

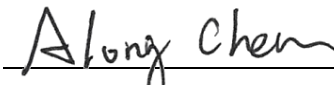
FCC Test Report

FCC ID : XNAWBS12
Equipment : WITHINGS BODY COMP
Model No. : WBS12
Brand Name : Withings
Applicant : Withings
Address : 2 rue Maurice Hartmann
92130 Issy-Les-Moulineaux
France
Standard : 47 CFR FCC Part 15.247
Received Date : Aug. 04, 2022
Tested Date : Aug. 24 ~ Sep. 01, 2022

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:

Approved by:



Along Chen / Assistant Manager



Gary Chang / Manager

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Release Record

Report No.	Version	Description	Issued Date
FR280405AC	Rev. 01	Initial issue	Sep. 22, 2022

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	Note ¹	N/A
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 2357.00MHz 47.88 (Margin -6.12dB) - AV	Pass
15.247(b)(3)	Conducted Output Power	Max Power [dBm]: 23.08	Pass
15.247(a)(2)	6dB Bandwidth	Meet the requirement of limit	Pass
15.247(e)	Power Spectral Density	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass
<p>N/A means Not Applicable. Note¹: The EUT consumes DC power from battery, so the test is not required.</p>			

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
2400-2483.5	b	2412-2462	1-11 [11]	1	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	1	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	1	MCS 0-7

Note 1: RF output power specifies that Maximum Peak Conducted Output Power.
 Note 2: DSSS-DBPSK, DQPSK, CCK modulation
 OFDM- BPSK, QPSK, 16QAM, 64QAM

1.1.2 Antenna Details

Ant. No.	Brand	Model	Type	Connector	Gain (dBi)
1	BROADCOM	BCM9Fractal64	PCB	NA	2.8

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	4x 1.5V AAA battery
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1.1.4 Accessories

N/A

1.1.5 Test Sample Information

MAC of Test Sample	Radiated Emission: A47EFA03AB6E Antenna Port Conducted: A47EFA03AB73
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1.1.6 Channel List

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

1.1.7 Test Tool and Duty Cycle

Test Tool	Tera Term, V4.94		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11b	99.66%	0.01
	11g	94.20%	0.26
	HT20	94.36%	0.25

1.1.8 Power Index of Test Tool

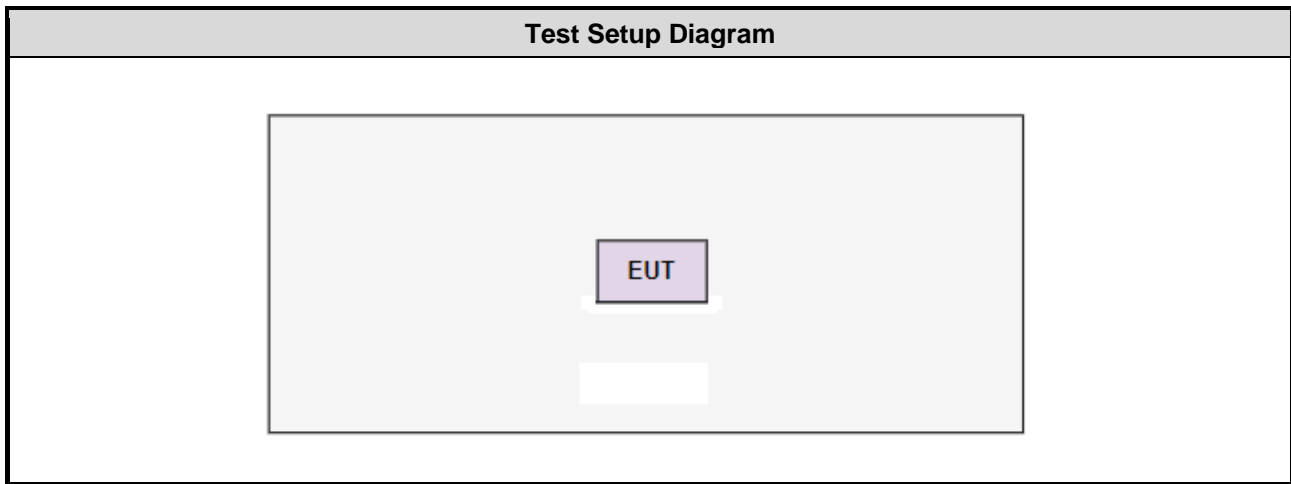
Modulation Mode	Test Frequency (MHz)	Power Index
11b	2412	16
11b	2437	16
11b	2462	16
11g	2412	16
11g	2437	16
11g	2462	15
HT20	2412	16
HT20	2437	16
HT20	2462	15

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude 5400	DoC	---
2	Fixture	---	---	---	Provided by applicant.

Note: The support notebook and fixture are disconnected from EUT and removed from test table after sending command to EUT to control EUT to transmit continuously.

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Aug. 24, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 15, 2022	Mar. 14, 2023
Spectrum Analyzer	R&S	FSV40	101498	Nov. 29, 2021	Nov. 28, 2022
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 08, 2021	Nov. 07, 2022
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 03, 2022	Aug. 02, 2023
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 03, 2021	Dec. 02, 2022
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 04, 2021	Nov. 03, 2022
Preamplifier	EMC	EMC02325	980225	Jun. 28, 2022	Jun. 27, 2023
Preamplifier	EMC	EMC118A45SE	980898	Jul. 16, 2022	Jul. 15, 2023
Preamplifier	EMC	EMC184045B	980192	Jul. 08, 2022	Jul. 07, 2023
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 05, 2021	Oct. 04, 2022
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 05, 2021	Oct. 04, 2022
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 05, 2021	Oct. 04, 2022
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 05, 2021	Oct. 04, 2022
RF Cable	EMC	EMC104-35M-35M- 8000	210920	Oct. 05, 2021	Oct. 04, 2022
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 05, 2021	Oct. 04, 2022
Measurement Software	AUDIX	e3	6.120210g	NA	NA

Note: Calibration Interval of instruments listed above is one year.

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Sep. 01, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101910	Apr. 18, 2022	Apr. 17, 2023
Power Meter	Anritsu	ML2495A	1241002	Nov. 07, 2021	Nov. 06, 2022
Power Sensor	Anritsu	MA2411B	1207366	Nov. 07, 2021	Nov. 06, 2022
Measurement Software	Sporton	SENSE-15247_DTS	V5.10	NA	NA

Note: Calibration Interval of instruments listed above is one year.

1.5 Test Standards

47 CFR FCC Part 15.247

ANSI C63.10-2013

1.6 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

1.7 Deviation from Test Standard and Measurement Procedure

None

1.8 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$)).

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	± 34.130 Hz
Conducted power	± 0.808 dB
Power density	± 0.583 dB
Conducted emission	± 2.715 dB
AC conducted emission	± 2.92 dB
Unwanted Emission ≤ 1 GHz	± 3.41 dB
Unwanted Emission > 1 GHz	± 4.59 dB

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	CO01-WS, 03CH01-WS, TH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISED#: 10807A
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Unwanted Emissions ≤ 1GHz	11g	2437	6 Mbps	---
Unwanted Emissions >1GHz	11b	2412 / 2437 / 2462	1 Mbps	---
Conducted Output Power	11g	2412 / 2437 / 2462	6 Mbps	
6dB bandwidth	HT20	2412 / 2437 / 2462	MCS 0	
Power spectral density				

3 Transmitter Test Results

3.1 6dB and Occupied Bandwidth

3.1.1 Limit of 6dB Bandwidth

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

3.1.2 Test Procedures

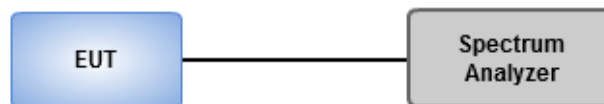
6dB Bandwidth

1. Set resolution bandwidth (RBW) = 100 kHz, Video bandwidth = 300 kHz.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6dB relative to the maximum level measured in the fundamental emission.

Occupied Bandwidth

1. Set resolution bandwidth (RBW) = 1% ~ 5 % of OBW, Video bandwidth = 3 x RBW
2. Detector = Sample, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Use the OBW measurement function of spectrum analyzer to measure the occupied bandwidth.

3.1.3 Test Setup



3.1.4 Test Results

Ambient Condition	24°C / 62%	Tested By	Roger Lu
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Refer to Appendix A.

3.2 Conducted Output Power

3.2.1 Limit of Conducted Output Power

Conducted power shall not exceed 1Watt.

Antenna gain \leq 6dBi, no any corresponding reduction is in output power limit.

Antenna gain $>$ 6dBi

Non Fixed, point to point operations.

The conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB

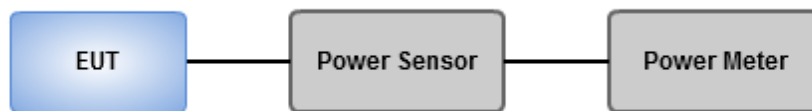
Fixed, point to point operations

Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point Operations, maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2 Test Procedures

A broadband RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

3.2.3 Test Setup



3.2.4 Test Results

Ambient Condition	24°C / 62%	Tested By	Roger Lu
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Refer to Appendix B.

3.3 Power Spectral Density

3.3.1 Limit of Power Spectral Density

Power spectral density shall not be greater than 8 dBm in any 3 kHz band.

3.3.2 Test Procedures

Peak PSD

1. Set the RBW = 3 kHz, VBW = 10 kHz.
2. Detector = Peak, Sweep time = auto couple.
3. Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

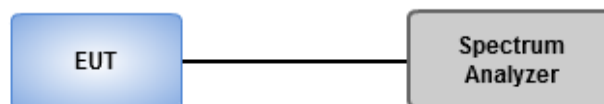
Average PSD, duty cycle \geq 98%

1. Set the RBW = 30 kHz, VBW = 100 kHz.
2. Detector = RMS, Sweep time = auto couple.
3. Sweep time = auto couple.
4. Employ trace averaging (RMS) mode over a minimum of 100 traces.
5. Use the peak marker function to determine the maximum amplitude level.

Average PSD, duty cycle $<$ 98%

1. Set the RBW = 30 kHz, VBW = 100 kHz. Detector = RMS.
2. Set the sweep time to: ≥ 10 (number of measurement points in sweep) x (total on/off period of the transmitted signal).
3. Perform the measurement over a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add $10 \log (1/x)$, where x is the duty cycle.

3.3.3 Test Setup



3.3.4 Test Results

Ambient Condition	24°C / 62%	Tested By	Roger Lu
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Refer to Appendix C.

3.4 Unwanted Emissions into Restricted Frequency Bands

3.4.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Quasi-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.4.2 Test Procedures

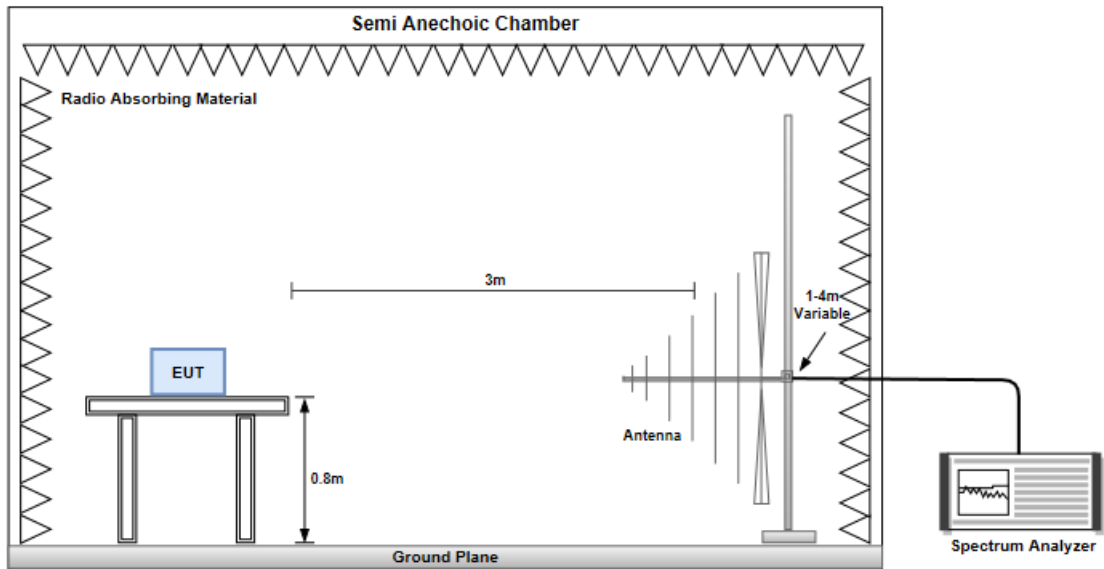
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

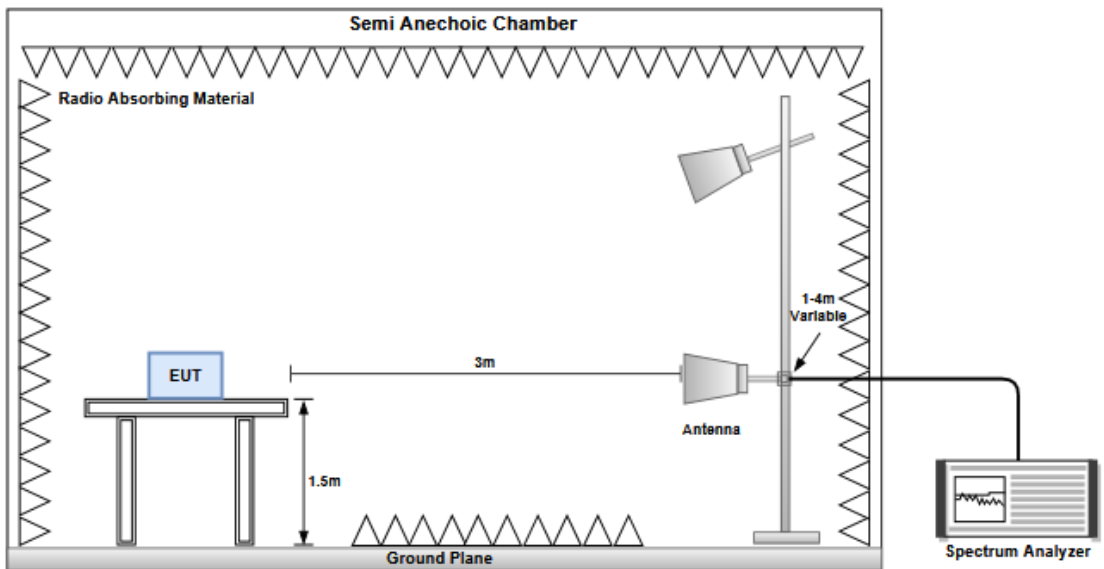
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.4.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.4.4 Test Results

Refer to Appendix D.

3.5 Emissions in Non-Restricted Frequency Bands

3.5.1 Emissions in Non-Restricted Frequency Bands Limit

Peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz.

3.5.2 Test Procedures

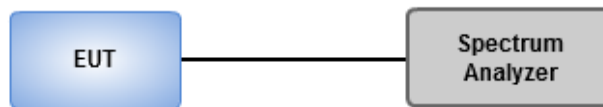
Reference level measurement

1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Use the peak marker function to determine the maximum PSD level

Emission level measurement

1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Scan Frequency range is up to 25GHz
4. Use the peak marker function to determine the maximum amplitude level

3.5.3 Test Setup



3.5.4 Test Results

Ambient Condition	24°C / 62%	Tested By	Roger Lu
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Refer to Appendix E.

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou
District, New Taipei City, Taiwan
(R.O.C.)

