

FCC Test Report

FCC ID : I88WX5610-B0
Equipment : AX7800 WiFi 6E Tri-Band Gigabit Wireless Extender
Model No. : WX5610-B0
Brand Name : ZYXEL
Applicant : Zyxel Communications Corporation
Address : No.2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan
Standard : 47 CFR FCC Part 15.247
Received Date : Dec. 26, 2022
Tested Date : Dec. 26, 2022 ~ Feb. 20, 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
FR2D2801AC	Rev. 01	Initial issue	Mar. 22, 2023

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.330MHz 34.52 (Margin -14.92dB) - AV	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 4874.00MHz 53.80 (Margin -0.20dB) - AV	Pass
15.247(b)(3)	Conducted Output Power	Max Power [dBm]: Non-beamforming mode 28.18 Beamforming mode 25.04	Pass
15.247(a)(2)	6dB Bandwidth	Meet the requirement of limit	Pass
15.247(e)	Power Spectral Density	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

Declaration of Conformity:

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

Comments and Explanations:

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

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
2400-2483.5	b	2412-2462	1-11 [11]	2	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	2	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	2	MCS 0-15
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	2	MCS 0-15
2400-2483.5	ax (HE20)	2412-2462	1-11 [11]	2	MCS 0-11
2400-2483.5	ax (HE40)	2422-2452	3-9 [7]	2	MCS 0-11

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.

1.1.2 Antenna Details

Ant. No.	Brand	Model	Type	Connector	Gain (dBi)
1	Airgain	N01MSAMA-PK1-G85U (Ant1_2G)	Dipole	ipex	3.9
2	Airgain	N01MSAMB-PK1-B100U (Ant3_2G)	Dipole	ipex	5.0

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter
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1.1.4 Accessories

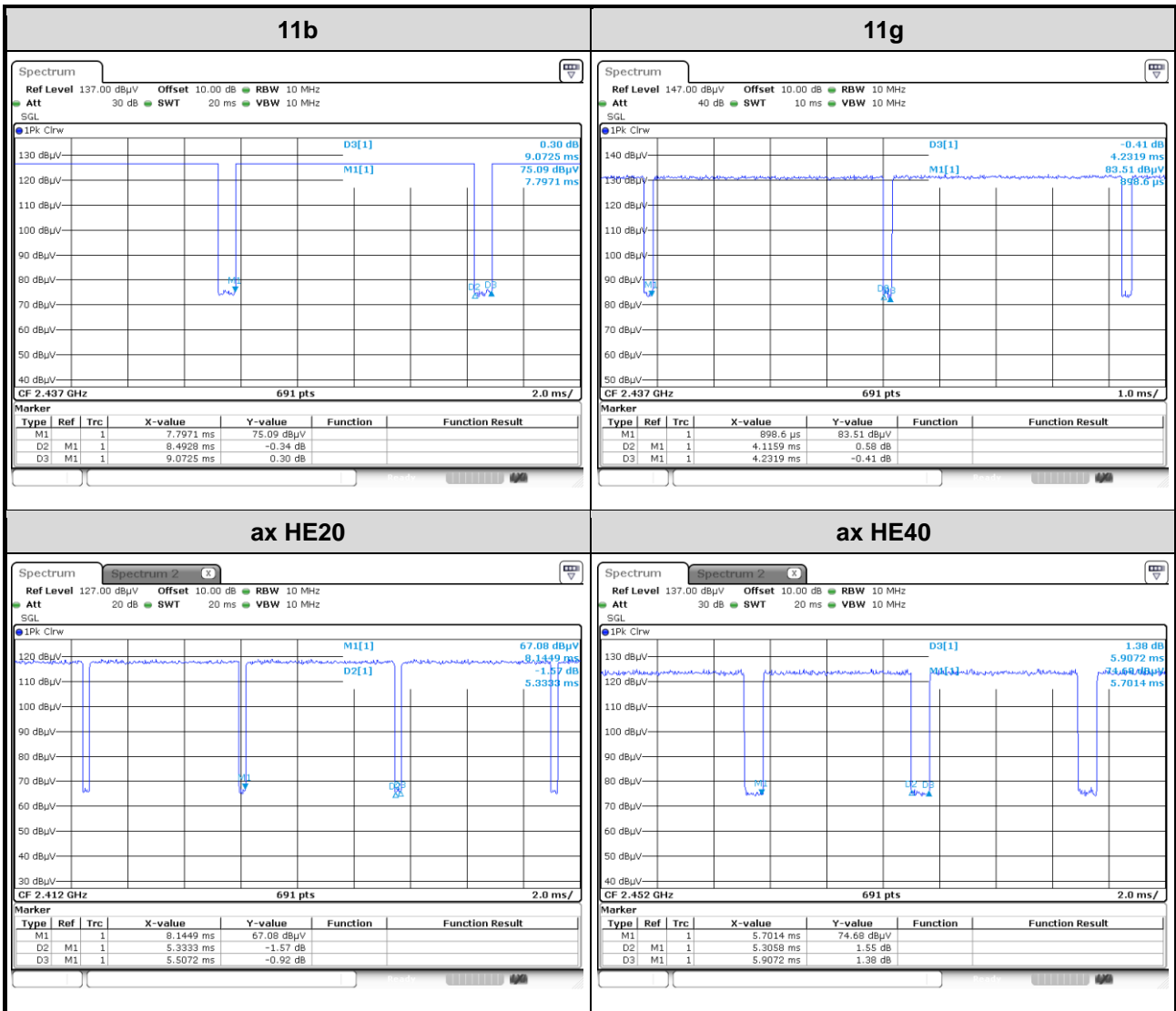
Accessories		
No.	Equipment	Description
1	AC adapter	Brand: DVE Model: DSA-36PFN-12 FUS 120300 I/P: 100-240V~ 50-60Hz 1.0A O/P: 12.0V=3.0A, 36.0W Power Line: 1.5m non-shielded without core
2	Ethernet Cable	1.8m non-shielded without core

1.1.5 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	---	---

1.1.6 Test Tool and Duty Cycle

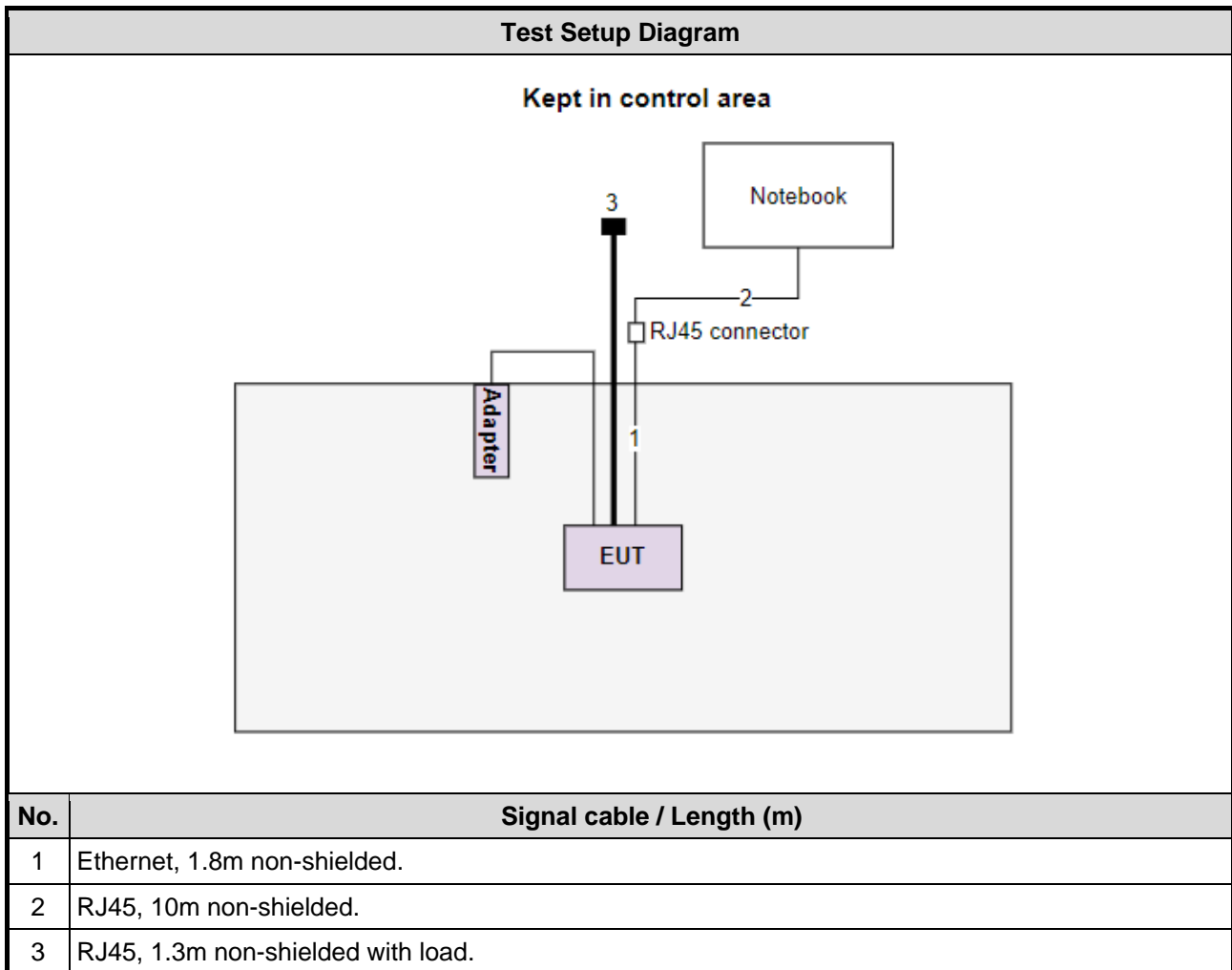
Test Tool	accessMtool, version: 3.2.1.5		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11b	93.61%	0.29
	11g	97.26%	0.12
	ax HE20	96.84%	0.14
ax HE40	89.82%	0.47	



1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E5470	DoC	---
2	Load	ICC	---	---	---

1.3 Test Setup Chart



1.4 The Equipment List

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

Test Item	Radiated Emission				
Test Site	966 chamber3 / (03CH03-WS)				
Tested Date	Dec. 26, 2022 ~ Feb. 20, 2023				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 15, 2022	Mar. 14, 2023
Spectrum Analyzer	R&S	FSV40	101499	Mar. 08, 2022	Mar. 07, 2023
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 01, 2022	Oct. 31, 2023
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Jun. 28, 2022	Jun. 27, 2023
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Dec. 15, 2022	Dec. 14, 2023
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 27, 2022	Oct. 26, 2023
Preamplifier	EMC	EMC02325	980187	Jul. 16, 2022	Jul. 15, 2023
Preamplifier	EMC	EMC184045SE	980897	Aug. 01, 2022	Jul. 31, 2023
Preamplifier	EMC	EMC184045SE	980903	Jul. 16, 2022	Jul. 15, 2023
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 04, 2022	Oct. 03, 2023
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Sep. 23, 2022	Sep. 22, 2023
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Sep. 23, 2022	Sep. 22, 2023
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Sep. 23, 2022	Sep. 22, 2023
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Sep. 23, 2022	Sep. 22, 2023
RF cable-8M	EMC	EMC104-SM-SM-8000	181107	Sep. 23, 2022	Sep. 22, 2023
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Feb. 20, 2023				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101910	Apr. 08, 2022	Apr. 07, 2023
Power Meter	Anritsu	ML2495A	1241002	Nov. 23, 2022	Nov. 22, 2023
Power Sensor	Anritsu	MA2411B	1207366	Nov. 23, 2022	Nov. 22, 2023
Measurement Software	Sporton	SENSE-15247_DTS	V5.11	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

47 CFR FCC Part 15.247
ANSI C63.10-2013

1.6 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02
FCC KDB 662911 D01 Multiple Transmitter Output v02r01

1.7 Deviation from Test Standard and Measurement Procedure

None

1.8 Measurement Uncertainty

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

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	±34.130 Hz
Conducted power	±0.808 dB
Power density	±0.583 dB
Conducted emission	±2.715 dB
AC conducted emission	±2.92 dB
Unwanted Emission ≤ 1GHz	±3.96 dB
Unwanted Emission > 1GHz	±4.51 dB

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	CO01-WS, TH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)
Test Site	03CH03-WS
Address of Test Site	No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

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

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Non-beamforming mode				
AC Power Line Conducted Emission	11g	2437	6 Mbps	---
Unwanted Emissions ≤ 1GHz	11g	2437	6 Mbps	---
Unwanted Emissions >1GHz	11b	2412 / 2437 / 2462	1 Mbps	---
Conducted Output Power	11g	2412 / 2437 / 2462	6 Mbps	
6dB bandwidth	ax HE20	2412 / 2437 / 2462	MCS 0	
Power spectral density	ax HE40	2422 / 2437 / 2452	MCS 0	
Beamforming mode				
Conducted Output Power	ax HE20 ax HE40	2412 / 2437 / 2462 2422 / 2437 / 2452	MCS 0 MCS 0	---
Note: Beamforming mode is calculated not measured. The calculation method is conducted power of non-beamforming – 3.01 dB				

3 Transmitter Test Results

3.1 6dB and Occupied Bandwidth

3.1.1 Limit of 6dB Bandwidth

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

3.1.2 Test Procedures

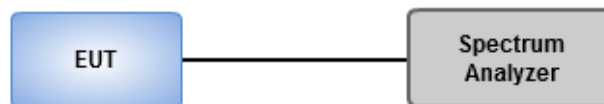
6dB Bandwidth

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

Occupied Bandwidth

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

3.1.3 Test Setup



3.1.4 Test Results

Ambient Condition	25°C / 65%	Tested By	Akun Chung
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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

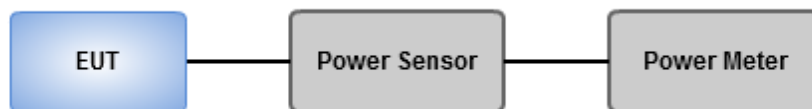
Fixed, point to point operations

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	25°C / 65%	Tested By	Akun Chung
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Refer to Appendix B.

3.3 Power Spectral Density

3.3.1 Limit of Power Spectral Density

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

3.3.2 Test Procedures

Peak PSD

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

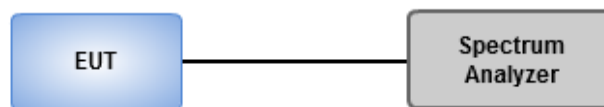
Average PSD, duty cycle \geq 98%

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

Average PSD, duty cycle $<$ 98%

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

3.3.3 Test Setup



3.3.4 Test Results

Ambient Condition	25°C / 65%	Tested By	Akun Chung
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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:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

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

3.4.2 Test Procedures

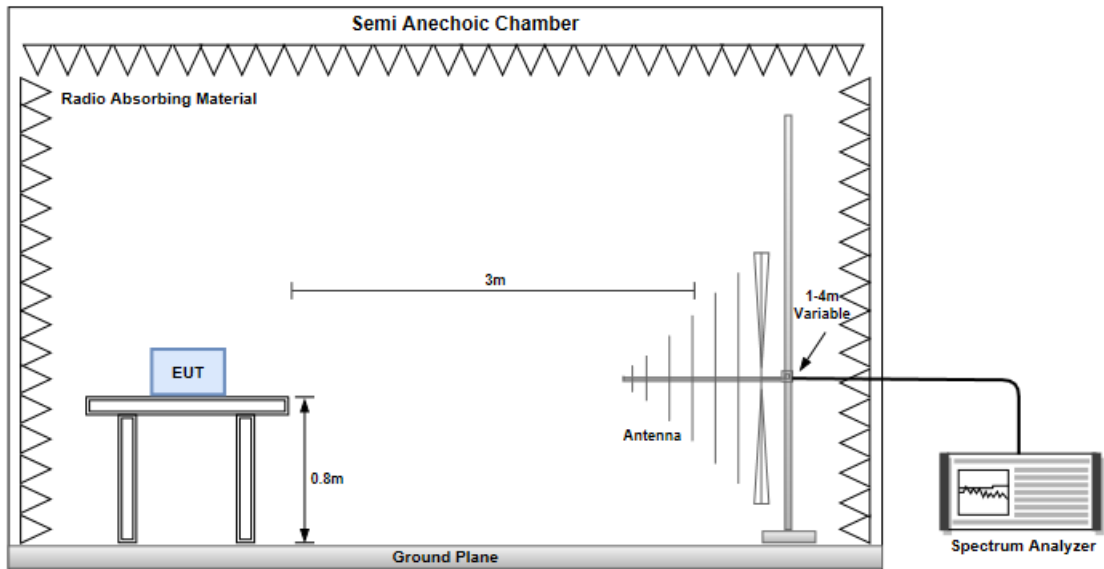
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

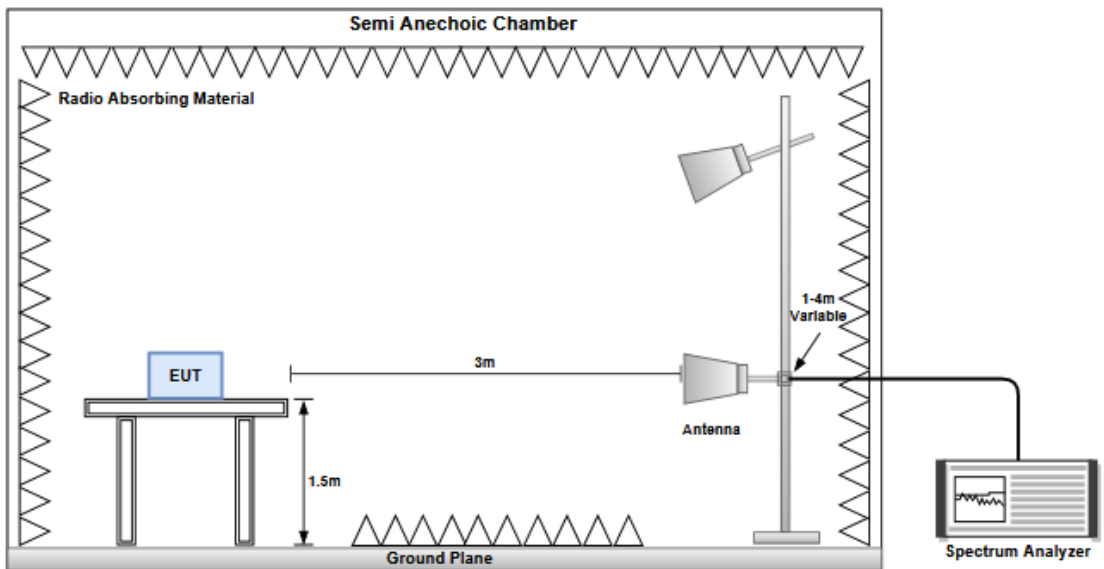
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.4.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.4.4 Test Results

Refer to Appendix D.

3.5 Emissions in Non-Restricted Frequency Bands

3.5.1 Emissions in Non-Restricted Frequency Bands Limit

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

3.5.2 Test Procedures

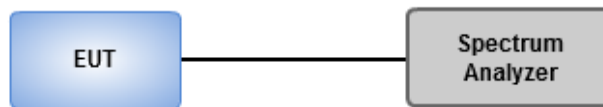
Reference level measurement

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

Emission level measurement

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

3.5.3 Test Setup



3.5.4 Test Results

Ambient Condition	25°C / 65%	Tested By	Akun Chung
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Refer to Appendix E.

3.6 AC Power Line Conducted Emissions

3.6.1 Limit of AC Power Line Conducted Emissions

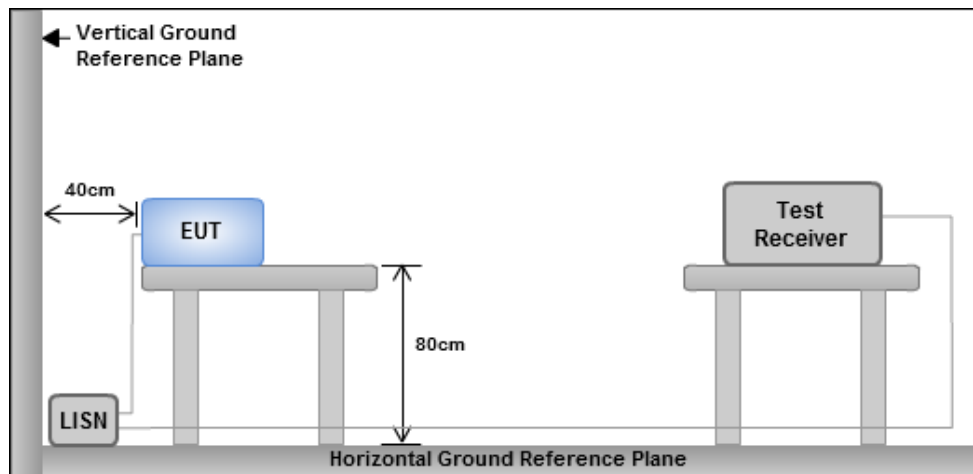
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.6.2 Test Procedures

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

3.6.3 Test Setup



- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.6.4 Test Results

Refer to Appendix F.

4 Test laboratory information

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

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

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

Linkou

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou
District, New Taipei City, Taiwan
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Kwei Shan

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City 33381, Taiwan (R.O.C.)
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St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd
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City 33381, Taiwan (R.O.C.)

