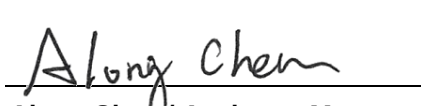
FCC Test Report

FCC ID	:	**JVPVS10R**
Equipment	:	**InstaShow Host**
Model No.	:	**VS10R**
Brand Name	:	**BenQ**
Applicant	:	**BenQ Corporation**
Address	:	**16 Jihu Road, Neihu, Taipei 114, Taiwan**
Standard	:	**47 CFR FCC Part 15.247**
Received Date	:	**Oct. 30, 2023**
Tested Date	:	**Nov. 03 ~ Nov. 14, 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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Release Record

Report No.	Version	Description	Issued Date
FR380402-01AC	Rev. 01	Initial issue	Nov. 28, 2023

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.393MHz 39.90 (Margin -8.09dB) - AV	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 2483.50MHz 52.98 (Margin -1.02dB) – AV 2483.50MHz 72.98 (Margin -1.02dB) - PK	Pass
15.247(b)(3)	Conducted Output Power	Max Power [dBm]: 27.45	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 modulation.					

1.1.2 Antenna Details

Configuration 1

Ant. No.	Brand / Model	Type	Connector	Gain (dBi)	Remarks
1	VSO/JR7Q00292	PIFA	I-PEX	2.3	WF0 port
2	VSO/JR7Q00292	PIFA	I-PEX	2.2	WF1 port

Configuration 2

Ant. No.	Brand / Model	Type	Connector	Gain (dBi)	Remarks
1	EGRET/ET72-004	PIFA	I-PEX	1.78	WF0 port
2	EGRET/ET72-004	PIFA	I-PEX	2.11	WF1 port

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: BILLION Model: DCT24W120200ZZ-A0 I/P: 100-240Vac, 50/60Hz, 0.7A max O/P: 12.0Vdc, 2.0A 24.0W Power Line: 1.5m non-shielded without core
2	HDMI Cable	0.8m 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, V4.89		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11b	99.62%	0.02
	11g	94.76%	0.23
	HT20	95.86%	0.18
	HT40	96.91%	0.14

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	27
HT20	2412	28
HT20	2437	38
HT20	2462	28
HT40	2422	21
HT40	2437	30
HT40	2452	20

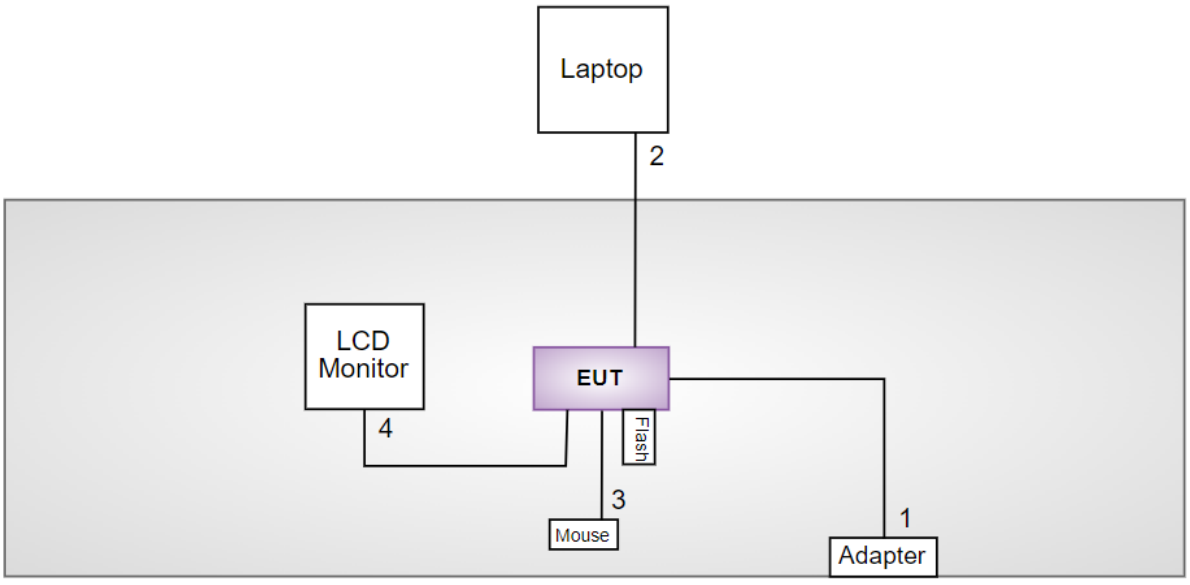
1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	Laptop	DELL	Latitude E5470	DoC	---
2	Mouse	DELL	MS111-L	---	---
3	LCD Monitor	ASUS	MX27UCS	---	---
4	USB 3.0 Flash	Transcend	JetFlash 700	---	---
5	USB Fixture	---	---	---	---

Note: The fixture is disconnected from EUT and removed from test table when EUT is set to transmit continuously.

1.3 Test Setup Chart

Test Setup Diagram



No.	Signal cable / Length (m)
1	DC, 1.5m non-shielded.
2	RJ45, 10m non-shielded.
3	USB, 1.8m shielded.
4	HDMI, 0.8m shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Nov. 14, 2023				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101658	Feb. 17, 2023	Feb. 16, 2024
LISN	R&S	ENV216	101579	May 09, 2023	May 08, 2024
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 11, 2023	Oct. 10, 2024
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127667	Jan. 03, 2023	Jan. 02, 2024
50 ohm terminal (Support Unit)	NA	50	01	Jun. 14, 2023	Jun. 13, 2024
Measurement Software	Sporton	SENSE-EMI	V5.11.6	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber3 / (03CH03-WS)				
Tested Date	Nov. 03 ~ Nov. 09, 2023				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Mar. 03, 2023	Mar. 02, 2024
Spectrum Analyzer	R&S	FSV40	101499	Mar. 16, 2023	Mar. 15, 2024
Loop Antenna	R&S	HFH2-Z2	100330	Oct. 31, 2023	Oct. 30, 2024
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Jul. 04, 2023	Jul. 03, 2024
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 9170508	Dec. 30, 2022	Dec. 29, 2023
Preamplifier	EMC	EMC02325	980187	Jul. 10, 2023	Jul. 09, 2024
Preamplifier	EMC	EMC118A45SE	980897	Aug. 01, 2023	Jul. 31, 2024
Preamplifier	EMC	EMC184045SE	980903	Jul. 17, 2023	Jul. 16, 2024
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 03, 2023	Oct. 02, 2024
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800 -001	Sep. 22, 2023	Sep. 21, 2024
LF cable-3M	EMC	EMC8D-NM-NM-300 0	131103	Sep. 22, 2023	Sep. 21, 2024
LF cable-13M	EMC	EMC8D-NM-NM-130 00	131104	Sep. 22, 2023	Sep. 21, 2024
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Sep. 22, 2023	Sep. 21, 2024
RF cable-8M	EMC	EMC104-SM-SM-80 00	181107	Sep. 22, 2023	Sep. 21, 2024
HIGHPASS FILTER	WI	WHK3.1-18G-10SS	43	Sep. 27, 2023	Sep. 26, 2024
Attenuator	Pasternack	PE7005-10	10-3	Sep. 27, 2023	Sep. 26, 2024
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	Nov. 14, 2023				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101910	Apr. 14, 2023	Apr. 13, 2024
Power Meter	Anritsu	ML2495A	1241002	Nov. 23, 2022	Nov. 22, 2023
Power Sensor	Anritsu	MA2411B	1207366	Nov. 23, 2022	Nov. 22, 2023
Attenuator	Pasternack	PE7005-10	10-2	Nov. 05, 2023	Nov. 04, 2024
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
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 **Z-plane** results were found as the worst case and were shown in this report.
2. EUT is tested with antenna configuration 1 since antenna configuration 1 has higher antenna gain.

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

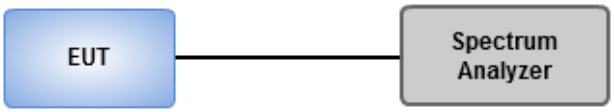
6dB Bandwidth

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	22°C / 66%	**Tested By**	Brad Wu

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	22°C / 66%	**Tested By**	Brad Wu

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 = 3 kHz, VBW = 10 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 = 3 kHz, VBW = 10 kHz

2 Detector = RMS, Sweep time = auto couple.

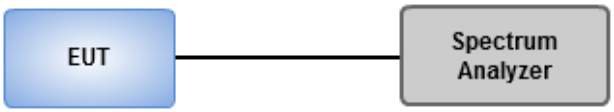
3 Sweep time = auto couple.

4 Employ trace averaging (RMS) mode over a minimum of 100 traces.

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

6 Add 10 log (1/x), where x is the duty cycle.

3.3.3 Test Setup



3.3.4 Test Results

Ambient Condition	22°C / 66%	**Tested By**	Brad Wu

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

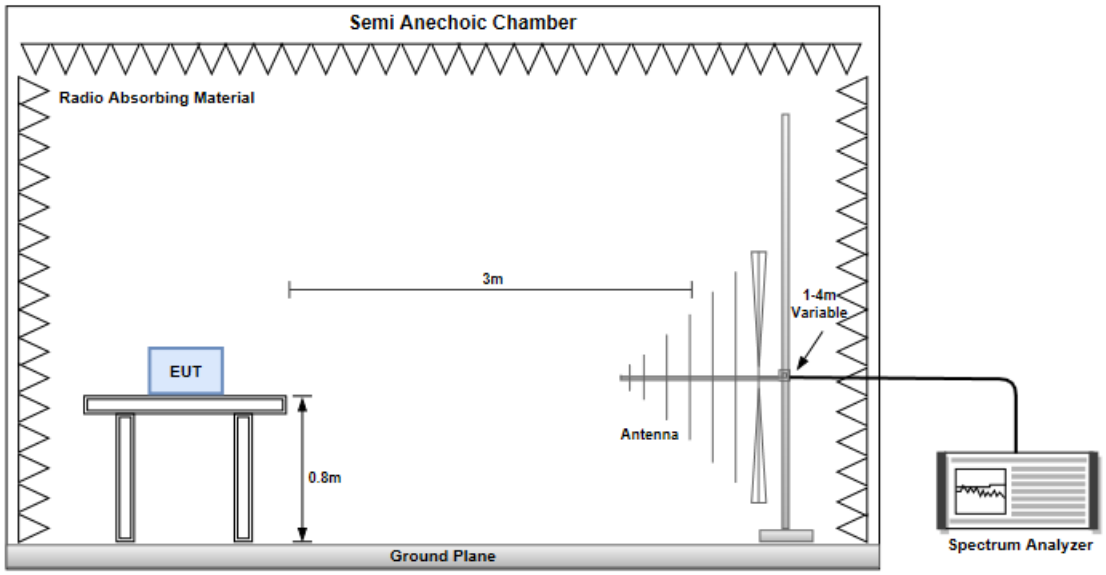
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

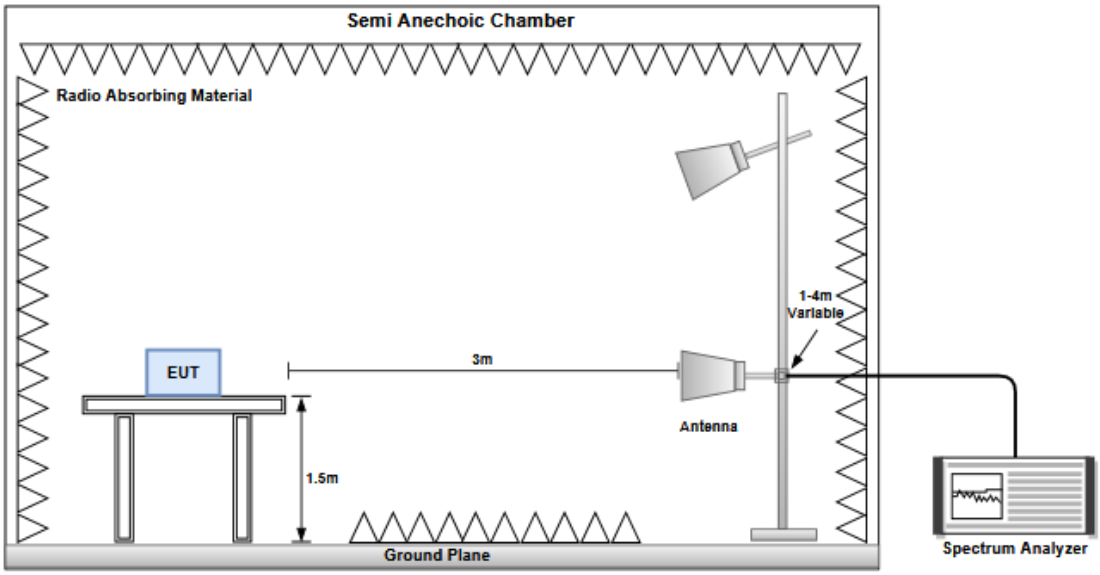
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

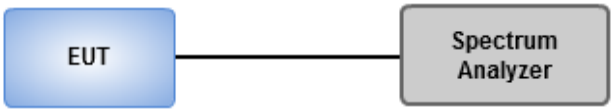
Reference level measurement

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	22°C / 66%	**Tested By**	Brad Wu

Refer to Appendix E.

3.6 AC Power Line Conducted Emissions

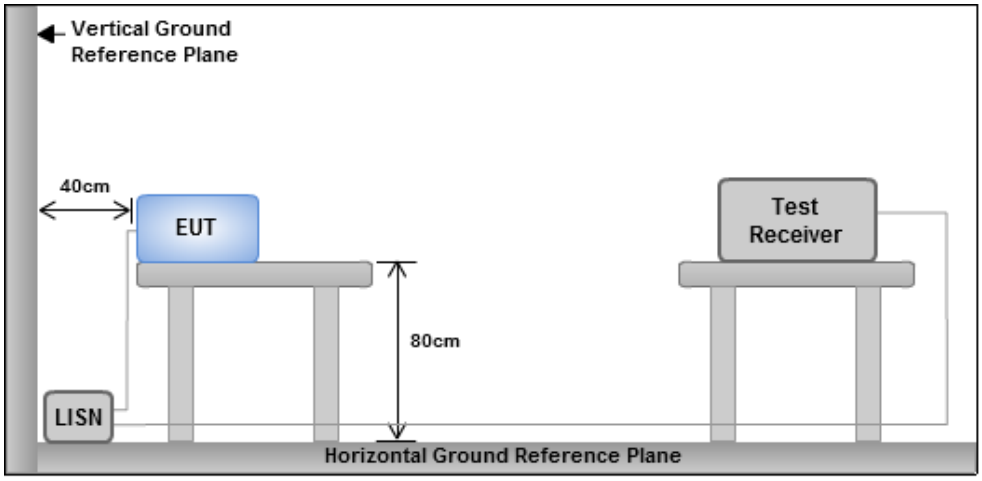
3.6.1 Limit of AC Power Line Conducted Emissions

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	13.268M	13M3G1D	8.05M	13.193M
802.11g_Nss1,(6Mbps)_2TX	15.1M	17.811M	17M8D1D	14.925M	16.382M
802.11n HT20_Nss2,(MCS8)_2TX	15.275M	18.191M	18M2D1D	14.225M	17.591M
802.11n HT40_Nss2,(MCS8)_2TX	34.95M	36.182M	36M2D1D	27.5M	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

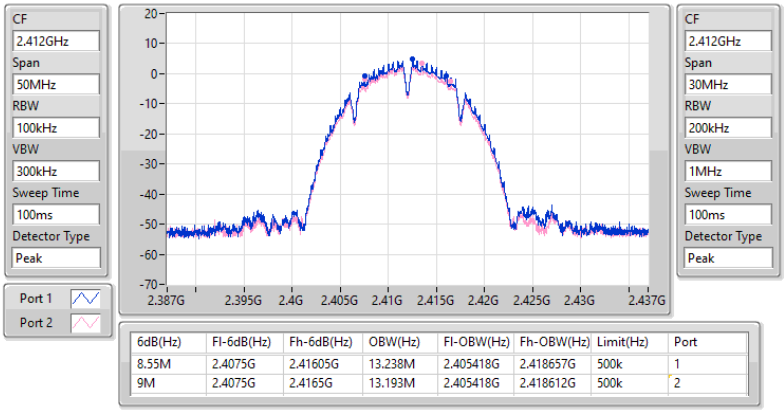
Result

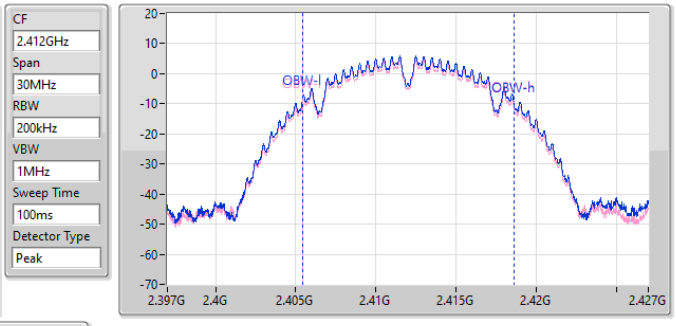
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	8.55M	13.238M	9M	13.193M
2437MHz	Pass	500k	8.05M	13.238M	9.05M	13.208M
2462MHz	Pass	500k	9.05M	13.268M	8.05M	13.223M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.025M	16.602M	14.925M	16.382M
2437MHz	Pass	500k	15.05M	17.811M	15.075M	16.866M
2462MHz	Pass	500k	15.1M	16.602M	15M	16.382M
802.11n HT20_Nss2,(MCS8)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.05M	17.591M	14.225M	17.641M
2437MHz	Pass	500k	14.825M	18.191M	15.075M	18.016M
2462MHz	Pass	500k	14.925M	17.591M	15.275M	17.641M
802.11n HT40_Nss2,(MCS8)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	31.35M	35.832M	32.55M	36.032M
2437MHz	Pass	500k	32.45M	35.932M	34.95M	36.182M
2452MHz	Pass	500k	27.5M	35.832M	27.55M	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

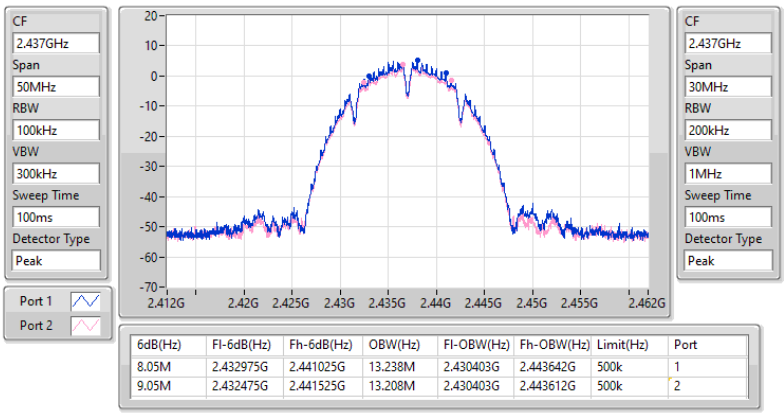


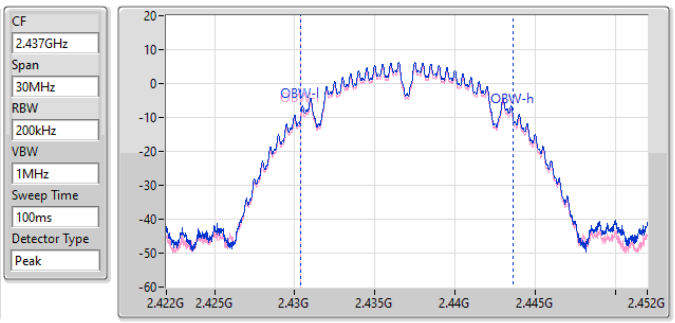


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.55M	2.4075G	2.41605G	13.238M	2.405418G	2.418657G	500k	1
9M	2.4075G	2.4165G	13.193M	2.405418G	2.418612G	500k	2

