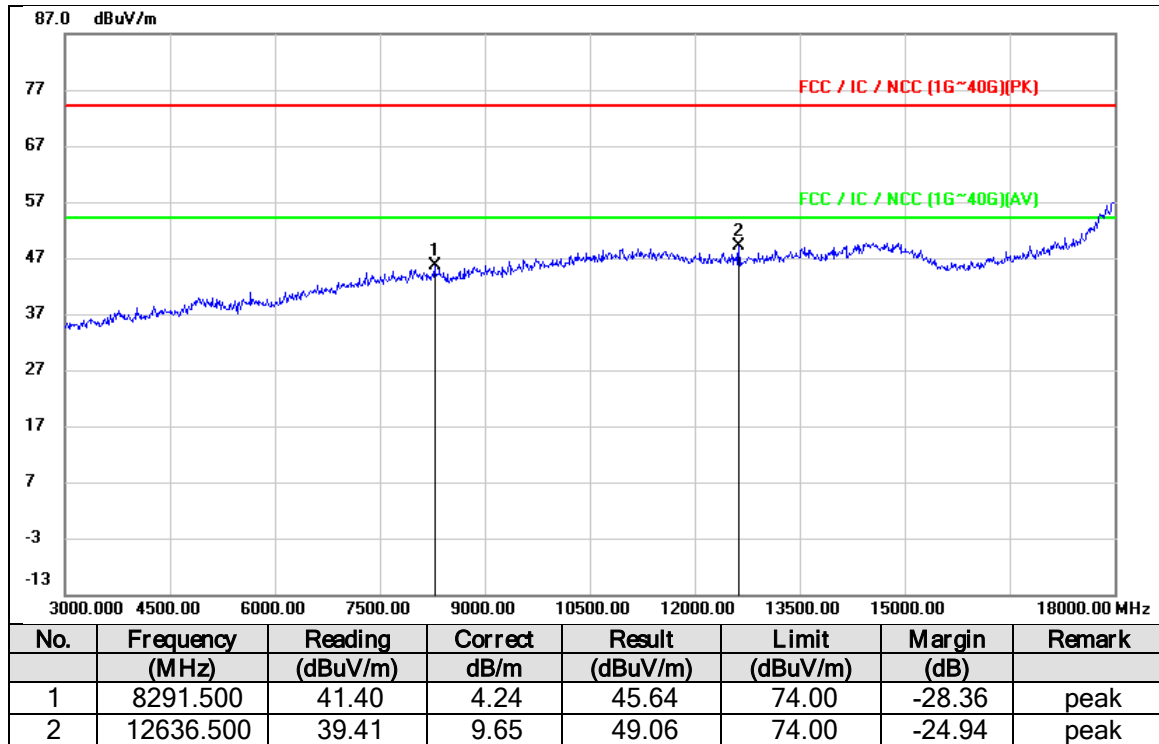


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.



Spurious Emission 802.11b Ch 6 2437 MHz 3-18 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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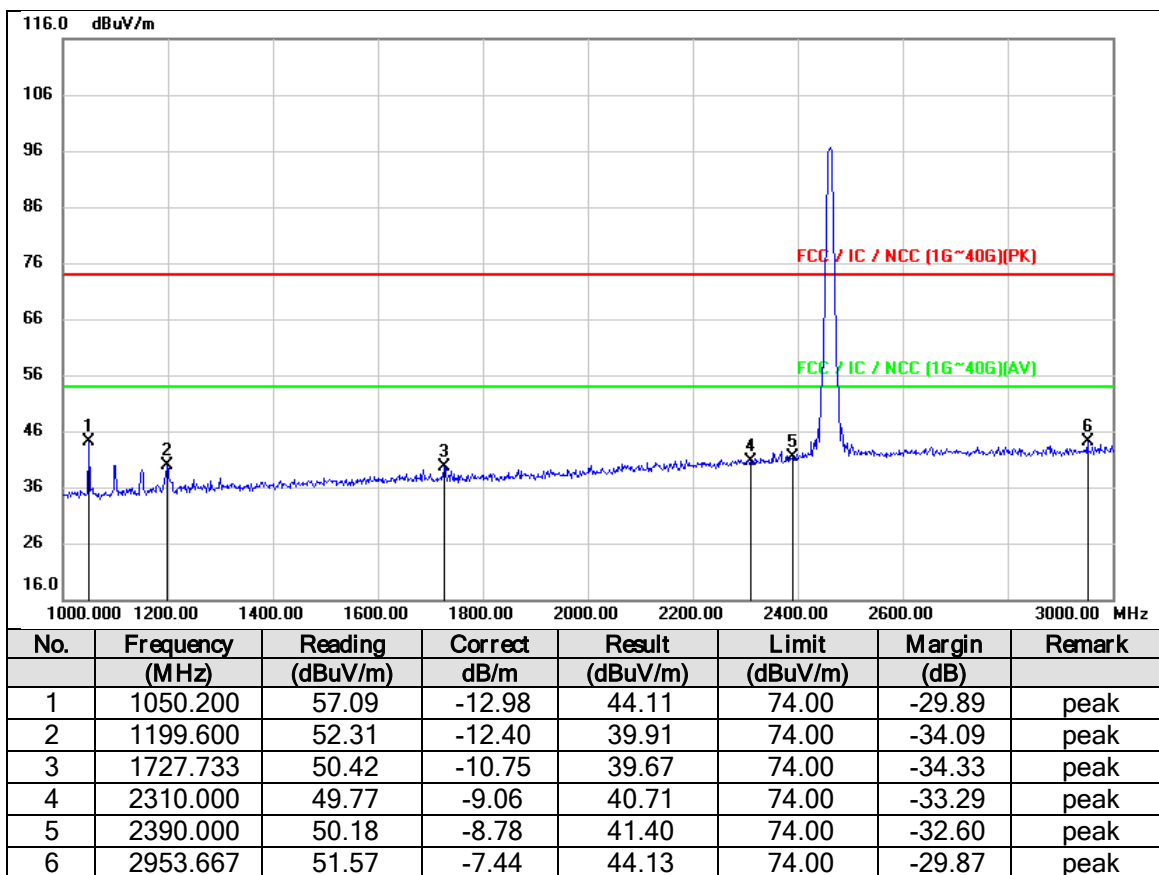
Telephone :+886-2-7737-3000

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Spurious Emission 802.11b Ch 11 2462 MHz 1-3 GHz Horizontal

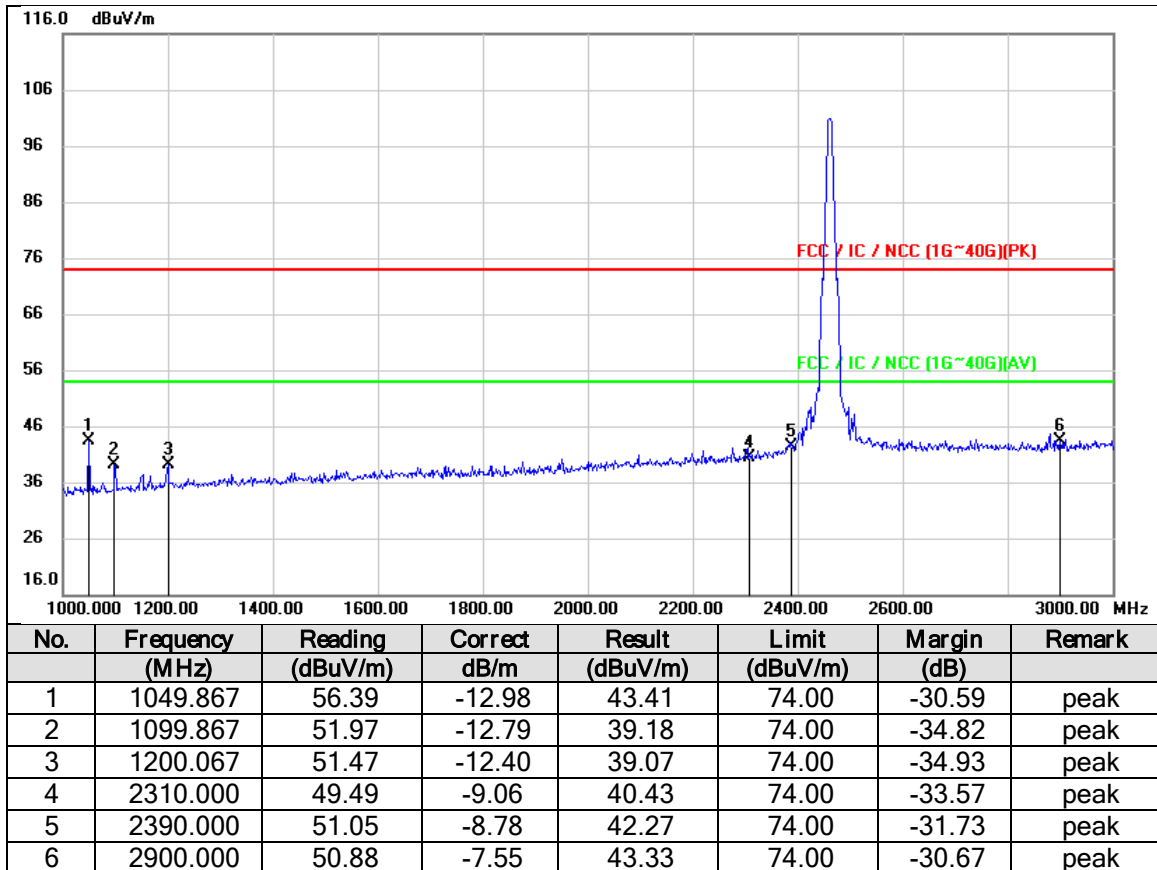


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11b Ch 11 2462 MHz 1-3 GHz Vertical

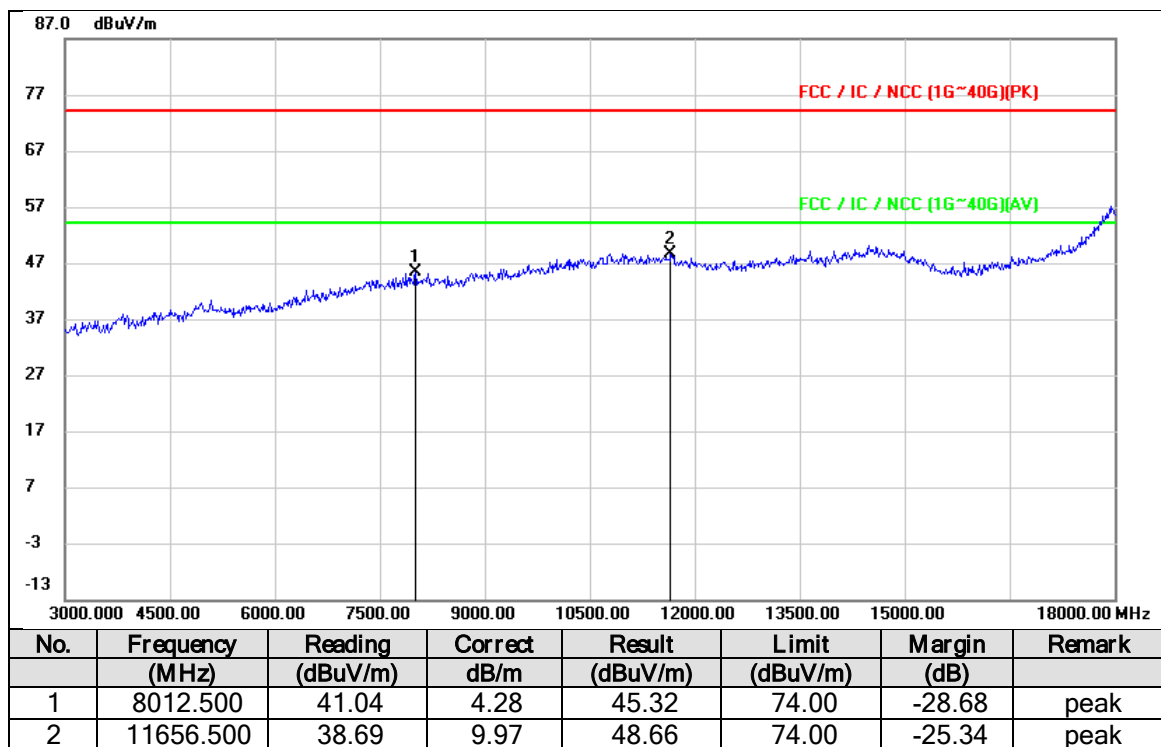


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11b Ch 11 2462 MHz 3-18 GHz Horizontal

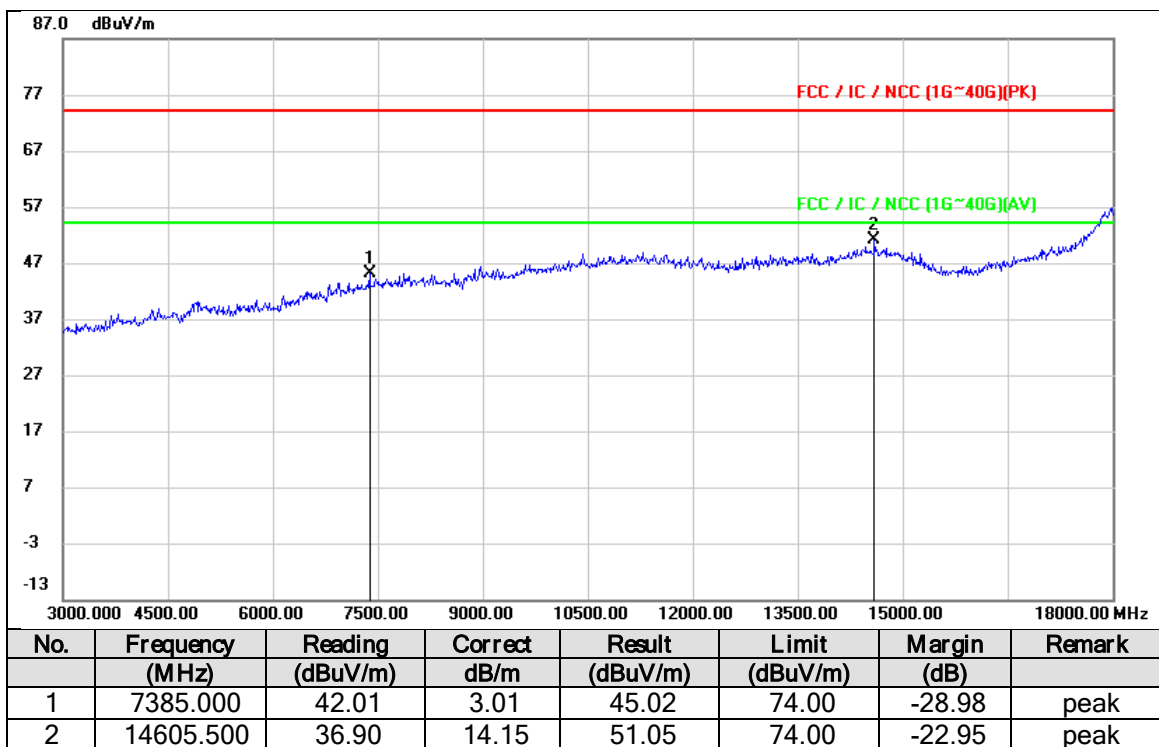


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.



