FCC Test Report

FCC ID	:	**JVPVS20R**
Equipment	:	**InstaShow Host**
Model No.	:	**VS20R**
Brand Name	:	**BenQ**
Applicant	:	**BenQ Corporation**
Address	:	**16 Jihu Road, Neihu, Taipei 114, Taiwan**
Standard	:	**47 CFR FCC Part 15.247**
Received Date	:	**Dec. 27, 2022**
Tested Date	:	**Feb. 08 ~ Feb. 22, 2023**

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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Appendix A. 6dB and Occupied Bandwidth

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Release Record

Report No.	Version	Description	Issued Date
FR2D2701AC	Rev. 01	Initial issue	Mar. 14, 2023
FR2D2701AC	Rev. 02	Adding information of embed Wi-Fi modules	Mar. 28, 2023

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.402MHz 45.44 (Margin -12.37dB) - QP	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 4824.00MHz 52.89 (Margin -1.11dB) – AV 2390.00MHz 52.89 (Margin -1.11dB) - AV	Pass
15.247(b)(3)	Conducted Output Power	Max Power [dBm]: 27.29	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

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]	2	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	2	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	2	MCS 0-15
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	2	MCS 0-15
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power. Note 2: DSSS-DBPSK, DQPSK, CCK modulation OFDM - BPSK, QPSK, 16QAM, 64QAM, and 256QAM modulation. Note 3: The device uses 2 Wi-Fi modules. Module 1- CWD-07M7615-00 (Wi-Fi Chip: MT7615, TX / RX) Module 2-BL-M8811CU2 (Wi-Fi Chip: RTL8811, RX only)					

1.1.2 Antenna Details

For module 1

Ant. No.	Brand	Model	Type	Connector	Gain (dBi)
1	Invax	AN2450-5025BRS	Dipole	RP-SMA(M)	3.4

For module 2

Ant. No.	Brand	Model	Type	Connector	Gain (dBi)
1	VSO	JR7Q00242	PIFA	I-PEX	1.6

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	AC adapter	Brand: Zhuzhou Dachuan Electronic Technology Co., Ltd. Model: DCT36W120300ZZ-D0 I/P: 100-240Vac, 50/60Hz, 1.0A max O/P: 12Vdc, 3.0A, 36.0W Power Line: 1.5m non-shielded without core
2	HDMI cable	0.82m shielded without core

1.1.5 Channel List

Frequency band (MHz)		2400~2483.5	
802.11 b / g / n HT20		802.11n HT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	3	2422
2	2417	4	2427
3	2422	5	2432
4	2427	6	2437
5	2432	7	2442
6	2437	8	2447
7	2442	9	2452
8	2447	---	---
9	2452	---	---
10	2457	---	---
11	2462	---	---

1.1.6 Test Tool and Duty Cycle

Test Tool	Tera Term, Version:4.74		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11b	99.62%	0.02
	11g	94.74%	0.23
	HT20	96.32%	0.16
	HT40	94.47%	0.25

1.1.7 Power Index of Test Tool

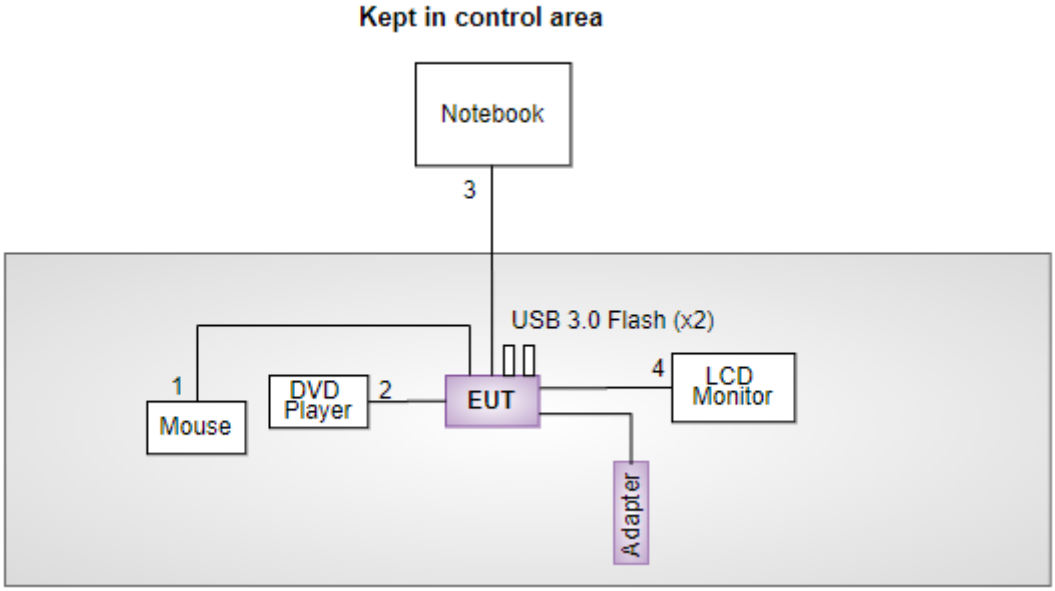
Modulation Mode	Test Frequency (MHz)	Power Index
11b	2412	20
11b	2437	21
11b	2462	21
11g	2412	28
11g	2437	36
11g	2462	28
HT20	2412	31
HT20	2437	38
HT20	2462	30
HT40	2422	21
HT40	2437	30
HT40	2452	27

1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	Notebook	DELL	Latitude E5470	DoC	---
2	DVD Player	SONY	BDP-S190	DoC	---
3	Mouse	DELL	MS111-L	---	---
4	LCD Monitor	ASUS(27”)	MX27UCS	---	---
5	USB 3.0 Flash	Transcend	JetFlash 700	---	---
6	USB 3.0 Flash	Transcend	JetFlash 700	---	---

1.3 Test Setup Chart

Test Setup Diagram



No.	Signal cable / Length (m)
1	USB, 1.8m shielded.
2	HDMI Cable, 0.82m shielded.
3	RJ45, 10m non-shielded.
4	HDMI Cable, 0.82m shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Feb. 22, 2023				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Mar. 15, 2022	Mar. 14, 2023
LISN	R&S	ENV216	101579	Apr. 21, 2022	Apr. 20, 2023
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127667	Jan .02, 2023	Jan .01, 2024
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 17, 2022	Oct. 16, 2023
50 ohm terminal (Support Unit)	NA	50	01	May 10, 2022	May 09, 2023
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber3 / (03CH03-WS)				
Tested Date	Feb. 08 ~ Feb. 22, 2023				
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	101499	Mar. 08, 2022	Mar. 07, 2023
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 01, 2022	Oct. 31, 2023
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Jun. 28, 2022	Jun. 27, 2023
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Dec. 15, 2022	Dec. 14, 2023
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 27, 2022	Oct. 26, 2023
Preamplifier	EMC	EMC02325	980187	Jul. 16, 2022	Jul. 15, 2023
Preamplifier	EMC	EMC184045SE	980897	Aug. 01, 2022	Jul. 31, 2023
Preamplifier	EMC	EMC184045SE	980903	Jul. 16, 2022	Jul. 15, 2023
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 04, 2022	Oct. 03, 2023
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800 -001	Sep. 23, 2022	Sep. 22, 2023
LF cable-3M	EMC	EMC8D-NM-NM-300 0	131103	Sep. 23, 2022	Sep. 22, 2023
LF cable-13M	EMC	EMC8D-NM-NM-130 00	131104	Sep. 23, 2022	Sep. 22, 2023
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Sep. 23, 2022	Sep. 22, 2023
RF cable-8M	EMC	EMC104-SM-SM-80 00	181107	Sep. 23, 2022	Sep. 22, 2023
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	Feb. 21, 2023				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101910	Apr. 08, 2022	Apr. 07, 2023
Power Meter	Anritsu	ML2495A	1241002	Nov. 23, 2022	Nov. 22, 2023
Power Sensor	Anritsu	MA2411B	1207366	Nov. 23, 2022	Nov. 22, 2023
Measurement Software	Sporton	SENSE-15247_DTS	V5.11	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
FCC KDB 662911 D01 Multiple Transmitter Output v02r01

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 ≤ 1GHz	±3.96 dB
Unwanted Emission > 1GHz	±4.51 dB

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	CO01-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.)
Test Site	03CH03-WS
Address of Test Site	No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- ISED#: 10807C
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
AC Power Line Conducted Emission	11g	2437	6 Mbps	---
Unwanted Emissions ≤ 1GHz	11g	2437	6 Mbps	---
Unwanted Emissions >1GHz Conducted Output Power 6dB bandwidth Power spectral density	11b 11g HT20 HT40	2412 / 2437 / 2462 2412 / 2437 / 2462 2412 / 2437 / 2462 2422 / 2437 / 2452	1 Mbps 6 Mbps MCS 0 MCS 0	---
NOTE: 1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report.				

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

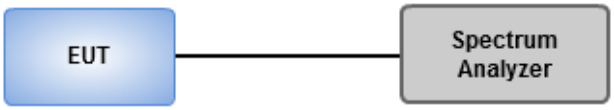
6dB Bandwidth

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	21°C / 66%	**Tested By**	Akun Chung

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 <= 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	21°C / 66%	**Tested By**	Akun Chung

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 ≥ 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.

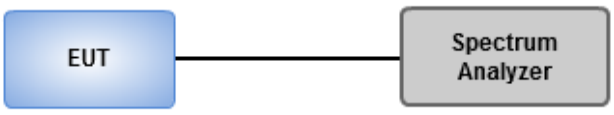
2 Set the sweep time to: ≥ 10 (number of measurement points in sweep) x (total on/off period of the transmitted signal).

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	21°C / 66%	Tested By	Akun Chung

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:
Qusai-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

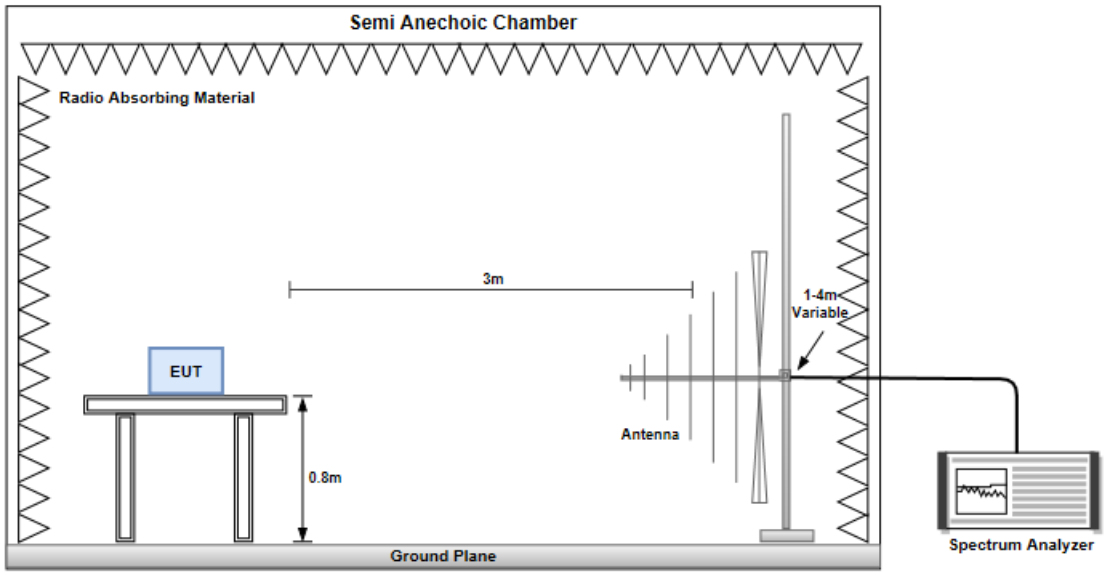
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission 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:

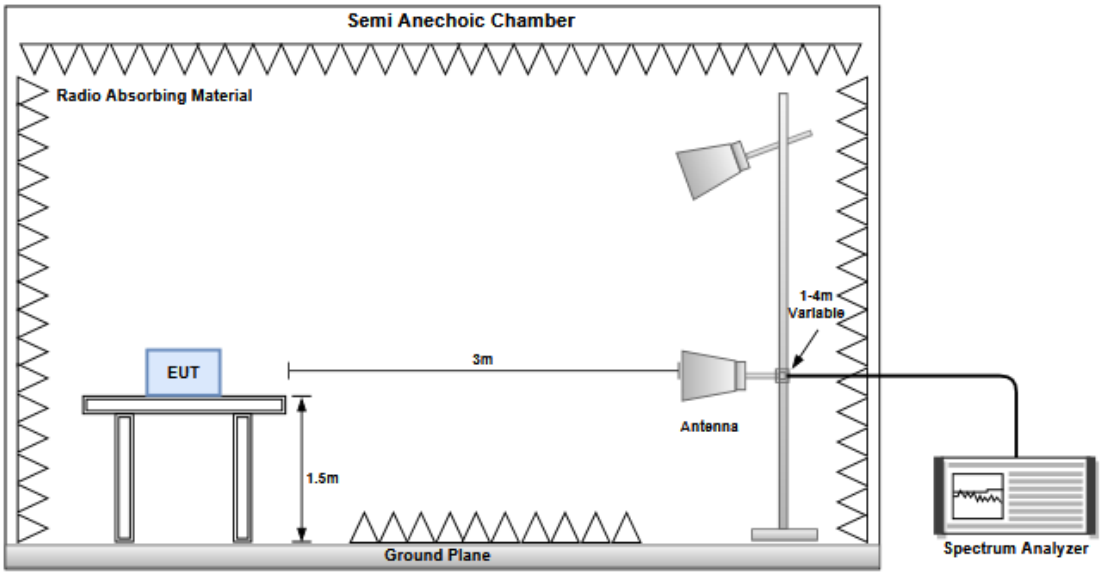
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

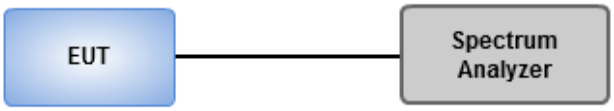
Reference level measurement

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	21°C / 66%	**Tested By**	Akun Chung

Refer to Appendix E.

3.6 AC Power Line Conducted Emissions

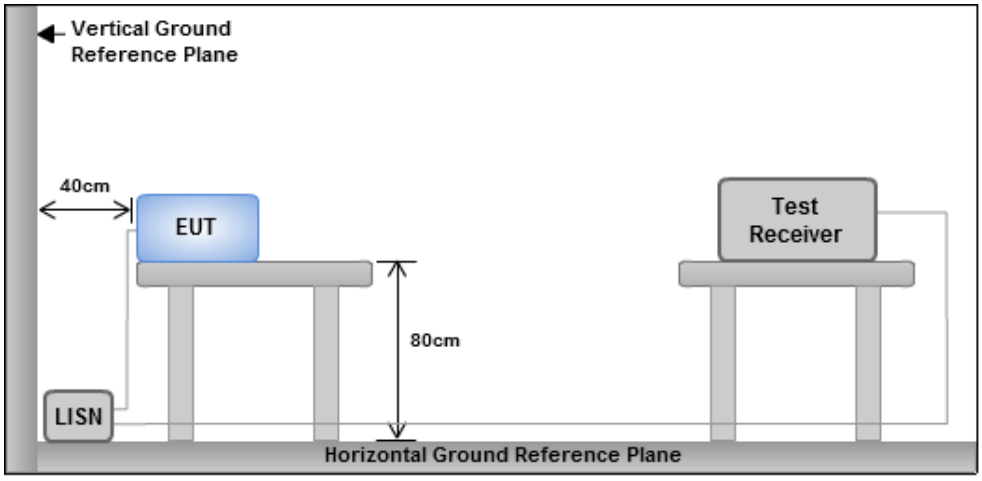
3.6.1 Limit of AC Power Line Conducted Emissions

Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.6.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V / 60Hz.

3.6.3 Test Setup



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.6.4 Test Results

Refer to Appendix F.

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 33381, 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)_2TX	9.05M	13.298M	13M3G1D	8.05M	13.163M
802.11g_Nss1,(6Mbps)_2TX	15.1M	17.943M	17M9D1D	14.925M	16.404M
802.11n HT20_Nss2,(MCS8)_2TX	16.675M	18.216M	18M2D1D	14.3M	17.616M
802.11n HT40_Nss2,(MCS8)_2TX	33.85M	36.182M	36M2D1D	25.55M	35.832M

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

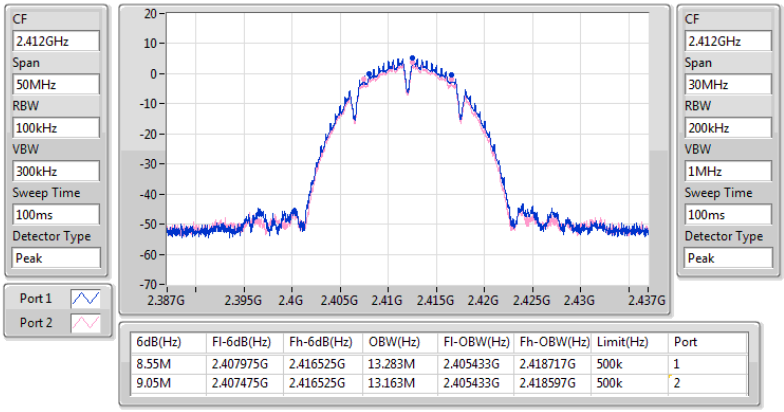
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	8.55M	13.283M	9.05M	13.163M
2437MHz	Pass	500k	8.575M	13.298M	8.05M	13.163M
2462MHz	Pass	500k	8.55M	13.298M	9.05M	13.178M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15M	16.624M	15M	16.404M
2437MHz	Pass	500k	15M	17.943M	14.925M	17.437M
2462MHz	Pass	500k	14.95M	16.602M	15.1M	16.404M
802.11n HT20_Nss2,(MCS8)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	14.3M	17.641M	15.7M	17.691M
2437MHz	Pass	500k	14.975M	18.216M	16.675M	18.216M
2462MHz	Pass	500k	14.975M	17.616M	14.975M	17.666M
802.11n HT40_Nss2,(MCS8)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	33.85M	35.832M	25.55M	36.032M
2437MHz	Pass	500k	29.9M	35.982M	32.55M	36.182M
2452MHz	Pass	500k	30M	35.882M	31.05M	36.082M

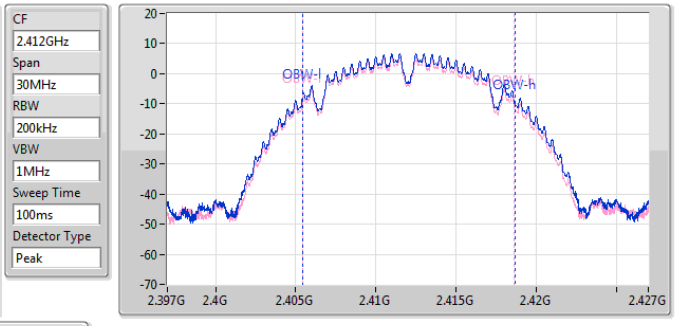
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX **EBW**

2412MHz

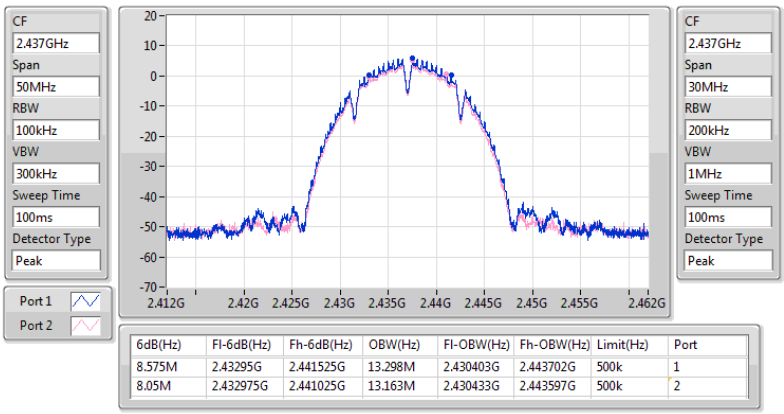


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.55M	2.407975G	2.416525G	13.283M	2.405433G	2.418717G	500k	1
9.05M	2.407475G	2.416525G	13.163M	2.405433G	2.418597G	500k	2