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

2437MHz

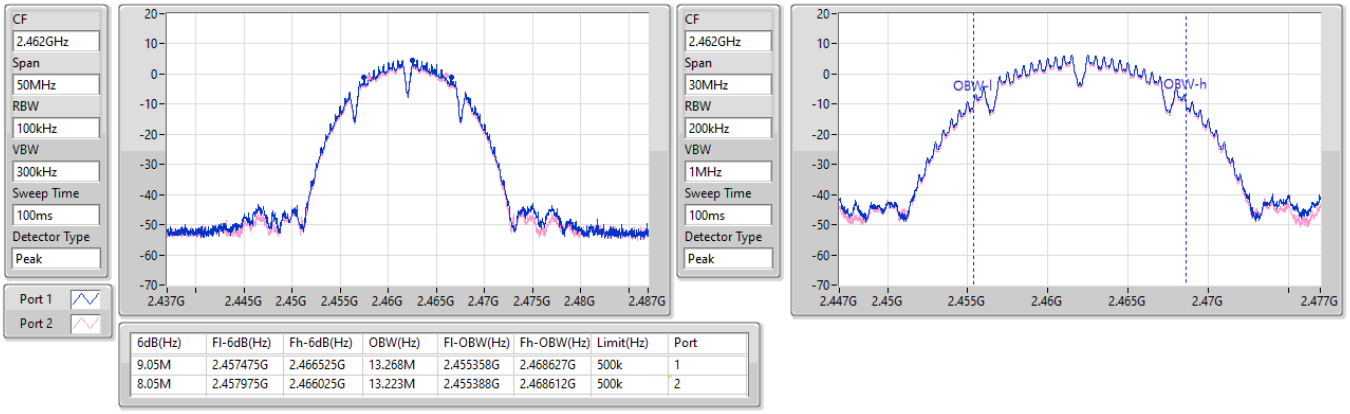




6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.05M	2.432975G	2.441025G	13.238M	2.430403G	2.443642G	500k	1
9.05M	2.432475G	2.441525G	13.208M	2.430403G	2.443612G	500k	2

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

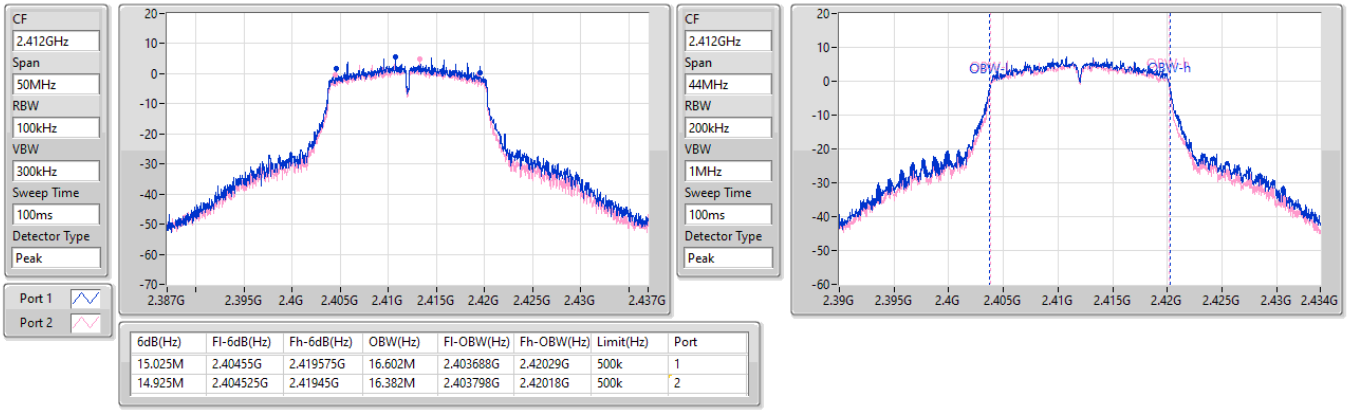
2462MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
9.05M	2.457475G	2.466525G	13.268M	2.455358G	2.468627G	500k	1
8.05M	2.457975G	2.466025G	13.223M	2.455388G	2.468612G	500k	2

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

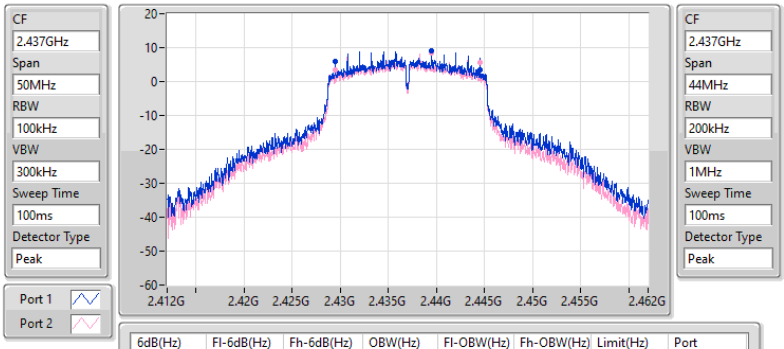
2412MHz

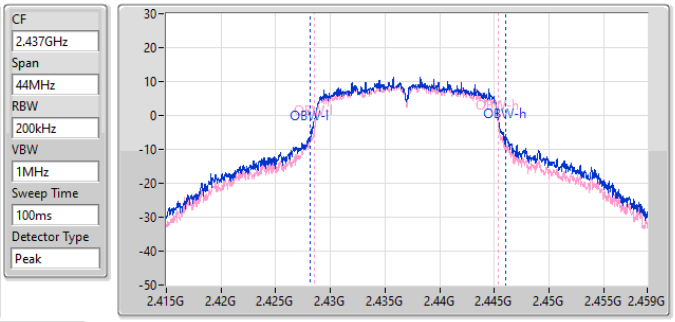


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.025M	2.40455G	2.419575G	16.602M	2.403688G	2.42029G	500k	1
14.925M	2.404525G	2.41945G	16.382M	2.403798G	2.42018G	500k	2

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

2437MHz

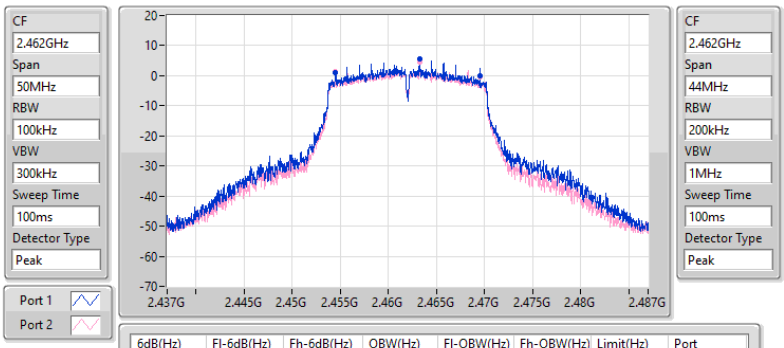


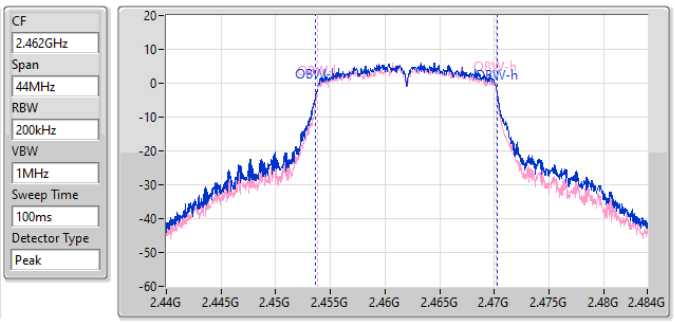


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.05M	2.429475G	2.444525G	17.811M	2.428182G	2.445994G	500k	1
15.075M	2.42945G	2.444525G	16.866M	2.428534G	2.4454G	500k	2

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

2462MHz

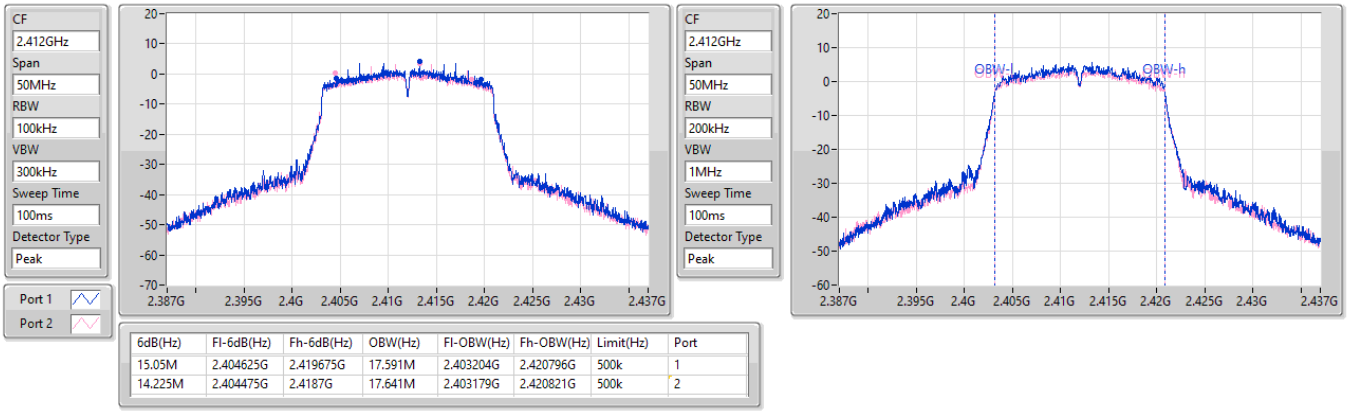




6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.1M	2.45445G	2.46955G	16.602M	2.453666G	2.470268G	500k	1
15M	2.454525G	2.469525G	16.382M	2.453798G	2.47018G	500k	2

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

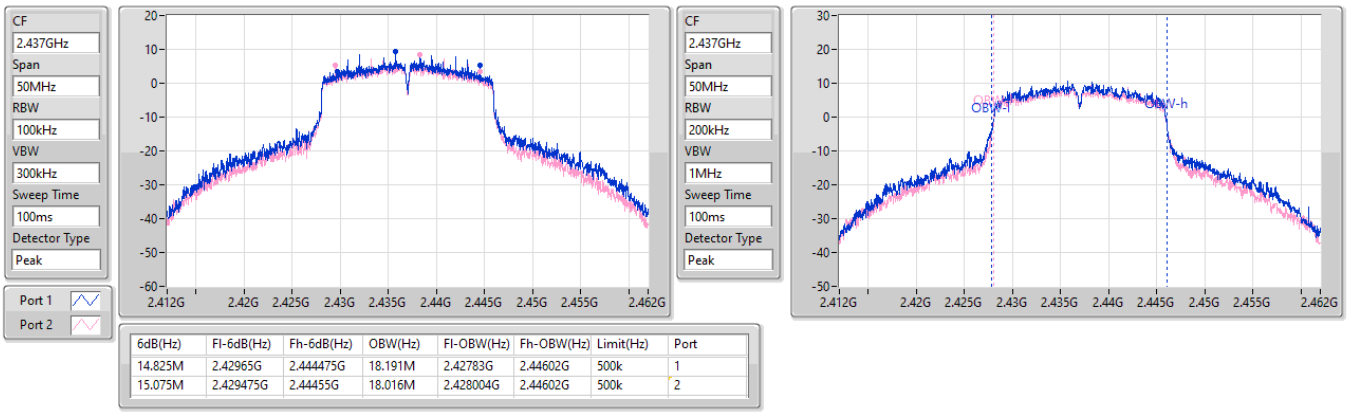
2412MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.05M	2.404625G	2.419675G	17.591M	2.403204G	2.420796G	500k	1
14.225M	2.404475G	2.4187G	17.641M	2.403179G	2.420821G	500k	2

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

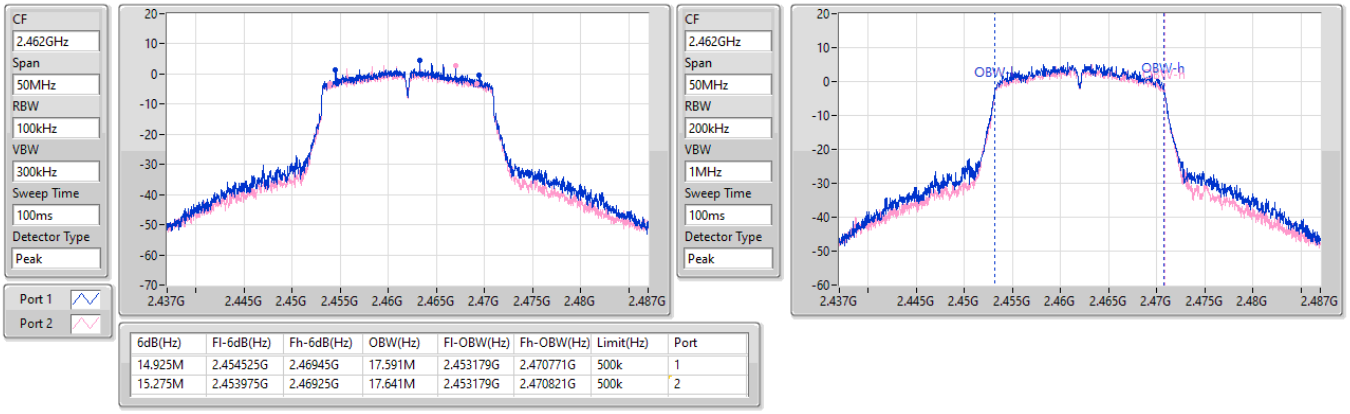
2437MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.825M	2.42965G	2.444475G	18.191M	2.42783G	2.44602G	500k	1
15.075M	2.429475G	2.44455G	18.016M	2.428004G	2.44602G	500k	2

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

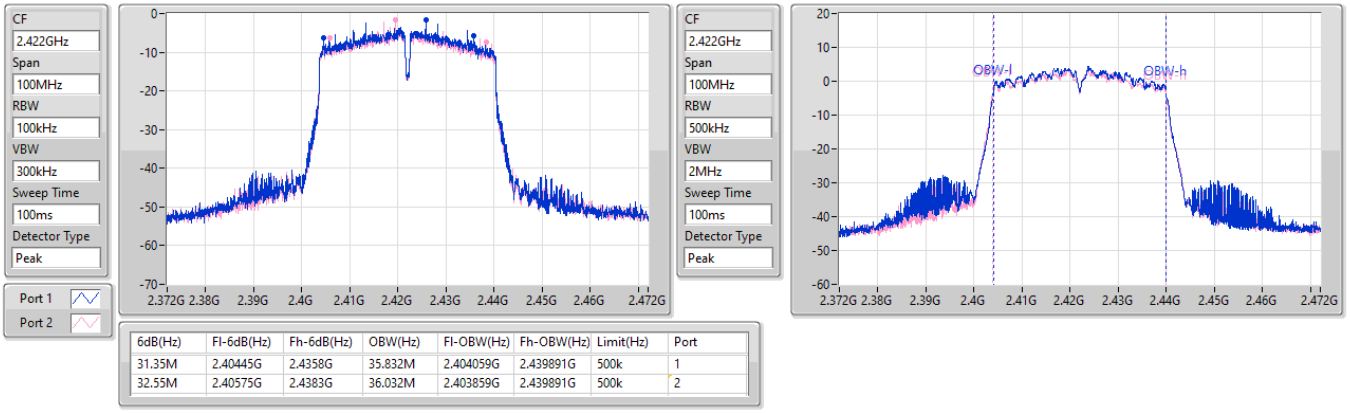
2462MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.925M	2.454525G	2.46945G	17.591M	2.453179G	2.470771G	500k	1
15.275M	2.453975G	2.46925G	17.641M	2.453179G	2.470821G	500k	2

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

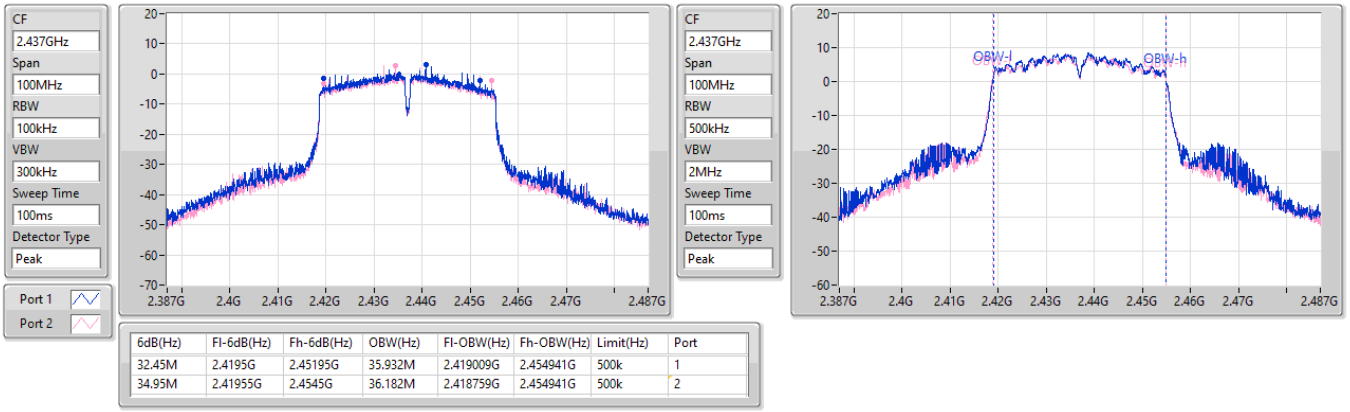
2422MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
31.35M	2.40445G	2.4358G	35.832M	2.404059G	2.439891G	500k	1
32.55M	2.40575G	2.4383G	36.032M	2.403859G	2.439891G	500k	2

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

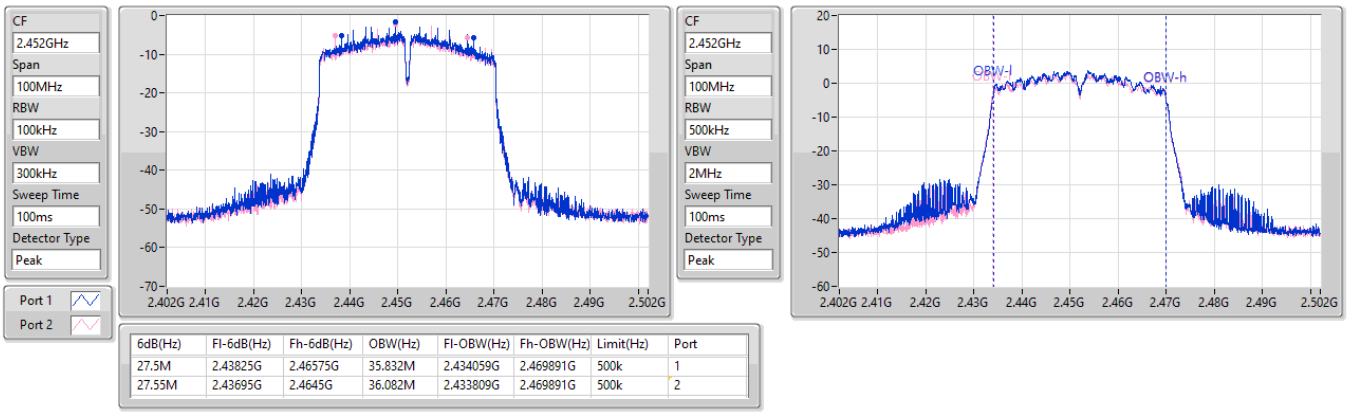
2437MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
32.45M	2.4195G	2.45195G	35.932M	2.419009G	2.454941G	500k	1
34.95M	2.41955G	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
27.5M	2.43825G	2.46575G	35.832M	2.434059G	2.469891G	500k	1
27.55M	2.43695G	2.4645G	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	18.94	0.07834
802.11g_Nss1,(6Mbps)_2TX	27.45	0.55590
802.11n HT20_Nss2,(MCS8)_2TX	27.22	0.52723
802.11n HT40_Nss2,(MCS8)_2TX	25.74	0.37497

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	2.30	16.02	14.95	18.53	30.00	20.83	36.00
2437MHz	Pass	2.30	16.3	15.53	18.94	30.00	21.24	36.00
2462MHz	Pass	2.30	16.26	15.39	18.86	30.00	21.16	36.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.30	23.55	23.22	26.40	30.00	28.70	36.00
2437MHz	Pass	2.30	24.72	24.15	27.45	30.00	29.75	36.00
2462MHz	Pass	2.30	22.78	22.68	25.74	30.00	28.04	36.00
802.11n HT20_Nss2,(MCS8)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.25	22.66	21.95	25.33	30.00	27.58	36.00
2437MHz	Pass	2.25	24.36	24.05	27.22	30.00	29.47	36.00
2462MHz	Pass	2.25	22.14	22.06	25.11	30.00	27.36	36.00
802.11n HT40_Nss2,(MCS8)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	2.25	20.33	19.75	23.06	30.00	25.31	36.00
2437MHz	Pass	2.25	23.07	22.36	25.74	30.00	27.99	36.00
2452MHz	Pass	2.25	19.68	18.93	22.33	30.00	24.58	36.00

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

Directional Gain for 802.11b/g = Maximum gain of all antennas.

