

FCC Radio Test Report

FCC ID : TVE-240609

Equipment : Secured Network Extension Device

Brand Name : FORTINET

Model Name : FortiExtenderRugged 511Gxxxxxxxxxx,
FORTIEXTENDERRUGGED-511Gxxxxxxxxxx,
FER-511Gxxxxxxxxxx
(where "x" can be used as "A-Z", or "0-9", or "-", or
blank for software changes or marketing purposes only)

Applicant : Fortinet, Inc.
909 Kifer Road, Sunnyvale, CA 94086, USA

Manufacturer : Fortinet, Inc.
909 Kifer Road, Sunnyvale, CA 94086, USA

Standard : 47 CFR FCC Part 15.247

The product was received on Apr. 02, 2024, and testing was started from Apr. 17, 2024 and completed on Jul. 10, 2024. We, SPORTON INTERNATIONAL INC. Hsinhua 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. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FR390701AC	01	Initial issue of report	Apr. 21, 2025

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:

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

Comments and explanations:

The 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.

Reviewed by: Barry Hsiao

Report Producer: Julie Tseng

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]

Non-Beamforming

Band	Mode	BWch	Nant
2.4-2.4835GHz	802.11b	20	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11ax HEW20	20	2TX
2.4-2.4835GHz	802.11ax HEW40	40	2TX

Beamforming

Band	Mode	BWch	Nant
2.4-2.4835GHz	802.11ax HEW20-BF	20	2TX
2.4-2.4835GHz	802.11ax HEW40-BF	40	2TX

Note:

- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- BWch is the nominal channel bandwidth.
- Evaluated HEW20/HEW40 mode only due to the similar modulation. The power setting of HT20/HT40/VHT20/VHT40 mode are the same or lower than HEW20/HEW40.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Support
5	1	ADVANCED WIRELESS & ANTENNA Inc.	A8L8P-200000	Dipole	I-PEX	2.4G+5G
6	2	ADVANCED WIRELESS & ANTENNA Inc.	A8L8M-200000	Dipole	I-PEX	2.4G+5G
7	1	ADVANCED WIRELESS & ANTENNA Inc.	A8L8P-200000	Dipole	I-PEX	BT

Ant.	Port	Gain (dBi)			Remark
		2.4G	5G	BT	
5	1	4.84	4.34	-	Radio1_5G& Radio2_2.4G
6	2	5.25	4.94	-	
7	1	-	-	4.93	BT

Note 1: Directional gain information

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

For 2.4GHz function:

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

Ant. 5 (port 1) and Ant. 6(port 2) could transmit/receive simultaneously.

For 5GHz function:

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

Ant. 5 (port 1) and Ant. 6(port 2) could transmit/receive simultaneously.

For Bluetooth function:

For Bluetooth mode (1TX/1RX)

Only Ant.7 can be used as transmitting/receiving.

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From PoE		
EUT Function	☒ Point-to-multipoint	☐ Point-to-point	
Beamforming Function	☒ With beamforming	☐ Without beamforming	
Resource Unit(802.11ax)	☒ Full RU	☐ Partial RU	
Type of EUT			
☒	Stand-alone		
☐	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.:		...
☐	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.:		...
☐	Other:		

1.1.4 Mode Test Duty Cycle

Non-Beamforming

Mode	DC	DCF (dB)	T (s)	VBW (Hz) 1/T
802.11b_Nss1,(1Mbps)_2TX	0.965	0.15	8.627m	300
802.11g_Nss1,(6Mbps)_2TX	0.924	0.34	1.434m	1k
802.11ax HEW20_Nss1,(MCS0)_2TX	0.786	1.05	5.447m	300
802.11ax HEW40_Nss1,(MCS0)_2TX	0.791	1.02	5.447m	300

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

Beamforming

Mode	DC	DCF (dB)	T (s)	VBW (Hz) 1/T
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	0.786	1.05	5.447m	300
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	0.791	1.02	5.447m	300

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.1.5 Table for Multiple Listing

The brand/model names in the following table are all refer to the identical product.

Brand Name	Model Name	Description
FORTINET	FortiExtenderRugged 511Gxxxxxxxxxx, FORTIEXTENDERRUGGED-511Gxxxxxxxxxx, FER-511Gxxxxxxxxxx (where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only)	All the models are identical, the difference model for difference brand served as marketing strategy.

From the above models, model: FER-511G was selected as representative model for the test and its data was recorded in this report.

1.2 Testing Applied Standards

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

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013

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

- ♦ KDB 558074 D01 v05r02
- ♦ KDB 662911 D01 v02r01
- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	TEL: 886-3-327-3456		FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Lego Lin	21.3~22.6°C / 52~55%	26/Apr/2024
RF Conducted	TH07-HY	Xun Hsieh	22.8~23.5°C / 51~58%	22/Apr/2024
Radiated (Co-location)	03CH03-HY	Edward Wang	22.2~24.5°C / 56~58%	10/Jul/2024
☒ Wenhua 3rd (TAF: 3785)	ADD: No. 58, Aly. 75, Ln. 564, Wenhua 3rd Rd., Guishan Dist. Taoyuan City 333, Taiwan (R.O.C.)			
	TEL: 886-3-327-0868			
Test site Designation No. TW0036 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH24-HY	AndyWang	20.6~24.5°C / 56~66%	17/Apr/2024~19/Apr/2024

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
AC Power-line Conducted Emissions	4.53 dB	Confidence levels of 95%
Bandwidth	3 MHz	Confidence levels of 95%
Maximum Conducted Output Power	2 dB	Confidence levels of 95%
Power Spectral Density	2 dB	Confidence levels of 95%
Emissions in Non-restricted Frequency Bands	0.14 dB	Confidence levels of 95%
Emissions in Restricted Frequency Bands	4.8 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	qdart_conn.win.1.0_installer_00099
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Non-Beamforming

Mode	Power Setting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	19
2437MHz	19
2462MHz	19
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	19
2437MHz	19
2462MHz	19
802.11ax HEW20_Nss1,(MCS0)_2TX	-
2412MHz	19
2437MHz	19
2462MHz	19
802.11ax HEW40_Nss1,(MCS0)_2TX	-
2422MHz	18
2437MHz	17.5
2447MHz	16.5
2452MHz	17

Beamforming

Mode	Power Setting
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
2412MHz	19
2437MHz	19
2462MHz	19
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
2422MHz	18
2437MHz	17.5
2447MHz	16.5
2452MHz	17

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	CTX
1	PoE mode

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	CTX
1	PoE mode
Operating Mode > 1GHz	CTX
Orthogonal Planes of EUT	Y Plane
	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	CTX
1	Radio1_2.4G+Radio2_5G+Bluetooth+WWAN
Refer to Sporton Test Report No.: FA390701 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.3 Accessories

Accessories				
Pole clamp	Brand Name	JIN GIAN DA FA	Model Name	6513A0083000

Reminder: Regarding to more detail and other information, please refer to user manual.

2.4 Support Equipment

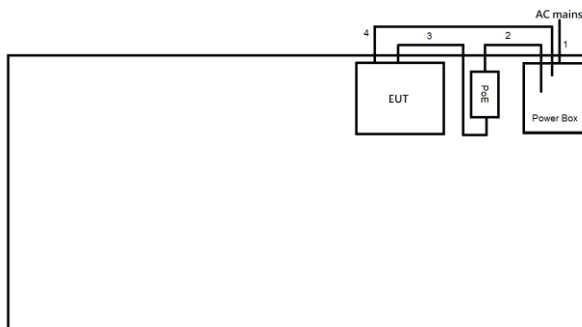
Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	PoE	EnGenius	EPA5006GAT	-	Provided by Customer
2	Ground wire	N/A	N/A	-	Provided by Customer

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Ground wire	N/A	N/A	-	Provided by Customer
2	PoE	EnGenius	EPA5006GAT	-	Provided by Customer / Remote

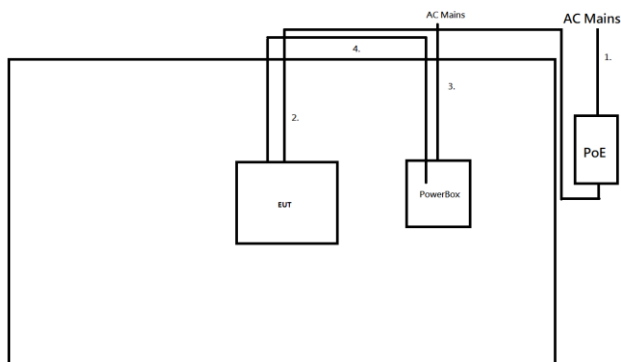
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	0.6	-
2	AC Power Cable	No	1.8	-
3	RJ45 Cable	No	3.0	-
4	Ground wire	No	1.2	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	0.6	-
2	RJ45 Cable	No	3.0	-
3	AC Power Cable	No	1.8	-
4	Ground Wire	No	1.2	-

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

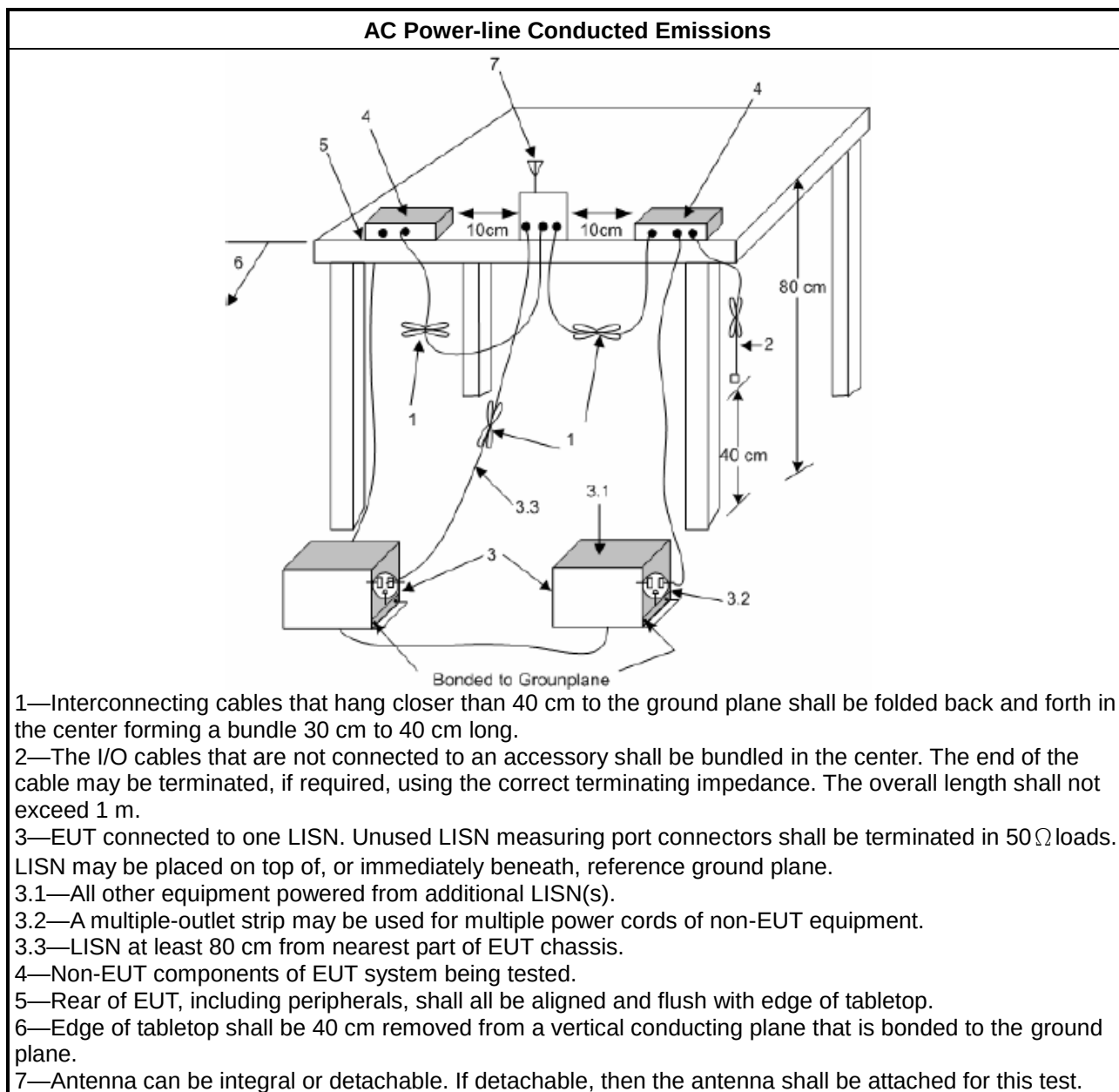
Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:

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

3.1.5 Test Setup



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 $\geq$ 500 kHz.

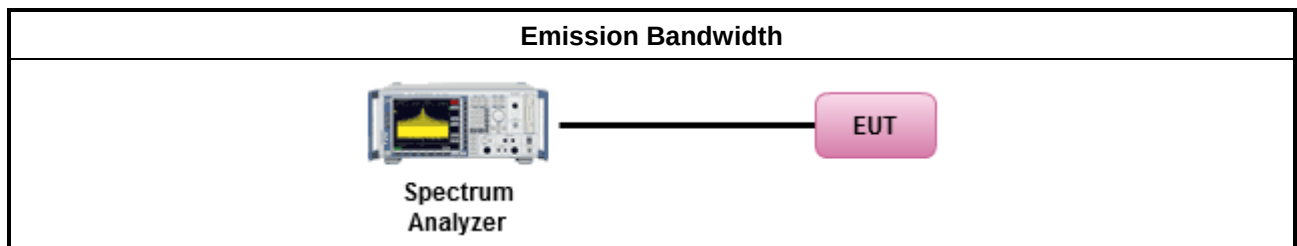
3.2.2 Measuring Instruments

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 KDB 558074. clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
☐	Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
☐	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup



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
e.i.r.p. Power Limit:	
	2400-2483.5 MHz Band
	Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	Smart antenna system (SAS)
	- Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	- Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	- Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ 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.	

