

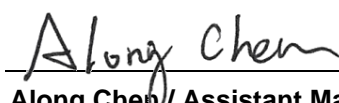
FCC Test Report

FCC ID : ACJ-V3WA
Equipment : Wireless Module
Model No. : PIOT-V3(WA)
Brand Name : Panasonic
Applicant : Panasonic Corporation of North America
Address : Two Riverfront Plaza, Newark, NJ 07102 5490
Standard : 47 CFR FCC Part 15.247
Received Date : Sep. 19, 2024
Tested Date : Sep. 20 ~ Sep. 26, 2024

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

Reviewed by:

Approved by:



Along Chen / Assistant Manager



Gary Chang / Manager

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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
FR491901AC	Rev. 01	Initial issue	Dec. 25, 2024

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.524MHz 32.45 (Margin -13.55dB) - AV	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 4.824GHz 52.96 (Margin -1.04dB) - AV	Pass
15.247(b)(3)	Conducted Output Power	Max Power [dBm]: 26.29	Pass
15.247(a)(2)	6dB Bandwidth	Meet the requirement of limit	Pass
15.247(e)	Power Spectral Density	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

Declaration of Conformity:

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

Comments and Explanations:

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

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
2400-2483.5	b	2412-2462	1-11 [11]	1	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	1	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	1	MCS 0-7
Note 1: RF output power specifies that Maximum Peak Conducted Output Power.					
Note 2: DSSS-DBPSK, DQPSK, CCK modulation OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.					

1.1.2 Antenna Details

Brand	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)				
				2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
WNC	DHSK-P21_ ANT-0	Monopole	No	1.46	4.96	4.93	4.41	3.75
WNC	DHSK-P21_ ANT-1	Monopole	No	1	4.99	4.6	3.86	4.48

1.1.3 Configuration of Equipment under Test (EUT)

Power Supply Type	5Vdc from host
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1.1.4 Accessories

N/A

1.1.5 Channel List

Channel	Frequency(MHz)
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462

1.1.6 Test Tool and Duty Cycle

Test Tool	UI_mptool, version: 1V7		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11b	100.00%	0.00
	11g	100.00%	0.00
	HT20	100.00%	0.00

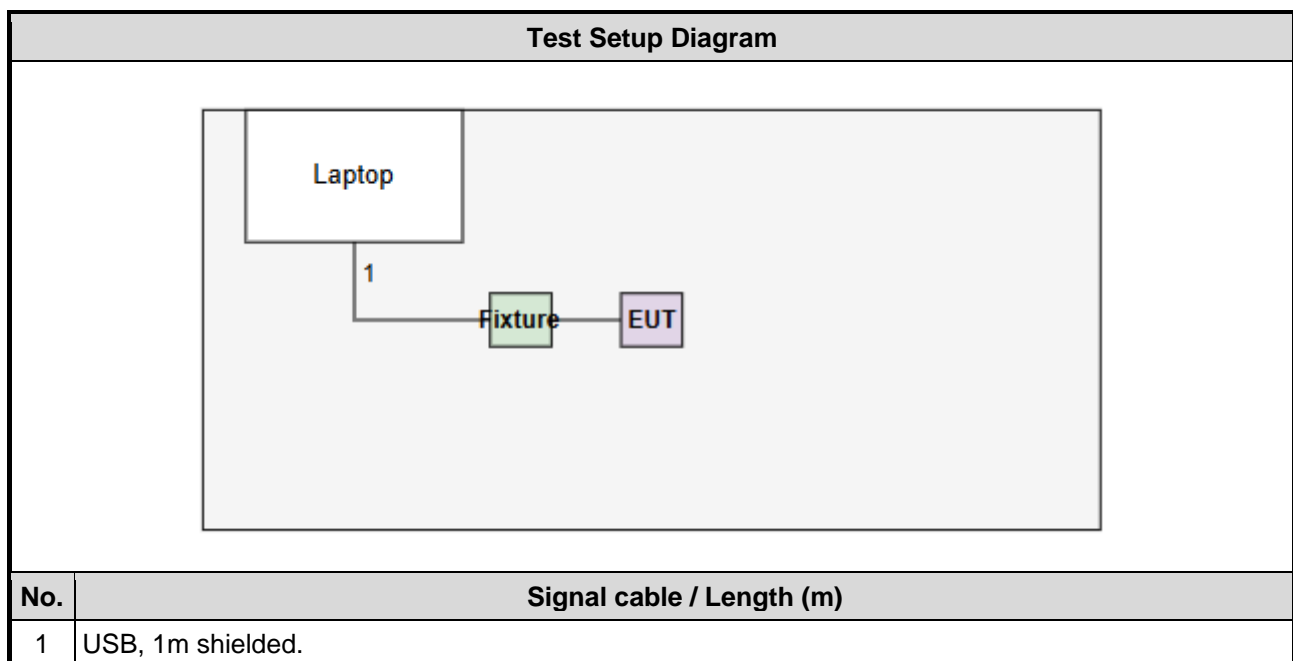
1.1.7 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)	Power Index
11b	2412	112
11b	2437	120
11b	2462	115
11g	2412	90
11g	2437	114
11g	2462	97
HT20	2412	85
HT20	2437	110
HT20	2462	93

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Laptop	DELL	Latitude 5400	DoC	---
2	Fixture	WNC	DHSK-P21_TB 01	---	Provided by applicant.

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Sep. 24, 2024				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101658	Feb. 23, 2024	Feb. 22, 2025
LISN	R&S	ENV216	101579	May 09, 2024	May 08, 2025
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127667	Jan. 10, 2024	Jan. 09, 2025
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 11, 2023	Oct. 10, 2024
50 ohm terminal	NA	50	01	Jun. 19, 2024	Jun. 18, 2025
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Sep. 20 ~ Sep. 24, 2024				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 05, 2024	Mar. 04, 2025
Spectrum Analyzer	R&S	FSV40	101498	Nov. 23, 2023	Nov. 22, 2024
Loop Antenna	R&S	HFH2-Z2	100330	Oct. 31, 2023	Oct. 30, 2024
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 09, 2024	Aug. 08, 2025
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Nov. 27, 2023	Nov. 26, 2024
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 30, 2023	Oct. 29, 2024
Preamplifier	EMC	EMC02325	980225	Jun. 17, 2024	Jun. 16, 2025
Preamplifier	EMC	EMC118A45SE	980898	Jul. 05, 2024	Jul. 04, 2025
Preamplifier	EMC	EMC184045SE	980903	Jul. 30, 2024	Jul. 29, 2025
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 03, 2023	Oct. 02, 2024
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 03, 2023	Oct. 02, 2024
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 03, 2023	Oct. 02, 2024
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 03, 2023	Oct. 02, 2024
RF Cable	EMC	EMC104-35M-35M-8000	210920	Oct. 03, 2023	Oct. 02, 2024
RF Cable	EMC	EMC104-35M-35M-3000	210922	Oct. 03, 2023	Oct. 02, 2024
Attenuator	Pasternack	PE7005-10	10-1	Oct. 05, 2023	Oct. 04, 2024
HIGHPASS FILTER 3.1-18G	WHK	WHK3.1/18G-10SS	39	Oct. 05, 2023	Oct. 04, 2024
Measurement Software	Sporton	SENSE-15247_DTS	V5.11	NA	NA
Measurement Software	Sporton	SENSE-EMI	V5.11	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Sep. 26, 2024				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101910	Apr. 18, 2024	Apr. 17, 2025
Power Meter	Anritsu	ML2495A	1241002	Nov. 21, 2023	Nov. 20, 2024
Power Sensor	Anritsu	MA2411B	1207366	Nov. 21, 2023	Nov. 20, 2024
Attenuator	Pasternack	PE7005-10	10-2	Oct. 05, 2023	Oct. 04, 2024
Measurement Software	Sporton	SENSE-15247_DTS	V5.11	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

47 CFR FCC Part 15.247
ANSI C63.10-2013

1.6 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

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
AC Power Line Conducted Emission	11g	2437	6 Mbps	---
Unwanted Emissions ≤ 1GHz	11g	2437	6 Mbps	---
Unwanted Emissions >1GHz				
Conducted Output Power	11b	2412 / 2437 / 2462	1 Mbps	---
6dB bandwidth	11g	2412 / 2437 / 2462	6 Mbps	
Power spectral density	HT20	2412 / 2437 / 2462	MCS 0	

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** results were found as the worst case and were shown in this report.

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

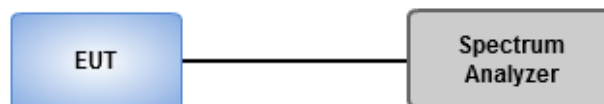
6dB Bandwidth

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	23°C / 66%	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

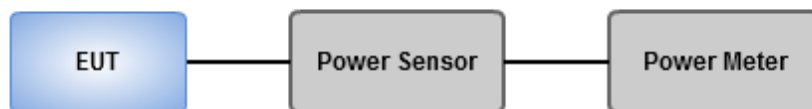
Fixed, point to point operations

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	23°C / 66%	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.

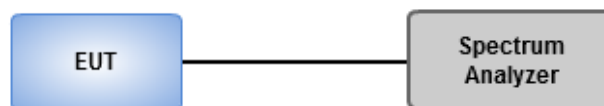
Average PSD, duty cycle $\geq 98\%$

1. Set the RBW = 3 kHz, VBW = 10 kHz.
2. Detector = RMS, Sweep time = auto couple.
3. Sweep time = auto couple.
4. Employ trace averaging (RMS) mode over a minimum of 100 traces.
5. Use the peak marker function to determine the maximum amplitude level.

Average PSD, duty cycle $< 98\%$

1. Set the RBW = 3 kHz, VBW = 10 kHz
2. Detector = RMS, Sweep time = auto couple.
3. Sweep time = auto couple.
4. Employ trace averaging (RMS) mode over a minimum of 100 traces.
5. Use the peak marker function to determine the maximum amplitude level.
6. Add $10 \log (1/x)$, where x is the duty cycle.

3.3.3 Test Setup



3.3.4 Test Results

Ambient Condition	23°C / 66%	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:
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:

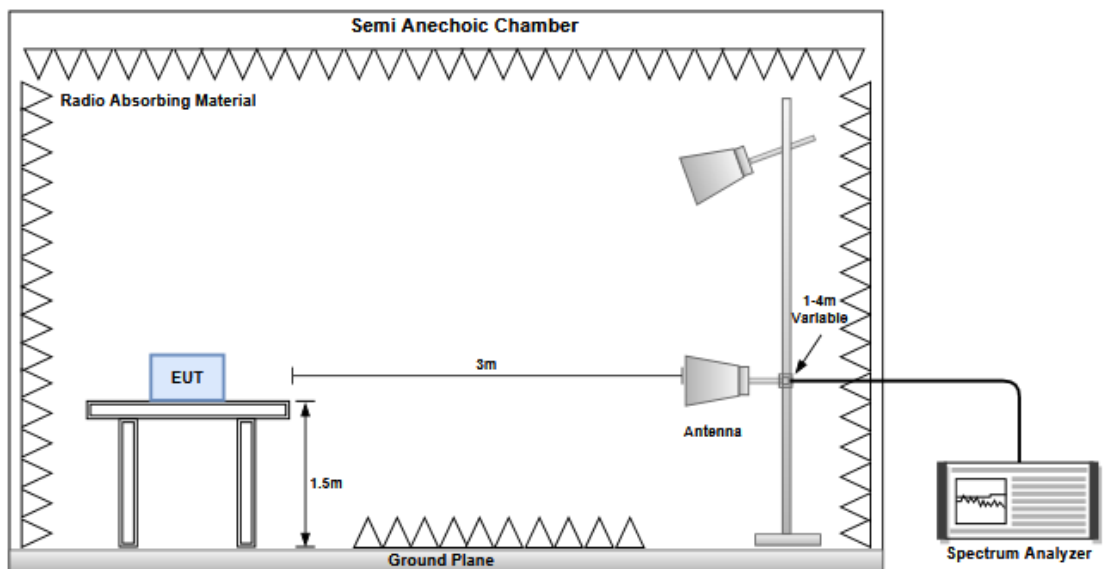
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.4.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.4.4 Test Results

Ambient Condition	24-26°C / 63-64%	Tested By	Allen Lee
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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

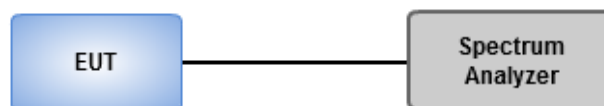
Reference level measurement

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	23°C / 66%	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

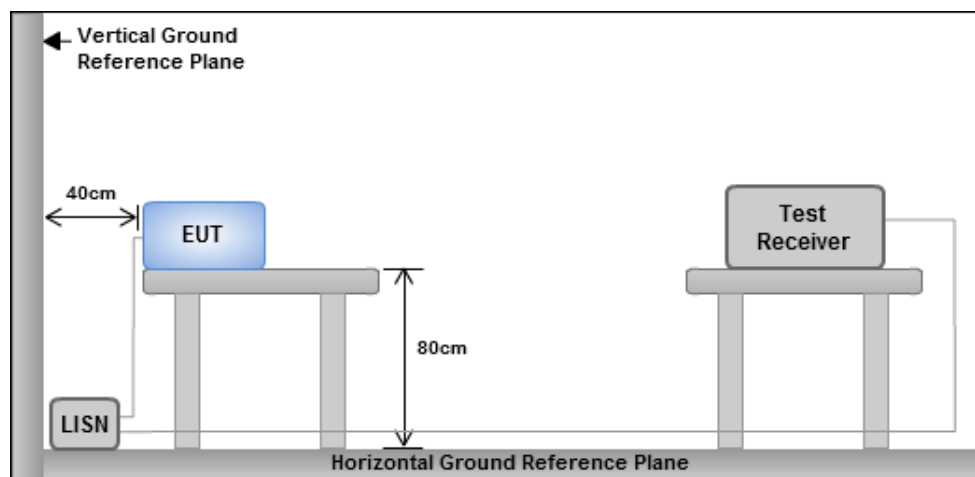
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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

Tel: 886-3-271-8666

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City 33381, Taiwan (R.O.C.)
No.2-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

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

Tel: 886-3-271-8666

Fax: 886-3-318-0345

Email: ICC_Service@icertifi.com.tw

==END==

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	9.525M	13.958M	14M0G1D	9.025M	13.478M
802.11g_Nss1,(6Mbps)_1TX	16.575M	19.438M	19M4D1D	16.55M	16.756M
802.11n HT20_Nss1,(MCS0)_1TX	17.825M	19.19M	19M2D1D	17.775M	17.916M

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)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	9.1M	13.478M
2437MHz	Pass	500k	9.525M	13.958M
2462MHz	Pass	500k	9.025M	13.553M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	16.55M	16.756M
2437MHz	Pass	500k	16.55M	19.438M
2462MHz	Pass	500k	16.575M	16.778M
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	17.775M	17.916M
2437MHz	Pass	500k	17.825M	19.19M
2462MHz	Pass	500k	17.775M	17.941M

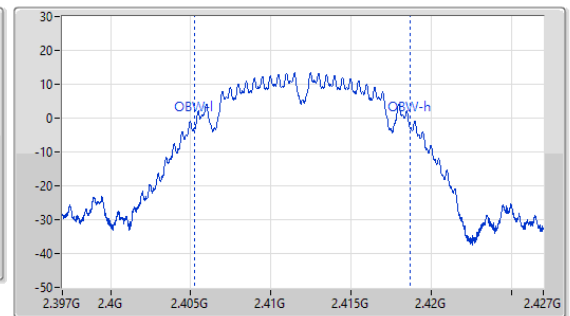
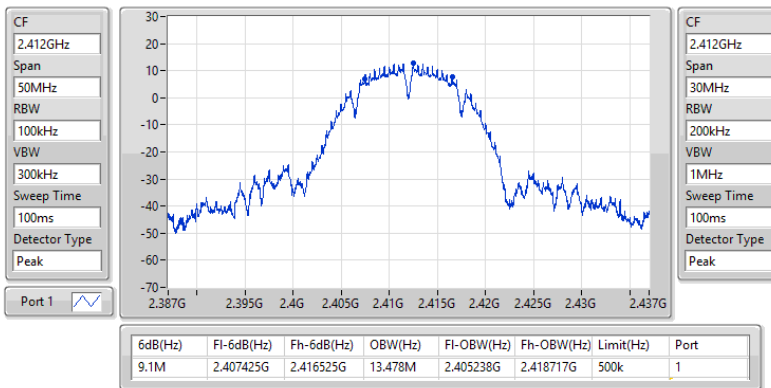
Port X-N dB = Port X 6dB down bandwidth;

Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

EBW

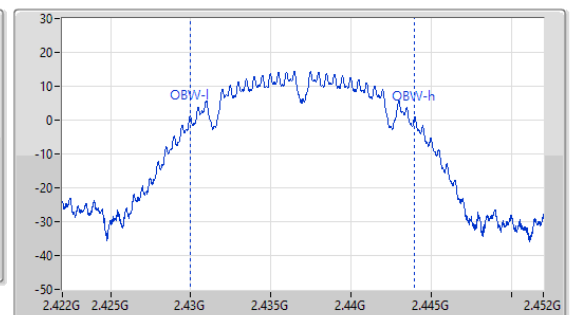
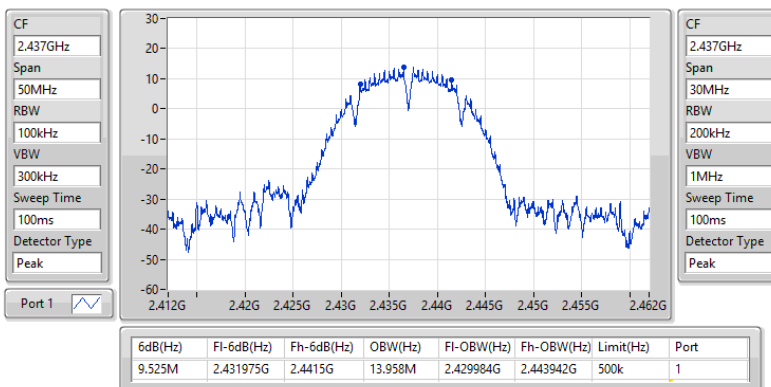
2412MHz



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

EBW

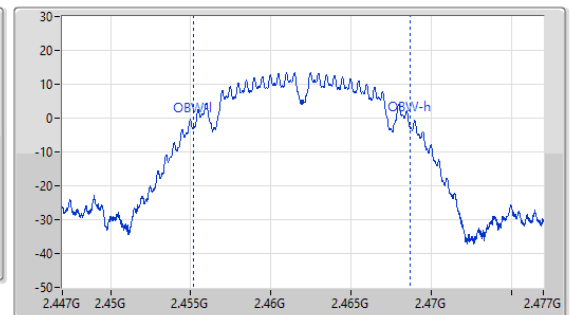
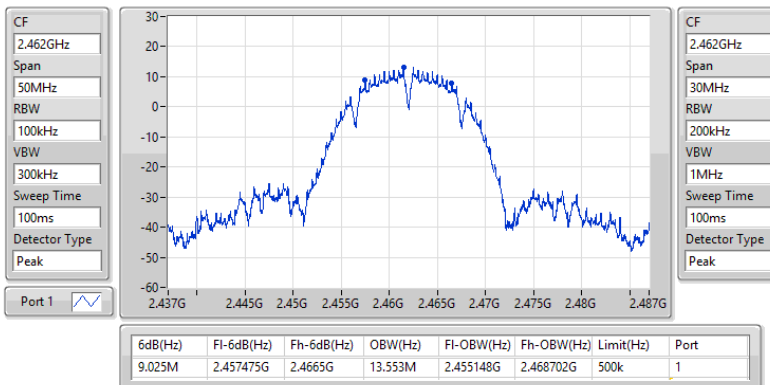
2437MHz



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

EBW

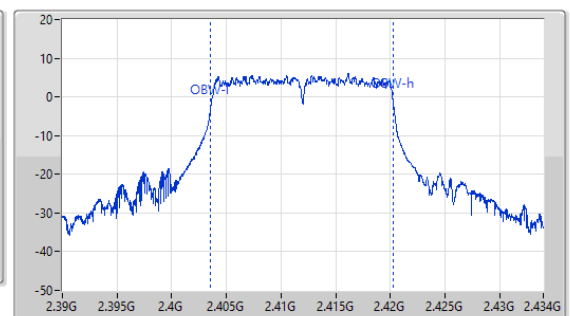
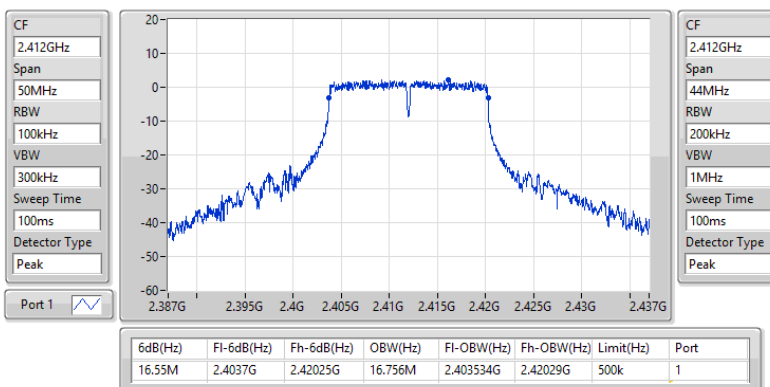
2462MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

EBW

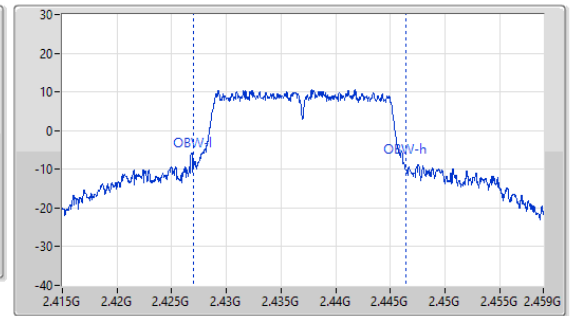
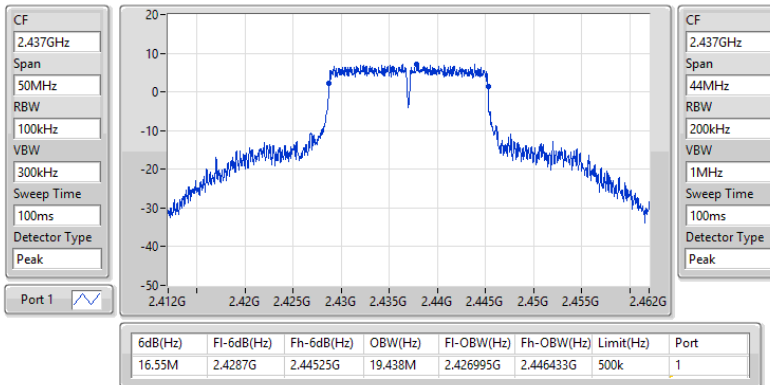
2412MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

EBW

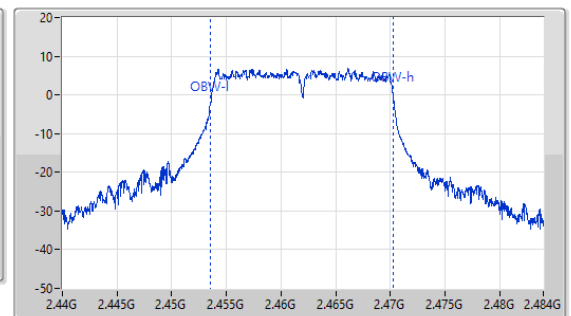
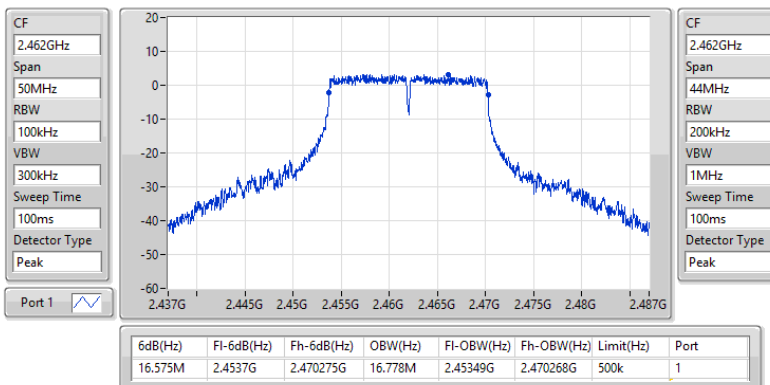
2437MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

EBW

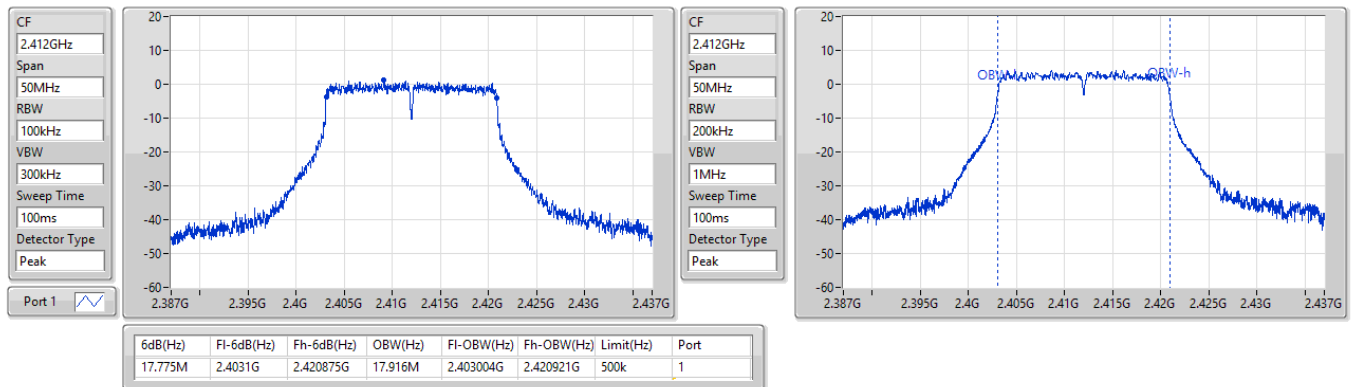
2462MHz



2.4-2.4835GHz_802.11n HT20_Nss1,(MCS0)_1TX

EBW

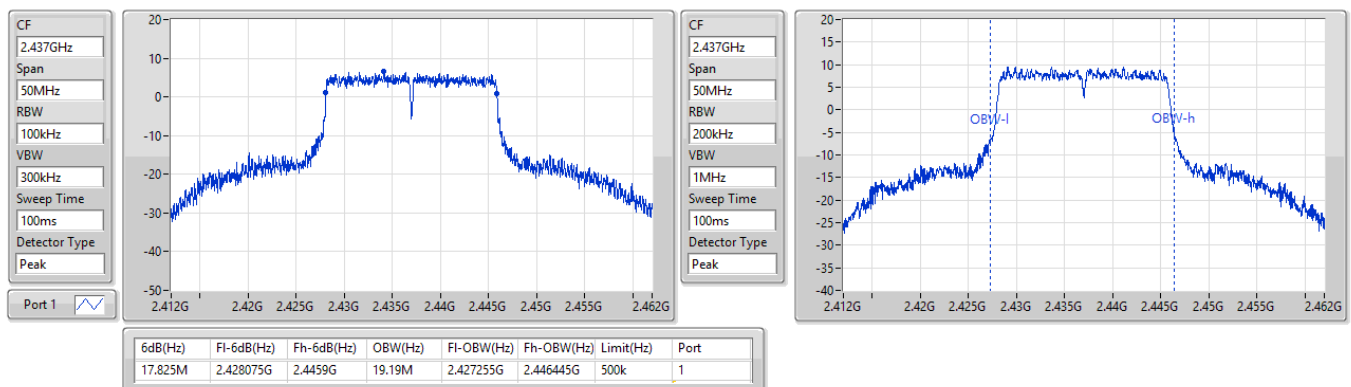
2412MHz



2.4-2.4835GHz_802.11n HT20_Nss1,(MCS0)_1TX

EBW

2437MHz

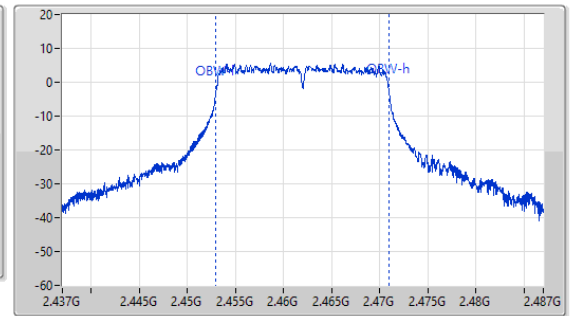
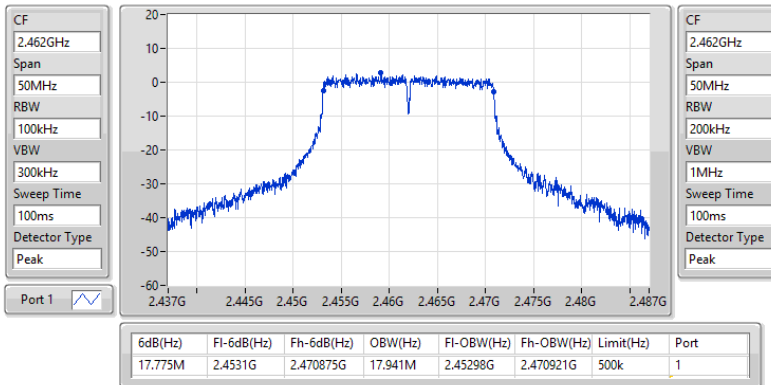




2.4-2.4835GHz_802.11n HT20_Nss1,(MCS0)_1TX

EBW

2462MHz





Conducted Output Power(Peak)

Appendix B.1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	24.88	0.30761
802.11g_Nss1,(6Mbps)_1TX	26.29	0.42560
802.11n HT20_Nss1,(MCS0)_1TX	26.05	0.40272

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.46	24.48	24.48	30.00	25.94	36.00
2437MHz	Pass	1.46	24.88	24.88	30.00	26.34	36.00
2462MHz	Pass	1.46	24.22	24.22	30.00	25.68	36.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.46	25.85	25.85	30.00	27.31	36.00
2437MHz	Pass	1.46	26.29	26.29	30.00	27.75	36.00
2462MHz	Pass	1.46	25.95	25.95	30.00	27.41	36.00
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.46	24.83	24.83	30.00	26.29	36.00
2437MHz	Pass	1.46	26.05	26.05	30.00	27.51	36.00
2462MHz	Pass	1.46	25.13	25.13	30.00	26.59	36.00

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



Conducted Output Power(Average)

Appendix B.2

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	22.61	0.18239
802.11g_Nss1,(6Mbps)_1TX	21.31	0.13521
802.11n HT20_Nss1,(MCS0)_1TX	20.51	0.11246

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.46	21.95	21.95	-	23.41	-
2437MHz	Pass	1.46	22.61	22.61	-	24.07	-
2462MHz	Pass	1.46	21.69	21.69	-	23.15	-
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.46	16.83	16.83	-	18.29	-
2437MHz	Pass	1.46	21.31	21.31	-	22.77	-
2462MHz	Pass	1.46	17.65	17.65	-	19.11	-
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.46	15.55	15.55	-	17.01	-
2437MHz	Pass	1.46	20.51	20.51	-	21.97	-
2462MHz	Pass	1.46	16.66	16.66	-	18.12	-

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

Note: Average power is for reference only.