Spurious Emission 802.11b Ch 11 2462 MHz 3-18 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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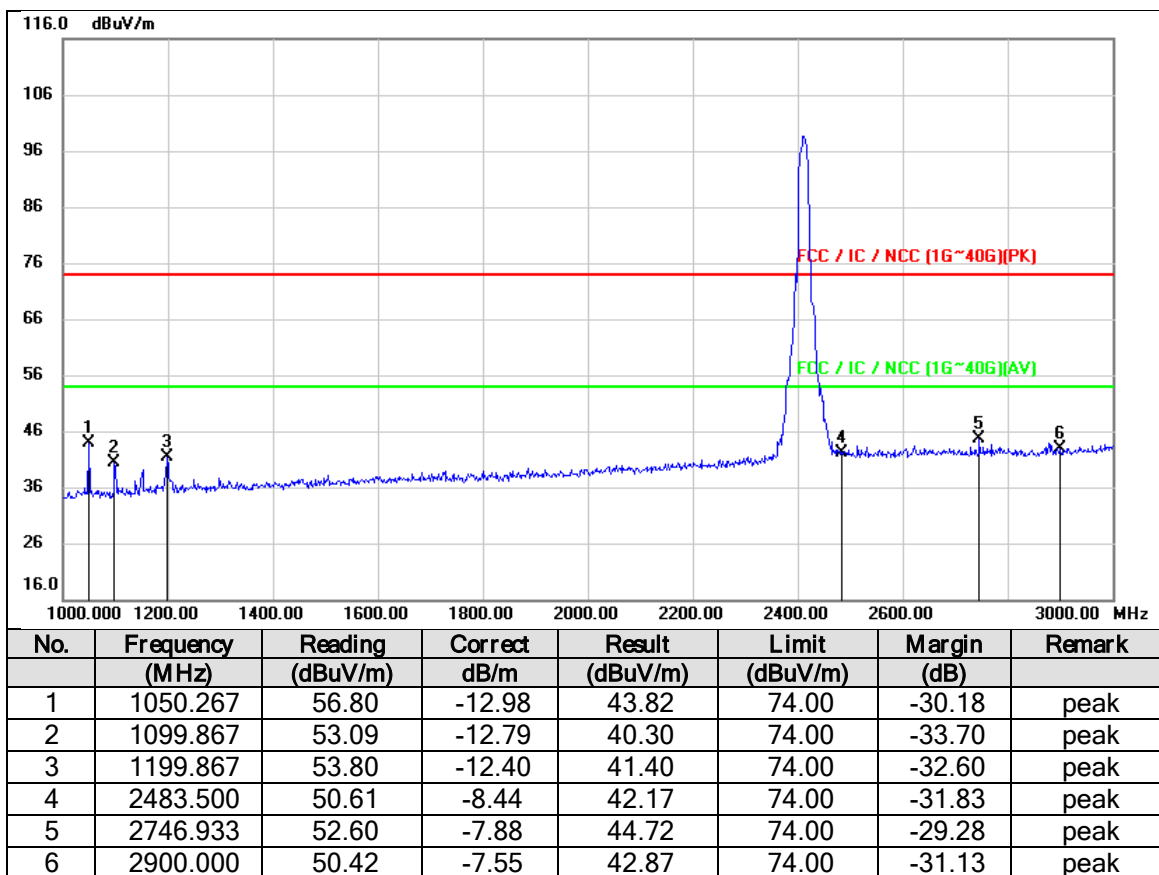
Telephone :+886-2-7737-3000

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Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11g Ch 1 2412 MHz 1-3 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit

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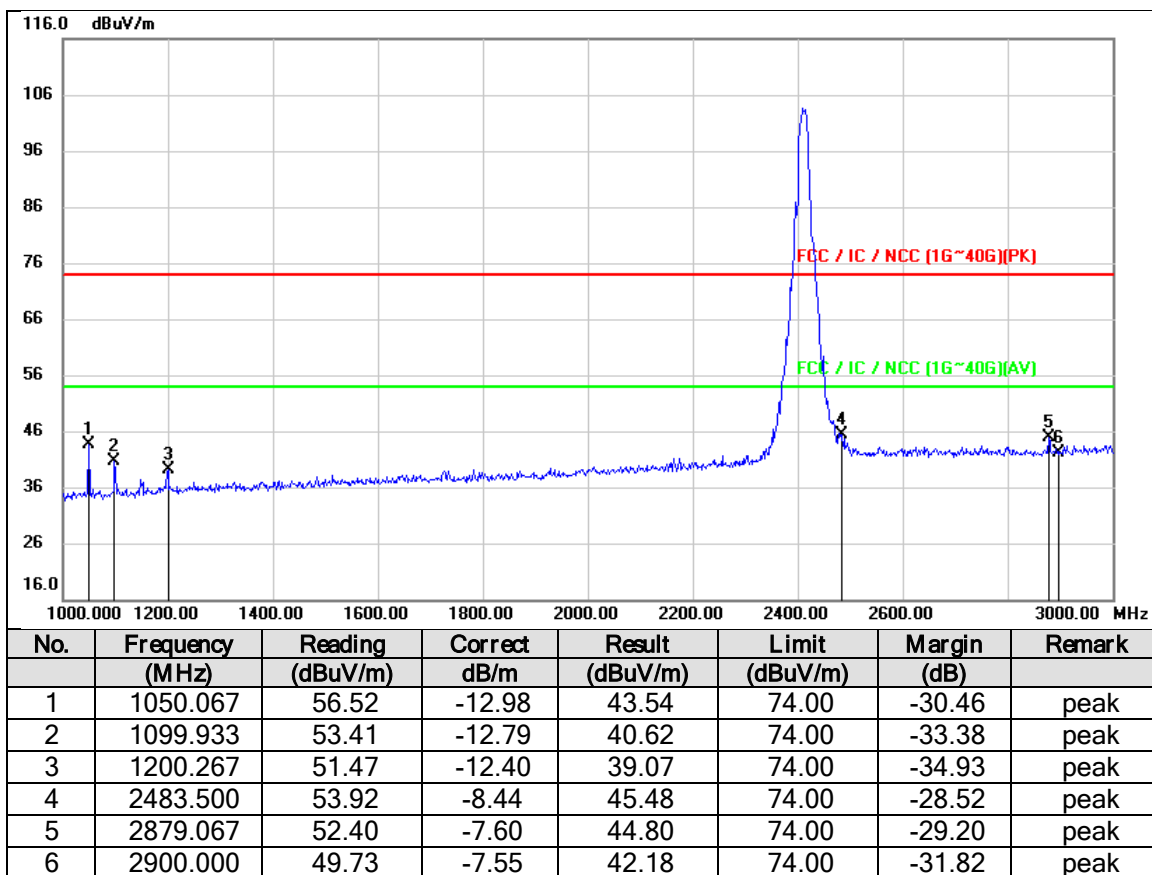
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Spurious Emission 802.11g Ch 1 2412 MHz 1-3 GHz Vertical

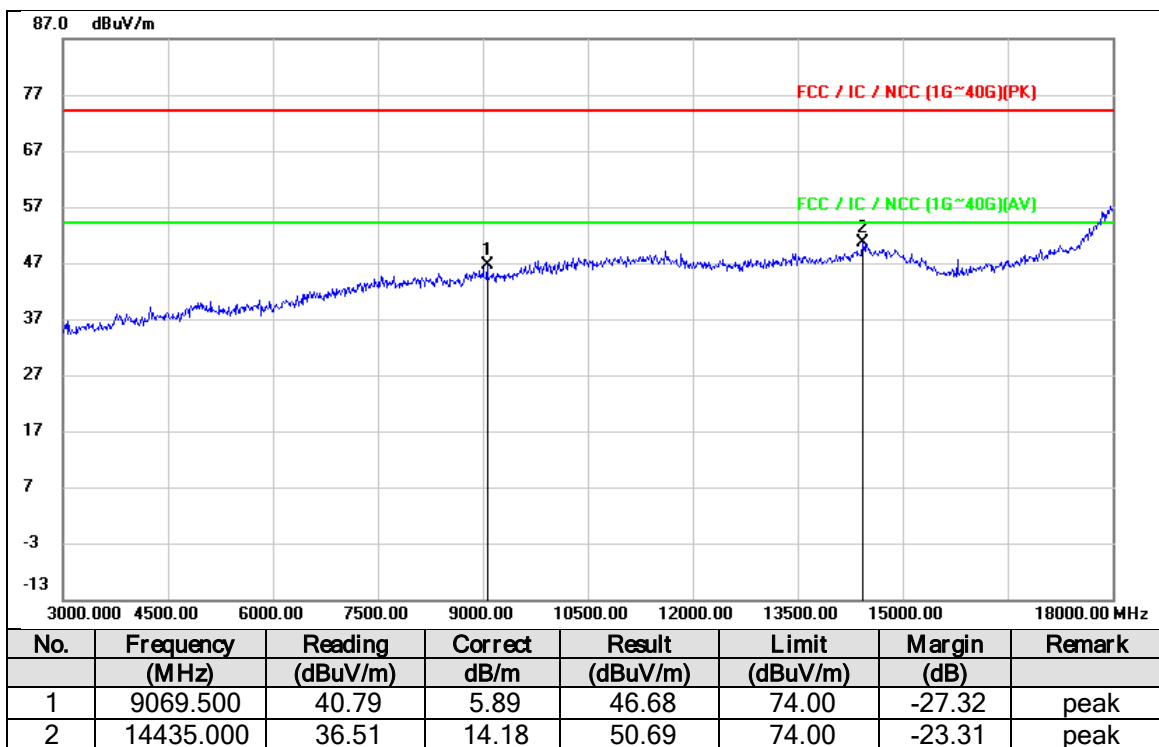


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11g Ch 1 2412 MHz 3-18 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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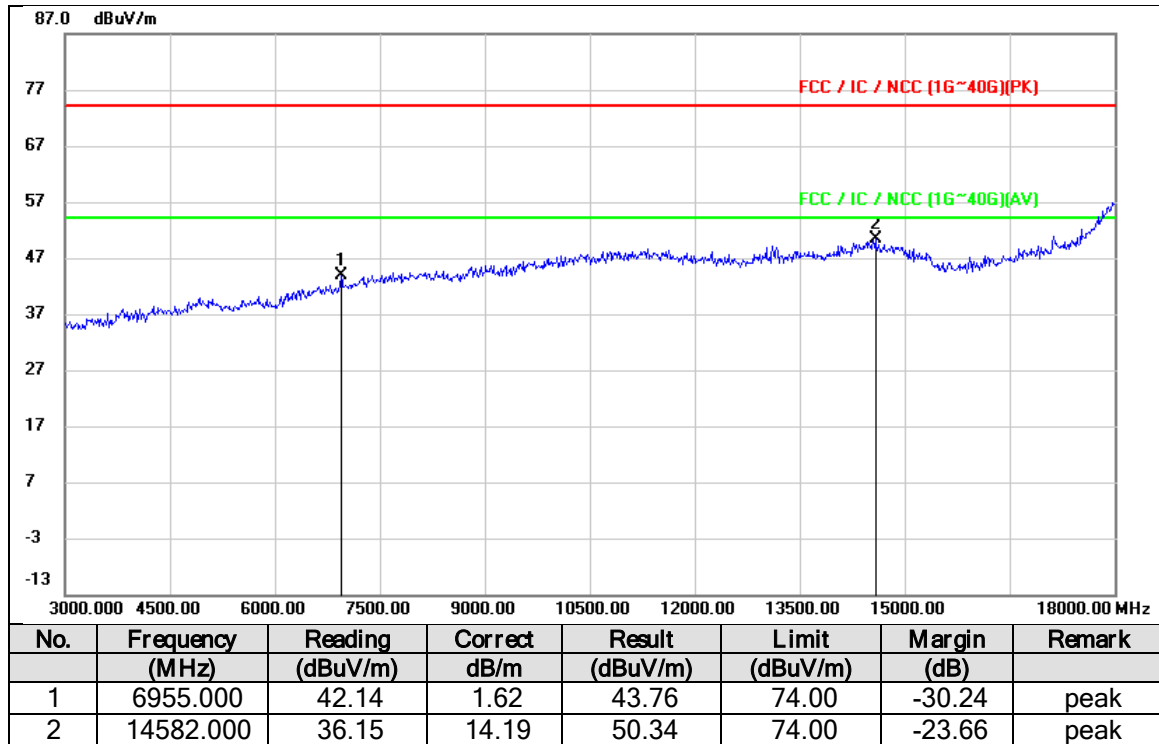
Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Test report No. : 4788402176A-US-R1-V0
Page : 97 of 128
Issued date : Apr. 13, 2018
FCC ID : 2AMPP-FB00000

Spurious Emission 802.11g Ch 1 2412 MHz 3-18 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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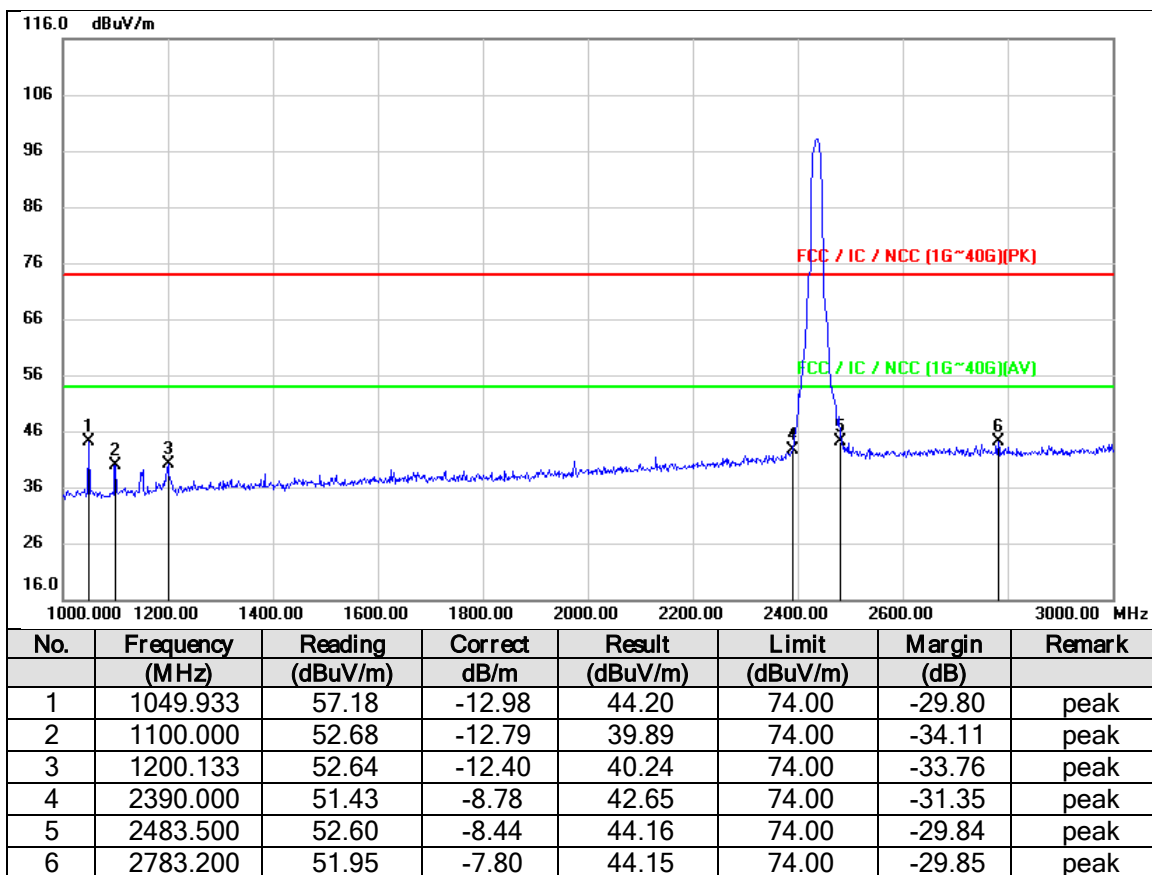
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11g Ch 6 2437 MHz 1-3 GHz Horizontal