Directional Gain for 802.11n= 10 log[($10^{2.3/10}$+$10^{2.2/10}$)/2]= 2.25 dBi

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	16.74	0.04721
802.11g_Nss1,(6Mbps)_2TX	22.47	0.17660
802.11n HT20_Nss2,(MCS8)_2TX	22.39	0.17338
802.11n HT40_Nss2,(MCS8)_2TX	19.18	0.08279

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	2.30	13.72	12.79	16.29	-	18.59	-
2437MHz	Pass	2.30	14.12	13.31	16.74	-	19.04	-
2462MHz	Pass	2.30	14.13	13.22	16.71	-	19.01	-
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.30	16.46	15.57	19.05	-	21.35	-
2437MHz	Pass	2.30	19.82	19.07	22.47	-	24.77	-
2462MHz	Pass	2.30	15.69	15.16	18.44	-	20.74	-
802.11n HT20_Nss2,(MCS8)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.25	15.18	14.46	17.85	-	20.10	-
2437MHz	Pass	2.25	19.72	19.02	22.39	-	24.64	-
2462MHz	Pass	2.25	14.93	14.44	17.70	-	19.95	-
802.11n HT40_Nss2,(MCS8)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	2.25	12.32	11.52	14.95	-	17.20	-
2437MHz	Pass	2.25	16.52	15.78	19.18	-	21.43	-
2452MHz	Pass	2.25	11.46	10.81	14.16	-	16.41	-

DG = Directional Gain; Port X = Port X output power
Note : Conducted average output power is for reference
Directional Gain for 802.11b/g = Maximum gain of all antennas.
Directional Gain for 802.11n= 10 log[($10^{2.3/10}$+$10^{2.2/10}$)/2] = 2.25 dBi

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	6.13
802.11g_Nss1,(6Mbps)_2TX	-5.34
802.11n HT20_Nss2,(MCS8)_2TX	-5.43
802.11n HT40_Nss2,(MCS8)_2TX	-11.31

RBW = 3kHz;

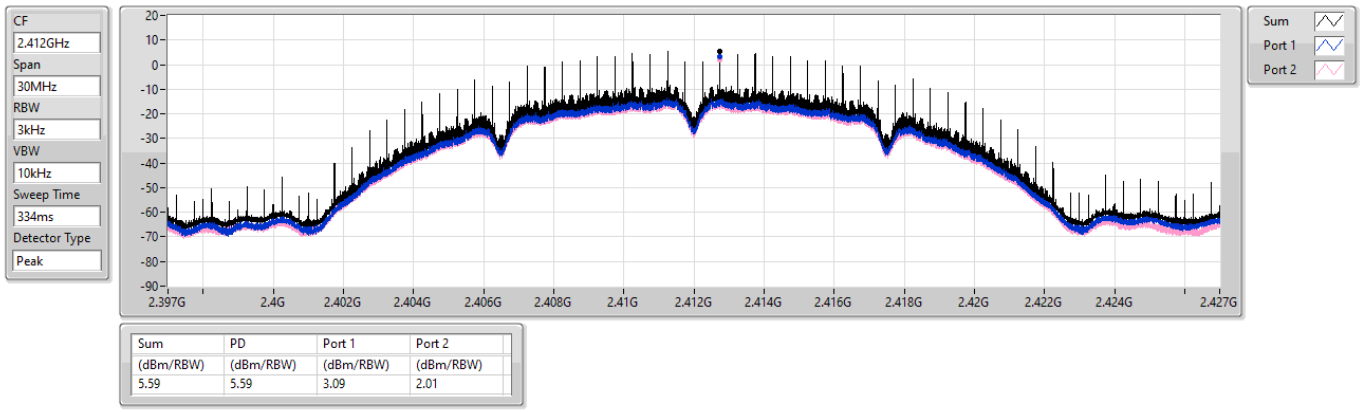
Result

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	5.26	3.09	2.01	5.59	8.00
2437MHz	Pass	5.26	3.52	2.66	6.11	8.00
2462MHz	Pass	5.26	3.53	2.71	6.13	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.26	-11.06	-11.30	-9.07	8.00
2437MHz	Pass	5.26	-6.96	-7.57	-5.34	8.00
2462MHz	Pass	5.26	-11.25	-11.86	-9.47	8.00
802.11n HT20_Nss2,(MCS8)_2TX	-	-	-	-	-	-
2412MHz	Pass	2.25	-12.02	-12.13	-10.12	8.00
2437MHz	Pass	2.25	-7.03	-8.39	-5.43	8.00
2462MHz	Pass	2.25	-12.59	-12.22	-10.04	8.00
802.11n HT40_Nss2,(MCS8)_2TX	-	-	-	-	-	-
2422MHz	Pass	2.25	-17.92	-18.08	-16.23	8.00
2437MHz	Pass	2.25	-13.07	-13.98	-11.31	8.00
2452MHz	Pass	2.25	-18.19	-18.34	-16.52	8.00

DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;
Directional Gain for 802.11b/g = 10 log[$(10^{2.3/20}+10^{2.2/20})^2/2$]= 5.26 dBi
Directional Gain for 802.11n = 10 log[$(10^{2.3/10}+10^{2.2/10})/2$] = 2.25 dBi

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

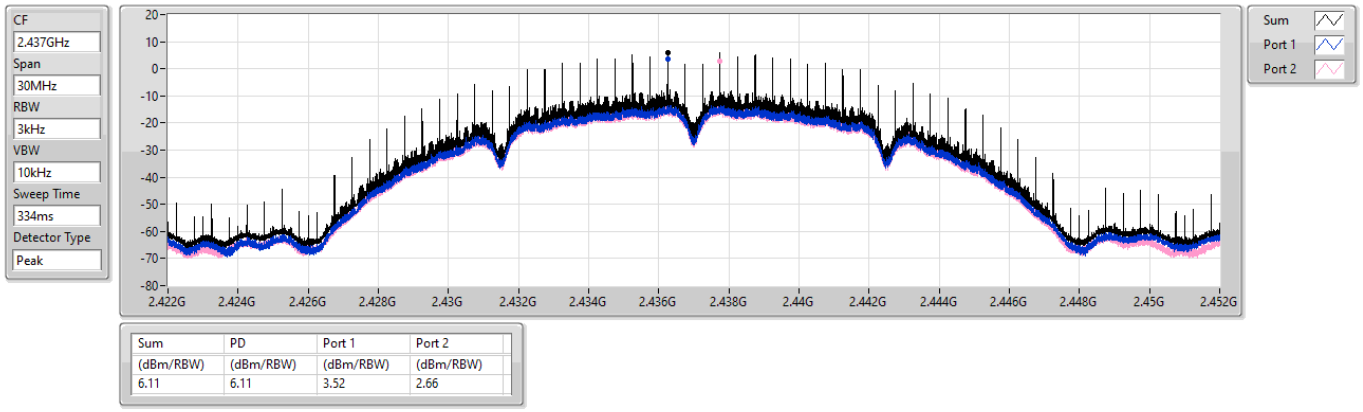
2412MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.59	5.59	3.09	2.01

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

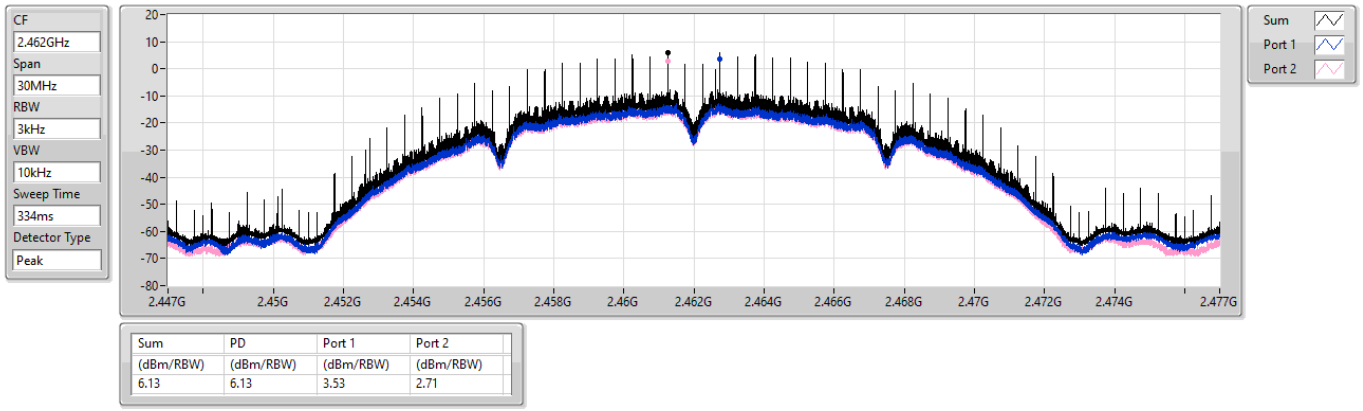
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.11	6.11	3.52	2.66

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

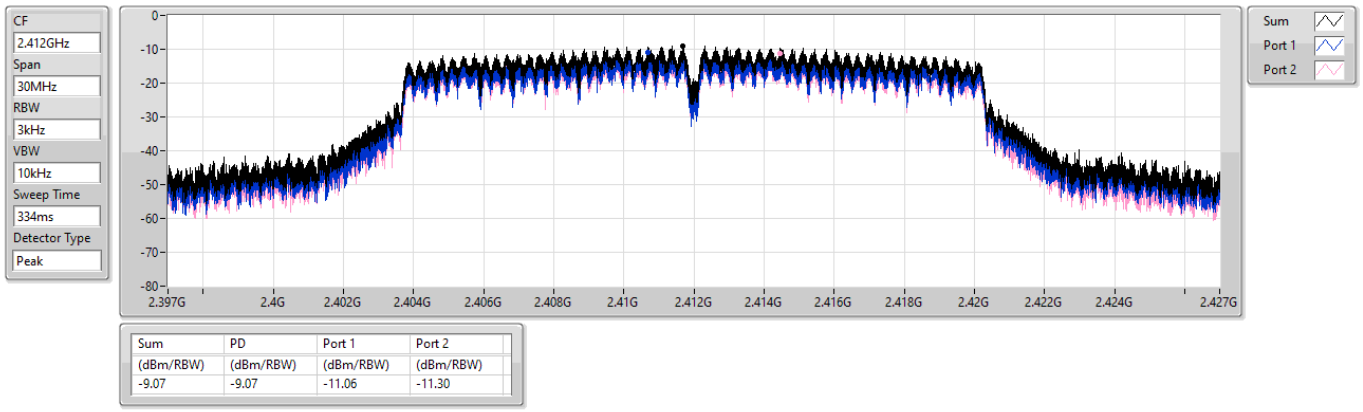
2462MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.13	6.13	3.53	2.71

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

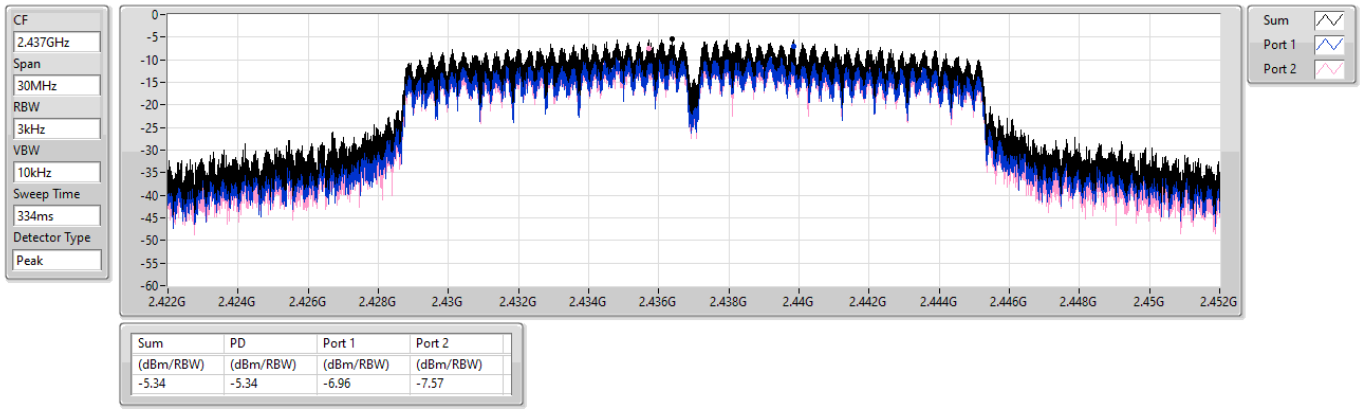
2412MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.07	-9.07	-11.06	-11.30

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

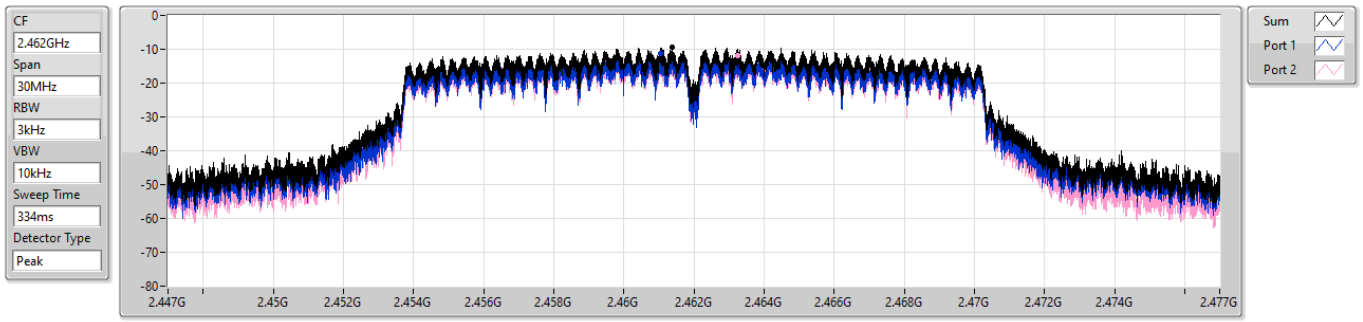
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-5.34	-5.34	-6.96	-7.57

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

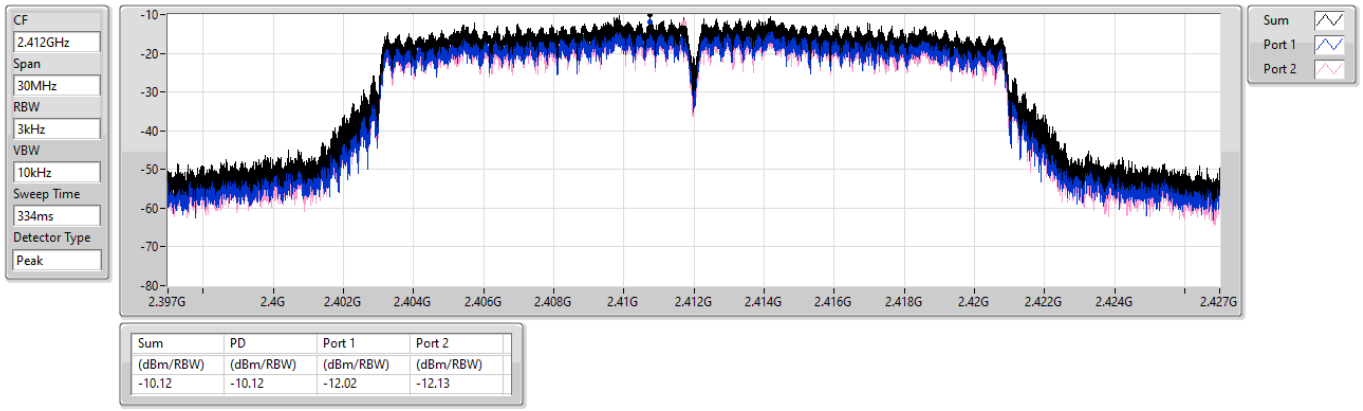
2462MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.47	-9.47	-11.25	-11.86

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

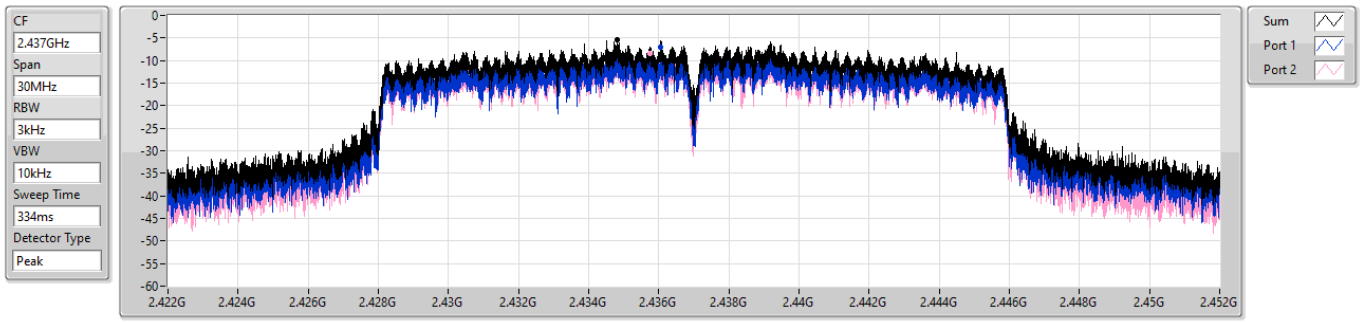
2412MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.12	-10.12	-12.02	-12.13

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

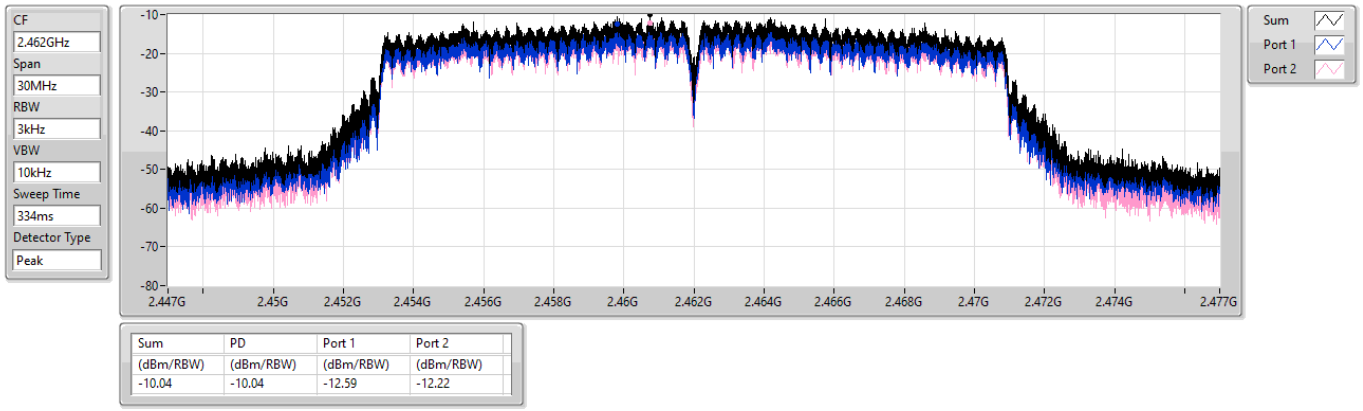
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-5.43	-5.43	-7.03	-8.39

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

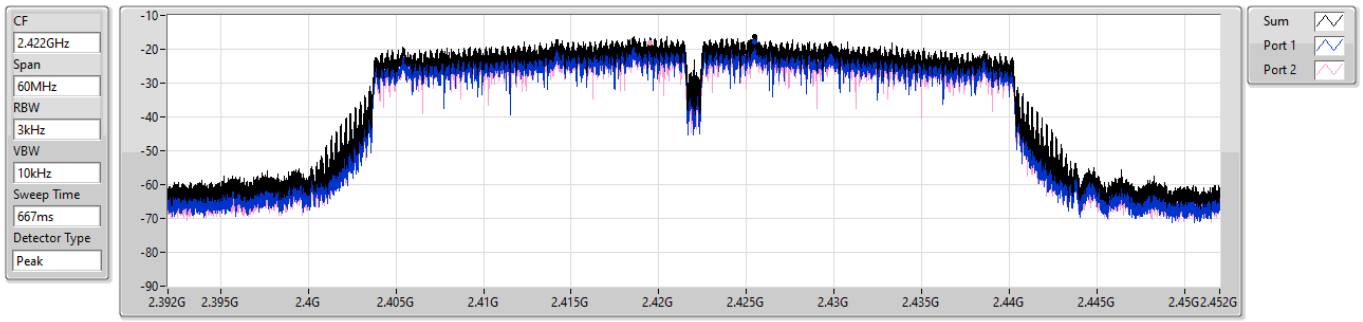
2462MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.04	-10.04	-12.59	-12.22