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

Tel: 886-3-271-8666

Fax: 886-3-318-0345

Email: ICC_Service@icertifi.com.tw

==END==



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	7.05M	10.96M	11M0G1D	6.55M	10.405M
802.11g_Nss1,(6Mbps)_2TX	16.35M	17.261M	17M3D1D	16.3M	16.976M
802.11ax HEW20_Nss1,(MCS0)_2TX	19.025M	19.165M	19M2D1D	18.825M	19.065M
802.11ax HEW40_Nss1,(MCS0)_2TX	37.75M	37.681M	37M7D1D	37.2M	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)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	6.55M	10.87M	6.55M	10.405M
2437MHz	Pass	500k	7.025M	10.96M	7M	10.405M
2462MHz	Pass	500k	7.05M	10.915M	7M	10.42M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.325M	17.129M	16.325M	17.085M
2437MHz	Pass	500k	16.325M	17.261M	16.3M	16.976M
2462MHz	Pass	500k	16.325M	17.107M	16.35M	17.063M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	19.025M	19.14M	18.825M	19.09M
2437MHz	Pass	500k	18.925M	19.14M	18.875M	19.065M
2462MHz	Pass	500k	19M	19.165M	18.925M	19.115M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	37.75M	37.631M	37.45M	37.631M
2437MHz	Pass	500k	37.75M	37.631M	37.2M	37.631M
2452MHz	Pass	500k	37.7M	37.681M	37.55M	37.681M

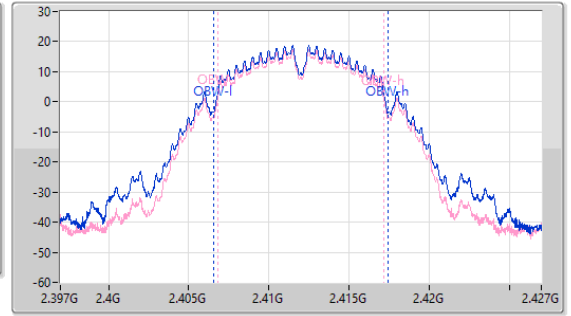
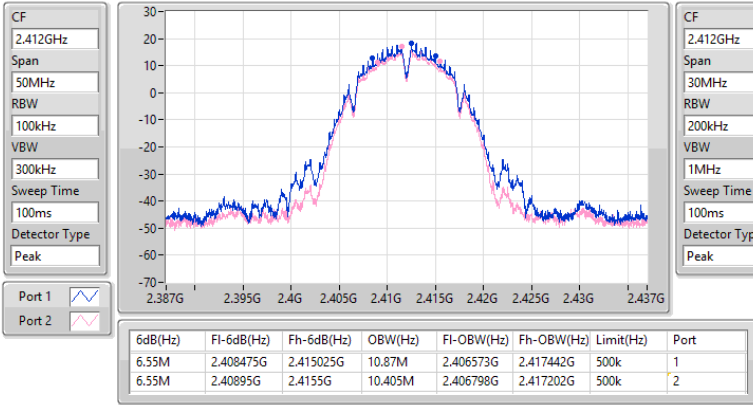
Port X-N dB = Port X 6dB down bandwidth;
 Port X-OBW = Port X 99% occupied bandwidth



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

EBW

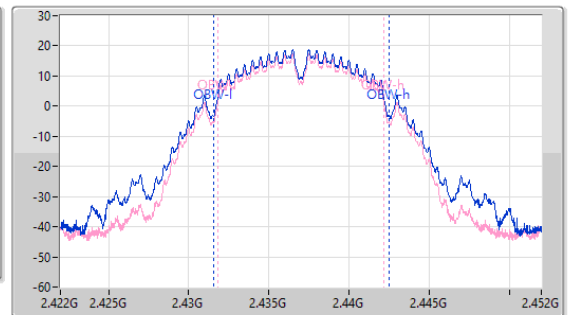
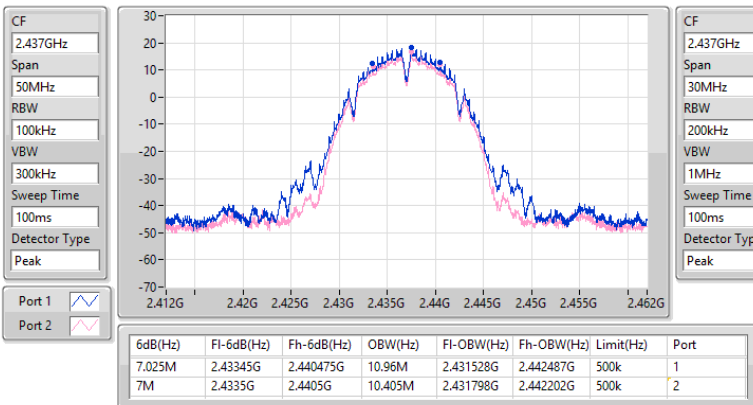
2412MHz



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

EBW

2437MHz



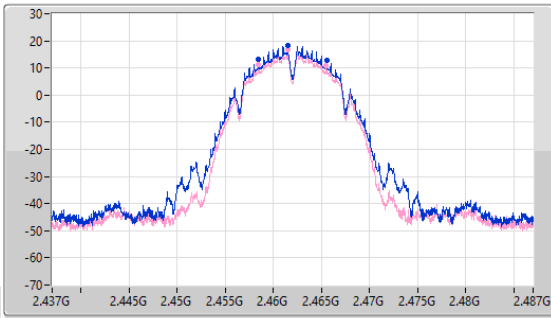


2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX

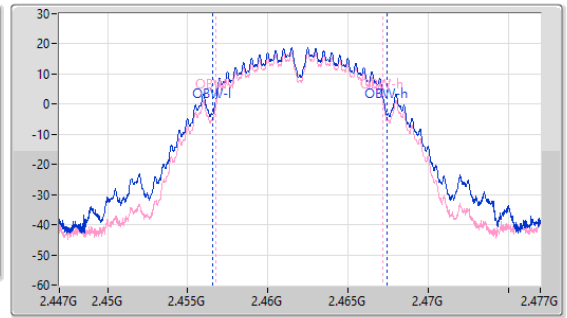
EBW

2462MHz

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



CF: 2.462GHz
 Span: 30MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



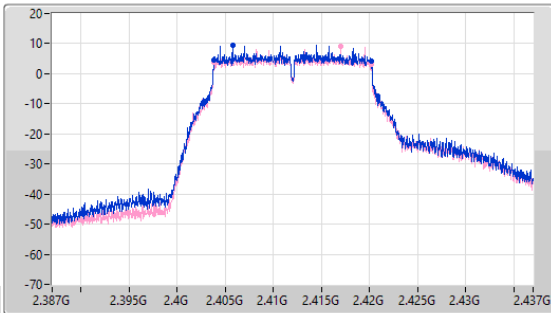
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
7.05M	2.458475G	2.465525G	10.915M	2.456528G	2.467442G	500k	1
7M	2.458475G	2.465475G	10.42M	2.456783G	2.467202G	500k	2

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

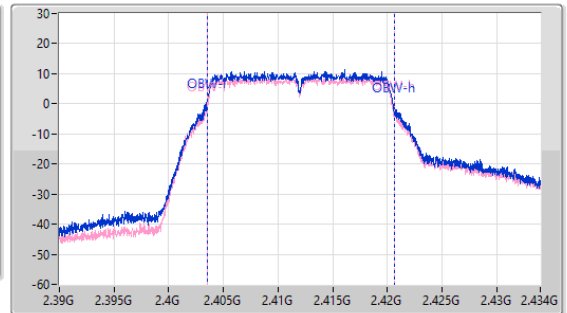
EBW

2412MHz

CF: 2.412GHz
 Span: 50MHz
 RBW: 100kHz
 VBW: 300kHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 2.412GHz
 Span: 44MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.325M	2.403825G	2.42015G	17.129M	2.40349G	2.42062G	500k	1
16.325M	2.403825G	2.42015G	17.085M	2.403534G	2.42062G	500k	2

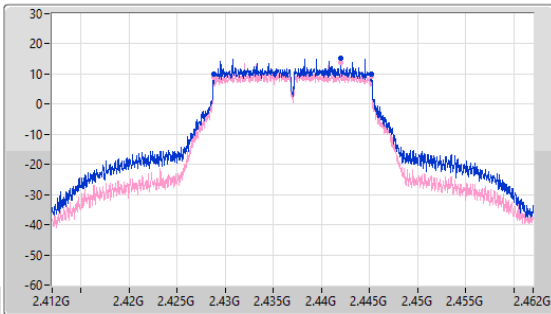


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

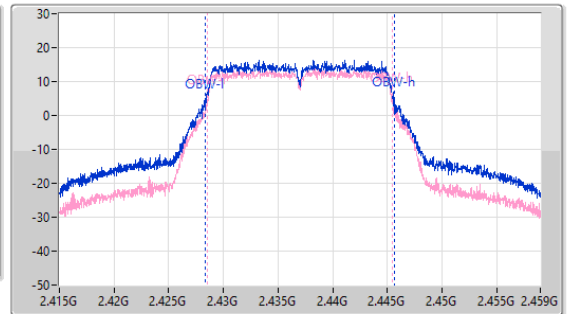
EBW

2437MHz

CF: 2.437GHz
 Span: 50MHz
 RBW: 100kHz
 VBW: 300kHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 2.437GHz
 Span: 44MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



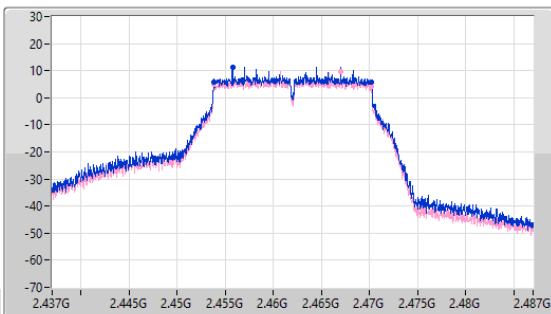
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.325M	2.428825G	2.44515G	17.261M	2.428358G	2.44562G	500k	1
16.3M	2.42885G	2.44515G	16.976M	2.428534G	2.44551G	500k	2

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

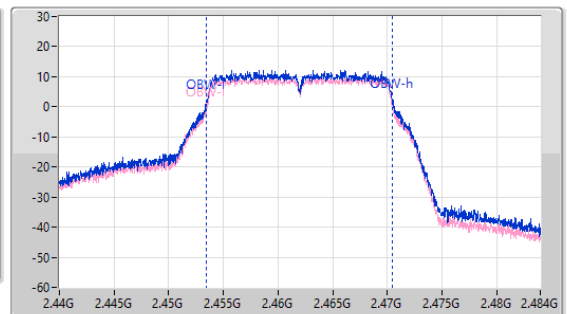
EBW

2462MHz

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



CF: 2.462GHz
 Span: 44MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



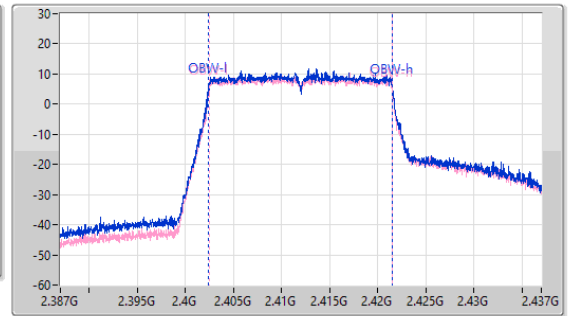
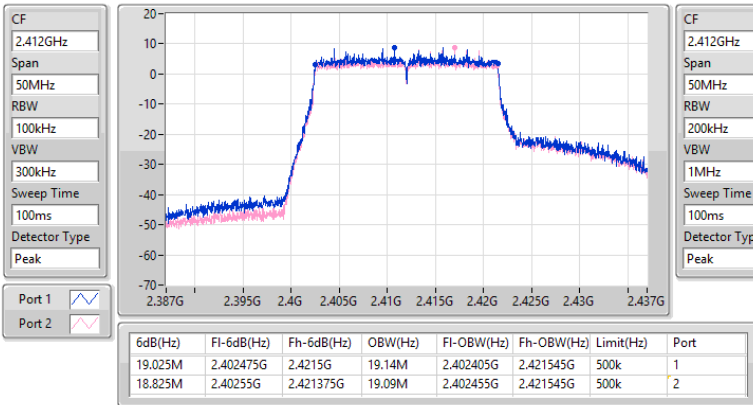
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.325M	2.453825G	2.47015G	17.107M	2.453402G	2.47051G	500k	1
16.35M	2.453825G	2.470175G	17.063M	2.453424G	2.470488G	500k	2



2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

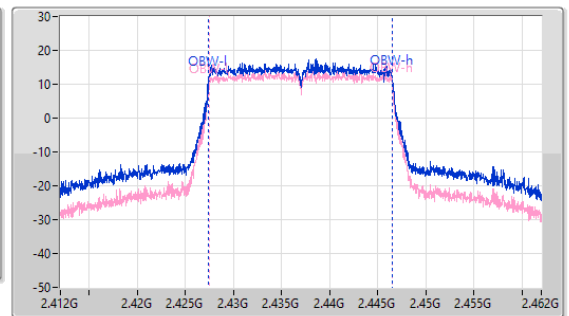
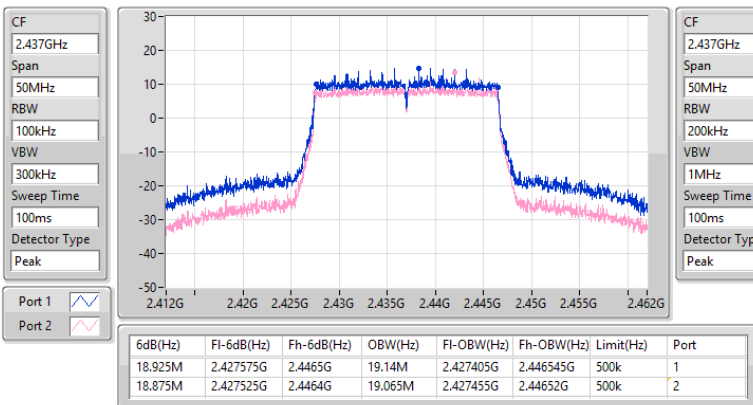
2412MHz



2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

2437MHz



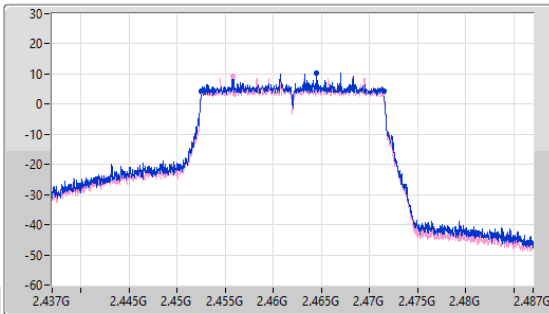


2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

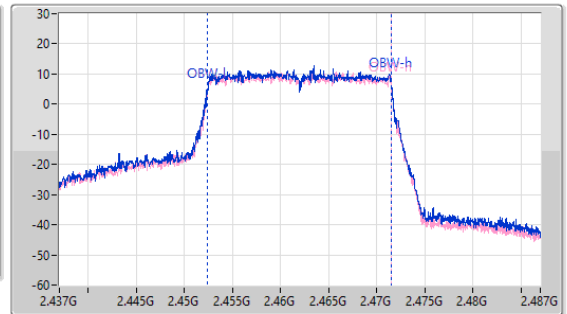
EBW

2462MHz

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



CF: 2.462GHz
 Span: 50MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



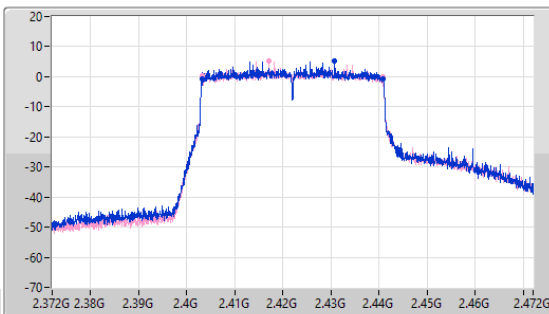
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19M	2.452475G	2.471475G	19.165M	2.452355G	2.47152G	500k	1
18.925M	2.452525G	2.47145G	19.115M	2.452405G	2.47152G	500k	2

2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

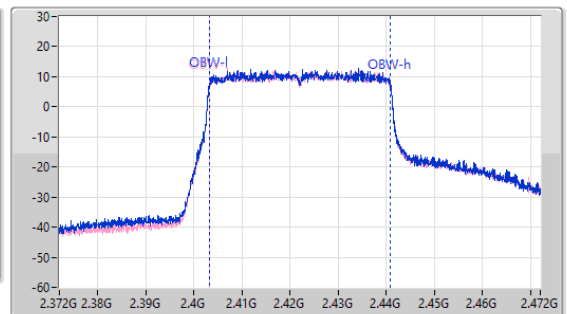
EBW

2422MHz

CF: 2.422GHz
 Span: 100MHz
 RBW: 100kHz
 VBW: 300kHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 2.422GHz
 Span: 100MHz
 RBW: 500kHz
 VBW: 2MHz
 Sweep Time: 100ms
 Detector Type: Peak



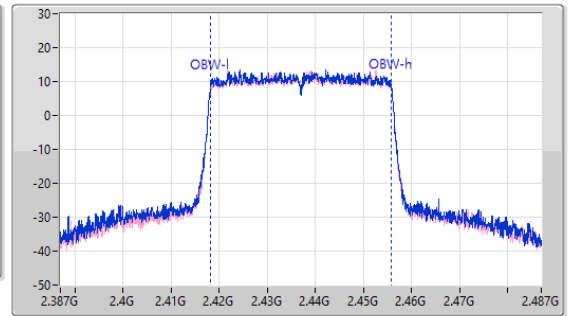
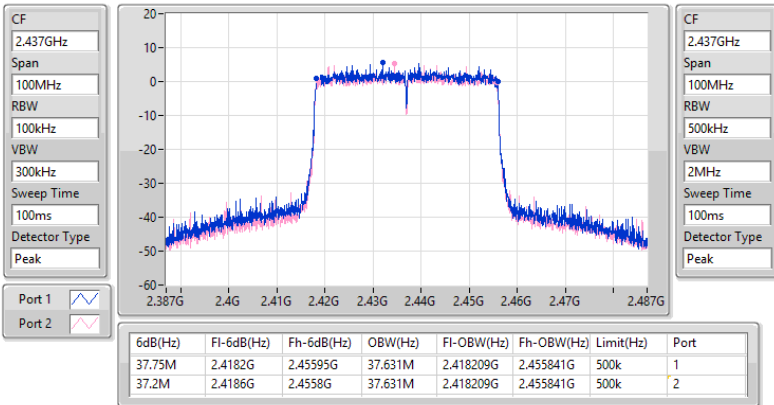
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
37.75M	2.40315G	2.4409G	37.631M	2.403209G	2.440841G	500k	1
37.45M	2.40325G	2.4407G	37.631M	2.403209G	2.440841G	500k	2



2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

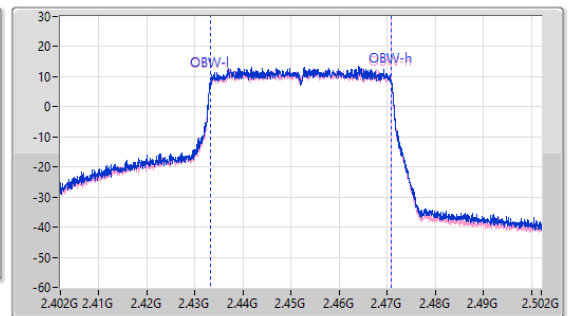
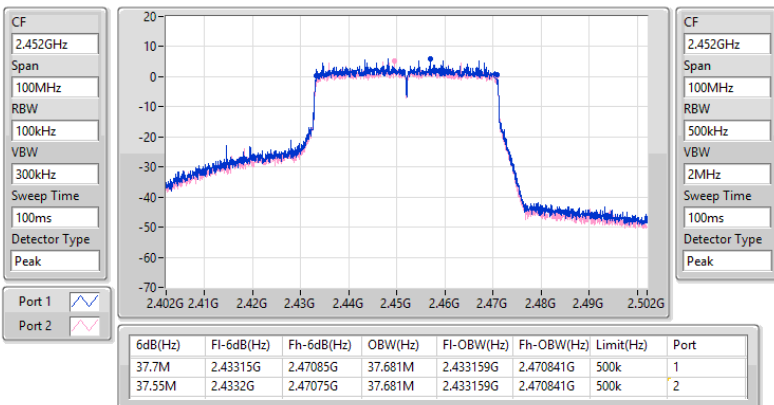
2437MHz



2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

2452MHz





Non-beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	28.09	0.64417
802.11g_Nss1,(6Mbps)_2TX	28.18	0.65766
802.11ax HEW20_Nss1,(MCS0)_2TX	28.05	0.63826
802.11ax HEW40_Nss1,(MCS0)_2TX	23.32	0.21478

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.00	25.71	24.35	28.09	30.00	33.09	36.00
2437MHz	Pass	5.00	25.68	24.32	28.06	30.00	33.06	36.00
2462MHz	Pass	5.00	25.6	24.24	27.98	30.00	32.98	36.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.00	20.61	19.8	23.23	30.00	28.23	36.00
2437MHz	Pass	5.00	25.95	24.21	28.18	30.00	33.18	36.00
2462MHz	Pass	5.00	21.92	20.81	24.41	30.00	29.41	36.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.00	20.01	19.39	22.72	30.00	27.72	36.00
2437MHz	Pass	5.00	25.87	24.02	28.05	30.00	33.05	36.00
2462MHz	Pass	5.00	22.53	21.28	24.96	30.00	29.96	36.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	5.00	19.7	19.35	22.54	30.00	27.54	36.00
2437MHz	Pass	5.00	20.51	19.82	23.19	30.00	28.19	36.00
2452MHz	Pass	5.00	20.59	20.02	23.32	30.00	28.32	36.00

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



Beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	25.04	0.31915
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	20.31	0.10740

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	7.48	17	16.38	19.71	28.52	27.19	36.00
2437MHz	Pass	7.48	22.86	21.01	25.04	28.52	32.52	36.00
2462MHz	Pass	7.48	19.52	18.27	21.95	28.52	29.43	36.00
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	7.48	16.69	16.34	19.53	28.52	27.01	36.00
2437MHz	Pass	7.48	17.5	16.81	20.18	28.52	27.66	36.00
2452MHz	Pass	7.48	17.58	17.01	20.31	28.52	27.79	36.00

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

Note:

Directional gain = $10 \times \log((10^{3.9/20} + 10^{5/20})^2/2) = 7.48 \text{ dBi} > 6 \text{ dBi}$, limit shall be reduced to $30 \text{ dBm} - (7.48 \text{ dBi} - 6 \text{ dBi}) = 28.52 \text{ dBm}$



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	-0.54
802.11g_Nss1,(6Mbps)_2TX	-3.37
802.11ax HEW20_Nss1,(MCS0)_2TX	-5.50
802.11ax HEW40_Nss1,(MCS0)_2TX	-12.59

