

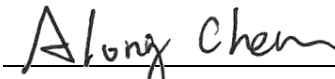
FCC Test Report

FCC ID : 2AU6R04157
Equipment : 802.11be (WiFi 7) Dual-Radio Unified Pro
Access Point
(Please refer to section 1.1.1 for more details)
Model No. : WBE630S
(Please refer to section 1.1.1 for more details)
Brand Name : ZYXEL
Applicant : Zyxel Networks Corporation
Address : No.2 Industry East RD. IX, Hsinchu Science
Park, Hsinchu 30075, Taiwan, R.O.C
Standard : 47 CFR FCC Part 15.247
Received Date : Jul. 02, 2024
Tested Date : Aug. 13 ~ Oct. 23, 2024

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

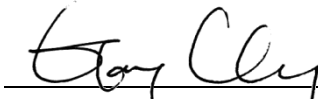

Gary Chang / Manager

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Release Record

Report No.	Version	Description	Issued Date
FR470201AC	Rev. 01	Initial issue	Dec. 09, 2024

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power line Conducted Emission	[dBuV]: 10.847MHz 42.50 (Margin - 7.50dB) - AV	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 2483.50MHz 53.83 (Margin -0.17dB) - AV	Pass
15.247(b)(3)	Conducted Output Power	<i>Non-beamforming mode</i> Max Power [dBm]: 26.89 <i>Beamforming mode</i> Max Power [dBm]: 23.53	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 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
ZYXEL	WBE630S	802.11be (WiFi 7) Dual-Radio Unified Pro Access Point	RJ45 have 2 port, for marketing purpose
ZYXEL	NWA210BE	802.11be (WiFi 7) Dual-Radio PoE Access Point	
ZYXEL	WBE510D	802.11be (WiFi 7) Dual-Radio Unified Access Point	RJ45 has 1 port, for marketing purpose
ZYXEL	NWA110BE	802.11be (WiFi 7) Dual-Radio PoE Access Point	
✦ The above models, model WBE630S was selected as a representative one for the final test and only its data was recorded in this report.			

1.1.2 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
2400-2483.5	ax (HE20)	2412-2462	1-11 [11]	2	MCS 0-11
2400-2483.5	ax (HE40)	2422-2452	3-9 [7]	2	MCS 0-11
2400-2483.5	be (EHT20)	2412-2462	1-11 [11]	2	MCS 0-13
2400-2483.5	be (EHT40)	2422-2452	3-9 [7]	2	MCS 0-13
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power. Note 2: DSSS-DBPSK, DQPSK, CCK modulation OFDM/OFDMA- BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM and 4096QAM modulation.					

1.1.3 Antenna Details

Ant. No.	Brand	Model	Type	Connector	Gain (dBi)
2G-1-1	Aristotle	RFA-12731-R2	PIFA	I-PEX	1.49
2G-1-2					0.06

1.1.4 Configuration of Equipment under Test (EUT)

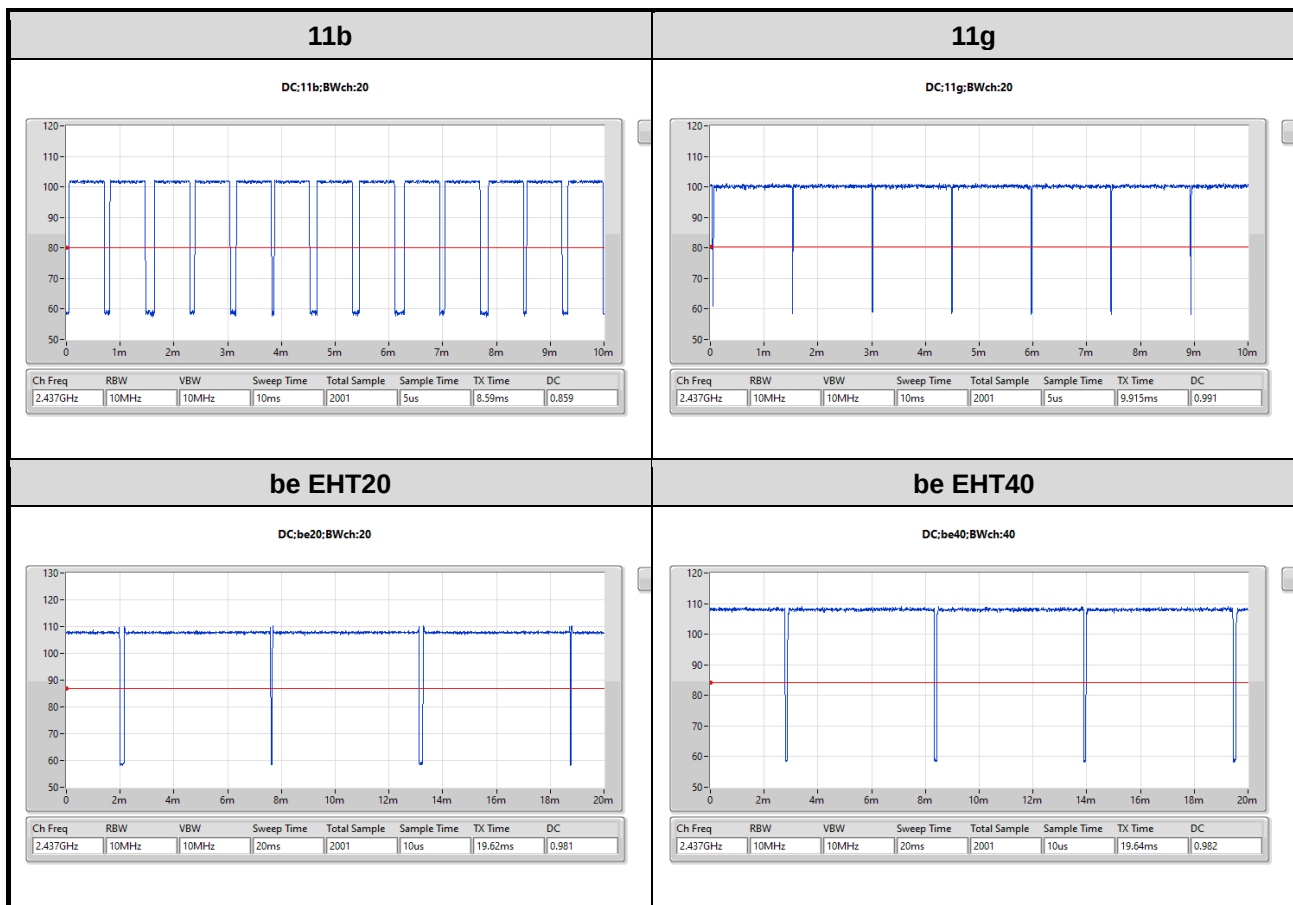
Power Supply Type	15Vdc from adapter 56Vdc from PoE		
Beamforming	☒ Support	☐ Not support	
RU Configuration	☒ Full RU	☐ Partial RU	

1.1.5 Channel List

Frequency band (MHz)		2400~2483.5	
802.11 b / g / n HT20 / ax HE20 / be EHT20		802.11n HT40 / ax HE40 / be EHT40	
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	QRCT, V4.1		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11b	85.90%	0.66
	11g	99.15%	0.04
	be EHT20	98.10%	0.08
	be EHT40	98.20%	0.08



1.1.7 Power Index of Test Tool

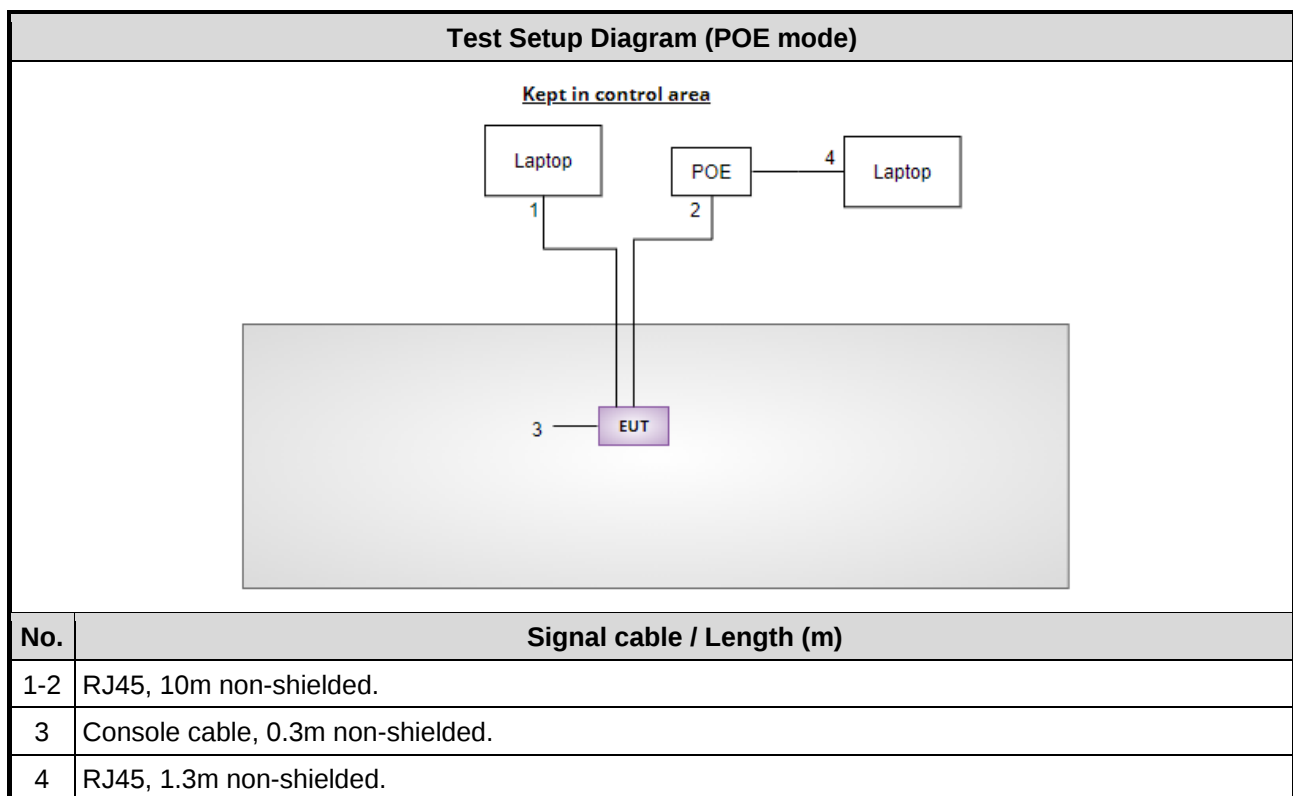
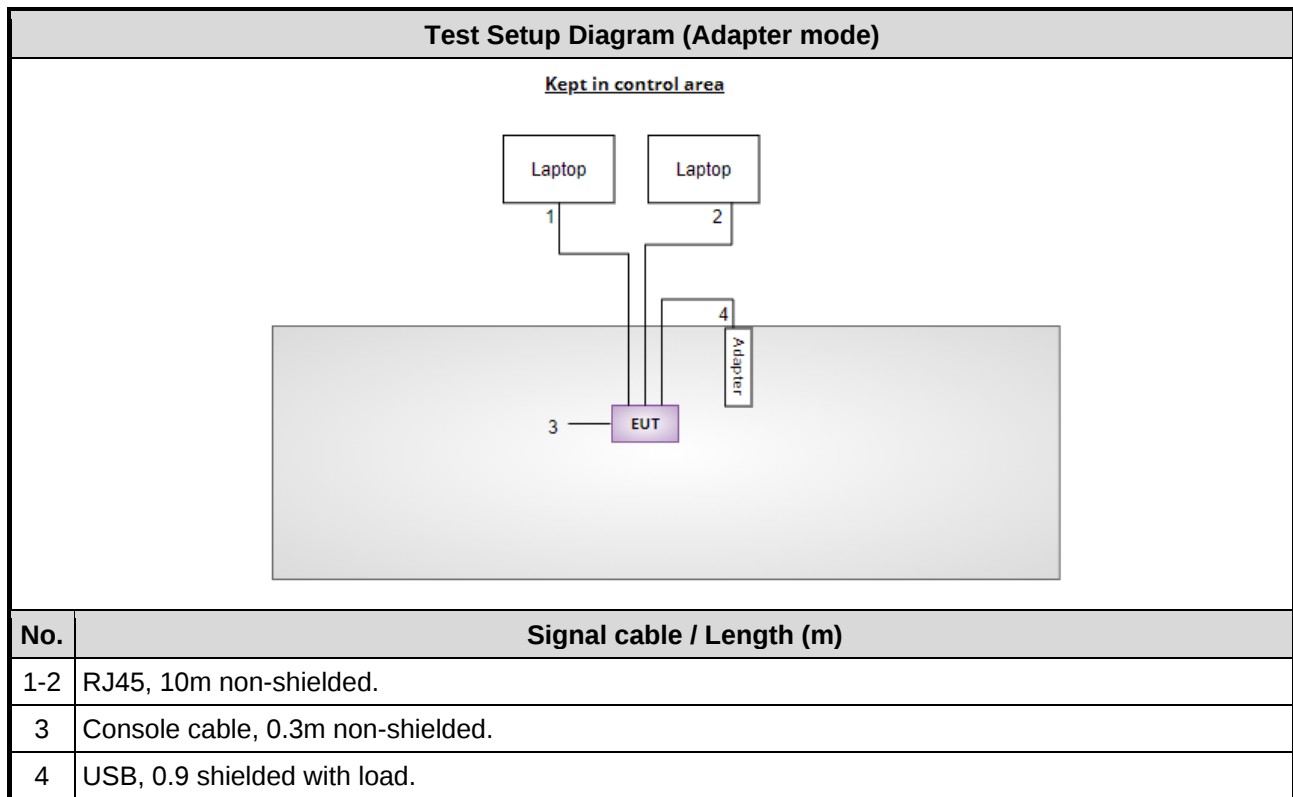
Modulation Mode	Test Frequency (MHz)	Power Index
11b	2412	24
11b	2437	24
11b	2462	24
11g	2412	22.5
11g	2437	24
11g	2462	22
be EHT20	2412	21
be EHT20	2437	24
be EHT20	2462	21
be EHT40	2422	20
be EHT40	2437	21
be EHT40	2452	20

1.2 Local Support Equipment List

Support Equipment List (Adapter mode)					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	RJ45	ICC	RJ45-10m	---	---
2	RJ45	ICC	RJ45-10m	---	---
3	Console cable	Zyxel	console-01	---	Provided by applicant.
4	Laptop	DELL	Vostro 5410	DoC	---
5	Laptop	DELL	Latitude 5400	DoC	---
6	adapter+USB Cable	DEEVAN	DSA-45PDH	---	Provided by applicant.

Support Equipment List (POE mode)					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	RJ45	ICC	RJ45-10m	---	---
2	RJ45	ICC	RJ45-10m	---	---
3	RJ45	ICC	RJ45-1.3m	---	---
4	Console cable	Zyxel	console-01	---	Provided by applicant.
5	Laptop	DELL	Vostro 5410	DoC	---
6	Laptop	DELL	Latitude 5400	DoC	---
7	POE	Zyxel	POE12-60W	---	Provided by applicant.

