RADIO TEST REPORT

FCC ID	:	XU8TEW929DRU
Equipment	:	AX1800 Dual-Band WiFi 6 Gigabit Dual-WAN VPN SMB Router
Brand Name	:	TRENDnet
Model Name	:	TEW-929DRU
Applicant	:	TRENDNET, Inc. 20675 Manhattan Place, Torrance, CA 90501 USA
Manufacturer	:	TRENDNET, Inc. 20675 Manhattan Place, Torrance, CA 90501 USA
Standard	:	47 CFR FCC Part 15.247

The product was received on Apr. 19, 2022, and testing was started from Apr. 26, 2022 and completed on May 17, 2022. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR241319AA	01	Initial issue of report	Jun. 02, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:

1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to report "Measurement Uncertainty".

Comments and Explanations:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. 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.

Reviewed by: Sam Chen
Report Producer: Penny Kao

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2400-2483.5	b, g, n (HT20), VHT20, ax (HEW20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), VHT40, ax (HEW40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	VHT20	20	2TX
2.4-2.4835GHz	VHT20-BF	20	2TX
2.4-2.4835GHz	802.11ax HEW20	20	2TX
2.4-2.4835GHz	802.11ax HEW20-BF	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX
2.4-2.4835GHz	VHT40	40	2TX
2.4-2.4835GHz	VHT40-BF	40	2TX
2.4-2.4835GHz	802.11ax HEW40	40	2TX
2.4-2.4835GHz	802.11ax HEW40-BF	40	2TX

Note:
- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port		Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
	WLAN 2.4GHz	WLAN 5GHz					WLAN 2.4GHz	WLAN 5GHz
1	1	1	M.gear	C732-510012-A	Dipole Antenna	R-SMA	5.33	5.88
2	2	2	M.gear	C732-510012-A	Dipole Antenna	R-SMA	5.33	5.88

Note 1: The above information was declared by manufacturer.

Note 2: The EUT has two antennas.

For 2.4GHz function:

For IEEE 802.11 b/g/n/VHT/ax mode (2TX/2RX)

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11a/n/ac/ax mode (2TX/2RX)

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

Note 3: Directional gain information

Type	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$
BF	$Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$	$Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

Ex.

Directional Gain (NSS1) formula : $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

NSS1(g1,1) = $10^{G1/20}$; NSS1(g1,2)= $10^{G2/20}$; NSS1(g1,2)= $10^{G3/20}$; NSS1(g1,2)= $10^{G4/20}$

gj,k =(Nss1(g1,1) + Nss1(g1,2) + Nss1(g1,3) + Nss1(g1,4))^2

DG = 10 log[(Nss1(g1,1) + Nss1(g1,2) + Nss1(g1,3) + Nss1(g1,4))^2 / N_{ANT}] => 10 log[($10^{G1/20}$ + $10^{G2/20}$ + $10^{G3/20}$ + $10^{G4/20}$)^2 / N_{ANT}]

Where ;

2.4G G1 = 5.33 ; G2 = 5.33

5G G1 = 5.88 ; G2 = 5.88

2.4G DG = 8.34 dBi

5 GHz U-NII-1 DG = 8.89 dBi

5 GHz U-NII-3 DG = 8.89 dBi

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.605	2.18	692.5u	3k
802.11g	0.938	0.28	1.98m	1k
802.11ax HEW20-BF	0.859	0.66	1.768m	1k
802.11ax HEW40-BF	0.862	0.64	1.768m	1k

Note:
- DC is Duty Cycle.
- DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	The product has beamforming function for VHT/11ax in 2.4GHz and 11n/ac/ax in 5GHz.			
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	QSPR (Ver.5.0-00200)			

Note: The above information was declared by manufacturer.

1.2 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15.247
- ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF.

- FCC KDB 558074 D01 v05r02
- FCC KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location Information	
Test Lab.：Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	TEL: 886-3-656-9065 FAX: 886-3-656-9085
	Test site Designation No. TW3787 with FCC.
	Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH01-CB	Caster Chang	22.4-23.2 / 51-53	Apr. 29, 2022~ May 17, 2022
Radiated (Below 1GHz)	10CH01-CB	Allen Chung	21~22 / 50~51	May 03, 2022~ May 06, 2022
Radiated (Above 1GHz)	03CH02-CB	RJ Huang	23.8-24.9 / 55-58	Apr. 26, 2022~ May 11, 2022
Radiated (Co-location)	03CH05-CB	RJ Huang	24.5-25.6 / 56-59	Apr. 26, 2022~ May 11, 2022
AC Conduction	CO01-CB	Ryan Huang	20~22 / 53~55	May 04, 2022

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	5.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.9 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	2.5 dB	Confidence levels of 95%
Output Power Measurement	1.3 dB	Confidence levels of 95%
Power Density Measurement	2.5 dB	Confidence levels of 95%
Bandwidth Measurement	0.9%	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	23
2417MHz	
2437MHz	25
2462MHz	25
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	21
2417MHz	22
2437MHz	24.5
2462MHz	23
802.11n HT20_Nss1,(MCS0)_2TX	-
2412MHz	19.5
2417MHz	21.5
2437MHz	23
2462MHz	22
802.11n HT40_Nss1,(MCS0)_2TX	-
2422MHz	18
2437MHz	18.5
2452MHz	19
VHT20_Nss1,(MCS0)_2TX	-
2412MHz	19.5
2417MHz	21.5
2437MHz	23
2462MHz	22
VHT40_Nss1,(MCS0)_2TX	-
2422MHz	18
2437MHz	18.5
2452MHz	19
VHT20-BF_Nss1,(MCS0)_2TX	-
2412MHz	23
2417MHz	25
2437MHz	26
2462MHz	25
VHT40-BF_Nss1,(MCS0)_2TX	-
2422MHz	21

Mode	Power Setting
2437MHz	22
2452MHz	22
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
2412MHz	23
2417MHz	25
2437MHz	26
2462MHz	25
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
2422MHz	21
2437MHz	22
2452MHz	22

Note:

- HEW20/HEW40 mode has been selected to execute all tests due to the similar modulation. The power setting of HT20/HT40/VHT20/VHT40 mode are the same as HEW20/HEW40.
- The EUT supports non-beamforming and beamforming modes, after evaluating, the beamforming mode has been selected to execute all tests.
- The non-beamforming mode n/VHT and the beamforming mode VHT evaluate the output power only.

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Normal Link
1	EUT with Adapter 1
2	EUT with Adapter 2
For operating mode 1 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
1	EUT in X axis with Adapter 1
2	EUT in Y axis with Adapter 1
3	EUT in Z axis with Adapter 1
Mode 3 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 will follow this same test mode.	
4	EUT in Z axis with Adapter 2
For operating mode 3 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
	The EUT was performed at X axis, Y axis and Z axis position, and the worst case as below:
1	EUT in X axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
	The EUT was performed at X axis, Y axis and Z axis. EUT in Z axis has been evaluated to be the worst case at Unwanted Emissions <Above 1GHz>; thus, the measurement will follow this same test configuration.
Operating Mode	Normal Link
1	EUT in Z axis: WLAN 2.4GHz + WLAN 5GHz
Refer to Appendix G for Radiated Emission Co-location.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Sporton Test Report No.: FA241319 for Co-location RF Exposure Evaluation.	

2.3 EUT Operation during Test

For CTX Mode:

non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

During the test, the following programs under WIN 7 were executed.
The program was executed as follows:
1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under DOS.
3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by WLAN AP and transmit duty cycle no less than 98%.

For Normal Link Mode:

During the test, the EUT operation to normal function.

2.4 Accessories

Accessories			
Equipment Name	**Brand Name**	**Model Name**	**Rating**
Adapter 1	AMIGO	AMS200-1202000FU	Input: 100-240V~50/60Hz, 0.8A Max Output: 12V, 2.0A
Adapter 2	Ktec	KSA-24W-120200HU	Input: 100-240V~50/60Hz, 0.6A Output: 12V, 2.0A
Others			
RJ-45 cable*1: Non-shielded, 1.5m Console cable*1: Non-shielded, 1.5m Wall-mounted rack*2			

2.5 Support Equipment

For AC Conduction and Radiated below 1GHz:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	2.5G LAN PC	DELL	T3400	N/A
B	WAN PC	DELL	T3400	N/A
C	2.4G NB	DELL	E6430	N/A
D	5G NB	DELL	E6430	N/A
E	LAN2 NB	DELL	E6430	N/A
F	USB to RJ-45 card	i-gota	LAN-U3BRJ45	N/A
G	USB to LAN NB	DELL	E6430	N/A

For Radiated above 1GHz:
<Non-beamforming mode>

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A

<Beamforming mode>

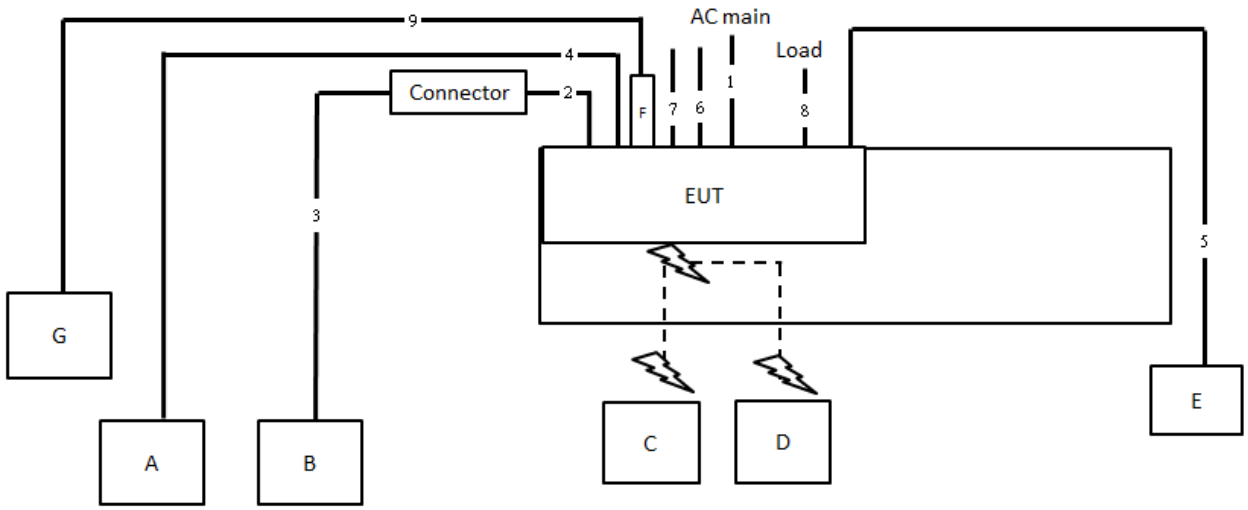
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A
B	WLAN AP	Cradlepoint	E30	N/A
C	Notebook	DELL	E4300	N/A

For RF Conducted:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A
B	2.4G Client	Cradlepoint	E300	N/A

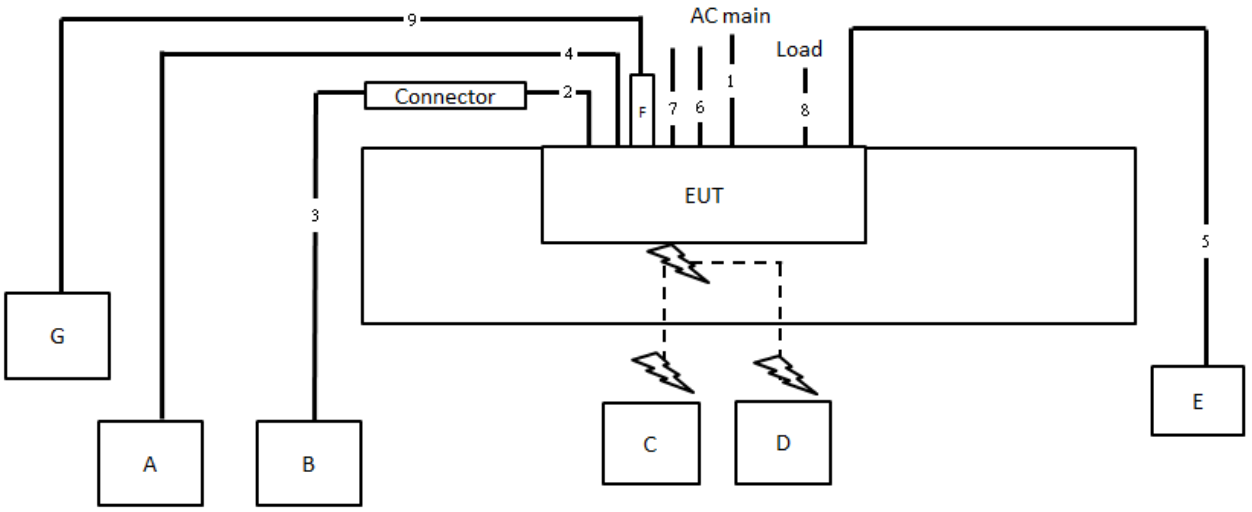
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



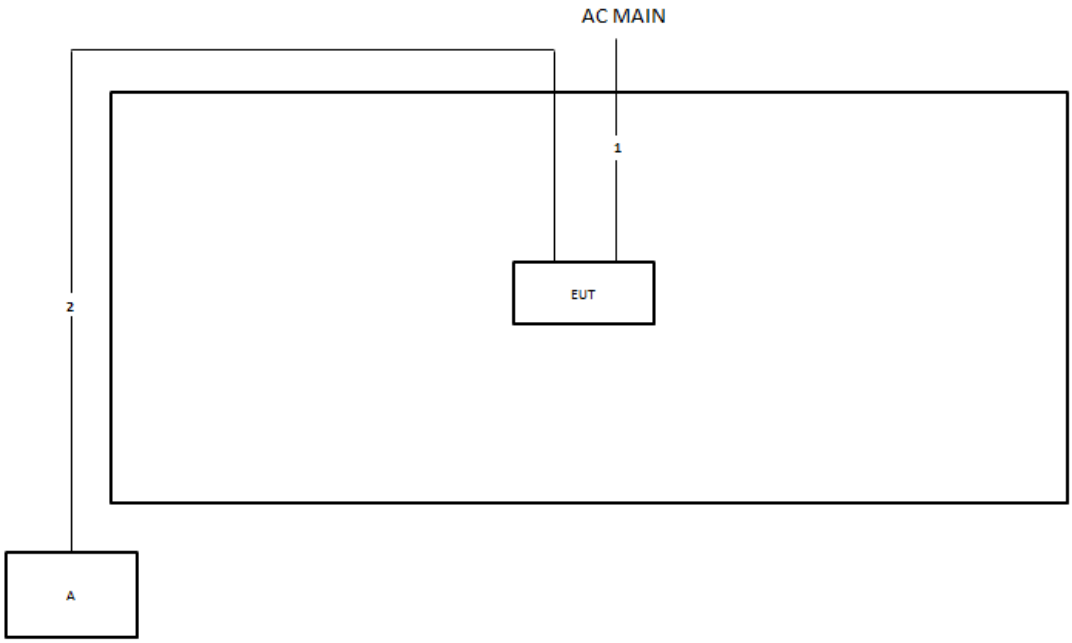
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	10m
5	RJ-45 cable	No	10m
6	Console cable	No	1.5m
7	GND cable	No	1.8m
8	RJ-45 cable*2	No	1.5m
9	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test < 1GHz



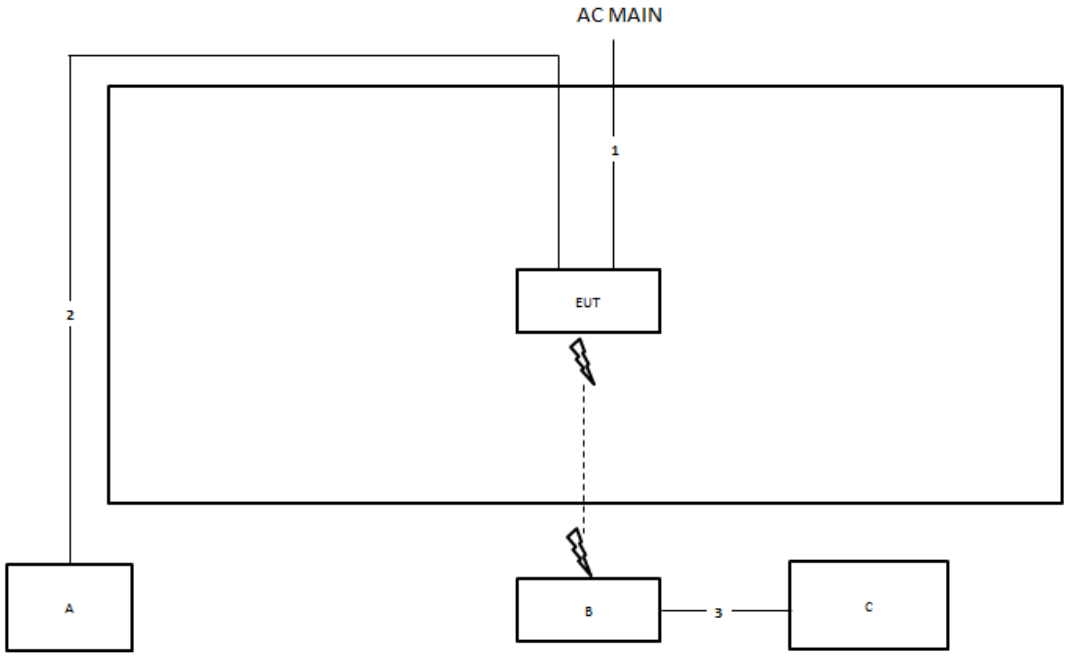
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	10m
5	RJ-45 cable	No	10m
6	Console cable	No	1.5m
7	GND cable	No	1.8m
8	RJ-45 cable*2	No	1.5m
9	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test > 1GHz
Non-beamforming mode



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test > 1GHz
Beamforming mode



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line 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.		

3.1.2 Measuring Instruments

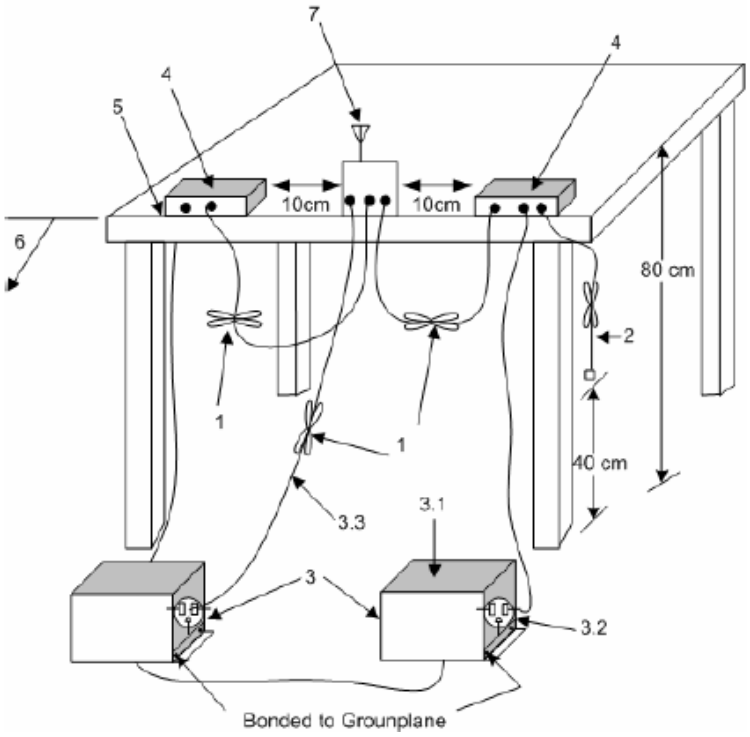
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.5 Measurement Results Calculation

The measured Level is calculated using:

a. Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level

b. Margin = -Limit + Level

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth ≥ 500 kHz.

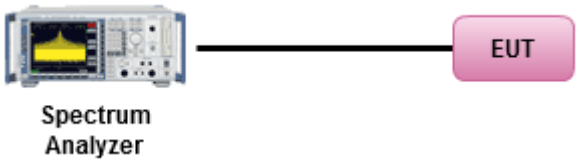
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
	☐ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
	☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit		
	▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)	
	▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)$ dBm	
	▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm	
	▪ Smart antenna system (SAS):	
		- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.		

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
	☐ Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
▪ Maximum Conducted Output Power	
	[duty cycle ≥ 98% or external video / power trigger]
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)
	duty cycle < 98% and average over on/off periods with duty factor
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative)
	Measurement using a power meter (PM)
	☐ Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.1 Method AVGPM (using an RF average power meter).
	☒ Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.2 Method AVGPM-G (using an gate RF average power meter).
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD) ≤ 8 dBm/3kHz

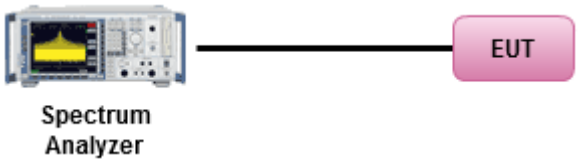
3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method		
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).		
	☒ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10 Method Max. PSD.	
▪ For conducted measurement.		
	▪ If The EUT supports multiple transmit chains using options given below:	
		☒ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
		☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
		☐ Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	**Limit (dBc)**
Peak output power procedure	20
Average output power procedure	30

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

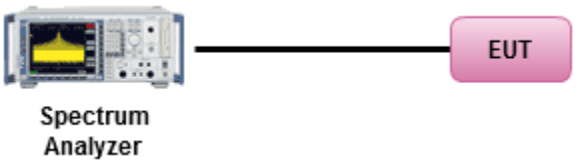
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method
▪ Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

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: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

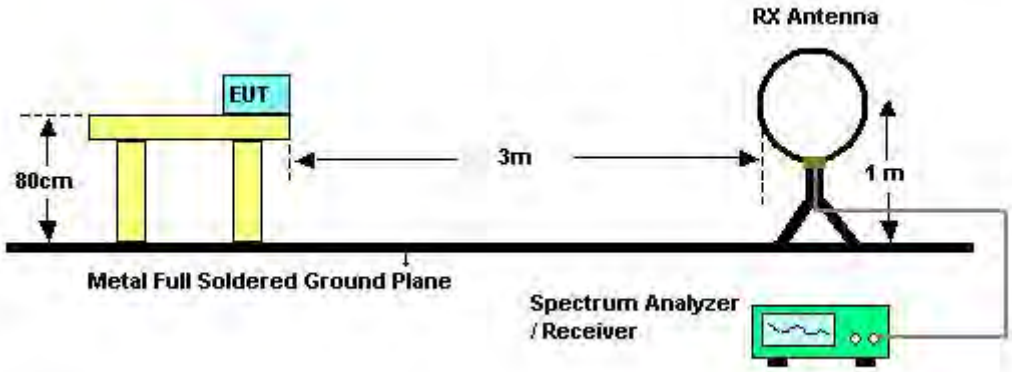
3.6.3 Test Procedures

Test Method
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
▪ For the transmitter unwanted emissions shall be measured using following options below:
▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.
☐ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle ≥98%).
☐ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
☒ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW≥1/T).
☐ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
☐ Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
☒ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:
▪ Refer as FCC KDB 558074 clause 8.7 & C63.10 clause 11.13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

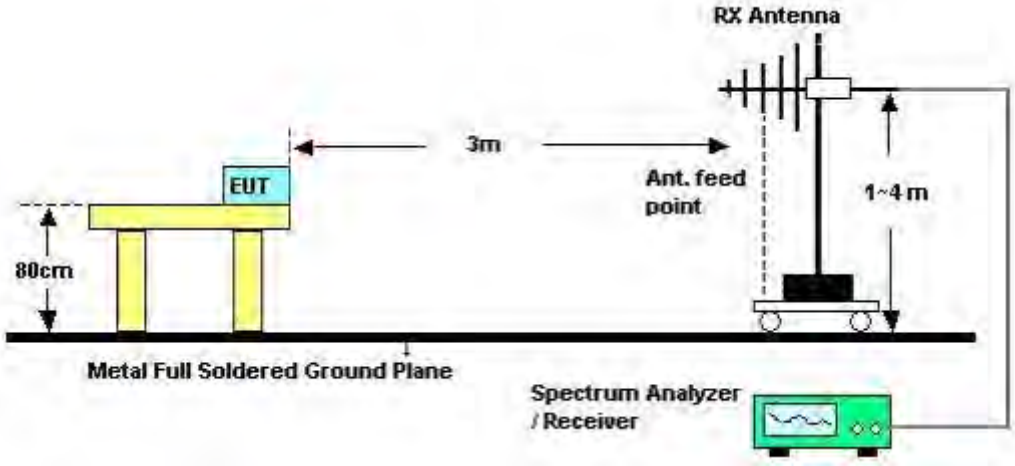
3.6.4 Test Setup

Radiated - Emissions in Restricted Frequency Bands

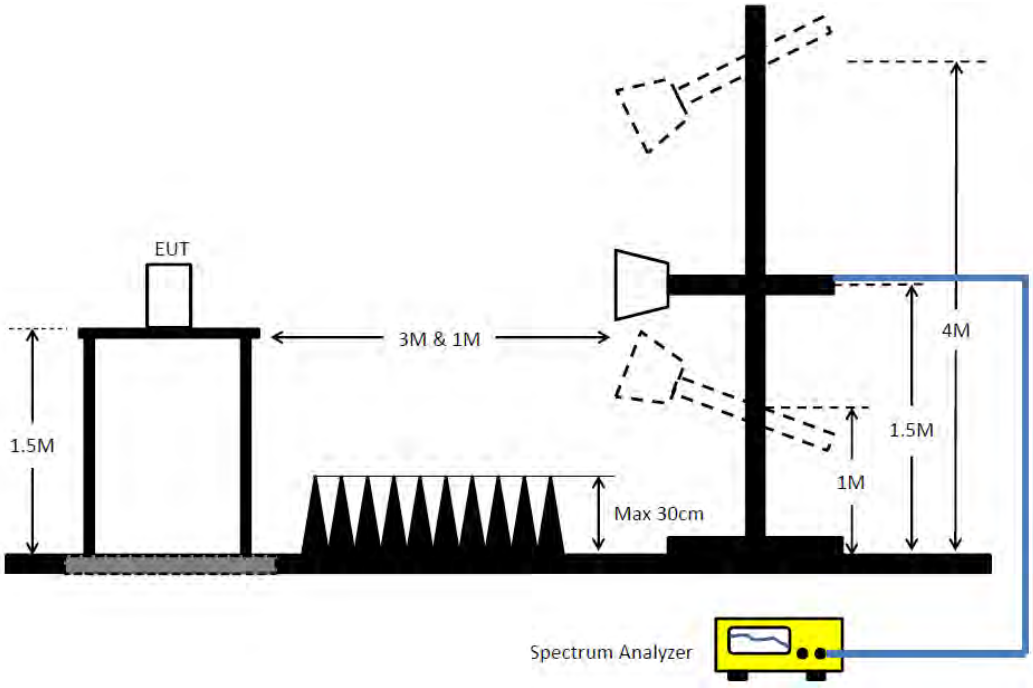
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.6.5 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Feb. 22, 2022	Feb. 21, 2023	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 09, 2022	Feb. 08, 2023	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 12, 2022	Apr. 11, 2023	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 10, 2022	Feb. 09, 2023	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 19, 2021	May 18, 2022	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	31244	9kHz - 30 MHz	Mar. 18, 2022	Mar. 17, 2023	Radiation (10CH01-CB)
10m Semi Anechoic Chamber NSA	TDK	SAC-10M	10CH01-CB	30MHz~1GHz 10m,3m	Jan. 27, 2022	Jan. 26, 2023	Radiation (10CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10783	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10784	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Low Cable	Woken	SUCOFLEX 104	low cable-01	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
High Cable	Woken	SUCOFLEX 104	low cable-02	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
Bilog Antenna with 6dB Attenuator	Chase & EMCI	CBL6111A &N-6-06	1543 &AT-N0609	30MHz ~ 1GHz	Jul. 01, 2021	Jun. 30, 2022	Radiation (10CH01-CB)
EMI Test Receiver	Rohde&Schwarz	ESCI	100186	9kHz ~ 3GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (10CH01-CB)
Spectrum Analyzer	Rohde&Schwarz	FSV30	101026	9kHz ~ 30GHz	Apr. 22, 2022	Apr. 21, 2023	Radiation (10CH01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (10CH01-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz	Mar. 26, 2022	Mar. 25, 2023	Radiation (03CH02-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	Apr. 19, 2022	Apr. 18, 2023	Radiation (03CH02-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSU	100015	9kHz~26GHz	Oct. 25, 2021	Oct. 24, 2022	Radiation (03CH02-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH02-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Nov. 07, 2021	Nov. 06, 2022	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120 D-1291	1GHz~18GHz	Oct. 14, 2021	Oct. 13, 2022	Radiation (03CH05-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz – 26.5GHz	Jul. 02, 2021	Jul. 01, 2022	Radiation (03CH05-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Mar. 14, 2022	Mar. 13, 2023	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	May 21, 2021	May 20, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-30	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
Switch	SPTCB	SP-SWI	SWI-01	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P1	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P2	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P3	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P4	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P5	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Feb. 21, 2022	Feb. 20, 2023	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Feb. 21, 2022	Feb. 20, 2023	Conducted (TH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

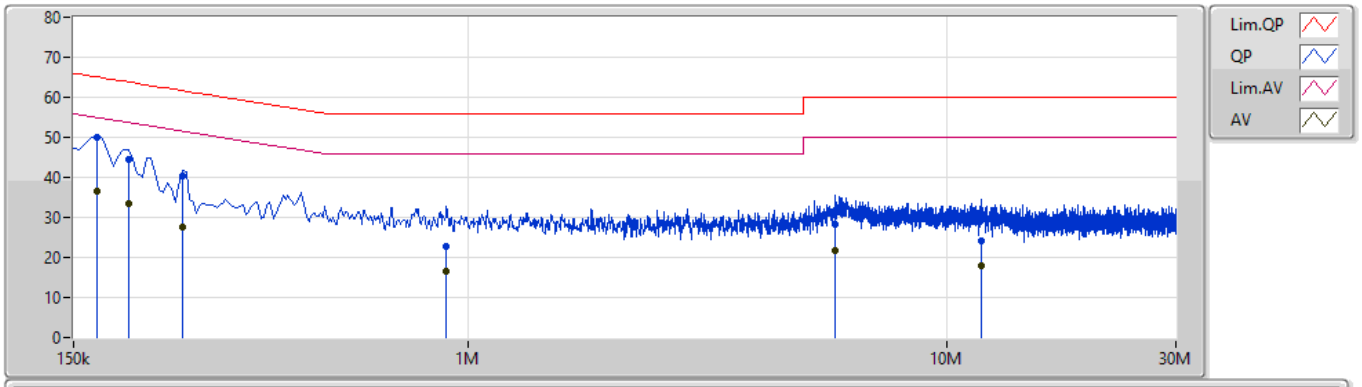
NCR means Non-Calibration required.