**Summary**

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	-2.89
802.11g_Nss1,(6Mbps)_1TX	-7.60
802.11n HT20_Nss1,(MCS0)_1TX	-7.67

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	1.46	-4.10	-4.10	8.00
2437MHz	Pass	1.46	-2.89	-2.89	8.00
2462MHz	Pass	1.46	-3.74	-3.74	8.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	1.46	-12.09	-12.09	8.00
2437MHz	Pass	1.46	-7.60	-7.60	8.00
2462MHz	Pass	1.46	-11.08	-11.08	8.00
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	1.46	-12.50	-12.50	8.00
2437MHz	Pass	1.46	-7.67	-7.67	8.00
2462MHz	Pass	1.46	-11.13	-11.13	8.00

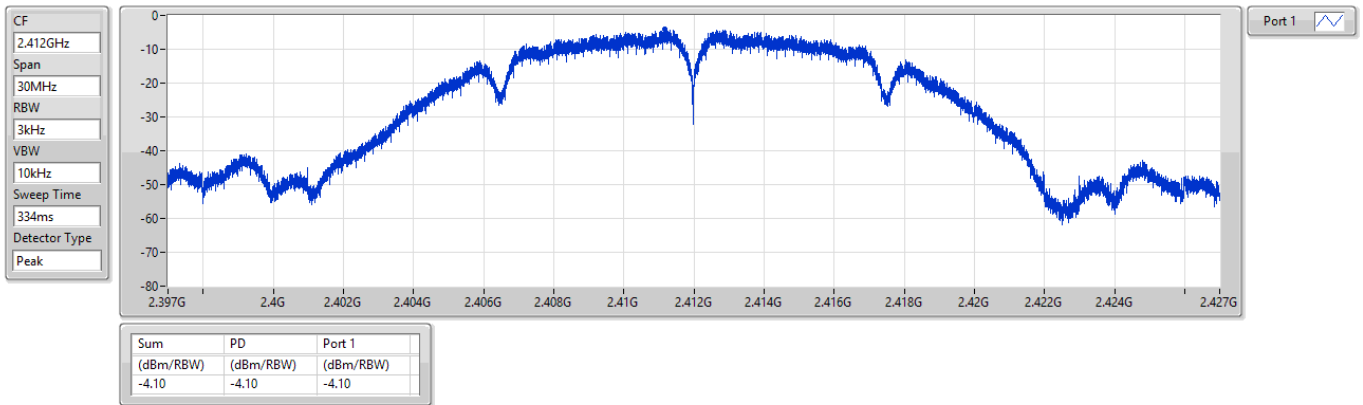
DG = Directional Gain; RBW = 3kHz;

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

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

PSD

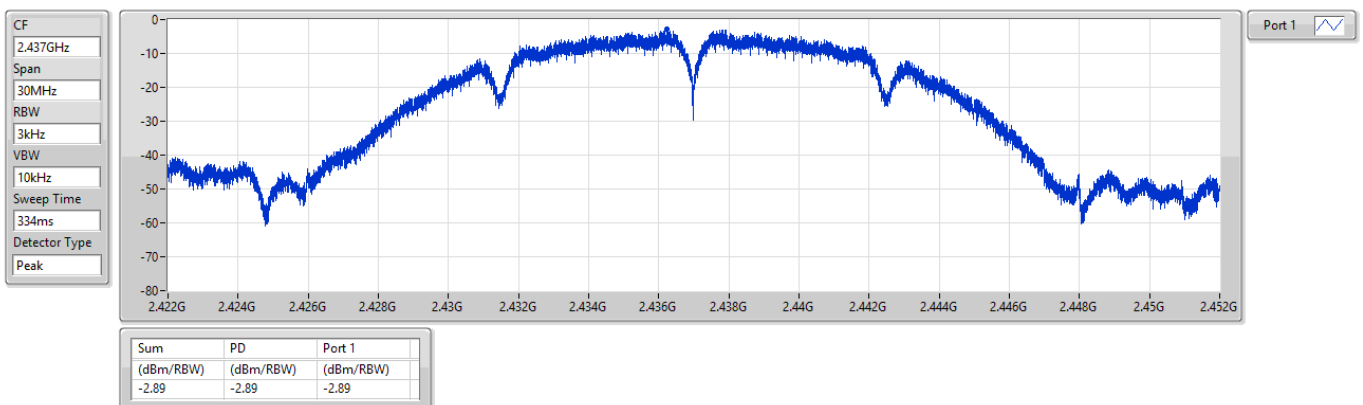
2412MHz



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

PSD

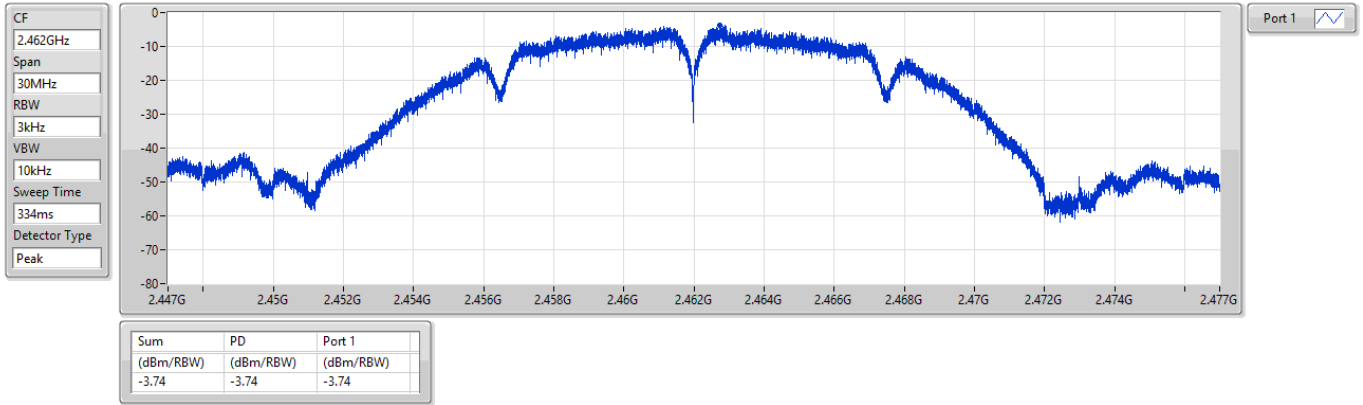
2437MHz



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

PSD

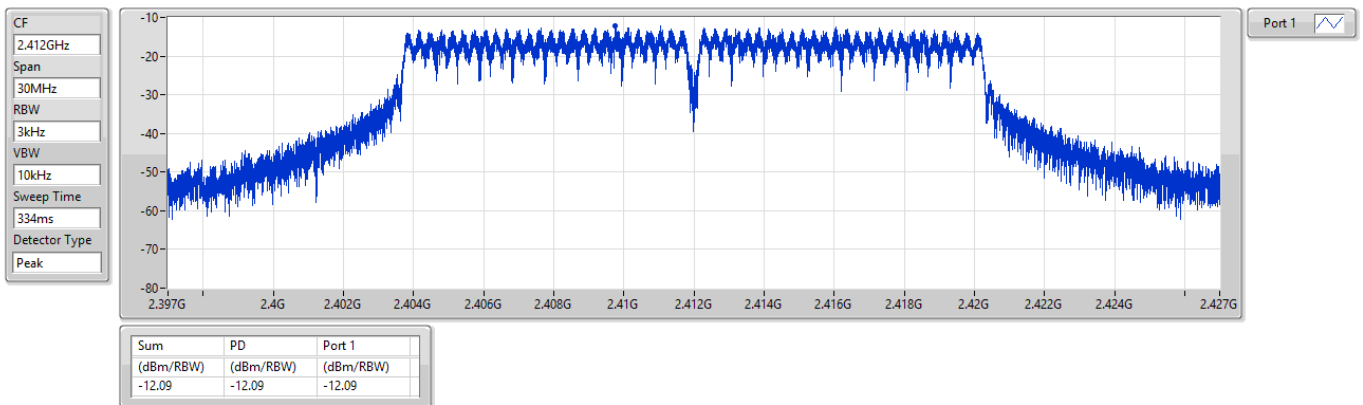
2462MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

PSD

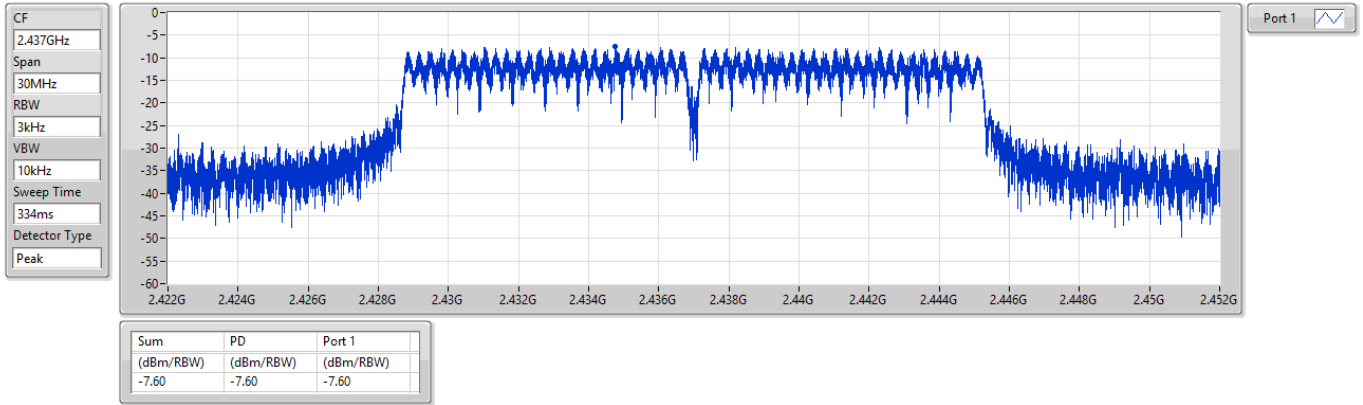
2412MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

PSD

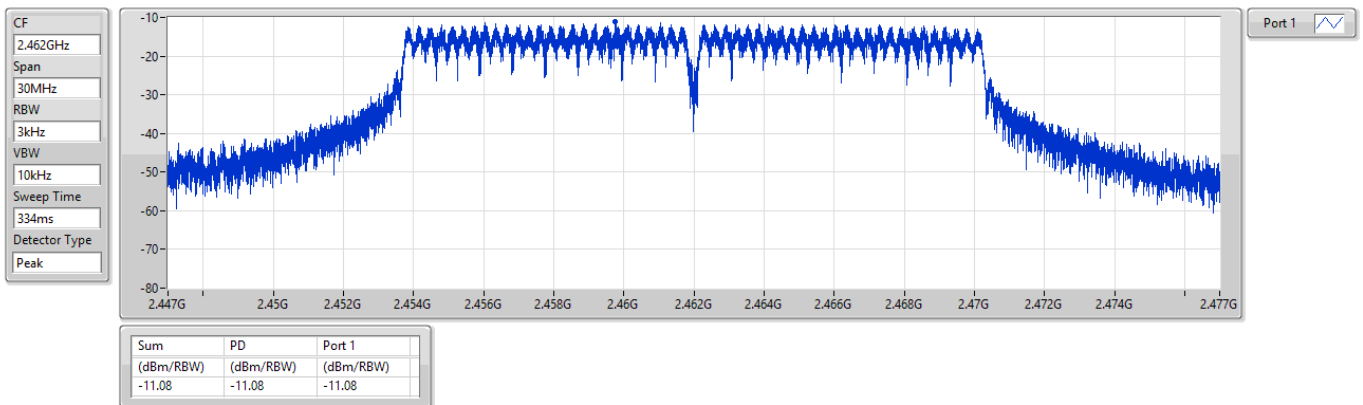
2437MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

