Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	2AF5PQ14
Equipment	:	AXE5400 Tri-band Mesh WiFi
Brand Name	:	Motorola
Model Name	:	Q14
Applicant	:	MTRLC LLC 275 Turnpike St., Suite 101, Canton, MA 02021
Manufacturer	:	MTRLC LLC 275 Turnpike St., Suite 101, Canton, MA 02021
Standard	:	47 CFR FCC Part 15.247

The product was received on Nov. 12, 2021, and testing was started from Jan. 27, 2022 and completed on Apr. 25, 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
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Photographs of EUT v01

History of this test report

Report No.	Version	Description	Issued Date
FR1N1226AA	01	Initial issue of report	May 18, 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:

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: Vicky Huang

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	11b	20	2
2.4-2.4835GHz	11g	20	2
2.4-2.4835GHz	802.11n HT20	20	2
2.4-2.4835GHz	802.11n HT20-BF	20	2
2.4-2.4835GHz	VHT20	20	2
2.4-2.4835GHz	VHT20-BF	20	2
2.4-2.4835GHz	802.11ax HEW20	20	2
2.4-2.4835GHz	802.11ax HEW20-BF	20	2
2.4-2.4835GHz	802.11n HT40	40	2
2.4-2.4835GHz	802.11n HT40-BF	40	2
2.4-2.4835GHz	VHT40	40	2
2.4-2.4835GHz	VHT40-BF	40	2
2.4-2.4835GHz	802.11ax HEW40	40	2
2.4-2.4835GHz	802.11ax HEW40-BF	40	2

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)
	2.4GHz	5GHz	6GHz					
1	1	-	-	Antenna Company	AC10244-01A	PCB Antenna	I-PEX	Note4
2	2	-	-	Antenna Company	AC10244-01A	PCB Antenna	I-PEX	
3	-	2	-	Antenna Company	AC10503-01A	PCB Antenna	I-PEX	
4	-	1	-	Antenna Company	AC10503-01A	PCB Antenna	I-PEX	
5	-	-	2	Antenna Company	AC10601-01A	PCB Antenna	I-PEX	
6	-	-	1	Antenna Company	AC10601-01A	PCB Antenna	I-PEX	

Note1: The above information was declared by manufacturer.
Note2: WLAN 2.4GHz and 5GHz: Maximum Directional Gain following KDB662911 D03. The antenna report is provided in the operational description for this application.
Note3:

Gain (dBi)			
Ant.	**2.4 GHz**	**2.45 GHz**	**2.4835 GHz**
1	2.73	2.56	2.24
2	3.7	3.68	3.69

Gain (dBi)				
Ant.	**5.2 GHz**	**5.3 GHz**	**5.6 GHz**	**5.785 GHz**
3	2.01	2.57	3.17	2.97
4	2.43	2.92	2.12	2.52

Gain (dBi)	
Ant.	**6 GHz**
5	5.5
6	5.5

Note4: The antenna gain of 6GHz was declared by manufacturer.

Directional Gain (dBi)						
Ant.	2.4 GHz		2.45 GHz		2.4835 GHz	
	1SS	2SS	1SS	2SS	1SS	2SS
1	4.14	1.23	3.83	1.42	3.67	1.33
2						

Directional Gain (dBi)								
Ant.	5.2 GHz		5.3 GHz		5.6 GHz		5.785 GHz	
	1SS	2SS	1SS	2SS	1SS	2SS	1SS	2SS
3	3.94	1.06	3.74	0.74	4.38	1.41	4.51	1.57
4								

Note5:

For 2.4GHz:

For IEEE 802.11b/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 UNII 1~3:

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.

For 6GHz UNII 5~8:

For IEEE 802.11ax mode (2TX/2RX):

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

Port 1 and Port 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.99	0.04	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11g	0.992	0.03	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ax HEW20	0.996	0.02	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ax HEW40	0.993	0.03	n/a (DC>=0.98)	n/a (DC>=0.98)

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 n/VHT/ax in 2.4GHz, n/ac/ax in 5GHz UNII 1~UNII 3 and ax in 6E UNII 5~8.			
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	QSPR 5.0-00197			

Note: The above information was declared by manufacturer.

1.1.5 Table for EUT support function

Function	2.4GHz	5GHz	6GHz
AP Router	V	V	V
Extender	X	X	V
Mesh	X	X	V

Note1: After evaluating, AP Router was selected as representative model for the test and its data was recorded in this report.

Note2: 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 D03 v01
- FCC KDB 414788 D01 v01r01

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	TH02-CB	Gino Huang	23.1-23.6 / 62-64	Feb. 07, 2022~ Apr. 25, 2022
Radiated (Below 1GHz)	03CH06-CB	Kevin Huang	24.5-25.6 / 56-59	Mar. 29, 2022
Radiated (Above 1GHz)	03CH04-CB	Gino Huang	23.5-24.6 / 55-59	Jan. 27, 2022~ Mar. 14, 2022
AC Conduction	CO01-CB	Joe Chu	20~22 / 60~62	Mar. 31, 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)	4.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.5 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

<For Non-Beamforming Mode>

Mode	Power Setting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	19.5
2437MHz	19
2462MHz	16.5
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	25
2437MHz	25
2462MHz	22.5
802.11ax HEW20_Nss1,(MCS0)_2TX	-
2412MHz	25
2437MHz	25
2462MHz	23
802.11ax HEW40_Nss1,(MCS0)_2TX	-
2422MHz	25
2437MHz	25
2452MHz	25

<For Beamforming Mode>

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

Note:
- Evaluated HEW20/HEW40 mode only, due to similar modulation. The power setting of HT20/HT40/
- VHT20/VHT40 mode are the same or lower than HEW20/HEW40.
- The EUT supports beamforming and CDD modes, and the CDD mode is the worst case. Therefore, all test items are evaluated in the report. The beamforming mode only evaluates the output power.

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+Adapter

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+Adapter
2	EUT in Y axis+Adapter
3	EUT in Z axis+Adapter
For operating mode 2 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 and the worst case was found at Y axis. So the measurement will follow this same test configuration.	
1	EUT in Y axis

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+WLAN 6GHz
Refer to Sporton Test Report No.: FA1N1226 for Co-location RF Exposure Evaluation.	

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

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	LEI	MU24D1120200-A1	INPUT: 100-240V~50/60Hz, 0.7A OUTPUT: 12V, 2A
Other			
RJ-45 cable, Non-shielded, 1.5m			

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	WAN NB	DELL	E6430	N/A
B	LAN NB	DELL	E6430	N/A
C	2.4G NB	DELL	E6430	N/A
D	5G NB	DELL	E6430	N/A
E	6E NB	DELL	E6430	N/A

For Radiated (below 1GHz):

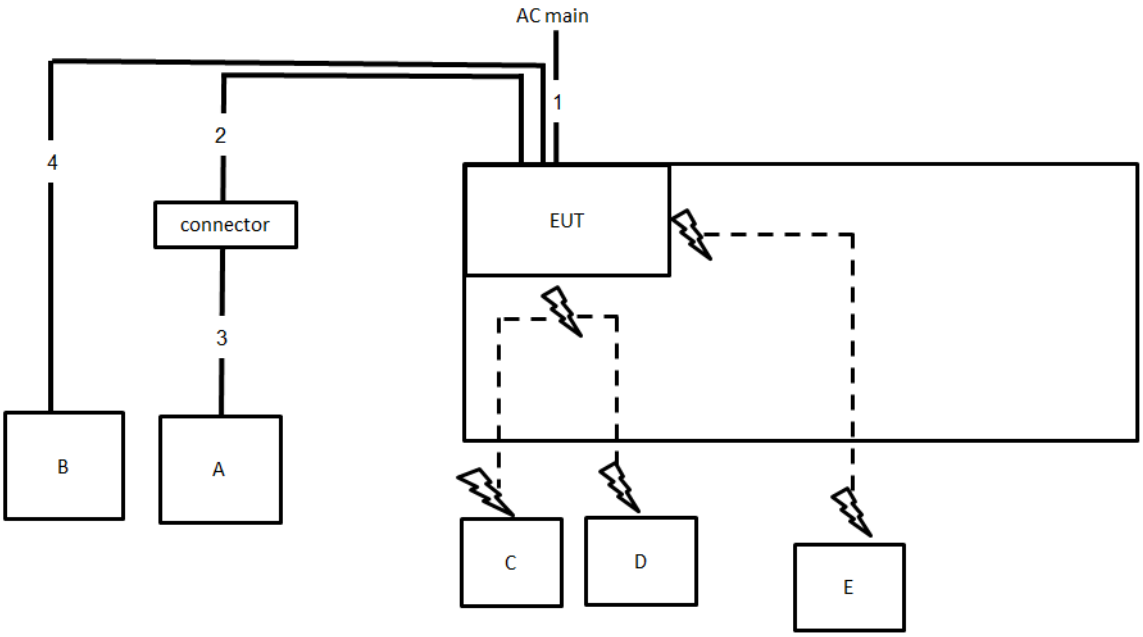
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	LAN NB	DELL	E4300	N/A
B	WAN NB	DELL	E4300	N/A
C	2.4G NB	DELL	E4300	N/A
D	5G NB	DELL	E4300	N/A
E	WLAN module	Intel	AX210NGW	PD9AX210NG
F	6E NB	DELL	E4300	N/A

For Radiated (above 1GHz) and RF Conducted:

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

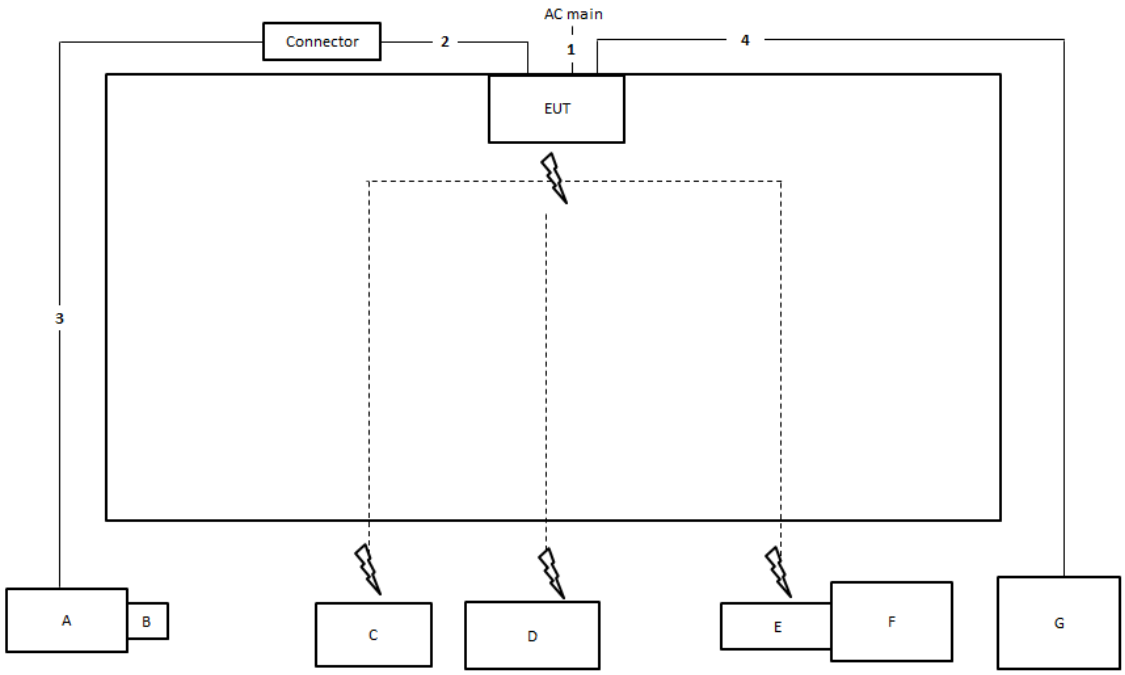
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



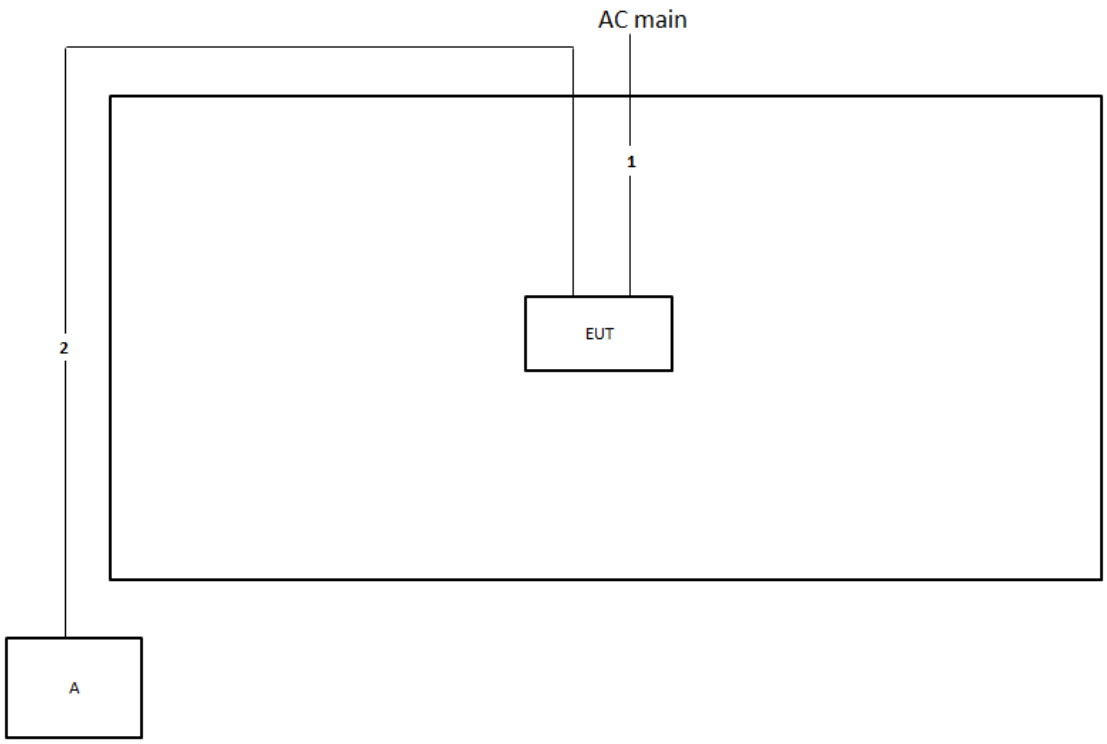
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	10m

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

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	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

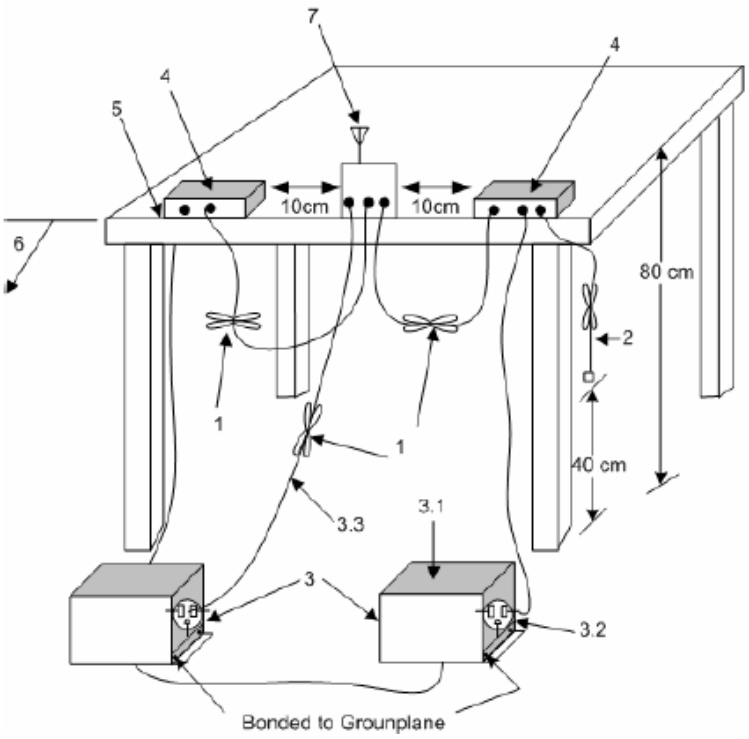
Refer a test equipment and calibration data table in this test report.

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

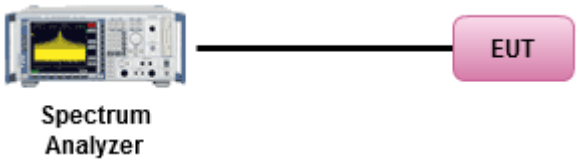
Refer a test equipment and calibration data table in this test report.

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

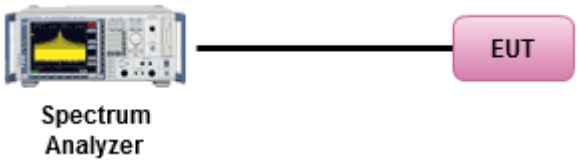
Refer a test equipment and calibration data table in this test report.

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

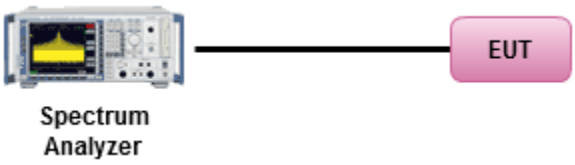
Refer a test equipment and calibration data table in this test report.

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.

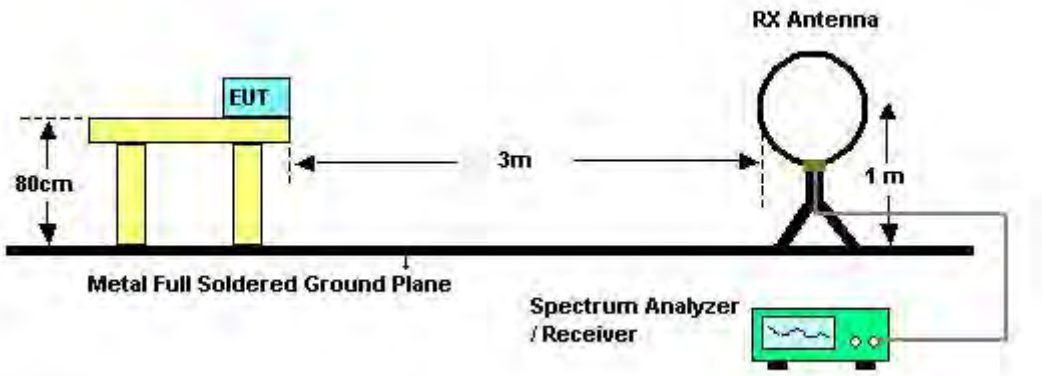
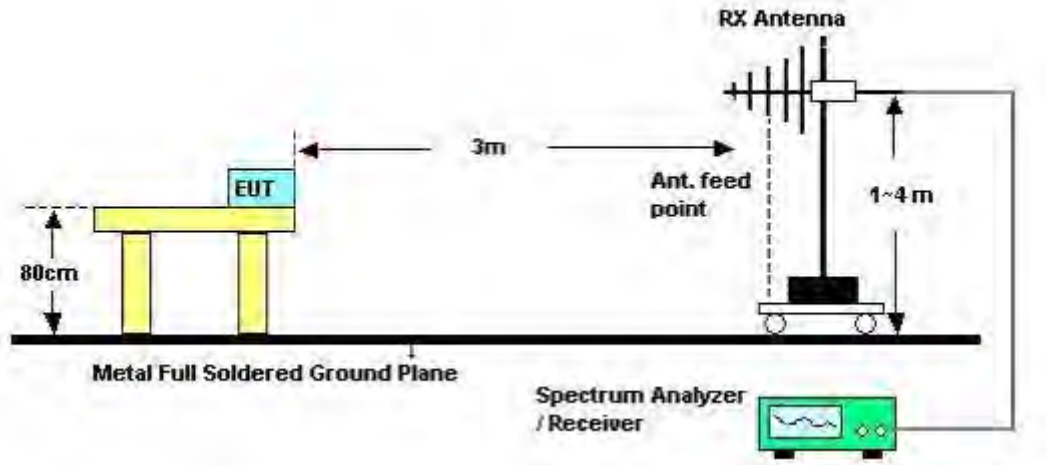
3.6.2 Measuring Instruments

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

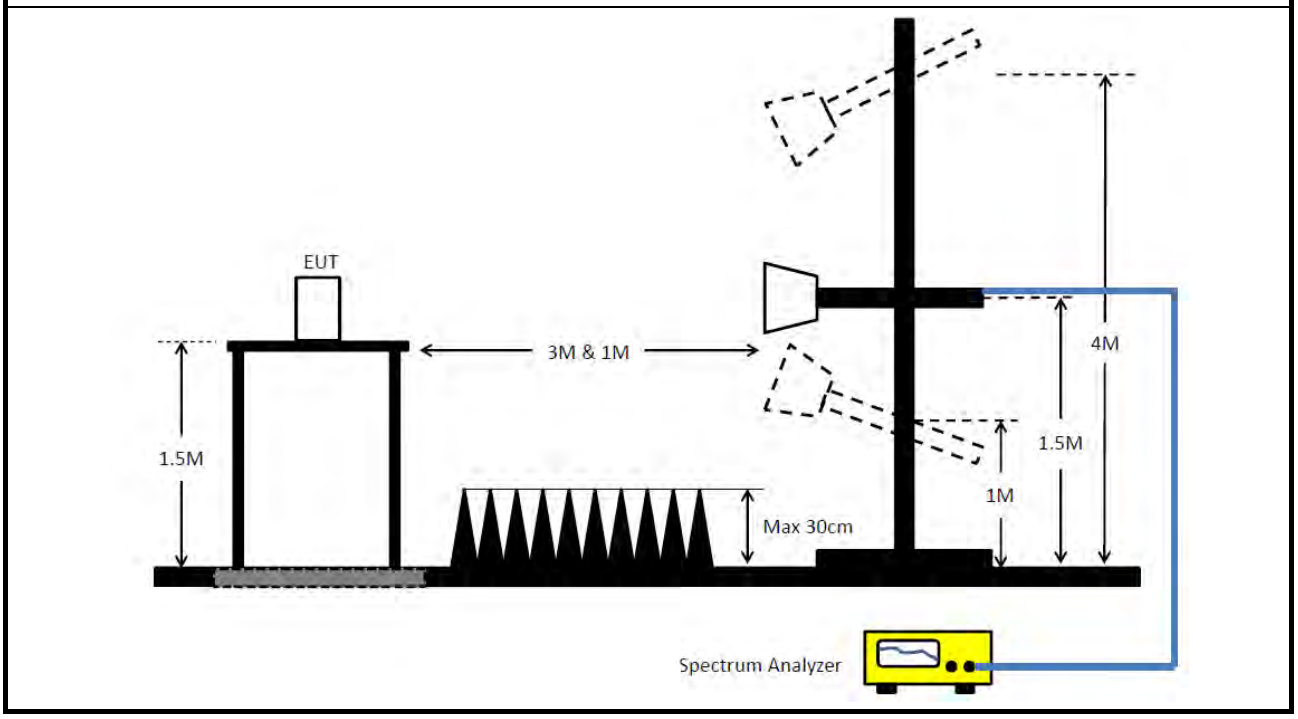
3.6.3 Test Procedures

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	8127650	9kHz ~ 30MHz	Jan. 07, 2022	Jan. 06, 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)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH06-CB	30 MHz ~ 1 GHz	Aug. 09, 2021	Aug. 08. 2022	Radiation (03CH06-CB)
Bilog Antenna with 6 dB attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37878 & AT-N0606	20MHz ~ 2GHz	Jul. 31, 2021	Jul. 30, 2022	Radiation (03CH06-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 14, 2021	Apr. 13, 2022	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	310N	187290	0.1MHz ~ 1GHz	Nov. 04, 2021	Nov. 03, 2022	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Dec. 24, 2021	Dec. 23, 2022	Radiation (03CH06-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 21, 2021	Jun. 20, 2022	Radiation (03CH06-CB)
RF Cable-low	Woken	RG402	Low Cable-05+24	30MHz~1GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH06-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH04-CB	1GHz ~18GHz 3m	Feb. 25, 2021	Feb. 24, 2022	Radiation (03CH04-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH04-CB	1GHz ~18GHz 3m	Feb. 24, 2022	Feb. 23, 2023	Radiation (03CH04-CB)
Horn Antenna	ETS・Lindgren	3115	00143147	750MHz~18GHz	Oct. 25, 2021	Oct. 24, 2022	Radiation (03CH04-CB
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH04-CB

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH04-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Apr. 15, 2021	Apr. 14, 2022	Radiation (03CH04-CB
RF Cable-high	Woken	RG402	High Cable-21	1GHz - 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21+67	1GHz - 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH04-CB
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH04-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH04-CB
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH04-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH04-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Aug. 02, 2021	Aug. 01, 2022	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Oct. 25, 2021	Oct. 24, 2022	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Oct. 25, 2021	Oct. 24, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
Switch	SPTCB	SP-SWI	SWI-02	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P1	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P2	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P3	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P4	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)

RF Cable-high	Woken	RG402	SWI-02-P5	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH02-CB)

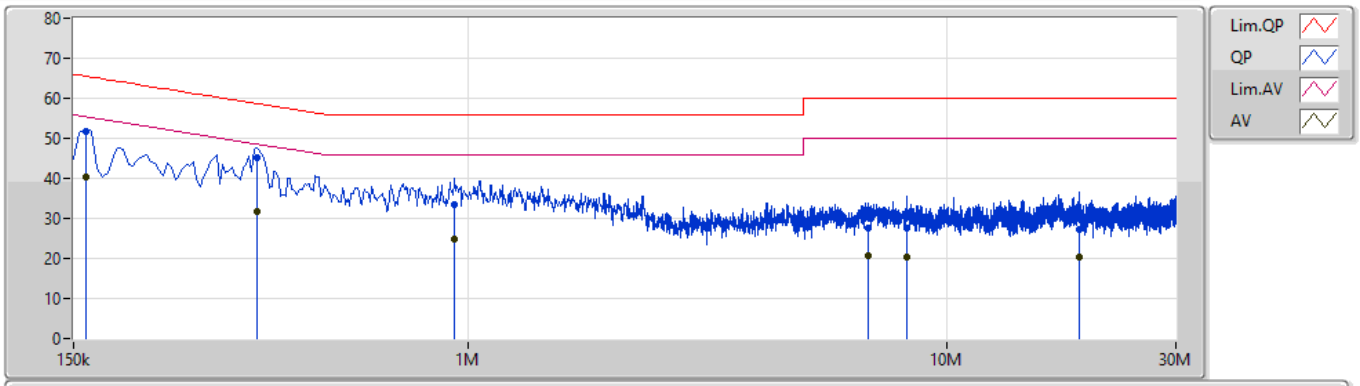
Note: Calibration Interval of instruments listed above is one year.
NCR means Non-Calibration required.