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	168k	49.94	65.06	-15.12	Line

Mode 1

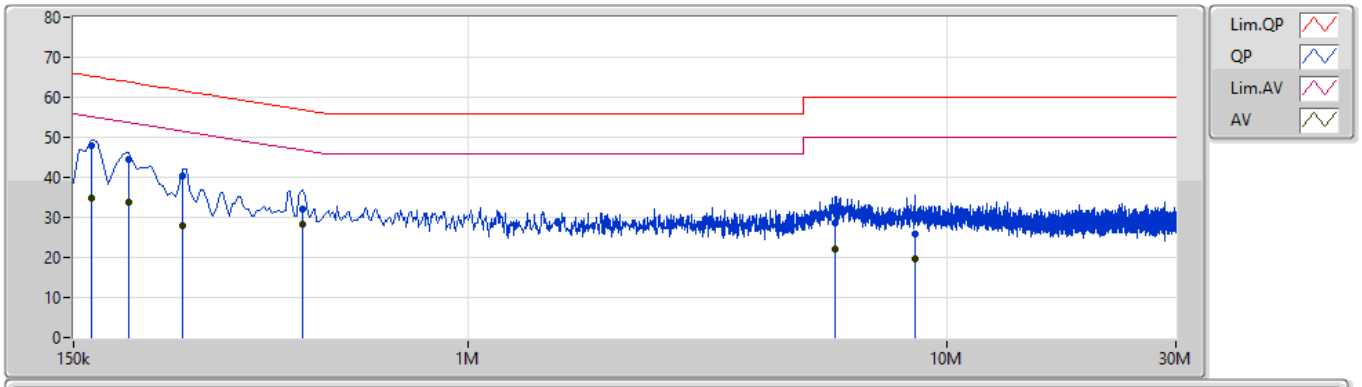
04/05/2022



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	168k	49.94	65.06	-15.12	9.97	Line	"Worst"	39.97	0.06	0.02	9.89
AV	168k	36.46	55.06	-18.60	9.97	Line	-	26.49	0.06	0.02	9.89
QP	195k	44.55	63.82	-19.27	9.97	Line	-	34.58	0.06	0.02	9.89
AV	195k	33.34	53.82	-20.48	9.97	Line	-	23.37	0.06	0.02	9.89
QP	253.5k	40.30	61.64	-21.34	9.97	Line	-	30.33	0.06	0.02	9.89
AV	253.5k	27.63	51.64	-24.01	9.97	Line	-	17.66	0.06	0.02	9.89
QP	901.5k	22.64	56.00	-33.36	9.98	Line	-	12.66	0.07	0.02	9.89
AV	901.5k	16.38	46.00	-29.62	9.98	Line	-	6.40	0.07	0.02	9.89
QP	5.834M	28.34	60.00	-31.66	10.13	Line	-	18.21	0.16	0.07	9.90
AV	5.834M	21.73	50.00	-28.27	10.13	Line	-	11.60	0.16	0.07	9.90
QP	11.792M	24.26	60.00	-35.74	10.25	Line	-	14.01	0.24	0.09	9.92
AV	11.792M	17.78	50.00	-32.22	10.25	Line	-	7.53	0.24	0.09	9.92

Mode 1

04/05/2022



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	163.5k	48.06	65.27	-17.21	9.98	Neutral	"Worst"	38.08	0.07	0.02	9.89
AV	163.5k	34.79	55.27	-20.48	9.98	Neutral	-	24.81	0.07	0.02	9.89
QP	195k	44.59	63.82	-19.23	9.98	Neutral	-	34.61	0.07	0.02	9.89
AV	195k	33.70	53.82	-20.12	9.98	Neutral	-	23.72	0.07	0.02	9.89
QP	253.5k	40.36	61.64	-21.28	9.98	Neutral	-	30.38	0.07	0.02	9.89
AV	253.5k	27.98	51.64	-23.66	9.98	Neutral	-	18.00	0.07	0.02	9.89
QP	451.5k	31.94	56.84	-24.90	9.98	Neutral	-	21.96	0.07	0.02	9.89
AV	451.5k	28.37	46.84	-18.47	9.98	Neutral	-	18.39	0.07	0.02	9.89
QP	5.847M	28.65	60.00	-31.35	10.15	Neutral	-	18.50	0.18	0.07	9.90
AV	5.847M	22.04	50.00	-27.96	10.15	Neutral	-	11.89	0.18	0.07	9.90
QP	8.579M	25.91	60.00	-34.09	10.20	Neutral	-	15.71	0.22	0.07	9.91
AV	8.579M	19.49	50.00	-30.51	10.20	Neutral	-	9.29	0.22	0.07	9.91

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	8.55M	13.443M	13M4G1D	8M	12.694M
802.11g_Nss1,(6Mbps)_2TX	15.05M	16.417M	16M4D1D	12.525M	16.242M
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	16.75M	18.841M	18M8D1D	12.55M	18.716M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	32.55M	37.731M	37M7D1D	24.85M	37.381M

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

Result

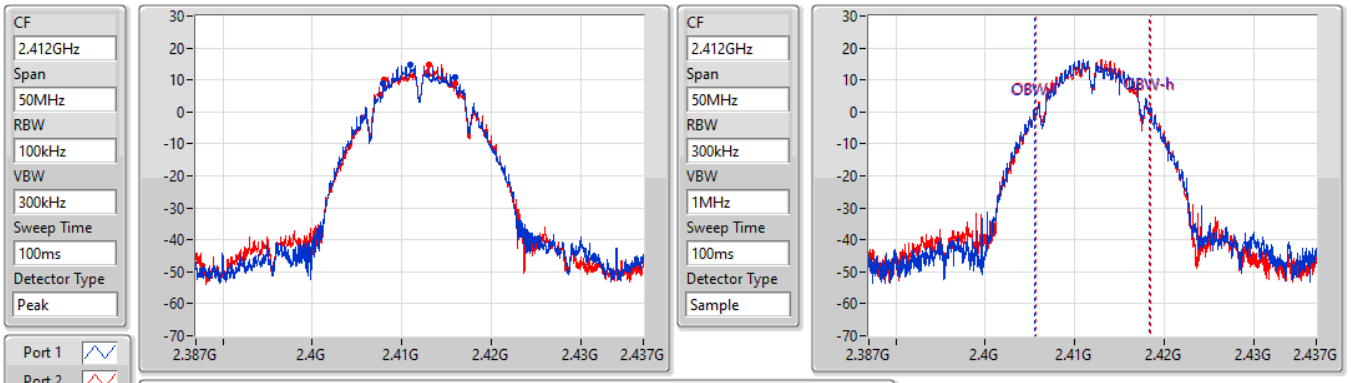
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	8.075M	12.819M	8.025M	12.694M
2437MHz	Pass	500k	8.05M	12.744M	8M	12.744M
2462MHz	Pass	500k	8.025M	13.443M	8.55M	13.368M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	12.525M	16.242M	14.975M	16.242M
2437MHz	Pass	500k	13.775M	16.317M	13.825M	16.417M
2462MHz	Pass	500k	15M	16.317M	15.05M	16.392M
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	12.55M	18.716M	14.975M	18.766M
2437MHz	Pass	500k	12.575M	18.816M	16.75M	18.816M
2462MHz	Pass	500k	16.275M	18.816M	16.5M	18.841M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	30.3M	37.481M	30.1M	37.481M
2437MHz	Pass	500k	31.25M	37.731M	32.55M	37.731M
2452MHz	Pass	500k	24.85M	37.431M	31.25M	37.381M

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

802.11b_Nss1,(1Mbps)_2TX EBW

2412MHz

29/04/2022

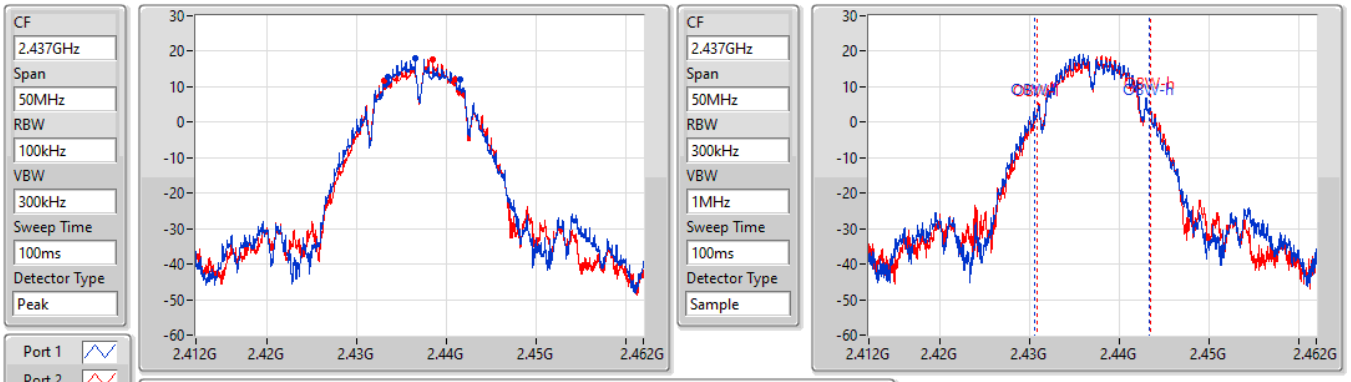


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.075M	2.40795G	2.416025G	12.819M	2.405578G	2.418397G	500k	1
8.025M	2.407975G	2.416G	12.694M	2.405728G	2.418422G	500k	2

802.11b_Nss1,(1Mbps)_2TX EBW

2437MHz

29/04/2022

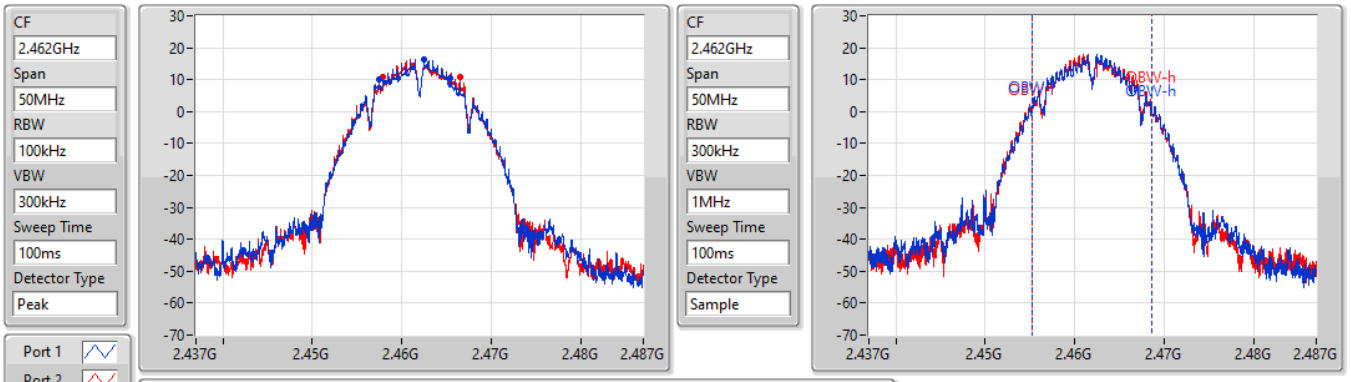


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.05M	2.43345G	2.4415G	12.744M	2.430578G	2.443322G	500k	1
8M	2.432975G	2.440975G	12.744M	2.430778G	2.443522G	500k	2

802.11b_Nss1,(1Mbps)_2TX EBW

2462MHz

29/04/2022

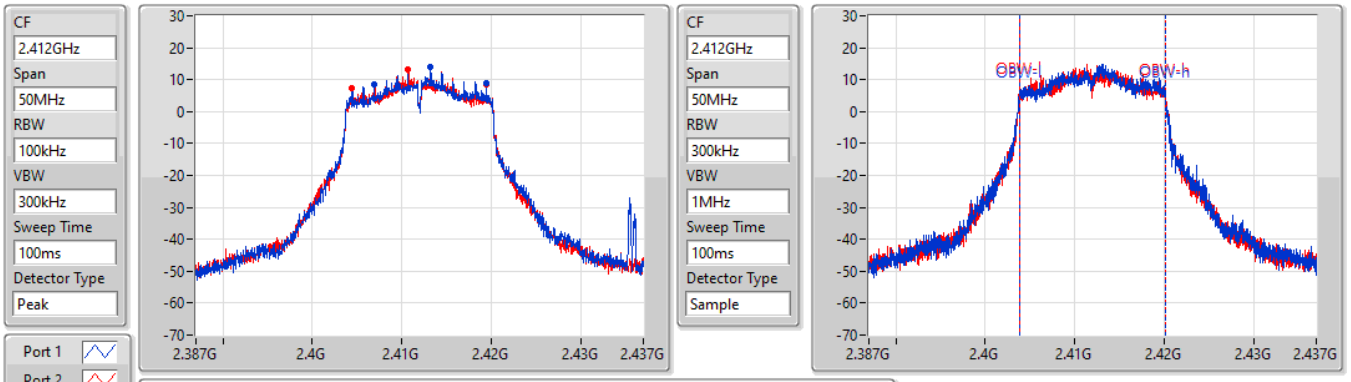


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.025M	2.45745G	2.465475G	13.443M	2.455228G	2.468672G	500k	1
8.55M	2.45795G	2.4665G	13.368M	2.455178G	2.468547G	500k	2

802.11g_Nss1,(6Mbps)_2TX EBW

2412MHz

29/04/2022

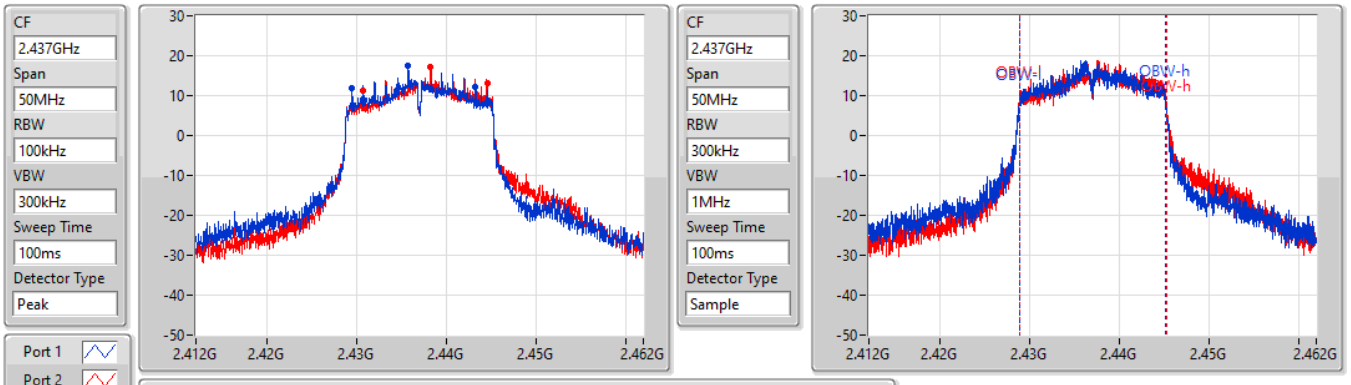


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
12.525M	2.40695G	2.419475G	16.242M	2.403854G	2.420096G	500k	1
14.975M	2.404475G	2.41945G	16.242M	2.403879G	2.420121G	500k	2

802.11g_Nss1,(6Mbps)_2TX EBW

2437MHz

29/04/2022

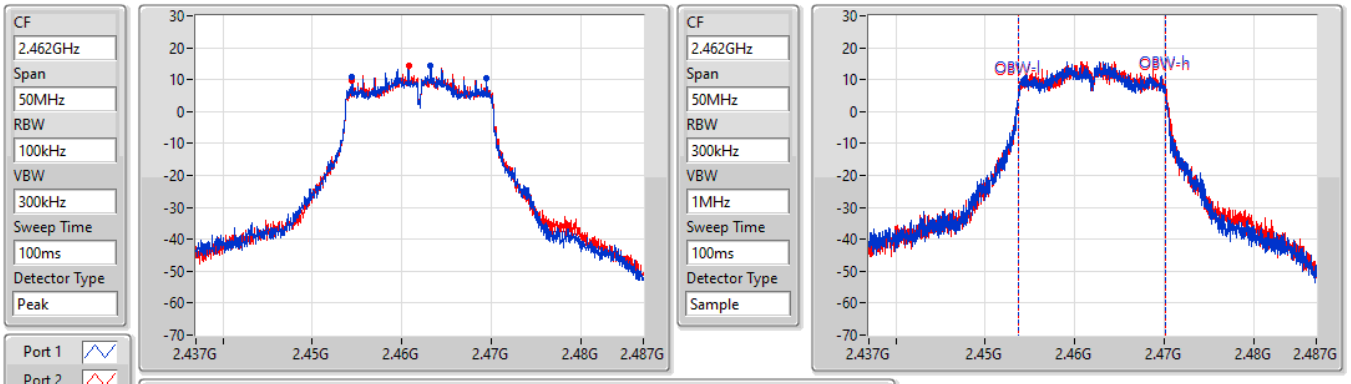


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
13.775M	2.429475G	2.44325G	16.317M	2.428854G	2.445171G	500k	1
13.825M	2.4307G	2.444525G	16.417M	2.428854G	2.445271G	500k	2

802.11g_Nss1,(6Mbps)_2TX EBW

2462MHz

29/04/2022

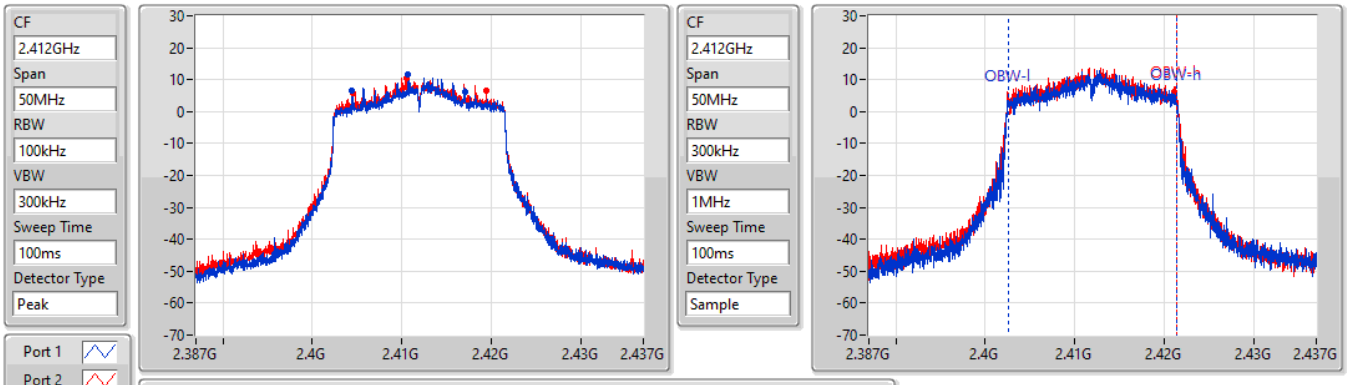


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15M	2.454475G	2.469475G	16.317M	2.453779G	2.470096G	500k	1
15.05M	2.45445G	2.4695G	16.392M	2.453779G	2.470171G	500k	2

802.11ax HEW20-BF_Nss1,(MCS0)_2TX EBW

2412MHz

29/04/2022

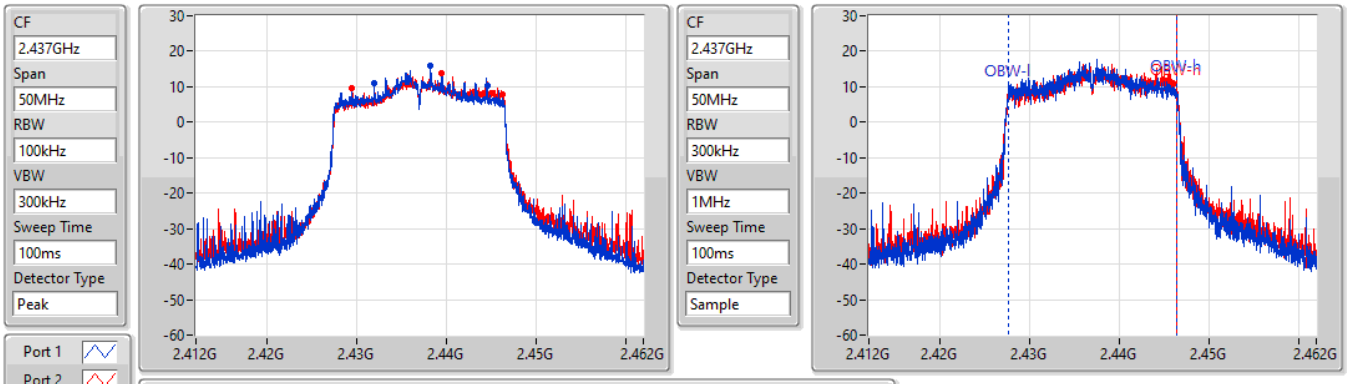


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
12.55M	2.404475G	2.417025G	18.716M	2.40263G	2.421345G	500k	1
14.975M	2.4045G	2.419475G	18.766M	2.40258G	2.421345G	500k	2

802.11ax HEW20-BF_Nss1,(MCS0)_2TX EBW

2437MHz

29/04/2022

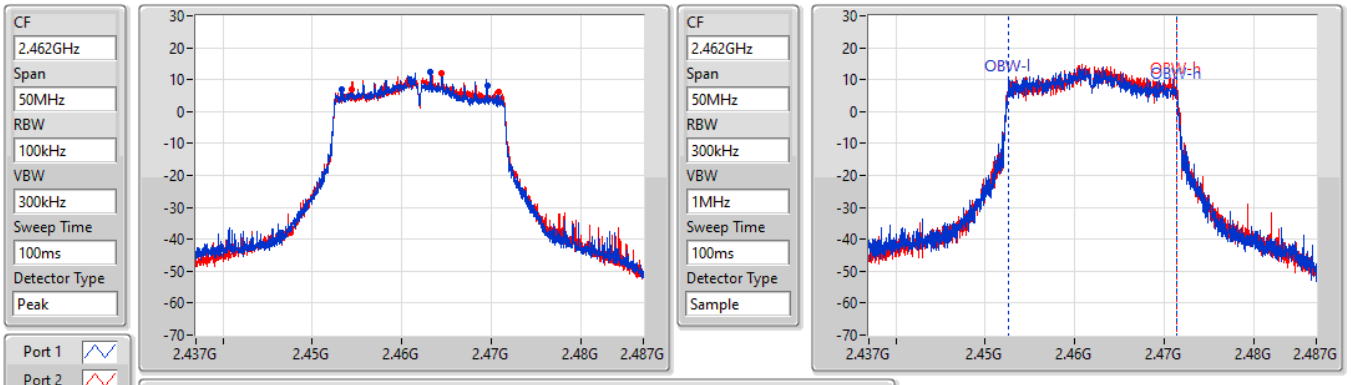


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
12.575M	2.43195G	2.444525G	18.816M	2.427605G	2.44642G	500k	1
16.75M	2.429475G	2.446225G	18.816M	2.42763G	2.446445G	500k	2

802.11ax HEW20-BF_Nss1,(MCS0)_2TX EBW

2462MHz

29/04/2022

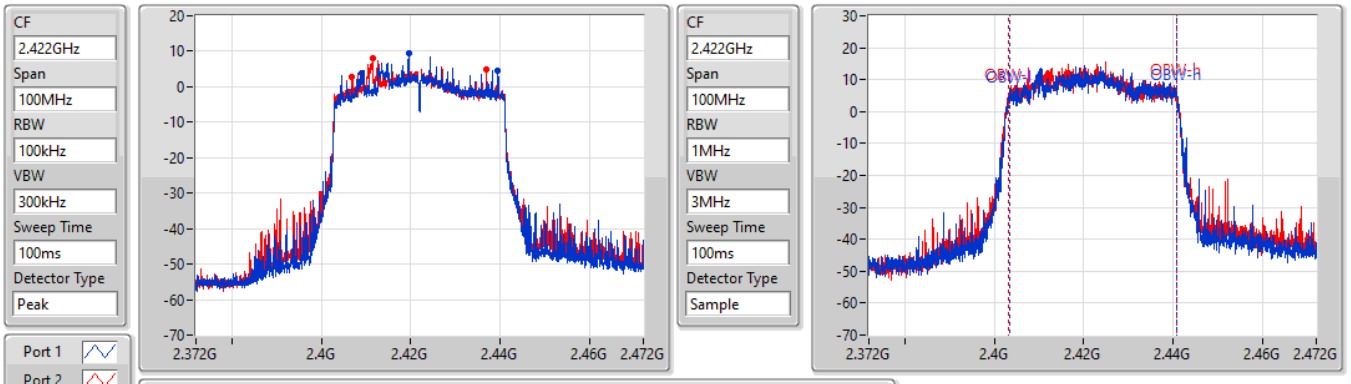


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.275M	2.45325G	2.469525G	18.816M	2.452555G	2.47137G	500k	1
16.5M	2.454375G	2.470875G	18.841M	2.452555G	2.471395G	500k	2