RBW = 3kHz;

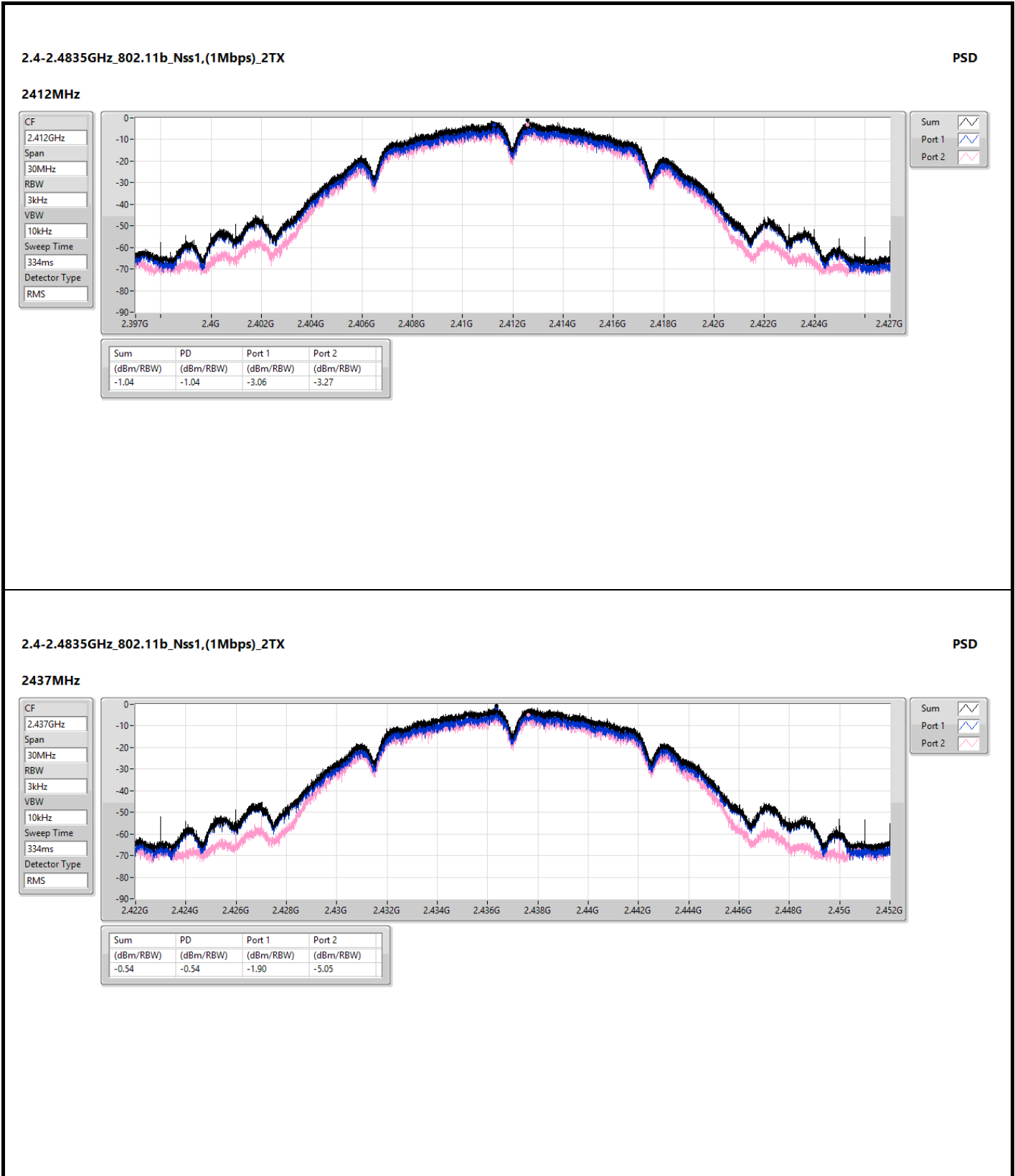
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	7.48	-3.06	-3.27	-1.04	6.52
2437MHz	Pass	7.48	-1.90	-5.05	-0.54	6.52
2462MHz	Pass	7.48	-3.46	-4.51	-1.39	6.52
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	7.48	-10.92	-12.29	-9.05	6.52
2437MHz	Pass	7.48	-5.83	-6.78	-3.37	6.52
2462MHz	Pass	7.48	-9.71	-10.59	-7.12	6.52
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	7.48	-13.26	-13.39	-10.73	6.52
2437MHz	Pass	7.48	-7.62	-8.48	-5.50	6.52
2462MHz	Pass	7.48	-11.85	-11.60	-9.38	6.52
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	7.48	-16.20	-14.85	-12.67	6.52
2437MHz	Pass	7.48	-14.26	-15.56	-12.96	6.52
2452MHz	Pass	7.48	-14.21	-15.85	-12.59	6.52

DG = Directional Gain; RBW = 3kHz;

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

Directional gain = $10 \times \log((10^{3.9/20} + 10^{5/20})^2/2) = 7.48 \text{ dBi} > 6 \text{ dBi}$, limit shall be reduced to 8 dBm – (7.48 dBi – 6 dBi) =6.52 dBm



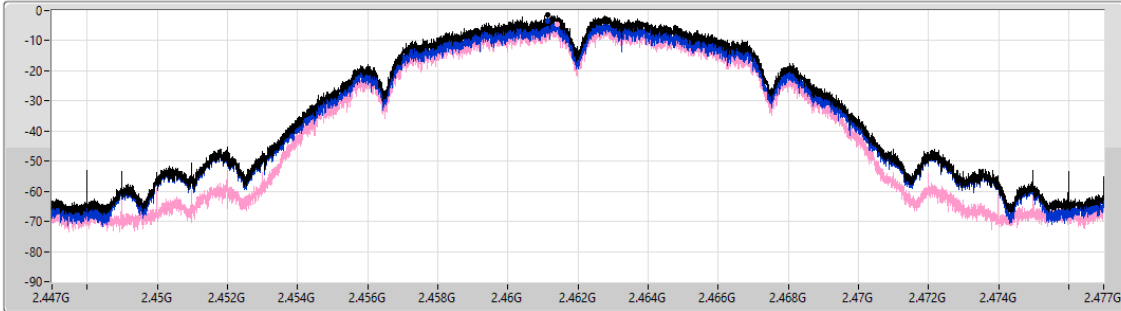


2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX

PSD

2462MHz

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



Sum
Port 1
Port 2

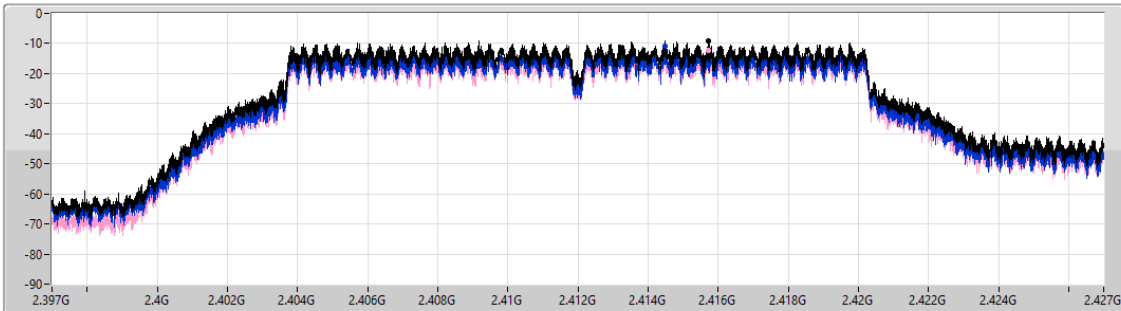
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.39	-1.39	-3.46	-4.51

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

PSD

2412MHz

CF
2.412GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
RMS



Sum
Port 1
Port 2

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.05	-9.05	-10.92	-12.29

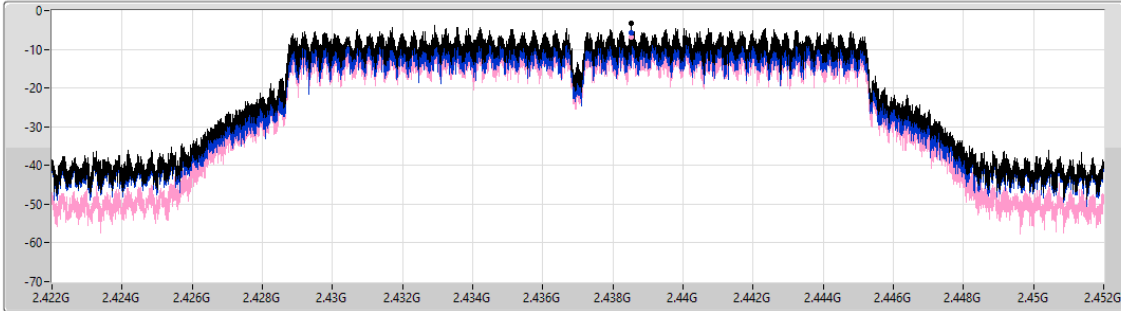


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

PSD

2437MHz

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



Sum
Port 1
Port 2

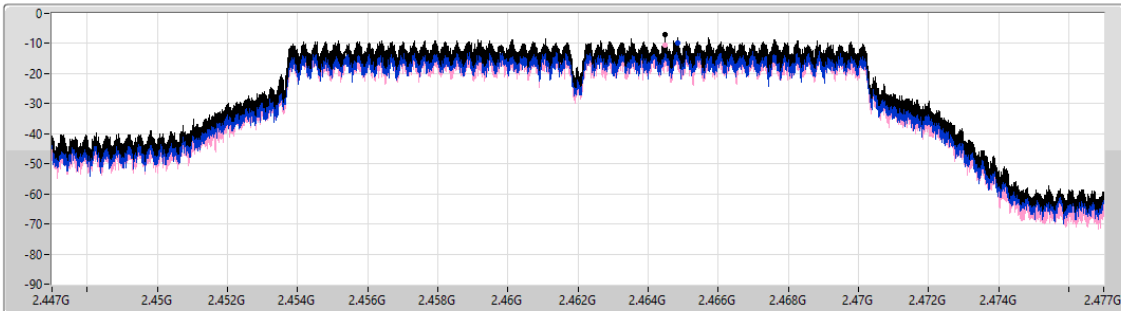
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.37	-3.37	-5.83	-6.78

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

PSD

2462MHz

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



Sum
Port 1
Port 2

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.12	-7.12	-9.71	-10.59

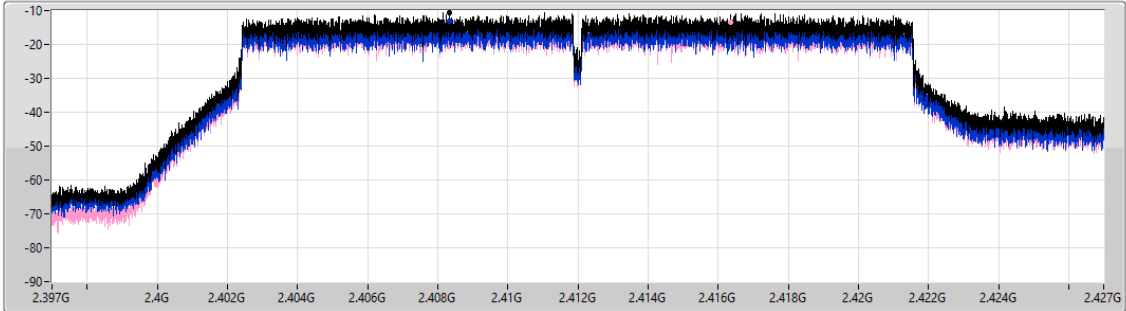


2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

2412MHz

CF
2.412GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
RMS



Sum
Port 1
Port 2

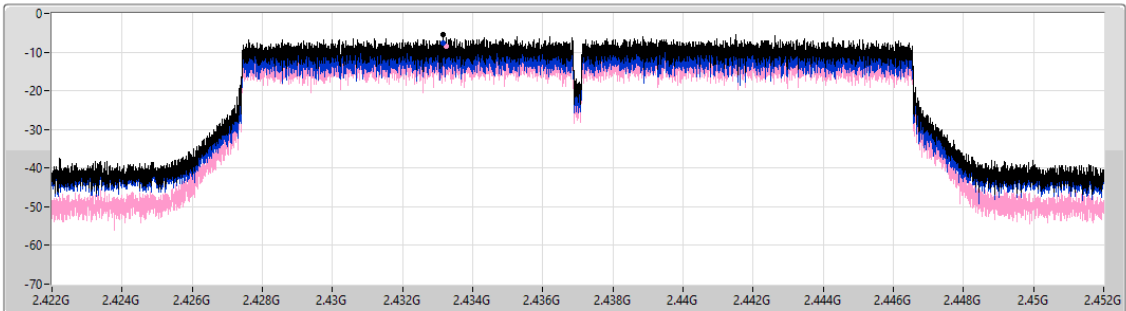
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.73	-10.73	-13.26	-13.39

2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

2437MHz

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



Sum
Port 1
Port 2

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-5.50	-5.50	-7.62	-8.48

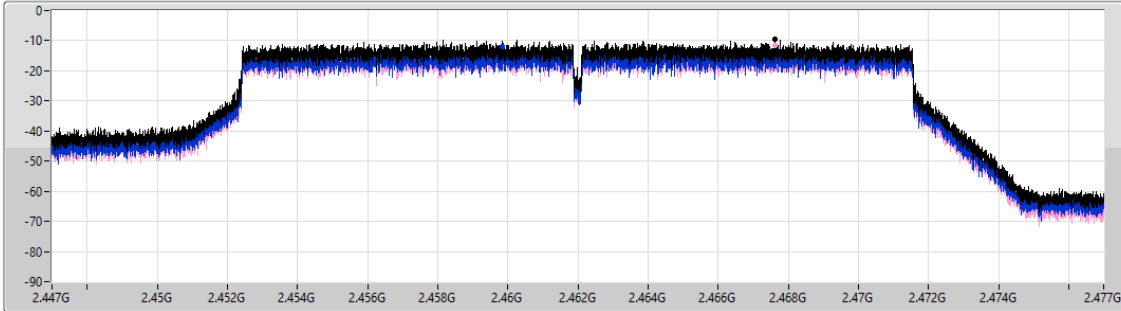


2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

2462MHz

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



Sum
Port 1
Port 2

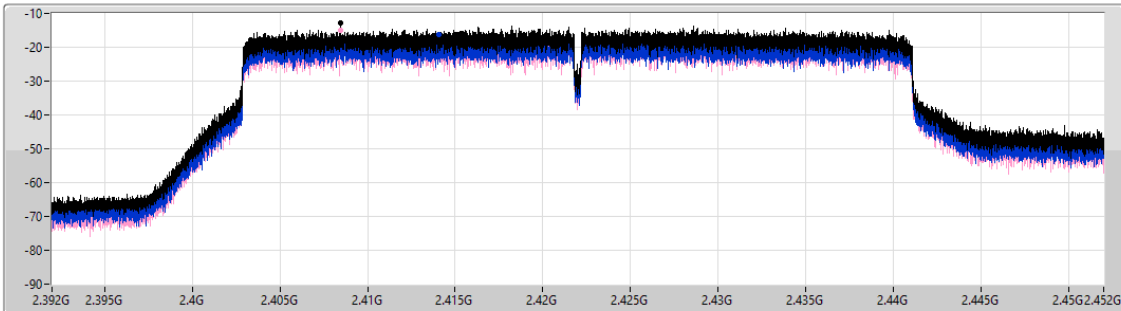
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.38	-9.38	-11.85	-11.60

2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

2422MHz

CF
2.422GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
RMS



Sum
Port 1
Port 2

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.67	-12.67	-16.20	-14.85

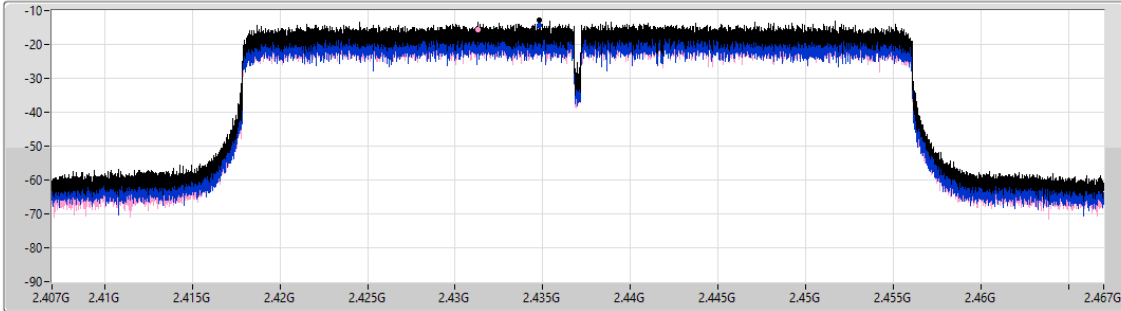


2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

2437MHz

CF
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
RMS



Sum
Port 1
Port 2

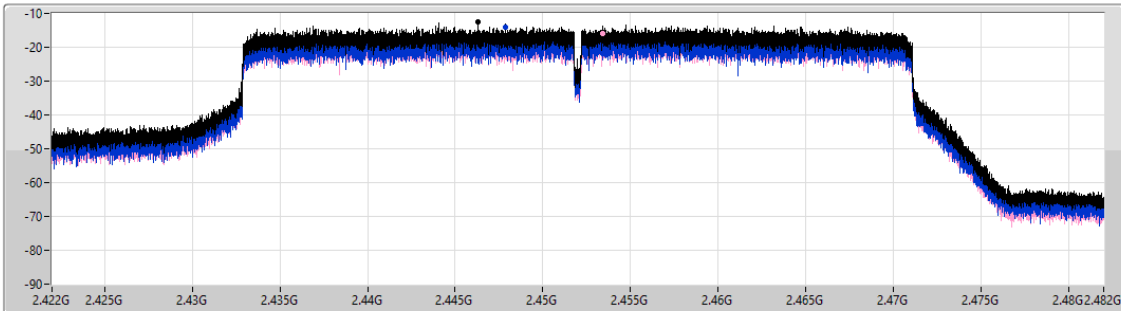
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.96	-12.96	-14.26	-15.56

2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

2452MHz

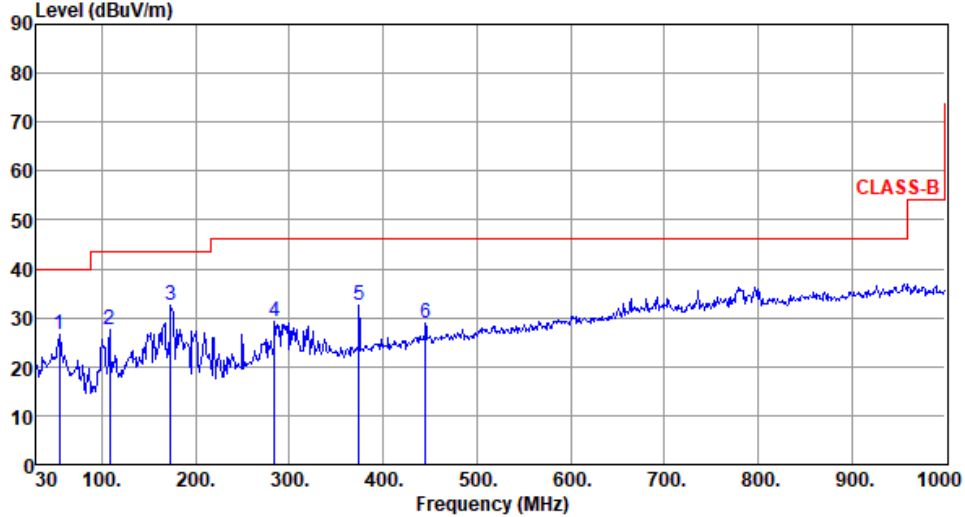
CF
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
RMS



Sum
Port 1
Port 2

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.59	-12.59	-14.21	-15.85

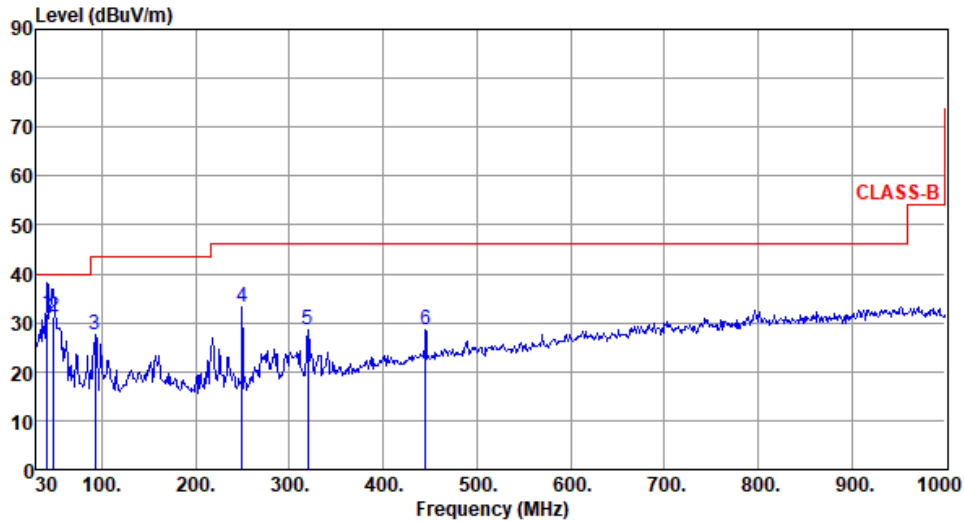
Unwanted Emissions (Below 1GHz)

Modulation	11g	Test Freq. (MHz)	2437						
Polarization	Horizontal								
Test By :Paul Lin Temperature(°C):24 Humidity(%):63									
									
	Freq.	Emission level	Limit	Margin	SA	Factor	Remark	ANT	Turn
	MHz	dBuV/m	dBuV/m	dB	reading	dB/m		High	Table
					dBuV			cm	deg
1	54.25	26.72	40.00	-13.28	35.21	-8.49	Peak	---	---
2	108.57	27.65	43.50	-15.85	39.73	-12.08	Peak	---	---
3	173.56	32.55	43.50	-10.95	41.87	-9.32	Peak	---	---
4	284.14	29.35	46.00	-16.65	37.63	-8.28	Peak	---	---
5	374.35	32.60	46.00	-13.40	38.44	-5.84	Peak	---	---
6	445.16	29.02	46.00	-16.98	32.53	-3.51	Peak	---	---