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	343.5k	39.84	49.12	-9.28	Neutral

Mode 1

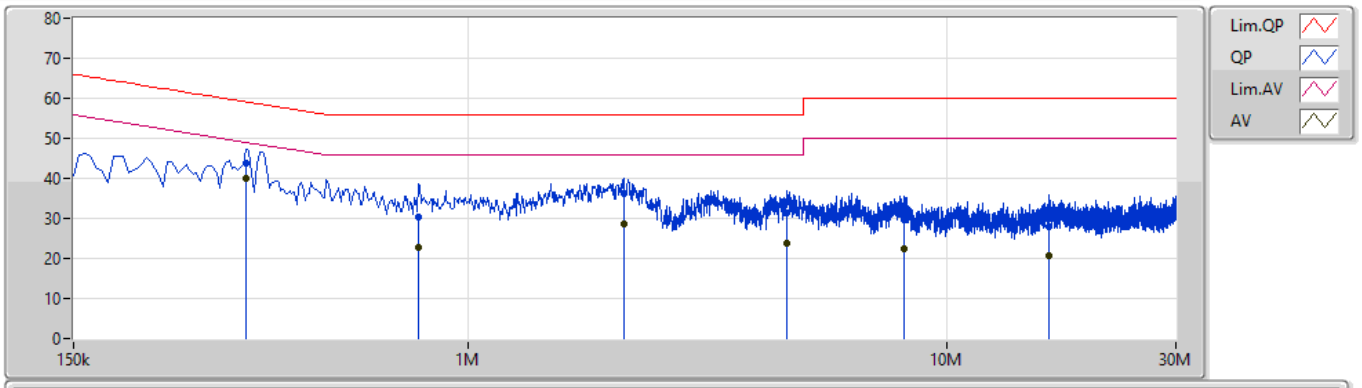
31/03/2022



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	159k	51.77	65.52	-13.75	10.03	Line	-	41.74	0.12	0.02	9.89
AV	159k	40.18	55.52	-15.34	10.03	Line	-	30.15	0.12	0.02	9.89
QP	361.5k	45.15	58.70	-13.55	10.03	Line	"Worst"	35.12	0.12	0.02	9.89
AV	361.5k	31.70	48.70	-17.00	10.03	Line	-	21.67	0.12	0.02	9.89
QP	937.5k	33.60	56.00	-22.40	10.05	Line	-	23.55	0.14	0.02	9.89
AV	937.5k	24.75	46.00	-21.25	10.05	Line	-	14.70	0.14	0.02	9.89
QP	6.833M	27.59	60.00	-32.41	10.26	Line	-	17.33	0.29	0.07	9.90
AV	6.833M	20.56	50.00	-29.44	10.26	Line	-	10.30	0.29	0.07	9.90
QP	8.246M	27.55	60.00	-32.45	10.30	Line	-	17.25	0.32	0.07	9.91
AV	8.246M	20.40	50.00	-29.60	10.30	Line	-	10.10	0.32	0.07	9.91
QP	18.888M	27.08	60.00	-32.92	10.46	Line	-	16.62	0.38	0.12	9.96
AV	18.888M	20.30	50.00	-29.70	10.46	Line	-	9.84	0.38	0.12	9.96

Mode 1

31/03/2022



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	343.5k	43.91	59.12	-15.21	10.07	Neutral	-	33.84	0.16	0.02	9.89
AV	343.5k	39.84	49.12	-9.28	10.07	Neutral	"Worst"	29.77	0.16	0.02	9.89
QP	789k	30.25	56.00	-25.75	10.08	Neutral	-	20.17	0.17	0.02	9.89
AV	789k	22.79	46.00	-23.21	10.08	Neutral	-	12.71	0.17	0.02	9.89
QP	2.108M	36.35	56.00	-19.65	10.13	Neutral	-	26.22	0.19	0.05	9.89
AV	2.108M	28.54	46.00	-17.46	10.13	Neutral	-	18.41	0.19	0.05	9.89
QP	4.619M	31.47	56.00	-24.53	10.19	Neutral	-	21.28	0.23	0.07	9.89
AV	4.619M	23.96	46.00	-22.04	10.19	Neutral	-	13.77	0.23	0.07	9.89
QP	8.133M	29.72	60.00	-30.28	10.25	Neutral	-	19.47	0.27	0.07	9.91
AV	8.133M	22.57	50.00	-27.43	10.25	Neutral	-	12.32	0.27	0.07	9.91
QP	16.283M	28.05	60.00	-31.95	10.37	Neutral	-	17.68	0.31	0.11	9.95
AV	16.283M	20.55	50.00	-29.45	10.37	Neutral	-	10.18	0.31	0.11	9.95

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	8.025M	13.443M	13M4G1D	7.05M	13.043M
802.11g_Nss1,(6Mbps)_2TX	15.05M	16.367M	16M4D1D	14.4M	16.242M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.475M	18.941M	18M9D1D	12.45M	18.791M
802.11ax HEW40_Nss1,(MCS0)_2TX	35.25M	37.631M	37M6D1D	29.65M	37.431M

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

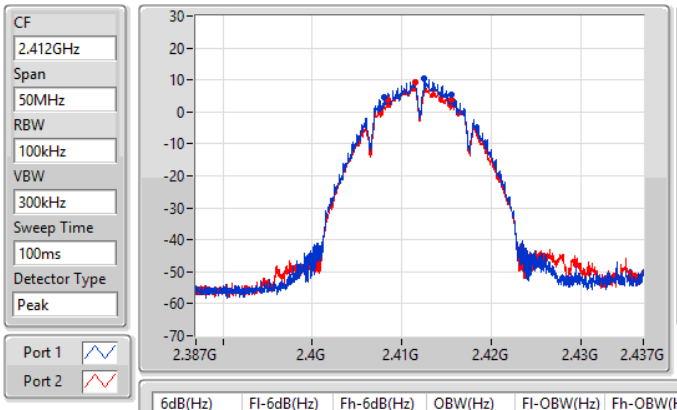
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	7.525M	13.093M	7.075M	13.043M
2437MHz	Pass	500k	7.975M	13.343M	7.05M	13.218M
2462MHz	Pass	500k	7.55M	13.443M	8.025M	13.443M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.05M	16.317M	15.05M	16.267M
2437MHz	Pass	500k	15.025M	16.242M	14.4M	16.292M
2462MHz	Pass	500k	15.05M	16.367M	15.05M	16.342M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	13.75M	18.841M	12.45M	18.791M
2437MHz	Pass	500k	15.025M	18.791M	15.075M	18.816M
2462MHz	Pass	500k	14.8M	18.891M	18.475M	18.941M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	32.95M	37.581M	35.25M	37.631M
2437MHz	Pass	500k	31.25M	37.481M	29.65M	37.481M
2452MHz	Pass	500k	34.45M	37.431M	31.35M	37.531M

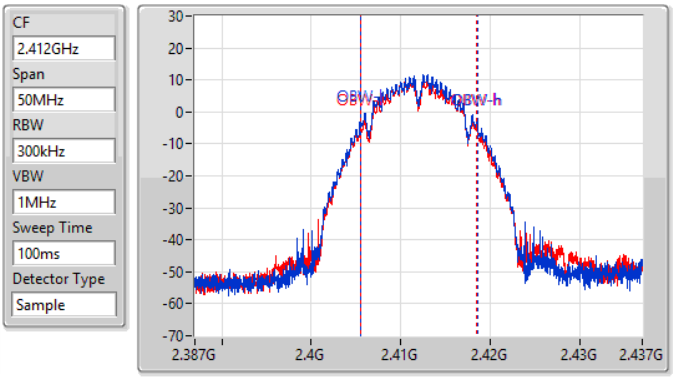
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

802.11b_Nss1,(1Mbps)_2TX EBW

2412MHz

15/03/2022



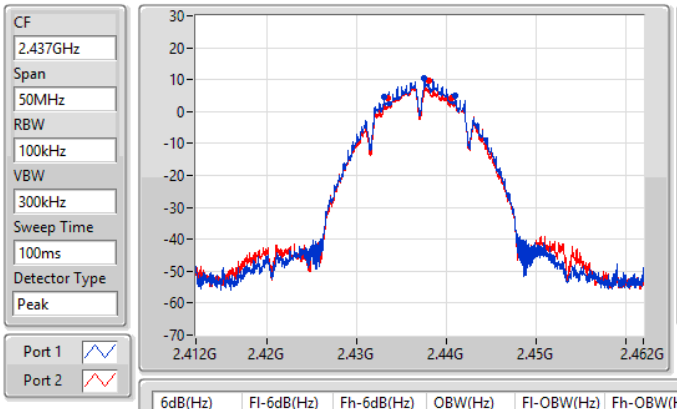


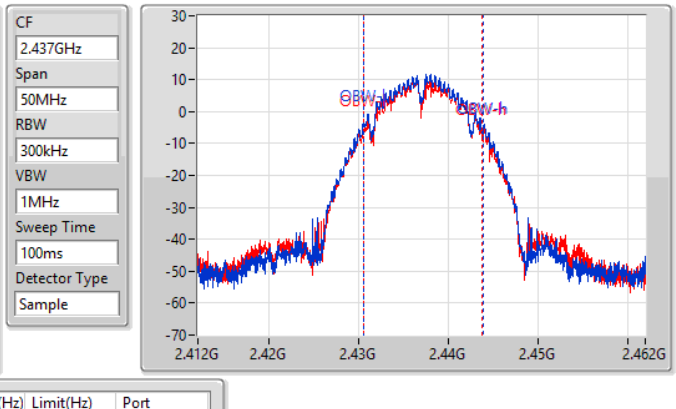
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
7.525M	2.408025G	2.41555G	13.093M	2.405503G	2.418597G	500k	1
7.075M	2.408475G	2.41555G	13.043M	2.405478G	2.418522G	500k	2

802.11b_Nss1,(1Mbps)_2TX EBW

2437MHz

15/03/2022



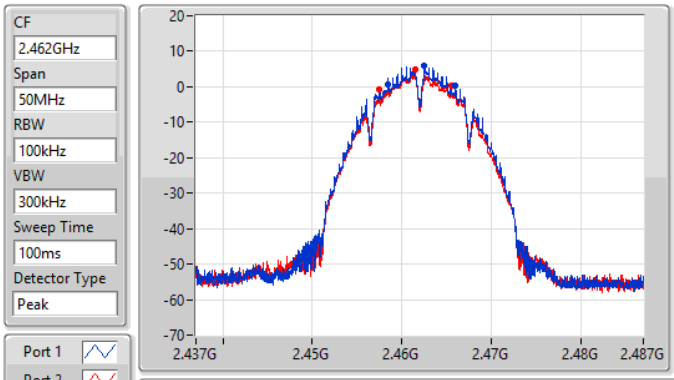


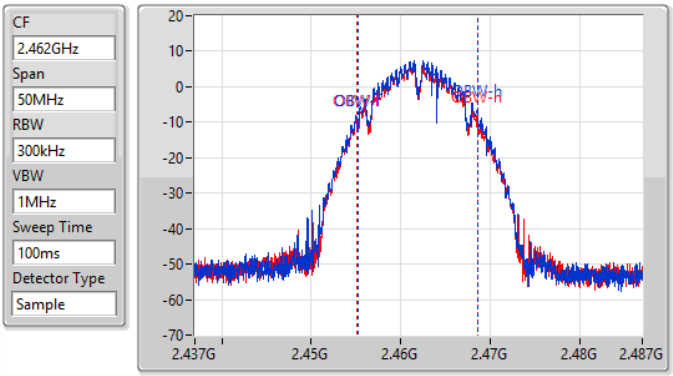
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
7.975M	2.43305G	2.441025G	13.343M	2.430503G	2.443847G	500k	1
7.05M	2.4335G	2.44055G	13.218M	2.430478G	2.443697G	500k	2

802.11b_Nss1,(1Mbps)_2TX EBW

2462MHz

15/03/2022



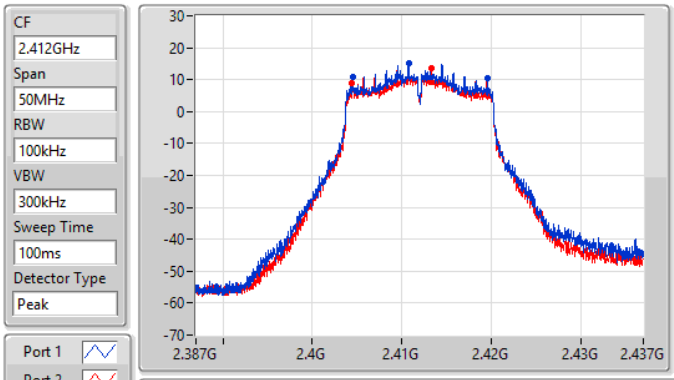


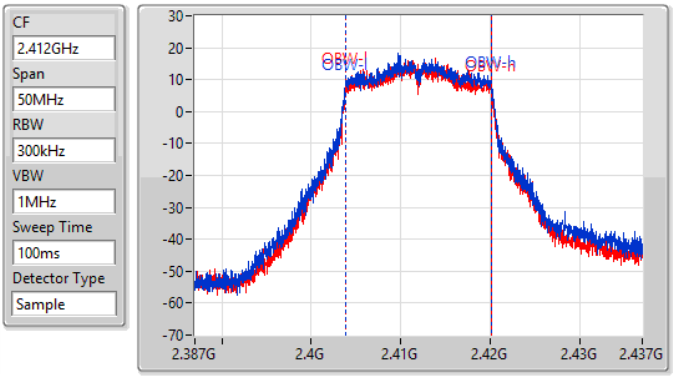
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
7.55M	2.458475G	2.466025G	13.443M	2.455178G	2.468622G	500k	1
8.025M	2.457525G	2.46555G	13.443M	2.455128G	2.468572G	500k	2

802.11g_Nss1,(6Mbps)_2TX EBW

2412MHz

15/03/2022



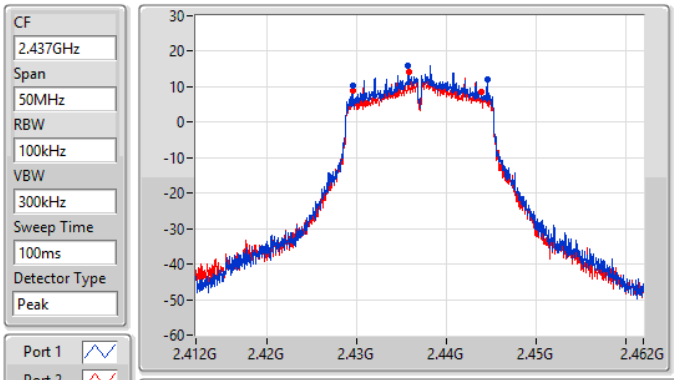


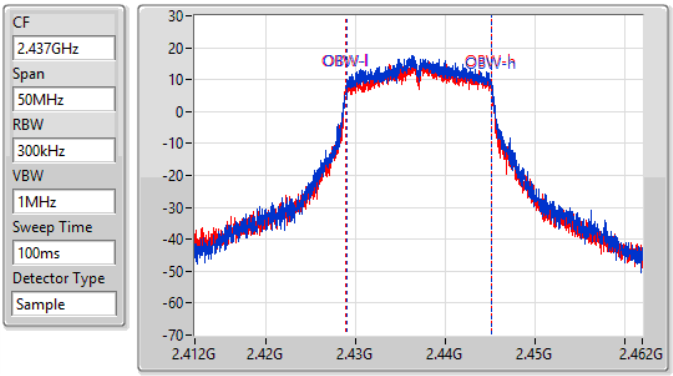
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.05M	2.4045G	2.41955G	16.317M	2.403829G	2.420146G	500k	1
15.05M	2.404475G	2.419525G	16.267M	2.403854G	2.420121G	500k	2

802.11g_Nss1,(6Mbps)_2TX EBW

2437MHz

15/03/2022



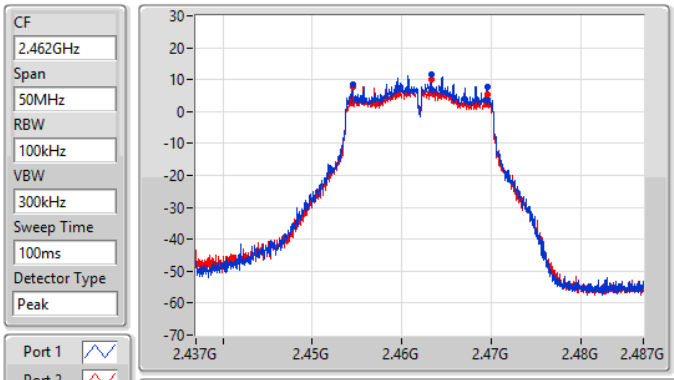


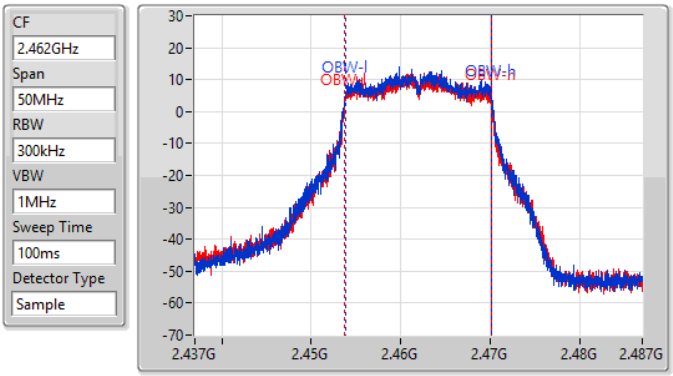
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.025M	2.4295G	2.444525G	16.242M	2.428929G	2.445171G	500k	1
14.4M	2.4295G	2.4439G	16.292M	2.428879G	2.445171G	500k	2

802.11g_Nss1,(6Mbps)_2TX EBW

2462MHz

15/03/2022



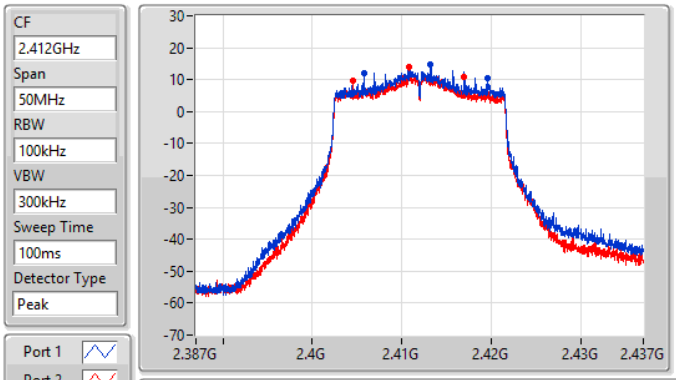


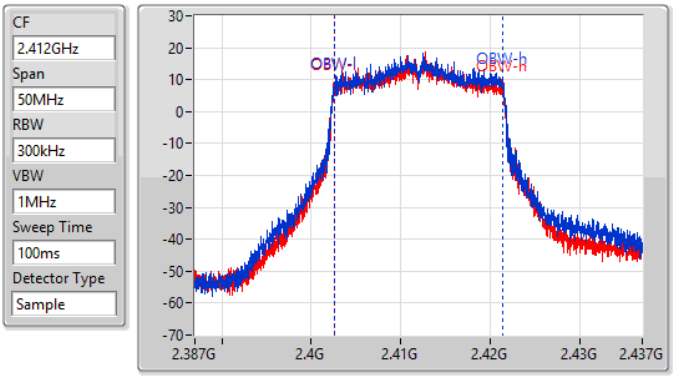
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.05M	2.4545G	2.46955G	16.367M	2.453804G	2.470171G	500k	1
15.05M	2.4545G	2.46955G	16.342M	2.453779G	2.470121G	500k	2

802.11ax HEW20_Nss1,(MCS0)_2TX EBW

2412MHz

15/03/2022



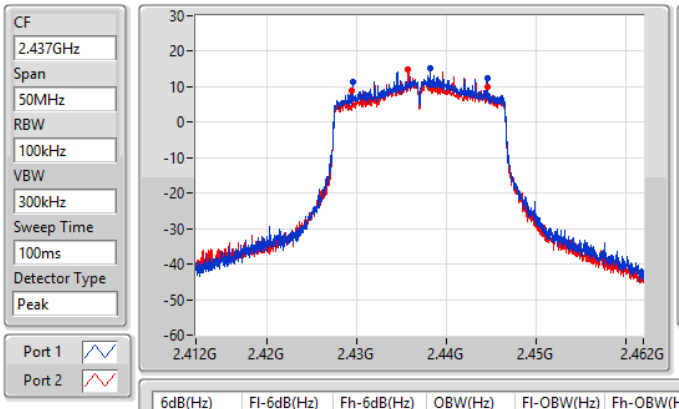


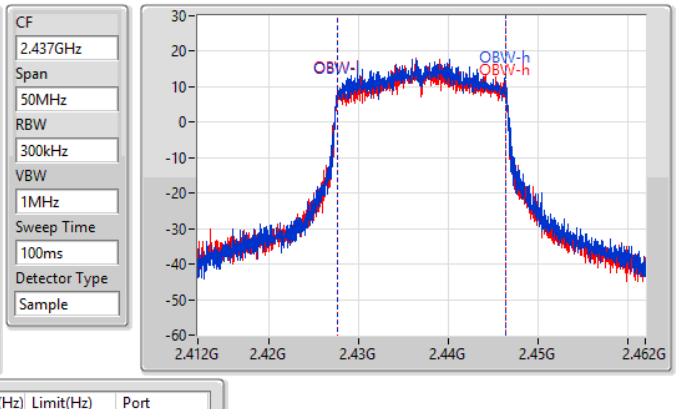
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
13.75M	2.405775G	2.419525G	18.841M	2.40258G	2.42142G	500k	1
12.45M	2.404525G	2.416975G	18.791M	2.40258G	2.42137G	500k	2

802.11ax HEW20_Nss1,(MCS0)_2TX EBW

2437MHz

15/03/2022



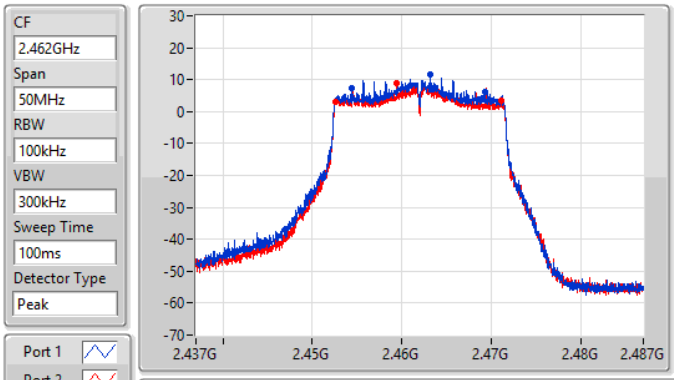


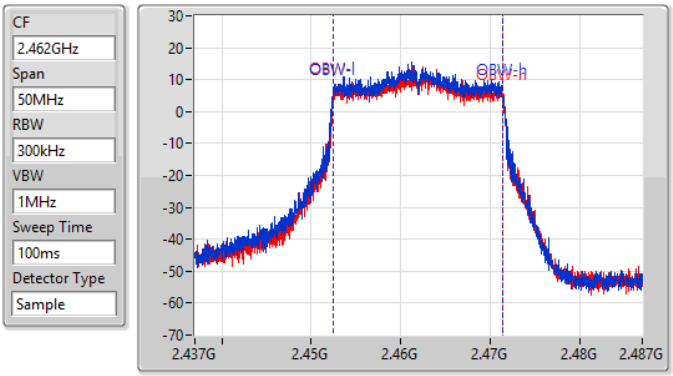
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.025M	2.429525G	2.44455G	18.791M	2.42763G	2.44642G	500k	1
15.075M	2.429475G	2.44455G	18.816M	2.427605G	2.44642G	500k	2

802.11ax HEW20_Nss1,(MCS0)_2TX EBW

2462MHz

15/03/2022



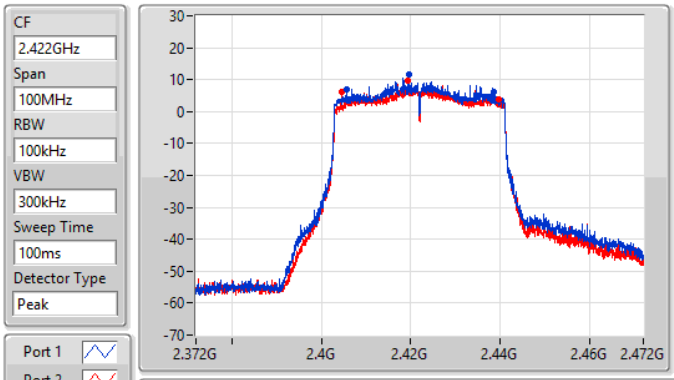


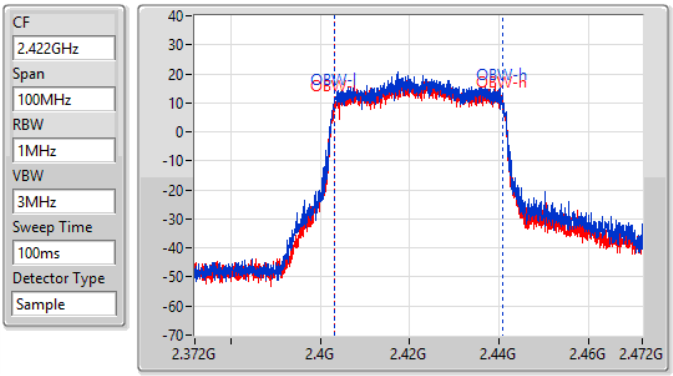
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.8M	2.454475G	2.469275G	18.891M	2.452505G	2.471395G	500k	1
18.475M	2.4526G	2.471075G	18.941M	2.452505G	2.471445G	500k	2

802.11ax HEW40_Nss1,(MCS0)_2TX EBW

2422MHz

15/03/2022



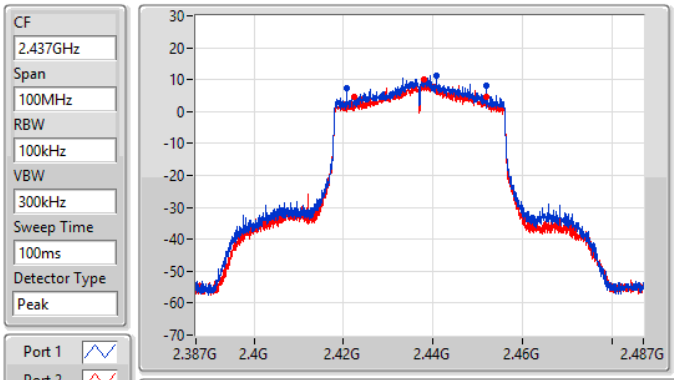


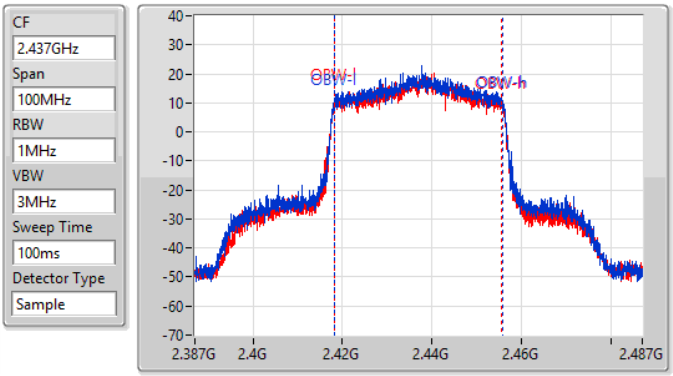
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
32.95M	2.40575G	2.4387G	37.581M	2.403209G	2.440791G	500k	1
35.25M	2.4045G	2.43975G	37.631M	2.403259G	2.440891G	500k	2

802.11ax HEW40_Nss1,(MCS0)_2TX EBW

2437MHz

15/03/2022



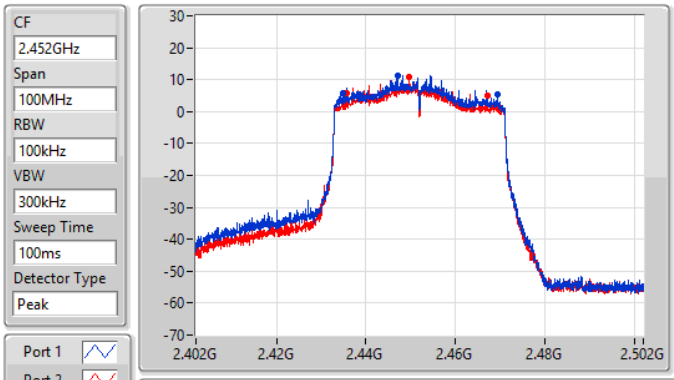


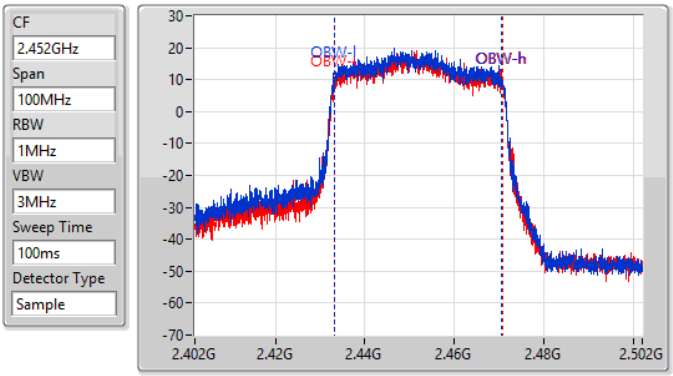
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
31.25M	2.42075G	2.452G	37.481M	2.418209G	2.455691G	500k	1
29.65M	2.42235G	2.452G	37.481M	2.418159G	2.455641G	500k	2

802.11ax HEW40_Nss1,(MCS0)_2TX EBW

2452MHz

15/03/2022





6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
34.45M	2.435G	2.46945G	37.431M	2.433159G	2.470591G	500k	1
31.35M	2.4357G	2.46705G	37.531M	2.433159G	2.470691G	500k	2

<For Non-Beamforming Mode>

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	21.11	0.12912
802.11g_Nss1,(6Mbps)_2TX	27.36	0.54450
802.11ax HEW20_Nss1,(MCS0)_2TX	27.04	0.50582
802.11ax HEW40_Nss1,(MCS0)_2TX	26.77	0.47534

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.70	18.64	17.49	21.11	30.00
2437MHz	Pass	3.68	18.53	17.54	21.07	30.00
2462MHz	Pass	3.68	14.45	13.33	16.94	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.70	24.09	23.16	26.66	30.00
2437MHz	Pass	3.68	24.86	23.77	27.36	30.00
2462MHz	Pass	3.68	20.88	19.66	23.32	30.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.70	24.08	22.77	26.48	30.00
2437MHz	Pass	3.68	24.54	23.46	27.04	30.00
2462MHz	Pass	3.68	21.12	19.79	23.52	30.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.70	23.98	22.92	26.49	30.00
2437MHz	Pass	3.68	24.37	23.06	26.77	30.00
2452MHz	Pass	3.68	23.89	22.78	26.38	30.00

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

<For Beamforming Mode>

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	27.04	0.50582
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	26.77	0.47534

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.14	24.08	22.77	26.48	30.00
2437MHz	Pass	3.83	24.54	23.46	27.04	30.00
2462MHz	Pass	3.83	21.12	19.79	23.52	30.00
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	4.14	23.98	22.92	26.49	30.00
2437MHz	Pass	3.83	24.37	23.06	26.77	30.00
2452MHz	Pass	3.83	23.89	22.78	26.38	30.00