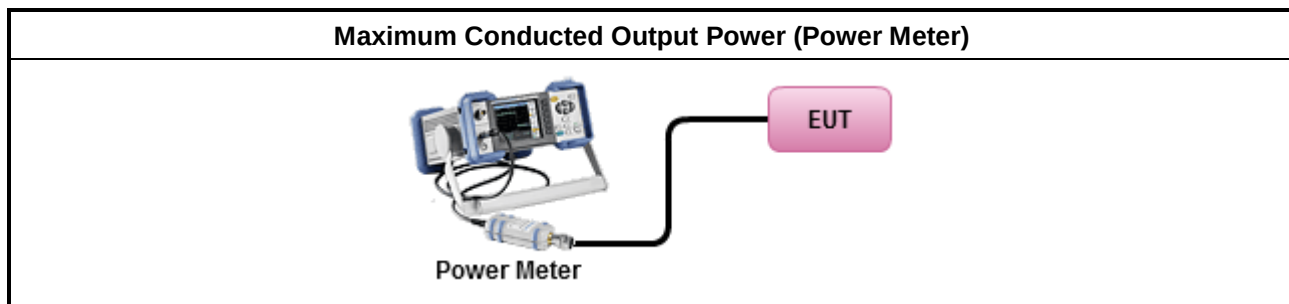
3.3.2 Measuring Instruments

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 KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
☐	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
☐	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
Maximum Average Conducted Output Power	
☐	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
☒	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as 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: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



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

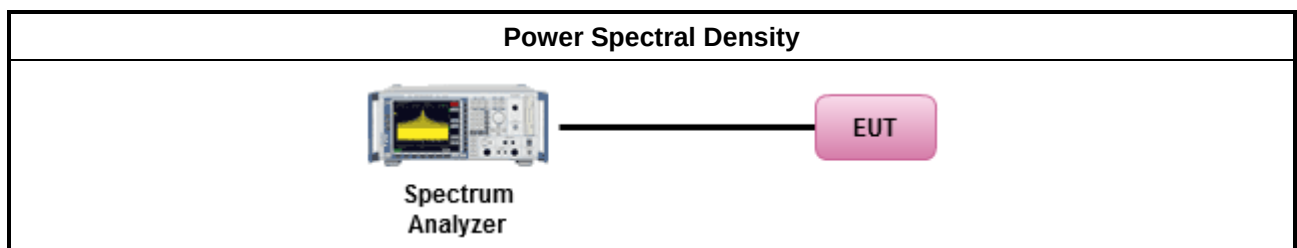
3.4.2 Measuring Instruments

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 KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Max. PSD.
▪	For conducted measurement.
▪	If The EUT supports multiple transmit chains using options given below:
▪	Measure and sum the spectra across the outputs. Refer as 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.

3.4.4 Test Setup



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 (dB)
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 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 level.	

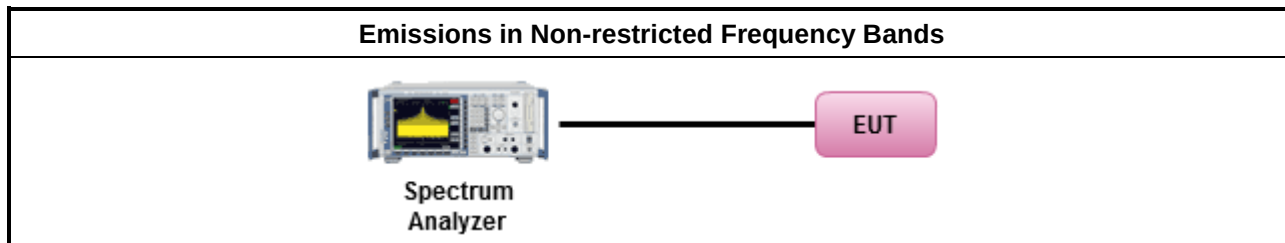
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency bands.

3.5.4 Test Setup



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

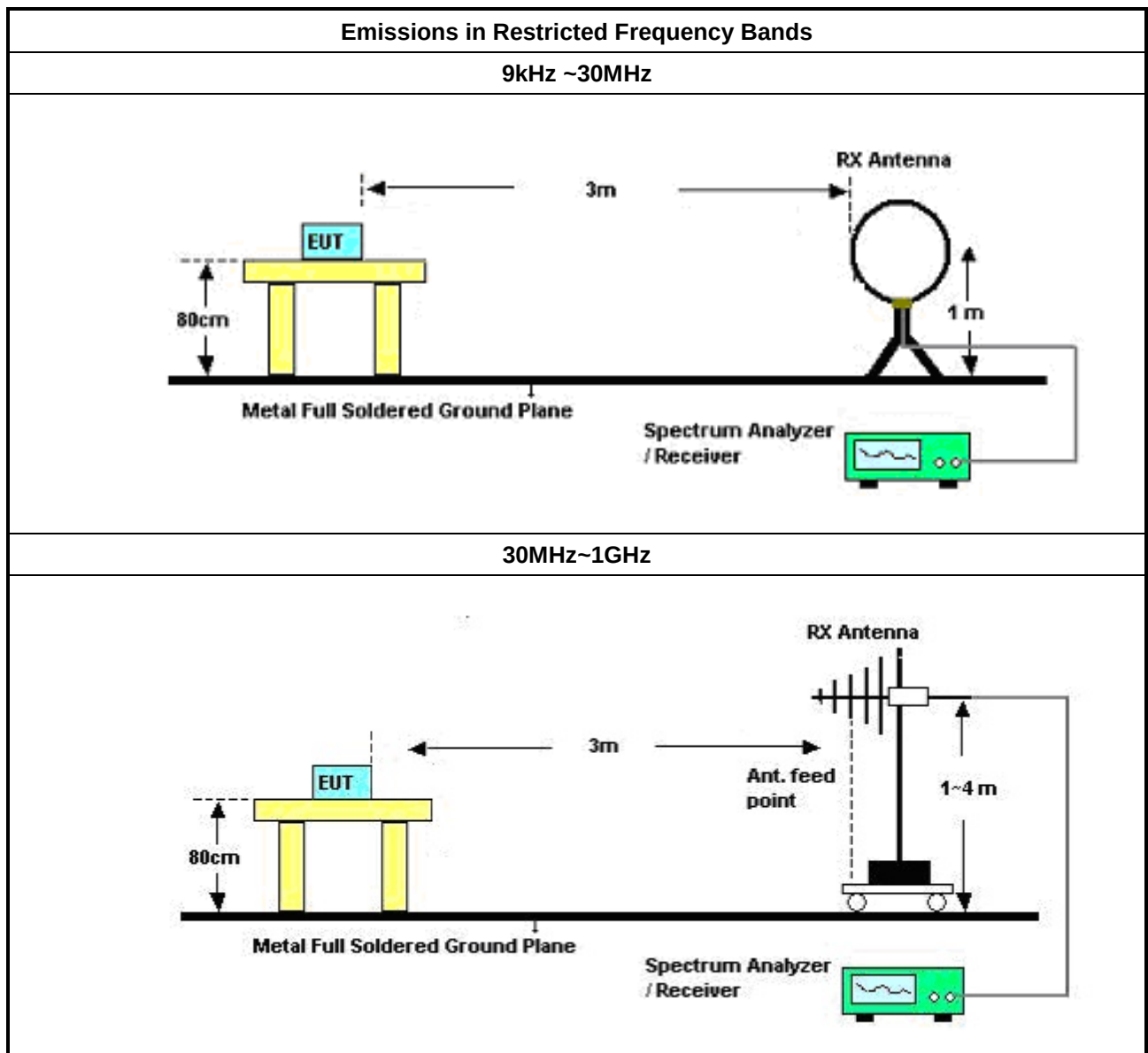
Test Method	
▪	The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
	Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
▪	For the transmitter unwanted emissions shall be measured using following options below:
	Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
▪	For the transmitter band-edge emissions shall be measured using following options below:
	Refer as KDB 558074 clause 8.7.1, 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 KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels.
▪	Use the following spectrum analyzer settings:
	Set RBW=100 kHz for $f < 1$ GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement. For average measurement, refer as 1.1.4.
	KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
▪	Based on FCC 15.31(f)(2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

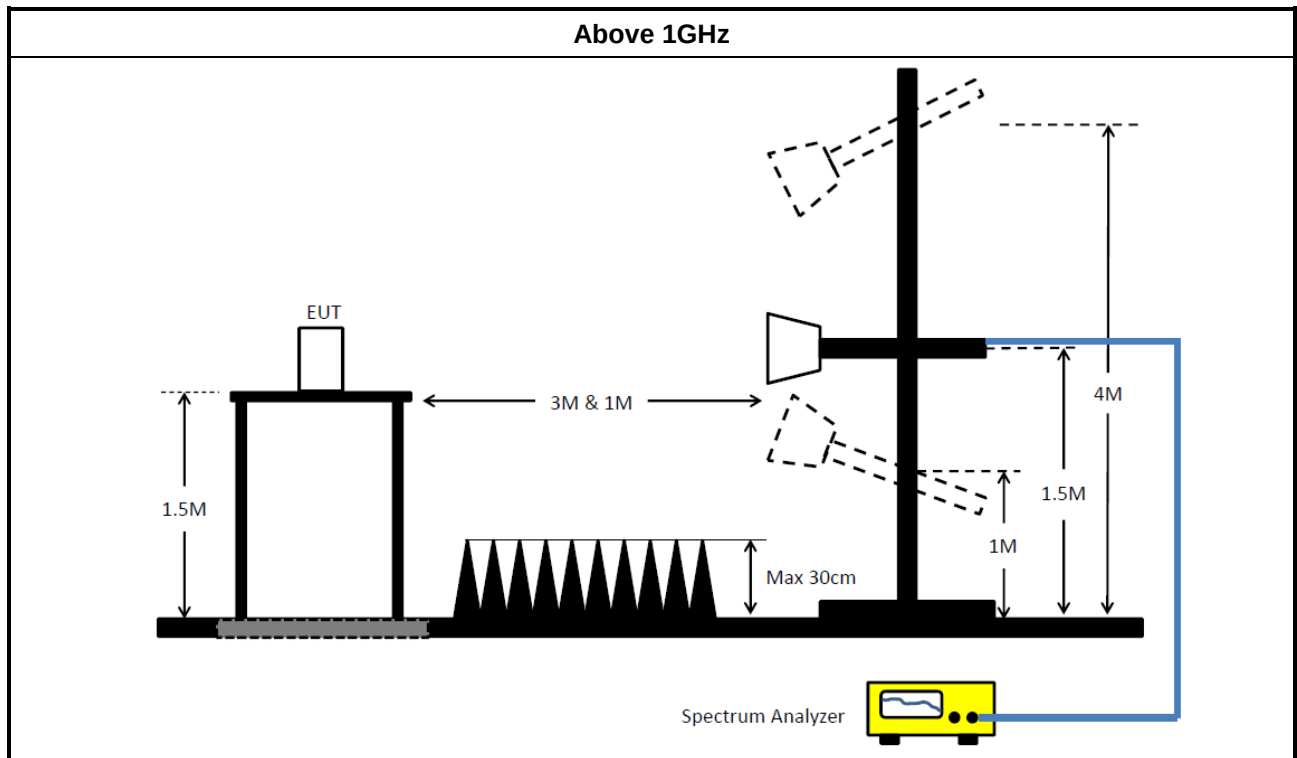
3.6.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamplifier Factor)

3.6.5 Test Setup





3.6.6 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR	102051	9kHz ~ 3.6GHz	16/May/2023	15/May/2024
LISN(Artificial Mains Network)	SCHWARZBECK	NSLK 8127	8127477	9kHz ~ 30MHz	12/Apr/2024	11/Apr/2025
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	27/Feb/2024	26/Feb/2025
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	18/Oct/2023	17/Oct/2024
Software	Sporton	SENSE-EMI	V5.11.3	-	NCR	NCR

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101515	9kHz~40GHz	02/Feb/2024	01/Feb/2025
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	20/Oct/2023	19/Oct/2024
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	15/Dec/2023	14/Dec/2024
Pulse Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	15/Dec/2023	14/Dec/2024
SENSE-15247_DTS	Sporton	V5.11.18	N/A	N/A	N/A	N/A

Instrument for Radiated Test (03CH24-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH24-HY	30MHz~1GHz 3m	17/Aug/2023	16/Aug/2024
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH24-HY	1GHz~18GHz 3m	03/Aug/2023	02/Aug/2024
EMI Test Receiver	ROHDE & SCHWARZ	ESR	102318	9kHz~3.6GHz	27/Dec/2023	26/Dec/2024
Signal Analyzer	ROHDE&SCHWARZ	FSV3044	101345	10Hz~44GHz	10/Aug/2023	09/Aug/2024
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	19/Mar/2024	18/Mar/2025
Bilog Antenna & 6dB Attenuator	TESEQ & VGT	CBL 6111D & VFA 04002-06	63537/001	30MHz~1GHz	31/May/2023	30/May/2024
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02744	1GHz~18GHz	17/Aug/2023	16/Aug/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	01248	18GHz~40GHz	21/Aug/2023	20/Aug/2024
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB002	9kHz~1GHz	21/Jul/2023	20/Jul/2024
RF Cable	HUBER+SUHNER	SUOFLEX 102	CB001	1GHz~40GHz	21/Jul/2023	20/Jul/2024
Preamplifier	SGH	PRAMP 903	20230515-2	25MHz~3GHz	25/May/2023	24/May/2024
Amplifier	EM	EM01G18G	060870	1GHz ~18GHz	10/Aug/2023	09/Aug/2024
Amplifier	EM	EM18G40GA	060874	18GHz ~40GHz	15/Apr/2024	14/Apr/2025
SENSE-15247-DTS	Sporton	V5.11.18	NA	NA	NA	NA