802.11ax HEW40-BF_Nss1,(MCS0)_2TX EBW

2422MHz

29/04/2022

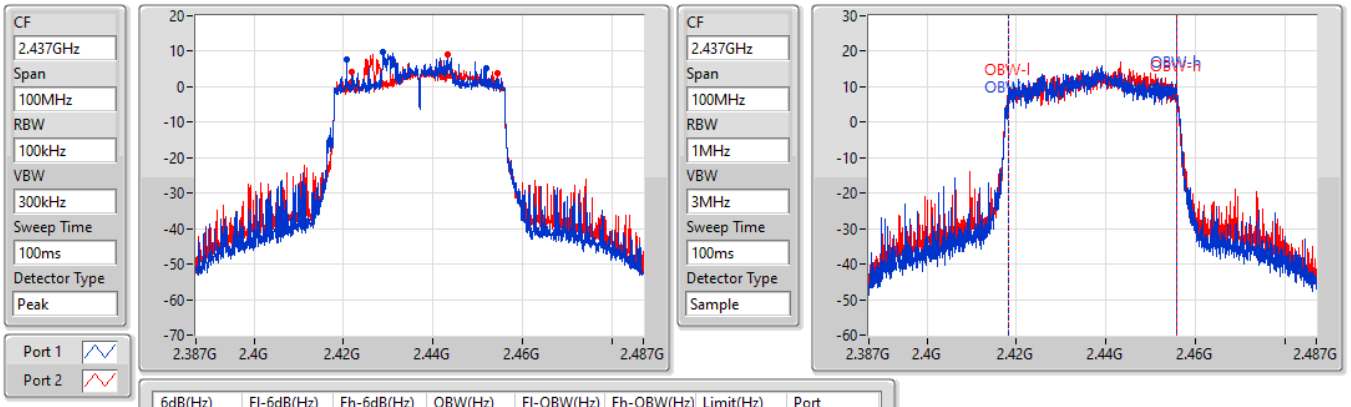


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
30.3M	2.40915G	2.43945G	37.481M	2.403359G	2.440841G	500k	1
30.1M	2.4069G	2.437G	37.481M	2.403259G	2.440741G	500k	2

802.11ax HEW40-BF_Nss1,(MCS0)_2TX EBW

2437MHz

29/04/2022

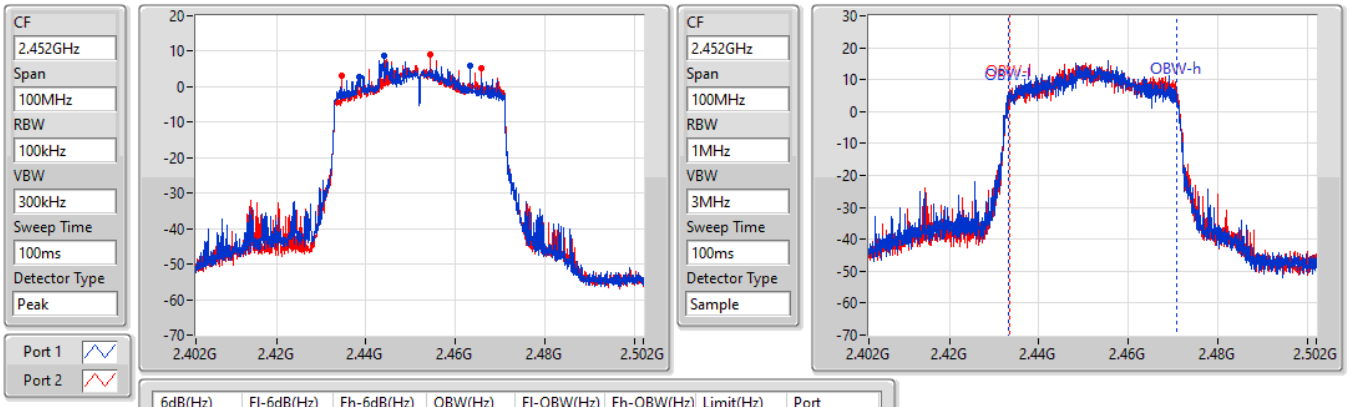


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
31.25M	2.4207G	2.45195G	37.731M	2.418159G	2.455891G	500k	1
32.55M	2.42195G	2.4545G	37.731M	2.418109G	2.455841G	500k	2

802.11ax HEW40-BF_Nss1,(MCS0)_2TX EBW

2452MHz

29/04/2022



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
24.85M	2.4384G	2.46325G	37.431M	2.433259G	2.470691G	500k	1
31.25M	2.4345G	2.46575G	37.381M	2.433409G	2.470791G	500k	2

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	28.68	0.73790
802.11g_Nss1,(6Mbps)_2TX	28.30	0.67608
802.11n HT20_Nss1,(MCS0)_2TX	26.01	0.39902
802.11n HT40_Nss1,(MCS0)_2TX	22.30	0.16982
VHT20_Nss1,(MCS0)_2TX	25.85	0.38459
VHT40_Nss1,(MCS0)_2TX	22.31	0.17022
VHT20-BF_Nss1,(MCS0)_2TX	25.89	0.38815
VHT40-BF_Nss1,(MCS0)_2TX	22.54	0.17947
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	26.07	0.40458
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	22.66	0.18450

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.33	22.94	23.04	26.00	30.00
2417MHz						
2437MHz	Pass	5.33	25.87	25.45	28.68	30.00
2462MHz	Pass	5.33	24.21	24.61	27.42	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.33	21.25	21.27	24.27	30.00
2417MHz	Pass	5.33	22.56	22.39	25.49	30.00
2437MHz	Pass	5.33	25.35	25.22	28.30	30.00
2462MHz	Pass	5.33	22.58	22.86	25.73	30.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.33	19.15	19.01	22.09	30.00
2417MHz	Pass	5.33	21.52	21.19	24.37	30.00
2437MHz	Pass	5.33	23.33	22.64	26.01	30.00
2462MHz	Pass	5.33	21.05	20.74	23.91	30.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	5.33	18.31	17.96	21.15	30.00
2437MHz	Pass	5.33	19.63	18.93	22.30	30.00
2452MHz	Pass	5.33	18.86	18.55	21.72	30.00
VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.33	18.83	18.98	21.92	30.00
2417MHz	Pass	5.33	21.36	21.15	24.27	30.00
2437MHz	Pass	5.33	22.98	22.69	25.85	30.00
2462MHz	Pass	5.33	20.91	20.78	23.86	30.00
VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	5.33	18.33	17.95	21.15	30.00
2437MHz	Pass	5.33	19.44	19.15	22.31	30.00
2452MHz	Pass	5.33	18.87	18.58	21.74	30.00
VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	8.34	18.52	19.38	21.98	27.66
2417MHz	Pass	8.34	21.36	21.56	24.47	27.66
2437MHz	Pass	8.34	22.91	22.85	25.89	27.66
2462MHz	Pass	8.34	20.93	20.81	23.88	27.66
VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	8.34	18.06	18.21	21.15	27.66
2437MHz	Pass	8.34	19.05	19.96	22.54	27.66
2452MHz	Pass	8.34	18.63	18.82	21.74	27.66
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	8.34	18.62	19.51	22.10	27.66
2417MHz	Pass	8.34	21.42	21.68	24.56	27.66
2437MHz	Pass	8.34	23.08	23.04	26.07	27.66
2462MHz	Pass	8.34	21.08	20.97	24.04	27.66
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	8.34	18.10	18.35	21.24	27.66
2437MHz	Pass	8.34	19.13	20.11	22.66	27.66
2452MHz	Pass	8.34	18.74	19.00	21.88	27.66

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	4.88
802.11g_Nss1,(6Mbps)_2TX	1.82
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	2.72
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-4.24

RBW = 3kHz;

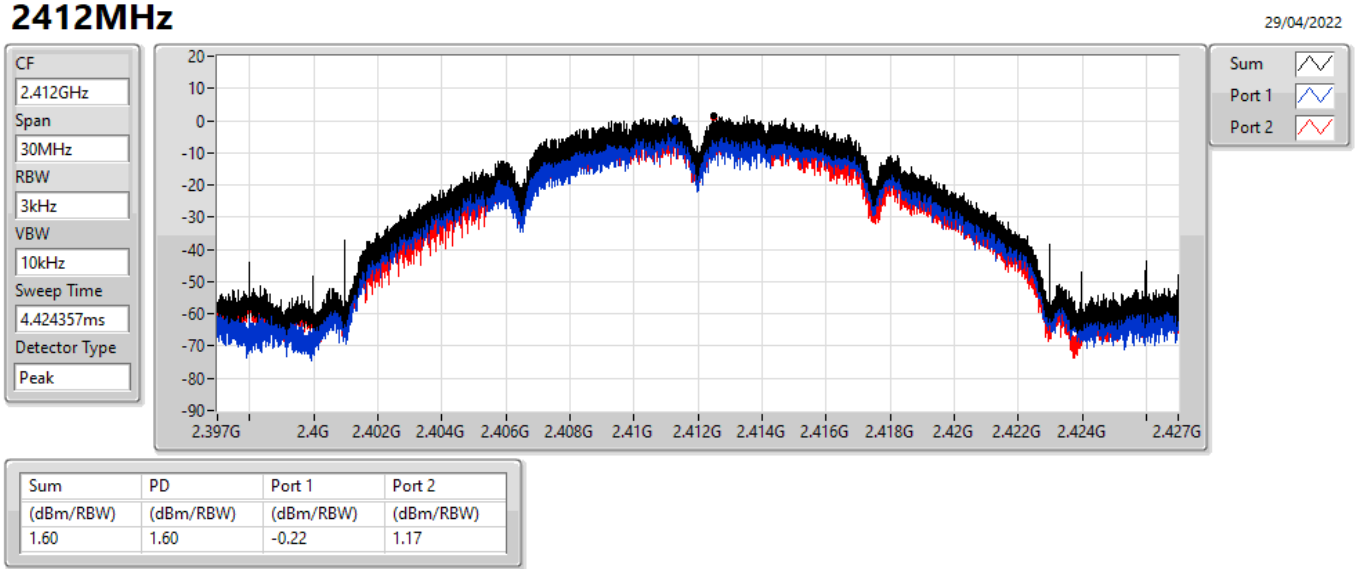
Result

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	8.34	-0.22	1.17	1.60	5.66
2437MHz	Pass	8.34	3.81	3.46	4.88	5.66
2462MHz	Pass	8.34	0.84	2.19	3.81	5.66
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	8.34	-4.52	-2.68	-1.82	5.66
2437MHz	Pass	8.34	-0.53	-0.14	1.82	5.66
2462MHz	Pass	8.34	-2.14	-3.50	-1.12	5.66
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	8.34	-5.18	-3.40	-1.71	5.66
2437MHz	Pass	8.34	-1.20	1.48	2.72	5.66
2462MHz	Pass	8.34	-2.61	-2.44	-0.37	5.66
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	8.34	-5.51	-5.10	-4.76	5.66
2437MHz	Pass	8.34	-6.21	-7.59	-5.00	5.66
2452MHz	Pass	8.34	-6.35	-5.53	-4.24	5.66

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;

802.11b_Nss1,(1Mbps)_2TX PSD

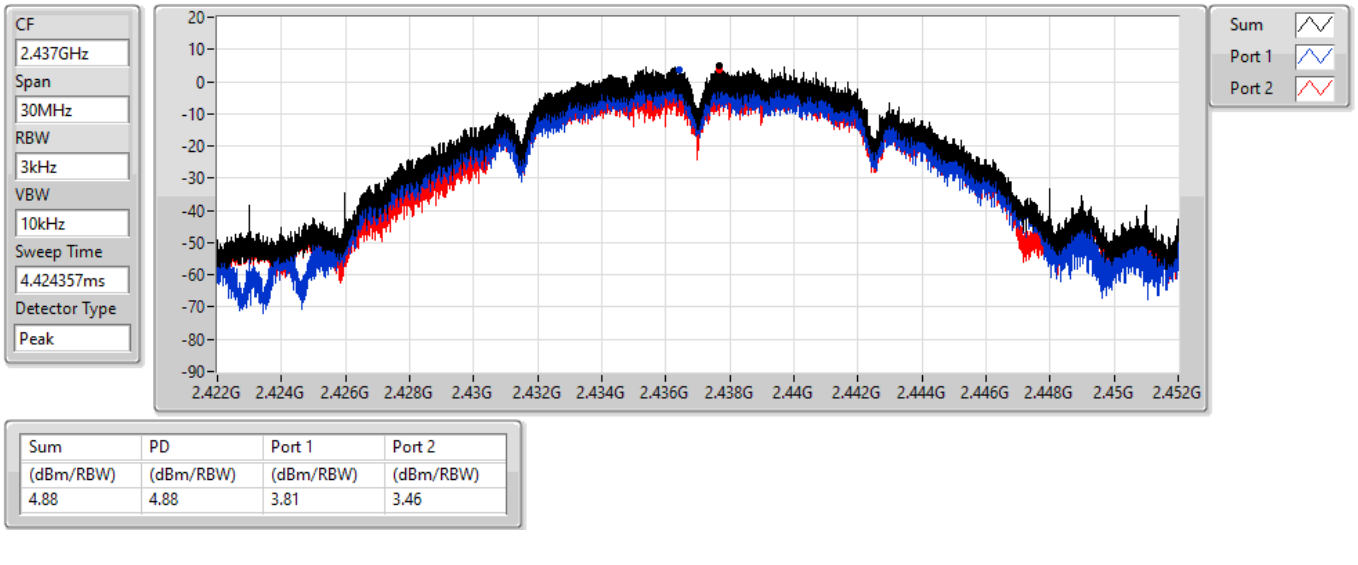
2412MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.60	1.60	-0.22	1.17

802.11b_Nss1,(1Mbps)_2TX PSD

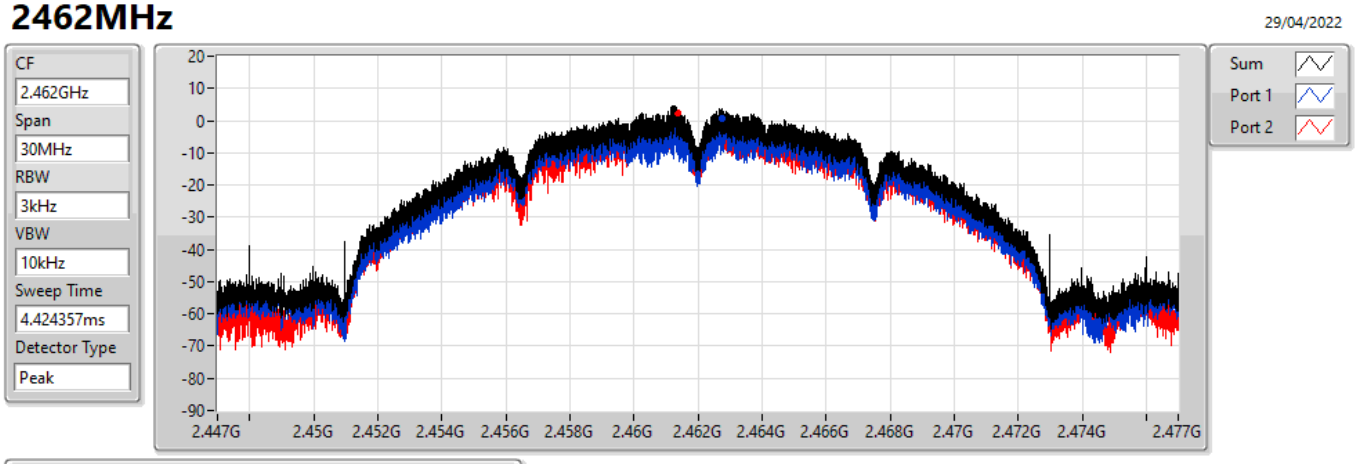
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.88	4.88	3.81	3.46

802.11b_Nss1,(1Mbps)_2TX PSD

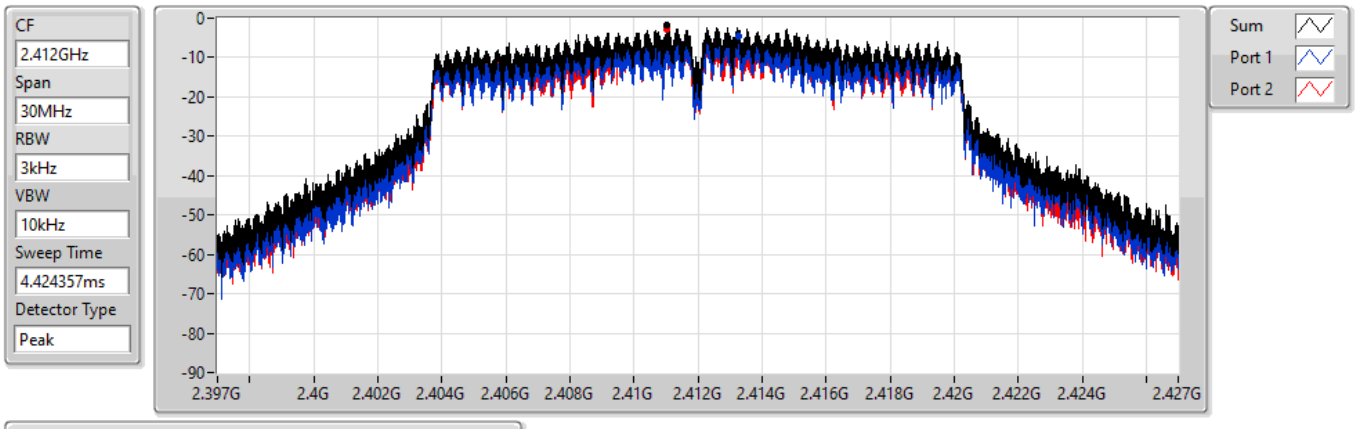
2462MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.81	3.81	0.84	2.19

802.11g_Nss1,(6Mbps)_2TX PSD

2412MHz

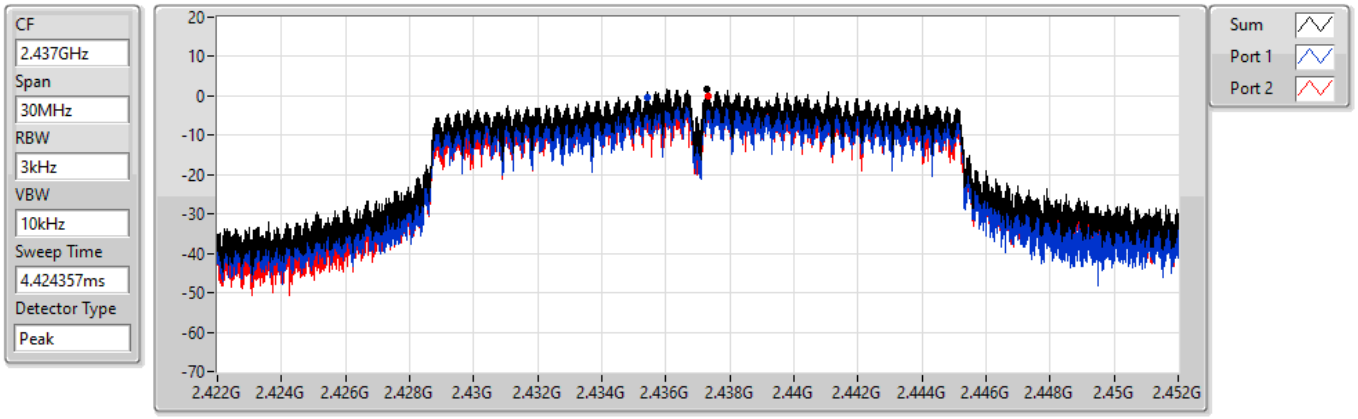


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.82	-1.82	-4.52	-2.68

802.11g_Nss1,(6Mbps)_2TX PSD

2437MHz

29/04/2022

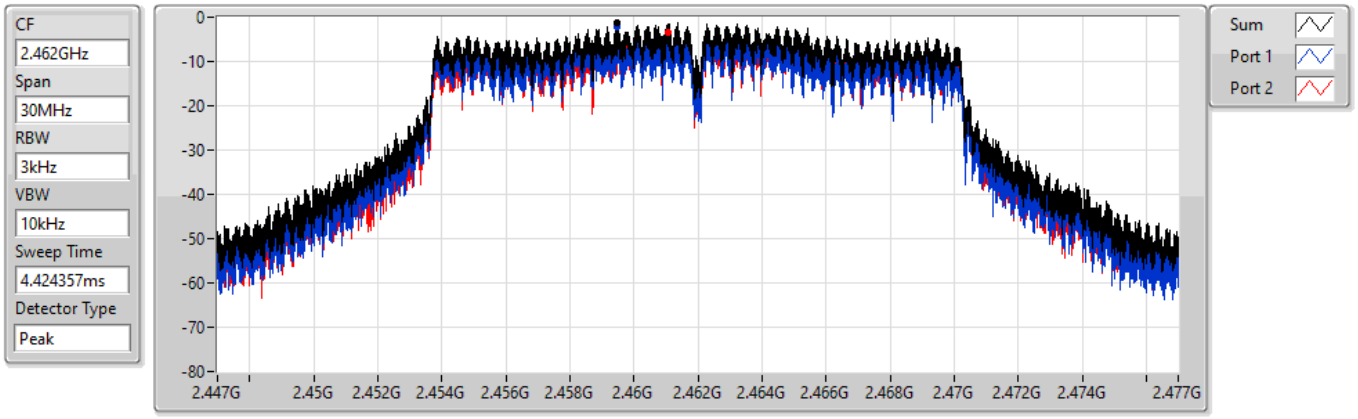


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.82	1.82	-0.53	-0.14

802.11g_Nss1,(6Mbps)_2TX PSD

2462MHz

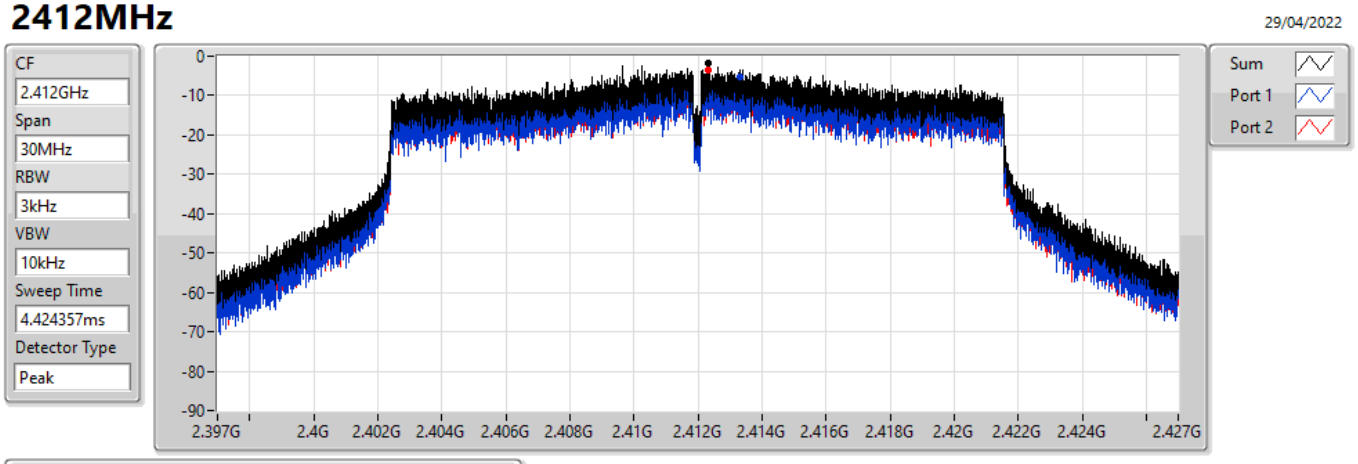
29/04/2022



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.12	-1.12	-2.14	-3.50

802.11ax HEW20-BF_Nss1,(MCS0)_2TX PSD

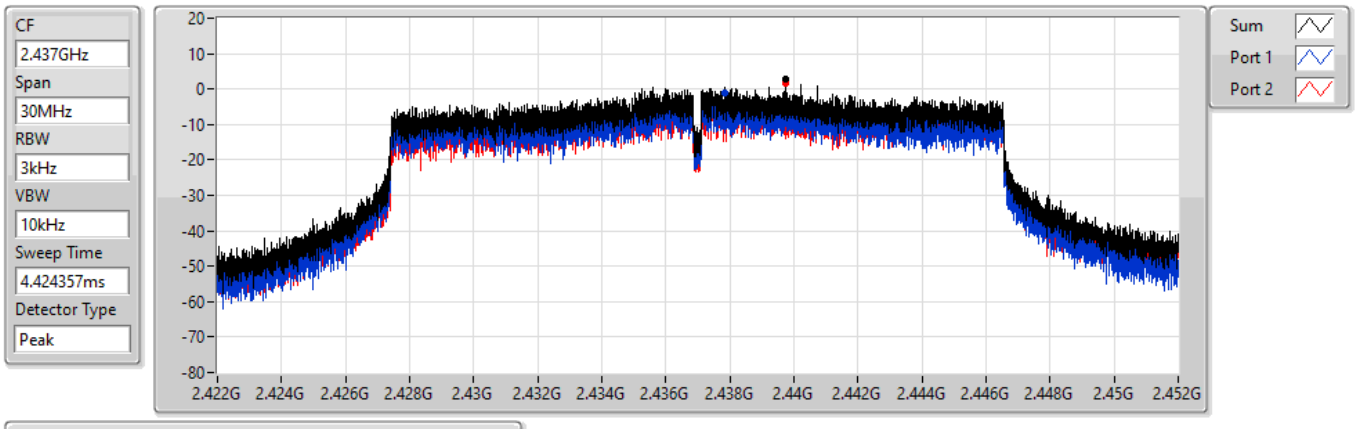
2412MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.71	-1.71	-5.18	-3.40

802.11ax HEW20-BF_Nss1,(MCS0)_2TX PSD

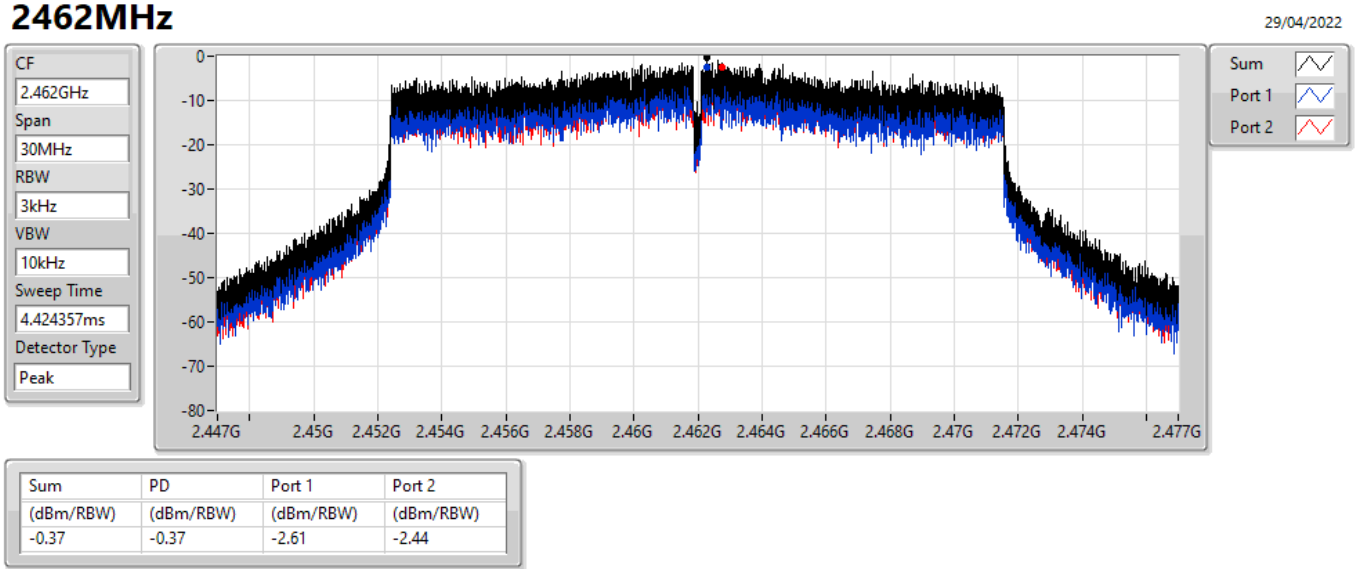
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.72	2.72	-1.20	1.48