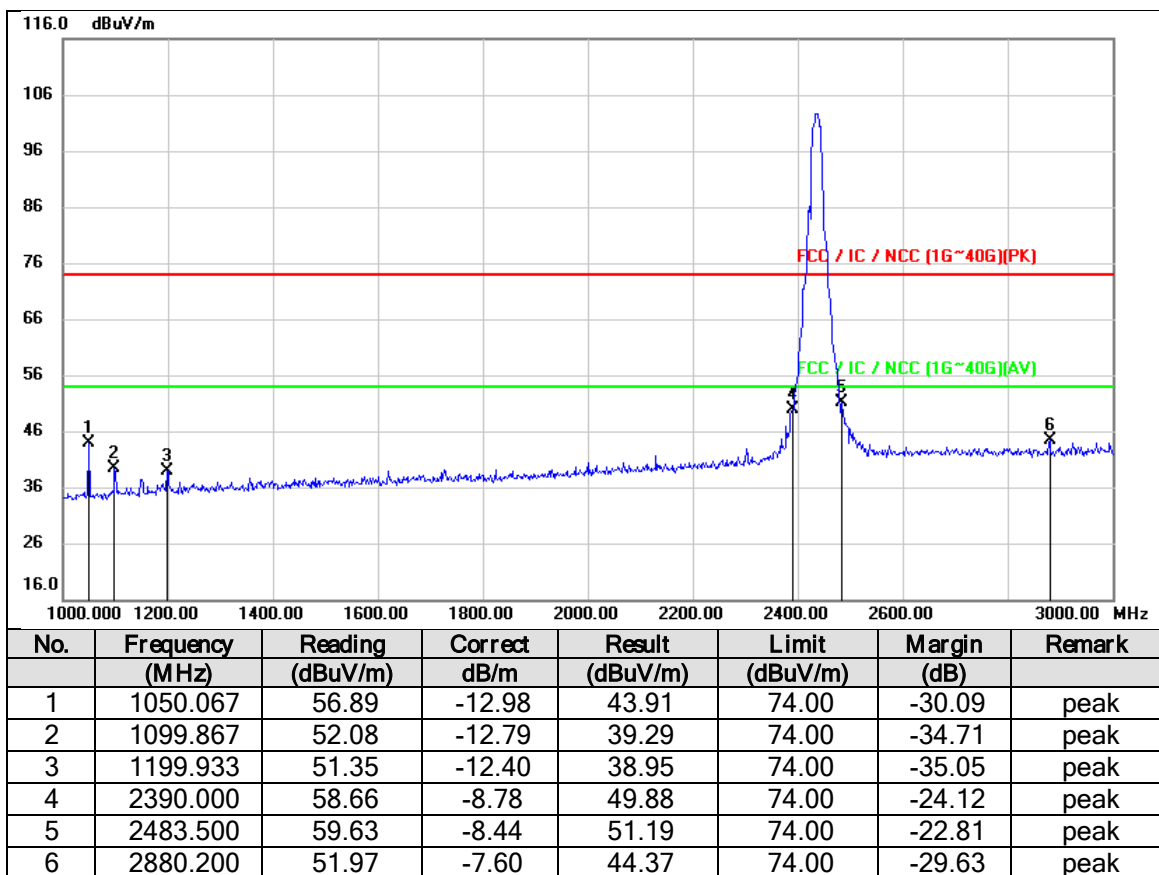


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11g Ch 6 2437 MHz 1-3 GHz Vertical

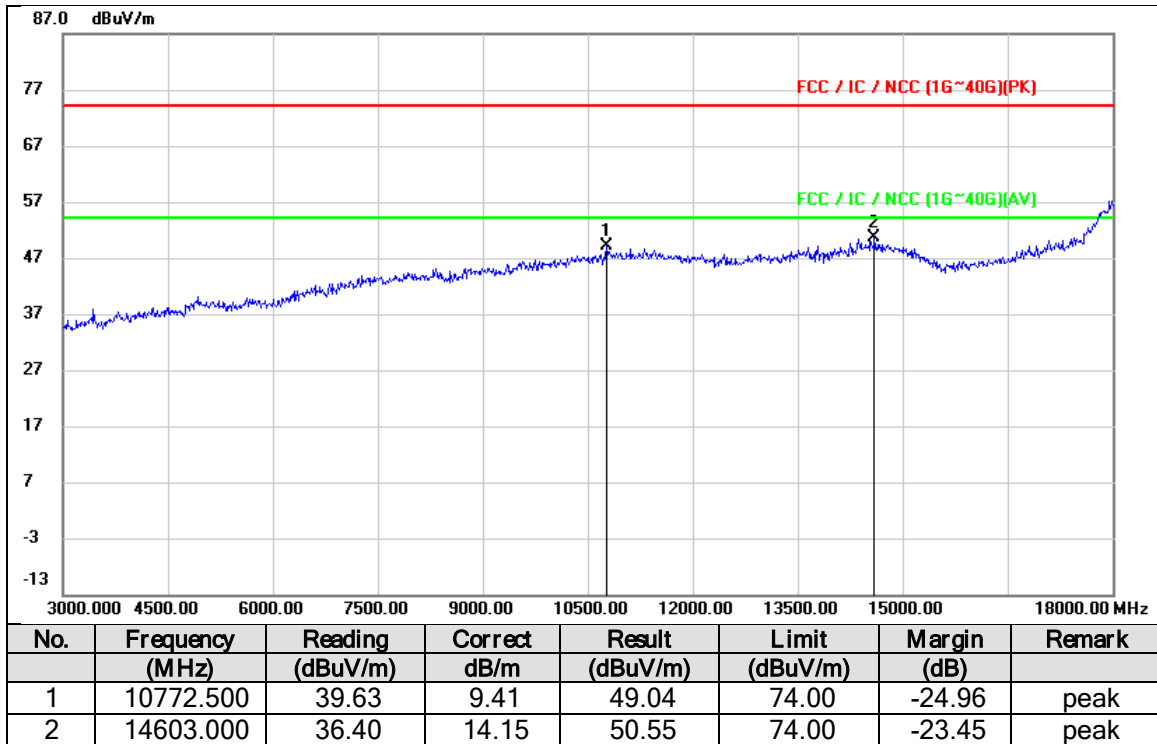


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11g Ch 6 2437 MHz 3-18 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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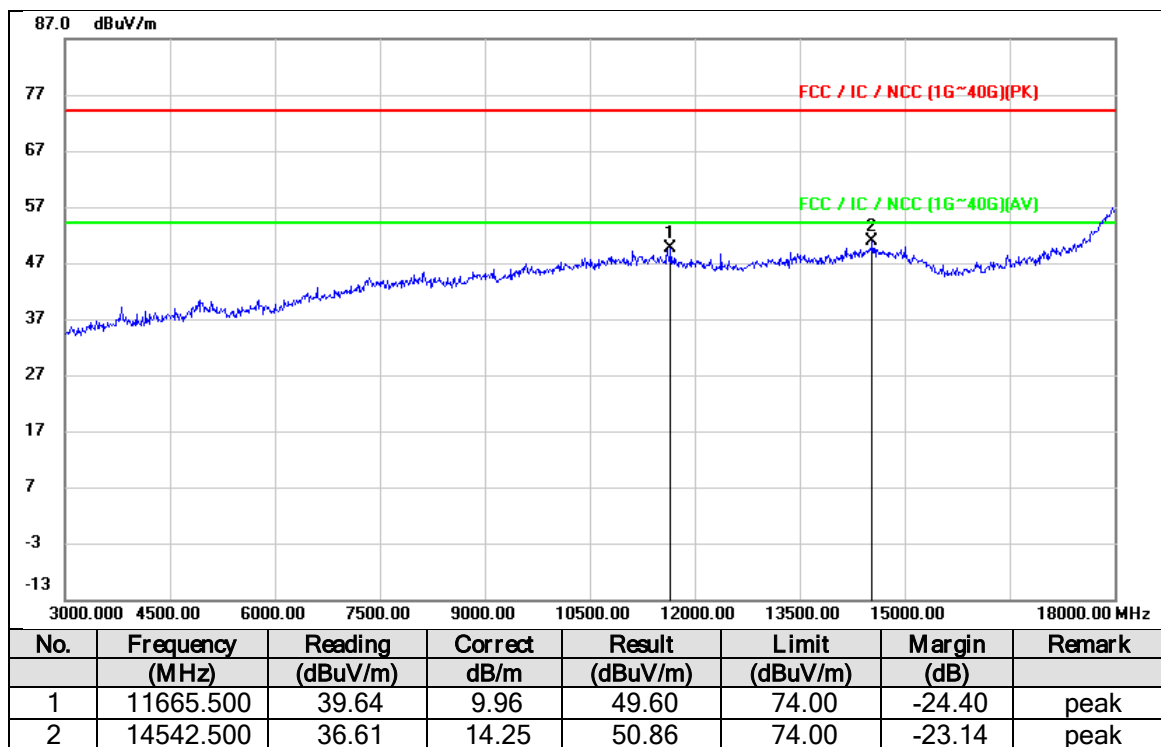
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Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11g Ch 6 2437 MHz 3-18 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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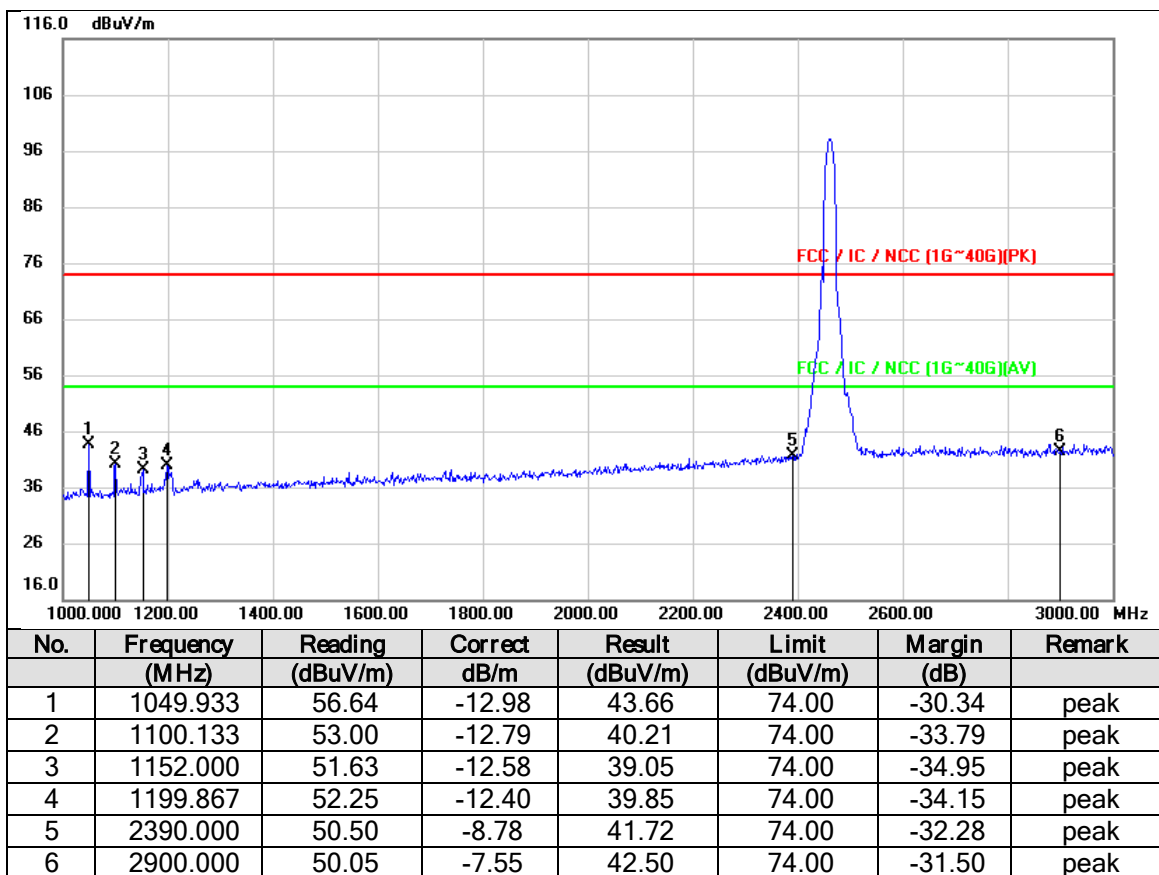
Telephone :+886-2-7737-3000

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Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11g Ch 11 2462 MHz 1-3 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit

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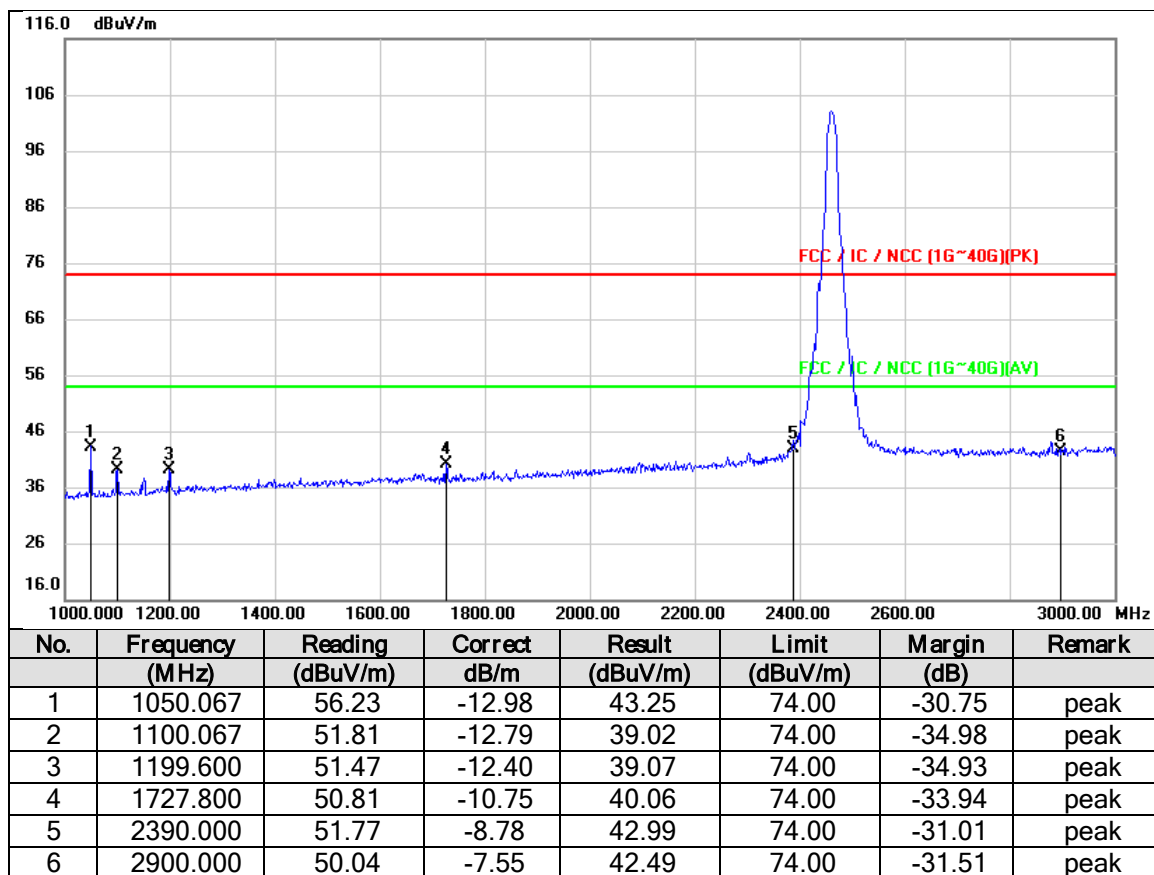
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Spurious Emission 802.11g Ch 11 2462 MHz 1-3 GHz Vertical