Kwei Shan

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)
No.2-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 333, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666

Fax: 886-3-318-0345

Email: ICC_Service@icertifi.com.tw

==END==



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	8.525M	14.043M	14M0G1D	8.05M	14.018M
802.11g_Nss1,(6Mbps)_1TX	15.125M	16.342M	16M4D1D	14.125M	16.317M
802.11n HT20_Nss1,(MCS0)_1TX	15.1M	17.491M	17M5D1D	15.025M	17.491M

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
 Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

Result

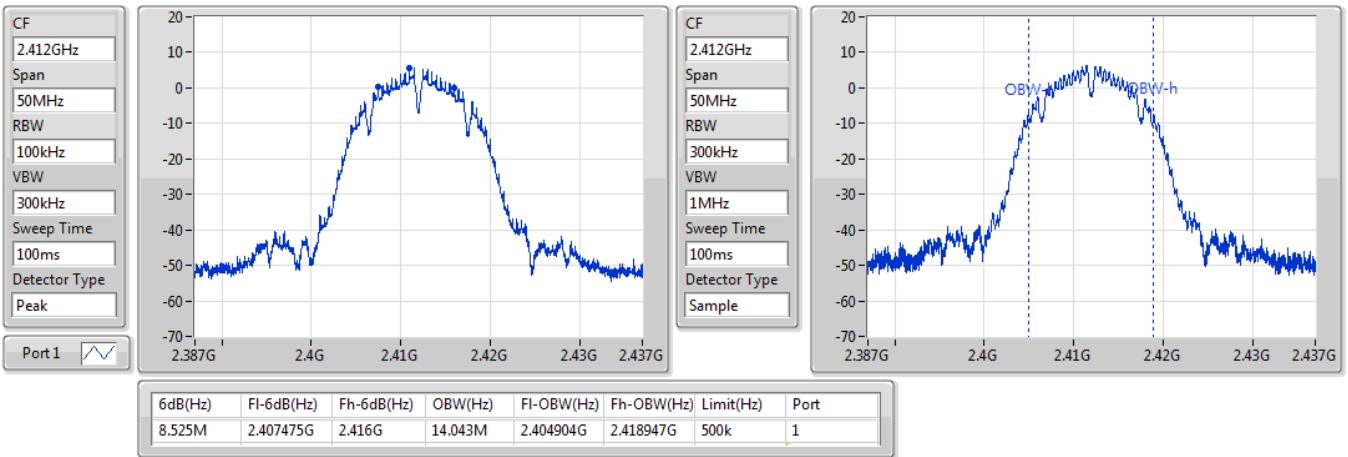
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	8.525M	14.043M
2437MHz	Pass	500k	8.05M	14.018M
2462MHz	Pass	500k	8.5M	14.018M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	14.125M	16.317M
2437MHz	Pass	500k	15.125M	16.342M
2462MHz	Pass	500k	15.1M	16.342M
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	15.025M	17.491M
2437MHz	Pass	500k	15.05M	17.491M
2462MHz	Pass	500k	15.1M	17.491M

Port X-N dB = Port X 6dB down bandwidth;
 Port X-OBW = Port X 99% occupied bandwidth

