

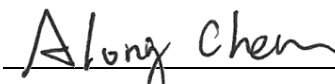
FCC Test Report

FCC ID : HDC-17600070F1
Equipment : WiFi 6 2.5G Router
(Refer to item 1.1.1 for more details)
Model No. : SDG-8612
(Refer to item 1.1.1 for more details)
Brand Name : Adtran
Applicant : Adtran
Address : 901 Explorer Boulevard, Huntsville, Alabama,
United States, 35806-2807
Standard : 47 CFR FCC Part 15.247
Received Date : Apr. 18, 2023
Tested Date : Apr. 19 ~ May 17, 2023

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

Reviewed by:

Approved by:



Along Chen / Assistant Manager



Gary Chang / Manager

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Appendix A. 6dB and Occupied Bandwidth

Appendix B. Conducted Output Power

Appendix C. Power Spectral Density

Appendix D. Unwanted Emissions into Restricted Frequency Bands

Appendix E. Emissions in Non-Restricted Frequency Bands

Appendix F. AC Power Line Conducted Emissions

Release Record

Report No.	Version	Description	Issued Date
FR341804AC	Rev. 01	Initial issue	Jun. 02, 2023

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.428MHz 44.21 (Margin -3.08dB) - AV	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 2390.00MHz 53.79 (Margin -0.21dB) - AV	Pass
15.247(b)(3)	Conducted Output Power	Max Power [dBm]: Non-beamforming mode 28.61 Beamforming mode 25.87	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
Adtran	SDG-8612	WiFi 6 2.5G Router	2.5G RJ45 WAN port
	SDG-8614	WiFi 6 SFP Router	2.5G SFP WAN port

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]	4	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	4	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	4	MCS 0-31
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	4	MCS 0-31
2400-2483.5	ax (HE20)	2412-2462	1-11 [11]	4	MCS 0-11
2400-2483.5	ax (HE40)	2422-2452	3-9 [7]	4	MCS 0-11
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power. Note 2: DBPSK, DQPSK, CCK modulation BPSK, QPSK, 16QAM, 64QAM, 256QAM and 1024QAM modulation. Note 3: 802.11ax supports beamforming function.					

1.1.3 Antenna Details

Ant. No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)				
				2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
1	Antenna_LB1	PIFA	UFL	3.698	--	--	--	--
2	Antenna_LB2	PIFA	UFL	4.22	--	--	--	--
3	Antenna_LB3	PIFA	UFL	3.516	--	--	--	--
4	Antenna_LB4	PIFA	UFL	4.661	--	--	--	--
5	Antenna_5G1	PIFA	UFL	--	3.664	3.749	2.763	2.649
6	Antenna_5G2	PIFA	UFL	--	2.81	3.951	3.35	3.759
7	Antenna_5G3	PIFA	UFL	--	3.587	3.956	4.111	3.986
8	Antenna_5G4	PIFA	UFL	--	4.053	4.053	4.12	4.789

1.1.4 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	15Vdc from AC adapter
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1.1.5 Accessories

Accessories		
No.	Equipment	Description
1	AC adapter	Brand: LUCENT TRANS Model: 1A78 I/P: 100-240Vac, 50/60Hz, 1.2A O/P: 15V=3.0A, 45.0W Power Line: USB 1.8m non-shielded without core
2	RJ45 cable	2m non-shielded without core

1.1.6 Channel List

Frequency band (MHz)		2400~2483.5	
802.11 b / g / n HT20 / ax HE20		802.11n HT40 / ax HE40	
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	---	---

1.1.7 Test Tool and Duty Cycle

Test Tool	Non-beamforming: QATool_Dbg, Version: 0.0.2.88 Beamforming: Putty, Version: 0.60.0.0				
Duty Cycle and Duty Factor	Mode	Non-beamforming		Beamforming	
		Duty cycle (%)	Duty factor (dB)	Duty cycle (%)	Duty factor (dB)
	11b	100.00%	0.00	---	---
	11g	98.57%	0.06	---	---
	ax HE20	98.08%	0.08	95.83%	0.19
	ax HE40	95.59%	0.20	90.77%	0.42

1.1.8 Power Index of Test Tool

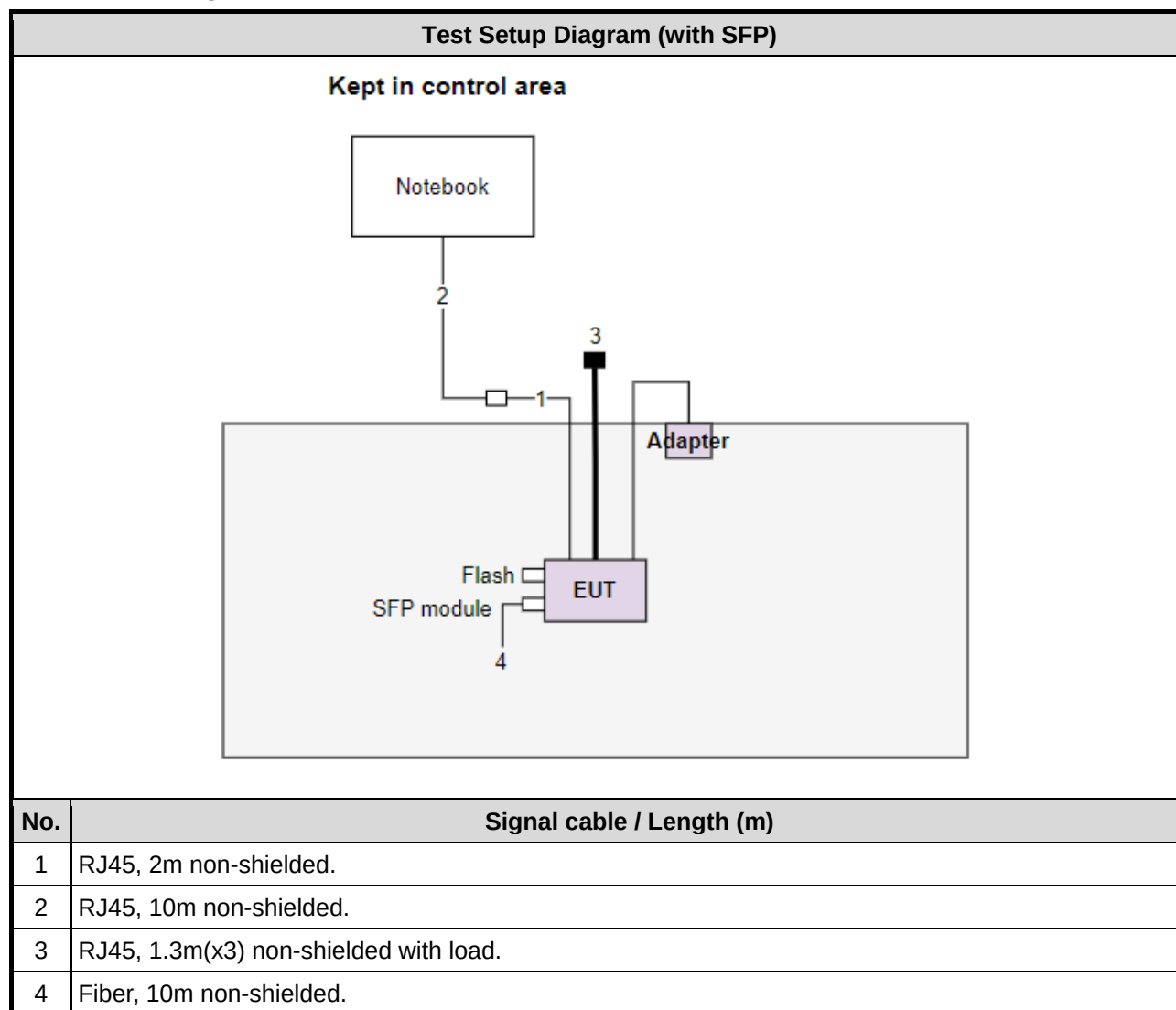
Modulation Mode	Test Frequency (MHz)	Power Index	
		Non-beamforming	Beamforming
11b	2412	17.5	---
11b	2437	21.5	---
11b	2462	18	---
11g	2412	17	---
11g	2437	21	---
11g	2462	17.5	---
ax HE20	2412	17.5	34
ax HE20	2437	21	41
ax HE20	2462	17.5	32
ax HE40	2422	15.5	30
ax HE40	2437	17	31
ax HE40	2452	15.5	29

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
With SFP					
1	Laptop	DELL	Latitude 5400	DoC	---
2	USB 3.0 Flash	Transcend	JetFlash 700	---	---
3	SFP module	---	LTE3680M-BH2 0-RA	---	Provided by applicant.
4	RJ 45 Load	ICC	---	---	---
5	Laptop	DELL	Latitude E5470	DoC	For Beamforming mode only.
6	BF Client	Gemtek	WRTM-381AX	---	For Beamforming mode only.
Without SFP					
1	Laptop	DELL	Latitude 5400	DoC	---
2	Laptop	DELL	Latitude E5470	DoC	---
3	USB 3.0 Flash	Transcend	JetFlash 700	---	Provided by applicant.
4	RJ 45 Load	ICC	---	---	---
5	Laptop	DELL	Latitude E5470	DoC	For Beamforming mode only.
6	BF Client	Gemtek	WRTM-381AX	---	For Beamforming mode only.

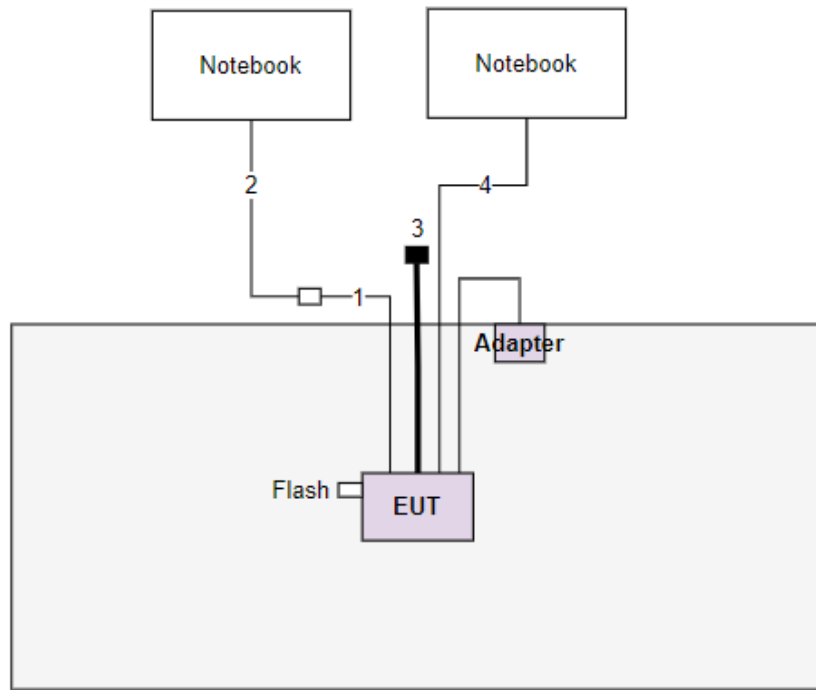
1.3 Test Setup Chart

Non-beamforming mode



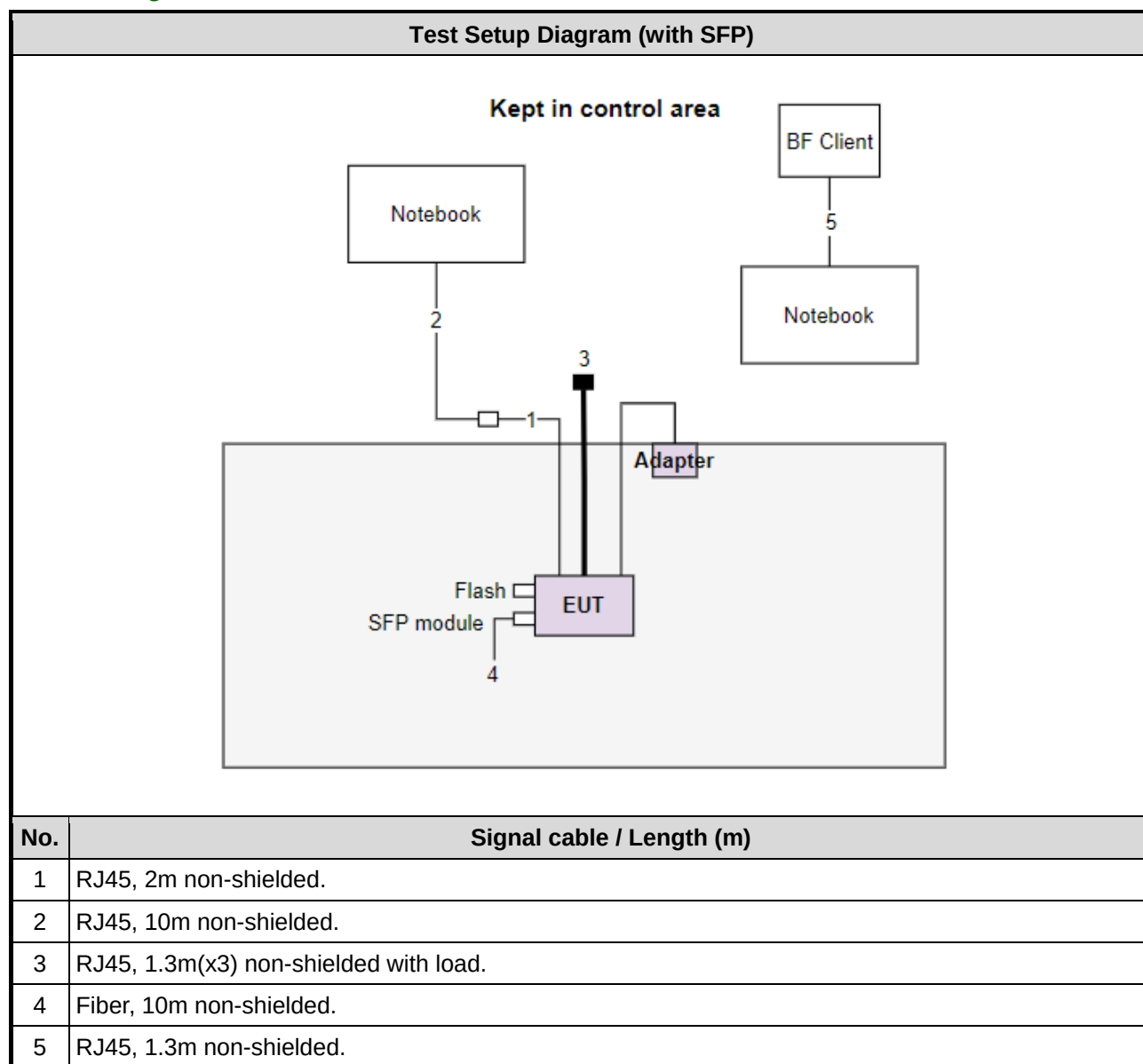
Test Setup Diagram (without SFP)

Kept in control area

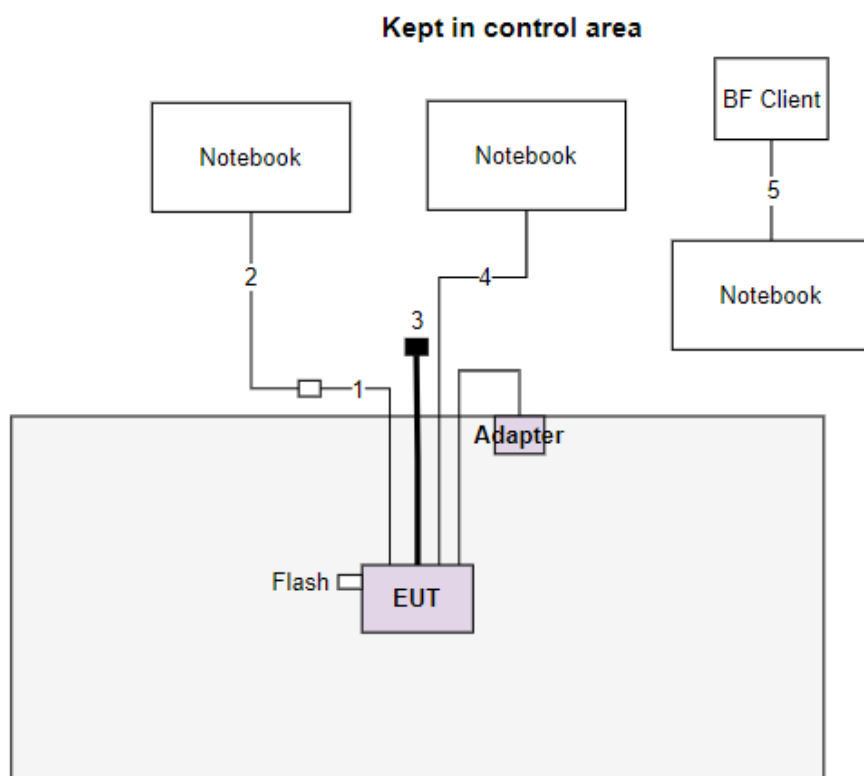


No.	Signal cable / Length (m)
1	RJ45, 2m non-shielded.
2	RJ45, 10m non-shielded.
3	RJ45, 1.3m(x3) non-shielded with load.
4	RJ45, 10m non-shielded.

Beamforming mode



Test Setup Diagram (without SFP)



No.	Signal cable / Length (m)
1	RJ45, 2m non-shielded.
2	RJ45, 10m non-shielded.
3	RJ45, 1.3m(x3) non-shielded with load.
4	RJ45, 10m non-shielded.
5	RJ45, 1.3m non-shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	May 04, 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	101295	Jan. 31, 2023	Jan. 30, 2024
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127667	Jan. 03, 2023	Jan. 02, 2024
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 17, 2022	Oct. 16, 2023
50 ohm terminal (Support Unit)	NA	50	01	May 10, 2022	May 09, 2023
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Apr. 19 ~ May 17, 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	101498	Nov. 21, 2022	Nov. 20, 2023
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 01, 2022	Oct. 31, 2023
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 03, 2022	Aug. 02, 2023
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Nov. 25, 2022	Nov. 24, 2023
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 27, 2022	Oct. 26, 2023
Preamplifier	EMC	EMC02325	980225	Jun. 28, 2022	Jun. 27, 2023
Preamplifier	EMC	EMC118A45SE	980898	Jul. 16, 2022	Jul. 15, 2023
Preamplifier	EMC	EMC184045SE	980903	Jul. 16, 2022	Jul. 15, 2023
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 04, 2022	Oct. 03, 2023
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 04, 2022	Oct. 03, 2023
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 04, 2022	Oct. 03, 2023
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 04, 2022	Oct. 03, 2023
RF Cable	EMC	EMC104-35M-35M-8000	210920	Oct. 04, 2022	Oct. 03, 2023
RF Cable	EMC	EMC104-35M-35M-3000	210922	Oct. 04, 2022	Oct. 03, 2023
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	May 02 ~ May 17, 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
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	± 3.41 dB
Unwanted Emission > 1 GHz	± 4.59 dB

2 Test Configuration

2.1 Testing Facility

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

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

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Non-beamforming mode				
AC Power Line Conducted Emission	11b	2437	1 Mbps	1, 2
Unwanted Emissions ≤ 1GHz	11b	2437	1 Mbps	1, 2
Unwanted Emissions >1GHz	11b	2412 / 2437 / 2462	1 Mbps	2
Conducted Output Power	11g	2412 / 2437 / 2462	6 Mbps	
6dB bandwidth	ax HE20	2412 / 2437 / 2462	MCS 0	
Power spectral density	ax HE40	2422 / 2437 / 2452	MCS 0	
Beamforming mode				
AC Power Line Conducted Emission	ax HE20	2437	MCS 0	1, 2
Unwanted Emissions ≤1GHz	ax HE20	2437	MCS 0	1, 2
Unwanted Emissions >1GHz	ax HE20 ax HE40	2412 / 2437 / 2462	MCS 0	2
Conducted Output Power		2422 / 2437 / 2452	MCS 0	
6dB bandwidth				
Power spectral density				
NOTE:				
1. Test configurations are listed as follows:				
1) Test configuration 1: Without SFP, model: SDG-8612				
2) Test configuration 2: With SFP, model: SDG-8614				

3 Transmitter Test Results

3.1 6dB and Occupied Bandwidth

3.1.1 Limit of 6dB Bandwidth

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

3.1.2 Test Procedures

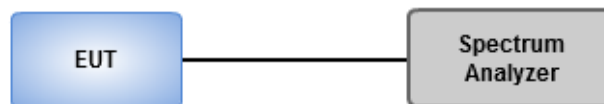
6dB Bandwidth

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

Occupied Bandwidth

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

3.1.3 Test Setup



3.1.4 Test Results

Ambient Condition	24°C / 63-65%	Tested By	Brad Wu
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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

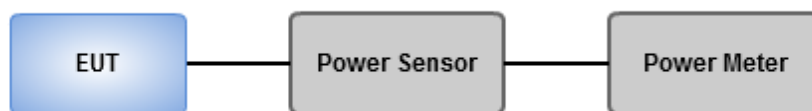
Fixed, point to point operations

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.

3.2.2 Test Procedures

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

3.2.3 Test Setup



3.2.4 Test Results

Ambient Condition	24°C / 63-65%	Tested By	Brad Wu
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Refer to Appendix B.

3.3 Power Spectral Density

3.3.1 Limit of Power Spectral Density

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

3.3.2 Test Procedures

Peak PSD

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

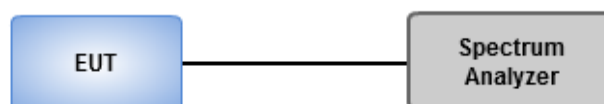
Average PSD, duty cycle $\geq 98\%$

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

Average PSD, duty cycle $< 98\%$

1. Set the RBW = 30 kHz, VBW = 100 kHz. Detector = RMS.
2. Set the sweep time to: ≥ 10 (number of measurement points in sweep) $\times$ (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	24°C / 63-65%	Tested By	Brad Wu
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Refer to Appendix C.

3.4 Unwanted Emissions into Restricted Frequency Bands

3.4.1 Limit of Unwanted Emissions into Restricted Frequency Bands

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

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

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

3.4.2 Test Procedures

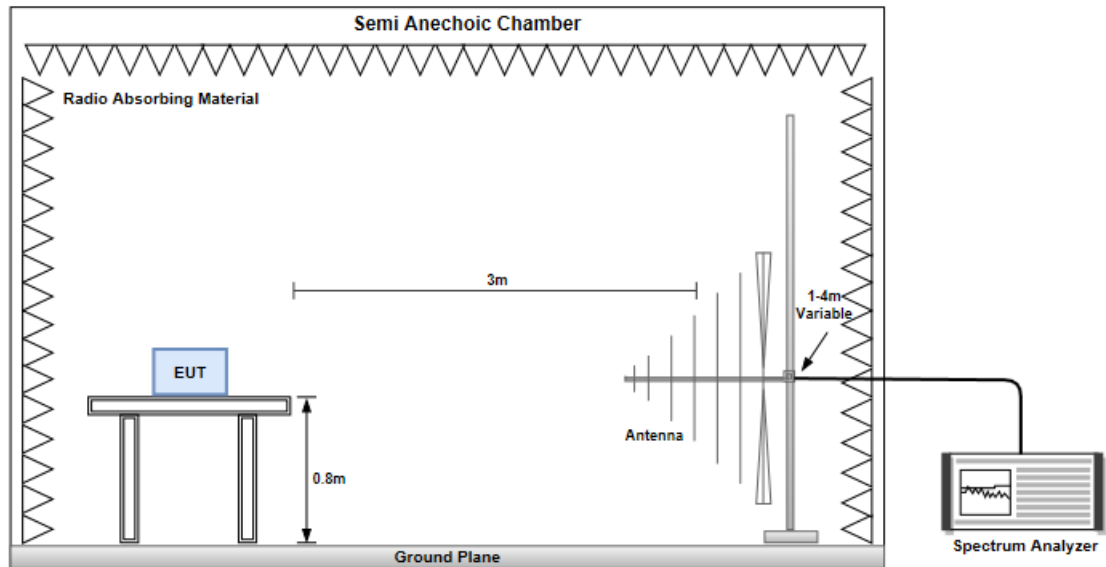
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

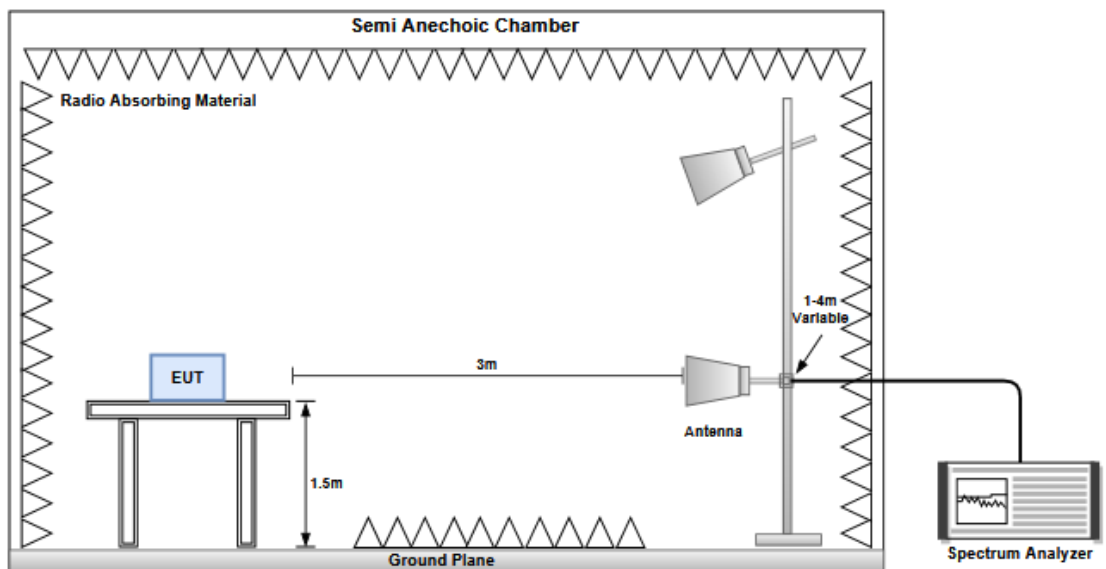
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.4.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.4.4 Test Results

Refer to Appendix D.