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Oct. 23, 2024				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101658	Feb. 23, 2024	Feb. 22, 2025
LISN	R&S	ENV216	101579	May 09, 2024	May 08, 2025
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 09, 2024	Oct. 08, 2025
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127667	Jan. 10, 2024	Jan. 09, 2025
50 ohm terminal (Support Unit)	NA	50	01	Jun. 19, 2024	Jun. 18, 2025
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission Below 1GHz				
Test Site	966 chamber3 / (03CH03-WS)				
Tested Date	Oct. 22, 2024				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 05, 2024	Mar. 04, 2025
Loop Antenna	R&S	HFH2-Z2	100330	Oct. 31, 2023	Oct. 30, 2024
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Jul. 02, 2024	Jul. 01, 2025
Preamplifier	EMC	EMC02325	980187	Jun. 27, 2024	Jun. 26, 2025
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 02, 2024	Oct. 01, 2025
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Sep. 20, 2024	Sep. 19, 2025
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Sep. 20, 2024	Sep. 19, 2025
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Sep. 20, 2024	Sep. 19, 2025
Measurement Software	Sporton	SENSE-EMI	V5.11	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission above 1GHz				
Test Site	966 chamber3 / (03CH03-WS)				
Tested Date	Aug. 13 ~ Aug. 20, 2024				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101499	Apr. 02, 2024	Apr. 01, 2025
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Dec. 14, 2023	Dec. 13, 2024
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170508	Dec. 28, 2023	Dec. 27, 2024
Preamplifier	EMC	EMC118A45SE	980897	Aug. 05, 2024	Aug. 04, 2025
Preamplifier	EMC	EMC184045SE	980903	Jul. 30, 2024	Jul. 29, 2025
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
Attenuator	Pasternack	PE7005-10	10-3	Sep. 27, 2023	Sep. 26, 2024
HIGHPASS FILTER	WI	WHK3.1-18G-10SS	43	Sep. 27, 2023	Sep. 26, 2024
Measurement Software	Sporton	SENSE-15247_DTS	V5.11	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Aug. 28 ~ Sep. 11, 2024				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101910	Apr. 18, 2024	Apr. 17, 2025
Power Meter	Anritsu	ML2495A	1241002	Nov. 21, 2023	Nov. 20, 2024
Power Sensor	Anritsu	MA2411B	1207366	Nov. 21, 2023	Nov. 20, 2024
Attenuator	Pasternack	PE7005-10	10-2	Oct. 05, 2023	Oct. 04, 2024
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 ≤ 1 GHz	± 3.96 dB
Unwanted Emission > 1 GHz	± 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
Non-beamforming mode				
AC Power line Conducted Emission	11b	2462	1 Mbps	1, 2
Radiated Emissions ≤1GHz	11b	2462	1 Mbps	1, 2
Radiated Emissions >1GHz	11b	2412 / 2437 / 2462	1 Mbps	1
Conducted Output Power	11g	2412 / 2437 / 2462	6 Mbps	
6dB bandwidth	be EHT20	2412 / 2437 / 2462	MCS 0	
Power spectral density	be EHT40	2422 / 2437 / 2452	MCS 0	
Beamforming mode				
Conducted Output Power	be EHT20 be EHT40	2412 / 2437 / 2462 2422 / 2437 / 2452	MCS 0 MCS 0	1
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. Test Configurations are listed as below:				
1) Test Configuration 1: PoE mode				
2) Test Configuration 2: Adapter mode				

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

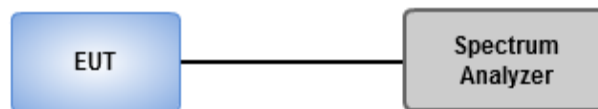
6dB Bandwidth

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	25-26°C / 65-66%	Tested By	Aska Huang
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Refer to Appendix A.

3.2 Conducted Output Power

3.2.1 Limit of Conducted Output Power

Conducted power shall not exceed 1Watt.

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

Antenna gain $> 6\text{dBi}$

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.

Systems operating in the 5725–5850 MHz band that are used exclusively for fixed, point-to-point operations ,no any corresponding reduction is in transmitter peak output power

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	25-26°C / 65-66%	Tested By	Aska Huang
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Refer to Appendix B.

3.3 Power Spectral Density

3.3.1 Limit of Power Spectral Density

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

3.3.2 Test Procedures

Peak PSD

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

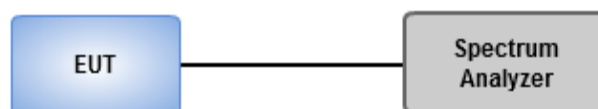
Average PSD, duty cycle $\geq 98\%$

1. Set the RBW = 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. Detector = RMS.
2. Set the sweep time to: ≥ 10 (number of measurement points in sweep) $\times$ (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	25-26°C / 65-66%	Tested By	Aska Huang
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Refer to Appendix C.

3.4 Unwanted Emissions into Restricted Frequency Bands

3.4.1 Limit of Unwanted Emissions into Restricted Frequency Bands

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

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

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

3.4.2 Test Procedures

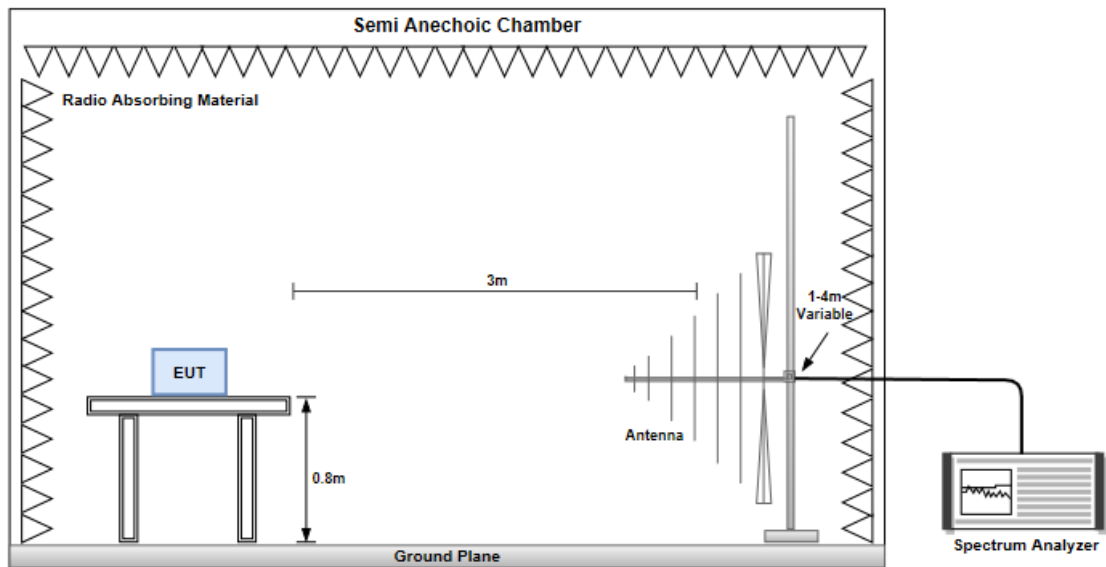
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

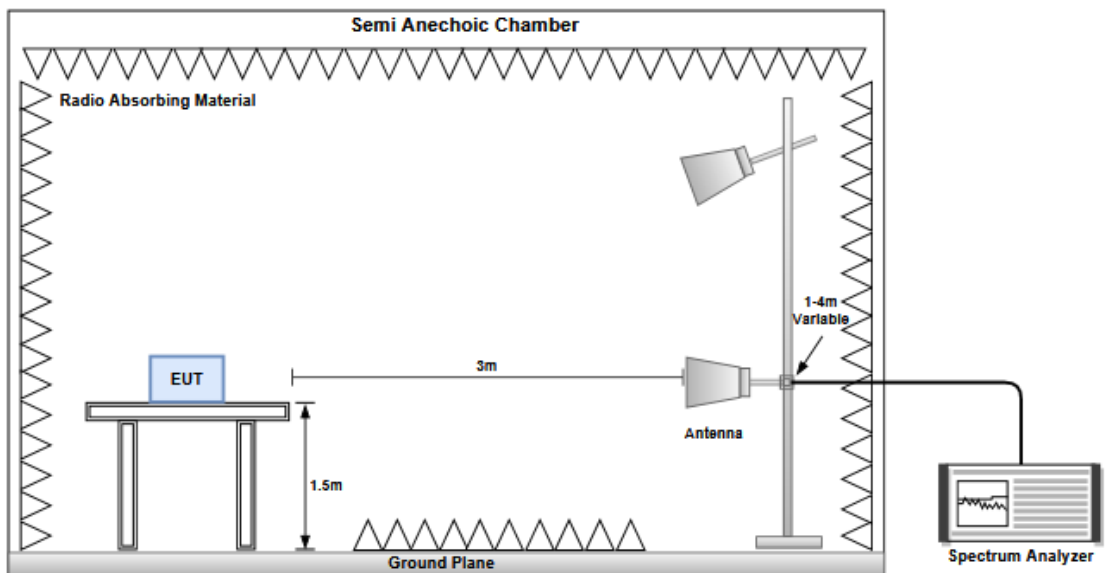
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.4.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.4.4 Test Results

Refer to Appendix C.

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 30 dB relative to the maximum in-band peak PSD level in 100 kHz.

3.5.2 Test Procedures

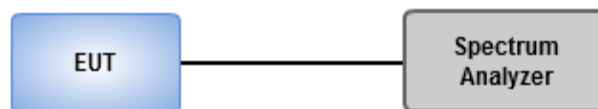
Reference level measurement

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	25-26°C / 65-66%	Tested By	Aska Huang
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Refer to Appendix E.

3.6 AC Power line Conducted Emissions

3.6.1 Limit of AC Power line Conducted Emissions

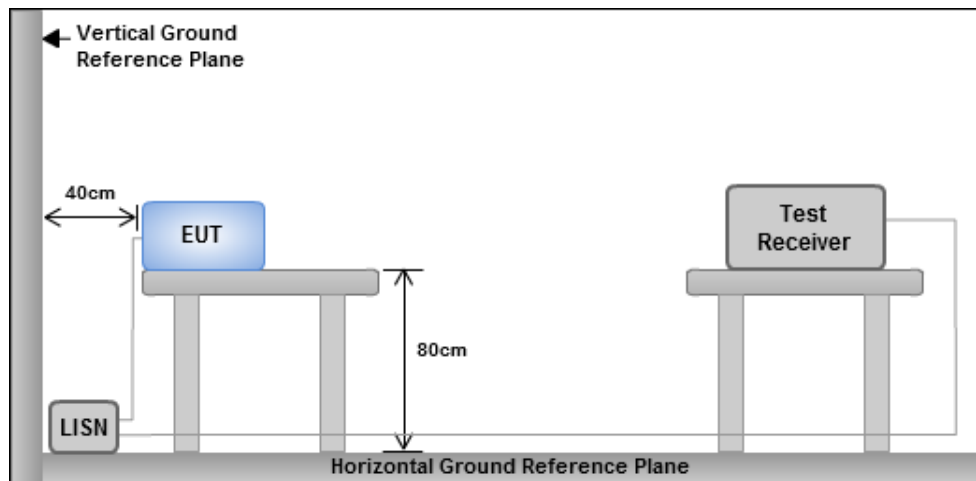
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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	8.05M	13.088M	13M1G1D	7.075M	12.984M
802.11g_Nss1,(6Mbps)_2TX	16.5M	16.712M	16M7D1D	16.375M	16.514M
802.11be EHT20_Nss1,(MCS0)_2TX	16.275M	18.916M	18M9D1D	12.525M	18.866M
802.11be EHT40_Nss1,(MCS0)_2TX	36.15M	37.831M	37M8D1D	31.3M	37.731M

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	8.05M	13.073M	7.075M	13.073M
2437MHz	Pass	500k	8.05M	13.088M	8.05M	13.013M
2462MHz	Pass	500k	7.075M	13.058M	8.05M	12.984M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.4M	16.536M	16.425M	16.558M
2437MHz	Pass	500k	16.5M	16.646M	16.4M	16.712M
2462MHz	Pass	500k	16.4M	16.536M	16.375M	16.514M
802.11be EHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.275M	18.866M	15.95M	18.916M
2437MHz	Pass	500k	12.525M	18.891M	14.975M	18.866M
2462MHz	Pass	500k	15M	18.916M	13.7M	18.866M
802.11be EHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	33.65M	37.731M	35.55M	37.781M
2437MHz	Pass	500k	36.15M	37.781M	31.3M	37.781M
2452MHz	Pass	500k	33.8M	37.781M	33.45M	37.831M

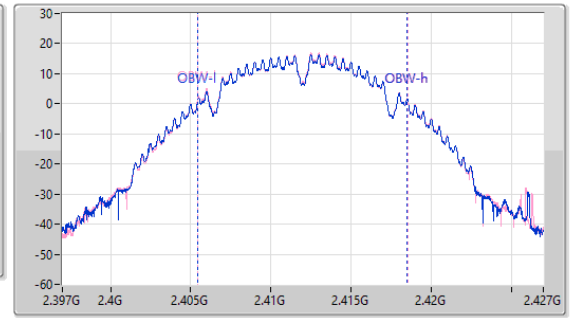
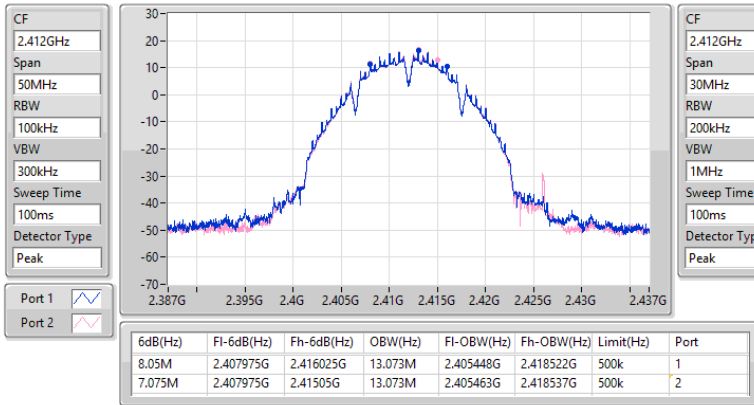
Port X-N dB = Port X 6dB down bandwidth;

Port X-OBW = Port X 99% occupied bandwidth

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

EBW

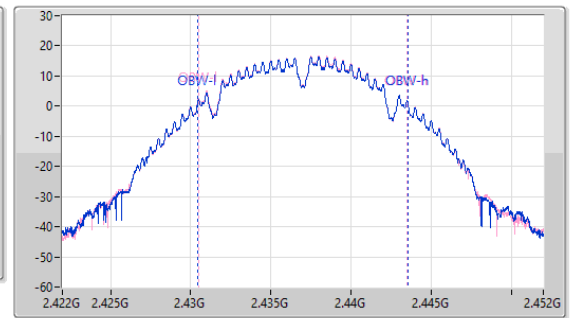
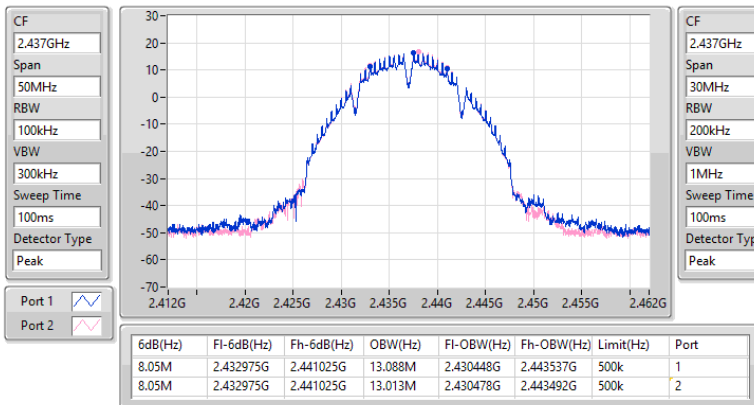
2412MHz



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

EBW

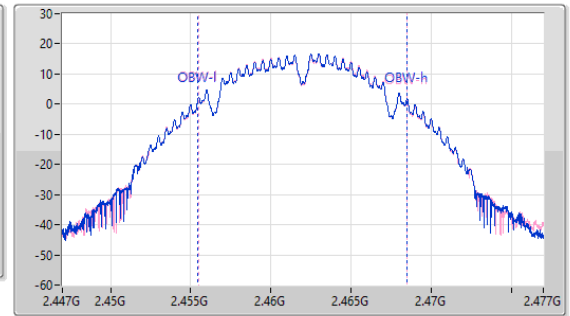
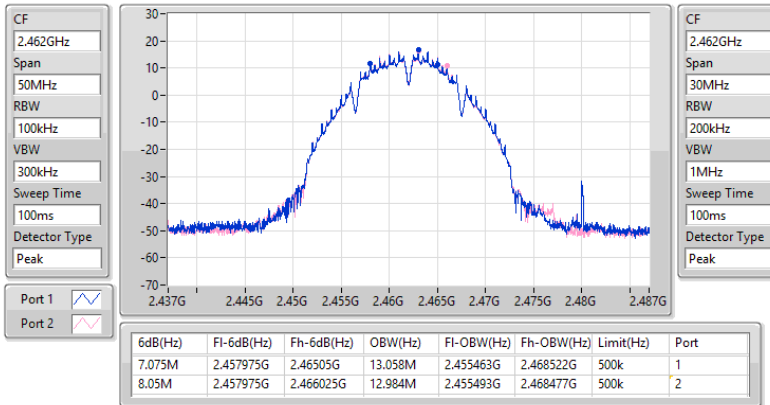
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2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX

EBW

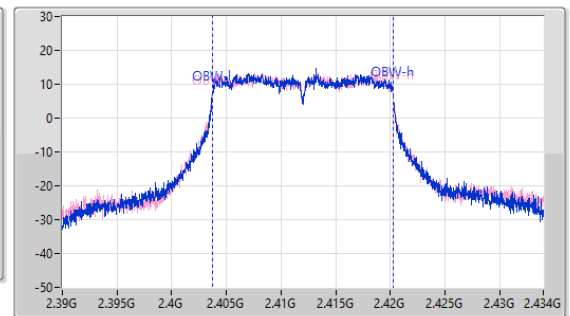
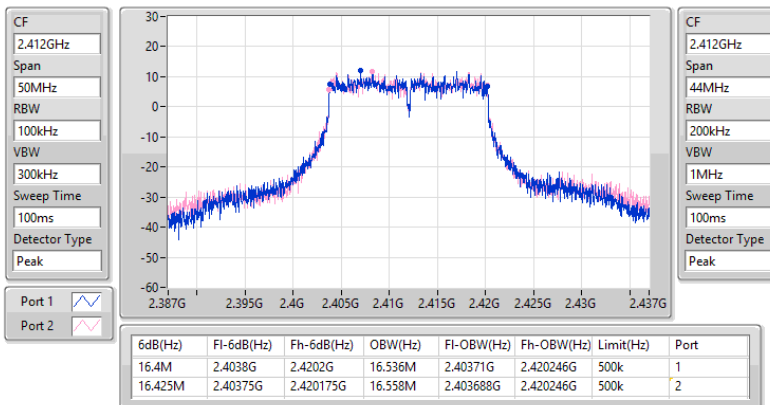
2462MHz



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

EBW

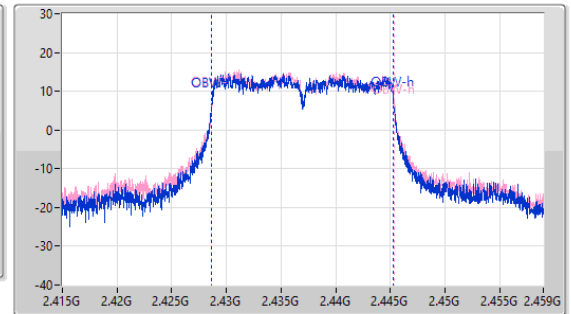
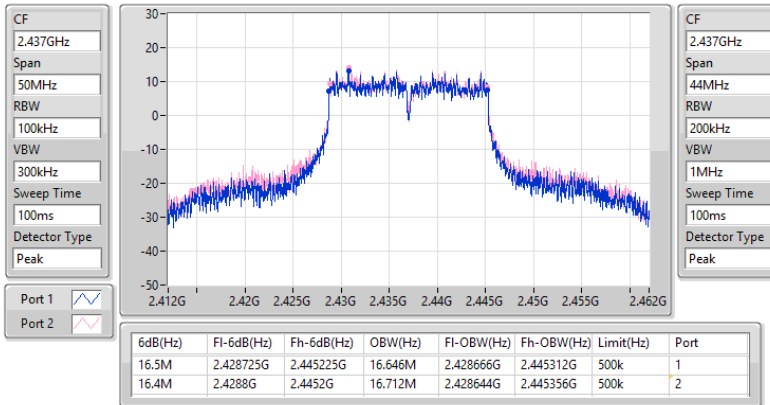
2412MHz



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

EBW

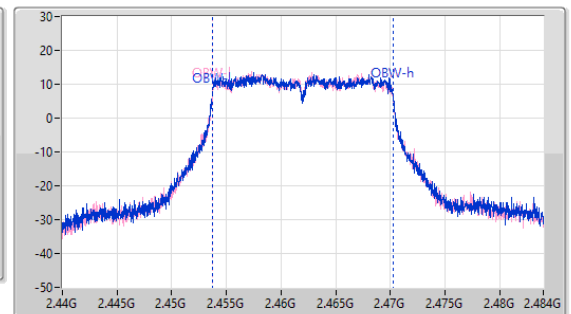
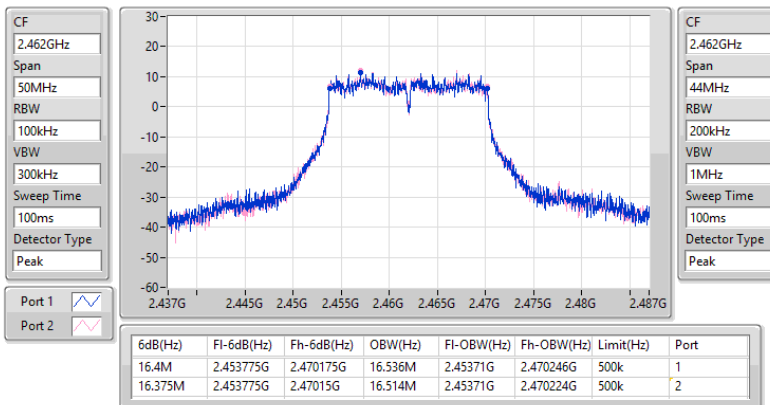
2437MHz



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

EBW

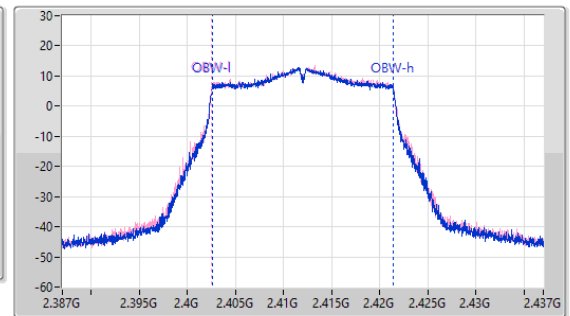
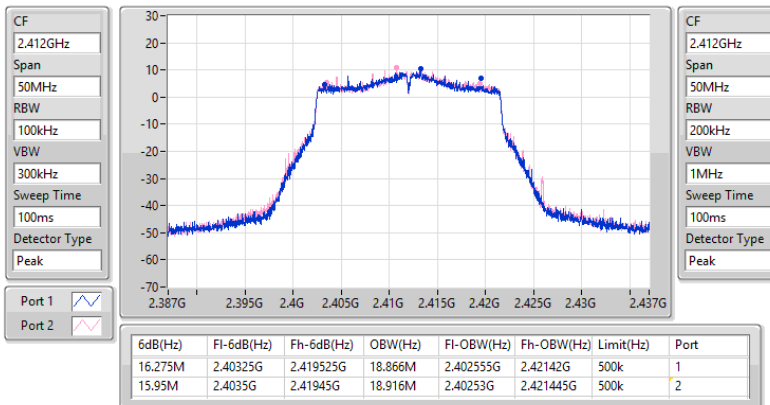
2462MHz



2.4-2.4835GHz_802.11be EHT20_Nss1,(MCS0)_2TX

EBW

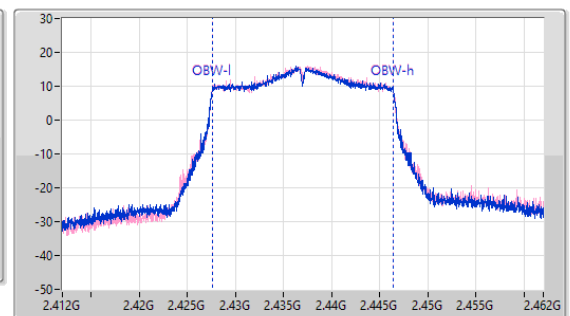
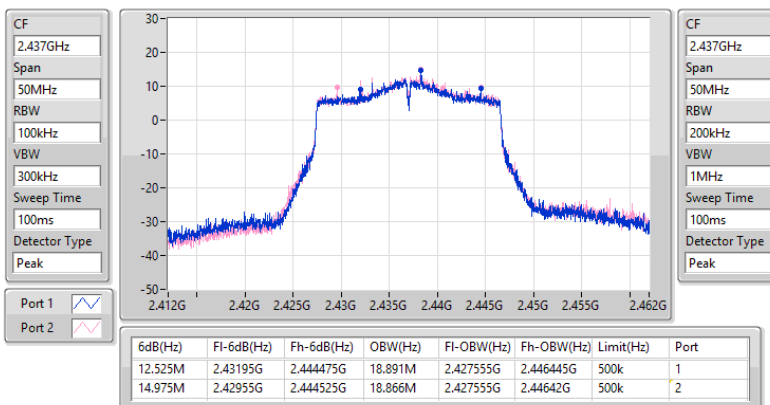
2412MHz



2.4-2.4835GHz_802.11be EHT20_Nss1,(MCS0)_2TX

EBW

2437MHz

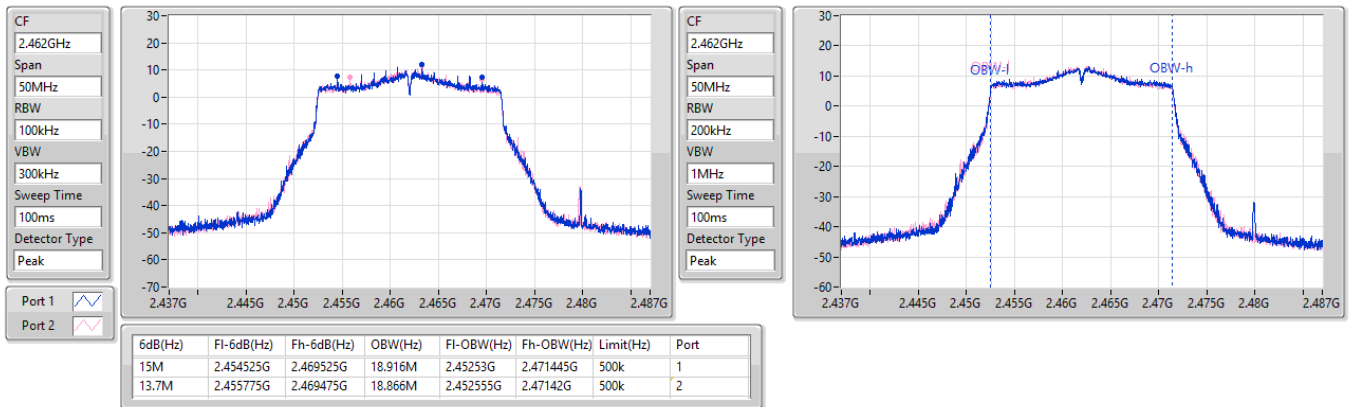




2.4-2.4835GHz_802.11be EHT20_Nss1,(MCS0)_2TX

EBW

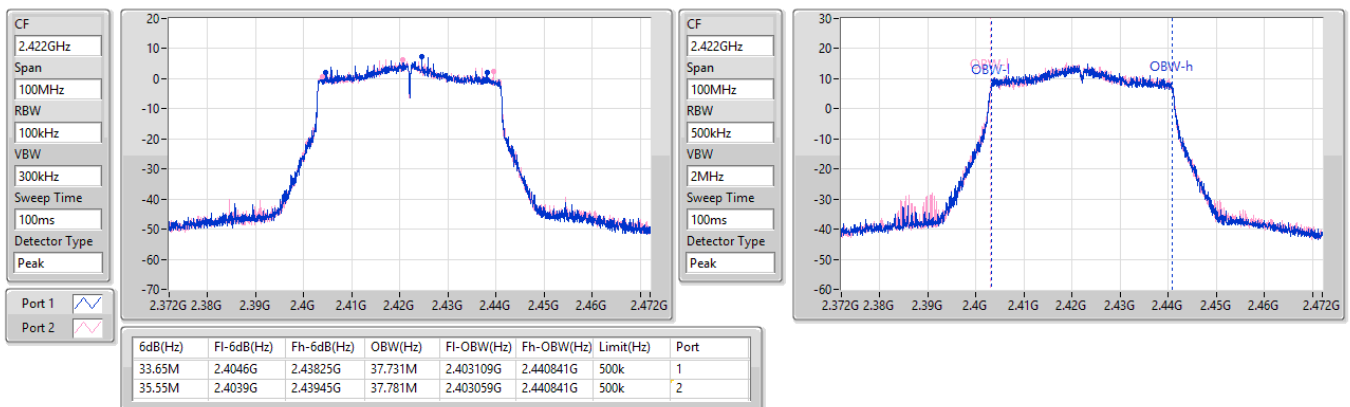
2462MHz



2.4-2.4835GHz_802.11be EHT40_Nss1,(MCS0)_2TX

EBW

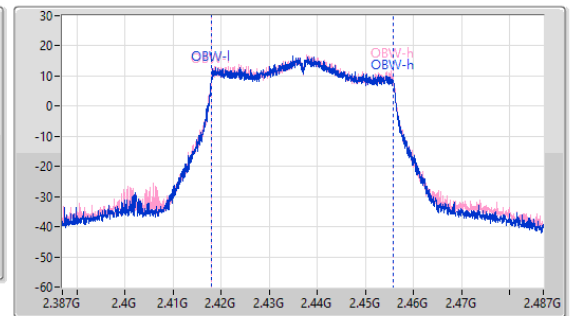
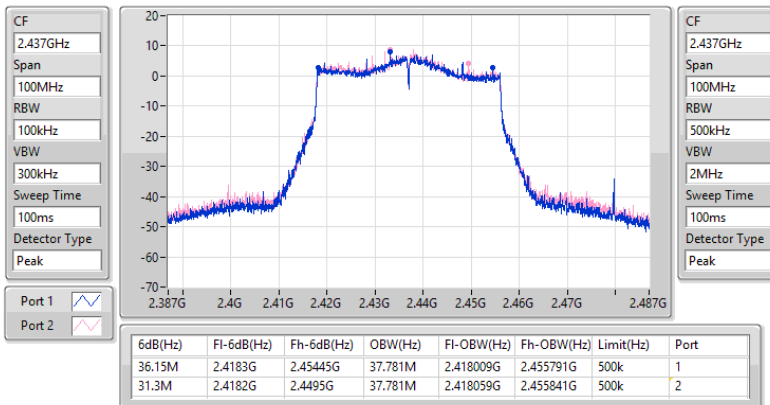
2422MHz



2.4-2.4835GHz_802.11be EHT40_Nss1,(MCS0)_2TX

EBW

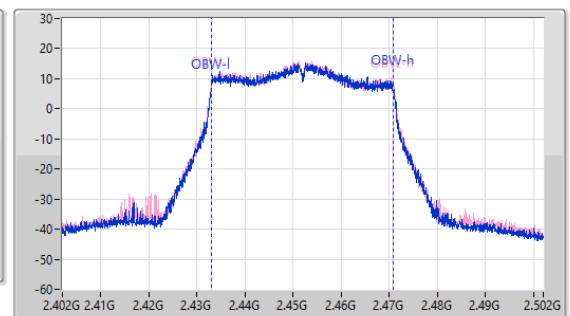
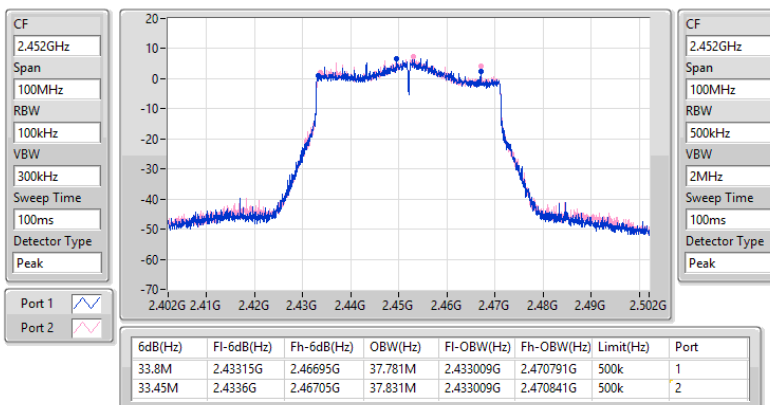
2437MHz



2.4-2.4835GHz_802.11be EHT40_Nss1,(MCS0)_2TX

EBW

2452MHz



**Non-beamforming mode****Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	26.89	0.48865
802.11g_Nss1,(6Mbps)_2TX	26.66	0.46345
802.11be EHT20_Nss1,(MCS0)_2TX	26.54	0.45082
802.11be EHT40_Nss1,(MCS0)_2TX	23.86	0.24322