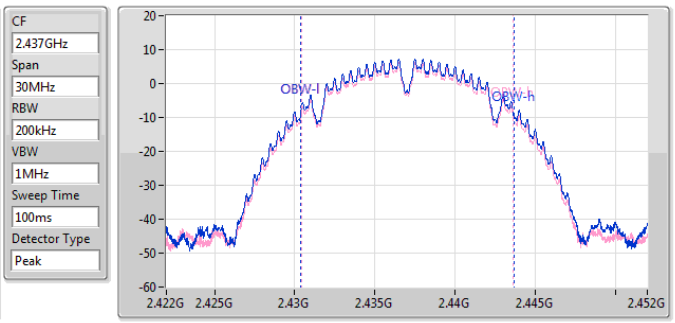


2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX **EBW**

2437MHz

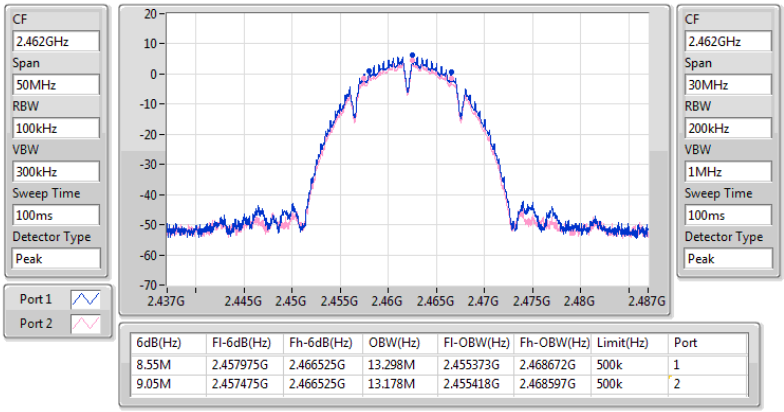


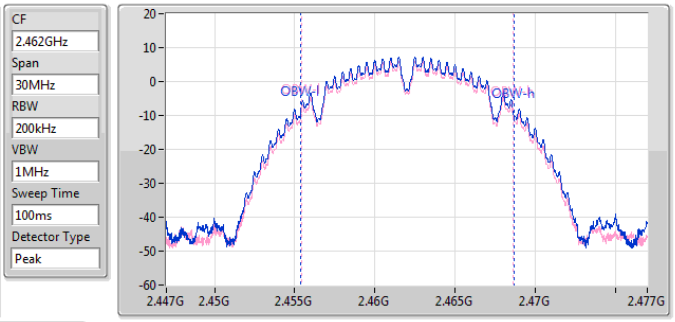
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.575M	2.43295G	2.441525G	13.298M	2.430403G	2.443702G	500k	1
8.05M	2.432975G	2.441025G	13.163M	2.430433G	2.443597G	500k	2



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX **EBW**

2462MHz

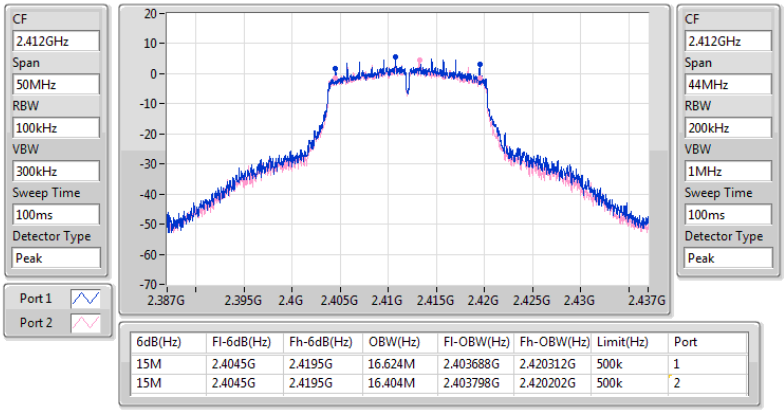


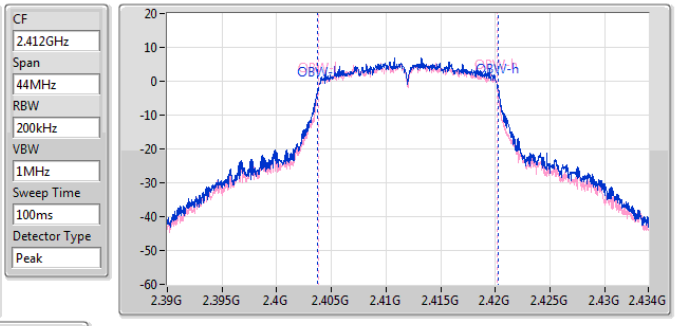


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.55M	2.457975G	2.466525G	13.298M	2.455373G	2.468672G	500k	1
9.05M	2.457475G	2.466525G	13.178M	2.455418G	2.468597G	500k	2

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX **EBW**

2412MHz

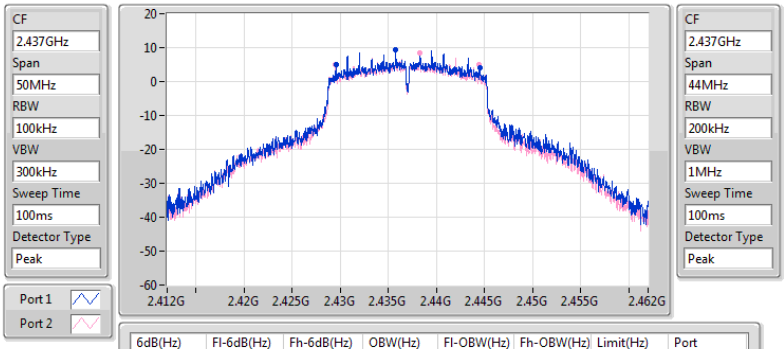


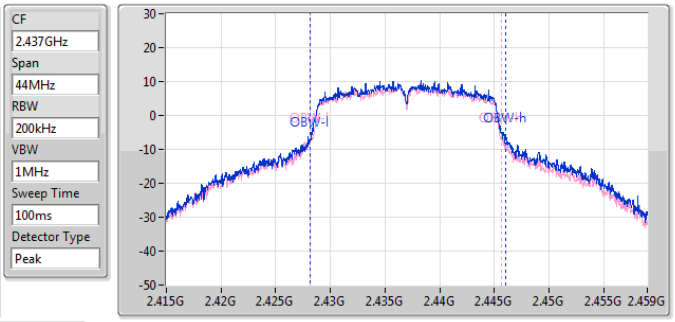


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15M	2.4045G	2.4195G	16.624M	2.403688G	2.420312G	500k	1
15M	2.4045G	2.4195G	16.404M	2.403798G	2.420202G	500k	2

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX **EBW**

2437MHz

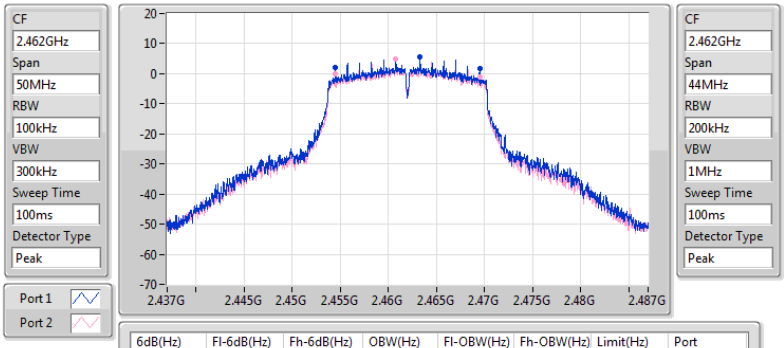


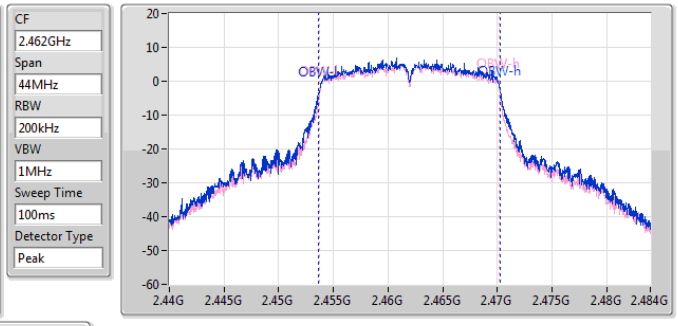


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15M	2.42955G	2.44455G	17.943M	2.428116G	2.446059G	500k	1
14.925M	2.429525G	2.44445G	17.437M	2.428182G	2.44562G	500k	2

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX **EBW**

2462MHz

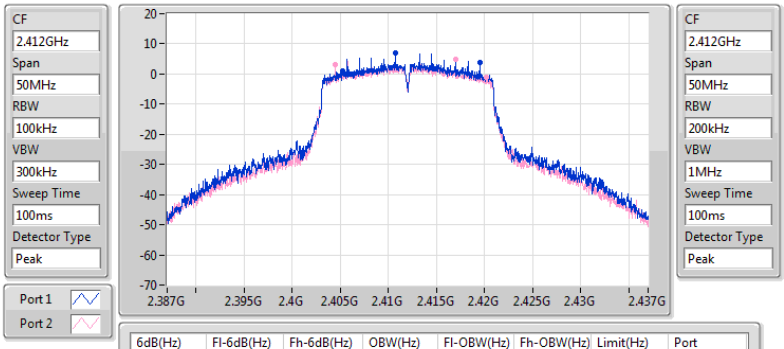


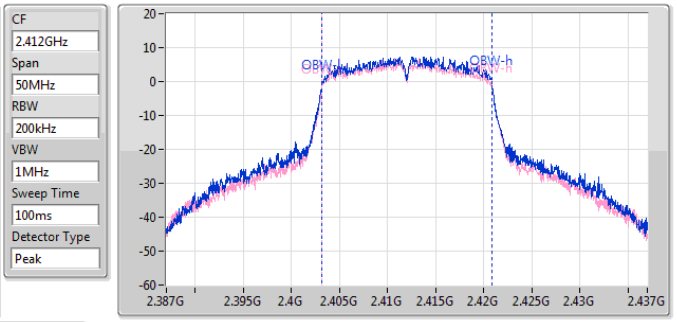


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.95M	2.454525G	2.469475G	16.602M	2.453666G	2.470268G	500k	1
15.1M	2.45445G	2.46955G	16.404M	2.453776G	2.47018G	500k	2

2.4-2.4835GHz_802.11n HT20_Nss2,(MCS8)_2TX **EBW**

2412MHz

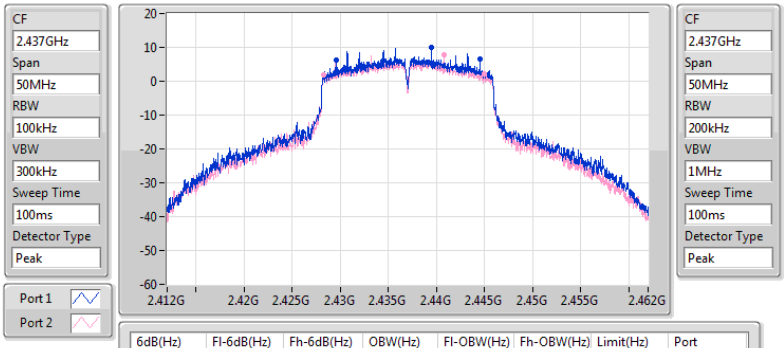


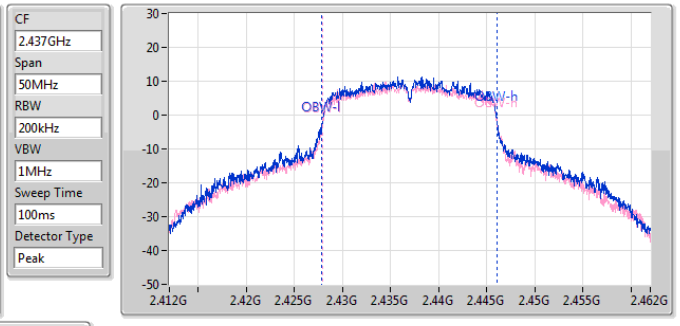


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.3M	2.4052G	2.4195G	17.641M	2.403179G	2.420821G	500k	1
15.7M	2.4045G	2.4202G	17.691M	2.403154G	2.420846G	500k	2

2.4-2.4835GHz_802.11n HT20_Nss2,(MCS8)_2TX **EBW**

2437MHz

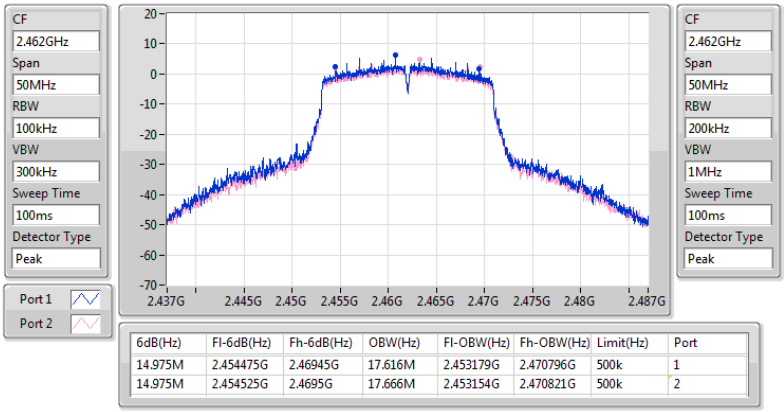


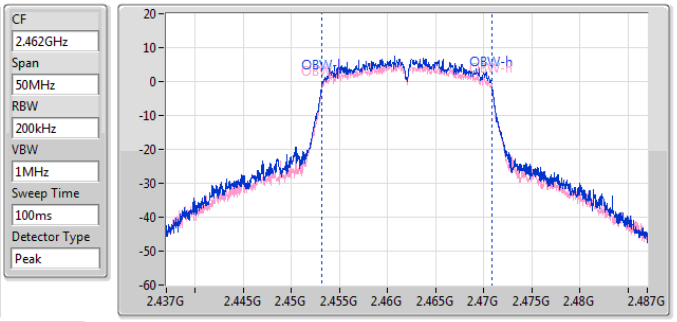


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.975M	2.42955G	2.444525G	18.216M	2.42783G	2.446045G	500k	1
16.675M	2.42825G	2.444925G	18.216M	2.42788G	2.446095G	500k	2

2.4-2.4835GHz_802.11n HT20_Nss2,(MCS8)_2TX **EBW**

2462MHz

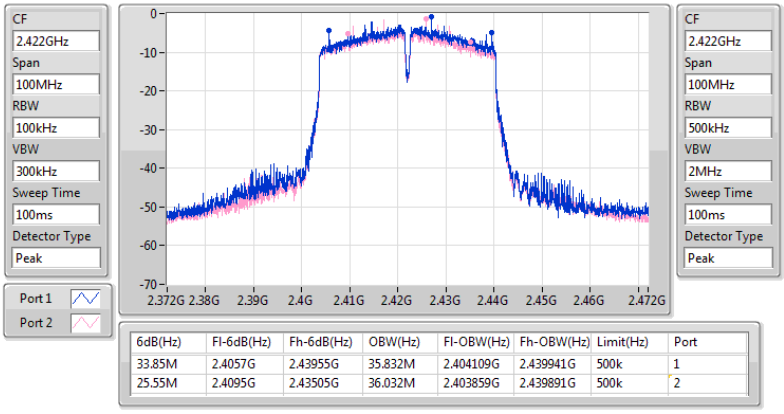


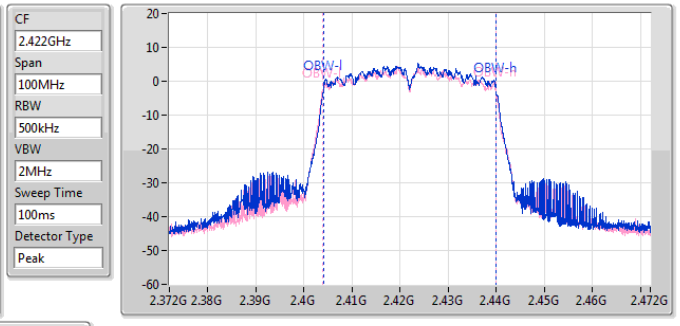


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.975M	2.454475G	2.46945G	17.616M	2.453179G	2.470796G	500k	1
14.975M	2.454525G	2.4695G	17.666M	2.453154G	2.470821G	500k	2

2.4-2.4835GHz_802.11n HT40_Nss2,(MCS8)_2TX **EBW**

2422MHz

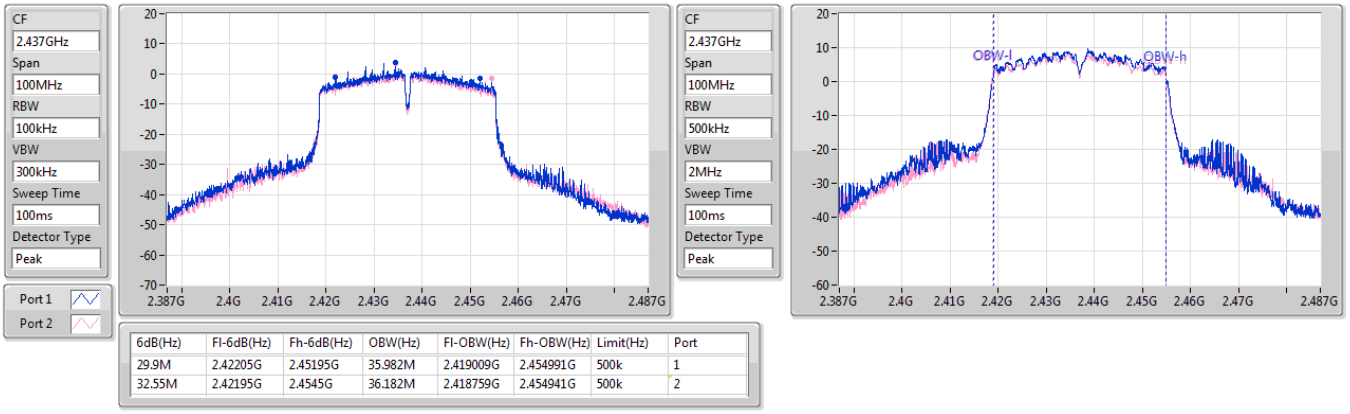




6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
33.85M	2.4057G	2.43955G	35.832M	2.404109G	2.439941G	500k	1
25.55M	2.4095G	2.43505G	36.032M	2.403859G	2.439891G	500k	2

2.4-2.4835GHz_802.11n HT40_Nss2,(MCS8)_2TX **EBW**

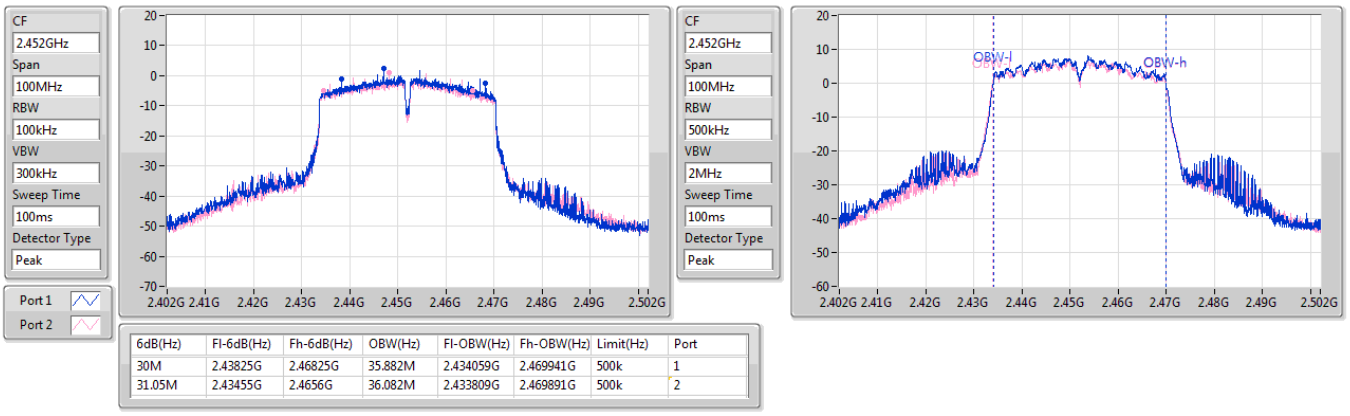
2437MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
29.9M	2.42205G	2.45195G	35.982M	2.419009G	2.454991G	500k	1
32.55M	2.42195G	2.4545G	36.182M	2.418759G	2.454941G	500k	2

2.4-2.4835GHz_802.11n HT40_Nss2,(MCS8)_2TX **EBW**

2452MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
30M	2.43825G	2.46825G	35.882M	2.434059G	2.469941G	500k	1
31.05M	2.43455G	2.4656G	36.082M	2.433809G	2.469891G	500k	2

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	19.08	0.08091
802.11g_Nss1,(6Mbps)_2TX	27.29	0.53580
802.11n HT20_Nss2,(MCS8)_2TX	27.25	0.53088
802.11n HT40_Nss2,(MCS8)_2TX	25.81	0.38107