Instrument for Radiated Test (03CH03-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	28/Jul/2023	27/Jul/2024
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	26/Oct/2023	25/Oct/2024
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02267	1GHz~18GHz	04/Oct/2023	03/Oct/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170154	18GHz ~ 40GHz	04/Jun/2024	03/Jun/2025
RF CABLE 5+8 m	HUBER+SUHNER	SUOFLEX 104	03CH03-cable-03	1GHz~40GHz	20/Feb/2024	19/Feb/2025
Microwave Preamplifier	Agilent	8449B	3008A02326	1GHz~26.5GHz	26/Jul/2023	25/Jul/2024
Amplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	19/Apr/2024	18/Apr/2025
SENSE-EMI	Sporton	V5.11.6	N/A	N/A	N/A	N/A



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	519.13k	42.20	46.00	-3.80	Neutral

Result

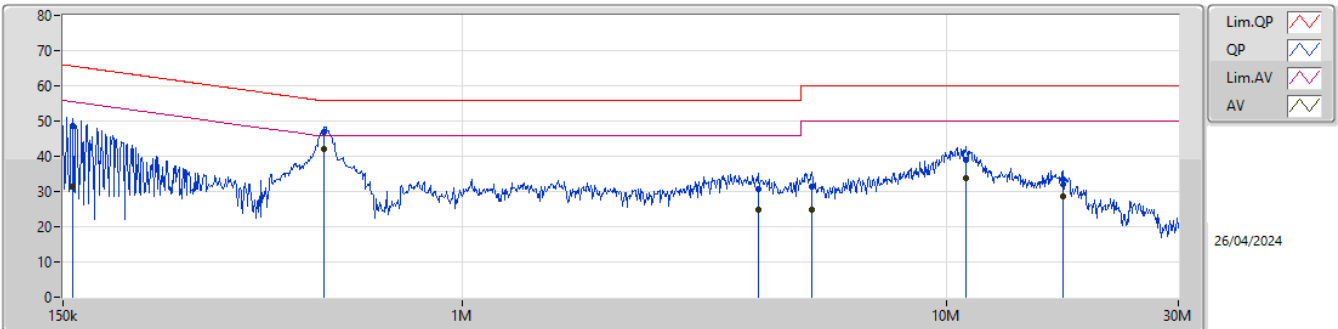
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	156.109k	49.03	65.67	-16.64	Line
Mode 1	Pass	AV	156.109k	32.22	55.67	-23.45	Line
Mode 1	Pass	QP	167.071k	46.76	65.10	-18.34	Line
Mode 1	Pass	AV	167.071k	29.10	55.10	-26.00	Line
Mode 1	Pass	QP	523.291k	46.27	56.00	-9.73	Line
Mode 1	Pass	AV	523.291k	40.72	46.00	-5.28	Line
Mode 1	Pass	QP	3.642M	34.71	56.00	-21.29	Line
Mode 1	Pass	AV	3.642M	29.53	46.00	-16.47	Line
Mode 1	Pass	QP	5.279M	33.73	60.00	-26.27	Line
Mode 1	Pass	AV	5.279M	28.01	50.00	-21.99	Line
Mode 1	Pass	QP	10.49M	40.19	60.00	-19.81	Line
Mode 1	Pass	AV	10.49M	35.16	50.00	-14.84	Line
Mode 1	Pass	QP	157.361k	48.63	65.60	-16.97	Neutral
Mode 1	Pass	AV	157.361k	31.42	55.60	-24.18	Neutral
Mode 1	Pass	QP	519.13k	46.96	56.00	-9.04	Neutral
Mode 1	Pass	AV	519.13k	42.20	46.00	-3.80	Neutral
Mode 1	Pass	QP	4.073M	30.66	56.00	-25.34	Neutral
Mode 1	Pass	AV	4.073M	24.69	46.00	-21.31	Neutral
Mode 1	Pass	QP	5.258M	31.38	60.00	-28.62	Neutral
Mode 1	Pass	AV	5.258M	24.89	50.00	-25.11	Neutral
Mode 1	Pass	QP	10.917M	38.95	60.00	-21.05	Neutral
Mode 1	Pass	AV	10.917M	33.84	50.00	-16.16	Neutral
Mode 1	Pass	QP	17.346M	33.41	60.00	-26.59	Neutral
Mode 1	Pass	AV	17.346M	28.46	50.00	-21.54	Neutral

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	156.109k	49.03	65.67	-16.64	9.86	Line	-	39.17	0.04	0.07	9.75						
AV	156.109k	32.22	55.67	-23.45	9.86	Line	-	22.36	0.04	0.07	9.75						
QP	167.071k	46.76	65.10	-18.34	9.84	Line	-	36.92	0.04	0.07	9.73						
AV	167.071k	29.10	55.10	-26.00	9.84	Line	-	19.26	0.04	0.07	9.73						
QP	523.291k	46.27	56.00	-9.73	9.93	Line	-	36.34	0.05	0.11	9.77						
AV	523.291k	40.72	46.00	-5.28	9.93	Line	-	30.79	0.05	0.11	9.77						
QP	3.642M	34.71	56.00	-21.29	9.97	Line	-	24.74	0.10	0.08	9.79						
AV	3.642M	29.53	46.00	-16.47	9.97	Line	-	19.56	0.10	0.08	9.79						
QP	5.279M	33.73	60.00	-26.27	9.98	Line	-	23.75	0.13	0.06	9.79						
AV	5.279M	28.01	50.00	-21.99	9.98	Line	-	18.03	0.13	0.06	9.79						
QP	10.49M	40.19	60.00	-19.81	10.06	Line	-	30.13	0.22	0.05	9.79						
AV	10.49M	35.16	50.00	-14.84	10.06	Line	-	25.10	0.22	0.05	9.79						

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	157.361k	48.63	65.60	-16.97	9.88	Neutral	-	38.75	0.06	0.07	9.75						
AV	157.361k	31.42	55.60	-24.18	9.88	Neutral	-	21.54	0.06	0.07	9.75						
QP	519.13k	46.96	56.00	-9.04	9.95	Neutral	-	37.01	0.07	0.11	9.77						
AV	519.13k	42.20	46.00	-3.80	9.95	Neutral	-	32.25	0.07	0.11	9.77						
QP	4.073M	30.66	56.00	-25.34	9.99	Neutral	-	20.67	0.13	0.07	9.79						
AV	4.073M	24.69	46.00	-21.31	9.99	Neutral	-	14.70	0.13	0.07	9.79						
QP	5.258M	31.38	60.00	-28.62	10.02	Neutral	-	21.36	0.17	0.06	9.79						
AV	5.258M	24.89	50.00	-25.11	10.02	Neutral	-	14.87	0.17	0.06	9.79						
QP	10.917M	38.95	60.00	-21.05	10.14	Neutral	-	28.81	0.28	0.06	9.80						
AV	10.917M	33.84	50.00	-16.16	10.14	Neutral	-	23.70	0.28	0.06	9.80						
QP	17.346M	33.41	60.00	-26.59	10.30	Neutral	-	23.11	0.36	0.11	9.83						
AV	17.346M	28.46	50.00	-21.54	10.30	Neutral	-	18.16	0.36	0.11	9.83						

**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	9.05M	13.851M	13M9G1D	6.65M	12.718M
802.11g_Nss1,(6Mbps)_2TX	16.475M	17.126M	17M1D1D	15.05M	16.45M
802.11ax HEW20_Nss1,(MCS0)_2TX	19.1M	19.098M	19M1D1D	18.9M	18.878M
802.11ax HEW40_Nss1,(MCS0)_2TX	38.15M	37.773M	37M8D1D	36.7M	37.629M

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

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	6.65M	12.839M	7.675M	12.945M
2437MHz	Pass	500k	9.05M	13.851M	8.1M	13.25M
2462MHz	Pass	500k	7.575M	12.864M	7.25M	12.718M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.425M	16.54M	16.375M	16.45M
2437MHz	Pass	500k	15.05M	17.126M	16.475M	16.695M
2462MHz	Pass	500k	16.4M	16.465M	16.375M	16.486M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	18.975M	18.908M	19.025M	18.943M
2437MHz	Pass	500k	19.1M	19.098M	19.025M	18.921M
2462MHz	Pass	500k	19.025M	18.986M	18.9M	18.878M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	36.7M	37.697M	37.75M	37.682M
2437MHz	Pass	500k	38.1M	37.773M	38.15M	37.629M
2452MHz	Pass	500k	38.1M	37.725M	38M	37.752M

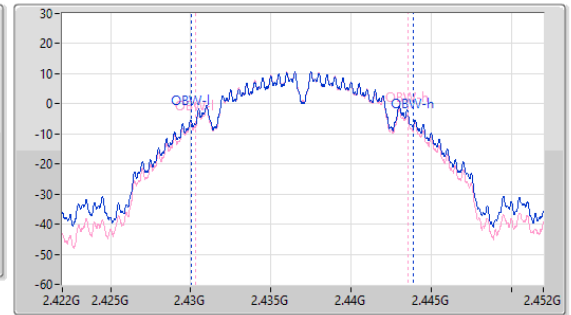
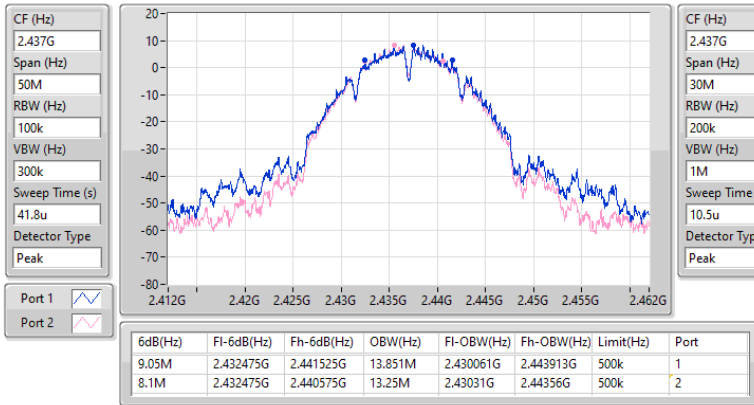
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

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

EBW

2437MHz

22/04/2024

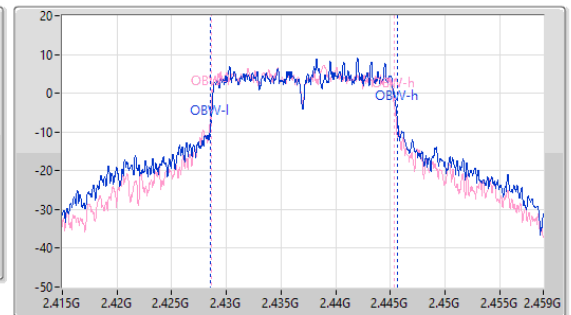
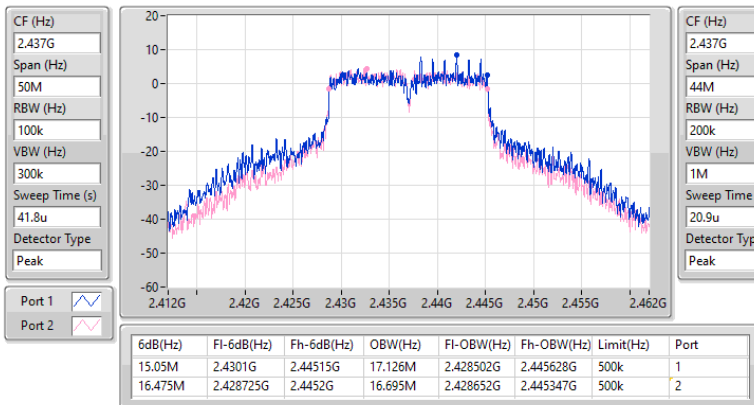