802.11b_Nss1,(1Mbps)_1TX

EBW

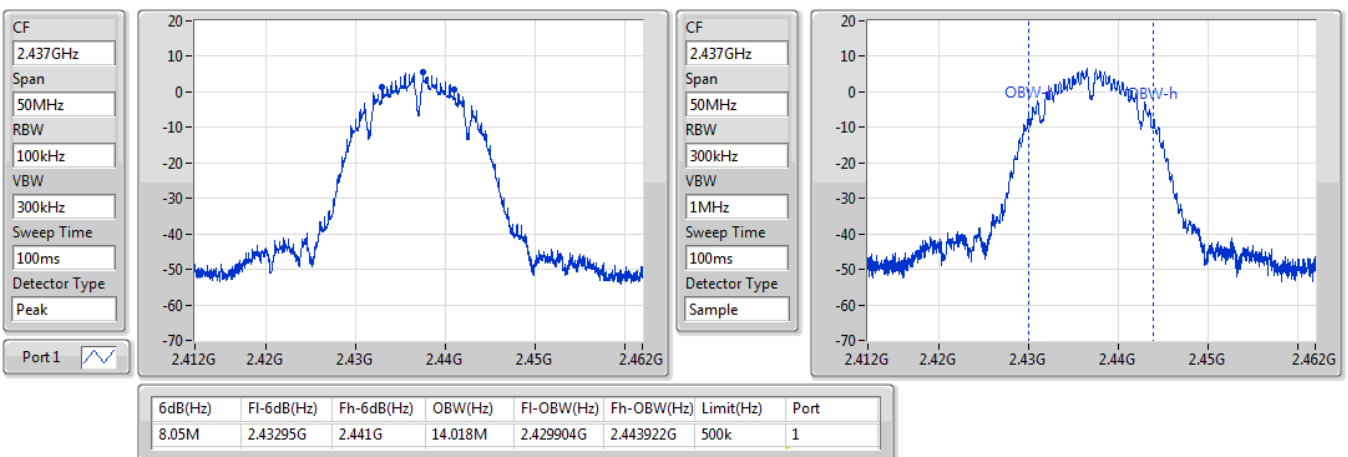
2412MHz



802.11b_Nss1,(1Mbps)_1TX

EBW

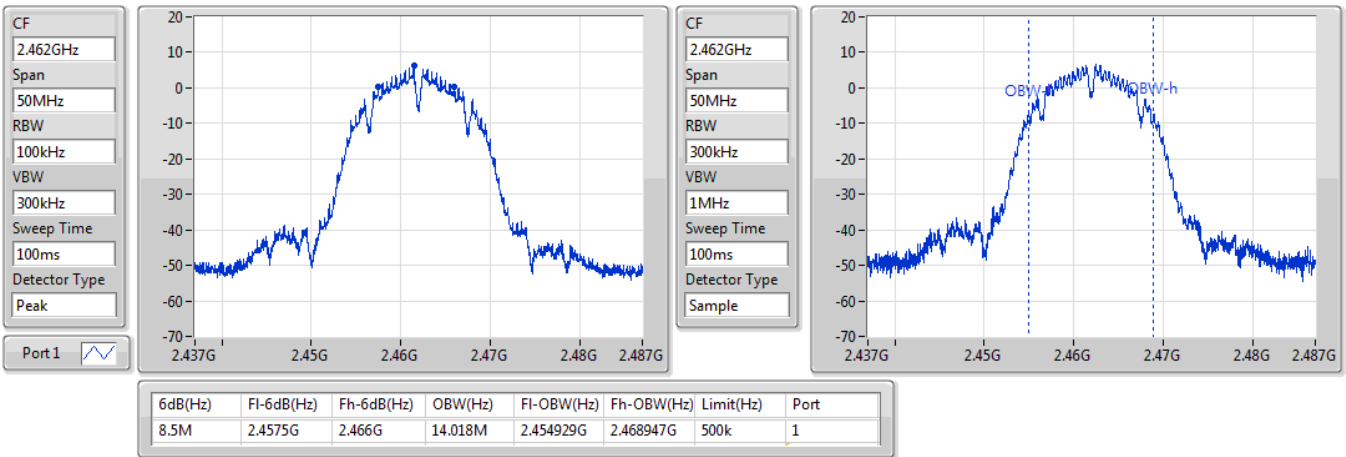
2437MHz



802.11b_Nss1,(1Mbps)_1TX

EBW

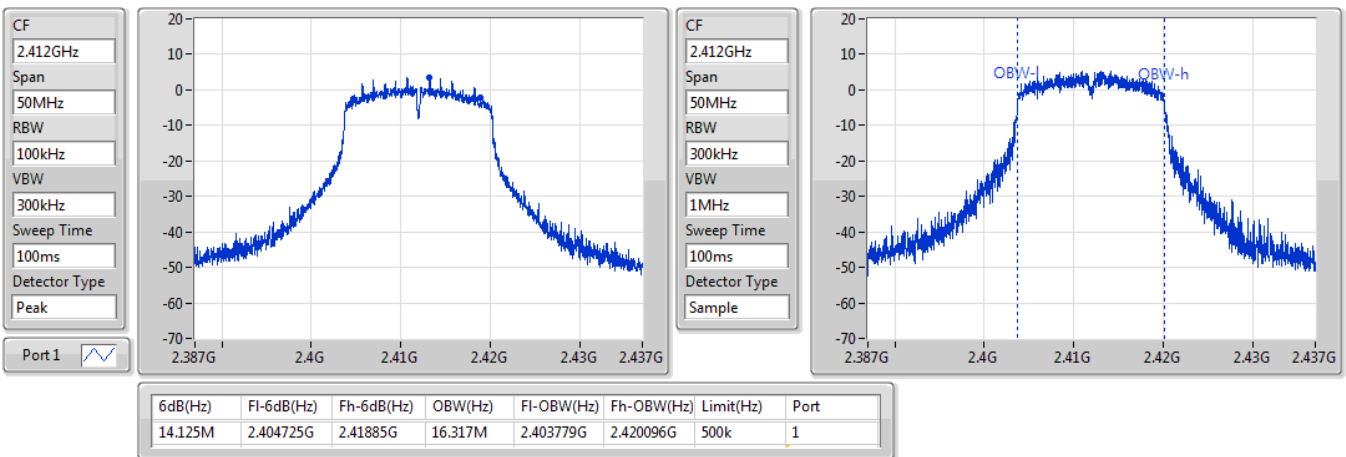
2462MHz



802.11g_Nss1,(6Mbps)_1TX

EBW

2412MHz

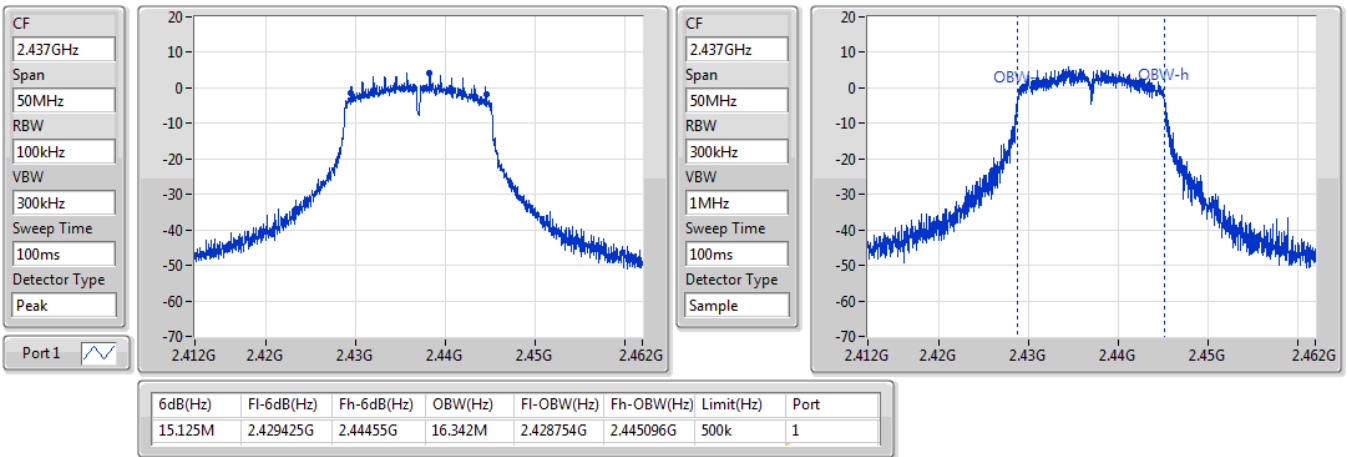




802.11g_Nss1,(6Mbps)_1TX

EBW

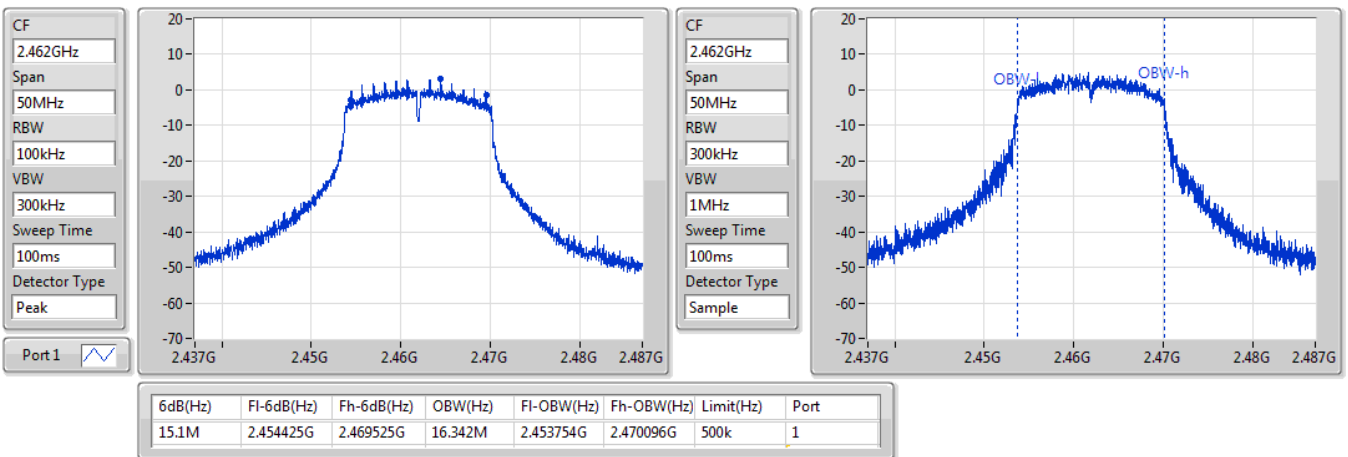
2437MHz



802.11g_Nss1,(6Mbps)_1TX

EBW

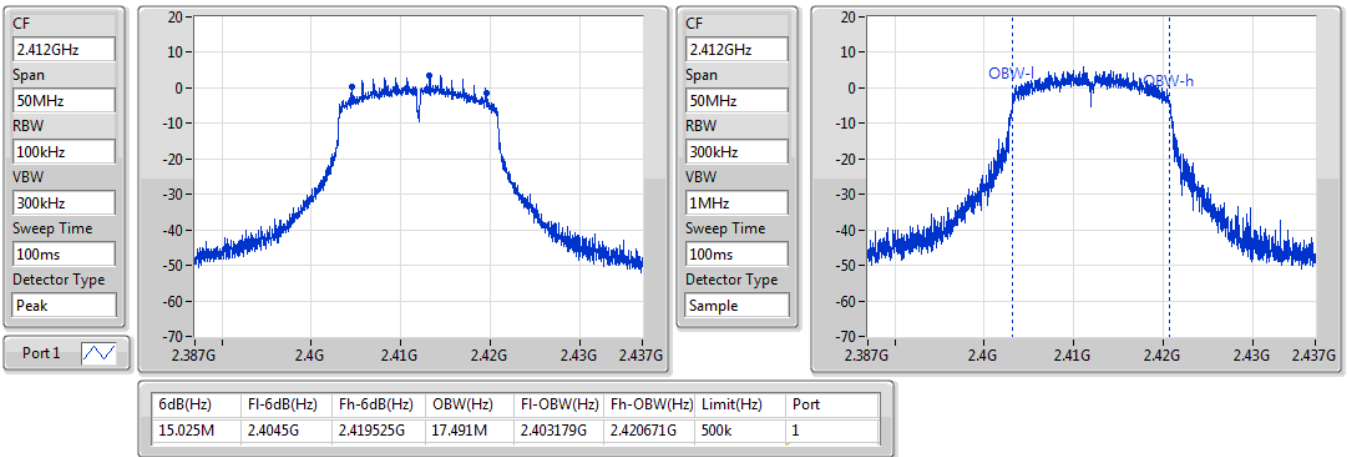
2462MHz



802.11n HT20_Nss1,(MCS0)_1TX

EBW

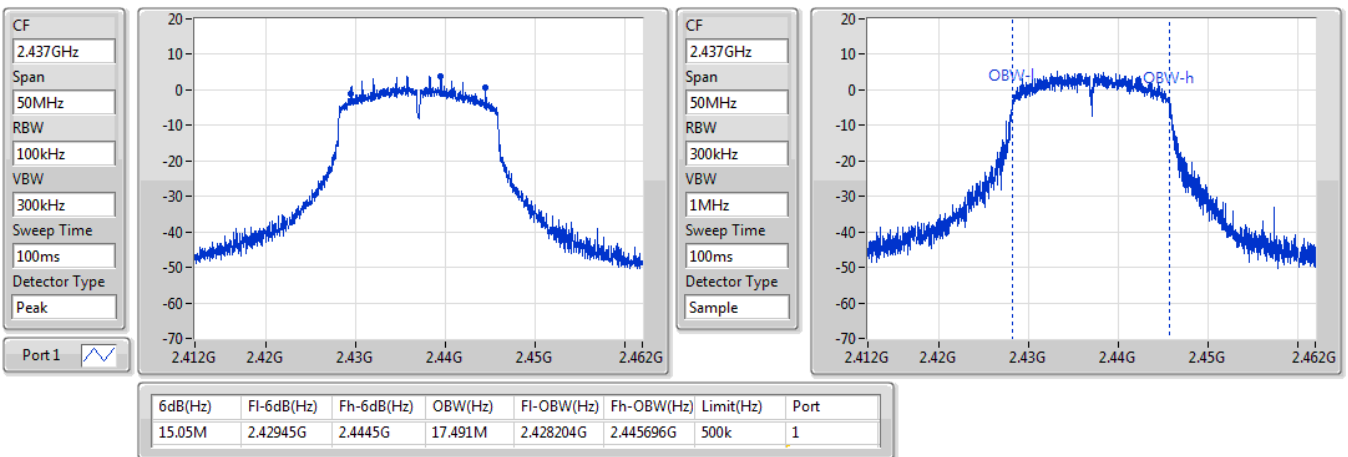
2412MHz



802.11n HT20_Nss1,(MCS0)_1TX

EBW

2437MHz



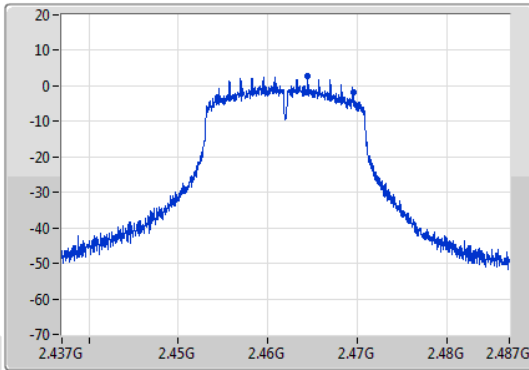


802.11n HT20_Nss1,(MCS0)_1TX

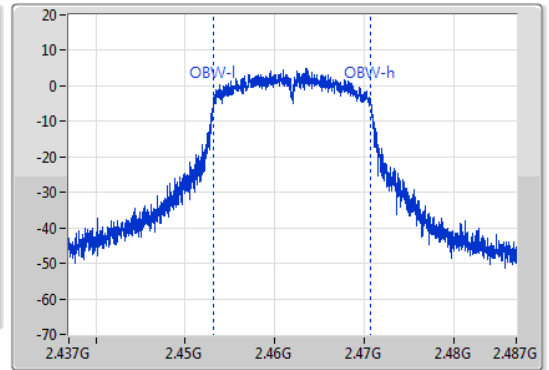
EBW

2462MHz

CF
2.462GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak
Port 1



CF
2.462GHz
Span
50MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.1M	2.454425G	2.469525G	17.491M	2.453204G	2.470696G	500k	1



Conducted Output Power(Peak)

Appendix B

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	16.60	0.04571
802.11g_Nss1,(6Mbps)_1TX	23.08	0.20324
802.11n HT20_Nss1,(MCS0)_1TX	22.95	0.19724

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	2.80	16.35	16.35	30.00	19.15	36.00
2437MHz	Pass	2.80	16.53	16.53	30.00	19.33	36.00
2462MHz	Pass	2.80	16.6	16.60	30.00	19.40	36.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	2.80	22.78	22.78	30.00	25.58	36.00
2437MHz	Pass	2.80	23.08	23.08	30.00	25.88	36.00
2462MHz	Pass	2.80	22.91	22.91	30.00	25.71	36.00
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	2.80	22.62	22.62	30.00	25.42	36.00
2437MHz	Pass	2.80	22.95	22.95	30.00	25.75	36.00
2462MHz	Pass	2.80	22.78	22.78	30.00	25.58	36.00

DG = Directional Gain; Port X = Port X output power



Conducted Output Power(Average)

Appendix B

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	14.23	0.02649
802.11g_Nss1,(6Mbps)_1TX	14.49	0.02812
802.11n HT20_Nss1,(MCS0)_1TX	14.38	0.02742

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	2.80	14.12	14.12	-	16.92	-
2437MHz	Pass	2.80	14.21	14.21	-	17.01	-
2462MHz	Pass	2.80	14.23	14.23	-	17.03	-
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	2.80	14.35	14.35	-	17.15	-
2437MHz	Pass	2.80	14.49	14.49	-	17.29	-
2462MHz	Pass	2.80	14.05	14.05	-	16.85	-
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	2.80	14.23	14.23	-	17.03	-
2437MHz	Pass	2.80	14.38	14.38	-	17.18	-
2462MHz	Pass	2.80	14.02	14.02	-	16.82	-

DG = Directional Gain; Port X = Port X output power
Note : Conducted average output power is for reference



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	-7.35
802.11g_Nss1,(6Mbps)_1TX	-9.85
802.11n HT20_Nss1,(MCS0)_1TX	-9.66

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	2.80	-7.59	-7.59	8.00
2437MHz	Pass	2.80	-7.85	-7.85	8.00
2462MHz	Pass	2.80	-7.35	-7.35	8.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	2.80	-10.63	-10.63	8.00
2437MHz	Pass	2.80	-9.85	-9.85	8.00
2462MHz	Pass	2.80	-10.21	-10.21	8.00
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	2.80	-10.86	-10.86	8.00
2437MHz	Pass	2.80	-10.62	-10.62	8.00
2462MHz	Pass	2.80	-9.66	-9.66	8.00

DG = Directional Gain; RBW = 3kHz;

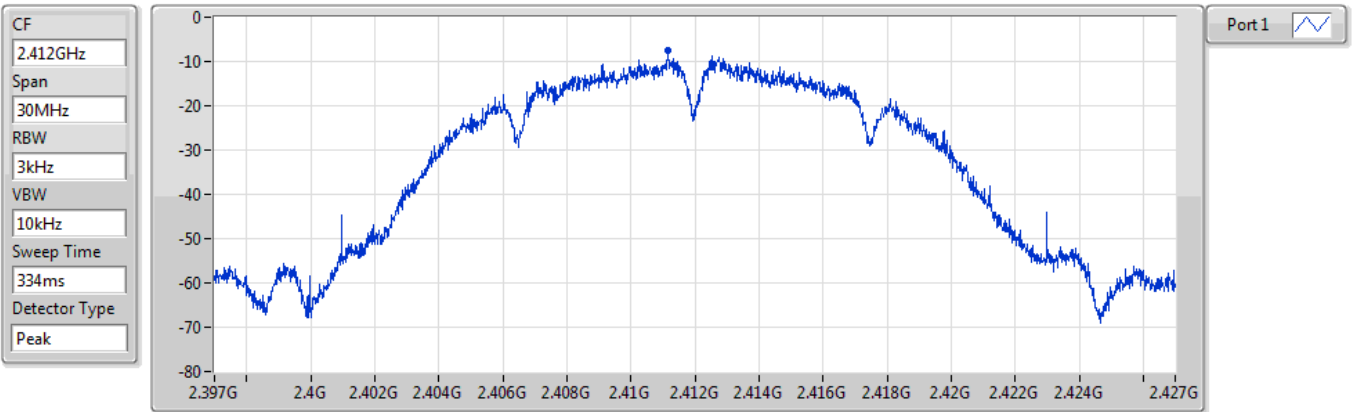
PD = maximum power density; Port X = Port X Power Density;



802.11b_Nss1,(1Mbps)_1TX

PSD

2412MHz

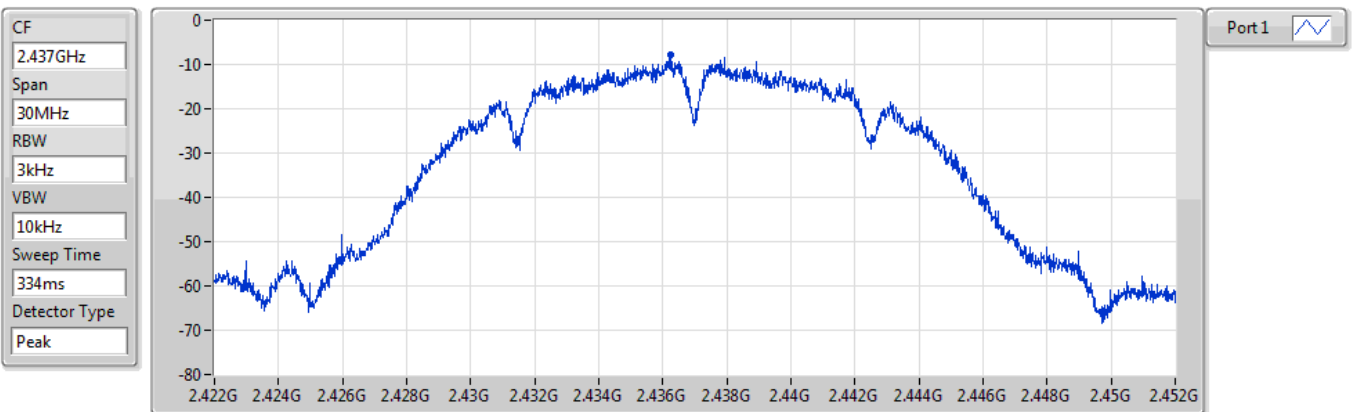


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.59	-7.59	-7.59

802.11b_Nss1,(1Mbps)_1TX

PSD

2437MHz



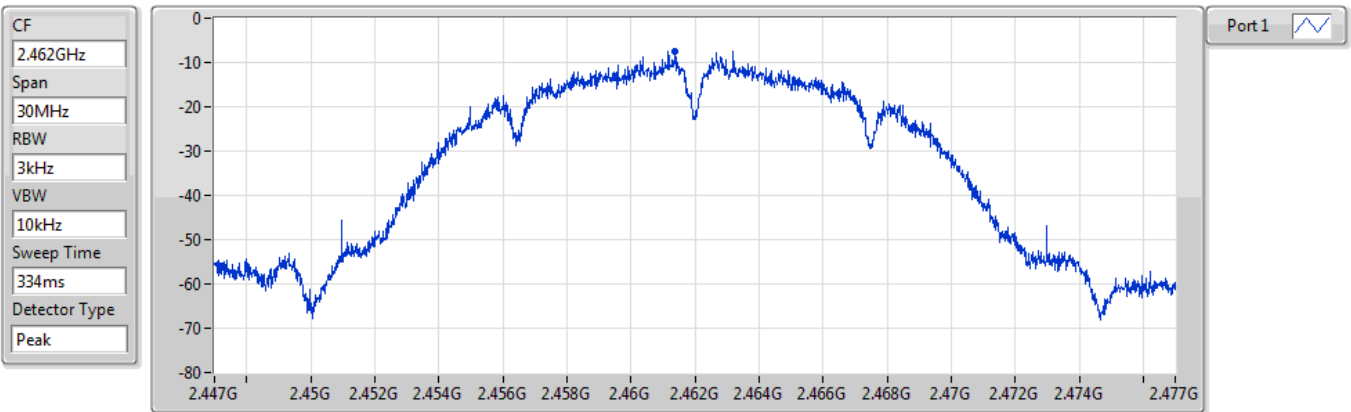
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.85	-7.85	-7.85



802.11b_Nss1,(1Mbps)_1TX

PSD

2462MHz

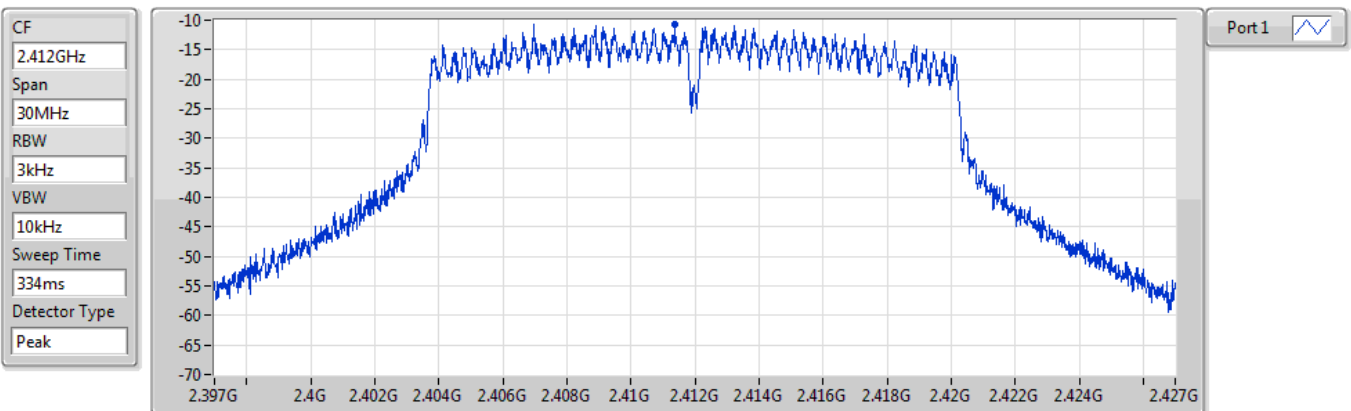


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.35	-7.35	-7.35

802.11g_Nss1,(6Mbps)_1TX

PSD

2412MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.63	-10.63	-10.63

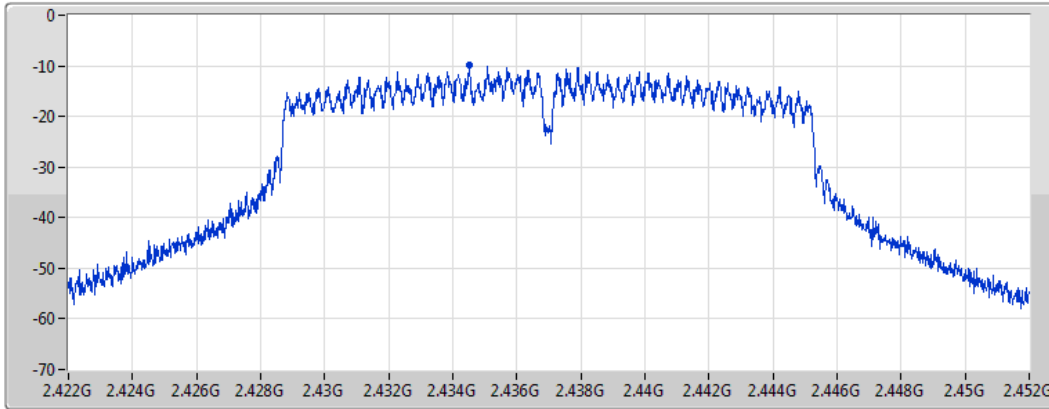


802.11g_Nss1,(6Mbps)_1TX

PSD

2437MHz

CF
2.437GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak



Port 1

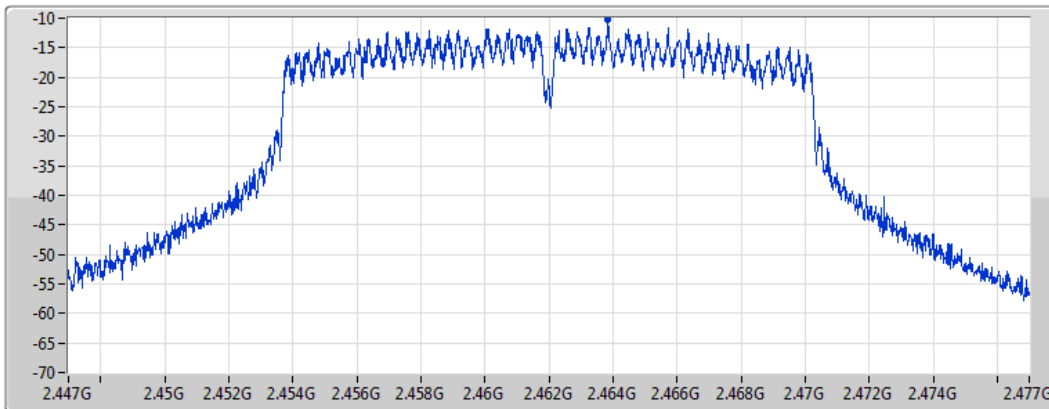
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.85	-9.85	-9.85