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	1.49	23.75	23.98	26.88	30.00	28.37	36.00
2437MHz	Pass	1.49	23.71	24.01	26.87	30.00	28.36	36.00
2462MHz	Pass	1.49	23.83	23.92	26.89	30.00	28.38	36.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	1.49	22.18	22.15	25.18	30.00	26.67	36.00
2437MHz	Pass	1.49	23.42	23.86	26.66	30.00	28.15	36.00
2462MHz	Pass	1.49	21.48	21.76	24.63	30.00	26.12	36.00
802.11be EHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	1.49	20.63	20.78	23.72	30.00	25.21	36.00
2437MHz	Pass	1.49	23.33	23.73	26.54	30.00	28.03	36.00
2462MHz	Pass	1.49	20.56	20.81	23.70	30.00	25.19	36.00
802.11be EHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	1.49	19.96	20.03	23.01	30.00	24.50	36.00
2437MHz	Pass	1.49	20.72	20.97	23.86	30.00	25.35	36.00
2452MHz	Pass	1.49	19.82	20.04	22.94	30.00	24.43	36.00

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

Beamforming mode
Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11be EHT20-BF_Nss1,(MCS0)_2TX	23.53	0.22542
802.11be EHT40-BF_Nss1,(MCS0)_2TX	20.85	0.12162

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11be EHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.81	17.62	17.77	20.71	30.00	24.52	36.00
2437MHz	Pass	3.81	20.32	20.72	23.53	30.00	27.34	36.00
2462MHz	Pass	3.81	17.55	17.8	20.69	30.00	24.50	36.00
802.11be EHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	3.81	16.95	17.02	20.00	30.00	23.81	36.00
2437MHz	Pass	3.81	17.71	17.96	20.85	30.00	24.66	36.00
2452MHz	Pass	3.81	16.81	17.03	19.93	30.00	23.74	36.00

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

Directional Gain = $10 * \log((10^{1.49/20} + 10^{0.06/20})^2 / 2) = 3.81 \text{ dBi}$



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	0.81
802.11g_Nss1,(6Mbps)_2TX	-7.53
802.11be EHT20_Nss1,(MCS0)_2TX	-4.11
802.11be EHT40_Nss1,(MCS0)_2TX	-9.78

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	3.81	-2.14	-1.97	0.81	8.00
2437MHz	Pass	3.81	-2.29	-1.89	0.67	8.00
2462MHz	Pass	3.81	-2.52	-2.27	0.58	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.81	-13.17	-13.24	-10.36	8.00
2437MHz	Pass	3.81	-11.24	-9.89	-7.53	8.00
2462MHz	Pass	3.81	-12.44	-13.38	-10.22	8.00
802.11be EHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.81	-9.99	-9.62	-7.19	8.00
2437MHz	Pass	3.81	-6.99	-6.25	-4.11	8.00
2462MHz	Pass	3.81	-9.84	-9.14	-6.76	8.00
802.11be EHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.81	-13.65	-13.66	-11.51	8.00
2437MHz	Pass	3.81	-12.53	-11.81	-9.78	8.00
2452MHz	Pass	3.81	-13.48	-12.59	-10.94	8.00

DG = Directional Gain; RBW = 3kHz;

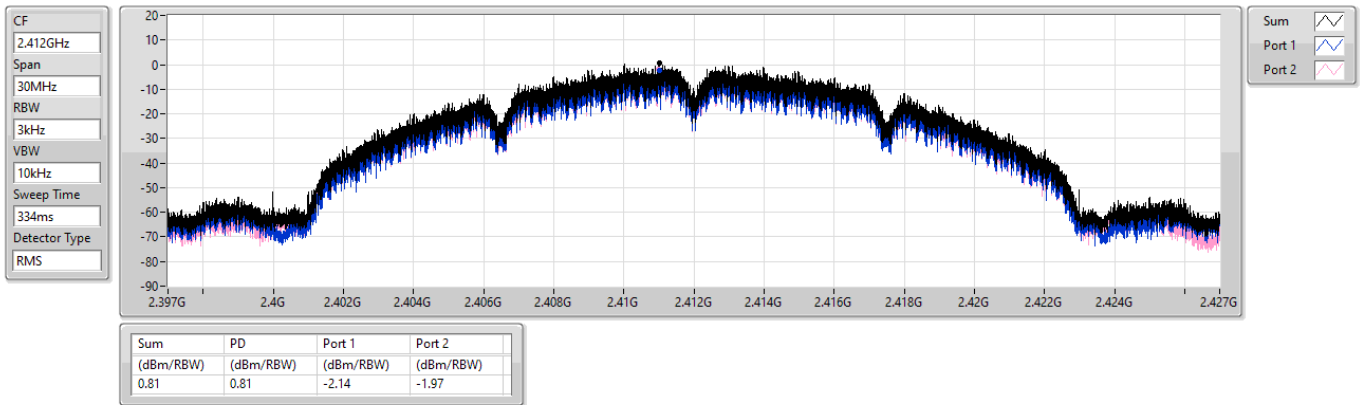
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

Directional Gain = $10 * \log((10^{1.49/20} + 10^{0.06/20})^2 / 2) = 3.81 \text{ dBi}$