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

EBW

2437MHz

22/04/2024

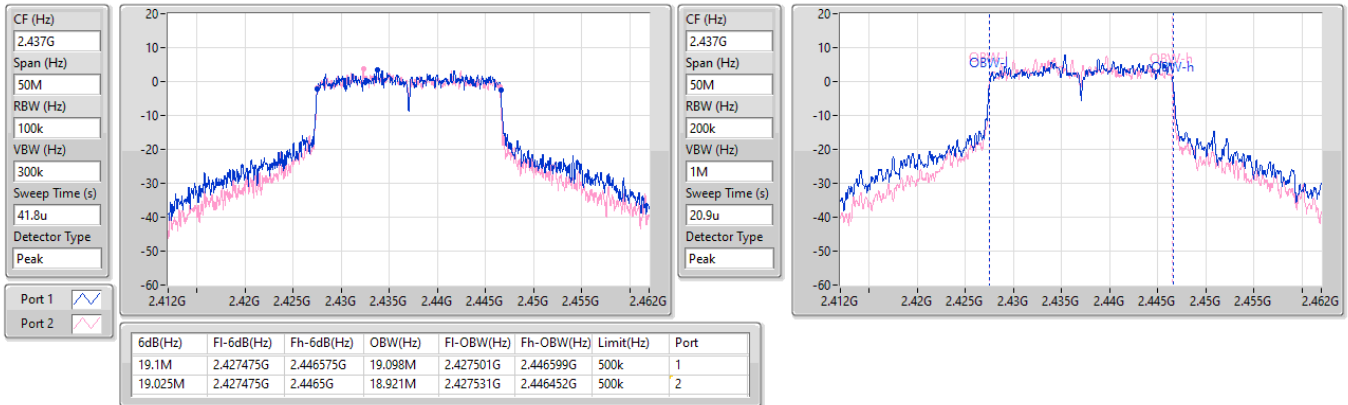


2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

2437MHz

22/04/2024

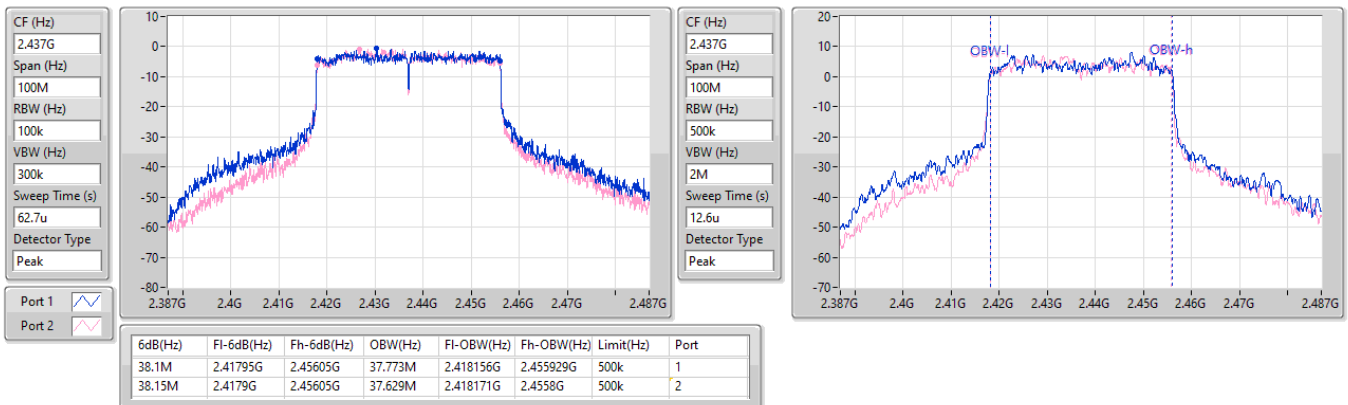


2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

2437MHz

22/04/2024





Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	21.87	0.15382
802.11g_Nss1,(6Mbps)_2TX	21.60	0.14454
802.11ax HEW20_Nss1,(MCS0)_2TX	21.25	0.13335
802.11ax HEW40_Nss1,(MCS0)_2TX	20.16	0.10375

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.25	18.03	18.14	21.10	30.00
2437MHz	Pass	5.25	18.68	18.69	21.70	30.00
2462MHz	Pass	5.25	18.76	18.95	21.87	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.25	17.90	18.09	21.01	30.00
2437MHz	Pass	5.25	18.42	18.61	21.53	30.00
2462MHz	Pass	5.25	18.56	18.62	21.60	30.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.25	17.53	17.68	20.62	30.00
2437MHz	Pass	5.25	18.28	18.19	21.25	30.00
2462MHz	Pass	5.25	18.12	18.17	21.16	30.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	5.25	16.96	16.90	19.94	30.00
2437MHz	Pass	5.25	17.26	17.04	20.16	30.00
2447MHz	Pass	5.25	16.28	16.22	19.26	30.00
2452MHz	Pass	5.25	16.65	16.75	19.71	30.00

DG = Directional Gain; Port X = Port X output power;
Inf = There's no restriction for the limit.



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	21.12	0.12942
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	20.03	0.10069

**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	8.06	17.43	17.56	20.51	27.94
2437MHz	Pass	8.06	18.14	18.07	21.12	27.94
2462MHz	Pass	8.06	17.98	18.03	21.02	27.94
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	8.06	16.83	16.78	19.82	27.94
2437MHz	Pass	8.06	17.13	16.90	20.03	27.94
2447MHz	Pass	8.06	16.13	16.12	19.14	27.94
2452MHz	Pass	8.06	16.50	16.63	19.58	27.94

DG = Directional Gain; Port X = Port X output power;
Inf = There's no restriction for the limit.



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	-2.64
802.11g_Nss1,(6Mbps)_2TX	-6.98
802.11ax HEW20_Nss1,(MCS0)_2TX	-7.35
802.11ax HEW40_Nss1,(MCS0)_2TX	-10.99

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	8.06	-6.59	-6.44	-4.76	5.94
2437MHz	Pass	8.06	-6.32	-6.26	-3.28	5.94
2462MHz	Pass	8.06	-5.51	-4.18	-2.64	5.94
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	8.06	-9.03	-9.67	-7.35	5.94
2437MHz	Pass	8.06	-10.19	-9.62	-7.28	5.94
2462MHz	Pass	8.06	-9.90	-9.08	-6.98	5.94
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	8.06	-9.48	-9.98	-8.18	5.94
2437MHz	Pass	8.06	-10.03	-10.00	-7.35	5.94
2462MHz	Pass	8.06	-10.14	-9.49	-7.48	5.94
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	8.06	-13.34	-13.19	-11.57	5.94
2437MHz	Pass	8.06	-13.89	-13.95	-12.06	5.94
2452MHz	Pass	8.06	-12.56	-13.27	-10.99	5.94

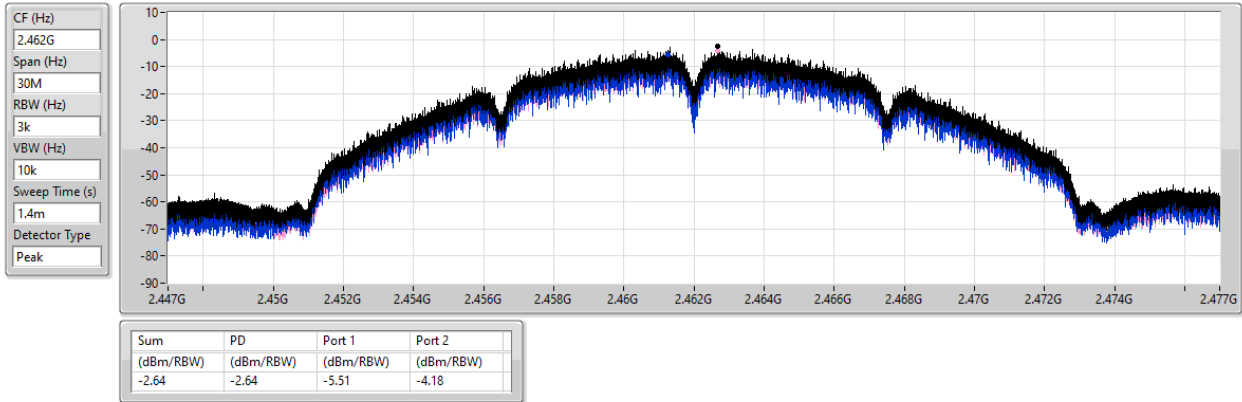
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;
 Inf = There's no restriction for the limit.

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

PSD

2462MHz

22/04/2024

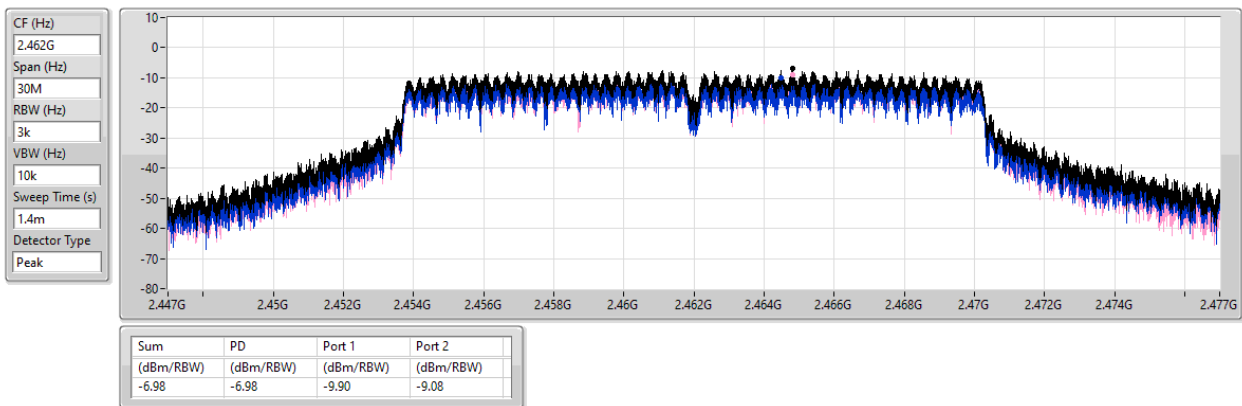


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

PSD

2462MHz

22/04/2024

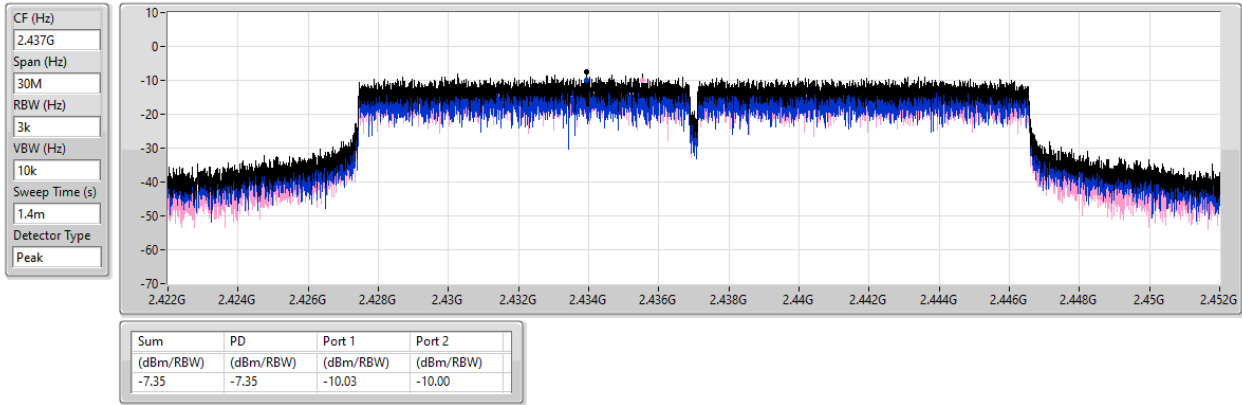


2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

2437MHz

22/04/2024

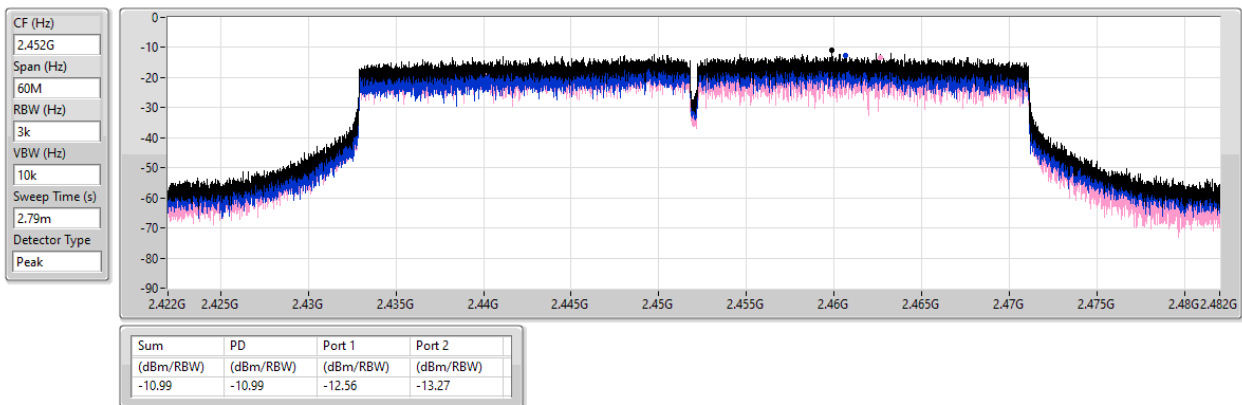


2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

2452MHz

22/04/2024



**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	2.46062G	9.60	-20.40	1.93012G	-52.50	2.39856G	-41.65	2.4G	-46.86	2.5103G	-52.25	21.81958G	-45.52	1
802.11g_Nss1,(6Mbps)_2TX	Pass	2.46079G	8.64	-21.36	1.81944G	-54.93	2.39976G	-28.95	2.4G	-28.22	2.5235G	-51.86	21.54986G	-45.05	1
802.11ax HEW20_Nss1,(MCS0)_2TX	Pass	2.43073G	8.28	-21.72	2.16661G	-54.53	2.4G	-27.38	2.4G	-25.58	2.51534G	-52.13	21.62572G	-45.00	2
802.11ax HEW40_Nss1,(MCS0)_2TX	Pass	2.43073G	2.96	-27.04	2.19863G	-55.02	2.39968G	-31.90	2.4G	-31.00	2.54846G	-54.96	21.56441G	-44.31	1