802.11ax HEW20-BF_Nss1,(MCS0)_2TX PSD

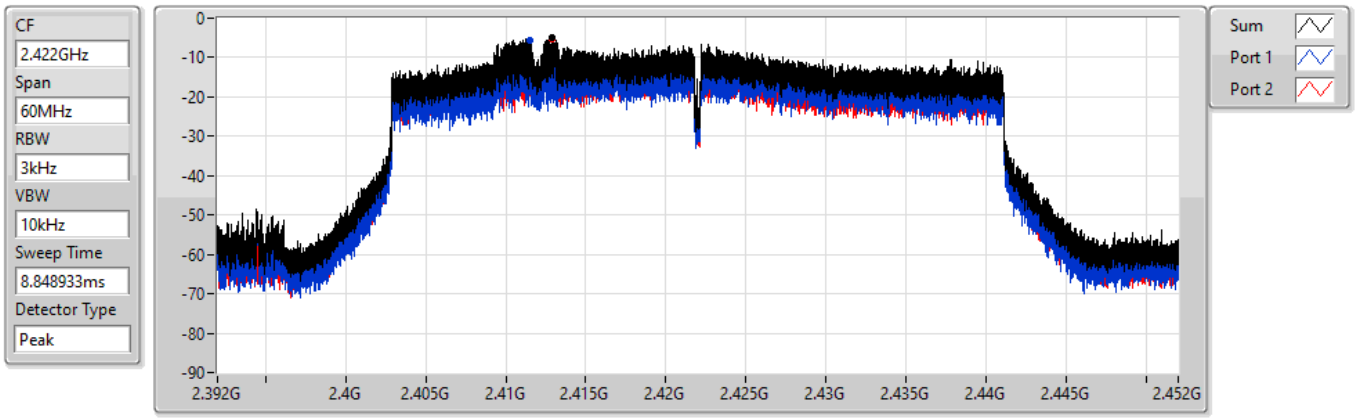
2462MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.37	-0.37	-2.61	-2.44

802.11ax HEW40-BF_Nss1,(MCS0)_2TX PSD

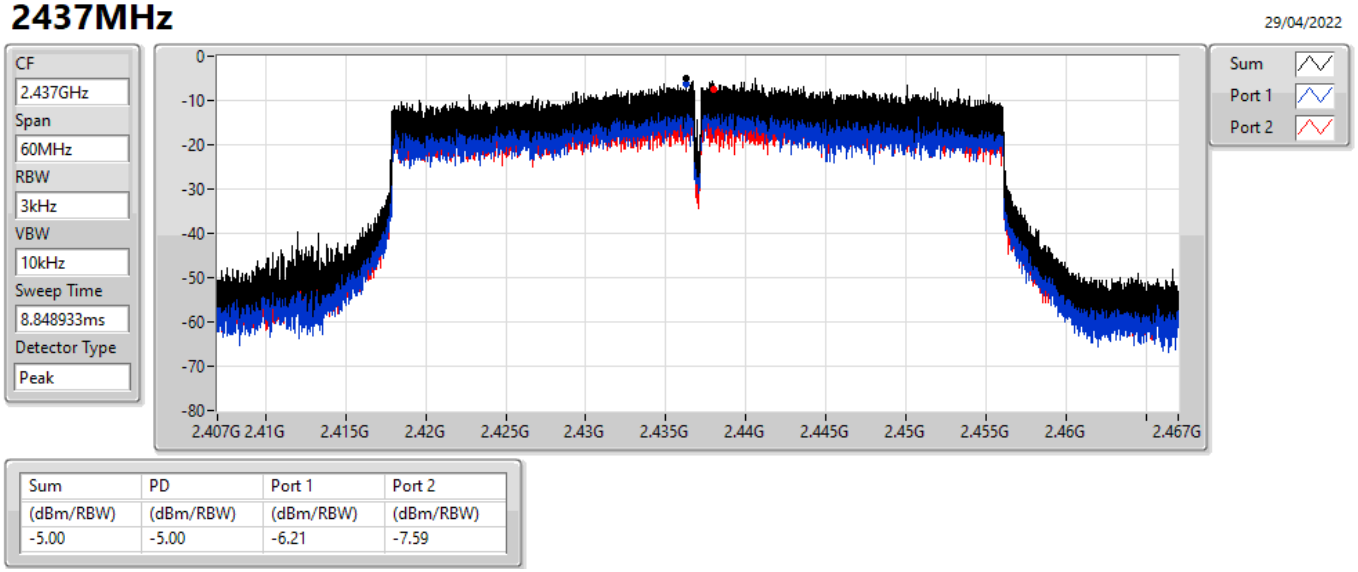
2422MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.76	-4.76	-5.51	-5.10

802.11ax HEW40-BF_Nss1,(MCS0)_2TX PSD

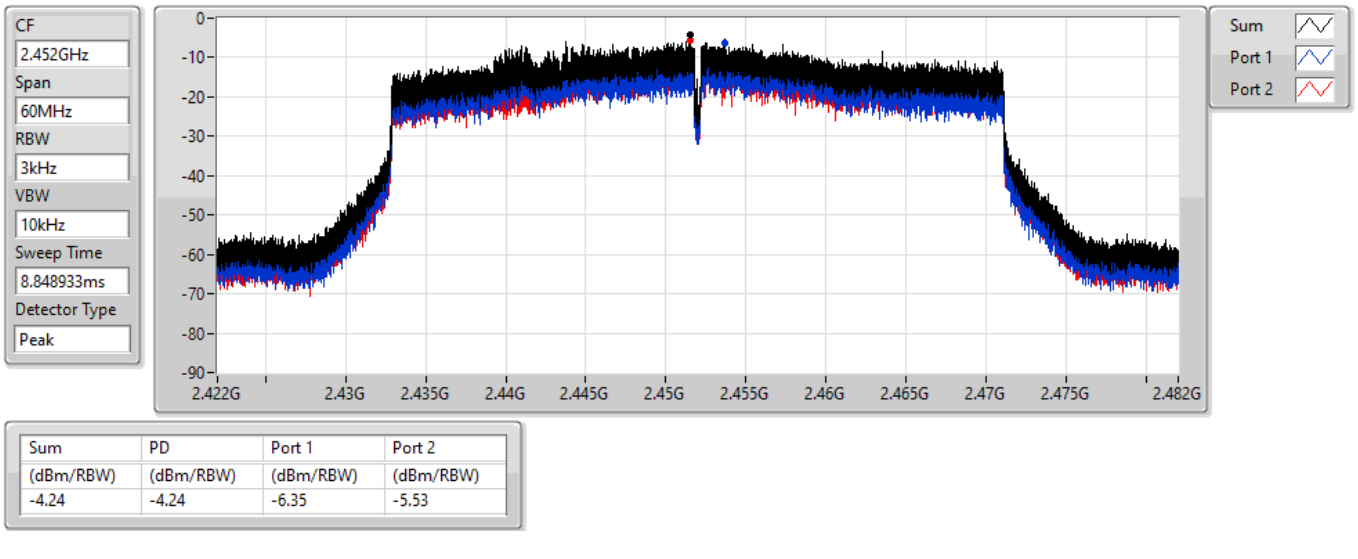
2437MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-5.00	-5.00	-6.21	-7.59

802.11ax HEW40-BF_Nss1,(MCS0)_2TX PSD

2452MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.24	-4.24	-6.35	-5.53

Summary

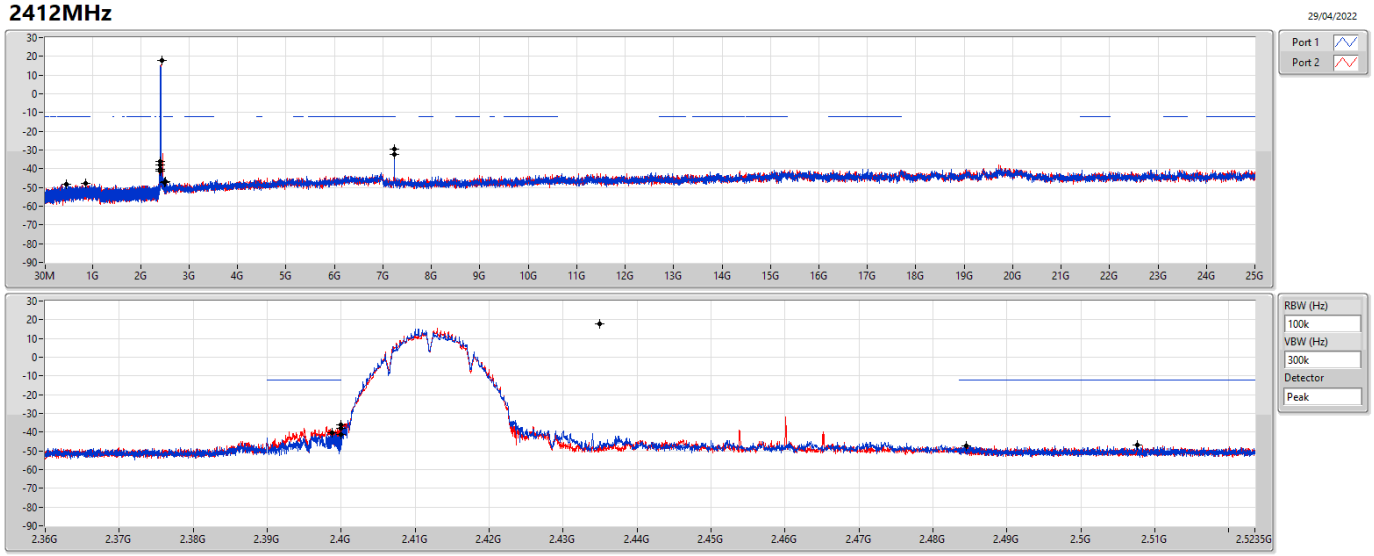
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	2.43499G	17.90	-12.10	858.9M	-47.85	2.39998G	-36.23	2.4G	-38.01	2.50758G	-46.69	7.23795G	-29.72	2
802.11g_Nss1,(6Mbps)_2TX	Pass	2.4357G	16.51	-13.49	724.63M	-47.73	2.4G	-29.12	2.4G	-29.33	2.50704G	-47.17	7.23233G	-36.13	2
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	Pass	2.43824G	15.57	-14.43	851.33M	-48.99	2.39966G	-29.05	2.4G	-31.98	2.4851G	-47.64	7.23233G	-34.80	2
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	Pass	2.44066G	9.57	-20.43	338.01M	-47.68	2.39976G	-30.86	2.4G	-38.05	2.55054G	-47.80	24.80929G	-40.70	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43499G	17.90	-12.10	465.13M	-48.05	2.3988G	-40.52	2.4G	-41.41	2.4845G	-47.20	7.23233G	-32.42	1
2412MHz	Pass	2.43499G	17.90	-12.10	858.9M	-47.85	2.39998G	-36.23	2.4G	-38.01	2.50758G	-46.69	7.23795G	-29.72	2
2437MHz	Pass	2.43499G	17.90	-12.10	2.02943G	-48.18	2.39944G	-42.71	2.4G	-43.62	2.484G	-45.72	23.51093G	-40.48	1
2437MHz	Pass	2.43499G	17.90	-12.10	686.77M	-47.84	2.39754G	-42.73	2.4G	-46.50	2.48404G	-44.36	17.05456G	-40.17	2
2462MHz	Pass	2.43499G	17.90	-12.10	455.81M	-48.04	2.391G	-44.72	2.4835G	-48.83	2.48396G	-43.43	24.21051G	-40.63	1
2462MHz	Pass	2.43499G	17.90	-12.10	788.71M	-47.60	2.39952G	-45.82	2.4835G	-47.30	2.48498G	-45.27	15.27329G	-40.28	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.4357G	16.51	-13.49	839.68M	-48.33	2.39988G	-29.83	2.4G	-31.01	2.5063G	-47.74	7.23514G	-39.01	1
2412MHz	Pass	2.4357G	16.51	-13.49	724.63M	-47.73	2.4G	-29.12	2.4G	-29.33	2.50704G	-47.17	7.23233G	-36.13	2
2437MHz	Pass	2.4357G	16.51	-13.49	811.13M	-48.65	2.39984G	-31.31	2.4G	-34.25	2.4842G	-43.29	16.6275G	-40.16	1
2437MHz	Pass	2.4357G	16.51	-13.49	793.08M	-48.40	2.3995G	-33.70	2.4G	-36.17	2.4836G	-42.32	17.68952G	-40.95	2
2462MHz	Pass	2.4357G	16.51	-13.49	352.12M	-48.61	2.39906G	-46.73	2.4835G	-43.34	2.48358G	-40.37	24.80333G	-39.76	1
2462MHz	Pass	2.4357G	16.51	-13.49	2.12467G	-47.93	2.39348G	-45.58	2.4835G	-41.83	2.48356G	-41.44	15.25082G	-40.45	2
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43824G	15.57	-14.43	383.58M	-47.87	2.39948G	-31.18	2.4G	-31.00	2.49814G	-47.38	14.57933G	-40.37	1
2412MHz	Pass	2.43824G	15.57	-14.43	851.33M	-48.99	2.39966G	-29.05	2.4G	-31.98	2.4851G	-47.64	7.23233G	-34.80	2
2437MHz	Pass	2.43824G	15.57	-14.43	348.63M	-48.47	2.39852G	-34.30	2.4G	-45.89	2.48414G	-42.57	23.50531G	-40.23	1
2437MHz	Pass	2.43824G	15.57	-14.43	759.58M	-48.09	2.39146G	-41.14	2.4G	-46.76	2.48414G	-45.78	24.50552G	-40.22	2
2462MHz	Pass	2.43824G	15.57	-14.43	907.54M	-47.90	2.39436G	-47.16	2.4835G	-46.53	2.48386G	-44.61	17.68952G	-40.35	1
2462MHz	Pass	2.43824G	15.57	-14.43	813.46M	-48.16	2.39908G	-46.66	2.4835G	-46.58	2.48388G	-40.40	23.19626G	-40.35	2
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.44066G	9.57	-20.43	338.01M	-47.68	2.39976G	-30.86	2.4G	-38.05	2.55054G	-47.80	24.80929G	-40.70	1
2422MHz	Pass	2.44066G	9.57	-20.43	619.39M	-47.67	2.39948G	-33.24	2.4G	-36.22	2.50526G	-46.84	16.56107G	-39.67	2
2437MHz	Pass	2.44066G	9.57	-20.43	498.31M	-48.16	2.39896G	-33.35	2.4G	-43.49	2.48446G	-41.48	24.15022G	-40.51	1
2437MHz	Pass	2.44066G	9.57	-20.43	319.11M	-47.56	2.39976G	-30.92	2.4G	-40.88	2.48614G	-38.88	24.84855G	-39.96	2
2452MHz	Pass	2.44066G	9.57	-20.43	772.53M	-47.70	2.39644G	-38.05	2.4835G	-44.76	2.48362G	-36.75	24.79527G	-40.17	1
2452MHz	Pass	2.44066G	9.57	-20.43	301.94M	-47.71	2.4G	-47.52	2.4835G	-45.45	2.4859G	-44.96	15.34389G	-39.96	2

802.11b_Nss1,(1Mbps)_2TX **CSENdB**

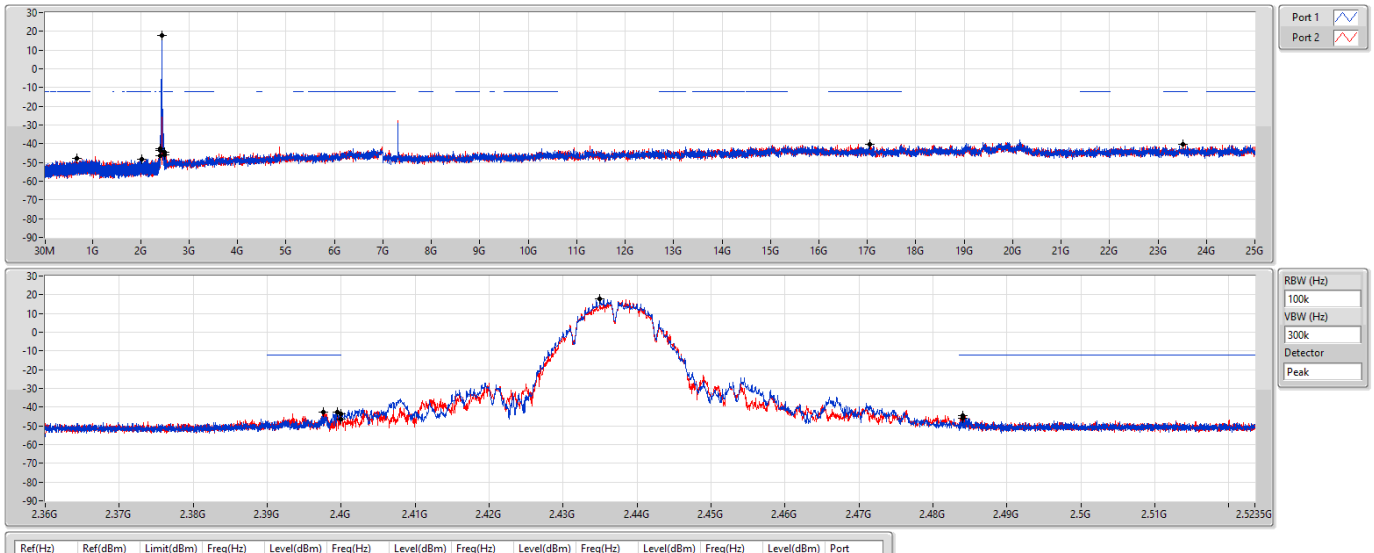
2412MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43499G	17.90	-12.10	465.13M	-48.05	2.3988G	-40.52	2.4G	-41.41	2.4845G	-47.20	7.23233G	-32.42	1
2.43499G	17.90	-12.10	858.9M	-47.85	2.39998G	-36.23	2.4G	-38.01	2.50758G	-46.69	7.23795G	-29.72	2

802.11b_Nss1,(1Mbps)_2TX **CSENdB**

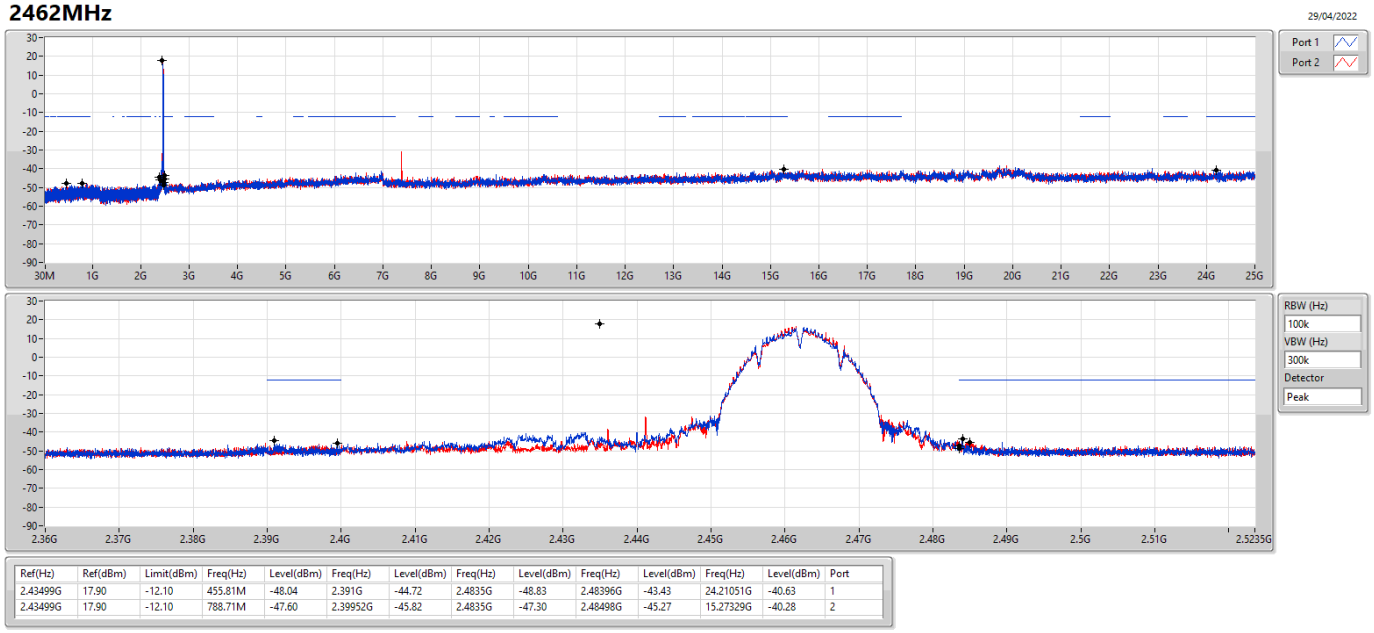
2437MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43499G	17.90	-12.10	2.02943G	-48.18	2.39944G	-42.71	2.4G	-43.62	2.484G	-45.72	23.51093G	-40.48	1
2.43499G	17.90	-12.10	686.77M	-47.84	2.39754G	-42.73	2.4G	-46.50	2.48404G	-44.36	17.05456G	-40.17	2

802.11b_Nss1,(1Mbps)_2TX **CSENdB**

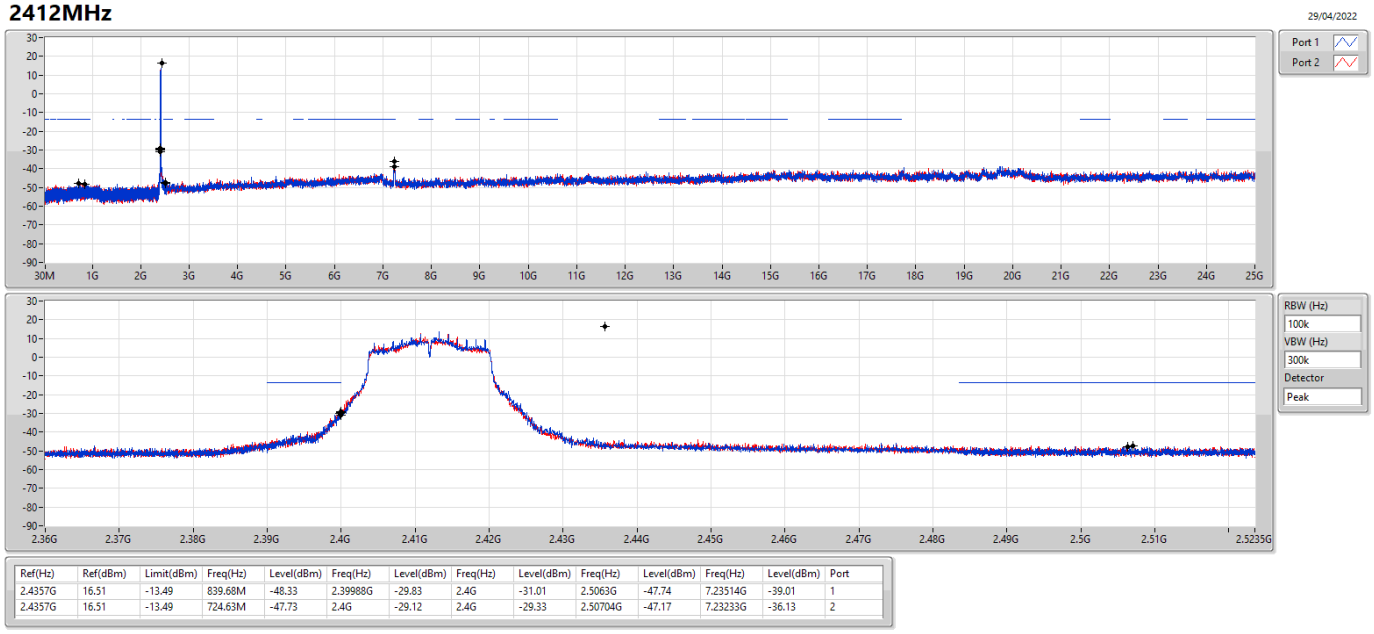
2462MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43499G	17.90	-12.10	455.81M	-48.04	2.391G	-44.72	2.4835G	-48.83	2.48396G	-43.43	24.21051G	-40.63	1
2.43499G	17.90	-12.10	788.71M	-47.60	2.39952G	-45.82	2.4835G	-47.30	2.48498G	-45.27	15.27329G	-40.28	2

802.11g_Nss1,(6Mbps)_2TX **CSENdB**

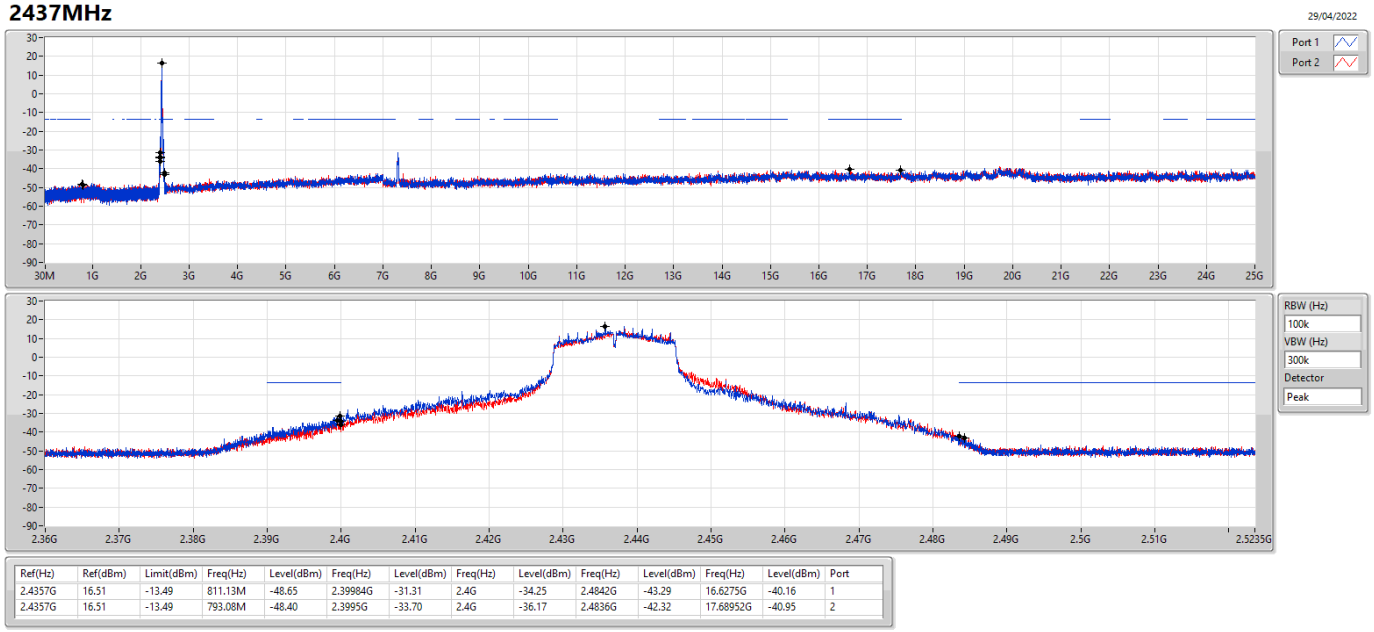
2412MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.4357G	16.51	-13.49	839.68M	-48.33	2.39988G	-29.83	2.4G	-31.01	2.5063G	-47.74	7.23514G	-39.01	1
2.4357G	16.51	-13.49	724.63M	-47.73	2.4G	-29.12	2.4G	-29.33	2.50704G	-47.17	7.23233G	-36.13	2