PSD

2462MHz

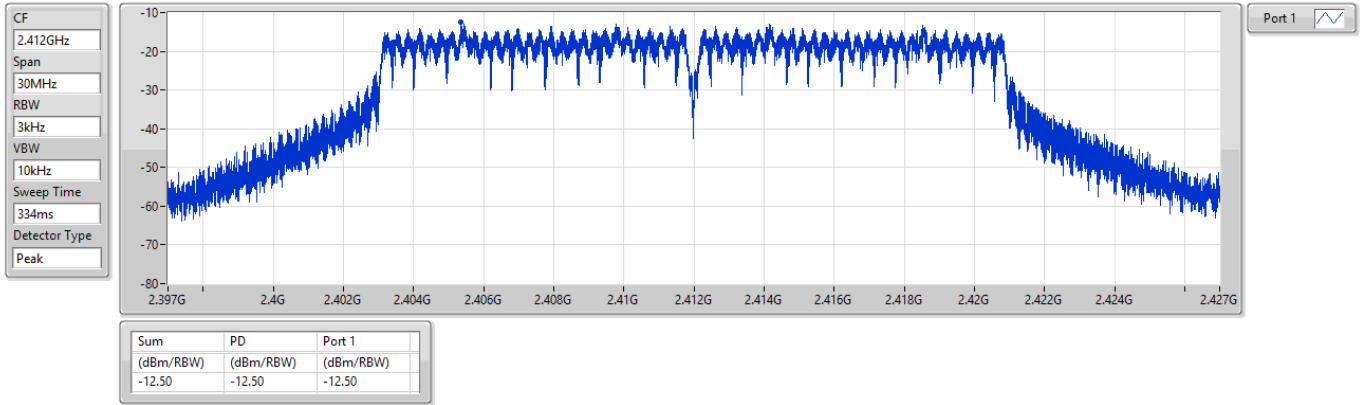




2.4-2.4835GHz_802.11n HT20_Nss1,(MCS0)_1TX

PSD

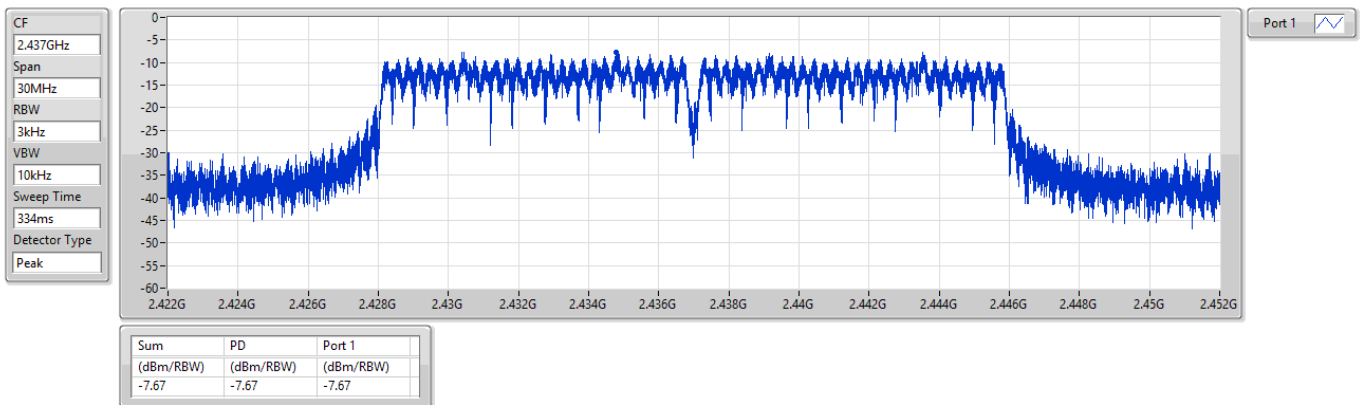
2412MHz



2.4-2.4835GHz_802.11n HT20_Nss1,(MCS0)_1TX

PSD

2437MHz

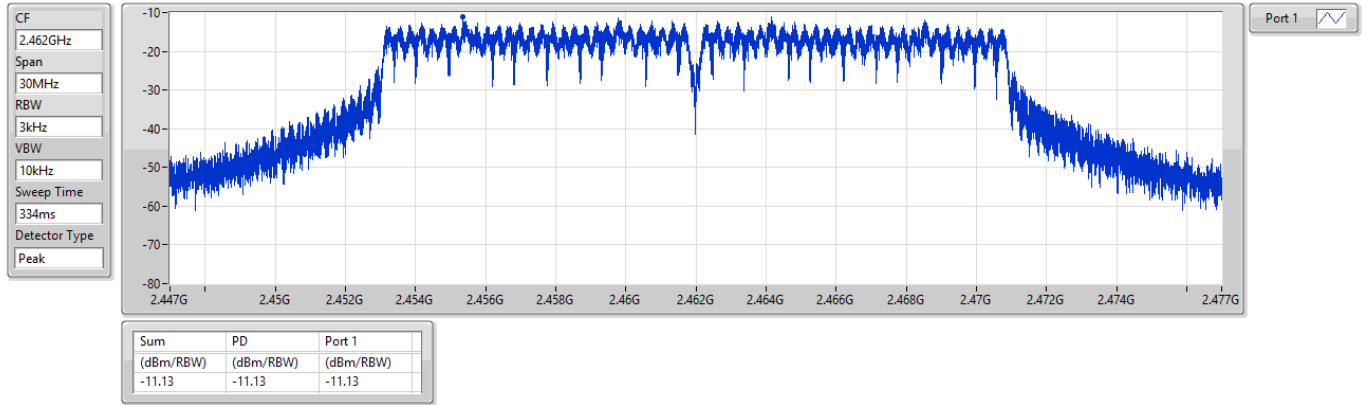




2.4-2.4835GHz_802.11n HT20_Nss1,(MCS0)_1TX

PSD

2462MHz





Unwanted Emissions into Restricted Frequency Bands Below 1GHz

Appendix D.1

Summary

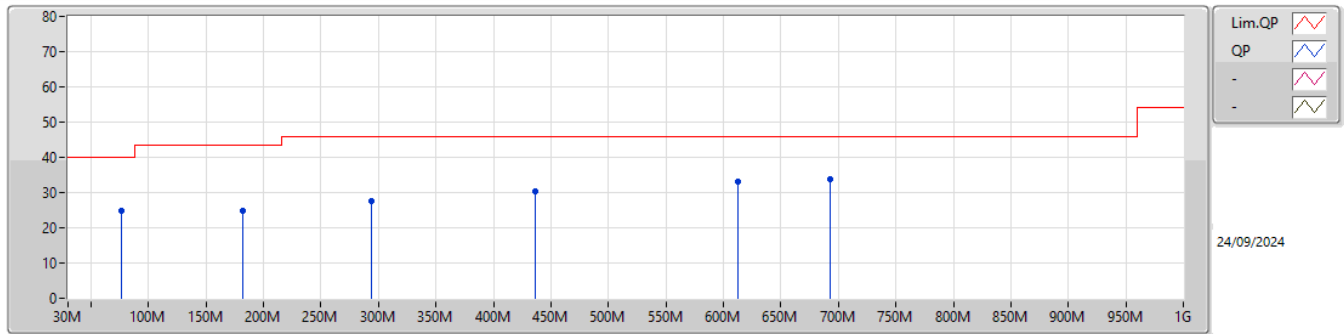
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	PK	685.2M	35.58	46.00	-10.42	Vertical



Unwanted Emissions into Restricted Frequency Bands Below 1GHz

Appendix D.1

Mode 1



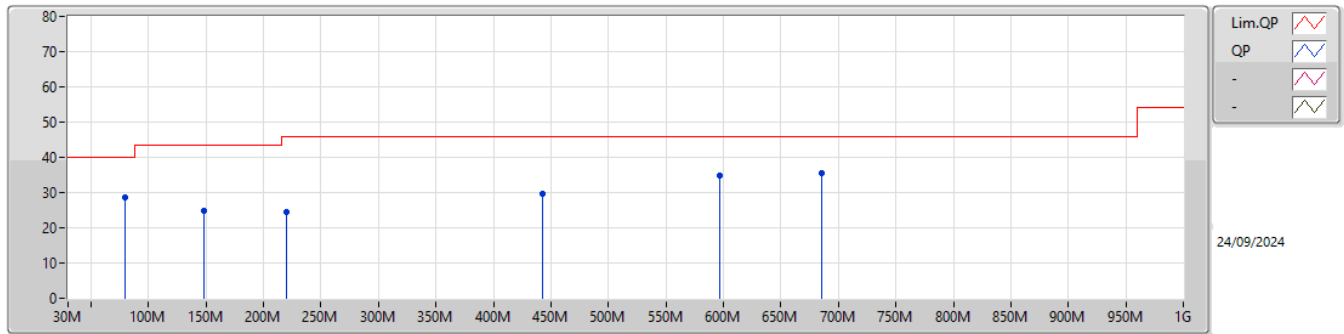
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)		
PK	76.9M	24.80	40.00	-15.20	-12.83	3	Horizontal	-	-	-	37.63	14.54	0.82	28.19		
PK	182.1M	24.97	43.50	-18.53	-10.49	3	Horizontal	-	-	-	35.46	16.50	1.28	28.27		
PK	293.8M	27.44	46.00	-18.56	-8.11	3	Horizontal	-	-	-	35.55	18.48	1.64	28.23		
PK	435.9M	30.20	46.00	-15.80	-4.51	3	Horizontal	-	-	-	34.71	21.72	1.95	28.18		
PK	612.9M	32.97	46.00	-13.03	-0.52	3	Horizontal	-	-	-	33.49	25.12	2.52	28.16		
PK	692.9M	33.69	46.00	-12.31	0.62	3	Horizontal	-	-	-	33.07	25.80	2.84	28.02		



Unwanted Emissions into Restricted Frequency Bands Below 1GHz

Appendix D.1

Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)		
PK	80M	28.67	40.00	-11.33	-13.55	3	Vertical	-	-	-	42.22	13.80	0.84	28.19		
PK	148.4M	24.86	43.50	-18.64	-8.85	3	Vertical	-	-	-	33.71	18.26	1.14	28.25		
PK	220.1M	24.56	46.00	-21.44	-11.78	3	Vertical	-	-	-	36.34	15.10	1.39	28.27		
PK	443.2M	29.53	46.00	-16.47	-4.35	3	Vertical	-	-	-	33.88	21.86	1.97	28.18		
PK	596.3M	34.88	46.00	-11.12	-1.09	3	Vertical	-	-	-	35.97	24.63	2.46	28.18		
PK	685.2M	35.58	46.00	-10.42	0.56	3	Vertical	-	-	-	35.02	25.80	2.80	28.04		



Unwanted Emissions into Restricted Frequency Bands Above 1GHz

Appendix D.2

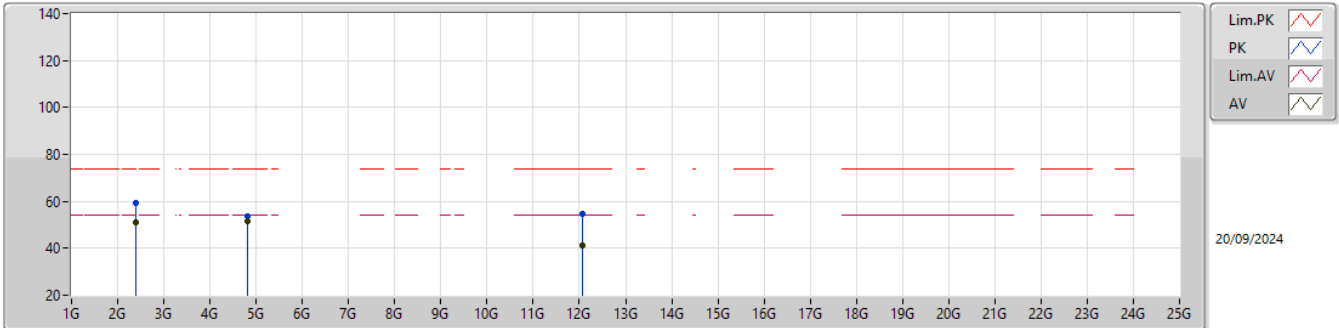
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	Pass	AV	4.824G	52.96	54.00	-1.04	3	Vertical	131	1.91	-
802.11g_Nss1,(6Mbps)_1TX	Pass	PK	2.39G	72.60	74.00	-1.40	3	Horizontal	9	1.02	-
802.11n HT20_Nss1,(MCS0)_1TX	Pass	PK	2.39G	72.85	74.00	-1.15	3	Horizontal	8	1.04	-



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

2412MHz_TX

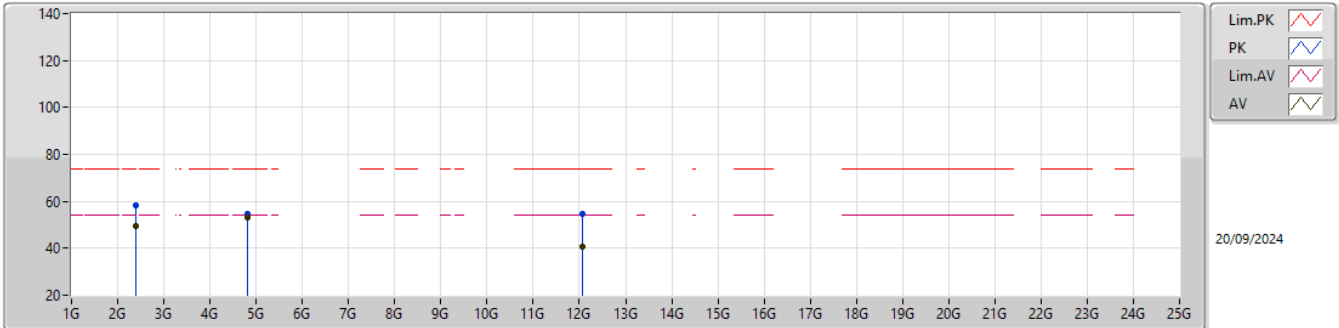


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)				
AV	2.39G	51.24	54.00	-2.76	55.58	3	Horizontal	9	1.03	-	27.60	4.95	36.89				
PK	2.39G	59.21	74.00	-14.79	63.55	3	Horizontal	9	1.03	-	27.60	4.95	36.89				
AV	4.824G	51.69	54.00	-2.31	52.10	3	Horizontal	137	2.10	-	31.25	6.87	38.53				
PK	4.824G	53.87	74.00	-20.13	54.28	3	Horizontal	137	2.10	-	31.25	6.87	38.53				
AV	12.06G	41.01	54.00	-12.99	34.60	3	Horizontal	20	1.00	-	39.22	10.03	42.84				
PK	12.06G	54.55	74.00	-19.45	48.14	3	Horizontal	20	1.00	-	39.22	10.03	42.84				



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

2412MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.39G	49.59	54.00	-4.41	53.93	3	Vertical	302	1.34	-	27.60	4.95	36.89			
PK	2.39G	58.18	74.00	-15.82	62.52	3	Vertical	302	1.34	-	27.60	4.95	36.89			
AV	4.824G	52.96	54.00	-1.04	53.37	3	Vertical	131	1.91	-	31.25	6.87	38.53			
PK	4.824G	54.73	74.00	-19.27	55.14	3	Vertical	131	1.91	-	31.25	6.87	38.53			
AV	12.06G	40.65	54.00	-13.35	34.24	3	Vertical	31	1.00	-	39.22	10.03	42.84			
PK	12.06G	54.57	74.00	-19.43	48.16	3	Vertical	31	1.00	-	39.22	10.03	42.84			

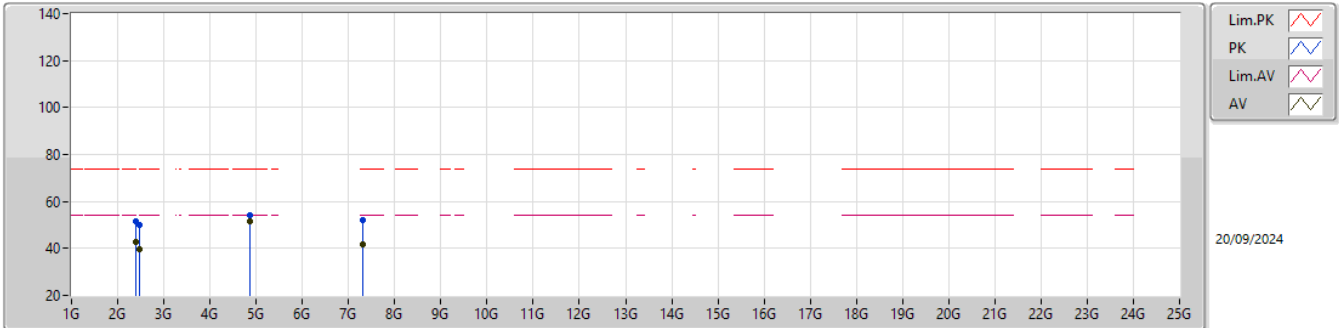


Unwanted Emissions into Restricted Frequency Bands Above 1GHz

Appendix D.2

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

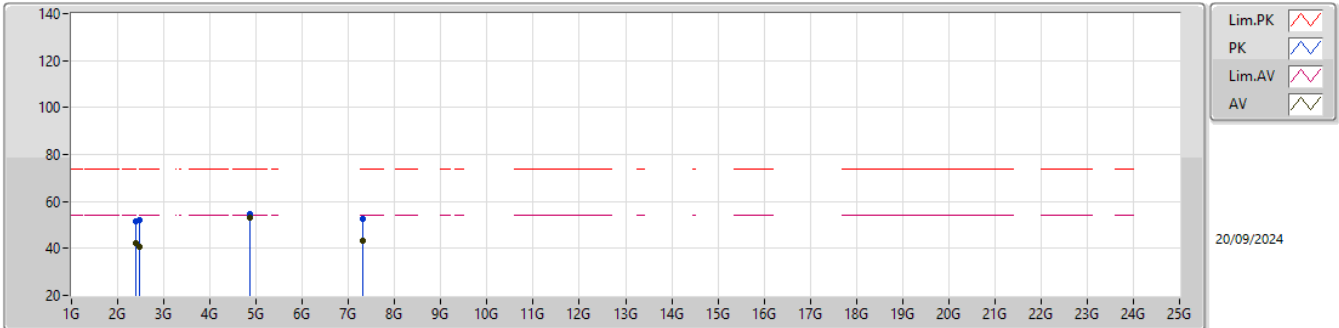
2437MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.39G	42.71	54.00	-11.29	47.05	3	Horizontal	5	1.00	-	27.60	4.95	36.89			
PK	2.39G	51.60	74.00	-22.40	55.94	3	Horizontal	5	1.00	-	27.60	4.95	36.89			
AV	2.4835G	39.72	54.00	-14.28	44.44	3	Horizontal	5	1.00	-	27.20	5.06	36.98			
PK	2.4835G	50.24	74.00	-23.76	54.96	3	Horizontal	5	1.00	-	27.20	5.06	36.98			
AV	4.874G	51.73	54.00	-2.27	52.22	3	Horizontal	159	1.00	-	31.15	6.92	38.56			
PK	4.874G	54.10	74.00	-19.90	54.59	3	Horizontal	159	1.00	-	31.15	6.92	38.56			
AV	7.311G	41.61	54.00	-12.39	36.38	3	Horizontal	59	1.00	-	36.18	8.43	39.38			
PK	7.311G	52.10	74.00	-21.90	46.87	3	Horizontal	59	1.00	-	36.18	8.43	39.38			