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

PSD

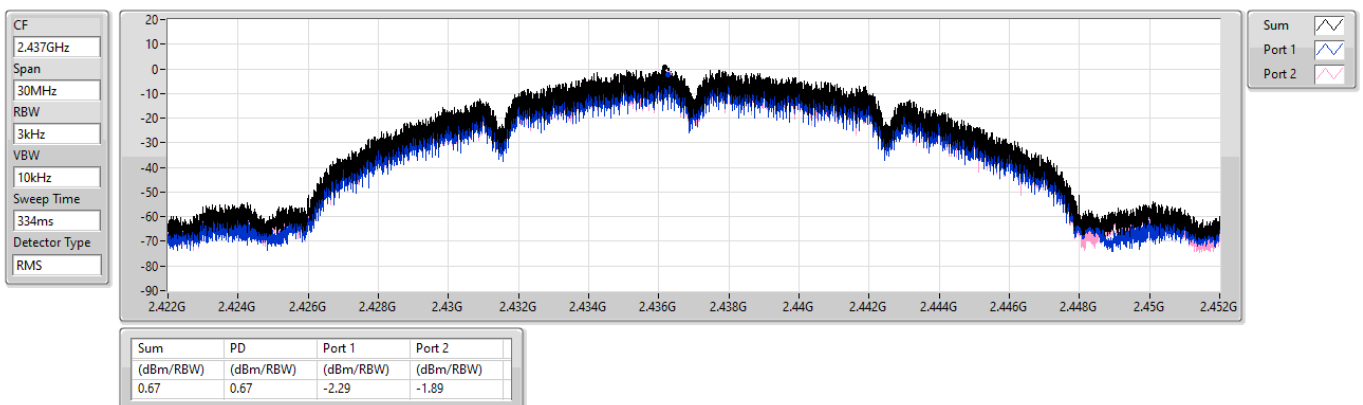
2412MHz



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

PSD

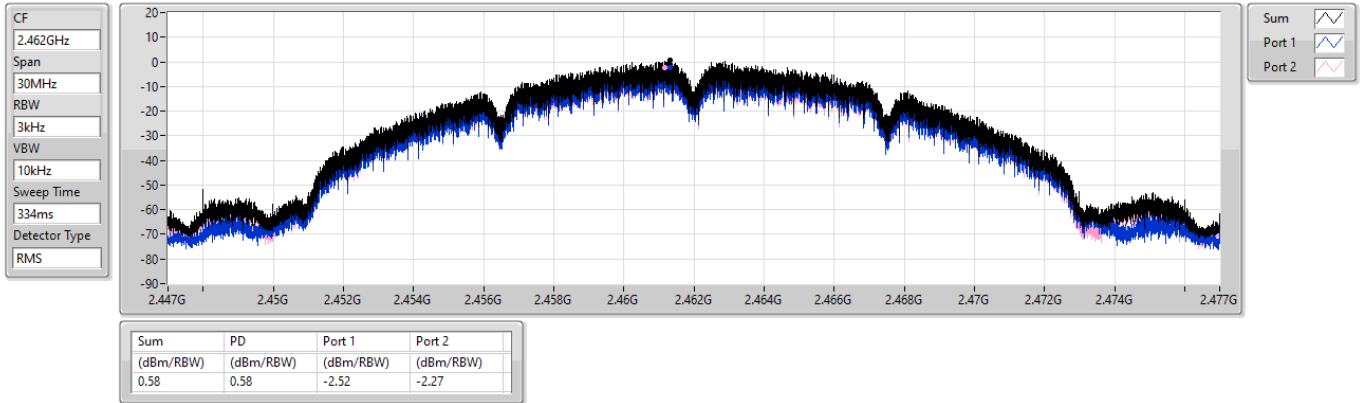
2437MHz



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

PSD

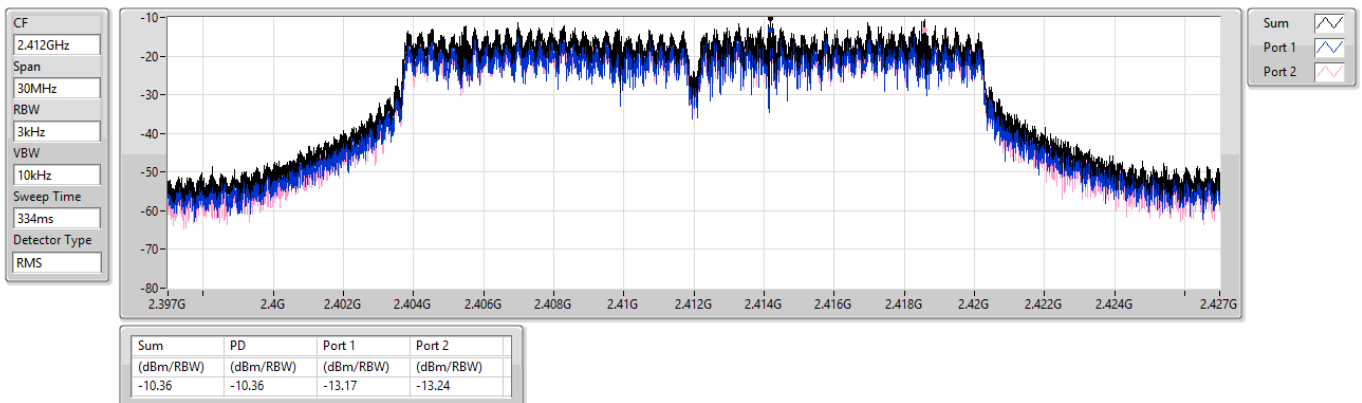
2462MHz



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

PSD

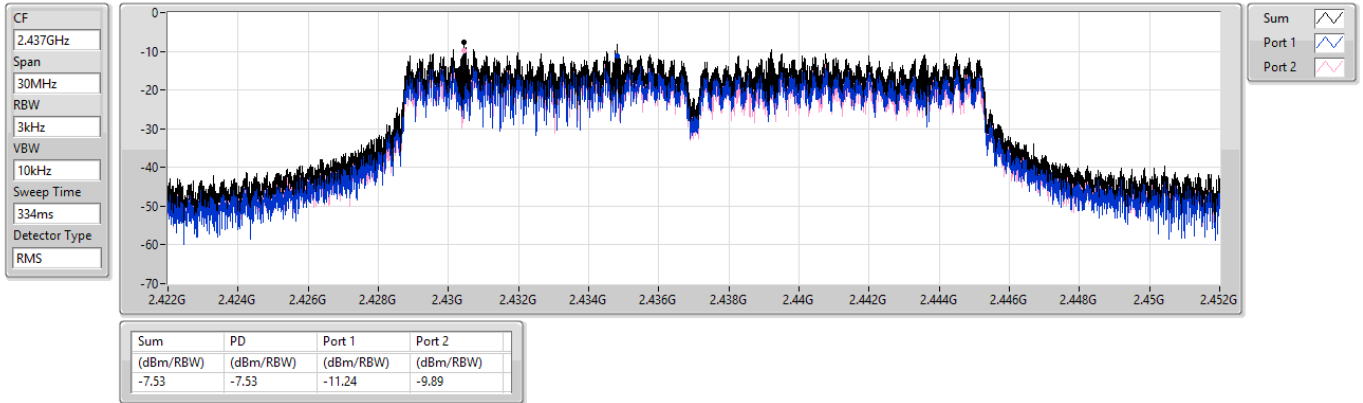
2412MHz



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

PSD

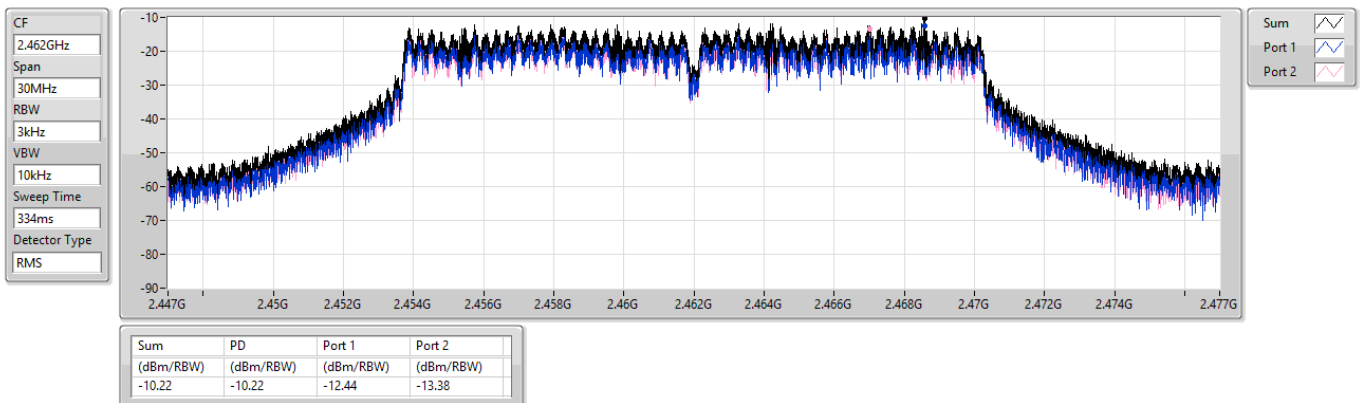
2437MHz



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

PSD

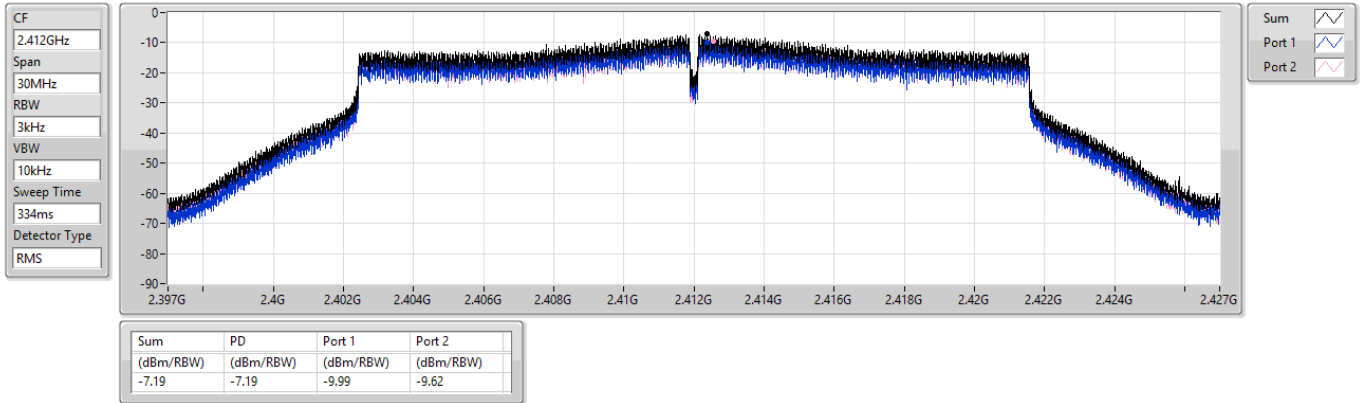
2462MHz



2.4-2.4835GHz_802.11be EHT20_Nss1,(MCS0)_2TX

PSD

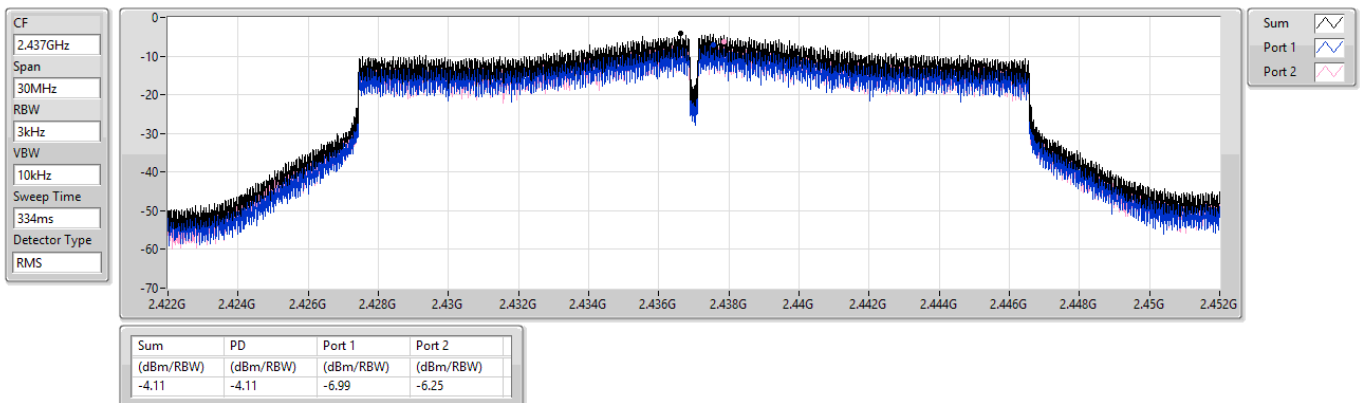
2412MHz



2.4-2.4835GHz_802.11be EHT20_Nss1,(MCS0)_2TX

PSD

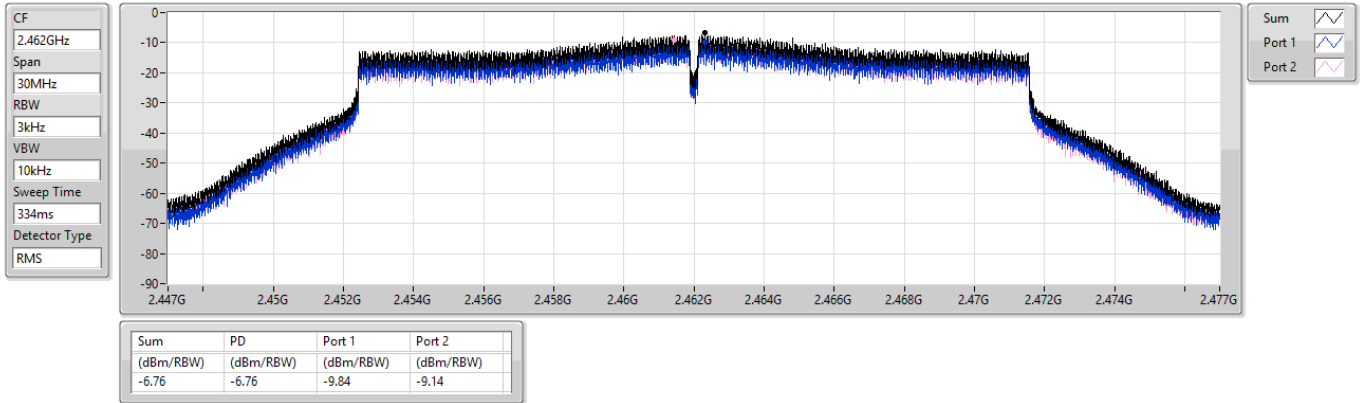
2437MHz



2.4-2.4835GHz_802.11be EHT20_Nss1,(MCS0)_2TX

PSD

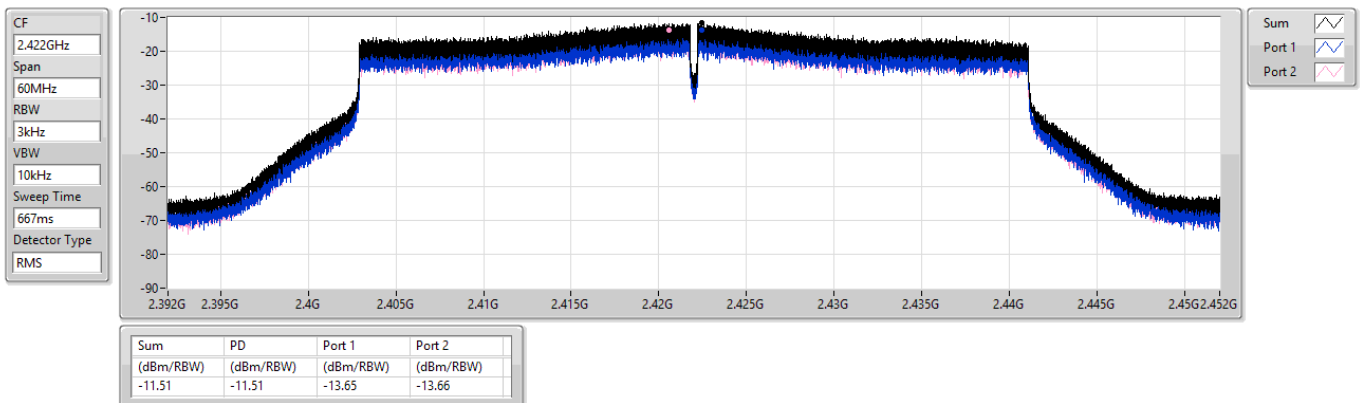
2462MHz



2.4-2.4835GHz_802.11be EHT40_Nss1,(MCS0)_2TX

PSD

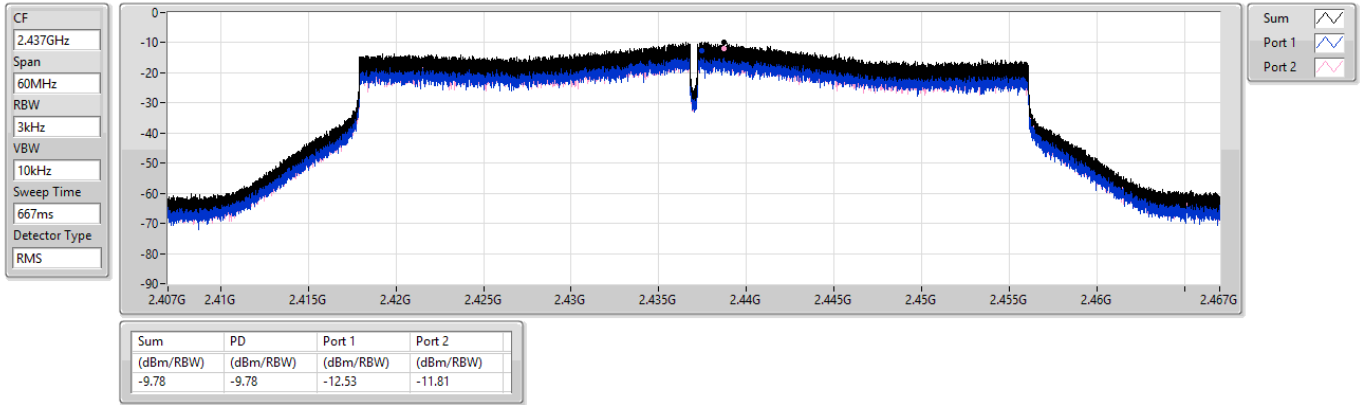
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2.4-2.4835GHz_802.11be EHT40_Nss1,(MCS0)_2TX

PSD

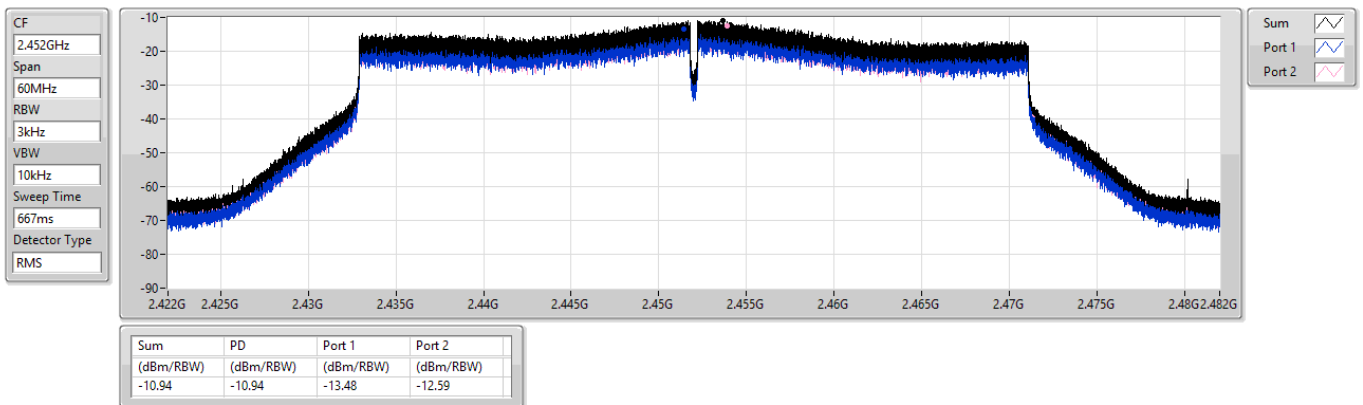
2437MHz



2.4-2.4835GHz_802.11be EHT40_Nss1,(MCS0)_2TX

PSD

2452MHz





POE Mode

Unwanted Emissions (Below 1GHz)

Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal		
Test By :Brad Wu Temperature(°C):24 Humidity(%):61			
Level (dBuV/m) <			



Modulation	11b	Test Freq. (MHz)	2462																																																																						
Polarization	Vertical																																																																								
Test By :Brad Wu Temperature(°C):24 Humidity(%):61																																																																									
Level (dBuV/m) <table><thead><tr><th></th><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB/m</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr></thead><tbody><tr><td>1</td><td>46.32</td><td>36.34</td><td>40.00</td><td>-3.66</td><td>45.13</td><td>-8.79</td><td>QP</td><td>100</td><td>308</td></tr><tr><td>2</td><td>100.62</td><td>23.78</td><td>43.50</td><td>-19.72</td><td>36.84</td><td>-13.06</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>3</td><td>165.74</td><td>24.94</td><td>43.50</td><td>-18.56</td><td>33.77</td><td>-8.83</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>4</td><td>191.23</td><td>24.99</td><td>43.50</td><td>-18.51</td><td>36.33</td><td>-11.34</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>5</td><td>224.86</td><td>23.53</td><td>46.00</td><td>-22.47</td><td>35.57</td><td>-12.04</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>6</td><td>547.21</td><td>35.26</td><td>46.00</td><td>-10.74</td><td>37.26</td><td>-2.00</td><td>Peak</td><td>---</td><td>---</td></tr></tbody></table>					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	46.32	36.34	40.00	-3.66	45.13	-8.79	QP	100	308	2	100.62	23.78	43.50	-19.72	36.84	-13.06	Peak	---	---	3	165.74	24.94	43.50	-18.56	33.77	-8.83	Peak	---	---	4	191.23	24.99	43.50	-18.51	36.33	-11.34	Peak	---	---	5	224.86	23.53	46.00	-22.47	35.57	-12.04	Peak	---	---	6	547.21	35.26	46.00	-10.74	37.26	-2.00	Peak	---	---
	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	46.32	36.34	40.00	-3.66	45.13	-8.79	QP	100	308																																																																
2	100.62	23.78	43.50	-19.72	36.84	-13.06	Peak	---	---																																																																
3	165.74	24.94	43.50	-18.56	33.77	-8.83	Peak	---	---																																																																
4	191.23	24.99	43.50	-18.51	36.33	-11.34	Peak	---	---																																																																
5	224.86	23.53	46.00	-22.47	35.57	-12.04	Peak	---	---																																																																
6	547.21	35.26	46.00	-10.74	37.26	-2.00	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 :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m) </			



Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Brad Wu Temperature(°C):25 Humidity(%):62			
Level (dBUV/m) </			



Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Brad Wu Temperature(°C):25 Humidity(%):62			
Level (dBUV/m) </			



Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	11b	Test Freq. (MHz)	2462
Polarization	Vertical		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m) </			



Unwanted Emissions (Above 1GHz) for 11g

Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal		
Test By :Brad Wu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical		
Test By :Brad Wu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Brad Wu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Brad Wu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal		
Test By :Brad Wu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	11g	Test Freq. (MHz)	2462
Polarization	Vertical		
Test By :Brad Wu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			

Unwanted Emissions (Above 1GHz) for be EHT20

Modulation	be EHT20	Test Freq. (MHz)	2412
Polarization	Horizontal		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBUV/m)			

Modulation	be EHT20	Test Freq. (MHz)	2412
Polarization	Vertical		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m) </			



Modulation	be EHT20	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	be EHT20	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m) </			

Modulation	be EHT20	Test Freq. (MHz)	2462
Polarization	Horizontal		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m) <			



Modulation	be EHT20	Test Freq. (MHz)	2462
Polarization	Vertical		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m) </			

Unwanted Emissions (Above 1GHz) for be EHT40

Modulation	be EHT40	Test Freq. (MHz)	2422
Polarization	Horizontal		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m) <			

Modulation	be EHT40	Test Freq. (MHz)	2422
Polarization	Vertical		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBUV/m) </			



Modulation	be EHT40	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	be EHT40	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	be EHT40	Test Freq. (MHz)	2452																																																																																										
Polarization	Horizontal																																																																																												
Test By :Allen Lee Temperature(°C):25 Humidity(%):62																																																																																													
Level (dBuV/m) Frequency (MHz) <table><thead><tr><th></th><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB/m</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr></thead><tbody><tr><td>1 *</td><td>2452.00</td><td>104.91</td><td></td><td></td><td>108.74</td><td>-3.83</td><td>Average</td><td>343</td><td>45</td></tr><tr><td>2 *</td><td>2452.00</td><td>117.64</td><td></td><td></td><td>121.47</td><td>-3.83</td><td>Peak</td><td>343</td><td>45</td></tr><tr><td>3</td><td>2483.50</td><td>53.52</td><td>54.00</td><td>-0.48</td><td>57.38</td><td>-3.86</td><td>Average</td><td>154</td><td>45</td></tr><tr><td>4</td><td>2483.50</td><td>67.68</td><td>74.00</td><td>-6.32</td><td>71.54</td><td>-3.86</td><td>Peak</td><td>154</td><td>45</td></tr><tr><td>5</td><td>4904.00</td><td>31.53</td><td>54.00</td><td>-22.47</td><td>31.49</td><td>0.04</td><td>Average</td><td>100</td><td>120</td></tr><tr><td>6</td><td>4904.00</td><td>44.35</td><td>74.00</td><td>-29.65</td><td>44.31</td><td>0.04</td><td>Peak</td><td>100</td><td>120</td></tr><tr><td>7</td><td>7356.00</td><td>36.66</td><td>54.00</td><td>-17.34</td><td>31.25</td><td>5.41</td><td>Average</td><td>100</td><td>43</td></tr><tr><td>8</td><td>7356.00</td><td>50.26</td><td>74.00</td><td>-23.74</td><td>44.85</td><td>5.41</td><td>Peak</td><td>100</td><td>43</td></tr></tbody></table> 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: "*" is Peak / Average value of fundamental frequency					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 *	2452.00	104.91			108.74	-3.83	Average	343	45	2 *	2452.00	117.64			121.47	-3.83	Peak	343	45	3	2483.50	53.52	54.00	-0.48	57.38	-3.86	Average	154	45	4	2483.50	67.68	74.00	-6.32	71.54	-3.86	Peak	154	45	5	4904.00	31.53	54.00	-22.47	31.49	0.04	Average	100	120	6	4904.00	44.35	74.00	-29.65	44.31	0.04	Peak	100	120	7	7356.00	36.66	54.00	-17.34	31.25	5.41	Average	100	43	8	7356.00	50.26	74.00	-23.74	44.85	5.41	Peak	100	43
	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 *	2452.00	104.91			108.74	-3.83	Average	343	45																																																																																				
2 *	2452.00	117.64			121.47	-3.83	Peak	343	45																																																																																				
3	2483.50	53.52	54.00	-0.48	57.38	-3.86	Average	154	45																																																																																				
4	2483.50	67.68	74.00	-6.32	71.54	-3.86	Peak	154	45																																																																																				
5	4904.00	31.53	54.00	-22.47	31.49	0.04	Average	100	120																																																																																				
6	4904.00	44.35	74.00	-29.65	44.31	0.04	Peak	100	120																																																																																				
7	7356.00	36.66	54.00	-17.34	31.25	5.41	Average	100	43																																																																																				
8	7356.00	50.26	74.00	-23.74	44.85	5.41	Peak	100	43																																																																																				



Modulation	be EHT40	Test Freq. (MHz)	2452
Polarization	Vertical		
Test By :Allen Lee Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Adapter Mode

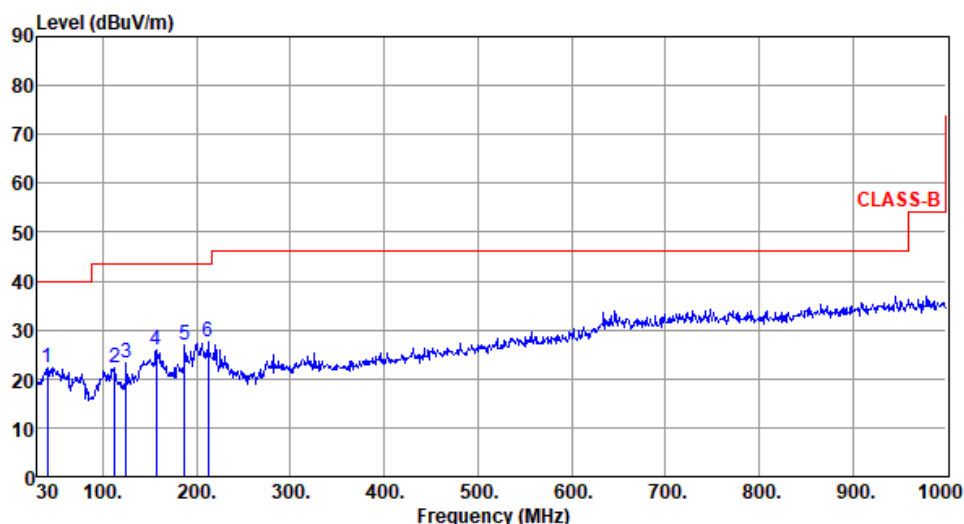
Unwanted Emissions (Below 1GHz)

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

Test By :Brad Wu

Temperature(°C):24

Humidity(%):61



	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	40.67	22.24	40.00	-17.76	31.69	-9.45	Peak	---	---
2	112.45	22.21	43.50	-21.29	33.73	-11.52	Peak	---	---
3	125.06	23.29	43.50	-20.21	33.76	-10.47	Peak	---	---
4	157.07	26.01	43.50	-17.49	34.58	-8.57	Peak	---	---
5	187.14	26.85	43.50	-16.65	37.83	-10.98	Peak	---	---
6	212.45	27.51	43.50	-15.99	39.48	-11.97	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.