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	-1.69
802.11g_Nss1,(6Mbps)_2TX	1.02
802.11ax HEW20_Nss1,(MCS0)_2TX	0.93
802.11ax HEW40_Nss1,(MCS0)_2TX	-1.24

RBW = 3kHz;

Result

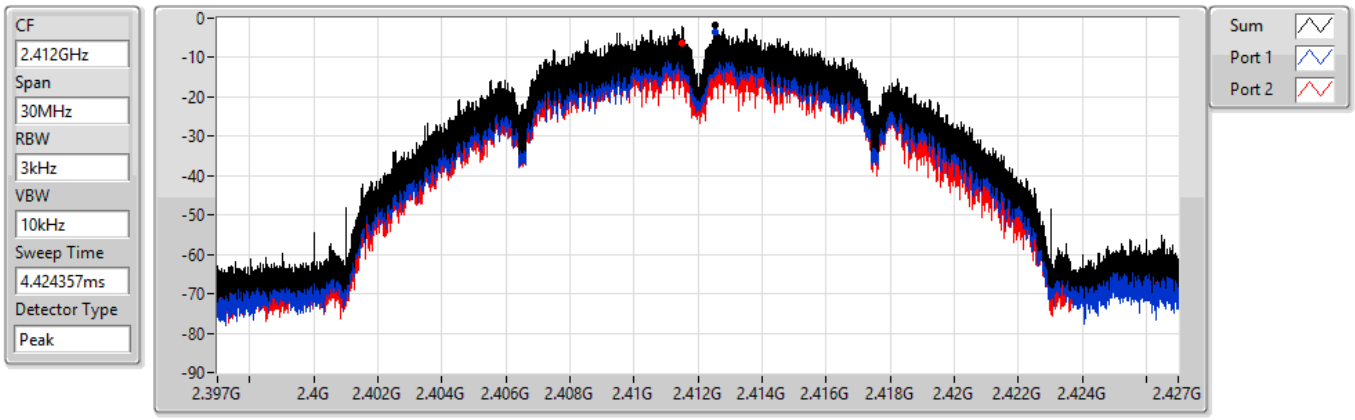
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.70	-3.60	-6.38	-1.88	8.00
2437MHz	Pass	3.83	-3.93	-4.81	-1.69	8.00
2462MHz	Pass	3.83	-7.63	-10.45	-6.01	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.70	-2.57	-2.49	0.05	8.00
2437MHz	Pass	3.83	0.20	-1.74	1.02	8.00
2462MHz	Pass	3.83	-6.04	-5.55	-3.02	8.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.70	-0.49	-2.41	0.93	8.00
2437MHz	Pass	3.83	-1.16	-1.29	0.34	8.00
2462MHz	Pass	3.83	-4.37	-4.34	-2.85	8.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.70	-4.53	-5.53	-2.25	8.00
2437MHz	Pass	3.83	-2.93	-3.78	-1.24	8.00
2452MHz	Pass	3.83	-3.97	-3.81	-2.45	8.00

DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11b_Nss1,(1Mbps)_2TX PSD

2412MHz

15/03/2022

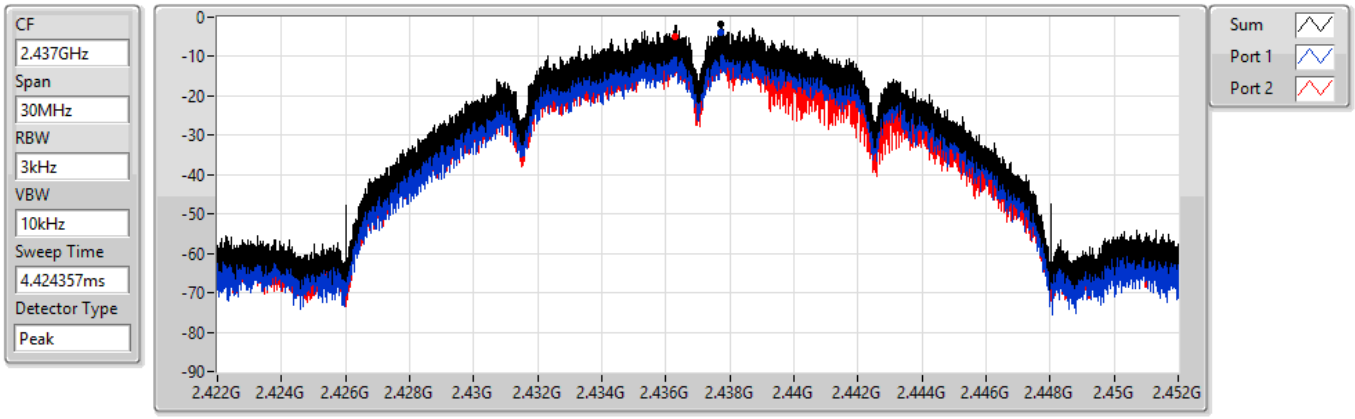


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.88	-1.88	-3.60	-6.38

802.11b_Nss1,(1Mbps)_2TX PSD

2437MHz

15/03/2022

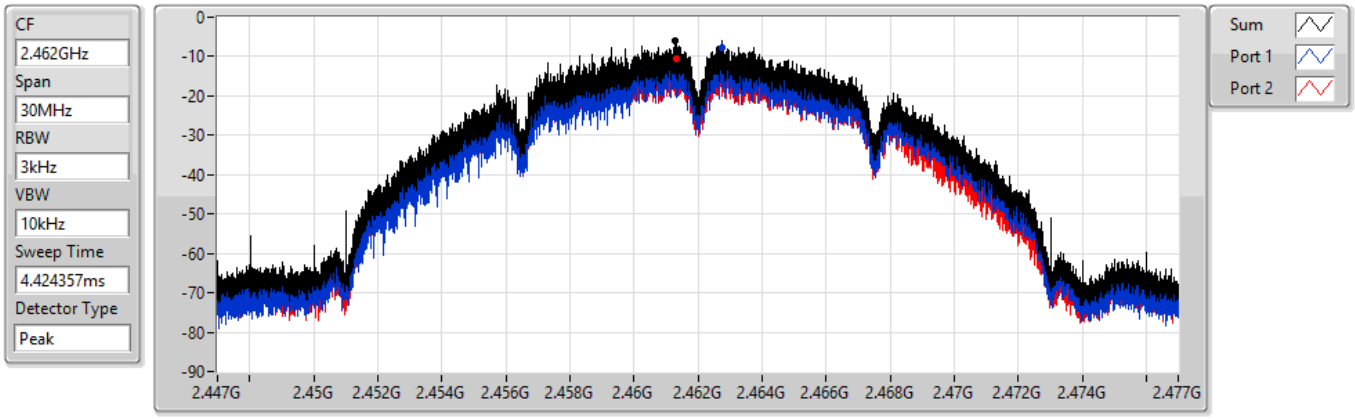


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.69	-1.69	-3.93	-4.81

802.11b_Nss1,(1Mbps)_2TX PSD

2462MHz

15/03/2022

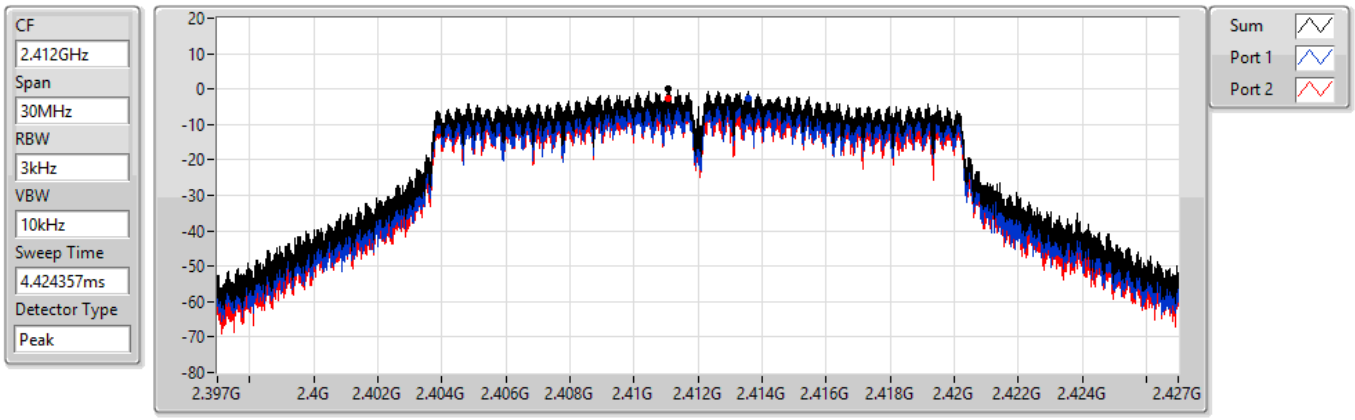


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.01	-6.01	-7.63	-10.45

802.11g_Nss1,(6Mbps)_2TX PSD

2412MHz

15/03/2022

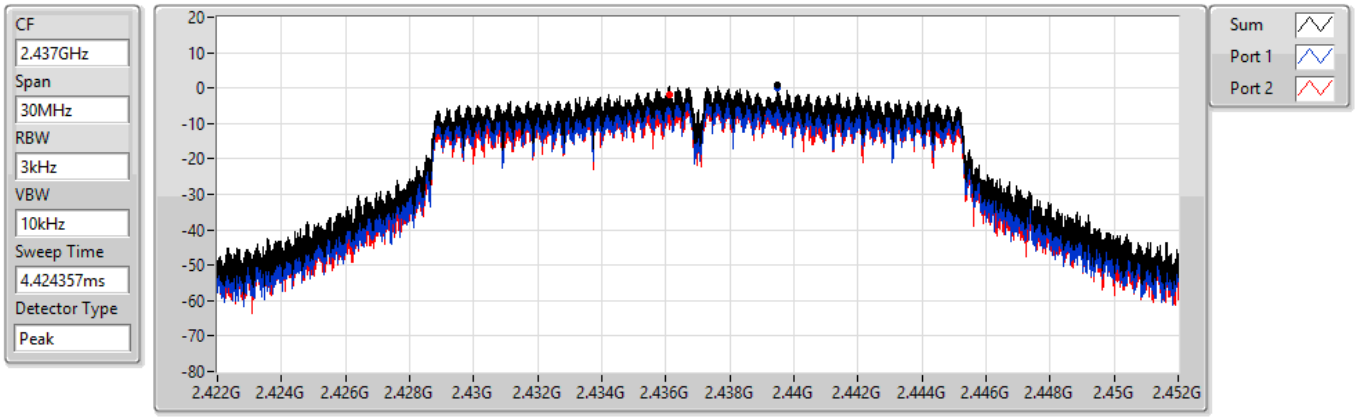


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.05	0.05	-2.57	-2.49

802.11g_Nss1,(6Mbps)_2TX PSD

2437MHz

15/03/2022

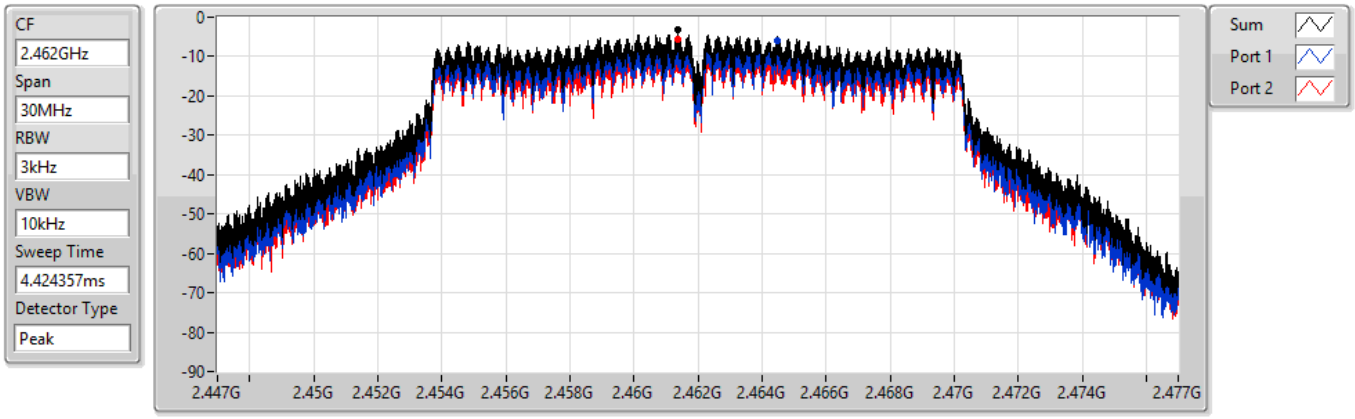


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.02	1.02	0.20	-1.74

802.11g_Nss1,(6Mbps)_2TX PSD

2462MHz

15/03/2022

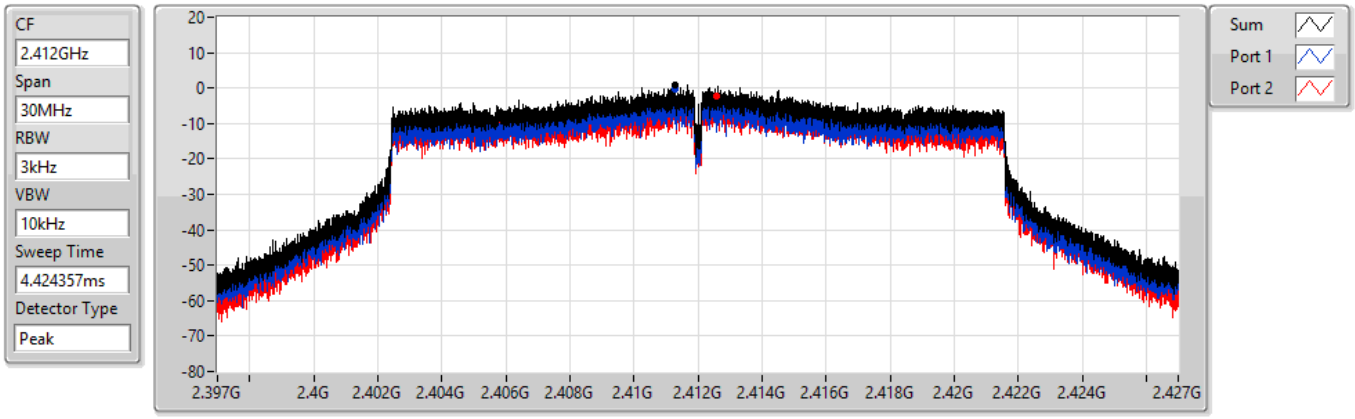


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.02	-3.02	-6.04	-5.55

802.11ax HEW20_Nss1,(MCS0)_2TX PSD

2412MHz

15/03/2022

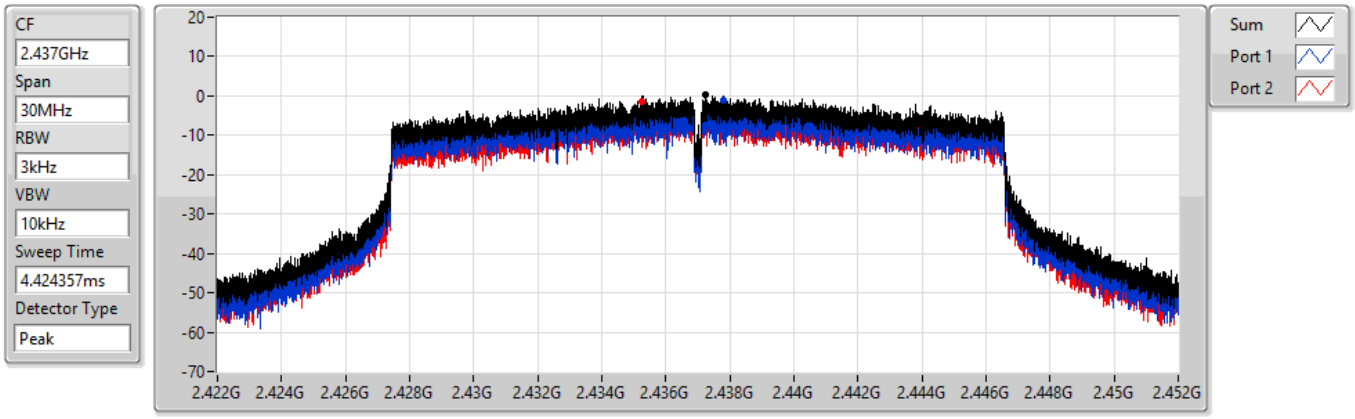


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.93	0.93	-0.49	-2.41

802.11ax HEW20_Nss1,(MCS0)_2TX PSD

2437MHz

15/03/2022

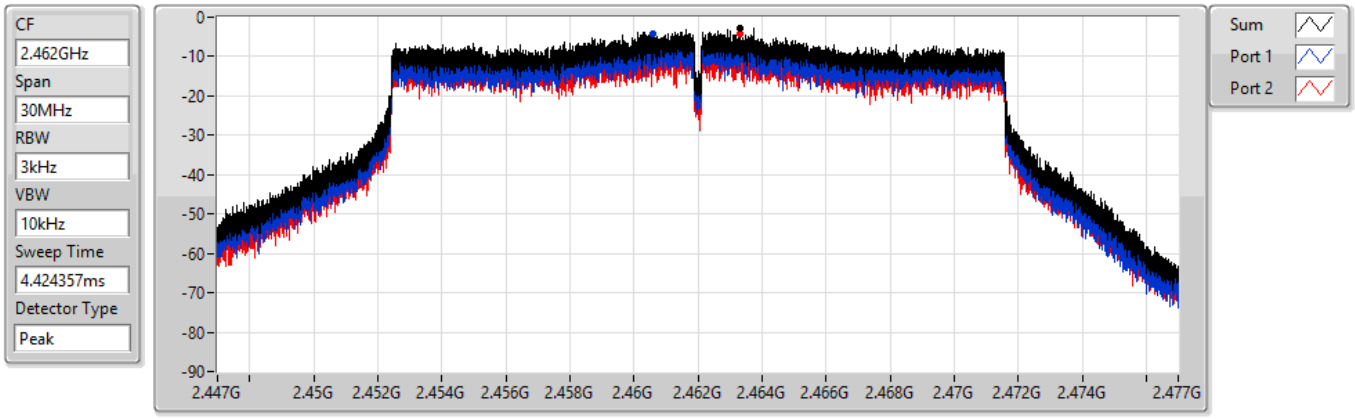


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.34	0.34	-1.16	-1.29

802.11ax HEW20_Nss1,(MCS0)_2TX PSD

2462MHz

15/03/2022

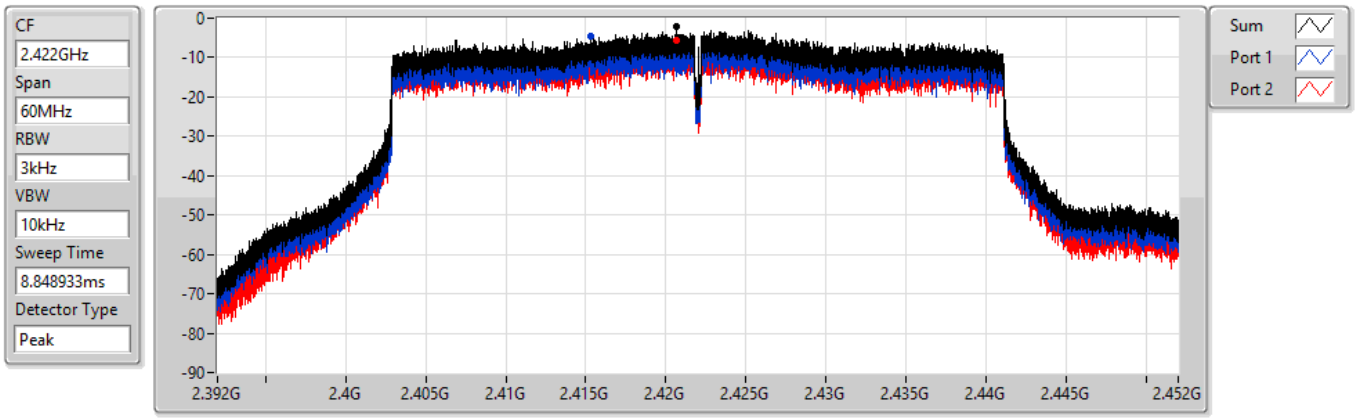


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.85	-2.85	-4.37	-4.34

802.11ax HEW40_Nss1,(MCS0)_2TX PSD

2422MHz

15/03/2022

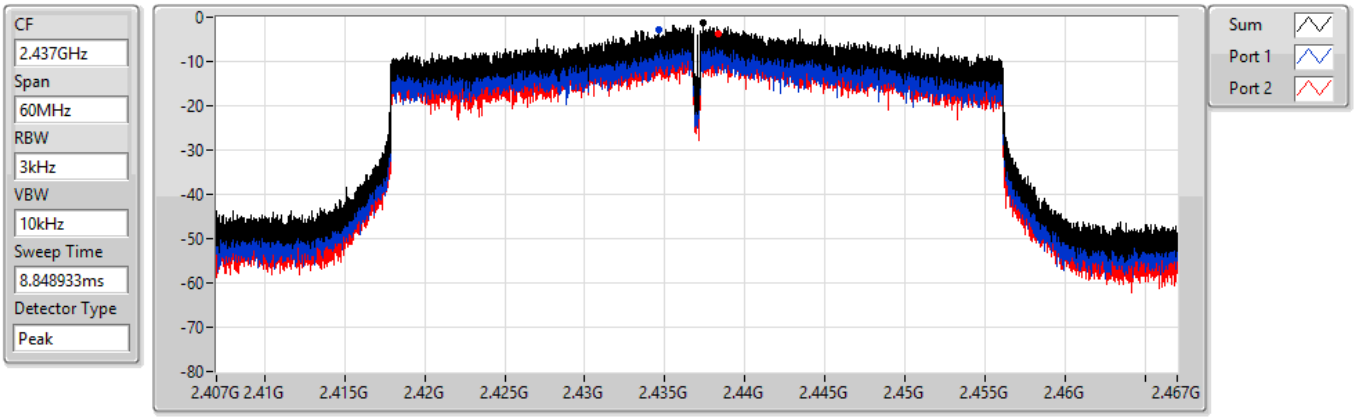


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.25	-2.25	-4.53	-5.53

802.11ax HEW40_Nss1,(MCS0)_2TX PSD

2437MHz

15/03/2022

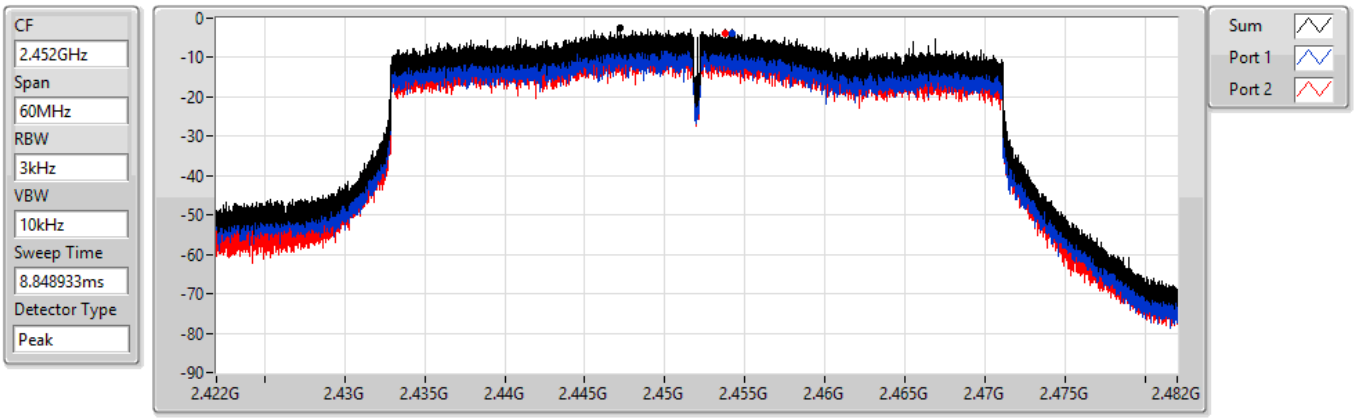


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.24	-1.24	-2.93	-3.78

802.11ax HEW40_Nss1,(MCS0)_2TX PSD

2452MHz

15/03/2022



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.45	-2.45	-3.97	-3.81

Summary

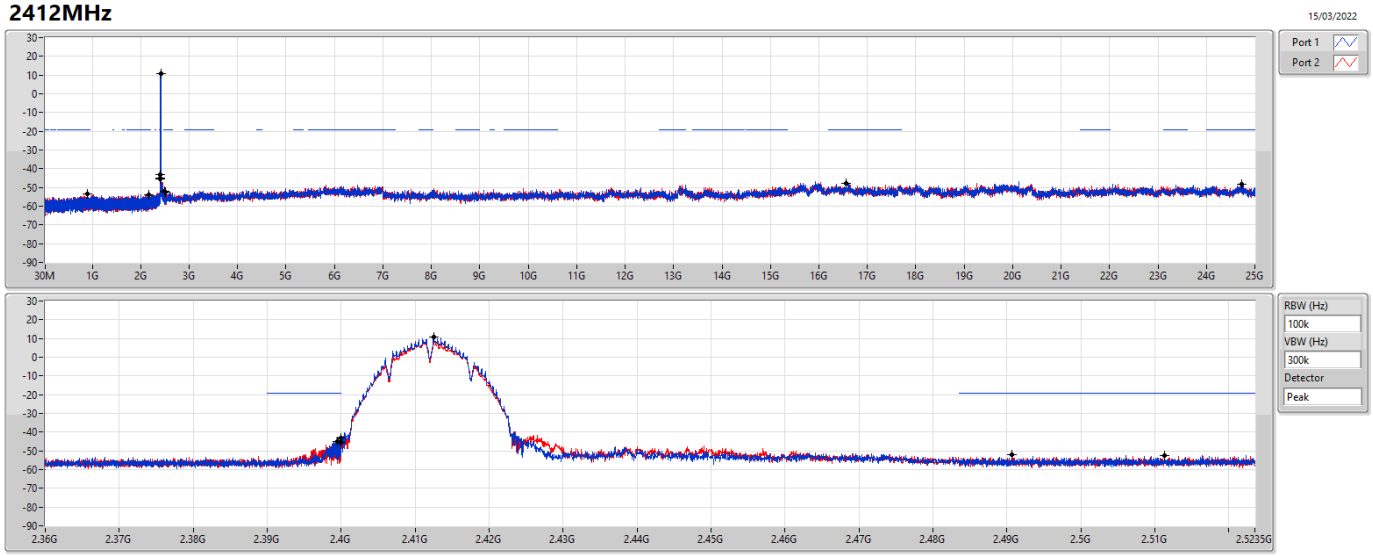
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	2.41248G	10.87	-19.13	2.16282G	-53.83	2.39996G	-43.06	2.4G	-45.35	2.49068G	-52.17	16.56288G	-47.96	1
802.11g_Nss1,(6Mbps)_2TX	Pass	2.43828G	16.10	-13.90	867.05M	-53.04	2.39986G	-26.66	2.4G	-25.42	2.49164G	-52.50	16.62469G	-48.21	1
802.11ax HEW20_Nss1,(MCS0)_2TX	Pass	2.4382G	15.30	-14.70	33.2M	-53.49	2.39976G	-24.85	2.4G	-25.01	2.48488G	-52.47	16.61627G	-47.39	1
802.11ax HEW40_Nss1,(MCS0)_2TX	Pass	2.43954G	12.03	-17.97	1.9682G	-54.06	2.39976G	-29.67	2.4G	-28.89	2.54554G	-51.72	16.34792G	-46.92	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	2.41248G	10.87	-19.13	2.16282G	-53.83	2.39996G	-43.06	2.4G	-45.35	2.49068G	-52.17	16.56288G	-47.96	1
2412MHz	Pass	2.41248G	10.87	-19.13	902.59M	-53.46	2.39952G	-45.01	2.4G	-45.67	2.51126G	-52.57	24.72466G	-48.10	2
2437MHz	Pass	2.41248G	10.87	-19.13	904.62M	-53.37	2.3984G	-51.88	2.4G	-51.34	2.51204G	-52.33	5.88655G	-47.57	1
2437MHz	Pass	2.41248G	10.87	-19.13	1.81391G	-53.86	2.39996G	-51.60	2.4G	-51.88	2.51504G	-52.62	17.67547G	-48.09	2
2462MHz	Pass	2.41248G	10.87	-19.13	2.30146G	-52.89	2.39698G	-52.14	2.4G	-52.65	2.51926G	-52.77	17.68952G	-48.15	1
2462MHz	Pass	2.41248G	10.87	-19.13	695.51M	-53.76	2.39998G	-52.30	2.4G	-52.96	2.49314G	-51.92	17.65018G	-47.45	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43828G	16.10	-13.90	867.05M	-53.04	2.39986G	-26.66	2.4G	-25.42	2.49164G	-52.50	16.62469G	-48.21	1
2412MHz	Pass	2.43828G	16.10	-13.90	2.06118G	-54.30	2.39968G	-28.51	2.4G	-28.17	2.49564G	-52.36	17.06861G	-48.72	2
2437MHz	Pass	2.43828G	16.10	-13.90	737.74M	-54.13	2.39852G	-46.92	2.4G	-49.73	2.50318G	-52.92	13.22793G	-47.58	1
2437MHz	Pass	2.43828G	16.10	-13.90	1.63158G	-53.94	2.3985G	-47.67	2.4G	-48.90	2.48808G	-52.70	16.35217G	-47.86	2
2462MHz	Pass	2.43828G	16.10	-13.90	2.12584G	-53.14	2.39998G	-50.75	2.4G	-51.52	2.4935G	-51.75	17.68952G	-47.43	1
2462MHz	Pass	2.43828G	16.10	-13.90	31.75M	-53.90	2.39902G	-50.83	2.4G	-52.34	2.51372G	-52.54	16.34374G	-47.73	2
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.4382G	15.30	-14.70	33.2M	-53.49	2.39976G	-24.85	2.4G	-25.01	2.48488G	-52.47	16.61627G	-47.39	1
2412MHz	Pass	2.4382G	15.30	-14.70	807.06M	-53.63	2.39986G	-26.01	2.4G	-26.60	2.48678G	-52.81	16.31002G	-47.58	2
2437MHz	Pass	2.4382G	15.30	-14.70	1.78274G	-54.12	2.4G	-47.96	2.4G	-49.83	2.52226G	-52.35	5.85002G	-48.22	1
2437MHz	Pass	2.4382G	15.30	-14.70	32.04M	-52.98	2.39878G	-46.70	2.4G	-48.31	2.4924G	-52.48	17.63052G	-48.10	2
2462MHz	Pass	2.4382G	15.30	-14.70	2.17389G	-53.92	2.39892G	-50.36	2.4G	-51.85	2.5088G	-52.49	17.67828G	-45.58	1
2462MHz	Pass	2.4382G	15.30	-14.70	902M	-54.10	2.39776G	-50.80	2.4G	-51.44	2.51474G	-52.46	16.3325G	-47.11	2
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.43954G	12.03	-17.97	1.9682G	-54.06	2.39976G	-29.67	2.4G	-28.89	2.54554G	-51.72	16.34792G	-46.92	1
2422MHz	Pass	2.43954G	12.03	-17.97	2.13823G	-53.47	2.3996G	-31.13	2.4G	-29.56	2.49154G	-52.03	17.65485G	-47.15	2
2437MHz	Pass	2.43954G	12.03	-17.97	32M	-53.15	2.39952G	-32.56	2.4G	-33.71	2.49462G	-52.29	17.64083G	-47.57	1
2437MHz	Pass	2.43954G	12.03	-17.97	600.78M	-53.30	2.39956G	-32.90	2.4G	-36.39	2.49914G	-52.54	16.61997G	-46.57	2
2452MHz	Pass	2.43954G	12.03	-17.97	698.97M	-53.31	2.39992G	-42.89	2.4G	-43.60	2.48514G	-51.19	16.30025G	-48.13	1
2452MHz	Pass	2.43954G	12.03	-17.97	32M	-53.56	2.39976G	-44.64	2.4G	-42.84	2.5193G	-51.90	16.6396G	-47.98	2