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

2437MHz_TX

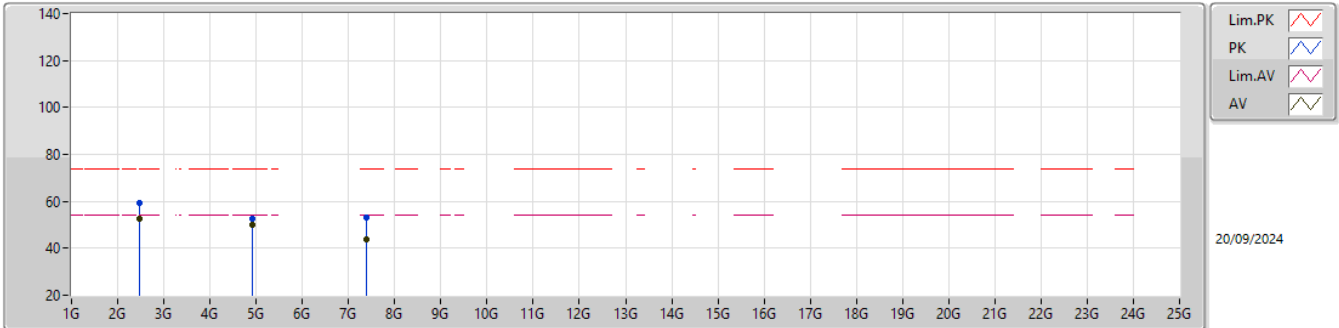


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.39G	42.02	54.00	-11.98	46.36	3	Vertical	301	1.28	-	27.60	4.95	36.89			
PK	2.39G	51.60	74.00	-22.40	55.94	3	Vertical	301	1.28	-	27.60	4.95	36.89			
AV	2.4835G	40.69	54.00	-13.31	45.41	3	Vertical	301	1.28	-	27.20	5.06	36.98			
PK	2.4835G	51.88	74.00	-22.12	56.60	3	Vertical	301	1.28	-	27.20	5.06	36.98			
AV	4.874G	52.87	54.00	-1.13	53.36	3	Vertical	132	1.91	-	31.15	6.92	38.56			
PK	4.874G	54.58	74.00	-19.42	55.07	3	Vertical	132	1.91	-	31.15	6.92	38.56			
AV	7.311G	43.12	54.00	-10.88	37.89	3	Vertical	206	1.00	-	36.18	8.43	39.38			
PK	7.311G	52.36	74.00	-21.64	47.13	3	Vertical	206	1.00	-	36.18	8.43	39.38			



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

2462MHz_TX

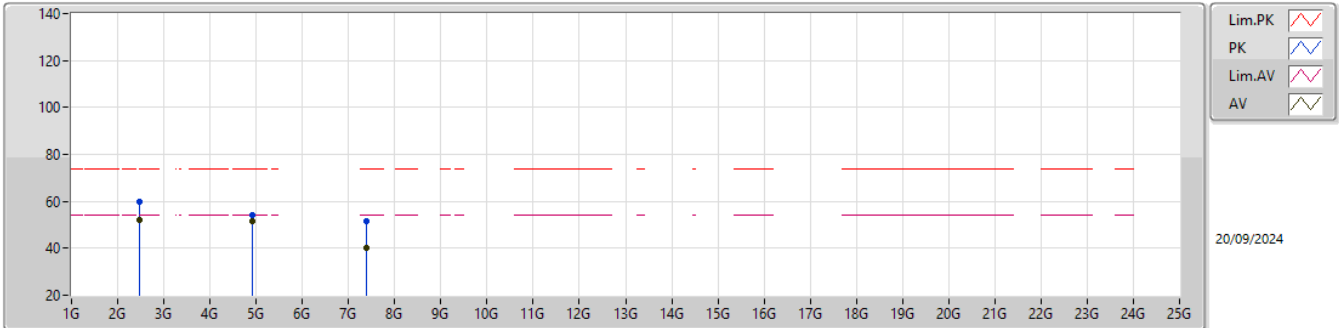


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.4835G	52.66	54.00	-1.34	57.38	3	Horizontal	1	1.00	-	27.20	5.06	36.98			
PK	2.4835G	59.53	74.00	-14.47	64.25	3	Horizontal	1	1.00	-	27.20	5.06	36.98			
AV	4.924G	50.25	54.00	-3.75	50.69	3	Horizontal	159	2.39	-	31.20	6.96	38.60			
PK	4.924G	52.63	74.00	-21.37	53.07	3	Horizontal	159	2.39	-	31.20	6.96	38.60			
AV	7.386G	43.76	54.00	-10.24	38.67	3	Horizontal	130	2.00	-	36.10	8.47	39.48			
PK	7.386G	52.91	74.00	-21.09	47.82	3	Horizontal	130	2.00	-	36.10	8.47	39.48			



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

2462MHz_TX

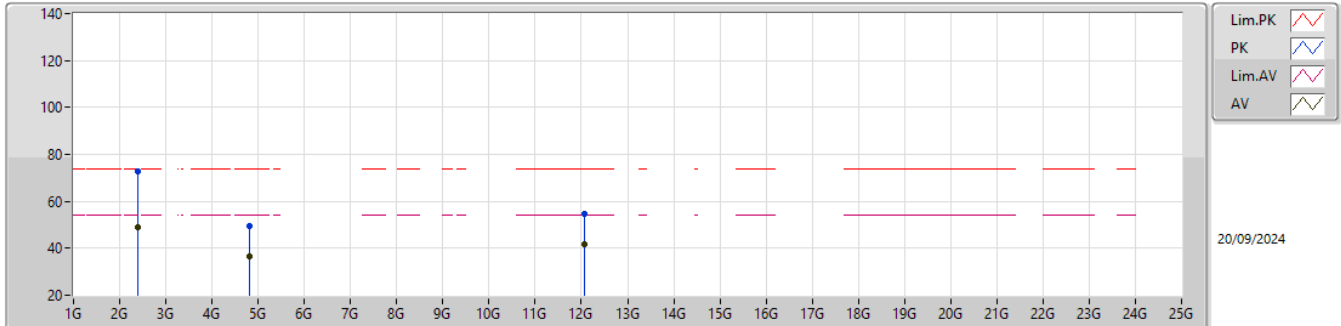


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.4835G	51.94	54.00	-2.06	56.66	3	Vertical	302	1.23	-	27.20	5.06	36.98			
PK	2.4835G	60.07	74.00	-13.93	64.79	3	Vertical	302	1.23	-	27.20	5.06	36.98			
AV	4.924G	51.37	54.00	-2.63	51.81	3	Vertical	125	2.39	-	31.20	6.96	38.60			
PK	4.924G	54.04	74.00	-19.96	54.48	3	Vertical	125	2.39	-	31.20	6.96	38.60			
AV	7.386G	40.18	54.00	-13.82	35.09	3	Vertical	278	2.00	-	36.10	8.47	39.48			
PK	7.386G	51.51	74.00	-22.49	46.42	3	Vertical	278	2.00	-	36.10	8.47	39.48			



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

2412MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)				
AV	2.39G	49.02	54.00	-4.98	53.36	3	Horizontal	9	1.02	-	27.60	4.95	36.89				
PK	2.39G	72.60	74.00	-1.40	76.94	3	Horizontal	9	1.02	-	27.60	4.95	36.89				
AV	4.824G	36.42	54.00	-17.58	36.83	3	Horizontal	144	2.10	-	31.25	6.87	38.53				
PK	4.824G	49.64	74.00	-24.36	50.05	3	Horizontal	144	2.10	-	31.25	6.87	38.53				
AV	12.06G	41.80	54.00	-12.20	35.39	3	Horizontal	47	1.00	-	39.22	10.03	42.84				
PK	12.06G	54.90	74.00	-19.10	48.49	3	Horizontal	47	1.00	-	39.22	10.03	42.84				

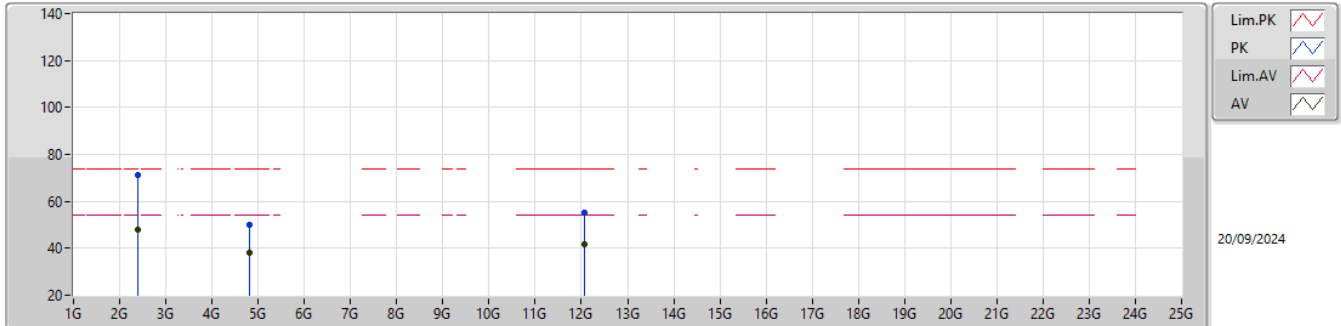


Unwanted Emissions into Restricted Frequency Bands Above 1GHz

Appendix D.2

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

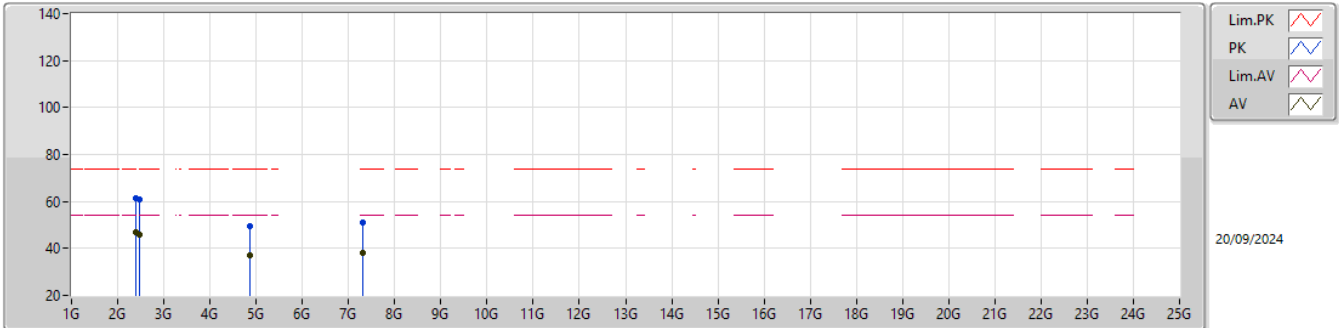
2412MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.39G	47.69	54.00	-6.31	52.03	3	Vertical	301	1.35	-	27.60	4.95	36.89			
PK	2.39G	71.10	74.00	-2.90	75.44	3	Vertical	301	1.35	-	27.60	4.95	36.89			
AV	4.824G	38.02	54.00	-15.98	38.43	3	Vertical	279	2.11	-	31.25	6.87	38.53			
PK	4.824G	49.95	74.00	-24.05	50.36	3	Vertical	279	2.11	-	31.25	6.87	38.53			
AV	12.06G	41.66	54.00	-12.34	35.25	3	Vertical	29	1.00	-	39.22	10.03	42.84			
PK	12.06G	55.08	74.00	-18.92	48.67	3	Vertical	29	1.00	-	39.22	10.03	42.84			

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

2437MHz_TX

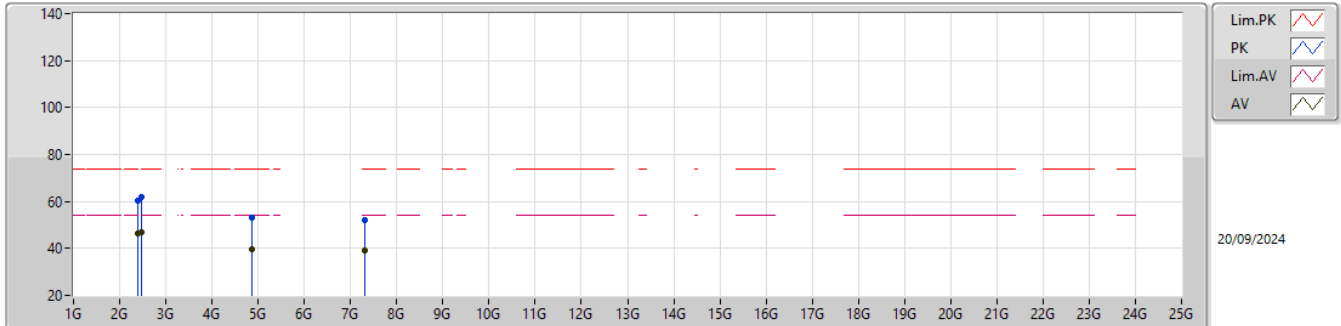


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.39G	47.04	54.00	-6.96	51.38	3	Horizontal	4	1.00	-	27.60	4.95	36.89			
PK	2.39G	61.41	74.00	-12.59	65.75	3	Horizontal	4	1.00	-	27.60	4.95	36.89			
AV	2.4835G	46.01	54.00	-7.99	50.73	3	Horizontal	4	1.00	-	27.20	5.06	36.98			
PK	2.4835G	60.61	74.00	-13.39	65.33	3	Horizontal	4	1.00	-	27.20	5.06	36.98			
AV	4.874G	37.05	54.00	-16.95	37.54	3	Horizontal	138	2.12	-	31.15	6.92	38.56			
PK	4.874G	49.59	74.00	-24.41	50.08	3	Horizontal	138	2.12	-	31.15	6.92	38.56			
AV	7.311G	37.97	54.00	-16.03	32.74	3	Horizontal	78	1.00	-	36.18	8.43	39.38			
PK	7.311G	51.19	74.00	-22.81	45.96	3	Horizontal	78	1.00	-	36.18	8.43	39.38			



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

2437MHz_TX

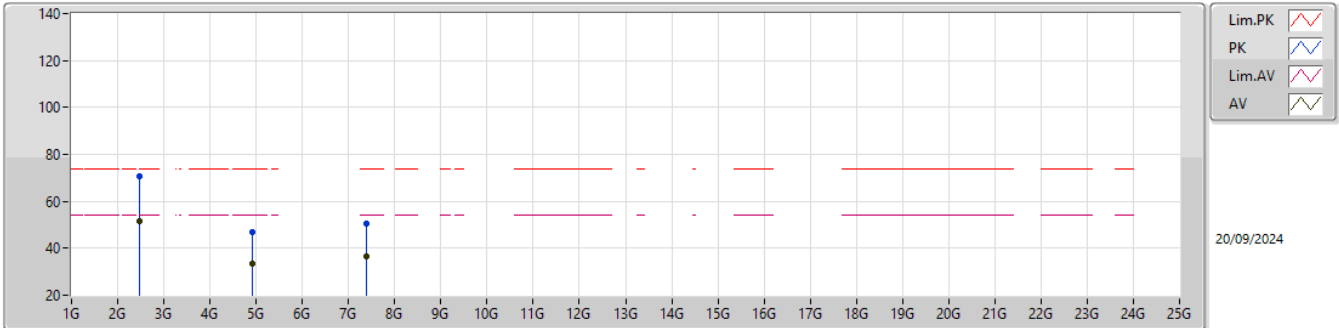


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.39G	46.49	54.00	-7.51	50.83	3	Vertical	303	1.00	-	27.60	4.95	36.89			
PK	2.39G	60.29	74.00	-13.71	64.63	3	Vertical	303	1.00	-	27.60	4.95	36.89			
AV	2.4835G	46.93	54.00	-7.07	51.65	3	Vertical	303	1.00	-	27.20	5.06	36.98			
PK	2.4835G	61.99	74.00	-12.01	66.71	3	Vertical	303	1.00	-	27.20	5.06	36.98			
AV	4.874G	39.82	54.00	-14.18	40.31	3	Vertical	258	2.13	-	31.15	6.92	38.56			
PK	4.874G	52.92	74.00	-21.08	53.41	3	Vertical	258	2.13	-	31.15	6.92	38.56			
AV	7.311G	39.13	54.00	-14.87	33.90	3	Vertical	203	1.00	-	36.18	8.43	39.38			
PK	7.311G	52.18	74.00	-21.82	46.95	3	Vertical	203	1.00	-	36.18	8.43	39.38			