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

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

Test By :Paul Lin Temperature(°C):24 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	41.64	31.72	40.00	-8.28	40.81	-9.09	QP	100	102
2	48.43	31.10	40.00	-8.90	39.41	-8.31	QP	100	102
3	93.05	27.60	43.50	-15.90	41.76	-14.16	Peak	---	---
4	249.22	33.23	46.00	-12.77	42.87	-9.64	Peak	---	---
5	320.03	28.43	46.00	-17.57	35.68	-7.25	Peak	---	---
6	445.16	28.66	46.00	-17.34	32.17	-3.51	Peak	---	---

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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

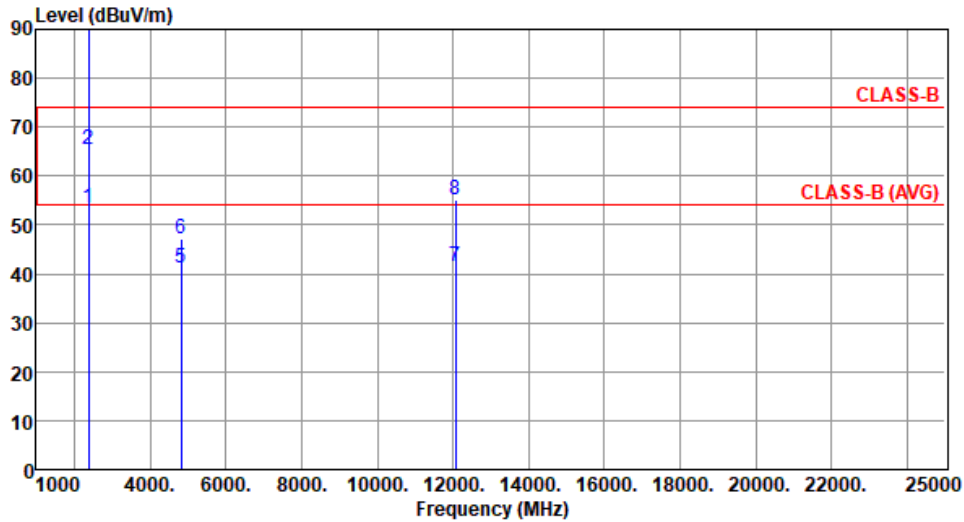
Unwanted Emission (Above 1GHz) for 11b

Modulation	11b	Test Freq. (MHz)	2412						
Polarization	Horizontal								
Test By : Sean Yu Temperature(°C): 22 Humidity(%): 64									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High cm	Turn Table deg
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m			
1	2390.00	50.03	54.00	-3.97	53.82	-3.79	Average	141	356
2	2390.00	62.96	74.00	-11.04	66.75	-3.79	Peak	141	356
3 *	2412.00	115.73			119.62	-3.89	Average	100	7
4 *	2412.00	118.29			122.18	-3.89	Peak	100	7
5	4824.00	50.95	54.00	-3.05	50.83	0.12	Average	146	112
6	4824.00	53.82	74.00	-20.18	53.70	0.12	Peak	146	112
7	12060.00	41.46	54.00	-12.54	33.66	7.80	Average	100	128
8	12060.00	55.95	74.00	-18.05	48.15	7.80	Peak	100	128

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
 Note 3: "*" is Peak / Average value of fundamental frequency

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

Test By : Sean Yu Temperature(°C): 22 Humidity(%): 64



	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	53.55	54.00	-0.45	57.34	-3.79	Average	189	223
2	2390.00	65.52	74.00	-8.48	69.31	-3.79	Peak	189	223
3 *	2412.00	117.23			121.12	-3.89	Average	189	223
4 *	2412.00	119.66			123.55	-3.89	Peak	189	223
5	4824.00	41.25	54.00	-12.75	41.13	0.12	Average	128	132
6	4824.00	47.10	74.00	-26.90	46.98	0.12	Peak	128	132
7	12060.00	41.49	54.00	-12.51	33.69	7.80	Average	100	155
8	12060.00	55.08	74.00	-18.92	47.28	7.80	Peak	100	155

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

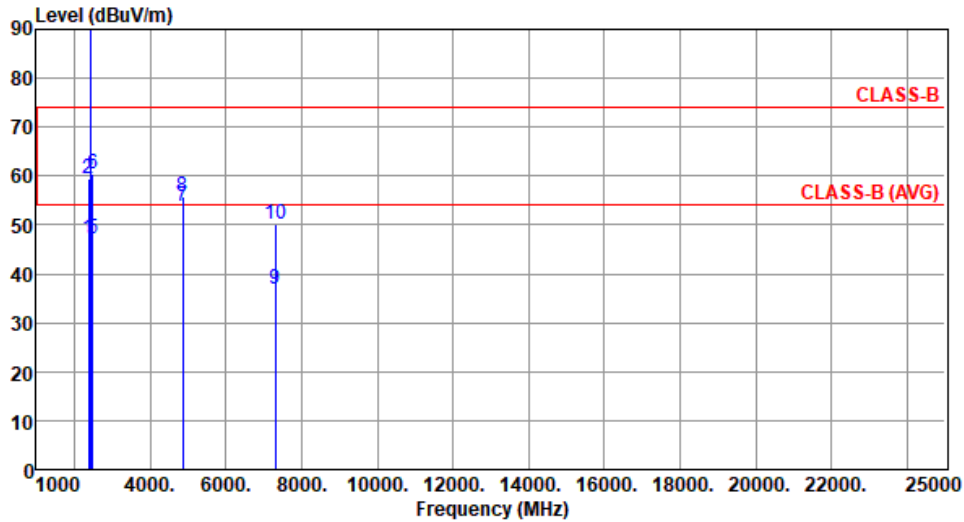
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

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

Test By :Akun Chung Temperature(°C):21 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	47.26	54.00	-6.74	51.05	-3.79	Average	186	241
2	2390.00	59.58	74.00	-14.42	63.37	-3.79	Peak	186	241
3 *	2437.00	116.02			119.98	-3.96	Average	186	241
4 *	2437.00	118.41			122.37	-3.96	Peak	186	241
5	2483.50	47.12	54.00	-6.88	51.21	-4.09	Average	186	241
6	2483.50	60.59	74.00	-13.41	64.68	-4.09	Peak	186	241
7	4874.00	53.80	54.00	-0.20	53.68	0.12	Average	155	119
8	4874.00	55.87	74.00	-18.13	55.75	0.12	Peak	155	119
9	7311.00	36.94	54.00	-17.06	31.00	5.94	Average	100	125
10	7311.00	50.01	74.00	-23.99	44.07	5.94	Peak	100	125

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

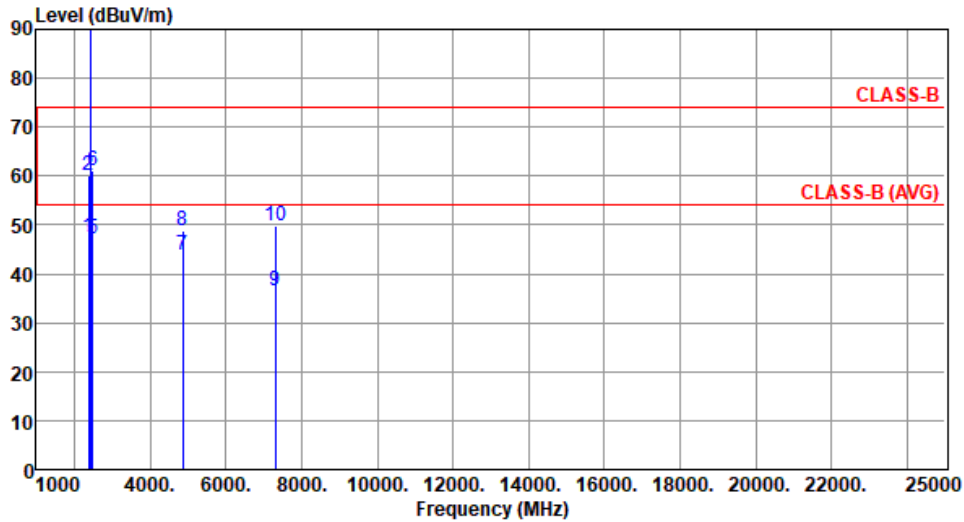
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

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

Test By :Akun Chung Temperature(°C):21 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	47.45	54.00	-6.55	51.24	-3.79	Average	198	239
2	2390.00	59.96	74.00	-14.04	63.75	-3.79	Peak	198	239
3 *	2437.00	116.88			120.84	-3.96	Average	198	239
4 *	2437.00	119.35			123.31	-3.96	Peak	198	239
5	2483.50	47.15	54.00	-6.85	51.24	-4.09	Average	198	239
6	2483.50	61.02	74.00	-12.98	65.11	-4.09	Peak	198	239
7	4874.00	43.95	54.00	-10.05	43.83	0.12	Average	104	155
8	4874.00	48.88	74.00	-25.12	48.76	0.12	Peak	104	155
9	7311.00	36.69	54.00	-17.31	30.75	5.94	Average	100	162
10	7311.00	49.91	74.00	-24.09	43.97	5.94	Peak	100	162

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

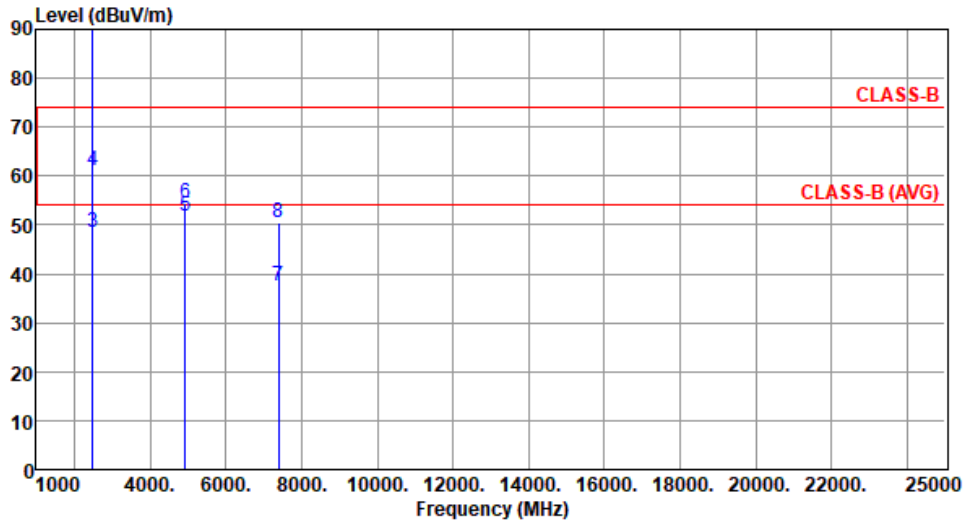
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

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

Test By : Sean Yu Temperature(°C): 22 Humidity(%): 64



	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	*	2462.00	113.89		117.91	-4.02	Average	152	353	
2	*	2462.00	116.30		120.32	-4.02	Peak	152	353	
3		2483.50	48.57	54.00	-5.43	52.66	-4.09	Average	152	353
4		2483.50	61.10	74.00	-12.90	65.19	-4.09	Peak	152	353
5		4924.00	51.95	54.00	-2.05	51.87	0.08	Average	152	113
6		4924.00	54.50	74.00	-19.50	54.42	0.08	Peak	152	113
7		7386.00	37.40	54.00	-16.60	31.51	5.89	Average	100	168
8		7386.00	50.45	74.00	-23.55	44.56	5.89	Peak	100	168

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

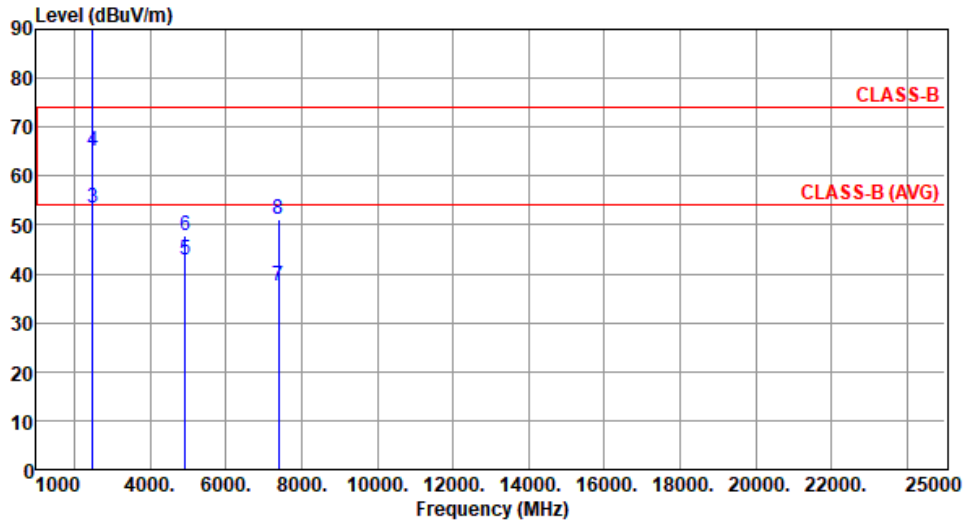
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

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

Test By : Sean Yu Temperature(°C): 22 Humidity(%): 64



	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	*	2462.00	118.02				Average	196	241
2	*	2462.00	120.53				Peak	196	241
3		2483.50	53.53	54.00	-0.47	57.62	Average	196	241
4		2483.50	65.16	74.00	-8.84	69.25	Peak	196	241
5		4924.00	42.78	54.00	-11.22	42.70	Average	129	128
6		4924.00	47.99	74.00	-26.01	47.91	Peak	129	128
7		7386.00	37.46	54.00	-16.54	31.57	Average	100	145
8		7386.00	51.05	74.00	-22.95	45.16	Peak	100	145

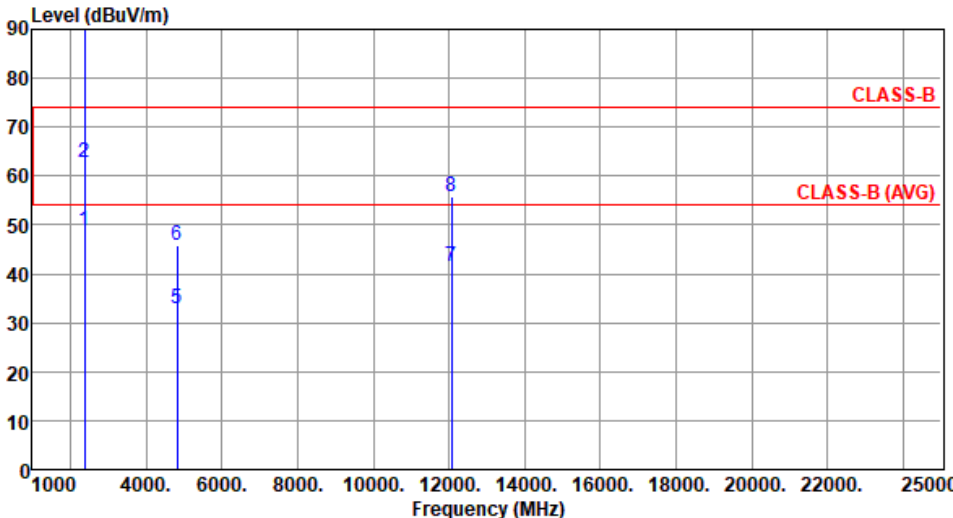
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

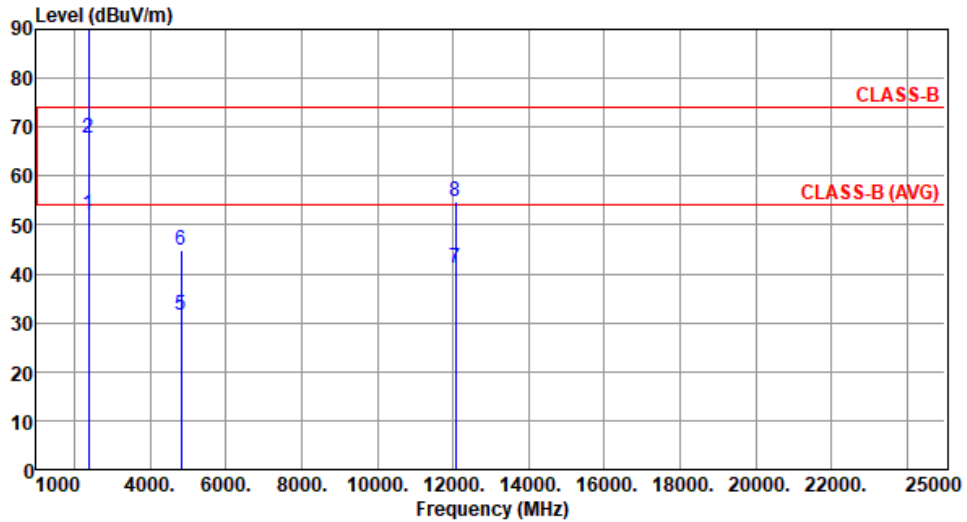
Unwanted Emission (Above 1GHz) for 11g

Modulation	11g	Test Freq. (MHz)	2412						
Polarization	Horizontal								
Test By : Sean Yu Temperature(°C): 22 Humidity(%): 64									
									
	Freq.	Emission level	Limit	Margin	SA	Factor	Remark	ANT	Turn
	MHz	dBuV/m	dBuV/m	dB	reading	dB/m		High	Table
					dBuV			cm	deg
1	2390.00	48.87	54.00	-5.13	52.66	-3.79	Average	100	353
2	2390.00	62.86	74.00	-11.14	66.65	-3.79	Peak	100	353
3 *	2412.00	105.47			109.36	-3.89	Average	100	353
4 *	2412.00	115.61			119.50	-3.89	Peak	100	353
5	4824.00	32.85	54.00	-21.15	32.73	0.12	Average	146	110
6	4824.00	45.91	74.00	-28.09	45.79	0.12	Peak	146	110
7	12060.00	41.39	54.00	-12.61	33.59	7.80	Average	100	121
8	12060.00	55.84	74.00	-18.16	48.04	7.80	Peak	100	121

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
 Note 3: "*" is Peak / Average value of fundamental frequency

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

Test By : Sean Yu Temperature(°C): 22 Humidity(%): 64



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	52.27	54.00	-1.73	56.06	-3.79	Average	225	224
2	2390.00	67.73	74.00	-6.27	71.52	-3.79	Peak	225	224
3 *	2412.00	107.48			111.37	-3.89	Average	225	224
4 *	2412.00	117.51			121.40	-3.89	Peak	225	224
5	4824.00	31.56	54.00	-22.44	31.44	0.12	Average	100	111
6	4824.00	44.68	74.00	-29.32	44.56	0.12	Peak	100	111
7	12060.00	41.32	54.00	-12.68	33.52	7.80	Average	100	146
8	12060.00	54.86	74.00	-19.14	47.06	7.80	Peak	100	146

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

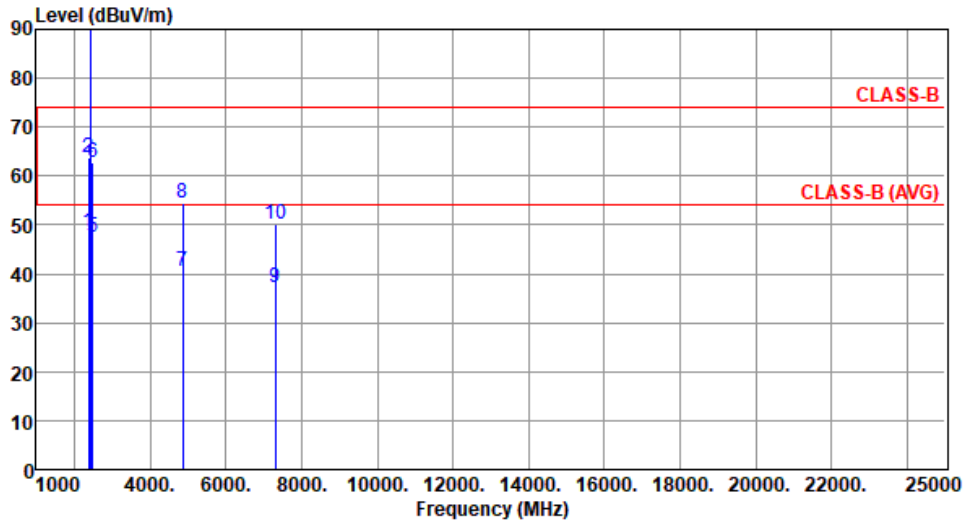
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

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

Test By :Sean Yu Temperature(°C):22 Humidity(%):64



	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	48.42	54.00	-5.58	52.21	-3.79	Average	100	358
2	2390.00	63.63	74.00	-10.37	67.42	-3.79	Peak	100	358
3 *	2437.00	109.82			113.78	-3.96	Average	100	358
4 *	2437.00	120.52			124.48	-3.96	Peak	100	358
5	2483.50	47.62	54.00	-6.38	51.71	-4.09	Average	100	358
6	2483.50	62.89	74.00	-11.11	66.98	-4.09	Peak	100	358
7	4874.00	40.53	54.00	-13.47	40.41	0.12	Average	151	112
8	4874.00	54.32	74.00	-19.68	54.20	0.12	Peak	151	112
9	7311.00	37.05	54.00	-16.95	31.11	5.94	Average	100	146
10	7311.00	50.25	74.00	-23.75	44.31	5.94	Peak	100	146