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.40	16.17	15.12	18.69	30.00	22.09	36.00
2437MHz	Pass	3.40	16.52	15.56	19.08	30.00	22.48	36.00
2462MHz	Pass	3.40	16.46	15.25	18.91	30.00	22.31	36.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.40	23.54	22.88	26.23	30.00	29.63	36.00
2437MHz	Pass	3.40	24.62	23.9	27.29	30.00	30.69	36.00
2462MHz	Pass	3.40	23.35	22.71	26.05	30.00	29.45	36.00
802.11n HT20_Nss2,(MCS8)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.40	23.35	23.71	26.54	30.00	29.94	36.00
2437MHz	Pass	3.40	24.52	23.95	27.25	30.00	30.65	36.00
2462MHz	Pass	3.40	22.54	22.21	25.39	30.00	28.79	36.00
802.11n HT40_Nss2,(MCS8)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	3.40	20.85	19.78	23.36	30.00	26.76	36.00
2437MHz	Pass	3.40	23.05	22.54	25.81	30.00	29.21	36.00
2452MHz	Pass	3.40	22.65	21.76	25.24	30.00	28.64	36.00

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

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	16.90	0.04898
802.11g_Nss1,(6Mbps)_2TX	22.75	0.18836
802.11n HT20_Nss2,(MCS8)_2TX	22.71	0.18664
802.11n HT40_Nss2,(MCS8)_2TX	19.33	0.08570

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.40	13.97	12.91	16.48	-	19.88	-
2437MHz	Pass	3.40	14.39	13.33	16.90	-	20.30	-
2462MHz	Pass	3.40	14.27	13.01	16.70	-	20.10	-
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.40	16.75	15.89	19.35	-	22.75	-
2437MHz	Pass	3.40	20.12	19.33	22.75	-	26.15	-
2462MHz	Pass	3.40	16.51	15.5	19.04	-	22.44	-
802.11n HT20_Nss2,(MCS8)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.40	16.85	16.25	19.57	-	22.97	-
2437MHz	Pass	3.40	20.05	19.32	22.71	-	26.11	-
2462MHz	Pass	3.40	16.25	15.43	18.87	-	22.27	-
802.11n HT40_Nss2,(MCS8)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	3.40	12.56	11.72	15.17	-	18.57	-
2437MHz	Pass	3.40	16.75	15.85	19.33	-	22.73	-
2452MHz	Pass	3.40	15.32	14.32	17.86	-	21.26	-

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)_2TX	7.29
802.11g_Nss1,(6Mbps)_2TX	-4.82
802.11n HT20_Nss2,(MCS8)_2TX	-5.16
802.11n HT40_Nss2,(MCS8)_2TX	-10.48

RBW = 3kHz;

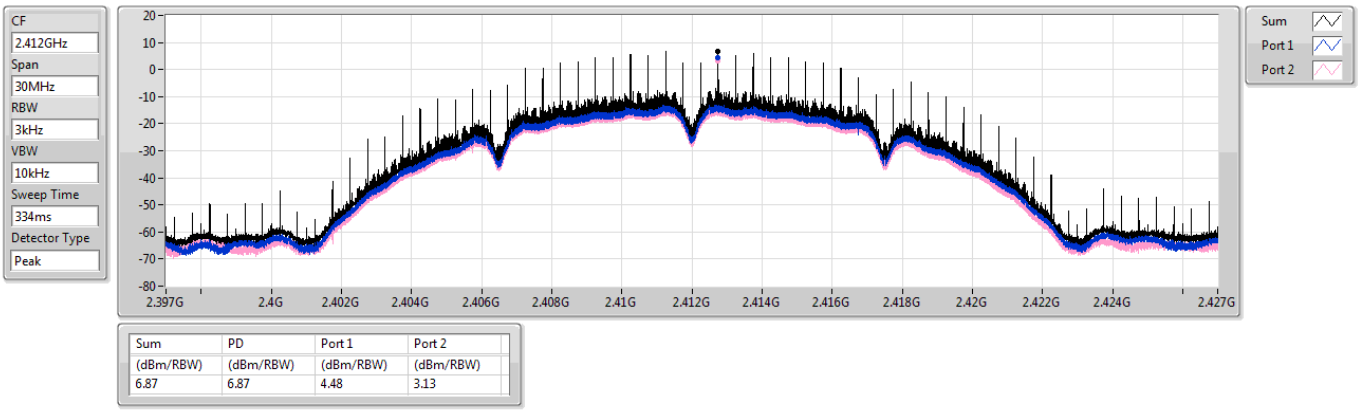
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	6.41	4.48	3.13	6.87	7.59
2437MHz	Pass	6.41	4.81	3.68	7.29	7.59
2462MHz	Pass	6.41	4.66	3.66	7.20	7.59
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	6.41	-9.95	-10.33	-7.81	7.59
2437MHz	Pass	6.41	-6.72	-7.48	-4.82	7.59
2462MHz	Pass	6.41	-10.20	-11.38	-8.32	7.59
802.11n HT20_Nss2,(MCS8)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.40	-10.63	-10.90	-8.76	8.00
2437MHz	Pass	3.40	-7.32	-7.68	-5.16	8.00
2462MHz	Pass	3.40	-11.01	-11.78	-8.87	8.00
802.11n HT40_Nss2,(MCS8)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.40	-16.74	-18.15	-15.01	8.00
2437MHz	Pass	3.40	-12.24	-13.51	-10.48	8.00
2452MHz	Pass	3.40	-13.43	-14.97	-12.20	8.00

DG = Directional Gain
For 802.11b/g
Directional Gain = 3.4 + 10*log (2/1) = 6.41 dBi > 6 dBi, limit shall be reduced to 8 dBm – (6.41 dBi – 6 dBi) = 7.59 dBm
For 802.11n HT20 / HT 40
Directional Gain = 3.4 + 10*log (2/2) = 3.4 dBi
RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX **PSD**

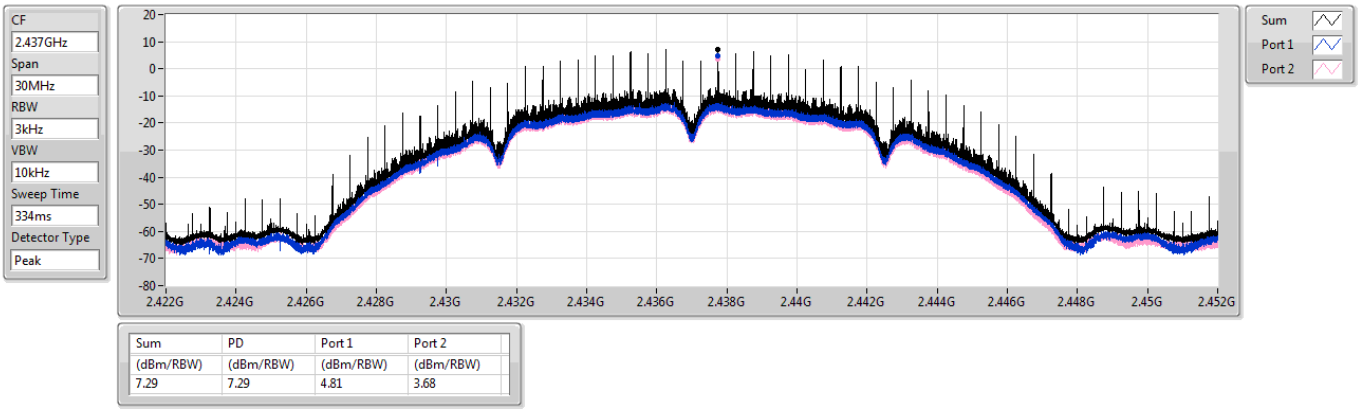
2412MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.87	6.87	4.48	3.13

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX **PSD**

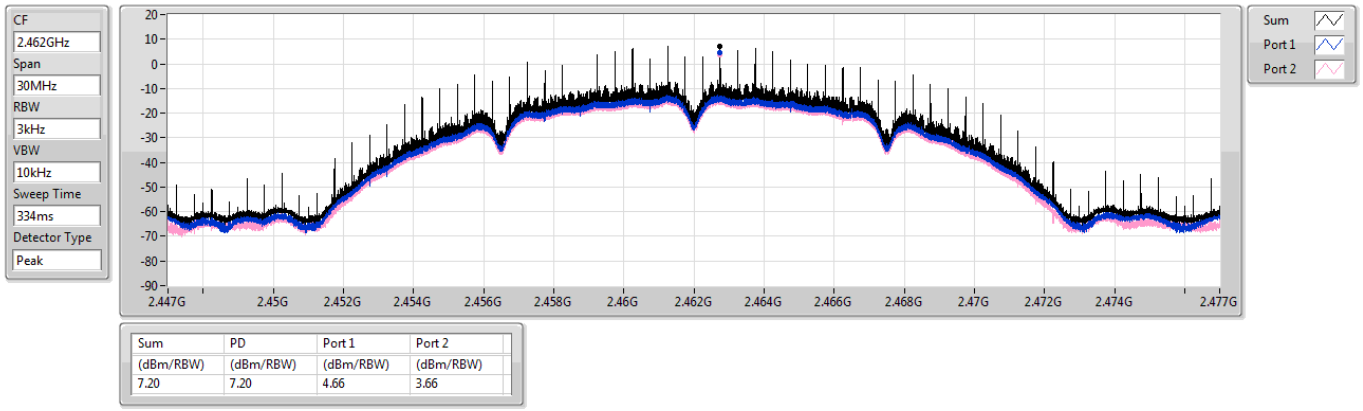
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.29	7.29	4.81	3.68

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX **PSD**

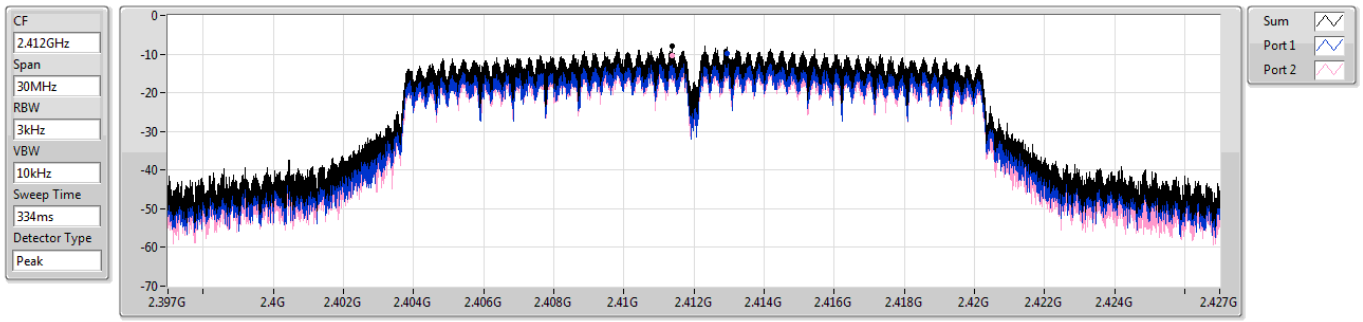
2462MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.20	7.20	4.66	3.66

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX **PSD**

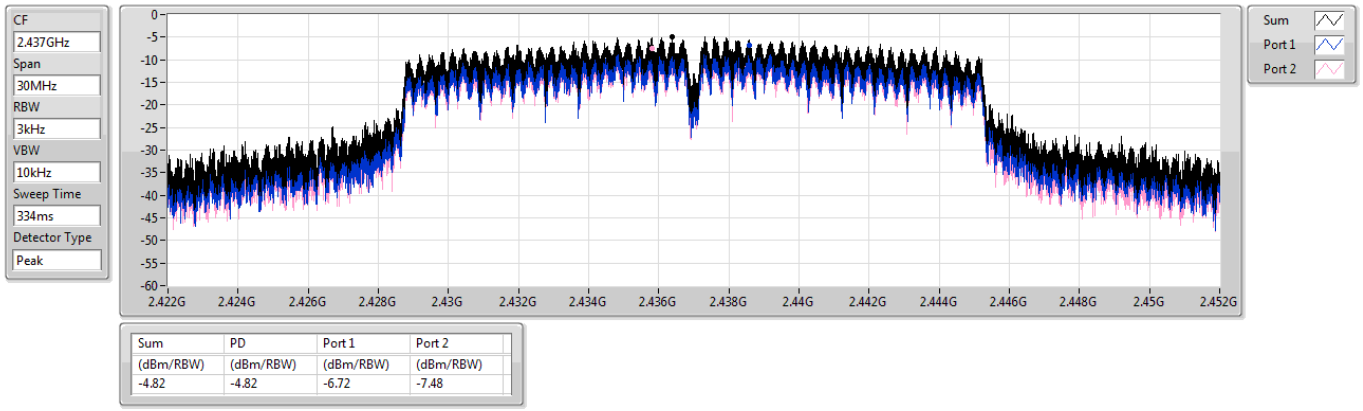
2412MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.81	-7.81	-9.95	-10.33

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX **PSD**

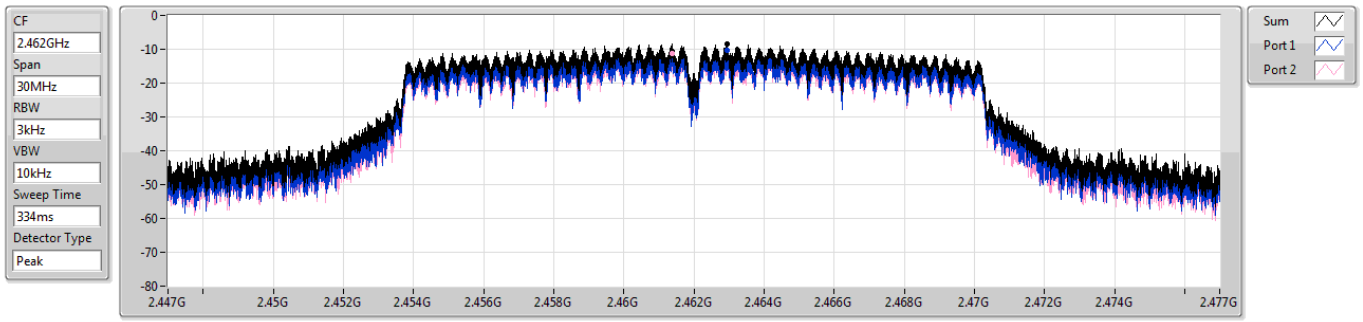
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.82	-4.82	-6.72	-7.48

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX **PSD**

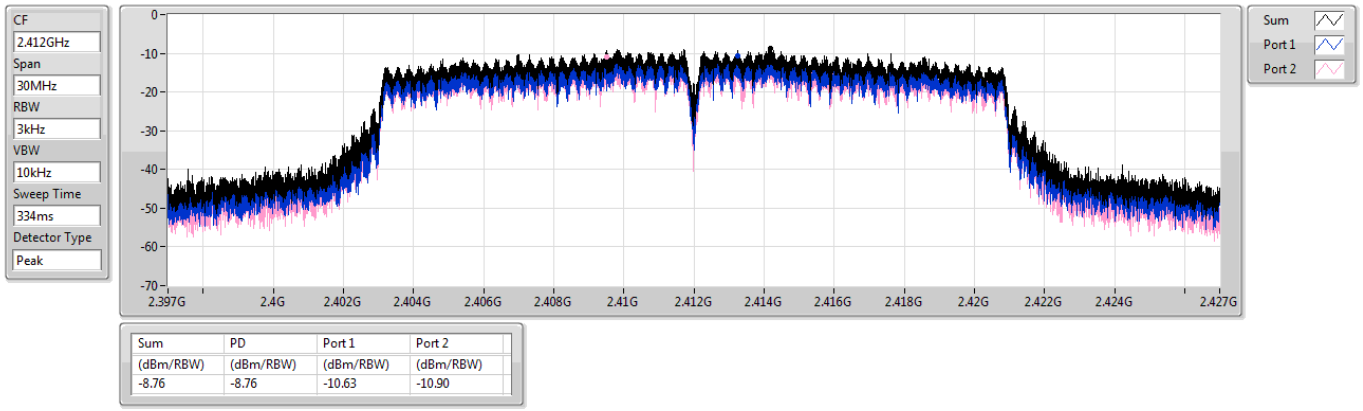
2462MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.32	-8.32	-10.20	-11.38

2.4-2.4835GHz_802.11n HT20_Nss2,(MCS8)_2TX **PSD**

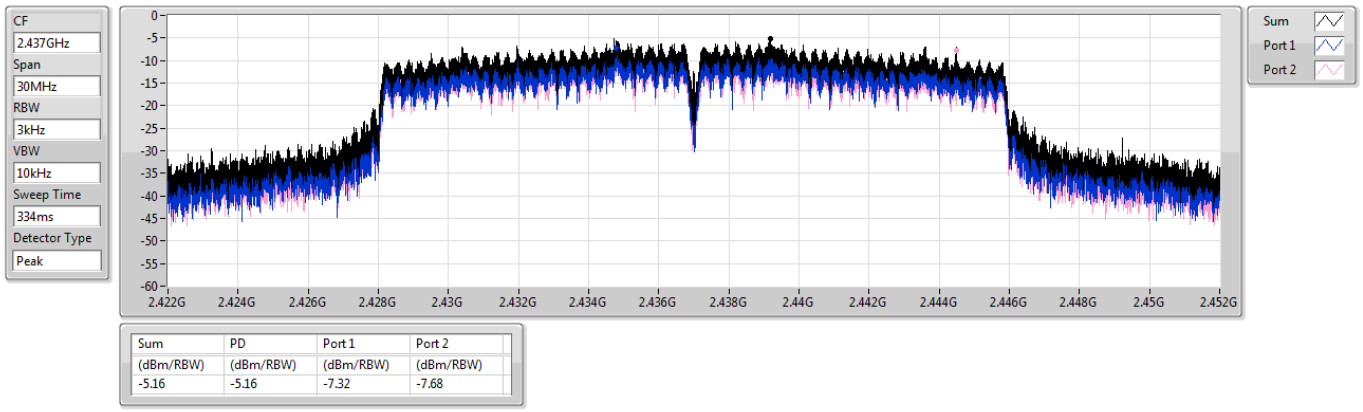
2412MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.76	-8.76	-10.63	-10.90

2.4-2.4835GHz_802.11n HT20_Nss2,(MCS8)_2TX **PSD**

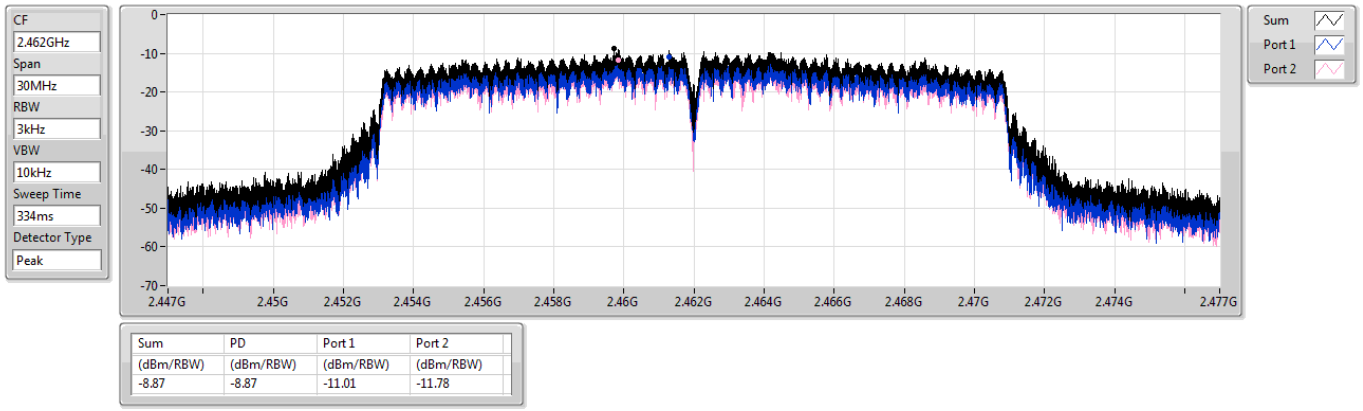
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-5.16	-5.16	-7.32	-7.68

2.4-2.4835GHz_802.11n HT20_Nss2,(MCS8)_2TX **PSD**

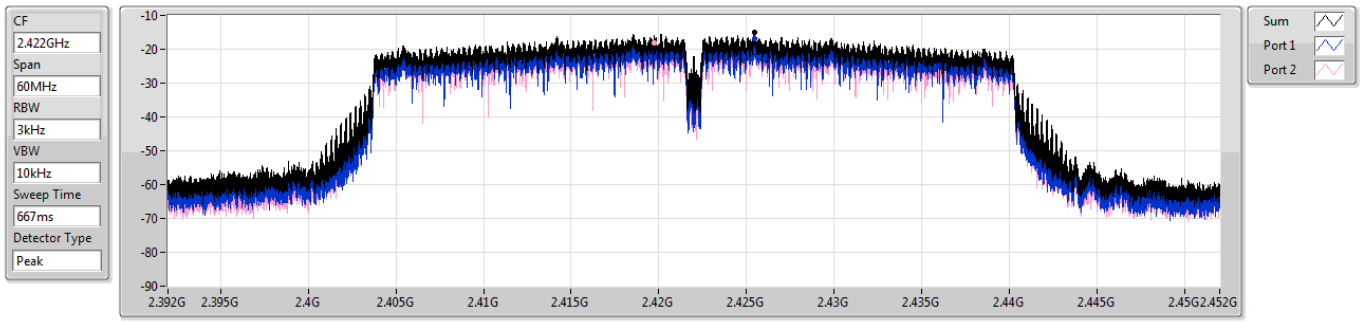
2462MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.87	-8.87	-11.01	-11.78