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

2462MHz_TX

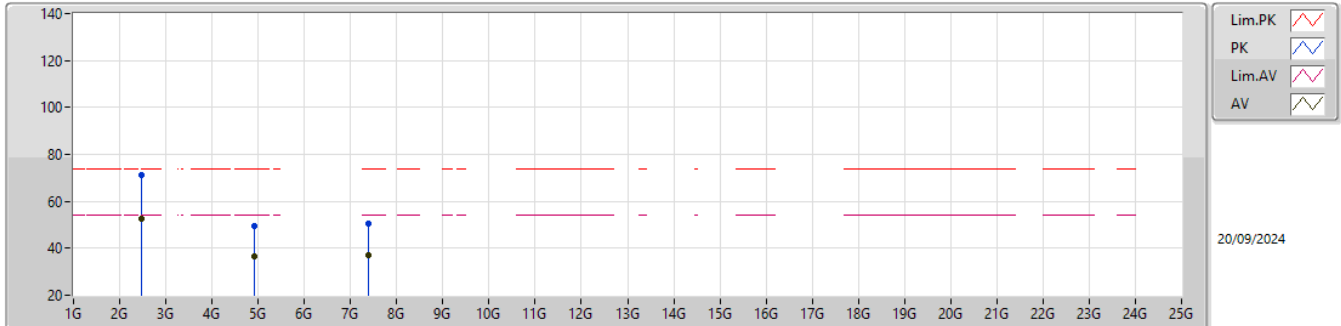


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.4835G	51.31	54.00	-2.69	56.03	3	Horizontal	2	1.00	-	27.20	5.06	36.98			
PK	2.4835G	70.71	74.00	-3.29	75.43	3	Horizontal	2	1.00	-	27.20	5.06	36.98			
AV	4.924G	33.57	54.00	-20.43	34.01	3	Horizontal	139	1.00	-	31.20	6.96	38.60			
PK	4.924G	46.92	74.00	-27.08	47.36	3	Horizontal	139	1.00	-	31.20	6.96	38.60			
AV	7.386G	36.50	54.00	-17.50	31.41	3	Horizontal	42	1.00	-	36.10	8.47	39.48			
PK	7.386G	50.63	74.00	-23.37	45.54	3	Horizontal	42	1.00	-	36.10	8.47	39.48			



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

2462MHz_TX

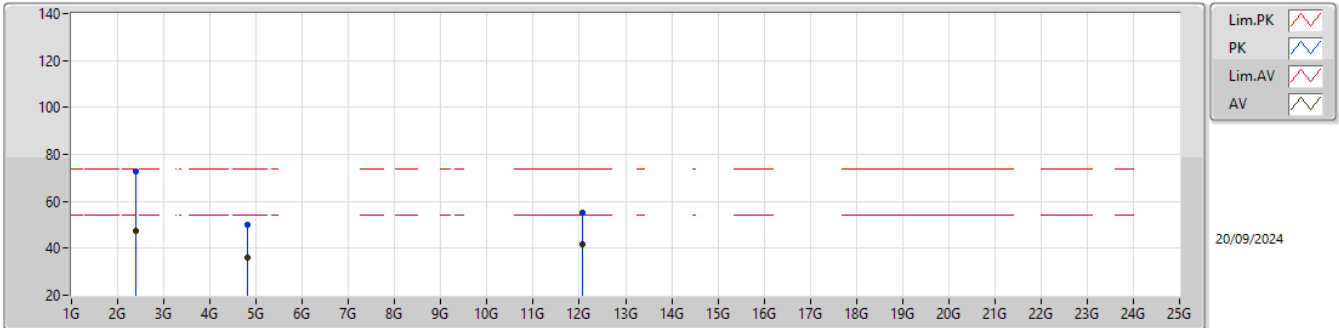


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.4835G	52.39	54.00	-1.61	57.11	3	Vertical	305	1.00	-	27.20	5.06	36.98			
PK	2.4835G	71.39	74.00	-2.61	76.11	3	Vertical	305	1.00	-	27.20	5.06	36.98			
AV	4.924G	36.62	54.00	-17.38	37.06	3	Vertical	276	2.90	-	31.20	6.96	38.60			
PK	4.924G	49.53	74.00	-24.47	49.97	3	Vertical	276	2.90	-	31.20	6.96	38.60			
AV	7.386G	37.12	54.00	-16.88	32.03	3	Vertical	15	1.00	-	36.10	8.47	39.48			
PK	7.386G	50.31	74.00	-23.69	45.22	3	Vertical	15	1.00	-	36.10	8.47	39.48			



2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_1TX

2412MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)				
AV	2.39G	47.55	54.00	-6.45	51.89	3	Horizontal	8	1.04	-	27.60	4.95	36.89				
PK	2.39G	72.85	74.00	-1.15	77.19	3	Horizontal	8	1.04	-	27.60	4.95	36.89				
AV	4.824G	35.99	54.00	-18.01	36.40	3	Horizontal	149	2.10	-	31.25	6.87	38.53				
PK	4.824G	49.82	74.00	-24.18	50.23	3	Horizontal	149	2.10	-	31.25	6.87	38.53				
AV	12.06G	41.92	54.00	-12.08	35.51	3	Horizontal	50	1.00	-	39.22	10.03	42.84				
PK	12.06G	55.17	74.00	-18.83	48.76	3	Horizontal	50	1.00	-	39.22	10.03	42.84				

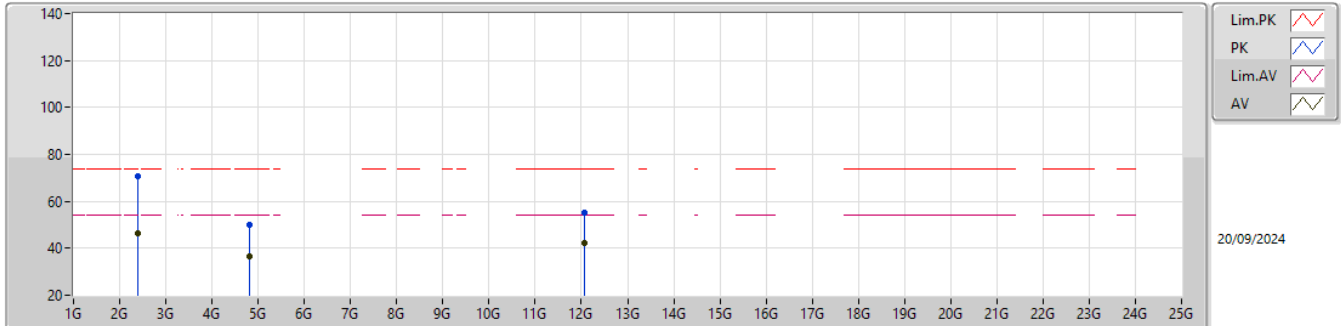


Unwanted Emissions into Restricted Frequency Bands Above 1GHz

Appendix D.2

2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_1TX

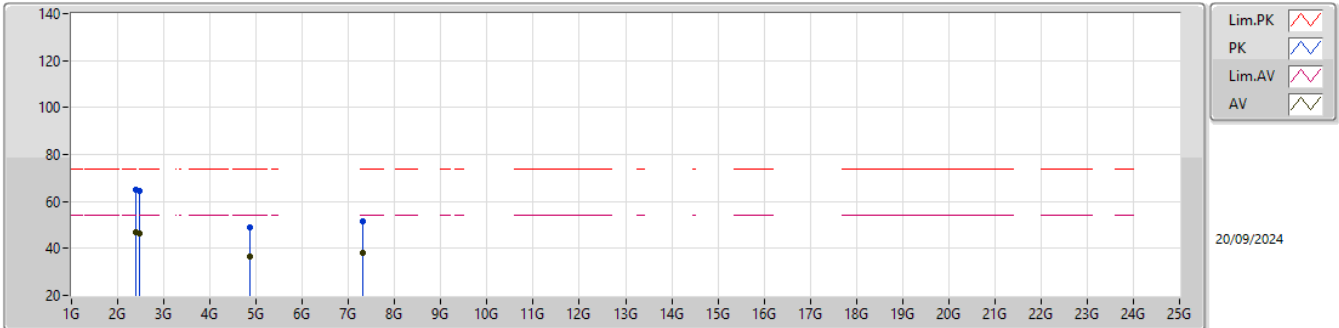
2412MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)				
AV	2.39G	46.42	54.00	-7.58	50.76	3	Vertical	302	1.37	-	27.60	4.95	36.89				
PK	2.39G	70.44	74.00	-3.56	74.78	3	Vertical	302	1.37	-	27.60	4.95	36.89				
AV	4.824G	36.51	54.00	-17.49	36.92	3	Vertical	260	2.11	-	31.25	6.87	38.53				
PK	4.824G	50.04	74.00	-23.96	50.45	3	Vertical	260	2.11	-	31.25	6.87	38.53				
AV	12.06G	42.03	54.00	-11.97	35.62	3	Vertical	25	1.00	-	39.22	10.03	42.84				
PK	12.06G	54.98	74.00	-19.02	48.57	3	Vertical	25	1.00	-	39.22	10.03	42.84				

2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_1TX

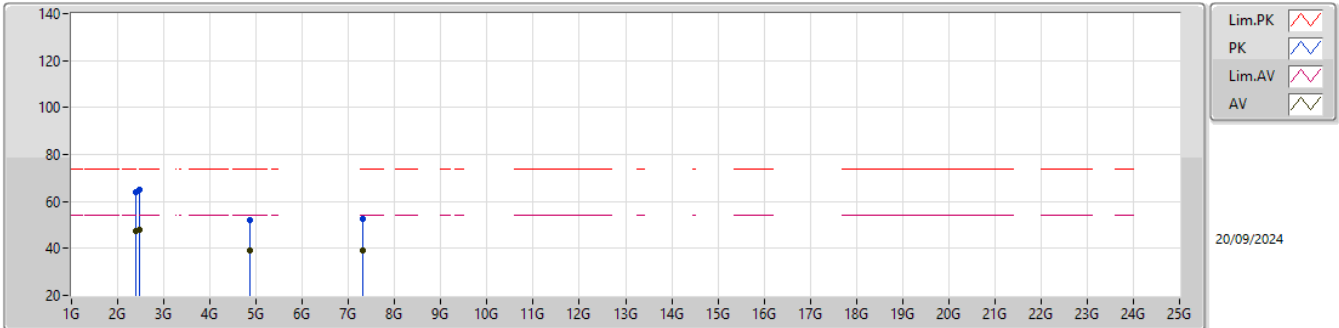
2437MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.39G	47.08	54.00	-6.92	51.42	3	Horizontal	3	1.00	-	27.60	4.95	36.89			
PK	2.39G	65.03	74.00	-8.97	69.37	3	Horizontal	3	1.00	-	27.60	4.95	36.89			
AV	2.4835G	46.32	54.00	-7.68	51.04	3	Horizontal	3	1.00	-	27.20	5.06	36.98			
PK	2.4835G	64.33	74.00	-9.67	69.05	3	Horizontal	3	1.00	-	27.20	5.06	36.98			
AV	4.874G	36.42	54.00	-17.58	36.91	3	Horizontal	143	2.12	-	31.15	6.92	38.56			
PK	4.874G	48.95	74.00	-25.05	49.44	3	Horizontal	143	2.12	-	31.15	6.92	38.56			
AV	7.311G	38.02	54.00	-15.98	32.79	3	Horizontal	65	1.00	-	36.18	8.43	39.38			
PK	7.311G	51.78	74.00	-22.22	46.55	3	Horizontal	65	1.00	-	36.18	8.43	39.38			

2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_1TX

2437MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.39G	47.49	54.00	-6.51	51.83	3	Vertical	301	1.04	-	27.60	4.95	36.89			
PK	2.39G	63.77	74.00	-10.23	68.11	3	Vertical	301	1.04	-	27.60	4.95	36.89			
AV	2.4835G	48.08	54.00	-5.92	52.80	3	Vertical	301	1.04	-	27.20	5.06	36.98			
PK	2.4835G	65.05	74.00	-8.95	69.77	3	Vertical	301	1.04	-	27.20	5.06	36.98			
AV	4.874G	39.05	54.00	-14.95	39.54	3	Vertical	257	2.14	-	31.15	6.92	38.56			
PK	4.874G	52.14	74.00	-21.86	52.63	3	Vertical	257	2.14	-	31.15	6.92	38.56			
AV	7.311G	38.95	54.00	-15.05	33.72	3	Vertical	204	1.00	-	36.18	8.43	39.38			
PK	7.311G	52.66	74.00	-21.34	47.43	3	Vertical	204	1.00	-	36.18	8.43	39.38			

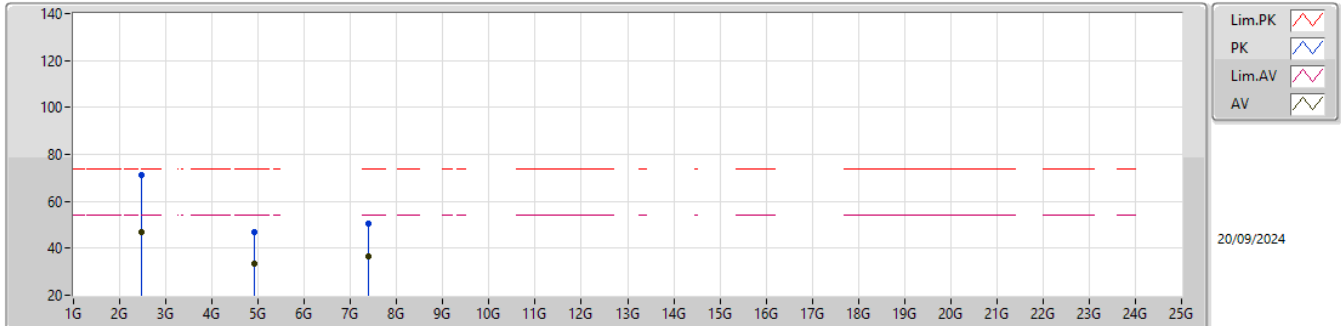


Unwanted Emissions into Restricted Frequency Bands Above 1GHz

Appendix D.2

2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_1TX

2462MHz_TX

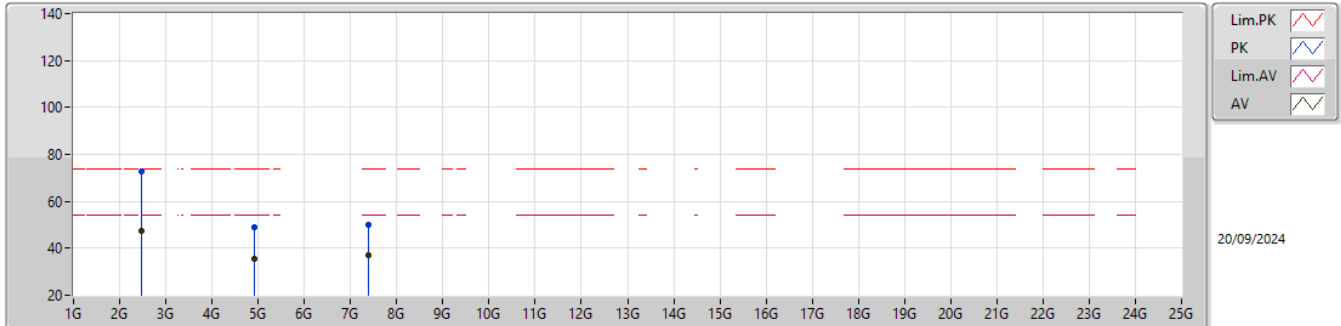


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)				
AV	2.4835G	46.99	54.00	-7.01	51.71	3	Horizontal	1	1.03	-	27.20	5.06	36.98				
PK	2.4835G	71.29	74.00	-2.71	76.01	3	Horizontal	1	1.03	-	27.20	5.06	36.98				
AV	4.924G	33.20	54.00	-20.80	33.64	3	Horizontal	141	2.10	-	31.20	6.96	38.60				
PK	4.924G	46.98	74.00	-27.02	47.42	3	Horizontal	141	2.10	-	31.20	6.96	38.60				
AV	7.386G	36.38	54.00	-17.62	31.29	3	Horizontal	44	1.00	-	36.10	8.47	39.48				
PK	7.386G	50.35	74.00	-23.65	45.26	3	Horizontal	44	1.00	-	36.10	8.47	39.48				