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

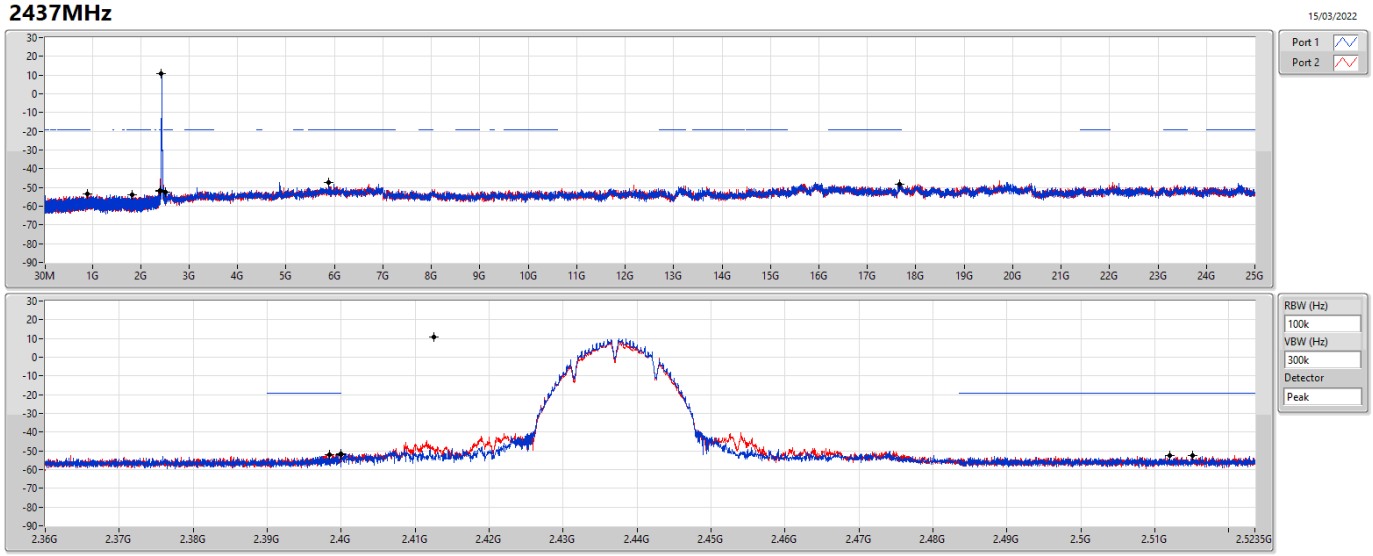
2412MHz



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
2.41248G	10.87	-19.13	2.16282G	-53.83	2.39996G	-43.06	2.4G	-45.35	2.49068G	-52.17	16.56288G	-47.96	1
2.41248G	10.87	-19.13	902.59M	-53.46	2.39952G	-45.01	2.4G	-45.67	2.51126G	-52.57	24.72466G	-48.10	2

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

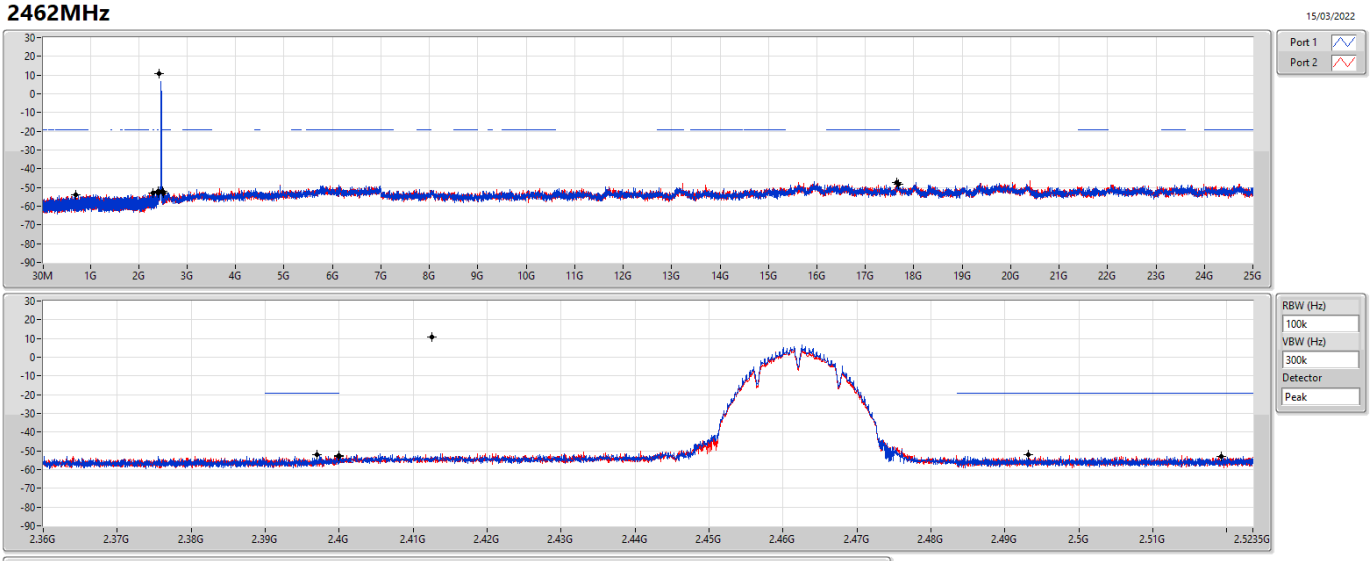
2437MHz



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
2.41248G	10.87	-19.13	904.62M	-53.37	2.3984G	-51.88	2.4G	-51.34	2.51204G	-52.33	5.88655G	-47.57	1
2.41248G	10.87	-19.13	1.81391G	-53.86	2.39996G	-51.60	2.4G	-51.88	2.51504G	-52.62	17.67547G	-48.09	2

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

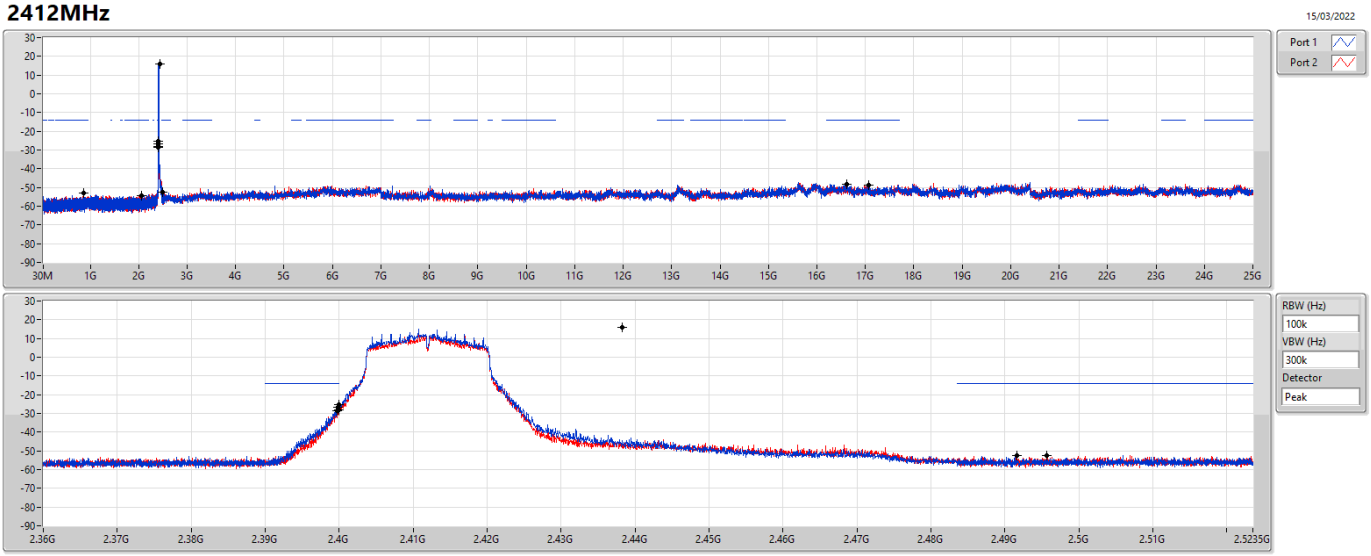
2462MHz



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
2.41248G	10.87	-19.13	2.30146G	-52.89	2.39698G	-52.14	2.4G	-52.65	2.51926G	-52.77	17.68952G	-48.15	1
2.41248G	10.87	-19.13	695.51M	-53.76	2.39998G	-52.30	2.4G	-52.96	2.49314G	-51.92	17.65018G	-47.45	2

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

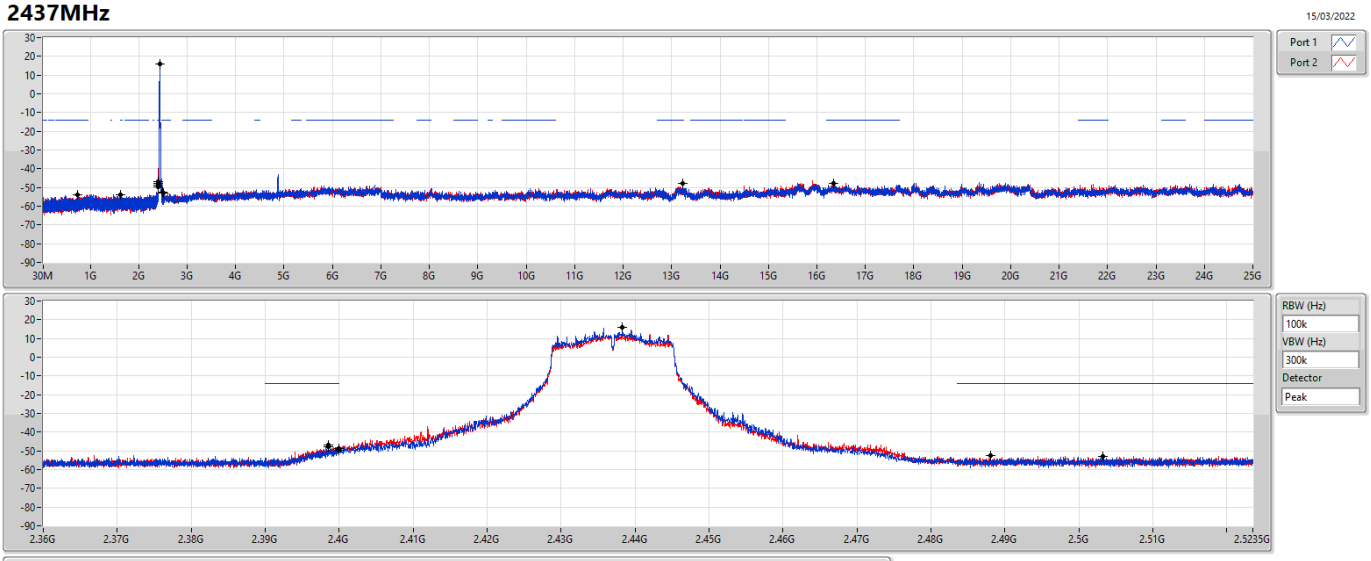
2412MHz



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
2.43828G	16.10	-13.90	867.05M	-53.04	2.39986G	-26.66	2.4G	-25.42	2.49164G	-52.50	16.62469G	-48.21	1
2.43828G	16.10	-13.90	2.06118G	-54.30	2.39968G	-28.51	2.4G	-28.17	2.49564G	-52.36	17.06861G	-48.72	2

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

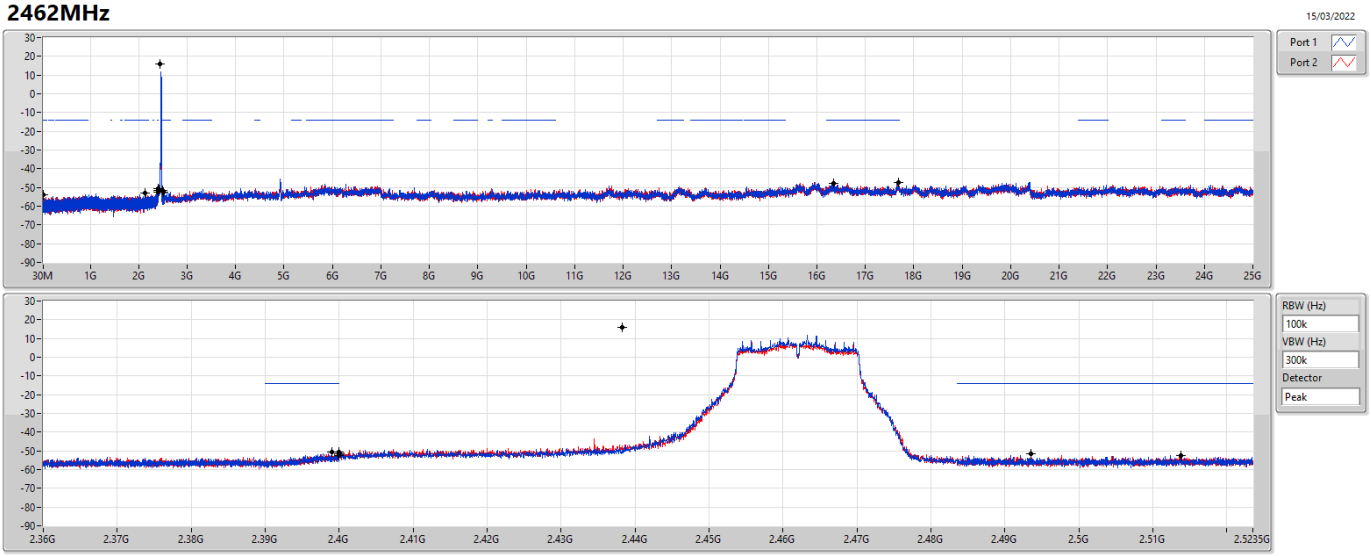
2437MHz



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
2.43828G	16.10	-13.90	737.74M	-54.13	2.39852G	-46.92	2.4G	-49.73	2.50318G	-52.92	13.22793G	-47.58	1
2.43828G	16.10	-13.90	1.63158G	-53.94	2.3985G	-47.67	2.4G	-48.90	2.48808G	-52.70	16.35217G	-47.86	2

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

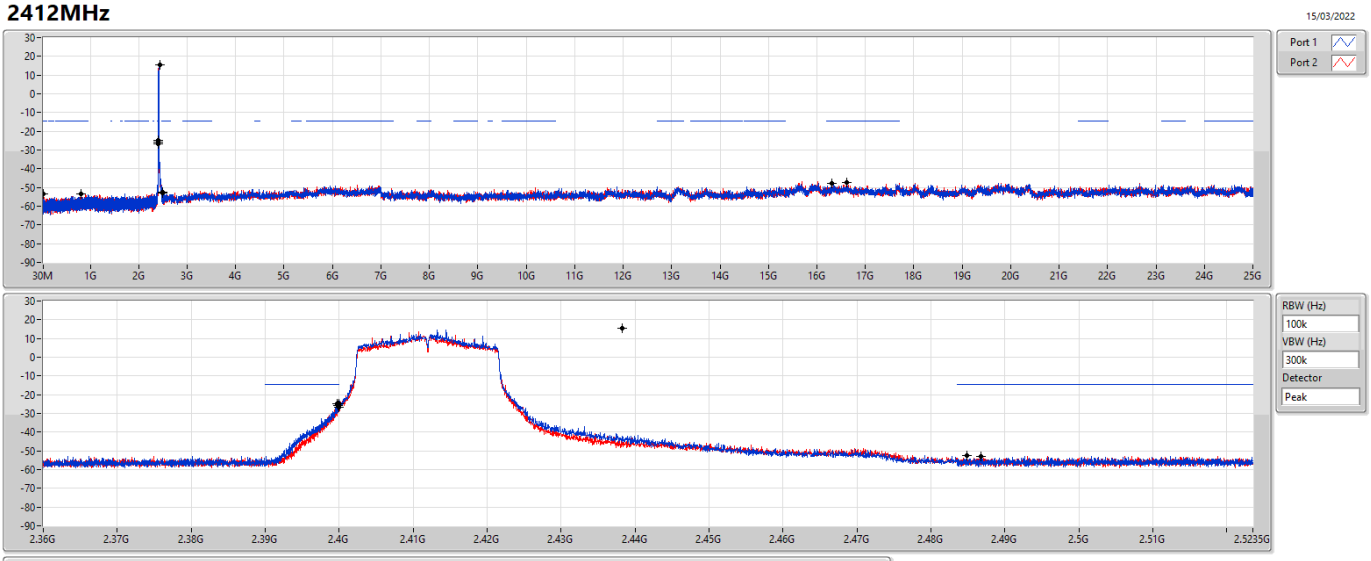
2462MHz



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
2.43828G	16.10	-13.90	2.12584G	-53.14	2.39998G	-50.75	2.4G	-51.52	2.4935G	-51.75	17.68952G	-47.43	1
2.43828G	16.10	-13.90	31.75M	-53.90	2.39902G	-50.83	2.4G	-52.34	2.51372G	-52.54	16.34374G	-47.73	2

802.11ax HEW20_Nss1,(MCS0)_2TX **CSENdB**

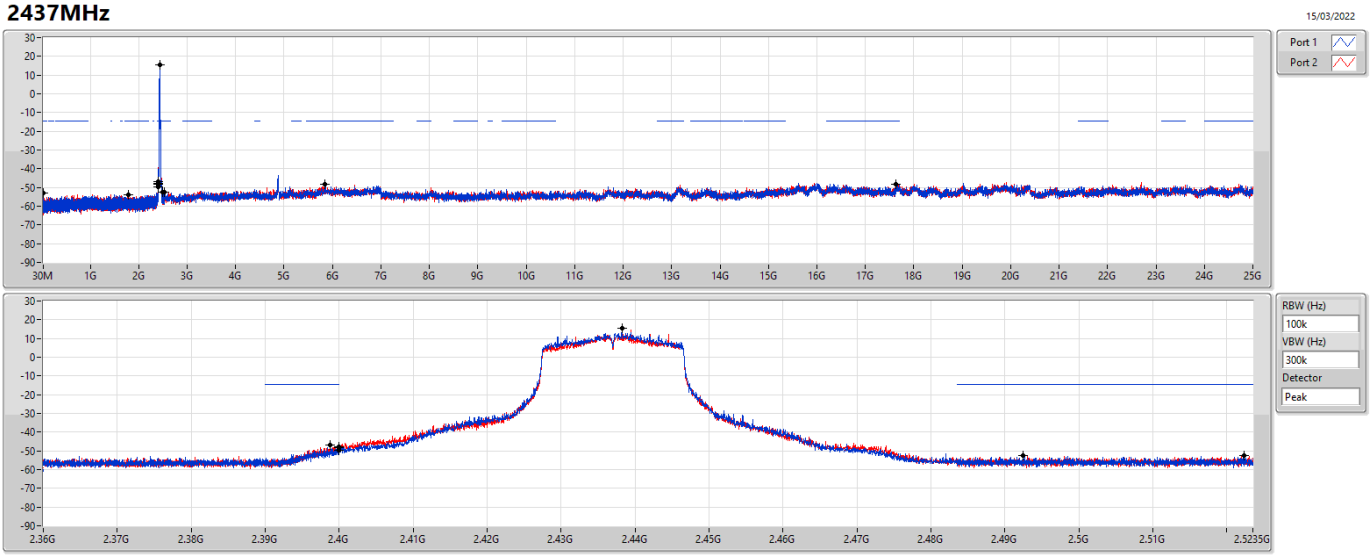
2412MHz



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
2.4382G	15.30	-14.70	33.2M	-53.49	2.39976G	-24.85	2.4G	-25.01	2.48488G	-52.47	16.61627G	-47.39	1
2.4382G	15.30	-14.70	807.06M	-53.63	2.39986G	-26.01	2.4G	-26.60	2.48678G	-52.81	16.31002G	-47.58	2

802.11ax HEW20_Nss1,(MCS0)_2TX **CSENdB**

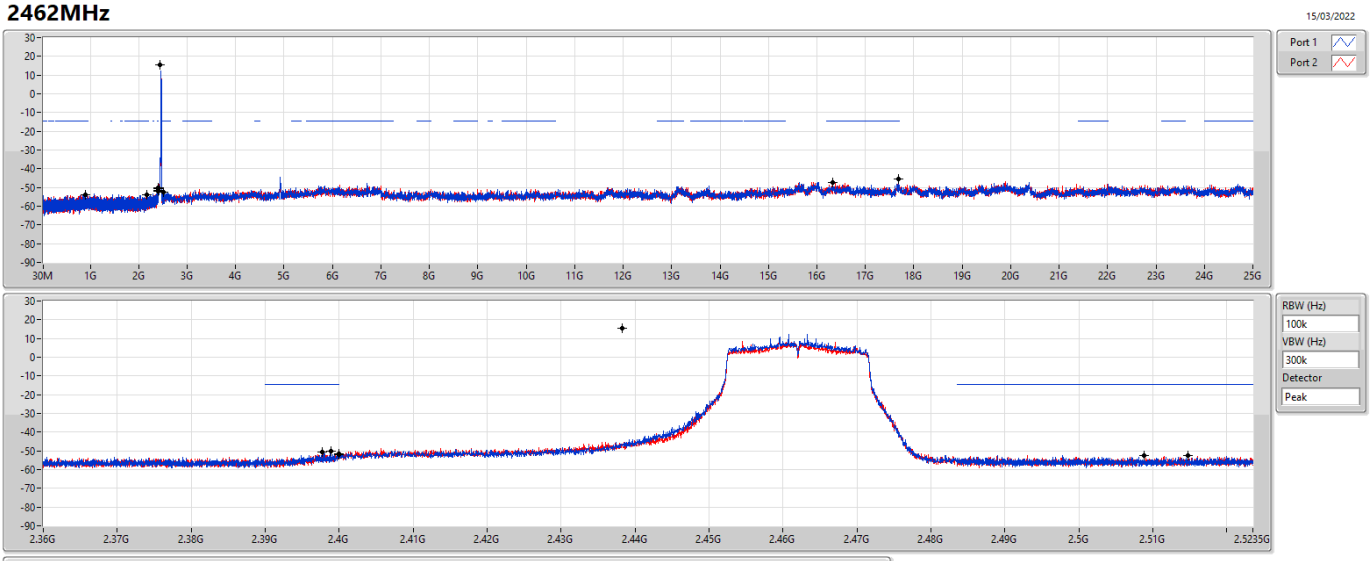
2437MHz



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
2.4382G	15.30	-14.70	1.78274G	-54.12	2.4G	-47.96	2.4G	-49.83	2.52226G	-52.35	5.85002G	-48.22	1
2.4382G	15.30	-14.70	32.04M	-52.98	2.39878G	-46.70	2.4G	-48.31	2.4924G	-52.48	17.63052G	-48.10	2

802.11ax HEW20_Nss1,(MCS0)_2TX **CSENdB**

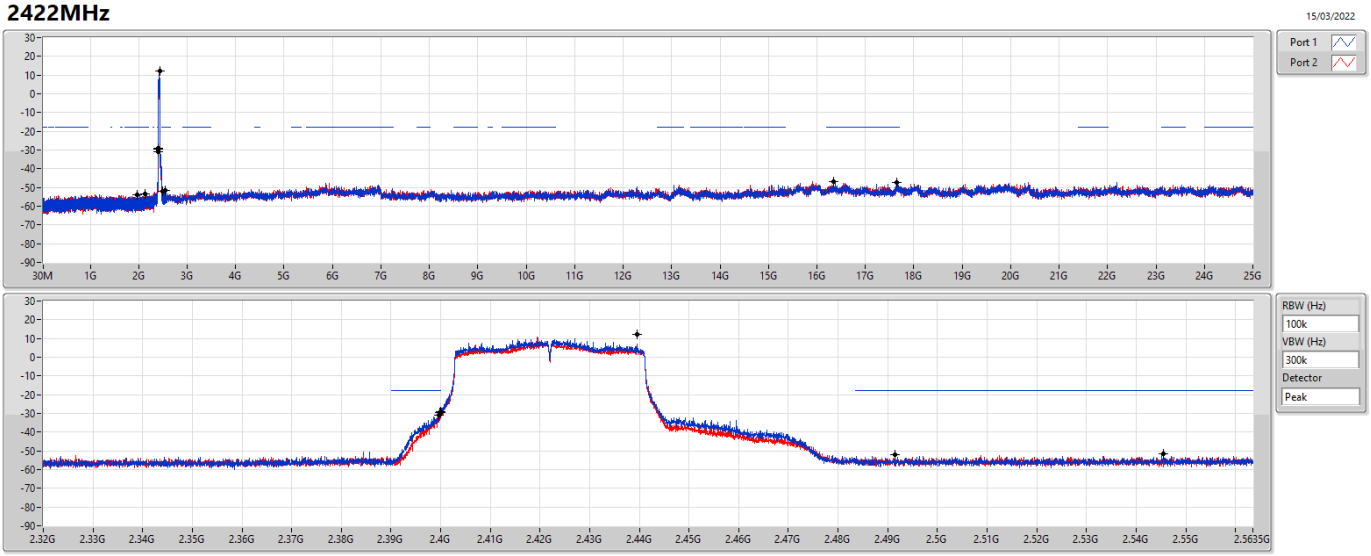
2462MHz



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
2.4382G	15.30	-14.70	2.17389G	-53.92	2.39892G	-50.36	2.4G	-51.85	2.5088G	-52.49	17.67828G	-45.58	1
2.4382G	15.30	-14.70	902M	-54.10	2.39776G	-50.80	2.4G	-51.44	2.51474G	-52.46	16.3325G	-47.11	2