802.11g_Nss1,(6Mbps)_2TX **CSENdB**

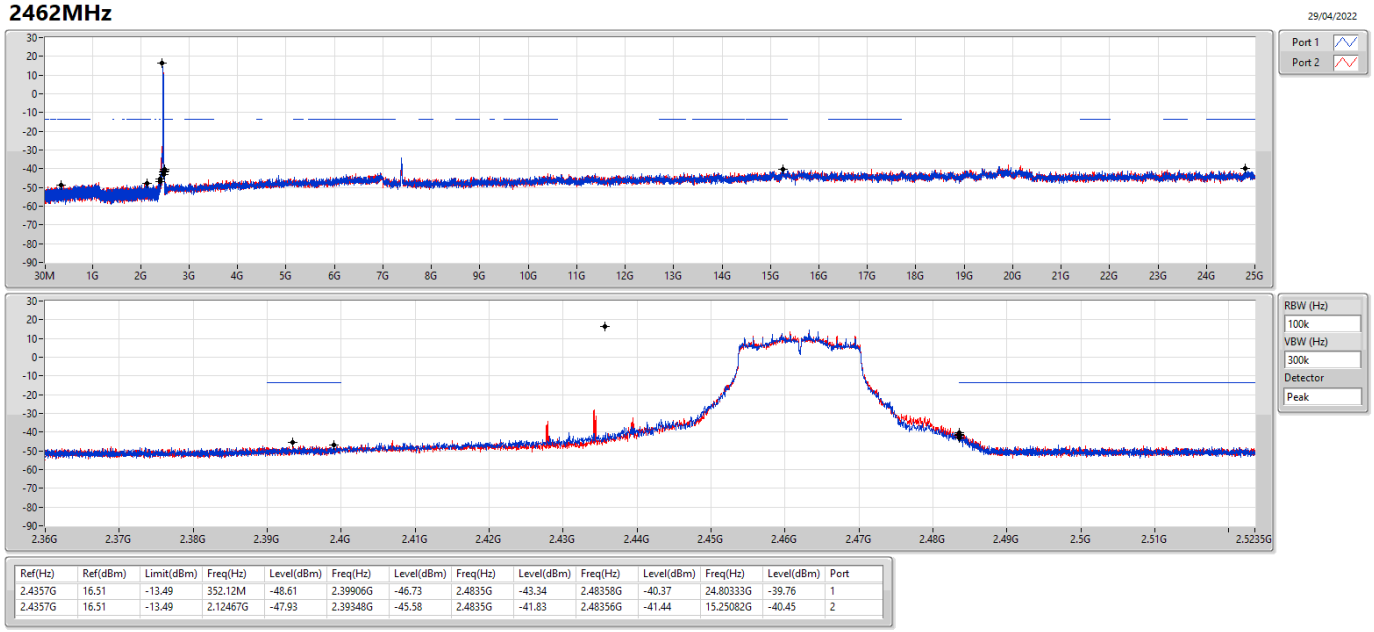
2437MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.4357G	16.51	-13.49	811.13M	-48.65	2.39984G	-31.31	2.4G	-34.25	2.4842G	-43.29	16.6275G	-40.16	1
2.4357G	16.51	-13.49	793.08M	-48.40	2.3995G	-33.70	2.4G	-36.17	2.4836G	-42.32	17.68952G	-40.95	2

802.11g_Nss1,(6Mbps)_2TX **CSENdB**

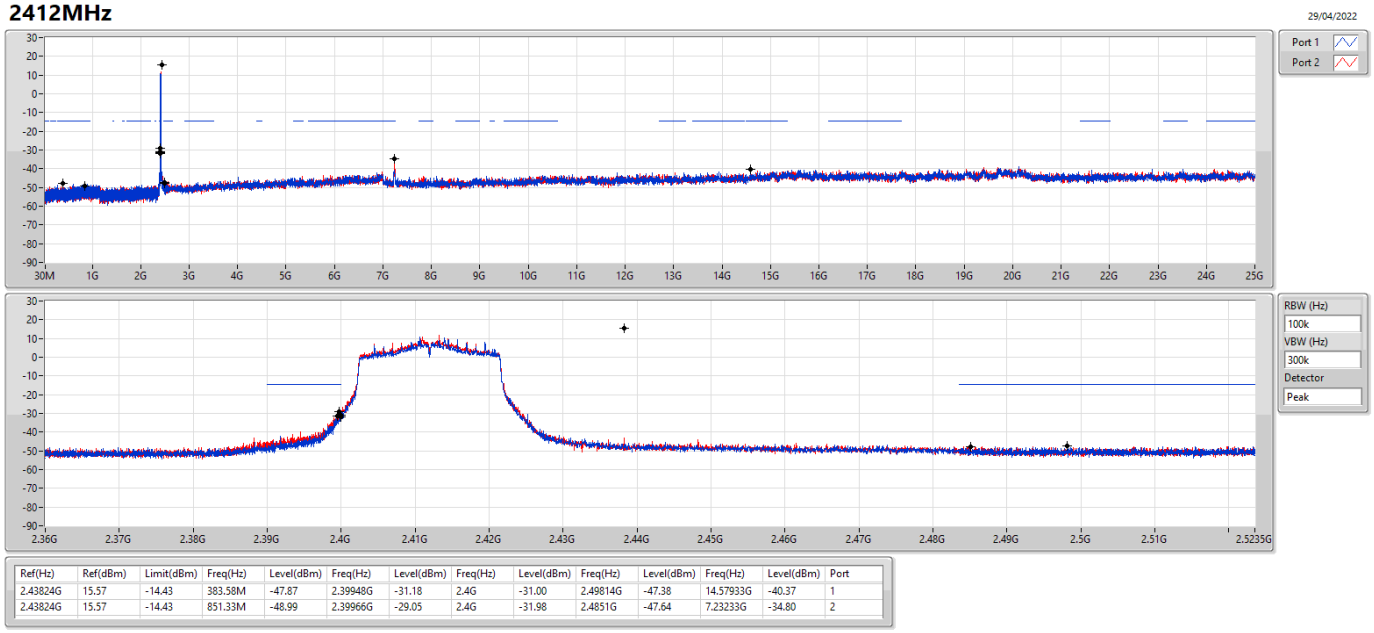
2462MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.4357G	16.51	-13.49	352.12M	-48.61	2.39006G	-46.73	2.4835G	-43.34	2.48358G	-40.37	24.80333G	-39.76	1
2.4357G	16.51	-13.49	2.12467G	-47.93	2.39348G	-45.58	2.4835G	-41.83	2.48356G	-41.44	15.25082G	-40.45	2

802.11ax HEW20-BF_Nss1,(MCS0)_2TX **CSENdB**

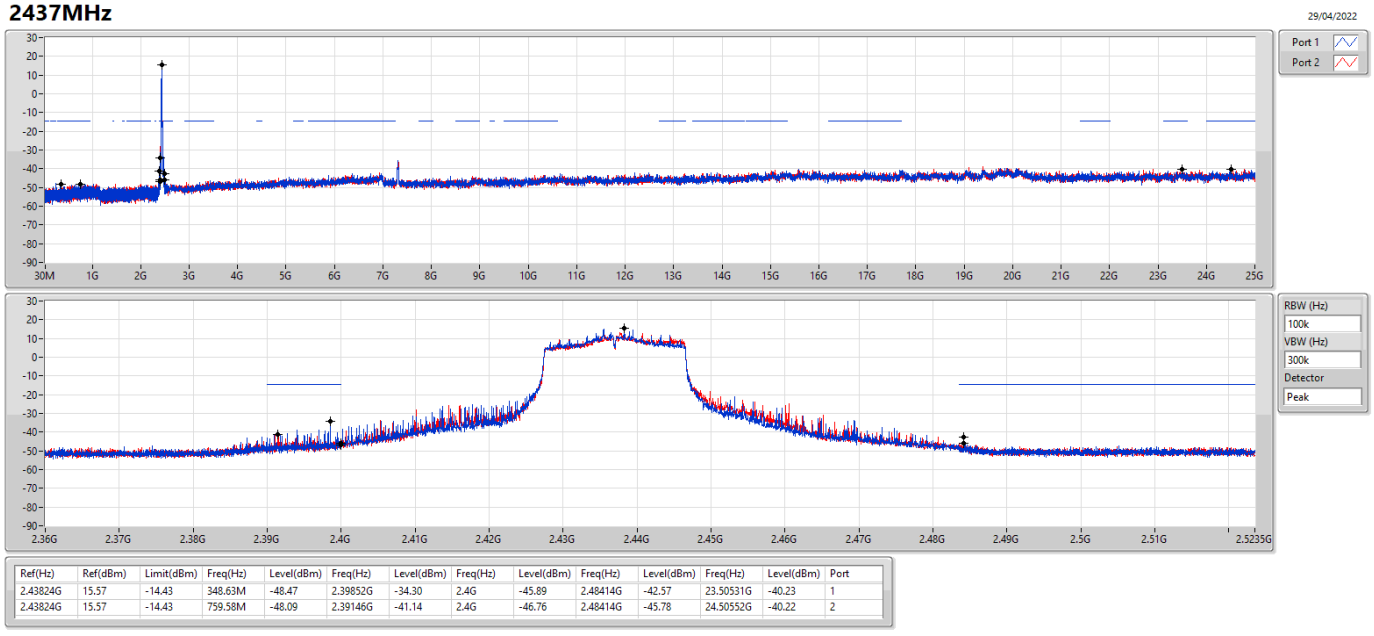
2412MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43824G	15.57	-14.43	383.58M	-47.87	2.39948G	-31.18	2.4G	-31.00	2.49814G	-47.38	14.57933G	-40.37	1
2.43824G	15.57	-14.43	851.33M	-48.99	2.39966G	-29.05	2.4G	-31.98	2.4851G	-47.64	7.23233G	-34.80	2

802.11ax HEW20-BF_Nss1,(MCS0)_2TX **CSENdB**

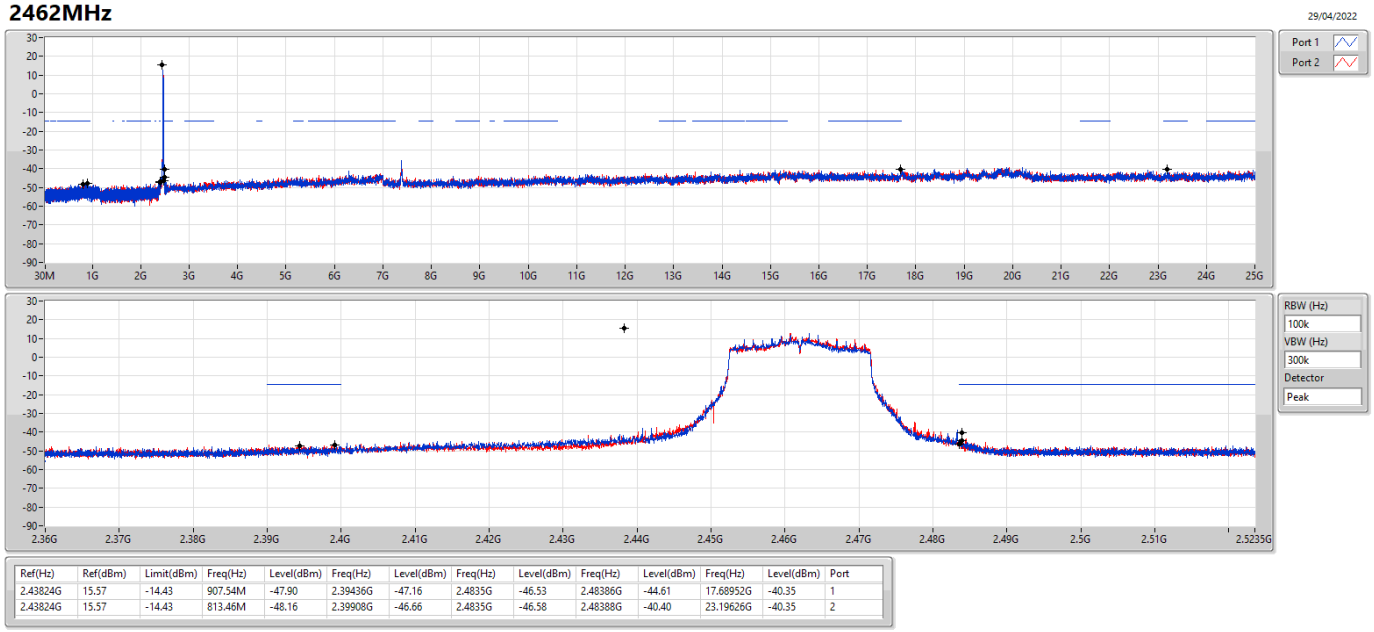
2437MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43824G	15.57	-14.43	348.63M	-48.47	2.39852G	-34.30	2.4G	-45.89	2.48414G	-42.57	23.50531G	-40.23	1
2.43824G	15.57	-14.43	759.58M	-48.09	2.39146G	-41.14	2.4G	-46.76	2.48414G	-45.78	24.50552G	-40.22	2

802.11ax HEW20-BF_Nss1,(MCS0)_2TX **CSENdB**

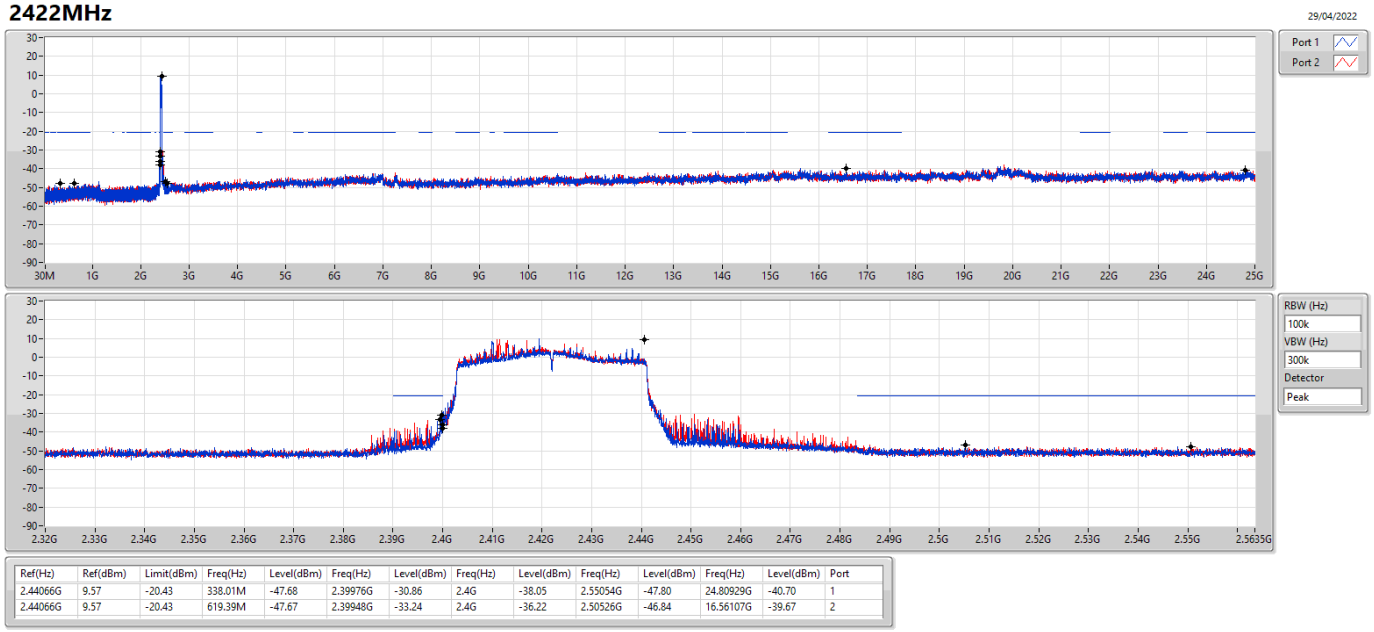
2462MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43824G	15.57	-14.43	907.54M	-47.90	2.39436G	-47.16	2.4835G	-46.53	2.48386G	-44.61	17.68952G	-40.35	1
2.43824G	15.57	-14.43	813.46M	-48.16	2.39908G	-46.66	2.4835G	-46.58	2.48388G	-40.40	23.19626G	-40.35	2

802.11ax HEW40-BF_Nss1,(MCS0)_2TX **CSENdB**

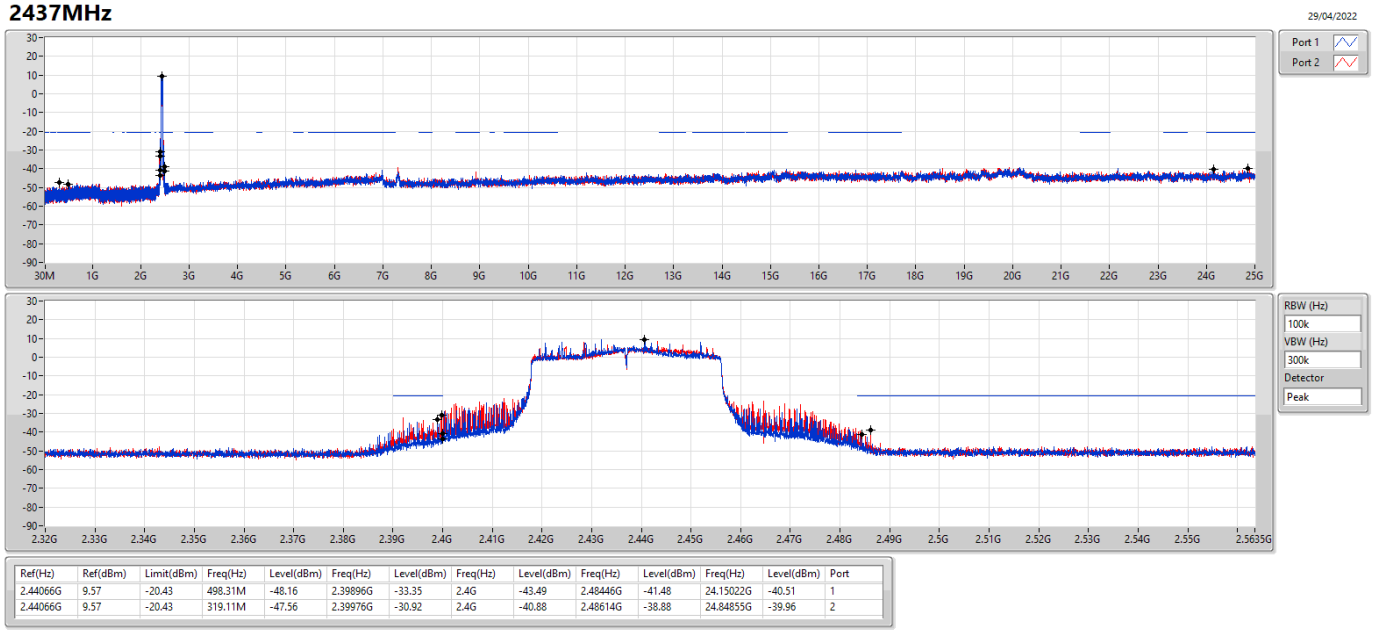
2422MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44066G	9.57	-20.43	338.01M	-47.68	2.39976G	-30.86	2.4G	-38.05	2.55054G	-47.80	24.80929G	-40.70	1
2.44066G	9.57	-20.43	619.39M	-47.67	2.39948G	-33.24	2.4G	-36.22	2.50526G	-46.84	16.56107G	-39.67	2

802.11ax HEW40-BF_Nss1,(MCS0)_2TX **CSENdB**

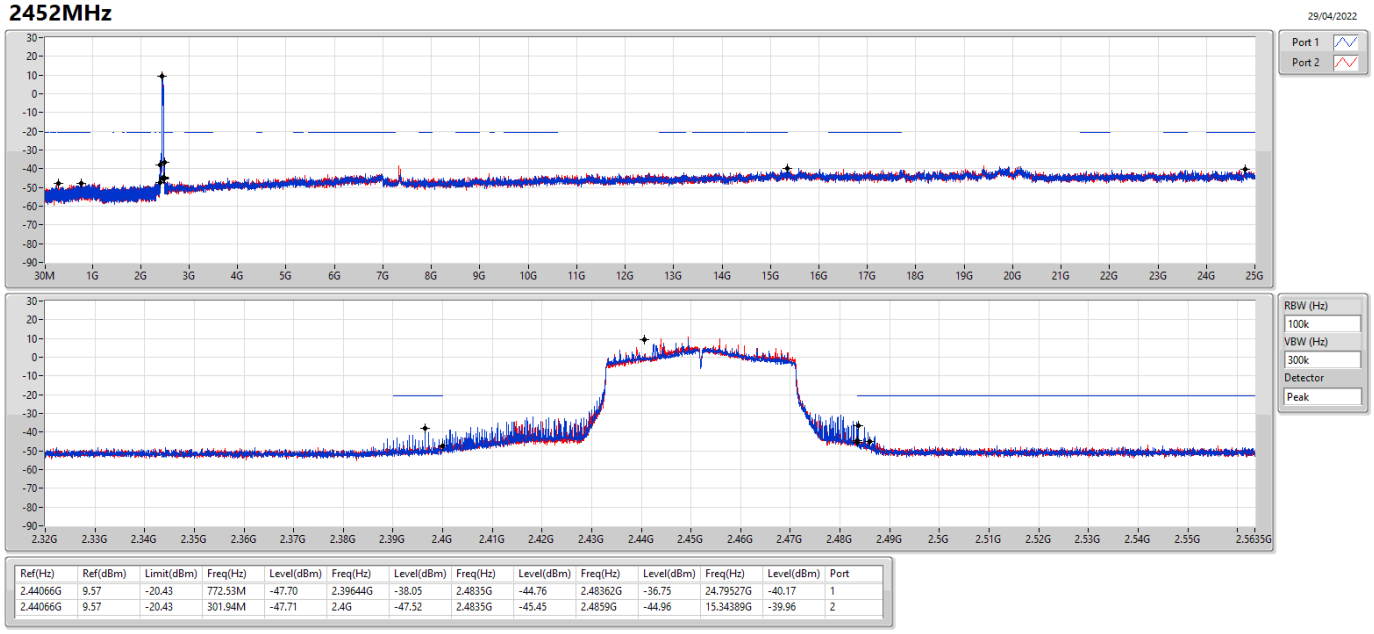
2437MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44066G	9.57	-20.43	498.31M	-48.16	2.39896G	-33.35	2.4G	-43.49	2.48446G	-41.48	24.15022G	-40.51	1
2.44066G	9.57	-20.43	319.11M	-47.56	2.39976G	-30.92	2.4G	-40.88	2.48614G	-38.88	24.84855G	-39.96	2

802.11ax HEW40-BF_Nss1,(MCS0)_2TX **CSENdB**

2452MHz



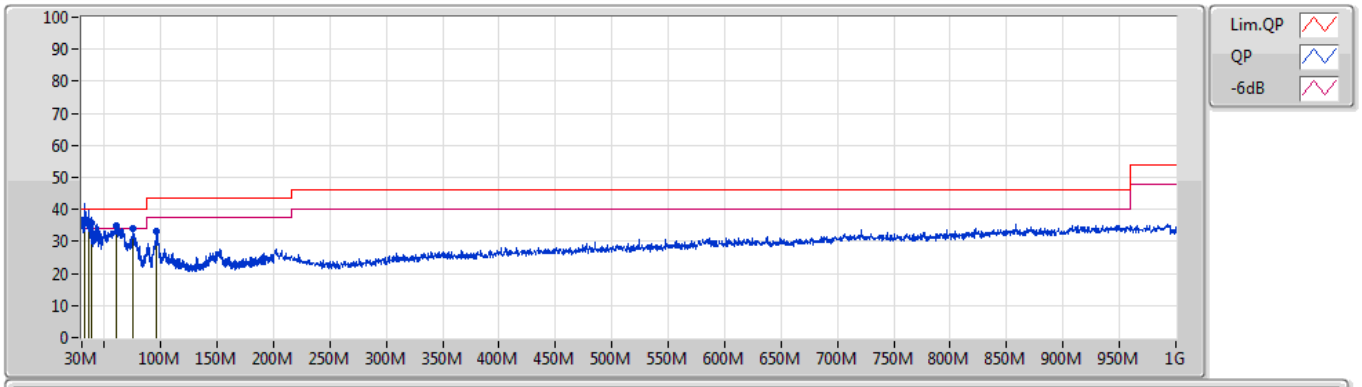
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44066G	9.57	-20.43	772.53M	-47.70	2.39644G	-38.05	2.4835G	-44.76	2.48362G	-36.75	24.79527G	-40.17	1
2.44066G	9.57	-20.43	301.94M	-47.71	2.4G	-47.52	2.4835G	-45.45	2.4859G	-44.96	15.34389G	-39.96	2

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 3	Pass	QP	32.81M	36.83	40.00	-3.17	Vertical

Mode 3

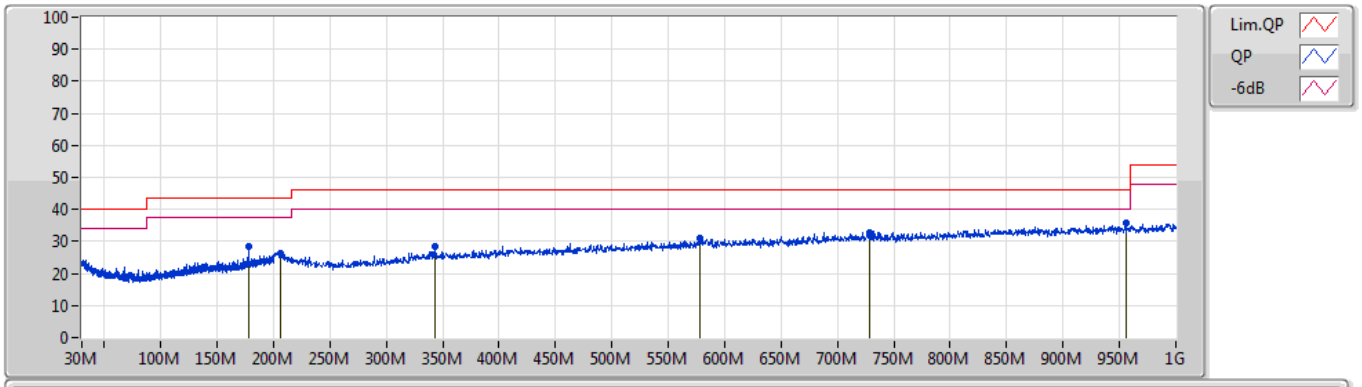
03/05/2022



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
QP	32.81M	36.83	40.00	-3.17	-13.87	3	Vertical	326	1.00	"Worst"	50.70	13.34	0.69	27.90
QP	35.87M	36.10	40.00	-3.90	-14.50	3	Vertical	1	1.00	-	50.60	12.70	0.73	27.93
QP	38.25M	35.63	40.00	-4.37	-15.07	3	Vertical	206	1.00	-	50.70	12.15	0.75	27.97
PK	60.52M	34.71	40.00	-5.29	-17.18	3	Vertical	298	2.00	-	51.89	9.64	0.96	27.78
PK	75.48M	33.98	40.00	-6.02	-17.57	3	Vertical	320	1.00	-	51.55	9.15	1.07	27.79
PK	96.64M	33.23	43.50	-10.27	-17.16	3	Vertical	164	3.00	-	50.39	9.44	1.22	27.82

Mode 3

03/05/2022



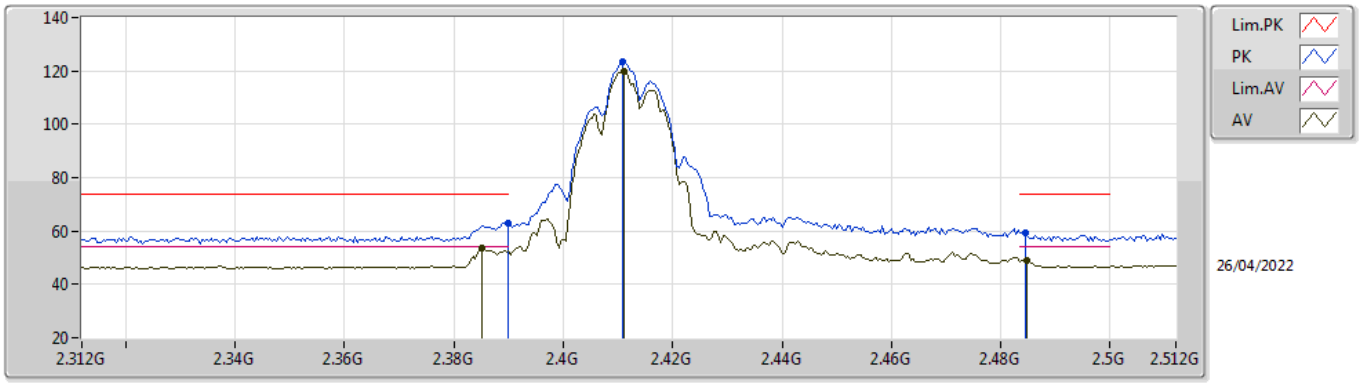
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	177.99M	28.46	43.50	-15.04	-12.71	3	Horizontal	40	1.00	-	41.17	13.00	1.68	27.39
PK	206M	26.49	43.50	-17.01	-9.19	3	Horizontal	161	1.00	-	35.68	15.54	1.82	26.55
PK	342.8M	28.47	46.00	-17.53	-9.16	3	Horizontal	265	1.00	-	37.63	15.25	2.41	26.82
PK	578.4M	30.83	46.00	-15.17	-5.58	3	Horizontal	24	2.00	-	36.41	19.10	3.19	27.87
PK	728.4M	32.86	46.00	-13.14	-3.31	3	Horizontal	68	1.00	-	36.17	20.69	3.62	27.62
PK	956M	35.62	46.00	-10.38	-0.04	3	Horizontal	247	3.00	"Worst"	35.66	22.10	4.20	26.34