Result

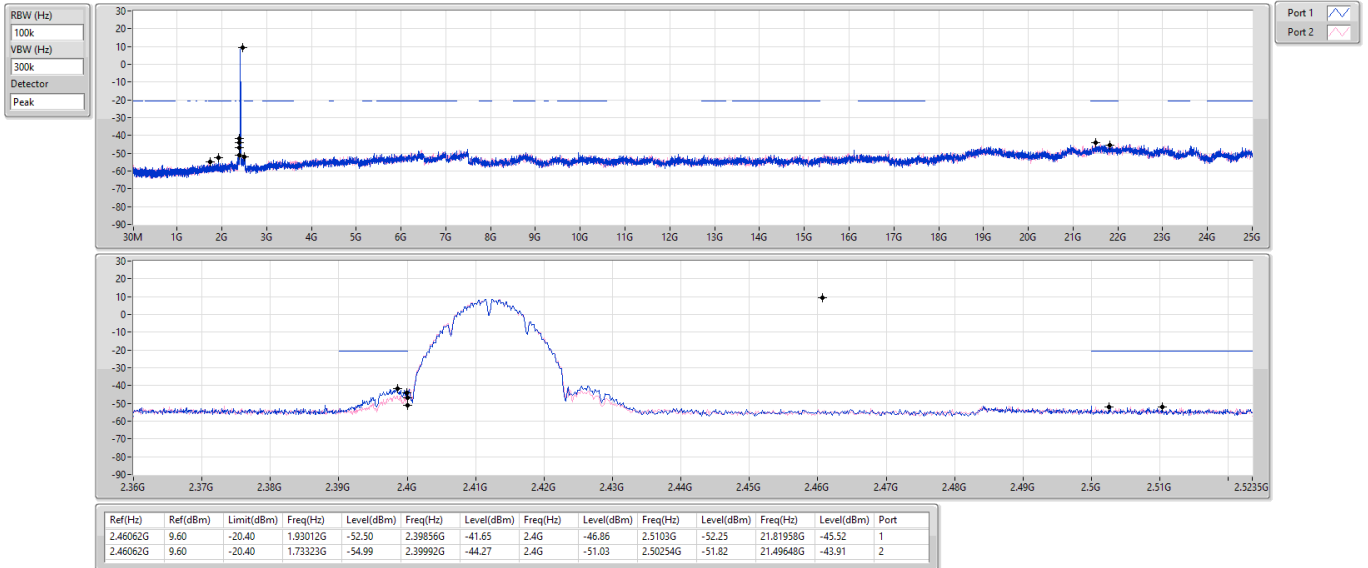
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.46062G	9.60	-20.40	1.93012G	-52.50	2.39856G	-41.65	2.4G	-46.86	2.5103G	-52.25	21.81958G	-45.52	1
2412MHz	Pass	2.46062G	9.60	-20.40	1.73323G	-54.99	2.39992G	-44.27	2.4G	-51.03	2.50254G	-51.82	21.49648G	-43.91	2
2437MHz	Pass	2.46062G	9.60	-20.40	2.02914G	-55.29	2.39872G	-51.42	2.4G	-56.05	2.5231G	-51.79	21.65662G	-44.55	1
2437MHz	Pass	2.46062G	9.60	-20.40	1.73789G	-55.36	2.3924G	-52.41	2.4G	-55.01	2.50814G	-52.73	21.66224G	-44.28	2
2462MHz	Pass	2.46062G	9.60	-20.40	1.83808G	-55.10	2.3988G	-51.48	2.4G	-55.93	2.5199G	-51.92	21.52176G	-44.75	1
2462MHz	Pass	2.46062G	9.60	-20.40	1.81595G	-54.91	2.39888G	-52.24	2.4G	-55.41	2.50374G	-52.18	21.592G	-43.05	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.46079G	8.64	-21.36	1.81944G	-54.93	2.39976G	-28.95	2.4G	-28.22	2.5235G	-51.86	21.54986G	-45.05	1
2412MHz	Pass	2.46079G	8.64	-21.36	2.08623G	-53.78	2.3992G	-29.37	2.4G	-28.50	2.51382G	-52.10	21.70157G	-45.53	2
2437MHz	Pass	2.46079G	8.64	-21.36	2.18758G	-54.87	2.3996G	-44.57	2.4G	-43.77	2.50878G	-52.29	21.57233G	-44.95	1
2437MHz	Pass	2.46079G	8.64	-21.36	2.127G	-54.77	2.39984G	-49.65	2.4G	-51.02	2.51334G	-52.20	21.651G	-45.58	2
2462MHz	Pass	2.46079G	8.64	-21.36	1.92313G	-55.44	2.39832G	-52.60	2.4G	-55.80	2.51086G	-51.72	21.59481G	-44.94	1
2462MHz	Pass	2.46079G	8.64	-21.36	2.1072G	-54.74	2.3988G	-50.91	2.4G	-55.51	2.50102G	-52.22	21.54705G	-44.64	2
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43073G	8.28	-21.72	2.15613G	-55.72	2.39992G	-28.23	2.4G	-27.38	2.50814G	-51.82	21.54986G	-44.80	1
2412MHz	Pass	2.43073G	8.28	-21.72	2.16661G	-54.53	2.4G	-27.38	2.4G	-25.58	2.51534G	-52.13	21.62572G	-45.00	2
2437MHz	Pass	2.43073G	8.28	-21.72	2.06176G	-54.74	2.39984G	-45.11	2.4G	-43.63	2.52318G	-52.39	21.62572G	-45.19	1
2437MHz	Pass	2.43073G	8.28	-21.72	2.13283G	-54.27	2.39928G	-48.26	2.4G	-50.22	2.51494G	-52.16	21.63133G	-44.75	2
2462MHz	Pass	2.43073G	8.28	-21.72	1.90099G	-55.59	2.3956G	-51.46	2.4G	-54.29	2.5171G	-51.97	21.74653G	-44.86	1
2462MHz	Pass	2.43073G	8.28	-21.72	1.93245G	-55.48	2.39544G	-51.76	2.4G	-55.32	2.50342G	-52.53	21.60605G	-44.83	2
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.43073G	2.96	-27.04	2.19863G	-55.02	2.39968G	-31.90	2.4G	-31.00	2.54846G	-54.96	21.56441G	-44.31	1
2422MHz	Pass	2.43073G	2.96	-27.04	1.87345G	-55.15	2.4G	-31.41	2.4G	-31.69	2.5507G	-54.30	21.61209G	-44.95	2
2437MHz	Pass	2.43073G	2.96	-27.04	30M	-54.88	2.39984G	-35.42	2.4G	-37.26	2.55598G	-54.81	21.99912G	-45.17	1
2437MHz	Pass	2.43073G	2.96	-27.04	2.15627G	-55.36	2.39824G	-41.62	2.4G	-43.81	2.51614G	-55.06	21.63733G	-44.99	2
2452MHz	Pass	2.43073G	2.96	-27.04	1.85513G	-55.41	2.39968G	-51.76	2.4G	-51.92	2.50958G	-54.83	21.98229G	-44.98	1
2452MHz	Pass	2.43073G	2.96	-27.04	1.76697G	-54.85	2.39856G	-52.49	2.4G	-52.08	2.54478G	-54.83	21.71025G	-45.55	2

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

CSEndB

2412MHz

22/04/2024

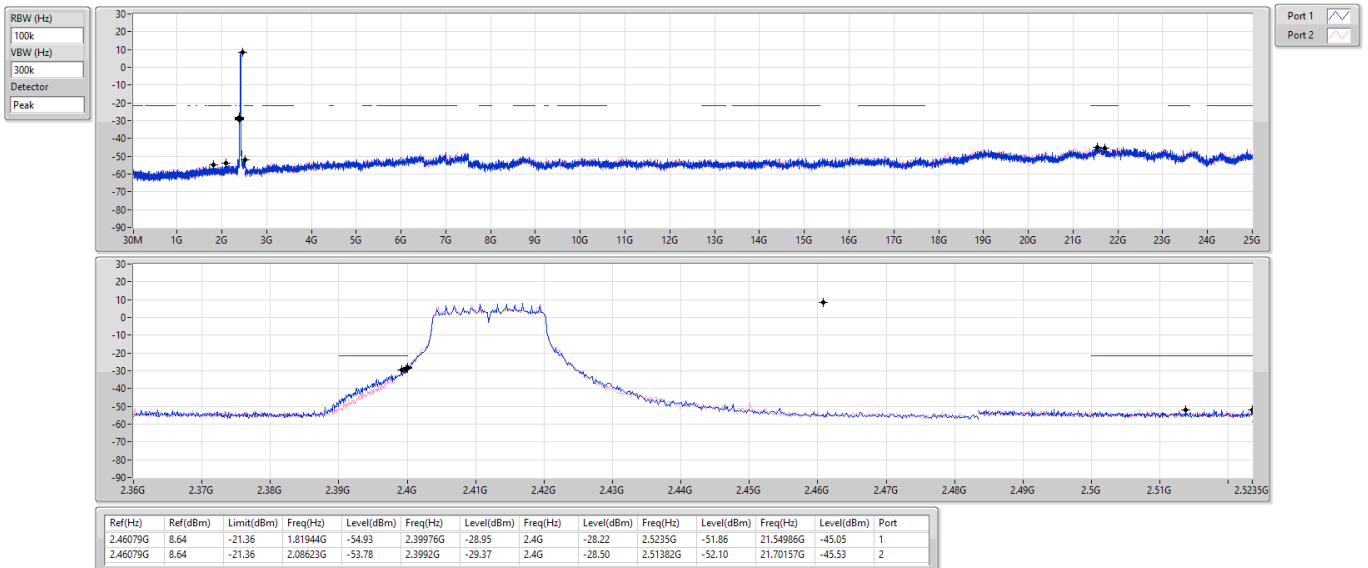


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

CSEndB

2412MHz

22/04/2024



2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_2TX

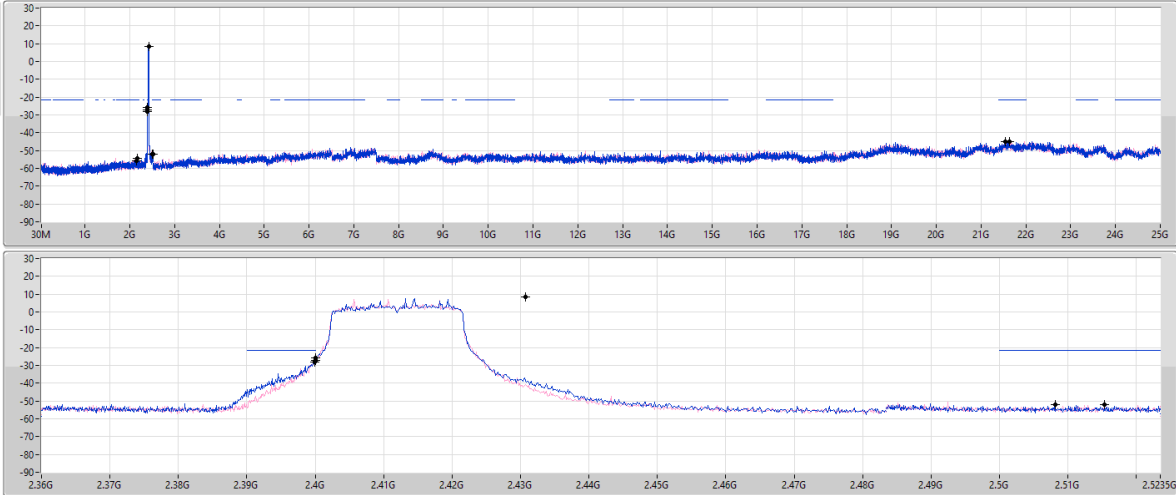
CSEndB

2412MHz

22/04/2024

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

Port 1
Port 2



2.4-2.4835GHz_802.11ax_HEW40_Nss1,(MCS0)_2TX

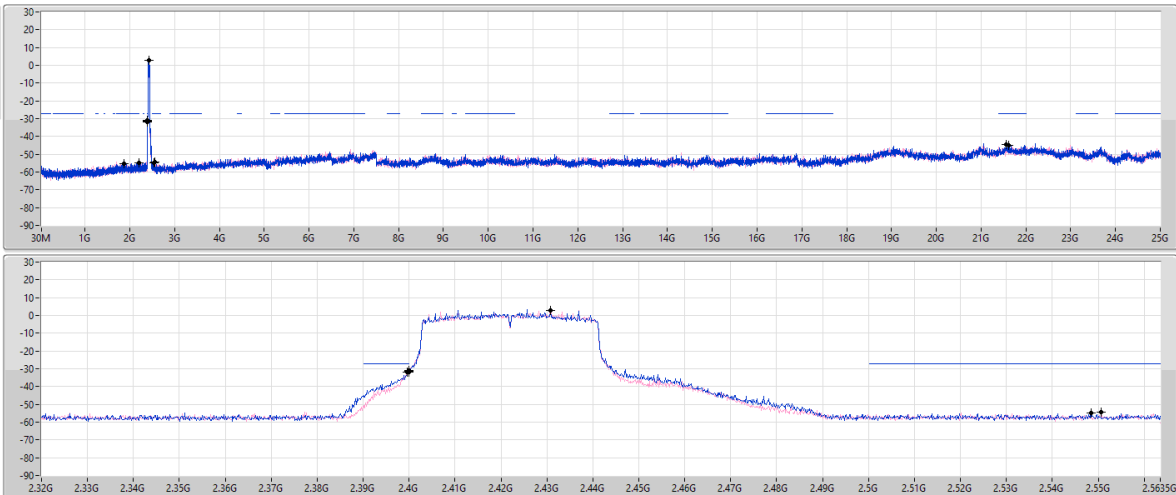
CSEndB

2422MHz

22/04/2024

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

Port 1
Port 2





Summary

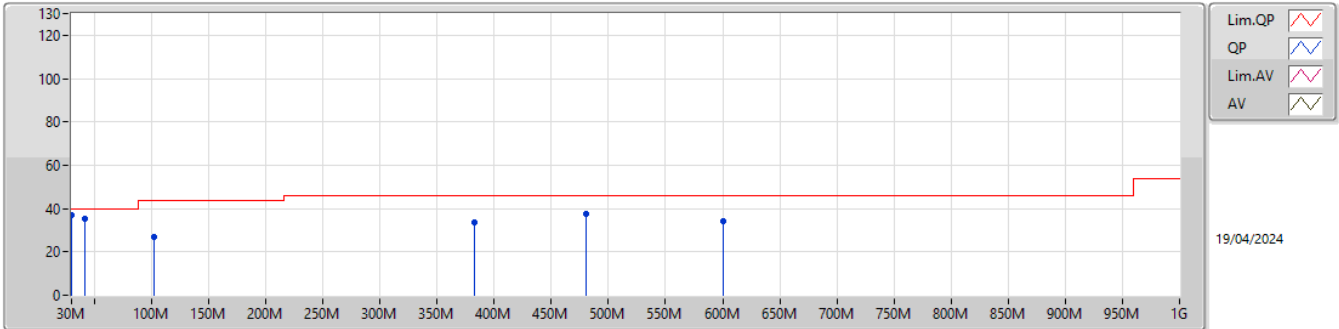
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
802.11ax HEW40_Nss1,(MCS0)_2TX	Pass	PK	30M	36.90	40.00	-3.10	3	Vertical	0	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
2437MHz	Pass	PK	30M	36.90	40.00	-3.10	3	Vertical	0	1.00
2437MHz	Pass	PK	41.64M	35.18	40.00	-4.82	3	Vertical	0	1.00
2437MHz	Pass	PK	101.78M	26.87	43.50	-16.63	3	Vertical	0	1.00
2437MHz	Pass	PK	383.08M	33.74	46.00	-12.26	3	Vertical	0	1.00
2437MHz	Pass	PK	480.08M	37.28	46.00	-8.72	3	Vertical	0	1.00
2437MHz	Pass	PK	600.36M	34.04	46.00	-11.96	3	Vertical	0	1.00
2437MHz	Pass	PK	31.94M	34.59	40.00	-5.41	3	Horizontal	360	1.00
2437MHz	Pass	PK	101.78M	24.94	43.50	-18.56	3	Horizontal	360	1.00
2437MHz	Pass	PK	239.52M	26.50	46.00	-19.50	3	Horizontal	360	1.00
2437MHz	Pass	PK	383.08M	34.14	46.00	-11.86	3	Horizontal	360	1.00
2437MHz	Pass	PK	480.08M	31.91	46.00	-14.09	3	Horizontal	360	1.00
2437MHz	Pass	PK	600.36M	31.50	46.00	-14.50	3	Horizontal	360	1.00