3.5 Emissions in Non-Restricted Frequency Bands

3.5.1 Emissions in Non-Restricted Frequency Bands Limit

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

3.5.2 Test Procedures

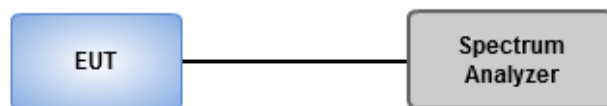
Reference level measurement

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

Emission level measurement

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

3.5.3 Test Setup



3.5.4 Test Results

Ambient Condition	24°C / 63-65%	Tested By	Brad Wu
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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

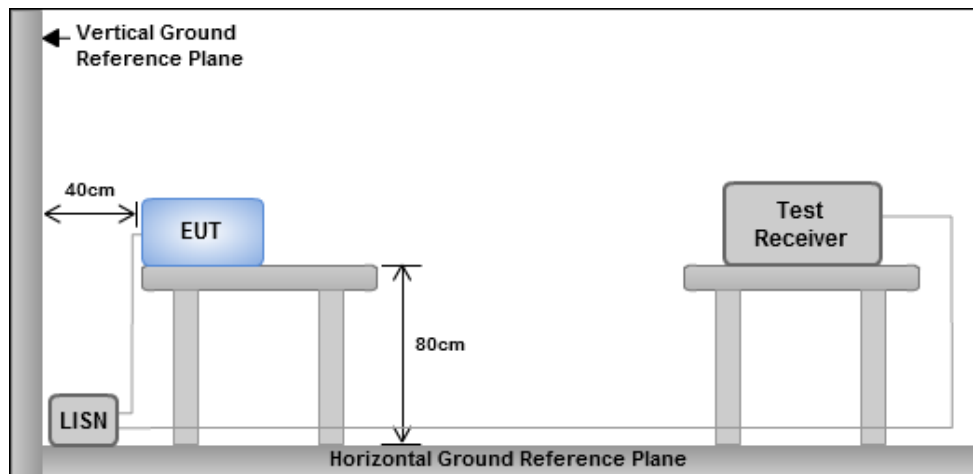
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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

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No.30-2, Ding Fwu Tsuen, Lin Kou
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Kwei Shan Site II

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Non-beamforming mode
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)_4TX	8.075M	13.463M	13M5G1D	7.55M	12.609M
802.11g_Nss1,(6Mbps)_4TX	16.325M	17.195M	17M2D1D	15.375M	16.646M
802.11ax HEW20_Nss1,(MCS0)_4TX	18.825M	19.065M	19M1D1D	17.8M	18.891M
802.11ax HEW40_Nss1,(MCS0)_4TX	36.95M	37.731M	37M7D1D	34.4M	37.631M

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

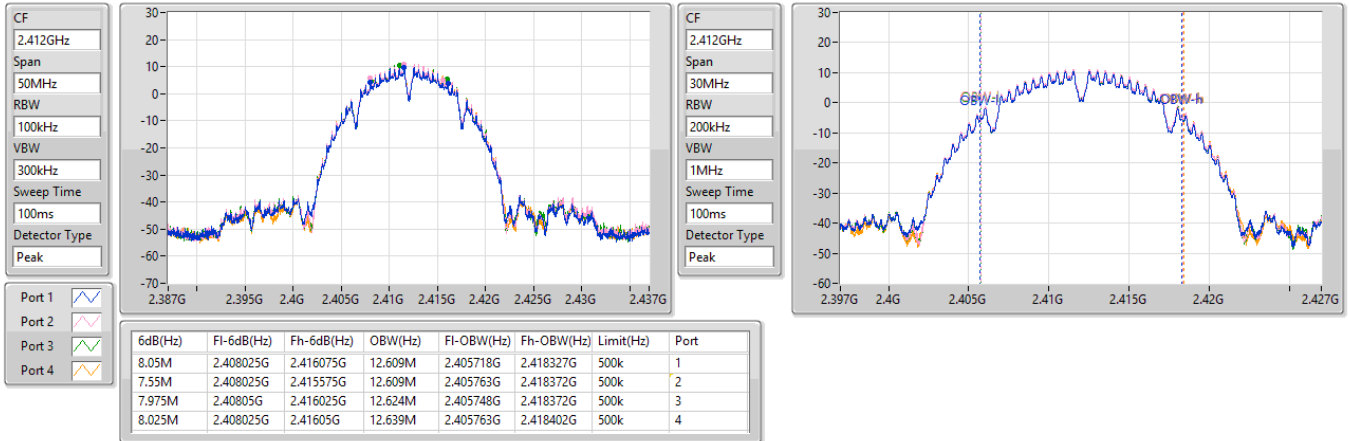
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	8.05M	12.609M	7.55M	12.609M	7.975M	12.624M	8.025M	12.639M
2437MHz	Pass	500k	8.025M	13.028M	8.025M	13.163M	8.05M	13.463M	8M	13.013M
2462MHz	Pass	500k	8.05M	12.639M	8.025M	12.669M	8.075M	12.624M	8.05M	12.729M
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.3M	16.646M	16.25M	16.69M	16.3M	16.668M	16.3M	16.734M
2437MHz	Pass	500k	16.275M	17.041M	16.275M	16.954M	15.925M	17.195M	16.05M	16.844M
2462MHz	Pass	500k	16.3M	16.646M	16.075M	16.668M	16.325M	16.646M	15.375M	16.69M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.475M	18.891M	18.825M	18.891M	18.675M	18.891M	18.7M	18.916M
2437MHz	Pass	500k	18.825M	19.065M	18.775M	19.065M	18.05M	19.065M	18.3M	19.065M
2462MHz	Pass	500k	18.325M	19.015M	17.8M	18.991M	18.325M	18.991M	18M	18.991M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	35M	37.631M	35M	37.631M	36.95M	37.631M	36.25M	37.681M
2437MHz	Pass	500k	35.7M	37.631M	34.4M	37.681M	35.05M	37.731M	35.65M	37.731M
2452MHz	Pass	500k	35.25M	37.681M	36M	37.631M	35.1M	37.631M	35.45M	37.681M

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)_4TX

EBW

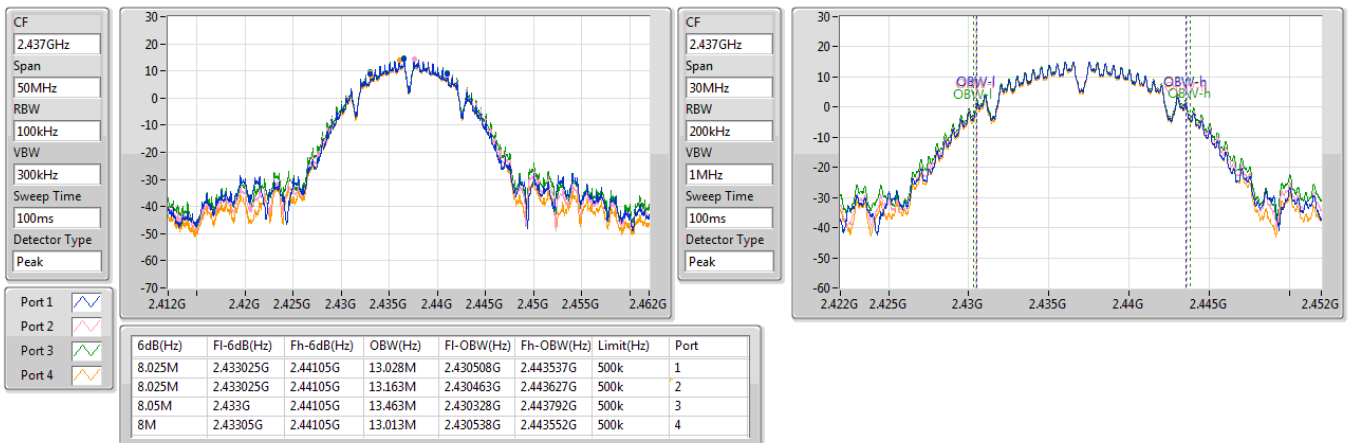
2412MHz



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_4TX

EBW

2437MHz

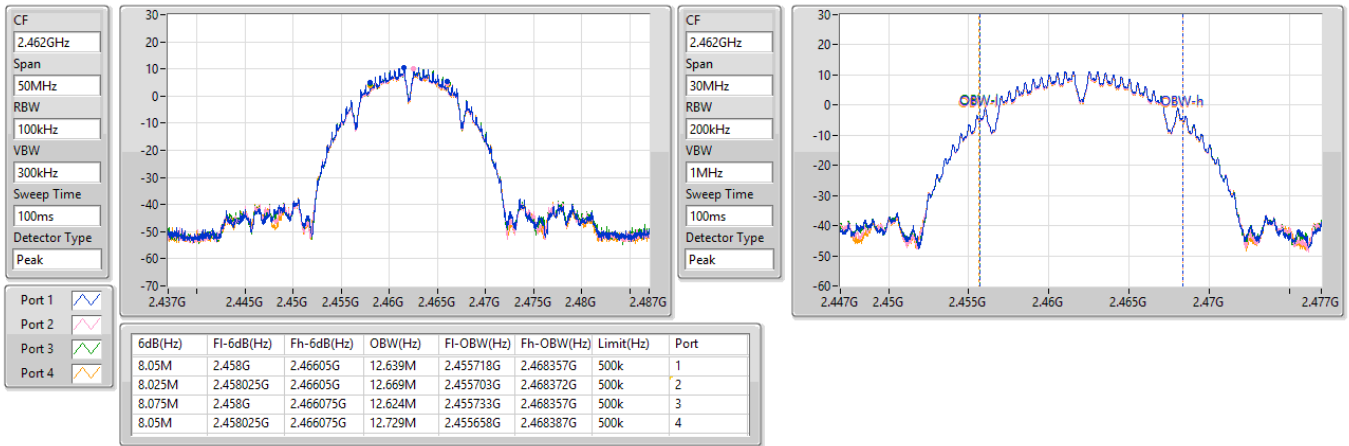




2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_4TX

EBW

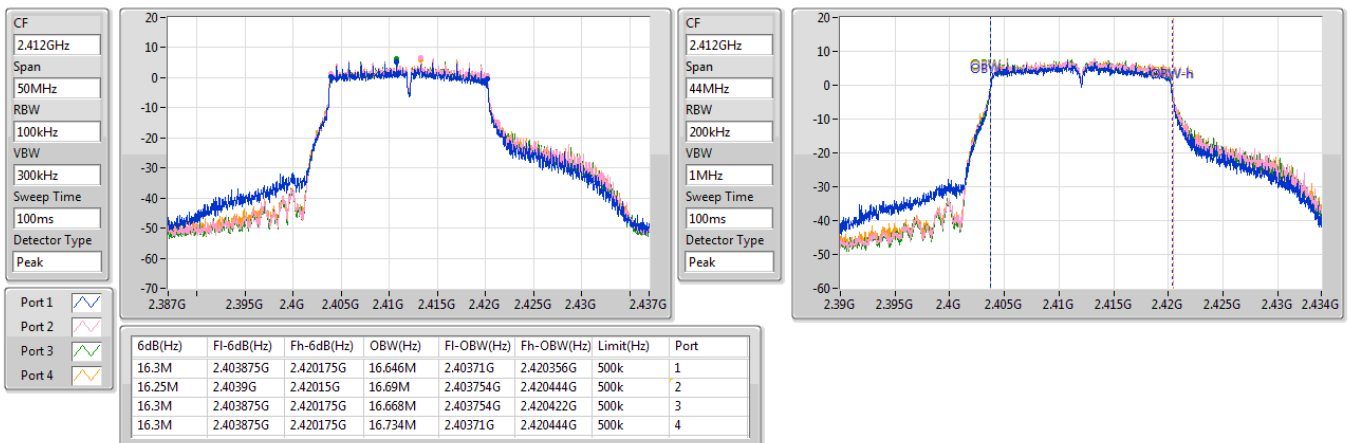
2462MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_4TX

EBW

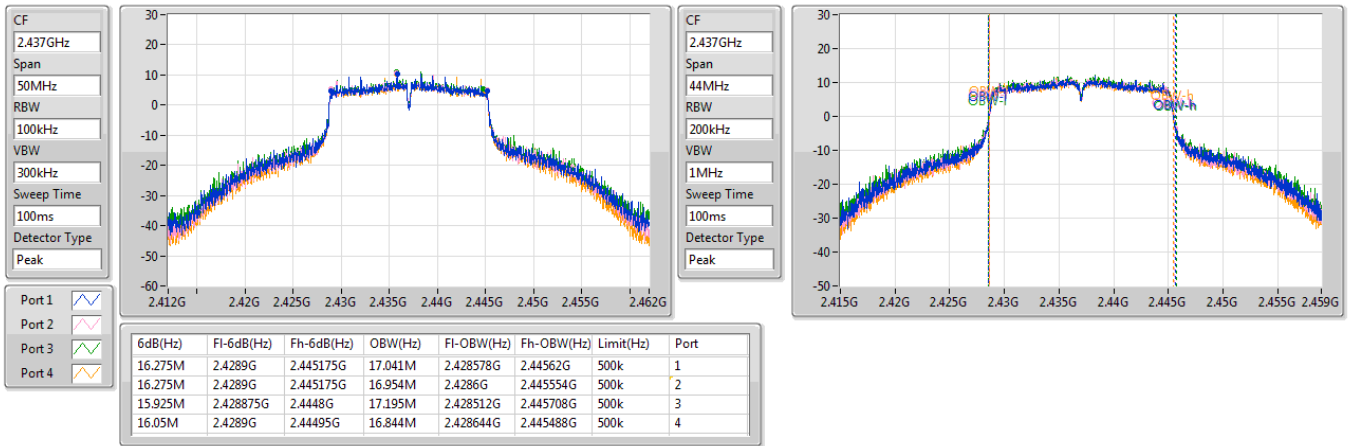
2412MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_4TX

EBW

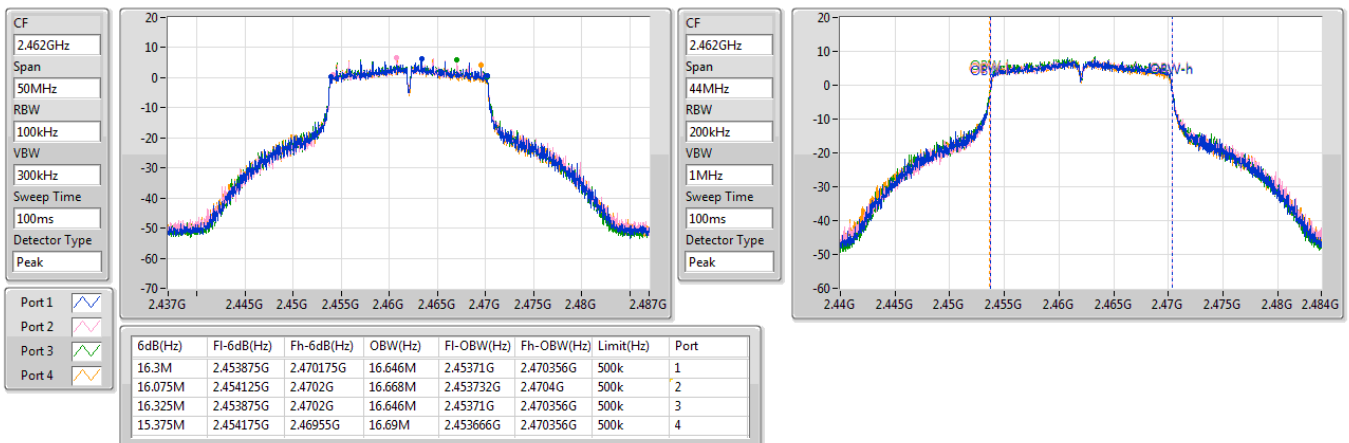
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2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_4TX

EBW

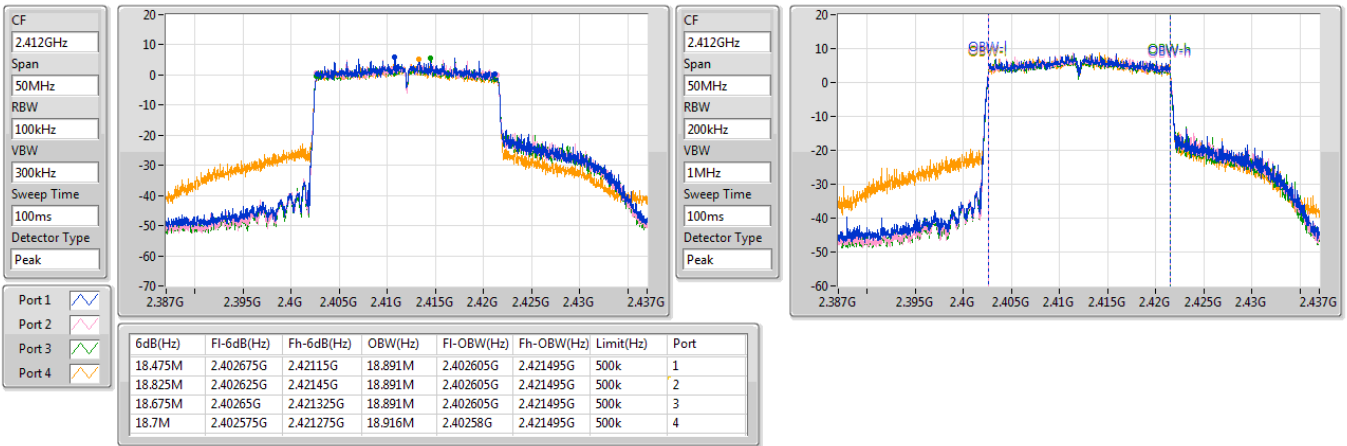
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2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

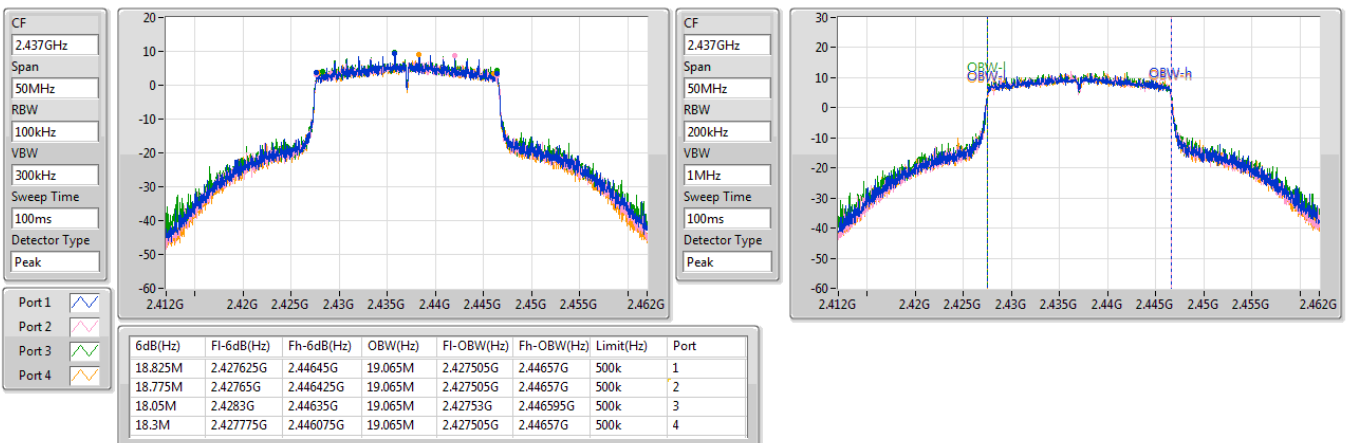
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2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2437MHz

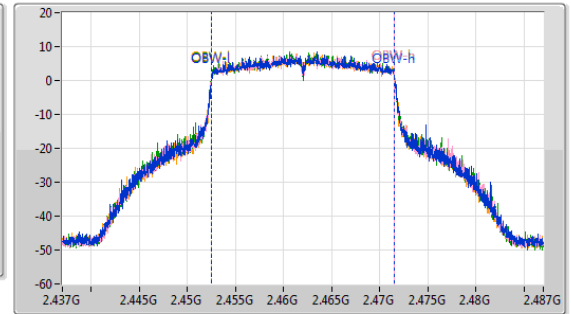
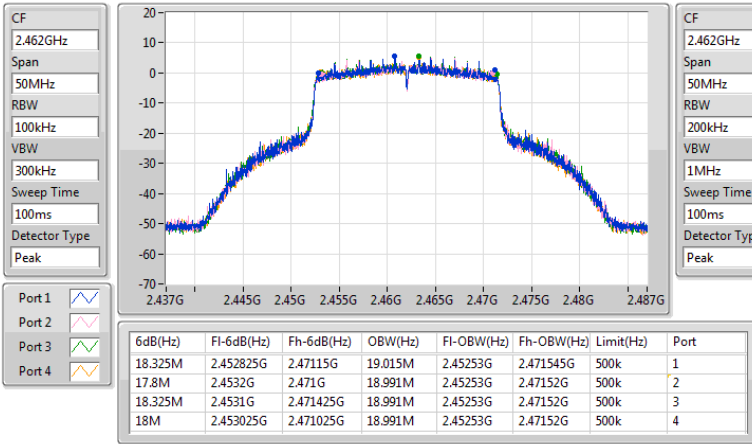




2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

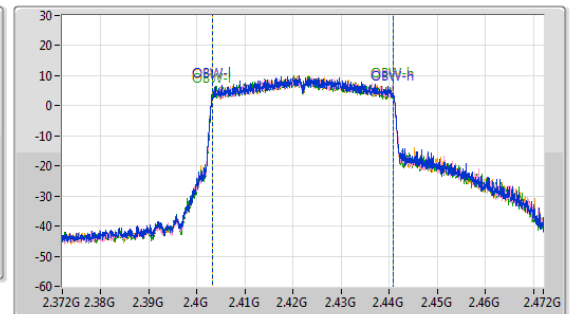
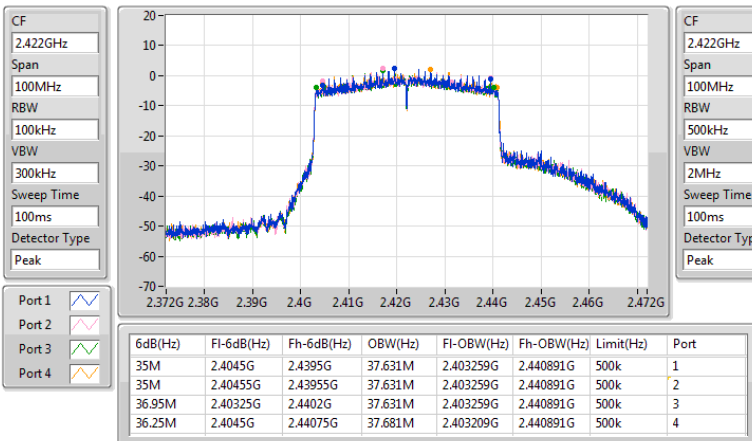
2462MHz



2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2422MHz

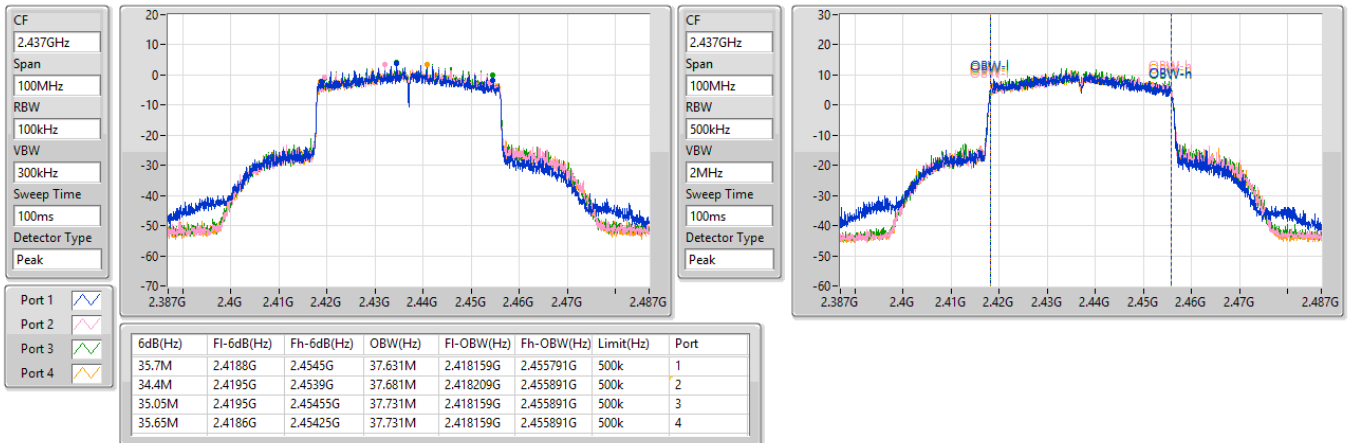




2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

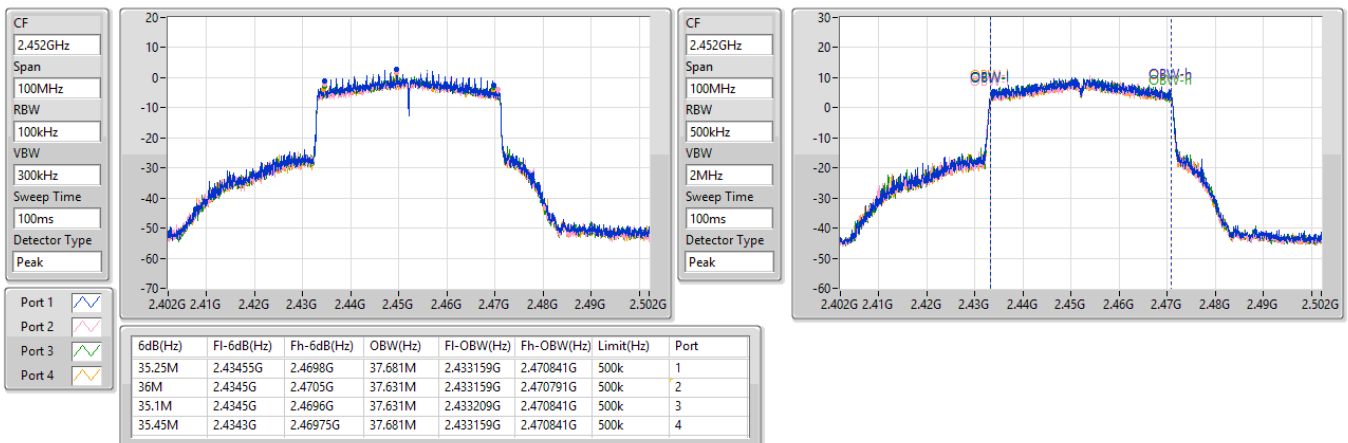
2437MHz



2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2452MHz



Beamforming mode

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	18.95M	19.215M	19M2D1D	18.4M	18.891M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.95M	37.931M	37M9D1D	35.95M	37.631M