802.11ax HEW40_Nss1,(MCS0)_2TX **CSENdB**

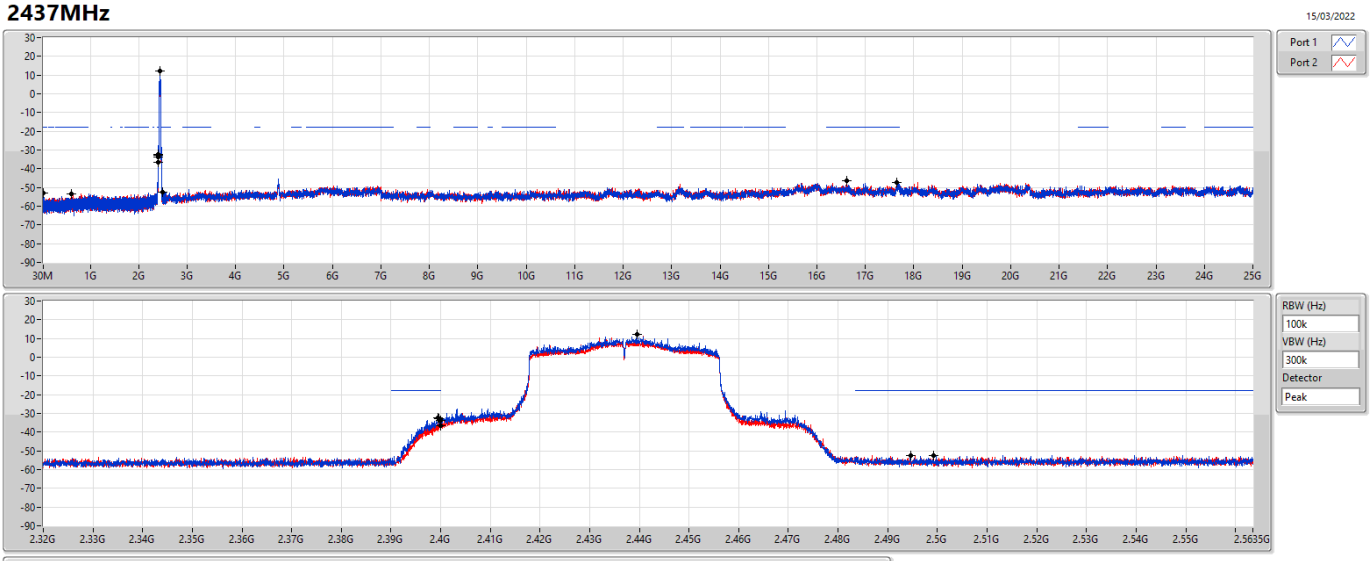
2422MHz



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
2.43954G	12.03	-17.97	1.9682G	-54.06	2.39976G	-29.67	2.4G	-28.89	2.54554G	-51.72	16.34792G	-46.92	1
2.43954G	12.03	-17.97	2.13823G	-53.47	2.3996G	-31.13	2.4G	-29.56	2.49154G	-52.03	17.65485G	-47.15	2

802.11ax HEW40_Nss1,(MCS0)_2TX **CSENdB**

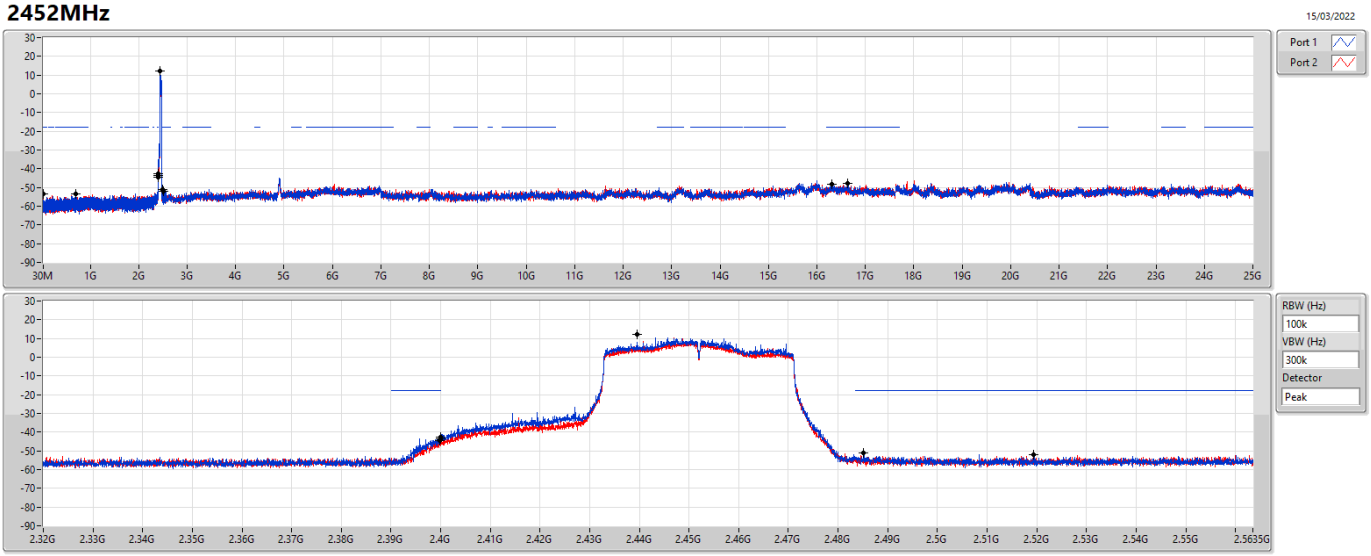
2437MHz



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
2.43954G	12.03	-17.97	32M	-53.15	2.39952G	-32.56	2.4G	-33.71	2.49462G	-52.29	17.64083G	-47.57	1
2.43954G	12.03	-17.97	600.78M	-53.30	2.39956G	-32.90	2.4G	-36.39	2.49914G	-52.54	16.61997G	-46.57	2

802.11ax HEW40_Nss1,(MCS0)_2TX **CSENdB**

2452MHz

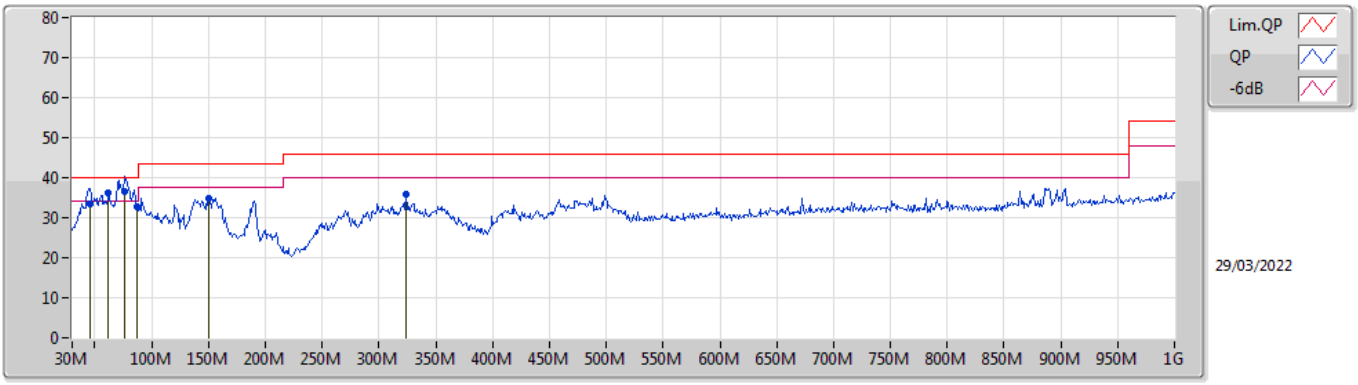


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43954G	12.03	-17.97	698.97M	-53.31	2.39992G	-42.89	2.4G	-43.60	2.48514G	-51.19	16.30025G	-48.13	1
2.43954G	12.03	-17.97	32M	-53.56	2.39976G	-44.64	2.4G	-42.84	2.5193G	-51.90	16.6396G	-47.98	2

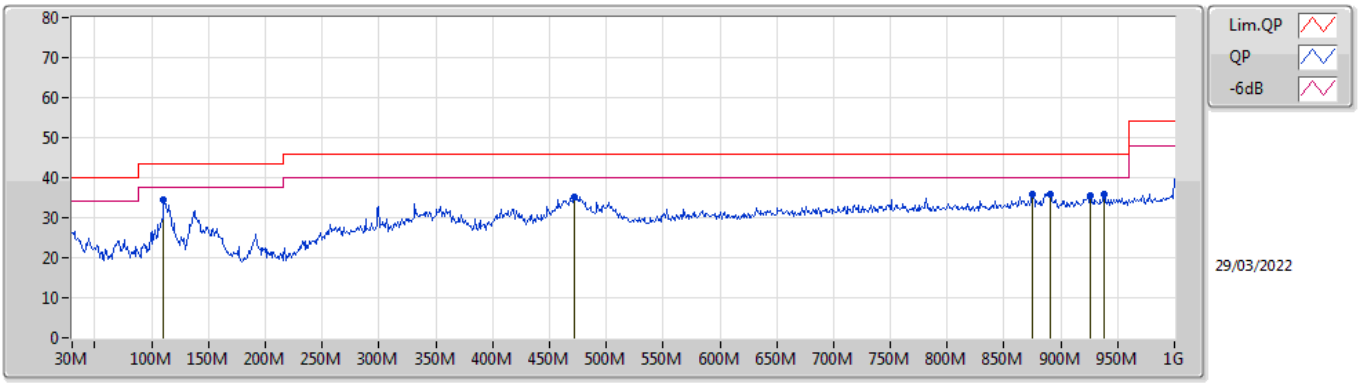
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 2	Pass	QP	76.56M	36.46	40.00	-3.54	Vertical

Test Mode: Mode 2



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	45.52M	33.47	40.00	-6.53	-14.35	3	Vertical	271	1.00	-	47.82	16.33	1.80	32.48
PK	62.01M	36.20	40.00	-3.80	-18.01	3	Vertical	160	1.25	-	54.21	12.34	2.10	32.45
QP	76.56M	36.46	40.00	-3.54	-17.64	3	Vertical	211	1.50	"Worst"	54.10	12.56	2.20	32.40
PK	87.23M	32.78	40.00	-7.22	-15.95	3	Vertical	140	1.00	-	48.73	14.20	2.20	32.35
PK	150.28M	34.88	43.50	-8.62	-13.24	3	Vertical	196	1.25	-	48.12	16.45	2.70	32.39
PK	323.91M	35.69	46.00	-10.31	-9.00	3	Vertical	192	1.50	-	44.69	19.42	3.85	32.27



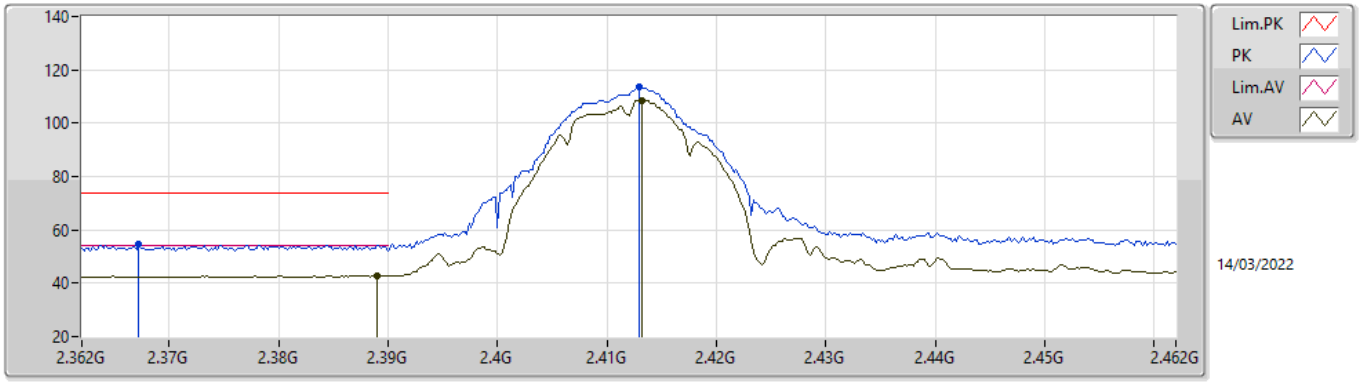
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	110.51M	34.49	43.50	-9.01	-12.27	3	Horizontal	321	1.50	"Worst"	46.76	17.65	2.45	32.37
PK	472.32M	35.15	46.00	-10.85	-4.48	3	Horizontal	284	1.00	-	39.63	23.00	4.69	32.17
PK	874.87M	36.03	46.00	-9.97	1.01	3	Horizontal	322	1.00	-	35.02	26.22	6.35	31.56
PK	890.39M	35.92	46.00	-10.08	1.16	3	Horizontal	216	1.25	-	34.76	26.26	6.44	31.54
PK	926.28M	35.50	46.00	-10.50	1.55	3	Horizontal	1	1.25	-	33.95	26.28	6.55	31.28
PK	937.92M	35.92	46.00	-10.08	1.81	3	Horizontal	194	1.00	-	34.11	26.40	6.58	31.17

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	-	-	-	-	-	-	-	-	-	-	-
802.11g_Nss1,(6Mbps)_2TX	Pass	AV	4.92392G	53.65	54.00	-0.35	3	Vertical	202	1.84	-

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX

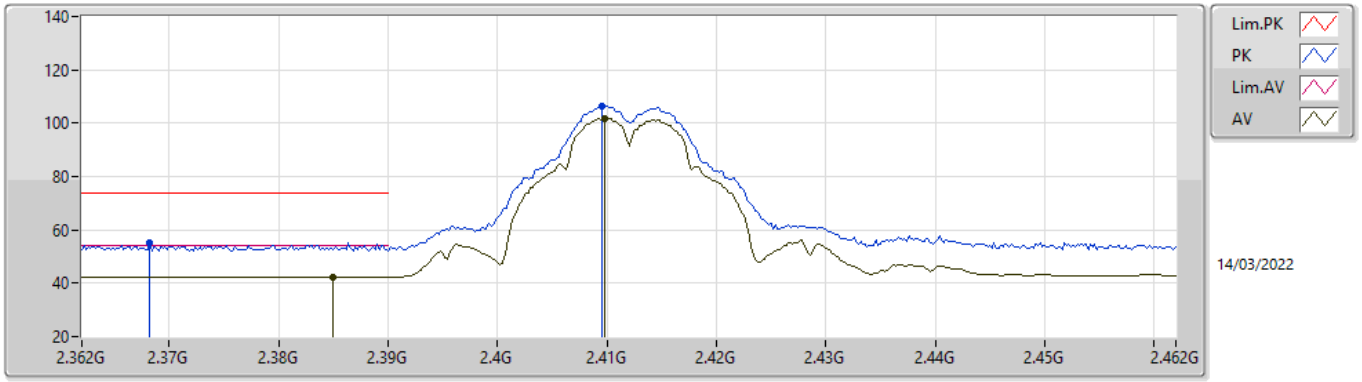


EUT Y_2TX
Setting 19.5
04-D-S-8

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	2.3672G	54.60	74.00	-19.40	24.39	3	Vertical	252	2.02	-	27.43	2.78	-
AV	2.389G	42.63	54.00	-11.37	12.36	3	Vertical	252	2.02	-	27.48	2.79	-
PK	2.413G	113.54	Inf	-Inf	83.20	3	Vertical	252	2.02	-	27.53	2.81	-
AV	2.4132G	108.57	Inf	-Inf	78.23	3	Vertical	252	2.02	-	27.53	2.81	-

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX

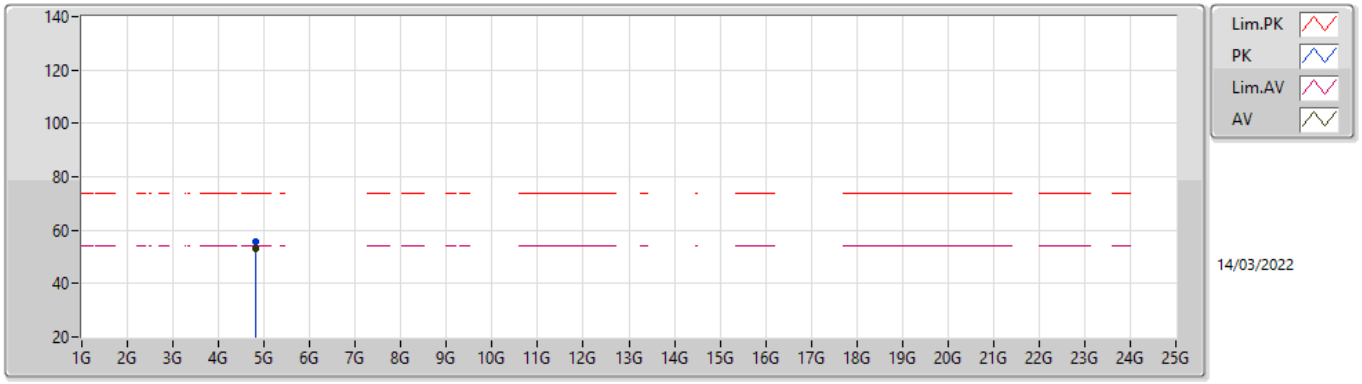


EUT Y_2TX
Setting 19.5
04-D-S-8

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	2.3682G	55.30	74.00	-18.70	25.08	3	Horizontal	112	1.76	-	27.44	2.78	-
AV	2.385G	42.49	54.00	-11.51	12.23	3	Horizontal	112	1.76	-	27.47	2.79	-
PK	2.4096G	106.56	Inf	-Inf	76.24	3	Horizontal	112	1.76	-	27.52	2.80	-
AV	2.4098G	101.98	Inf	-Inf	71.66	3	Horizontal	112	1.76	-	27.52	2.80	-

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX

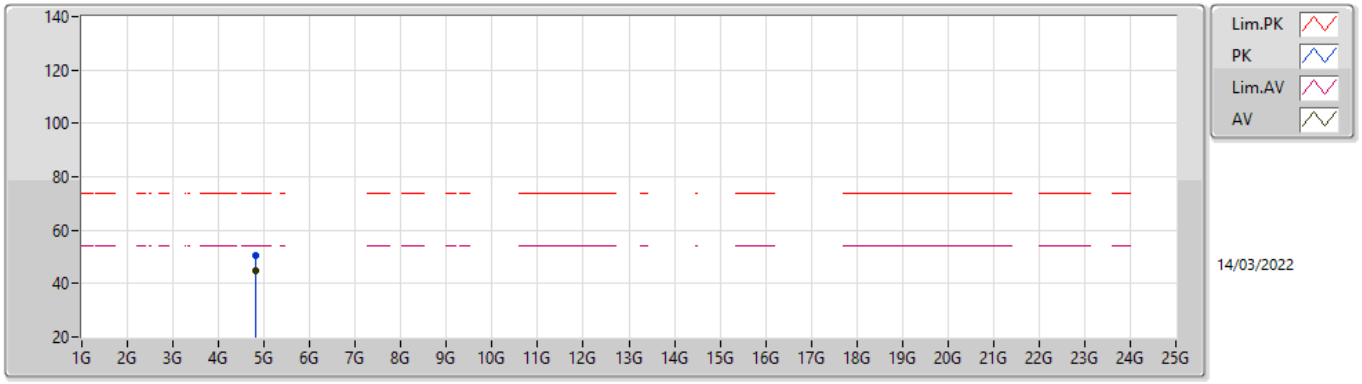


EUT Y_2TX
Setting 19.5
04-D-S-8

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	4.824G	55.90	74.00	-18.10	51.64	3	Vertical	196	2.08	-	32.70	4.81	33.25
AV	4.82394G	53.09	54.00	-0.91	48.83	3	Vertical	196	2.08	-	32.70	4.81	33.25

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX

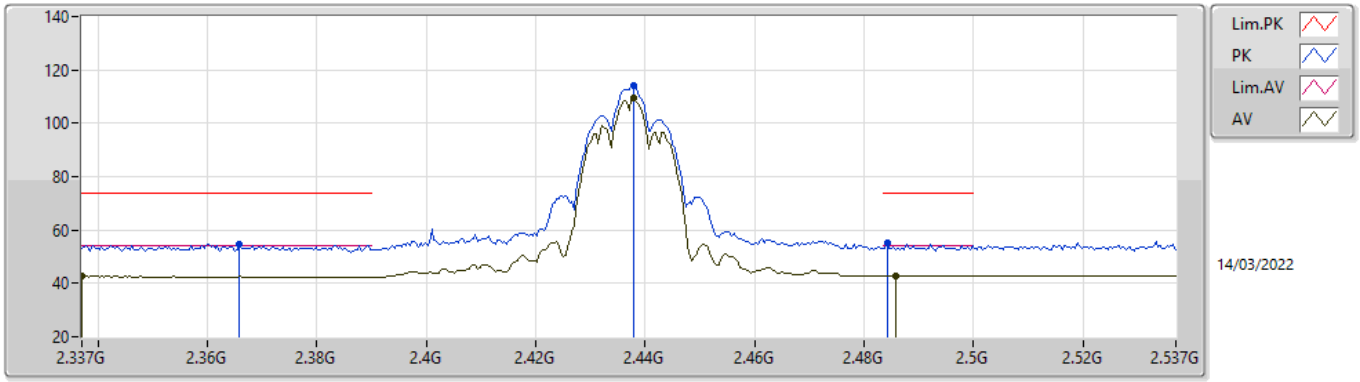


EUT Y_2TX
Setting 19.5
04-D-S-8

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	50.26	74.00	-23.74	46.00	3	Horizontal	88	1.82	-	32.70	4.81	33.25
AV	4.824G	44.89	54.00	-9.11	40.63	3	Horizontal	88	1.82	-	32.70	4.81	33.25

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX

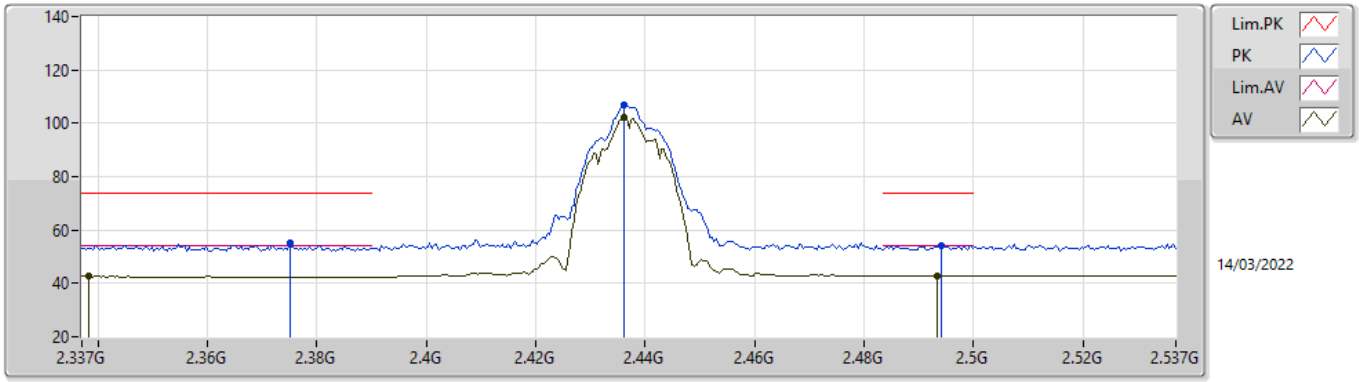


EUT Y_2TX
Setting 19
04-D-S-8

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	2.3658G	54.70	74.00	-19.30	24.49	3	Vertical	185	2.34	-	27.43	2.78	-
AV	2.337G	42.60	54.00	-11.40	12.38	3	Vertical	185	2.34	-	27.45	2.77	-
PK	2.4378G	113.99	Inf	-Inf	83.59	3	Vertical	185	2.34	-	27.58	2.82	-
AV	2.4378G	109.38	Inf	-Inf	78.98	3	Vertical	185	2.34	-	27.58	2.82	-
PK	2.4842G	54.97	74.00	-19.03	24.32	3	Vertical	185	2.34	-	27.81	2.84	-
AV	2.4858G	42.79	54.00	-11.21	12.14	3	Vertical	185	2.34	-	27.81	2.84	-

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX

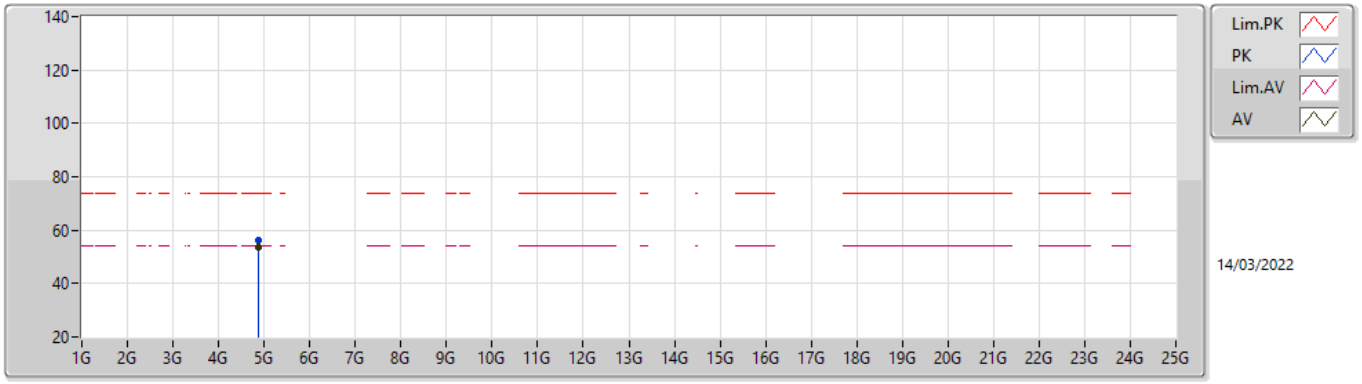


EUT Y_2TX
Setting 19
04-D-S-8

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	2.375G	55.38	74.00	-18.62	25.14	3	Horizontal	103	1.73	-	27.45	2.79	-
AV	2.3382G	42.58	54.00	-11.42	12.36	3	Horizontal	103	1.73	-	27.45	2.77	-
PK	2.4362G	106.78	Inf	-Inf	76.39	3	Horizontal	103	1.73	-	27.57	2.82	-
AV	2.4362G	102.49	Inf	-Inf	72.10	3	Horizontal	103	1.73	-	27.57	2.82	-
PK	2.4942G	54.35	74.00	-19.65	23.63	3	Horizontal	103	1.73	-	27.87	2.85	-
AV	2.4934G	42.73	54.00	-11.27	12.02	3	Horizontal	103	1.73	-	27.86	2.85	-

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX

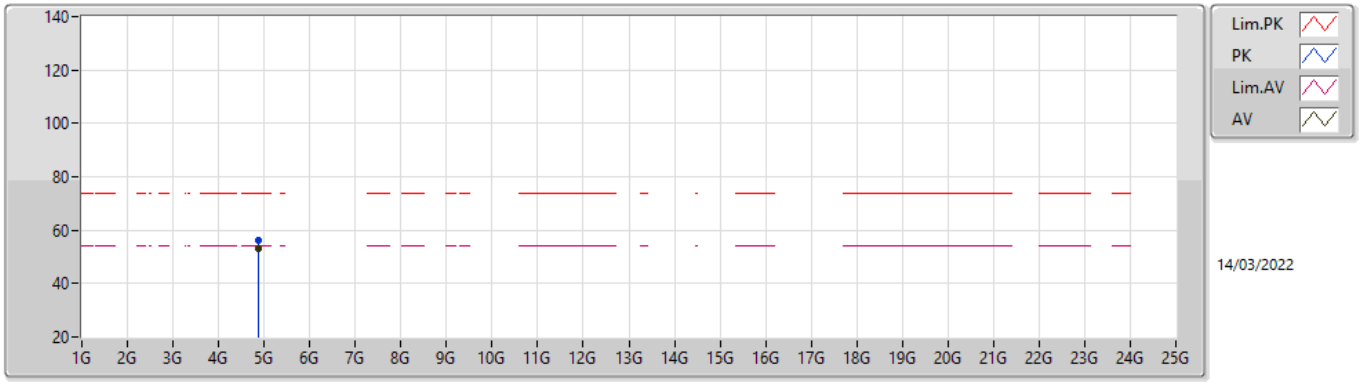


EUT Y_2TX
Setting 19
04-D-S-8

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	4.87388G	56.17	74.00	-17.83	51.66	3	Vertical	208	1.78	-	32.90	4.84	33.23
AV	4.87394G	53.50	54.00	-0.50	48.99	3	Vertical	208	1.78	-	32.90	4.84	33.23

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX

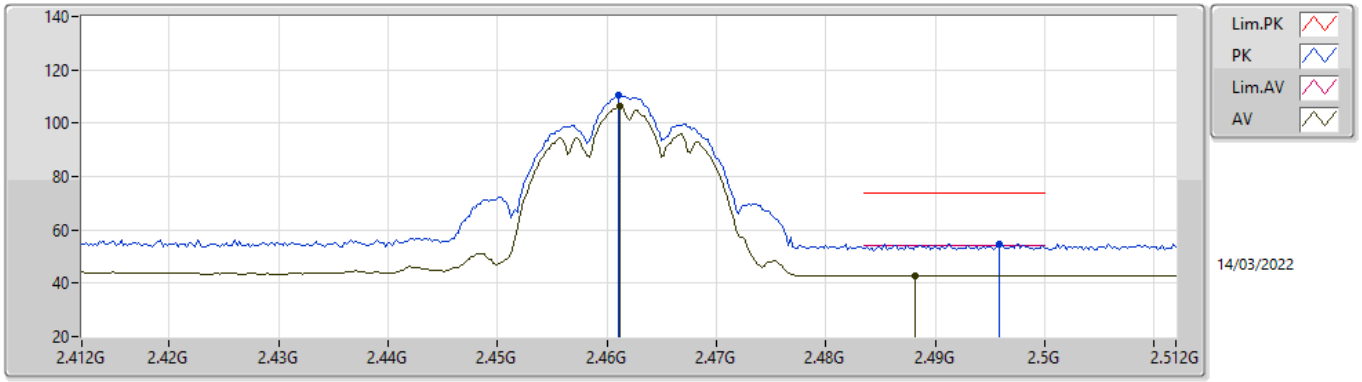


EUT Y_2TX
Setting 19
04-D-S-8

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	4.87394G	56.02	74.00	-17.98	51.51	3	Horizontal	96	1.80	-	32.90	4.84	33.23
AV	4.874G	53.21	54.00	-0.79	48.70	3	Horizontal	96	1.80	-	32.90	4.84	33.23