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

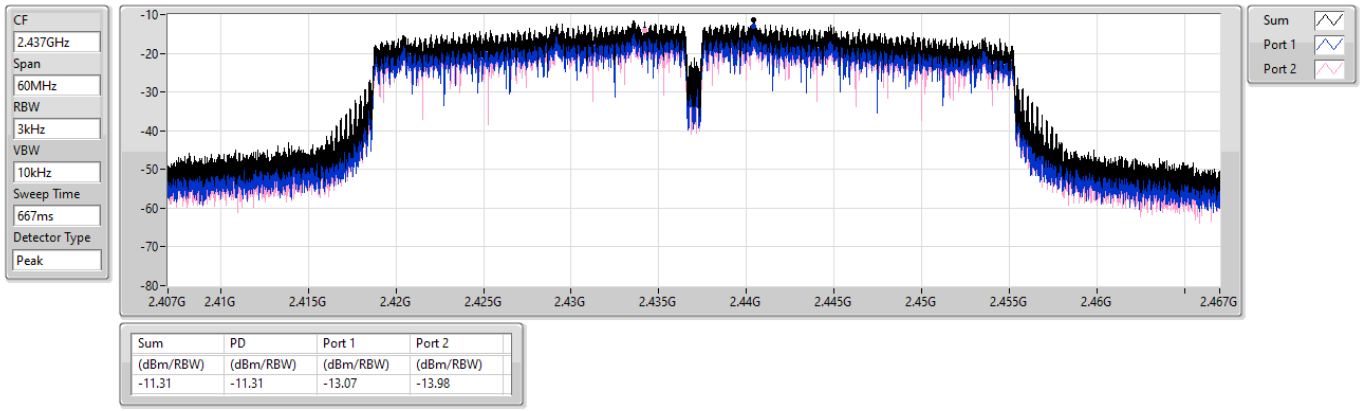
2422MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-16.23	-16.23	-17.92	-18.08

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

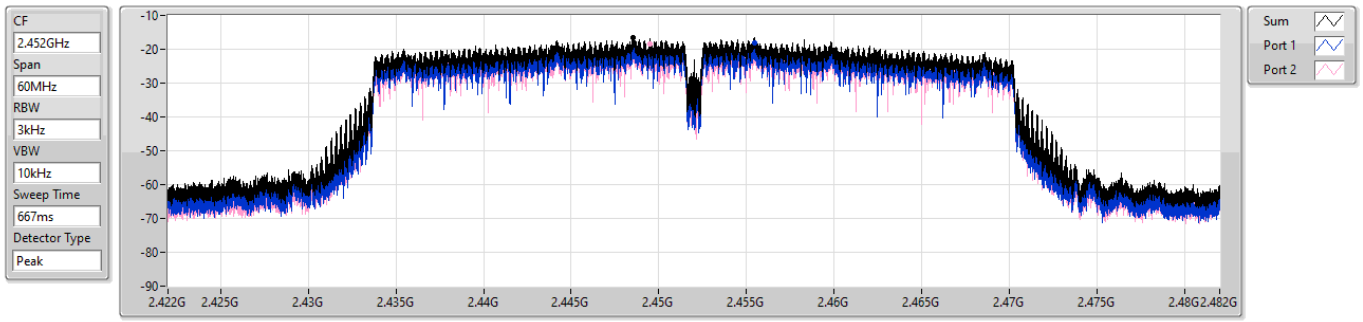
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.31	-11.31	-13.07	-13.98

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

2452MHz

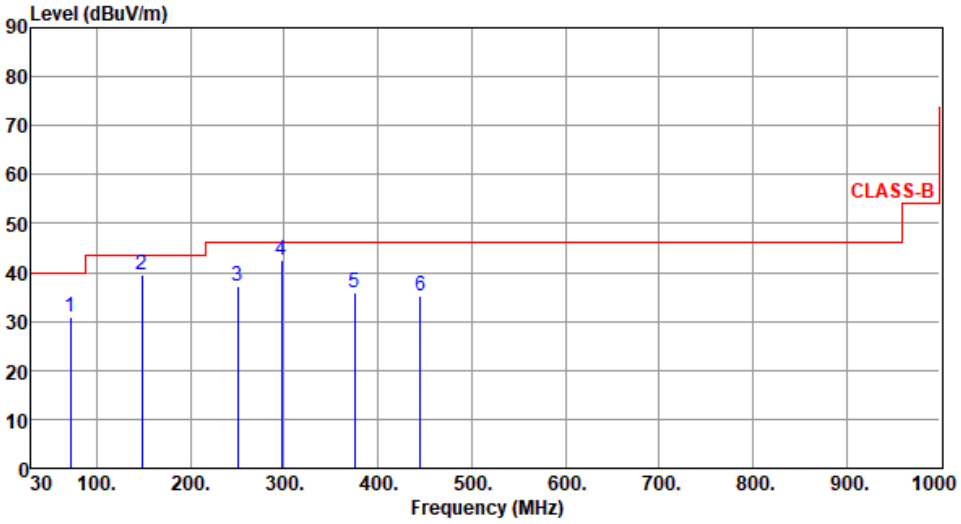


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-16.52	-16.52	-18.19	-18.34

Unwanted Emissions (Below 1GHz)

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

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

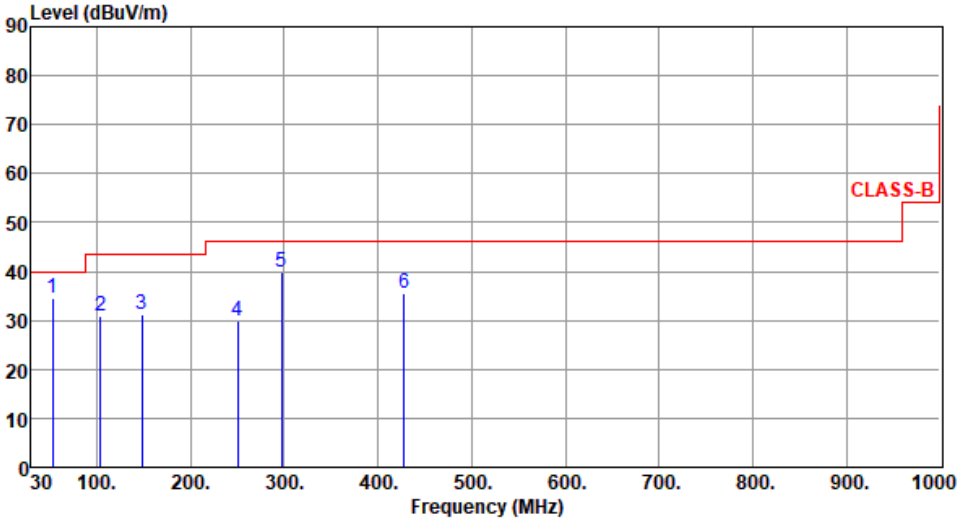


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	71.71	30.93	40.00	-9.07	42.07	-11.14	Peak	---	---
2	148.34	39.54	43.50	-3.96	48.15	-8.61	Peak	---	---
3	250.19	37.05	46.00	-8.95	46.76	-9.71	Peak	---	---
4	296.75	42.42	46.00	-3.58	50.38	-7.96	QP	100	182
5	375.32	35.94	46.00	-10.06	41.59	-5.65	Peak	---	---
6	445.16	35.30	46.00	-10.70	38.93	-3.63	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 :Paul Lin Temperature(℃):24 Humidity(%):65



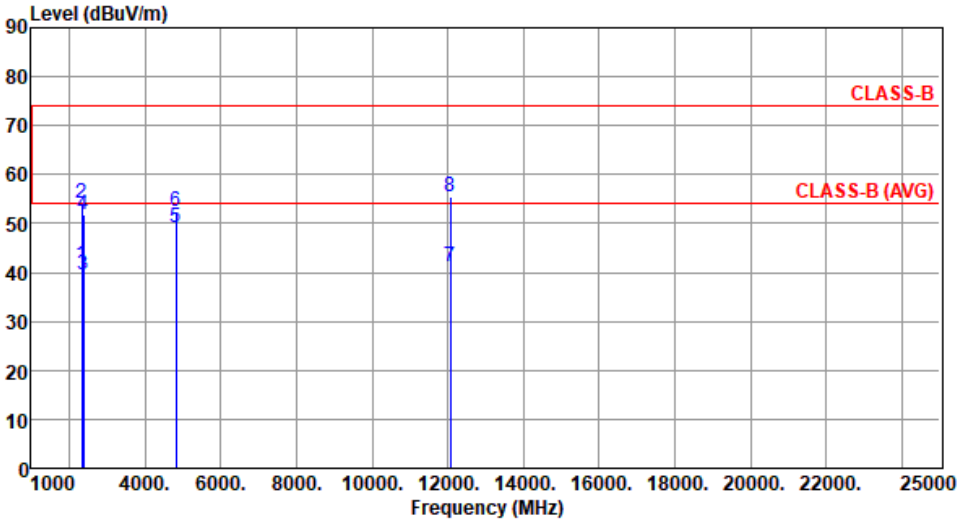
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	53.28	34.62	40.00	-5.38	42.71	-8.09	Peak	---	---
2	103.72	30.86	43.50	-12.64	43.02	-12.16	Peak	---	---
3	148.34	31.34	43.50	-12.16	39.95	-8.61	Peak	---	---
4	250.19	29.74	46.00	-16.26	39.45	-9.71	Peak	---	---
5	296.75	39.89	46.00	-6.11	47.85	-7.96	Peak	---	---
6	427.70	35.53	46.00	-10.47	39.73	-4.20	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(℃):25 Humidity(%):65

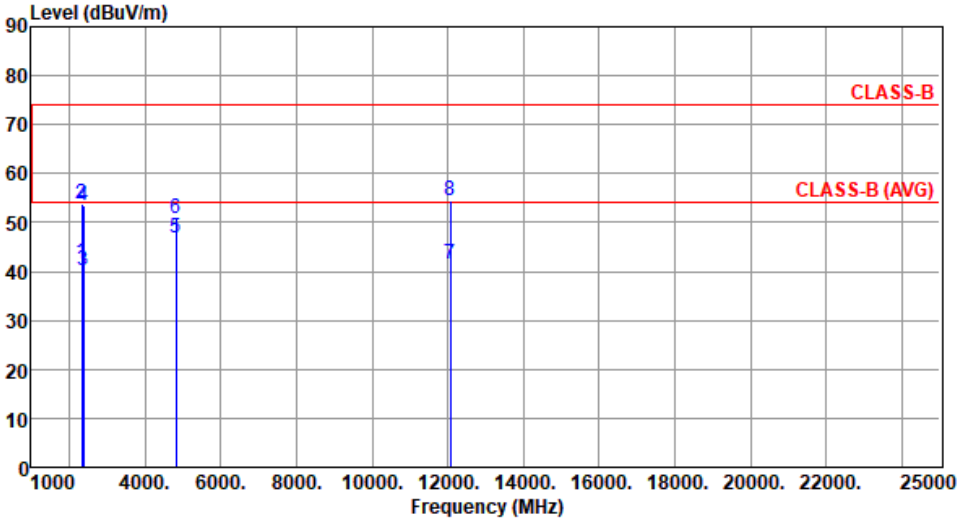


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	41.48	54.00	-12.52	44.55	-3.07	Average	251	2
2	2332.00	54.21	74.00	-19.79	57.28	-3.07	Peak	251	2
3	2390.00	39.54	54.00	-14.46	42.91	-3.37	Average	251	2
4	2390.00	51.97	74.00	-22.03	55.34	-3.37	Peak	251	2
5	4824.00	49.06	54.00	-4.94	48.90	0.16	Average	148	8
6	4824.00	52.34	74.00	-21.66	52.18	0.16	Peak	148	8
7	12060.00	41.33	54.00	-12.67	33.41	7.92	Average	100	73
8	12060.00	55.34	74.00	-18.66	47.42	7.92	Peak	100	73

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(℃):25 Humidity(%):65

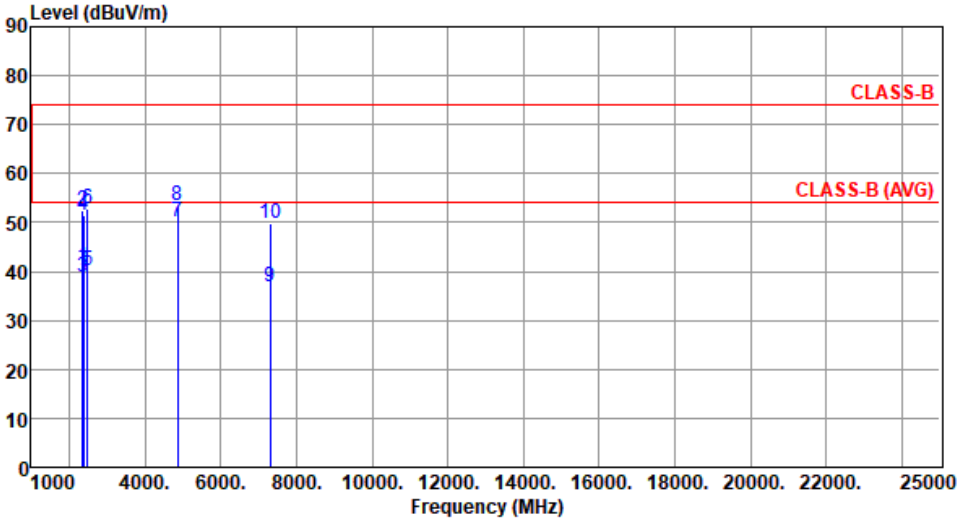


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	41.86	54.00	-12.14	44.93	-3.07	Average	169	3
2	2332.00	53.65	74.00	-20.35	56.72	-3.07	Peak	169	3
3	2390.00	40.15	54.00	-13.85	43.52	-3.37	Average	169	3
4	2390.00	53.59	74.00	-20.41	56.96	-3.37	Peak	169	3
5	4824.00	46.83	54.00	-7.17	46.67	0.16	Average	238	18
6	4824.00	50.74	74.00	-23.26	50.58	0.16	Peak	238	18
7	12060.00	41.61	54.00	-12.39	33.69	7.92	Average	100	46
8	12060.00	54.33	74.00	-19.67	46.41	7.92	Peak	100	46

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(℃):25 Humidity(%):65

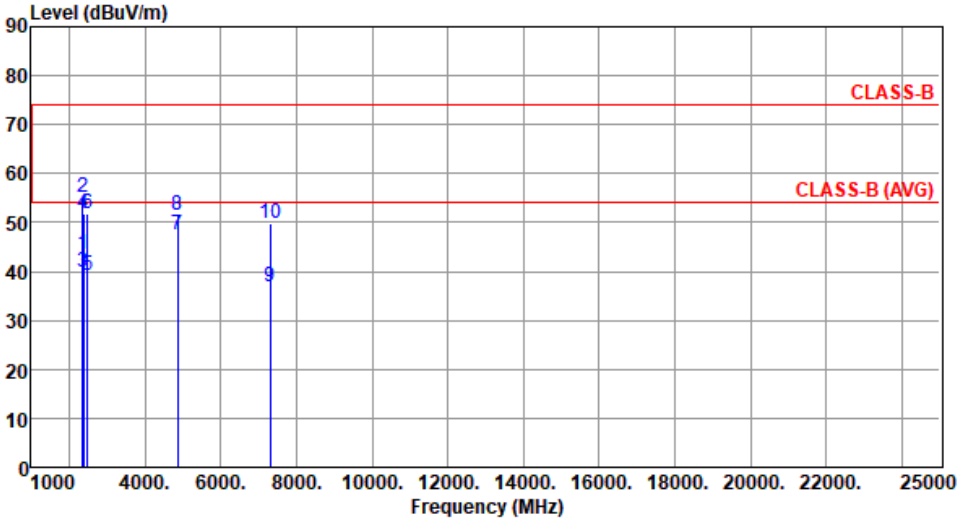


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2357.00	40.76	54.00	-13.24	43.91	-3.15	Average	273	3
2	2357.00	52.34	74.00	-21.66	55.49	-3.15	Peak	273	3
3	2390.00	38.96	54.00	-15.04	42.33	-3.37	Average	273	3
4	2390.00	51.53	74.00	-22.47	54.90	-3.37	Peak	273	3
5	2483.50	40.33	54.00	-13.67	43.99	-3.66	Average	273	3
6	2483.50	52.84	74.00	-21.16	56.50	-3.66	Peak	273	3
7	4874.00	50.21	54.00	-3.79	50.06	0.15	Average	297	12
8	4874.00	53.39	74.00	-20.61	53.24	0.15	Peak	297	12
9	7311.00	36.70	54.00	-17.30	31.04	5.66	Average	100	58
10	7311.00	49.69	74.00	-24.31	44.03	5.66	Peak	100	58

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(℃):25 Humidity(%):65

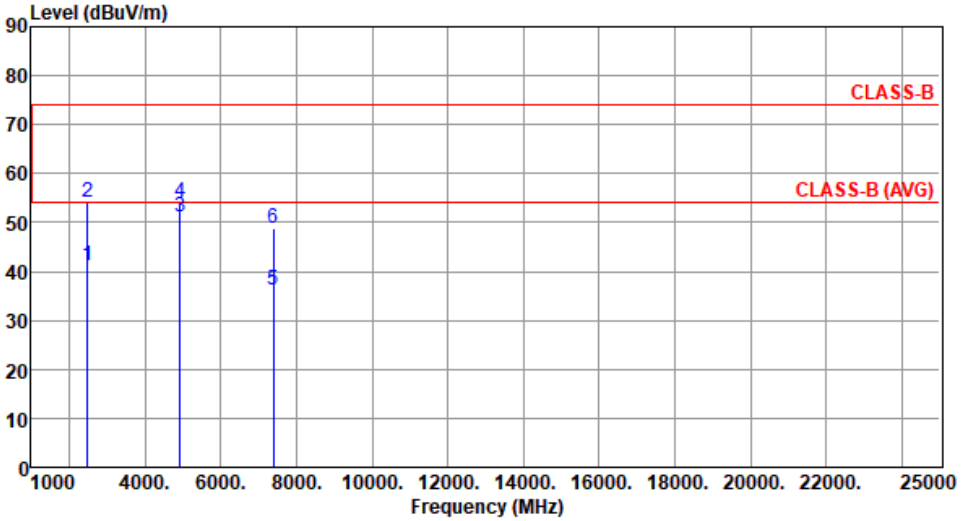


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2357.00	43.43	54.00	-10.57	46.58	-3.15	Average	167	355
2	2357.00	55.05	74.00	-18.95	58.20	-3.15	Peak	167	355
3	2390.00	39.80	54.00	-14.20	43.17	-3.37	Average	167	355
4	2390.00	51.87	74.00	-22.13	55.24	-3.37	Peak	167	355
5	2483.50	39.28	54.00	-14.72	42.94	-3.66	Average	167	355
6	2483.50	51.78	74.00	-22.22	55.44	-3.66	Peak	167	355
7	4874.00	47.38	54.00	-6.62	47.23	0.15	Average	114	48
8	4874.00	51.37	74.00	-22.63	51.22	0.15	Peak	114	48
9	7311.00	36.78	54.00	-17.22	31.12	5.66	Average	100	25
10	7311.00	49.81	74.00	-24.19	44.15	5.66	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	Horizontal		

Test By :Paul Lin Temperature(℃):25 Humidity(%):65

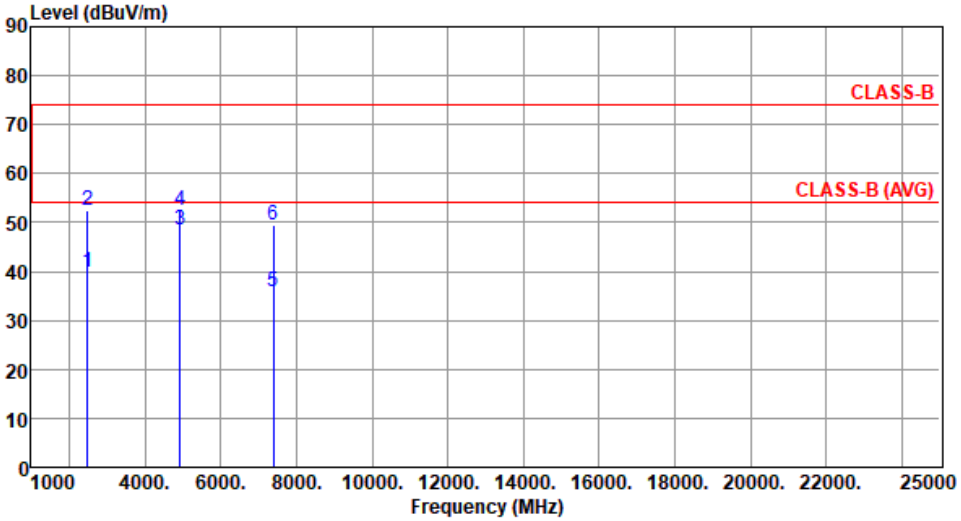


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	41.08	54.00	-12.92	44.74	-3.66	Average	149	9
2	2483.50	54.27	74.00	-19.73	57.93	-3.66	Peak	149	9
3	4924.00	51.31	54.00	-2.69	51.21	0.10	Average	153	10
4	4924.00	54.28	74.00	-19.72	54.18	0.10	Peak	153	10
5	7386.00	36.06	54.00	-17.94	30.46	5.60	Average	100	65
6	7386.00	48.82	74.00	-25.18	43.22	5.60	Peak	100	65

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(℃):25 Humidity(%):65



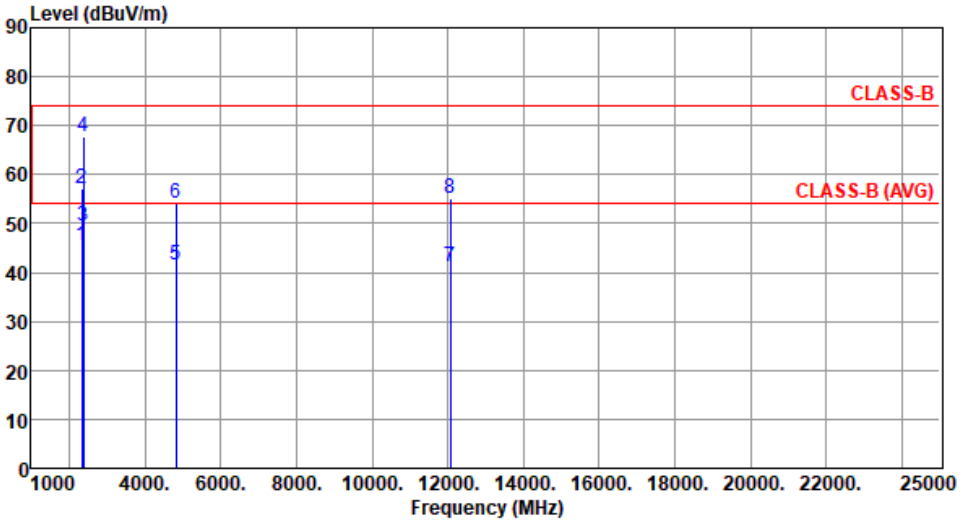
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	39.79	54.00	-14.21	43.45	-3.66	Average	102	18
2	2483.50	52.42	74.00	-21.58	56.08	-3.66	Peak	102	18
3	4924.00	48.57	54.00	-5.43	48.47	0.10	Average	100	28
4	4924.00	52.41	74.00	-21.59	52.31	0.10	Peak	100	28
5	7386.00	35.89	54.00	-18.11	30.29	5.60	Average	100	84
6	7386.00	49.38	74.00	-24.62	43.78	5.60	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).