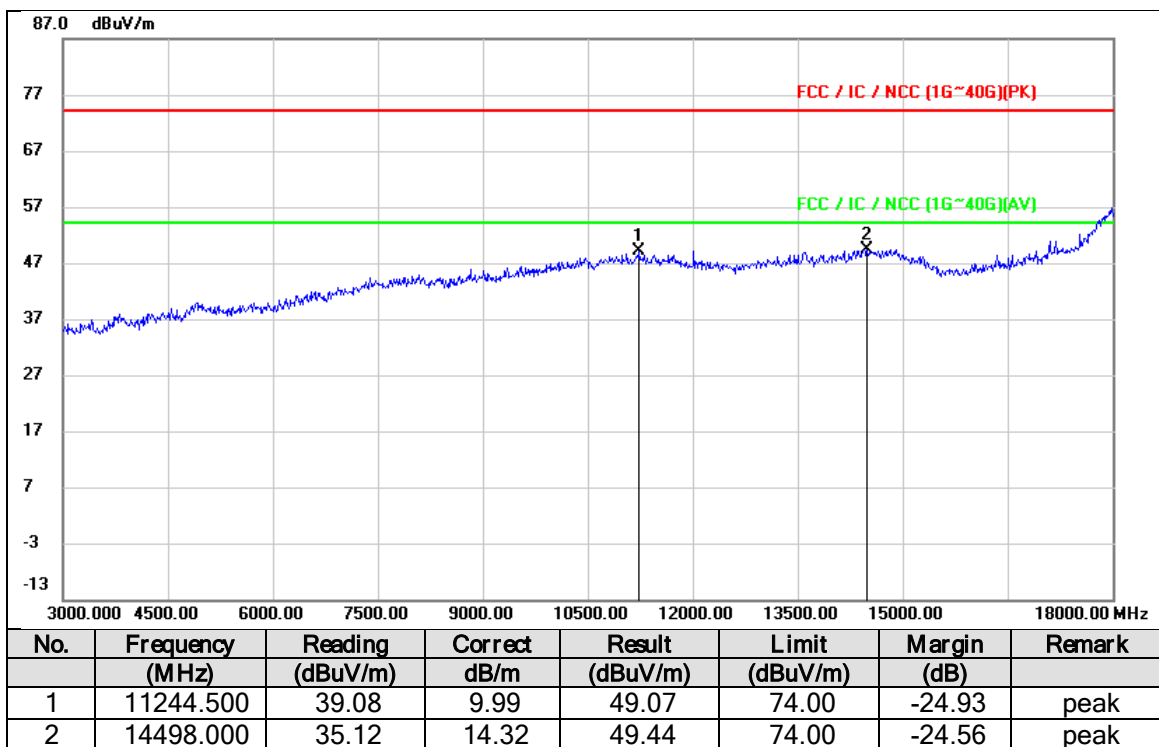


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11g Ch 11 2462 MHz 3-18 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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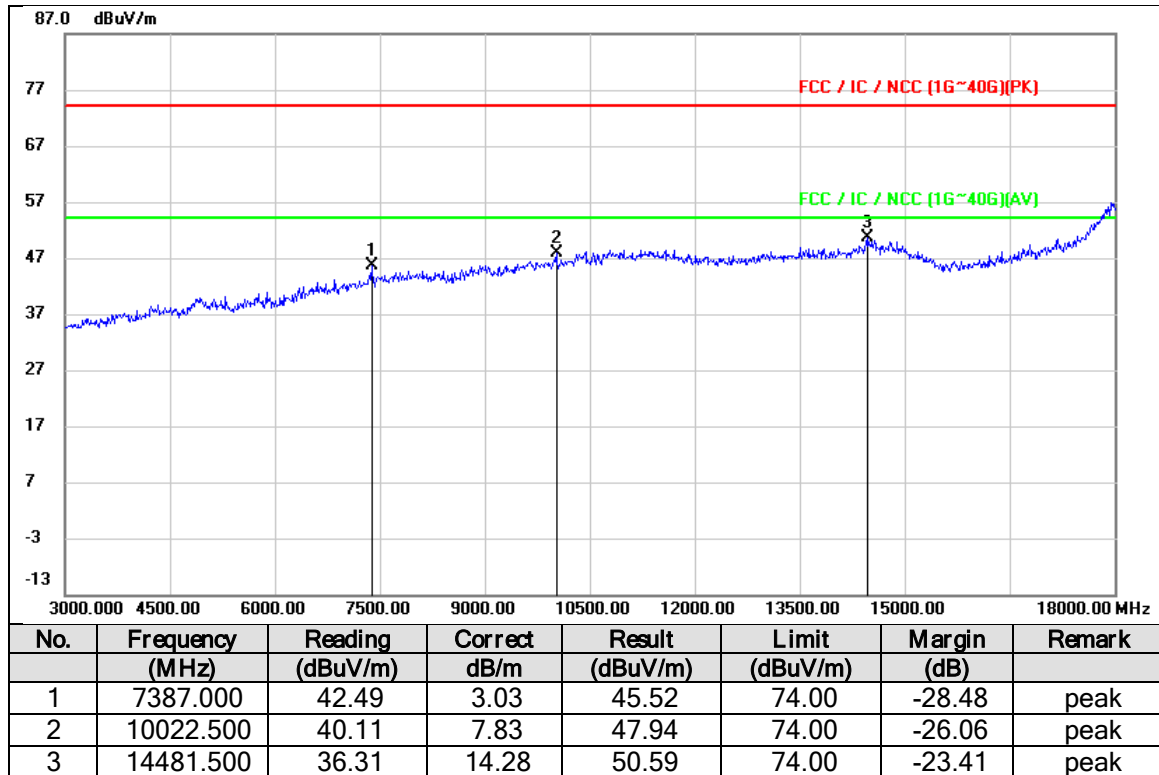
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Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11g Ch 11 2462 MHz 3-18 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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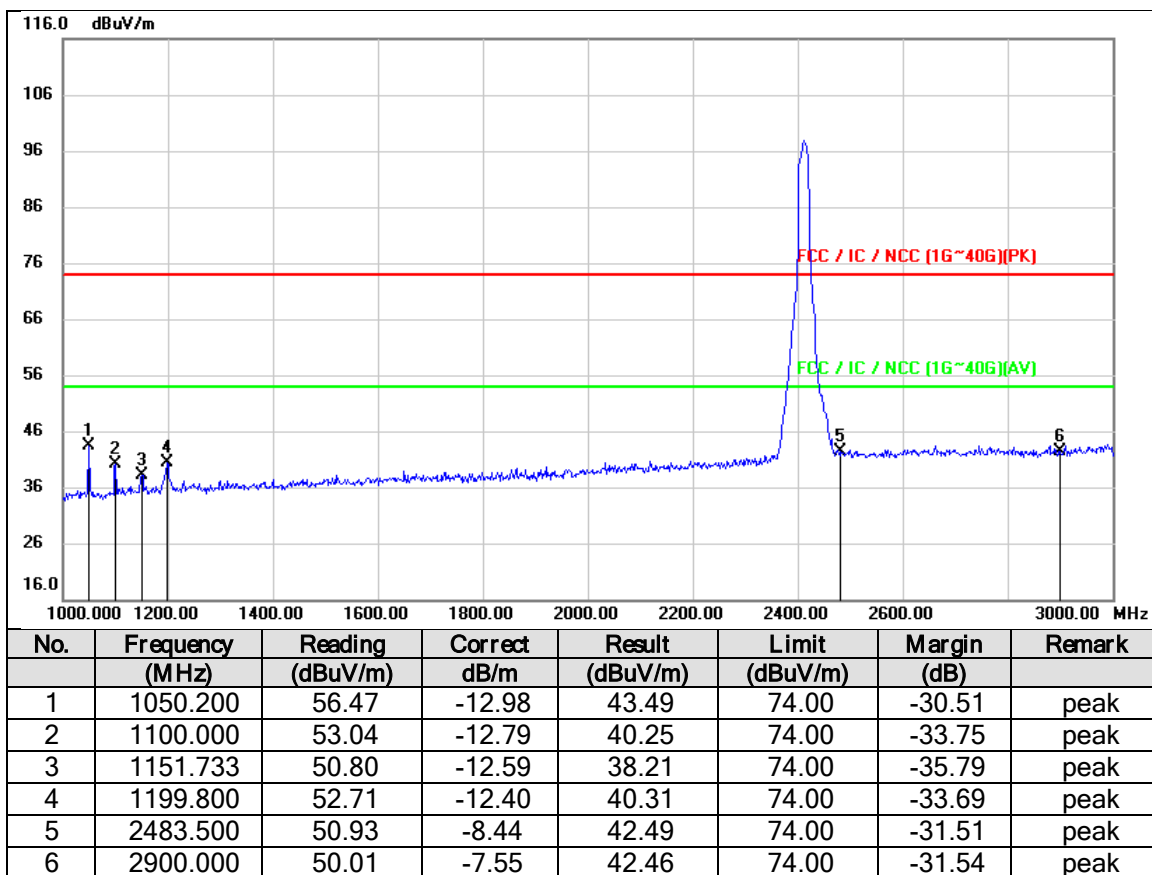
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Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11n HT20 Ch 1 2412 MHz 1-3 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit

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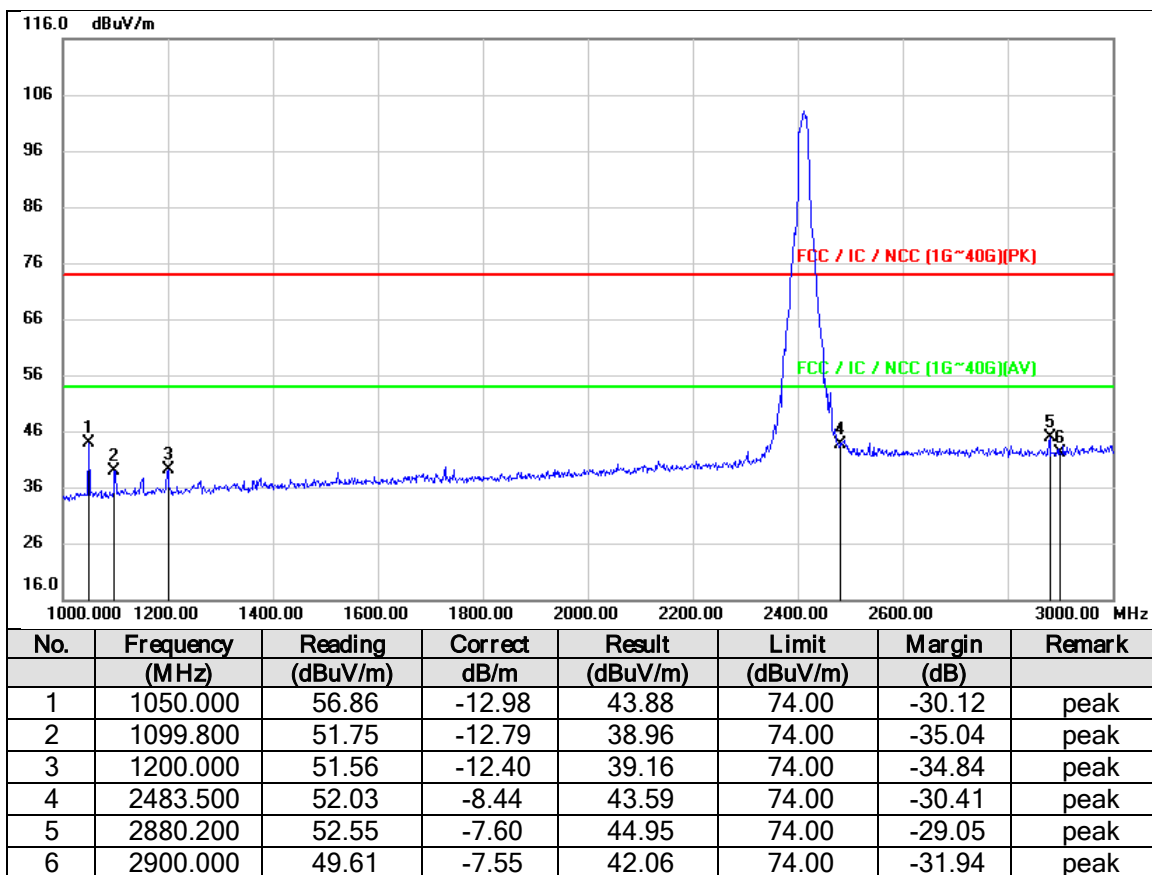
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Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11n HT20 Ch 1 2412 MHz 1-3 GHz Vertical