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)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.875M	18.941M	18.95M	18.916M	18.925M	18.891M	18.8M	18.916M
2437MHz	Pass	500k	18.7M	19.115M	18.925M	19.09M	18.85M	19.215M	18.6M	19.065M
2462MHz	Pass	500k	18.65M	19.04M	18.4M	19.09M	18.85M	19.065M	18.775M	19.04M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	35.95M	37.631M	37.55M	37.831M	37.8M	37.881M	37.45M	37.781M
2437MHz	Pass	500k	37.6M	37.781M	37.6M	37.931M	37.95M	37.931M	36.85M	37.781M
2452MHz	Pass	500k	37.9M	37.831M	37.65M	37.881M	37.95M	37.781M	37.85M	37.881M

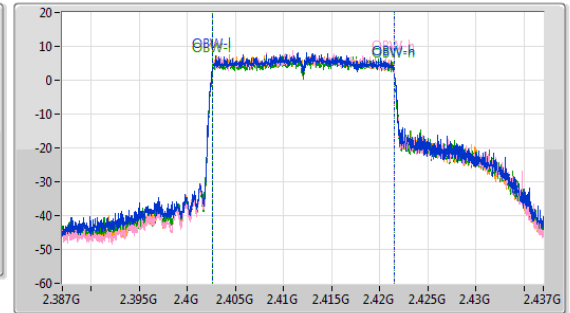
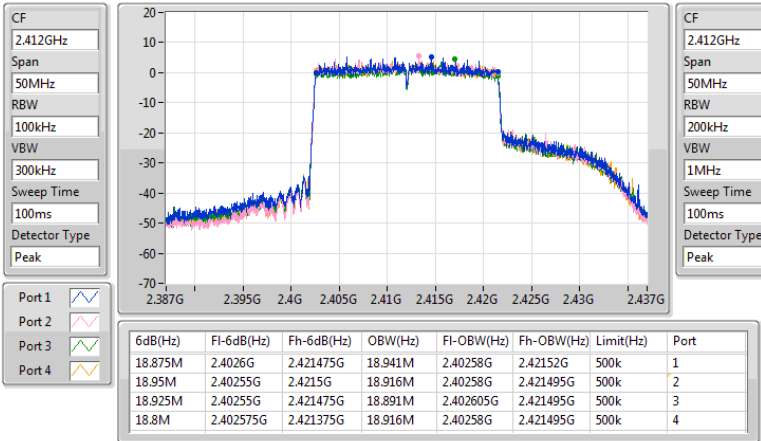
Port X-N dB = Port X 6dB down bandwidth;

Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

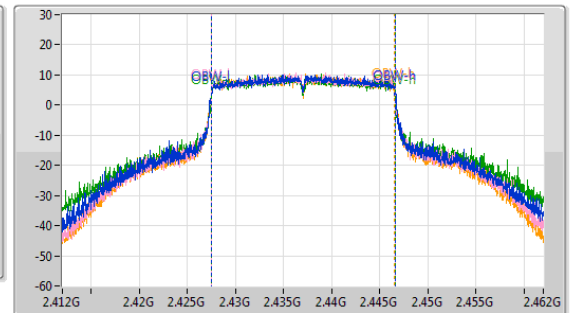
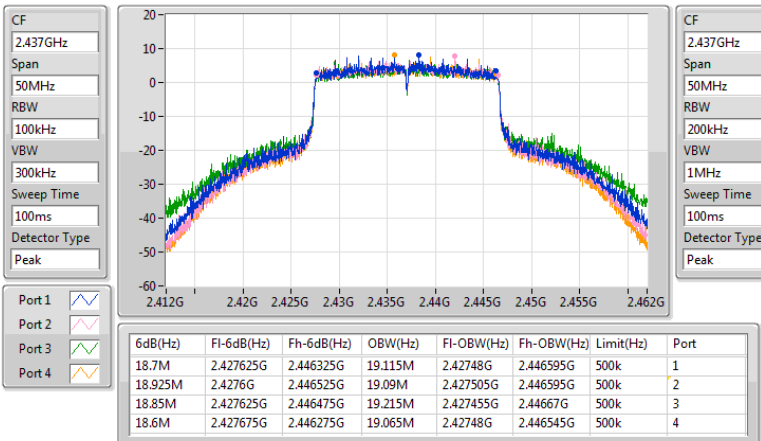
2412MHz



2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2437MHz

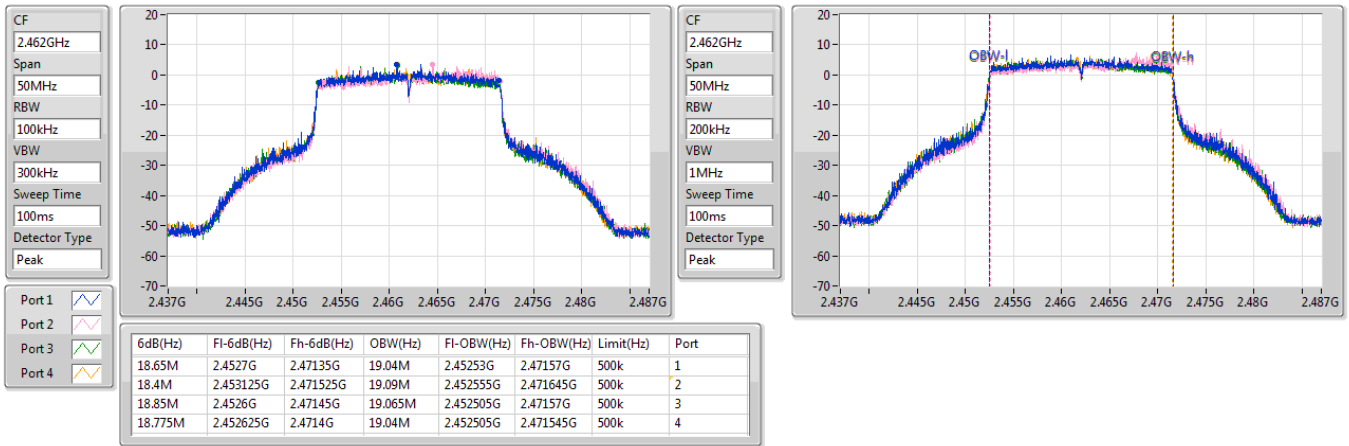




2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

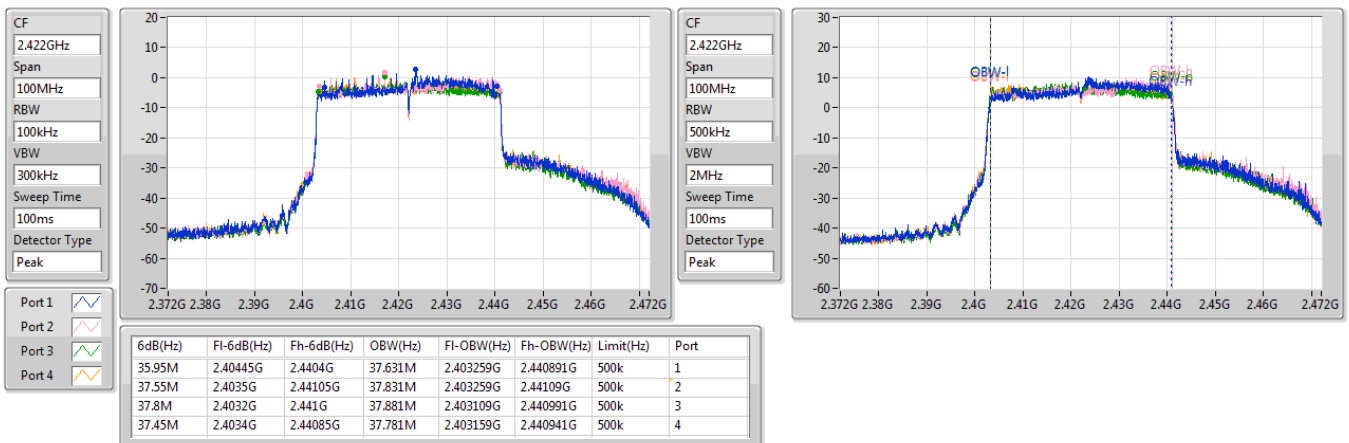
2462MHz



2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2422MHz

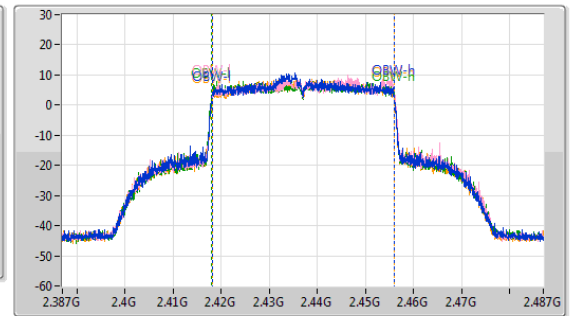
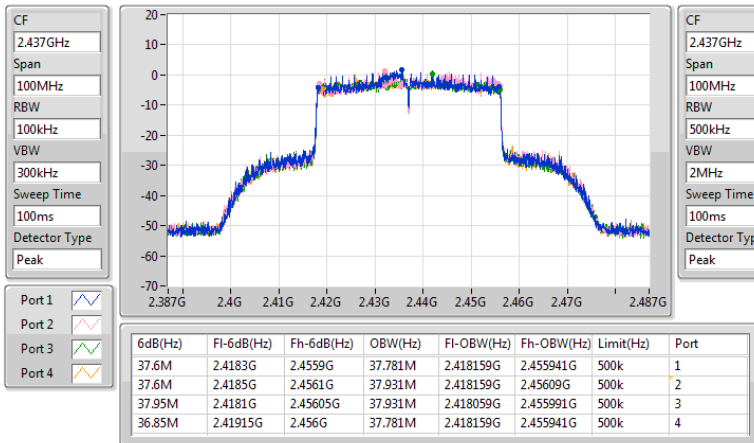




2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

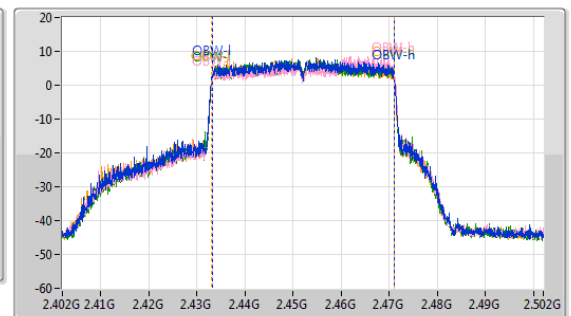
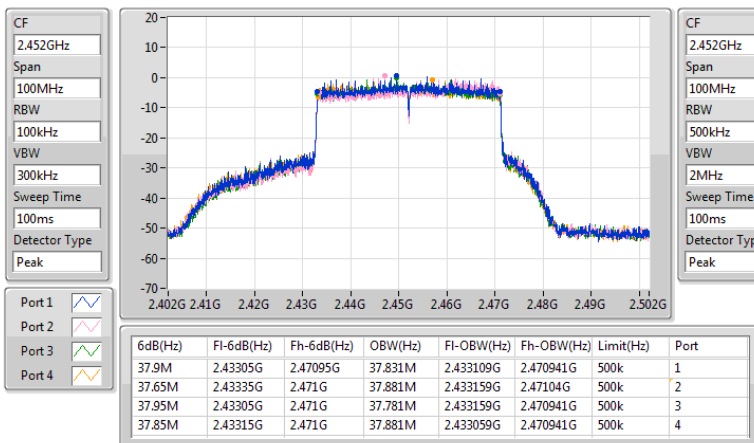
2437MHz



2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2452MHz



Non-beamforming mode
Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_4TX	28.61	0.72611
802.11g_Nss1,(6Mbps)_4TX	27.34	0.54200
802.11ax HEW20_Nss1,(MCS0)_4TX	26.39	0.43551
802.11ax HEW40_Nss1,(MCS0)_4TX	23.34	0.21577

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	4.661	18.67	18.66	18.89	18.95	24.82	30.00	29.48	36.00
2437MHz	Pass	4.661	22.14	22.96	22.68	22.54	28.61	30.00	33.27	36.00
2462MHz	Pass	4.661	18.36	18.89	18.66	18.61	24.65	30.00	29.31	36.00
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	4.661	17.64	17.31	17.58	17.62	23.56	30.00	28.22	36.00
2437MHz	Pass	4.661	21.04	21.52	21.31	21.41	27.34	30.00	32.00	36.00
2462MHz	Pass	4.661	17.34	17.68	17.49	17.58	23.54	30.00	28.20	36.00
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	4.661	17.13	17.03	17.37	17.41	23.26	30.00	27.92	36.00
2437MHz	Pass	4.661	20.16	20.58	20.26	20.45	26.39	30.00	31.05	36.00
2462MHz	Pass	4.661	16.41	16.88	16.45	16.64	22.62	30.00	27.28	36.00
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	4.661	15.81	15.69	15.85	16.02	21.86	30.00	26.52	36.00
2437MHz	Pass	4.661	17.07	17.61	17.29	17.31	23.34	30.00	28.00	36.00
2452MHz	Pass	4.661	15.32	15.72	15.51	15.52	21.54	30.00	26.20	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	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	25.87	0.38637
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	21.38	0.13740

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	10.056	16.75	16.64	16.61	16.52	22.65	25.94	32.71	36.00
2437MHz	Pass	10.056	20.68	19.83	19.35	19.41	25.87	25.94	35.93	36.00
2462MHz	Pass	10.056	15.11	15.05	15.31	14.65	21.06	25.94	31.12	36.00
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	10.056	15.28	15.16	15.25	15.52	21.33	25.94	31.39	36.00
2437MHz	Pass	10.056	15.48	15.32	15.29	15.36	21.38	25.94	31.44	36.00
2452MHz	Pass	10.056	14.06	14.32	14.61	14.03	20.28	25.94	30.34	36.00

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

Note : Conducted average output power is for reference

Remark:

Directional gain = $10 \times \log((10^{3.698/20} + 10^{4.22/20} + 10^{3.516/20} + 10^{4.661/20})^2 / 4) = 10.056 \text{ dBi} > 6 \text{ dBi}$, so the limit shall be reduced to $30 \text{ dBm} - (10.056 \text{ dBi} - 6 \text{ dBi}) = 25.94 \text{ dBm}$

Non-beamforming mode
Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_4TX	-3.09
802.11g_Nss1,(6Mbps)_4TX	-5.52
802.11ax HEW20_Nss1,(MCS0)_4TX	-7.42
802.11ax HEW40_Nss1,(MCS0)_4TX	-12.03

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.056	-11.26	-10.61	-10.48	-10.78	-6.04	3.94
2437MHz	Pass	10.056	-8.70	-7.26	-7.97	-8.26	-3.09	3.94
2462MHz	Pass	10.056	-10.38	-10.97	-10.23	-11.23	-5.43	3.94
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.056	-14.33	-14.33	-14.34	-14.50	-9.28	3.94
2437MHz	Pass	10.056	-10.96	-10.25	-10.13	-10.82	-5.52	3.94
2462MHz	Pass	10.056	-14.39	-14.56	-13.94	-13.90	-9.24	3.94
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.056	-15.54	-15.86	-16.26	-16.49	-11.01	3.94
2437MHz	Pass	10.056	-12.20	-13.27	-12.33	-13.70	-7.42	3.94
2462MHz	Pass	10.056	-15.69	-16.95	-15.81	-16.78	-10.73	3.94
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	10.056	-19.10	-18.63	-19.66	-19.25	-13.64	3.94
2437MHz	Pass	10.056	-17.38	-17.86	-16.96	-17.95	-12.03	3.94
2452MHz	Pass	10.056	-18.92	-18.66	-19.26	-19.56	-13.91	3.94

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;

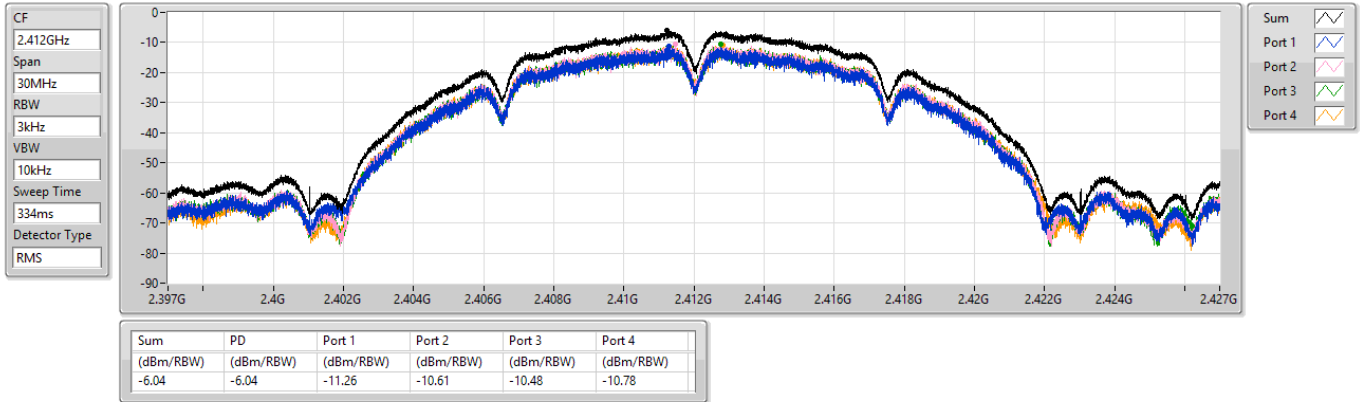
Remark:

$$\text{Directional gain} = 10 \times \log((10^{3.698/20} + 10^{4.22/20} + 10^{3.516/20} + 10^{4.661/20})^2/4) = 10.056 \text{ dBi} > 6\text{dBi}, \text{ so the limit shall be reduced to } 8 \text{ dBm} - (10.056\text{dBi} - 6\text{dBi}) = 3.94 \text{ dBm}$$

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_4TX

PSD

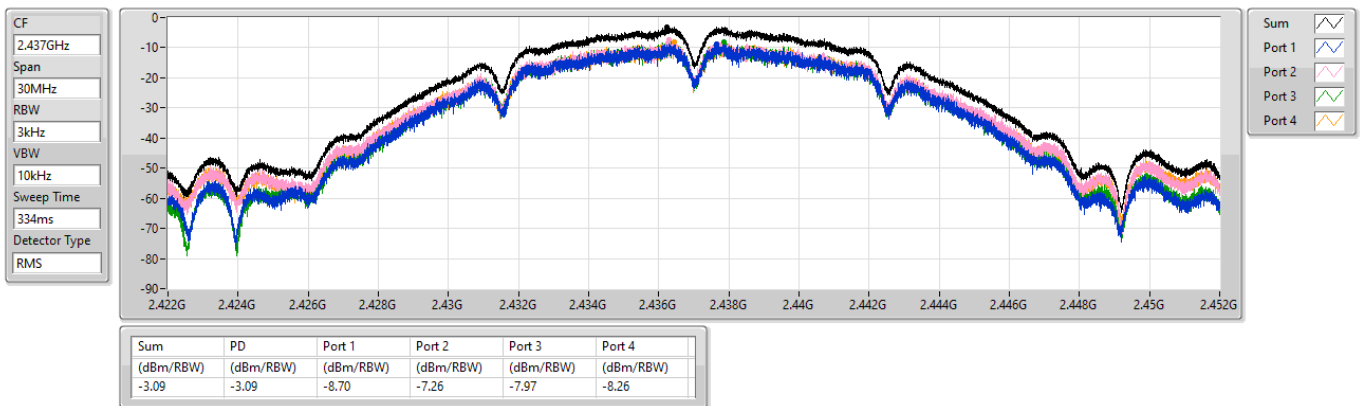
2412MHz



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_4TX

PSD

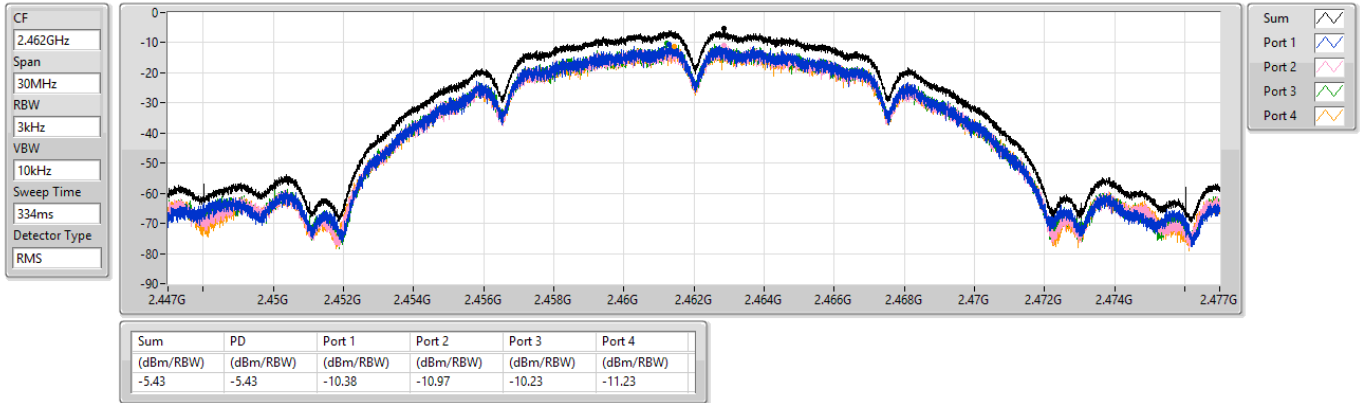
2437MHz



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_4TX

PSD

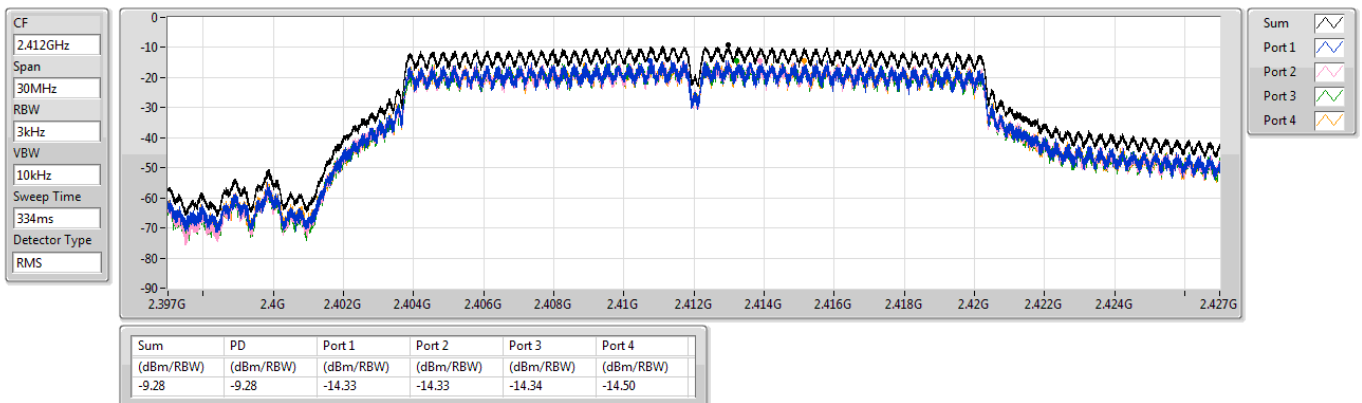
2462MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_4TX

PSD

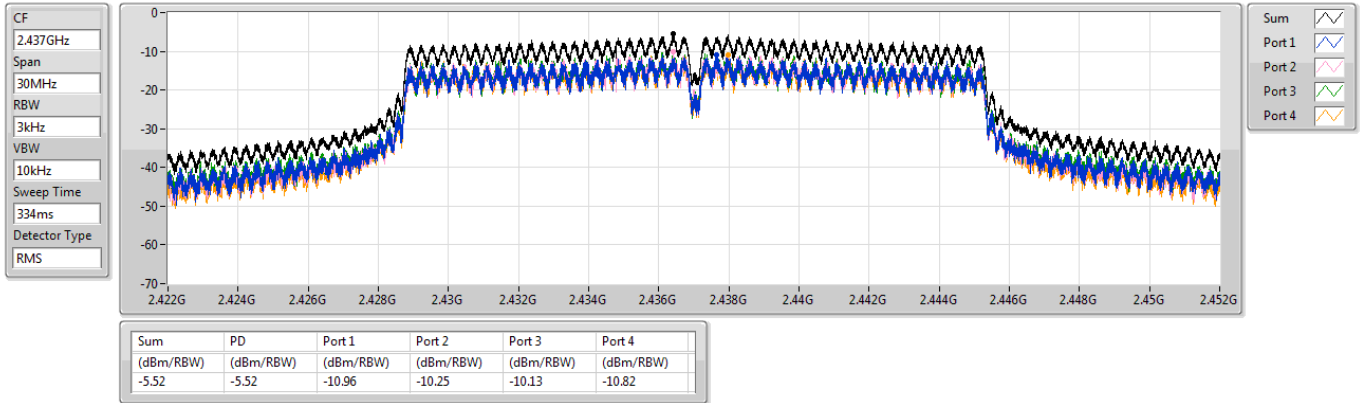
2412MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_4TX