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)_2TX	Pass	AV	2.3878G	53.98	54.00	-0.02	3	Horizontal	186	1.23	-

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX

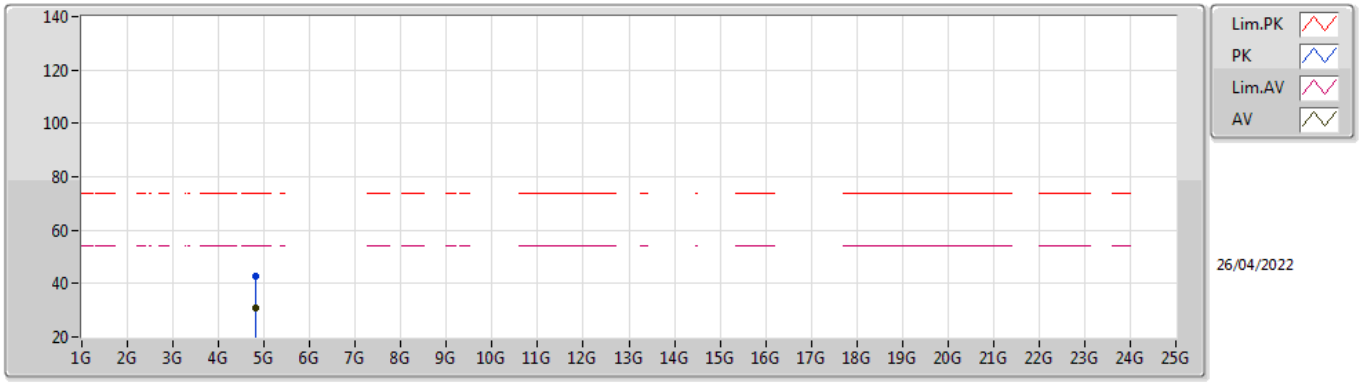


EUT X_2TX
Setting 23
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.39G	63.13	74.00	-10.87	32.72	3	Horizontal	185	2.73	-	27.62	2.79	-
AV	2.3852G	53.87	54.00	-0.13	23.45	3	Horizontal	185	2.73	-	27.63	2.79	-
PK	2.4108G	123.43	Inf	-Inf	93.04	3	Horizontal	185	2.73	-	27.58	2.81	-
AV	2.4112G	119.78	Inf	-Inf	89.39	3	Horizontal	185	2.73	-	27.58	2.81	-
PK	2.4844G	59.55	74.00	-14.45	29.17	3	Horizontal	185	2.73	-	27.50	2.88	-
AV	2.4848G	49.06	54.00	-4.94	18.68	3	Horizontal	185	2.73	-	27.50	2.88	-

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX

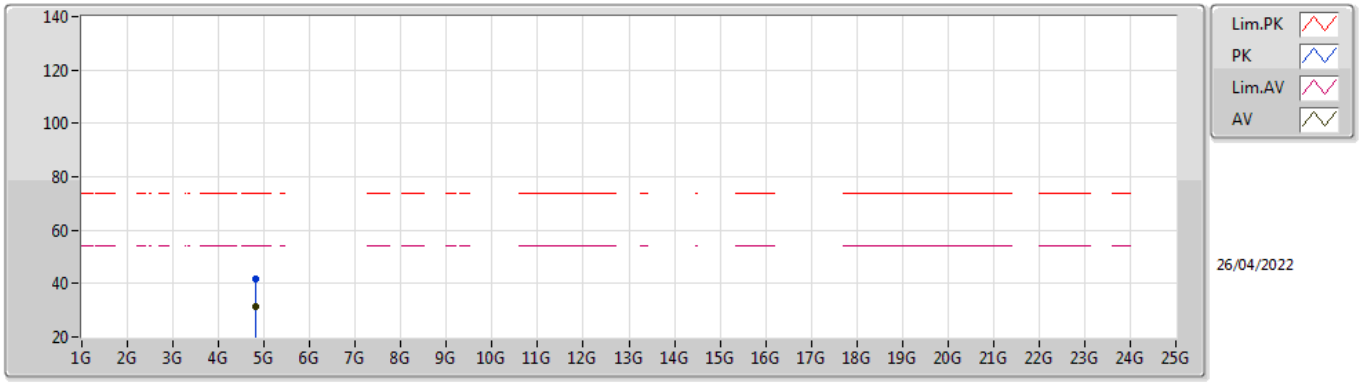


EUT X_2TX
Setting 23
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.82494G	42.58	74.00	-31.42	38.35	3	Vertical	284	1.60	-	31.35	5.10	32.22
AV	4.82392G	31.01	54.00	-22.99	26.78	3	Vertical	284	1.60	-	31.35	5.10	32.22

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX

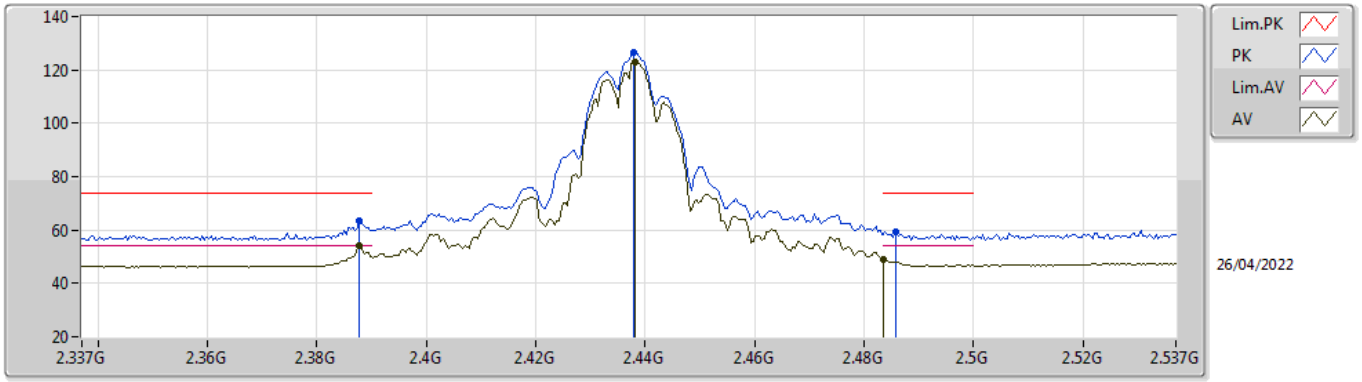


EUT X_2TX
Setting 23
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.82406G	41.73	74.00	-32.27	37.50	3	Horizontal	287	2.96	-	31.35	5.10	32.22
AV	4.8239G	31.33	54.00	-22.67	27.10	3	Horizontal	287	2.96	-	31.35	5.10	32.22

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX

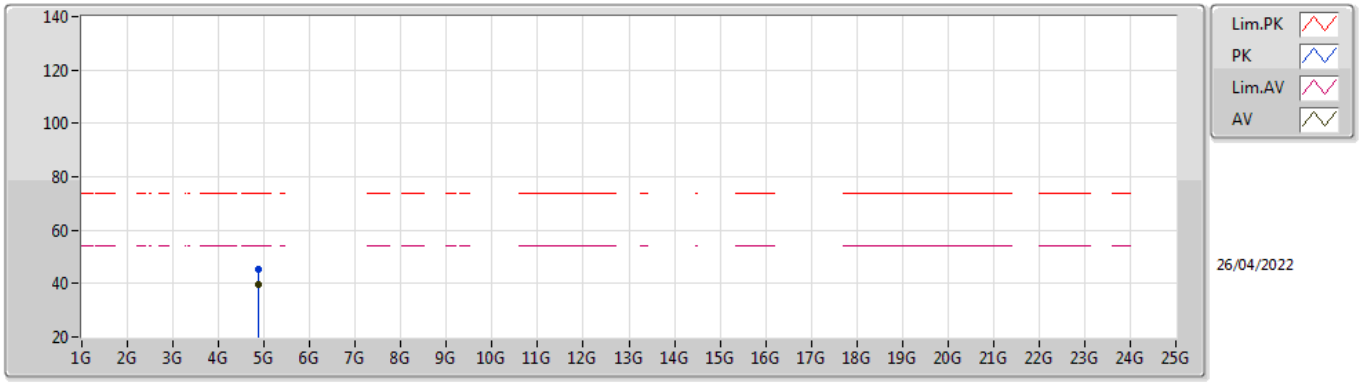


EUT X_2TX
Setting 25
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3878G	63.26	74.00	-10.74	32.85	3	Horizontal	186	1.23	-	27.62	2.79	-
AV	2.3878G	53.98	54.00	-0.02	23.57	3	Horizontal	186	1.23	-	27.62	2.79	-
PK	2.4378G	126.72	Inf	-Inf	96.36	3	Horizontal	186	1.23	-	27.52	2.84	-
AV	2.4382G	122.91	Inf	-Inf	92.55	3	Horizontal	186	1.23	-	27.52	2.84	-
PK	2.4858G	59.35	74.00	-14.65	28.96	3	Horizontal	186	1.23	-	27.50	2.89	-
AV	2.4835G	49.11	54.00	-4.89	18.73	3	Horizontal	186	1.23	-	27.50	2.88	-

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX

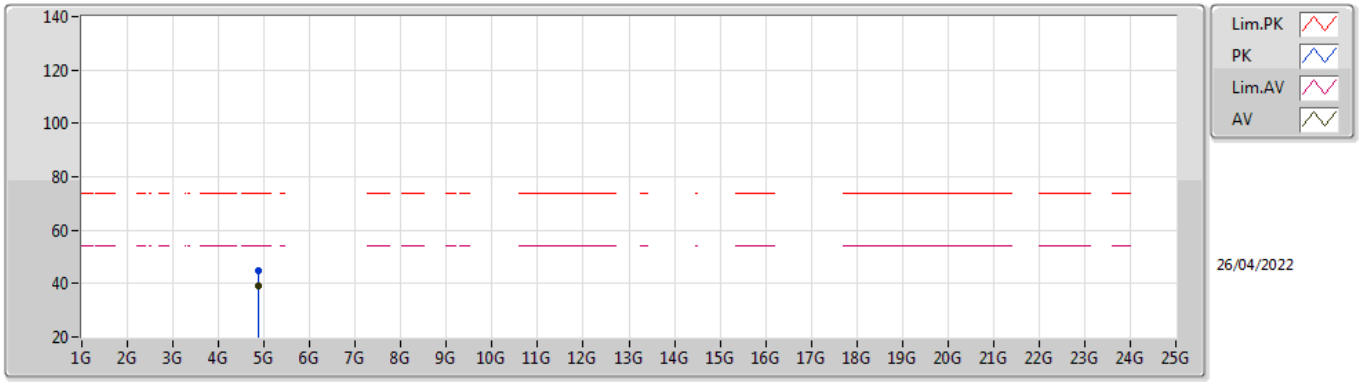


EUT X_2TX
Setting 25
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87414G	45.12	74.00	-28.88	40.93	3	Vertical	250	1.80	-	31.30	5.10	32.21
AV	4.87396G	39.47	54.00	-14.53	35.28	3	Vertical	250	1.80	-	31.30	5.10	32.21

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX

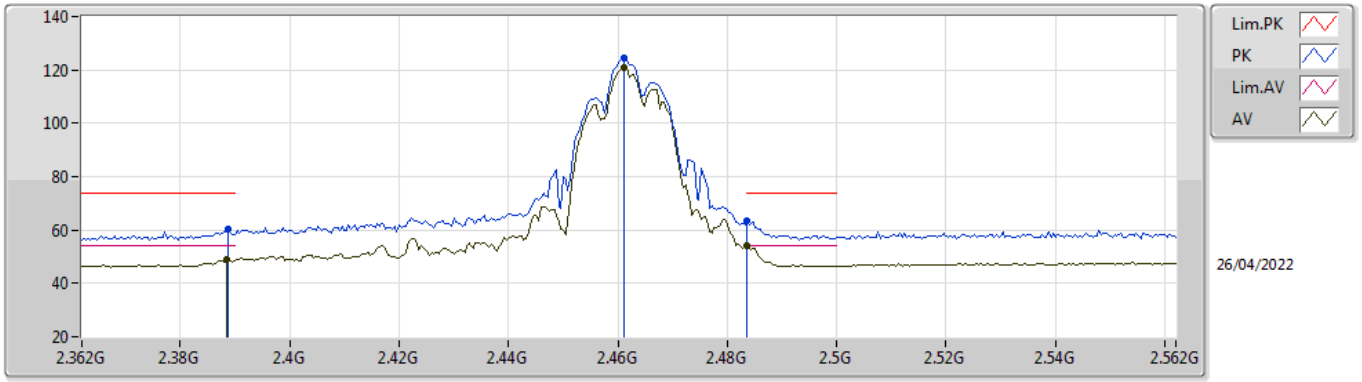


EUT X_2TX
Setting 25
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87396G	44.95	74.00	-29.05	40.76	3	Horizontal	168	1.80	-	31.30	5.10	32.21
AV	4.87404G	39.23	54.00	-14.77	35.04	3	Horizontal	168	1.80	-	31.30	5.10	32.21

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX

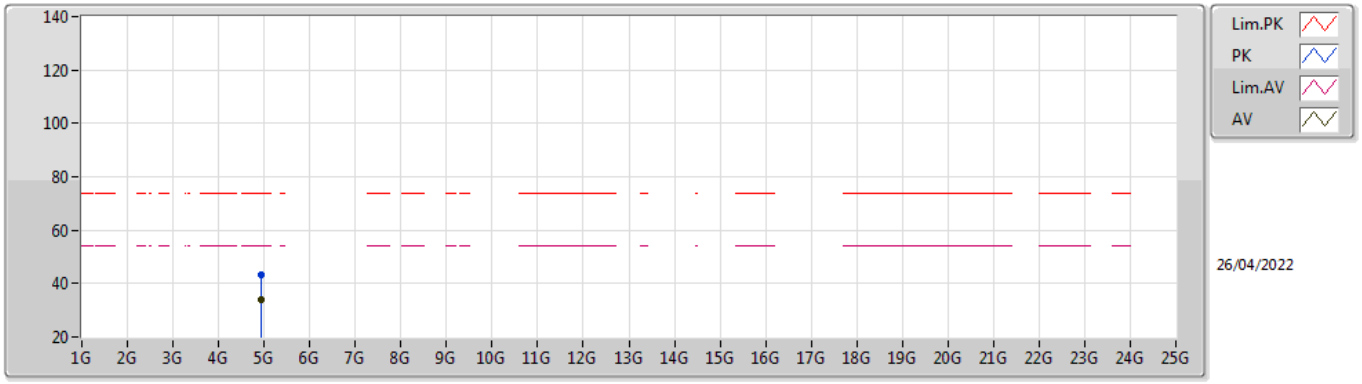


EUT X_2TX
Setting 25
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3888G	60.30	74.00	-13.70	29.89	3	Horizontal	184	2.62	-	27.62	2.79	-
AV	2.3884G	48.71	54.00	-5.29	18.30	3	Horizontal	184	2.62	-	27.62	2.79	-
PK	2.4612G	124.48	Inf	-Inf	94.12	3	Horizontal	184	2.62	-	27.50	2.86	-
AV	2.4612G	120.97	Inf	-Inf	90.61	3	Horizontal	184	2.62	-	27.50	2.86	-
PK	2.4835G	63.44	74.00	-10.56	33.06	3	Horizontal	184	2.62	-	27.50	2.88	-
AV	2.4835G	53.91	54.00	-0.09	23.53	3	Horizontal	184	2.62	-	27.50	2.88	-

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX

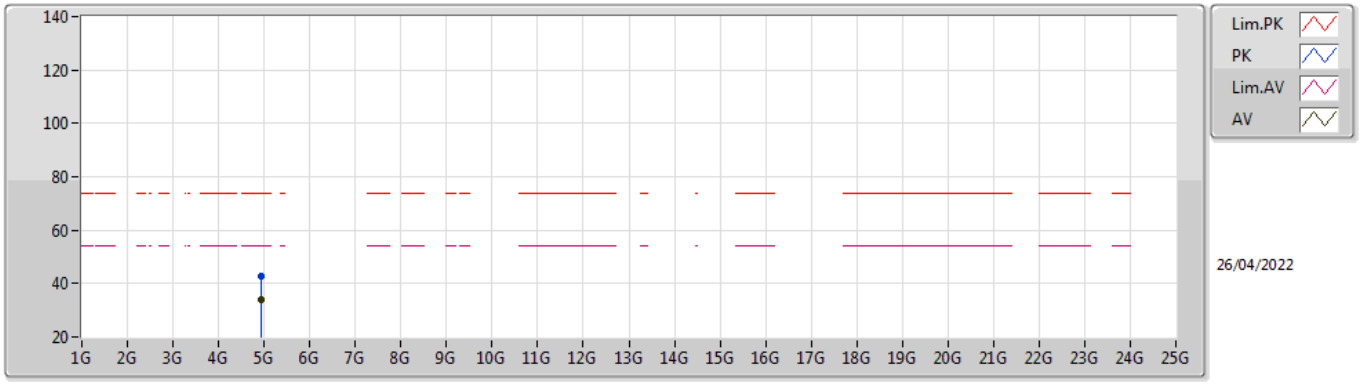


EUT X_2TX
Setting 25
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.9242G	43.36	74.00	-30.64	39.05	3	Vertical	211	1.26	-	31.40	5.10	32.19
AV	4.92392G	33.85	54.00	-20.15	29.54	3	Vertical	211	1.26	-	31.40	5.10	32.19

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX

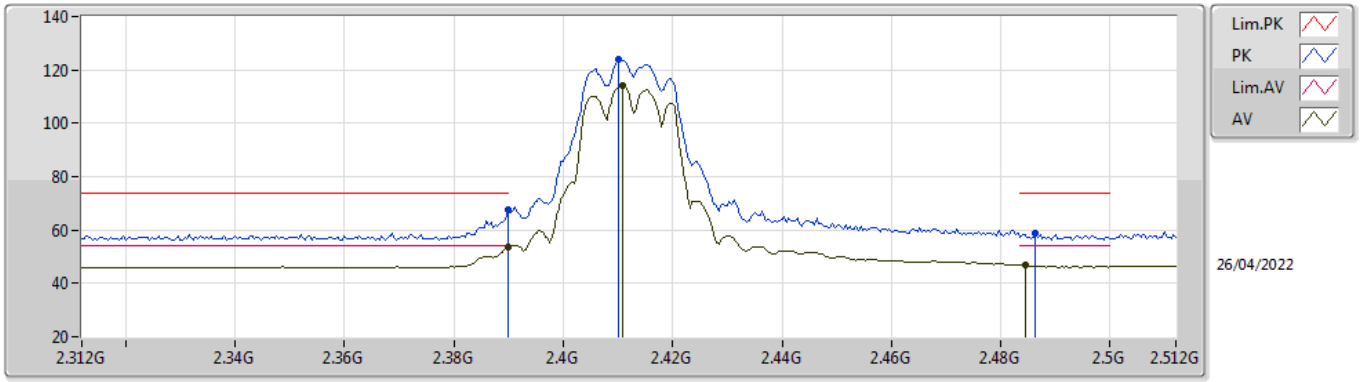


EUT X_2TX
Setting 25
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.92398G	42.85	74.00	-31.15	38.54	3	Horizontal	8	1.62	-	31.40	5.10	32.19
AV	4.92402G	33.94	54.00	-20.06	29.63	3	Horizontal	8	1.62	-	31.40	5.10	32.19

802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX

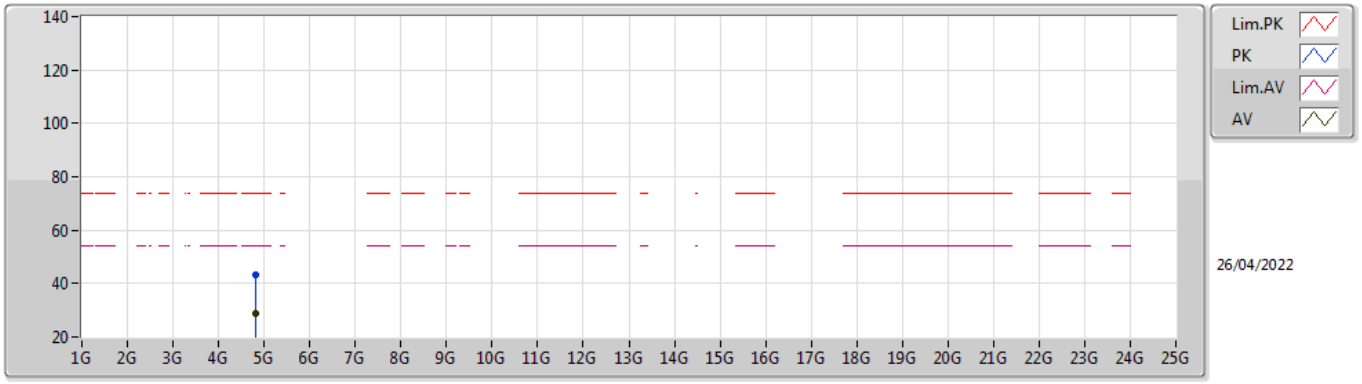


EUT X_2TX
Setting 21
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.39G	67.41	74.00	-6.59	37.00	3	Horizontal	187	2.72	-	27.62	2.79	-
AV	2.39G	53.87	54.00	-0.13	23.46	3	Horizontal	187	2.72	-	27.62	2.79	-
PK	2.41G	123.71	Inf	-Inf	93.32	3	Horizontal	187	2.72	-	27.58	2.81	-
AV	2.4108G	114.08	Inf	-Inf	83.69	3	Horizontal	187	2.72	-	27.58	2.81	-
PK	2.4864G	58.56	74.00	-15.44	28.17	3	Horizontal	187	2.72	-	27.50	2.89	-
AV	2.4844G	46.87	54.00	-7.13	16.49	3	Horizontal	187	2.72	-	27.50	2.88	-

802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX

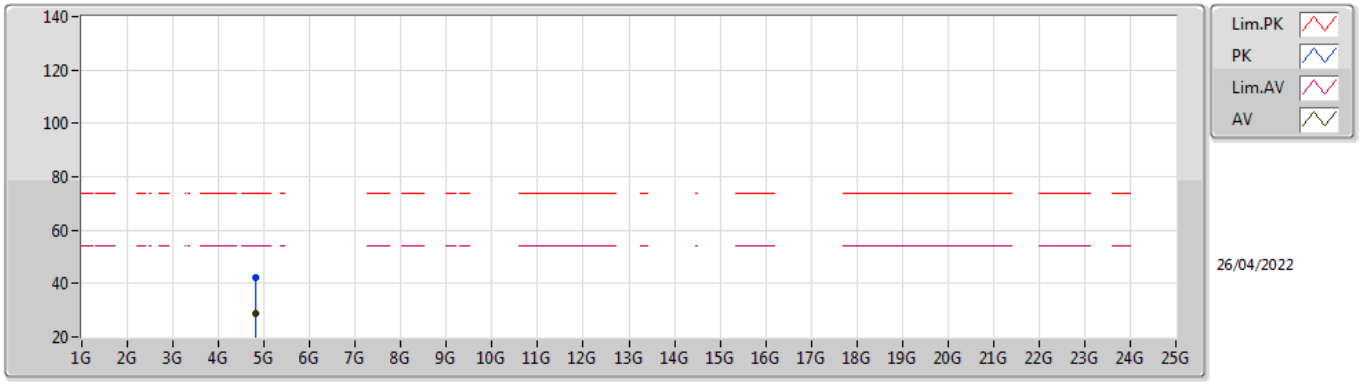


EUT X_2TX
Setting 21
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.81908G	43.14	74.00	-30.86	38.91	3	Vertical	180	2.82	-	31.36	5.10	32.23
AV	4.82124G	28.85	54.00	-25.15	24.61	3	Vertical	180	2.82	-	31.36	5.10	32.22

802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX

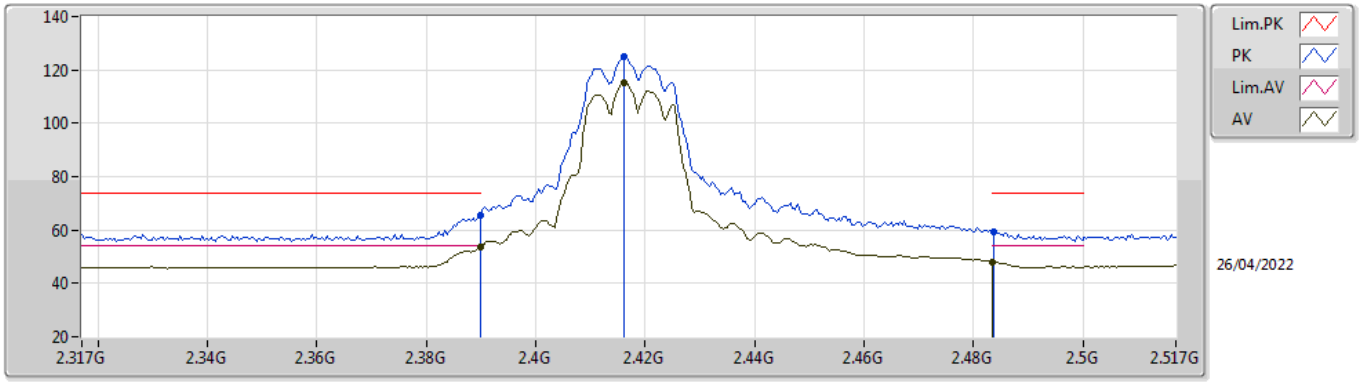


EUT X_2TX
Setting 21
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.81428G	41.99	74.00	-32.01	37.75	3	Horizontal	114	1.18	-	31.37	5.10	32.23
AV	4.82224G	28.76	54.00	-25.24	24.52	3	Horizontal	114	1.18	-	31.36	5.10	32.22

802.11g_Nss1,(6Mbps)_2TX

2417MHz_TX

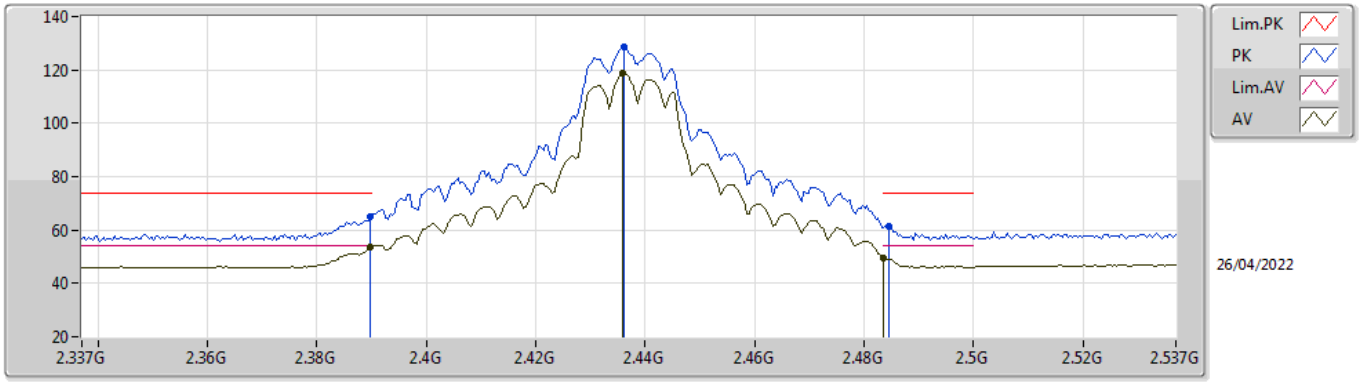


EUT X_2TX
Setting 22
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3898G	65.38	74.00	-8.62	34.97	3	Horizontal	185	1.30	-	27.62	2.79	-
AV	2.3898G	53.53	54.00	-0.47	23.12	3	Horizontal	185	1.30	-	27.62	2.79	-
PK	2.4162G	124.88	Inf	-Inf	94.49	3	Horizontal	185	1.30	-	27.57	2.82	-
AV	2.4162G	115.30	Inf	-Inf	84.91	3	Horizontal	185	1.30	-	27.57	2.82	-
PK	2.4838G	59.50	74.00	-14.50	29.12	3	Horizontal	185	1.30	-	27.50	2.88	-
AV	2.4835G	48.17	54.00	-5.83	17.79	3	Horizontal	185	1.30	-	27.50	2.88	-