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

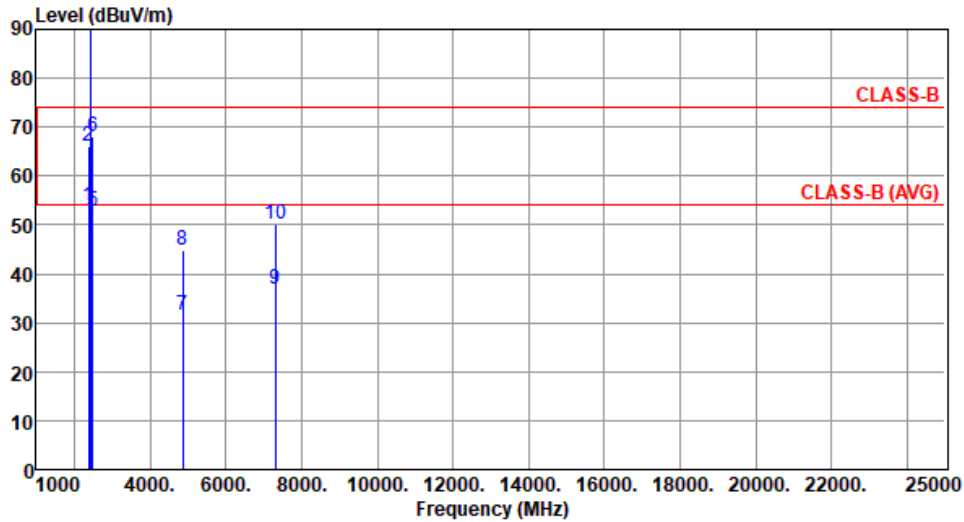
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

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

Test By : Sean Yu Temperature(°C): 22 Humidity(%): 64



	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	53.65	54.00	-0.35	57.44	-3.79	Average	231	233
2	2390.00	66.19	74.00	-7.81	69.98	-3.79	Peak	231	233
3 *	2437.00	112.37			116.33	-3.96	Average	231	233
4 *	2437.00	122.78			126.74	-3.96	Peak	231	233
5	2483.50	52.89	54.00	-1.11	56.98	-4.09	Average	231	233
6	2483.50	68.04	74.00	-5.96	72.13	-4.09	Peak	231	233
7	4874.00	31.62	54.00	-22.38	31.50	0.12	Average	100	115
8	4874.00	44.72	74.00	-29.28	44.60	0.12	Peak	100	115
9	7311.00	37.03	54.00	-16.97	31.09	5.94	Average	100	217
10	7311.00	50.29	74.00	-23.71	44.35	5.94	Peak	100	217

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

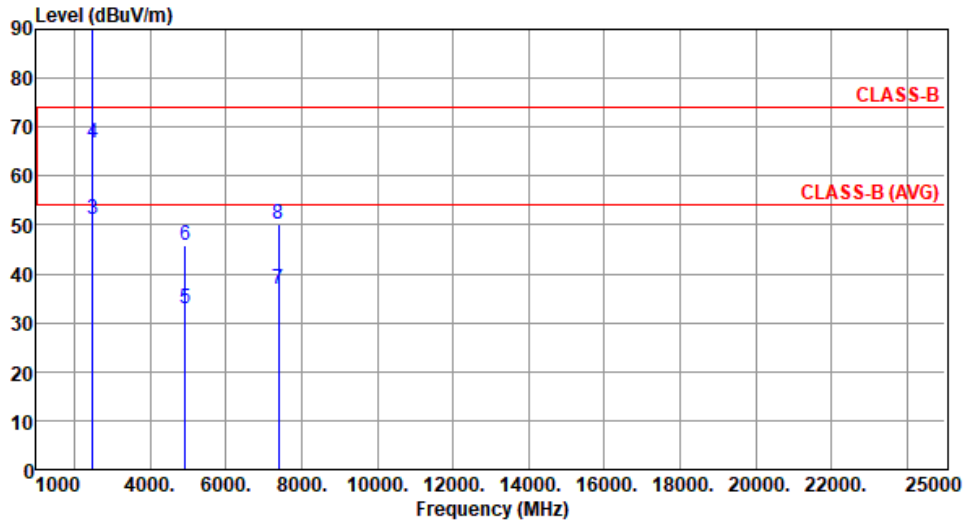
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

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

Test By : Sean Yu Temperature(°C): 22 Humidity(%): 64



	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 *	2462.00	105.21			109.23	-4.02	Average	100	354
2 *	2462.00	115.67			119.69	-4.02	Peak	100	354
3	2483.50	51.08	54.00	-2.92	55.17	-4.09	Average	116	354
4	2483.50	66.72	74.00	-7.28	70.81	-4.09	Peak	116	354
5	4924.00	32.88	54.00	-21.12	32.80	0.08	Average	146	103
6	4924.00	45.95	74.00	-28.05	45.87	0.08	Peak	146	103
7	7386.00	36.96	54.00	-17.04	31.07	5.89	Average	100	142
8	7386.00	50.18	74.00	-23.82	44.29	5.89	Peak	100	142

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

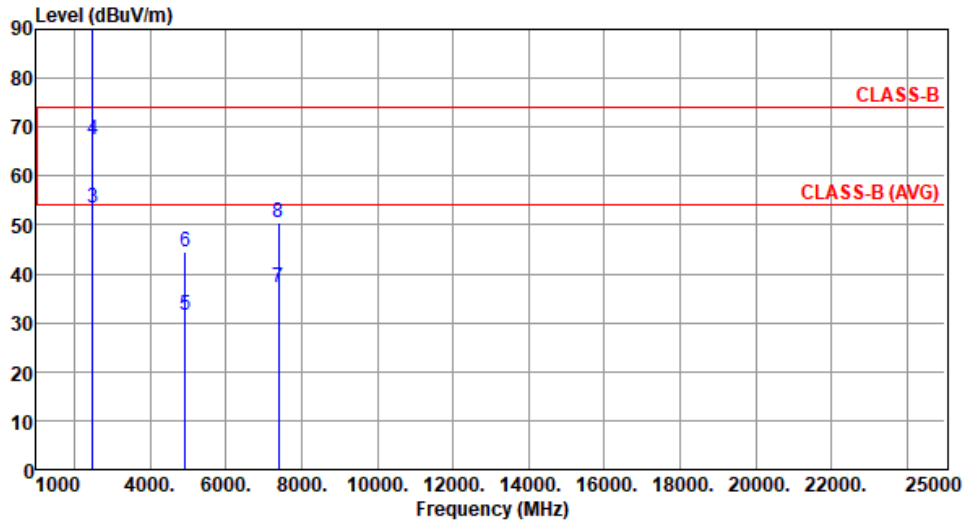
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

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

Test By : Sean Yu Temperature(°C): 22 Humidity(%): 64



	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 *	2462.00	108.01			112.03	-4.02	Average	206	211
2 *	2462.00	117.89			121.91	-4.02	Peak	206	211
3	2483.50	53.51	54.00	-0.49	57.60	-4.09	Average	206	211
4	2483.50	67.49	74.00	-6.51	71.58	-4.09	Peak	206	211
5	4924.00	31.48	54.00	-22.52	31.40	0.08	Average	100	106
6	4924.00	44.64	74.00	-29.36	44.56	0.08	Peak	100	106
7	7386.00	37.12	54.00	-16.88	31.23	5.89	Average	100	212
8	7386.00	50.41	74.00	-23.59	44.52	5.89	Peak	100	212

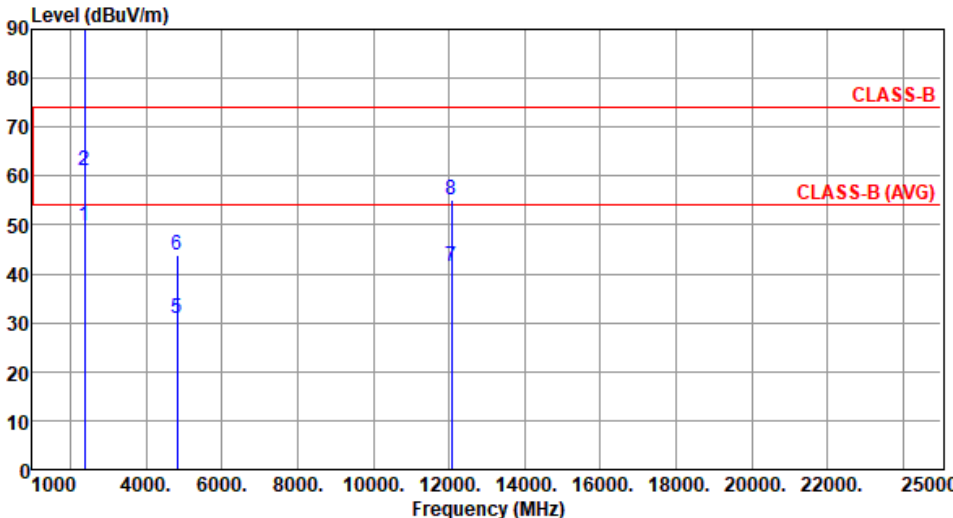
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

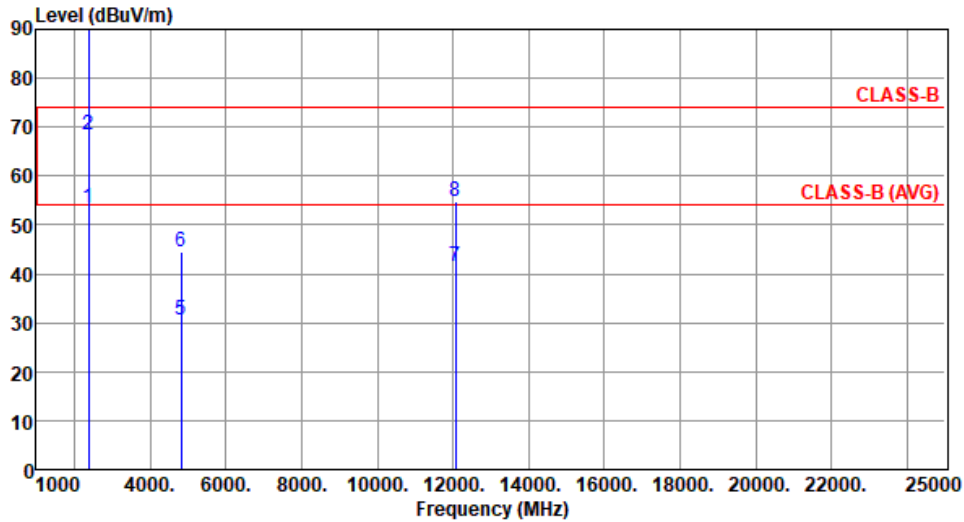
Unwanted Emission (Above 1GHz) for ax HE20

Modulation	ax HE20	Test Freq. (MHz)	2412						
Polarization	Horizontal								
Test By :Akun Chung Temperature(°C):21 Humidity(%):63									
									
	Freq.	Emission level	Limit	Margin	SA	Factor	Remark	ANT	Turn
	MHz	dBuV/m	dBuV/m	dB	reading	dB/m		High	Table
					dBuV			cm	deg
1	2390.00	49.77	54.00	-4.23	53.56	-3.79	Average	101	350
2	2390.00	61.14	74.00	-12.86	64.93	-3.79	Peak	101	350
3 *	2412.00	103.02			106.91	-3.89	Average	101	350
4 *	2412.00	116.36			120.25	-3.89	Peak	101	350
5	4824.00	31.00	54.00	-23.00	30.88	0.12	Average	100	138
6	4824.00	43.91	74.00	-30.09	43.79	0.12	Peak	100	138
7	12060.00	41.51	54.00	-12.49	33.71	7.80	Average	100	169
8	12060.00	55.14	74.00	-18.86	47.34	7.80	Peak	100	169

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
 Note 3: "*" is Peak / Average value of fundamental frequency

Modulation	ax HE20	Test Freq. (MHz)	2412
Polarization	Vertical		

Test By :Akun Chung Temperature(°C):21 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	53.55	54.00	-0.45	57.34	-3.79	Average	228	212
2	2390.00	68.43	74.00	-5.57	72.22	-3.79	Peak	228	212
3 *	2412.00	104.57			108.46	-3.89	Average	228	212
4 *	2412.00	117.94			121.83	-3.89	Peak	228	212
5	4824.00	30.68	54.00	-23.32	30.56	0.12	Average	100	237
6	4824.00	44.62	74.00	-29.38	44.50	0.12	Peak	100	237
7	12060.00	41.37	54.00	-12.63	33.57	7.80	Average	100	145
8	12060.00	54.79	74.00	-19.21	46.99	7.80	Peak	100	145

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

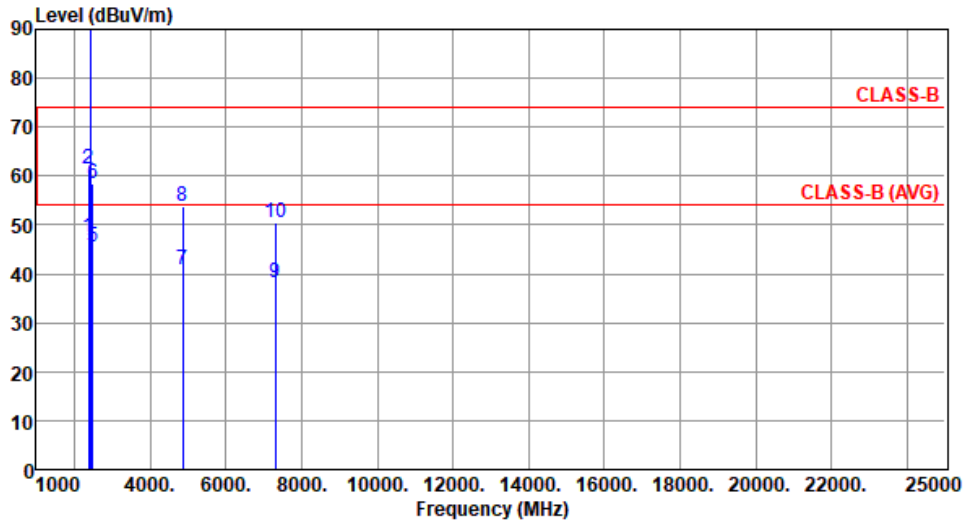
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Horizontal		

Test By :Akun Chung- Temperature(°C):23 Humidity(%):64



	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	47.43	54.00	-6.57	51.22	-3.79	Average	166	8
2	2390.00	61.48	74.00	-12.52	65.27	-3.79	Peak	166	8
3 *	2437.00	105.85			109.81	-3.96	Average	166	8
4 *	2437.00	119.28			123.24	-3.96	Peak	166	8
5	2483.50	45.42	54.00	-8.58	49.51	-4.09	Average	166	8
6	2483.50	58.50	74.00	-15.50	62.59	-4.09	Peak	166	8
7	4874.00	40.83	54.00	-13.17	40.71	0.12	Average	157	117
8	4874.00	53.66	74.00	-20.34	53.54	0.12	Peak	157	117
9	7311.00	38.15	54.00	-15.85	32.21	5.94	Average	100	134
10	7311.00	50.32	74.00	-23.68	44.38	5.94	Peak	100	134

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

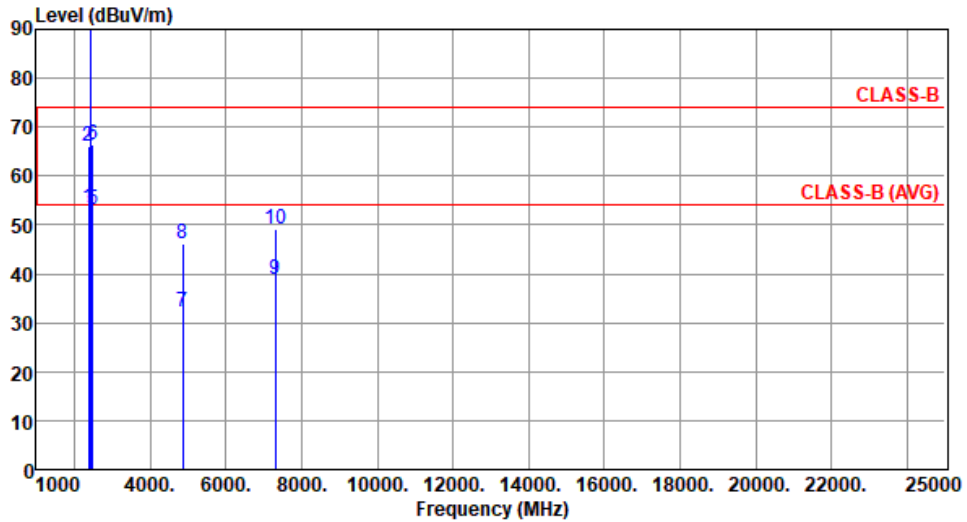
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Vertical		

Test By :Akun Chung- Temperature(°C):23 Humidity(%):64



	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	53.51	54.00	-0.49	57.30	-3.79	Average	194	219
2	2390.00	66.12	74.00	-7.88	69.91	-3.79	Peak	194	219
3 *	2437.00	110.87			114.83	-3.96	Average	194	219
4 *	2437.00	123.20			127.16	-3.96	Peak	194	219
5	2483.50	53.00	54.00	-1.00	57.09	-4.09	Average	194	219
6	2483.50	66.29	74.00	-7.71	70.38	-4.09	Peak	194	219
7	4874.00	32.19	54.00	-21.81	32.07	0.12	Average	109	149
8	4874.00	46.01	74.00	-27.99	45.89	0.12	Peak	109	149
9	7311.00	38.91	54.00	-15.09	32.97	5.94	Average	100	155
10	7311.00	49.31	74.00	-24.69	43.37	5.94	Peak	100	155

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

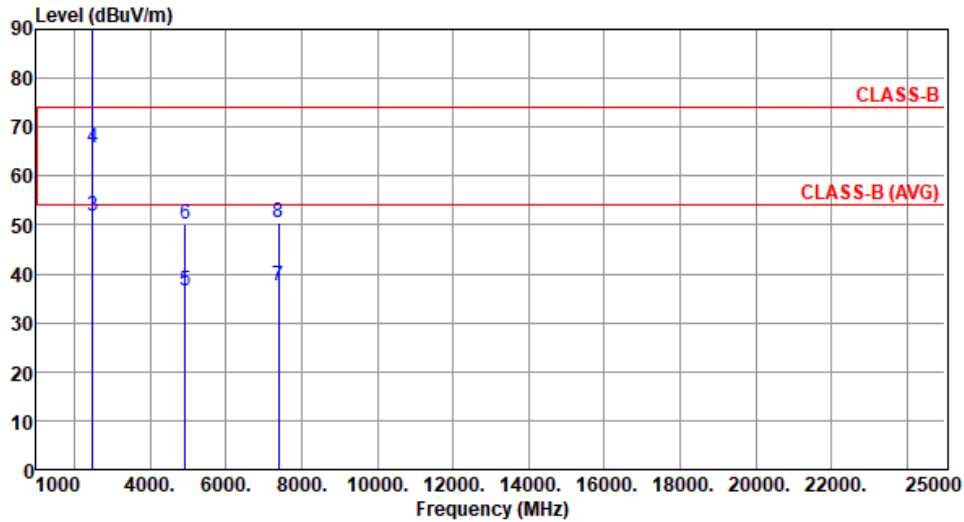
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3:"*" is Peak / Average value of fundamental frequency

Modulation	ax HE20	Test Freq. (MHz)	2462
Polarization	Horizontal		

Test By :Akun Chung Temperature(°C):21 Humidity(%):63



	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1 *	2462.00	103.49			107.51	-4.02	Average	125	1
2 *	2462.00	116.55			120.57	-4.02	Peak	125	1
3	2483.50	51.79	54.00	-2.21	55.88	-4.09	Average	125	1
4	2483.50	65.89	74.00	-8.11	69.98	-4.09	Peak	125	1
5	4924.00	36.66	54.00	-17.34	36.58	0.08	Average	151	116
6	4924.00	50.24	74.00	-23.76	50.16	0.08	Peak	151	116
7	7386.00	37.67	54.00	-16.33	31.78	5.89	Average	100	157
8	7386.00	50.62	74.00	-23.38	44.73	5.89	Peak	100	157

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

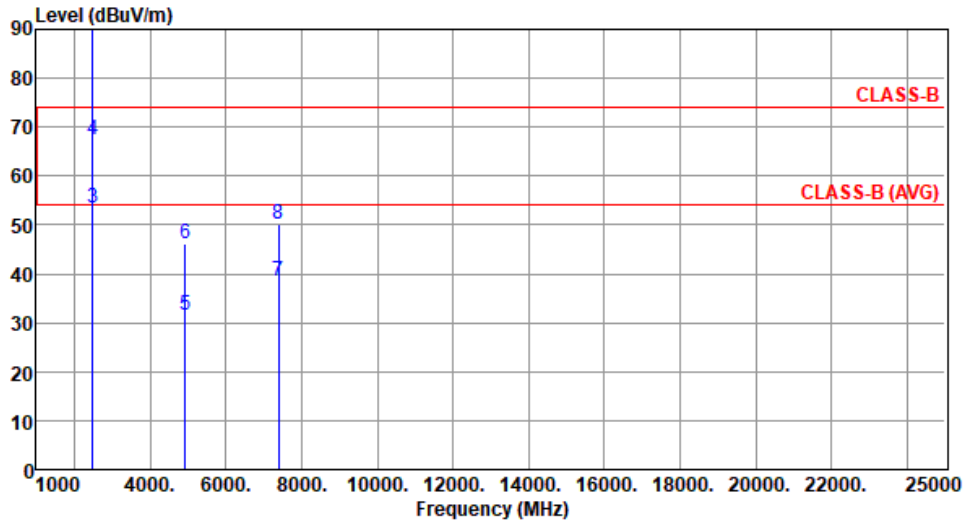
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3:"*" is Peak / Average value of fundamental frequency

Modulation	ax HE20	Test Freq. (MHz)	2462
Polarization	Vertical		

Test By :Akun Chung Temperature(°C):21 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	*	2462.00	105.30		109.32	-4.02	Average	200	220
2	*	2462.00			122.60	-4.02	Peak	200	220
3		2483.50	54.00	-0.43	57.66	-4.09	Average	200	220
4		2483.50	74.00	-6.73	71.36	-4.09	Peak	200	220
5		4924.00	54.00	-22.35	31.57	0.08	Average	112	146
6		4924.00	74.00	-27.91	46.01	0.08	Peak	112	146
7		7386.00	54.00	-15.55	32.56	5.89	Average	100	106
8		7386.00	74.00	-23.78	44.33	5.89	Peak	100	106