Unwanted Emissions (Above 1GHz) for 11g

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

Test By :Paul Lin Temperature(℃):25 Humidity(%):65

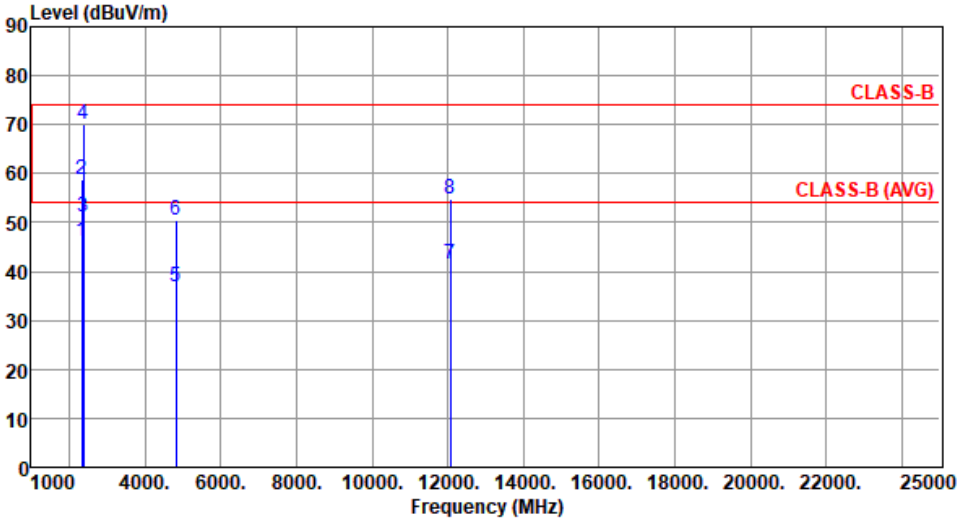


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	45.42	54.00	-8.58	48.49	-3.07	Average	153	3
2	2332.00	57.03	74.00	-16.97	60.10	-3.07	Peak	153	3
3	2390.00	49.51	54.00	-4.49	52.88	-3.37	Average	153	3
4	2390.00	67.72	74.00	-6.28	71.09	-3.37	Peak	153	3
5	4824.00	41.57	54.00	-12.43	41.41	0.16	Average	100	22
6	4824.00	54.08	74.00	-19.92	53.92	0.16	Peak	100	22
7	12060.00	41.27	54.00	-12.73	33.35	7.92	Average	100	105
8	12060.00	55.21	74.00	-18.79	47.29	7.92	Peak	100	105

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(℃):25 Humidity(%):65

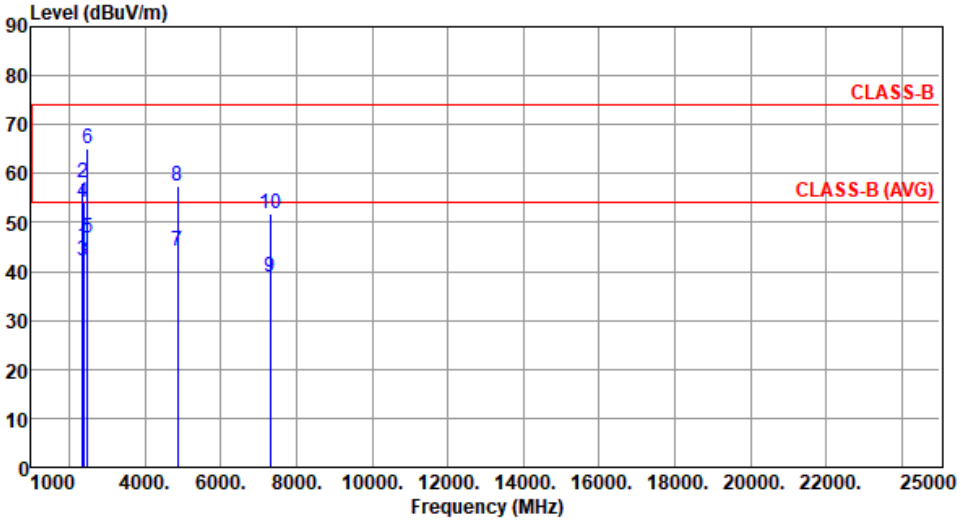


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	46.11	54.00	-7.89	49.18	-3.07	Average	100	11
2	2332.00	58.80	74.00	-15.20	61.87	-3.07	Peak	100	11
3	2390.00	51.01	54.00	-2.99	54.38	-3.37	Average	104	300
4	2390.00	70.00	74.00	-4.00	73.37	-3.37	Peak	104	300
5	4824.00	36.91	54.00	-17.09	36.75	0.16	Average	100	25
6	4824.00	50.55	74.00	-23.45	50.39	0.16	Peak	100	25
7	12060.00	41.49	54.00	-12.51	33.57	7.92	Average	100	71
8	12060.00	54.77	74.00	-19.23	46.85	7.92	Peak	100	71

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(℃):25 Humidity(%):65

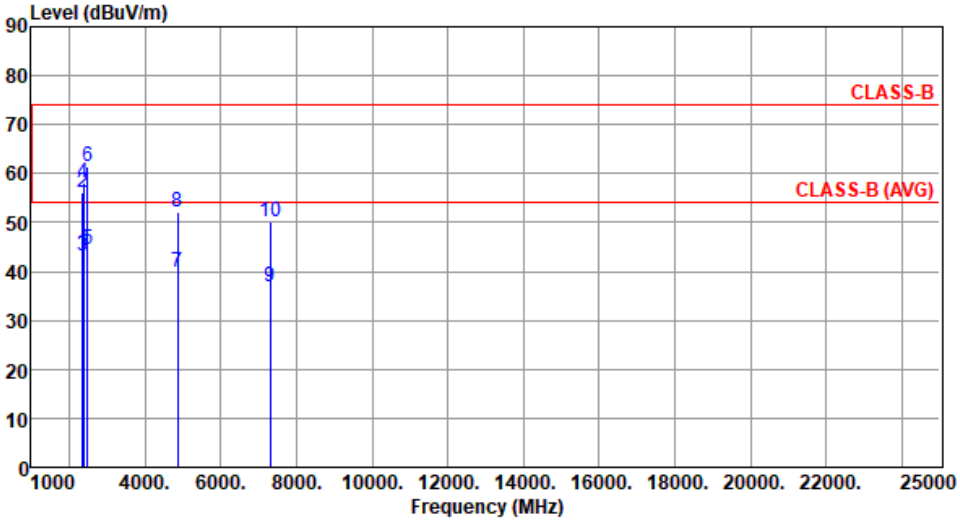


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2357.00	45.02	54.00	-8.98	48.17	-3.15	Average	181	1
2	2357.00	58.12	74.00	-15.88	61.27	-3.15	Peak	181	1
3	2390.00	42.02	54.00	-11.98	45.39	-3.37	Average	181	1
4	2390.00	54.13	74.00	-19.87	57.50	-3.37	Peak	181	1
5	2483.50	46.87	54.00	-7.13	50.53	-3.66	Average	181	1
6	2483.50	65.02	74.00	-8.98	68.68	-3.66	Peak	181	1
7	4874.00	44.28	54.00	-9.72	44.13	0.15	Average	100	19
8	4874.00	57.57	74.00	-16.43	57.42	0.15	Peak	100	19
9	7311.00	38.96	54.00	-15.04	33.30	5.66	Average	100	321
10	7311.00	51.93	74.00	-22.07	46.27	5.66	Peak	100	321

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(℃):25 Humidity(%):65

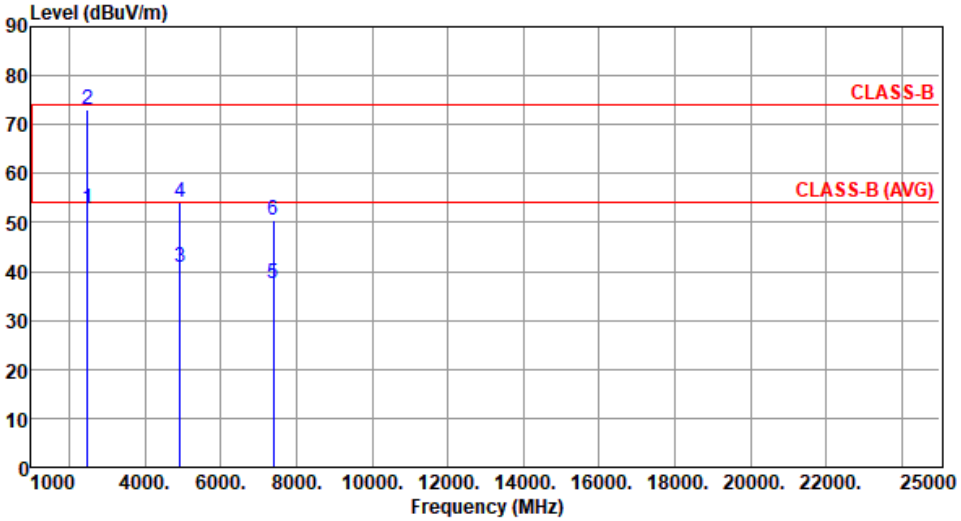


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2357.00	44.00	54.00	-10.00	47.15	-3.15	Average	100	298
2	2357.00	55.97	74.00	-18.03	59.12	-3.15	Peak	100	298
3	2390.00	43.09	54.00	-10.91	46.46	-3.37	Average	100	298
4	2390.00	58.13	74.00	-15.87	61.50	-3.37	Peak	100	298
5	2483.50	44.35	54.00	-9.65	48.01	-3.66	Average	100	298
6	2483.50	61.35	74.00	-12.65	65.01	-3.66	Peak	100	298
7	4874.00	39.70	54.00	-14.30	39.55	0.15	Average	217	22
8	4874.00	52.21	74.00	-21.79	52.06	0.15	Peak	217	22
9	7311.00	36.99	54.00	-17.01	31.33	5.66	Average	100	57
10	7311.00	50.08	74.00	-23.92	44.42	5.66	Peak	100	57

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(℃):25 Humidity(%):65

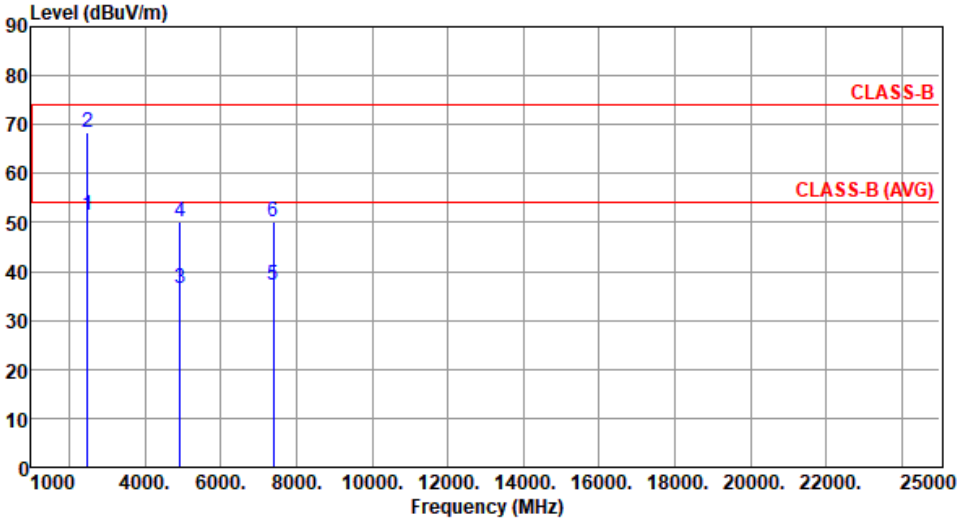


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	52.88	54.00	-1.12	56.54	-3.66	Average	159	1
2	2483.50	72.90	74.00	-1.10	76.56	-3.66	Peak	159	1
3	4924.00	40.95	54.00	-13.05	40.85	0.10	Average	100	21
4	4924.00	54.26	74.00	-19.74	54.16	0.10	Peak	100	21
5	7386.00	37.51	54.00	-16.49	31.91	5.60	Average	100	310
6	7386.00	50.43	74.00	-23.57	44.83	5.60	Peak	100	310

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(℃):25 Humidity(%):65



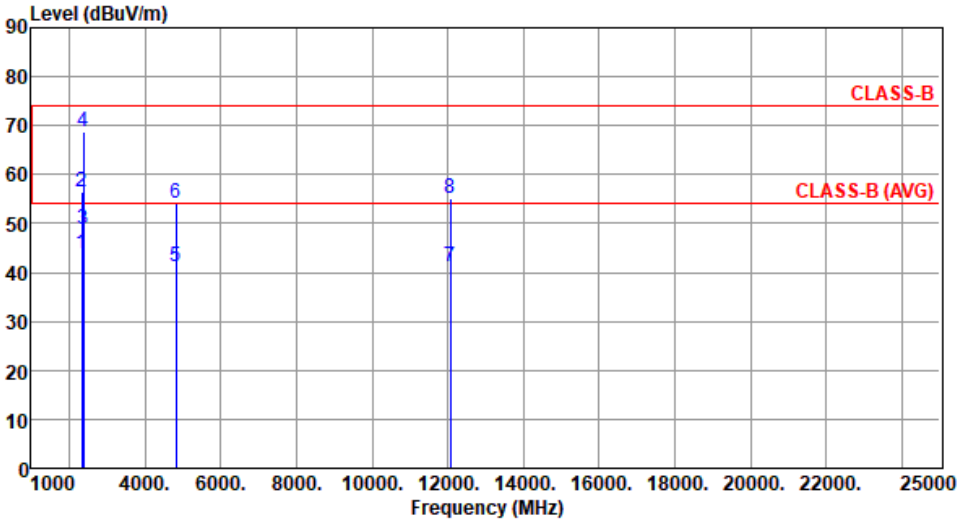
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	51.54	54.00	-2.46	55.20	-3.66	Average	100	353
2	2483.50	68.50	74.00	-5.50	72.16	-3.66	Peak	100	353
3	4924.00	36.55	54.00	-17.45	36.45	0.10	Average	100	46
4	4924.00	50.14	74.00	-23.86	50.04	0.10	Peak	100	46
5	7386.00	37.05	54.00	-16.95	31.45	5.60	Average	100	62
6	7386.00	50.19	74.00	-23.81	44.59	5.60	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).

Unwanted Emissions (Above 1GHz) for HT20

Modulation	HT20	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Paul Lin Temperature(℃):25 Humidity(%):65

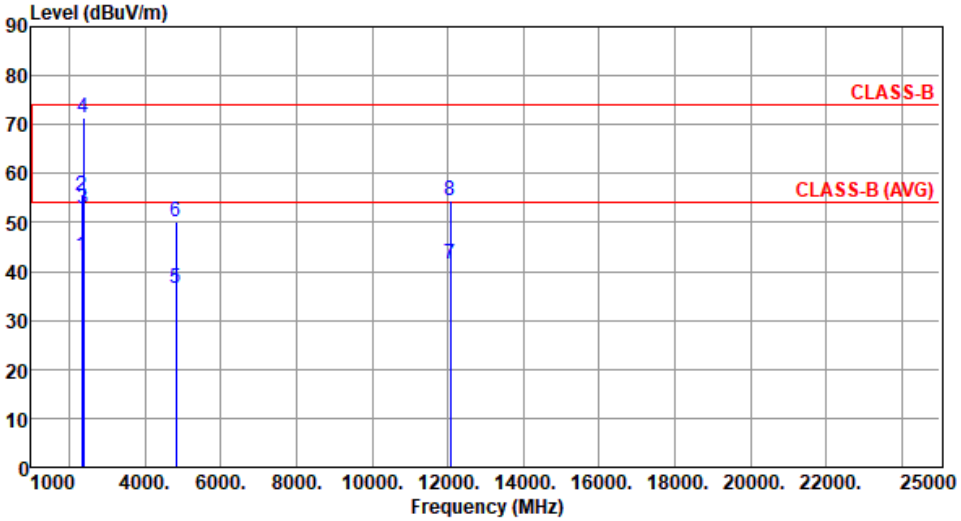


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	43.86	54.00	-10.14	46.93	-3.07	Average	149	3
2	2332.00	56.57	74.00	-17.43	59.64	-3.07	Peak	149	3
3	2390.00	48.98	54.00	-5.02	52.35	-3.37	Average	149	3
4	2390.00	68.66	74.00	-5.34	72.03	-3.37	Peak	149	3
5	4824.00	41.26	54.00	-12.74	41.10	0.16	Average	100	24
6	4824.00	53.98	74.00	-20.02	53.82	0.16	Peak	100	24
7	12060.00	41.31	54.00	-12.69	33.39	7.92	Average	100	94
8	12060.00	55.11	74.00	-18.89	47.19	7.92	Peak	100	94

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(℃):25 Humidity(%):65

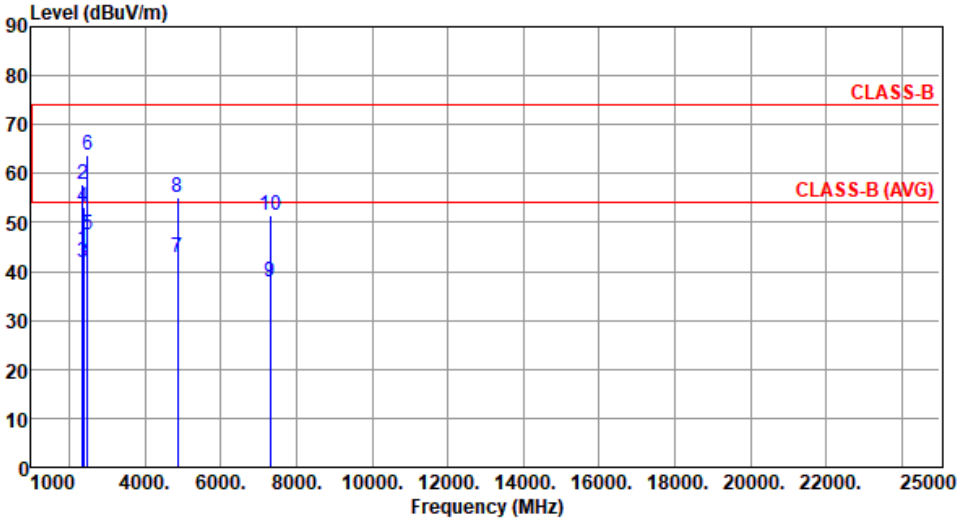


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2332.00	43.14	54.00	-10.86	46.21	-3.07	Average	175	356
2	2332.00	55.38	74.00	-18.62	58.45	-3.07	Peak	175	356
3	2390.00	52.76	54.00	-1.24	56.13	-3.37	Average	175	356
4	2390.00	71.33	74.00	-2.67	74.70	-3.37	Peak	175	356
5	4824.00	36.54	54.00	-17.46	36.38	0.16	Average	100	31
6	4824.00	50.27	74.00	-23.73	50.11	0.16	Peak	100	31
7	12060.00	41.37	54.00	-12.63	33.45	7.92	Average	100	78
8	12060.00	54.36	74.00	-19.64	46.44	7.92	Peak	100	78