802.11g_Nss1,(6Mbps)_1TX

PSD

2462MHz

CF
2.462GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak



Port 1

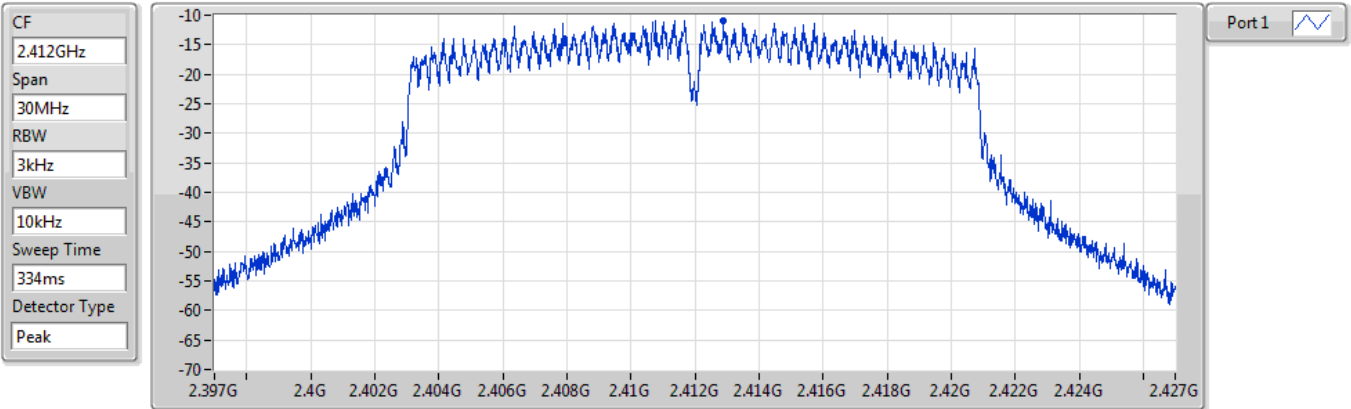
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.21	-10.21	-10.21



802.11n HT20_Nss1,(MCS0)_1TX

PSD

2412MHz

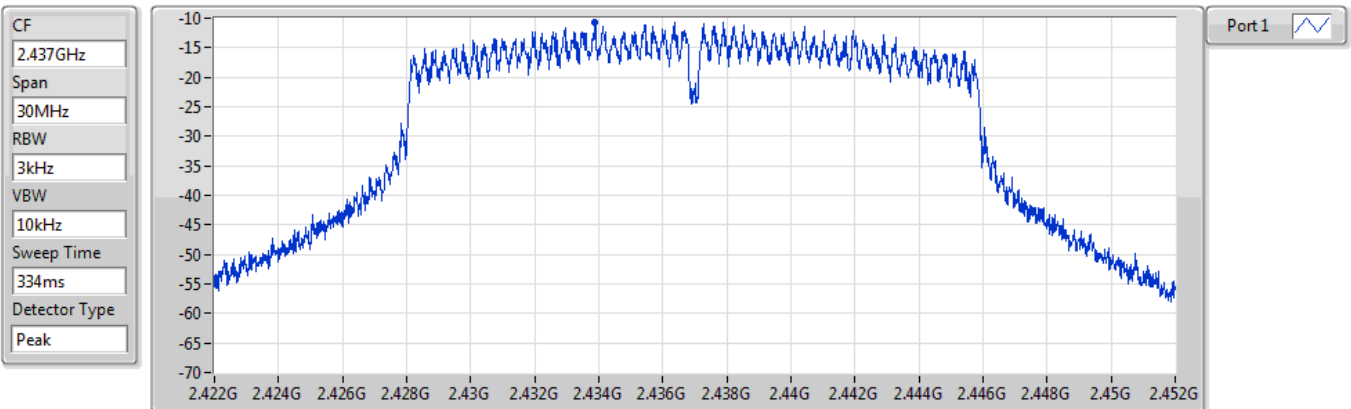


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.86	-10.86	-10.86

802.11n HT20_Nss1,(MCS0)_1TX

PSD

2437MHz



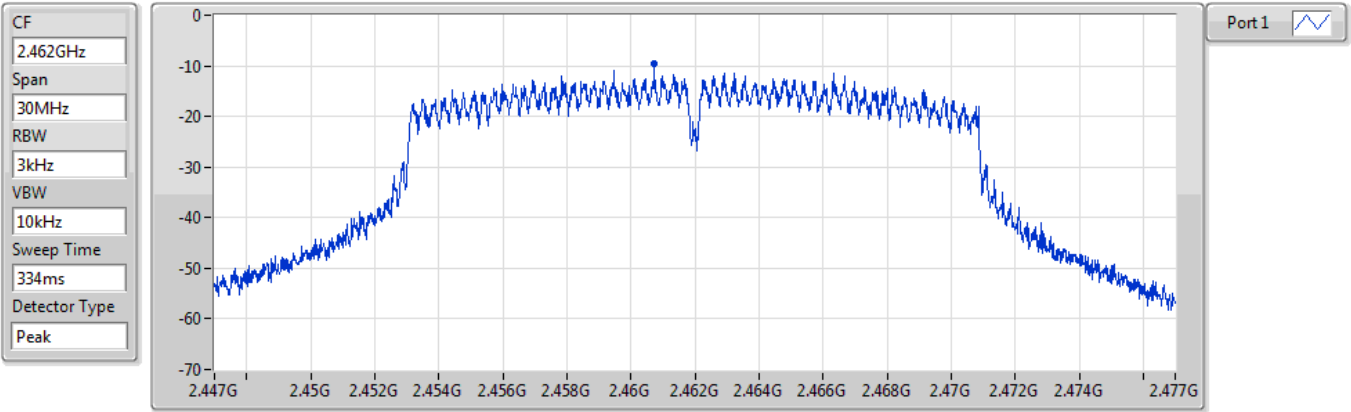
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.62	-10.62	-10.62



802.11n HT20_Nss1,(MCS0)_1TX

PSD

2462MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.66	-9.66	-9.66



Unwanted Emissions (Below 1GHz)

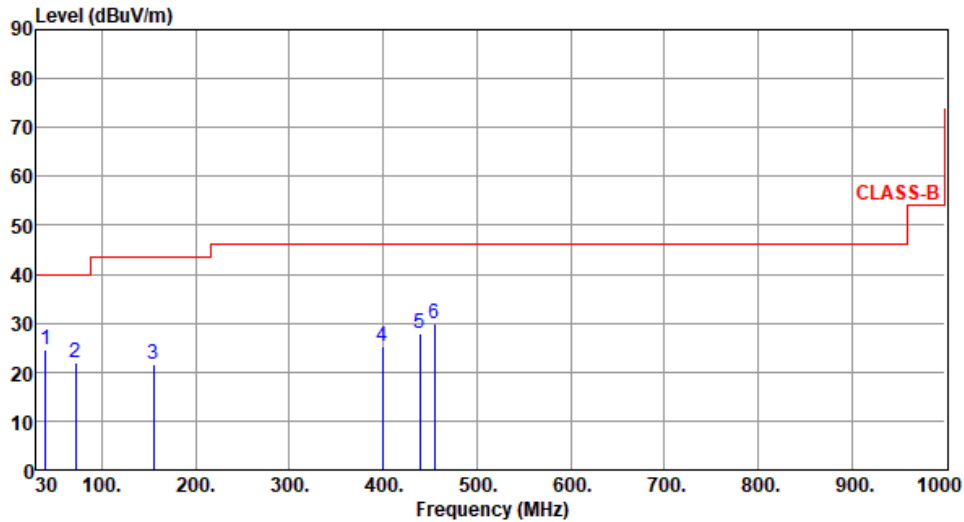
Modulation	11g	Test Freq. (MHz)	2462						
Polarization	Horizontal								
Test By :Brad Wu Temperature(°C):24 Humidity(%):63									
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	49.40	21.59	40.00	-18.41	29.94	-8.35	Peak	---	---
2	148.34	21.99	43.50	-21.51	30.92	-8.93	Peak	---	---
3	252.13	21.19	46.00	-24.81	31.18	-9.99	Peak	---	---
4	340.40	24.99	46.00	-21.01	32.27	-7.28	Peak	---	---
5	439.34	26.19	46.00	-19.81	30.68	-4.49	Peak	---	---
6	454.86	27.17	46.00	-18.83	31.30	-4.13	Peak	---	---

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV) + Factor* (dB/m)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).
 Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.



Modulation	11g	Test Freq. (MHz)	2462
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	39.70	24.52	40.00	-15.48	33.18	-8.66	Peak	---	---
2	71.71	22.08	40.00	-17.92	33.57	-11.49	Peak	---	---
3	155.13	21.66	43.50	-21.84	30.41	-8.75	Peak	---	---
4	399.57	25.30	46.00	-20.70	31.02	-5.72	Peak	---	---
5	439.34	27.73	46.00	-18.27	32.22	-4.49	Peak	---	---
6	454.86	29.72	46.00	-16.28	33.85	-4.13	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

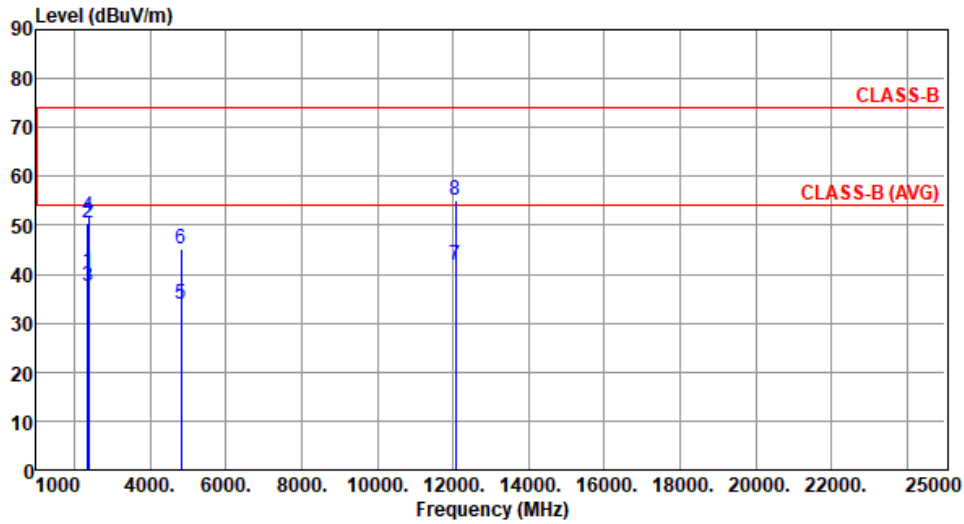
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.



Unwanted Emissions (Above 1GHz) for 11b

Modulation	11b	Test Freq. (MHz)	2412
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



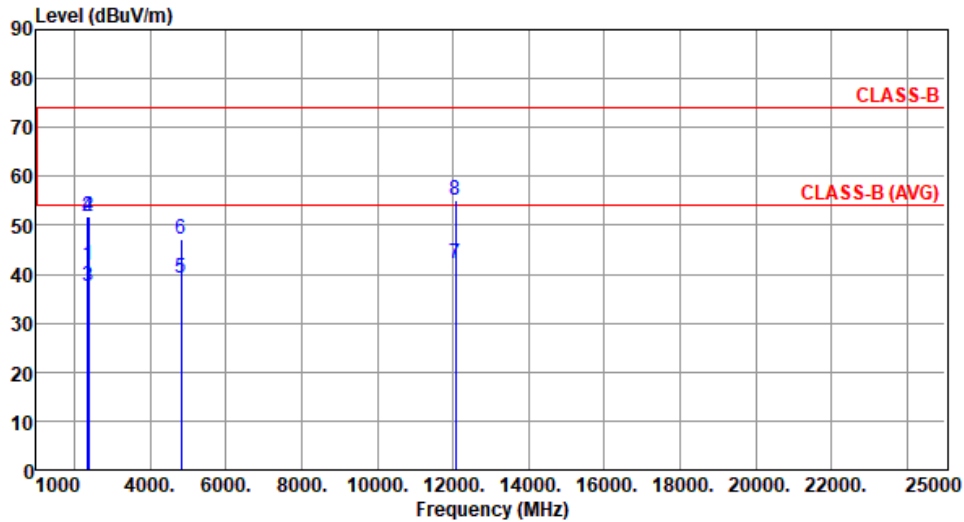
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2360.00	40.54	54.00	-13.46	45.64	-5.10	Average	341	275
2	2360.00	50.62	74.00	-23.38	55.72	-5.10	Peak	341	275
3	2390.00	37.58	54.00	-16.42	42.80	-5.22	Average	341	275
4	2390.00	51.69	74.00	-22.31	56.91	-5.22	Peak	341	275
5	4824.00	33.91	54.00	-20.09	34.79	-0.88	Average	100	102
6	4824.00	45.24	74.00	-28.76	46.12	-0.88	Peak	100	102
7	12060.00	41.91	54.00	-12.09	36.11	5.80	Average	100	24
8	12060.00	55.05	74.00	-18.95	49.25	5.80	Peak	100	24

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2360.00	41.76	54.00	-12.24	46.86	-5.10	Average	100	232
2	2360.00	51.74	74.00	-22.26	56.84	-5.10	Peak	100	232
3	2390.00	37.66	54.00	-16.34	42.88	-5.22	Average	100	232
4	2390.00	51.72	74.00	-22.28	56.94	-5.22	Peak	100	232
5	4824.00	39.05	54.00	-14.95	39.93	-0.88	Average	100	203
6	4824.00	47.18	74.00	-26.82	48.06	-0.88	Peak	100	203
7	12060.00	42.08	54.00	-11.92	36.28	5.80	Average	100	14
8	12060.00	55.06	74.00	-18.94	49.26	5.80	Peak	100	14