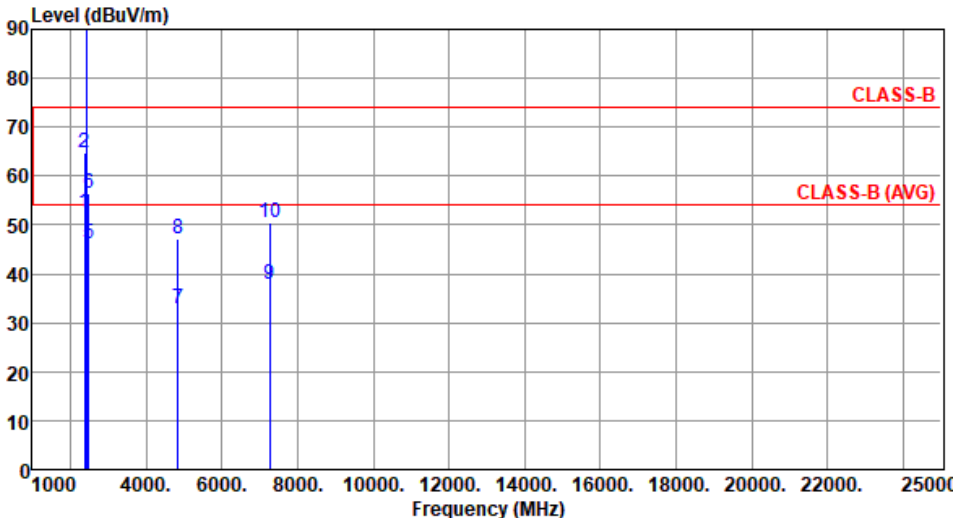
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

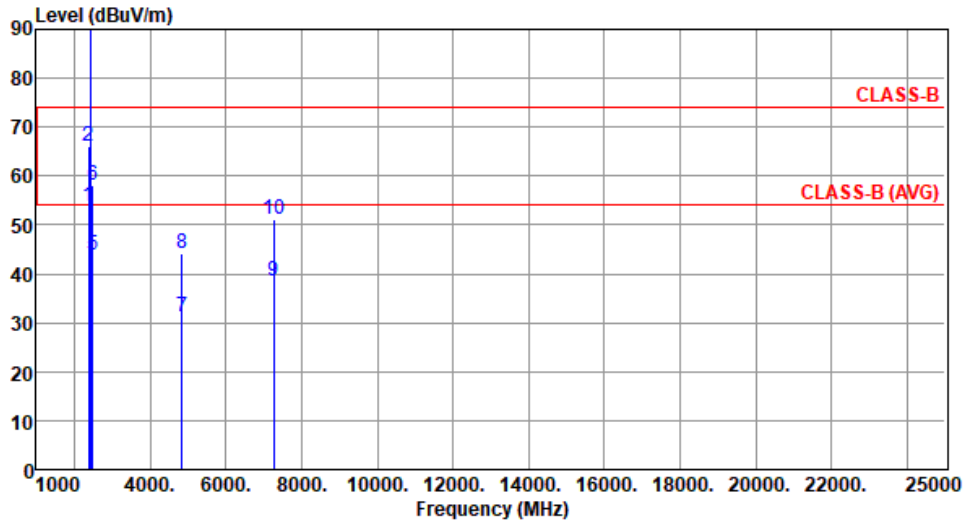
Unwanted Emission (Above 1GHz) for ax HE40

Modulation	ax HE40	Test Freq. (MHz)	2422						
Polarization	Horizontal								
Test By :Akun Chung Temperature(°C):21 Humidity(%):63									
									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1	2390.00	52.52	54.00	-1.48	56.31	-3.79	Average	117	347
2	2390.00	64.84	74.00	-9.16	68.63	-3.79	Peak	117	347
3 *	2422.00	99.30			103.21	-3.91	Average	117	347
4 *	2422.00	112.38			116.29	-3.91	Peak	117	347
5	2483.50	46.16	54.00	-7.84	50.25	-4.09	Average	120	350
6	2483.50	56.59	74.00	-17.41	60.68	-4.09	Peak	120	350
7	4844.00	33.04	54.00	-20.96	32.84	0.20	Average	162	119
8	4844.00	47.21	74.00	-26.79	47.01	0.20	Peak	162	119
9	7266.00	37.82	54.00	-16.18	31.84	5.98	Average	100	159
10	7266.00	50.46	74.00	-23.54	44.48	5.98	Peak	100	159

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
 Note 3: "*" is Peak / Average value of fundamental frequency

Modulation	ax HE40	Test Freq. (MHz)	2422
Polarization	Vertical		

Test By :Akun Chung Temperature(°C):21 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	53.69	54.00	-0.31	57.48	-3.79	Average	226	217
2	2390.00	66.03	74.00	-7.97	69.82	-3.79	Peak	226	217
3 *	2422.00	102.19			106.10	-3.91	Average	226	217
4 *	2422.00	114.73			118.64	-3.91	Peak	226	217
5	2483.50	43.95	54.00	-10.05	48.04	-4.09	Average	226	217
6	2483.50	58.16	74.00	-15.84	62.25	-4.09	Peak	226	217
7	4844.00	31.37	54.00	-22.63	31.17	0.20	Average	100	142
8	4844.00	44.31	74.00	-29.69	44.11	0.20	Peak	100	142
9	7266.00	38.52	54.00	-15.48	32.54	5.98	Average	100	176
10	7266.00	51.25	74.00	-22.75	45.27	5.98	Peak	100	176

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

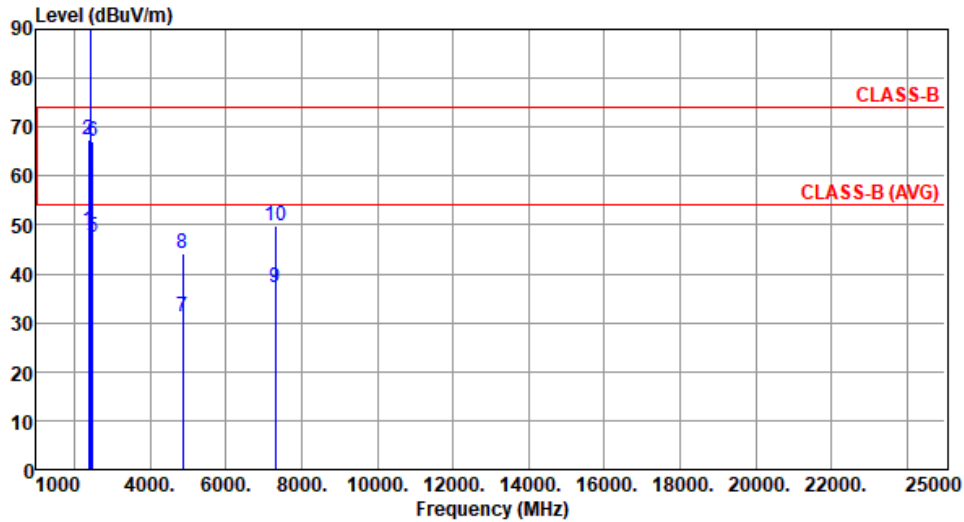
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

Modulation	ax HE40	Test Freq. (MHz)	2437
Polarization	Horizontal		

Test By :Akun Chung- Temperature(°C):23 Humidity(%):64



	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	48.98	54.00	-5.02	52.77	-3.79	Average	166	2
2	2390.00	67.46	74.00	-6.54	71.25	-3.79	Peak	166	2
3 *	2437.00	99.08			103.04	-3.96	Average	166	2
4 *	2437.00	112.61			116.57	-3.96	Peak	166	2
5	2483.50	47.45	54.00	-6.55	51.54	-4.09	Average	166	2
6	2483.50	67.22	74.00	-6.78	71.31	-4.09	Peak	166	2
7	4874.00	31.07	54.00	-22.93	30.95	0.12	Average	100	120
8	4874.00	44.26	74.00	-29.74	44.14	0.12	Peak	100	120
9	7311.00	37.17	54.00	-16.83	31.23	5.94	Average	100	168
10	7311.00	49.79	74.00	-24.21	43.85	5.94	Peak	100	168

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

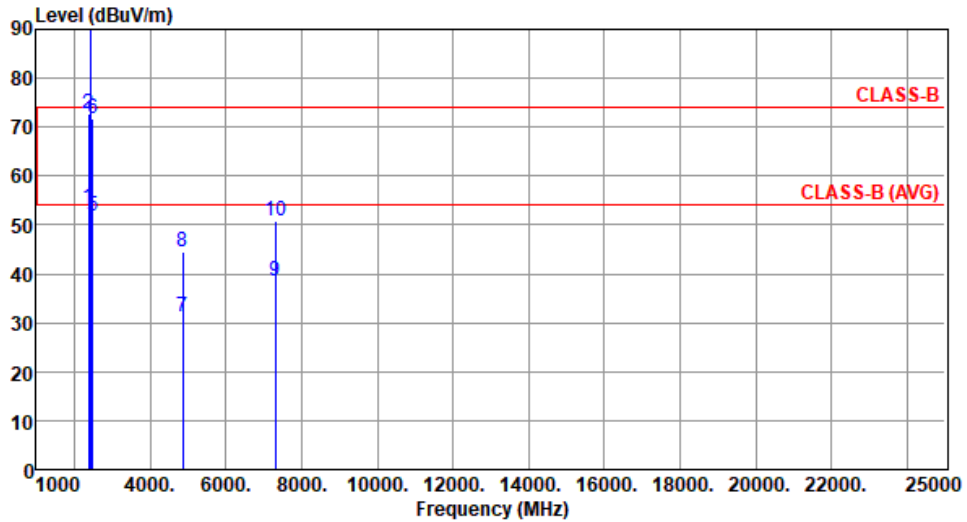
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3:"*" is Peak / Average value of fundamental frequency

Modulation	ax HE40	Test Freq. (MHz)	2437
Polarization	Vertical		

Test By :Akun Chung- Temperature(°C):23 Humidity(%):64



	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	53.55	54.00	-0.45	57.34	-3.79	Average	195	219
2	2390.00	72.90	74.00	-1.10	76.69	-3.79	Peak	195	219
3 *	2437.00	103.23			107.19	-3.96	Average	195	219
4 *	2437.00	115.66			119.62	-3.96	Peak	195	219
5	2483.50	51.91	54.00	-2.09	56.00	-4.09	Average	195	219
6	2483.50	71.60	74.00	-2.40	75.69	-4.09	Peak	195	219
7	4874.00	31.12	54.00	-22.88	31.00	0.12	Average	100	77
8	4874.00	44.48	74.00	-29.52	44.36	0.12	Peak	100	77
9	7311.00	38.40	54.00	-15.60	32.46	5.94	Average	100	181
10	7311.00	50.92	74.00	-23.08	44.98	5.94	Peak	100	181

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

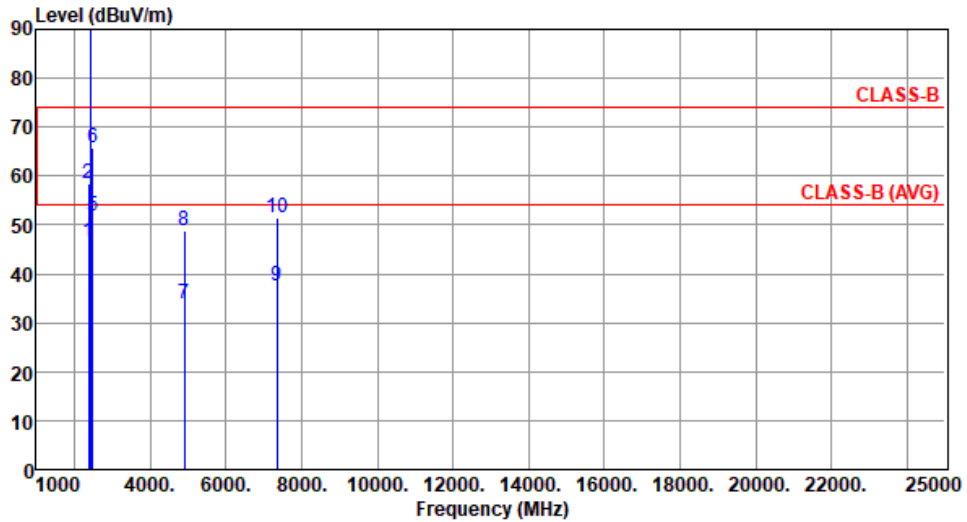
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

Modulation	ax HE40	Test Freq. (MHz)	2452
Polarization	Horizontal		

Test By :Akun Chung Temperature(°C):21 Humidity(%):63



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	46.41	54.00	-7.59	50.20	-3.79	Average	227	3
2	2390.00	58.47	74.00	-15.53	62.26	-3.79	Peak	227	3
3 *	2452.00	100.18			104.18	-4.00	Average	106	3
4 *	2452.00	112.56			116.56	-4.00	Peak	106	3
5	2483.50	51.84	54.00	-2.16	55.93	-4.09	Average	106	3
6	2483.50	65.75	74.00	-8.25	69.84	-4.09	Peak	106	3
7	4904.00	33.92	54.00	-20.08	33.89	0.03	Average	167	118
8	4904.00	48.75	74.00	-25.25	48.72	0.03	Peak	167	118
9	7356.00	37.42	54.00	-16.58	31.57	5.85	Average	100	162
10	7356.00	51.42	74.00	-22.58	45.57	5.85	Peak	100	162

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

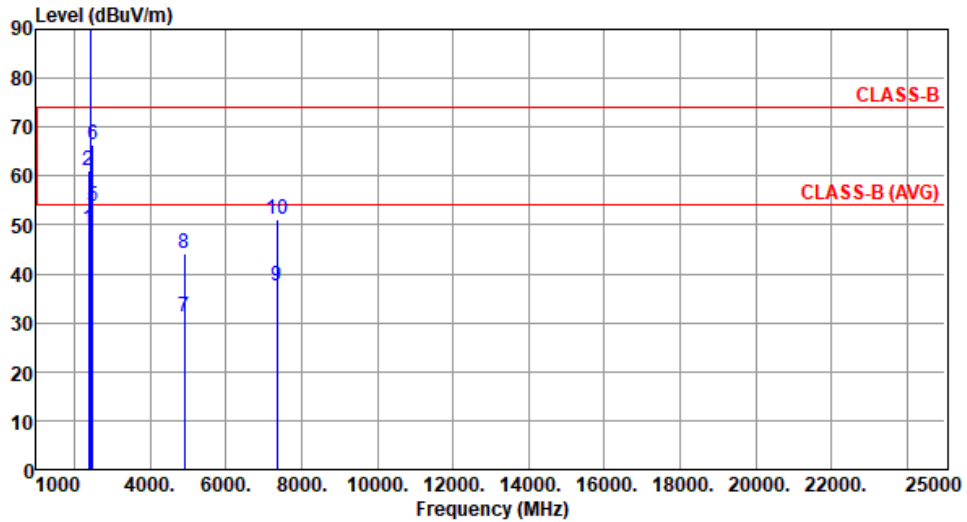
*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "*" is Peak / Average value of fundamental frequency

Modulation	ax HE40	Test Freq. (MHz)	2452
Polarization	Vertical		

Test By :Akun Chung Temperature(°C):21 Humidity(%):63



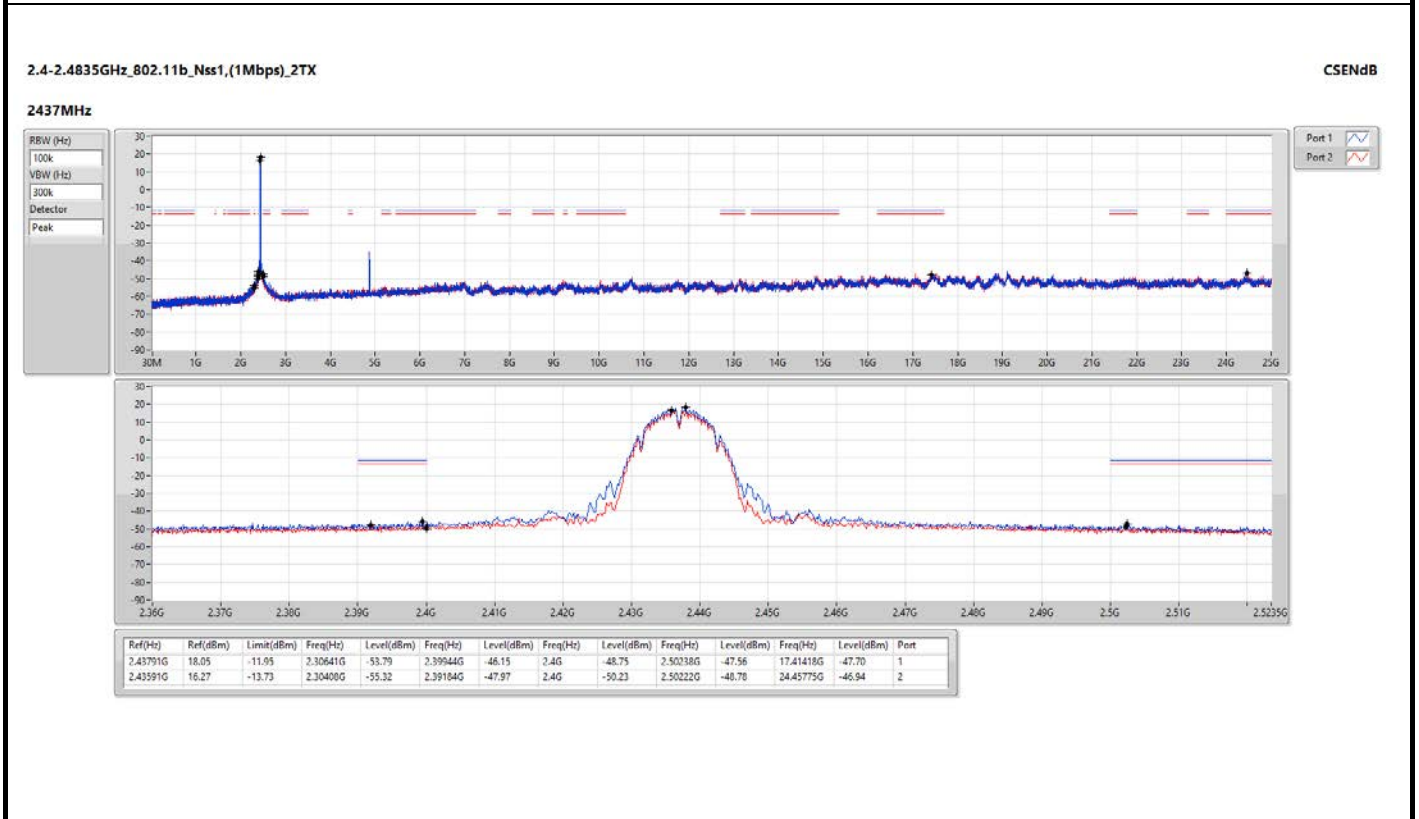
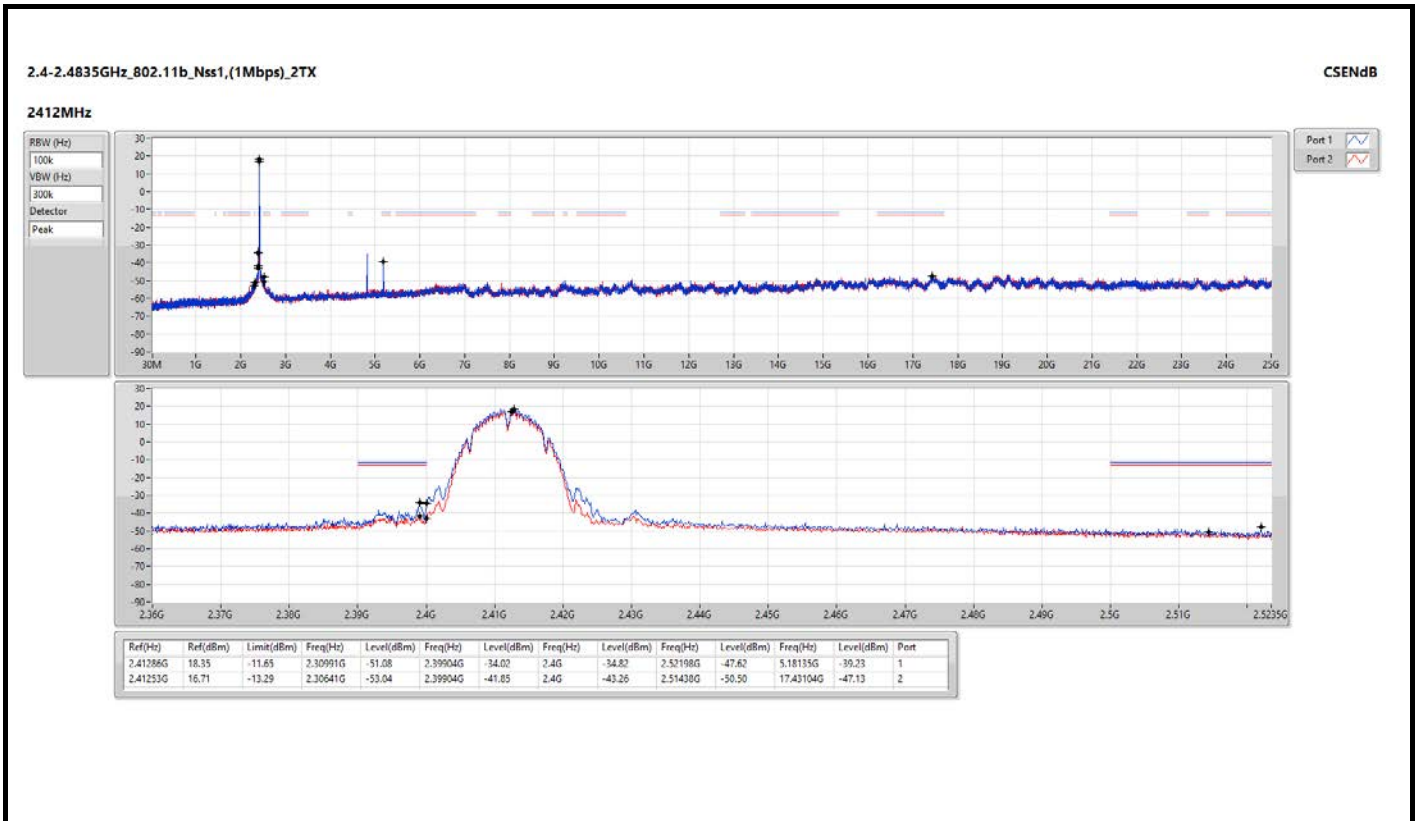
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2390.00	48.99	54.00	-5.01	52.78	-3.79	Average	208	221
2	2390.00	61.14	74.00	-12.86	64.93	-3.79	Peak	208	221
3 *	2452.00	101.97			105.97	-4.00	Average	208	221
4 *	2452.00	114.67			118.67	-4.00	Peak	208	221
5	2483.50	53.65	54.00	-0.35	57.74	-4.09	Average	208	221
6	2483.50	66.49	74.00	-7.51	70.58	-4.09	Peak	208	221
7	4904.00	31.08	54.00	-22.92	31.05	0.03	Average	100	156
8	4904.00	44.25	74.00	-29.75	44.22	0.03	Peak	100	156
9	7356.00	37.57	54.00	-16.43	31.72	5.85	Average	100	109
10	7356.00	51.08	74.00	-22.92	45.23	5.85	Peak	100	109