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX

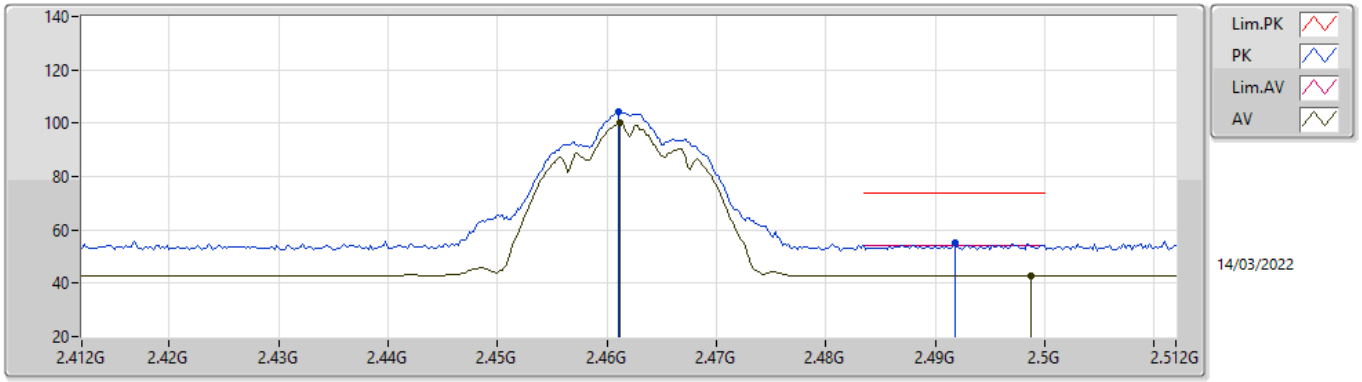


EUT Y_2TX
Setting 16.5
04-D-S-8

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	2.461G	110.67	Inf	-Inf	80.17	3	Vertical	170	2.52	-	27.67	2.83	-
AV	2.4612G	106.26	Inf	-Inf	75.76	3	Vertical	170	2.52	-	27.67	2.83	-
PK	2.4958G	54.86	74.00	-19.14	24.14	3	Vertical	170	2.52	-	27.87	2.85	-
AV	2.4882G	42.84	54.00	-11.16	12.17	3	Vertical	170	2.52	-	27.83	2.84	-

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX

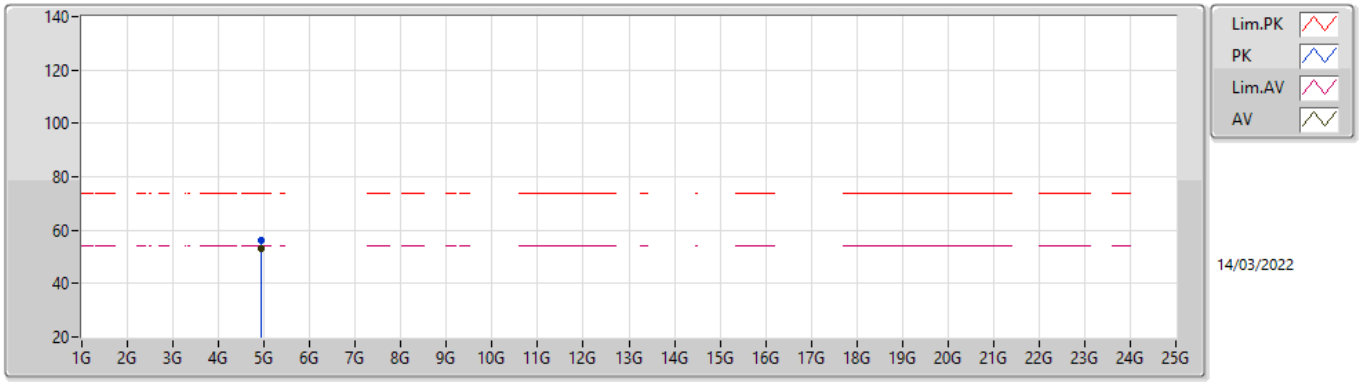


EUT Y_2TX
Setting 16.5
04-D-S-8

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	2.461G	104.36	Inf	-Inf	73.86	3	Horizontal	106	1.14	-	27.67	2.83	-
AV	2.4612G	100.12	Inf	-Inf	69.62	3	Horizontal	106	1.14	-	27.67	2.83	-
PK	2.4918G	54.98	74.00	-19.02	24.28	3	Horizontal	106	1.14	-	27.85	2.85	-
AV	2.4988G	42.79	54.00	-11.21	12.05	3	Horizontal	106	1.14	-	27.89	2.85	-

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX

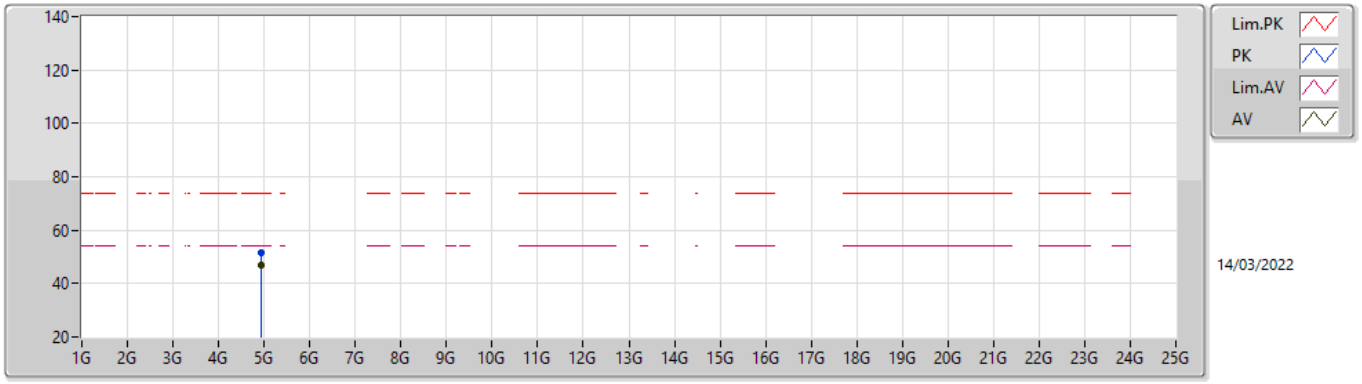


EUT Y_2TX
Setting 16.5
04-D-S-8

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	4.92394G	56.17	74.00	-17.83	51.46	3	Vertical	204	1.87	-	33.05	4.86	33.20
AV	4.92394G	53.24	54.00	-0.76	48.53	3	Vertical	204	1.87	-	33.05	4.86	33.20

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX

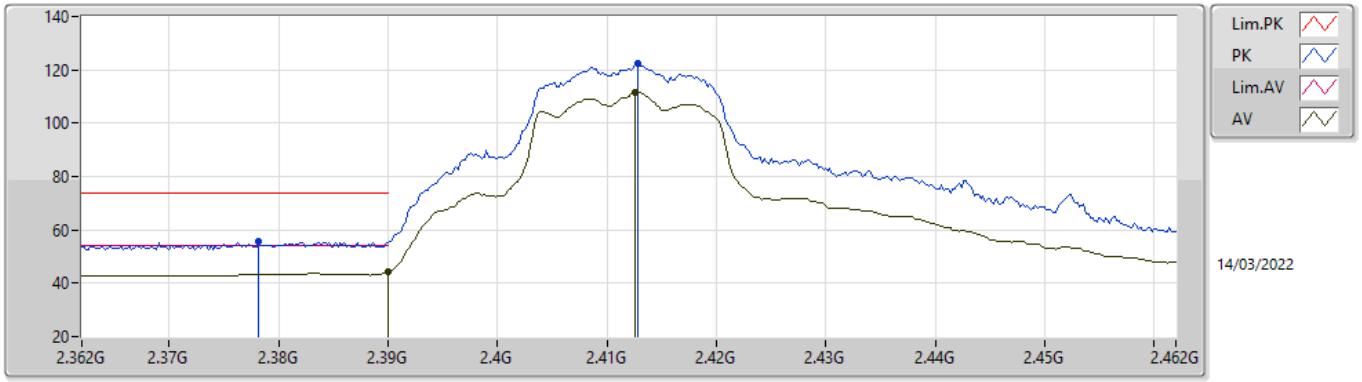


EUT Y_2TX
Setting 16.5
04-D-S-8

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	4.924G	51.52	74.00	-22.48	46.81	3	Horizontal	98	1.80	-	33.05	4.86	33.20
AV	4.924G	46.84	54.00	-7.16	42.13	3	Horizontal	98	1.80	-	33.05	4.86	33.20

802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX

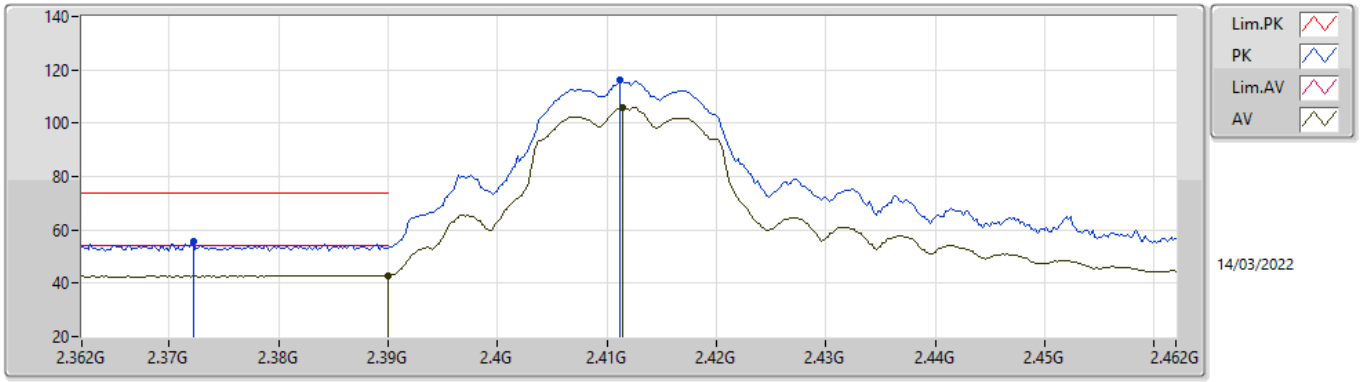


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3782G	55.65	74.00	-18.35	25.40	3	Vertical	260	1.80	-	27.46	2.79	-
AV	2.39G	44.16	54.00	-9.84	13.89	3	Vertical	260	1.80	-	27.48	2.79	-
PK	2.4128G	122.31	Inf	-Inf	91.97	3	Vertical	260	1.80	-	27.53	2.81	-
AV	2.4126G	111.46	Inf	-Inf	81.12	3	Vertical	260	1.80	-	27.53	2.81	-

802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX

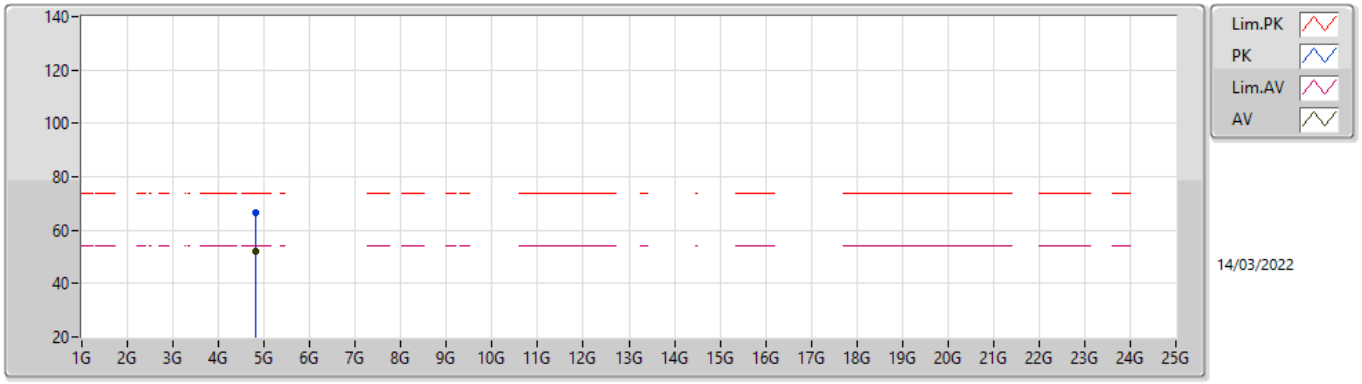


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3722G	55.44	74.00	-18.56	25.21	3	Horizontal	115	1.80	-	27.44	2.79	-
AV	2.39G	42.69	54.00	-11.31	12.42	3	Horizontal	115	1.80	-	27.48	2.79	-
PK	2.4112G	116.04	Inf	-Inf	85.71	3	Horizontal	115	1.80	-	27.52	2.81	-
AV	2.4114G	106.02	Inf	-Inf	75.69	3	Horizontal	115	1.80	-	27.52	2.81	-

802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX

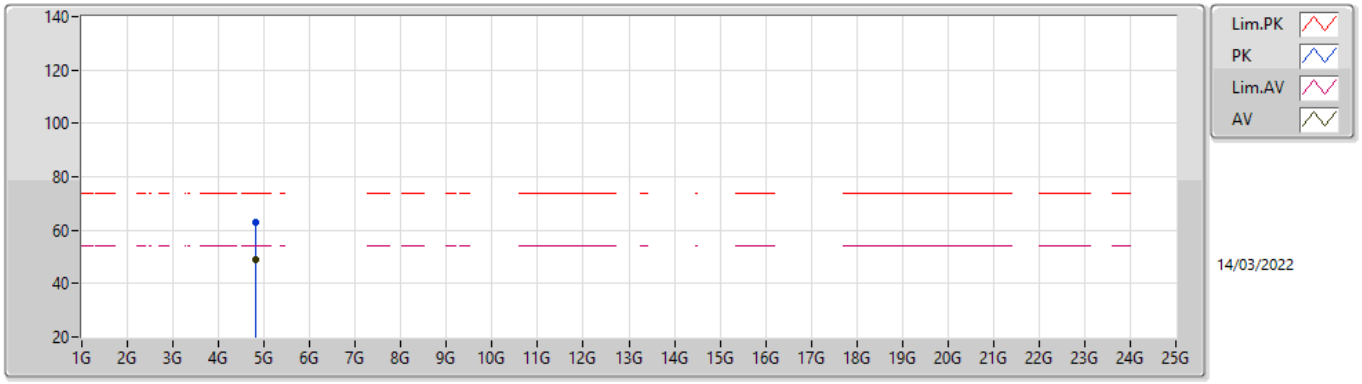


EUT Y_2TX
Setting 25
04-D-S-8

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	4.82272G	66.41	74.00	-7.59	62.16	3	Vertical	209	1.80	-	32.69	4.81	33.25
AV	4.81784G	52.21	54.00	-1.79	47.98	3	Vertical	209	1.80	-	32.67	4.81	33.25

802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX

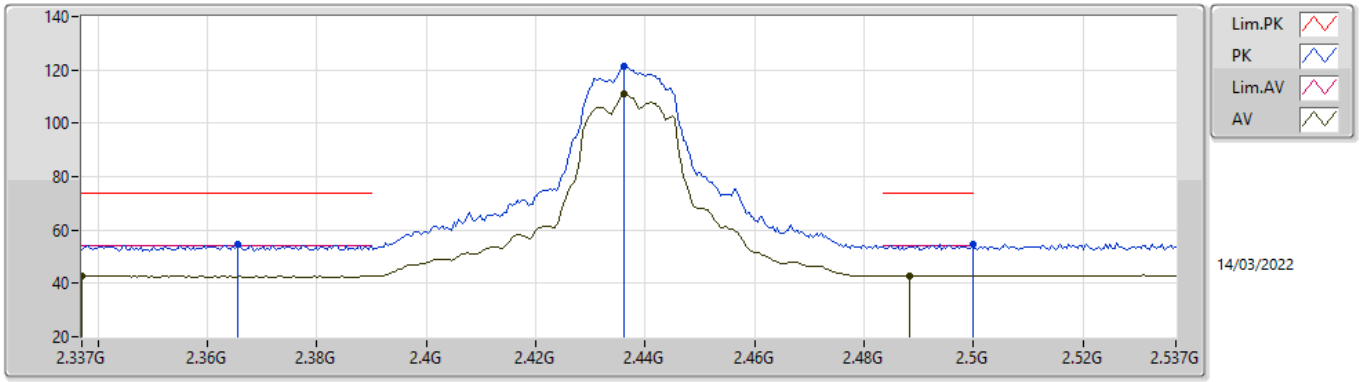


EUT Y_2TX
Setting 25
04-D-S-8

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	4.82144G	62.89	74.00	-11.11	58.64	3	Horizontal	76	3.00	-	32.69	4.81	33.25
AV	4.82168G	48.71	54.00	-5.29	44.46	3	Horizontal	76	3.00	-	32.69	4.81	33.25

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

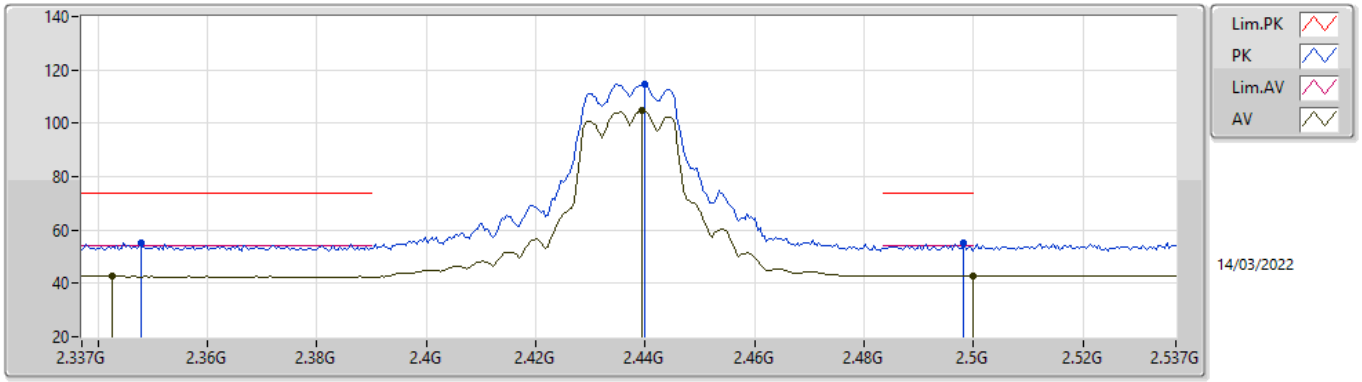


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3654G	54.81	74.00	-19.19	24.60	3	Vertical	292	1.77	-	27.43	2.78	-
AV	2.337G	42.67	54.00	-11.33	12.45	3	Vertical	292	1.77	-	27.45	2.77	-
PK	2.4362G	121.37	Inf	-Inf	90.98	3	Vertical	292	1.77	-	27.57	2.82	-
AV	2.4362G	110.98	Inf	-Inf	80.59	3	Vertical	292	1.77	-	27.57	2.82	-
PK	2.4998G	54.72	74.00	-19.28	23.97	3	Vertical	292	1.77	-	27.90	2.85	-
AV	2.4882G	42.90	54.00	-11.10	12.23	3	Vertical	292	1.77	-	27.83	2.84	-

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

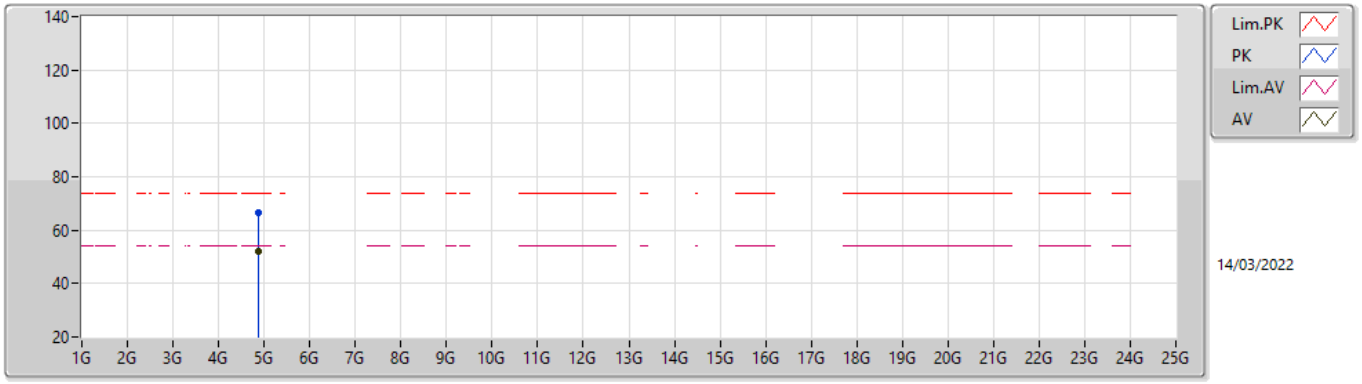


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3478G	55.42	74.00	-18.58	25.24	3	Horizontal	107	1.90	-	27.41	2.77	-
AV	2.3426G	42.61	54.00	-11.39	12.41	3	Horizontal	107	1.90	-	27.43	2.77	-
PK	2.4398G	114.81	Inf	-Inf	84.41	3	Horizontal	107	1.90	-	27.58	2.82	-
AV	2.4394G	104.72	Inf	-Inf	74.32	3	Horizontal	107	1.90	-	27.58	2.82	-
PK	2.4982G	55.10	74.00	-18.90	24.36	3	Horizontal	107	1.90	-	27.89	2.85	-
AV	2.4998G	42.83	54.00	-11.17	12.08	3	Horizontal	107	1.90	-	27.90	2.85	-

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

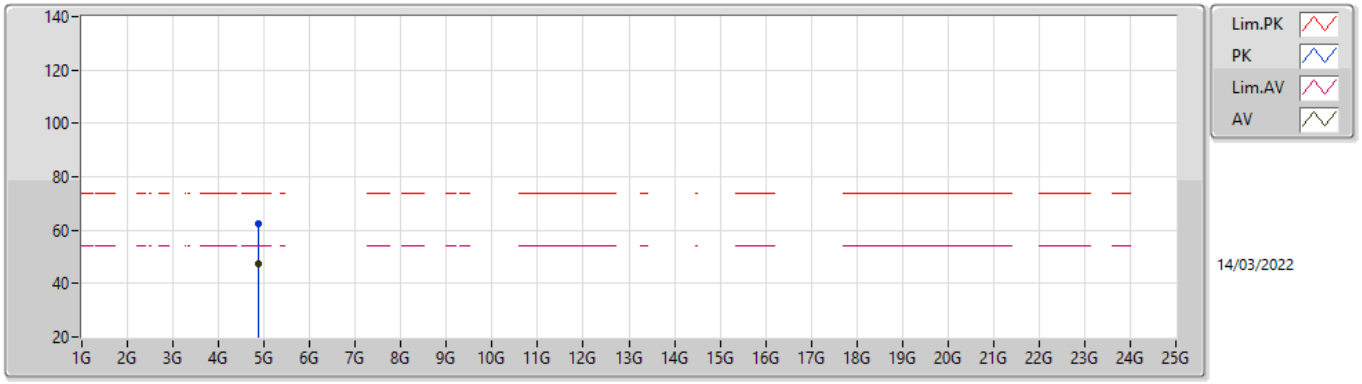


EUT Y_2TX
Setting 25
04-D-S-8

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	4.8756G	66.49	74.00	-7.51	61.97	3	Vertical	185	1.85	-	32.90	4.84	33.22
AV	4.87608G	51.96	54.00	-2.04	47.44	3	Vertical	185	1.85	-	32.90	4.84	33.22

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

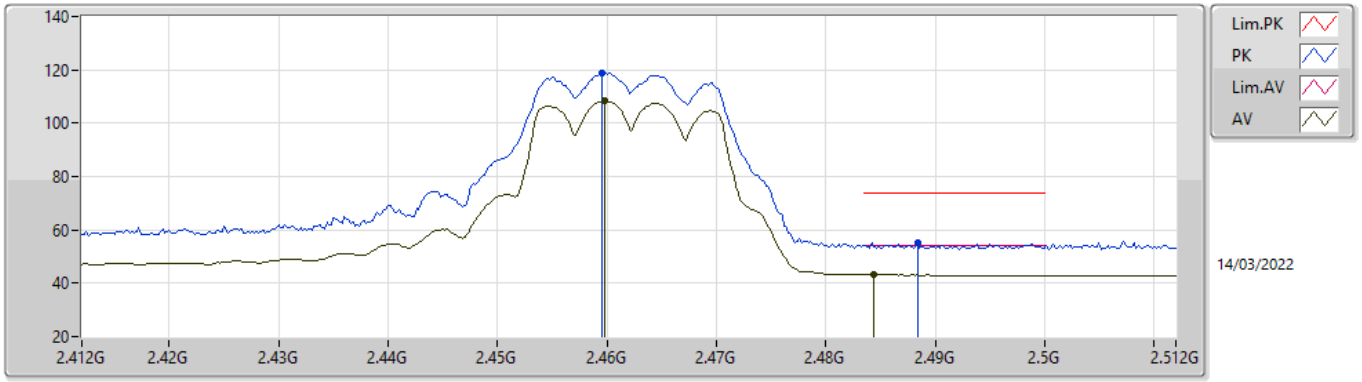


EUT Y_2TX
Setting 25
04-D-S-8

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	4.87704G	62.34	74.00	-11.66	57.81	3	Horizontal	79	2.94	-	32.91	4.84	33.22
AV	4.87752G	47.49	54.00	-6.51	42.96	3	Horizontal	79	2.94	-	32.91	4.84	33.22

802.11g_Nss1,(6Mbps)_2TX

2462MHz_TX

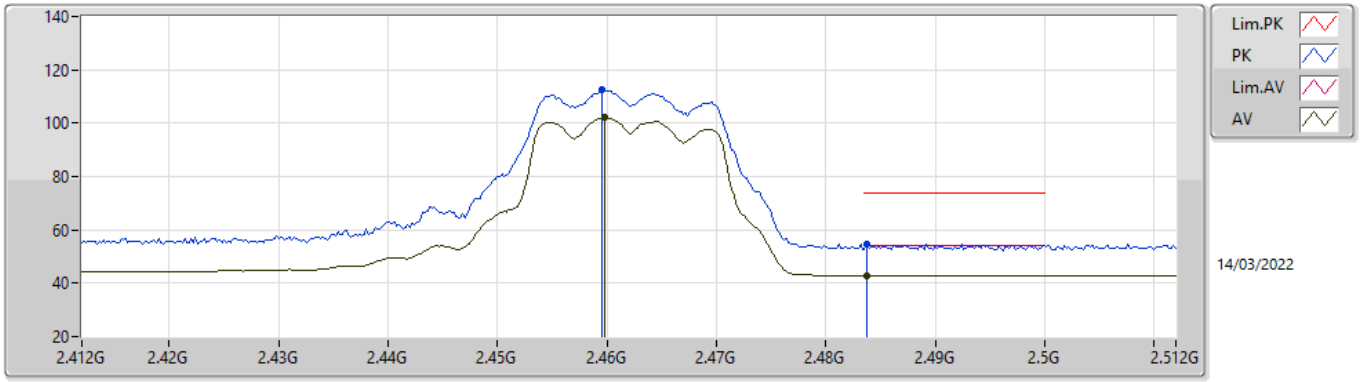


EUT Y_2TX
Setting 22.5
04-D-S-8

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	2.4596G	118.92	Inf	-Inf	88.43	3	Vertical	174	2.51	-	27.66	2.83	-
AV	2.4598G	108.32	Inf	-Inf	77.83	3	Vertical	174	2.51	-	27.66	2.83	-
PK	2.4884G	54.93	74.00	-19.07	24.26	3	Vertical	174	2.51	-	27.83	2.84	-
AV	2.4844G	43.25	54.00	-10.75	12.60	3	Vertical	174	2.51	-	27.81	2.84	-