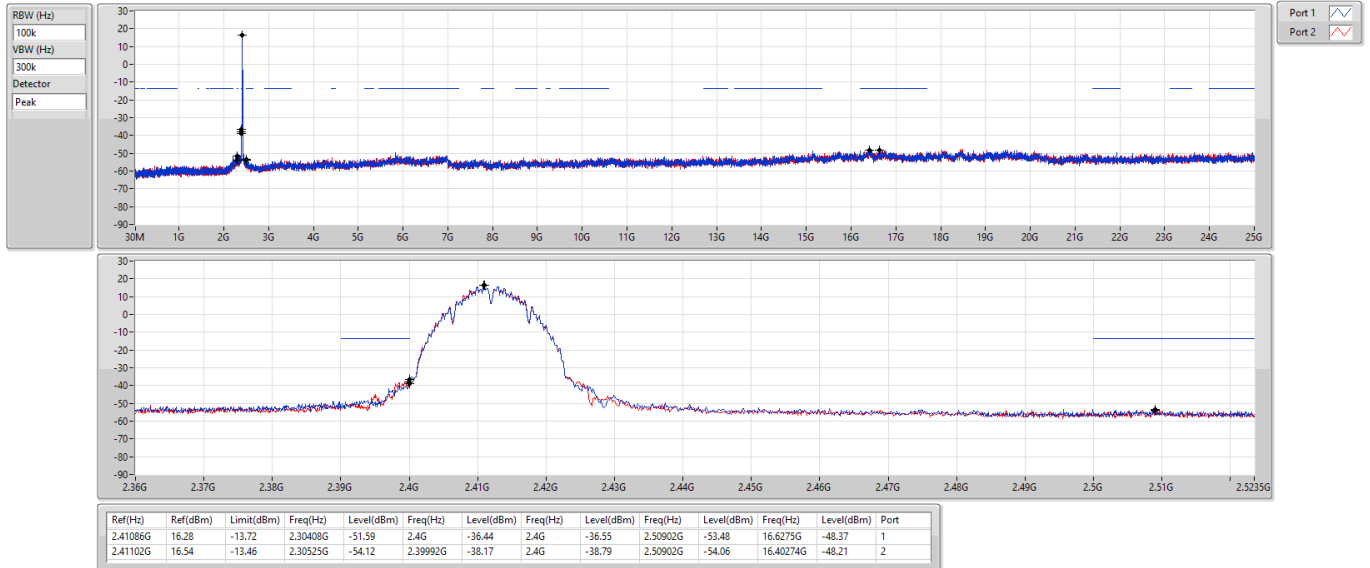


Modulation	11b	Test Freq. (MHz)	2462																																																																						
Polarization	Vertical																																																																								
Test By :Brad Wu Temperature(°C):24 Humidity(%):61																																																																									
Level (dBuV/m) <table><tr><th></th><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB/m</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>1</td><td>48.41</td><td>34.85</td><td>40.00</td><td>-5.15</td><td>43.56</td><td>-8.71</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>2</td><td>67.83</td><td>25.37</td><td>40.00</td><td>-14.63</td><td>35.90</td><td>-10.53</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>3</td><td>157.12</td><td>24.12</td><td>43.50</td><td>-19.38</td><td>32.69</td><td>-8.57</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>4</td><td>187.26</td><td>27.03</td><td>43.50</td><td>-16.47</td><td>38.03</td><td>-11.00</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>5</td><td>193.85</td><td>26.25</td><td>43.50</td><td>-17.25</td><td>37.77</td><td>-11.52</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>6</td><td>540.22</td><td>34.50</td><td>46.00</td><td>-11.50</td><td>36.63</td><td>-2.13</td><td>Peak</td><td>---</td><td>---</td></tr></table>					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	48.41	34.85	40.00	-5.15	43.56	-8.71	Peak	---	---	2	67.83	25.37	40.00	-14.63	35.90	-10.53	Peak	---	---	3	157.12	24.12	43.50	-19.38	32.69	-8.57	Peak	---	---	4	187.26	27.03	43.50	-16.47	38.03	-11.00	Peak	---	---	5	193.85	26.25	43.50	-17.25	37.77	-11.52	Peak	---	---	6	540.22	34.50	46.00	-11.50	36.63	-2.13	Peak	---	---
	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	48.41	34.85	40.00	-5.15	43.56	-8.71	Peak	---	---																																																																
2	67.83	25.37	40.00	-14.63	35.90	-10.53	Peak	---	---																																																																
3	157.12	24.12	43.50	-19.38	32.69	-8.57	Peak	---	---																																																																
4	187.26	27.03	43.50	-16.47	38.03	-11.00	Peak	---	---																																																																
5	193.85	26.25	43.50	-17.25	37.77	-11.52	Peak	---	---																																																																
6	540.22	34.50	46.00	-11.50	36.63	-2.13	Peak	---	---																																																																
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor, cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m). Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.																																																																									