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

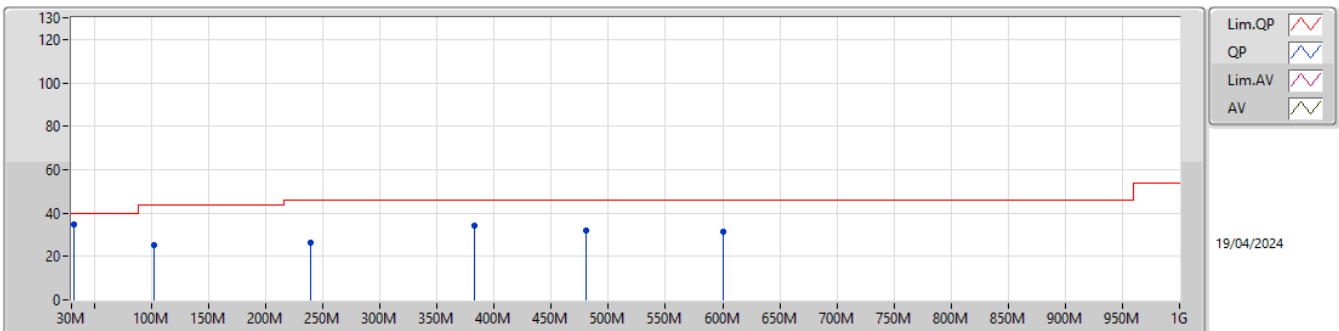
2437MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)				
PK	30M	36.90	40.00	-3.10	-18.58	3	Vertical	0	1.00	55.48	25.10	0.42	44.10				
PK	41.64M	35.18	40.00	-4.82	-24.36	3	Vertical	0	1.00	59.54	19.37	0.49	44.22				
PK	101.78M	26.87	43.50	-16.63	-27.05	3	Vertical	0	1.00	53.92	16.52	0.76	44.33				
PK	383.08M	33.74	46.00	-12.26	-20.93	3	Vertical	0	1.00	54.67	21.52	1.44	43.89				
PK	480.08M	37.28	46.00	-8.72	-18.25	3	Vertical	0	1.00	55.53	23.90	1.62	43.77				
PK	600.36M	34.04	46.00	-11.96	-15.61	3	Vertical	0	1.00	49.65	26.19	1.80	43.60				

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

2437MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)				
PK	31.94M	34.59	40.00	-5.41	-19.17	3	Horizontal	360	1.00	53.76	24.52	0.43	44.12				
PK	101.78M	24.94	43.50	-18.56	-27.05	3	Horizontal	360	1.00	51.99	16.52	0.76	44.33				
PK	239.52M	26.50	46.00	-19.50	-25.52	3	Horizontal	360	1.00	52.02	17.44	1.14	44.10				
PK	383.08M	34.14	46.00	-11.86	-20.93	3	Horizontal	360	1.00	55.07	21.52	1.44	43.89				
PK	480.08M	31.91	46.00	-14.09	-18.25	3	Horizontal	360	1.00	50.16	23.90	1.62	43.77				
PK	600.36M	31.50	46.00	-14.50	-15.61	3	Horizontal	360	1.00	47.11	26.19	1.80	43.60				

**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	AV	2.4835G	45.95	54.00	-8.05	3	Horizontal	144	1.18
802.11g_Nss1,(6Mbps)_2TX	Pass	AV	2.39G	52.13	54.00	-1.87	3	Vertical	186	1.06
802.11ax HEW20_Nss1,(MCS0)_2TX	Pass	AV	2.39G	53.46	54.00	-0.54	3	Vertical	186	1.13
802.11ax HEW40_Nss1,(MCS0)_2TX	Pass	AV	2.4864G	53.82	54.00	-0.18	3	Vertical	188	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	2.381G	44.46	54.00	-9.54	3	Vertical	90	1.50
2412MHz	Pass	AV	2.4128G	105.25	Inf	-Inf	3	Vertical	90	1.50
2412MHz	Pass	PK	2.3712G	56.13	74.00	-17.87	3	Vertical	90	1.50
2412MHz	Pass	PK	2.413G	107.74	Inf	-Inf	3	Vertical	90	1.50
2412MHz	Pass	AV	2.377G	44.41	54.00	-9.59	3	Horizontal	320	1.25
2412MHz	Pass	AV	2.4128G	105.29	Inf	-Inf	3	Horizontal	320	1.25
2412MHz	Pass	PK	2.3676G	56.89	74.00	-17.11	3	Horizontal	320	1.25
2412MHz	Pass	PK	2.413G	107.80	Inf	-Inf	3	Horizontal	320	1.25
2412MHz	Pass	AV	4.824G	38.55	54.00	-15.45	3	Vertical	139	1.84
2412MHz	Pass	PK	4.824G	44.25	74.00	-29.75	3	Vertical	139	1.84
2412MHz	Pass	AV	4.824G	37.56	54.00	-16.44	3	Horizontal	84	1.50
2412MHz	Pass	PK	4.82386G	42.94	74.00	-31.06	3	Horizontal	84	1.50
2437MHz	Pass	AV	2.3658G	44.24	54.00	-9.76	3	Vertical	89	1.13
2437MHz	Pass	AV	2.4378G	106.49	Inf	-Inf	3	Vertical	89	1.13
2437MHz	Pass	AV	2.4946G	45.08	54.00	-8.92	3	Vertical	89	1.13
2437MHz	Pass	PK	2.3502G	57.09	74.00	-16.91	3	Vertical	89	1.13
2437MHz	Pass	PK	2.4378G	109.03	Inf	-Inf	3	Vertical	89	1.13
2437MHz	Pass	PK	2.4846G	56.94	74.00	-17.06	3	Vertical	89	1.13
2437MHz	Pass	AV	2.3854G	44.37	54.00	-9.63	3	Horizontal	326	1.49
2437MHz	Pass	AV	2.4362G	105.36	Inf	-Inf	3	Horizontal	326	1.49
2437MHz	Pass	AV	2.4838G	45.00	54.00	-9.00	3	Horizontal	326	1.49
2437MHz	Pass	PK	2.3678G	57.11	74.00	-16.89	3	Horizontal	326	1.49
2437MHz	Pass	PK	2.4378G	107.89	Inf	-Inf	3	Horizontal	326	1.49
2437MHz	Pass	PK	2.4914G	56.43	74.00	-17.57	3	Horizontal	326	1.49
2437MHz	Pass	AV	4.874G	40.32	54.00	-13.68	3	Vertical	128	2.04
2437MHz	Pass	AV	7.3103G	39.50	54.00	-14.50	3	Vertical	54	1.72
2437MHz	Pass	PK	4.87428G	45.43	74.00	-28.57	3	Vertical	128	2.04
2437MHz	Pass	PK	7.31142G	49.96	74.00	-24.04	3	Vertical	54	1.72
2437MHz	Pass	AV	4.874G	34.58	54.00	-19.42	3	Horizontal	43	1.50
2437MHz	Pass	AV	7.29294G	35.93	54.00	-18.07	3	Horizontal	260	1.97
2437MHz	Pass	PK	4.87386G	42.66	74.00	-31.34	3	Horizontal	43	1.50
2437MHz	Pass	PK	7.30106G	48.08	74.00	-25.92	3	Horizontal	260	1.97
2462MHz	Pass	AV	2.4612G	109.34	Inf	-Inf	3	Vertical	275	1.26
2462MHz	Pass	AV	2.4835G	45.29	54.00	-8.71	3	Vertical	275	1.26
2462MHz	Pass	PK	2.4612G	111.79	Inf	-Inf	3	Vertical	275	1.26
2462MHz	Pass	PK	2.487G	57.14	74.00	-16.86	3	Vertical	275	1.26
2462MHz	Pass	AV	2.4612G	106.62	Inf	-Inf	3	Horizontal	144	1.18
2462MHz	Pass	AV	2.4835G	45.95	54.00	-8.05	3	Horizontal	144	1.18
2462MHz	Pass	PK	2.4628G	109.08	Inf	-Inf	3	Horizontal	144	1.18
2462MHz	Pass	PK	2.4864G	56.75	74.00	-17.25	3	Horizontal	144	1.18
2462MHz	Pass	AV	4.92396G	37.38	54.00	-16.62	3	Vertical	137	2.00
2462MHz	Pass	AV	7.38696G	36.61	54.00	-17.39	3	Vertical	121	1.60
2462MHz	Pass	PK	4.92384G	44.37	74.00	-29.63	3	Vertical	137	2.00
2462MHz	Pass	PK	7.38492G	48.20	74.00	-25.80	3	Vertical	121	1.60
2462MHz	Pass	AV	4.924G	32.96	54.00	-21.04	3	Horizontal	80	1.63
2462MHz	Pass	AV	7.38356G	35.54	54.00	-18.46	3	Horizontal	240	2.35
2462MHz	Pass	PK	4.917G	43.51	74.00	-30.49	3	Horizontal	80	1.63
2462MHz	Pass	PK	7.39192G	48.22	74.00	-25.78	3	Horizontal	240	2.35
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	2.39G	52.13	54.00	-1.87	3	Vertical	186	1.06
2412MHz	Pass	AV	2.4152G	103.46	Inf	-Inf	3	Vertical	186	1.06
2412MHz	Pass	PK	2.3892G	66.18	74.00	-7.82	3	Vertical	186	1.06
2412MHz	Pass	PK	2.415G	113.58	Inf	-Inf	3	Vertical	186	1.06
2412MHz	Pass	AV	2.3898G	48.29	54.00	-5.71	3	Horizontal	337	1.97
2412MHz	Pass	AV	2.4148G	101.44	Inf	-Inf	3	Horizontal	337	1.97
2412MHz	Pass	PK	2.39G	63.89	74.00	-10.11	3	Horizontal	337	1.97
2412MHz	Pass	PK	2.4152G	111.39	Inf	-Inf	3	Horizontal	337	1.97
2412MHz	Pass	AV	4.8264G	29.56	54.00	-24.44	3	Vertical	150	3.00
2412MHz	Pass	PK	4.8204G	43.11	74.00	-30.89	3	Vertical	150	3.00
2412MHz	Pass	AV	4.81644G	28.43	54.00	-25.57	3	Horizontal	149	1.50