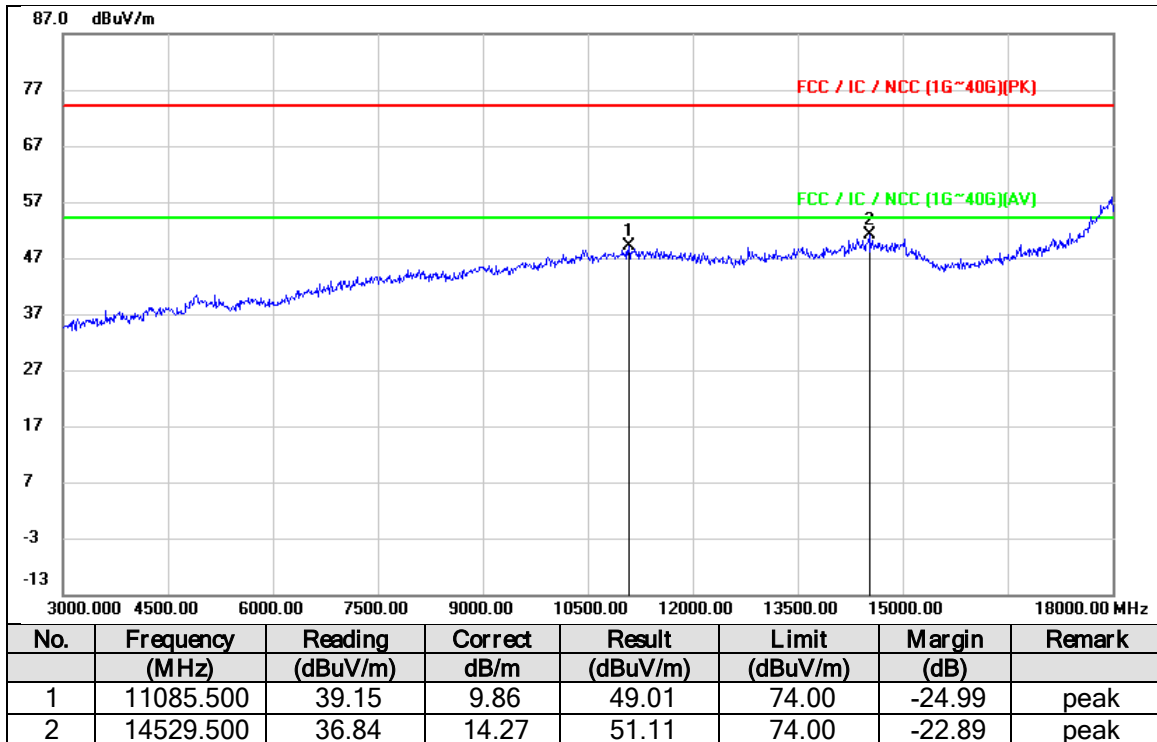


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11n HT20 Ch 1 2412 MHz 3-18 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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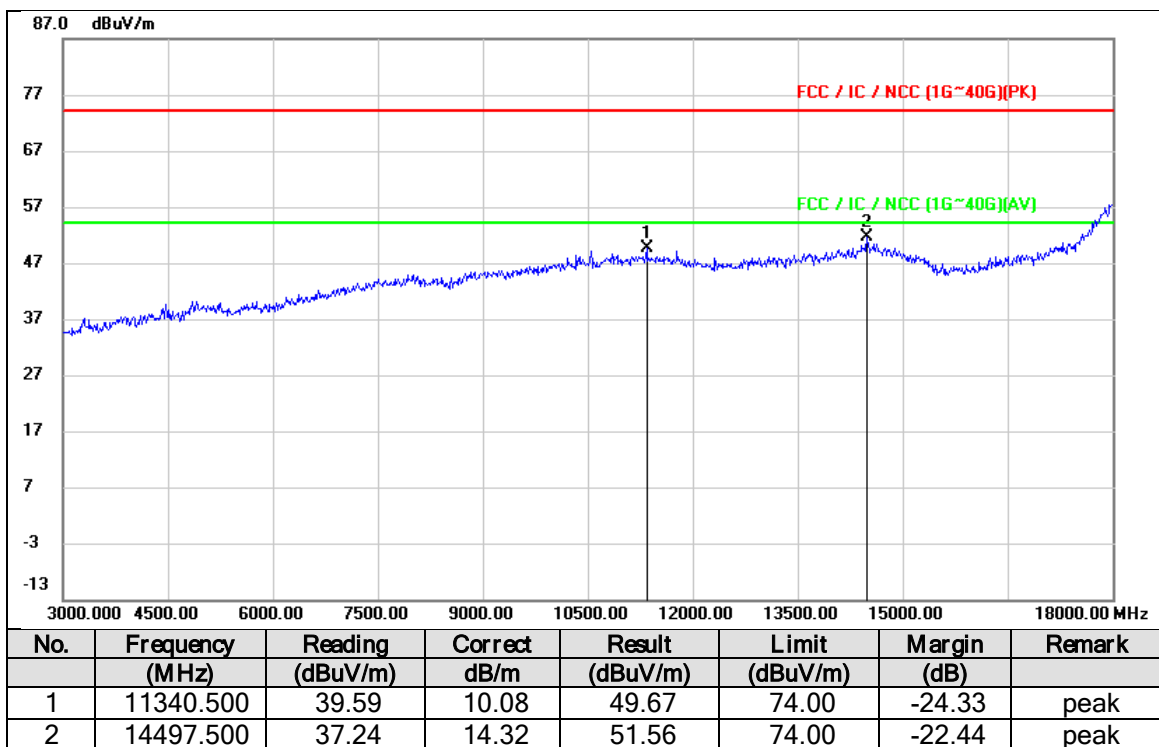
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11n HT20 Ch 1 2412 MHz 3-18 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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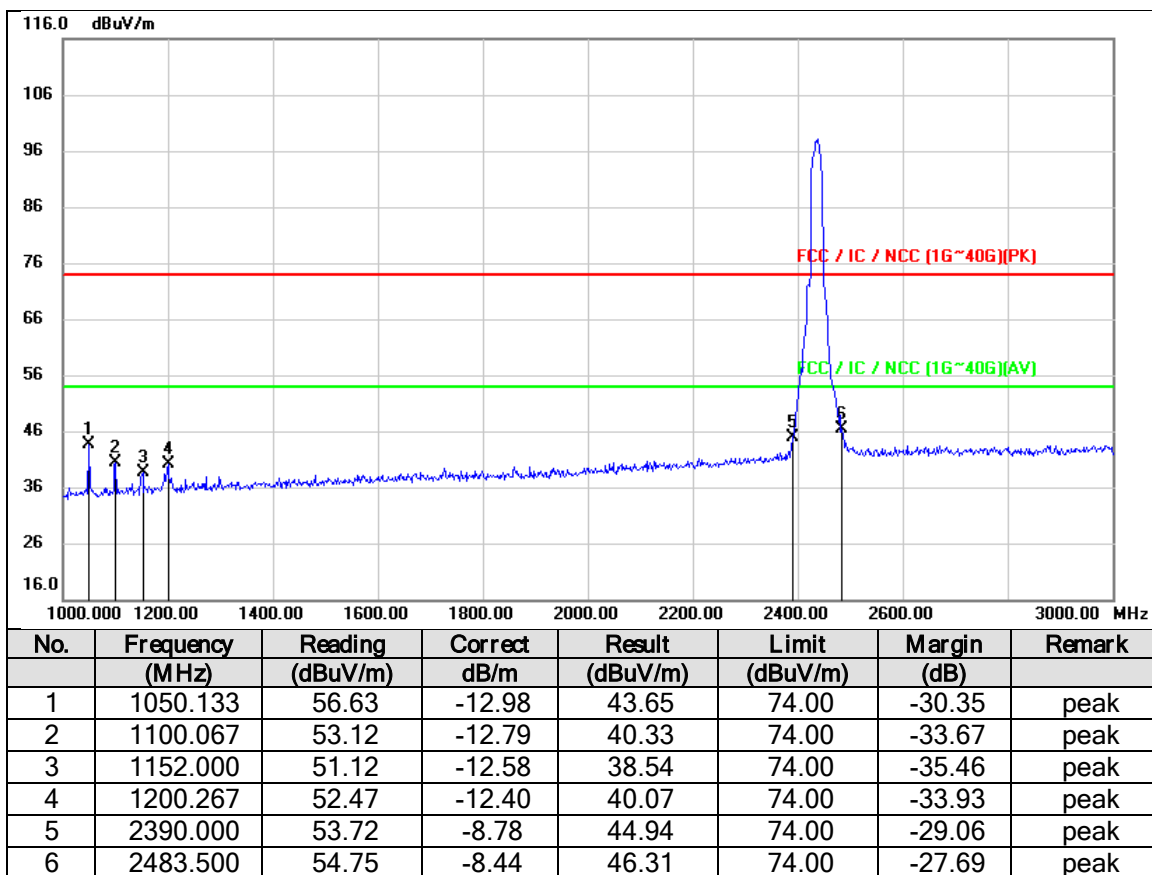
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11n HT20 Ch 6 2437 MHz 1-3 GHz Horizontal

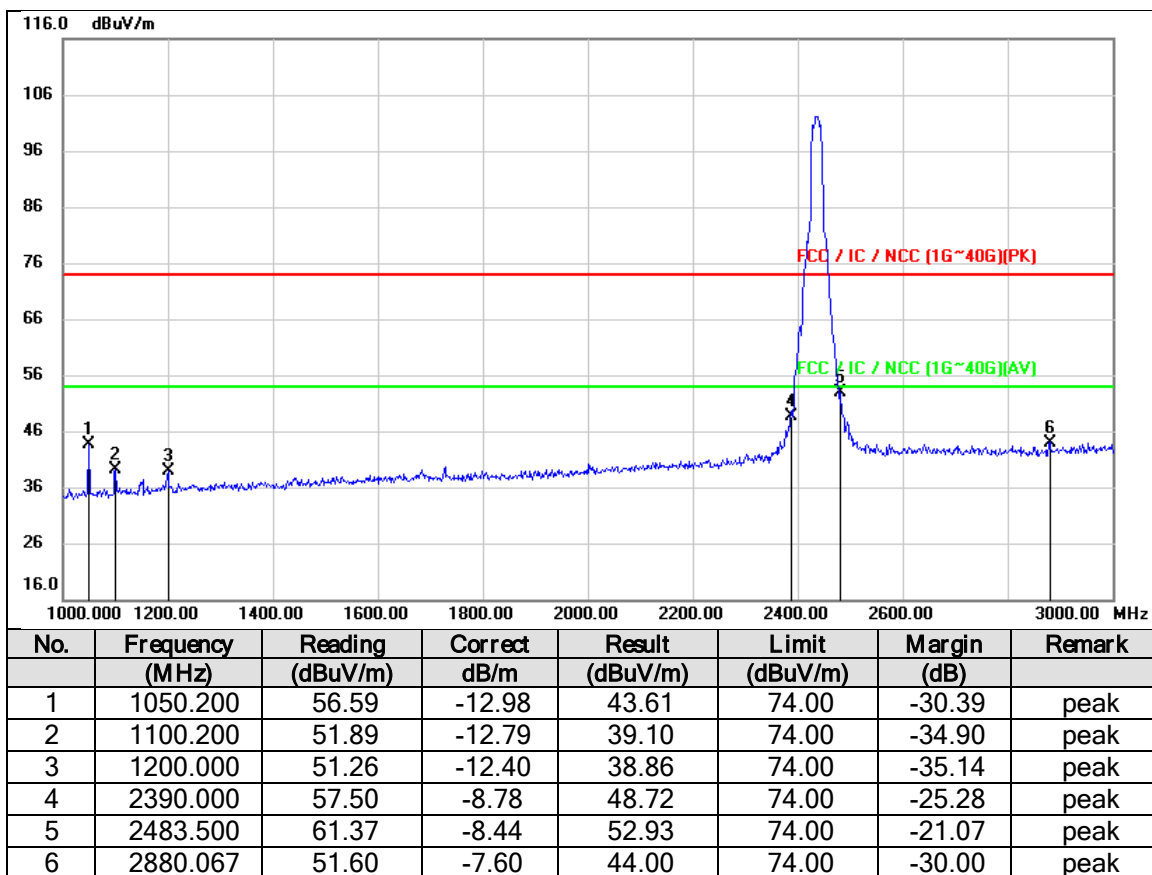


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11n HT20 Ch 6 2437 MHz 1-3 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit

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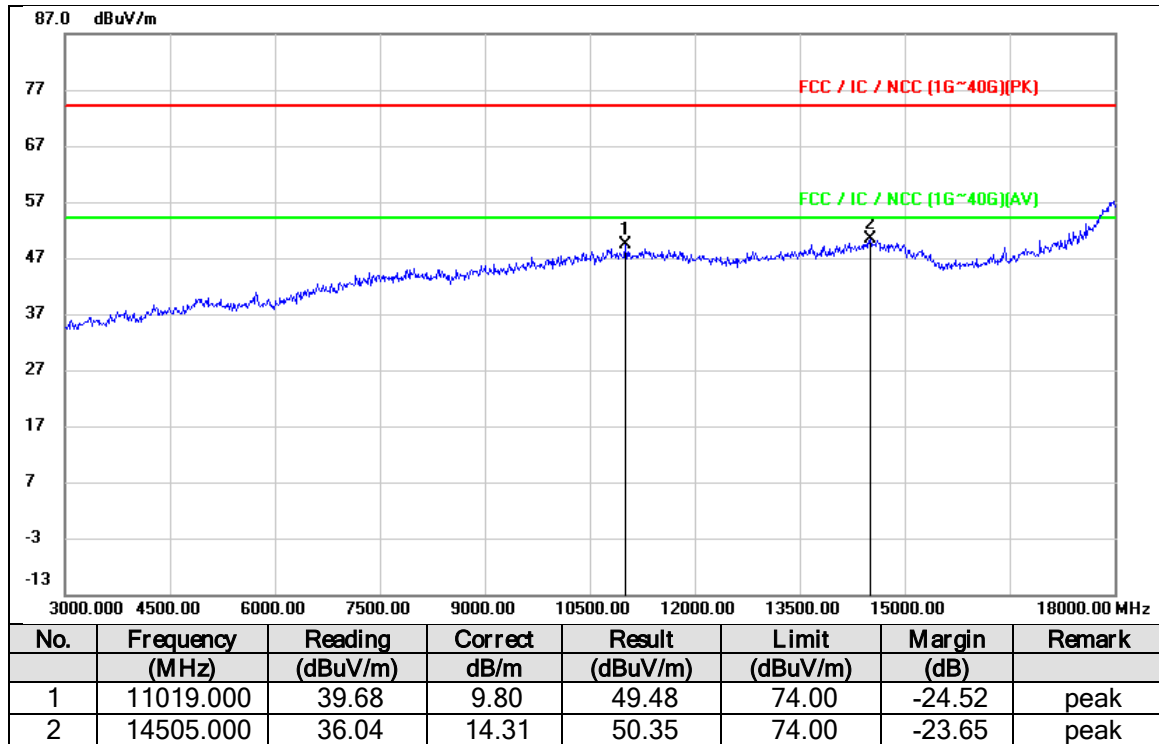
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11n HT20 Ch 6 2437 MHz 3-18 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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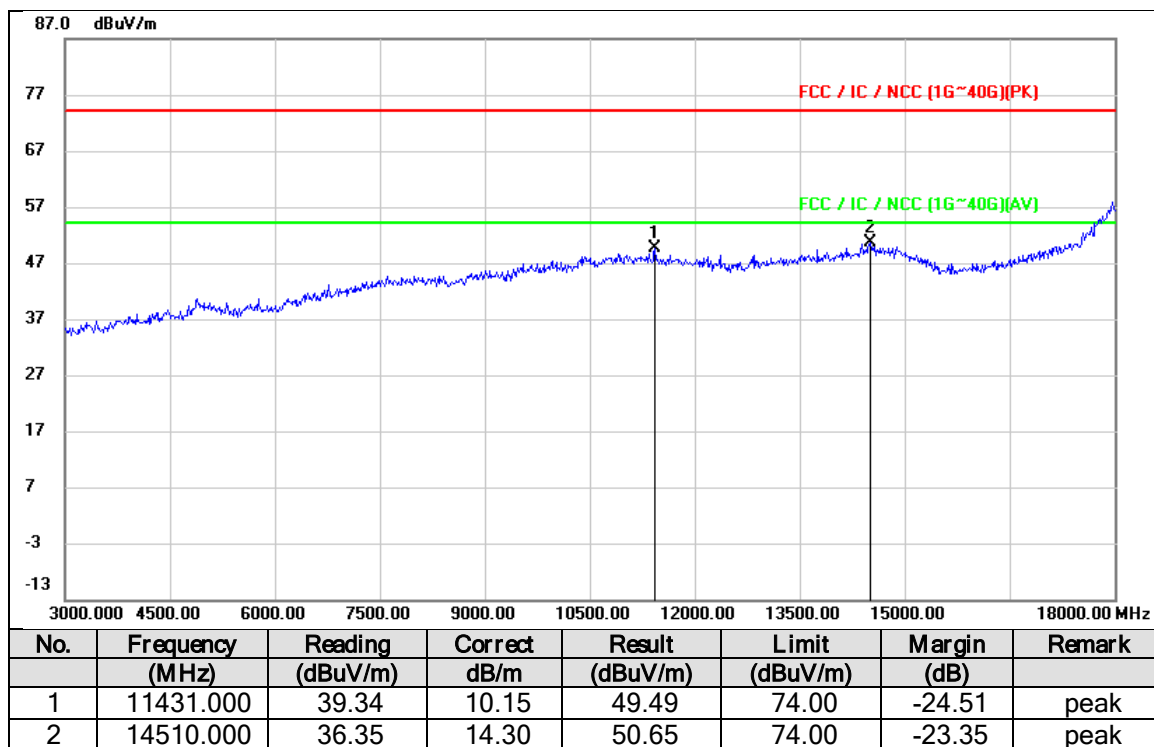
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11n HT20 Ch 6 2437 MHz 3-18 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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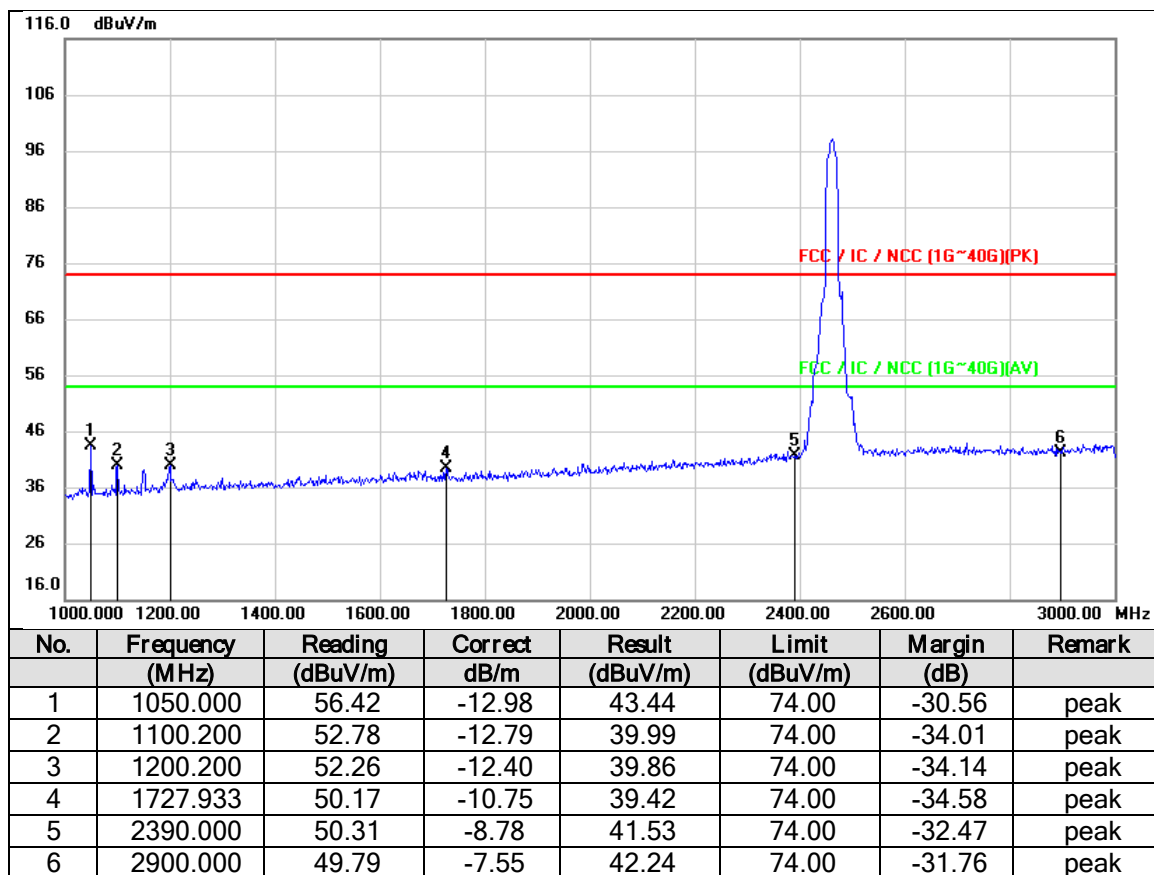
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11n HT20 Ch 11 2462 MHz 1-3 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit

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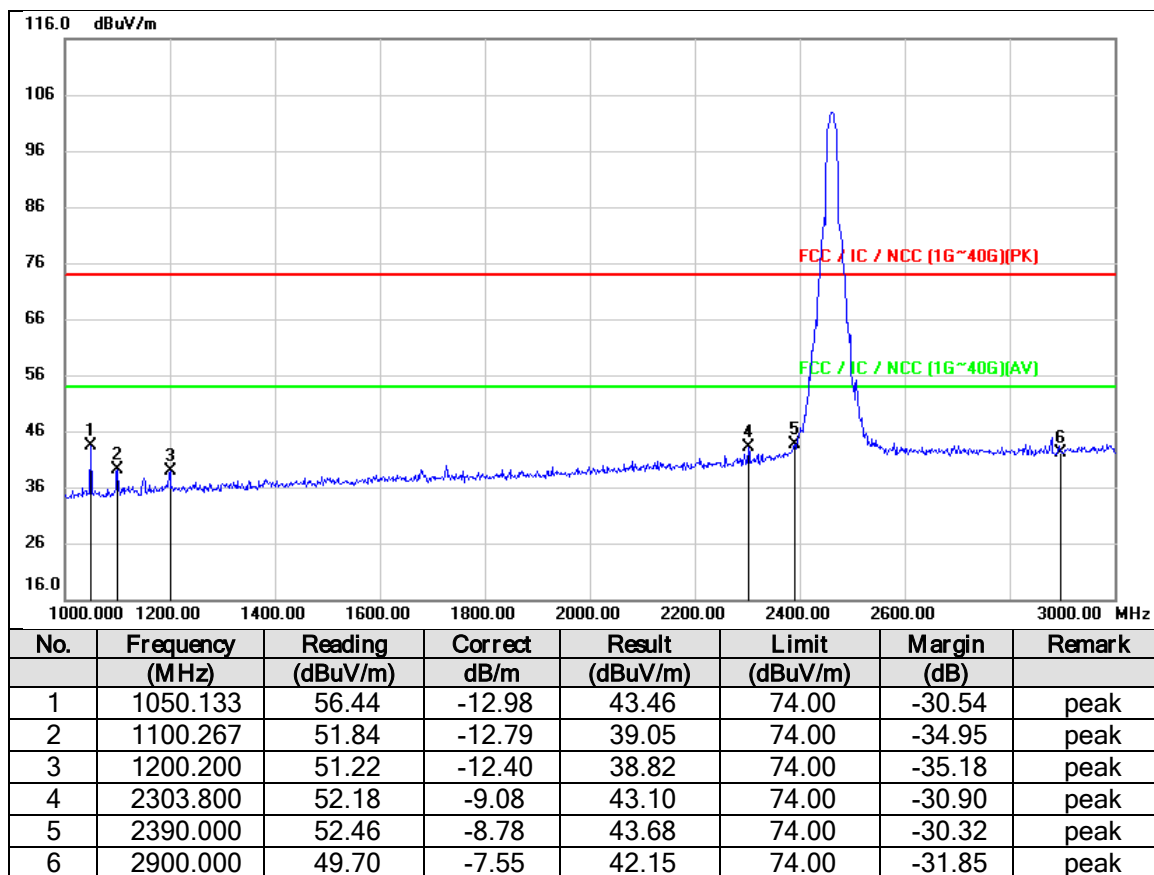
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11n HT20 Ch 11 2462 MHz 1-3 GHz Vertical

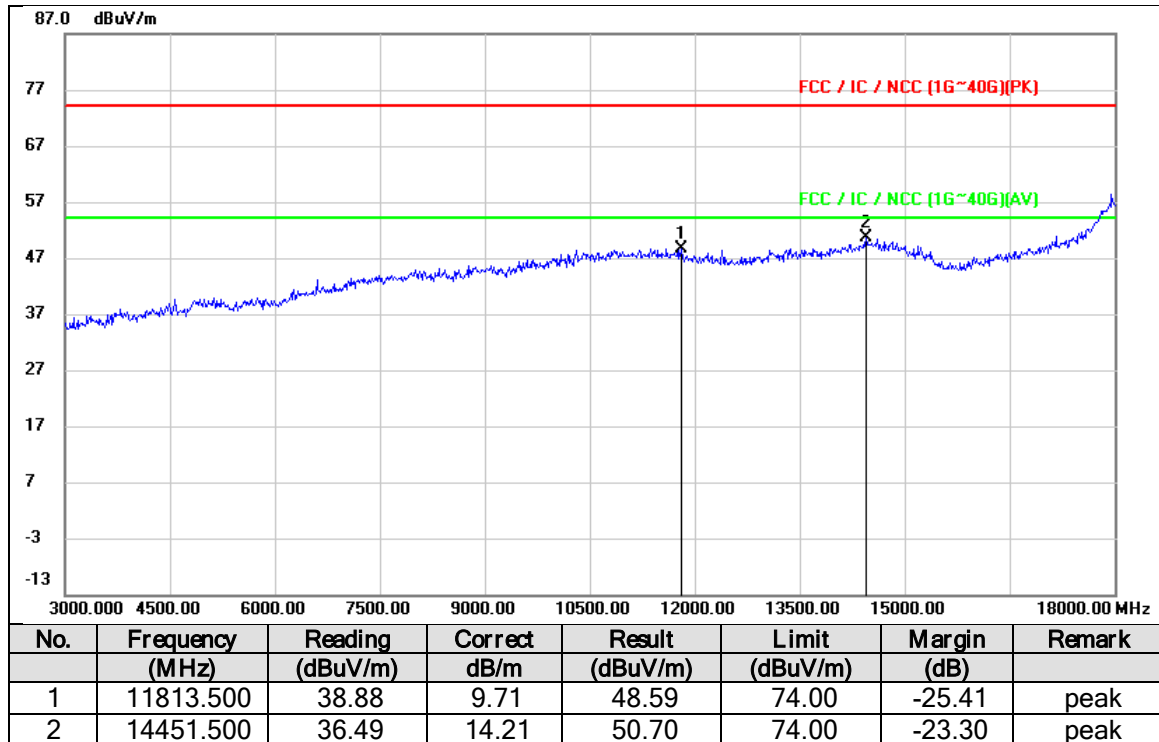


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission 802.11n HT20 Ch 11 2462 MHz 3-18 GHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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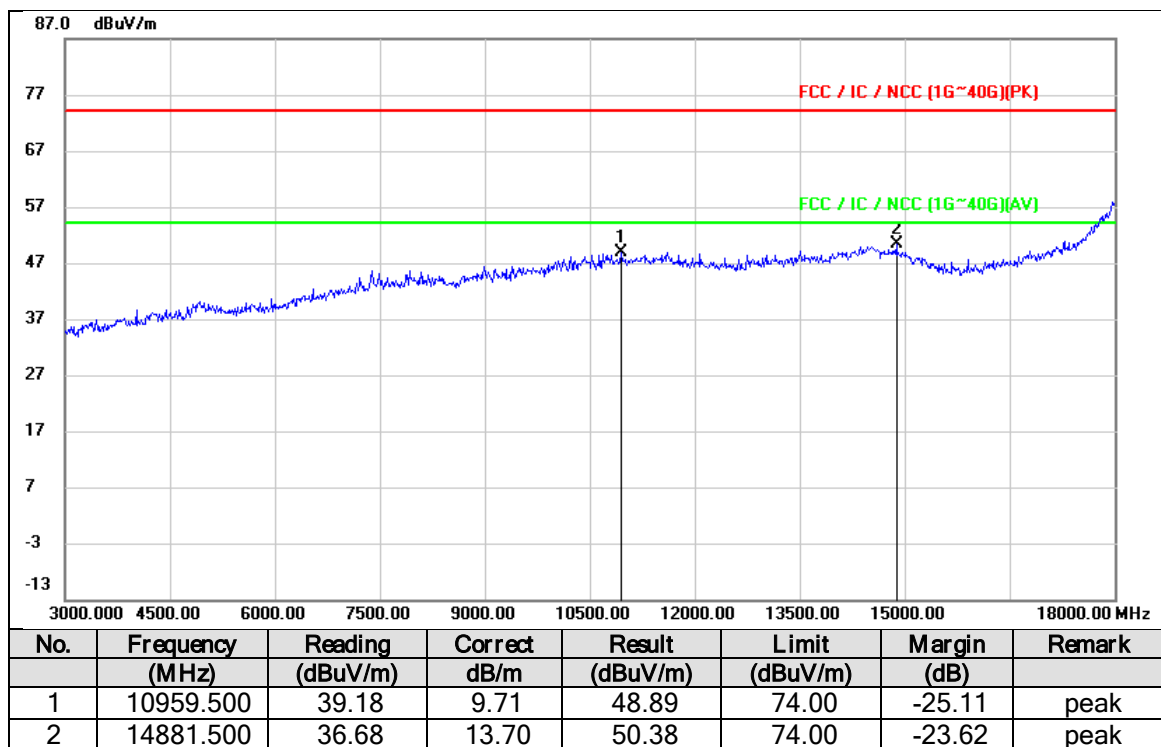
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission 802.11n HT20 Ch 11 2462 MHz 3-18 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit
4. The 18 GHz signal is background noise floor.

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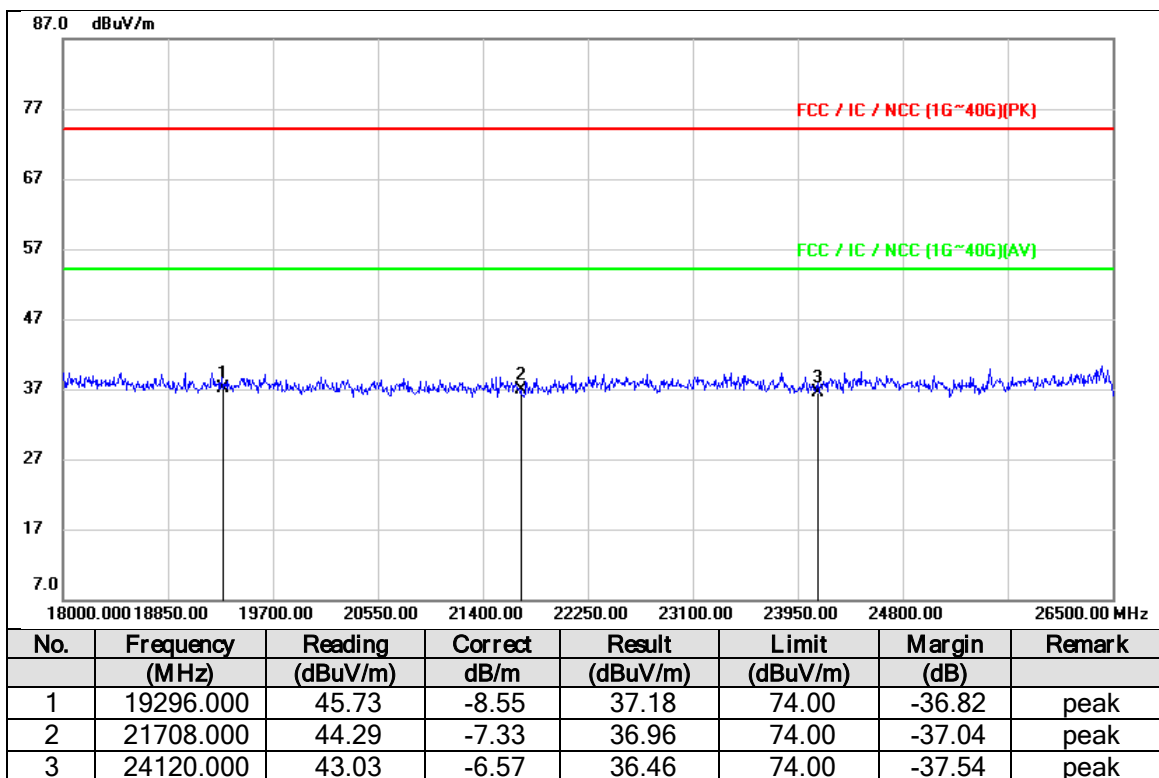
Telephone :+886-2-7737-3000

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Spurious Emission Worst case 18-25 GHz Horizontal

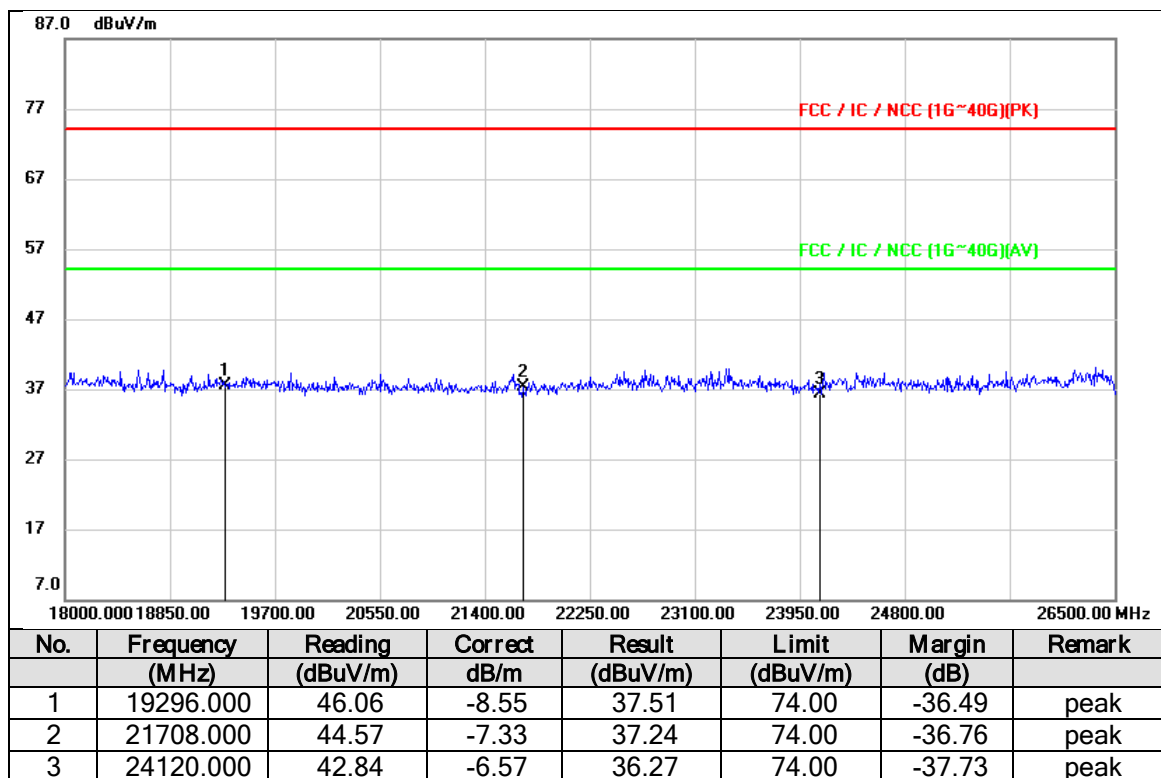


Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit



Spurious Emission Worst case 18-25 GHz Vertical



Note :