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

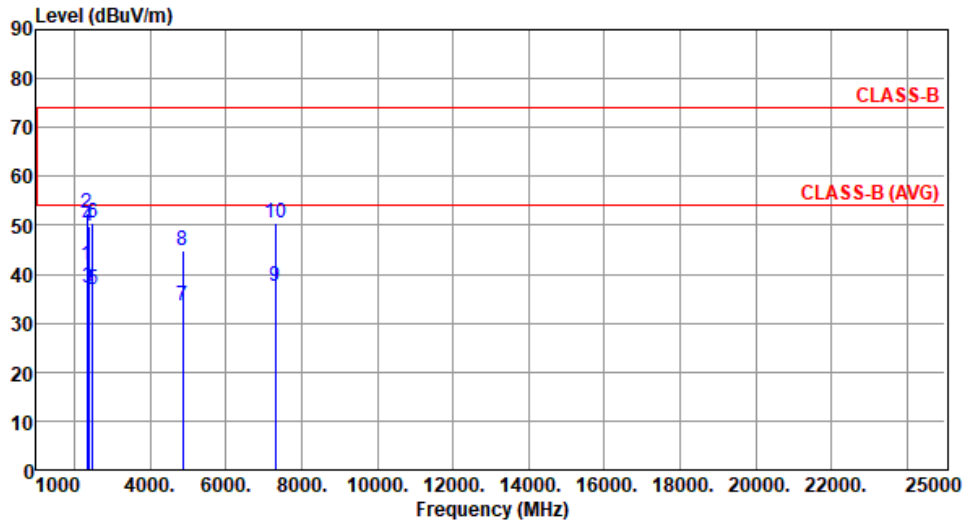
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	41.97	54.00	-12.03	46.89	-4.92	Average	335	272
2	2332.00	52.56	74.00	-21.44	57.48	-4.92	Peak	335	272
3	2390.00	37.34	54.00	-16.66	42.56	-5.22	Average	345	272
4	2390.00	49.67	74.00	-24.33	54.89	-5.22	Peak	345	272
5	2483.50	37.01	54.00	-16.99	42.32	-5.31	Average	345	272
6	2483.50	50.45	74.00	-23.55	55.76	-5.31	Peak	345	272
7	4874.00	33.59	54.00	-20.41	34.53	-0.94	Average	100	106
8	4874.00	44.81	74.00	-29.19	45.75	-0.94	Peak	100	106
9	7311.00	37.59	54.00	-16.41	33.26	4.33	Average	100	21
10	7311.00	50.38	74.00	-23.62	46.05	4.33	Peak	100	21

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

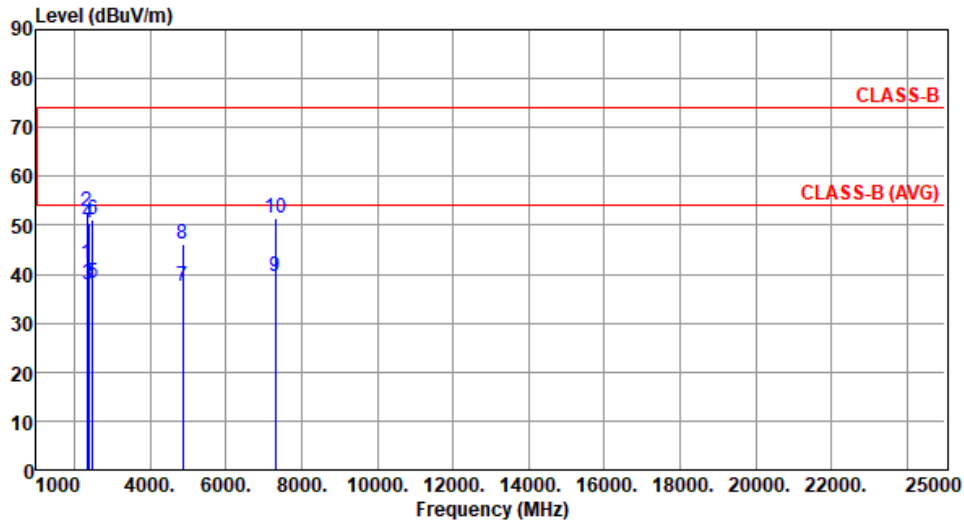
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	42.23	54.00	-11.77	47.15	-4.92	Average	100	228
2	2332.00	52.77	74.00	-21.23	57.69	-4.92	Peak	100	228
3	2390.00	37.94	54.00	-16.06	43.16	-5.22	Average	100	219
4	2390.00	50.56	74.00	-23.44	55.78	-5.22	Peak	100	219
5	2483.50	38.31	54.00	-15.69	43.62	-5.31	Average	100	219
6	2483.50	51.05	74.00	-22.95	56.36	-5.31	Peak	100	219
7	4874.00	37.49	54.00	-16.51	38.43	-0.94	Average	100	201
8	4874.00	46.15	74.00	-27.85	47.09	-0.94	Peak	100	201
9	7311.00	39.53	54.00	-14.47	35.20	4.33	Average	100	206
10	7311.00	51.31	74.00	-22.69	46.98	4.33	Peak	100	206

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

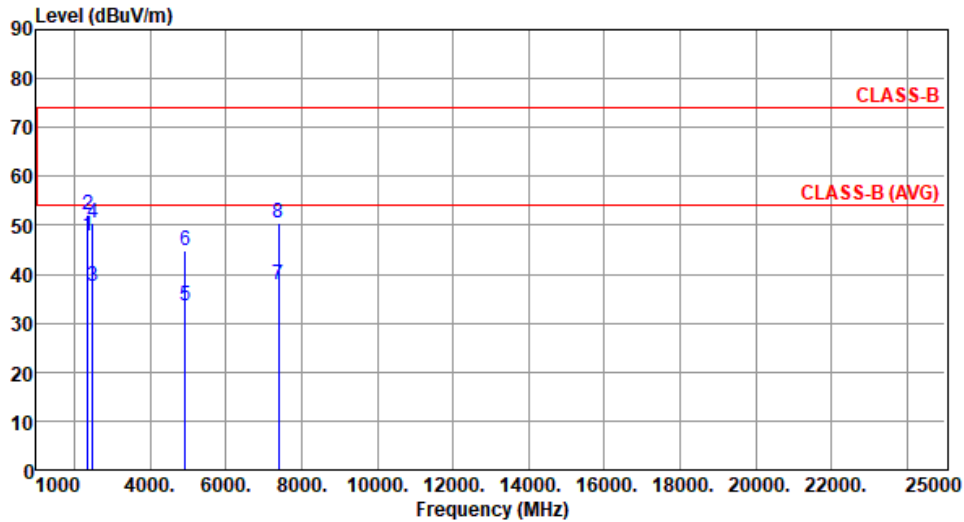
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2357.00	47.88	54.00	-6.12	52.97	-5.09	Average	341	269
2	2357.00	52.06	74.00	-21.94	57.15	-5.09	Peak	341	269
3	2483.50	37.49	54.00	-16.51	42.80	-5.31	Average	341	269
4	2483.50	50.62	74.00	-23.38	55.93	-5.31	Peak	341	269
5	4924.00	33.68	54.00	-20.32	34.73	-1.05	Average	100	109
6	4924.00	44.92	74.00	-29.08	45.97	-1.05	Peak	100	109
7	7386.00	37.84	54.00	-16.16	33.58	4.26	Average	100	25
8	7386.00	50.49	74.00	-23.51	46.23	4.26	Peak	100	25

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

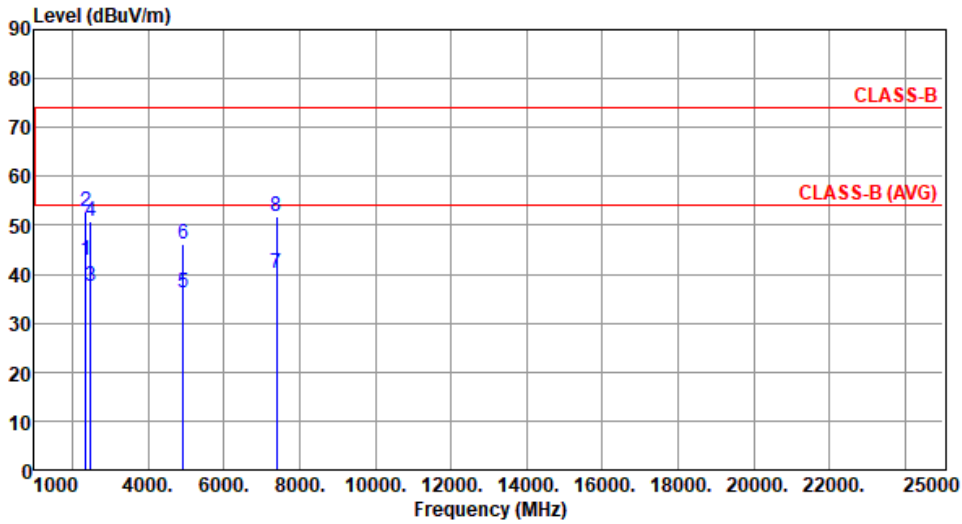
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	11b	Test Freq. (MHz)	2462
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2357.00	42.93	54.00	-11.07	48.02	-5.09	Average	109	223
2	2357.00	52.79	74.00	-21.21	57.88	-5.09	Peak	109	223
3	2483.50	37.56	54.00	-16.44	42.87	-5.31	Average	109	223
4	2483.50	50.72	74.00	-23.28	56.03	-5.31	Peak	109	223
5	4924.00	36.16	54.00	-17.84	37.21	-1.05	Average	100	200
6	4924.00	46.20	74.00	-27.80	47.25	-1.05	Peak	100	200
7	7386.00	40.31	54.00	-13.69	36.05	4.26	Average	100	202
8	7386.00	51.70	74.00	-22.30	47.44	4.26	Peak	100	202

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

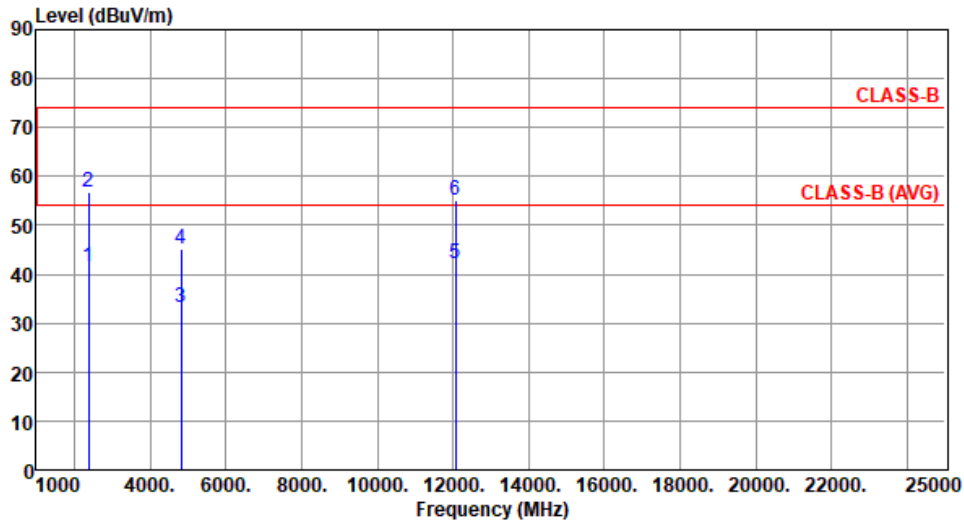
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Unwanted Emissions (Above 1GHz) for 11g

Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	41.35	54.00	-12.65	46.57	-5.22	Average	313	202
2	2390.00	56.64	74.00	-17.36	61.86	-5.22	Peak	313	202
3	4824.00	33.35	54.00	-20.65	34.23	-0.88	Average	100	18
4	4824.00	45.31	74.00	-28.69	46.19	-0.88	Peak	100	18
5	12060.00	42.19	54.00	-11.81	36.39	5.80	Average	100	23
6	12060.00	55.14	74.00	-18.86	49.34	5.80	Peak	100	23

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

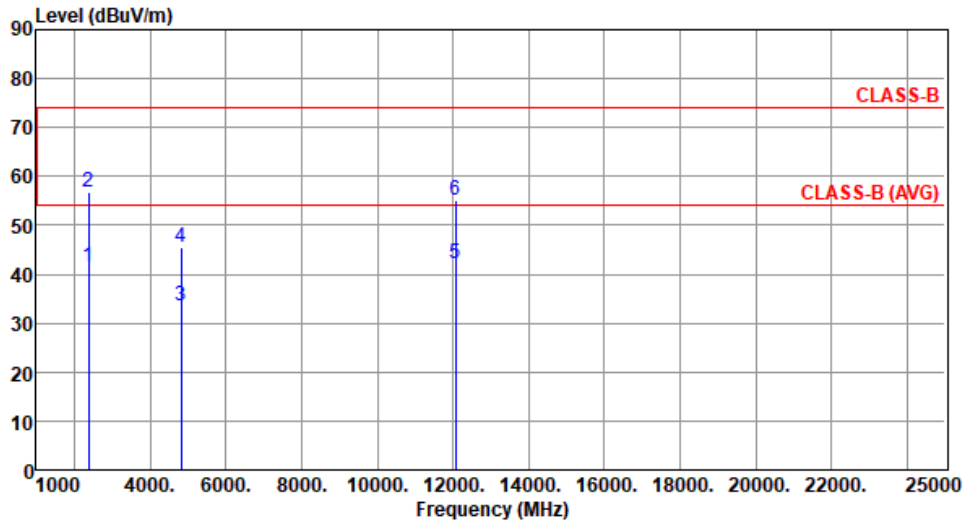
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	41.47	54.00	-12.53	46.69	-5.22	Average	100	231
2	2390.00	56.87	74.00	-17.13	62.09	-5.22	Peak	100	231
3	4824.00	33.51	54.00	-20.49	34.39	-0.88	Average	100	32
4	4824.00	45.42	74.00	-28.58	46.30	-0.88	Peak	100	32
5	12060.00	42.34	54.00	-11.66	36.54	5.80	Average	100	29
6	12060.00	55.21	74.00	-18.79	49.41	5.80	Peak	100	29

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV) + Factor* (dB/m)

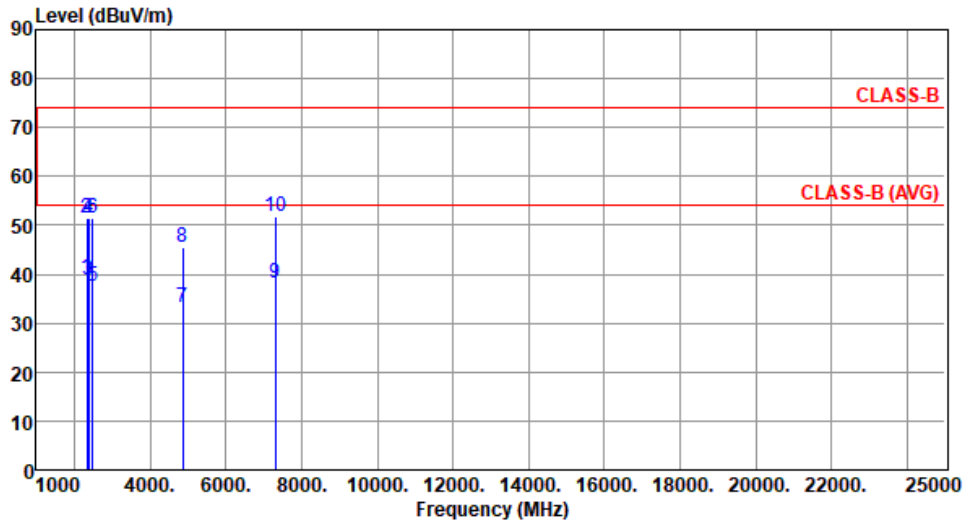
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).



Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	39.15	54.00	-14.85	44.07	-4.92	Average	312	195
2	2332.00	51.36	74.00	-22.64	56.28	-4.92	Peak	312	195
3	2390.00	38.74	54.00	-15.26	43.96	-5.22	Average	312	195
4	2390.00	51.35	74.00	-22.65	56.57	-5.22	Peak	312	195
5	2483.50	37.58	54.00	-16.42	42.89	-5.31	Average	312	195
6	2483.50	51.42	74.00	-22.58	56.73	-5.31	Peak	312	195
7	4874.00	33.25	54.00	-20.75	34.19	-0.94	Average	100	51
8	4874.00	45.36	74.00	-28.64	46.30	-0.94	Peak	100	51
9	7311.00	38.22	54.00	-15.78	33.89	4.33	Average	100	209
10	7311.00	51.74	74.00	-22.26	47.41	4.33	Peak	100	209

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

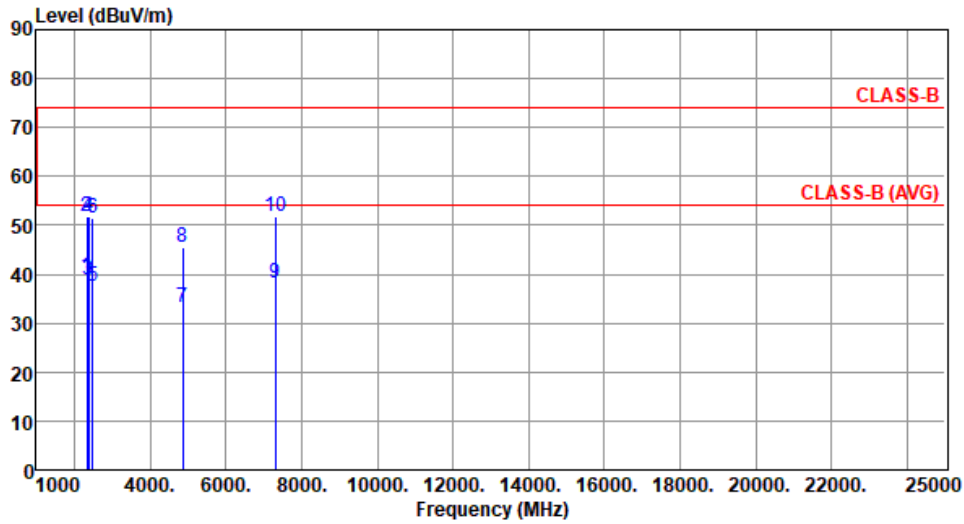
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	39.62	54.00	-14.38	44.54	-4.92	Average	100	225
2	2332.00	51.74	74.00	-22.26	56.66	-4.92	Peak	100	225
3	2390.00	39.02	54.00	-14.98	44.24	-5.22	Average	100	225
4	2390.00	51.85	74.00	-22.15	57.07	-5.22	Peak	100	225
5	2483.50	37.66	54.00	-16.34	42.97	-5.31	Average	100	225
6	2483.50	51.54	74.00	-22.46	56.85	-5.31	Peak	100	225
7	4874.00	33.35	54.00	-20.65	34.29	-0.94	Average	100	21
8	4874.00	45.42	74.00	-28.58	46.36	-0.94	Peak	100	21
9	7311.00	38.33	54.00	-15.67	34.00	4.33	Average	100	201
10	7311.00	51.85	74.00	-22.15	47.52	4.33	Peak	100	201

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

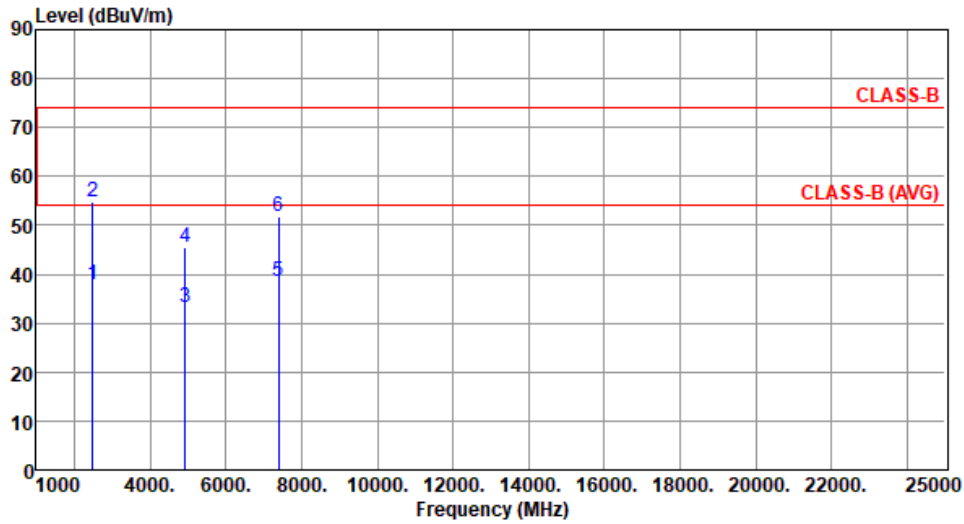
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	37.92	54.00	-16.08	43.23	-5.31	Average	313	204
2	2483.50	54.79	74.00	-19.21	60.10	-5.31	Peak	313	204
3	4924.00	33.28	54.00	-20.72	34.33	-1.05	Average	100	41
4	4924.00	45.42	74.00	-28.58	46.47	-1.05	Peak	100	41
5	7386.00	38.42	54.00	-15.58	34.16	4.26	Average	100	211
6	7386.00	51.84	74.00	-22.16	47.58	4.26	Peak	100	211

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

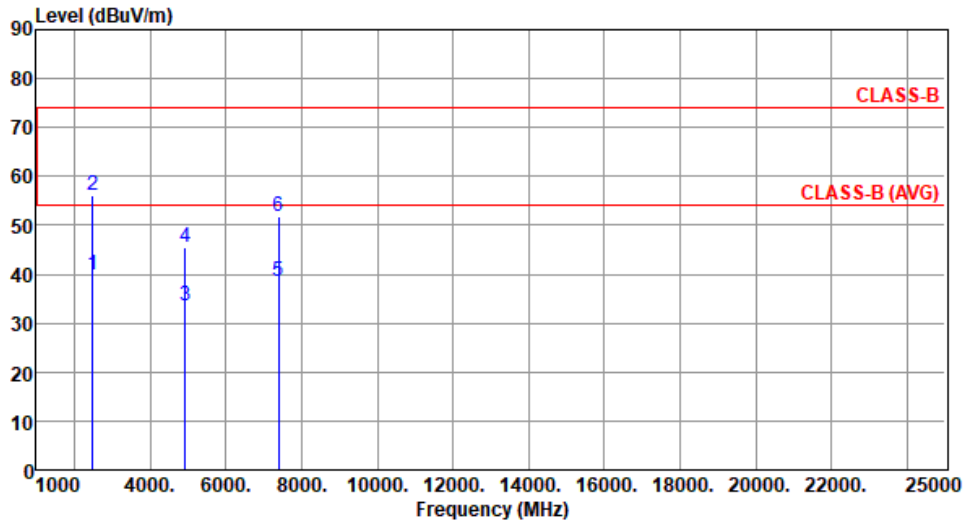
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	11g	Test Freq. (MHz)	2462
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	39.75	54.00	-14.25	45.06	-5.31	Average	103	236
2	2483.50	56.11	74.00	-17.89	61.42	-5.31	Peak	103	236
3	4924.00	33.41	54.00	-20.59	34.46	-1.05	Average	100	28
4	4924.00	45.39	74.00	-28.61	46.44	-1.05	Peak	100	28
5	7386.00	38.39	54.00	-15.61	34.13	4.26	Average	100	205
6	7386.00	51.85	74.00	-22.15	47.59	4.26	Peak	100	205

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

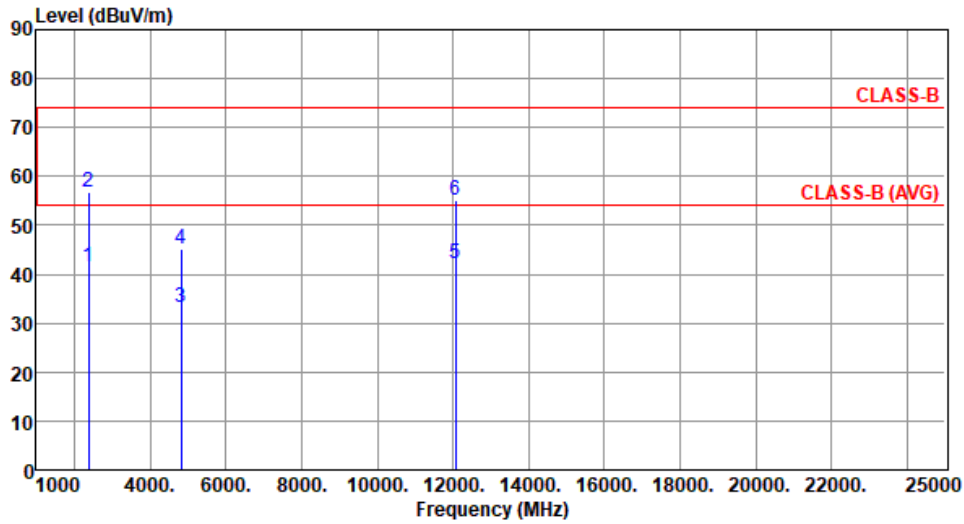
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Unwanted Emissions (Above 1GHz) for HT20

Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	41.39	54.00	-12.61	46.61	-5.22	Average	312	199
2	2390.00	56.76	74.00	-17.24	61.98	-5.22	Peak	312	199
3	4824.00	33.25	54.00	-20.75	34.13	-0.88	Average	100	11
4	4824.00	45.28	74.00	-28.72	46.16	-0.88	Peak	100	11
5	12060.00	42.14	54.00	-11.86	36.34	5.80	Average	100	19
6	12060.00	55.06	74.00	-18.94	49.26	5.80	Peak	100	19

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

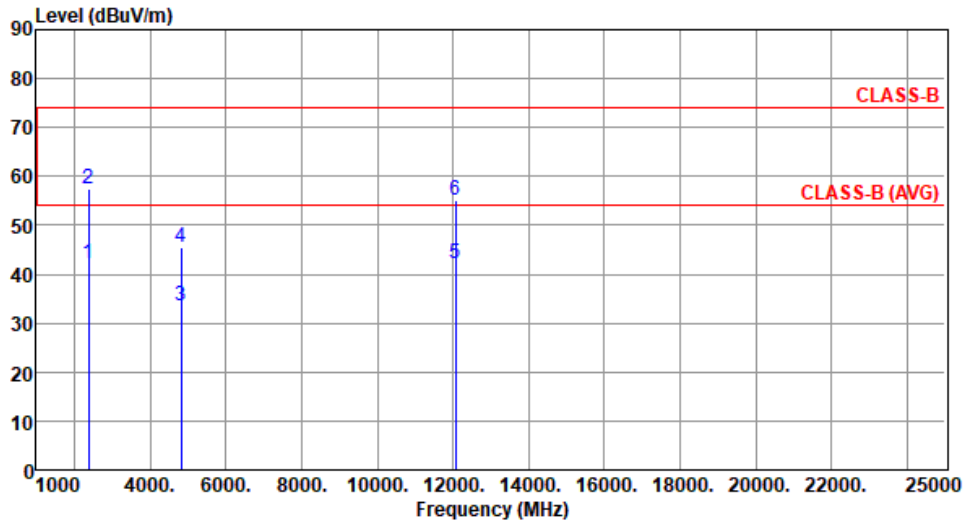
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	42.19	54.00	-11.81	47.41	-5.22	Average	100	222
2	2390.00	57.43	74.00	-16.57	62.65	-5.22	Peak	100	222
3	4824.00	33.45	54.00	-20.55	34.33	-0.88	Average	100	29
4	4824.00	45.36	74.00	-28.64	46.24	-0.88	Peak	100	29
5	12060.00	42.29	54.00	-11.71	36.49	5.80	Average	100	25
6	12060.00	55.16	74.00	-18.84	49.36	5.80	Peak	100	25

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV) + Factor* (dB/m)

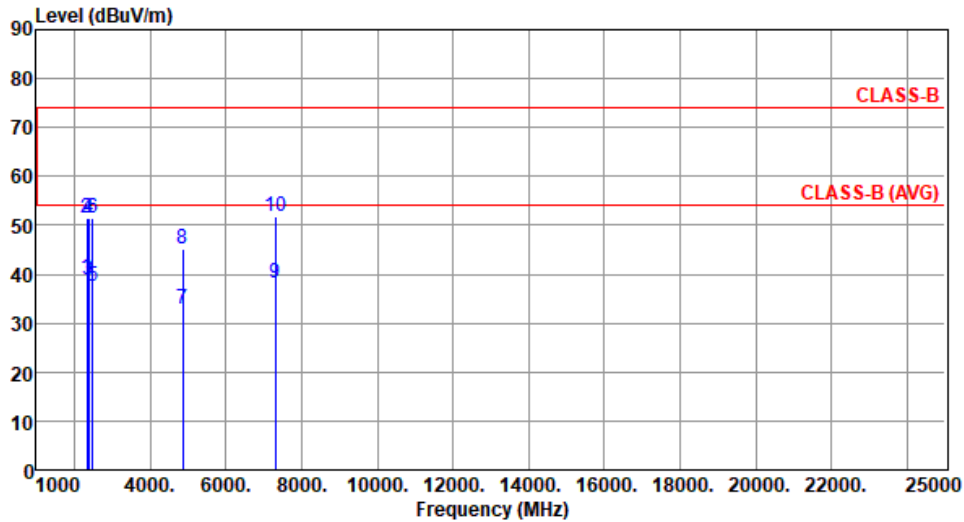
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).



Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	39.22	54.00	-14.78	44.14	-4.92	Average	311	196
2	2332.00	51.45	74.00	-22.55	56.37	-4.92	Peak	311	196
3	2390.00	38.82	54.00	-15.18	44.04	-5.22	Average	311	196
4	2390.00	51.44	74.00	-22.56	56.66	-5.22	Peak	311	196
5	2483.50	37.69	54.00	-16.31	43.00	-5.31	Average	311	196
6	2483.50	51.52	74.00	-22.48	56.83	-5.31	Peak	311	196
7	4874.00	33.04	54.00	-20.96	33.98	-0.94	Average	100	45
8	4874.00	45.22	74.00	-28.78	46.16	-0.94	Peak	100	45
9	7311.00	38.16	54.00	-15.84	33.83	4.33	Average	100	202
10	7311.00	51.65	74.00	-22.35	47.32	4.33	Peak	100	202

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

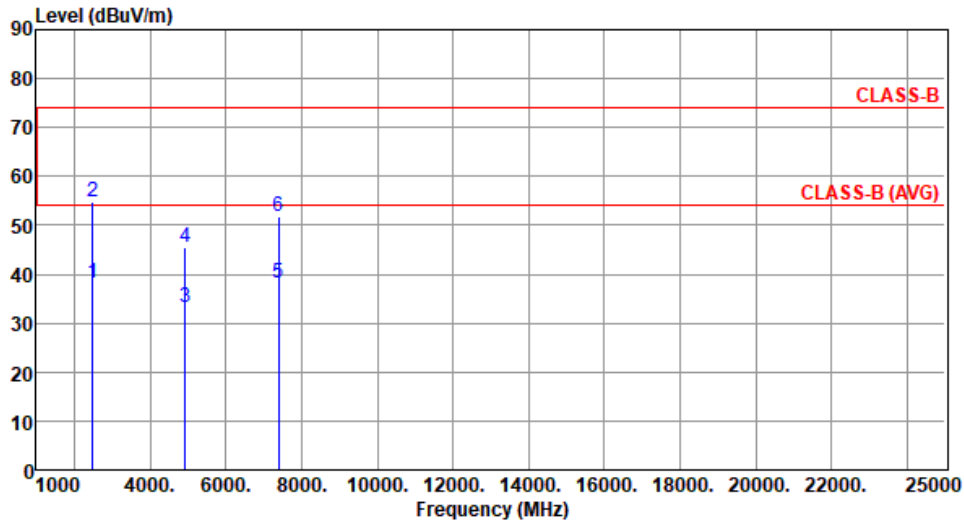


Modulation	HT20	Test Freq. (MHz)	2437						
Polarization	Vertical								
Test By :Brad Wu Temperature(°C):24 Humidity(%):63									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1	2332.00	39.67	54.00	-14.33	44.59	-4.92	Average	100	221
2	2332.00	51.77	74.00	-22.23	56.69	-4.92	Peak	100	221
3	2390.00	39.11	54.00	-14.89	44.33	-5.22	Average	100	221
4	2390.00	51.94	74.00	-22.06	57.16	-5.22	Peak	100	221
5	2483.50	37.81	54.00	-16.19	43.12	-5.31	Average	100	221
6	2483.50	51.61	74.00	-22.39	56.92	-5.31	Peak	100	221
7	4874.00	33.31	54.00	-20.69	34.25	-0.94	Average	100	26
8	4874.00	45.31	74.00	-28.69	46.25	-0.94	Peak	100	26
9	7311.00	38.29	54.00	-15.71	33.96	4.33	Average	100	205
10	7311.00	51.74	74.00	-22.26	47.41	4.33	Peak	100	205
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).									



Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	38.04	54.00	-15.96	43.35	-5.31	Average	316	201
2	2483.50	54.92	74.00	-19.08	60.23	-5.31	Peak	316	201
3	4924.00	33.22	54.00	-20.78	34.27	-1.05	Average	100	35
4	4924.00	45.36	74.00	-28.64	46.41	-1.05	Peak	100	35
5	7386.00	38.29	54.00	-15.71	34.03	4.26	Average	100	208
6	7386.00	51.76	74.00	-22.24	47.50	4.26	Peak	100	208

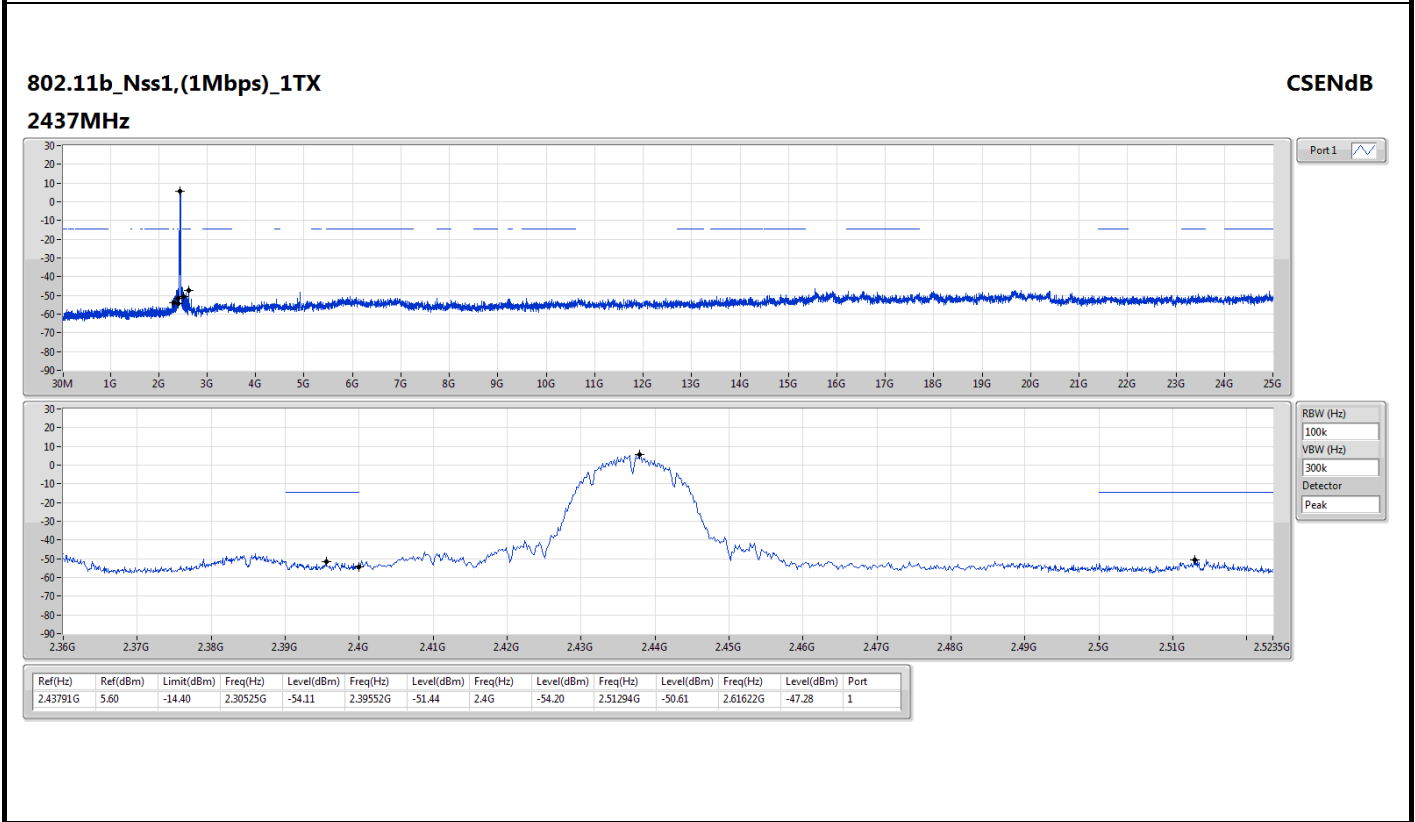
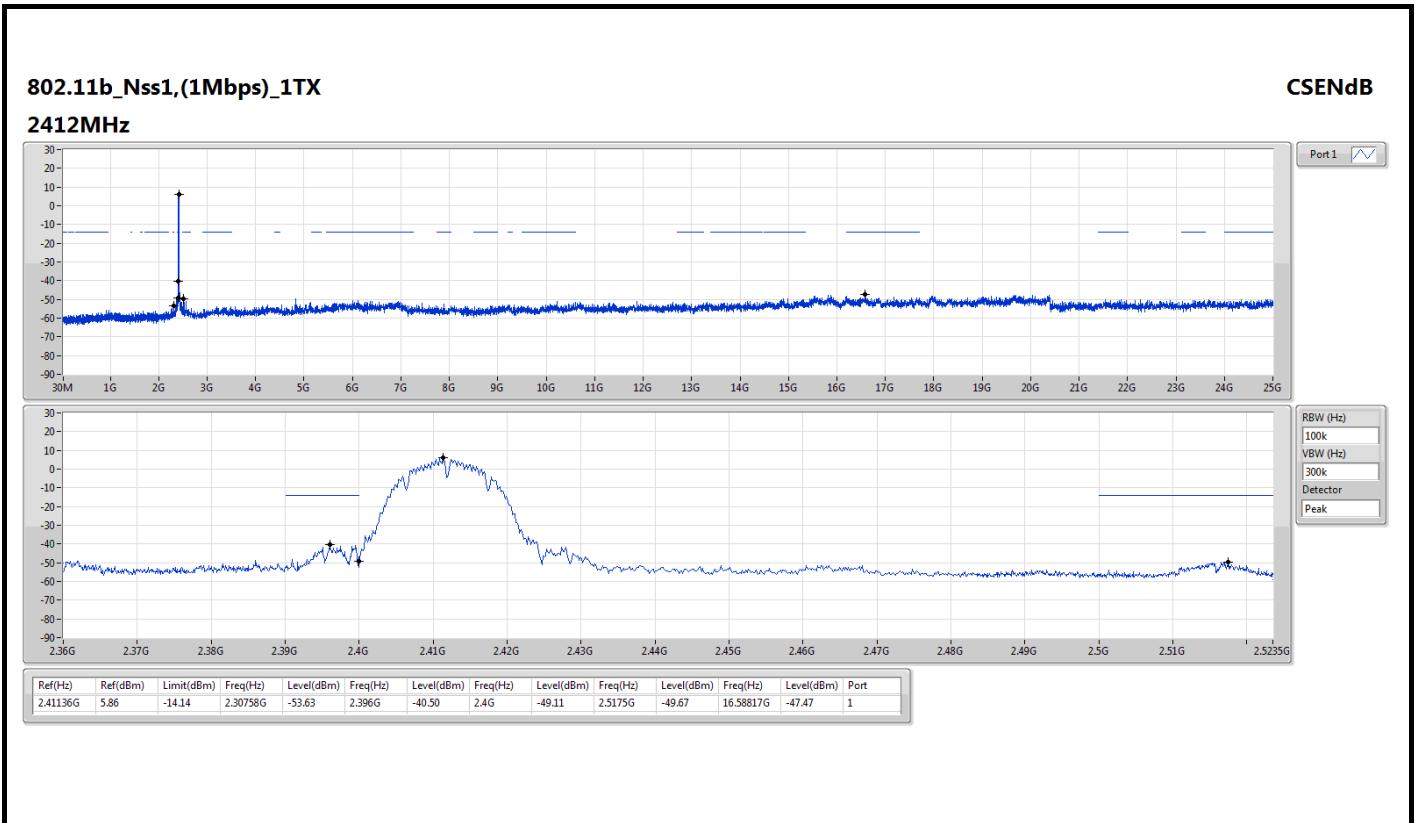
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

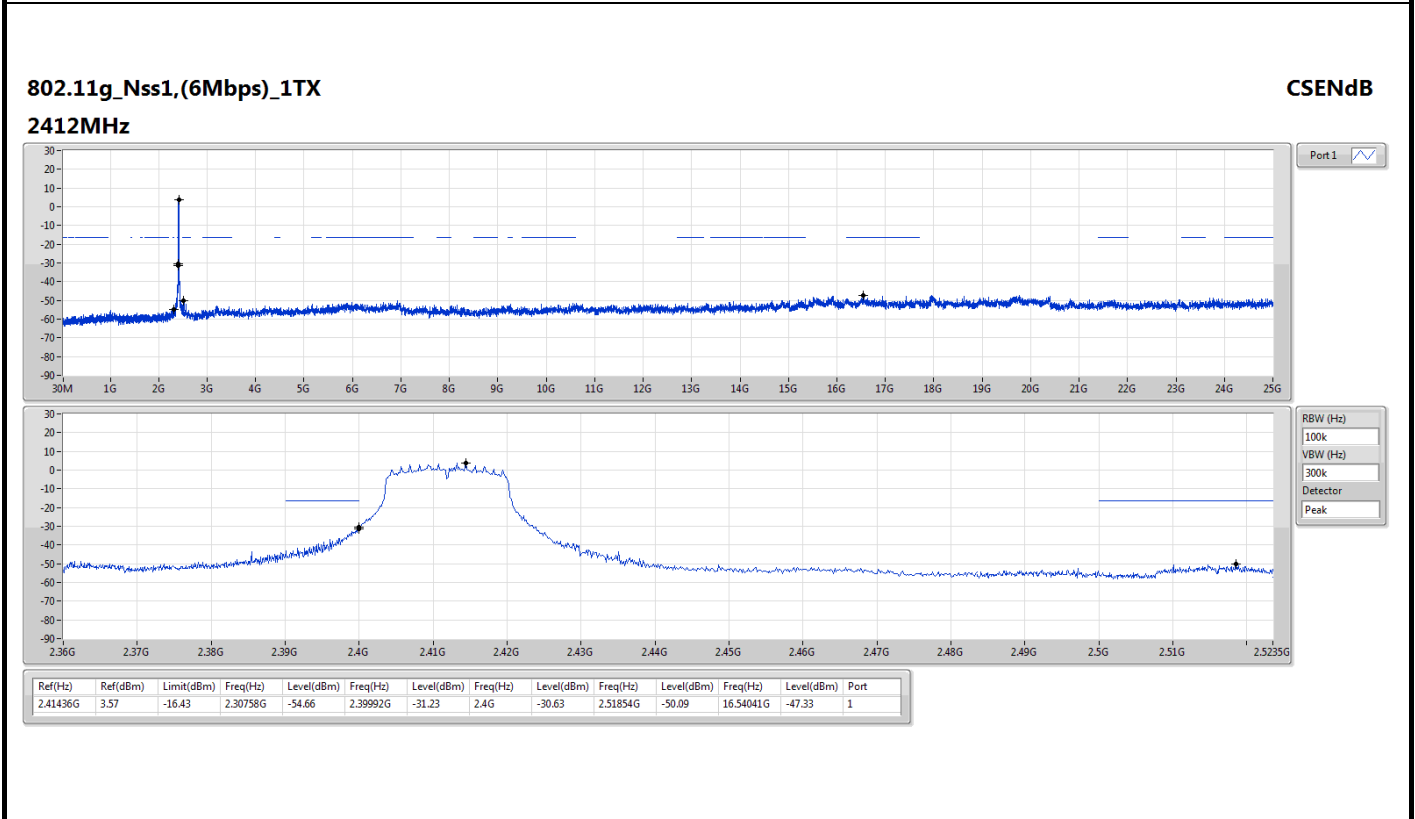
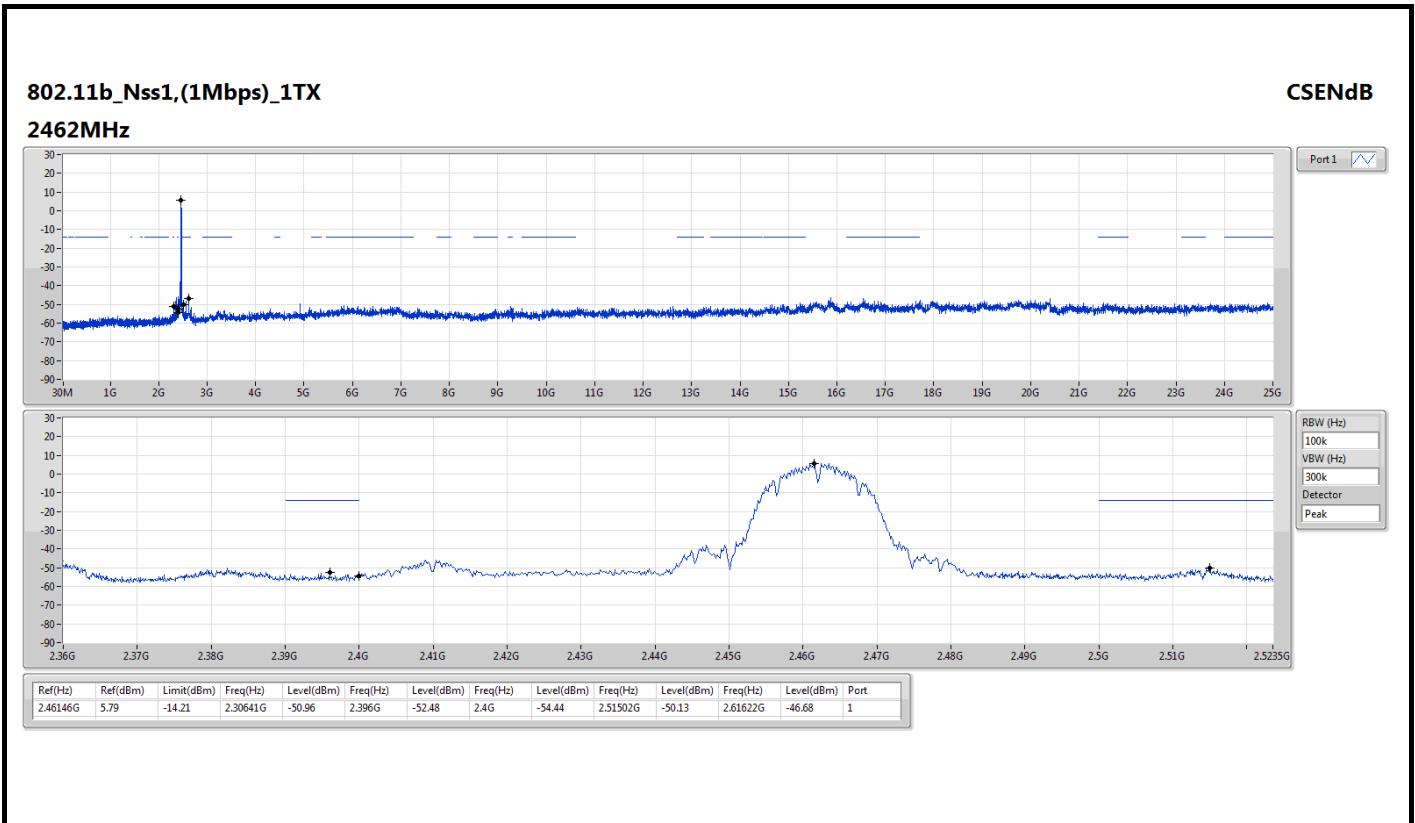
*Factor includes antenna factor , cable loss and amplifier gain