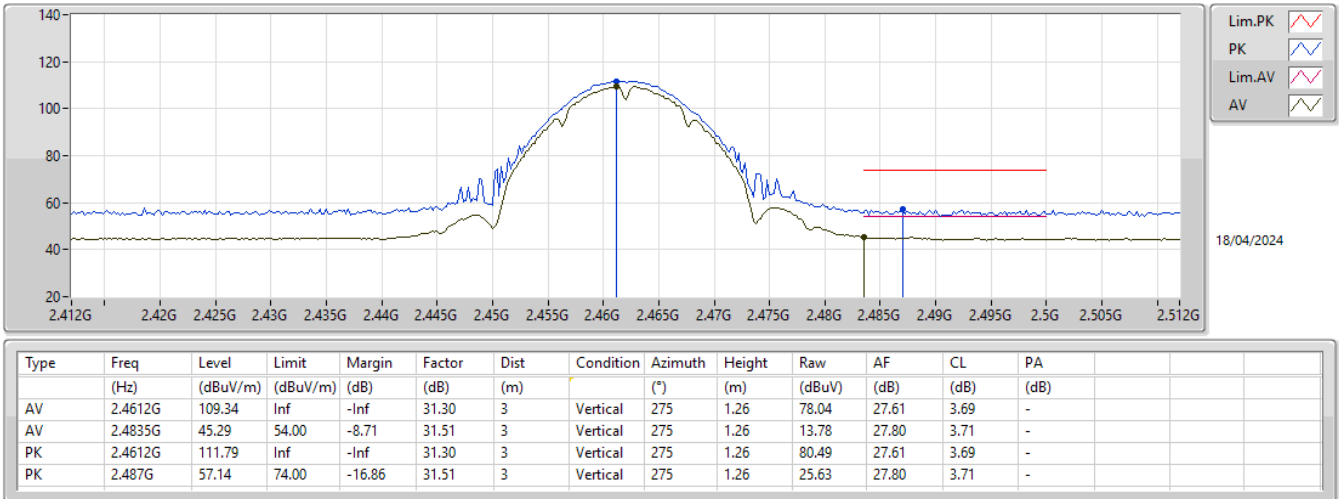
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2412MHz	Pass	PK	4.83128G	41.39	74.00	-32.61	3	Horizontal	149	1.50
2437MHz	Pass	AV	2.3898G	44.18	54.00	-9.82	3	Vertical	186	1.01
2437MHz	Pass	AV	2.4402G	104.61	Inf	-Inf	3	Vertical	186	1.01
2437MHz	Pass	AV	2.4842G	45.45	54.00	-8.55	3	Vertical	186	1.01
2437MHz	Pass	PK	2.3838G	57.29	74.00	-16.71	3	Vertical	186	1.01
2437MHz	Pass	PK	2.4354G	114.96	Inf	-Inf	3	Vertical	186	1.01
2437MHz	Pass	PK	2.4902G	58.59	74.00	-15.41	3	Vertical	186	1.01
2437MHz	Pass	AV	2.3854G	43.69	54.00	-10.31	3	Horizontal	332	1.88
2437MHz	Pass	AV	2.4306G	100.24	Inf	-Inf	3	Horizontal	332	1.88
2437MHz	Pass	AV	2.4842G	44.37	54.00	-9.63	3	Horizontal	332	1.88
2437MHz	Pass	PK	2.3726G	57.53	74.00	-16.47	3	Horizontal	332	1.88
2437MHz	Pass	PK	2.4306G	110.36	Inf	-Inf	3	Horizontal	332	1.88
2437MHz	Pass	PK	2.4994G	57.90	74.00	-16.10	3	Horizontal	332	1.88
2437MHz	Pass	AV	4.87396G	30.16	54.00	-23.84	3	Vertical	138	2.21
2437MHz	Pass	AV	7.30208G	35.56	54.00	-18.44	3	Vertical	324	2.38
2437MHz	Pass	PK	4.87564G	43.19	74.00	-30.81	3	Vertical	138	2.21
2437MHz	Pass	PK	7.31724G	48.70	74.00	-25.30	3	Vertical	324	2.38
2437MHz	Pass	AV	4.8644G	29.17	54.00	-24.83	3	Horizontal	146	1.71
2437MHz	Pass	AV	7.30172G	35.36	54.00	-18.64	3	Horizontal	334	2.15
2437MHz	Pass	PK	4.87736G	42.90	74.00	-31.10	3	Horizontal	146	1.71
2437MHz	Pass	PK	7.30228G	48.80	74.00	-25.20	3	Horizontal	334	2.15
2462MHz	Pass	AV	2.4652G	104.69	Inf	-Inf	3	Vertical	185	1.50
2462MHz	Pass	AV	2.485G	51.54	54.00	-2.46	3	Vertical	185	1.50
2462MHz	Pass	PK	2.465G	114.86	Inf	-Inf	3	Vertical	185	1.50
2462MHz	Pass	PK	2.4856G	66.49	74.00	-7.51	3	Vertical	185	1.50
2462MHz	Pass	AV	2.461G	101.25	Inf	-Inf	3	Horizontal	139	1.37
2462MHz	Pass	AV	2.4835G	50.34	54.00	-3.66	3	Horizontal	139	1.37
2462MHz	Pass	PK	2.4612G	111.32	Inf	-Inf	3	Horizontal	139	1.37
2462MHz	Pass	PK	2.4864G	64.16	74.00	-9.84	3	Horizontal	139	1.37
2462MHz	Pass	AV	4.9336G	29.50	54.00	-24.50	3	Vertical	256	1.50
2462MHz	Pass	AV	7.3766G	34.63	54.00	-19.37	3	Vertical	87	1.42
2462MHz	Pass	PK	4.92476G	43.41	74.00	-30.59	3	Vertical	256	1.50
2462MHz	Pass	PK	7.383G	47.45	74.00	-26.55	3	Vertical	87	1.42
2462MHz	Pass	AV	4.92272G	29.54	54.00	-24.46	3	Horizontal	277	1.69
2462MHz	Pass	AV	7.37696G	34.68	54.00	-19.32	3	Horizontal	101	2.58
2462MHz	Pass	PK	4.9216G	42.90	74.00	-31.10	3	Horizontal	277	1.69
2462MHz	Pass	PK	7.39024G	47.60	74.00	-26.40	3	Horizontal	101	2.58
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	2.39G	53.46	54.00	-0.54	3	Vertical	186	1.13
2412MHz	Pass	AV	2.4178G	102.08	Inf	-Inf	3	Vertical	186	1.13
2412MHz	Pass	PK	2.3896G	66.80	74.00	-7.20	3	Vertical	186	1.13
2412MHz	Pass	PK	2.418G	115.11	Inf	-Inf	3	Vertical	186	1.13
2412MHz	Pass	AV	2.39G	46.75	54.00	-7.25	3	Horizontal	332	1.98
2412MHz	Pass	AV	2.408G	99.59	Inf	-Inf	3	Horizontal	332	1.98
2412MHz	Pass	PK	2.39G	61.86	74.00	-12.14	3	Horizontal	332	1.98
2412MHz	Pass	PK	2.408G	113.25	Inf	-Inf	3	Horizontal	332	1.98
2412MHz	Pass	AV	4.82568G	28.77	54.00	-25.23	3	Vertical	143	2.11
2412MHz	Pass	PK	4.82572G	41.91	74.00	-32.09	3	Vertical	143	2.11
2412MHz	Pass	AV	4.815G	27.82	54.00	-26.18	3	Horizontal	231	1.75
2412MHz	Pass	PK	4.8212G	41.71	74.00	-32.29	3	Horizontal	231	1.75
2437MHz	Pass	AV	2.3898G	43.57	54.00	-10.43	3	Vertical	189	1.00
2437MHz	Pass	AV	2.4342G	103.41	Inf	-Inf	3	Vertical	189	1.00
2437MHz	Pass	AV	2.4835G	44.83	54.00	-9.17	3	Vertical	189	1.00
2437MHz	Pass	PK	2.375G	56.90	74.00	-17.10	3	Vertical	189	1.00
2437MHz	Pass	PK	2.4342G	116.70	Inf	-Inf	3	Vertical	189	1.00
2437MHz	Pass	PK	2.4878G	58.66	74.00	-15.34	3	Vertical	189	1.00
2437MHz	Pass	AV	2.3898G	43.28	54.00	-10.72	3	Horizontal	335	1.89
2437MHz	Pass	AV	2.4334G	99.41	Inf	-Inf	3	Horizontal	335	1.89
2437MHz	Pass	AV	2.4838G	44.19	54.00	-9.81	3	Horizontal	335	1.89
2437MHz	Pass	PK	2.3782G	57.01	74.00	-16.99	3	Horizontal	335	1.89
2437MHz	Pass	PK	2.4322G	112.92	Inf	-Inf	3	Horizontal	335	1.89
2437MHz	Pass	PK	2.4874G	57.71	74.00	-16.29	3	Horizontal	335	1.89

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2437MHz	Pass	AV	4.8644G	29.38	54.00	-24.62	3	Vertical	140	2.24
2437MHz	Pass	AV	7.30372G	34.81	54.00	-19.19	3	Vertical	174	1.91
2437MHz	Pass	PK	4.86424G	42.88	74.00	-31.12	3	Vertical	140	2.24
2437MHz	Pass	PK	7.3024G	48.67	74.00	-25.33	3	Vertical	174	1.91
2437MHz	Pass	AV	4.86456G	28.40	54.00	-25.60	3	Horizontal	313	1.20
2437MHz	Pass	AV	7.30124G	34.65	54.00	-19.35	3	Horizontal	85	1.07
2437MHz	Pass	PK	4.8642G	41.89	74.00	-32.11	3	Horizontal	313	1.20
2437MHz	Pass	PK	7.3098G	48.46	74.00	-25.54	3	Horizontal	85	1.07
2462MHz	Pass	AV	2.459G	103.83	Inf	-Inf	3	Vertical	187	1.00
2462MHz	Pass	AV	2.4835G	50.11	54.00	-3.89	3	Vertical	187	1.00
2462MHz	Pass	PK	2.4592G	118.07	Inf	-Inf	3	Vertical	187	1.00
2462MHz	Pass	PK	2.487G	66.91	74.00	-7.09	3	Vertical	187	1.00
2462MHz	Pass	AV	2.4604G	100.13	Inf	-Inf	3	Horizontal	141	1.38
2462MHz	Pass	AV	2.4835G	51.37	54.00	-2.63	3	Horizontal	141	1.38
2462MHz	Pass	PK	2.4612G	113.82	Inf	-Inf	3	Horizontal	141	1.38
2462MHz	Pass	PK	2.4835G	67.29	74.00	-6.71	3	Horizontal	141	1.38
2462MHz	Pass	AV	4.92584G	29.18	54.00	-24.82	3	Vertical	211	2.82
2462MHz	Pass	AV	7.38664G	34.10	54.00	-19.90	3	Vertical	170	2.34
2462MHz	Pass	PK	4.92168G	42.93	74.00	-31.07	3	Vertical	211	2.82
2462MHz	Pass	PK	7.38812G	48.34	74.00	-25.66	3	Vertical	170	2.34
2462MHz	Pass	AV	4.92476G	28.89	54.00	-25.11	3	Horizontal	197	2.66
2462MHz	Pass	AV	7.3916G	34.04	54.00	-19.96	3	Horizontal	284	1.27
2462MHz	Pass	PK	4.92688G	42.45	74.00	-31.55	3	Horizontal	197	2.66
2462MHz	Pass	PK	7.391G	47.96	74.00	-26.04	3	Horizontal	284	1.27
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	AV	2.3896G	52.58	54.00	-1.42	3	Vertical	188	1.00
2422MHz	Pass	AV	2.4284G	99.39	Inf	-Inf	3	Vertical	188	1.00
2422MHz	Pass	AV	2.4848G	46.28	54.00	-7.72	3	Vertical	188	1.00
2422MHz	Pass	PK	2.3896G	66.79	74.00	-7.21	3	Vertical	188	1.00
2422MHz	Pass	PK	2.4284G	113.84	Inf	-Inf	3	Vertical	188	1.00
2422MHz	Pass	PK	2.4856G	60.95	74.00	-13.05	3	Vertical	188	1.00
2422MHz	Pass	AV	2.39G	49.19	54.00	-4.81	3	Horizontal	327	1.50
2422MHz	Pass	AV	2.4204G	96.12	Inf	-Inf	3	Horizontal	327	1.50
2422MHz	Pass	AV	2.484G	44.58	54.00	-9.42	3	Horizontal	327	1.50
2422MHz	Pass	PK	2.3896G	62.05	74.00	-11.95	3	Horizontal	327	1.50
2422MHz	Pass	PK	2.4196G	110.50	Inf	-Inf	3	Horizontal	327	1.50
2422MHz	Pass	PK	2.484G	58.58	74.00	-15.42	3	Horizontal	327	1.50
2422MHz	Pass	AV	4.84668G	28.34	54.00	-25.66	3	Vertical	40	1.50
2422MHz	Pass	AV	7.26136G	34.49	54.00	-19.51	3	Vertical	201	2.20
2422MHz	Pass	PK	4.84852G	42.23	74.00	-31.77	3	Vertical	40	1.50
2422MHz	Pass	PK	7.26872G	48.15	74.00	-25.85	3	Vertical	201	2.20
2422MHz	Pass	AV	4.84864G	28.21	54.00	-25.79	3	Horizontal	311	2.00
2422MHz	Pass	AV	7.2696G	34.49	54.00	-19.51	3	Horizontal	184	1.79
2422MHz	Pass	PK	4.842G	41.81	74.00	-32.19	3	Horizontal	311	2.00
2422MHz	Pass	PK	7.26964G	49.21	74.00	-24.79	3	Horizontal	184	1.79
2437MHz	Pass	AV	2.3898G	49.72	54.00	-4.28	3	Vertical	189	1.00
2437MHz	Pass	AV	2.4338G	99.38	Inf	-Inf	3	Vertical	189	1.00
2437MHz	Pass	AV	2.4835G	53.14	54.00	-0.86	3	Vertical	189	1.00
2437MHz	Pass	PK	2.3898G	62.73	74.00	-11.27	3	Vertical	189	1.00
2437MHz	Pass	PK	2.433G	113.11	Inf	-Inf	3	Vertical	189	1.00
2437MHz	Pass	PK	2.4838G	67.79	74.00	-6.21	3	Vertical	189	1.00
2437MHz	Pass	AV	2.3898G	48.39	54.00	-5.61	3	Horizontal	330	1.54
2437MHz	Pass	AV	2.425G	95.91	Inf	-Inf	3	Horizontal	330	1.54
2437MHz	Pass	AV	2.4835G	48.65	54.00	-5.35	3	Horizontal	330	1.54
2437MHz	Pass	PK	2.3898G	60.62	74.00	-13.38	3	Horizontal	330	1.54
2437MHz	Pass	PK	2.4238G	109.42	Inf	-Inf	3	Horizontal	330	1.54
2437MHz	Pass	PK	2.4846G	62.74	74.00	-11.26	3	Horizontal	330	1.54
2437MHz	Pass	AV	4.86524G	28.67	54.00	-25.33	3	Vertical	106	1.97
2437MHz	Pass	AV	7.30196G	34.84	54.00	-19.16	3	Vertical	186	1.27
2437MHz	Pass	PK	4.87216G	42.20	74.00	-31.80	3	Vertical	106	1.97
2437MHz	Pass	PK	7.30304G	48.45	74.00	-25.55	3	Vertical	186	1.27
2437MHz	Pass	AV	4.86428G	28.54	54.00	-25.46	3	Horizontal	195	2.37