2.4-2.4835GHz_802.11n HT40_Nss2,(MCS8)_2TX **PSD**

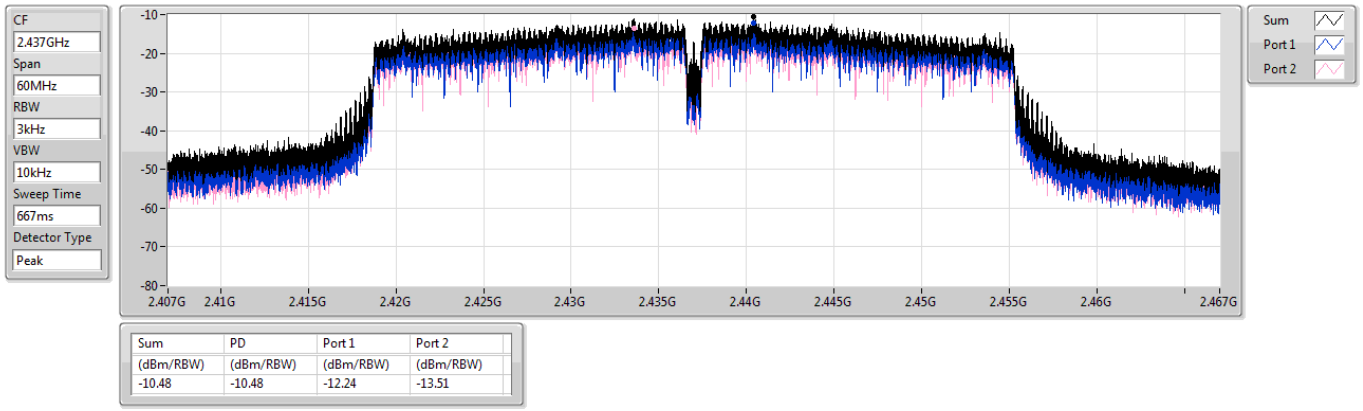
2422MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-15.01	-15.01	-16.74	-18.15

2.4-2.4835GHz_802.11n HT40_Nss2,(MCS8)_2TX **PSD**

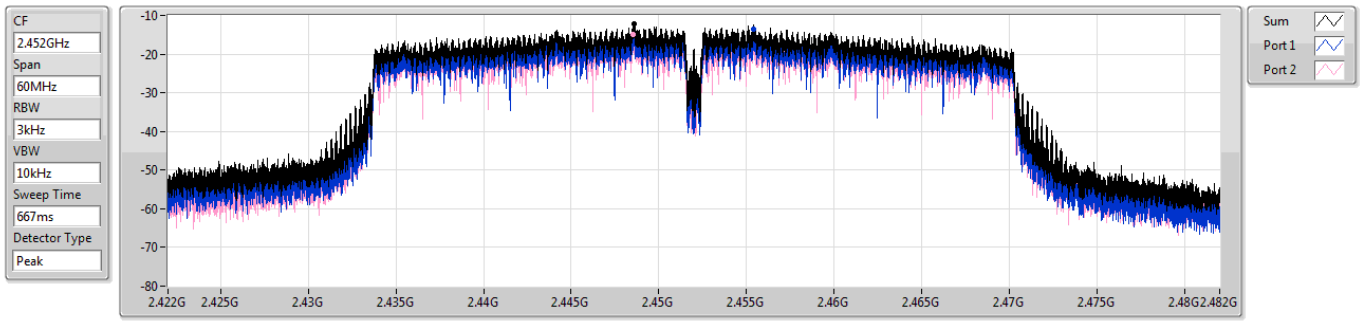
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.48	-10.48	-12.24	-13.51

2.4-2.4835GHz_802.11n HT40_Nss2,(MCS8)_2TX **PSD**

2452MHz

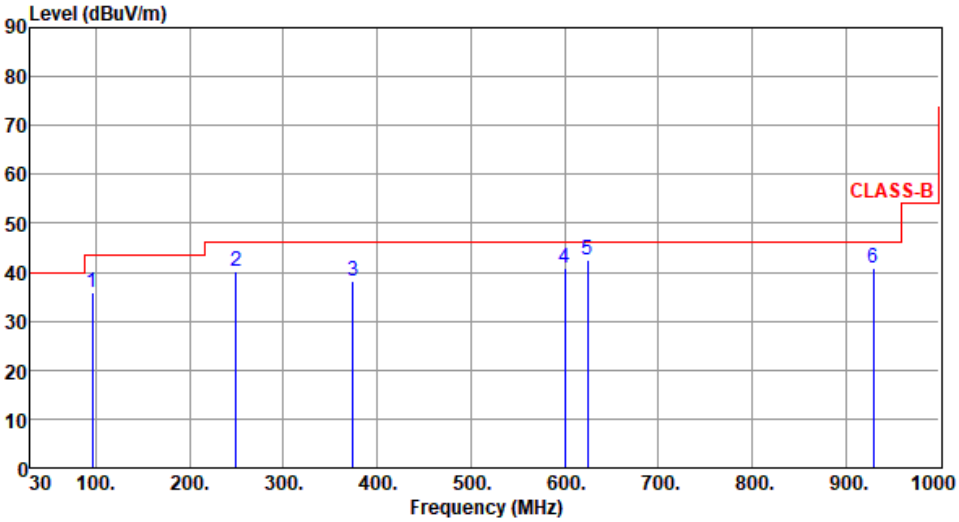


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.20	-12.20	-13.43	-14.97

Unwanted Emissions (Below 1GHz)

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

Test By :Brad Wu Temperature(℃):22 Humidity(%):63

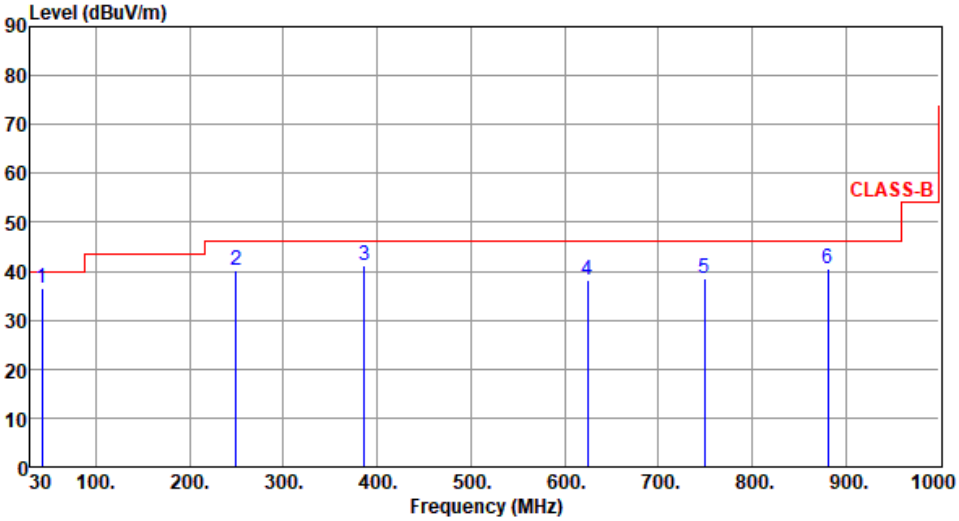


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	95.96	35.76	43.50	-7.74	49.61	-13.85	Peak	---	---
2	249.22	40.32	46.00	-5.68	49.96	-9.64	Peak	---	---
3	374.35	38.33	46.00	-7.67	44.17	-5.84	Peak	---	---
4	600.36	40.75	46.00	-5.25	40.62	0.13	Peak	---	---
5	624.61	42.43	46.00	-3.57	41.77	0.66	QP	129	41
6	929.19	40.95	46.00	-5.05	34.70	6.25	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)**	2437
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):63



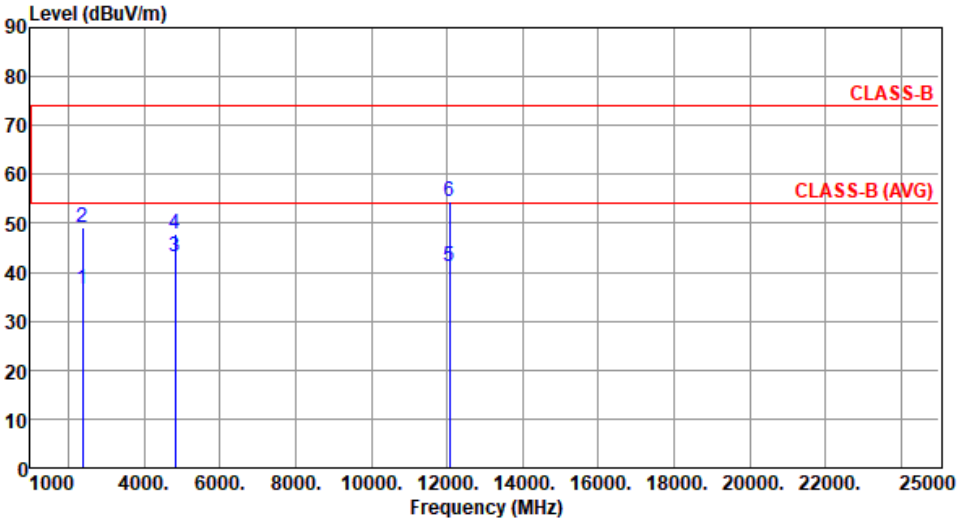
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	42.61	36.62	40.00	-3.38	45.47	-8.85	QP	100	288
2	249.22	40.18	46.00	-5.82	49.82	-9.64	Peak	---	---
3	385.99	41.29	46.00	-4.71	46.61	-5.32	Peak	---	---
4	624.61	38.05	46.00	-7.95	37.39	0.66	Peak	---	---
5	749.74	38.50	46.00	-7.50	35.27	3.23	Peak	---	---
6	880.69	40.63	46.00	-5.37	35.51	5.12	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 Emission (Above 1GHz) for 11b

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

Test By :Paul Lin Temperature(℃):24 Humidity(%):65

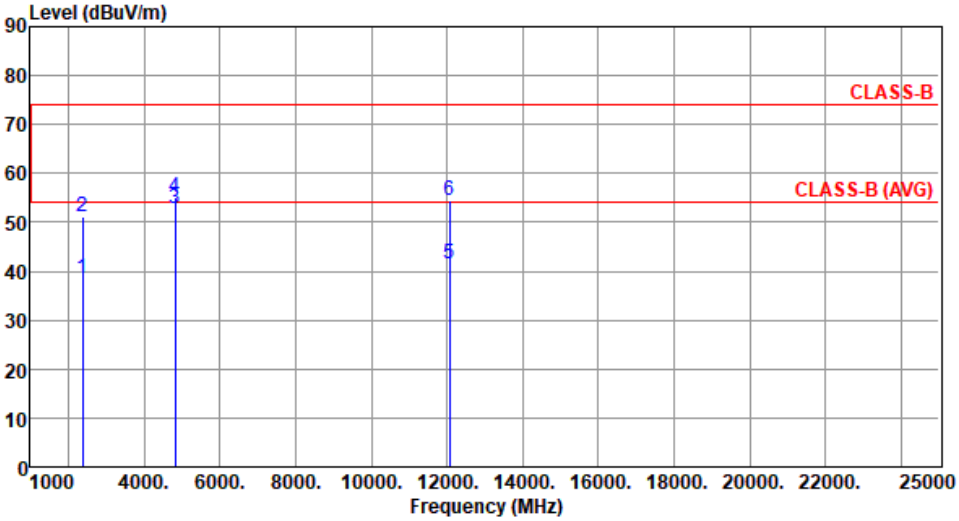


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	36.51	54.00	-17.49	40.30	-3.79	Average	254	155
2	2390.00	49.24	74.00	-24.76	53.03	-3.79	Peak	254	155
3	4824.00	43.16	54.00	-10.84	43.04	0.12	Average	115	22
4	4824.00	47.96	74.00	-26.04	47.84	0.12	Peak	115	22
5	12060.00	41.26	54.00	-12.74	33.46	7.80	Average	100	61
6	12060.00	54.39	74.00	-19.61	46.59	7.80	Peak	100	61

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 :Paul Lin Temperature(℃):24 Humidity(%):65

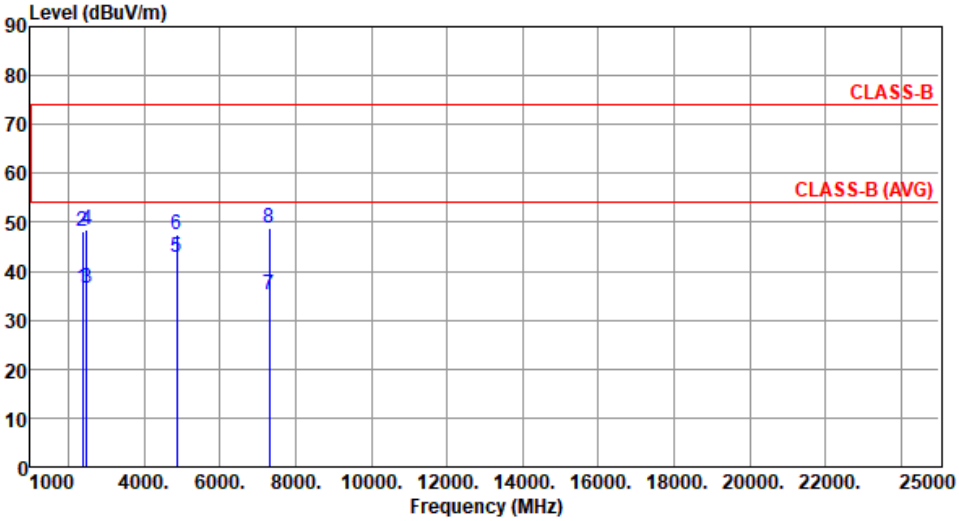


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	38.43	54.00	-15.57	42.22	-3.79	Average	223	269
2	2390.00	51.30	74.00	-22.70	55.09	-3.79	Peak	223	269
3	4824.00	52.89	54.00	-1.11	52.77	0.12	Average	153	289
4	4824.00	55.28	74.00	-18.72	55.16	0.12	Peak	153	289
5	12060.00	41.35	54.00	-12.65	33.55	7.80	Average	100	132
6	12060.00	54.47	74.00	-19.53	46.67	7.80	Peak	100	132

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 :Paul Lin Temperature(℃):24 Humidity(%):65

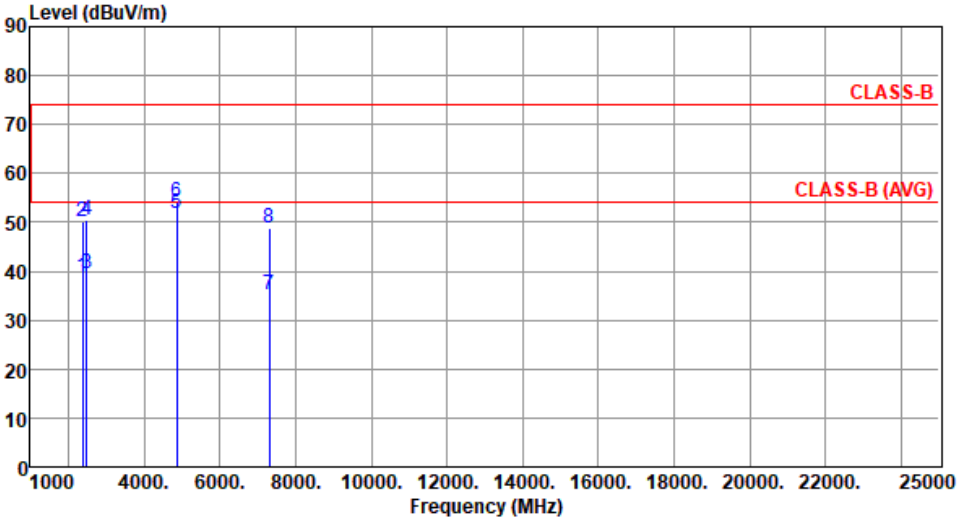


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	36.45	54.00	-17.55	40.24	-3.79	Average	256	154
2	2390.00	48.14	74.00	-25.86	51.93	-3.79	Peak	256	154
3	2483.50	36.52	54.00	-17.48	40.61	-4.09	Average	256	154
4	2483.50	48.47	74.00	-25.53	52.56	-4.09	Peak	256	154
5	4874.00	42.88	54.00	-11.12	42.76	0.12	Average	116	20
6	4874.00	47.56	74.00	-26.44	47.44	0.12	Peak	116	20
7	7311.00	35.35	54.00	-18.65	29.41	5.94	Average	100	84
8	7311.00	48.78	74.00	-25.22	42.84	5.94	Peak	100	84

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 :Paul Lin Temperature(℃):24 Humidity(%):65

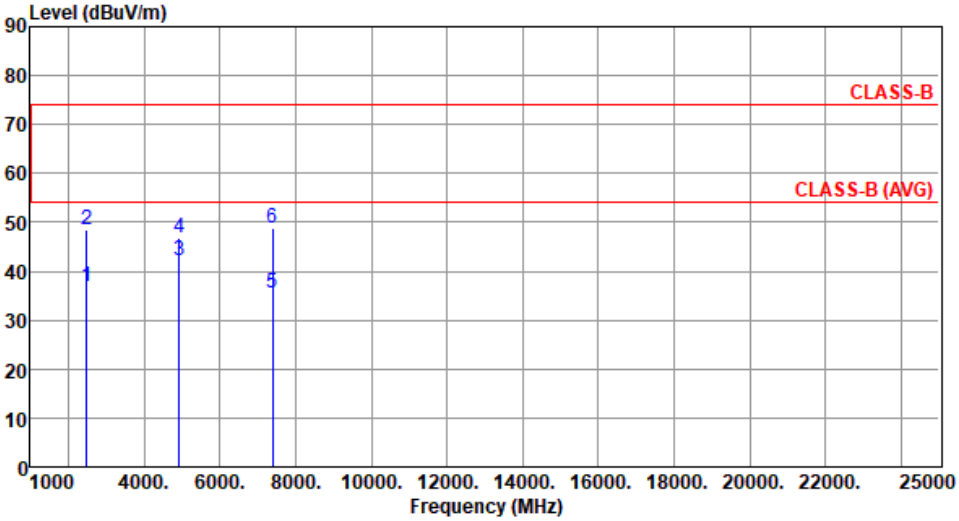


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	38.91	54.00	-15.09	42.70	-3.79	Average	221	268
2	2390.00	50.17	74.00	-23.83	53.96	-3.79	Peak	221	268
3	2483.50	39.49	54.00	-14.51	43.58	-4.09	Average	221	268
4	2483.50	50.36	74.00	-23.64	54.45	-4.09	Peak	221	268
5	4874.00	51.89	54.00	-2.11	51.77	0.12	Average	218	216
6	4874.00	54.06	74.00	-19.94	53.94	0.12	Peak	218	216
7	7311.00	35.19	54.00	-18.81	29.25	5.94	Average	100	125
8	7311.00	48.95	74.00	-25.05	43.01	5.94	Peak	100	125

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 :Paul Lin Temperature(℃):24 Humidity(%):65

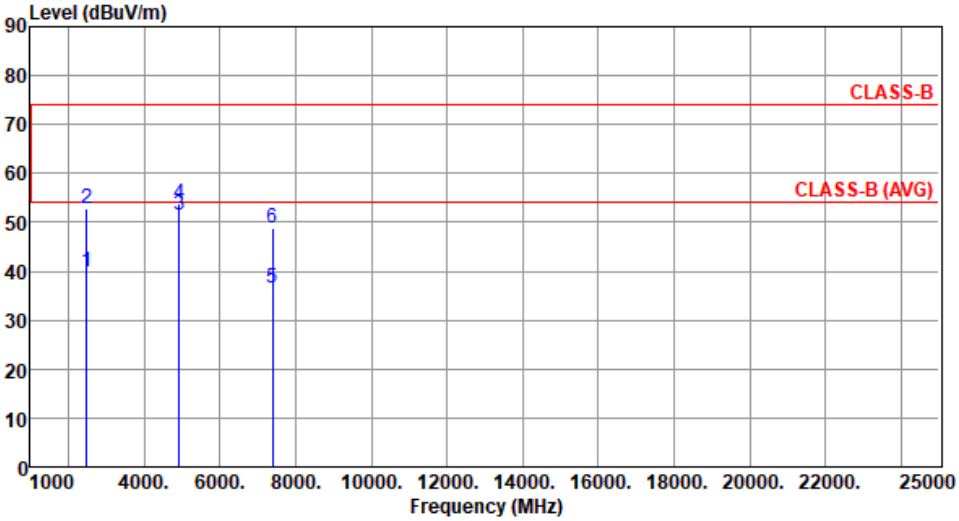


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	36.84	54.00	-17.16	40.93	-4.09	Average	252	158
2	2483.50	48.59	74.00	-25.41	52.68	-4.09	Peak	252	158
3	4924.00	42.07	54.00	-11.93	41.99	0.08	Average	111	24
4	4924.00	46.75	74.00	-27.25	46.67	0.08	Peak	111	24
5	7386.00	35.42	54.00	-18.58	29.53	5.89	Average	100	62
6	7386.00	48.86	74.00	-25.14	42.97	5.89	Peak	100	62