2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_1TX

2462MHz_TX



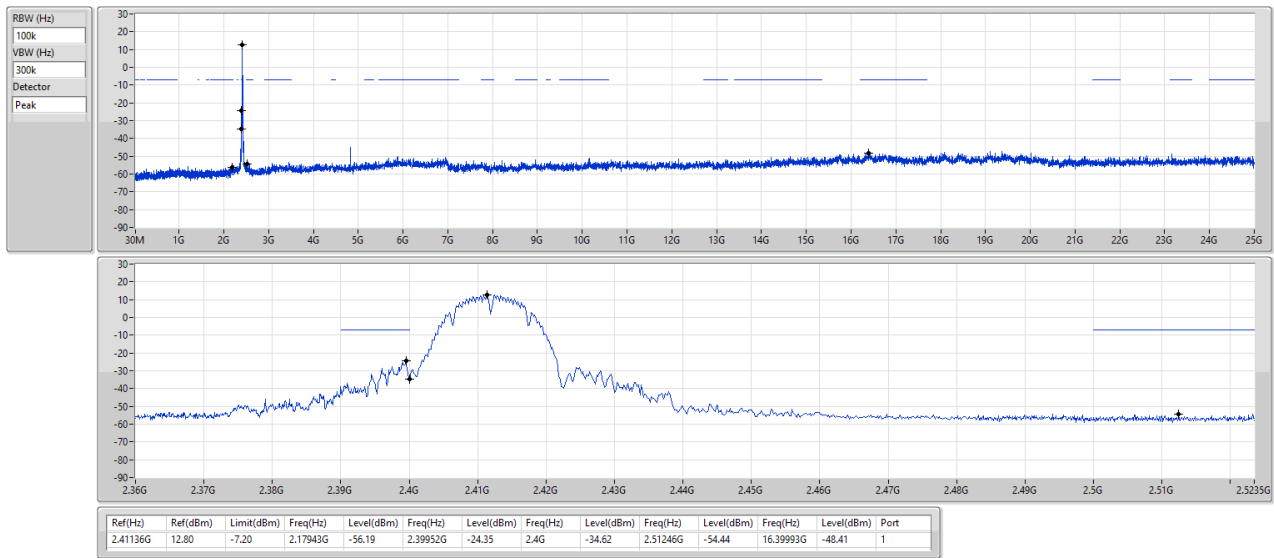
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AV	2.4835G	47.28	54.00	-6.72	52.00	3	Vertical	303	1.00	-	27.20	5.06	36.98			
PK	2.4835G	72.84	74.00	-1.16	77.56	3	Vertical	303	1.00	-	27.20	5.06	36.98			
AV	4.924G	35.38	54.00	-18.62	35.82	3	Vertical	293	2.89	-	31.20	6.96	38.60			
PK	4.924G	48.96	74.00	-25.04	49.40	3	Vertical	293	2.89	-	31.20	6.96	38.60			
AV	7.386G	37.24	54.00	-16.76	32.15	3	Vertical	22	1.00	-	36.10	8.47	39.48			
PK	7.386G	50.19	74.00	-23.81	45.10	3	Vertical	22	1.00	-	36.10	8.47	39.48			



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

CSEndB

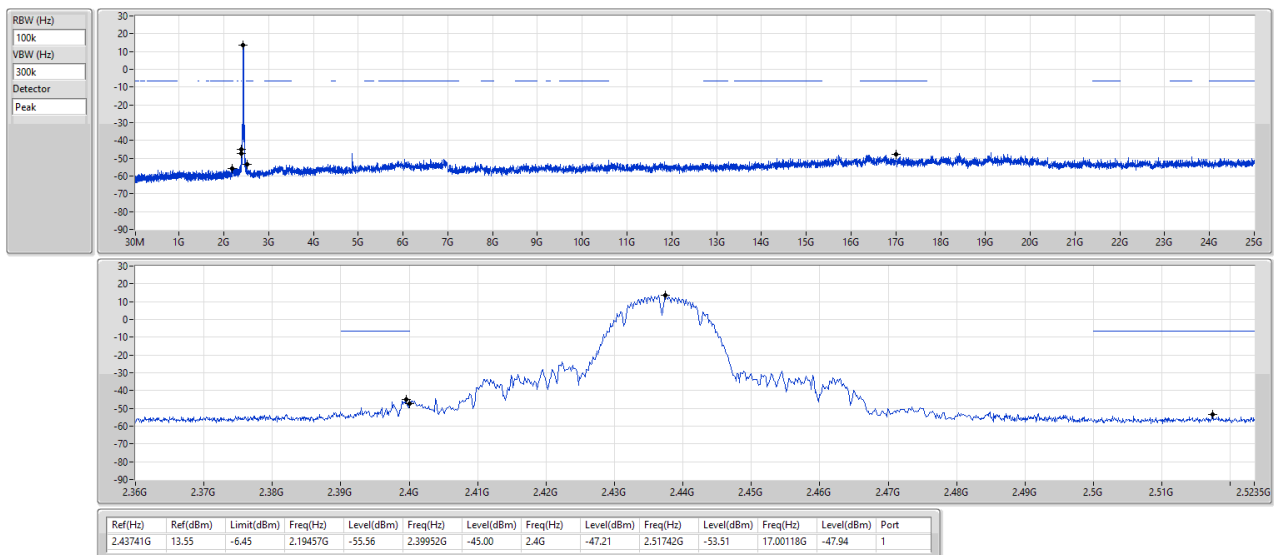
2412MHz



2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

CSEndB

2437MHz

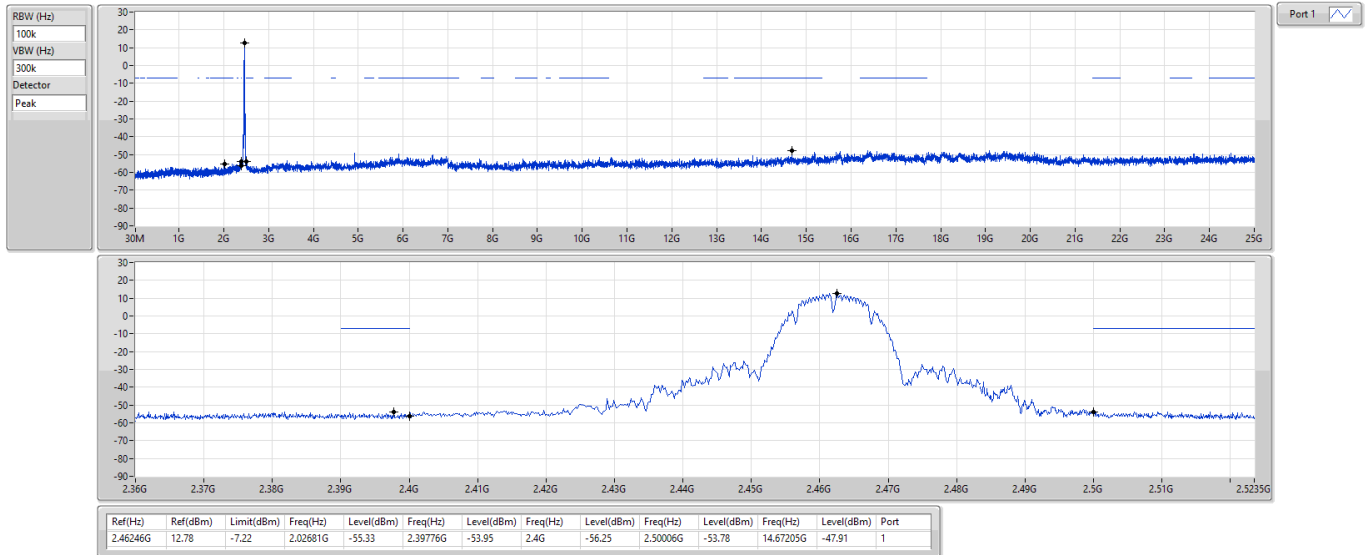




2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX

CSEndB

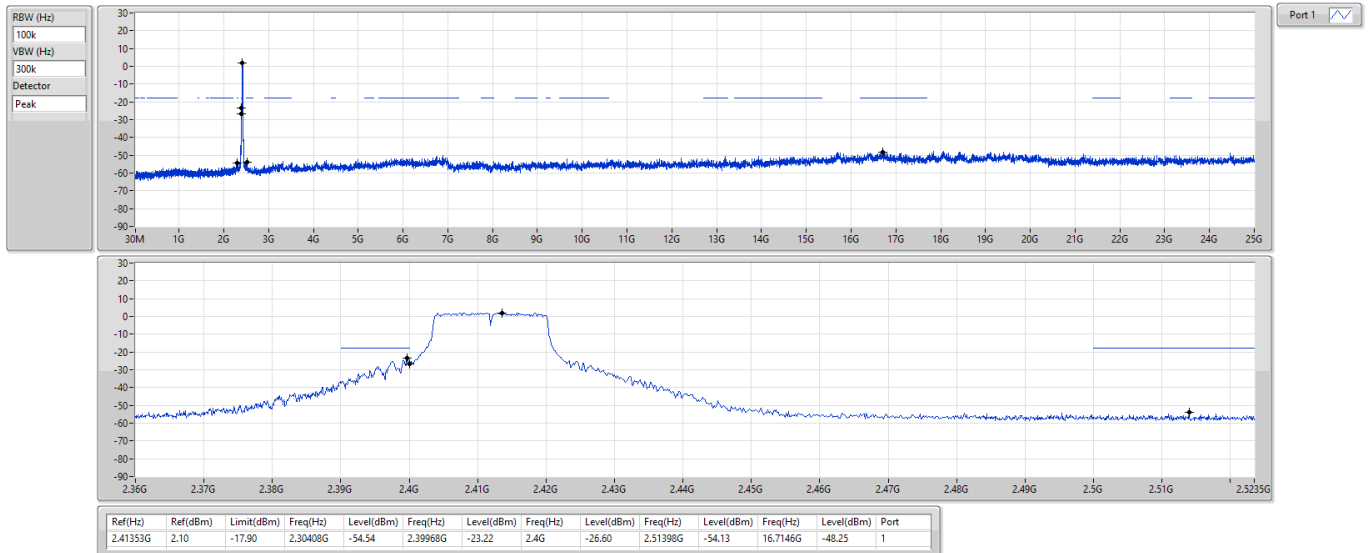
2462MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