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(℃):25 Humidity(%):65

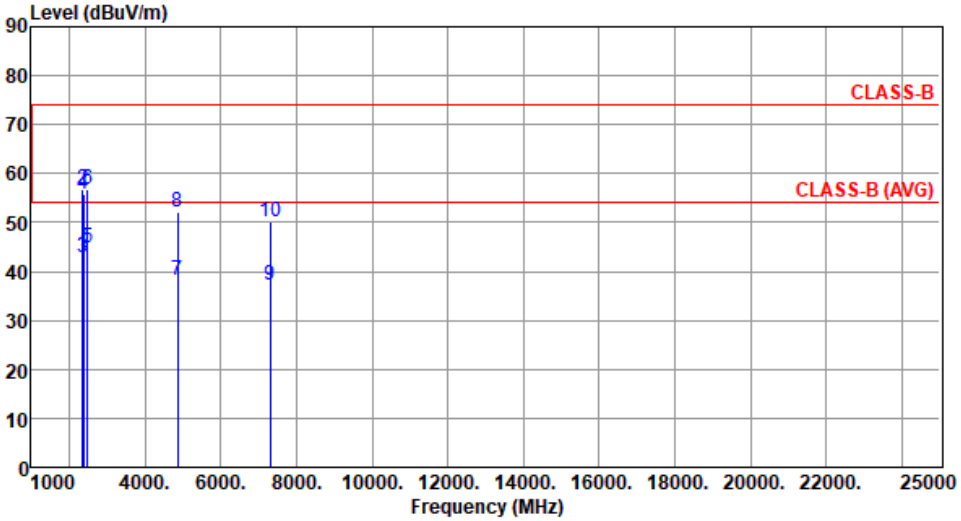


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2357.00	44.65	54.00	-9.35	47.80	-3.15	Average	136	1
2	2357.00	57.84	74.00	-16.16	60.99	-3.15	Peak	136	1
3	2390.00	41.76	54.00	-12.24	45.13	-3.37	Average	136	1
4	2390.00	53.28	74.00	-20.72	56.65	-3.37	Peak	136	1
5	2483.50	47.51	54.00	-6.49	51.17	-3.66	Average	136	1
6	2483.50	63.87	74.00	-10.13	67.53	-3.66	Peak	136	1
7	4874.00	42.68	54.00	-11.32	42.53	0.15	Average	252	10
8	4874.00	55.27	74.00	-18.73	55.12	0.15	Peak	252	10
9	7311.00	37.87	54.00	-16.13	32.21	5.66	Average	100	302
10	7311.00	51.63	74.00	-22.37	45.97	5.66	Peak	100	302

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(℃):25 Humidity(%):65

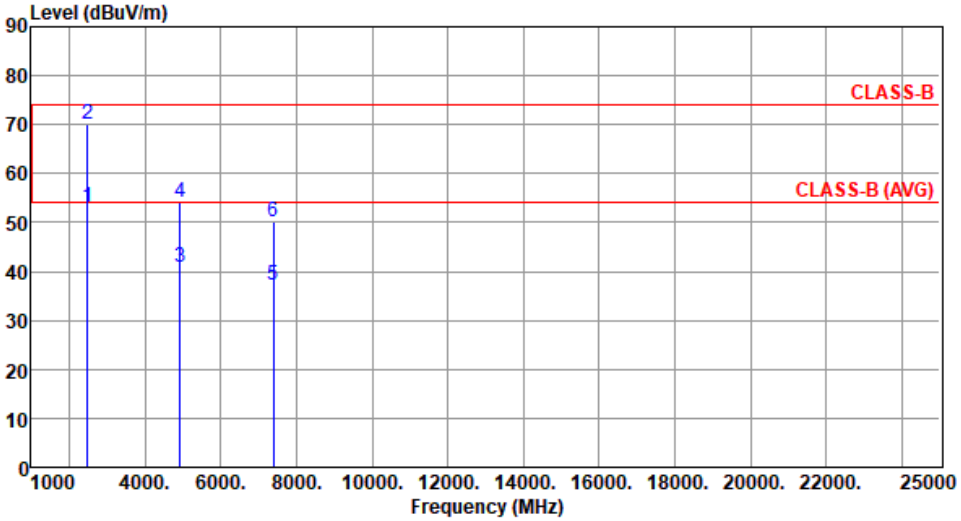


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2357.00	43.59	54.00	-10.41	46.74	-3.15	Average	100	299
2	2357.00	56.79	74.00	-17.21	59.94	-3.15	Peak	100	299
3	2390.00	42.99	54.00	-11.01	46.36	-3.37	Average	100	299
4	2390.00	55.65	74.00	-18.35	59.02	-3.37	Peak	100	299
5	2483.50	44.95	54.00	-9.05	48.61	-3.66	Average	100	299
6	2483.50	56.88	74.00	-17.12	60.54	-3.66	Peak	100	299
7	4874.00	38.26	54.00	-15.74	38.11	0.15	Average	222	16
8	4874.00	52.12	74.00	-21.88	51.97	0.15	Peak	222	16
9	7311.00	37.12	54.00	-16.88	31.46	5.66	Average	100	62
10	7311.00	50.03	74.00	-23.97	44.37	5.66	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	HT20	**Test Freq. (MHz)**	2462
Polarization	Horizontal		

Test By :Paul Lin Temperature(℃):25 Humidity(%):65

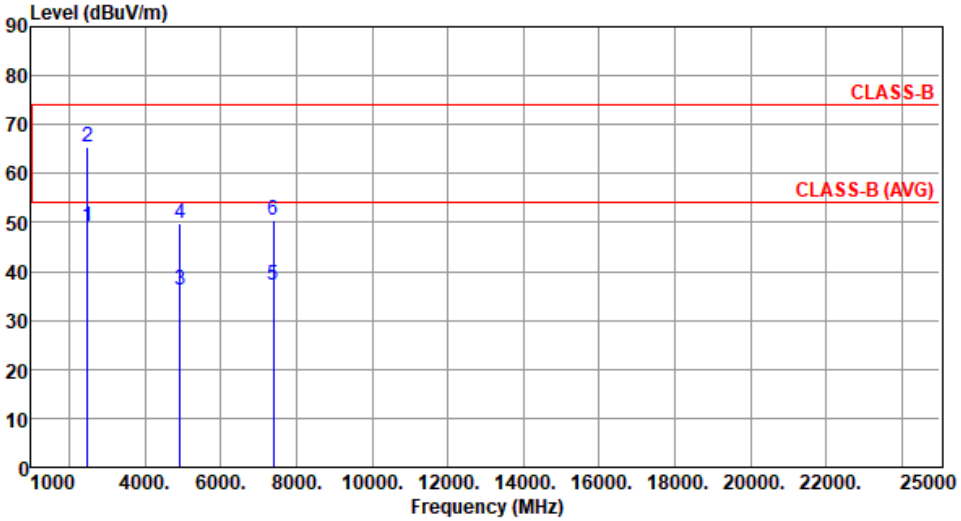


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	52.98	54.00	-1.02	56.64	-3.66	Average	159	3
2	2483.50	70.13	74.00	-3.87	73.79	-3.66	Peak	159	3
3	4924.00	40.76	54.00	-13.24	40.66	0.10	Average	100	18
4	4924.00	54.04	74.00	-19.96	53.94	0.10	Peak	100	18
5	7386.00	37.34	54.00	-16.66	31.74	5.60	Average	100	315
6	7386.00	50.22	74.00	-23.78	44.62	5.60	Peak	100	315

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(℃):25 Humidity(%):65



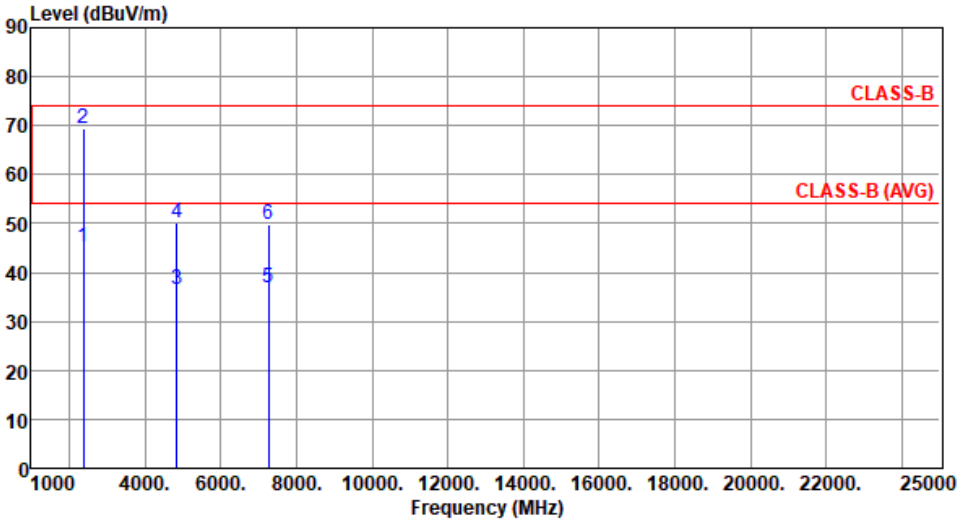
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	49.20	54.00	-4.80	52.86	-3.66	Average	100	299
2	2483.50	65.46	74.00	-8.54	69.12	-3.66	Peak	100	299
3	4924.00	36.24	54.00	-17.76	36.14	0.10	Average	100	37
4	4924.00	49.89	74.00	-24.11	49.79	0.10	Peak	100	37
5	7386.00	37.18	54.00	-16.82	31.58	5.60	Average	100	53
6	7386.00	50.35	74.00	-23.65	44.75	5.60	Peak	100	53

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(%):63

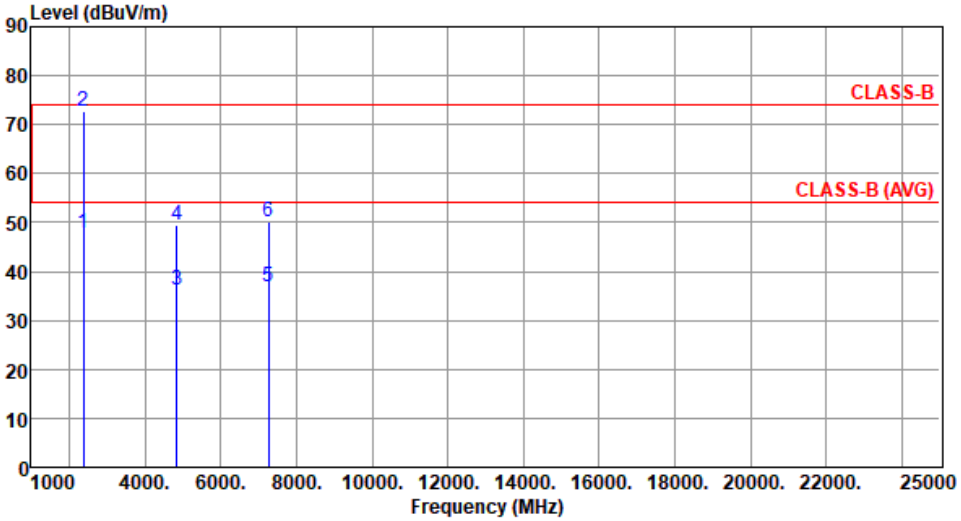


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	45.22	54.00	-8.78	48.59	-3.37	Average	157	4
2	2390.00	69.35	74.00	-4.65	72.72	-3.37	Peak	157	4
3	4844.00	36.54	54.00	-17.46	36.31	0.23	Average	100	27
4	4844.00	50.19	74.00	-23.81	49.96	0.23	Peak	100	27
5	7266.00	36.76	54.00	-17.24	31.06	5.70	Average	100	108
6	7266.00	49.85	74.00	-24.15	44.15	5.70	Peak	100	108

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(%):63

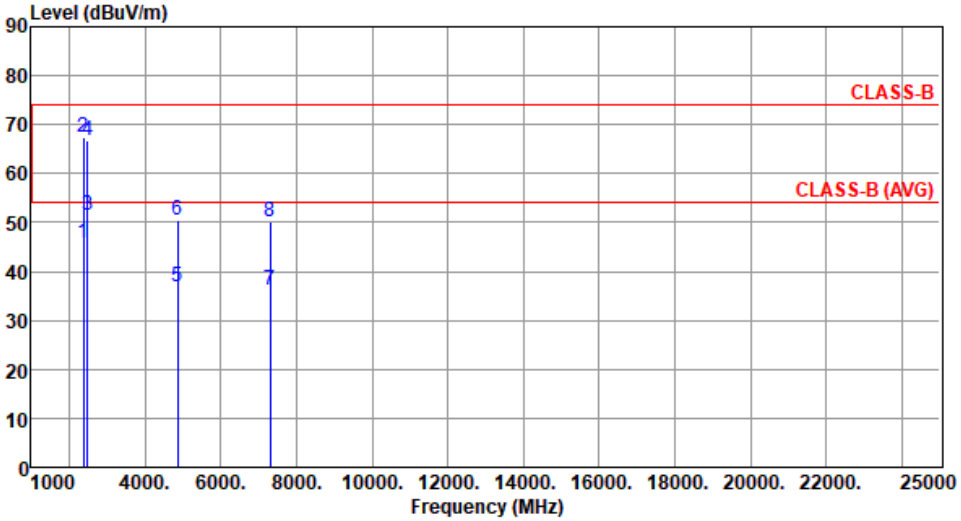


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	47.97	54.00	-6.03	51.34	-3.37	Average	170	356
2	2390.00	72.74	74.00	-1.26	76.11	-3.37	Peak	170	356
3	4844.00	36.18	54.00	-17.82	35.95	0.23	Average	100	49
4	4844.00	49.51	74.00	-24.49	49.28	0.23	Peak	100	49
5	7266.00	36.77	54.00	-17.23	31.07	5.70	Average	100	55
6	7266.00	50.12	74.00	-23.88	44.42	5.70	Peak	100	55

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(%):63

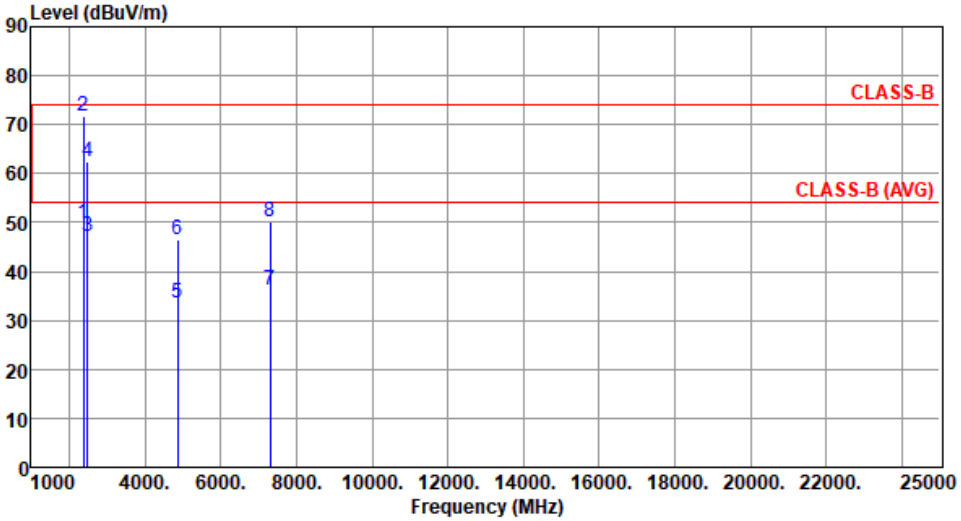


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	45.82	54.00	-8.18	49.19	-3.37	Average	135	2
2	2390.00	67.45	74.00	-6.55	70.82	-3.37	Peak	135	2
3	2483.50	51.36	54.00	-2.64	55.02	-3.66	Average	135	2
4	2483.50	66.89	74.00	-7.11	70.55	-3.66	Peak	135	2
5	4874.00	36.94	54.00	-17.06	36.79	0.15	Average	254	14
6	4874.00	50.53	74.00	-23.47	50.38	0.15	Peak	254	14
7	7311.00	36.17	54.00	-17.83	30.51	5.66	Average	100	34
8	7311.00	50.30	74.00	-23.70	44.64	5.66	Peak	100	34

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(%):63

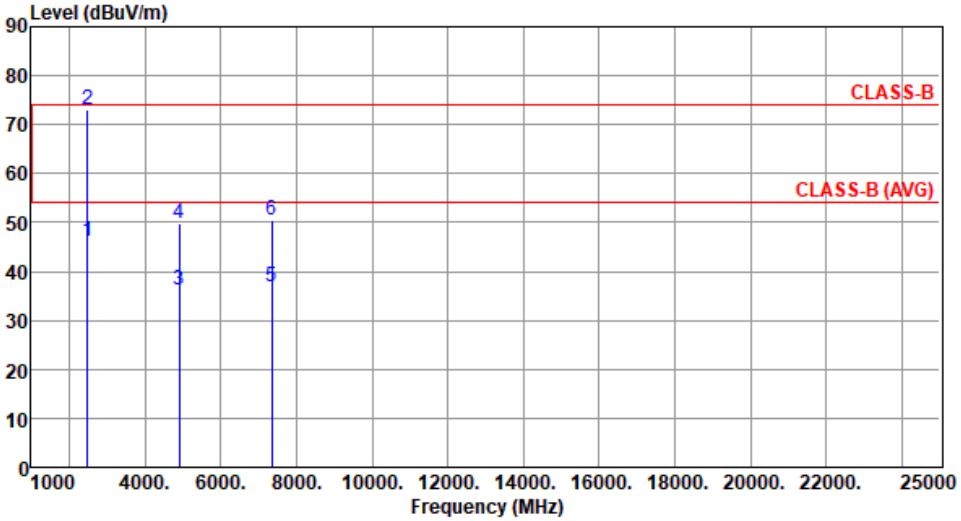


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	49.87	54.00	-4.13	53.24	-3.37	Average	100	305
2	2390.00	71.63	74.00	-2.37	75.00	-3.37	Peak	100	305
3	2483.50	47.02	54.00	-6.98	50.68	-3.66	Average	100	305
4	2483.50	62.27	74.00	-11.73	65.93	-3.66	Peak	100	305
5	4874.00	33.51	54.00	-20.49	33.36	0.15	Average	222	18
6	4874.00	46.34	74.00	-27.66	46.19	0.15	Peak	222	18
7	7311.00	36.14	54.00	-17.86	30.48	5.66	Average	100	58
8	7311.00	50.22	74.00	-23.78	44.56	5.66	Peak	100	58

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(%):63

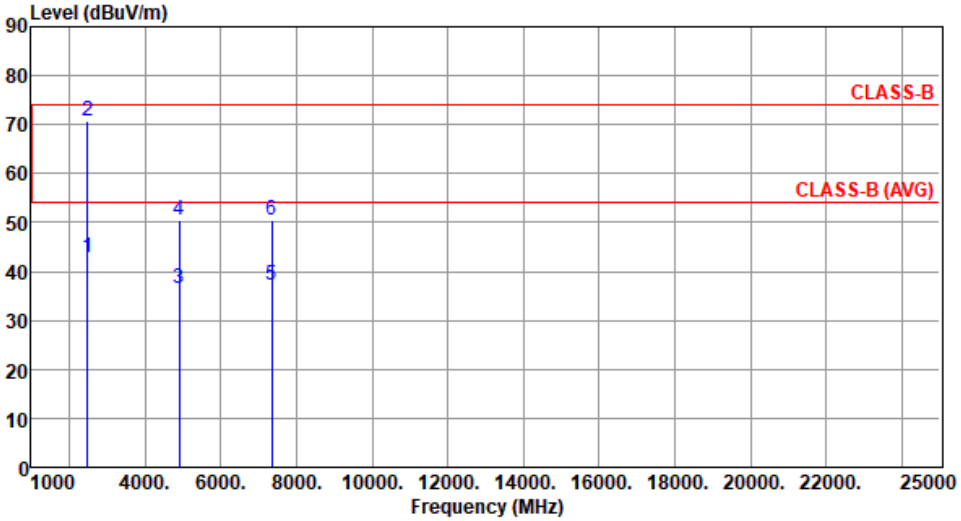


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	46.16	54.00	-7.84	49.82	-3.66	Average	125	1
2	2483.50	72.98	74.00	-1.02	76.64	-3.66	Peak	125	1
3	4904.00	36.21	54.00	-17.79	36.15	0.06	Average	100	43
4	4904.00	49.98	74.00	-24.02	49.92	0.06	Peak	100	43
5	7356.00	36.84	54.00	-17.16	31.28	5.56	Average	100	115
6	7356.00	50.45	74.00	-23.55	44.89	5.56	Peak	100	115