PSD

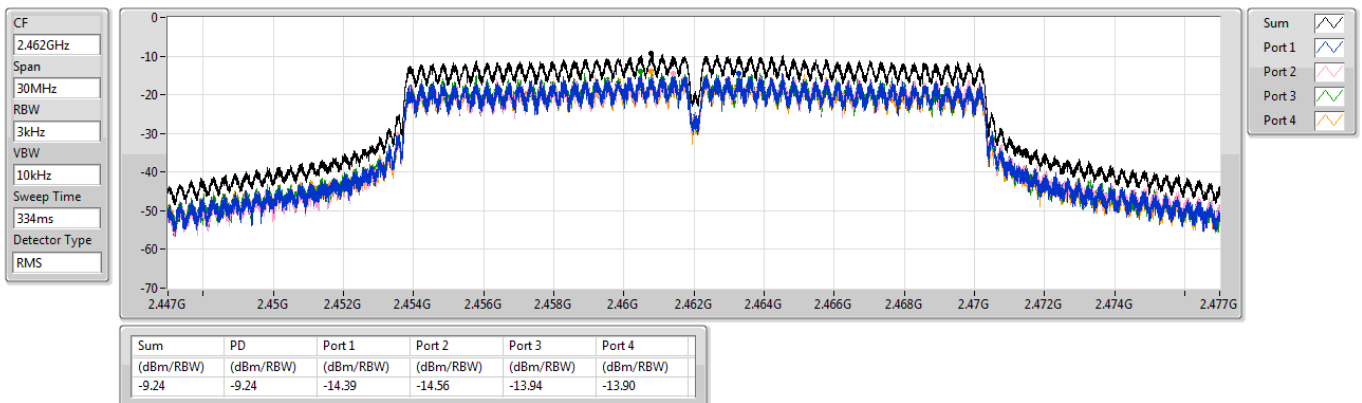
2437MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_4TX

PSD

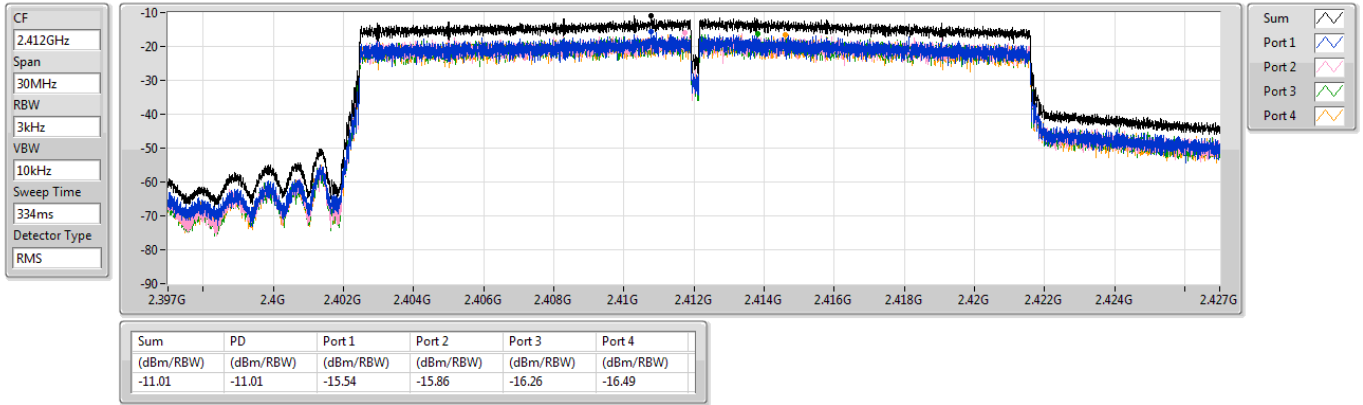
2462MHz



2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

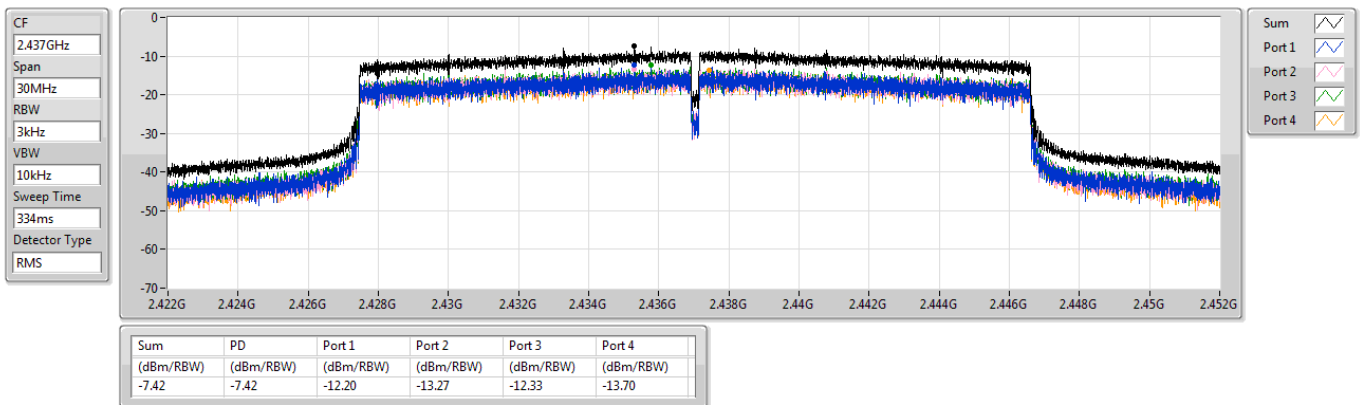
2412MHz



2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

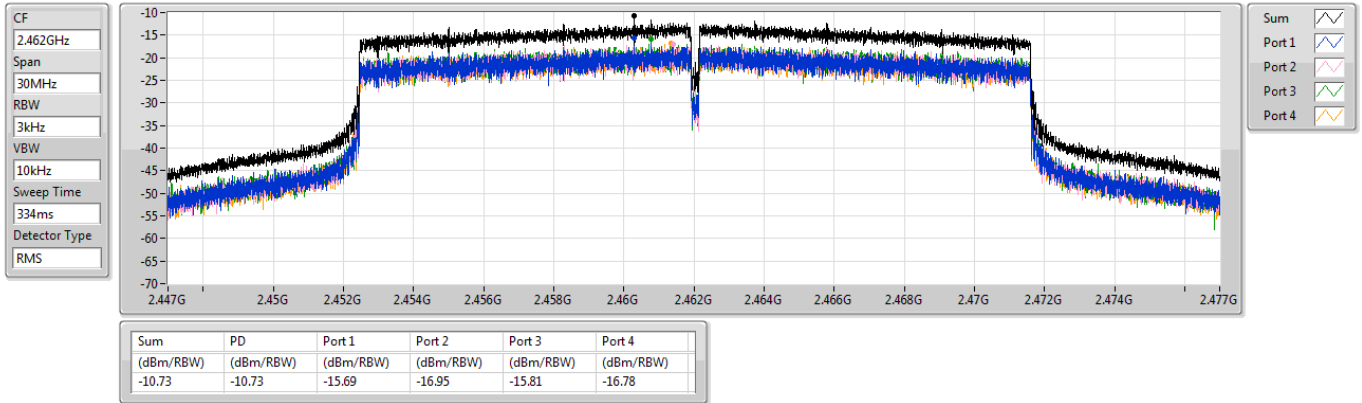
2437MHz



2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

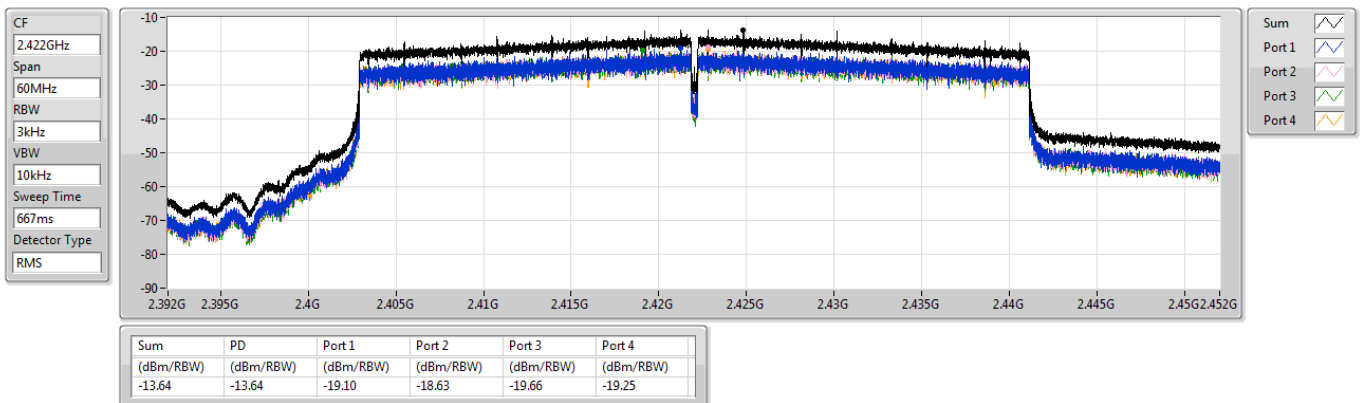
2462MHz



2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

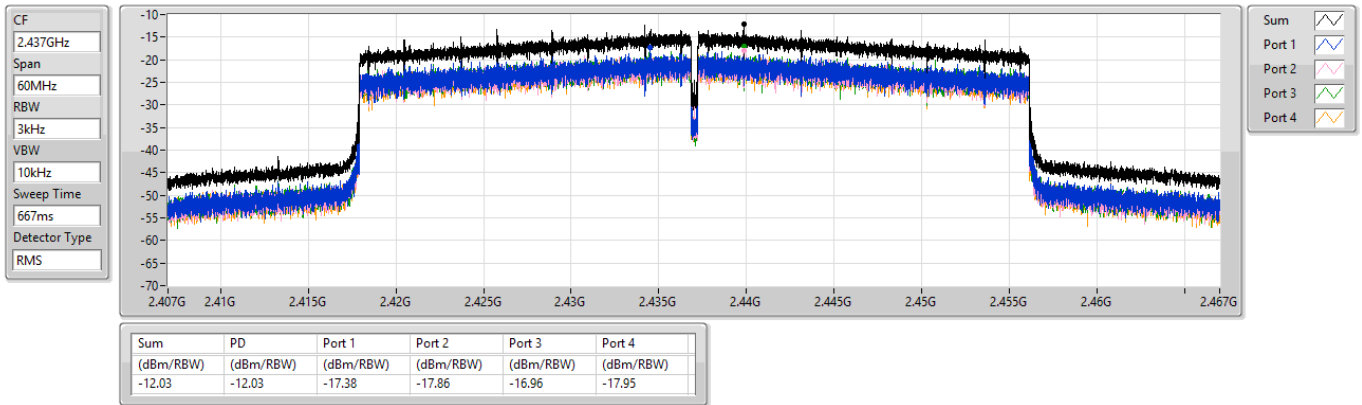
2422MHz



2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

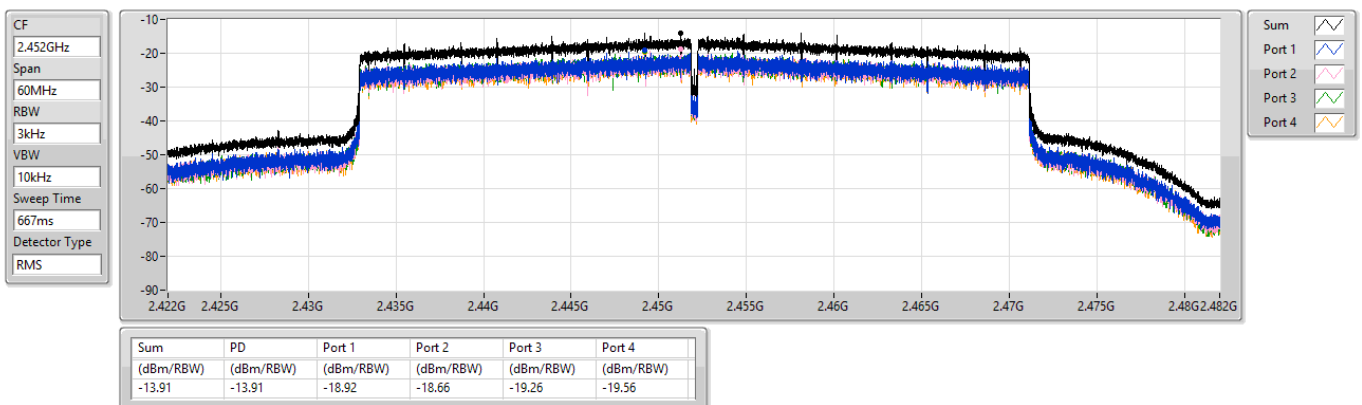
2437MHz



2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

2452MHz



Beamforming mode
Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-9.42
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-14.47

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.056	-17.02	-16.24	-17.20	-16.98	-11.74	3.94
2437MHz	Pass	10.056	-13.10	-13.55	-15.11	-13.78	-9.42	3.94
2462MHz	Pass	10.056	-18.14	-18.83	-19.02	-17.74	-14.21	3.94
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	10.056	-18.24	-20.52	-20.18	-19.89	-14.47	3.94
2437MHz	Pass	10.056	-19.26	-19.77	-19.98	-21.28	-15.60	3.94
2452MHz	Pass	10.056	-21.92	-20.03	-21.70	-21.36	-16.12	3.94

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;

Remark:

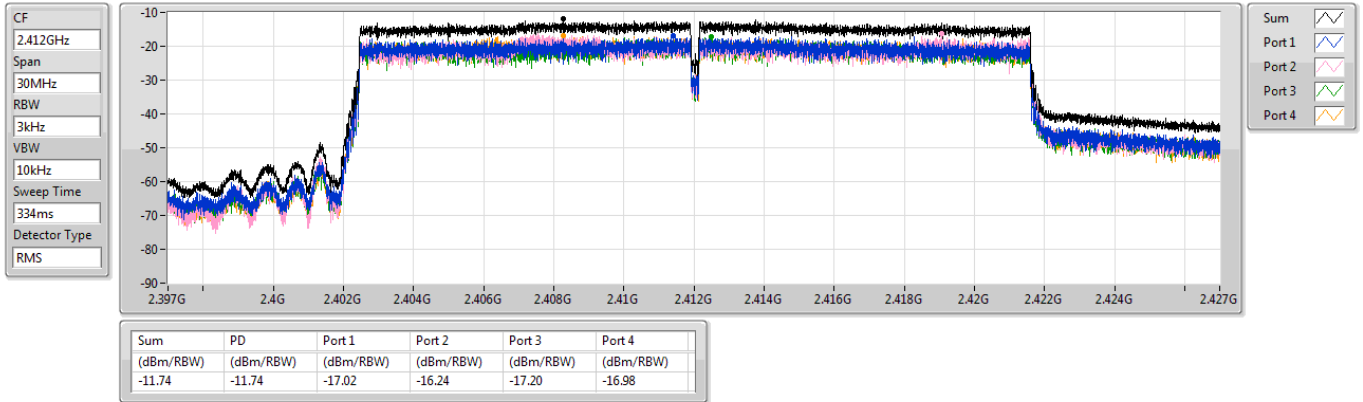
Directional gain = $10 \times \log((10^{3.698/20} + 10^{4.22/20} + 10^{3.516/20} + 10^{4.661/20})^2/4) = 10.056 \text{ dBi} > 6\text{dBi}$, so the limit shall be reduced to 8 dBm – (10.056dBi – 6dBi) = 3.94 dBm



2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

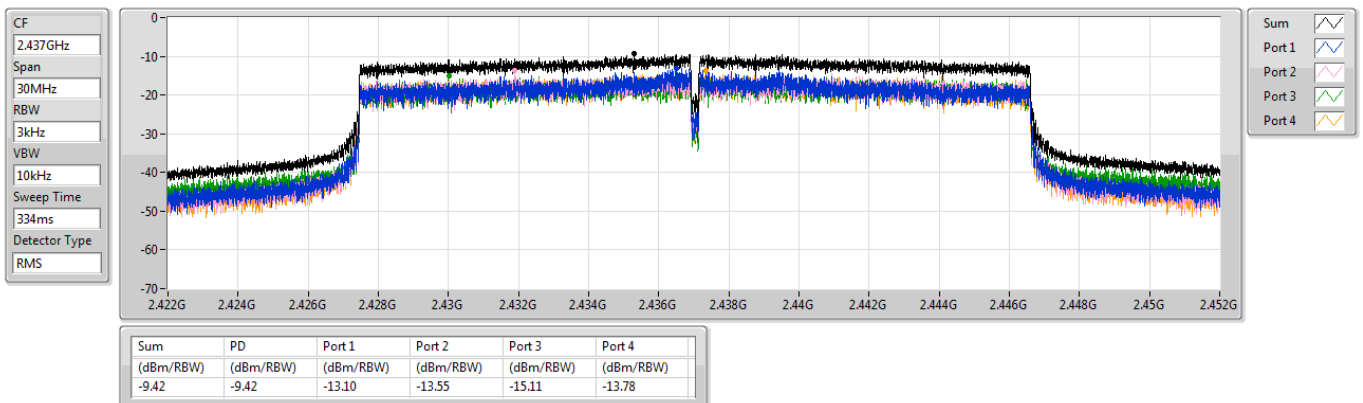
2412MHz



2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

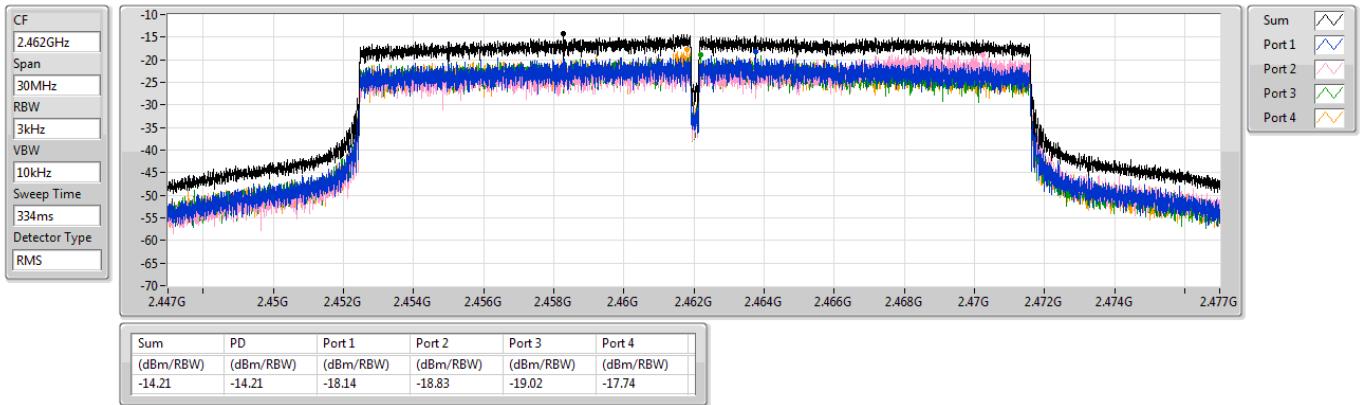
2437MHz



2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

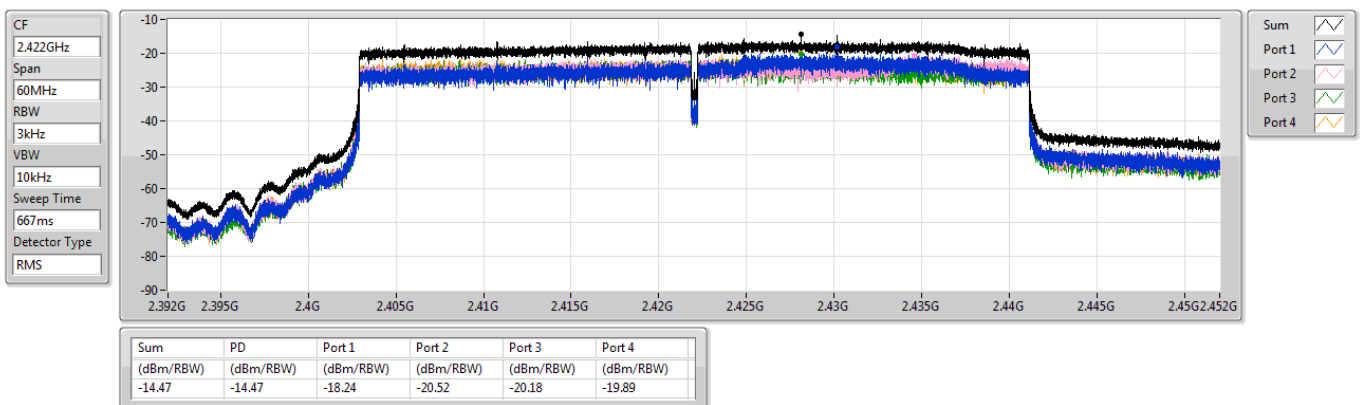
2462MHz



2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

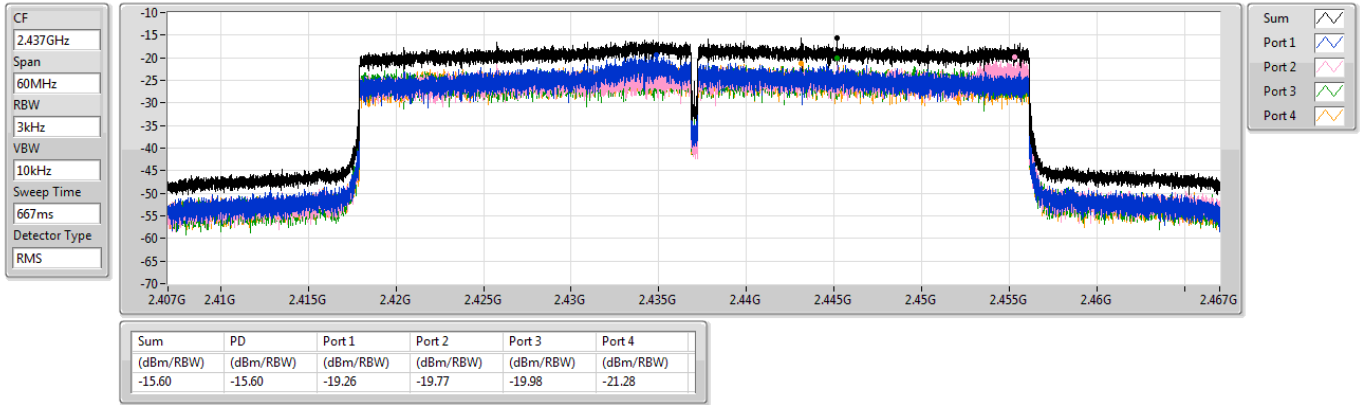
2422MHz



2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

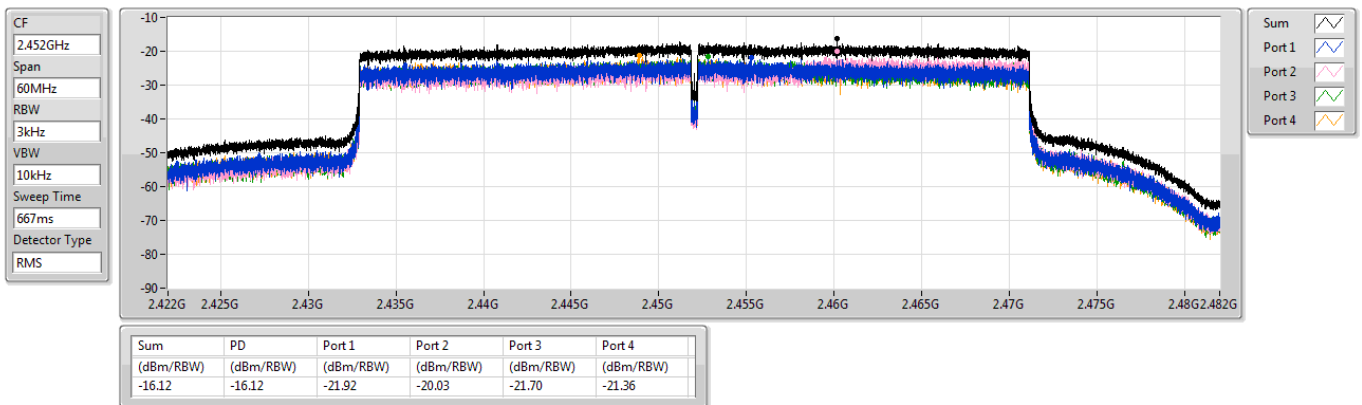
2437MHz



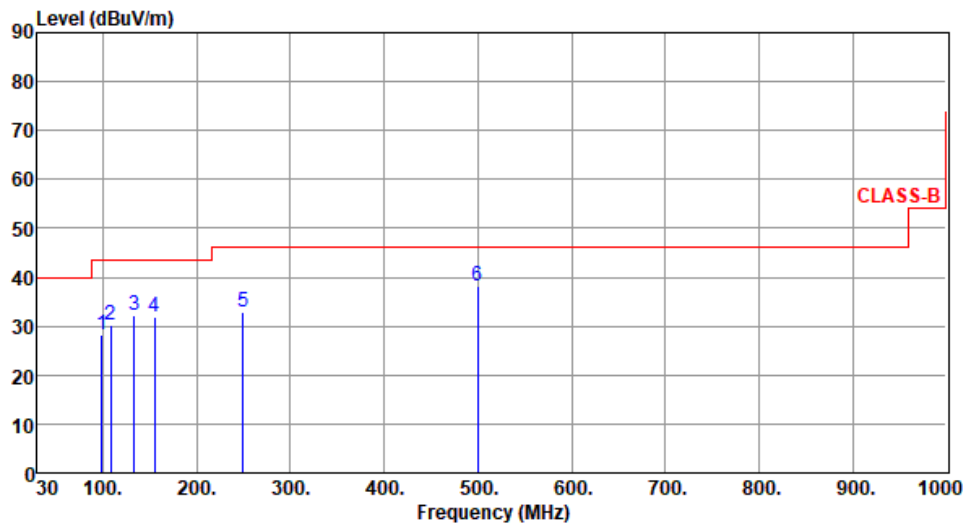
2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