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

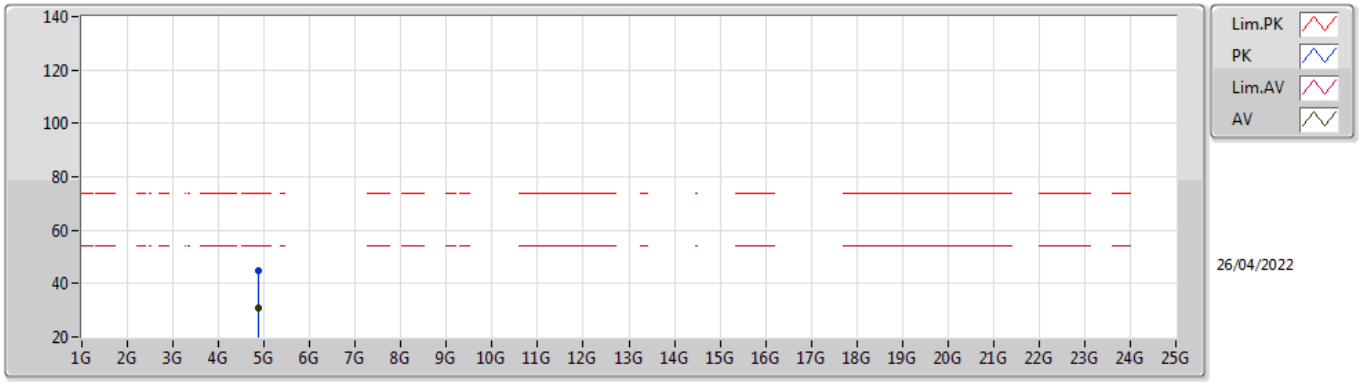


EUT X_2TX
Setting 24.5
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3898G	65.02	74.00	-8.98	34.61	3	Horizontal	187	1.22	-	27.62	2.79	-
AV	2.3898G	53.46	54.00	-0.54	23.05	3	Horizontal	187	1.22	-	27.62	2.79	-
PK	2.4362G	128.56	Inf	-Inf	98.19	3	Horizontal	187	1.22	-	27.53	2.84	-
AV	2.4358G	118.80	Inf	-Inf	88.43	3	Horizontal	187	1.22	-	27.53	2.84	-
PK	2.4846G	61.49	74.00	-12.51	31.11	3	Horizontal	187	1.22	-	27.50	2.88	-
AV	2.4835G	49.72	54.00	-4.28	19.34	3	Horizontal	187	1.22	-	27.50	2.88	-

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

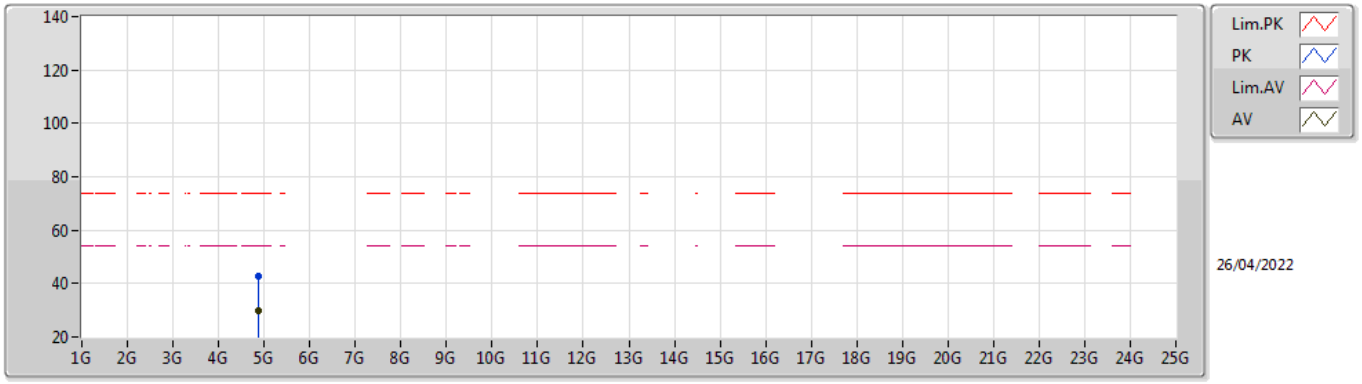


EUT X_2TX
Setting 24.5
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.8752G	45.06	74.00	-28.94	40.86	3	Vertical	241	1.34	-	31.30	5.10	32.20
AV	4.87388G	30.97	54.00	-23.03	26.78	3	Vertical	241	1.34	-	31.30	5.10	32.21

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

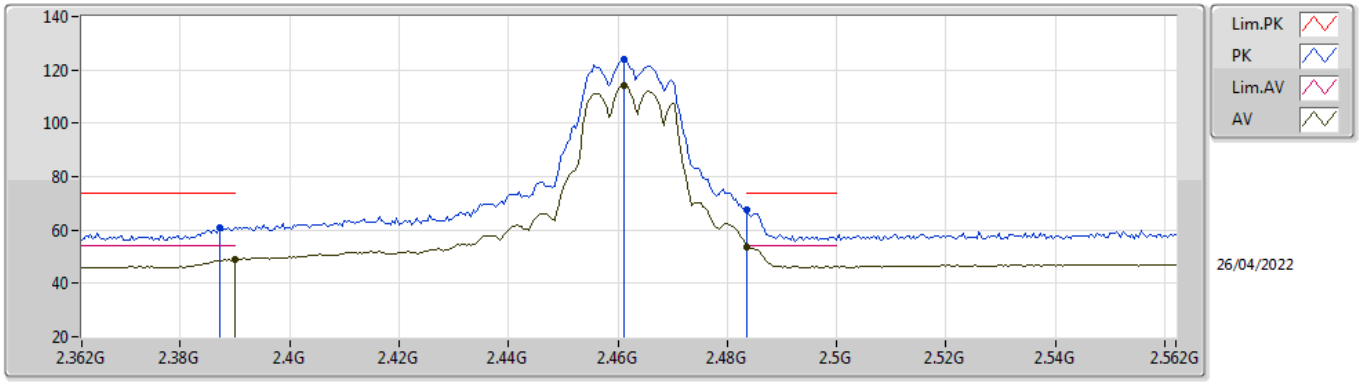


EUT X_2TX
Setting 24.5
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87544G	42.64	74.00	-31.36	38.44	3	Horizontal	102	1.56	-	31.30	5.10	32.20
AV	4.87472G	29.67	54.00	-24.33	25.48	3	Horizontal	102	1.56	-	31.30	5.10	32.21

802.11g_Nss1,(6Mbps)_2TX

2462MHz_TX

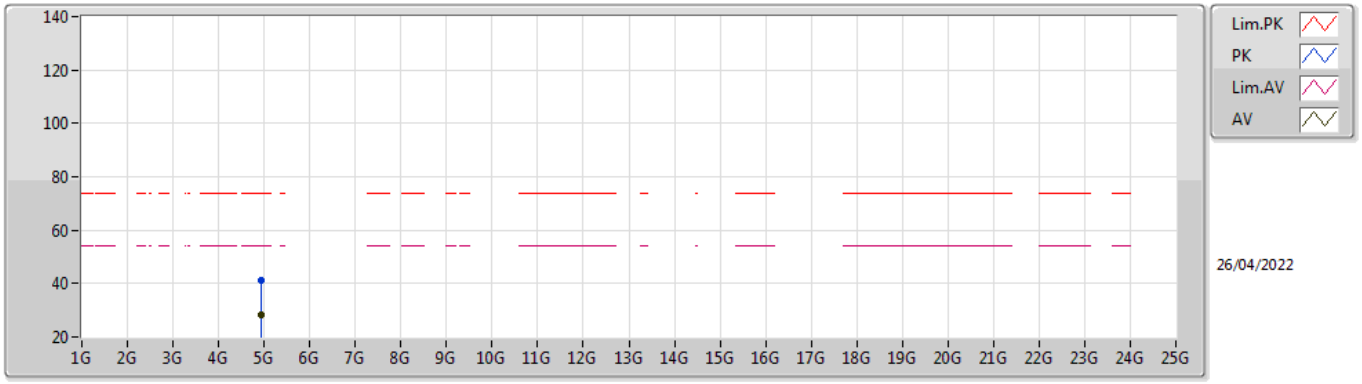


EUT X_2TX
Setting 23
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3872G	60.90	74.00	-13.10	30.48	3	Horizontal	186	2.16	-	27.63	2.79	-
AV	2.39G	49.13	54.00	-4.87	18.72	3	Horizontal	186	2.16	-	27.62	2.79	-
PK	2.4612G	123.88	Inf	-Inf	93.52	3	Horizontal	186	2.16	-	27.50	2.86	-
AV	2.4612G	114.28	Inf	-Inf	83.92	3	Horizontal	186	2.16	-	27.50	2.86	-
PK	2.4835G	67.62	74.00	-6.38	37.24	3	Horizontal	186	2.16	-	27.50	2.88	-
AV	2.4835G	53.87	54.00	-0.13	23.49	3	Horizontal	186	2.16	-	27.50	2.88	-

802.11g_Nss1,(6Mbps)_2TX

2462MHz_TX

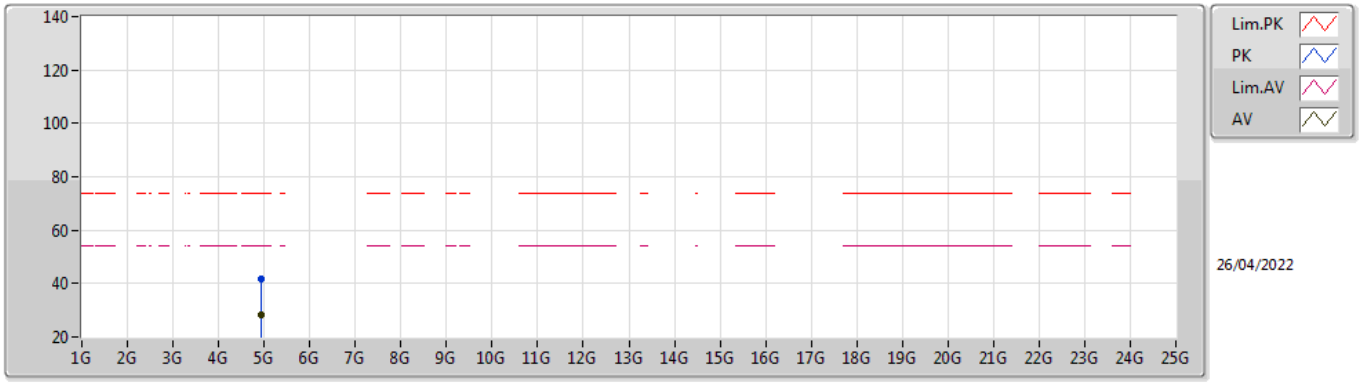


EUT X_2TX
Setting 23
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.9216G	41.36	74.00	-32.64	37.06	3	Vertical	33	1.43	-	31.39	5.10	32.19
AV	4.9316G	28.43	54.00	-25.57	24.08	3	Vertical	33	1.43	-	31.43	5.10	32.18

802.11g_Nss1,(6Mbps)_2TX

2462MHz_TX

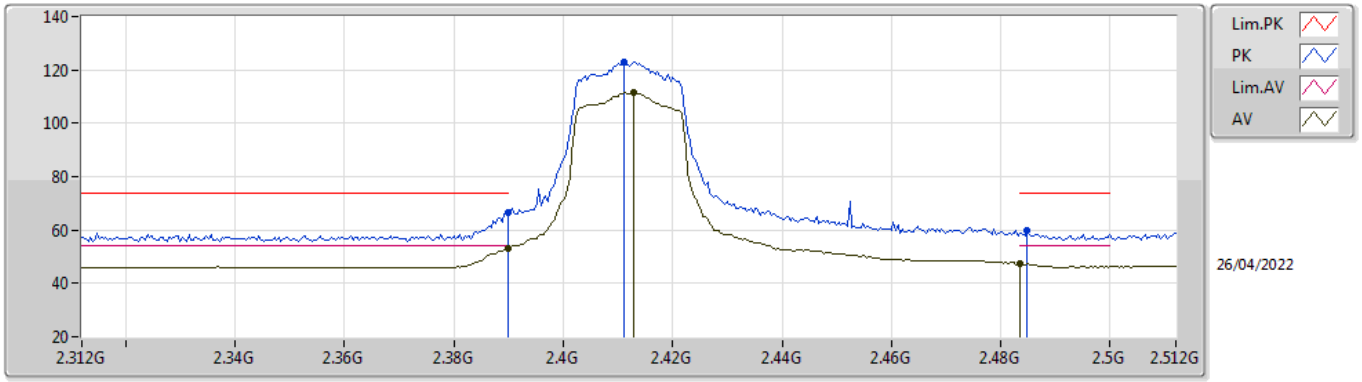


EUT X_2TX
Setting 23
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.92432G	41.65	74.00	-32.35	37.34	3	Horizontal	94	1.85	-	31.40	5.10	32.19
AV	4.92432G	28.51	54.00	-25.49	24.20	3	Horizontal	94	1.85	-	31.40	5.10	32.19

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2412MHz_TX

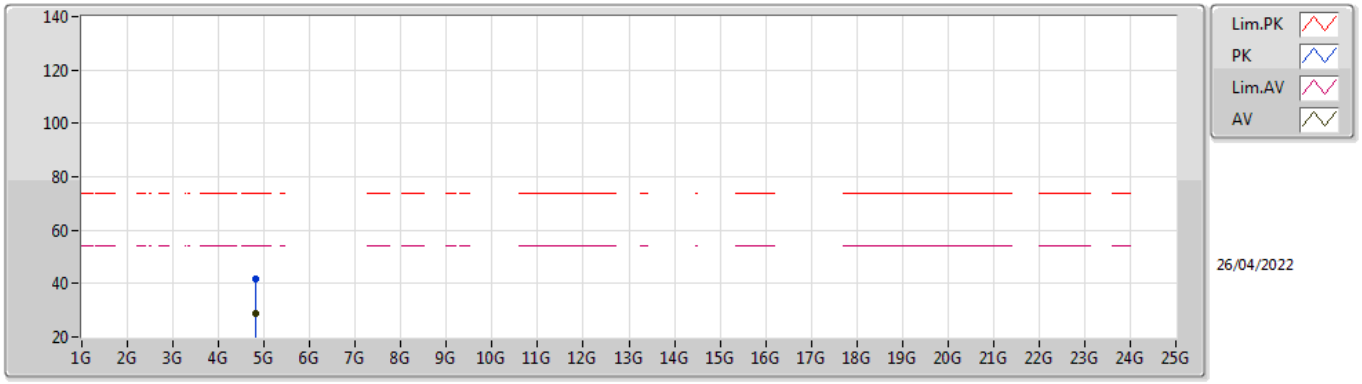


EUT X_2TX
Setting 23
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.39G	66.68	74.00	-7.32	36.27	3	Horizontal	187	1.37	-	27.62	2.79	-
AV	2.39G	53.01	54.00	-0.99	22.60	3	Horizontal	187	1.37	-	27.62	2.79	-
PK	2.4112G	123.09	Inf	-Inf	92.70	3	Horizontal	187	1.37	-	27.58	2.81	-
AV	2.4128G	111.73	Inf	-Inf	81.35	3	Horizontal	187	1.37	-	27.57	2.81	-
PK	2.4848G	59.82	74.00	-14.18	29.44	3	Horizontal	187	1.37	-	27.50	2.88	-
AV	2.4835G	47.28	54.00	-6.72	16.90	3	Horizontal	187	1.37	-	27.50	2.88	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2412MHz_TX

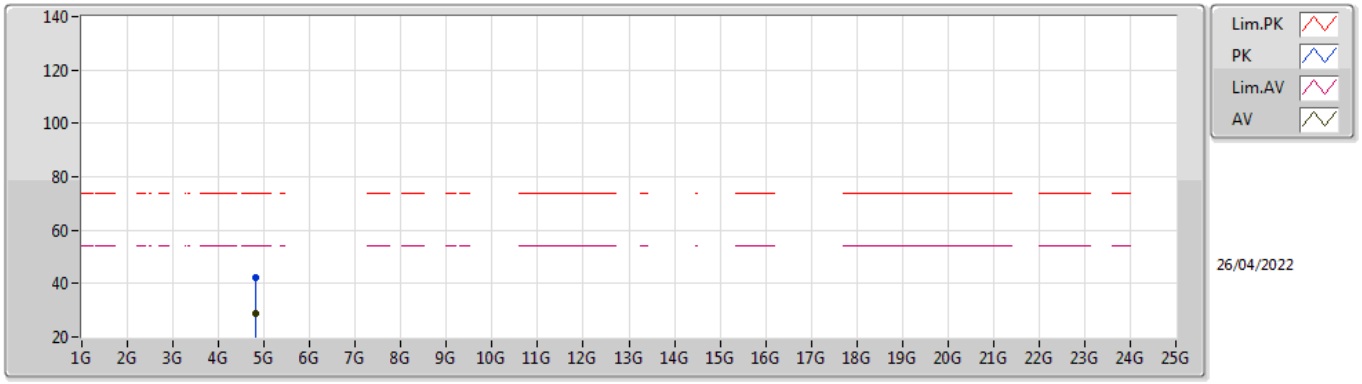


EUT X_2TX
Setting 23
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.82202G	41.76	74.00	-32.24	37.52	3	Vertical	354	2.17	-	31.36	5.10	32.22
AV	4.82138G	28.96	54.00	-25.04	24.72	3	Vertical	354	2.17	-	31.36	5.10	32.22

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2412MHz_TX

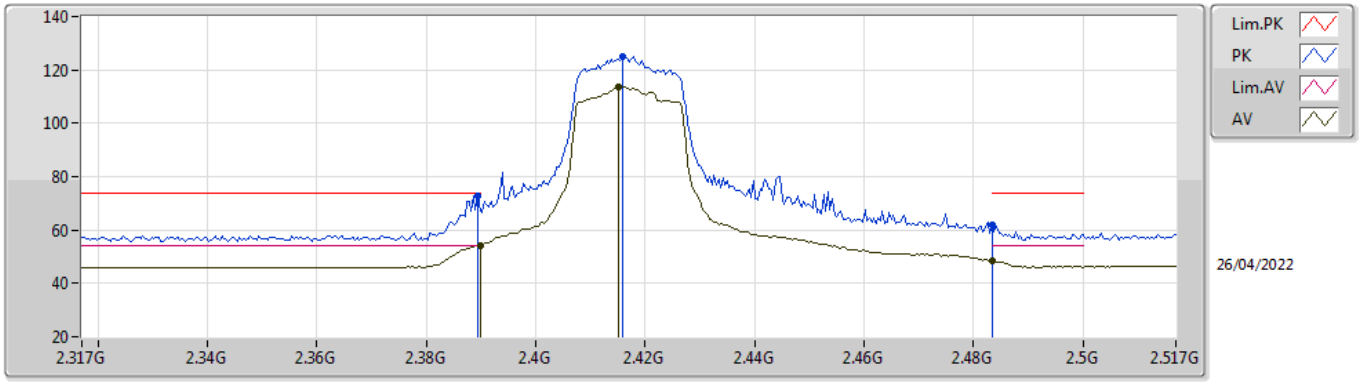


EUT X_2TX
Setting 23
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.8202G	42.01	74.00	-31.99	37.77	3	Horizontal	166	1.48	-	31.36	5.10	32.22
AV	4.82048G	29.00	54.00	-25.00	24.76	3	Horizontal	166	1.48	-	31.36	5.10	32.22

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2417MHz_TX

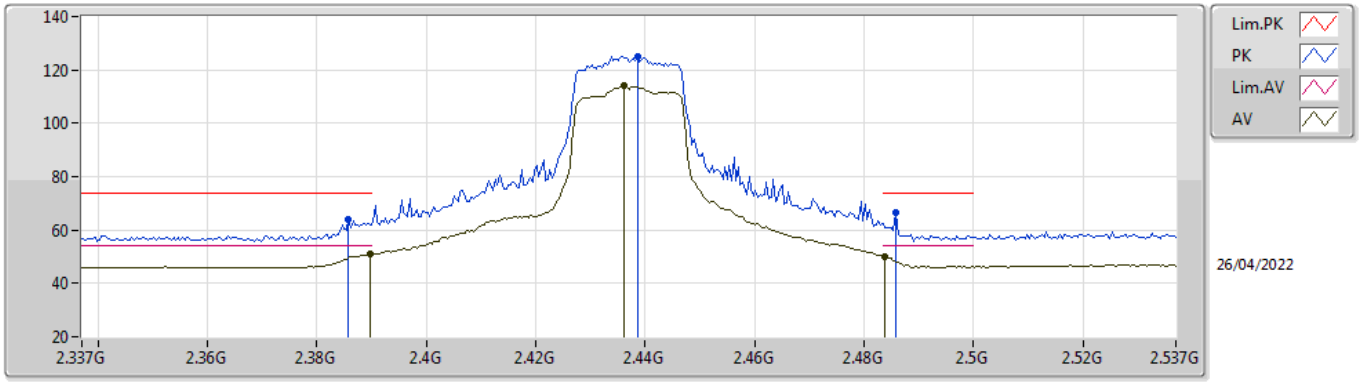


EUT X_2TX
Setting 25
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3894G	72.87	74.00	-1.13	42.46	3	Horizontal	186	1.36	-	27.62	2.79	-
AV	2.3898G	53.97	54.00	-0.03	23.56	3	Horizontal	186	1.36	-	27.62	2.79	-
PK	2.4158G	125.22	Inf	-Inf	94.83	3	Horizontal	186	1.36	-	27.57	2.82	-
AV	2.415G	113.68	Inf	-Inf	83.30	3	Horizontal	186	1.36	-	27.57	2.81	-
PK	2.4835G	61.70	74.00	-12.30	31.32	3	Horizontal	186	1.36	-	27.50	2.88	-
AV	2.4835G	48.51	54.00	-5.49	18.13	3	Horizontal	186	1.36	-	27.50	2.88	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2437MHz_TX

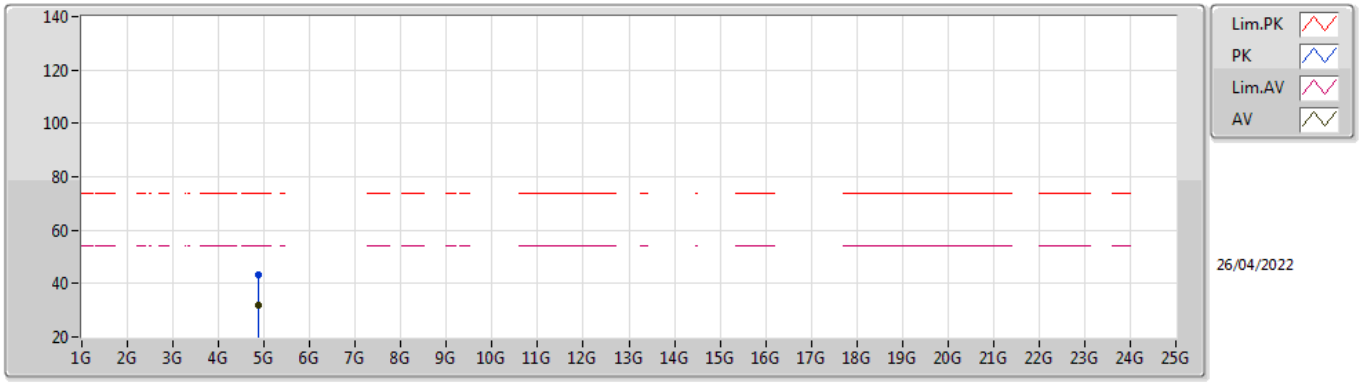


EUT X_2TX
Setting 26
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3858G	64.03	74.00	-9.97	33.61	3	Horizontal	184	1.26	-	27.63	2.79	-
AV	2.3898G	51.07	54.00	-2.93	20.66	3	Horizontal	184	1.26	-	27.62	2.79	-
PK	2.4386G	125.22	Inf	-Inf	94.86	3	Horizontal	184	1.26	-	27.52	2.84	-
AV	2.4362G	114.10	Inf	-Inf	83.73	3	Horizontal	184	1.26	-	27.53	2.84	-
PK	2.4858G	66.75	74.00	-7.25	36.36	3	Horizontal	184	1.26	-	27.50	2.89	-
AV	2.4838G	50.13	54.00	-3.87	19.75	3	Horizontal	184	1.26	-	27.50	2.88	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2437MHz_TX

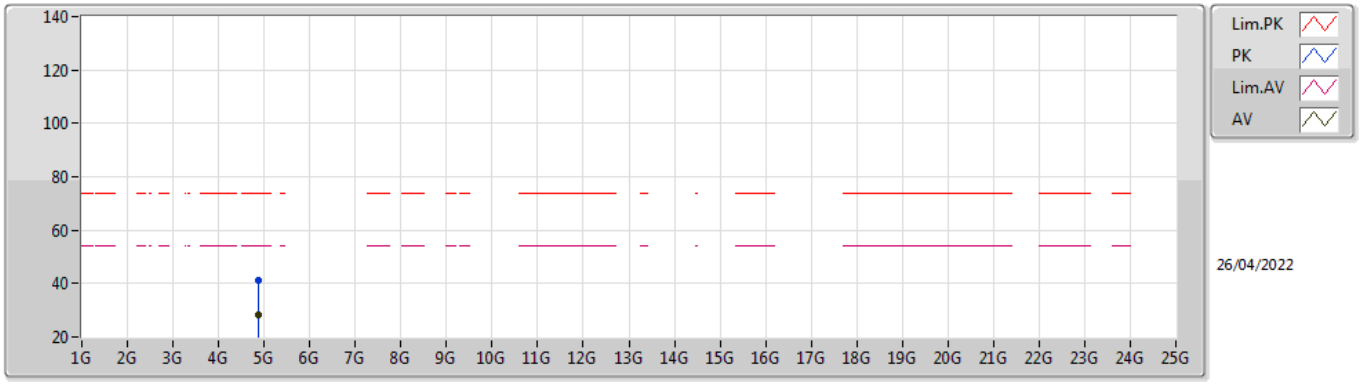


EUT X_2TX
Setting 26
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.86926G	43.22	74.00	-30.78	39.03	3	Vertical	241	1.81	-	31.30	5.10	32.21
AV	4.8744G	31.91	54.00	-22.09	27.72	3	Vertical	241	1.81	-	31.30	5.10	32.21

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2437MHz_TX

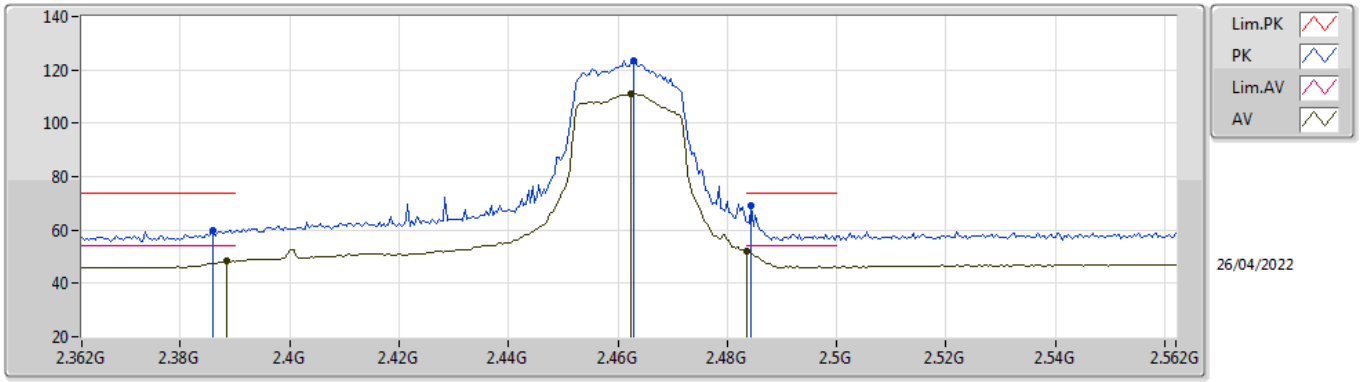


EUT X_2TX
Setting 26
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87294G	41.05	74.00	-32.95	36.86	3	Horizontal	297	1.01	-	31.30	5.10	32.21
AV	4.87076G	28.23	54.00	-25.77	24.04	3	Horizontal	297	1.01	-	31.30	5.10	32.21