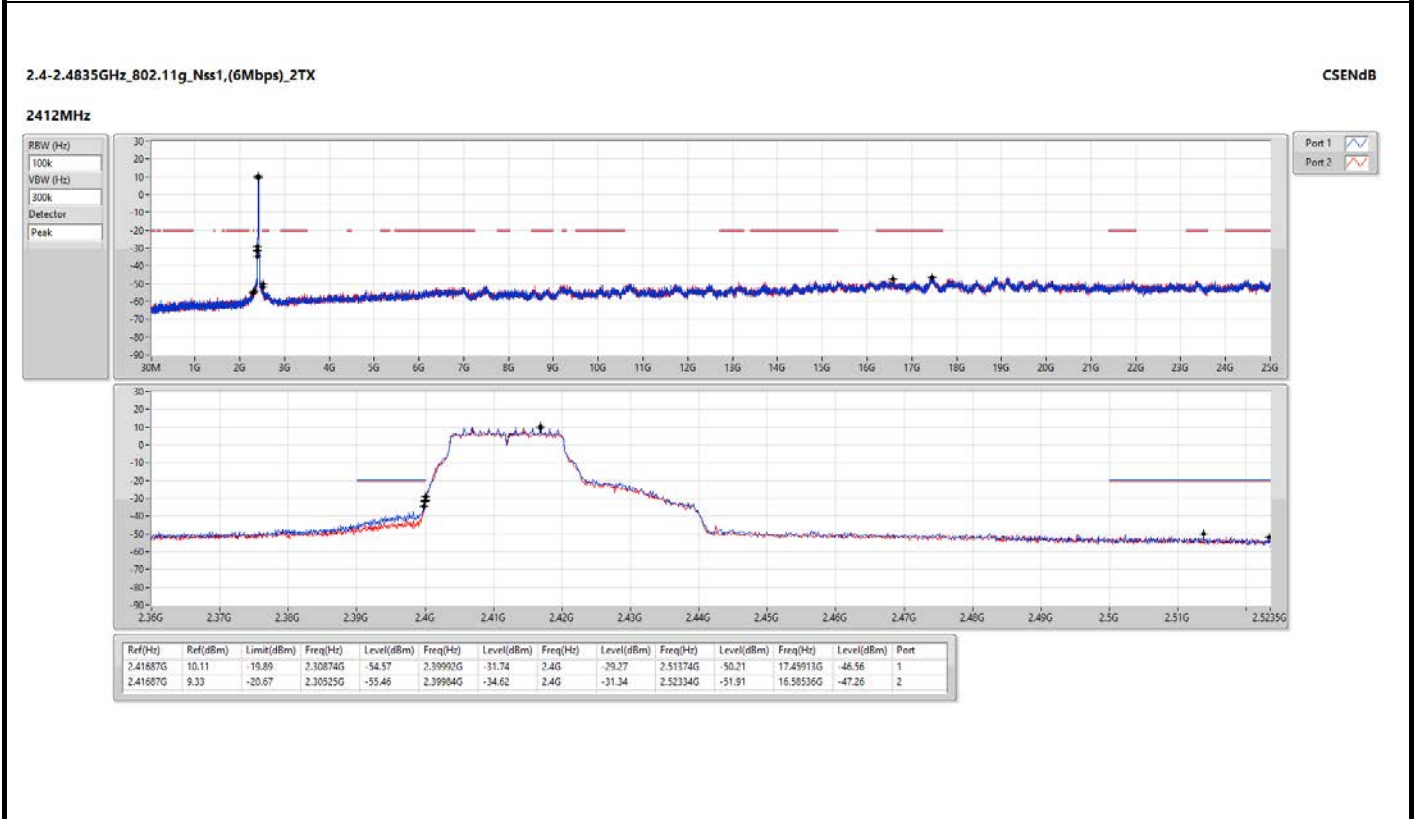
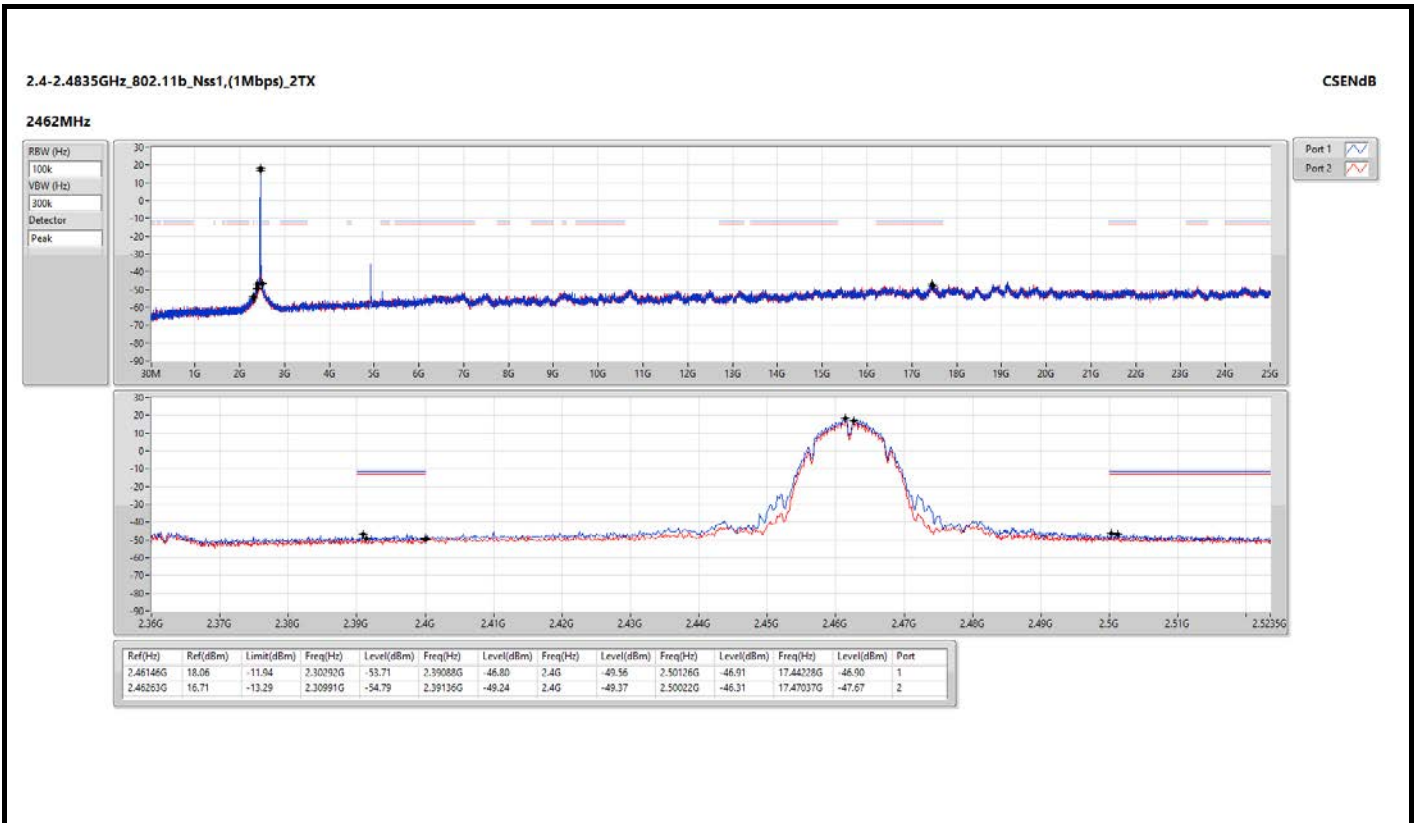
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

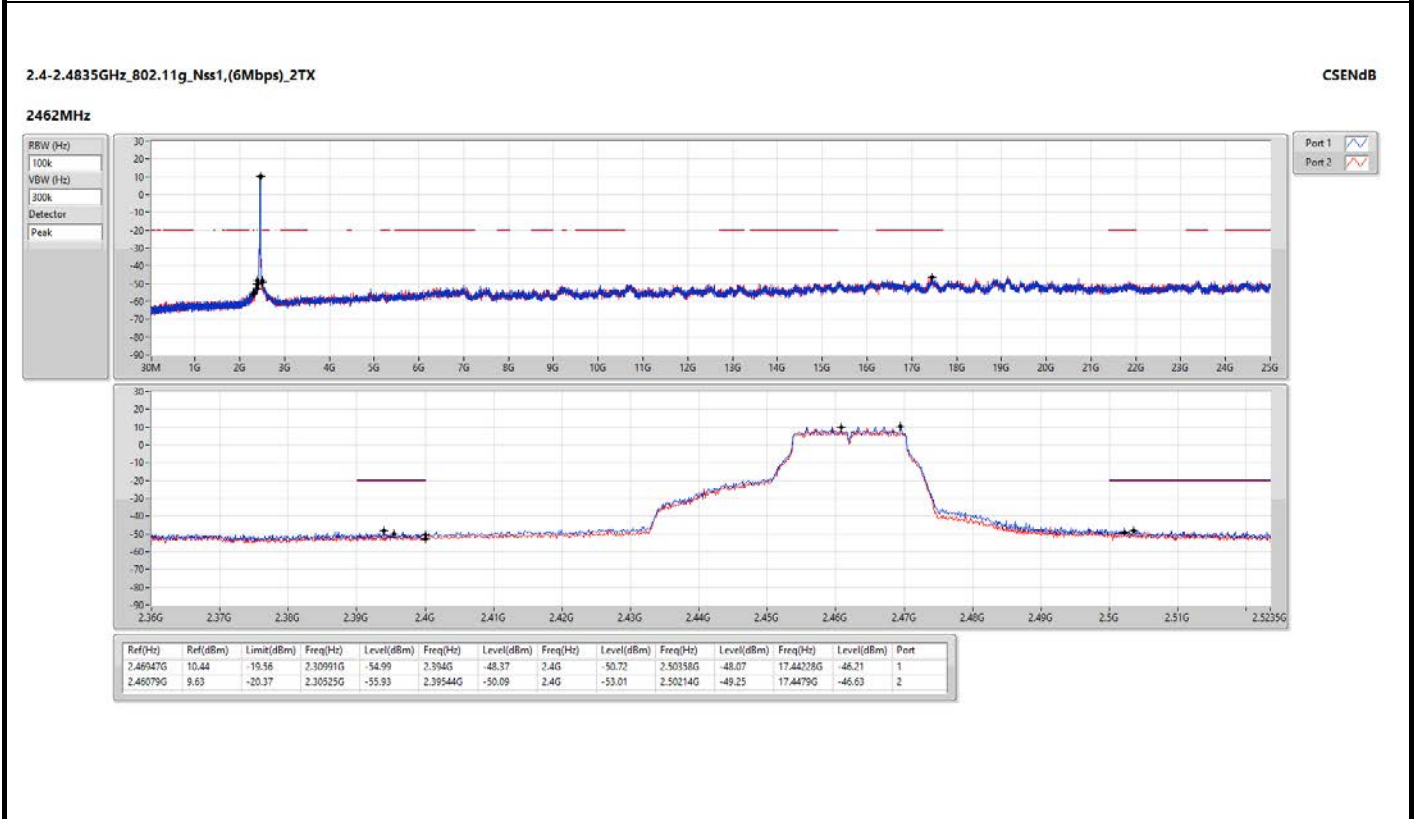
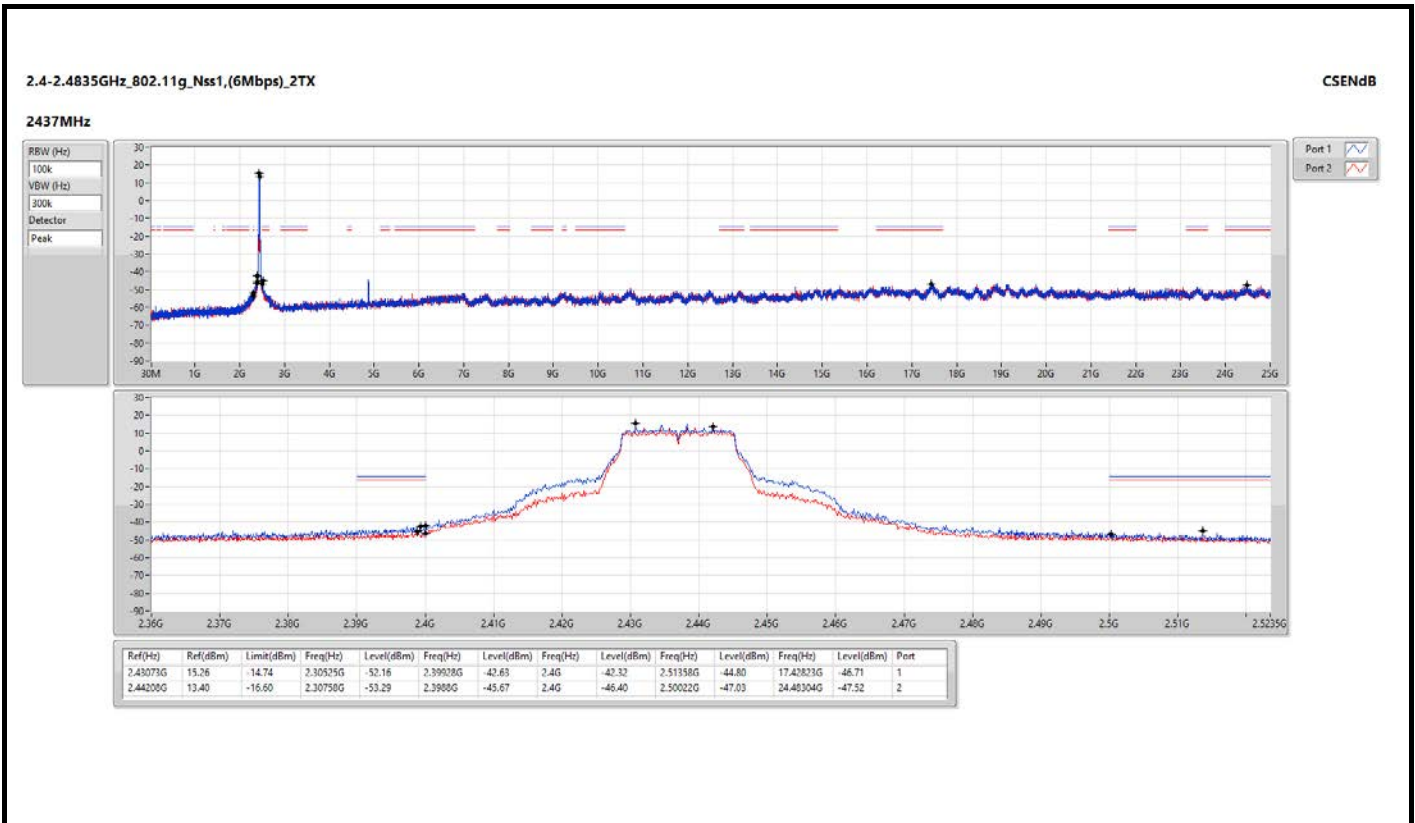
*Factor includes antenna factor , cable loss and amplifier gain

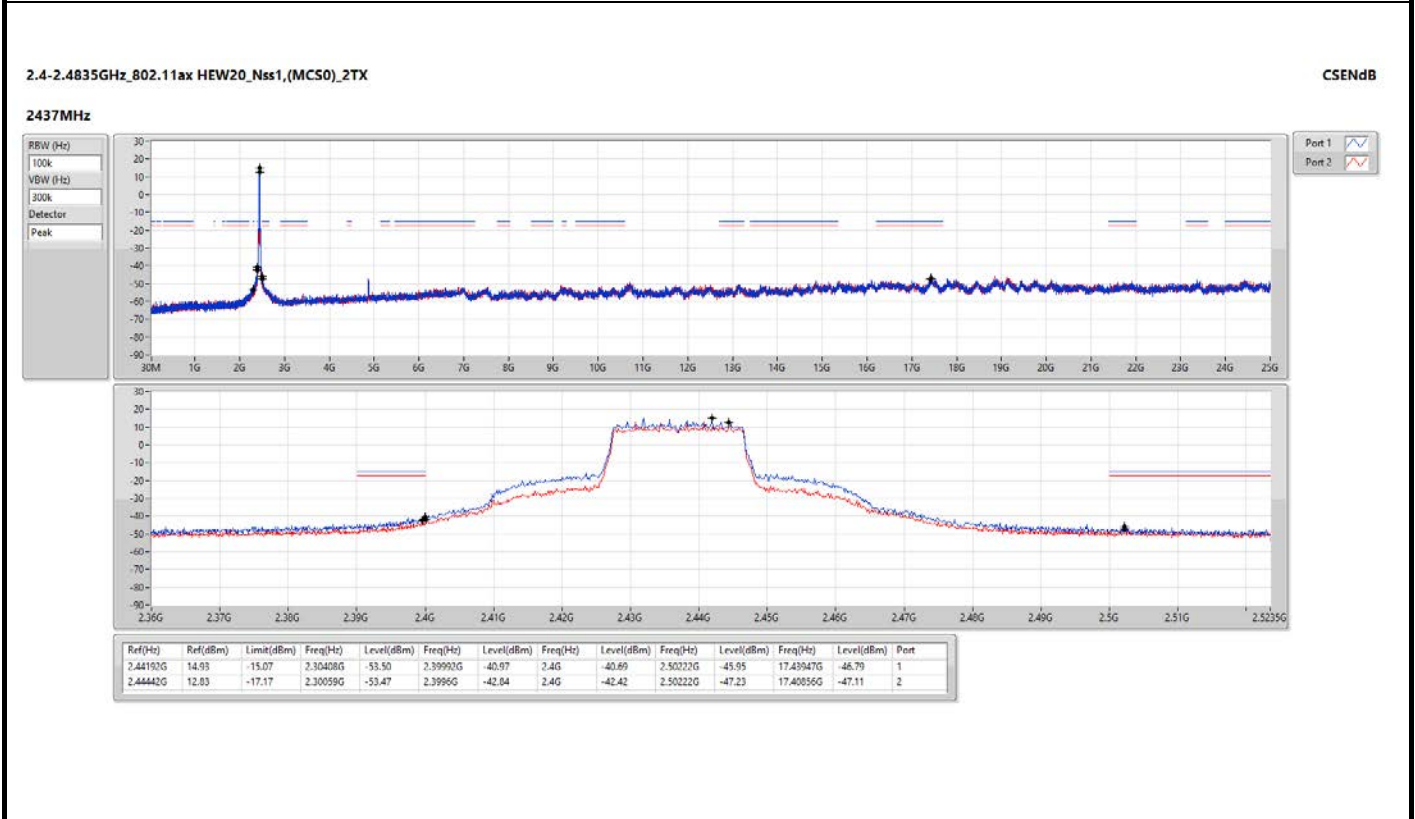
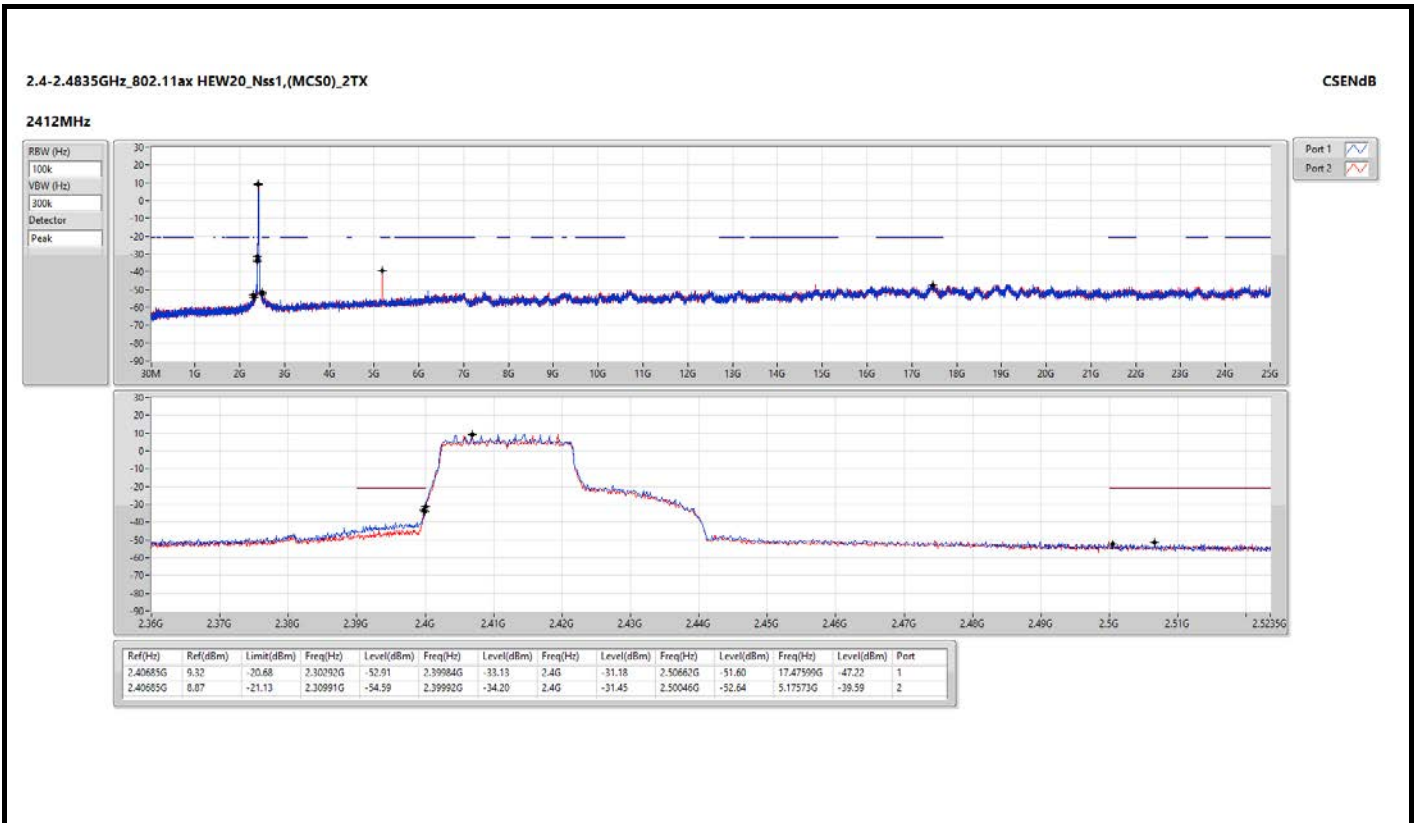
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