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(%):63

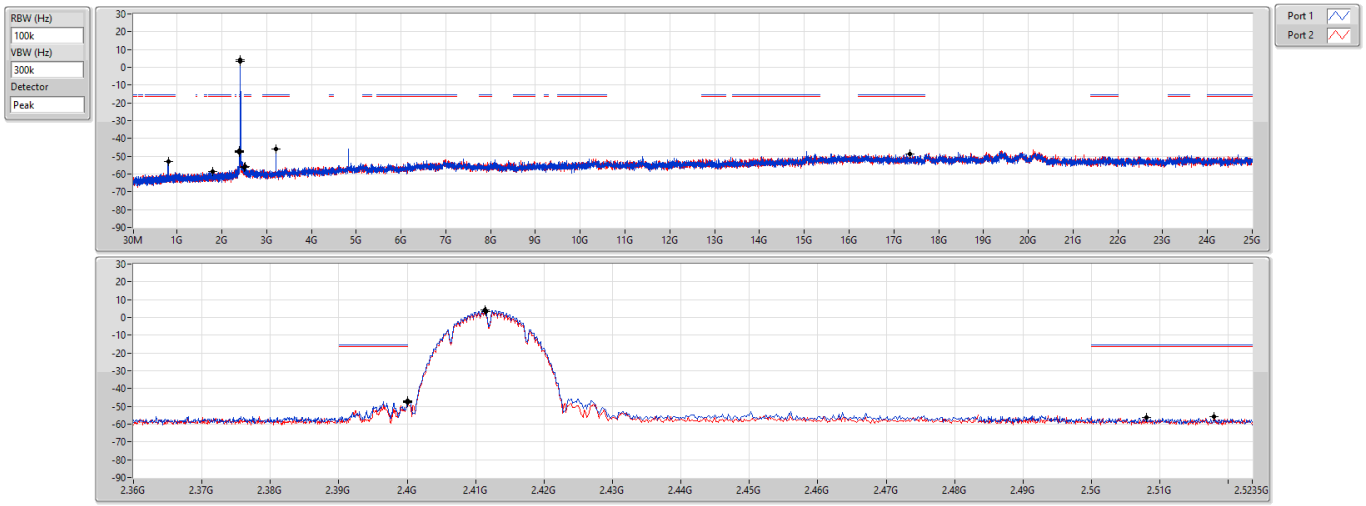


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2483.50	42.95	54.00	-11.05	46.61	-3.66	Average	100	302
2	2483.50	70.70	74.00	-3.30	74.36	-3.66	Peak	100	302
3	4904.00	36.64	54.00	-17.36	36.58	0.06	Average	100	15
4	4904.00	50.62	74.00	-23.38	50.56	0.06	Peak	100	15
5	7356.00	37.28	54.00	-16.72	31.72	5.56	Average	100	133
6	7356.00	50.43	74.00	-23.57	44.87	5.56	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).

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

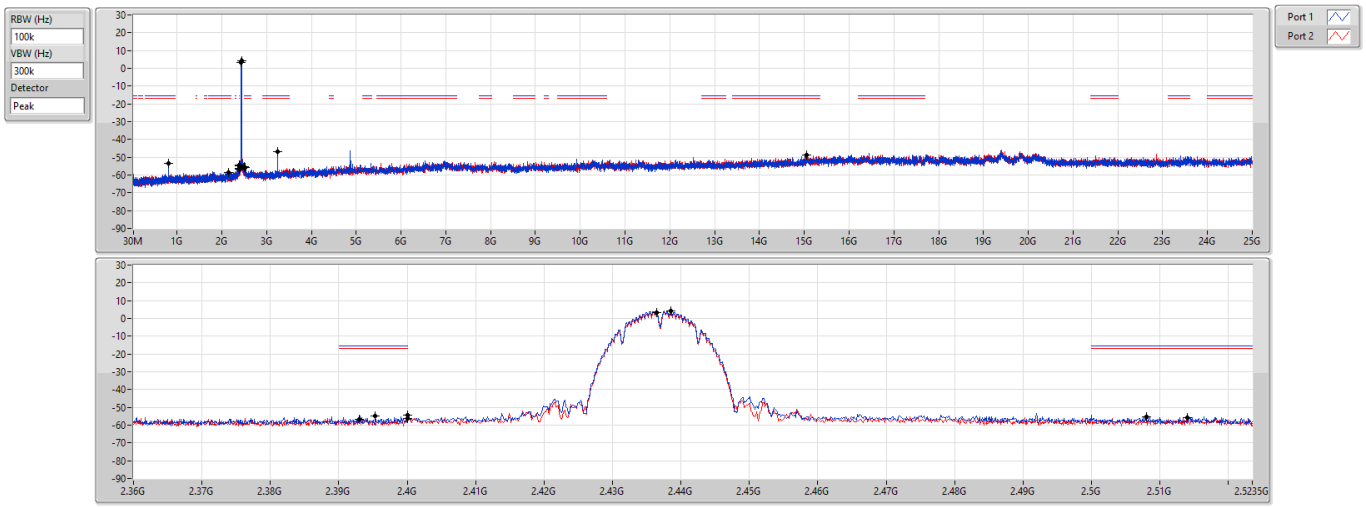
2412MHz



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
2.41136G	4.41	-15.59	802.4M	-52.93	2.4G	-46.80	2.4G	-47.76	2.50798G	-56.06	3.21465G	-45.76	1
2.41152G	3.39	-16.61	1.78915G	-58.58	2.4G	-47.28	2.4G	-47.96	2.5179G	-55.66	17.36642G	-48.67	2

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

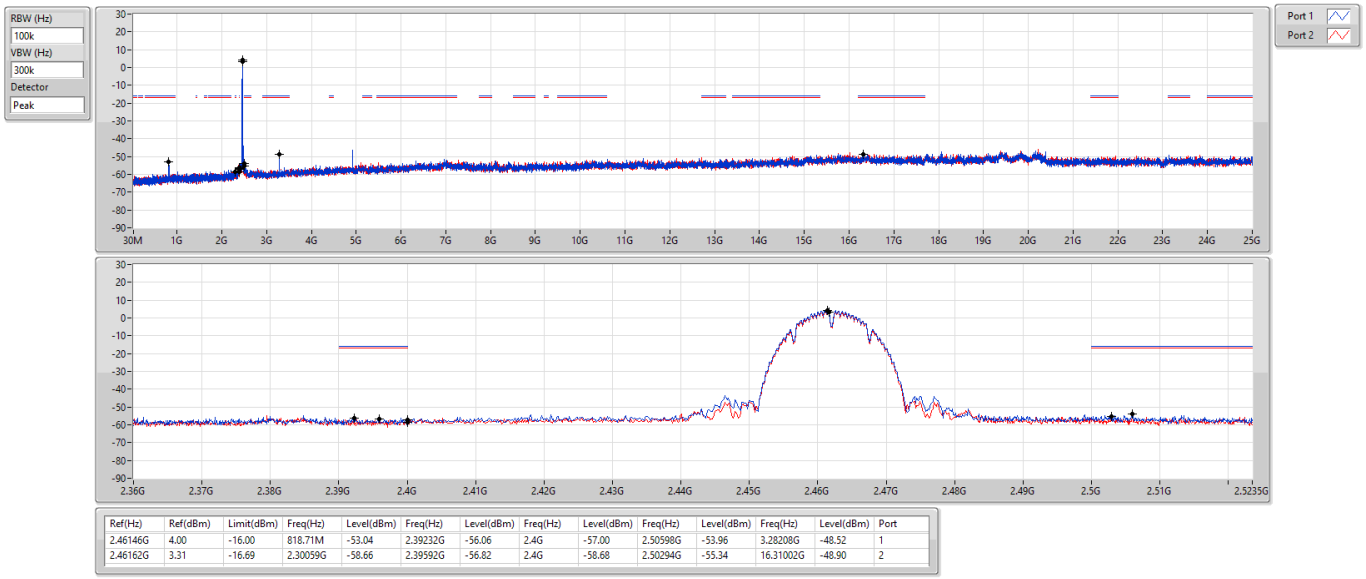
2437MHz



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
2.43858G	4.36	-15.64	810.55M	-53.54	2.39536G	-54.63	2.4G	-56.28	2.50798G	-55.44	3.24837G	-46.94	1
2.43641G	3.19	-16.81	2.15613G	-58.58	2.39304G	-56.49	2.4G	-54.55	2.51398G	-55.69	15.05415G	-48.92	2

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

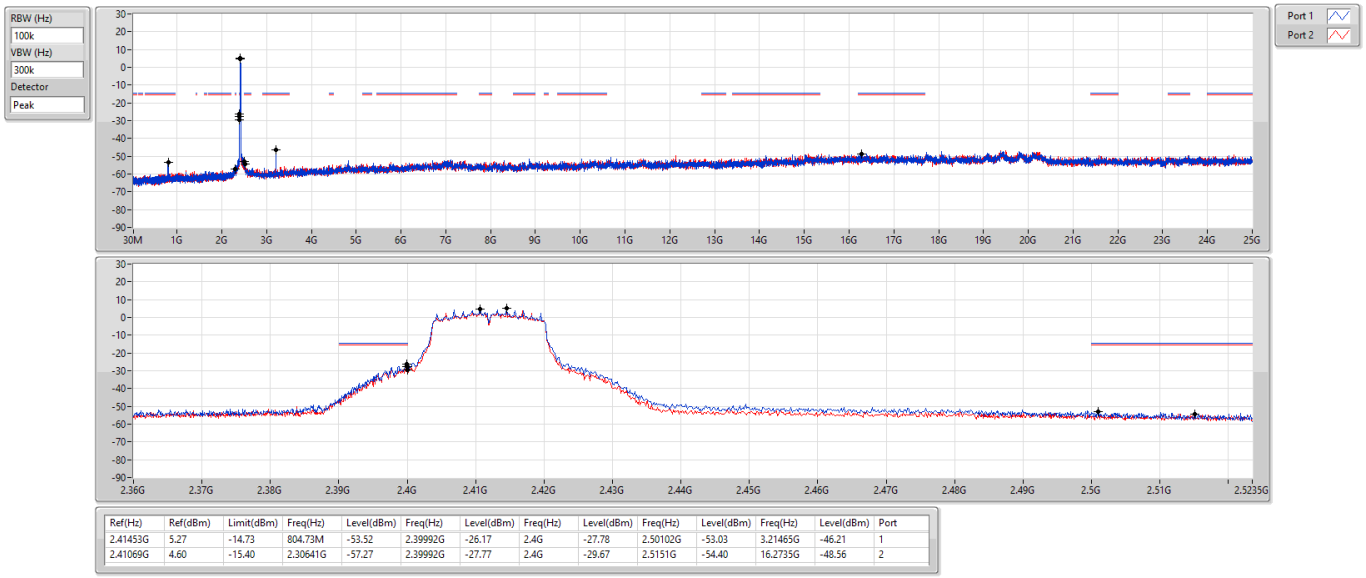
2462MHz



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
2.46146G	4.00	-16.00	818.71M	-53.04	2.39232G	-56.06	2.4G	-57.00	2.50598G	-53.96	3.28208G	-48.52	1
2.46162G	3.31	-16.69	2.30059G	-58.66	2.39592G	-56.82	2.4G	-58.68	2.50294G	-55.34	16.31002G	-48.90	2

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

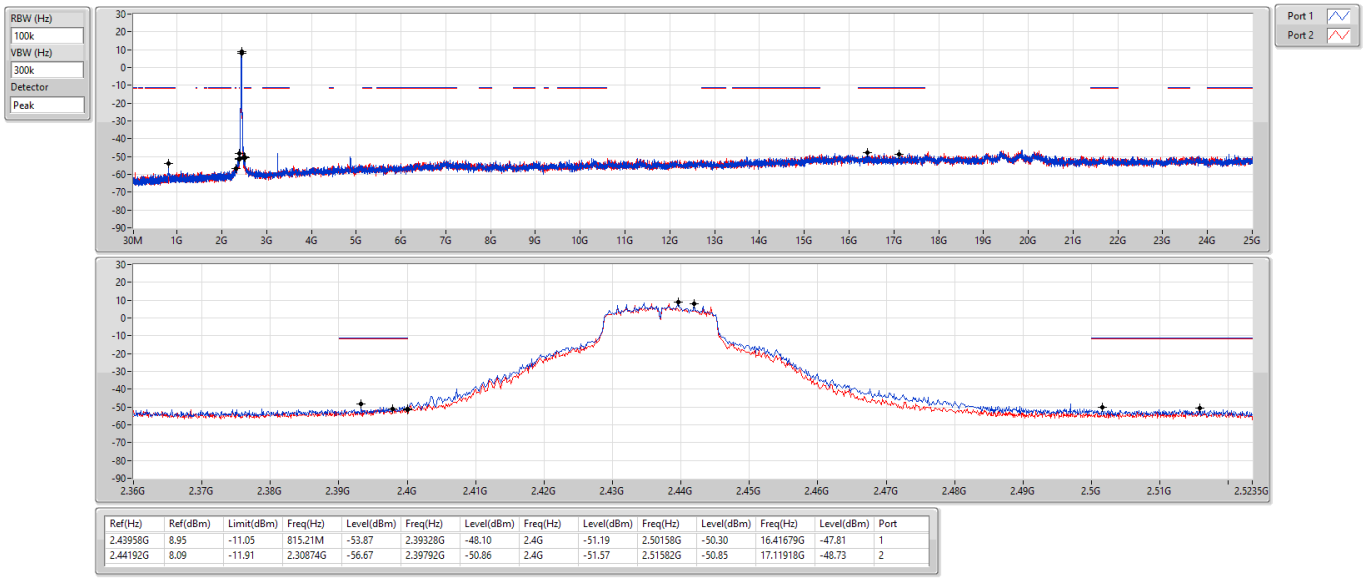
2412MHz



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
2.41453G	5.27	-14.73	804.73M	-53.52	2.39992G	-26.17	2.4G	-27.78	2.50102G	-53.03	3.21465G	-46.21	1
2.41069G	4.60	-15.40	2.30641G	-57.27	2.39992G	-27.77	2.4G	-29.67	2.5151G	-54.40	16.2735G	-48.56	2

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

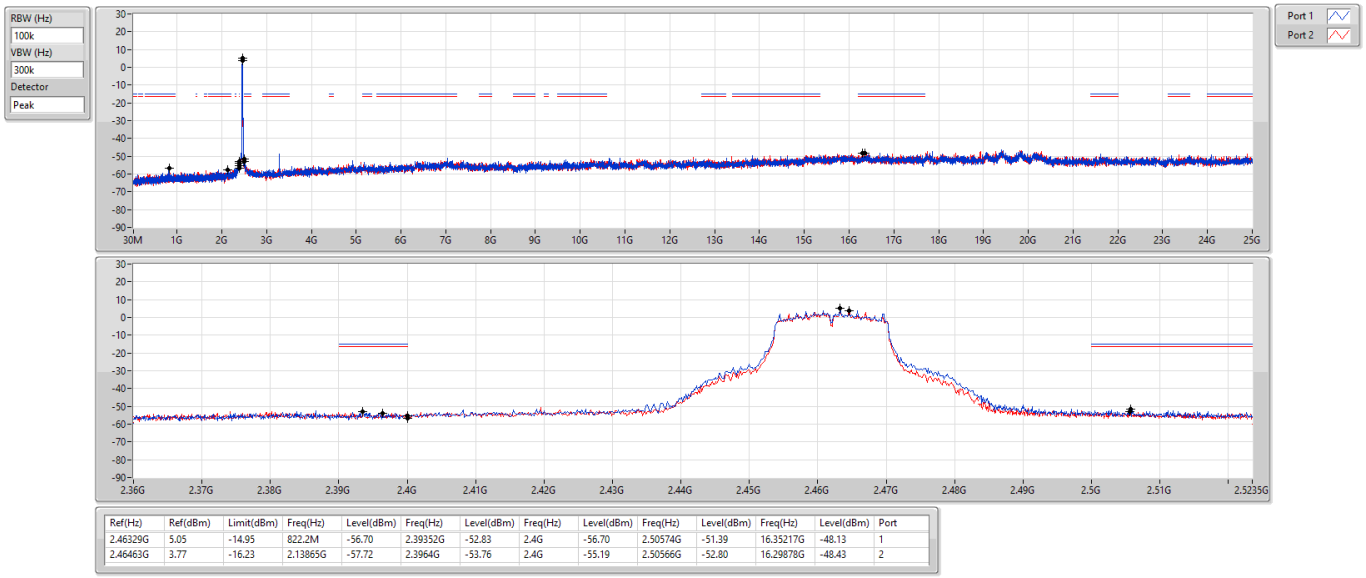
2437MHz



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
2.43958G	8.95	-11.05	815.21M	-53.87	2.39328G	-48.10	2.4G	-51.19	2.50158G	-50.30	16.41679G	-47.81	1
2.44192G	8.09	-11.91	2.30874G	-56.67	2.39792G	-50.86	2.4G	-51.57	2.51582G	-50.85	17.11918G	-48.73	2

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

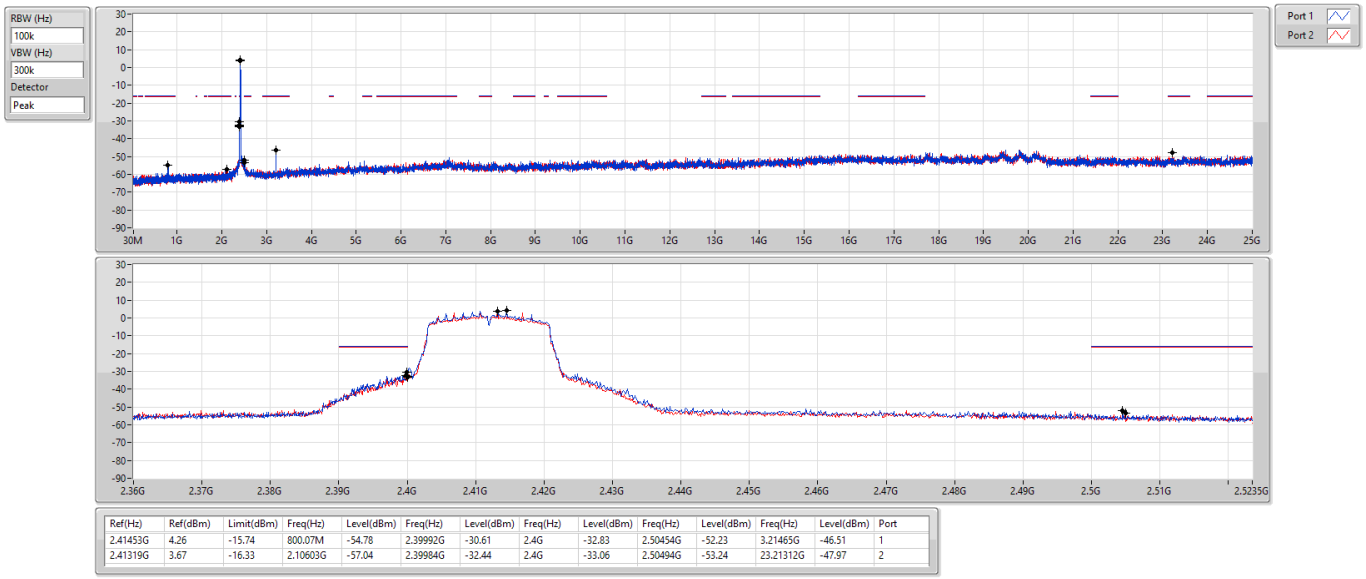
2462MHz



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
2.46329G	5.05	-14.95	822.2M	-56.70	2.39352G	-52.83	2.4G	-56.70	2.50574G	-51.39	16.35217G	-48.13	1
2.46463G	3.77	-16.23	2.13865G	-57.72	2.3964G	-53.76	2.4G	-55.19	2.50566G	-52.80	16.29878G	-48.43	2