1. Correct = Antenna factor + Cable loss - Amplifier Factor
2. Result = Reading + Correct
3. Margin = Result - Limit

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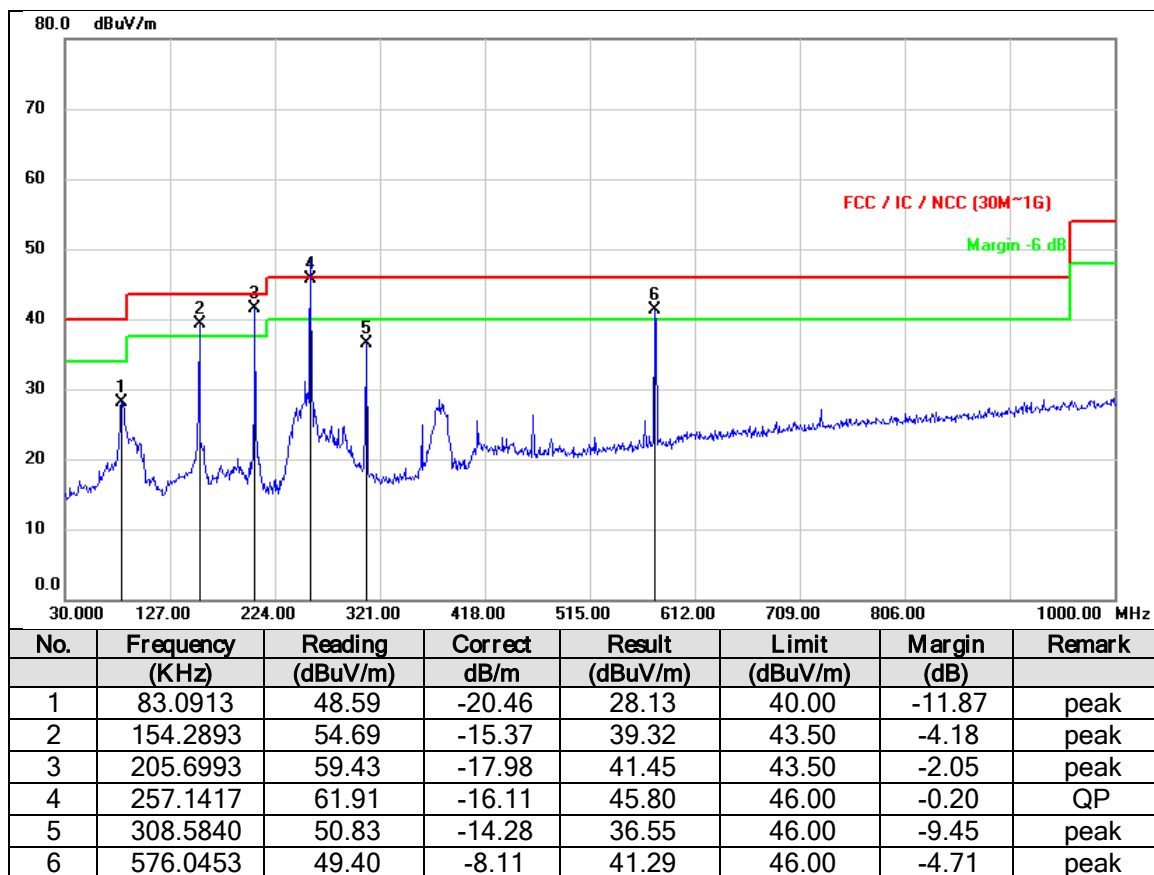
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Spurious Emission Worst case 30-1000 MHz Horizontal



Note :

1. Correct = Antenna factor + Cable loss
2. Result = Reading + Correct
3. Margin = Result - Limit

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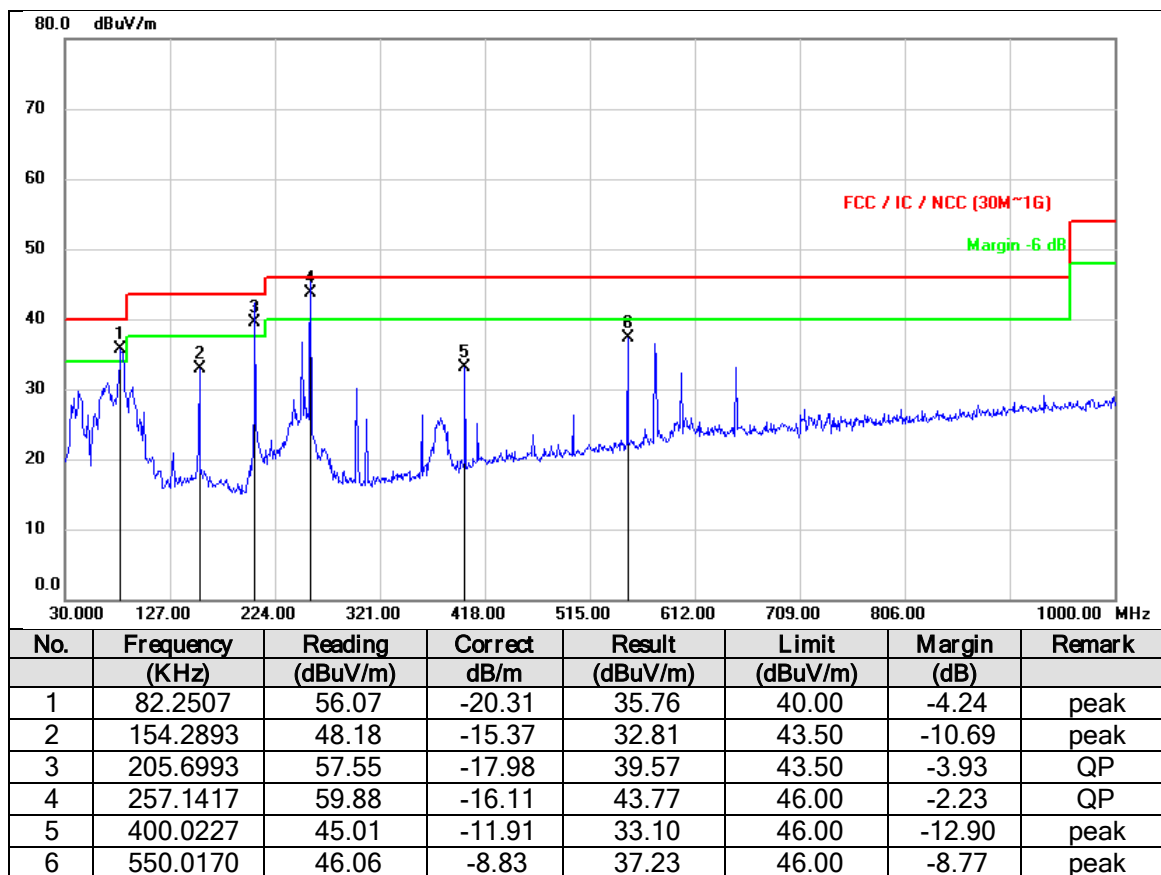
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Doc No: 17-EM-F0876 / 1.1



Spurious Emission Worst case 30-1000 MHz Vertical



Note :

1. Correct = Antenna factor + Cable loss
2. Result = Reading + Correct
3. Margin = Result - Limit

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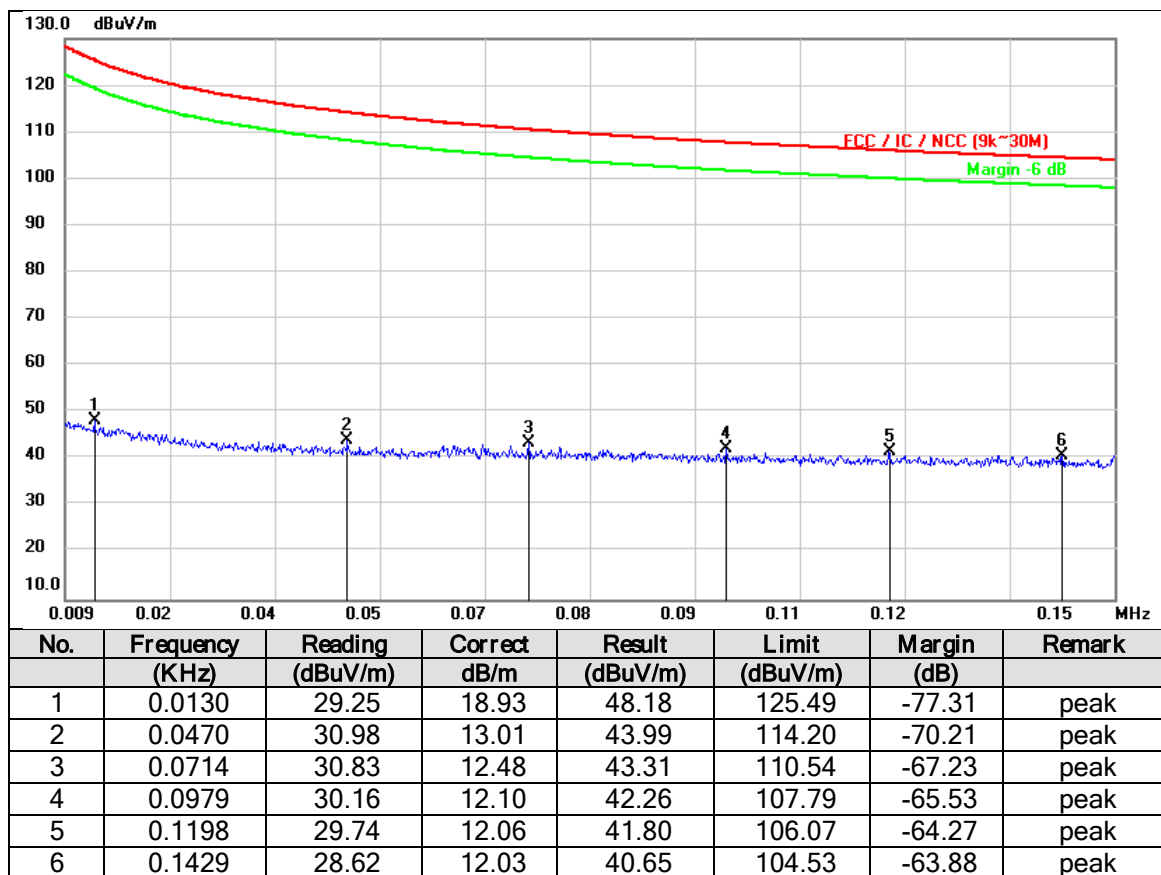
Telephone :+886-2-7737-3000

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Doc No: 17-EM-F0876 / 1.1



Spurious Emission Worst case 9-150 kHz 0°



Note :

1. Correct = Antenna factor + Cable loss
2. Result = Reading + Correct
3. Margin = Result - Limit

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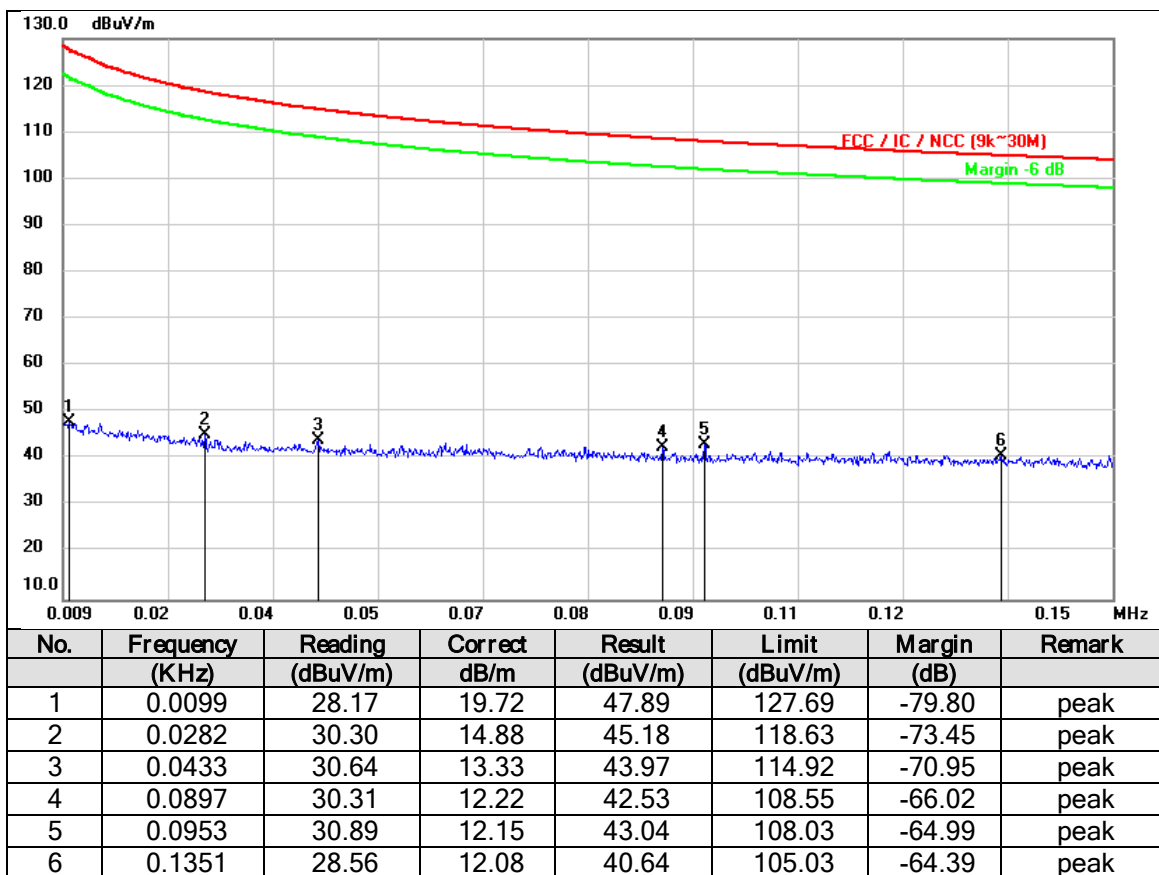
Telephone :+886-2-7737-3000

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Doc No: 17-EM-F0876 / 1.1



Spurious Emission Worst case 9-150 kHz 90°



Note :