2452MHz



**Non-beamforming mode****Test configuration 1: Without SFP, model: SDG-8612****Unwanted Emissions (Below 1GHz)**

Modulation	11b	Test Freq. (MHz)	2437																																																																						
Polarization	Horizontal																																																																								
Test By :Sean Yu Temperature(°C):23 Humidity(%):66																																																																									
 <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>98.87</td><td>28.18</td><td>43.50</td><td>-15.32</td><td>41.66</td><td>-13.48</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>2</td><td>108.57</td><td>30.15</td><td>43.50</td><td>-13.35</td><td>42.16</td><td>-12.01</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>3</td><td>133.79</td><td>32.27</td><td>43.50</td><td>-11.23</td><td>42.21</td><td>-9.94</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>4</td><td>155.13</td><td>31.99</td><td>43.50</td><td>-11.51</td><td>40.77</td><td>-8.78</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>5</td><td>249.22</td><td>32.73</td><td>46.00</td><td>-13.27</td><td>42.82</td><td>-10.09</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>6</td><td>499.48</td><td>38.25</td><td>46.00</td><td>-7.75</td><td>41.47</td><td>-3.22</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	98.87	28.18	43.50	-15.32	41.66	-13.48	Peak	---	---	2	108.57	30.15	43.50	-13.35	42.16	-12.01	Peak	---	---	3	133.79	32.27	43.50	-11.23	42.21	-9.94	Peak	---	---	4	155.13	31.99	43.50	-11.51	40.77	-8.78	Peak	---	---	5	249.22	32.73	46.00	-13.27	42.82	-10.09	Peak	---	---	6	499.48	38.25	46.00	-7.75	41.47	-3.22	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	98.87	28.18	43.50	-15.32	41.66	-13.48	Peak	---	---																																																																
2	108.57	30.15	43.50	-13.35	42.16	-12.01	Peak	---	---																																																																
3	133.79	32.27	43.50	-11.23	42.21	-9.94	Peak	---	---																																																																
4	155.13	31.99	43.50	-11.51	40.77	-8.78	Peak	---	---																																																																
5	249.22	32.73	46.00	-13.27	42.82	-10.09	Peak	---	---																																																																
6	499.48	38.25	46.00	-7.75	41.47	-3.22	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)	2437
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):23 Humidity(%):66			
Level (dBUV/m)			



Test configuration 2: With SFP, model: SDG-8614

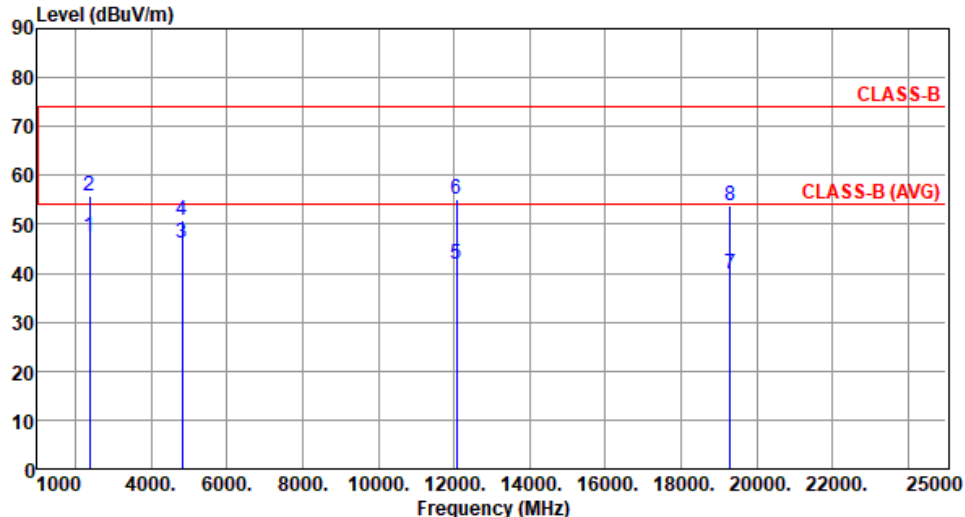
Unwanted Emissions (Below 1GHz)

Modulation	11b	Test Freq. (MHz)	2437																																																																						
Polarization	Horizontal																																																																								
Test By :Sean Yu Temperature(°C):24 Humidity(%):62																																																																									
Level (dBUV/m) Frequency (MHz) <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>149.31</td><td>31.56</td><td>43.50</td><td>-11.94</td><td>40.49</td><td>-8.93</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>2</td><td>191.99</td><td>29.44</td><td>43.50</td><td>-14.06</td><td>40.94</td><td>-11.50</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>3</td><td>249.22</td><td>27.29</td><td>46.00</td><td>-18.71</td><td>37.38</td><td>-10.09</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>4</td><td>292.87</td><td>31.96</td><td>46.00</td><td>-14.04</td><td>40.31</td><td>-8.35</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>5</td><td>371.44</td><td>31.26</td><td>46.00</td><td>-14.74</td><td>37.65</td><td>-6.39</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>6</td><td>468.44</td><td>35.68</td><td>46.00</td><td>-10.32</td><td>39.52</td><td>-3.84</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	149.31	31.56	43.50	-11.94	40.49	-8.93	Peak	---	---	2	191.99	29.44	43.50	-14.06	40.94	-11.50	Peak	---	---	3	249.22	27.29	46.00	-18.71	37.38	-10.09	Peak	---	---	4	292.87	31.96	46.00	-14.04	40.31	-8.35	Peak	---	---	5	371.44	31.26	46.00	-14.74	37.65	-6.39	Peak	---	---	6	468.44	35.68	46.00	-10.32	39.52	-3.84	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	149.31	31.56	43.50	-11.94	40.49	-8.93	Peak	---	---																																																																
2	191.99	29.44	43.50	-14.06	40.94	-11.50	Peak	---	---																																																																
3	249.22	27.29	46.00	-18.71	37.38	-10.09	Peak	---	---																																																																
4	292.87	31.96	46.00	-14.04	40.31	-8.35	Peak	---	---																																																																
5	371.44	31.26	46.00	-14.74	37.65	-6.39	Peak	---	---																																																																
6	468.44	35.68	46.00	-10.32	39.52	-3.84	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)	2437
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):24 Humidity(%):62			
Level (dBUV/m)			

Unwanted Emission (Above 1GHz) for 11b

Modulation	11b	Test Freq. (MHz)	2412						
Polarization	Horizontal								
Test By :Sean Yu Temperature(°C):26 Humidity(%):62									
Level (dBuV/m)  Frequency (MHz)									
	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	47.59	54.00	-6.41	52.24	-4.65	Average	173	158
2	2390.00	55.77	74.00	-18.23	60.42	-4.65	Peak	173	158
3	4824.00	46.30	54.00	-7.70	46.83	-0.53	Average	286	254
4	4824.00	50.69	74.00	-23.31	51.22	-0.53	Peak	286	254
5	12060.00	42.01	54.00	-11.99	35.64	6.37	Average	100	101
6	12060.00	55.04	74.00	-18.96	48.67	6.37	Peak	100	101
7	19296.00	39.79	54.00	-14.21	38.78	1.01	Average	100	214
8	19296.00	53.64	74.00	-20.36	52.63	1.01	Peak	100	214

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



Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):26 Humidity(%):62			
Level (dBuV/m)			



Modulation	11b	Test Freq. (MHz)	2437																																																																																																														
Polarization	Horizontal																																																																																																																
Test By :Sean Yu Temperature(°C):25 Humidity(%):62																																																																																																																	
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>2390.00</td><td>46.50</td><td>54.00</td><td>-7.50</td><td>51.15</td><td>-4.65</td><td>Average</td><td>100</td><td>193</td></tr><tr><td>2</td><td>2390.00</td><td>51.48</td><td>74.00</td><td>-22.52</td><td>56.13</td><td>-4.65</td><td>Peak</td><td>100</td><td>193</td></tr><tr><td>3</td><td>2483.50</td><td>47.97</td><td>54.00</td><td>-6.03</td><td>52.86</td><td>-4.89</td><td>Average</td><td>100</td><td>193</td></tr><tr><td>4</td><td>2483.50</td><td>51.36</td><td>74.00</td><td>-22.64</td><td>56.25</td><td>-4.89</td><td>Peak</td><td>100</td><td>193</td></tr><tr><td>5</td><td>4874.00</td><td>50.86</td><td>54.00</td><td>-3.14</td><td>51.40</td><td>-0.54</td><td>Average</td><td>268</td><td>260</td></tr><tr><td>6</td><td>4874.00</td><td>53.30</td><td>74.00</td><td>-20.70</td><td>53.84</td><td>-0.54</td><td>Peak</td><td>268</td><td>260</td></tr><tr><td>7</td><td>7311.00</td><td>37.77</td><td>54.00</td><td>-16.23</td><td>32.55</td><td>5.22</td><td>Average</td><td>100</td><td>108</td></tr><tr><td>8</td><td>7311.00</td><td>49.77</td><td>74.00</td><td>-24.23</td><td>44.55</td><td>5.22</td><td>Peak</td><td>100</td><td>108</td></tr><tr><td>9</td><td>19496.00</td><td>50.52</td><td>54.00</td><td>-3.48</td><td>49.33</td><td>1.19</td><td>Average</td><td>100</td><td>117</td></tr><tr><td>10</td><td>19496.00</td><td>55.76</td><td>74.00</td><td>-18.24</td><td>54.57</td><td>1.19</td><td>Peak</td><td>100</td><td>117</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).					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	46.50	54.00	-7.50	51.15	-4.65	Average	100	193	2	2390.00	51.48	74.00	-22.52	56.13	-4.65	Peak	100	193	3	2483.50	47.97	54.00	-6.03	52.86	-4.89	Average	100	193	4	2483.50	51.36	74.00	-22.64	56.25	-4.89	Peak	100	193	5	4874.00	50.86	54.00	-3.14	51.40	-0.54	Average	268	260	6	4874.00	53.30	74.00	-20.70	53.84	-0.54	Peak	268	260	7	7311.00	37.77	54.00	-16.23	32.55	5.22	Average	100	108	8	7311.00	49.77	74.00	-24.23	44.55	5.22	Peak	100	108	9	19496.00	50.52	54.00	-3.48	49.33	1.19	Average	100	117	10	19496.00	55.76	74.00	-18.24	54.57	1.19	Peak	100	117
	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	46.50	54.00	-7.50	51.15	-4.65	Average	100	193																																																																																																								
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3	2483.50	47.97	54.00	-6.03	52.86	-4.89	Average	100	193																																																																																																								
4	2483.50	51.36	74.00	-22.64	56.25	-4.89	Peak	100	193																																																																																																								
5	4874.00	50.86	54.00	-3.14	51.40	-0.54	Average	268	260																																																																																																								
6	4874.00	53.30	74.00	-20.70	53.84	-0.54	Peak	268	260																																																																																																								
7	7311.00	37.77	54.00	-16.23	32.55	5.22	Average	100	108																																																																																																								
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9	19496.00	50.52	54.00	-3.48	49.33	1.19	Average	100	117																																																																																																								
10	19496.00	55.76	74.00	-18.24	54.57	1.19	Peak	100	117																																																																																																								



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



Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):26 Humidity(%):62			
Level (dBUV/m)			



Modulation	11b	Test Freq. (MHz)	2462
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):26 Humidity(%):62			
Level (dBuV/m)			



Unwanted Emissions (Above 1GHz) for 11g

Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):25 Humidity(%):62			
Level (dBUV/m) <			



Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):25 Humidity(%):62			
Level (dBUV/m) </			



Modulation	11g	Test Freq. (MHz)	2437																																																																																																														
Polarization	Horizontal																																																																																																																
Test By :Sean Yu Temperature(°C):25 Humidity(%):62																																																																																																																	
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>2390.00</td><td>47.79</td><td>54.00</td><td>-6.21</td><td>52.44</td><td>-4.65</td><td>Average</td><td>100</td><td>193</td></tr><tr><td>2</td><td>2390.00</td><td>66.33</td><td>74.00</td><td>-7.67</td><td>70.98</td><td>-4.65</td><td>Peak</td><td>100</td><td>193</td></tr><tr><td>3</td><td>2483.50</td><td>48.28</td><td>54.00</td><td>-5.72</td><td>53.17</td><td>-4.89</td><td>Average</td><td>100</td><td>193</td></tr><tr><td>4</td><td>2483.50</td><td>67.87</td><td>74.00</td><td>-6.13</td><td>72.76</td><td>-4.89</td><td>Peak</td><td>100</td><td>193</td></tr><tr><td>5</td><td>4874.00</td><td>37.56</td><td>54.00</td><td>-16.44</td><td>38.10</td><td>-0.54</td><td>Average</td><td>255</td><td>260</td></tr><tr><td>6</td><td>4874.00</td><td>49.02</td><td>74.00</td><td>-24.98</td><td>49.56</td><td>-0.54</td><td>Peak</td><td>255</td><td>260</td></tr><tr><td>7</td><td>7311.00</td><td>37.47</td><td>54.00</td><td>-16.53</td><td>32.25</td><td>5.22</td><td>Average</td><td>100</td><td>179</td></tr><tr><td>8</td><td>7311.00</td><td>51.09</td><td>74.00</td><td>-22.91</td><td>45.87</td><td>5.22</td><td>Peak</td><td>100</td><td>179</td></tr><tr><td>9</td><td>19496.00</td><td>40.93</td><td>54.00</td><td>-13.07</td><td>39.74</td><td>1.19</td><td>Average</td><td>100</td><td>155</td></tr><tr><td>10</td><td>19496.00</td><td>53.08</td><td>74.00</td><td>-20.92</td><td>51.89</td><td>1.19</td><td>Peak</td><td>100</td><td>155</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	2390.00	47.79	54.00	-6.21	52.44	-4.65	Average	100	193	2	2390.00	66.33	74.00	-7.67	70.98	-4.65	Peak	100	193	3	2483.50	48.28	54.00	-5.72	53.17	-4.89	Average	100	193	4	2483.50	67.87	74.00	-6.13	72.76	-4.89	Peak	100	193	5	4874.00	37.56	54.00	-16.44	38.10	-0.54	Average	255	260	6	4874.00	49.02	74.00	-24.98	49.56	-0.54	Peak	255	260	7	7311.00	37.47	54.00	-16.53	32.25	5.22	Average	100	179	8	7311.00	51.09	74.00	-22.91	45.87	5.22	Peak	100	179	9	19496.00	40.93	54.00	-13.07	39.74	1.19	Average	100	155	10	19496.00	53.08	74.00	-20.92	51.89	1.19	Peak	100	155
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg																																																																																																								
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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 :Sean Yu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			

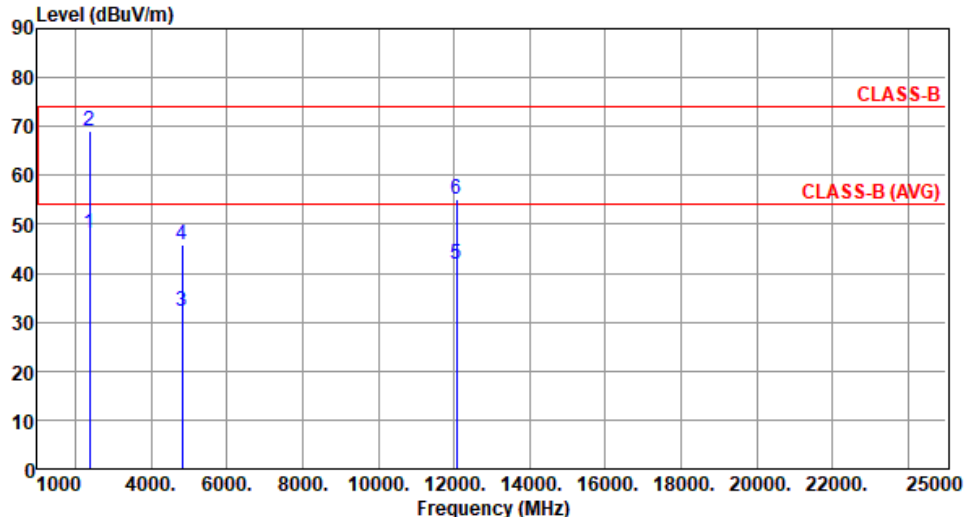


Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):25 Humidity(%):62			
Level (dBUV/m)			



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

Unwanted Emissions (Above 1GHz) for ax HE20

Modulation	ax HE20	Test Freq. (MHz)	2412						
Polarization	Horizontal								
Test By :Sean Yu Temperature(°C):25 Humidity(%):62									
Level (dBUV/m) 									
	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	48.02	54.00	-5.98	52.67	-4.65	Average	100	195
2	2390.00	69.22	74.00	-4.78	73.87	-4.65	Peak	100	195
3	4824.00	32.13	54.00	-21.87	32.66	-0.53	Average	100	183
4	4824.00	45.94	74.00	-28.06	46.47	-0.53	Peak	100	183
5	12060.00	41.95	54.00	-12.05	35.58	6.37	Average	100	143
6	12060.00	54.99	74.00	-19.01	48.62	6.37	Peak	100	143

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	ax HE20		Test Freq. (MHz)	2412	
Polarization	Vertical				
Test By :Sean Yu Temperature(°C):25 Humidity(%):62					
Level (dBUV/m) </					



Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m) </			



Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m) <			



Modulation	ax HE20	Test Freq. (MHz)	2462
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Modulation	ax HE20	Test Freq. (MHz)	2462
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):25 Humidity(%):62			
Level (dBuV/m)			



Unwanted Emissions (Above 1GHz) for ax HE40

Modulation	ax HE40		Test Freq. (MHz)		2422	
Polarization	Horizontal					
Test By :Sean Yu Temperature(°C):25 Humidity(%):62						
Level (dBUV/m) </						



Modulation	ax HE40		Test Freq. (MHz)		2422	
Polarization	Vertical					
Test By :Sean Yu Temperature(°C):25 Humidity(%):62						
Level (dBuV/m) </						



Modulation	ax HE40	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):26 Humidity(%):62			
Level (dBuV/m)			



Modulation	ax HE40	Test Freq. (MHz)	2437																																																																																																														
Polarization	Vertical																																																																																																																
Test By :Sean Yu Temperature(°C):26 Humidity(%):62																																																																																																																	
Level (dBuV/m) <table><tr><th></th><th>Freq.</th><th>Emission</th><th>Limit</th><th>Margin</th><th>SA</th><th>Factor</th><th>Remark</th><th>ANT</th><th>Turn</th></tr><tr><th></th><th>MHz</th><th>level</th><th></th><th></th><th>reading</th><th></th><th></th><th>High</th><th>Table</th></tr><tr><th></th><th></th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB/m</th><th></th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>2390.00</td><td>49.58</td><td>54.00</td><td>-4.42</td><td>54.23</td><td>-4.65</td><td>Average</td><td>132</td><td>205</td></tr><tr><td>2</td><td>2390.00</td><td>63.90</td><td>74.00</td><td>-10.10</td><td>68.55</td><td>-4.65</td><td>Peak</td><td>132</td><td>205</td></tr><tr><td>3</td><td>2483.50</td><td>53.75</td><td>54.00</td><td>-0.25</td><td>58.64</td><td>-4.89</td><td>Average</td><td>132</td><td>205</td></tr><tr><td>4</td><td>2483.50</td><td>70.29</td><td>74.00</td><td>-3.71</td><td>75.18</td><td>-4.89</td><td>Peak</td><td>132</td><td>205</td></tr><tr><td>5</td><td>4874.00</td><td>31.87</td><td>54.00</td><td>-22.13</td><td>32.41</td><td>-0.54</td><td>Average</td><td>100</td><td>279</td></tr><tr><td>6</td><td>4874.00</td><td>45.04</td><td>74.00</td><td>-28.96</td><td>45.58</td><td>-0.54</td><td>Peak</td><td>100</td><td>279</td></tr><tr><td>7</td><td>7311.00</td><td>37.48</td><td>54.00</td><td>-16.52</td><td>32.26</td><td>5.22</td><td>Average</td><td>100</td><td>108</td></tr><tr><td>8</td><td>7311.00</td><td>50.73</td><td>74.00</td><td>-23.27</td><td>45.51</td><td>5.22</td><td>Peak</td><td>100</td><td>108</td></tr></table>					Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn		MHz	level			reading			High	Table			dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg	1	2390.00	49.58	54.00	-4.42	54.23	-4.65	Average	132	205	2	2390.00	63.90	74.00	-10.10	68.55	-4.65	Peak	132	205	3	2483.50	53.75	54.00	-0.25	58.64	-4.89	Average	132	205	4	2483.50	70.29	74.00	-3.71	75.18	-4.89	Peak	132	205	5	4874.00	31.87	54.00	-22.13	32.41	-0.54	Average	100	279	6	4874.00	45.04	74.00	-28.96	45.58	-0.54	Peak	100	279	7	7311.00	37.48	54.00	-16.52	32.26	5.22	Average	100	108	8	7311.00	50.73	74.00	-23.27	45.51	5.22	Peak	100	108
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn																																																																																																								
	MHz	level			reading			High	Table																																																																																																								
		dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg																																																																																																								
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5	4874.00	31.87	54.00	-22.13	32.41	-0.54	Average	100	279																																																																																																								
6	4874.00	45.04	74.00	-28.96	45.58	-0.54	Peak	100	279																																																																																																								
7	7311.00	37.48	54.00	-16.52	32.26	5.22	Average	100	108																																																																																																								
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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	ax HE40	Test Freq. (MHz)	2452
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):26 Humidity(%):62			
Level (dBuV/m) <			



Modulation	ax HE40	Test Freq. (MHz)	2452
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):26 Humidity(%):62			
Level (dBuV/m) <			

**Beamforming mode****Test configuration 1: Without SFP, model: SDG-8612****Unwanted Emissions (Below 1GHz)**

Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):23 Humidity(%):66			
Level (dBuV/m) <			



Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):23 Humidity(%):66			
Level (dBUV/m) <			

Test configuration 2: With SFP, model: SDG-8614

Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):24 Humidity(%):62			
Level (dBuV/m) </			



Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):24 Humidity(%):62			
Level (dBUV/m) </			

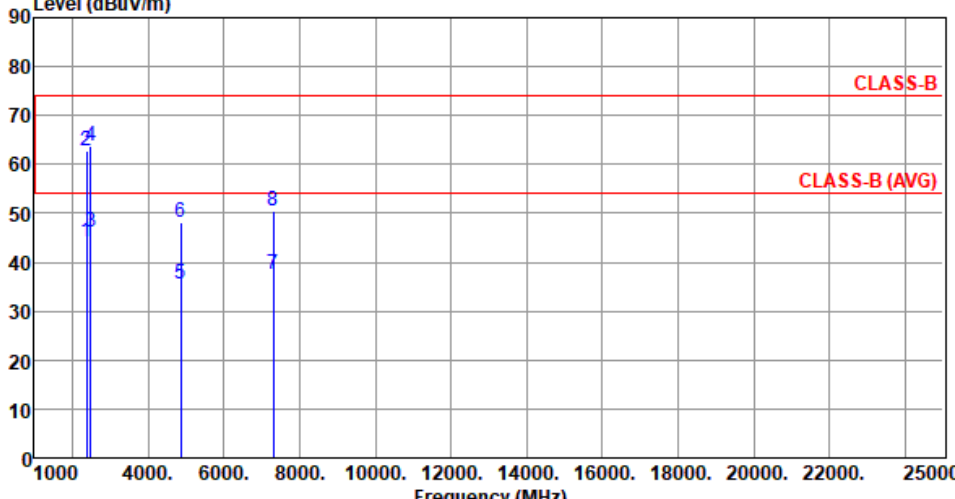
Unwanted Emissions (Above 1GHz) for ax HE20

Modulation	ax HE20		Test Freq. (MHz)		2412	
Polarization	Horizontal					
Test By :Sean Yu Temperature(°C):25 Humidity(%):61						
Level (dBUV/m)						



Modulation	ax HE20		Test Freq. (MHz)		2412	
Polarization	Vertical					
Test By :Sean Yu Temperature(°C):25 Humidity(%):61						
Level (dBUV/m) </						