802.11g_Nss1,(6Mbps)_2TX

2462MHz_TX

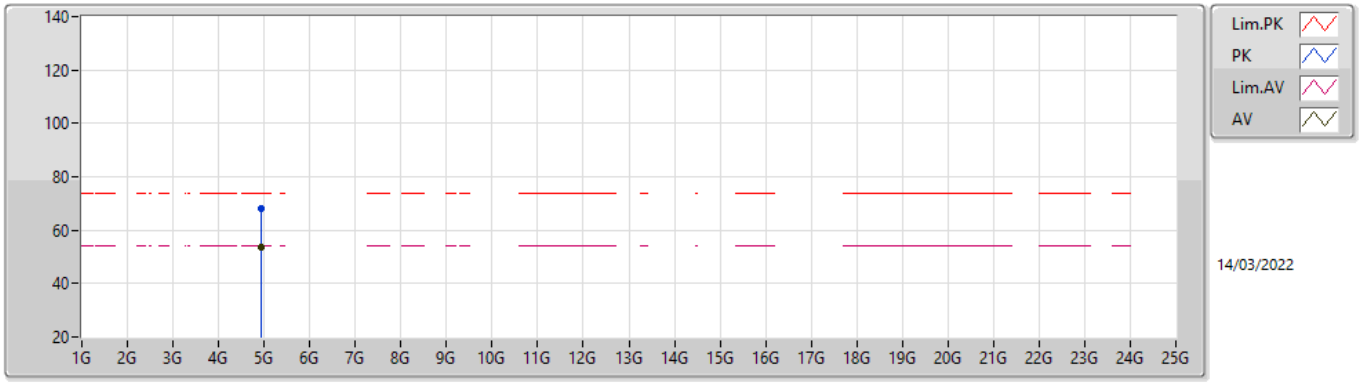


EUT Y_2TX
Setting 22.5
04-D-S-8

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	2.4596G	112.60	Inf	-Inf	82.11	3	Horizontal	112	1.49	-	27.66	2.83	-
AV	2.4598G	102.07	Inf	-Inf	71.58	3	Horizontal	112	1.49	-	27.66	2.83	-
PK	2.4838G	54.85	74.00	-19.15	24.21	3	Horizontal	112	1.49	-	27.80	2.84	-
AV	2.4838G	42.88	54.00	-11.12	12.24	3	Horizontal	112	1.49	-	27.80	2.84	-

802.11g_Nss1,(6Mbps)_2TX

2462MHz_TX

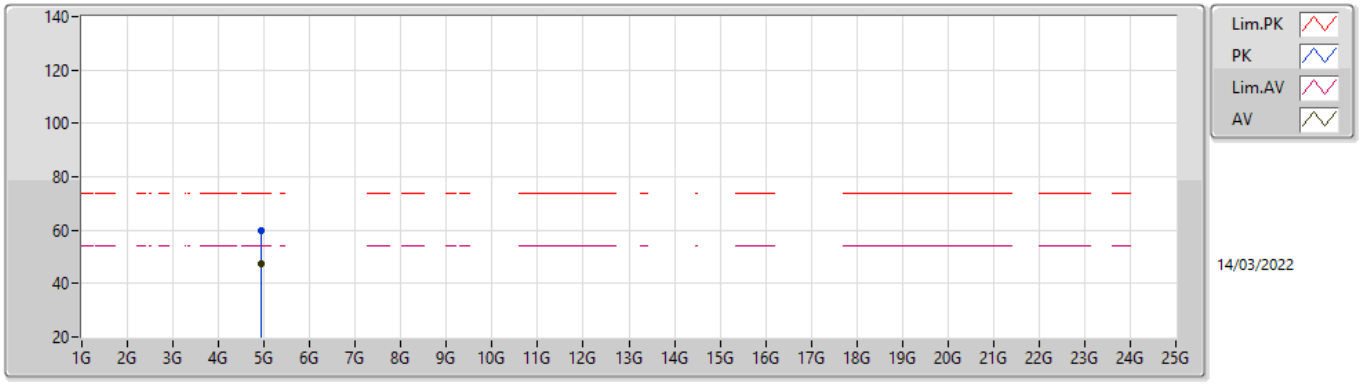


EUT Y_2TX
Setting 22.5
04-D-S-8

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	4.92376G	68.19	74.00	-5.81	63.48	3	Vertical	202	1.84	-	33.05	4.86	33.20
AV	4.92392G	53.65	54.00	-0.35	48.94	3	Vertical	202	1.84	-	33.05	4.86	33.20

802.11g_Nss1,(6Mbps)_2TX

2462MHz_TX

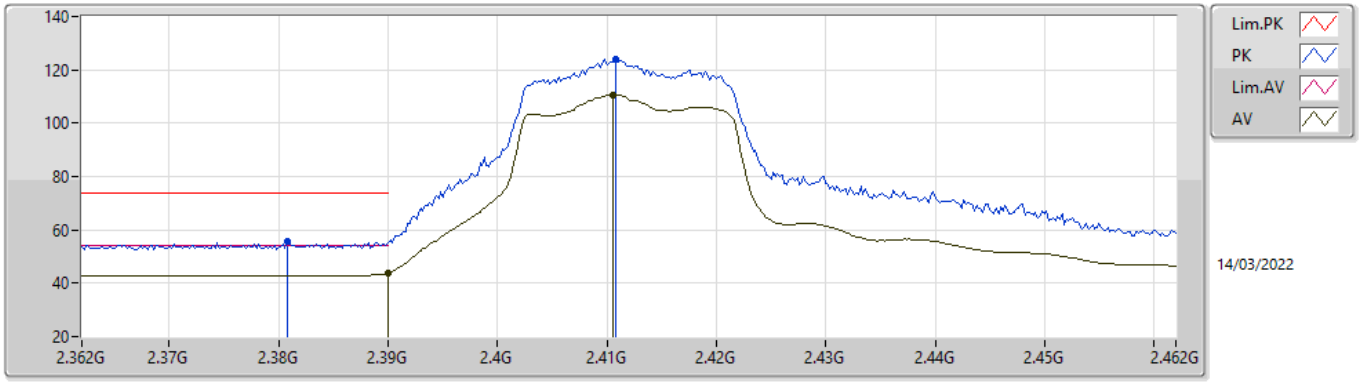


EUT Y_2TX
Setting 22.5
04-D-S-8

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	4.92368G	59.99	74.00	-14.01	55.28	3	Horizontal	98	1.80	-	33.05	4.86	33.20
AV	4.92384G	47.17	54.00	-6.83	42.46	3	Horizontal	98	1.80	-	33.05	4.86	33.20

802.11ax HEW20_Nss1,(MCS0)_2TX

2412MHz_TX

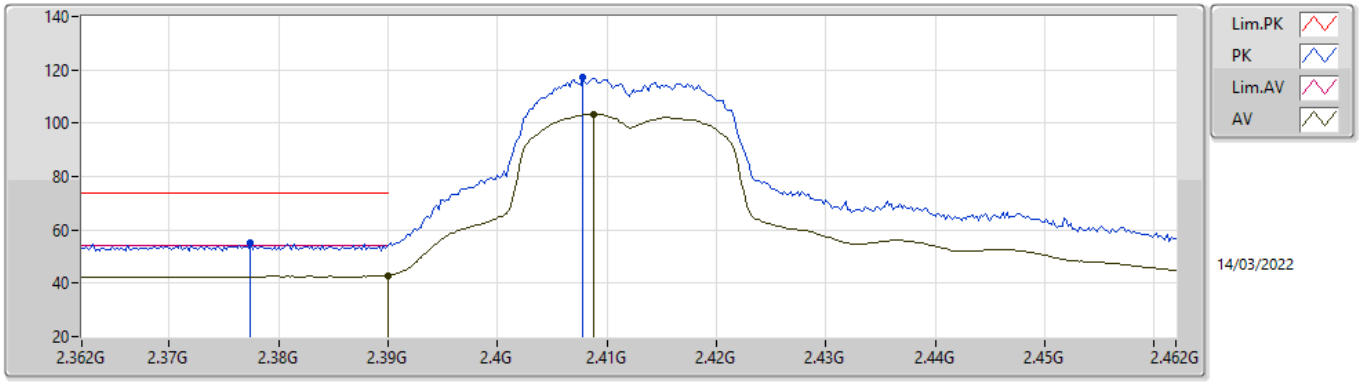


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3808G	55.53	74.00	-18.47	25.28	3	Vertical	251	2.02	-	27.46	2.79	-
AV	2.39G	43.64	54.00	-10.36	13.37	3	Vertical	251	2.02	-	27.48	2.79	-
PK	2.4108G	124.08	Inf	-Inf	93.75	3	Vertical	251	2.02	-	27.52	2.81	-
AV	2.4106G	110.66	Inf	-Inf	80.33	3	Vertical	251	2.02	-	27.52	2.81	-

802.11ax HEW20_Nss1,(MCS0)_2TX

2412MHz_TX

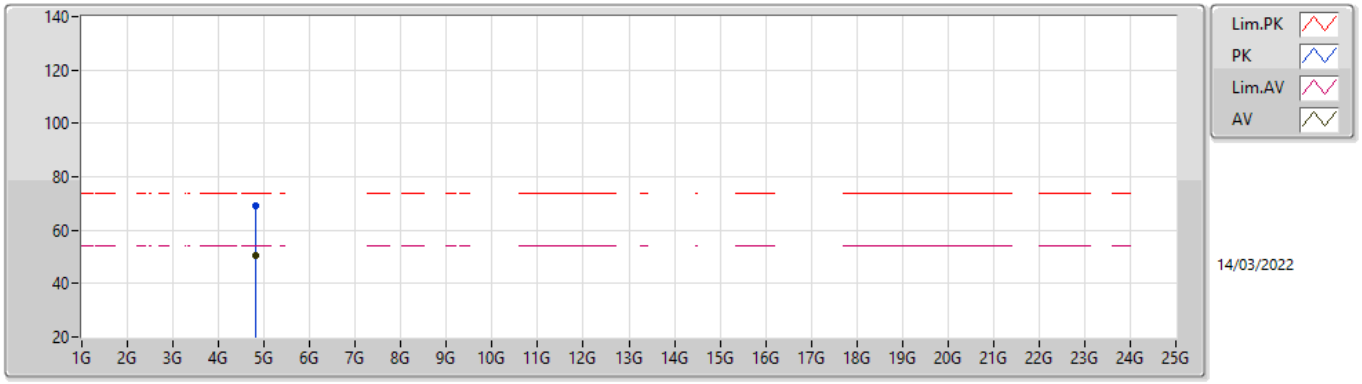


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3774G	55.32	74.00	-18.68	25.08	3	Horizontal	104	1.94	-	27.45	2.79	-
AV	2.39G	42.89	54.00	-11.11	12.62	3	Horizontal	104	1.94	-	27.48	2.79	-
PK	2.4078G	117.23	Inf	-Inf	86.91	3	Horizontal	104	1.94	-	27.52	2.80	-
AV	2.4088G	103.48	Inf	-Inf	73.16	3	Horizontal	104	1.94	-	27.52	2.80	-

802.11ax HEW20_Nss1,(MCS0)_2TX

2412MHz_TX

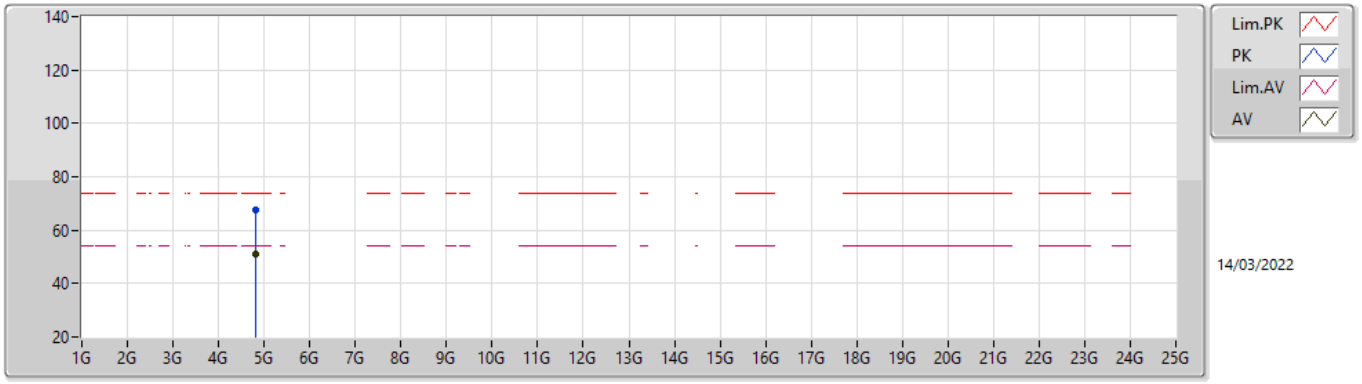


EUT Y_2TX
Setting 25
04-D-S-8

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	4.8157G	68.91	74.00	-5.09	64.70	3	Vertical	191	1.97	-	32.66	4.81	33.26
AV	4.8164G	50.76	54.00	-3.24	46.54	3	Vertical	191	1.97	-	32.67	4.81	33.26

802.11ax HEW20_Nss1,(MCS0)_2TX

2412MHz_TX

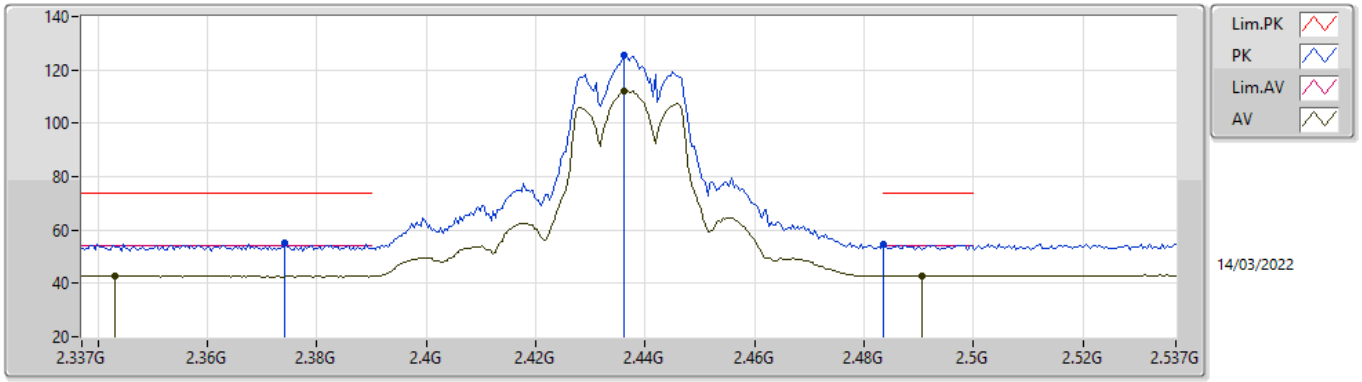


EUT Y_2TX
Setting 25
04-D-S-8

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	4.8161G	67.55	74.00	-6.45	63.34	3	Horizontal	238	2.80	-	32.66	4.81	33.26
AV	4.8163G	50.80	54.00	-3.20	46.58	3	Horizontal	238	2.80	-	32.67	4.81	33.26

802.11ax HEW20_Nss1,(MCS0)_2TX

2437MHz_TX

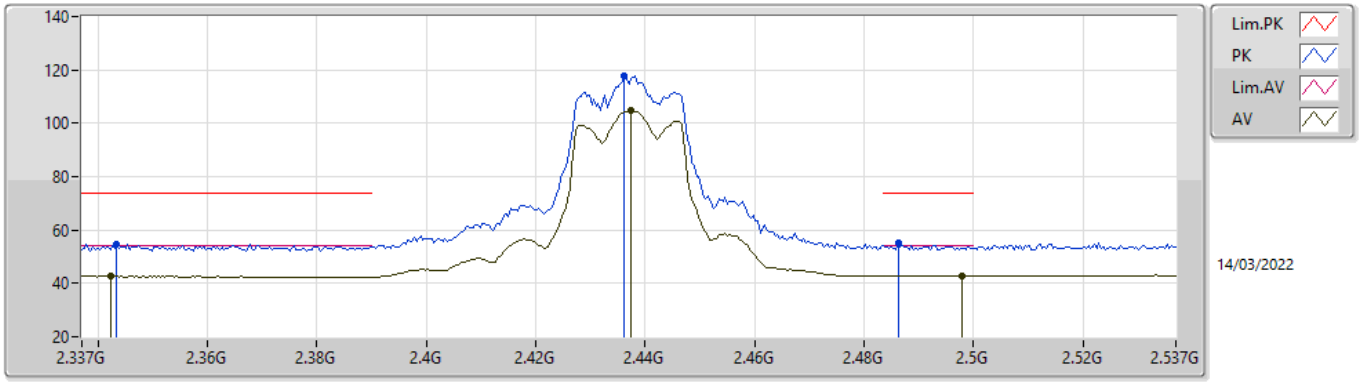


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3742G	54.98	74.00	-19.02	24.74	3	Vertical	182	2.35	-	27.45	2.79	-
AV	2.343G	42.70	54.00	-11.30	12.50	3	Vertical	182	2.35	-	27.43	2.77	-
PK	2.4362G	125.46	Inf	-Inf	95.07	3	Vertical	182	2.35	-	27.57	2.82	-
AV	2.4362G	111.99	Inf	-Inf	81.60	3	Vertical	182	2.35	-	27.57	2.82	-
PK	2.4835G	54.64	74.00	-19.36	24.00	3	Vertical	182	2.35	-	27.80	2.84	-
AV	2.4906G	42.97	54.00	-11.03	12.28	3	Vertical	182	2.35	-	27.84	2.85	-

802.11ax HEW20_Nss1,(MCS0)_2TX

2437MHz_TX

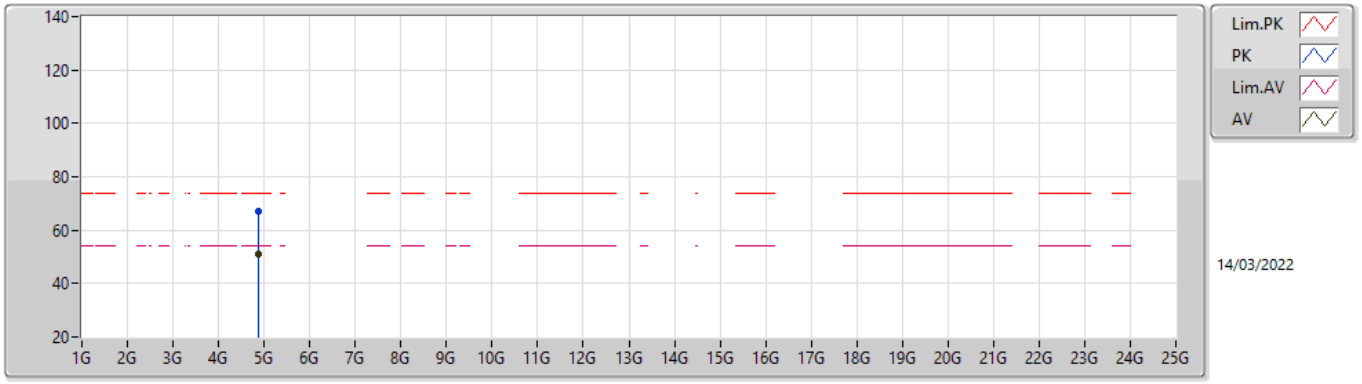


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3434G	54.73	74.00	-19.27	24.53	3	Horizontal	107	1.93	-	27.43	2.77	-
AV	2.3422G	42.64	54.00	-11.36	12.44	3	Horizontal	107	1.93	-	27.43	2.77	-
PK	2.4362G	117.82	Inf	-Inf	87.43	3	Horizontal	107	1.93	-	27.57	2.82	-
AV	2.4374G	104.76	Inf	-Inf	74.37	3	Horizontal	107	1.93	-	27.57	2.82	-
PK	2.4862G	55.23	74.00	-18.77	24.57	3	Horizontal	107	1.93	-	27.82	2.84	-
AV	2.4978G	42.82	54.00	-11.18	12.08	3	Horizontal	107	1.93	-	27.89	2.85	-

802.11ax HEW20_Nss1,(MCS0)_2TX

2437MHz_TX

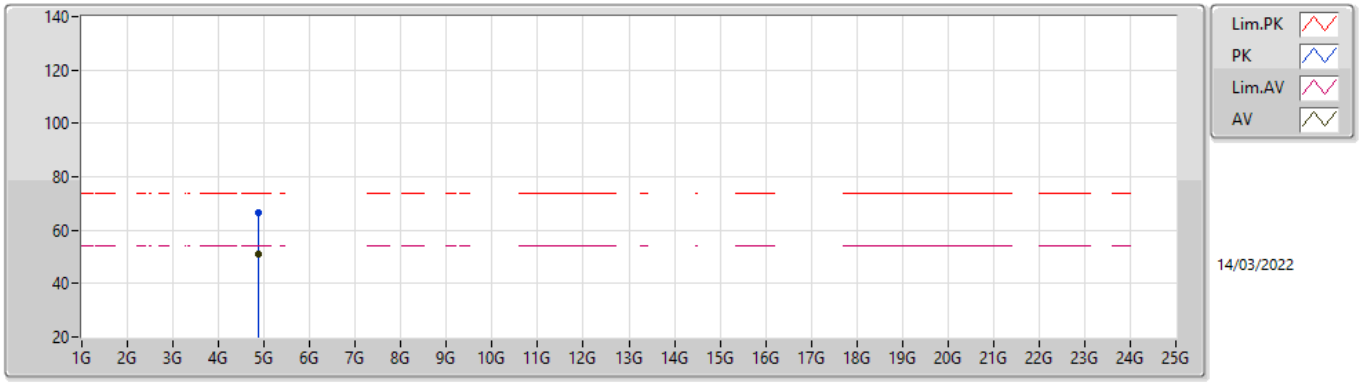


EUT Y_2TX
Setting 25
04-D-S-8

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	4.8778G	66.92	74.00	-7.08	62.39	3	Vertical	178	1.84	-	32.91	4.84	33.22
AV	4.8792G	50.79	54.00	-3.21	46.25	3	Vertical	178	1.84	-	32.92	4.84	33.22

802.11ax HEW20_Nss1,(MCS0)_2TX

2437MHz_TX

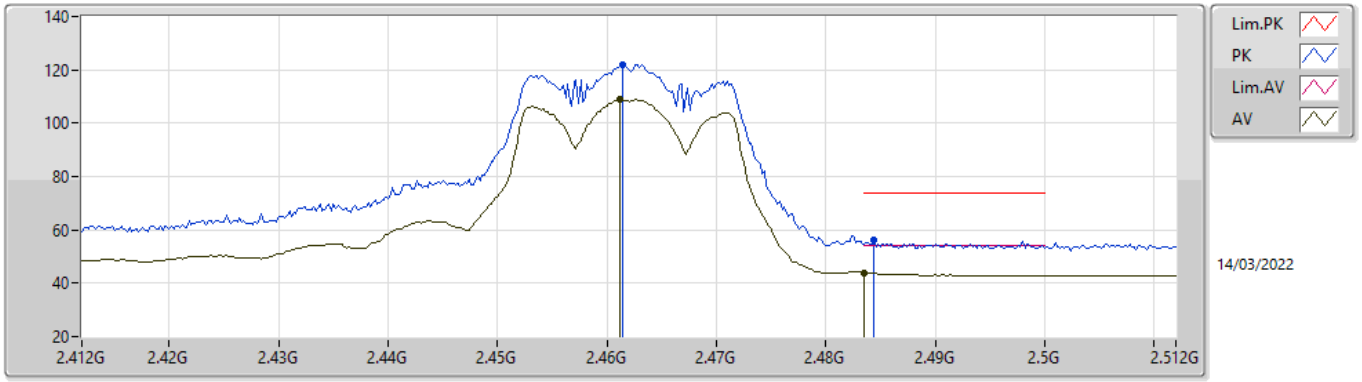


EUT Y_2TX
Setting 25
04-D-S-8

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	4.8806G	66.33	74.00	-7.67	61.79	3	Horizontal	191	2.82	-	32.92	4.84	33.22
AV	4.8796G	50.78	54.00	-3.22	46.24	3	Horizontal	191	2.82	-	32.92	4.84	33.22

802.11ax HEW20_Nss1,(MCS0)_2TX

2462MHz_TX

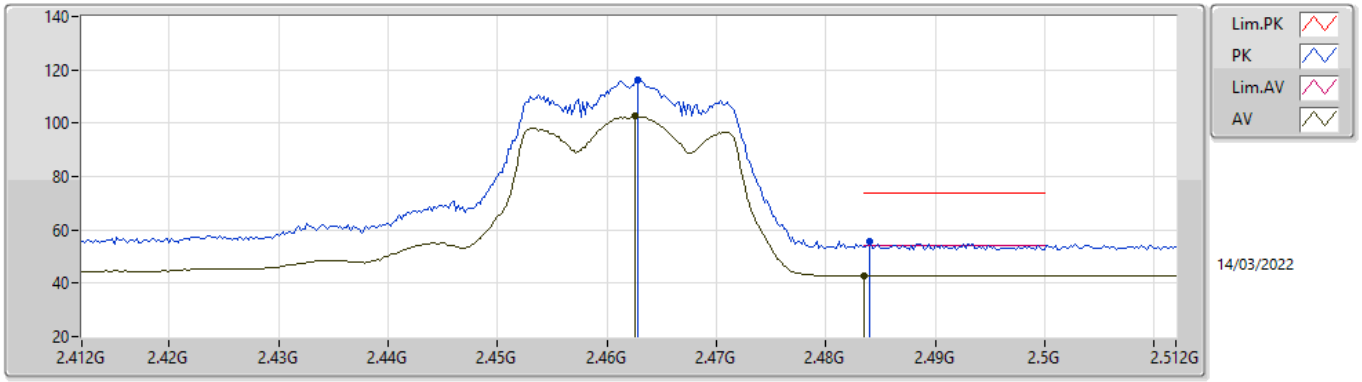


EUT Y_2TX
Setting 23
04-D-S-8

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	2.4614G	121.73	Inf	-Inf	91.23	3	Vertical	176	2.52	-	27.67	2.83	-
AV	2.4612G	108.74	Inf	-Inf	78.24	3	Vertical	176	2.52	-	27.67	2.83	-
PK	2.4844G	56.22	74.00	-17.78	25.57	3	Vertical	176	2.52	-	27.81	2.84	-
AV	2.4835G	44.05	54.00	-9.95	13.41	3	Vertical	176	2.52	-	27.80	2.84	-

802.11ax HEW20_Nss1,(MCS0)_2TX

2462MHz_TX

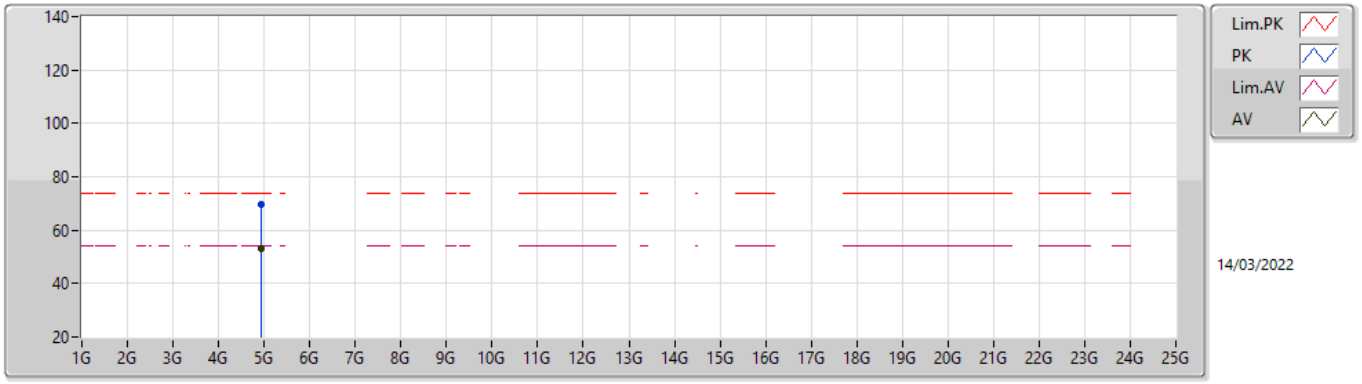


EUT Y_2TX
Setting 23
04-D-S-8

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	2.4628G	116.15	Inf	-Inf	85.64	3	Horizontal	106	1.13	-	27.68	2.83	-
AV	2.4626G	102.75	Inf	-Inf	72.24	3	Horizontal	106	1.13	-	27.68	2.83	-
PK	2.484G	55.52	74.00	-18.48	24.88	3	Horizontal	106	1.13	-	27.80	2.84	-
AV	2.4835G	42.91	54.00	-11.09	12.27	3	Horizontal	106	1.13	-	27.80	2.84	-