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

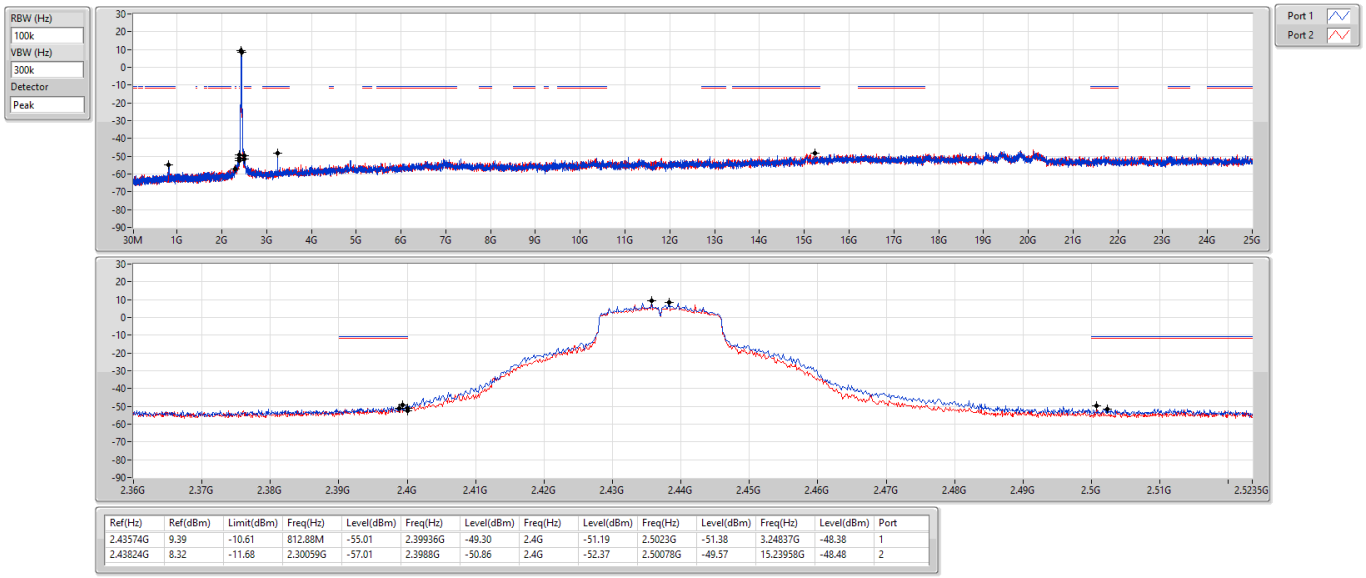
2412MHz



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
2.41453G	4.26	-15.74	800.07M	-54.78	2.39992G	-30.61	2.4G	-32.83	2.50454G	-52.23	3.21465G	-46.51	1
2.41319G	3.67	-16.33	2.10603G	-57.04	2.39984G	-32.44	2.4G	-33.06	2.50494G	-53.24	23.21312G	-47.97	2

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

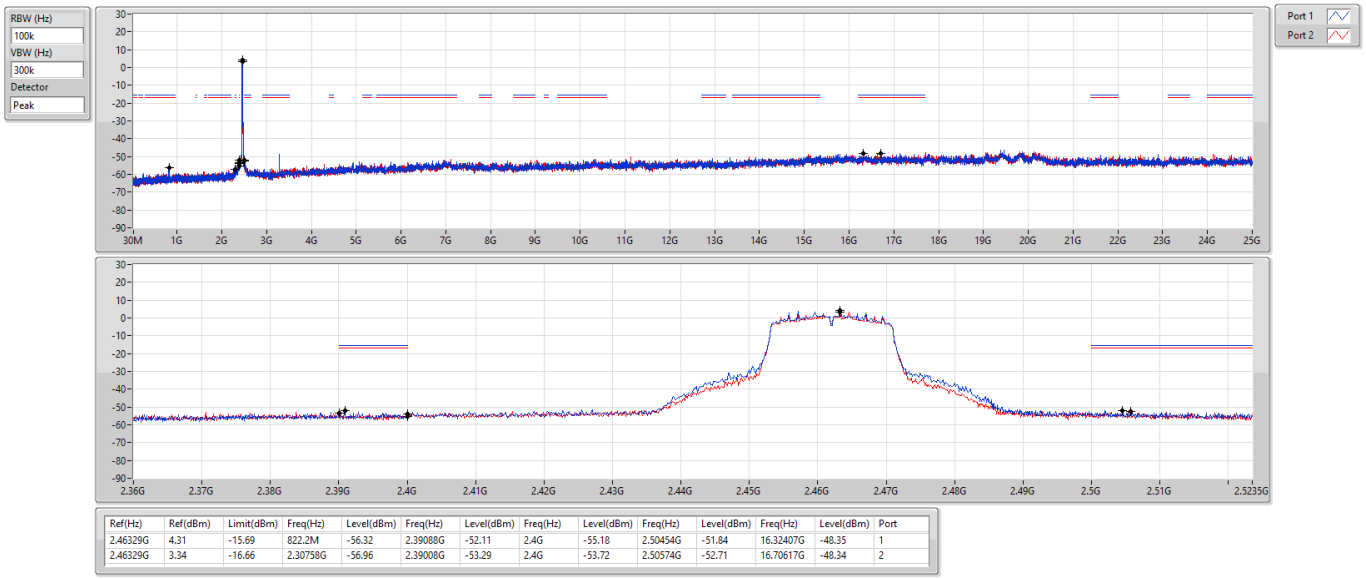
2437MHz



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
2.43574G	9.39	-10.61	812.88M	-55.01	2.39936G	-49.30	2.4G	-51.19	2.5023G	-51.38	3.24837G	-48.38	1
2.43824G	8.32	-11.68	2.30059G	-57.01	2.3988G	-50.86	2.4G	-52.37	2.50078G	-49.57	15.23958G	-48.48	2

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

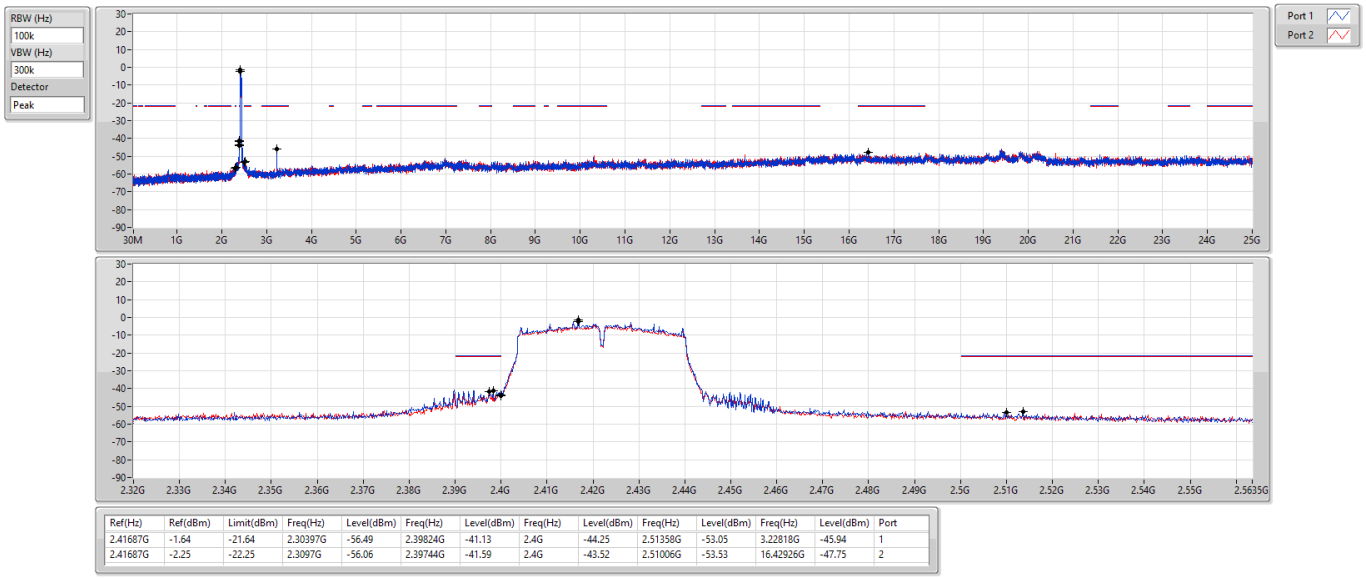
2462MHz



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
2.46329G	4.31	-15.69	822.2M	-56.32	2.39088G	-52.11	2.4G	-55.18	2.50454G	-51.84	16.32407G	-48.35	1
2.46329G	3.34	-16.66	2.30758G	-56.96	2.39008G	-53.29	2.4G	-53.72	2.50574G	-52.71	16.70617G	-48.34	2

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

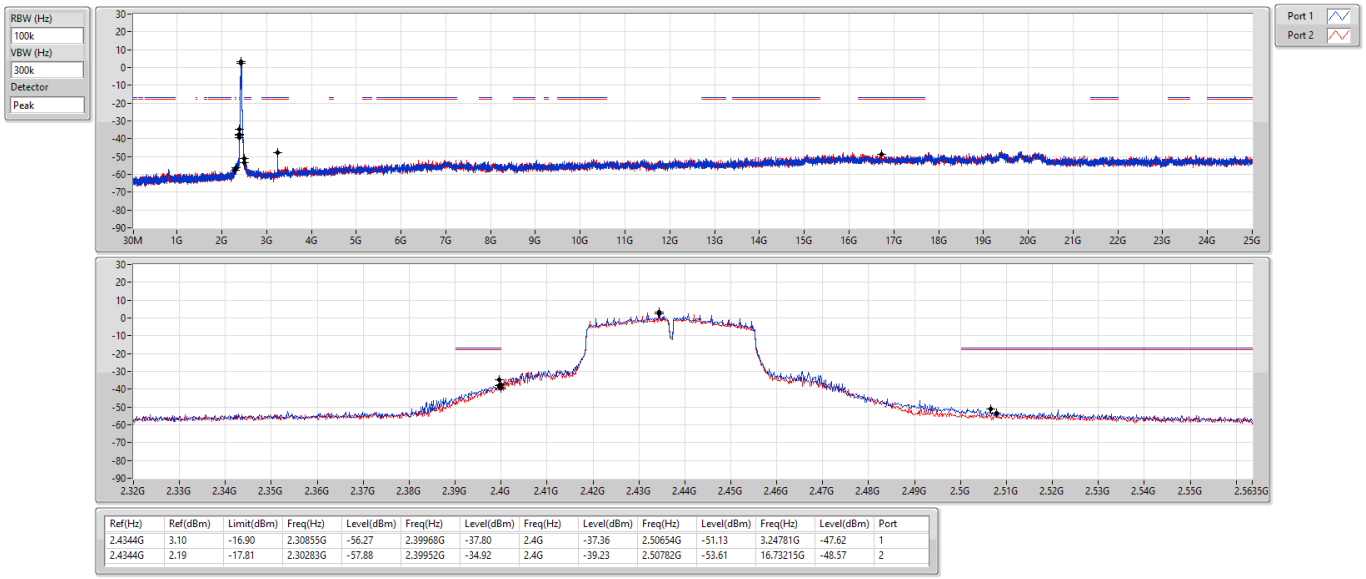
2422MHz



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
2.41687G	-1.64	-21.64	2.30397G	-56.49	2.39824G	-41.13	2.4G	-44.25	2.51358G	-53.05	3.22818G	-45.94	1
2.41687G	-2.25	-22.25	2.3097G	-56.06	2.39744G	-41.59	2.4G	-43.52	2.51006G	-53.53	16.42926G	-47.75	2

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

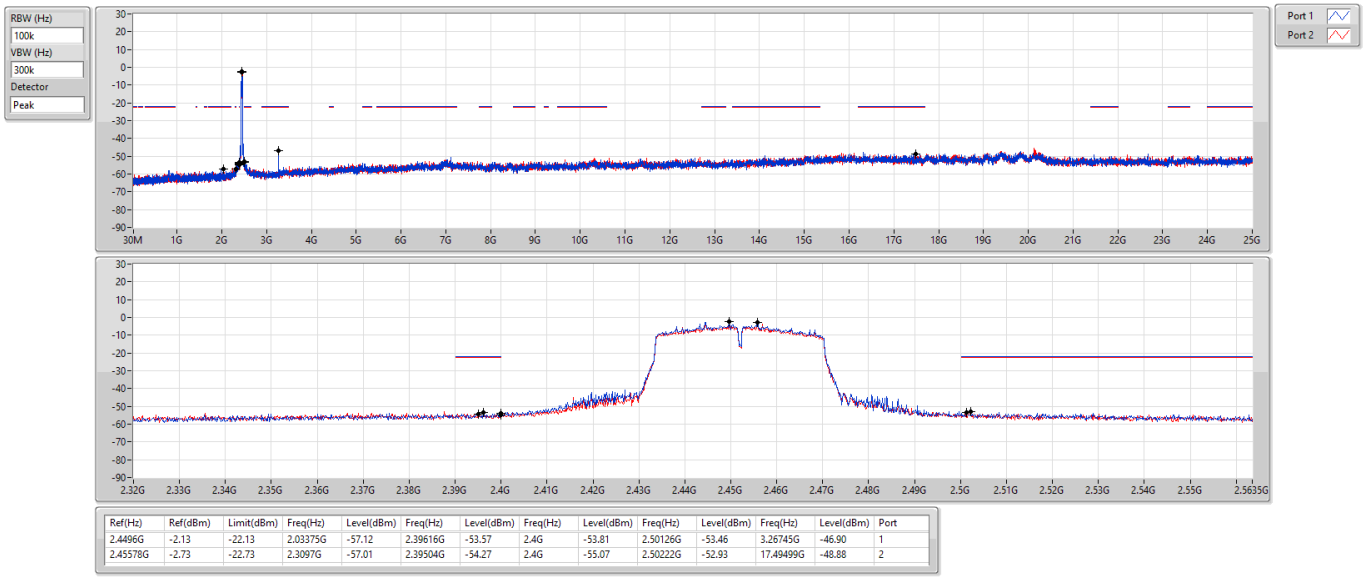
2437MHz



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
2.4344G	3.10	-16.90	2.30855G	-56.27	2.39968G	-37.80	2.4G	-37.36	2.50654G	-51.13	3.24781G	-47.62	1
2.4344G	2.19	-17.81	2.30283G	-57.88	2.39952G	-34.92	2.4G	-39.23	2.50782G	-53.61	16.73215G	-48.57	2

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

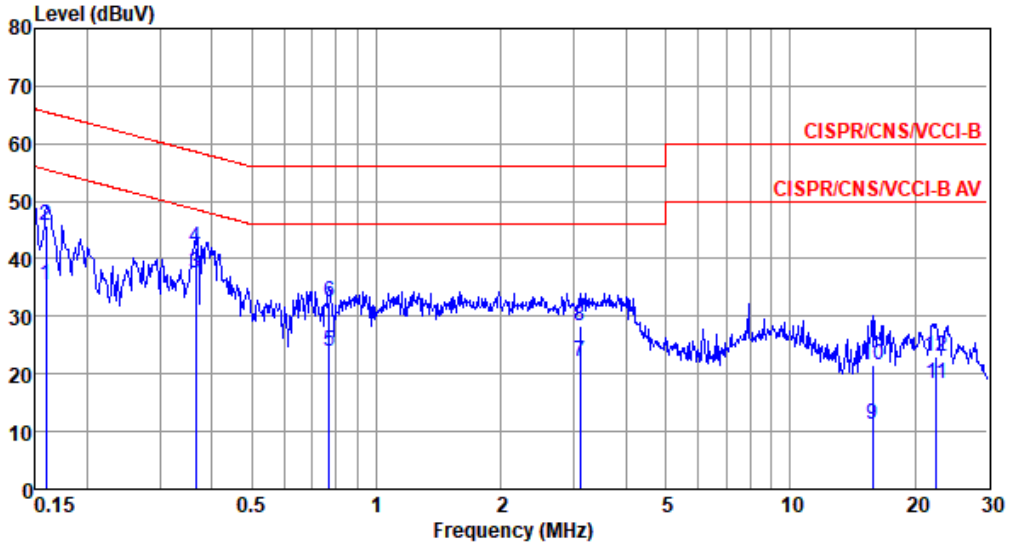
2452MHz



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
2.4496G	-2.13	-22.13	2.03375G	-57.12	2.39616G	-53.57	2.4G	-53.81	2.50126G	-53.46	3.26745G	-46.90	1
2.45578G	-2.73	-22.73	2.3097G	-57.01	2.39504G	-54.27	2.4G	-55.07	2.50222G	-52.93	17.49499G	-48.88	2

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

Test by : Joe Liao Temperature: 23°C Humidity: 63%

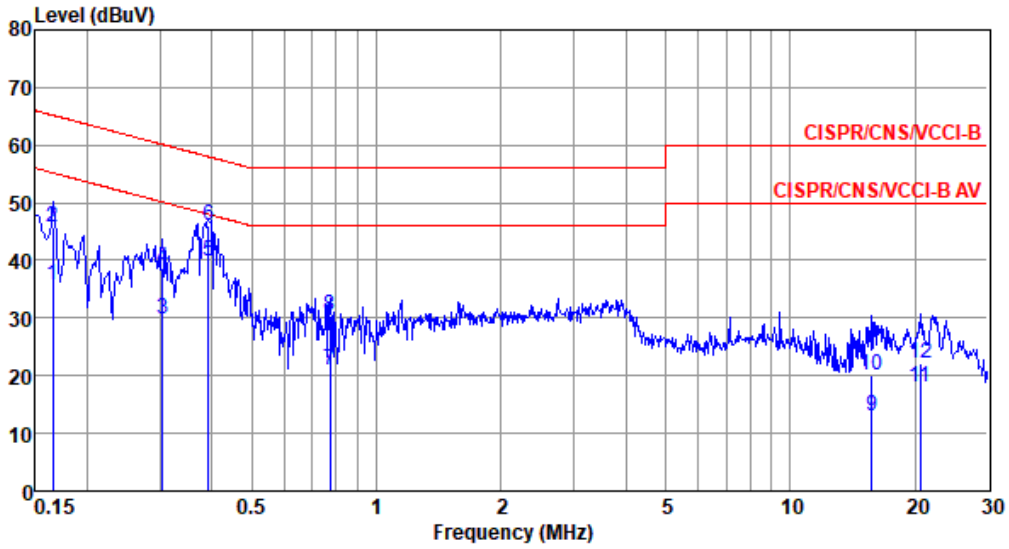


	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.159	35.54	55.52	-19.98	25.62	9.63	0.08	0.21	Average
2	0.159	45.64	65.52	-19.88	35.72	9.63	0.08	0.21	QP
3*	0.365	37.38	48.61	-11.23	27.36	9.62	0.08	0.32	Average
4	0.365	41.88	58.61	-16.73	31.86	9.62	0.08	0.32	QP
5	0.767	23.93	46.00	-22.07	13.86	9.63	0.09	0.35	Average
6	0.767	32.37	56.00	-23.63	22.30	9.63	0.09	0.35	QP
7	3.107	22.20	46.00	-23.80	12.01	9.64	0.15	0.40	Average
8	3.107	28.29	56.00	-27.71	18.10	9.64	0.15	0.40	QP
9	15.801	11.28	50.00	-38.72	0.64	9.68	0.45	0.51	Average
10	15.801	21.58	60.00	-38.42	10.94	9.68	0.45	0.51	QP
11	22.535	18.18	50.00	-31.82	7.34	9.66	0.53	0.65	Average
12	22.535	22.99	60.00	-37.01	12.15	9.66	0.53	0.65	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 : Joe Liao Temperature: 23°C Humidity: 63%



	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.165	35.73	55.21	-19.48	25.89	9.63	0.07	0.14	Average
2	0.165	45.69	65.21	-19.52	35.85	9.63	0.07	0.14	QP
3	0.303	29.79	50.15	-20.36	19.88	9.62	0.07	0.22	Average
4	0.303	38.54	60.15	-21.61	28.63	9.62	0.07	0.22	QP
5*	0.393	39.90	47.99	-8.09	29.95	9.62	0.08	0.25	Average
6	0.393	45.95	57.99	-12.04	36.00	9.62	0.08	0.25	QP
7	0.771	20.82	46.00	-25.18	10.81	9.63	0.09	0.29	Average
8	0.771	30.51	56.00	-25.49	20.50	9.63	0.09	0.29	QP
9	15.709	12.90	50.00	-37.10	2.18	9.77	0.45	0.50	Average
10	15.709	19.94	60.00	-40.06	9.22	9.77	0.45	0.50	QP
11	20.594	18.15	50.00	-31.85	7.25	9.80	0.51	0.59	Average
12	20.594	22.28	60.00	-37.72	11.38	9.80	0.51	0.59	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).