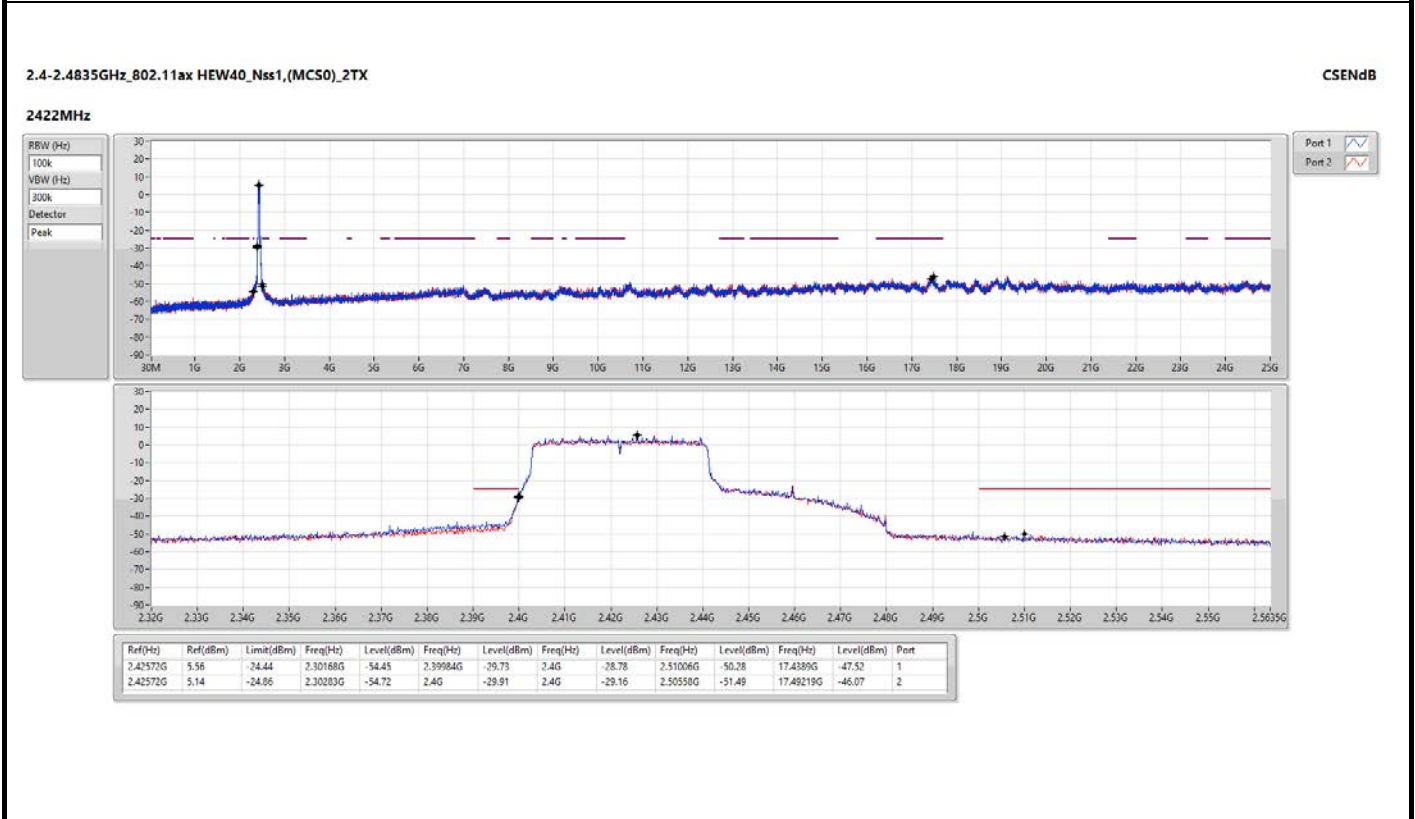
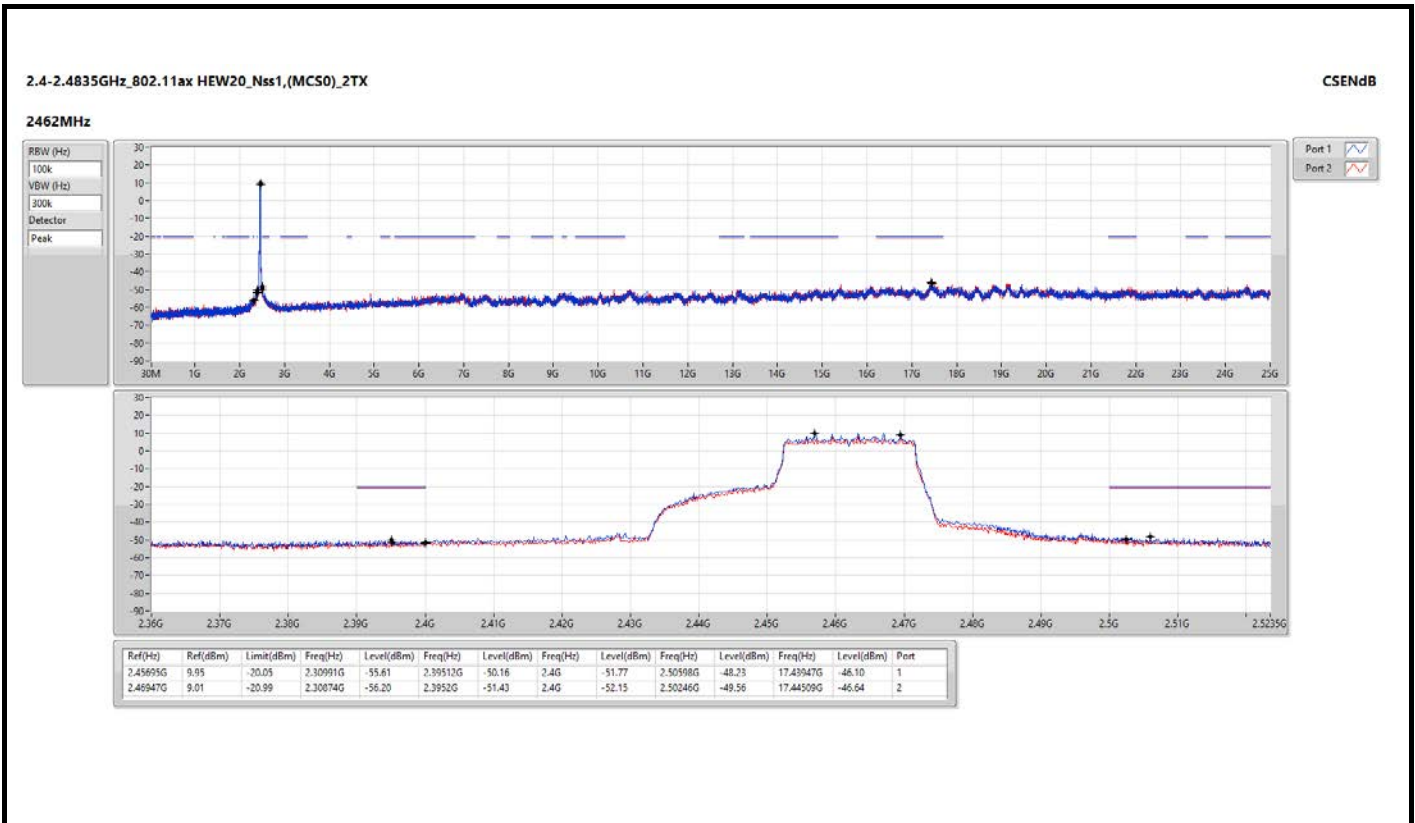
Note 3: "*" is Peak / Average value of fundamental frequency

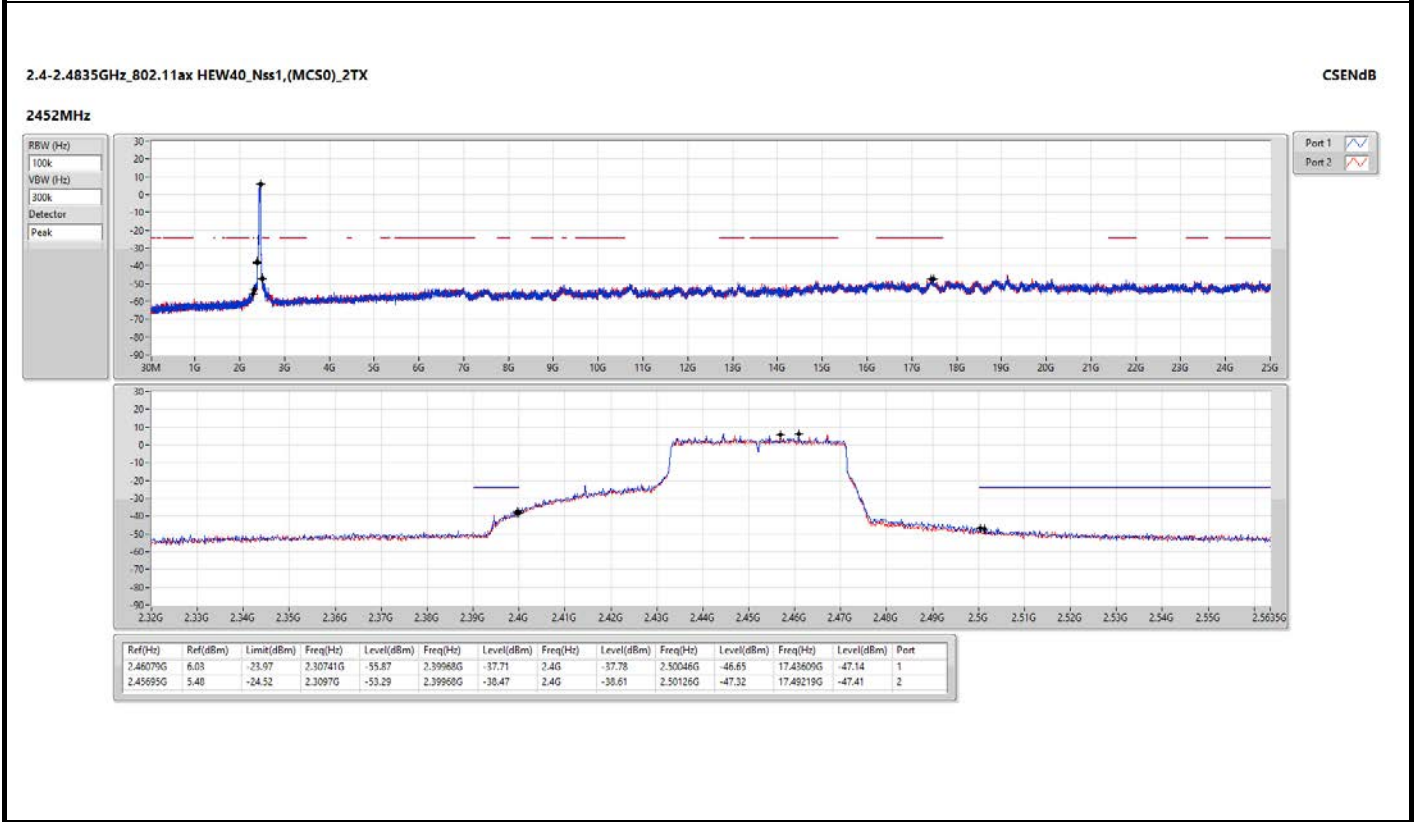
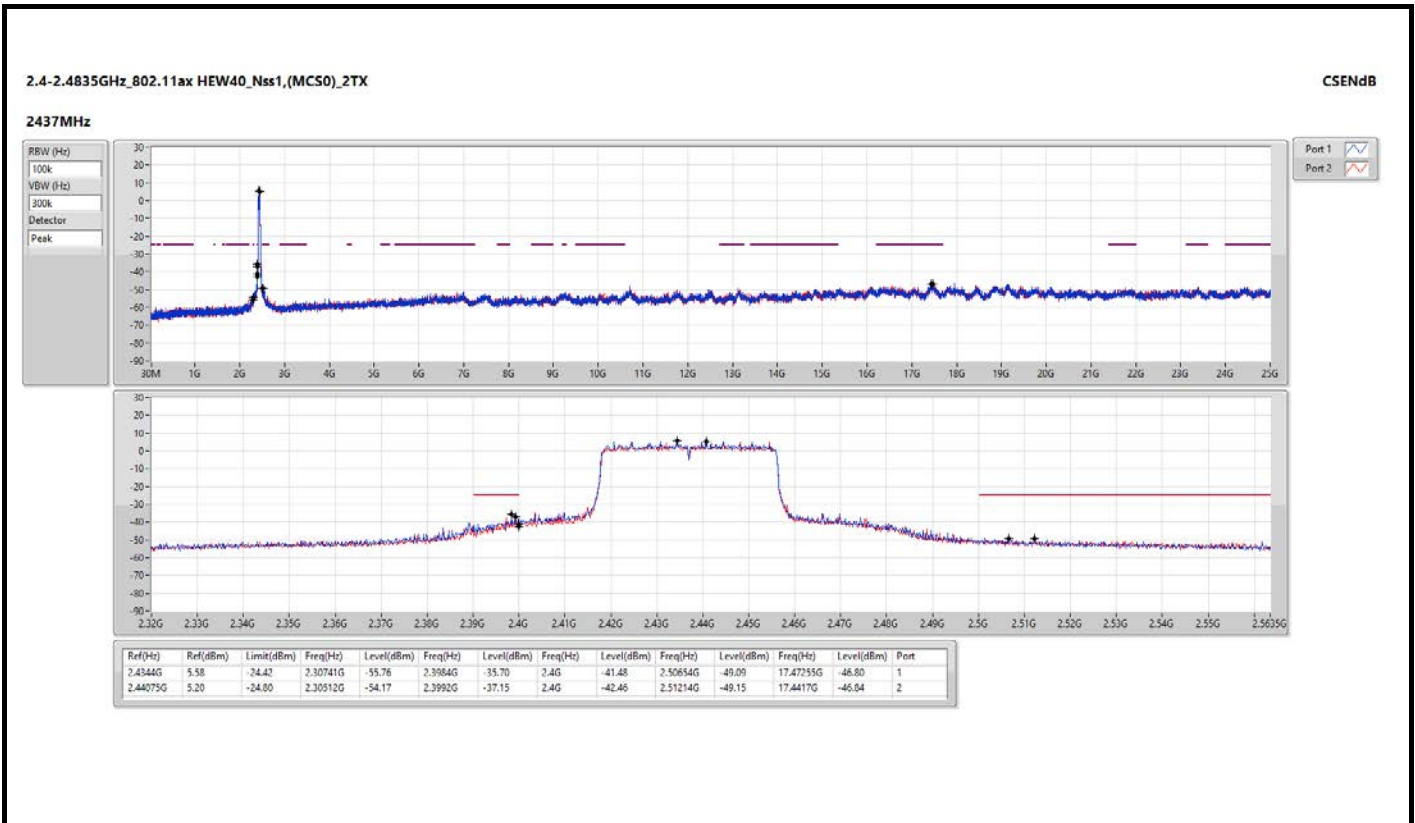








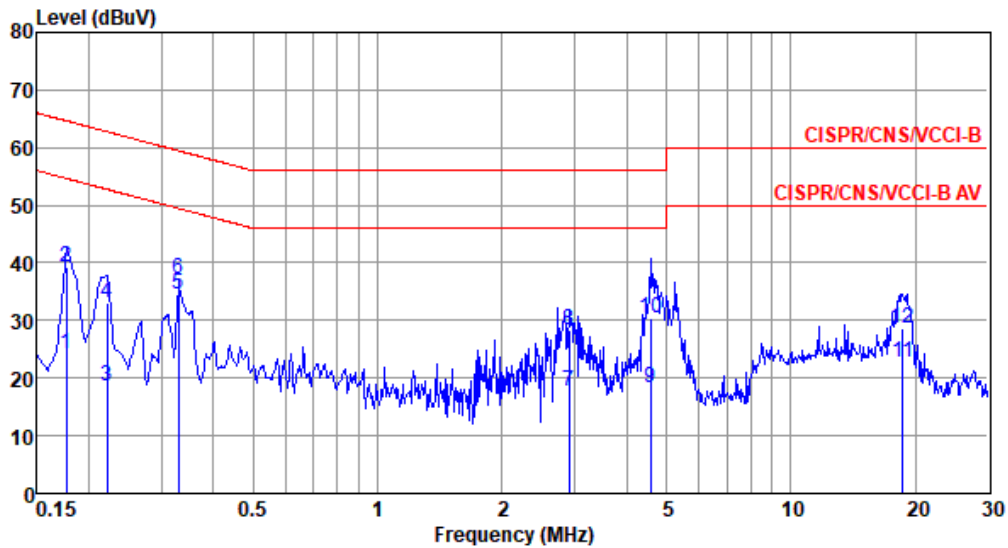






Modulation Mode	11g	Test Freq. (MHz)	2437
Power Phase	Line		

Test by : Brad Wu Temperature: 21°C Humidity: 62%



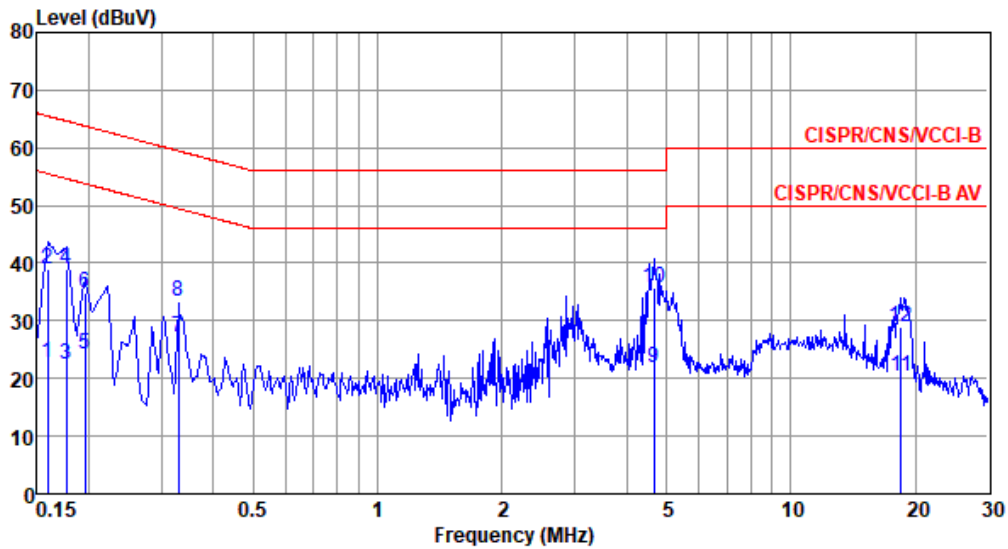
	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.177	24.23	54.64	-30.41	14.30	9.68	0.06	0.19	Average
2	0.177	39.25	64.64	-25.39	29.32	9.68	0.06	0.19	QP
3	0.222	18.63	52.74	-34.11	8.68	9.68	0.06	0.21	Average
4	0.222	33.15	62.74	-29.59	23.20	9.68	0.06	0.21	QP
5*	0.330	34.52	49.44	-14.92	24.52	9.67	0.06	0.27	Average
6	0.330	37.11	59.44	-22.33	27.11	9.67	0.06	0.27	QP
7	2.900	17.65	46.00	-28.35	7.40	9.70	0.16	0.39	Average
8	2.900	28.22	56.00	-27.78	17.97	9.70	0.16	0.39	QP
9	4.574	18.43	46.00	-27.57	8.09	9.71	0.21	0.42	Average
10	4.574	30.46	56.00	-25.54	20.12	9.71	0.21	0.42	QP
11	18.622	22.84	50.00	-27.16	12.11	9.73	0.49	0.51	Average
12	18.622	28.74	60.00	-31.26	18.01	9.73	0.49	0.51	QP

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



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

Test by : Brad Wu Temperature: 21°C Humidity: 62%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.159	22.69	55.52	-32.83	12.84	9.61	0.06	0.18	Average
2	0.159	38.85	65.52	-26.67	29.00	9.61	0.06	0.18	QP
3	0.177	22.39	54.64	-32.25	12.53	9.61	0.06	0.19	Average
4	0.177	39.02	64.64	-25.62	29.16	9.61	0.06	0.19	QP
5	0.195	24.29	53.80	-29.51	14.43	9.61	0.06	0.19	Average
6	0.195	34.72	63.80	-29.08	24.86	9.61	0.06	0.19	QP
7	0.330	27.23	49.44	-22.21	17.29	9.61	0.06	0.27	Average
8	0.330	33.30	59.44	-26.14	23.36	9.61	0.06	0.27	QP
9	4.672	21.89	46.00	-24.11	11.61	9.65	0.21	0.42	Average
10*	4.672	35.79	56.00	-20.21	25.51	9.65	0.21	0.42	QP
11	18.524	20.49	50.00	-29.51	9.71	9.78	0.49	0.51	Average
12	18.524	29.03	60.00	-30.97	18.25	9.78	0.49	0.51	QP

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