802.11ax HEW20_Nss1,(MCS0)_2TX

2462MHz_TX

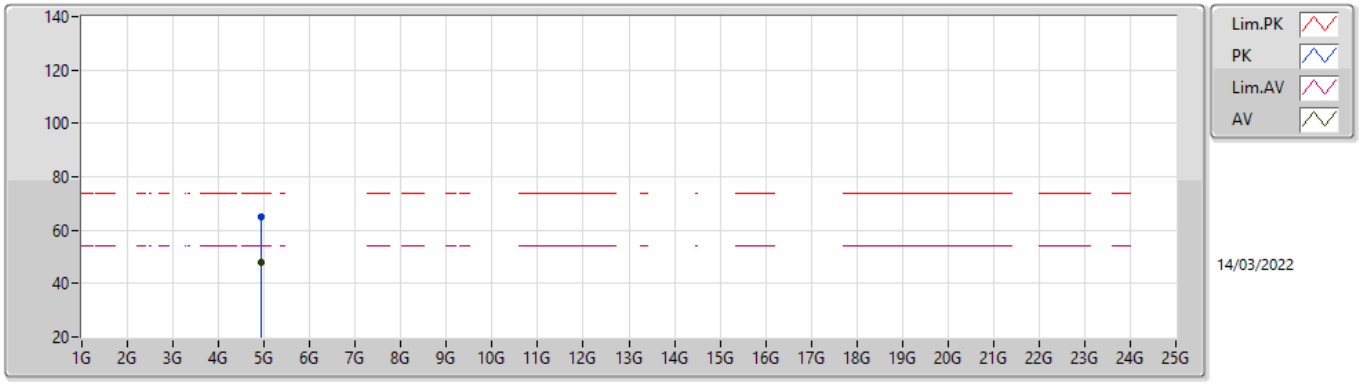


EUT Y_2TX
Setting 23
04-D-S-8

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	4.9213G	69.40	74.00	-4.60	64.70	3	Vertical	212	1.80	-	33.04	4.86	33.20
AV	4.9225G	53.24	54.00	-0.76	48.53	3	Vertical	212	1.80	-	33.05	4.86	33.20

802.11ax HEW20_Nss1,(MCS0)_2TX

2462MHz_TX

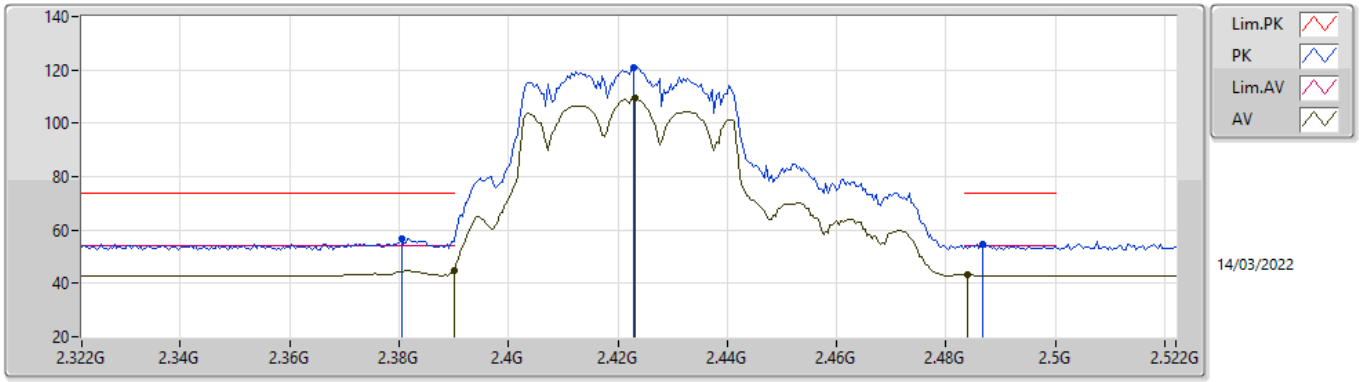


EUT Y_2TX
Setting 23
04-D-S-8

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	4.9249G	64.97	74.00	-9.03	60.26	3	Horizontal	95	1.78	-	33.05	4.86	33.20
AV	4.9225G	48.06	54.00	-5.94	43.35	3	Horizontal	95	1.78	-	33.05	4.86	33.20

802.11ax HEW40_Nss1,(MCS0)_2TX

2422MHz_TX

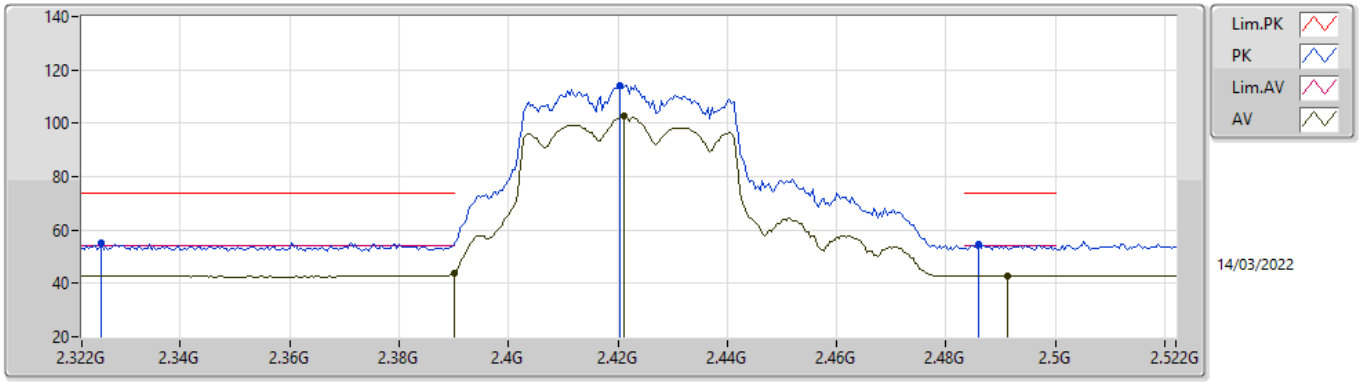


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3804G	56.75	74.00	-17.25	26.50	3	Vertical	171	2.63	-	27.46	2.79	-
AV	2.39G	44.71	54.00	-9.29	14.44	3	Vertical	171	2.63	-	27.48	2.79	-
PK	2.4228G	120.95	Inf	-Inf	90.59	3	Vertical	171	2.63	-	27.55	2.81	-
AV	2.4232G	109.30	Inf	-Inf	78.94	3	Vertical	171	2.63	-	27.55	2.81	-
PK	2.4868G	54.56	74.00	-19.44	23.90	3	Vertical	171	2.63	-	27.82	2.84	-
AV	2.484G	43.23	54.00	-10.77	12.59	3	Vertical	171	2.63	-	27.80	2.84	-

802.11ax HEW40_Nss1,(MCS0)_2TX

2422MHz_TX

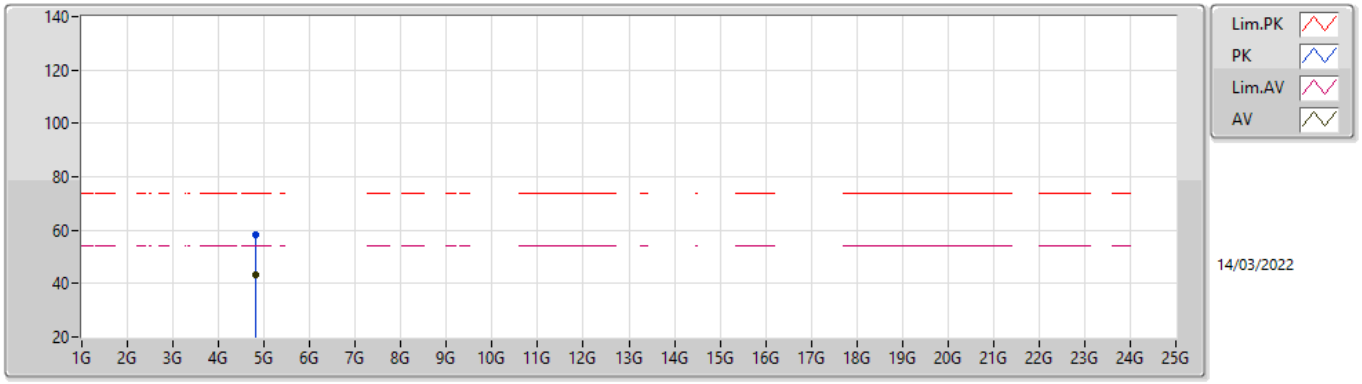


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3256G	55.18	74.00	-18.82	24.92	3	Horizontal	113	1.98	-	27.50	2.76	-
AV	2.39G	43.62	54.00	-10.38	13.35	3	Horizontal	113	1.98	-	27.48	2.79	-
PK	2.4204G	114.22	Inf	-Inf	83.87	3	Horizontal	113	1.98	-	27.54	2.81	-
AV	2.4212G	102.67	Inf	-Inf	72.32	3	Horizontal	113	1.98	-	27.54	2.81	-
PK	2.486G	54.72	74.00	-19.28	24.06	3	Horizontal	113	1.98	-	27.82	2.84	-
AV	2.4912G	42.81	54.00	-11.19	12.11	3	Horizontal	113	1.98	-	27.85	2.85	-

802.11ax HEW40_Nss1,(MCS0)_2TX

2422MHz_TX

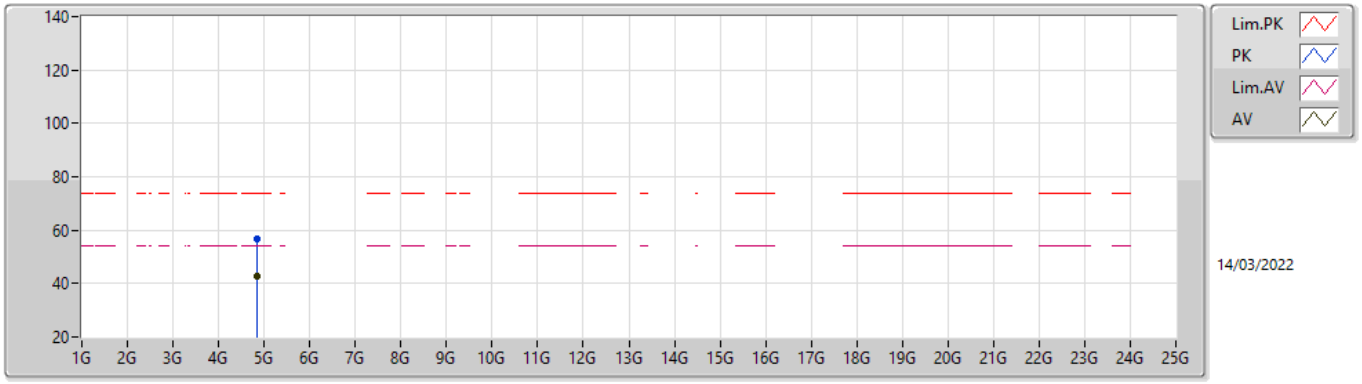


EUT Y_2TX
Setting 25
04-D-S-8

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	4.8156G	58.15	74.00	-15.85	53.94	3	Vertical	188	2.08	-	32.66	4.81	33.26
AV	4.8264G	43.52	54.00	-10.48	39.25	3	Vertical	188	2.08	-	32.71	4.81	33.25

802.11ax HEW40_Nss1,(MCS0)_2TX

2422MHz_TX

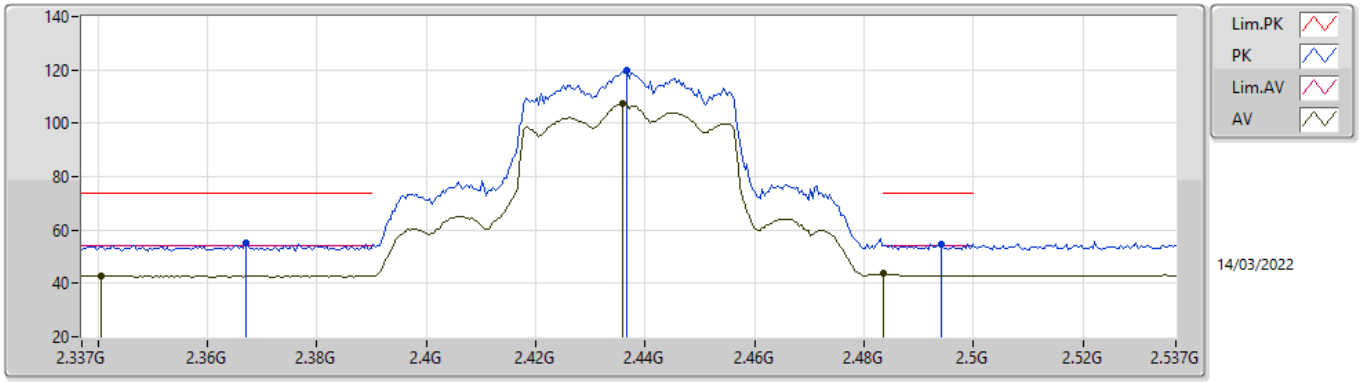


EUT Y_2TX
Setting 25
04-D-S-8

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	4.83656G	56.79	74.00	-17.21	52.46	3	Horizontal	253	1.63	-	32.75	4.82	33.24
AV	4.85738G	42.92	54.00	-11.08	38.49	3	Horizontal	253	1.63	-	32.83	4.83	33.23

802.11ax HEW40_Nss1,(MCS0)_2TX

2437MHz_TX

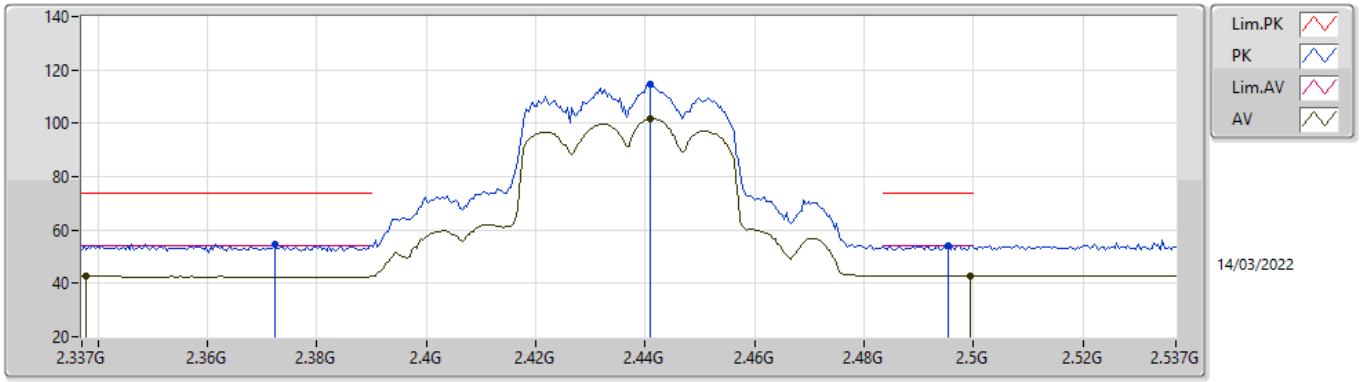


EUT Y_2TX
Setting 25
04-D-S-8

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	2.367G	54.98	74.00	-19.02	24.77	3	Vertical	293	1.80	-	27.43	2.78	-
AV	2.3406G	42.65	54.00	-11.35	12.44	3	Vertical	293	1.80	-	27.44	2.77	-
PK	2.4366G	119.60	Inf	-Inf	89.21	3	Vertical	293	1.80	-	27.57	2.82	-
AV	2.4358G	107.55	Inf	-Inf	77.16	3	Vertical	293	1.80	-	27.57	2.82	-
PK	2.4942G	54.91	74.00	-19.09	24.19	3	Vertical	293	1.80	-	27.87	2.85	-
AV	2.4835G	43.54	54.00	-10.46	12.90	3	Vertical	293	1.80	-	27.80	2.84	-

802.11ax HEW40_Nss1,(MCS0)_2TX

2437MHz_TX

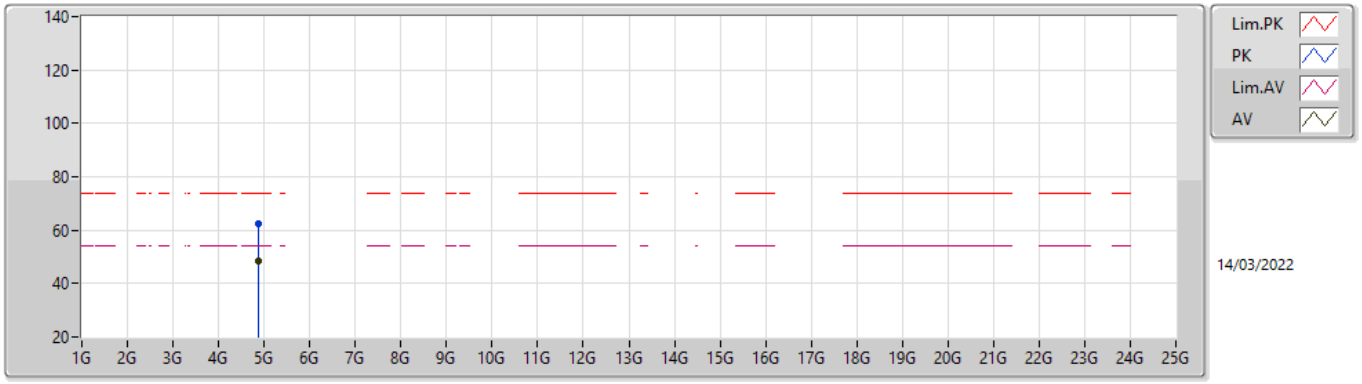


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3722G	54.71	74.00	-19.29	24.48	3	Horizontal	109	2.44	-	27.44	2.79	-
AV	2.3378G	42.63	54.00	-11.37	12.41	3	Horizontal	109	2.44	-	27.45	2.77	-
PK	2.441G	114.46	Inf	-Inf	84.06	3	Horizontal	109	2.44	-	27.58	2.82	-
AV	2.441G	101.59	Inf	-Inf	71.19	3	Horizontal	109	2.44	-	27.58	2.82	-
PK	2.4954G	54.08	74.00	-19.92	23.36	3	Horizontal	109	2.44	-	27.87	2.85	-
AV	2.4994G	42.83	54.00	-11.17	12.08	3	Horizontal	109	2.44	-	27.90	2.85	-

802.11ax HEW40_Nss1,(MCS0)_2TX

2437MHz_TX

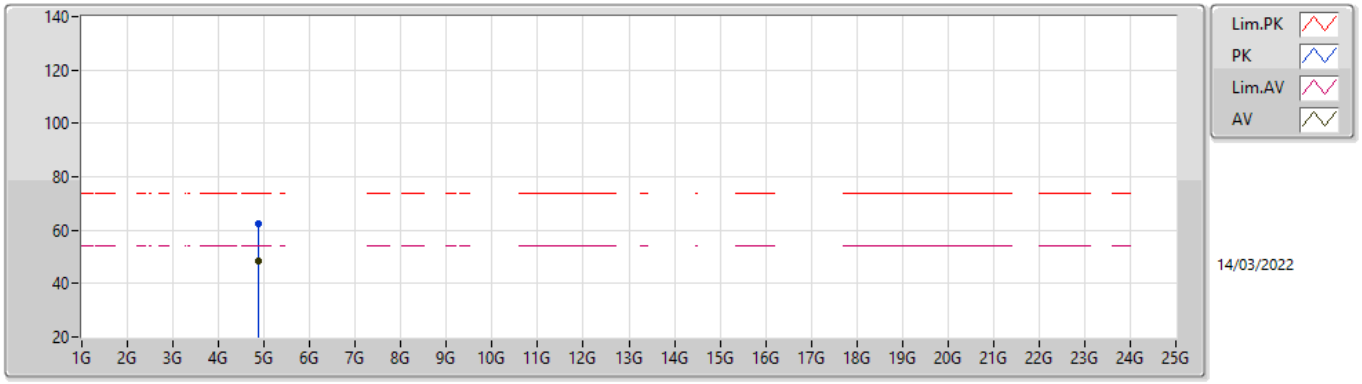


EUT Y_2TX
Setting 25
04-D-S-8

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	4.8878G	62.31	74.00	-11.69	57.74	3	Vertical	190	1.80	-	32.95	4.84	33.22
AV	4.8864G	48.69	54.00	-5.31	44.12	3	Vertical	190	1.80	-	32.95	4.84	33.22

802.11ax HEW40_Nss1,(MCS0)_2TX

2437MHz_TX

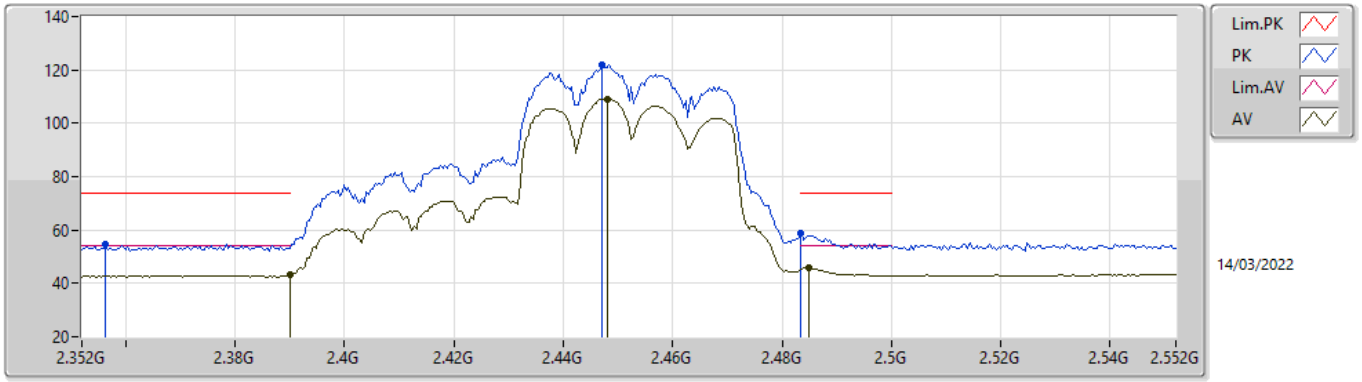


EUT Y_2TX
Setting 25
04-D-S-8

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	4.8864G	62.38	74.00	-11.62	57.81	3	Horizontal	95	2.17	-	32.95	4.84	33.22
AV	4.887G	48.65	54.00	-5.35	44.08	3	Horizontal	95	2.17	-	32.95	4.84	33.22

802.11ax HEW40_Nss1,(MCS0)_2TX

2452MHz_TX

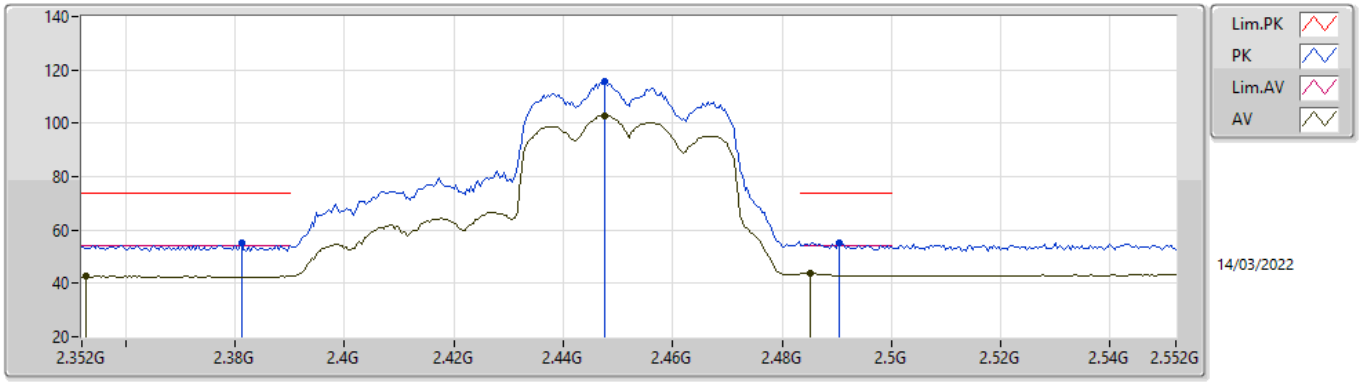


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3564G	54.51	74.00	-19.49	24.32	3	Vertical	170	2.30	-	27.41	2.78	-
AV	2.39G	43.11	54.00	-10.89	12.84	3	Vertical	170	2.30	-	27.48	2.79	-
PK	2.4472G	122.11	Inf	-Inf	91.70	3	Vertical	170	2.30	-	27.59	2.82	-
AV	2.448G	109.15	Inf	-Inf	78.73	3	Vertical	170	2.30	-	27.60	2.82	-
PK	2.4835G	58.56	74.00	-15.44	27.92	3	Vertical	170	2.30	-	27.80	2.84	-
AV	2.4848G	45.79	54.00	-8.21	15.14	3	Vertical	170	2.30	-	27.81	2.84	-

802.11ax HEW40_Nss1,(MCS0)_2TX

2452MHz_TX

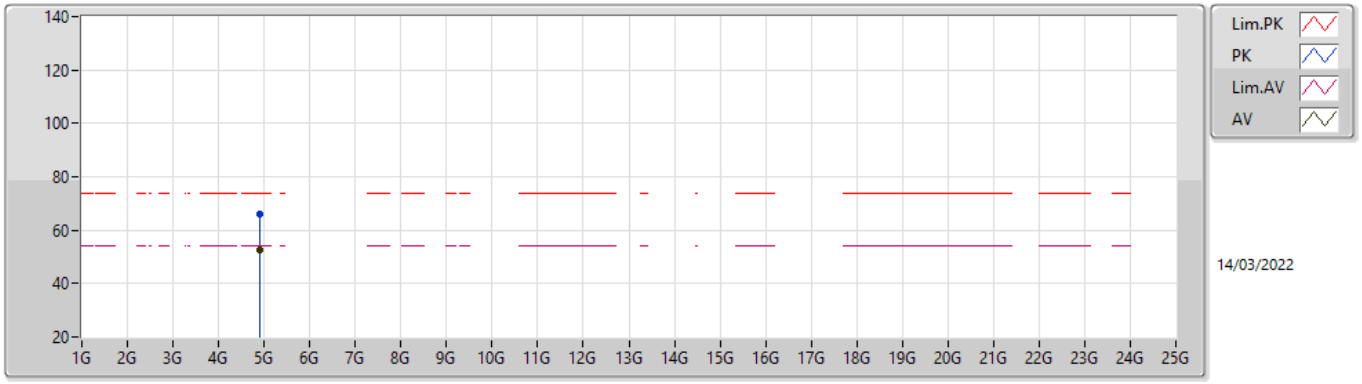


EUT Y_2TX
Setting 25
04-D-S-8

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	2.3812G	55.34	74.00	-18.66	25.09	3	Horizontal	108	1.91	-	27.46	2.79	-
AV	2.3528G	42.56	54.00	-11.44	12.37	3	Horizontal	108	1.91	-	27.41	2.78	-
PK	2.4476G	115.69	Inf	-Inf	85.27	3	Horizontal	108	1.91	-	27.60	2.82	-
AV	2.4476G	102.93	Inf	-Inf	72.51	3	Horizontal	108	1.91	-	27.60	2.82	-
PK	2.4904G	54.98	74.00	-19.02	24.29	3	Horizontal	108	1.91	-	27.84	2.85	-
AV	2.4852G	43.78	54.00	-10.22	13.13	3	Horizontal	108	1.91	-	27.81	2.84	-

802.11ax HEW40_Nss1,(MCS0)_2TX

2452MHz_TX

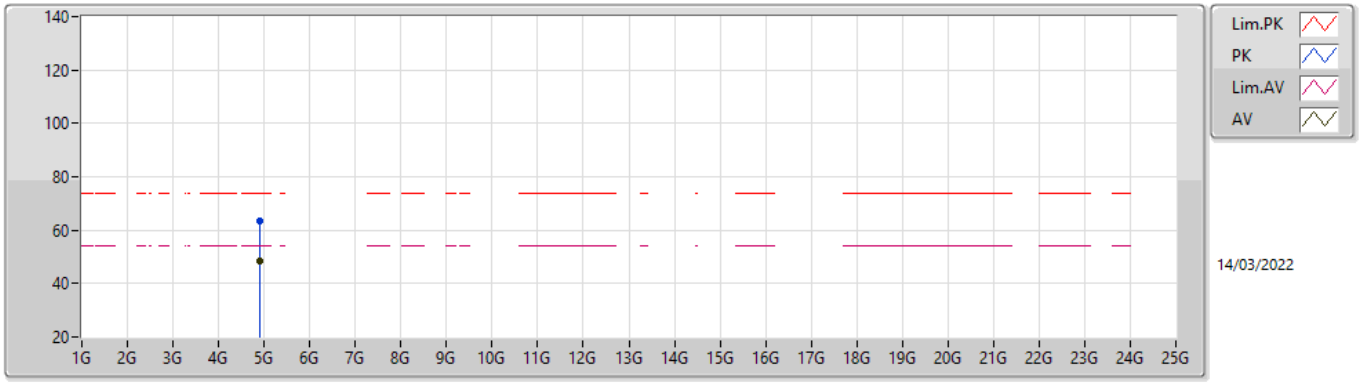


EUT Y_2TX
Setting 25
04-D-S-8

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	4.9028G	66.12	74.00	-7.88	61.47	3	Vertical	210	1.85	-	33.01	4.85	33.21
AV	4.9026G	52.41	54.00	-1.59	47.76	3	Vertical	210	1.85	-	33.01	4.85	33.21

802.11ax HEW40_Nss1,(MCS0)_2TX

2452MHz_TX



EUT Y_2TX
Setting 25
04-D-S-8

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	4.9014G	63.35	74.00	-10.65	58.71	3	Horizontal	80	2.92	-	33.00	4.85	33.21
AV	4.9014G	48.33	54.00	-5.67	43.69	3	Horizontal	80	2.92	-	33.00	4.85	33.21