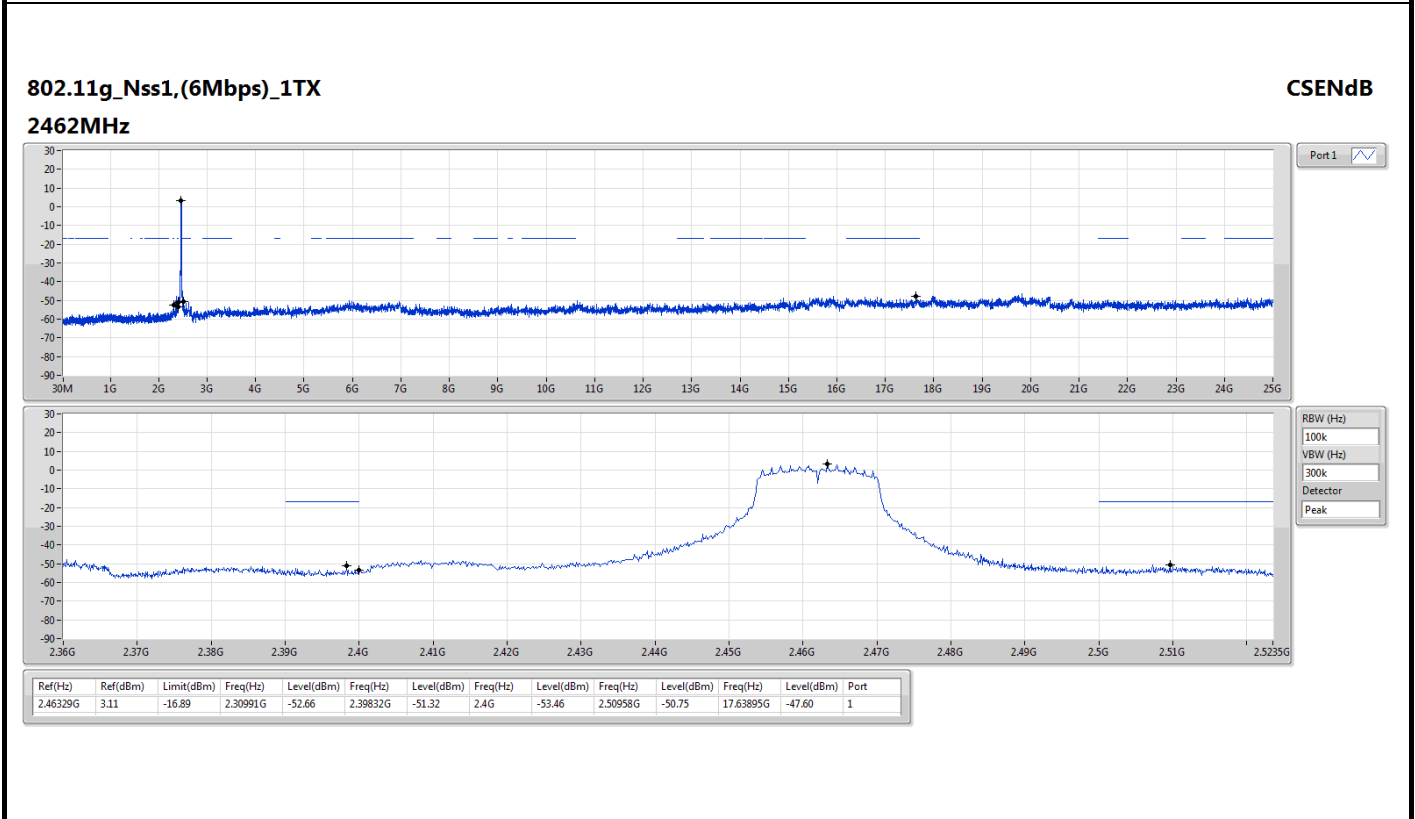
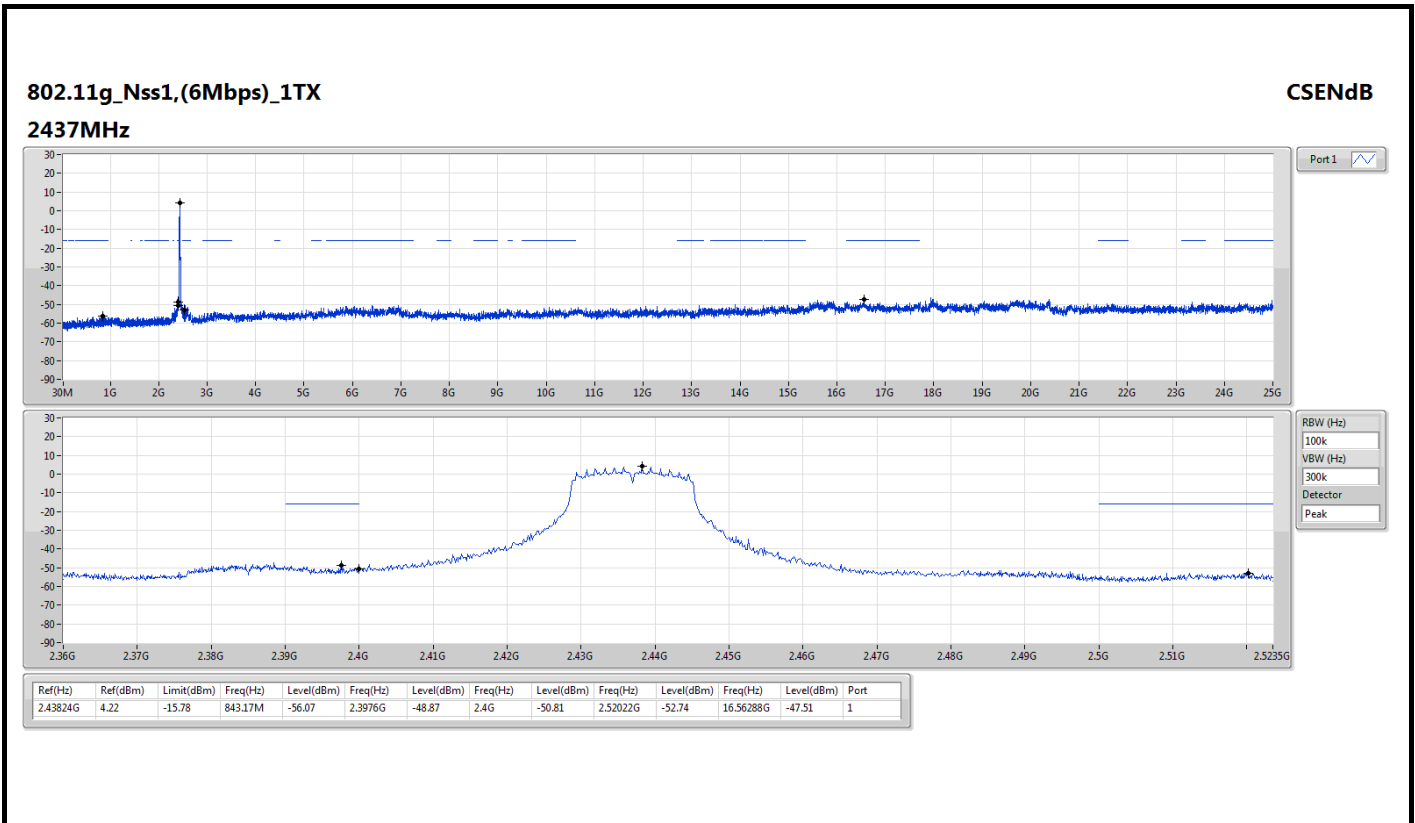
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	HT20	Test Freq. (MHz)	2462						
Polarization	Vertical								
Test By : Brad Wu		Temperature(°C): 24		Humidity(%): 63					
<p>The graph plots Level (dBuV/m) on the y-axis (0 to 90) against Frequency (MHz) on the x-axis (1000 to 25000). Two horizontal red lines represent limits: CLASS-B at approximately 75 dBuV/m and CLASS-B (AVG) at approximately 55 dBuV/m. Six vertical blue lines represent emission peaks labeled 1 through 6. Peak 1 is at 2483.50 MHz, peak 2 at 2483.50 MHz, peak 3 at 4924.00 MHz, peak 4 at 4924.00 MHz, peak 5 at 7386.00 MHz, and peak 6 at 7386.00 MHz.</p>									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1	2483.50	39.82	54.00	-14.18	45.13	-5.31	Average	102	234
2	2483.50	56.20	74.00	-17.80	61.51	-5.31	Peak	102	234
3	4924.00	33.46	54.00	-20.54	34.51	-1.05	Average	100	31
4	4924.00	45.48	74.00	-28.52	46.53	-1.05	Peak	100	31
5	7386.00	38.42	54.00	-15.58	34.16	4.26	Average	100	210
6	7386.00	51.91	74.00	-22.09	47.65	4.26	Peak	100	210
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>									





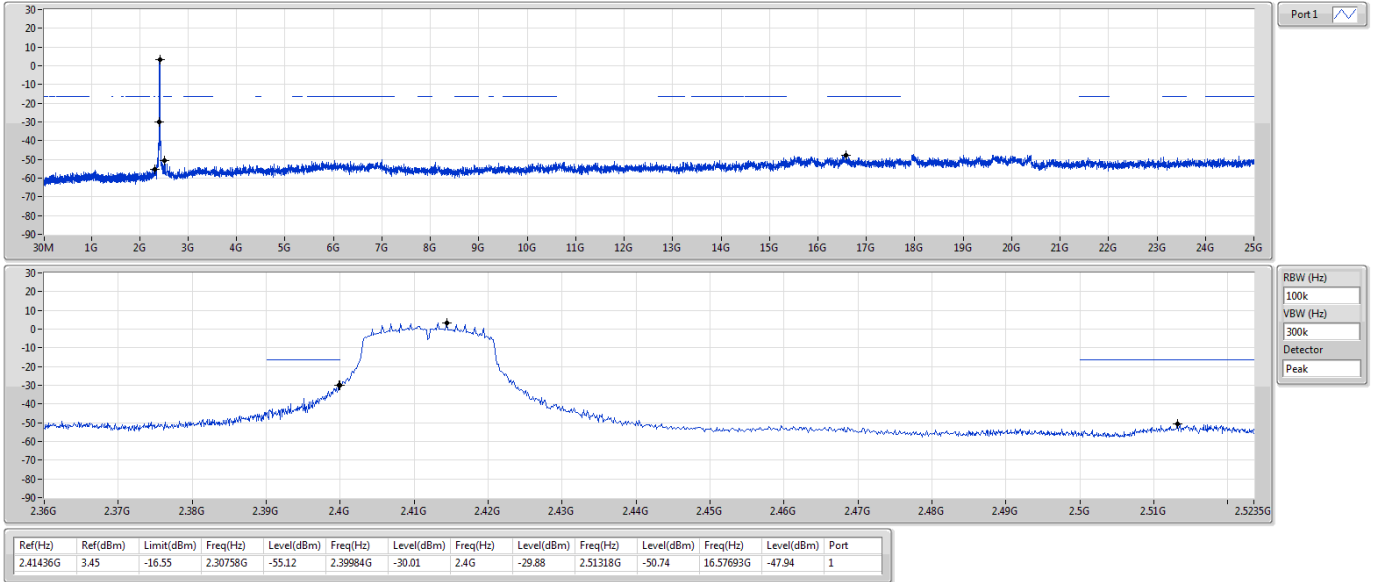




802.11n HT20_Nss1,(MCS0)_1TX

CSENdB

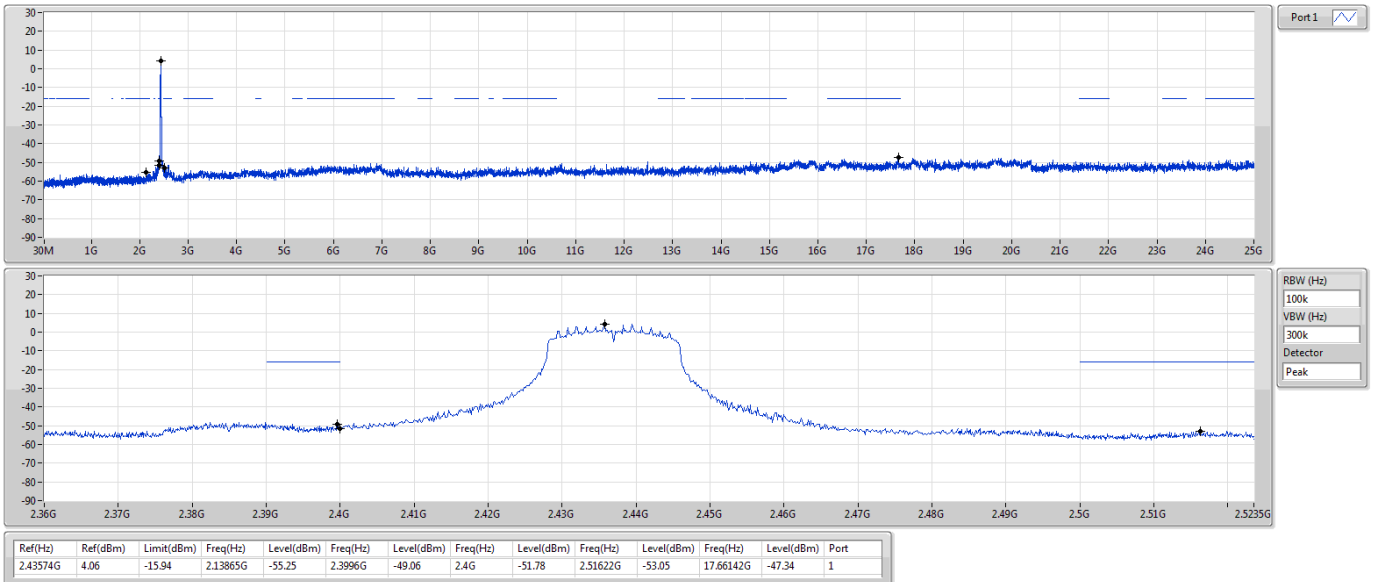
2412MHz



802.11n HT20_Nss1,(MCS0)_1TX

CSENdB

2437MHz





802.11n HT20_Nss1,(MCS0)_1TX

CSEndB

2462MHz