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 :Paul Lin Temperature(℃):24 Humidity(%):65



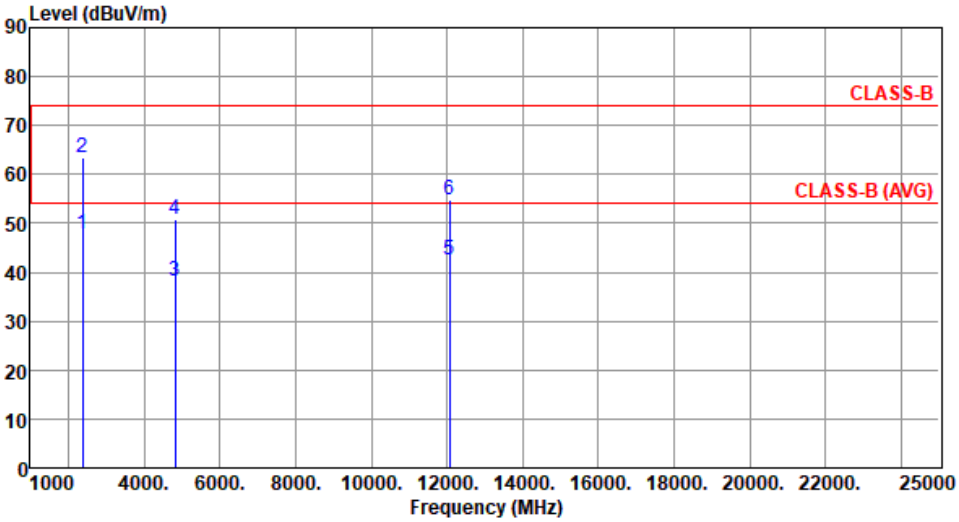
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	39.84	54.00	-14.16	43.93	-4.09	Average	207	266
2	2483.50	52.77	74.00	-21.23	56.86	-4.09	Peak	207	266
3	4924.00	51.46	54.00	-2.54	51.38	0.08	Average	110	146
4	4924.00	53.72	74.00	-20.28	53.64	0.08	Peak	110	146
5	7386.00	36.38	54.00	-17.62	30.49	5.89	Average	100	133
6	7386.00	48.91	74.00	-25.09	43.02	5.89	Peak	100	133

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 :Paul Lin Temperature(℃):24 Humidity(%):65

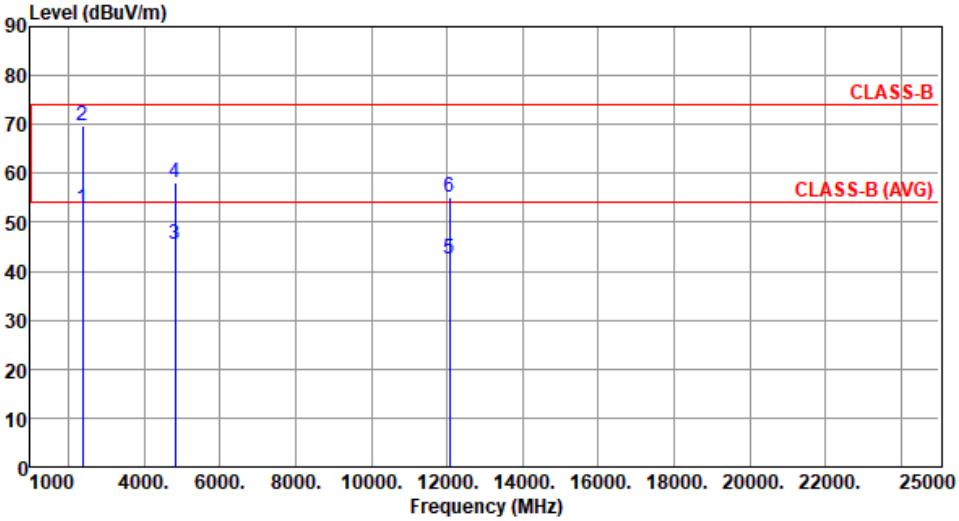


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	47.68	54.00	-6.32	51.47	-3.79	Average	281	165
2	2390.00	63.35	74.00	-10.65	67.14	-3.79	Peak	281	165
3	4824.00	38.04	54.00	-15.96	37.92	0.12	Average	111	15
4	4824.00	50.96	74.00	-23.04	50.84	0.12	Peak	111	15
5	12060.00	42.58	54.00	-11.42	34.78	7.80	Average	100	64
6	12060.00	54.82	74.00	-19.18	47.02	7.80	Peak	100	64

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 :Paul Lin Temperature(℃):24 Humidity(%):65

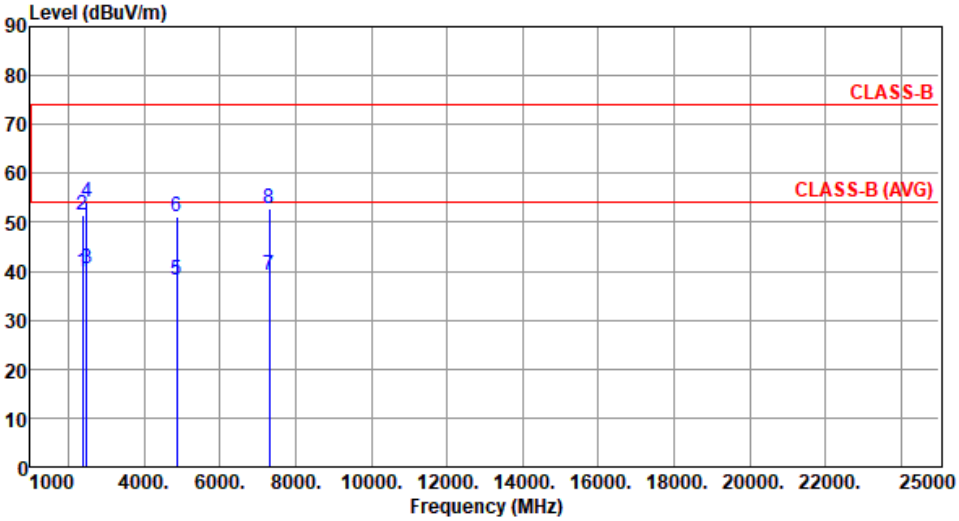


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	52.88	54.00	-1.12	56.67	-3.79	Average	280	265
2	2390.00	69.61	74.00	-4.39	73.40	-3.79	Peak	280	265
3	4824.00	45.39	54.00	-8.61	45.27	0.12	Average	179	240
4	4824.00	58.12	74.00	-15.88	58.00	0.12	Peak	179	240
5	12060.00	42.65	54.00	-11.35	34.85	7.80	Average	100	107
6	12060.00	54.99	74.00	-19.01	47.19	7.80	Peak	100	107

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 :Paul Lin Temperature(℃):24 Humidity(%):65

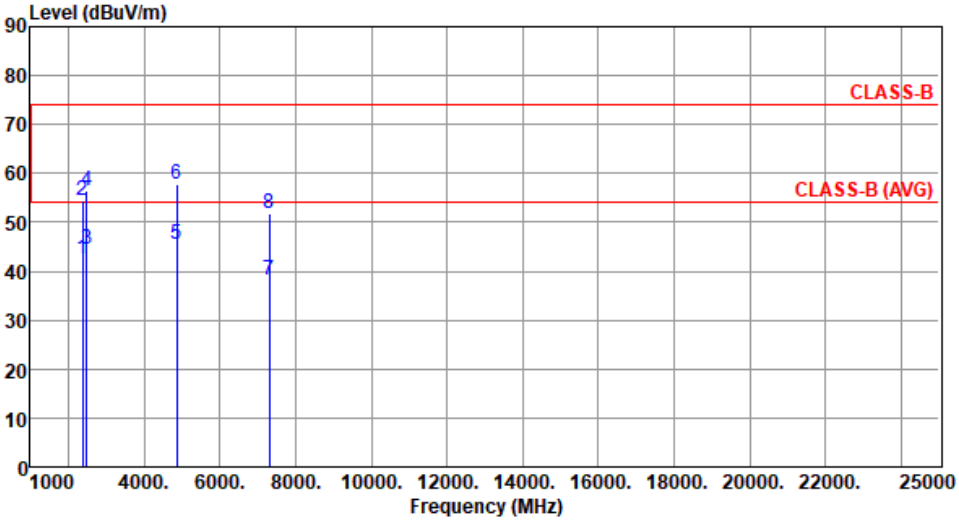


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	39.74	54.00	-14.26	43.53	-3.79	Average	282	162
2	2390.00	51.46	74.00	-22.54	55.25	-3.79	Peak	282	162
3	2483.50	40.63	54.00	-13.37	44.72	-4.09	Average	282	162
4	2483.50	54.10	74.00	-19.90	58.19	-4.09	Peak	282	162
5	4874.00	38.28	54.00	-15.72	38.16	0.12	Average	112	23
6	4874.00	51.09	74.00	-22.91	50.97	0.12	Peak	112	23
7	7311.00	39.26	54.00	-14.74	33.32	5.94	Average	100	243
8	7311.00	52.88	74.00	-21.12	46.94	5.94	Peak	100	243

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 :Paul Lin Temperature(℃):24 Humidity(%):65

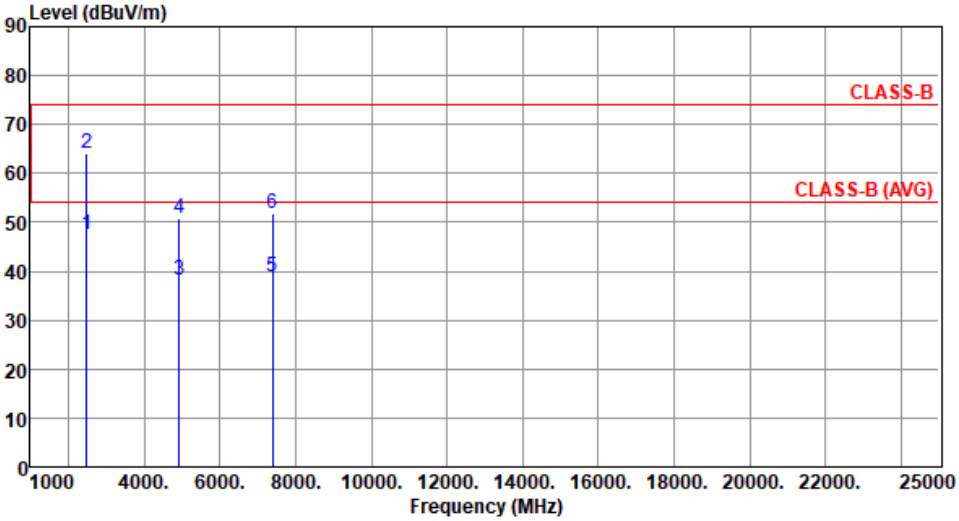


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	42.35	54.00	-11.65	46.14	-3.79	Average	243	220
2	2390.00	54.39	74.00	-19.61	58.18	-3.79	Peak	243	220
3	2483.50	44.45	54.00	-9.55	48.54	-4.09	Average	243	220
4	2483.50	56.45	74.00	-17.55	60.54	-4.09	Peak	243	220
5	4874.00	45.38	54.00	-8.62	45.26	0.12	Average	143	216
6	4874.00	57.79	74.00	-16.21	57.67	0.12	Peak	143	216
7	7311.00	38.36	54.00	-15.64	32.42	5.94	Average	100	214
8	7311.00	51.82	74.00	-22.18	45.88	5.94	Peak	100	214

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 :Paul Lin Temperature(℃):24 Humidity(%):65

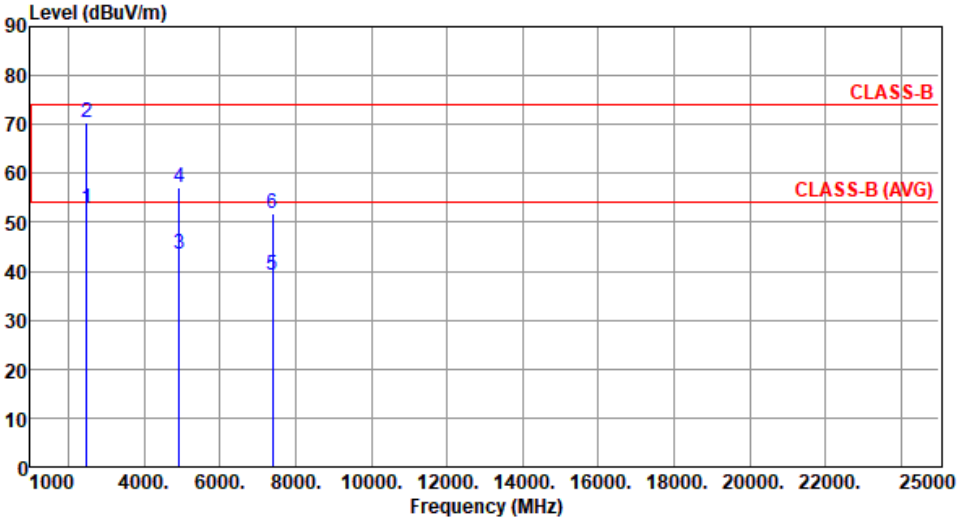


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	47.56	54.00	-6.44	51.65	-4.09	Average	275	164
2	2483.50	64.24	74.00	-9.76	68.33	-4.09	Peak	275	164
3	4924.00	38.14	54.00	-15.86	38.06	0.08	Average	114	29
4	4924.00	50.88	74.00	-23.12	50.80	0.08	Peak	114	29
5	7386.00	38.84	54.00	-15.16	32.95	5.89	Average	100	249
6	7386.00	51.65	74.00	-22.35	45.76	5.89	Peak	100	249

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 :Paul Lin Temperature(℃):24 Humidity(%):65



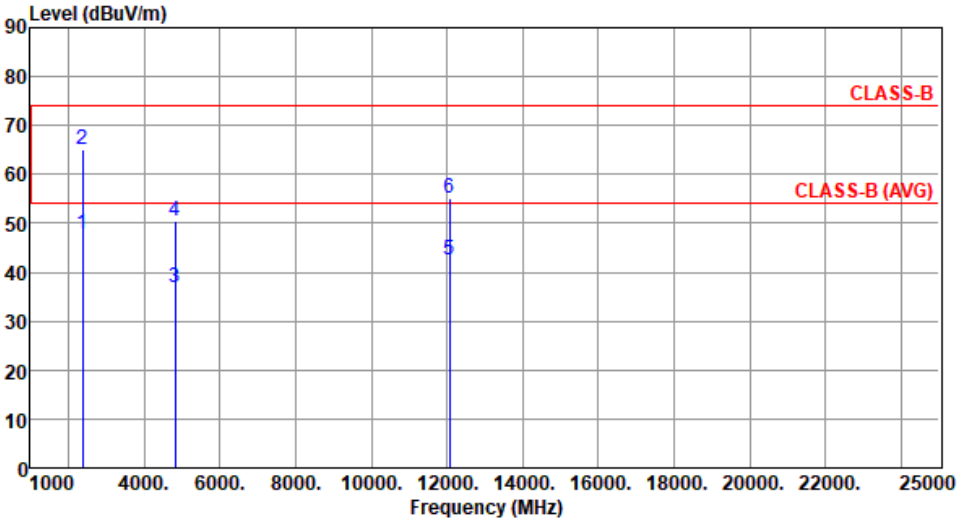
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	52.87	54.00	-1.13	56.96	-4.09	Average	225	107
2	2483.50	70.45	74.00	-3.55	74.54	-4.09	Peak	225	107
3	4924.00	43.56	54.00	-10.44	43.48	0.08	Average	157	215
4	4924.00	57.05	74.00	-16.95	56.97	0.08	Peak	157	215
5	7386.00	39.07	54.00	-14.93	33.18	5.89	Average	100	323
6	7386.00	51.84	74.00	-22.16	45.95	5.89	Peak	100	323

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 :Paul Lin Temperature(℃):24 Humidity(%):65

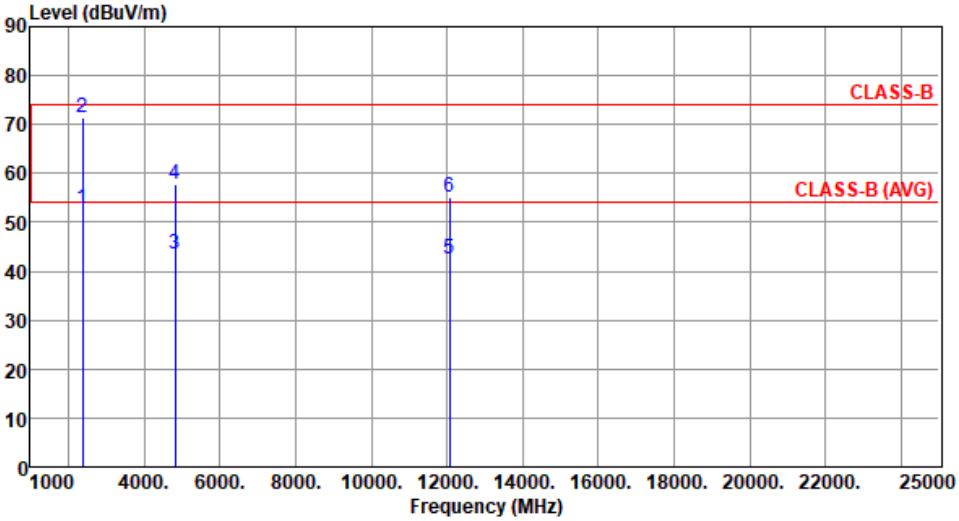


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	47.68	54.00	-6.32	51.47	-3.79	Average	284	165
2	2390.00	65.12	74.00	-8.88	68.91	-3.79	Peak	284	165
3	4824.00	36.98	54.00	-17.02	36.86	0.12	Average	110	14
4	4824.00	50.42	74.00	-23.58	50.30	0.12	Peak	110	14
5	12060.00	42.35	54.00	-11.65	34.55	7.80	Average	100	85
6	12060.00	55.08	74.00	-18.92	47.28	7.80	Peak	100	85

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 :Paul Lin Temperature(℃):24 Humidity(%):65

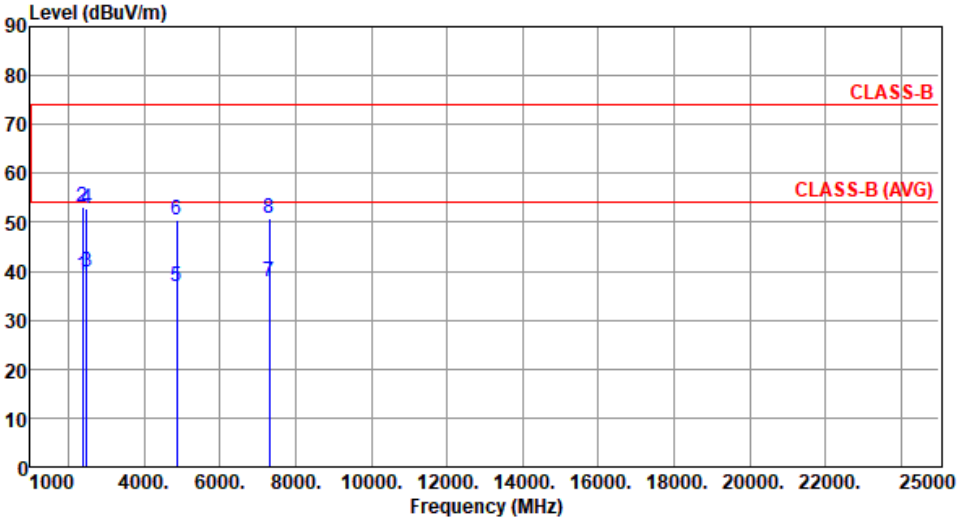


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	52.89	54.00	-1.11	56.68	-3.79	Average	279	209
2	2390.00	71.33	74.00	-2.67	75.12	-3.79	Peak	279	209
3	4824.00	43.50	54.00	-10.50	43.38	0.12	Average	181	239
4	4824.00	57.69	74.00	-16.31	57.57	0.12	Peak	181	239
5	12060.00	42.47	54.00	-11.53	34.67	7.80	Average	100	121
6	12060.00	55.13	74.00	-18.87	47.33	7.80	Peak	100	121