Modulation	ax HE20		Test Freq. (MHz)		2437																																																																																											
Polarization	Horizontal																																																																																															
Test By :Sean Yu Temperature(°C):25 Humidity(%):61																																																																																																
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>2390.00</td><td>44.10</td><td>54.00</td><td>-9.90</td><td>48.75</td><td>-4.65</td><td>Average</td><td>100</td><td>205</td></tr><tr><td>2</td><td>2390.00</td><td>62.83</td><td>74.00</td><td>-11.17</td><td>67.48</td><td>-4.65</td><td>Peak</td><td>100</td><td>205</td></tr><tr><td>3</td><td>2483.50</td><td>46.13</td><td>54.00</td><td>-7.87</td><td>51.02</td><td>-4.89</td><td>Average</td><td>100</td><td>205</td></tr><tr><td>4</td><td>2483.50</td><td>63.74</td><td>74.00</td><td>-10.26</td><td>68.63</td><td>-4.89</td><td>Peak</td><td>100</td><td>205</td></tr><tr><td>5</td><td>4874.00</td><td>35.49</td><td>54.00</td><td>-18.51</td><td>36.03</td><td>-0.54</td><td>Average</td><td>167</td><td>52</td></tr><tr><td>6</td><td>4874.00</td><td>48.32</td><td>74.00</td><td>-25.68</td><td>48.86</td><td>-0.54</td><td>Peak</td><td>167</td><td>52</td></tr><tr><td>7</td><td>7311.00</td><td>37.48</td><td>54.00</td><td>-16.52</td><td>32.26</td><td>5.22</td><td>Average</td><td>100</td><td>128</td></tr><tr><td>8</td><td>7311.00</td><td>50.58</td><td>74.00</td><td>-23.42</td><td>45.36</td><td>5.22</td><td>Peak</td><td>100</td><td>128</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	2390.00	44.10	54.00	-9.90	48.75	-4.65	Average	100	205	2	2390.00	62.83	74.00	-11.17	67.48	-4.65	Peak	100	205	3	2483.50	46.13	54.00	-7.87	51.02	-4.89	Average	100	205	4	2483.50	63.74	74.00	-10.26	68.63	-4.89	Peak	100	205	5	4874.00	35.49	54.00	-18.51	36.03	-0.54	Average	167	52	6	4874.00	48.32	74.00	-25.68	48.86	-0.54	Peak	167	52	7	7311.00	37.48	54.00	-16.52	32.26	5.22	Average	100	128	8	7311.00	50.58	74.00	-23.42	45.36	5.22	Peak	100	128
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg																																																																																							
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Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m)			



Modulation	ax HE20	Test Freq. (MHz)	2462
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m) </			



Modulation	ax HE20	Test Freq. (MHz)	2462
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m)			

Unwanted Emissions (Above 1GHz) for ax HE40

Modulation	ax HE40	Test Freq. (MHz)	2422
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):25 Humidity(%):61			
Level (dBUV/m)			



Modulation	ax HE40	Test Freq. (MHz)	2422
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m) </			



Modulation	ax HE40	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m) <			



Modulation	ax HE40	Test Freq. (MHz)	2437																																																																																										
Polarization	Vertical																																																																																												
Test By :Sean Yu Temperature(°C):25 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>2390.00</td><td>48.51</td><td>54.00</td><td>-5.49</td><td>53.16</td><td>-4.65</td><td>Average</td><td>117</td><td>193</td></tr><tr><td>2</td><td>2390.00</td><td>67.25</td><td>74.00</td><td>-6.75</td><td>71.90</td><td>-4.65</td><td>Peak</td><td>117</td><td>193</td></tr><tr><td>3</td><td>2483.50</td><td>52.66</td><td>54.00</td><td>-1.34</td><td>57.55</td><td>-4.89</td><td>Average</td><td>117</td><td>193</td></tr><tr><td>4</td><td>2483.50</td><td>70.20</td><td>74.00</td><td>-3.80</td><td>75.09</td><td>-4.89</td><td>Peak</td><td>117</td><td>193</td></tr><tr><td>5</td><td>4874.00</td><td>32.76</td><td>54.00</td><td>-21.24</td><td>33.30</td><td>-0.54</td><td>Average</td><td>100</td><td>128</td></tr><tr><td>6</td><td>4874.00</td><td>46.93</td><td>74.00</td><td>-27.07</td><td>47.47</td><td>-0.54</td><td>Peak</td><td>100</td><td>128</td></tr><tr><td>7</td><td>7311.00</td><td>38.83</td><td>54.00</td><td>-15.17</td><td>33.61</td><td>5.22</td><td>Average</td><td>100</td><td>253</td></tr><tr><td>8</td><td>7311.00</td><td>51.81</td><td>74.00</td><td>-22.19</td><td>46.59</td><td>5.22</td><td>Peak</td><td>100</td><td>253</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	2390.00	48.51	54.00	-5.49	53.16	-4.65	Average	117	193	2	2390.00	67.25	74.00	-6.75	71.90	-4.65	Peak	117	193	3	2483.50	52.66	54.00	-1.34	57.55	-4.89	Average	117	193	4	2483.50	70.20	74.00	-3.80	75.09	-4.89	Peak	117	193	5	4874.00	32.76	54.00	-21.24	33.30	-0.54	Average	100	128	6	4874.00	46.93	74.00	-27.07	47.47	-0.54	Peak	100	128	7	7311.00	38.83	54.00	-15.17	33.61	5.22	Average	100	253	8	7311.00	51.81	74.00	-22.19	46.59	5.22	Peak	100	253
	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	48.51	54.00	-5.49	53.16	-4.65	Average	117	193																																																																																				
2	2390.00	67.25	74.00	-6.75	71.90	-4.65	Peak	117	193																																																																																				
3	2483.50	52.66	54.00	-1.34	57.55	-4.89	Average	117	193																																																																																				
4	2483.50	70.20	74.00	-3.80	75.09	-4.89	Peak	117	193																																																																																				
5	4874.00	32.76	54.00	-21.24	33.30	-0.54	Average	100	128																																																																																				
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8	7311.00	51.81	74.00	-22.19	46.59	5.22	Peak	100	253																																																																																				
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	ax HE40	Test Freq. (MHz)	2452
Polarization	Horizontal		
Test By :Sean Yu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m)			



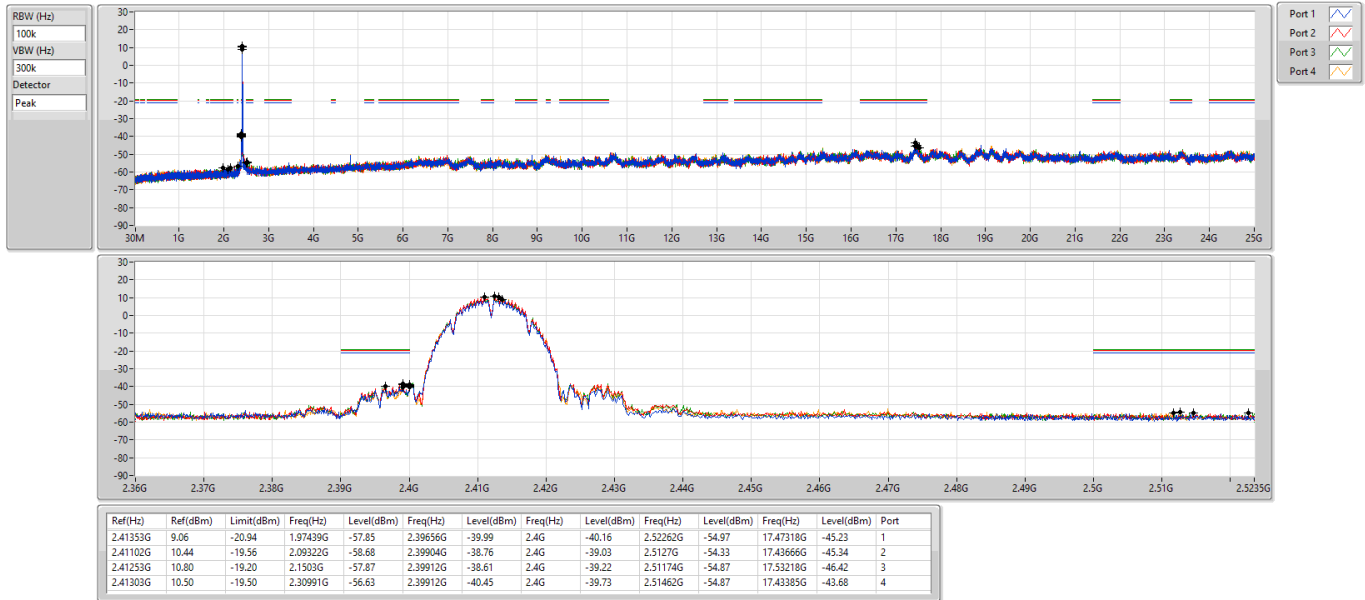
Modulation	ax HE40	Test Freq. (MHz)	2452
Polarization	Vertical		
Test By :Sean Yu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m) <			

Non-beamforming mode

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_4TX

CSEndB

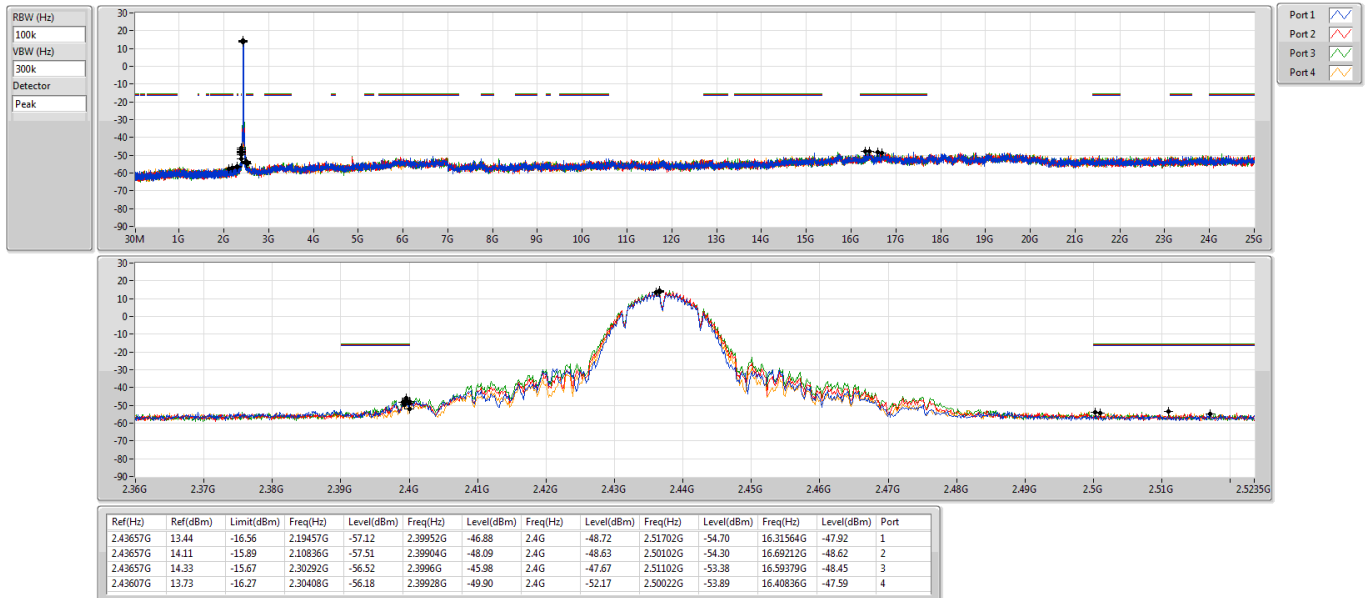
2412MHz



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_4TX

CSEndB

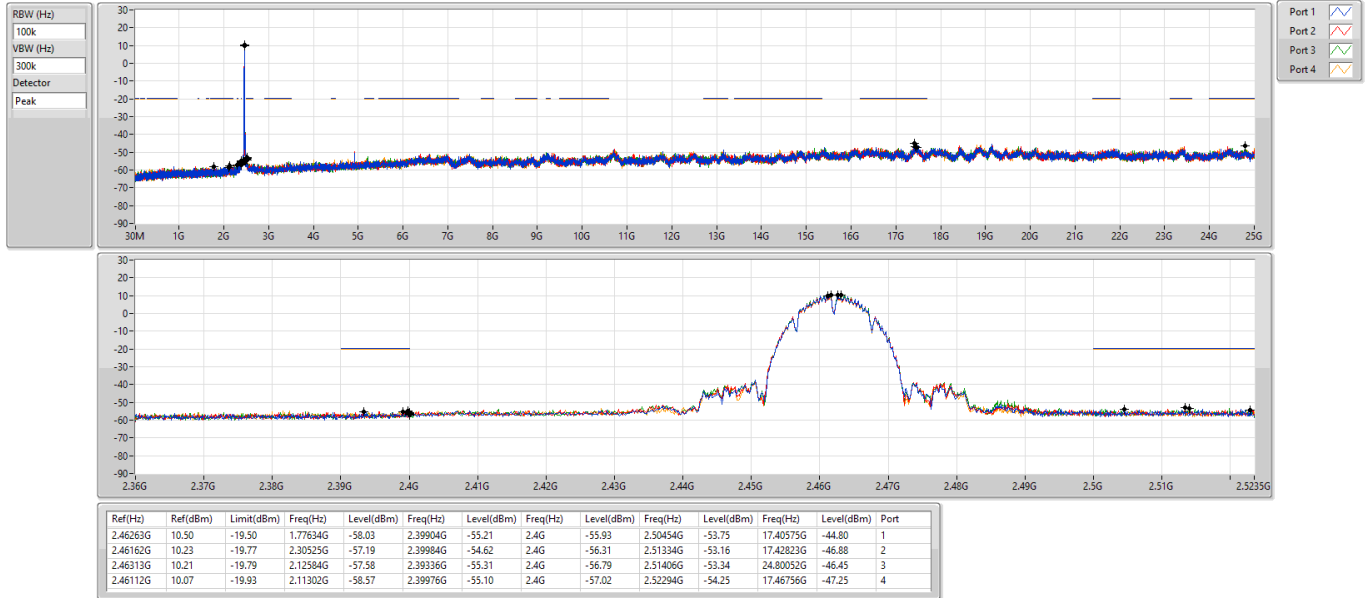
2437MHz



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_4TX

CSEndB

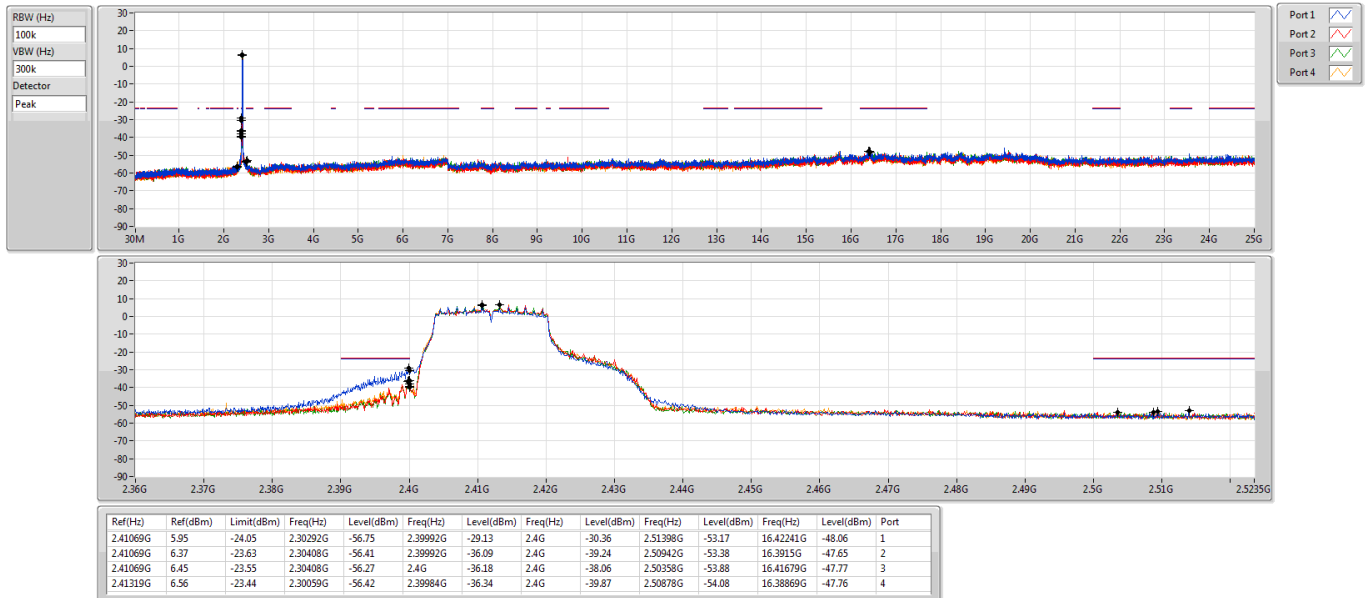
2462MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_4TX

CSEndB

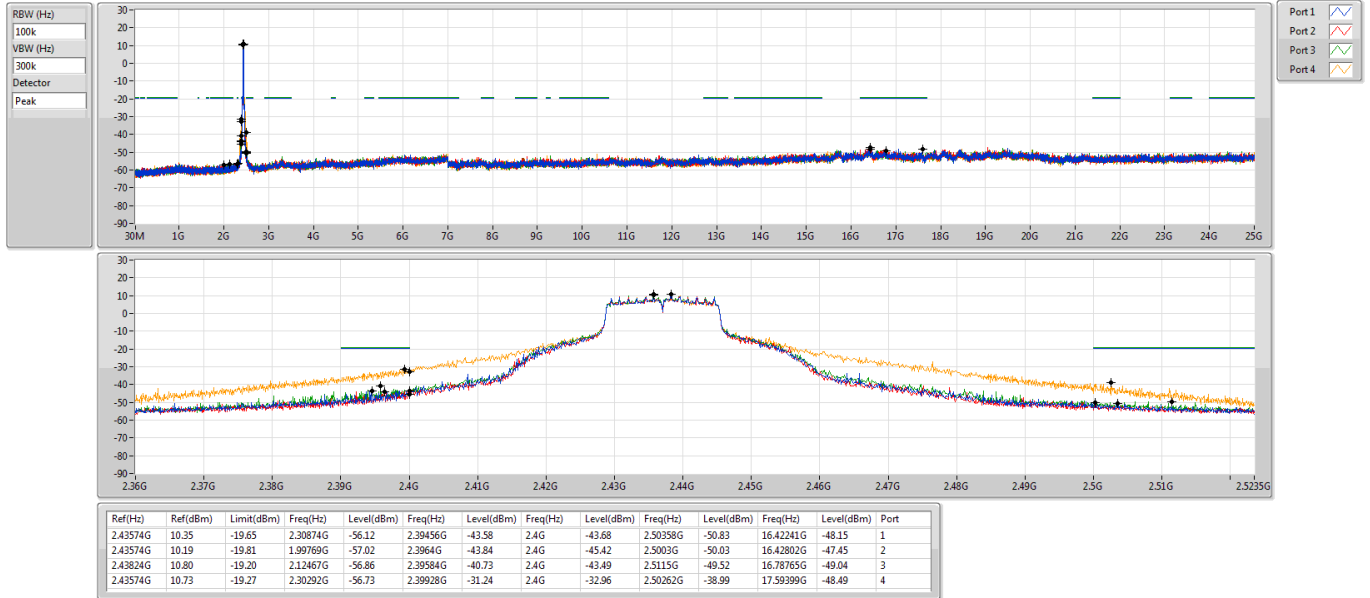
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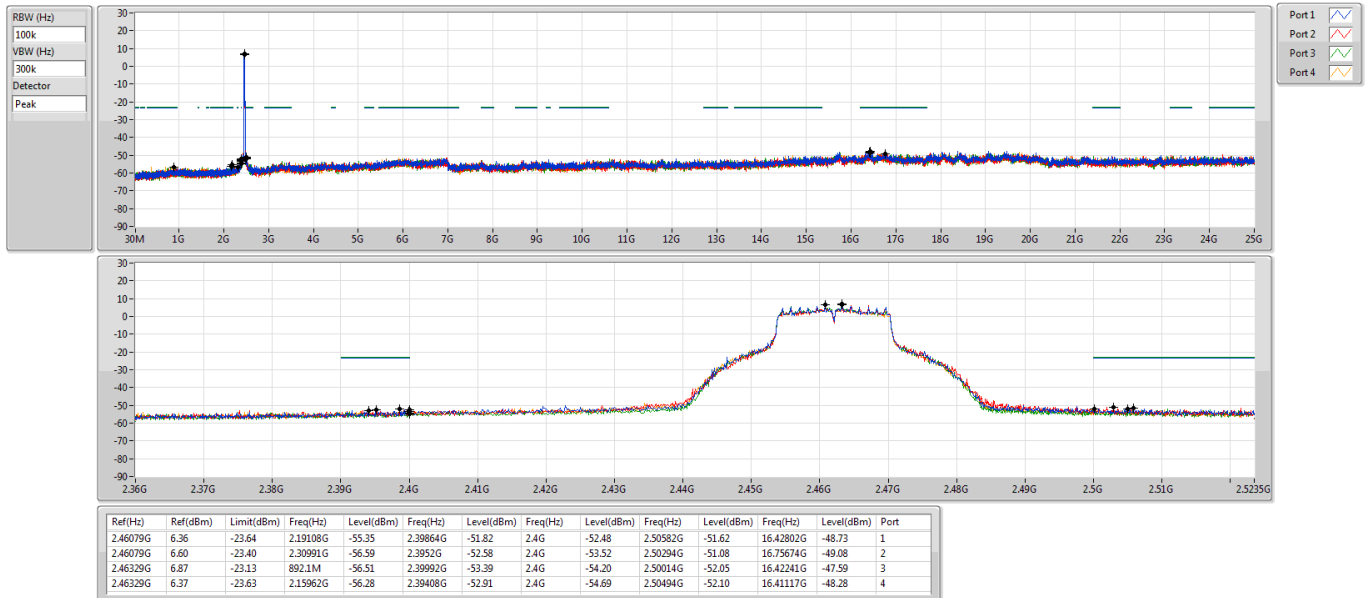
2437MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_4TX