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

CSendB

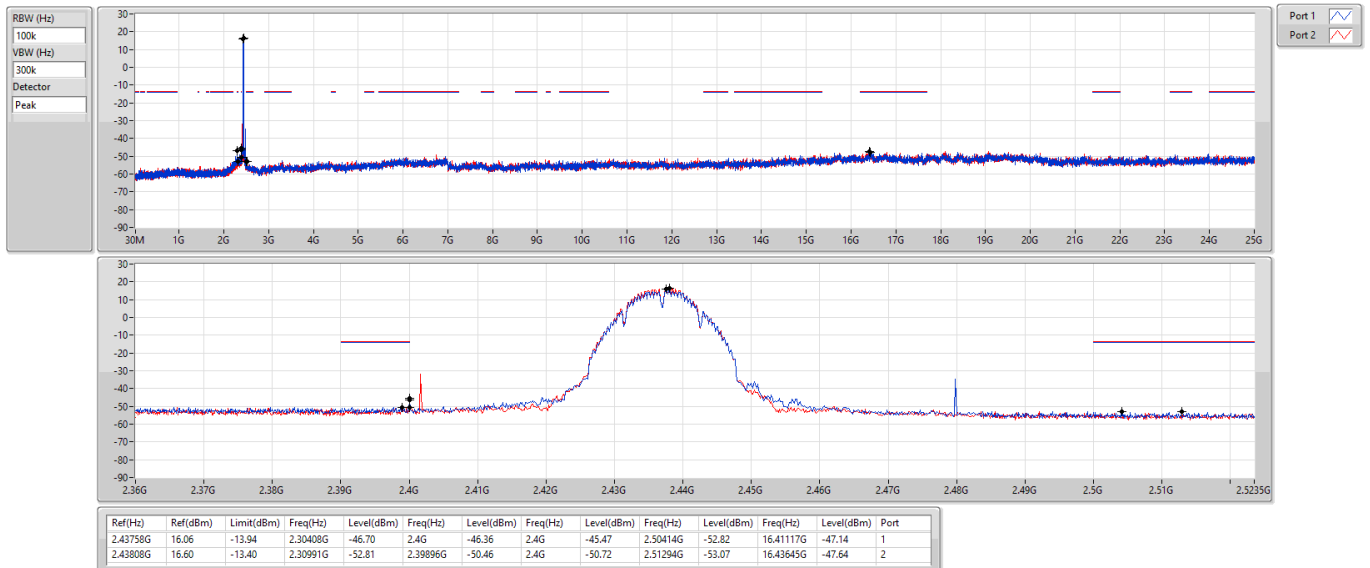
2412MHz



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

CSendB

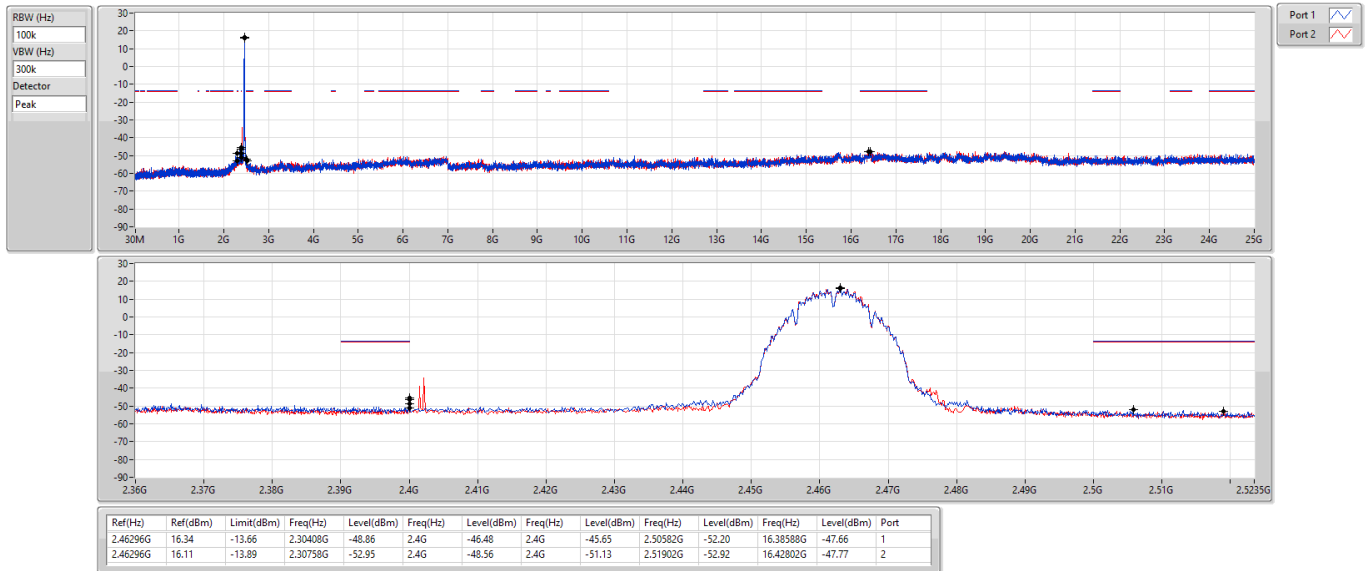
2437MHz



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

CSEndB

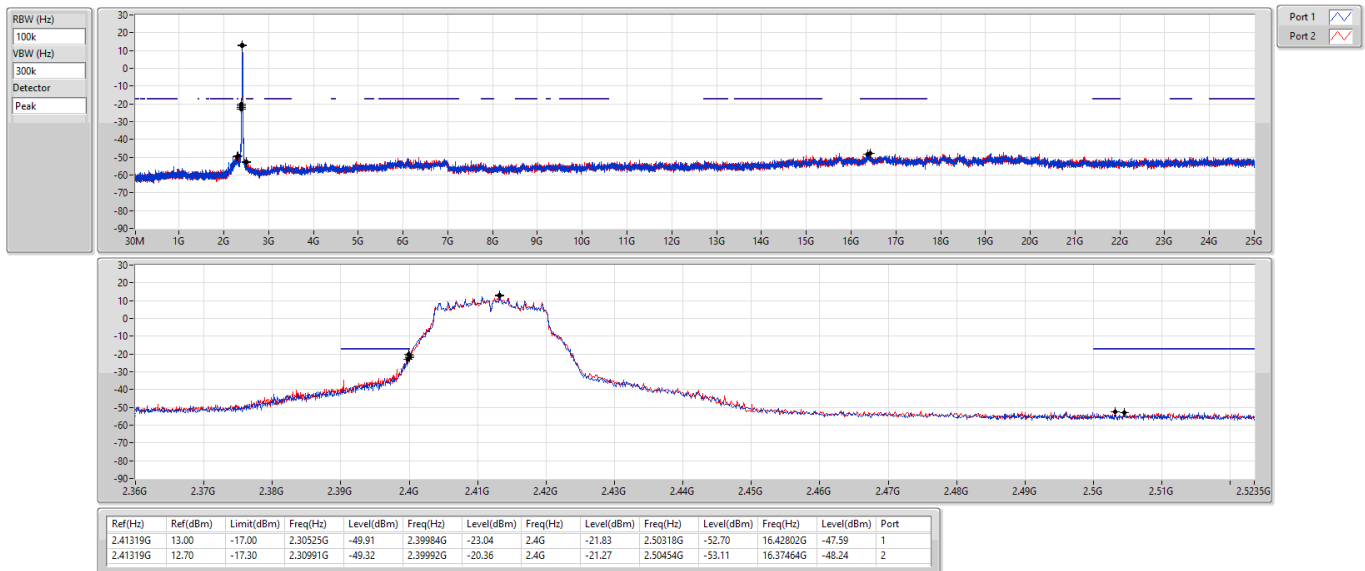
2462MHz



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

CSEndB

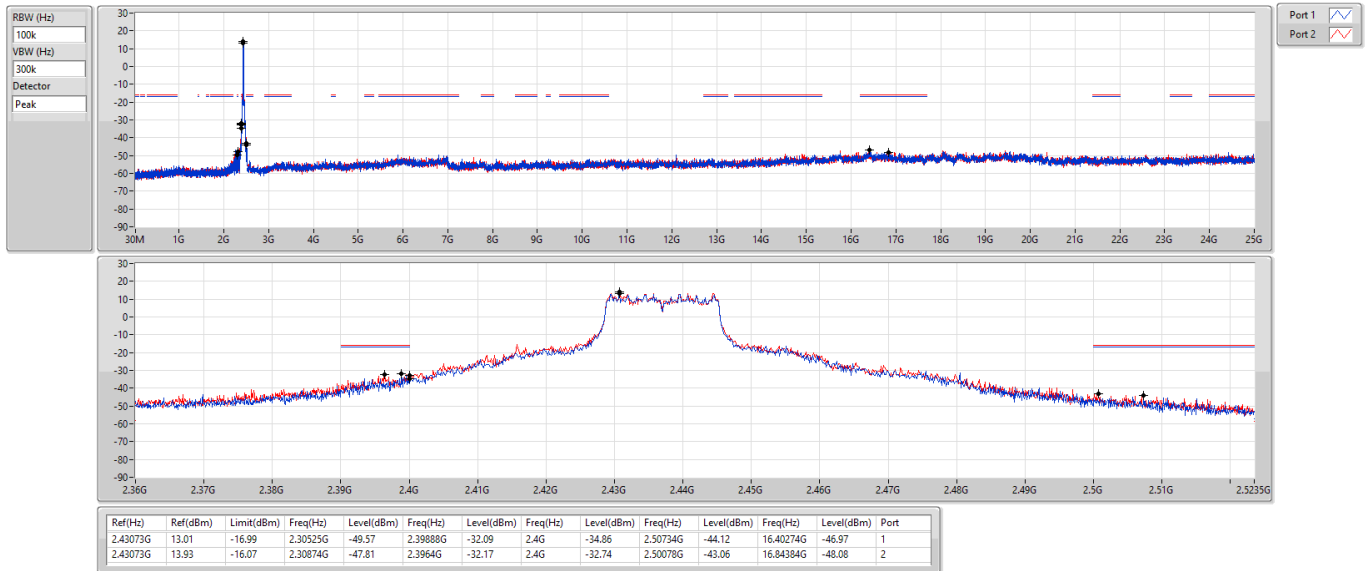
2412MHz



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

CSEndB

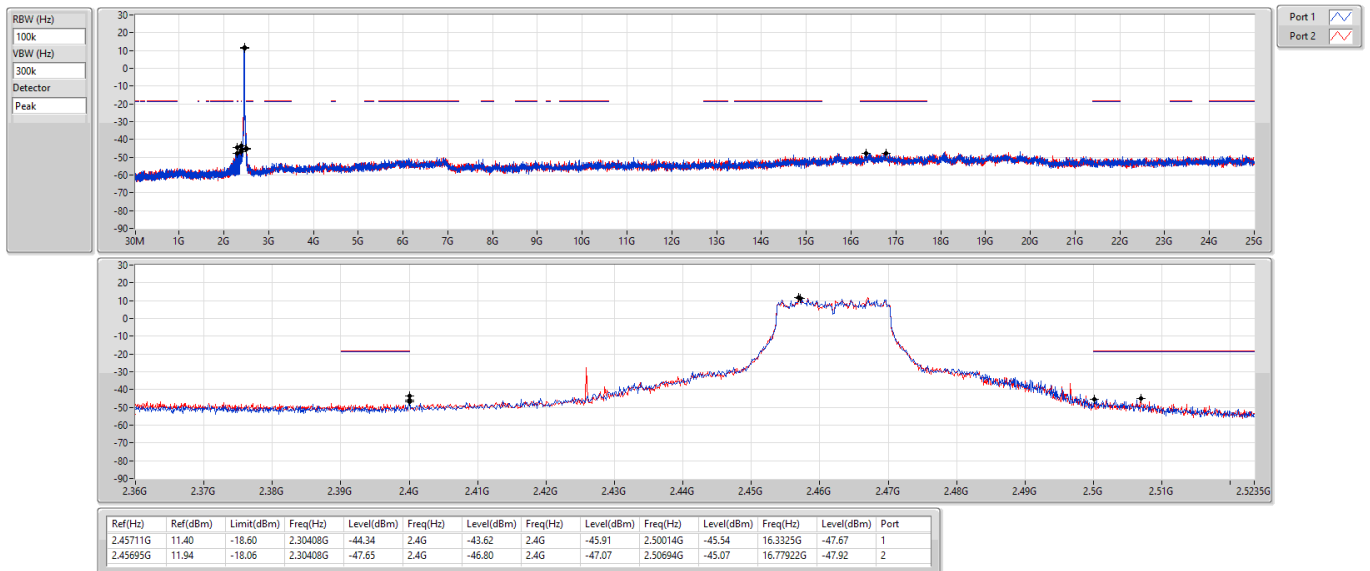
2437MHz



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

CSEndB

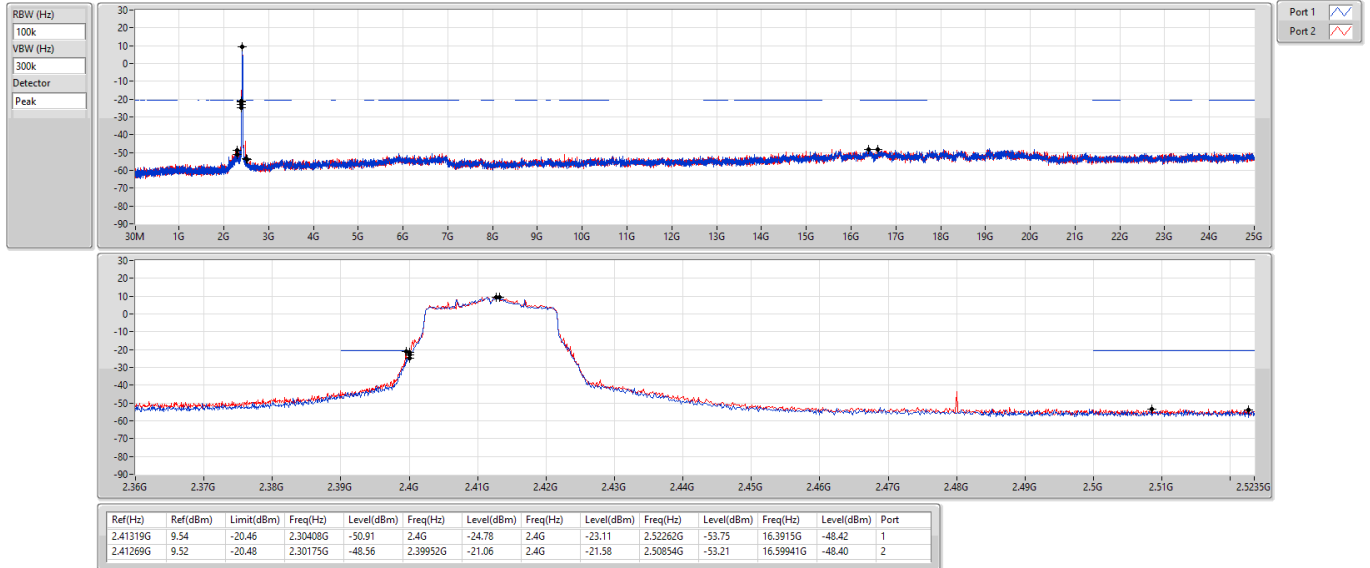
2462MHz



2.4-2.4835GHz_802.11be EHT20_Nss1,(MCS0)_2TX

CSEndB

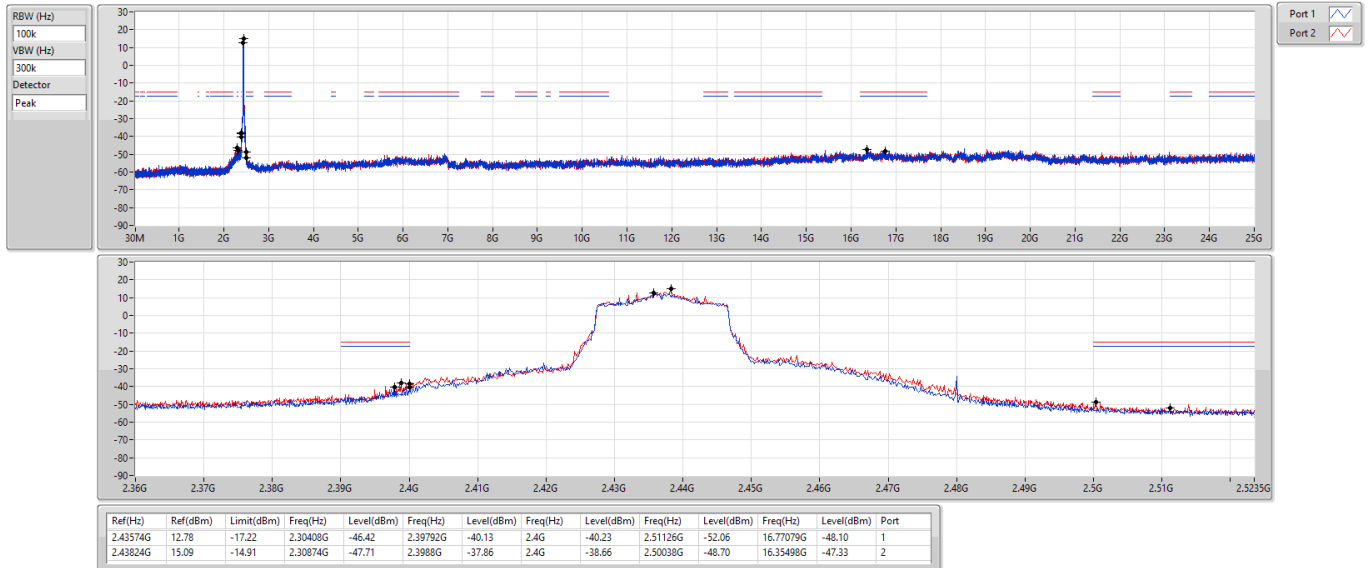
2412MHz



2.4-2.4835GHz_802.11be EHT20_Nss1,(MCS0)_2TX

CSEndB

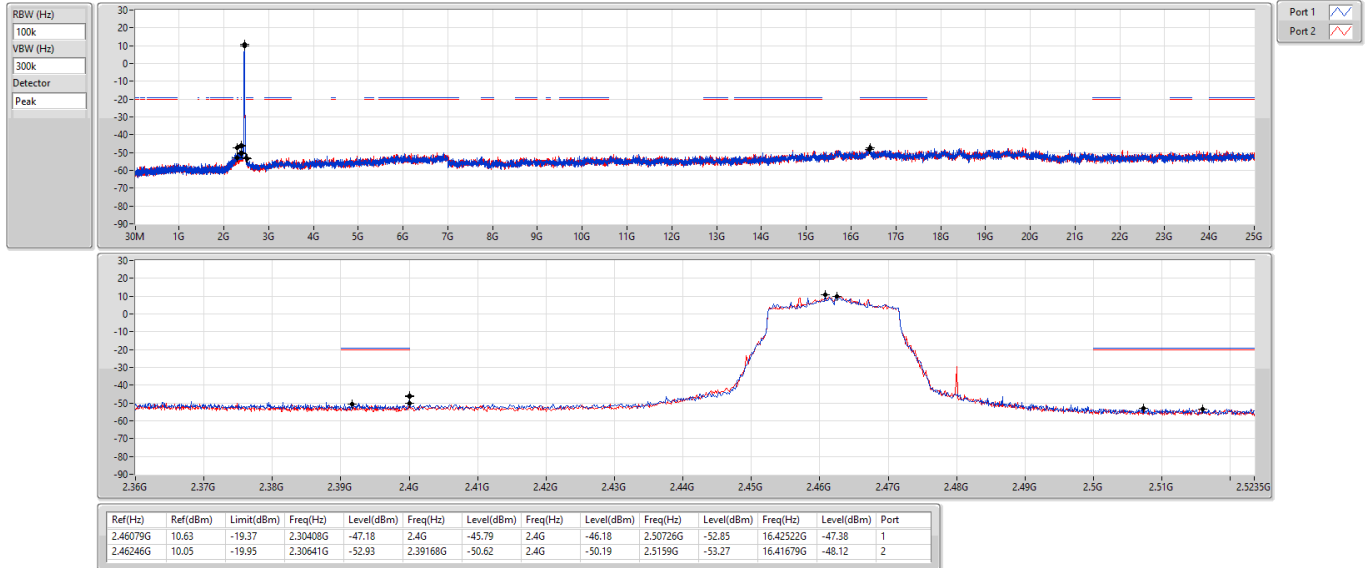
2437MHz



2.4-2.4835GHz_802.11be EHT20_Nss1,(MCS0)_2TX

CSEndB

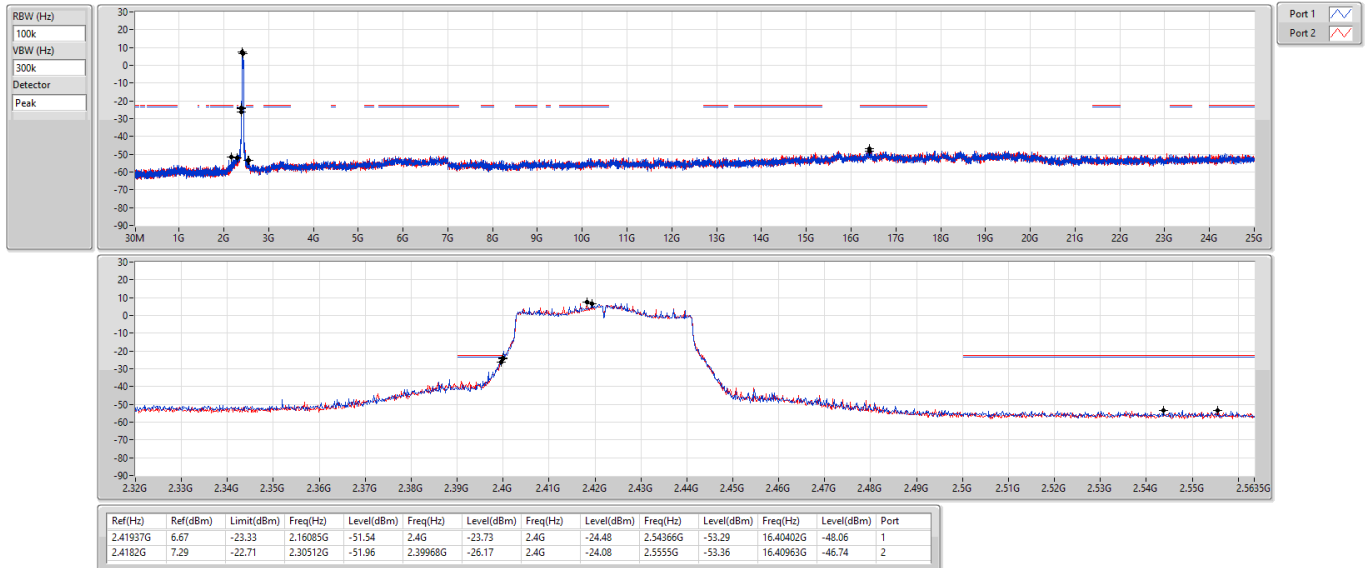
2462MHz



2.4-2.4835GHz_802.11be EHT40_Nss1,(MCS0)_2TX

CSEndB

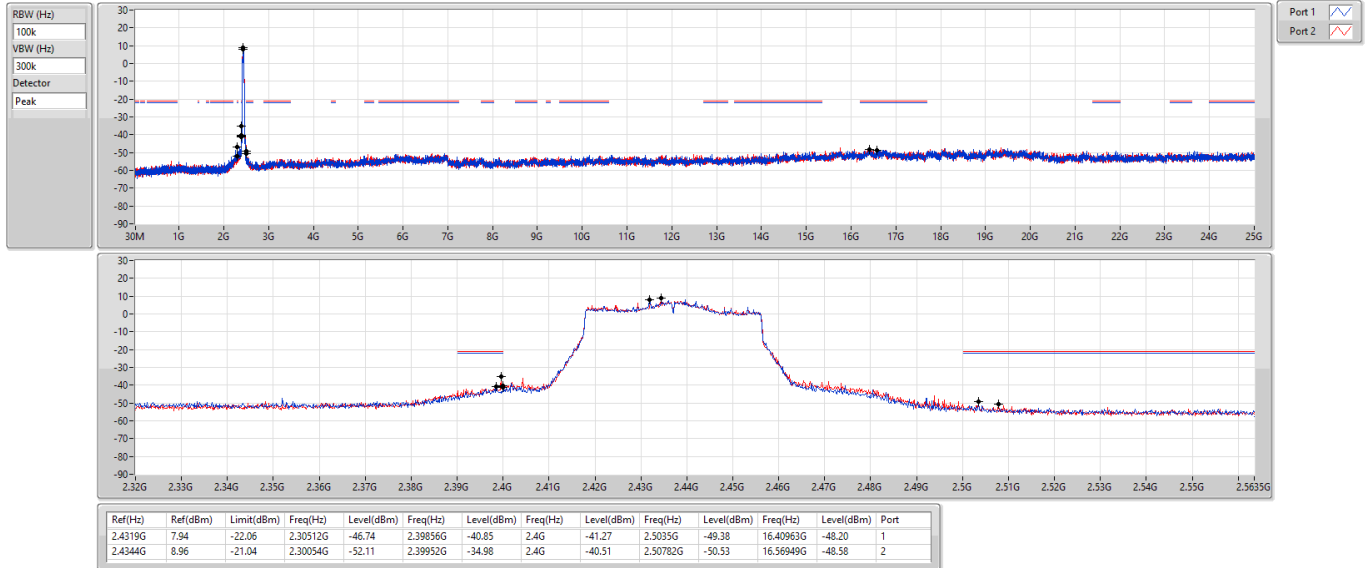
2422MHz



2.4-2.4835GHz_802.11be EHT40_Nss1,(MCS0)_2TX

CSEndB

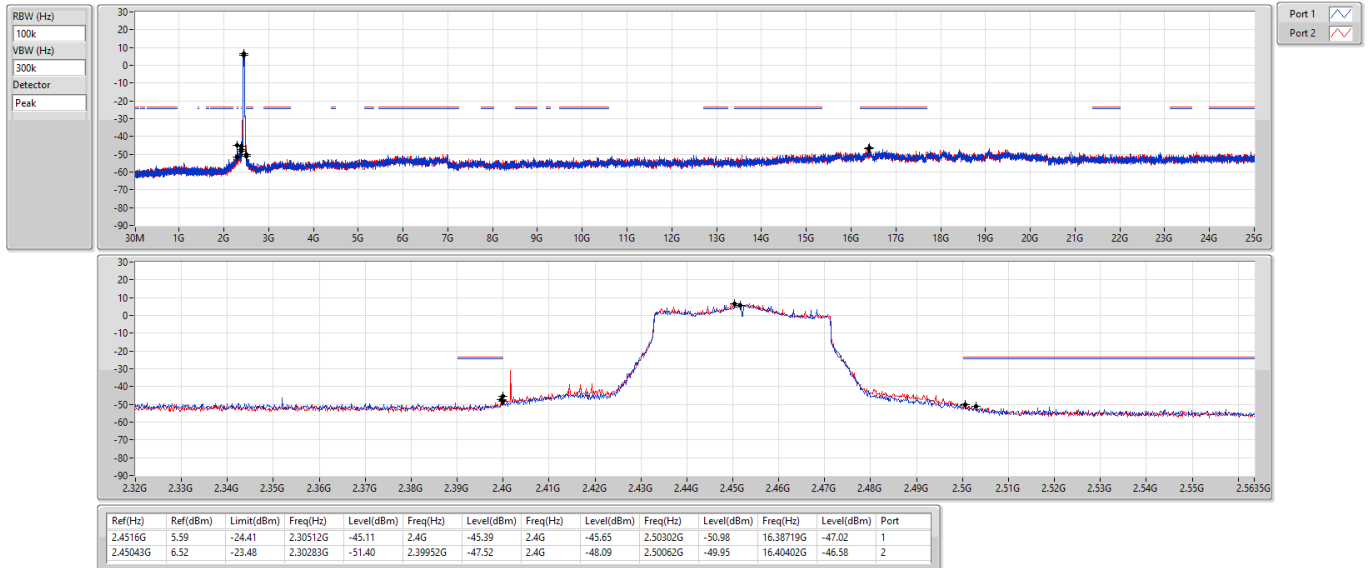
2437MHz



2.4-2.4835GHz_802.11be EHT40_Nss1,(MCS0)_2TX

CSEndB

2452MHz





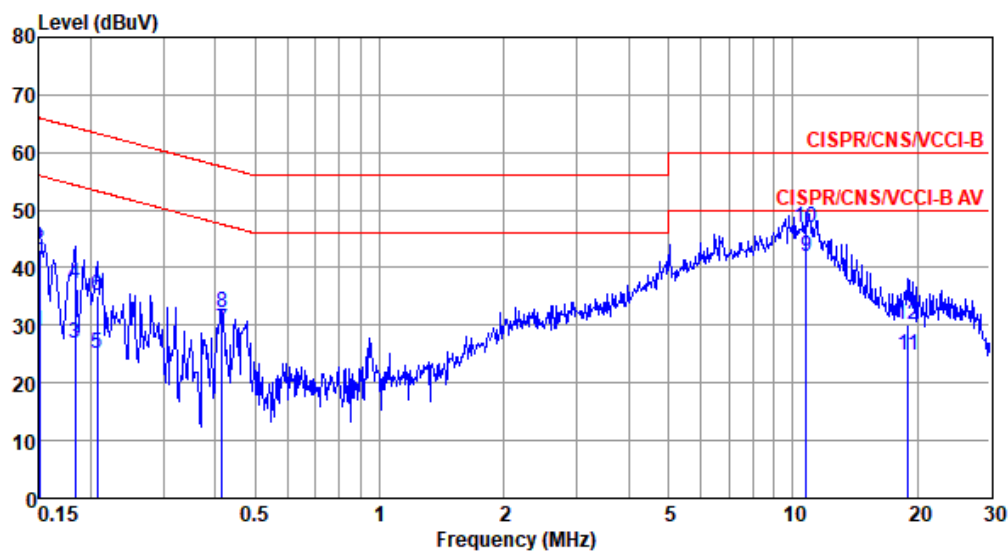
POE Mode

Modulation Mode	11b	Test Freq. (MHz)	2462
Power Phase	Line		

Test by : Michael Shang

Temperature: 21°C

Humidity: 61%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.150	29.00	56.00	-27.00	19.27	9.65	0.08	0.00	Average
2	0.150	43.12	66.00	-22.88	33.39	9.65	0.08	0.00	QP
3	0.183	26.88	54.33	-27.45	17.15	9.65	0.08	0.00	Average
4	0.183	37.17	64.33	-27.16	27.44	9.65	0.08	0.00	QP
5	0.207	25.14	53.32	-28.18	15.41	9.65	0.08	0.00	Average
6	0.207	35.08	63.32	-28.24	25.35	9.65	0.08	0.00	QP
7	0.415	29.17	47.55	-18.38	19.44	9.64	0.09	0.00	Average
8	0.415	32.11	57.55	-25.44	22.38	9.64	0.09	0.00	QP
9*	10.790	41.87	50.00	-8.13	31.83	9.71	0.33	0.00	Average
10	10.790	47.05	60.00	-12.95	37.01	9.71	0.33	0.00	QP
11	19.021	24.71	50.00	-25.29	14.48	9.68	0.55	0.00	Average
12	19.021	30.08	60.00	-29.92	19.85	9.68	0.55	0.00	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).

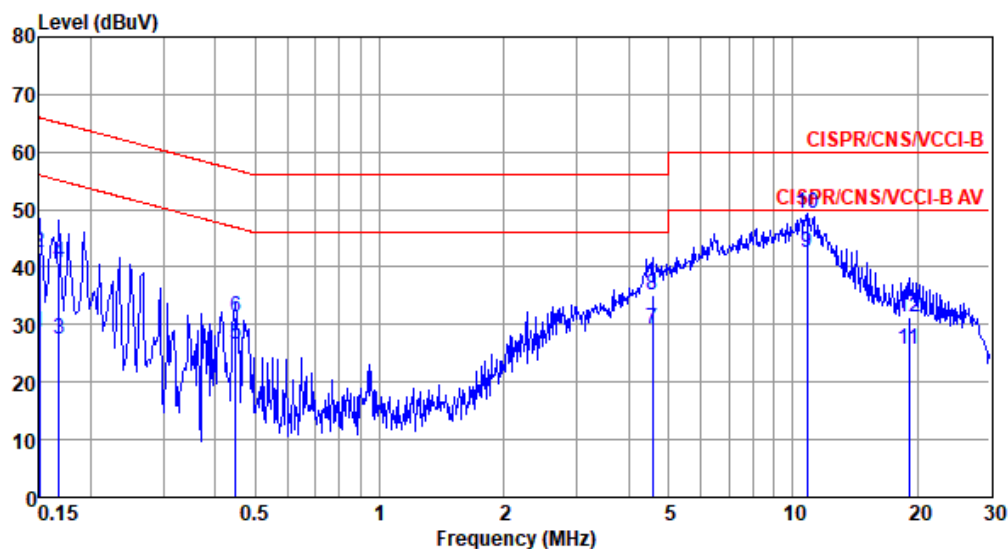


Modulation Mode	11b	Test Freq. (MHz)	2462
Power Phase	Neutral		

Test by : Michael Shang

Temperature: 21°C

Humidity: 61%



	Freq	Level	Limit	Over	Read	Factor	Cable	Aux	
	MHz	dBuV	Line	Limit	Level	dB	loss	dB	Remark
			dBuV	dB	dBuV		dB		
1	0.150	28.50	56.00	-27.50	18.76	9.66	0.08	0.00	Average
2	0.150	42.60	66.00	-23.40	32.86	9.66	0.08	0.00	QP
3	0.168	27.53	55.08	-27.55	17.79	9.66	0.08	0.00	Average
4	0.168	40.86	65.08	-24.22	31.12	9.66	0.08	0.00	QP
5	0.449	26.51	46.89	-20.38	16.78	9.64	0.09	0.00	Average
6	0.449	31.41	56.89	-25.48	21.68	9.64	0.09	0.00	QP
7	4.574	29.18	46.00	-16.82	19.26	9.69	0.23	0.00	Average
8	4.574	35.13	56.00	-20.87	25.21	9.69	0.23	0.00	QP
9*	10.847	42.50	50.00	-7.50	32.42	9.75	0.33	0.00	Average
10	10.847	49.25	60.00	-10.75	39.17	9.75	0.33	0.00	QP
11	19.122	25.77	50.00	-24.23	15.40	9.82	0.55	0.00	Average
12	19.122	31.22	60.00	-28.78	20.85	9.82	0.55	0.00	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).



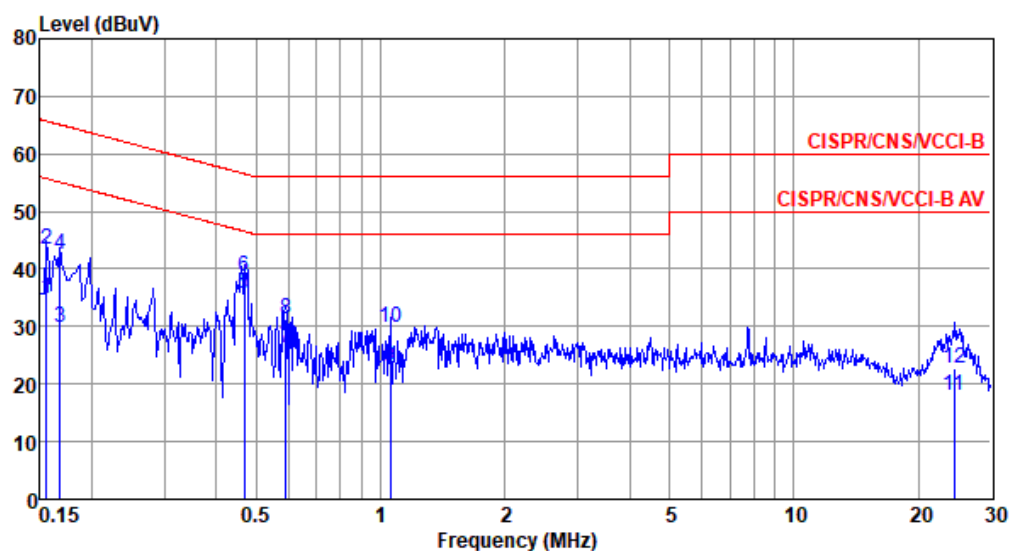
Adapter Mode

Modulation Mode	11b	Test Freq. (MHz)	2462
Power Phase	Line		

Test by : Michael Shang

Temperature: 21°C

Humidity: 61%



	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.156	34.97	55.69	-20.72	25.02	9.65	0.08	0.22	Average
2	0.156	43.39	65.69	-22.30	33.44	9.65	0.08	0.22	QP
3	0.168	29.84	55.08	-25.24	19.88	9.65	0.08	0.23	Average
4	0.168	42.62	65.08	-22.46	32.66	9.65	0.08	0.23	QP
5*	0.469	35.73	46.54	-10.81	25.67	9.64	0.09	0.33	Average