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 :Paul Lin Temperature(℃):24 Humidity(%):65

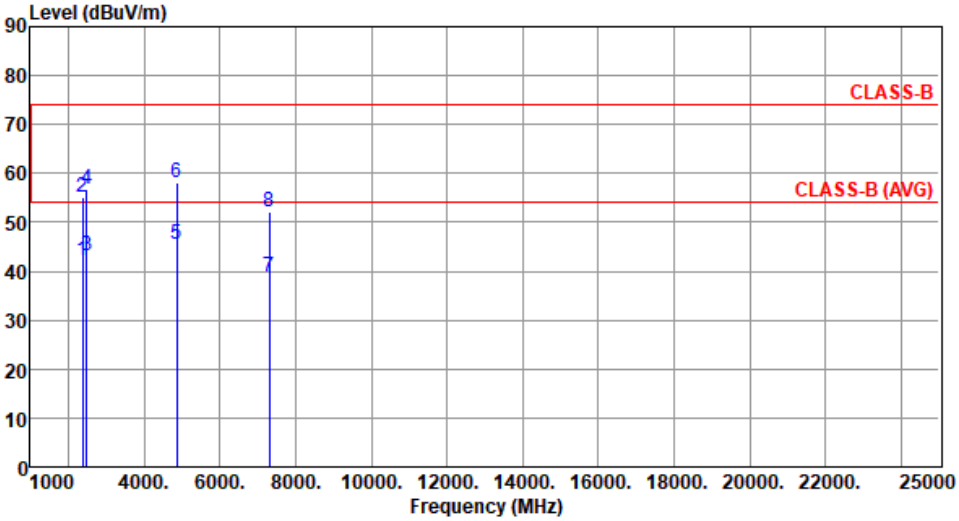


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	39.16	54.00	-14.84	42.95	-3.79	Average	285	162
2	2390.00	53.11	74.00	-20.89	56.90	-3.79	Peak	285	162
3	2483.50	39.83	54.00	-14.17	43.92	-4.09	Average	285	162
4	2483.50	52.65	74.00	-21.35	56.74	-4.09	Peak	285	162
5	4874.00	37.02	54.00	-16.98	36.90	0.12	Average	111	21
6	4874.00	50.59	74.00	-23.41	50.47	0.12	Peak	111	21
7	7311.00	37.90	54.00	-16.10	31.96	5.94	Average	100	254
8	7311.00	50.88	74.00	-23.12	44.94	5.94	Peak	100	254

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 :Paul Lin Temperature(℃):24 Humidity(%):65

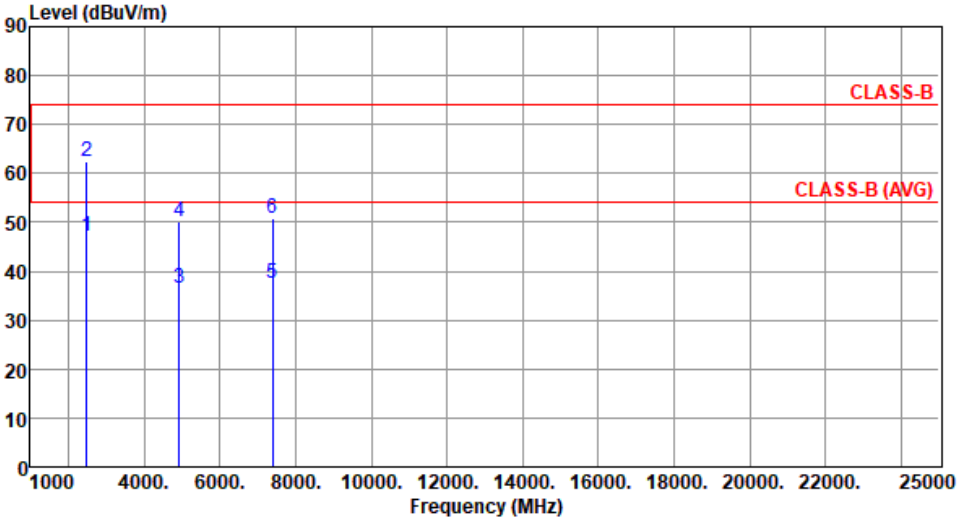


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	42.16	54.00	-11.84	45.95	-3.79	Average	214	215
2	2390.00	55.08	74.00	-18.92	58.87	-3.79	Peak	214	215
3	2483.50	43.33	54.00	-10.67	47.42	-4.09	Average	214	215
4	2483.50	56.76	74.00	-17.24	60.85	-4.09	Peak	214	215
5	4874.00	45.66	54.00	-8.34	45.54	0.12	Average	146	216
6	4874.00	58.23	74.00	-15.77	58.11	0.12	Peak	146	216
7	7311.00	38.73	54.00	-15.27	32.79	5.94	Average	100	212
8	7311.00	52.24	74.00	-21.76	46.30	5.94	Peak	100	212

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 :Paul Lin Temperature(℃):24 Humidity(%):65

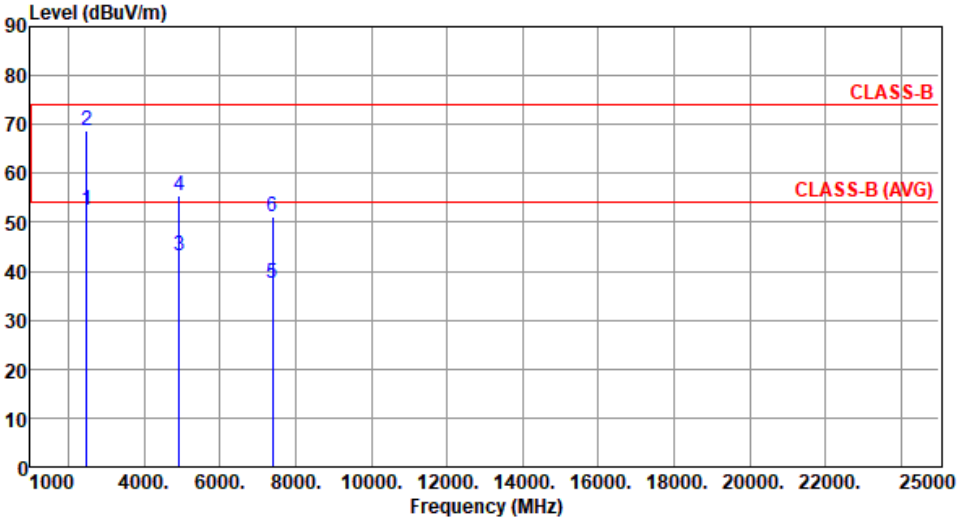


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	47.29	54.00	-6.71	51.38	-4.09	Average	282	164
2	2483.50	62.48	74.00	-11.52	66.57	-4.09	Peak	282	164
3	4924.00	36.66	54.00	-17.34	36.58	0.08	Average	112	35
4	4924.00	50.11	74.00	-23.89	50.03	0.08	Peak	112	35
5	7386.00	37.68	54.00	-16.32	31.79	5.89	Average	100	246
6	7386.00	50.72	74.00	-23.28	44.83	5.89	Peak	100	246

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 :Paul Lin Temperature(℃):24 Humidity(%):65



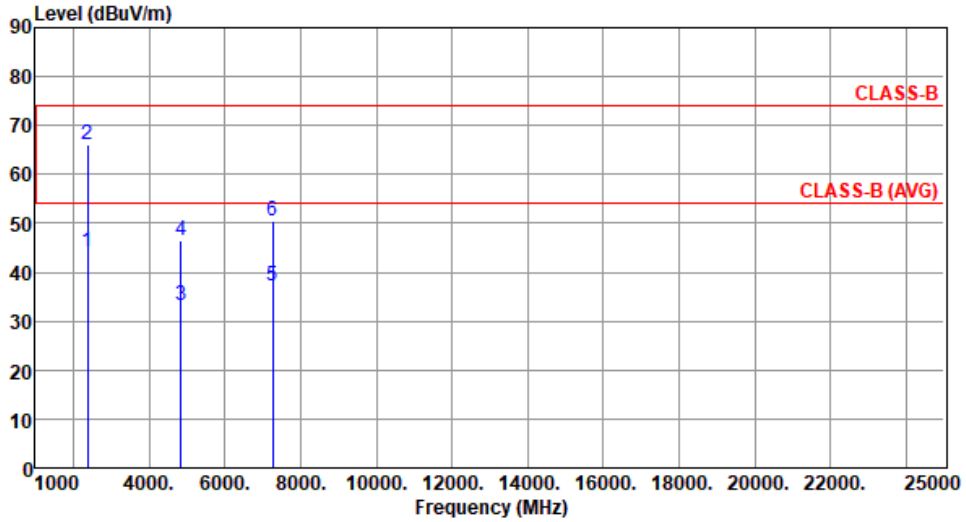
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	52.57	54.00	-1.43	56.66	-4.09	Average	247	242
2	2483.50	68.72	74.00	-5.28	72.81	-4.09	Peak	247	242
3	4924.00	43.15	54.00	-10.85	43.07	0.08	Average	157	215
4	4924.00	55.62	74.00	-18.38	55.54	0.08	Peak	157	215
5	7386.00	37.55	54.00	-16.45	31.66	5.89	Average	100	330
6	7386.00	51.25	74.00	-22.75	45.36	5.89	Peak	100	330

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 HT40

Modulation	HT40	**Test Freq. (MHz)**	2422
Polarization	Horizontal		

Test By :Paul Lin Temperature(℃):24 Humidity(%):65

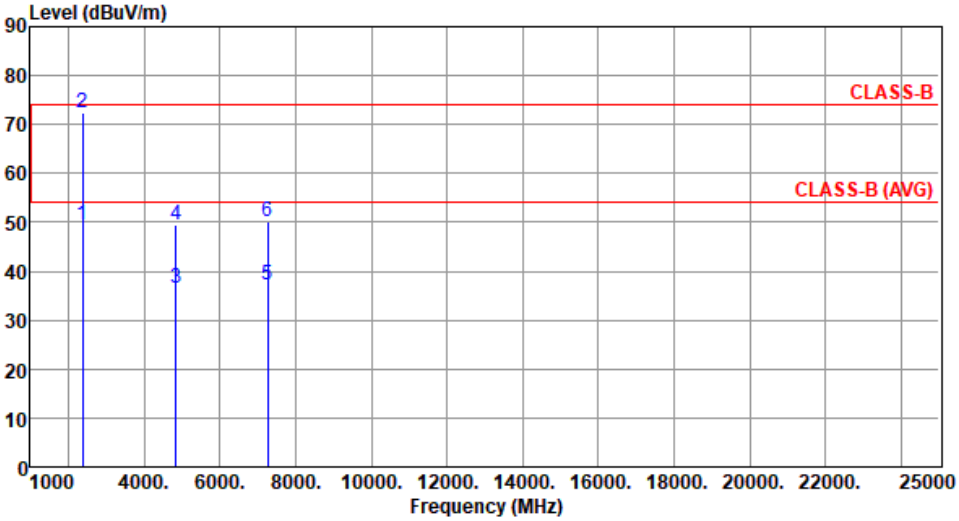


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	44.21	54.00	-9.79	48.00	-3.79	Average	282	165
2	2390.00	66.18	74.00	-7.82	69.97	-3.79	Peak	282	165
3	4844.00	33.15	54.00	-20.85	32.95	0.20	Average	100	35
4	4844.00	46.41	74.00	-27.59	46.21	0.20	Peak	100	35
5	7266.00	37.08	54.00	-16.92	31.10	5.98	Average	100	145
6	7266.00	50.42	74.00	-23.58	44.44	5.98	Peak	100	145

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	HT40	**Test Freq. (MHz)**	2422
Polarization	Vertical		

Test By :Paul Lin Temperature(℃):24 Humidity(%):65

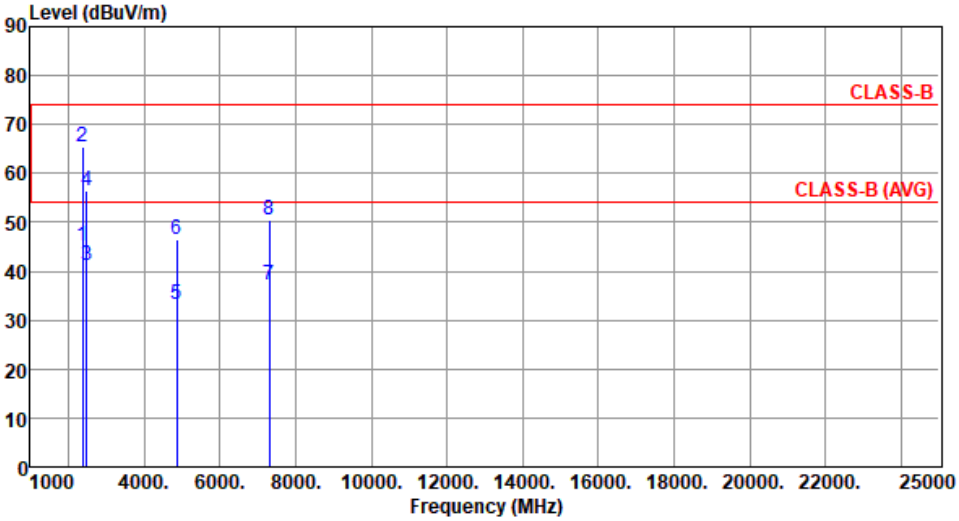


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	49.34	54.00	-4.66	53.13	-3.79	Average	276	213
2	2390.00	72.27	74.00	-1.73	76.06	-3.79	Peak	276	213
3	4844.00	36.69	54.00	-17.31	36.49	0.20	Average	183	242
4	4844.00	49.54	74.00	-24.46	49.34	0.20	Peak	183	242
5	7266.00	37.18	54.00	-16.82	31.20	5.98	Average	100	159
6	7266.00	50.04	74.00	-23.96	44.06	5.98	Peak	100	159

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	HT40	**Test Freq. (MHz)**	2437
Polarization	Horizontal		

Test By :Paul Lin Temperature(℃):24 Humidity(%):65

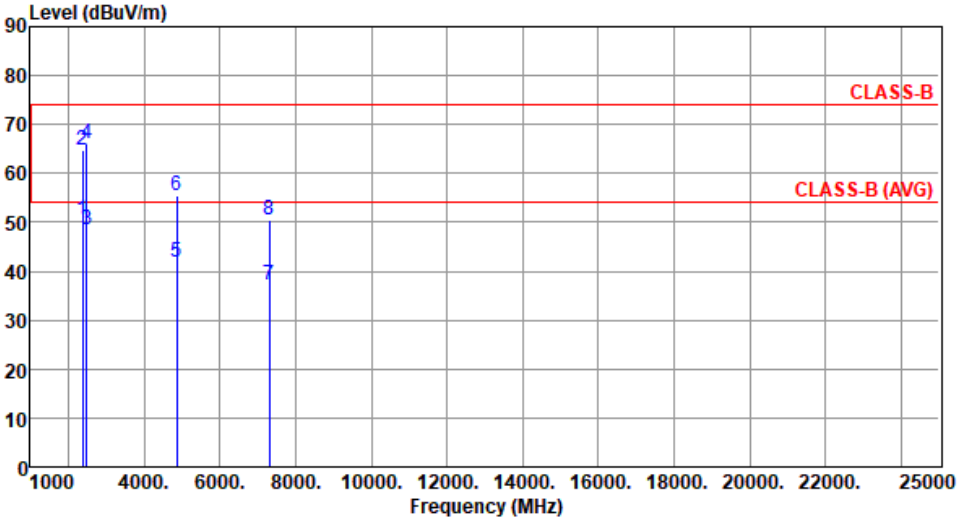


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	45.12	54.00	-8.88	48.91	-3.79	Average	286	163
2	2390.00	65.37	74.00	-8.63	69.16	-3.79	Peak	286	163
3	2483.50	41.29	54.00	-12.71	45.38	-4.09	Average	286	163
4	2483.50	56.52	74.00	-17.48	60.61	-4.09	Peak	286	163
5	4874.00	33.21	54.00	-20.79	33.09	0.12	Average	100	26
6	4874.00	46.62	74.00	-27.38	46.50	0.12	Peak	100	26
7	7311.00	37.18	54.00	-16.82	31.24	5.94	Average	100	176
8	7311.00	50.48	74.00	-23.52	44.54	5.94	Peak	100	176

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	HT40	**Test Freq. (MHz)**	2437
Polarization	Vertical		

Test By :Paul Lin Temperature(℃):24 Humidity(%):65

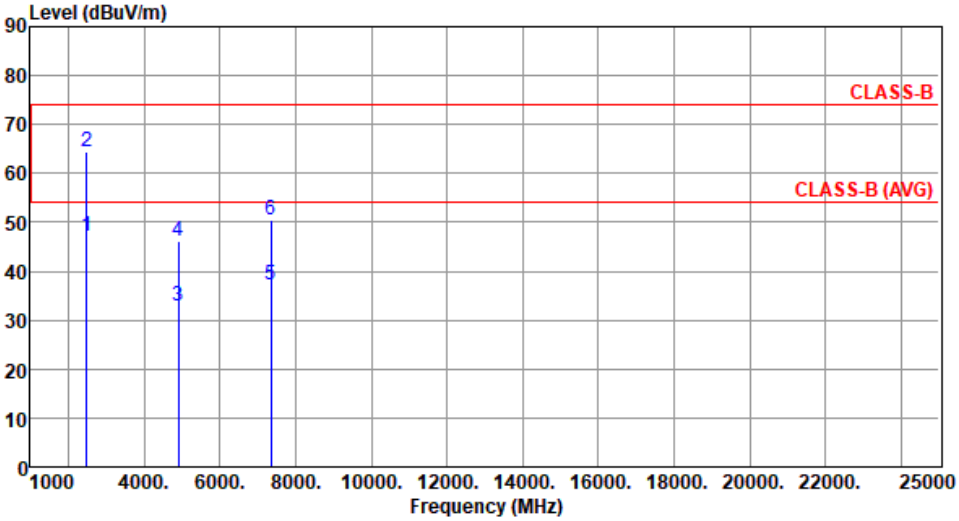


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	50.46	54.00	-3.54	54.25	-3.79	Average	217	210
2	2390.00	64.90	74.00	-9.10	68.69	-3.79	Peak	217	210
3	2483.50	48.45	54.00	-5.55	52.54	-4.09	Average	217	210
4	2483.50	66.01	74.00	-7.99	70.10	-4.09	Peak	217	210
5	4874.00	41.87	54.00	-12.13	41.75	0.12	Average	182	240
6	4874.00	55.62	74.00	-18.38	55.50	0.12	Peak	182	240
7	7311.00	37.24	54.00	-16.76	31.30	5.94	Average	100	224
8	7311.00	50.50	74.00	-23.50	44.56	5.94	Peak	100	224

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	HT40	**Test Freq. (MHz)**	2452
Polarization	Horizontal		

Test By :Paul Lin Temperature(℃):24 Humidity(%):65

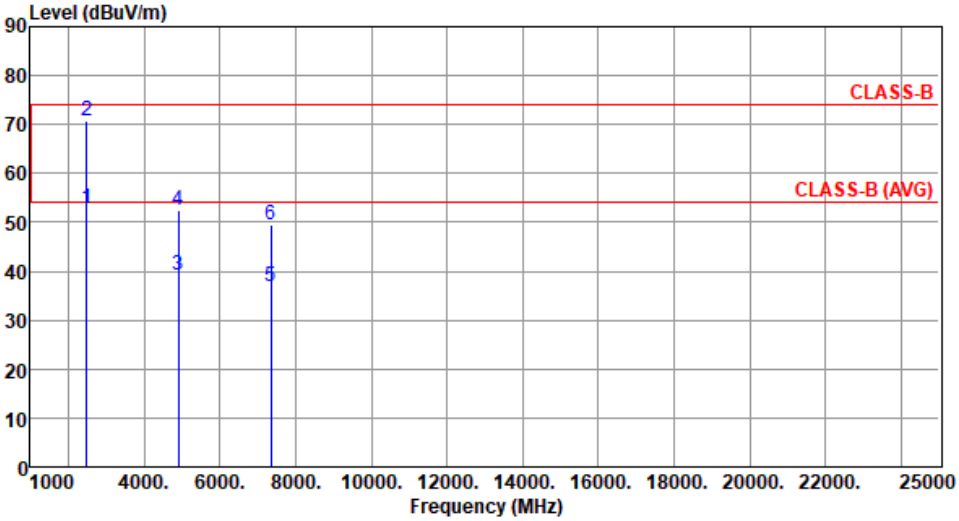


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	47.14	54.00	-6.86	51.23	-4.09	Average	281	166
2	2483.50	64.58	74.00	-9.42	68.67	-4.09	Peak	281	166
3	4904.00	33.02	54.00	-20.98	32.99	0.03	Average	100	41
4	4904.00	46.29	74.00	-27.71	46.26	0.03	Peak	100	41
5	7356.00	37.11	54.00	-16.89	31.26	5.85	Average	100	168
6	7356.00	50.39	74.00	-23.61	44.54	5.85	Peak	100	168