CSEndB

2462MHz

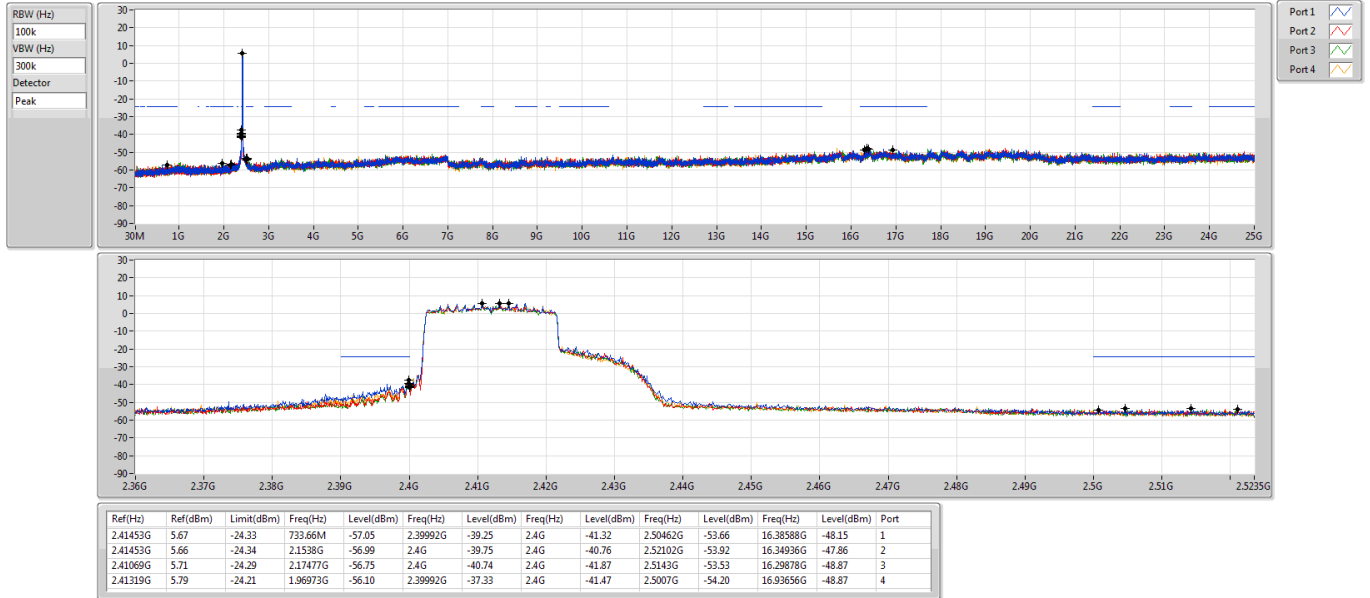




2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_4TX

CSEndB

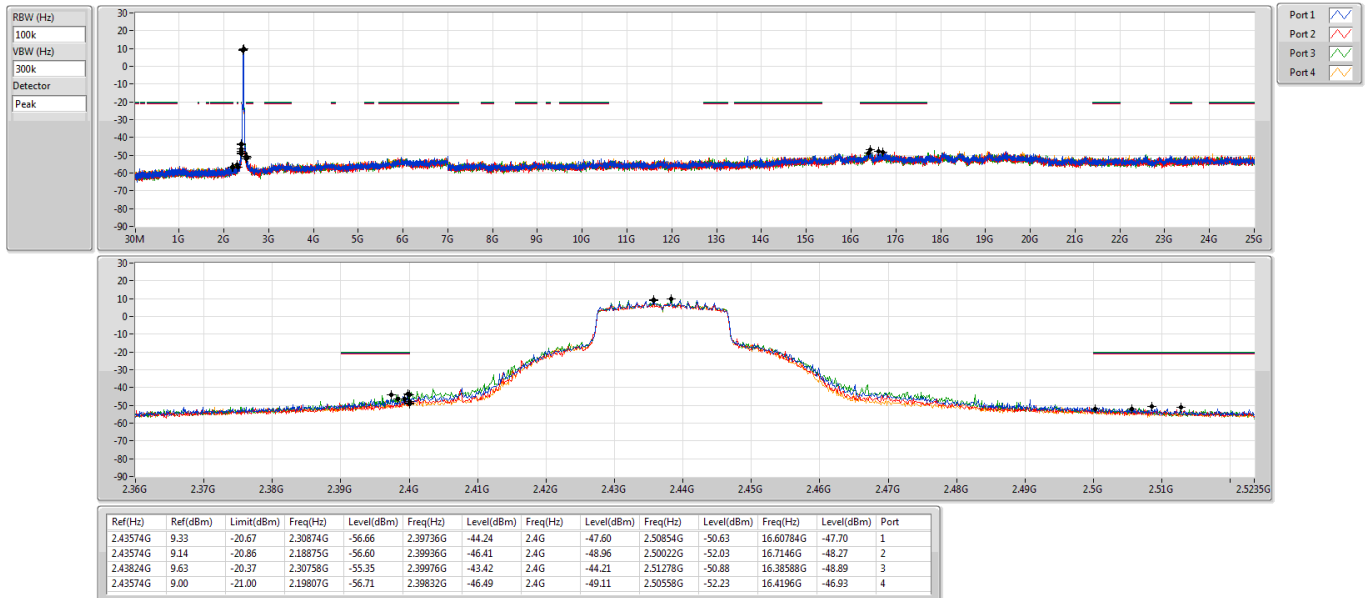
2412MHz



2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_4TX

CSEndB

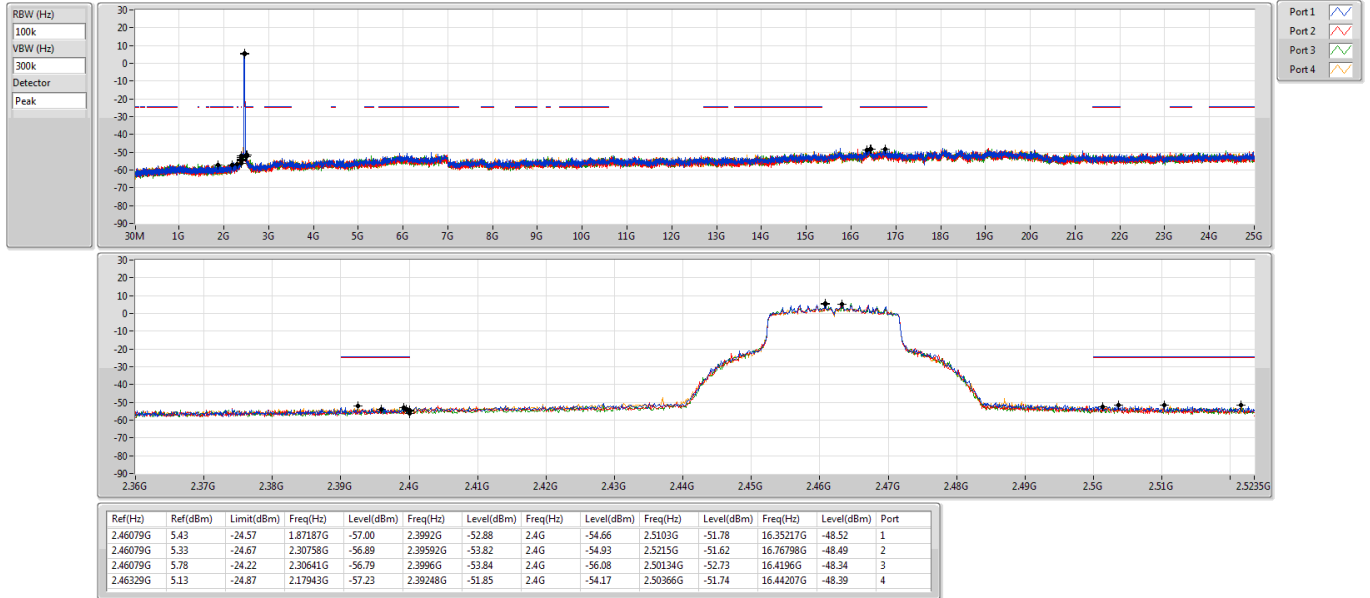
2437MHz



2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_4TX

CSEndB

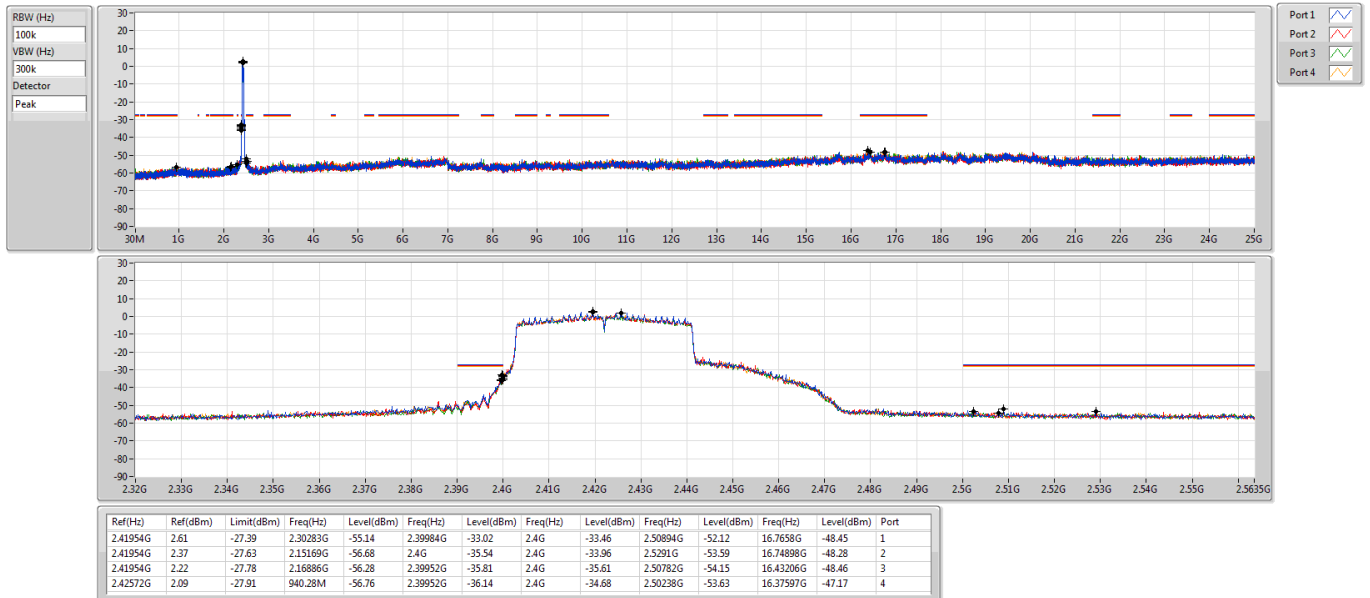
2462MHz



2.4-2.4835GHz_802.11ax_HEW40_Nss1,(MCS0)_4TX

CSEndB

2422MHz





2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

CSEndB

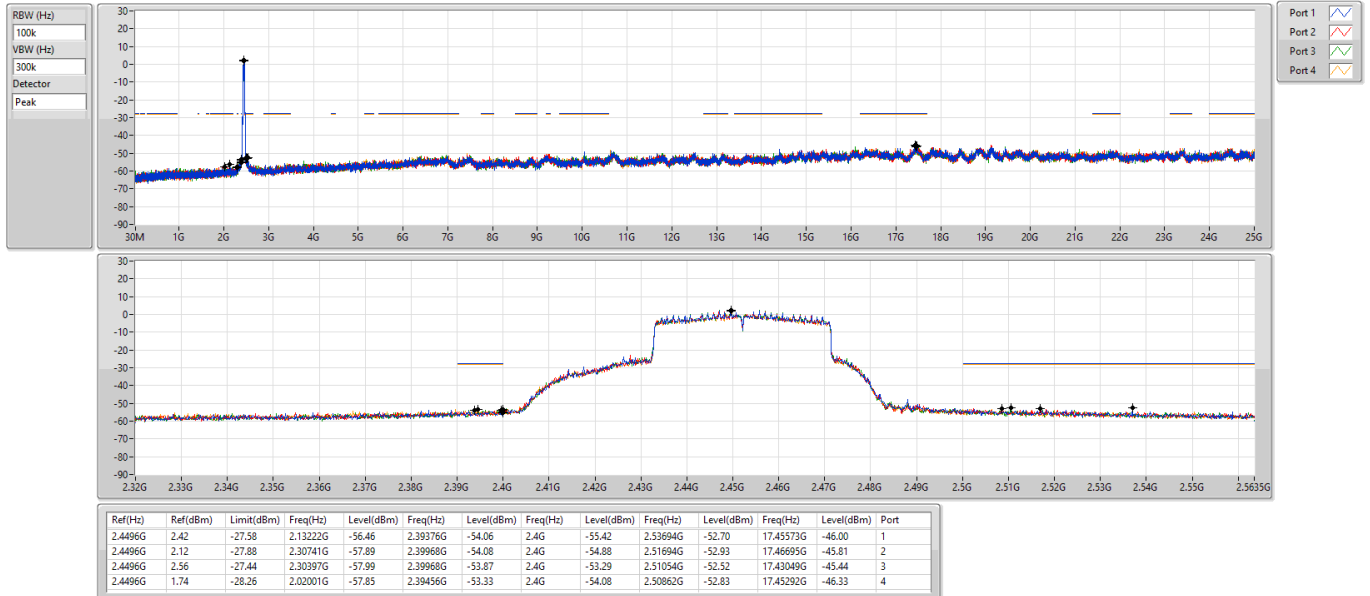
2437MHz



2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

CSEndB

2452MHz

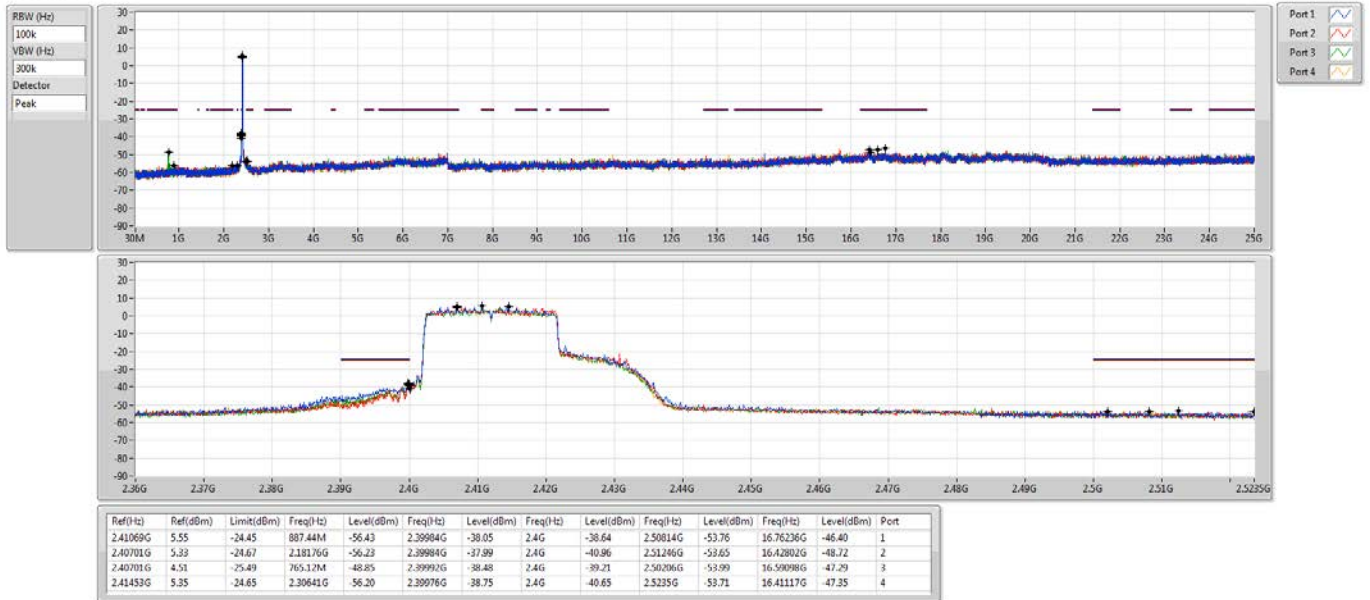


Beamforming mode

2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

CSEndB

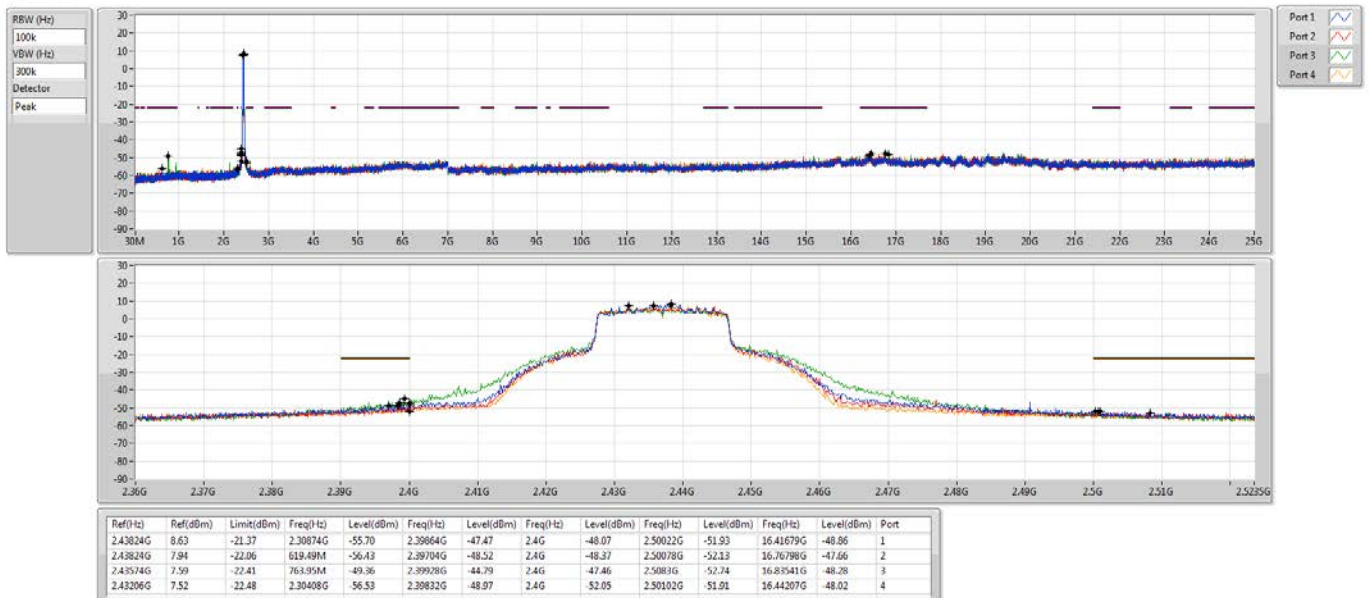
2412MHz



2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

CSEndB

2437MHz



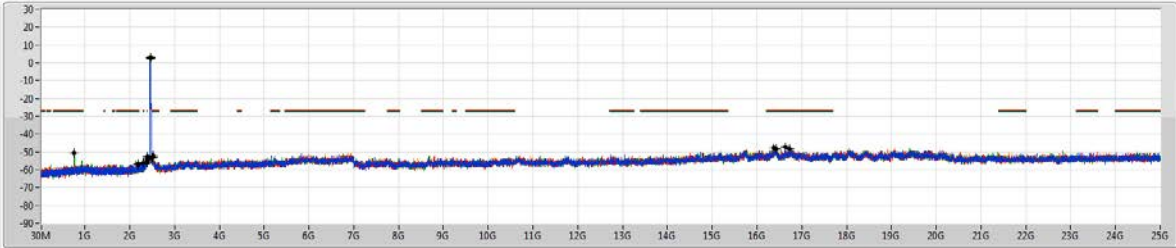


2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

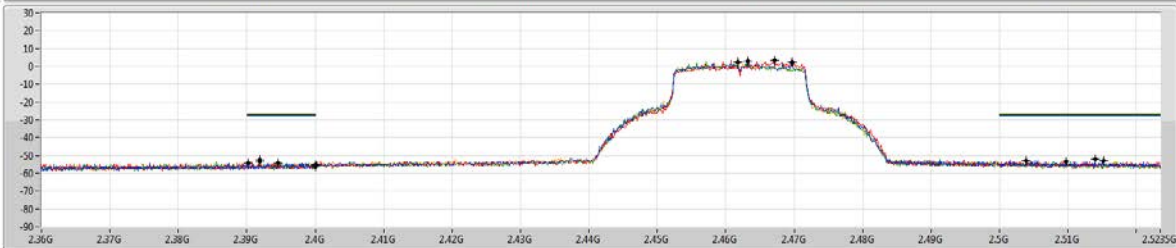
CSEndB

2462MHz

RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak



Port 1
Port 2
Port 3
Port 4



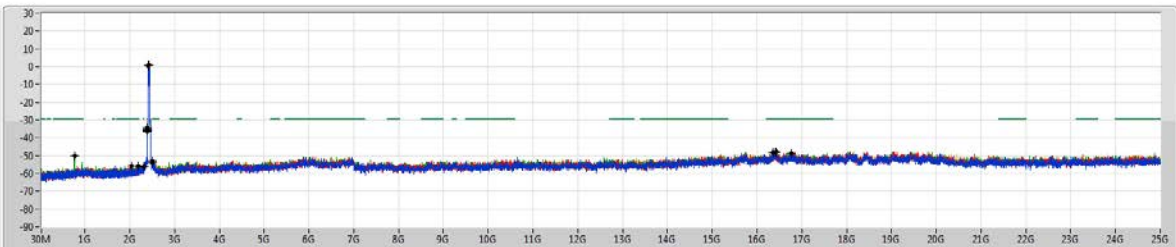
Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.46964G	2.22	-27.78	2.19457G	-57.23	2.39184G	-52.32	2.4G	-56.25	2.51388G	-52.07	16.71741G	-48.09	1
2.46713G	3.31	-26.69	2.30758G	-56.29	2.39184G	-53.35	2.4G	-56.32	2.51518G	-53.09	16.43364G	-48.40	2
2.46529G	3.04	-26.96	763.95M	-50.41	2.39456G	-54.48	2.4G	-56.06	2.50974G	-53.44	16.6275G	-47.27	3
2.46179G	2.21	-27.79	2.18642G	-56.49	2.39016G	-54.16	2.4G	-55.34	2.5099G	-53.06	16.37464G	-47.98	4

2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

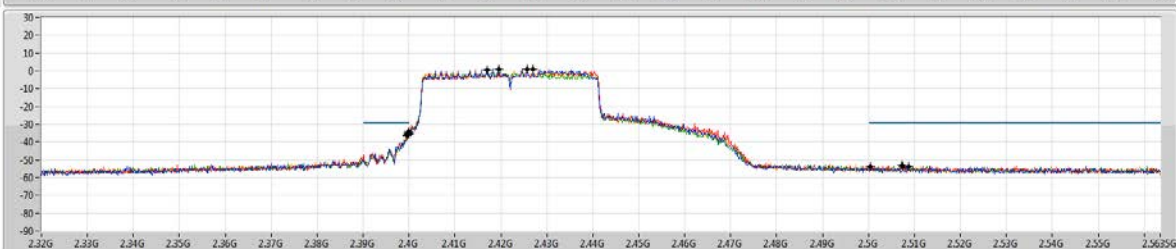
CSEndB

2422MHz

RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak



Port 1
Port 2
Port 3
Port 4



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
2.42705G	1.13	-28.87	2.3097G	-56.17	2.39968G	-36.04	2.4G	-35.66	2.50046G	-53.92	16.75459G	-48.58	1
2.41954G	1.02	-28.98	2.19062G	-55.97	2.39952G	-36.41	2.4G	-35.19	2.50734G	-53.16	16.42826G	-47.83	2
2.41703G	0.57	-29.43	767.38M	-50.33	2.39846G	-35.21	2.4G	-34.22	2.5075G	-53.69	16.34512G	-48.10	3
2.42572G	0.82	-29.18	2.0452G	-55.74	2.39952G	-36.59	2.4G	-34.07	2.50878G	-54.04	16.40402G	-48.36	4

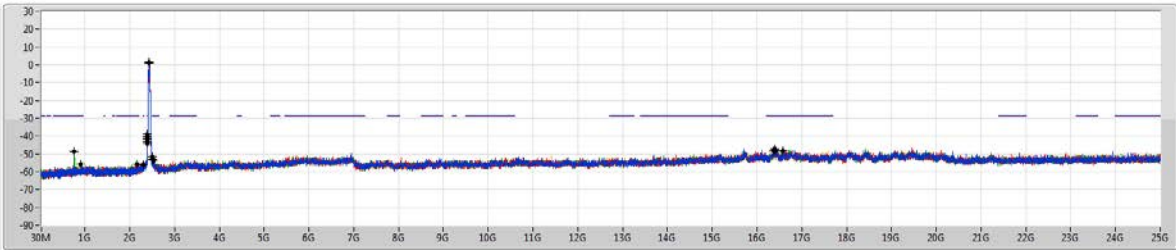


2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

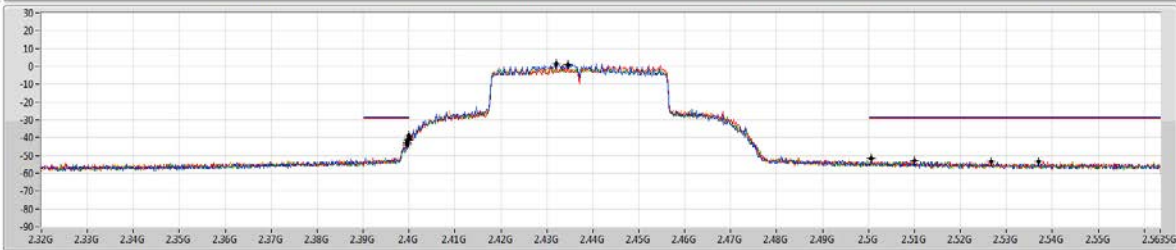
CSEndB

2437MHz

RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak



Port 1
Port 2
Port 3
Port 4



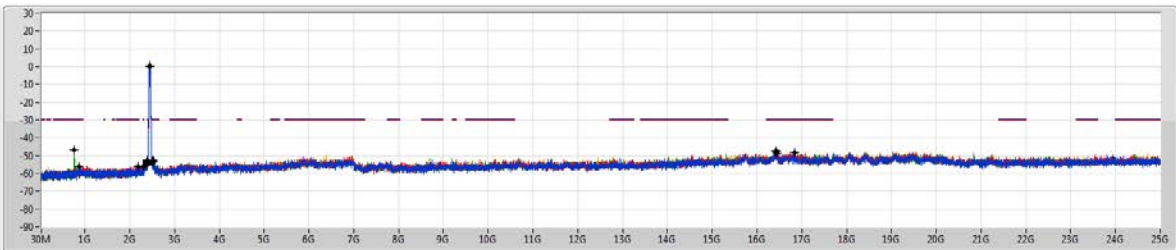
Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.43206G	1.25	-28.75	2.1597G	-55.71	2.39984G	-41.51	2.4G	-41.43	2.51006G	-52.79	16.42084G	-48.27	1
2.43457G	1.17	-28.83	896.77M	-55.84	2.39952G	-43.93	2.4G	-38.84	2.50062G	-51.77	16.37036G	-48.28	2
2.43457G	0.87	-29.13	759.37M	-48.14	2.39968G	-43.08	2.4G	41.16	2.53694G	-53.26	16.39841G	47.46	3
2.43457G	1.02	-28.98	2.30397G	-56.27	2.39952G	-41.92	2.4G	40.45	2.5267G	-53.65	16.58631G	-48.07	4

2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

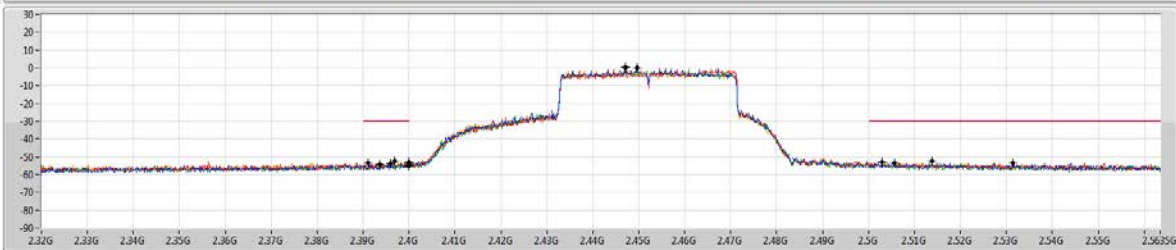
CSEndB

2452MHz

RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak



Port 1
Port 2
Port 3
Port 4



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
2.44709G	0.43	-29.57	867M	-56.19	2.396G	-53.76	2.4G	-55.21	2.53134G	-53.25	16.83031G	-48.12	1
2.44709G	-0.16	-30.16	2.30512G	-56.37	2.39104G	-53.67	2.4G	-53.89	2.53199G	-52.68	16.43767G	-47.21	2
2.44709G	-0.15	-30.15	761.66M	-46.83	2.3936G	-54.30	2.4G	-54.84	2.50574G	-53.35	16.44328G	-48.68	3
2.4496G	0.06	-29.94	2.19405G	-56.24	2.3968G	-52.57	2.4G	-52.82	2.50286G	-53.02	16.41243G	-47.69	4