1. Correct = Antenna factor + Cable loss
2. Result = Reading + Correct
3. Margin = Result - Limit

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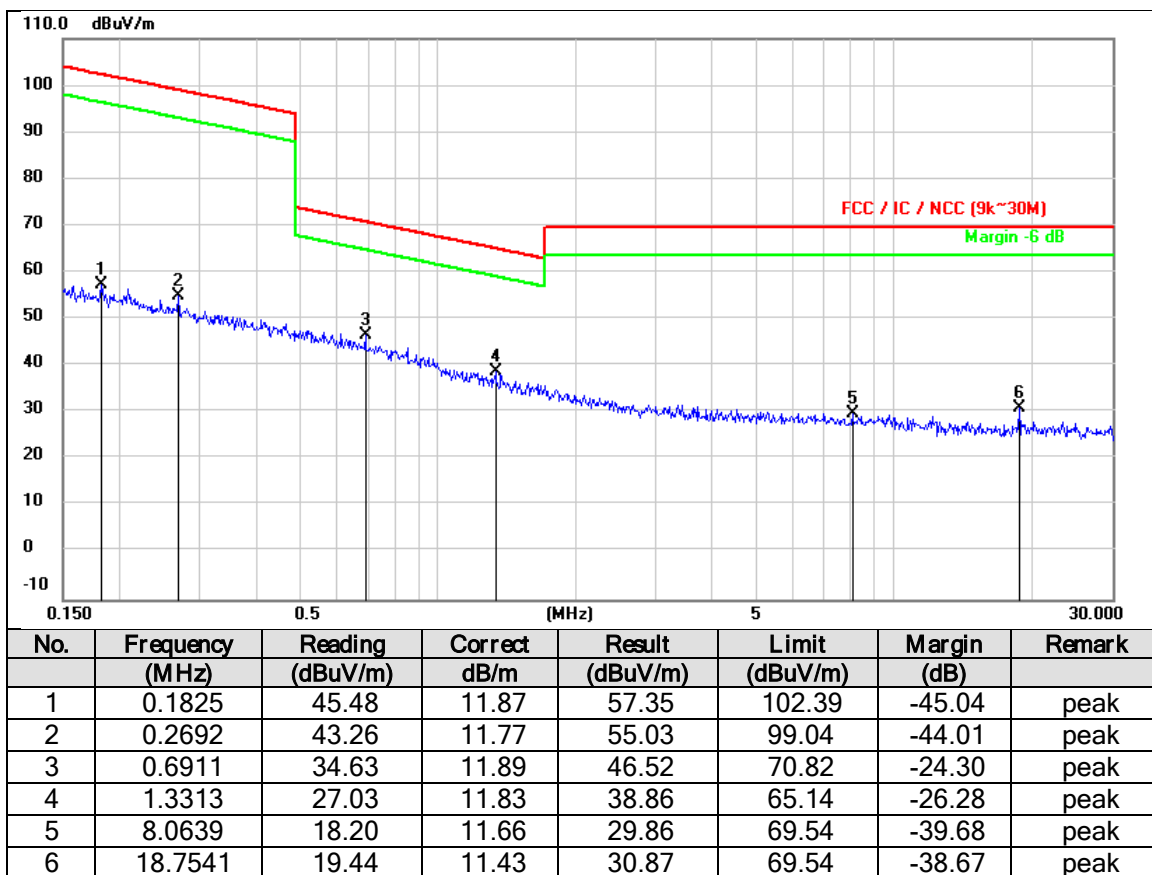
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission Worst case 150 kHz-30 MHz 0°



Note :

1. Correct = Antenna factor + Cable loss
2. Result = Reading + Correct
3. Margin = Result - Limit

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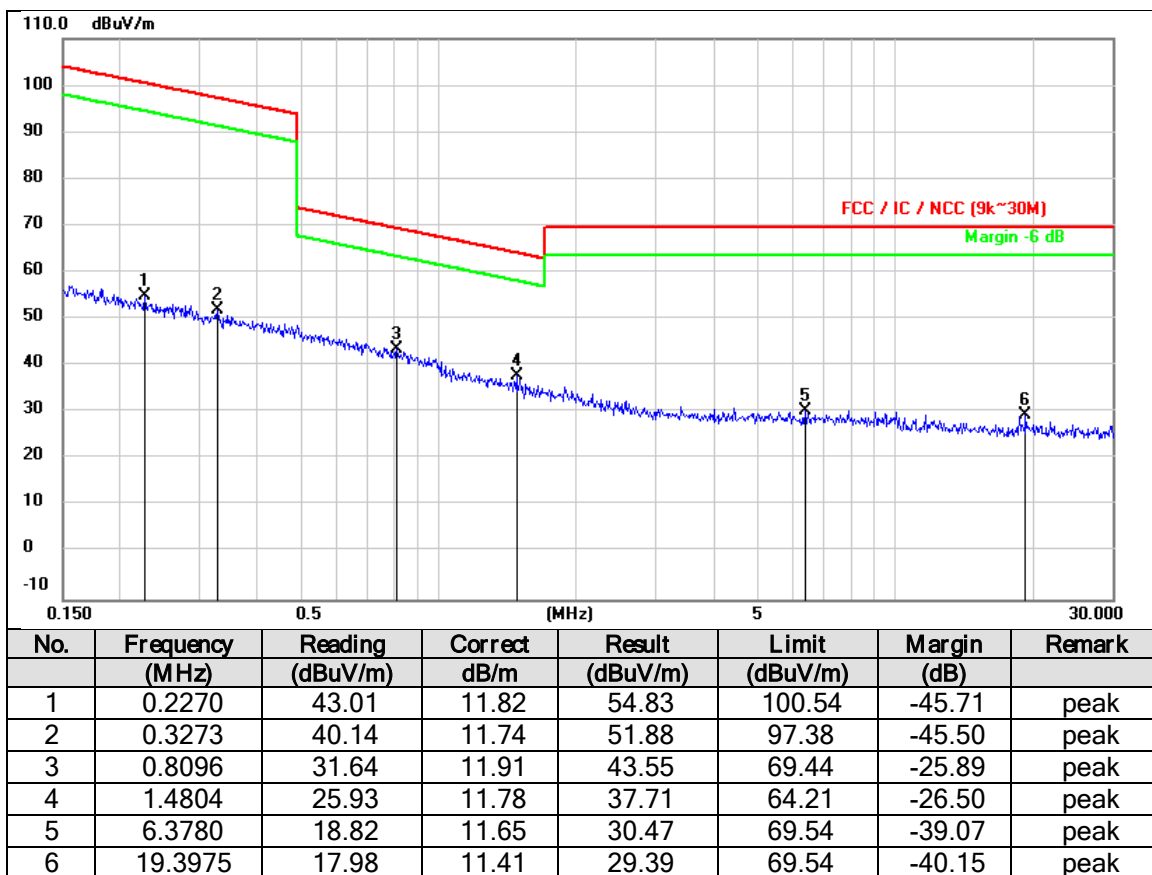
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Spurious Emission Worst case 150 kHz-30 MHz 90°



Note :

1. Correct = Antenna factor + Cable loss
2. Result = Reading + Correct
3. Margin = Result - Limit

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Doc No: 17-EM-F0876 / 1.1

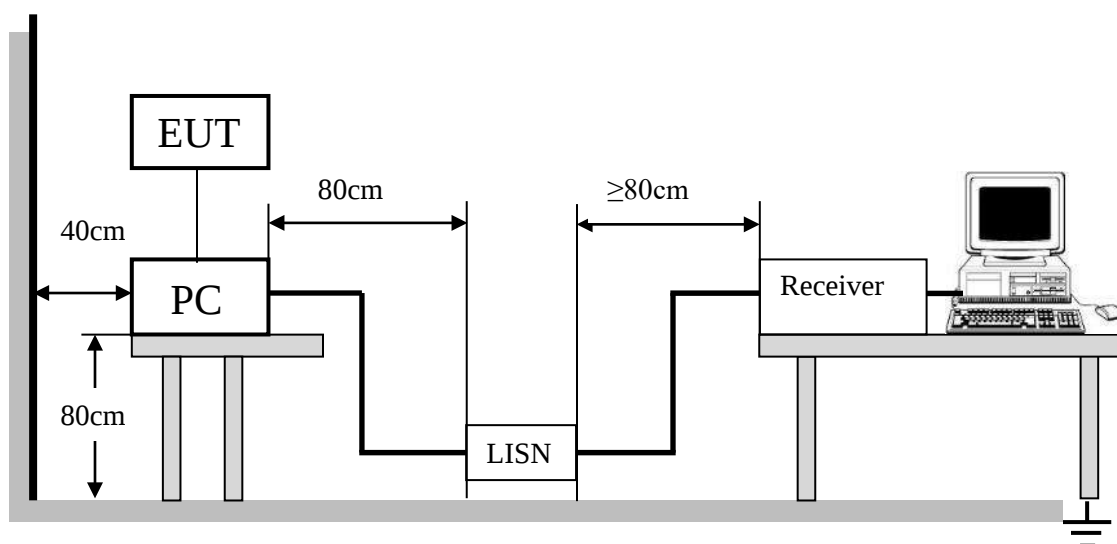


9.7. AC Power Line Conducted Emission

Requirements

Frequency of Emission(MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Test Procedures



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

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

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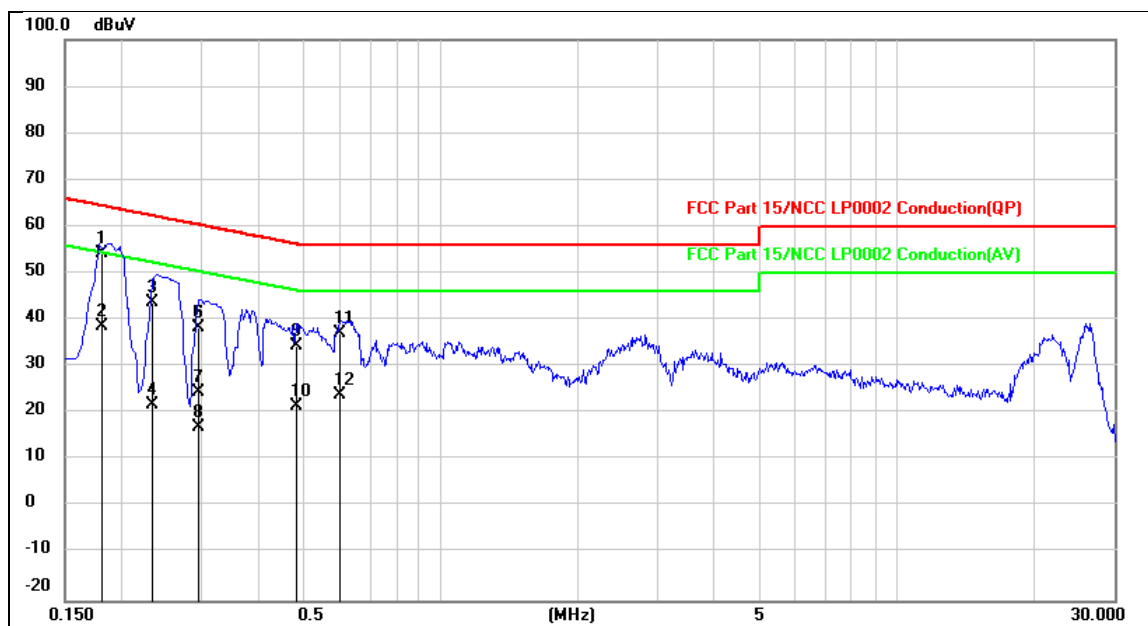


Test report No. : 4788402176A-US-R1-V0
Page : 127 of 128
Issued date : Apr. 13, 2018
FCC ID : 2AMPP-FB00000

Test Data

Test Engineer	Test date	Temperature	Humidity
WaterNil Guan	Apr. 9, 2018	26°C	54%

Line



No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1813	34.52	19.58	54.10	64.43	-10.33	QP
2	0.1813	19.14	19.58	38.72	54.43	-15.71	AVG
3	0.2337	24.02	19.59	43.61	62.32	-18.71	QP
4	0.2337	2.12	19.59	21.71	52.32	-30.61	AVG
5	0.2935	18.88	19.61	38.49	60.42	-21.93	QP
6	0.2935	18.88	19.61	38.49	60.42	-21.93	QP
7	0.2935	4.89	19.61	24.50	50.42	-25.92	AVG
8	0.2935	-2.43	19.61	17.18	50.42	-33.24	AVG
9	0.4840	14.92	19.59	34.51	56.27	-21.76	QP
10	0.4840	2.01	19.59	21.60	46.27	-24.67	AVG
11	0.5983	17.53	19.58	37.11	56.00	-18.89	QP
12	0.5983	4.48	19.58	24.06	46.00	-21.94	AVG

Note :

1. Correct = LISN factor + Cable loss + Pulse Limiter
2. Result = Reading + Correct
3. Margin = Result - Limit

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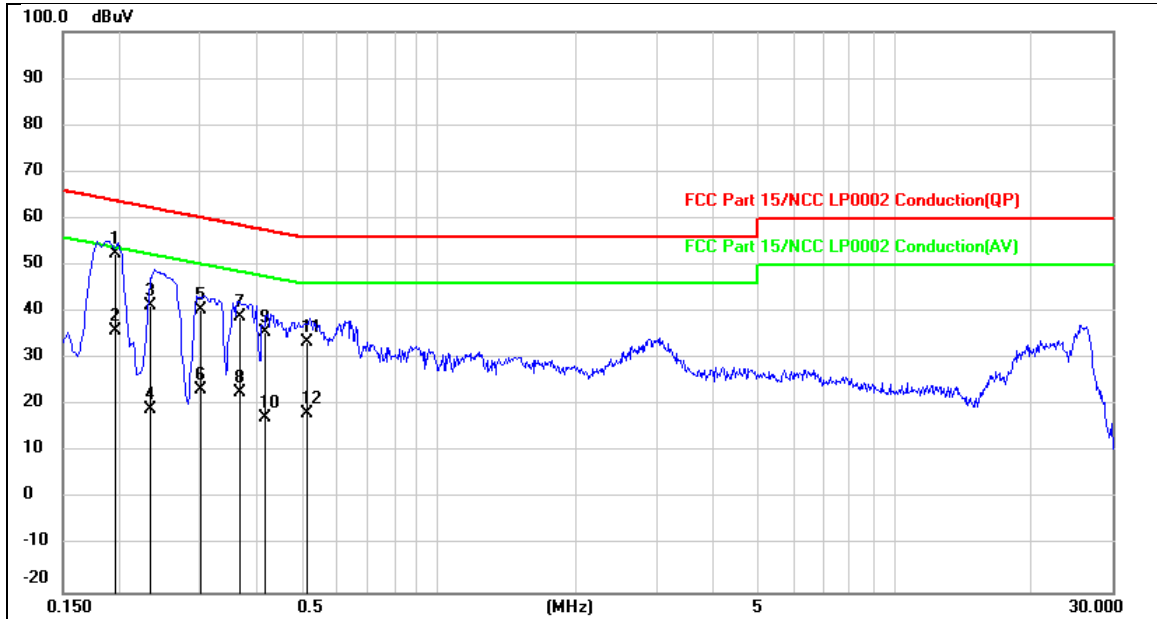
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Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0876 / 1.1



Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1949	32.77	19.59	52.36	63.83	-11.47	QP
2	0.1949	16.47	19.59	36.06	53.83	-17.77	AVG
3	0.2330	21.67	19.60	41.27	62.34	-21.07	QP
4	0.2330	-0.31	19.60	19.29	52.34	-33.05	AVG
5	0.3016	20.88	19.62	40.50	60.20	-19.70	QP
6	0.3016	3.85	19.62	23.47	50.20	-26.73	AVG
7	0.3660	19.24	19.62	38.86	58.59	-19.73	QP
8	0.3660	3.13	19.62	22.75	48.59	-25.84	AVG
9	0.4175	16.02	19.61	35.63	57.50	-21.87	QP
10	0.4175	-2.37	19.61	17.24	47.50	-30.26	AVG
11	0.5169	13.88	19.61	33.49	56.00	-22.51	QP
12	0.5169	-1.35	19.61	18.26	46.00	-27.74	AVG

Note :

1. Correct = LISN factor + Cable loss + Pulse Limiter
2. Result = Reading + Correct
3. Margin = Result - Limit

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