CSEndB

2412MHz

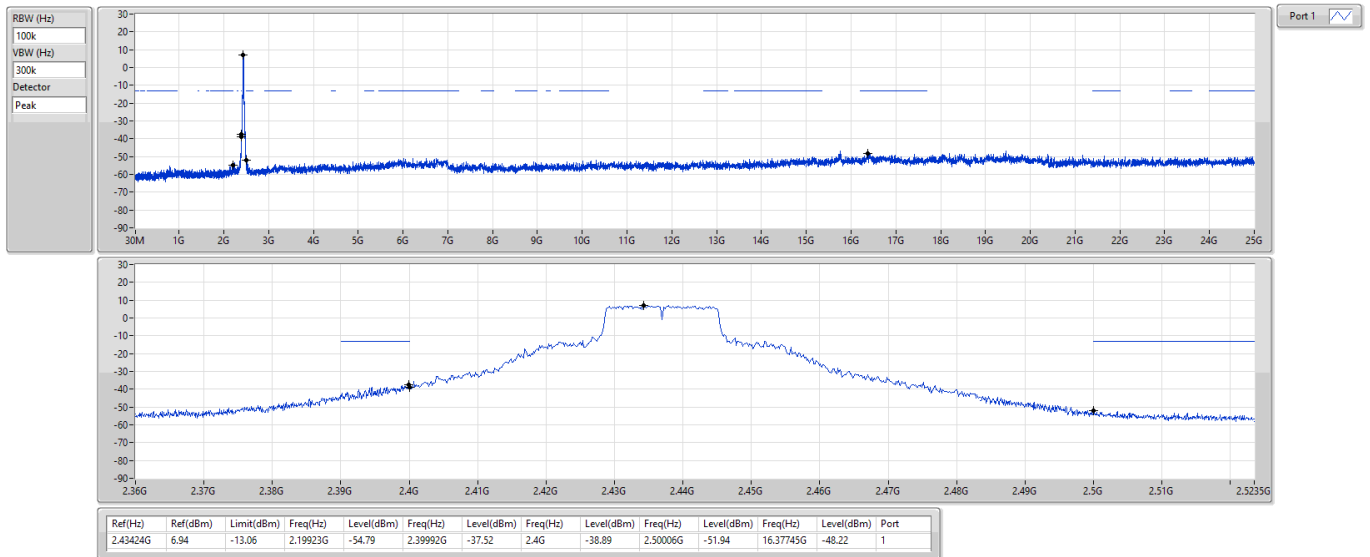




2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

CSEndB

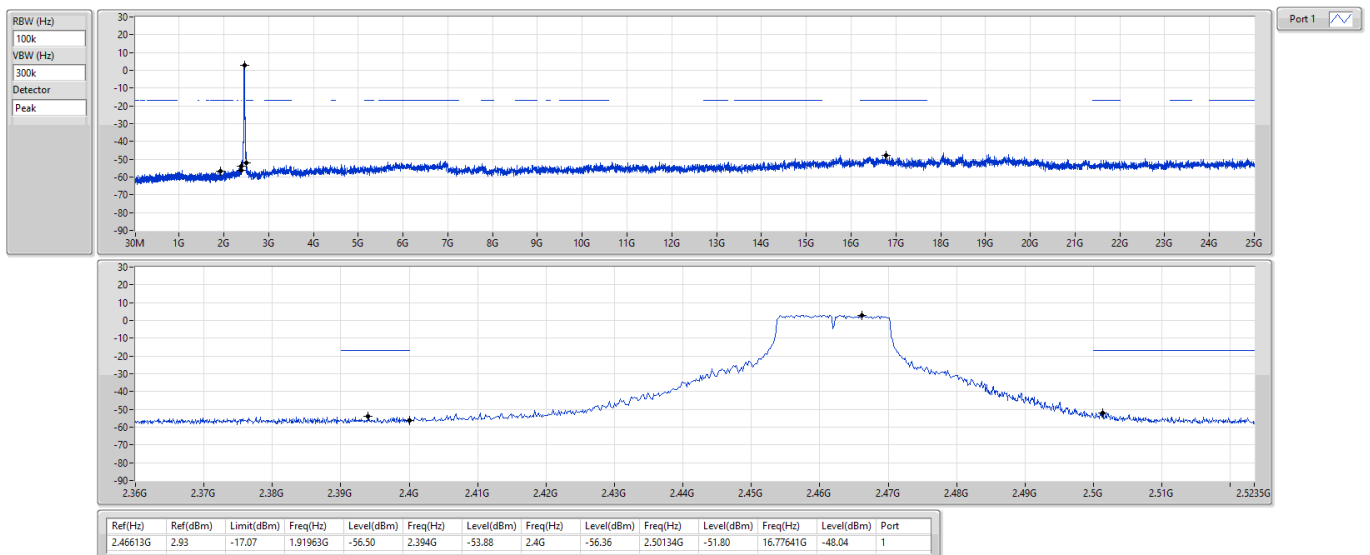
2437MHz



2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX

CSEndB

2462MHz

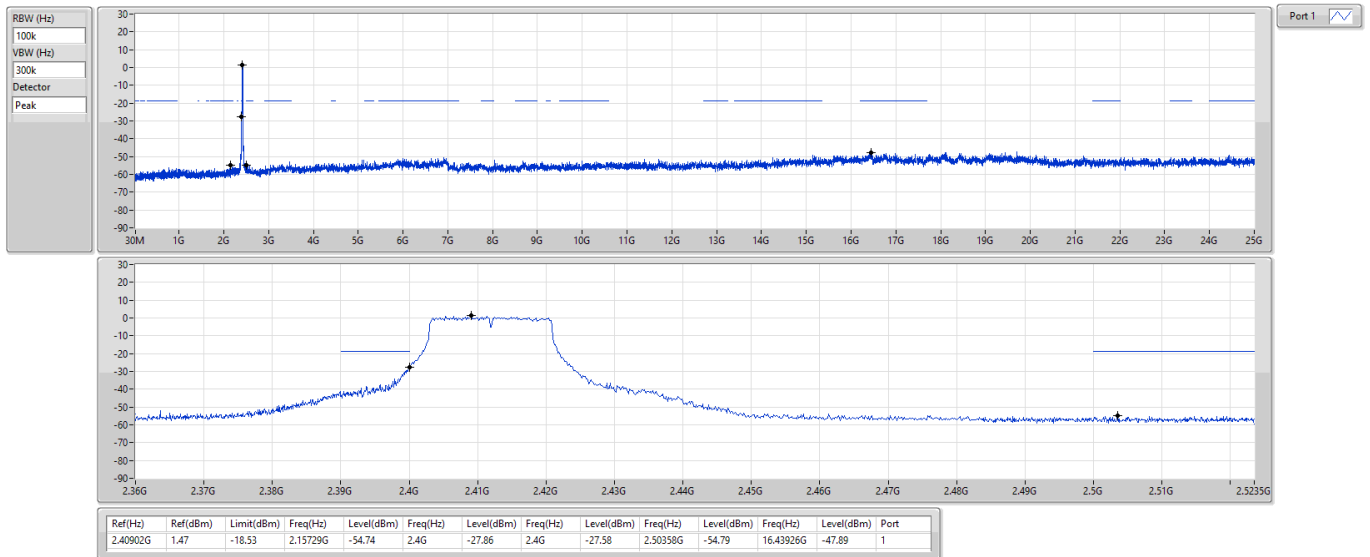




2.4-2.4835GHz_802.11n HT20_Nss1,(MCS0)_1TX

CSEndB

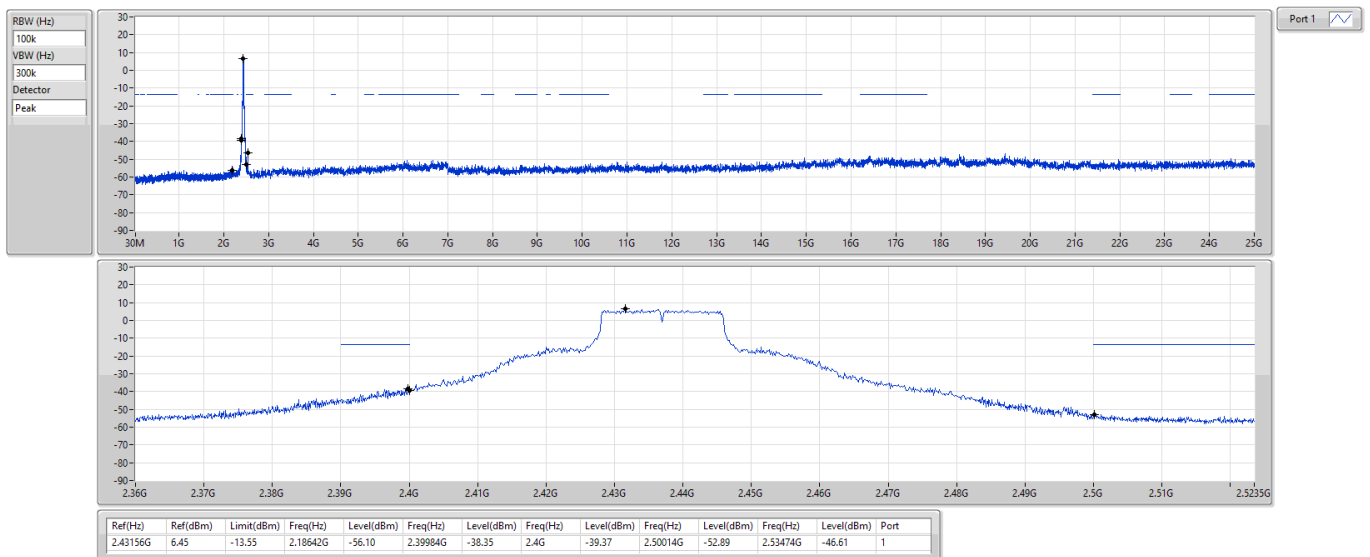
2412MHz

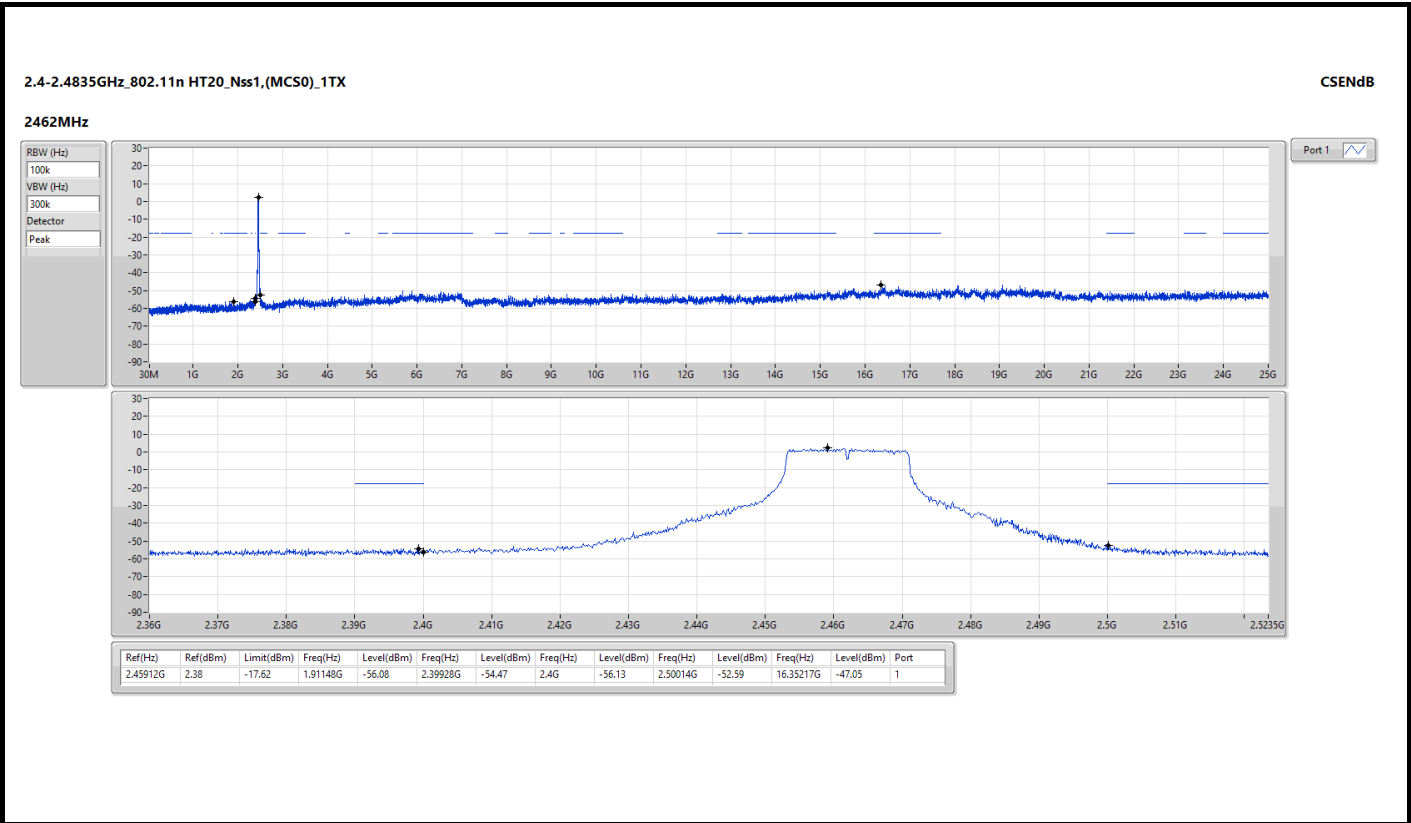


2.4-2.4835GHz_802.11n HT20_Nss1,(MCS0)_1TX

CSEndB

2437MHz





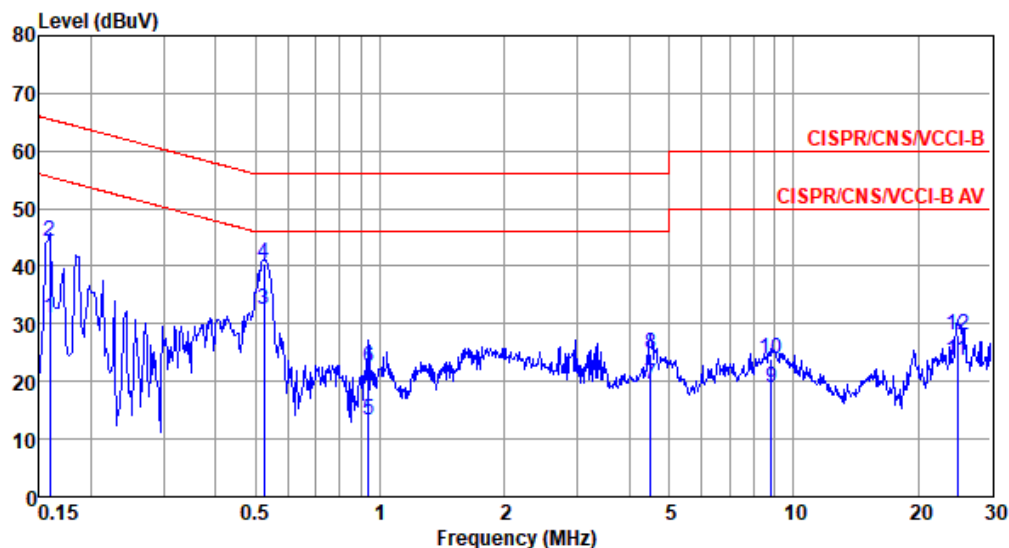


Modulation Mode	11g	Test Freq. (MHz)	2437
Power Phase	Line		

Test by : Joe Liao_AN

Temperature: 24°C

Humidity: 64%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.159	30.89	55.52	-24.63	21.16	9.65	0.08	0.00	Average
2	0.159	44.16	65.52	-21.36	34.43	9.65	0.08	0.00	QP
3*	0.524	32.45	46.00	-13.55	22.73	9.64	0.08	0.00	Average
4	0.524	40.32	56.00	-15.68	30.60	9.64	0.08	0.00	QP
5	0.938	13.29	46.00	-32.71	3.55	9.65	0.09	0.00	Average
6	0.938	22.50	56.00	-33.50	12.76	9.65	0.09	0.00	QP
7	4.501	19.47	46.00	-26.53	9.60	9.67	0.20	0.00	Average
8	4.501	24.67	56.00	-31.33	14.80	9.67	0.20	0.00	QP
9	8.822	18.77	50.00	-31.23	8.74	9.70	0.33	0.00	Average
10	8.822	23.82	60.00	-36.18	13.79	9.70	0.33	0.00	QP
11	24.922	23.70	50.00	-26.30	13.50	9.66	0.54	0.00	Average
12	24.922	28.00	60.00	-32.00	17.80	9.66	0.54	0.00	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).

2: Over Limit (dB) = Level (dBuV) - Limit Line (dBuV).



Modulation Mode	11g	Test Freq. (MHz)	2437																																																																																																																																		
Power Phase	Neutral																																																																																																																																				
Test by : Joe Liao_AN Temperature: 24°C Humidity: 64%																																																																																																																																					
<div><p>Level (dBuV)</p><p>Frequency (MHz)</p></div> <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>0.159</td><td>28.62</td><td>55.52</td><td>-26.90</td><td>18.88</td><td>9.66</td><td>0.08</td><td>0.00</td><td>Average</td></tr><tr><td>2*</td><td>0.159</td><td>44.78</td><td>65.52</td><td>-20.74</td><td>35.04</td><td>9.66</td><td>0.08</td><td>0.00</td><td>QP</td></tr><tr><td>3</td><td>0.521</td><td>18.36</td><td>46.00</td><td>-27.64</td><td>8.64</td><td>9.64</td><td>0.08</td><td>0.00</td><td>Average</td></tr><tr><td>4</td><td>0.521</td><td>26.02</td><td>56.00</td><td>-29.98</td><td>16.30</td><td>9.64</td><td>0.08</td><td>0.00</td><td>QP</td></tr><tr><td>5</td><td>2.044</td><td>18.75</td><td>46.00</td><td>-27.25</td><td>8.98</td><td>9.66</td><td>0.11</td><td>0.00</td><td>Average</td></tr><tr><td>6</td><td>2.044</td><td>23.75</td><td>56.00</td><td>-32.25</td><td>13.98</td><td>9.66</td><td>0.11</td><td>0.00</td><td>QP</td></tr><tr><td>7</td><td>4.549</td><td>19.83</td><td>46.00</td><td>-26.17</td><td>9.94</td><td>9.69</td><td>0.20</td><td>0.00</td><td>Average</td></tr><tr><td>8</td><td>4.549</td><td>27.72</td><td>56.00</td><td>-28.28</td><td>17.83</td><td>9.69</td><td>0.20</td><td>0.00</td><td>QP</td></tr><tr><td>9</td><td>8.683</td><td>23.29</td><td>50.00</td><td>-26.71</td><td>13.24</td><td>9.73</td><td>0.32</td><td>0.00</td><td>Average</td></tr><tr><td>10</td><td>8.683</td><td>28.83</td><td>60.00</td><td>-31.17</td><td>18.78</td><td>9.73</td><td>0.32</td><td>0.00</td><td>QP</td></tr><tr><td>11</td><td>18.039</td><td>22.89</td><td>50.00</td><td>-27.11</td><td>12.59</td><td>9.82</td><td>0.48</td><td>0.00</td><td>Average</td></tr><tr><td>12</td><td>18.039</td><td>25.34</td><td>60.00</td><td>-34.66</td><td>15.04</td><td>9.82</td><td>0.48</td><td>0.00</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	0.159	28.62	55.52	-26.90	18.88	9.66	0.08	0.00	Average	2*	0.159	44.78	65.52	-20.74	35.04	9.66	0.08	0.00	QP	3	0.521	18.36	46.00	-27.64	8.64	9.64	0.08	0.00	Average	4	0.521	26.02	56.00	-29.98	16.30	9.64	0.08	0.00	QP	5	2.044	18.75	46.00	-27.25	8.98	9.66	0.11	0.00	Average	6	2.044	23.75	56.00	-32.25	13.98	9.66	0.11	0.00	QP	7	4.549	19.83	46.00	-26.17	9.94	9.69	0.20	0.00	Average	8	4.549	27.72	56.00	-28.28	17.83	9.69	0.20	0.00	QP	9	8.683	23.29	50.00	-26.71	13.24	9.73	0.32	0.00	Average	10	8.683	28.83	60.00	-31.17	18.78	9.73	0.32	0.00	QP	11	18.039	22.89	50.00	-27.11	12.59	9.82	0.48	0.00	Average	12	18.039	25.34	60.00	-34.66	15.04	9.82	0.48	0.00	QP
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