Non-beamforming mode

Test configuration 1: Without SFP, model: SDG-8612

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

Test by : Joe Liao

Temperature: 22°C

Humidity: 62%

	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.153	44.40	55.82	-11.42	34.57	9.59	0.06	0.18	Average
2	0.153	49.68	65.82	-16.14	39.85	9.59	0.06	0.18	QP
3	0.336	42.77	49.31	-6.54	32.85	9.59	0.06	0.27	Average
4	0.336	44.50	59.31	-14.81	34.58	9.59	0.06	0.27	QP
5	0.415	41.47	47.55	-6.08	31.52	9.59	0.06	0.30	Average
6	0.415	44.78	57.55	-12.77	34.83	9.59	0.06	0.30	QP
7*	0.449	41.42	46.89	-5.47	31.46	9.59	0.07	0.30	Average
8	0.449	44.53	56.89	-12.36	34.57	9.59	0.07	0.30	QP
9	0.561	32.73	46.00	-13.27	22.75	9.59	0.08	0.31	Average
10	0.561	36.96	56.00	-19.04	26.98	9.59	0.08	0.31	QP
11	0.904	28.66	46.00	-17.34	18.63	9.60	0.10	0.33	Average
12	0.904	35.98	56.00	-20.02	25.95	9.60	0.10	0.33	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)	2437																																																																																																																																		
Power Phase	Neutral																																																																																																																																				
Test by : Joe Liao Temperature: 22°C Humidity: 62%																																																																																																																																					
Level (dBUV) Frequency (MHz) <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>45.88</td><td>55.82</td><td>-9.94</td><td>36.04</td><td>9.60</td><td>0.06</td><td>0.18</td><td>Average</td></tr><tr><td>2</td><td>0.153</td><td>50.40</td><td>65.82</td><td>-15.42</td><td>40.56</td><td>9.60</td><td>0.06</td><td>0.18</td><td>QP</td></tr><tr><td>3</td><td>0.192</td><td>43.25</td><td>53.93</td><td>-10.68</td><td>33.40</td><td>9.60</td><td>0.06</td><td>0.19</td><td>Average</td></tr><tr><td>4</td><td>0.192</td><td>47.92</td><td>63.93</td><td>-16.01</td><td>38.07</td><td>9.60</td><td>0.06</td><td>0.19</td><td>QP</td></tr><tr><td>5</td><td>0.226</td><td>40.07</td><td>52.61</td><td>-12.54</td><td>30.20</td><td>9.60</td><td>0.06</td><td>0.21</td><td>Average</td></tr><tr><td>6</td><td>0.226</td><td>44.06</td><td>62.61</td><td>-18.55</td><td>34.19</td><td>9.60</td><td>0.06</td><td>0.21</td><td>QP</td></tr><tr><td>7*</td><td>0.417</td><td>44.15</td><td>47.51</td><td>-3.36</td><td>34.19</td><td>9.60</td><td>0.06</td><td>0.30</td><td>Average</td></tr><tr><td>8</td><td>0.417</td><td>46.72</td><td>57.51</td><td>-10.79</td><td>36.76</td><td>9.60</td><td>0.06</td><td>0.30</td><td>QP</td></tr><tr><td>9</td><td>0.538</td><td>28.02</td><td>46.00</td><td>-17.98</td><td>18.03</td><td>9.60</td><td>0.08</td><td>0.31</td><td>Average</td></tr><tr><td>10</td><td>0.538</td><td>35.53</td><td>56.00</td><td>-20.47</td><td>25.54</td><td>9.60</td><td>0.08</td><td>0.31</td><td>QP</td></tr><tr><td>11</td><td>0.958</td><td>24.97</td><td>46.00</td><td>-21.03</td><td>14.93</td><td>9.60</td><td>0.11</td><td>0.33</td><td>Average</td></tr><tr><td>12</td><td>0.958</td><td>33.36</td><td>56.00</td><td>-22.64</td><td>23.32</td><td>9.60</td><td>0.11</td><td>0.33</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	45.88	55.82	-9.94	36.04	9.60	0.06	0.18	Average	2	0.153	50.40	65.82	-15.42	40.56	9.60	0.06	0.18	QP	3	0.192	43.25	53.93	-10.68	33.40	9.60	0.06	0.19	Average	4	0.192	47.92	63.93	-16.01	38.07	9.60	0.06	0.19	QP	5	0.226	40.07	52.61	-12.54	30.20	9.60	0.06	0.21	Average	6	0.226	44.06	62.61	-18.55	34.19	9.60	0.06	0.21	QP	7*	0.417	44.15	47.51	-3.36	34.19	9.60	0.06	0.30	Average	8	0.417	46.72	57.51	-10.79	36.76	9.60	0.06	0.30	QP	9	0.538	28.02	46.00	-17.98	18.03	9.60	0.08	0.31	Average	10	0.538	35.53	56.00	-20.47	25.54	9.60	0.08	0.31	QP	11	0.958	24.97	46.00	-21.03	14.93	9.60	0.11	0.33	Average	12	0.958	33.36	56.00	-22.64	23.32	9.60	0.11	0.33	QP
	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	Factor dB	Cable loss dB	Aux dB	Remark																																																																																																																												
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Note 1: Level (dBUV) = Read Level (dBUV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).
2: Over Limit (dB) = Level (dBUV) – Limit Line (dBUV).

Test configuration 2: With SFP, model: SDG-8614

Modulation Mode	11b	Test Freq. (MHz)	2437																																																																																																																																																						
Power Phase	Line																																																																																																																																																								
Test by : Joe Liao Temperature: 22°C Humidity: 62%																																																																																																																																																									
Level (dBUV) <table><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>Factor</th><th>Cable</th><th>Aux</th><th></th></tr><tr><th></th><th>MHz</th><th>dBuV</th><th>Line</th><th>Limit</th><th>Level</th><th></th><th>loss</th><th></th><th>Remark</th></tr><tr><th></th><th></th><th></th><th>dBuV</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB</th><th>dB</th><th></th></tr><tr><td>1</td><td>0.180</td><td>41.65</td><td>54.50</td><td>-12.85</td><td>31.81</td><td>9.59</td><td>0.06</td><td>0.19</td><td>Average</td></tr><tr><td>2</td><td>0.180</td><td>48.22</td><td>64.50</td><td>-16.28</td><td>38.38</td><td>9.59</td><td>0.06</td><td>0.19</td><td>QP</td></tr><tr><td>3*</td><td>0.426</td><td>43.56</td><td>47.33</td><td>-3.77</td><td>33.61</td><td>9.59</td><td>0.06</td><td>0.30</td><td>Average</td></tr><tr><td>4</td><td>0.426</td><td>48.99</td><td>57.33</td><td>-8.34</td><td>39.04</td><td>9.59</td><td>0.06</td><td>0.30</td><td>QP</td></tr><tr><td>5</td><td>0.435</td><td>42.84</td><td>47.15</td><td>-4.31</td><td>32.89</td><td>9.59</td><td>0.06</td><td>0.30</td><td>Average</td></tr><tr><td>6</td><td>0.435</td><td>48.12</td><td>57.15</td><td>-9.03</td><td>38.17</td><td>9.59</td><td>0.06</td><td>0.30</td><td>QP</td></tr><tr><td>7</td><td>0.456</td><td>31.73</td><td>46.76</td><td>-15.03</td><td>21.77</td><td>9.59</td><td>0.07</td><td>0.30</td><td>Average</td></tr><tr><td>8</td><td>0.456</td><td>41.39</td><td>56.76</td><td>-15.37</td><td>31.43</td><td>9.59</td><td>0.07</td><td>0.30</td><td>QP</td></tr><tr><td>9</td><td>3.436</td><td>26.69</td><td>46.00</td><td>-19.31</td><td>16.49</td><td>9.62</td><td>0.17</td><td>0.41</td><td>Average</td></tr><tr><td>10</td><td>3.436</td><td>33.52</td><td>56.00</td><td>-22.48</td><td>23.32</td><td>9.62</td><td>0.17</td><td>0.41</td><td>QP</td></tr><tr><td>11</td><td>17.109</td><td>22.47</td><td>50.00</td><td>-27.53</td><td>11.90</td><td>9.60</td><td>0.47</td><td>0.50</td><td>Average</td></tr><tr><td>12</td><td>17.109</td><td>27.73</td><td>60.00</td><td>-32.27</td><td>17.16</td><td>9.60</td><td>0.47</td><td>0.50</td><td>QP</td></tr></table>					Freq	Level	Limit	Over	Read	Factor	Cable	Aux			MHz	dBuV	Line	Limit	Level		loss		Remark				dBuV	dB	dBuV	dB	dB	dB		1	0.180	41.65	54.50	-12.85	31.81	9.59	0.06	0.19	Average	2	0.180	48.22	64.50	-16.28	38.38	9.59	0.06	0.19	QP	3*	0.426	43.56	47.33	-3.77	33.61	9.59	0.06	0.30	Average	4	0.426	48.99	57.33	-8.34	39.04	9.59	0.06	0.30	QP	5	0.435	42.84	47.15	-4.31	32.89	9.59	0.06	0.30	Average	6	0.435	48.12	57.15	-9.03	38.17	9.59	0.06	0.30	QP	7	0.456	31.73	46.76	-15.03	21.77	9.59	0.07	0.30	Average	8	0.456	41.39	56.76	-15.37	31.43	9.59	0.07	0.30	QP	9	3.436	26.69	46.00	-19.31	16.49	9.62	0.17	0.41	Average	10	3.436	33.52	56.00	-22.48	23.32	9.62	0.17	0.41	QP	11	17.109	22.47	50.00	-27.53	11.90	9.60	0.47	0.50	Average	12	17.109	27.73	60.00	-32.27	17.16	9.60	0.47	0.50	QP
	Freq	Level	Limit	Over	Read	Factor	Cable	Aux																																																																																																																																																	
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Note 1: Level (dBUV) = Read Level (dBUV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).

2: Over Limit (dB) = Level (dBUV) – Limit Line (dBUV).

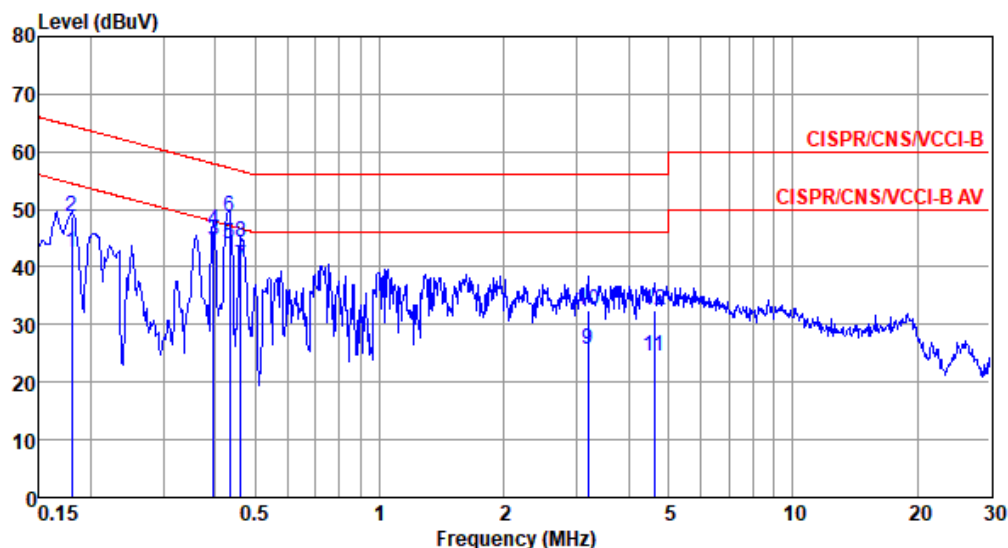


Modulation Mode	11b	Test Freq. (MHz)	2437
Power Phase	Neutral		

Test by : Joe Liao

Temperature: 22°C

Humidity: 62%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.180	42.59	54.50	-11.91	32.74	9.60	0.06	0.19	Average
2	0.180	48.83	64.50	-15.67	38.98	9.60	0.06	0.19	QP
3	0.396	44.50	47.95	-3.45	34.54	9.60	0.06	0.30	Average
4	0.396	46.39	57.95	-11.56	36.43	9.60	0.06	0.30	QP
5*	0.433	44.00	47.20	-3.20	34.04	9.60	0.06	0.30	Average
6	0.433	48.80	57.20	-8.40	38.84	9.60	0.06	0.30	QP
7	0.461	40.09	46.67	-6.58	30.12	9.60	0.07	0.30	Average
8	0.461	44.27	56.67	-12.40	34.30	9.60	0.07	0.30	QP
9	3.190	25.68	46.00	-20.32	15.50	9.62	0.16	0.40	Average
10	3.190	32.56	56.00	-23.44	22.38	9.62	0.16	0.40	QP
11	4.622	24.40	46.00	-21.60	14.14	9.63	0.21	0.42	Average
12	4.622	32.35	56.00	-23.65	22.09	9.63	0.21	0.42	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).

**Beamforming mode****Test configuration 1: Without SFP, model: SDG-8612**

Modulation Mode	ax HE20	Test Freq. (MHz)	2437																																																																																																																																		
Power Phase	Line																																																																																																																																				
Test by : Joe Liao Temperature: 22°C Humidity: 62%																																																																																																																																					
Level (dBUV) Frequency (MHz) <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>0.183</td><td>42.04</td><td>54.33</td><td>-12.29</td><td>32.20</td><td>9.59</td><td>0.06</td><td>0.19</td><td>Average</td></tr><tr><td>2</td><td>0.183</td><td>48.50</td><td>64.33</td><td>-15.83</td><td>38.66</td><td>9.59</td><td>0.06</td><td>0.19</td><td>QP</td></tr><tr><td>3</td><td>0.334</td><td>42.10</td><td>49.35</td><td>-7.25</td><td>32.18</td><td>9.59</td><td>0.06</td><td>0.27</td><td>Average</td></tr><tr><td>4</td><td>0.334</td><td>43.84</td><td>59.35</td><td>-15.51</td><td>33.92</td><td>9.59</td><td>0.06</td><td>0.27</td><td>QP</td></tr><tr><td>5</td><td>0.375</td><td>39.72</td><td>48.39</td><td>-8.67</td><td>29.78</td><td>9.59</td><td>0.06</td><td>0.29</td><td>Average</td></tr><tr><td>6</td><td>0.375</td><td>43.69</td><td>58.39</td><td>-14.70</td><td>33.75</td><td>9.59</td><td>0.06</td><td>0.29</td><td>QP</td></tr><tr><td>7*</td><td>0.410</td><td>43.02</td><td>47.64</td><td>-4.62</td><td>33.07</td><td>9.59</td><td>0.06</td><td>0.30</td><td>Average</td></tr><tr><td>8</td><td>0.410</td><td>45.23</td><td>57.64</td><td>-12.41</td><td>35.28</td><td>9.59</td><td>0.06</td><td>0.30</td><td>QP</td></tr><tr><td>9</td><td>0.459</td><td>31.31</td><td>46.71</td><td>-15.40</td><td>21.35</td><td>9.59</td><td>0.07</td><td>0.30</td><td>Average</td></tr><tr><td>10</td><td>0.459</td><td>42.73</td><td>56.71</td><td>-13.98</td><td>32.77</td><td>9.59</td><td>0.07</td><td>0.30</td><td>QP</td></tr><tr><td>11</td><td>1.388</td><td>26.24</td><td>46.00</td><td>-19.76</td><td>16.18</td><td>9.60</td><td>0.12</td><td>0.34</td><td>Average</td></tr><tr><td>12</td><td>1.388</td><td>35.45</td><td>56.00</td><td>-20.55</td><td>25.39</td><td>9.60</td><td>0.12</td><td>0.34</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	0.183	42.04	54.33	-12.29	32.20	9.59	0.06	0.19	Average	2	0.183	48.50	64.33	-15.83	38.66	9.59	0.06	0.19	QP	3	0.334	42.10	49.35	-7.25	32.18	9.59	0.06	0.27	Average	4	0.334	43.84	59.35	-15.51	33.92	9.59	0.06	0.27	QP	5	0.375	39.72	48.39	-8.67	29.78	9.59	0.06	0.29	Average	6	0.375	43.69	58.39	-14.70	33.75	9.59	0.06	0.29	QP	7*	0.410	43.02	47.64	-4.62	33.07	9.59	0.06	0.30	Average	8	0.410	45.23	57.64	-12.41	35.28	9.59	0.06	0.30	QP	9	0.459	31.31	46.71	-15.40	21.35	9.59	0.07	0.30	Average	10	0.459	42.73	56.71	-13.98	32.77	9.59	0.07	0.30	QP	11	1.388	26.24	46.00	-19.76	16.18	9.60	0.12	0.34	Average	12	1.388	35.45	56.00	-20.55	25.39	9.60	0.12	0.34	QP
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11	1.388	26.24	46.00	-19.76	16.18	9.60	0.12	0.34	Average																																																																																																																												
12	1.388	35.45	56.00	-20.55	25.39	9.60	0.12	0.34	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).																																																																																																																																					

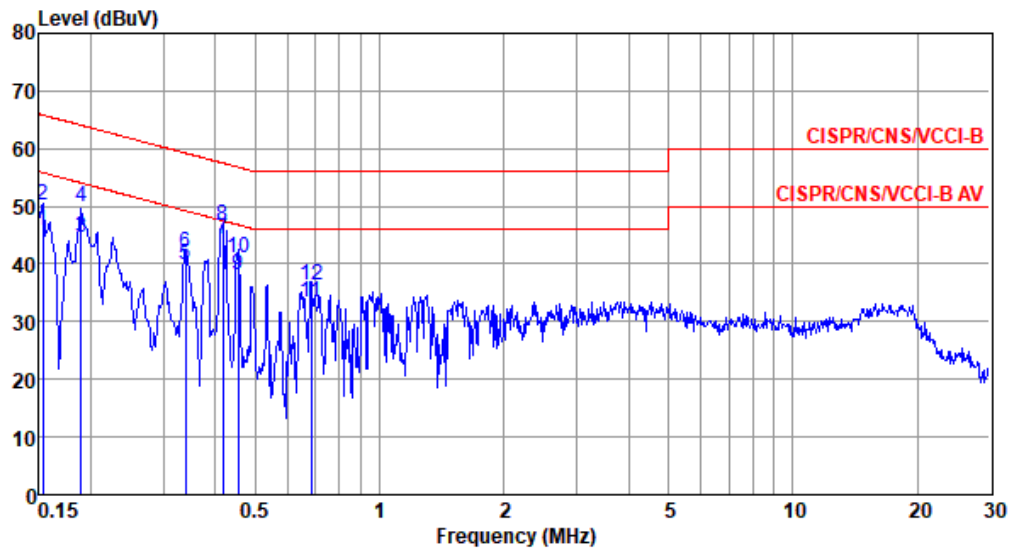


Modulation Mode	ax HE20	Test Freq. (MHz)	2437
Power Phase	Neutral		

Test by : Joe Liao

Temperature: 22°C

Humidity: 62%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.153	45.67	55.82	-10.15	35.83	9.60	0.06	0.18	Average
2	0.153	50.13	65.82	-15.69	40.29	9.60	0.06	0.18	QP
3	0.189	44.47	54.06	-9.59	34.62	9.60	0.06	0.19	Average
4	0.189	49.85	64.06	-14.21	40.00	9.60	0.06	0.19	QP
5	0.339	39.79	49.22	-9.43	29.86	9.60	0.06	0.27	Average
6	0.339	42.02	59.22	-17.20	32.09	9.60	0.06	0.27	QP
7*	0.417	44.21	47.51	-3.30	34.25	9.60	0.06	0.30	Average
8	0.417	46.67	57.51	-10.84	36.71	9.60	0.06	0.30	QP
9	0.454	37.97	46.80	-8.83	28.00	9.60	0.07	0.30	Average
10	0.454	41.15	56.80	-15.65	31.18	9.60	0.07	0.30	QP
11	0.683	33.40	46.00	-12.60	23.39	9.60	0.09	0.32	Average
12	0.683	36.24	56.00	-19.76	26.23	9.60	0.09	0.32	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).



Test configuration 2: With SFP, model: SDG-8614

Modulation Mode	ax HE20	Test Freq. (MHz)	2437																																																																																																																																		
Power Phase	Line																																																																																																																																				
Test by : Joe Liao Temperature: 22°C Humidity: 62%																																																																																																																																					
Level (dBuV) Frequency (MHz) <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>0.165</td><td>38.48</td><td>55.21</td><td>-16.73</td><td>28.65</td><td>9.59</td><td>0.06</td><td>0.18</td><td>Average</td></tr><tr><td>2</td><td>0.165</td><td>47.68</td><td>65.21</td><td>-17.53</td><td>37.85</td><td>9.59</td><td>0.06</td><td>0.18</td><td>QP</td></tr><tr><td>3</td><td>0.396</td><td>44.11</td><td>47.95</td><td>-3.84</td><td>34.16</td><td>9.59</td><td>0.06</td><td>0.30</td><td>Average</td></tr><tr><td>4</td><td>0.396</td><td>45.84</td><td>57.95</td><td>-12.11</td><td>35.89</td><td>9.59</td><td>0.06</td><td>0.30</td><td>QP</td></tr><tr><td>5*</td><td>0.426</td><td>43.80</td><td>47.33</td><td>-3.53</td><td>33.85</td><td>9.59</td><td>0.06</td><td>0.30</td><td>Average</td></tr><tr><td>6</td><td>0.426</td><td>49.01</td><td>57.33</td><td>-8.32</td><td>39.06</td><td>9.59</td><td>0.06</td><td>0.30</td><td>QP</td></tr><tr><td>7</td><td>0.461</td><td>39.42</td><td>46.67</td><td>-7.25</td><td>29.46</td><td>9.59</td><td>0.07</td><td>0.30</td><td>Average</td></tr><tr><td>8</td><td>0.461</td><td>43.33</td><td>56.67</td><td>-13.34</td><td>33.37</td><td>9.59</td><td>0.07</td><td>0.30</td><td>QP</td></tr><tr><td>9</td><td>0.739</td><td>33.58</td><td>46.00</td><td>-12.42</td><td>23.57</td><td>9.60</td><td>0.09</td><td>0.32</td><td>Average</td></tr><tr><td>10</td><td>0.739</td><td>37.29</td><td>56.00</td><td>-18.71</td><td>27.28</td><td>9.60</td><td>0.09</td><td>0.32</td><td>QP</td></tr><tr><td>11</td><td>3.799</td><td>25.66</td><td>46.00</td><td>-20.34</td><td>15.44</td><td>9.62</td><td>0.18</td><td>0.42</td><td>Average</td></tr><tr><td>12</td><td>3.799</td><td>33.38</td><td>56.00</td><td>-22.62</td><td>23.16</td><td>9.62</td><td>0.18</td><td>0.42</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	0.165	38.48	55.21	-16.73	28.65	9.59	0.06	0.18	Average	2	0.165	47.68	65.21	-17.53	37.85	9.59	0.06	0.18	QP	3	0.396	44.11	47.95	-3.84	34.16	9.59	0.06	0.30	Average	4	0.396	45.84	57.95	-12.11	35.89	9.59	0.06	0.30	QP	5*	0.426	43.80	47.33	-3.53	33.85	9.59	0.06	0.30	Average	6	0.426	49.01	57.33	-8.32	39.06	9.59	0.06	0.30	QP	7	0.461	39.42	46.67	-7.25	29.46	9.59	0.07	0.30	Average	8	0.461	43.33	56.67	-13.34	33.37	9.59	0.07	0.30	QP	9	0.739	33.58	46.00	-12.42	23.57	9.60	0.09	0.32	Average	10	0.739	37.29	56.00	-18.71	27.28	9.60	0.09	0.32	QP	11	3.799	25.66	46.00	-20.34	15.44	9.62	0.18	0.42	Average	12	3.799	33.38	56.00	-22.62	23.16	9.62	0.18	0.42	QP
	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark																																																																																																																												
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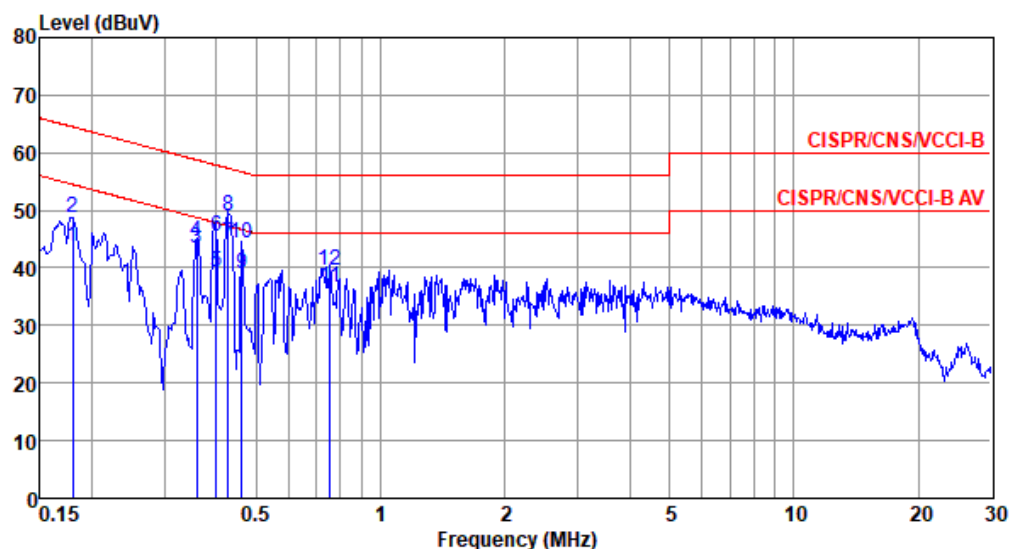


Modulation Mode	ax HE20	Test Freq. (MHz)	2437
Power Phase	Neutral		

Test by : Joe Liao

Temperature: 22°C

Humidity: 62%



	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.180	43.63	54.50	-10.87	33.78	9.60	0.06	0.19	Average
2	0.180	48.63	64.50	-15.87	38.78	9.60	0.06	0.19	QP
3	0.360	43.41	48.74	-5.33	33.47	9.60	0.06	0.28	Average
4	0.360	44.45	58.74	-14.29	34.51	9.60	0.06	0.28	QP
5	0.400	39.27	47.86	-8.59	29.31	9.60	0.06	0.30	Average
6	0.400	45.51	57.86	-12.35	35.55	9.60	0.06	0.30	QP
7*	0.428	44.21	47.29	-3.08	34.25	9.60	0.06	0.30	Average
8	0.428	49.12	57.29	-8.17	39.16	9.60	0.06	0.30	QP
9	0.461	39.06	46.67	-7.61	29.09	9.60	0.07	0.30	Average
10	0.461	44.26	56.67	-12.41	34.29	9.60	0.07	0.30	QP
11	0.755	36.56	46.00	-9.44	26.55	9.60	0.09	0.32	Average
12	0.755	39.63	56.00	-16.37	29.62	9.60	0.09	0.32	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).