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2462MHz_TX

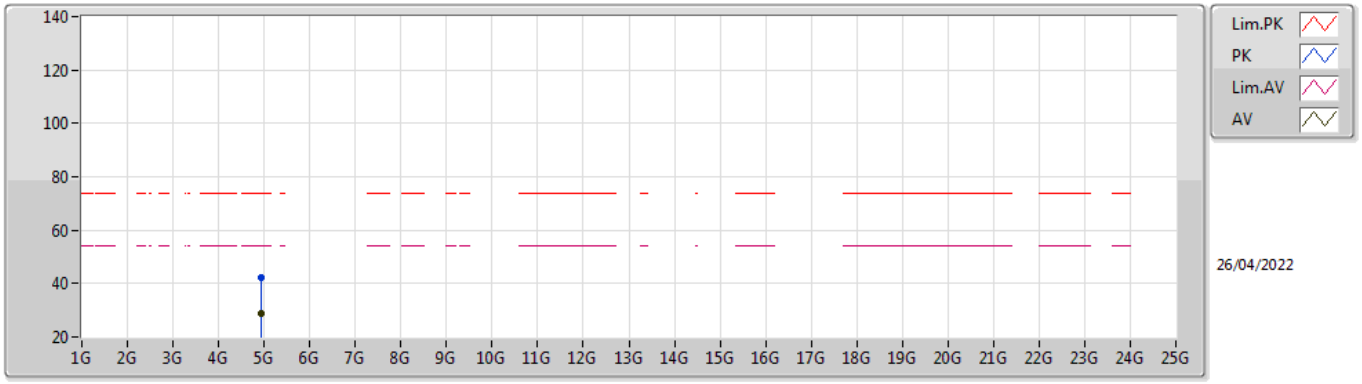


EUT X_2TX
Setting 25
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.386G	59.80	74.00	-14.20	29.38	3	Horizontal	187	1.35	-	27.63	2.79	-
AV	2.3884G	48.27	54.00	-5.73	17.86	3	Horizontal	187	1.35	-	27.62	2.79	-
PK	2.4628G	123.41	Inf	-Inf	93.05	3	Horizontal	187	1.35	-	27.50	2.86	-
AV	2.4624G	111.13	Inf	-Inf	80.77	3	Horizontal	187	1.35	-	27.50	2.86	-
PK	2.4844G	69.05	74.00	-4.95	38.67	3	Horizontal	187	1.35	-	27.50	2.88	-
AV	2.4835G	51.90	54.00	-2.10	21.52	3	Horizontal	187	1.35	-	27.50	2.88	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2462MHz_TX

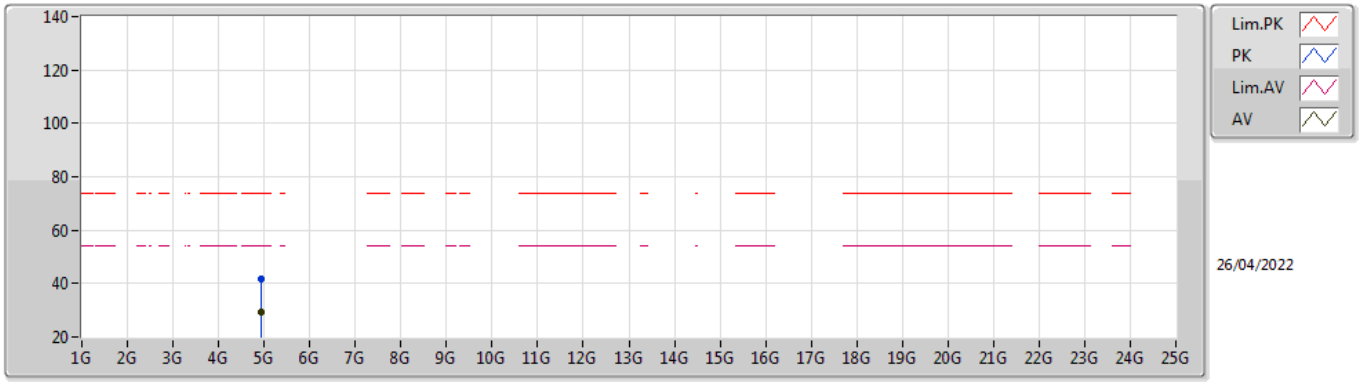


EUT X_2TX
Setting 25
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.9261G	42.18	74.00	-31.82	37.87	3	Vertical	268	1.10	-	31.40	5.10	32.19
AV	4.92604G	28.76	54.00	-25.24	24.45	3	Vertical	268	1.10	-	31.40	5.10	32.19

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2462MHz_TX

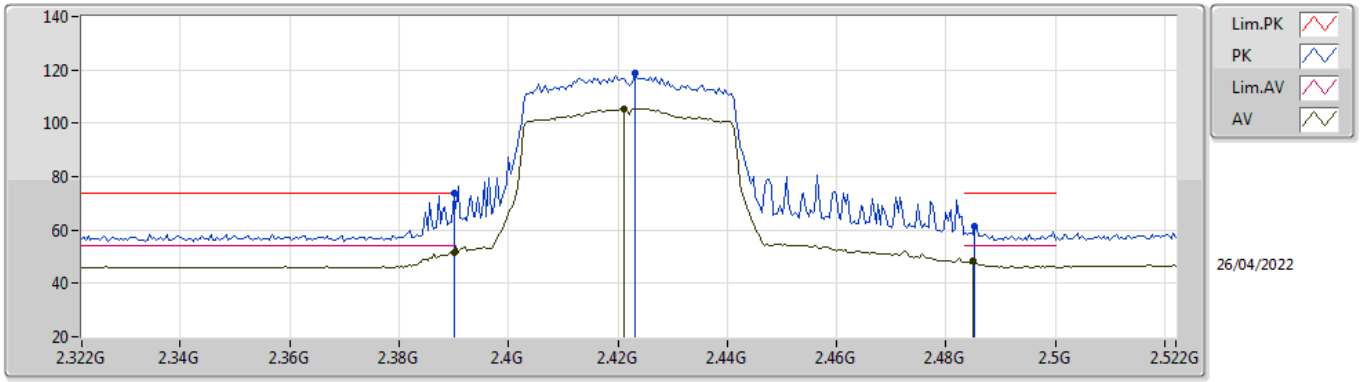


EUT X_2TX
Setting 25
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.92612G	41.84	74.00	-32.16	37.53	3	Horizontal	196	2.52	-	31.40	5.10	32.19
AV	4.9243G	29.15	54.00	-24.85	24.84	3	Horizontal	196	2.52	-	31.40	5.10	32.19

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2422MHz_TX

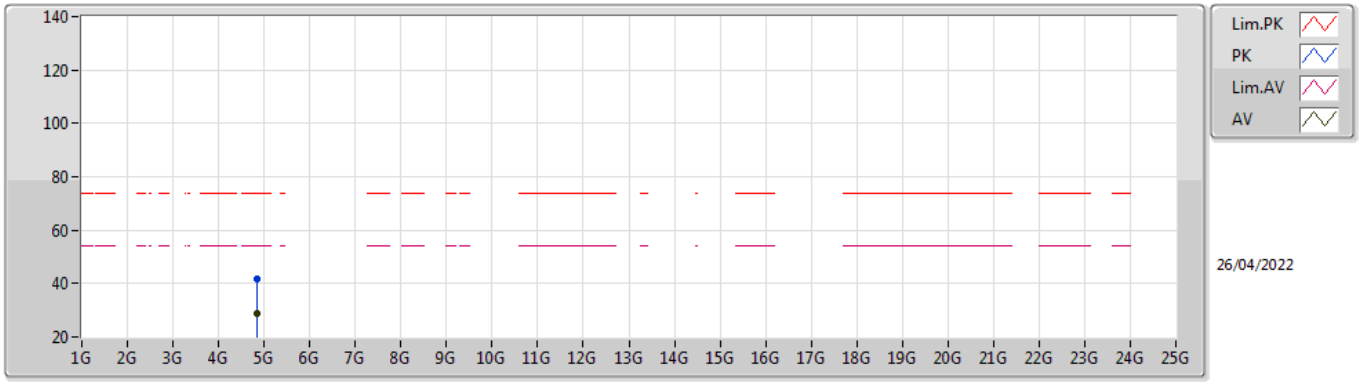


EUT X_2TX
Setting 21
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.39G	73.97	74.00	-0.03	43.56	3	Horizontal	193	1.29	-	27.62	2.79	-
AV	2.39G	51.57	54.00	-2.43	21.16	3	Horizontal	193	1.29	-	27.62	2.79	-
PK	2.4232G	118.64	Inf	-Inf	88.27	3	Horizontal	193	1.29	-	27.55	2.82	-
AV	2.4212G	105.41	Inf	-Inf	75.03	3	Horizontal	193	1.29	-	27.56	2.82	-
PK	2.4852G	61.23	74.00	-12.77	30.84	3	Horizontal	193	1.29	-	27.50	2.89	-
AV	2.4848G	48.31	54.00	-5.69	17.93	3	Horizontal	193	1.29	-	27.50	2.88	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2422MHz_TX

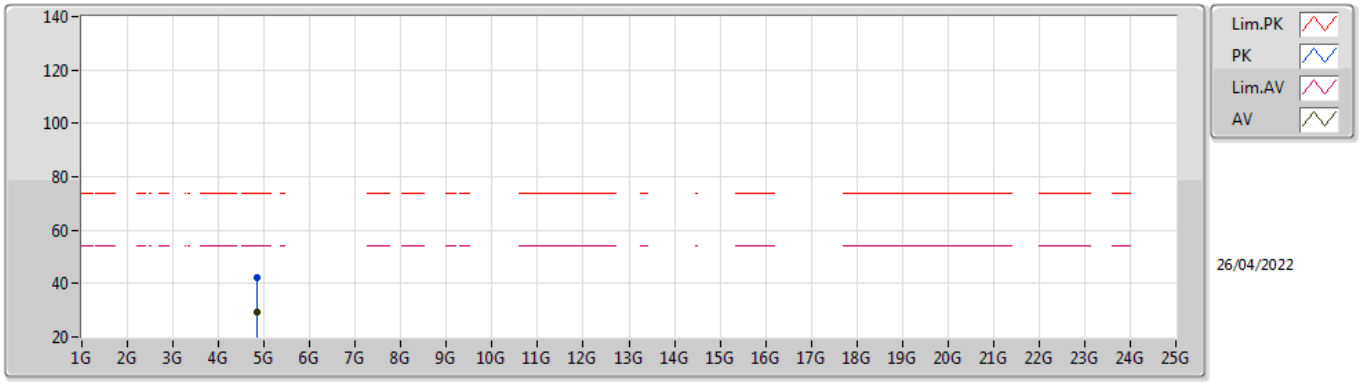


EUT X_2TX
Setting 21
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.84435G	41.97	74.00	-32.03	37.78	3	Vertical	208	1.64	-	31.31	5.10	32.22
AV	4.84373G	28.84	54.00	-25.16	24.65	3	Vertical	208	1.64	-	31.31	5.10	32.22

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2422MHz_TX

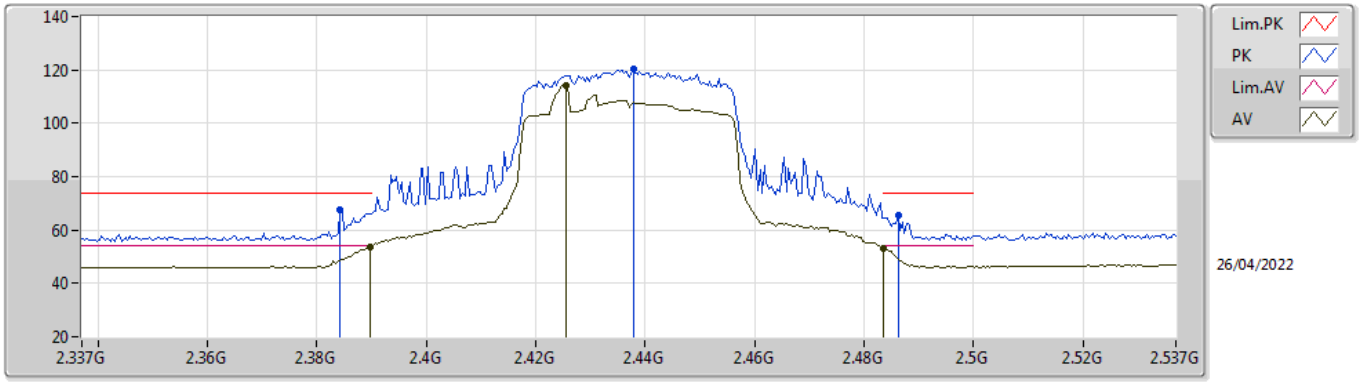


EUT X_2TX
Setting 21
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.84446G	42.22	74.00	-31.78	38.03	3	Horizontal	286	2.66	-	31.31	5.10	32.22
AV	4.84397G	29.06	54.00	-24.94	24.87	3	Horizontal	286	2.66	-	31.31	5.10	32.22

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2437MHz_TX

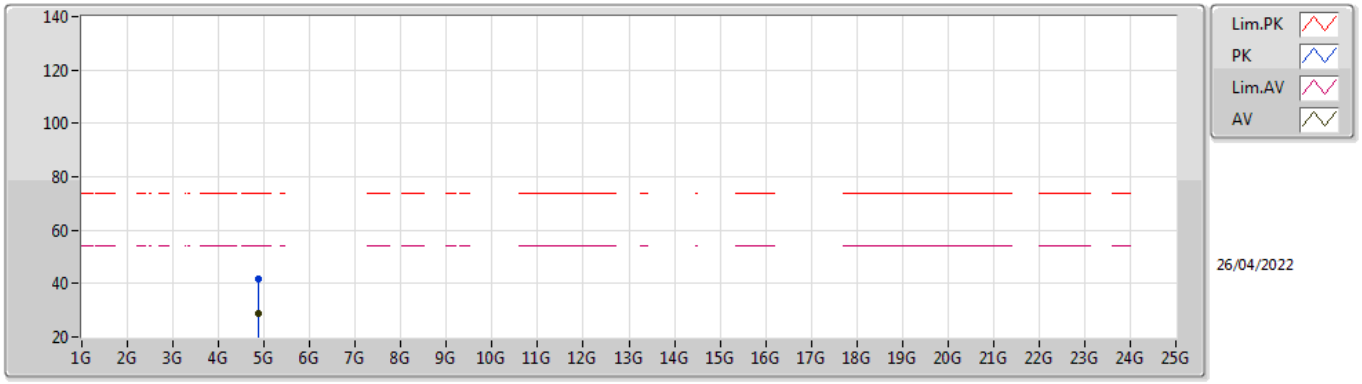


EUT X_2TX
Setting 22
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3842G	67.65	74.00	-6.35	37.23	3	Horizontal	188	1.21	-	27.63	2.79	-
AV	2.3898G	53.59	54.00	-0.41	23.18	3	Horizontal	188	1.21	-	27.62	2.79	-
PK	2.4378G	120.14	Inf	-Inf	89.78	3	Horizontal	188	1.21	-	27.52	2.84	-
AV	2.4254G	114.31	Inf	-Inf	83.93	3	Horizontal	188	1.21	-	27.55	2.83	-
PK	2.4862G	65.52	74.00	-8.48	35.13	3	Horizontal	188	1.21	-	27.50	2.89	-
AV	2.4835G	53.10	54.00	-0.90	22.72	3	Horizontal	188	1.21	-	27.50	2.88	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2437MHz_TX

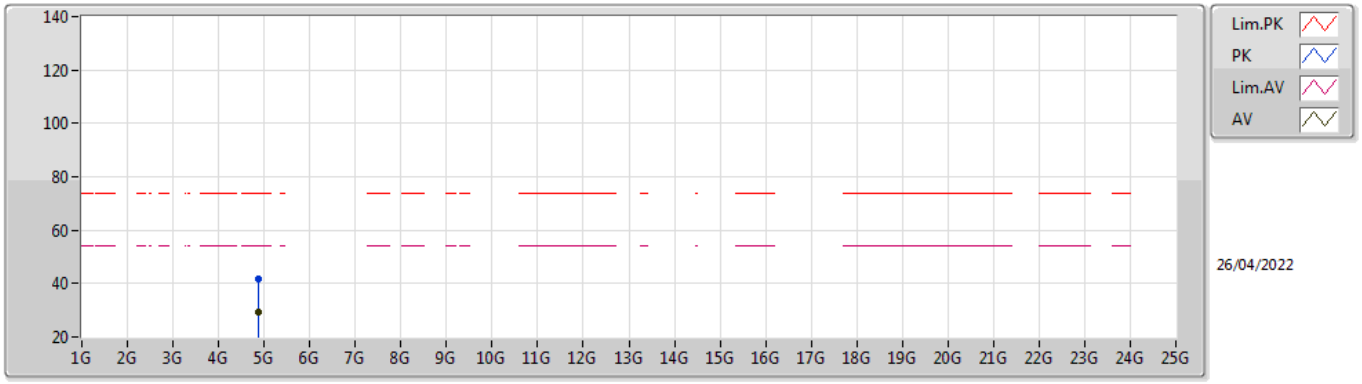


EUT X_2TX
Setting 22
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87445G	41.51	74.00	-32.49	37.32	3	Vertical	208	2.01	-	31.30	5.10	32.21
AV	4.87427G	28.60	54.00	-25.40	24.41	3	Vertical	208	2.01	-	31.30	5.10	32.21

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2437MHz_TX

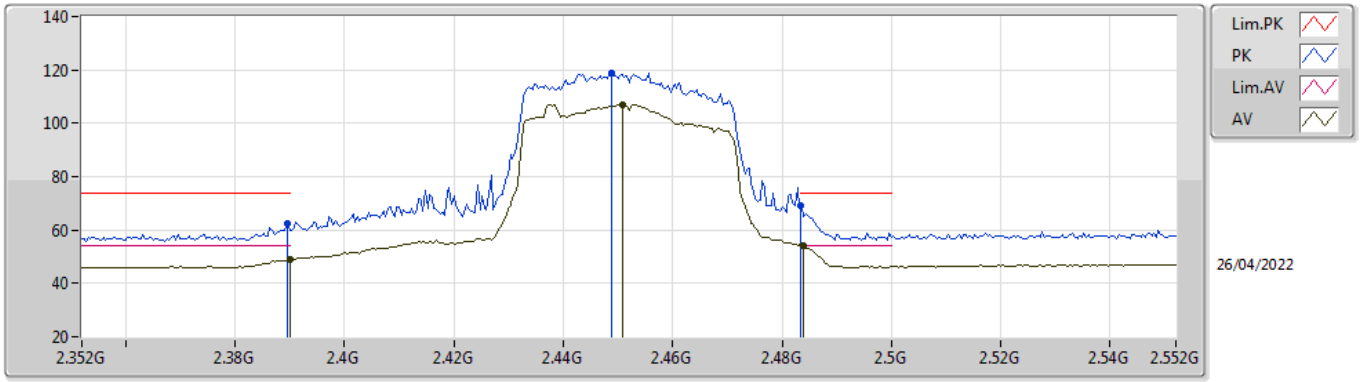


EUT X_2TX
Setting 22
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87363G	41.53	74.00	-32.47	37.34	3	Horizontal	322	1.93	-	31.30	5.10	32.21
AV	4.87412G	29.16	54.00	-24.84	24.97	3	Horizontal	322	1.93	-	31.30	5.10	32.21

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2452MHz_TX

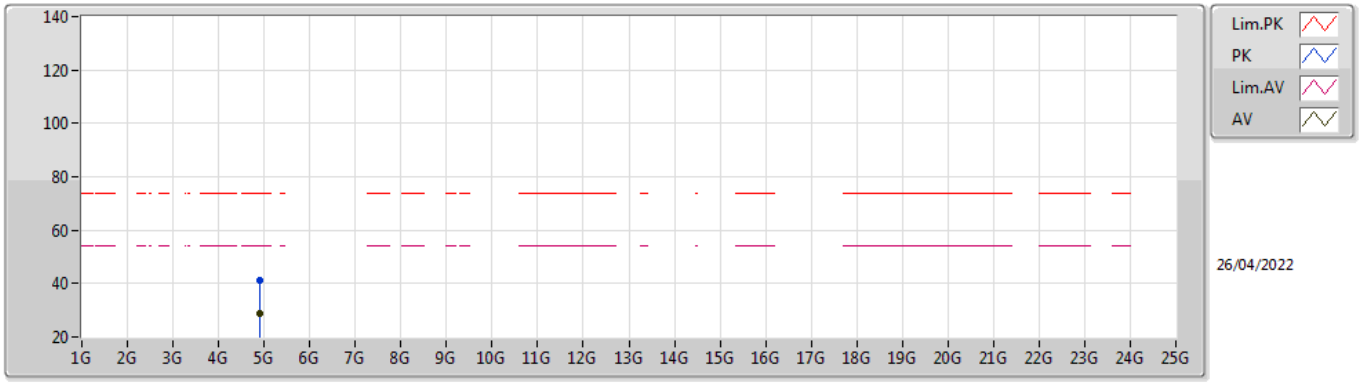


EUT X_2TX
Setting 22
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3896G	62.24	74.00	-11.76	31.83	3	Horizontal	187	1.30	-	27.62	2.79	-
AV	2.39G	48.90	54.00	-5.10	18.49	3	Horizontal	187	1.30	-	27.62	2.79	-
PK	2.4488G	118.97	Inf	-Inf	88.62	3	Horizontal	187	1.30	-	27.50	2.85	-
AV	2.4508G	106.99	Inf	-Inf	76.64	3	Horizontal	187	1.30	-	27.50	2.85	-
PK	2.4835G	69.05	74.00	-4.95	38.67	3	Horizontal	187	1.30	-	27.50	2.88	-
AV	2.484G	53.93	54.00	-0.07	23.55	3	Horizontal	187	1.30	-	27.50	2.88	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2452MHz_TX

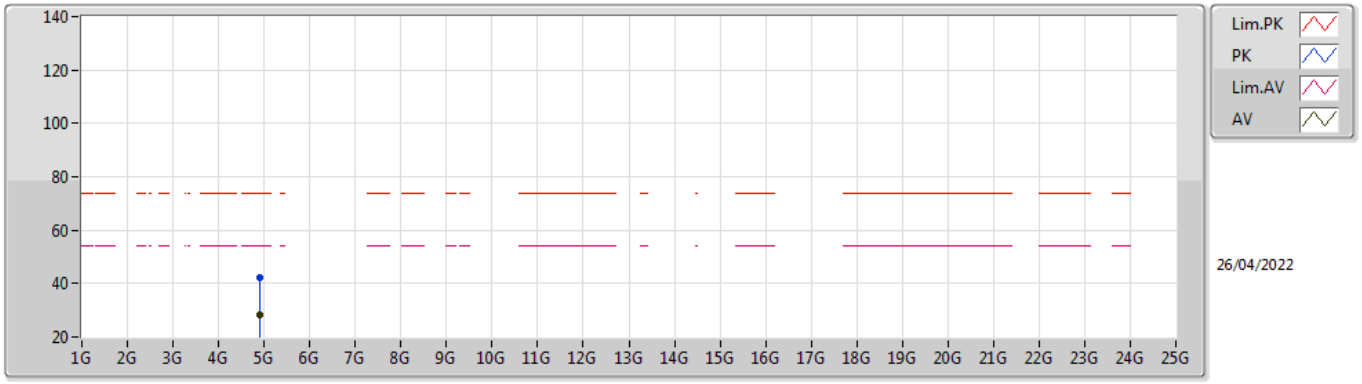


EUT X_2TX
Setting 22
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.90384G	41.24	74.00	-32.76	37.01	3	Vertical	217	2.76	-	31.32	5.10	32.19
AV	4.9035G	28.54	54.00	-25.46	24.32	3	Vertical	217	2.76	-	31.31	5.10	32.19

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2452MHz_TX



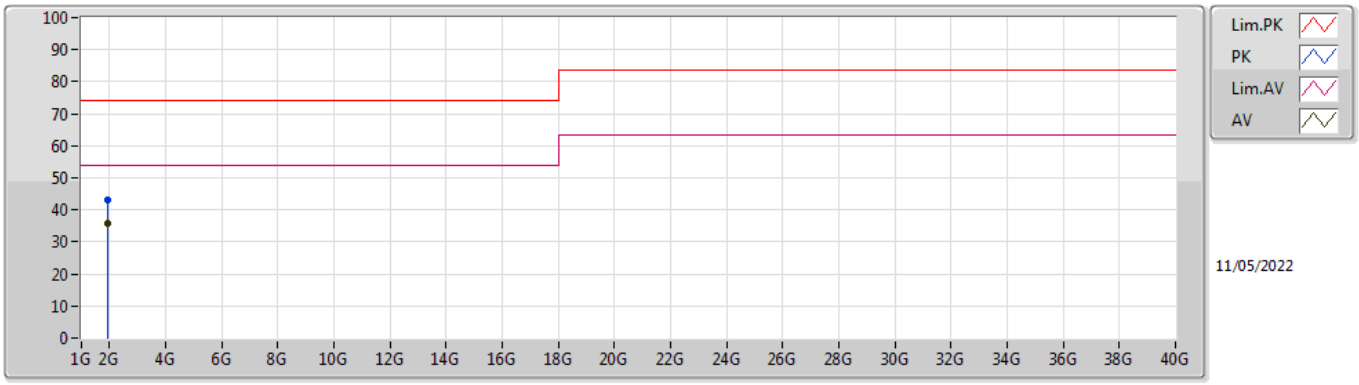
EUT X_2TX
Setting 22
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.90398G	42.43	74.00	-31.57	38.20	3	Horizontal	295	1.36	-	31.32	5.10	32.19
AV	4.90362G	28.51	54.00	-25.49	24.29	3	Horizontal	295	1.36	-	31.31	5.10	32.19

Summary

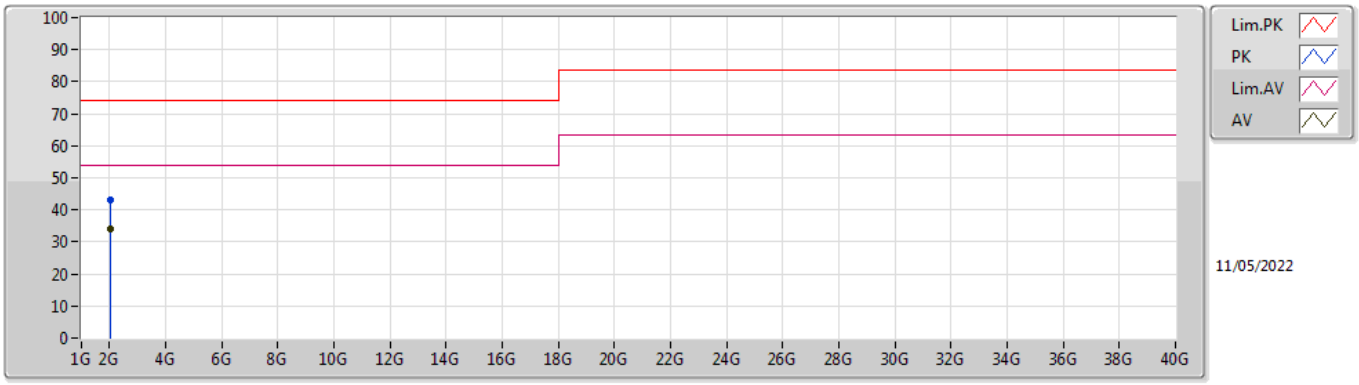
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	1.935G	35.88	54.00	-18.12	Vertical

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	1.935G	43.19	74.00	-30.81	-3.26	3	Vertical	137	1.18	-	46.45	29.37	4.57	37.20
AV	1.935G	35.88	54.00	-18.12	-3.26	3	Vertical	137	1.18	"Worst"	39.14	29.37	4.57	37.20

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	2.03698G	43.17	74.00	-30.83	-5.89	3	Horizontal	326	2.89	-	49.06	26.50	4.76	37.15
AV	2.03699G	34.26	54.00	-19.74	-5.89	3	Horizontal	326	2.89	"Worst"	40.15	26.50	4.76	37.15