6	0.469	38.57	56.54	-17.97	28.51	9.64	0.09	0.33	QP
7	0.589	26.24	46.00	-19.76	16.16	9.64	0.09	0.35	Average
8	0.589	31.15	56.00	-24.85	21.07	9.64	0.09	0.35	QP
9	1.054	22.92	46.00	-23.08	12.77	9.65	0.10	0.40	Average
10	1.054	29.87	56.00	-26.13	19.72	9.65	0.10	0.40	QP
11	24.400	17.86	50.00	-32.14	6.85	9.66	0.62	0.73	Average
12	24.400	22.63	60.00	-37.37	11.62	9.66	0.62	0.73	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	11b	Test Freq. (MHz)	2462																																																																																																																																		
Power Phase	Neutral																																																																																																																																				
Test by : Michael Shang Temperature: 21°C Humidity: 61%																																																																																																																																					
<table><tr><th></th><th>Freq MHz</th><th>Level dBUV</th><th>Limit Line dBUV</th><th>Over Limit dB</th><th>Read Level dBUV</th><th>Factor dB</th><th>Cable loss dB</th><th>Aux dB</th><th>Remark</th></tr><tr><td>1</td><td>0.153</td><td>34.23</td><td>55.82</td><td>-21.59</td><td>24.35</td><td>9.66</td><td>0.08</td><td>0.14</td><td>Average</td></tr><tr><td>2</td><td>0.153</td><td>45.50</td><td>65.82</td><td>-20.32</td><td>35.62</td><td>9.66</td><td>0.08</td><td>0.14</td><td>QP</td></tr><tr><td>3</td><td>0.168</td><td>30.76</td><td>55.08</td><td>-24.32</td><td>20.86</td><td>9.66</td><td>0.08</td><td>0.16</td><td>Average</td></tr><tr><td>4</td><td>0.168</td><td>42.37</td><td>65.08</td><td>-22.71</td><td>32.47</td><td>9.66</td><td>0.08</td><td>0.16</td><td>QP</td></tr><tr><td>5*</td><td>0.471</td><td>37.47</td><td>46.49</td><td>-9.02</td><td>27.46</td><td>9.64</td><td>0.09</td><td>0.28</td><td>Average</td></tr><tr><td>6</td><td>0.471</td><td>38.99</td><td>56.49</td><td>-17.50</td><td>28.98</td><td>9.64</td><td>0.09</td><td>0.28</td><td>QP</td></tr><tr><td>7</td><td>0.604</td><td>23.39</td><td>46.00</td><td>-22.61</td><td>13.36</td><td>9.64</td><td>0.09</td><td>0.30</td><td>Average</td></tr><tr><td>8</td><td>0.604</td><td>31.30</td><td>56.00</td><td>-24.70</td><td>21.27</td><td>9.64</td><td>0.09</td><td>0.30</td><td>QP</td></tr><tr><td>9</td><td>1.054</td><td>23.35</td><td>46.00</td><td>-22.65</td><td>13.25</td><td>9.65</td><td>0.10</td><td>0.35</td><td>Average</td></tr><tr><td>10</td><td>1.054</td><td>28.11</td><td>56.00</td><td>-27.89</td><td>18.01</td><td>9.65</td><td>0.10</td><td>0.35</td><td>QP</td></tr><tr><td>11</td><td>24.659</td><td>17.77</td><td>50.00</td><td>-32.23</td><td>6.62</td><td>9.85</td><td>0.63</td><td>0.67</td><td>Average</td></tr><tr><td>12</td><td>24.659</td><td>22.85</td><td>60.00</td><td>-37.15</td><td>11.70</td><td>9.85</td><td>0.63</td><td>0.67</td><td>QP</td></tr></table>					Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	Factor dB	Cable loss dB	Aux dB	Remark	1	0.153	34.23	55.82	-21.59	24.35	9.66	0.08	0.14	Average	2	0.153	45.50	65.82	-20.32	35.62	9.66	0.08	0.14	QP	3	0.168	30.76	55.08	-24.32	20.86	9.66	0.08	0.16	Average	4	0.168	42.37	65.08	-22.71	32.47	9.66	0.08	0.16	QP	5*	0.471	37.47	46.49	-9.02	27.46	9.64	0.09	0.28	Average	6	0.471	38.99	56.49	-17.50	28.98	9.64	0.09	0.28	QP	7	0.604	23.39	46.00	-22.61	13.36	9.64	0.09	0.30	Average	8	0.604	31.30	56.00	-24.70	21.27	9.64	0.09	0.30	QP	9	1.054	23.35	46.00	-22.65	13.25	9.65	0.10	0.35	Average	10	1.054	28.11	56.00	-27.89	18.01	9.65	0.10	0.35	QP	11	24.659	17.77	50.00	-32.23	6.62	9.85	0.63	0.67	Average	12	24.659	22.85	60.00	-37.15	11.70	9.85	0.63	0.67	QP
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