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	HT40	**Test Freq. (MHz)**	2452
Polarization	Vertical		

Test By :Paul Lin Temperature(℃):24 Humidity(%):65

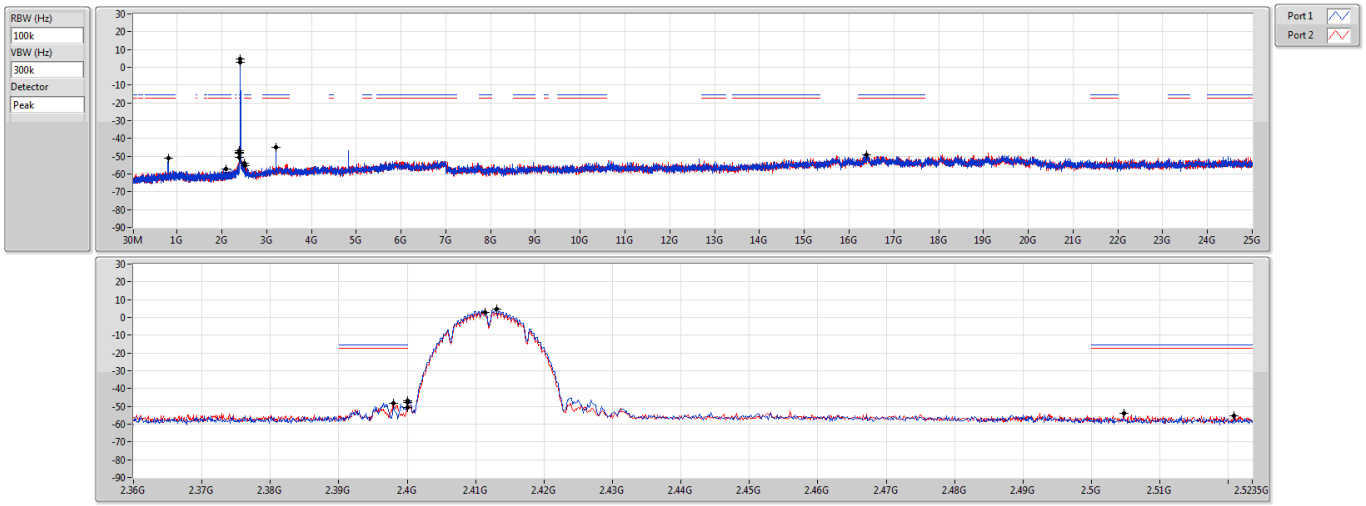


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	52.70	54.00	-1.30	56.79	-4.09	Average	234	208
2	2483.50	70.85	74.00	-3.15	74.94	-4.09	Peak	234	208
3	4904.00	39.13	54.00	-14.87	39.10	0.03	Average	157	241
4	4904.00	52.56	74.00	-21.44	52.53	0.03	Peak	157	241
5	7356.00	36.92	54.00	-17.08	31.07	5.85	Average	100	325
6	7356.00	49.51	74.00	-24.49	43.66	5.85	Peak	100	325

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).

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX **CSENdB**

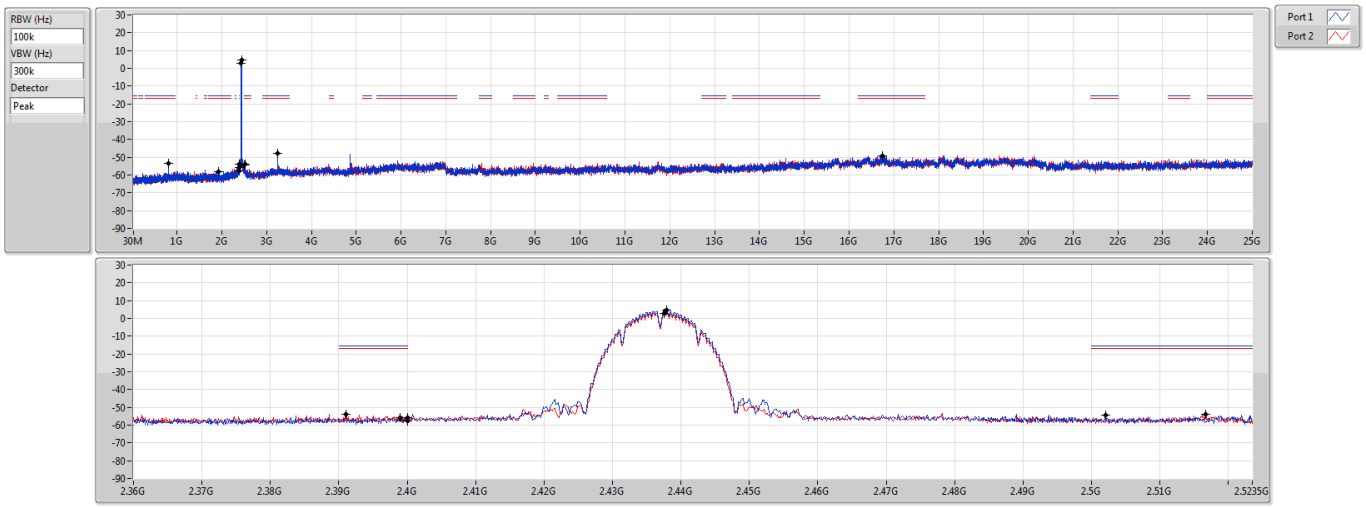
2412MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.41303G	4.49	-15.51	804.73M	-51.21	2.4G	-47.01	2.4G	-47.82	2.52086G	-55.50	3.21465G	-44.93	1
2.41136G	2.65	-17.35	2.09322G	-57.39	2.398G	-48.28	2.4G	-50.42	2.5047G	-54.10	16.38307G	-49.05	2

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX **CSENdB**

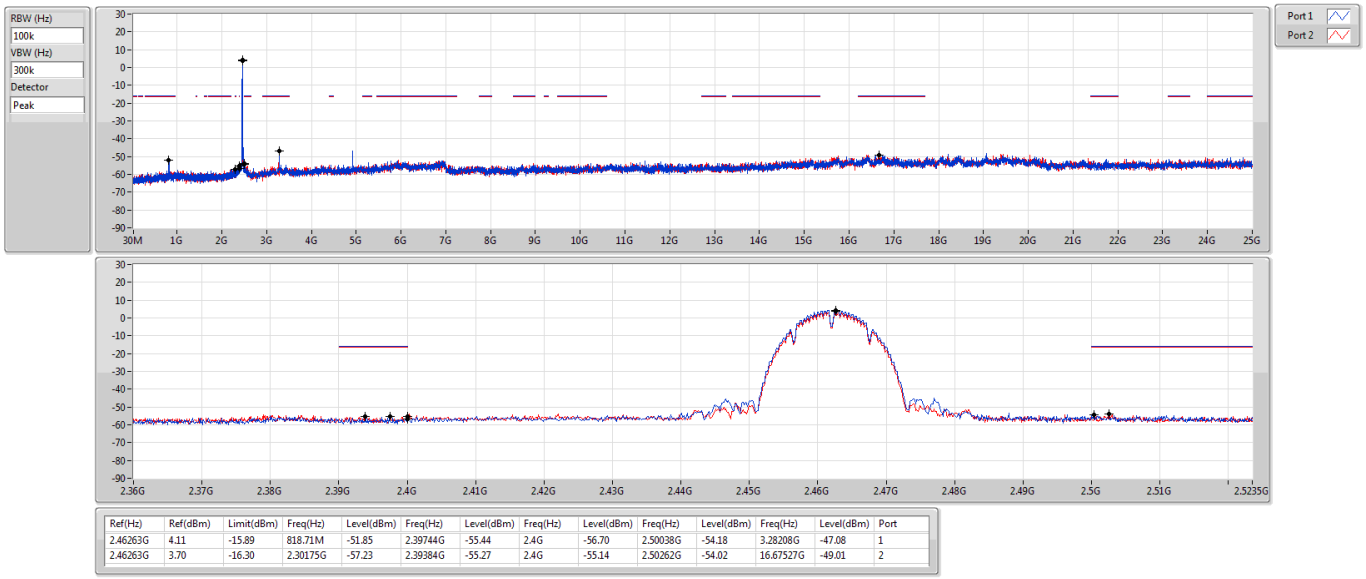
2437MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43791G	4.74	-15.26	809.39M	-53.52	2.39896G	-55.64	2.4G	-57.73	2.50206G	-54.34	3.24837G	-47.63	1
2.43758G	2.92	-17.08	1.92662G	-57.94	2.39104G	-54.08	2.4G	-55.67	2.5167G	-54.06	16.73708G	-48.99	2

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX **CSENdB**

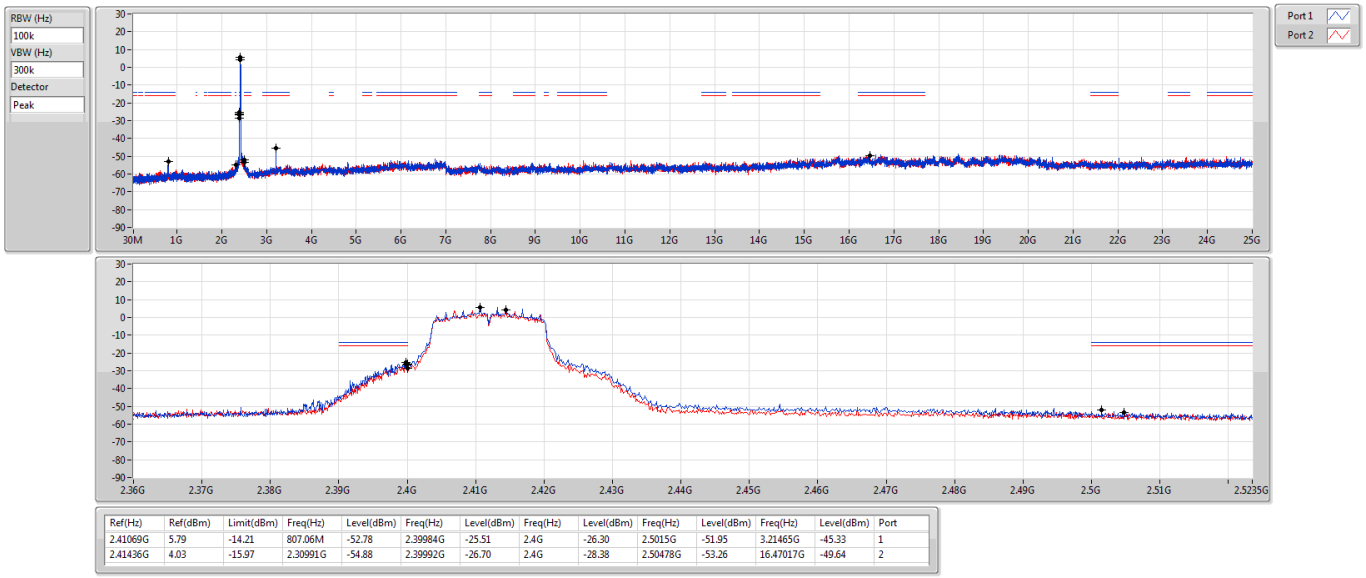
2462MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.46263G	4.11	-15.89	818.71M	-51.85	2.39744G	-55.44	2.4G	-56.70	2.50038G	-54.18	3.28208G	-47.08	1
2.46263G	3.70	-16.30	2.30175G	-57.23	2.39384G	-55.27	2.4G	-55.14	2.50262G	-54.02	16.67527G	-49.01	2

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX **CSENdB**

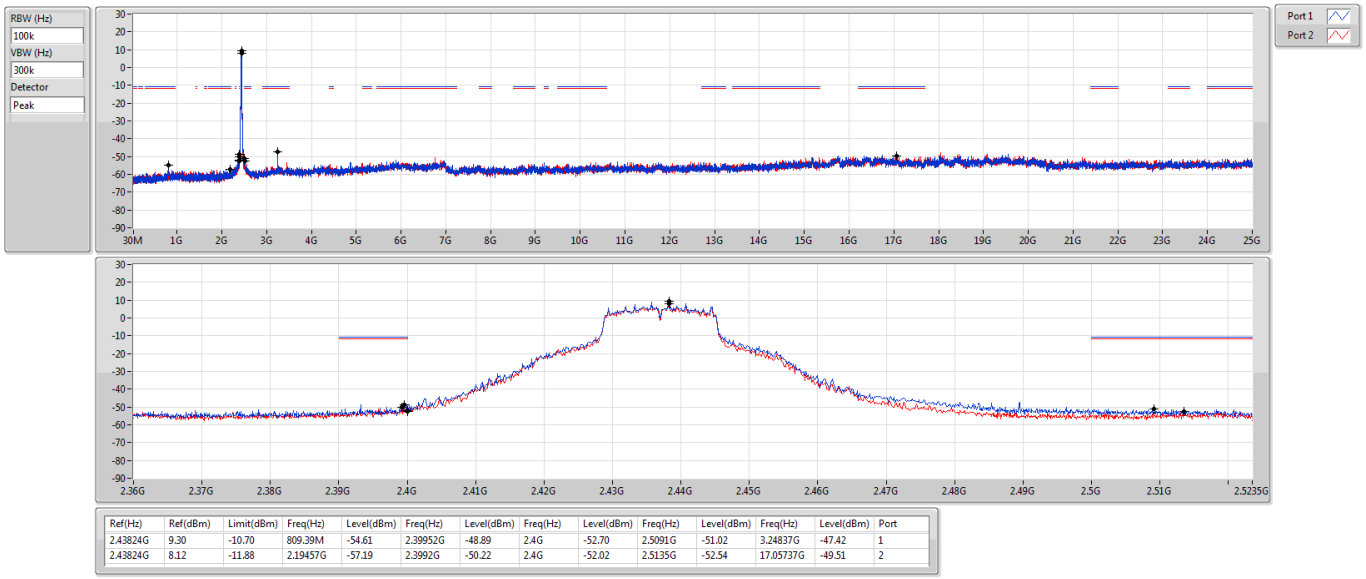
2412MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.41069G	5.79	-14.21	807.06M	-52.78	2.39984G	-25.51	2.4G	-26.30	2.5015G	-51.95	3.21465G	-45.33	1
2.41436G	4.03	-15.97	2.30991G	-54.88	2.39992G	-26.70	2.4G	-28.38	2.50478G	-53.26	16.47017G	-49.64	2

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX **CSENdB**

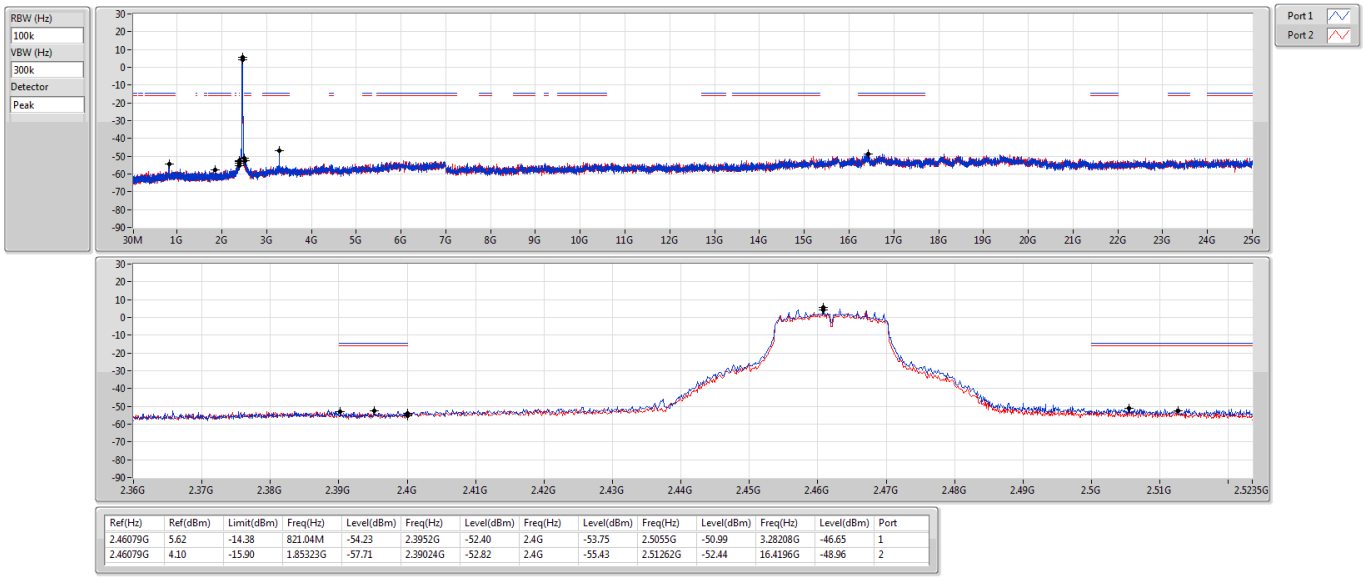
2437MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43824G	9.30	-10.70	809.39M	-54.61	2.39952G	-48.89	2.4G	-52.70	2.5091G	-51.02	3.24837G	-47.42	1
2.43824G	8.12	-11.88	2.19457G	-57.19	2.3992G	-50.22	2.4G	-52.02	2.5135G	-52.54	17.05737G	-49.51	2

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX **CSENdB**

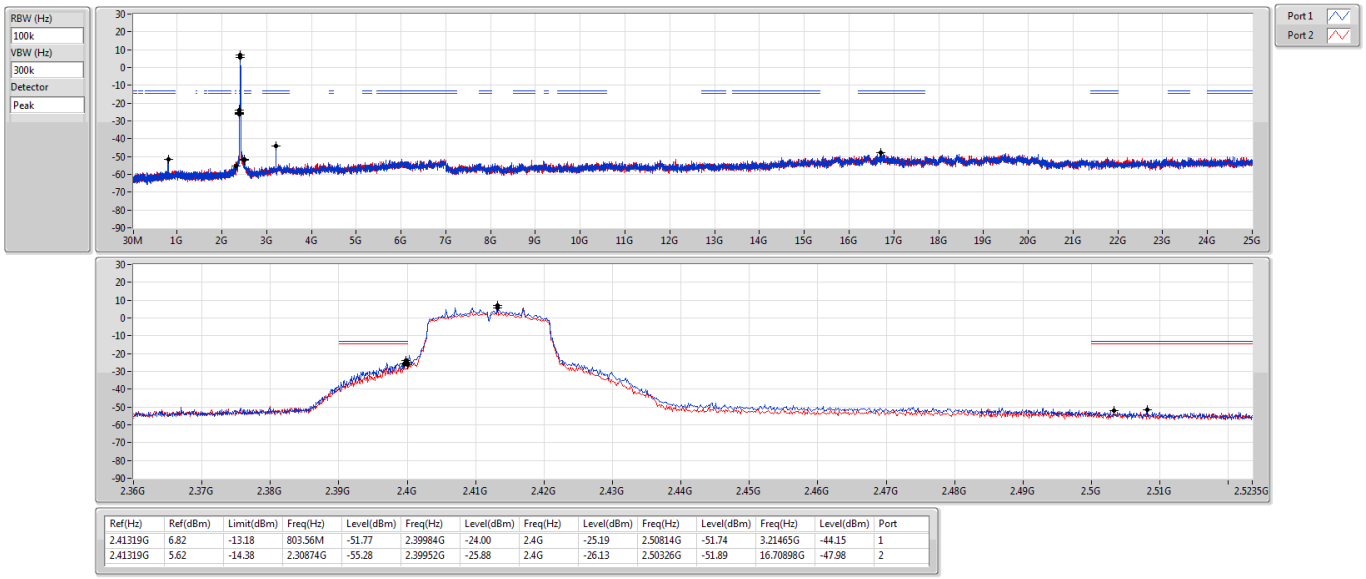
2462MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.46079G	5.62	-14.38	821.04M	-54.23	2.3952G	-52.40	2.4G	-53.75	2.5055G	-50.99	3.28208G	-46.65	1
2.46079G	4.10	-15.90	1.85323G	-57.71	2.39024G	-52.82	2.4G	-55.43	2.51262G	-52.44	16.4196G	-48.96	2

2.4-2.4835GHz_802.11n HT20_Nss2,(MCS8)_2TX **CSENdB**

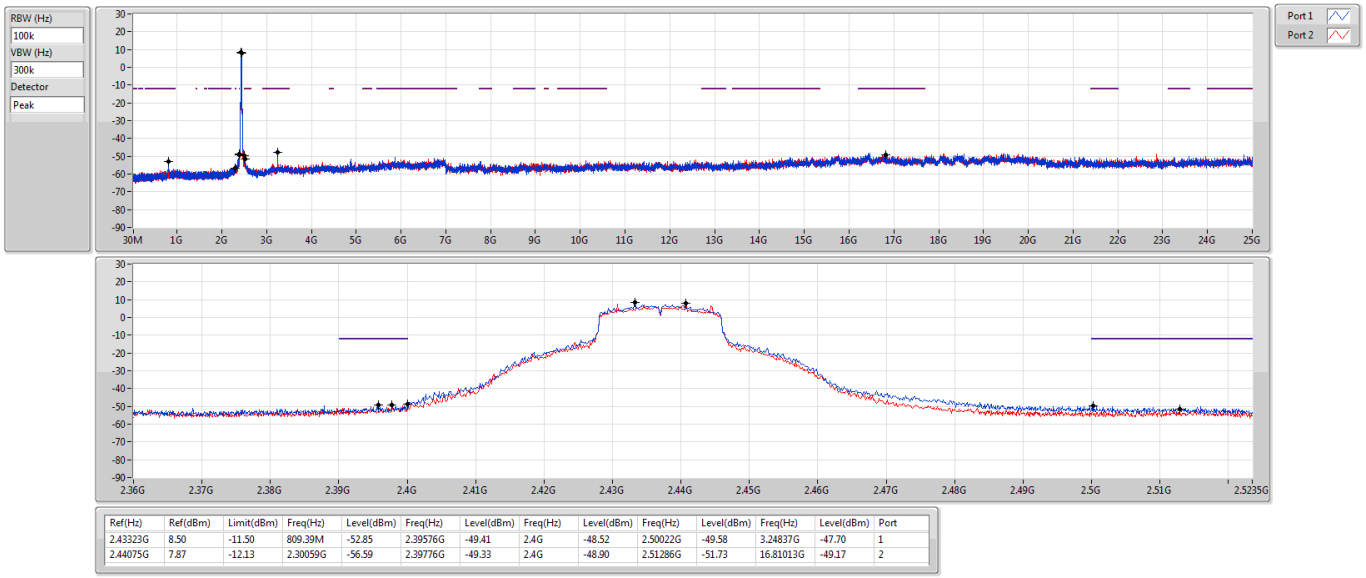
2412MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.41319G	6.82	-13.18	803.56M	-51.77	2.39984G	-24.00	2.4G	-25.19	2.50814G	-51.74	3.21465G	-44.15	1
2.41319G	5.62	-14.38	2.30874G	-55.28	2.39952G	-25.88	2.4G	-26.13	2.50326G	-51.89	16.70898G	-47.98	2

2.4-2.4835GHz_802.11n HT20_Nss2,(MCS8)_2TX **CSENdB**

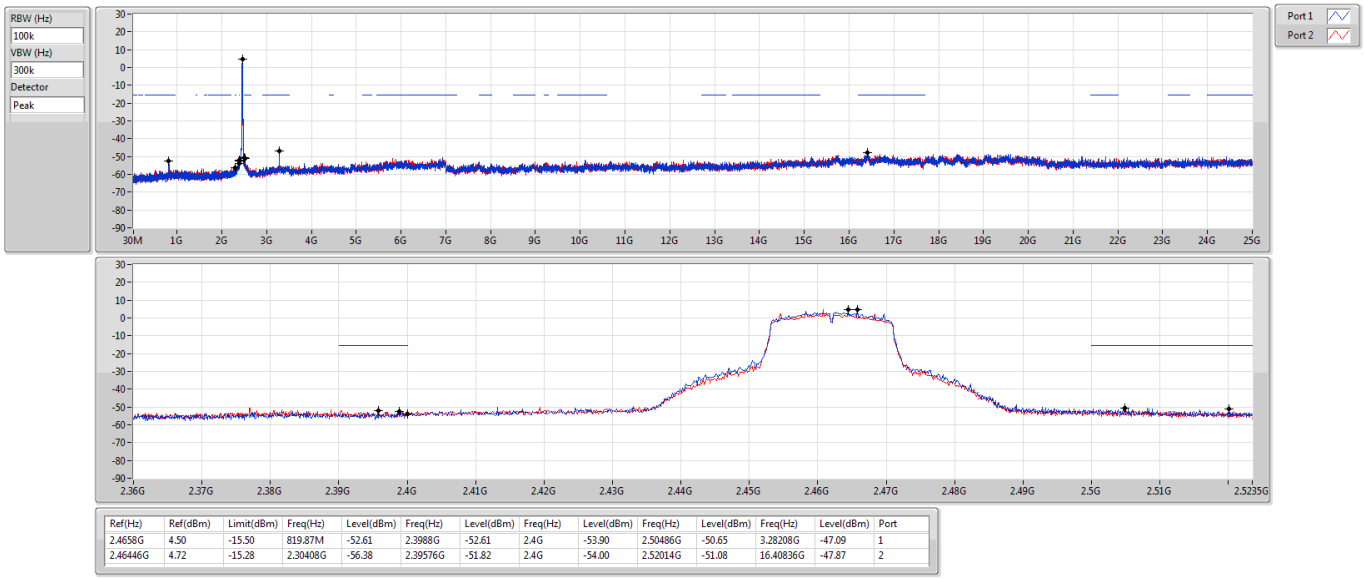
2437MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43323G	8.50	-11.50	809.39M	-52.85	2.39576G	-49.41	2.4G	-48.52	2.50022G	-49.58	3.24837G	-47.70	1
2.44075G	7.87	-12.13	2.30059G	-56.59	2.39776G	-49.33	2.4G	-48.90	2.51286G	-51.73	16.81013G	-49.17	2

2.4-2.4835GHz_802.11n HT20_Nss2,(MCS8)_2TX **CSENdB**

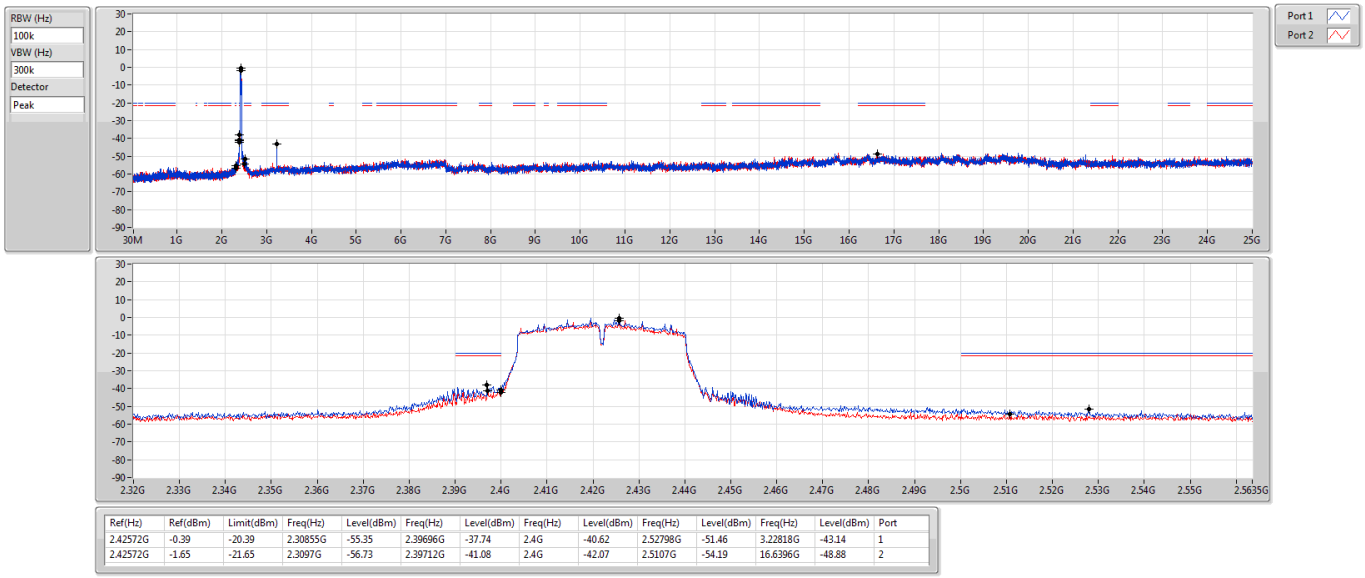
2462MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.4658G	4.50	-15.50	819.87M	-52.61	2.3988G	-52.61	2.4G	-53.90	2.50486G	-50.65	3.28208G	-47.09	1
2.46446G	4.72	-15.28	2.30408G	-56.38	2.39576G	-51.82	2.4G	-54.00	2.52014G	-51.08	16.40836G	-47.87	2

2.4-2.4835GHz_802.11n HT40_Nss2,(MCS8)_2TX **CSENdB**

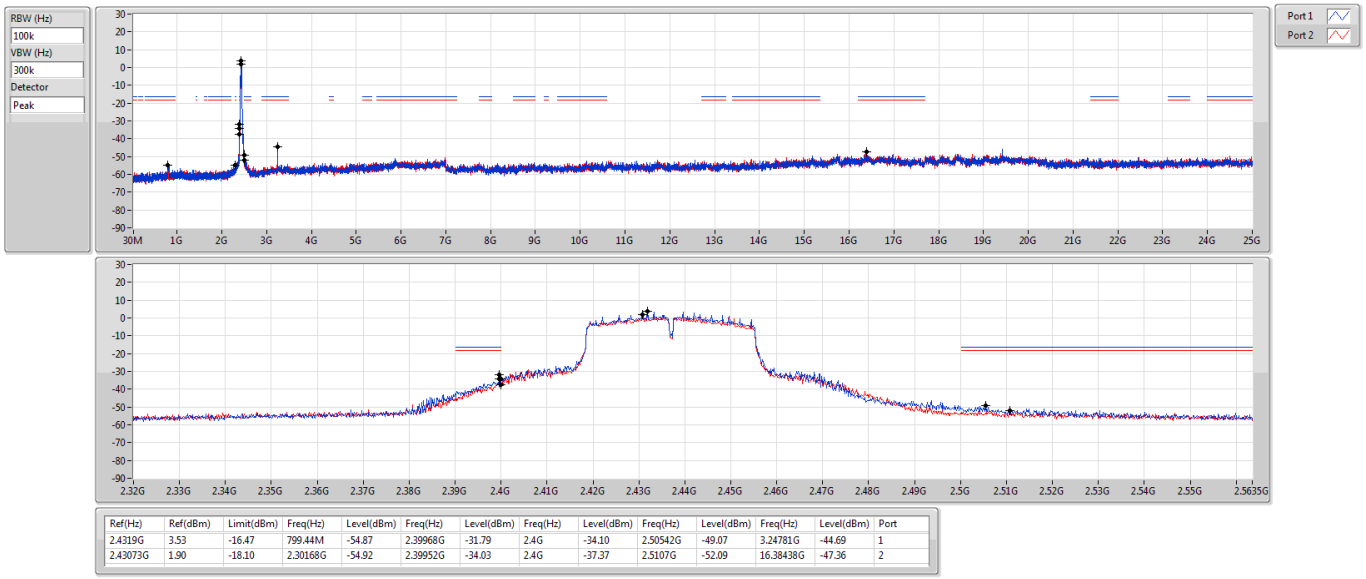
2422MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.42572G	-0.39	-20.39	2.30855G	-55.35	2.39696G	-37.74	2.4G	-40.62	2.52798G	-51.46	3.22818G	-43.14	1
2.42572G	-1.65	-21.65	2.3097G	-56.73	2.39712G	-41.08	2.4G	-42.07	2.5107G	-54.19	16.6396G	-48.88	2

2.4-2.4835GHz_802.11n HT40_Nss2,(MCS8)_2TX **CSENdB**

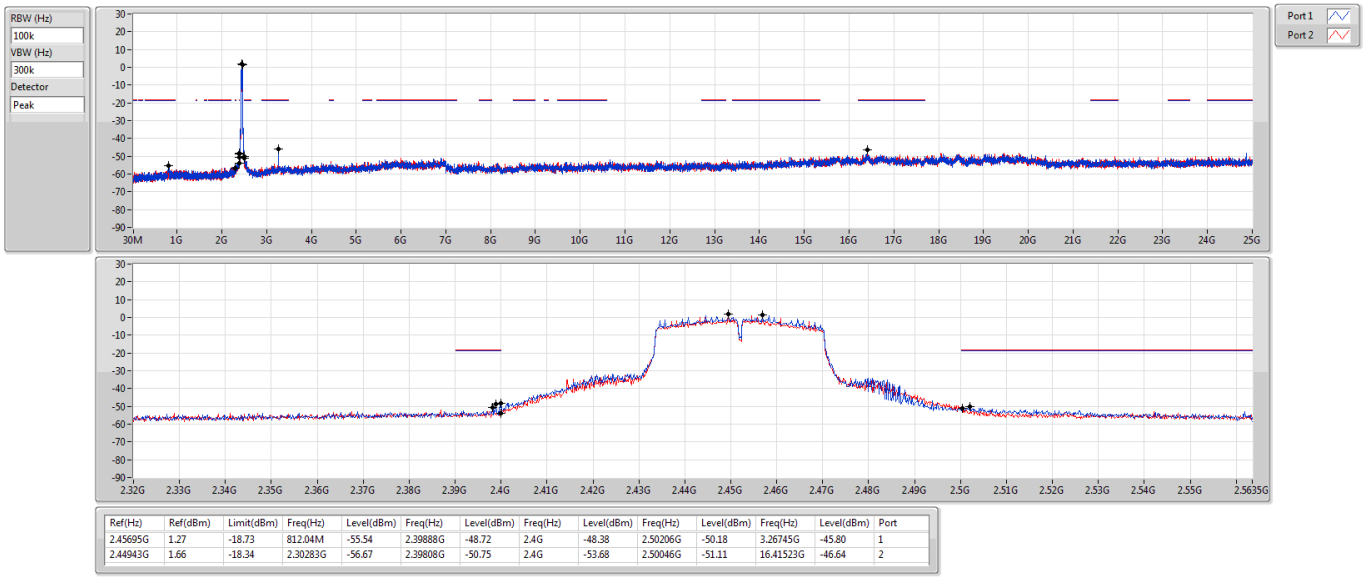
2437MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.4319G	3.53	-16.47	799.44M	-54.87	2.39968G	-31.79	2.4G	-34.10	2.50542G	-49.07	3.24781G	-44.69	1
2.43073G	1.90	-18.10	2.30168G	-54.92	2.39952G	-34.03	2.4G	-37.37	2.5107G	-52.09	16.38438G	-47.36	2

2.4-2.4835GHz_802.11n HT40_Nss2,(MCS8)_2TX **CSENdB**

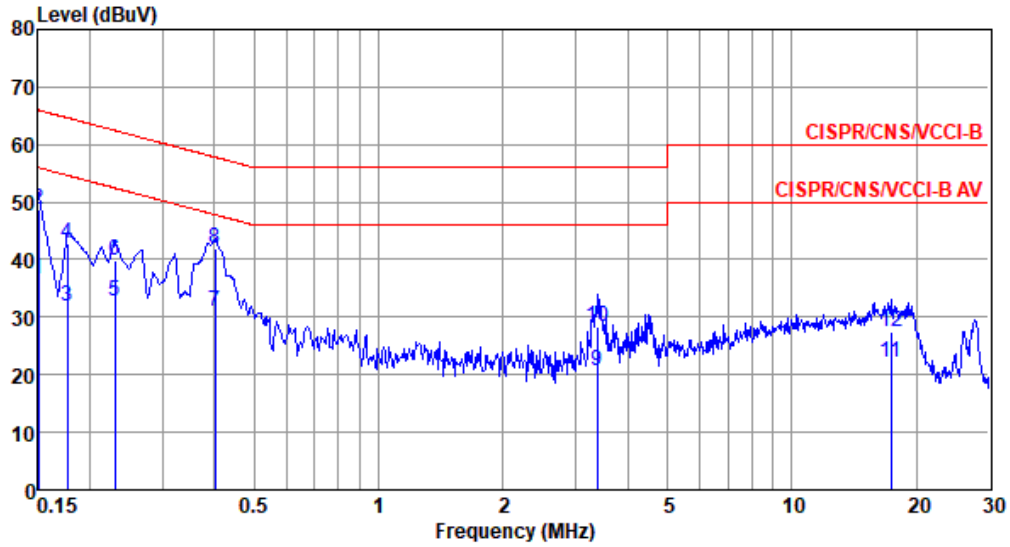
2452MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.45695G	1.27	-18.73	812.04M	-55.54	2.39888G	-48.72	2.4G	-48.38	2.50206G	-50.18	3.26745G	-45.80	1
2.44943G	1.66	-18.34	2.30283G	-56.67	2.39808G	-50.75	2.4G	-53.68	2.50046G	-51.11	16.41523G	-46.64	2

Modulation Mode	11g	**Test Freq. (MHz)**	2437
Power Phase	Line		

Test by : Brad Wu Temperature: 21°C Humidity: 61%

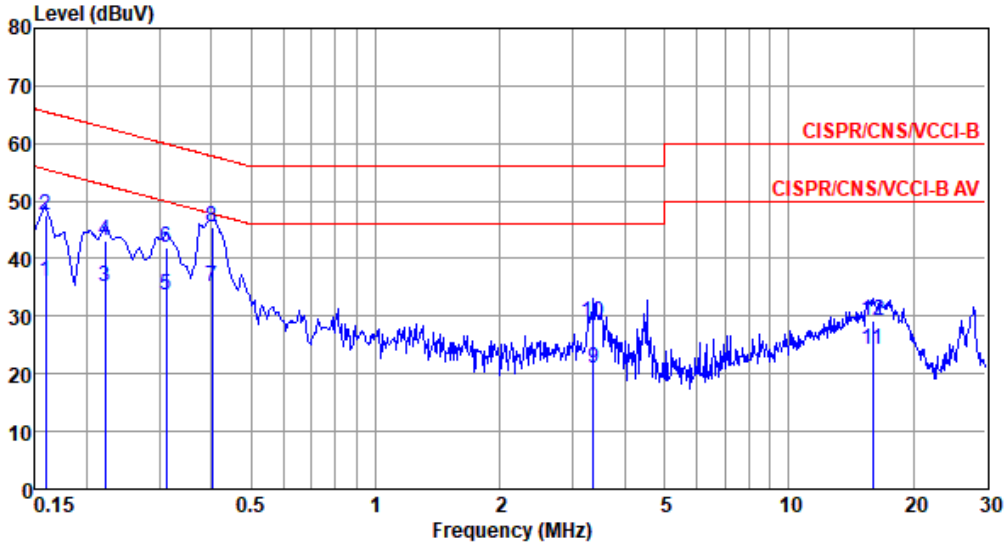


	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.150	36.73	56.00	-19.27	26.81	9.68	0.06	0.18	Average
2	0.150	48.66	66.00	-17.34	38.74	9.68	0.06	0.18	QP
3	0.177	31.90	54.64	-22.74	21.97	9.68	0.06	0.19	Average
4	0.177	42.83	64.64	-21.81	32.90	9.68	0.06	0.19	QP
5	0.230	32.91	52.44	-19.53	22.96	9.68	0.06	0.21	Average
6	0.230	39.94	62.44	-22.50	29.99	9.68	0.06	0.21	QP
7	0.402	30.98	47.81	-16.83	20.95	9.67	0.06	0.30	Average
8*	0.402	41.88	57.81	-15.93	31.85	9.67	0.06	0.30	QP
9	3.381	20.76	46.00	-25.24	10.48	9.70	0.17	0.41	Average
10	3.381	28.35	56.00	-27.65	18.07	9.70	0.17	0.41	QP
11	17.383	22.19	50.00	-27.81	11.47	9.73	0.48	0.51	Average
12	17.383	27.44	60.00	-32.56	16.72	9.73	0.48	0.51	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation Mode	11g	**Test Freq. (MHz)**	2437
Power Phase	Neutral		

Test by : Brad Wu Temperature: 21°C Humidity: 61%



	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.159	36.11	55.52	-19.41	26.26	9.61	0.06	0.18	Average
2	0.159	47.46	65.52	-18.06	37.61	9.61	0.06	0.18	QP
3	0.222	35.26	52.74	-17.48	25.38	9.61	0.06	0.21	Average
4	0.222	43.00	62.74	-19.74	33.12	9.61	0.06	0.21	QP
5	0.312	33.52	49.93	-16.41	23.59	9.61	0.06	0.26	Average
6	0.312	41.85	59.93	-18.08	31.92	9.61	0.06	0.26	QP
7	0.402	35.07	47.81	-12.74	25.10	9.61	0.06	0.30	Average
8*	0.402	45.44	57.81	-12.37	35.47	9.61	0.06	0.30	QP
9	3.364	21.04	46.00	-24.96	10.84	9.63	0.17	0.40	Average
10	3.364	28.97	56.00	-27.03	18.77	9.63	0.17	0.40	QP
11	15.970	24.10	50.00	-25.90	13.38	9.76	0.46	0.50	Average
12	15.970	29.30	60.00	-30.70	18.58	9.76	0.46	0.50	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).