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2437MHz	Pass	AV	7.30128G	34.60	54.00	-19.40	3	Horizontal	340	2.46
2437MHz	Pass	PK	4.8662G	42.02	74.00	-31.98	3	Horizontal	195	2.37
2437MHz	Pass	PK	7.31256G	48.36	74.00	-25.64	3	Horizontal	340	2.46
2447MHz	Pass	PK	2.3666G	57.11	74.00	-16.89	3	Vertical	188	1.26
2447MHz	Pass	AV	2.389G	43.41	54.00	-10.59	3	Vertical	188	1.26
2447MHz	Pass	PK	2.4538G	111.90	Inf	-Inf	3	Vertical	188	1.26
2447MHz	Pass	AV	2.4538G	98.51	Inf	-Inf	3	Vertical	188	1.26
2447MHz	Pass	PK	2.4842G	68.41	74.00	-5.59	3	Vertical	188	1.26
2447MHz	Pass	AV	2.4835G	53.52	54.00	-0.48	3	Vertical	188	1.26
2447MHz	Pass	PK	2.3826G	56.90	74.00	-17.10	3	Horizontal	141	1.00
2447MHz	Pass	AV	2.3858G	43.16	54.00	-10.84	3	Horizontal	141	1.00
2447MHz	Pass	PK	2.4566G	108.48	Inf	-Inf	3	Horizontal	141	1.00
2447MHz	Pass	AV	2.457G	94.63	Inf	-Inf	3	Horizontal	141	1.00
2447MHz	Pass	PK	2.4842G	64.95	74.00	-9.05	3	Horizontal	141	1.00
2447MHz	Pass	AV	2.4838G	49.53	54.00	-4.47	3	Horizontal	141	1.00
2452MHz	Pass	AV	2.39G	43.61	54.00	-10.39	3	Vertical	188	1.00
2452MHz	Pass	AV	2.4592G	99.78	Inf	-Inf	3	Vertical	188	1.00
2452MHz	Pass	AV	2.4864G	53.82	54.00	-0.18	3	Vertical	188	1.00
2452MHz	Pass	PK	2.3772G	57.44	74.00	-16.56	3	Vertical	188	1.00
2452MHz	Pass	PK	2.4484G	113.17	Inf	-Inf	3	Vertical	188	1.00
2452MHz	Pass	PK	2.4848G	73.01	74.00	-0.99	3	Vertical	188	1.00
2452MHz	Pass	AV	2.39G	43.19	54.00	-10.81	3	Horizontal	139	1.34
2452MHz	Pass	AV	2.4604G	96.08	Inf	-Inf	3	Horizontal	139	1.34
2452MHz	Pass	AV	2.4835G	50.83	54.00	-3.17	3	Horizontal	139	1.34
2452MHz	Pass	PK	2.3652G	57.57	74.00	-16.43	3	Horizontal	139	1.34
2452MHz	Pass	PK	2.4608G	110.09	Inf	-Inf	3	Horizontal	139	1.34
2452MHz	Pass	PK	2.4848G	69.46	74.00	-4.54	3	Horizontal	139	1.34
2452MHz	Pass	AV	4.90828G	28.88	54.00	-25.12	3	Vertical	163	2.50
2452MHz	Pass	AV	7.3574G	34.55	54.00	-19.45	3	Vertical	296	2.22
2452MHz	Pass	PK	4.89504G	42.59	74.00	-31.41	3	Vertical	163	2.50
2452MHz	Pass	PK	7.36128G	48.93	74.00	-25.07	3	Vertical	296	2.22
2452MHz	Pass	AV	4.90856G	28.78	54.00	-25.22	3	Horizontal	324	2.05
2452MHz	Pass	AV	7.3512G	34.52	54.00	-19.48	3	Horizontal	335	2.75
2452MHz	Pass	PK	4.89492G	42.62	74.00	-31.38	3	Horizontal	324	2.05
2452MHz	Pass	PK	7.34664G	47.64	74.00	-26.36	3	Horizontal	335	2.75

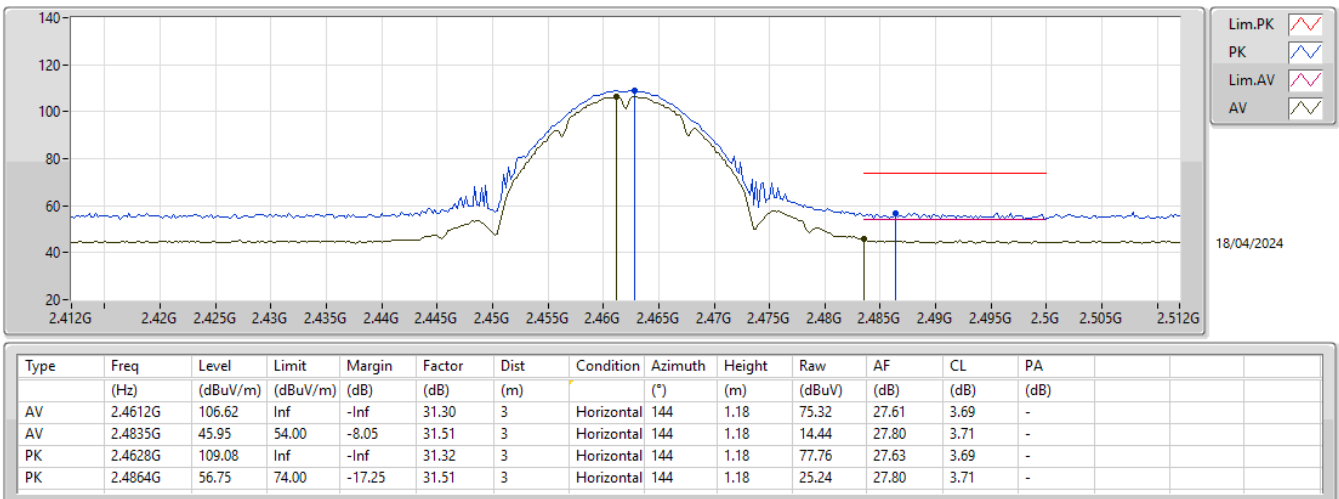
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2462MHz_TX



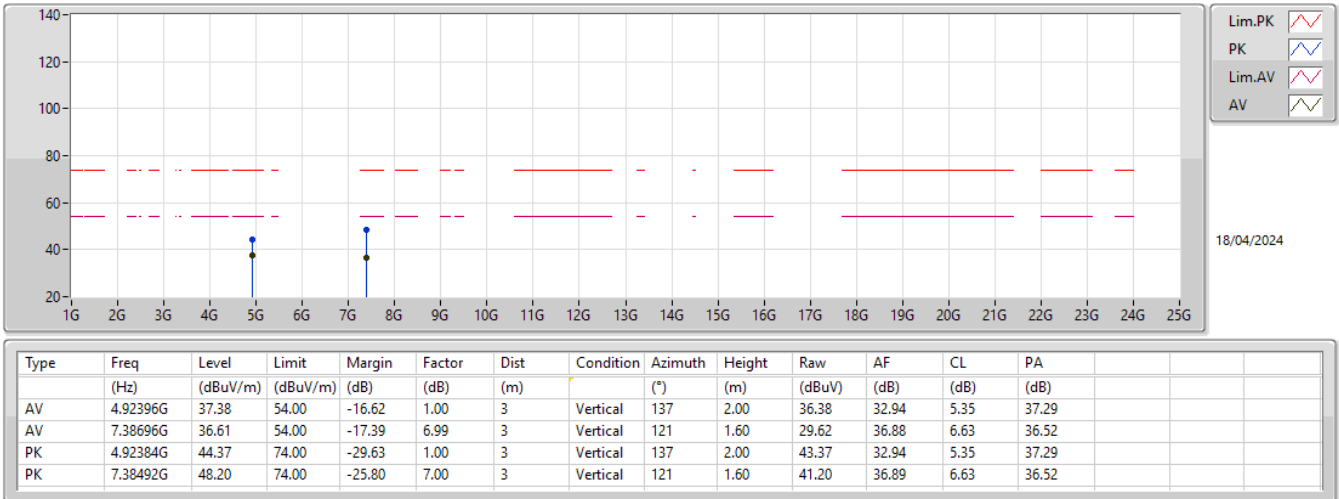
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2462MHz_TX



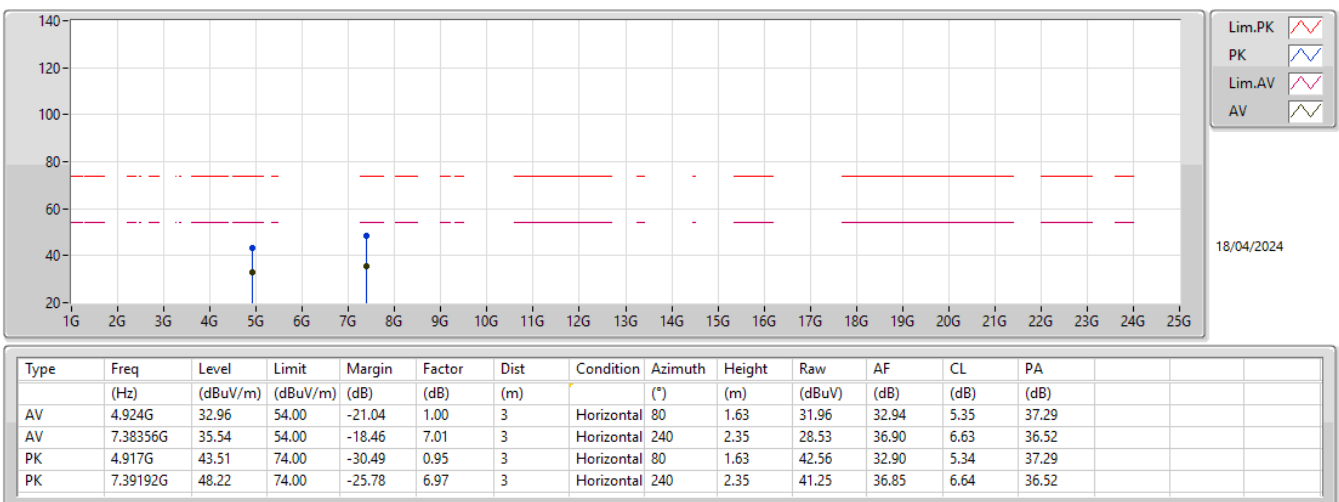
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2462MHz_TX



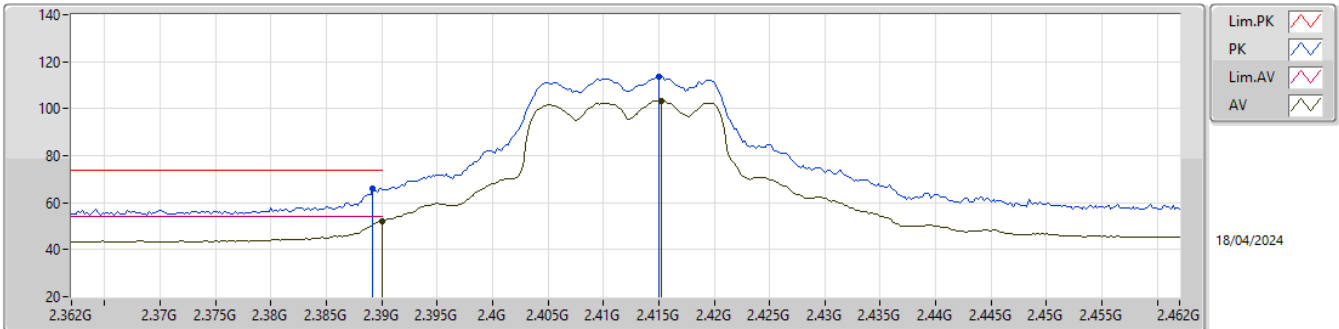
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2462MHz_TX



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

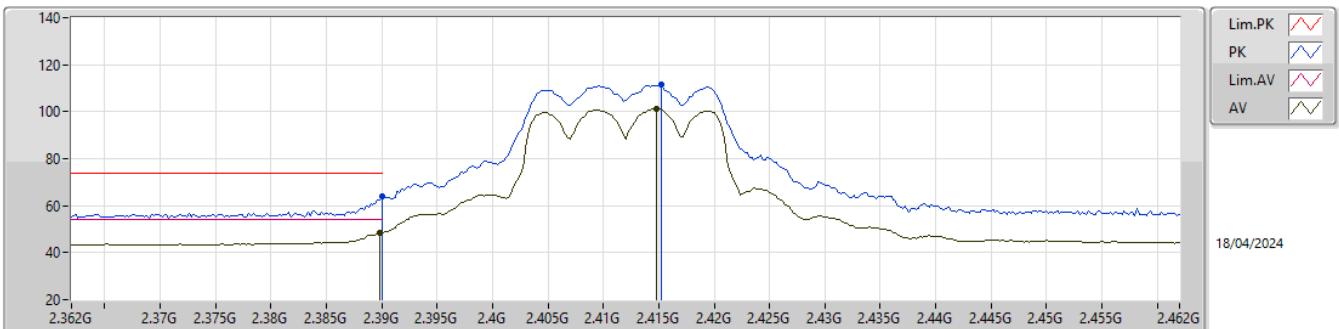
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Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.39G	52.13	54.00	-1.87	31.23	3	Vertical	186	1.06	20.90	27.60	3.63	-
AV	2.4152G	103.46	Inf	-Inf	31.35	3	Vertical	186	1.06	72.11	27.70	3.65	-
PK	2.3892G	66.18	74.00	-7.82	31.22	3	Vertical	186	1.06	34.96	27.59	3.63	-
PK	2.415G	113.58	Inf	-Inf	31.35	3	Vertical	186	1.06	82.23	27.70	3.65	-

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

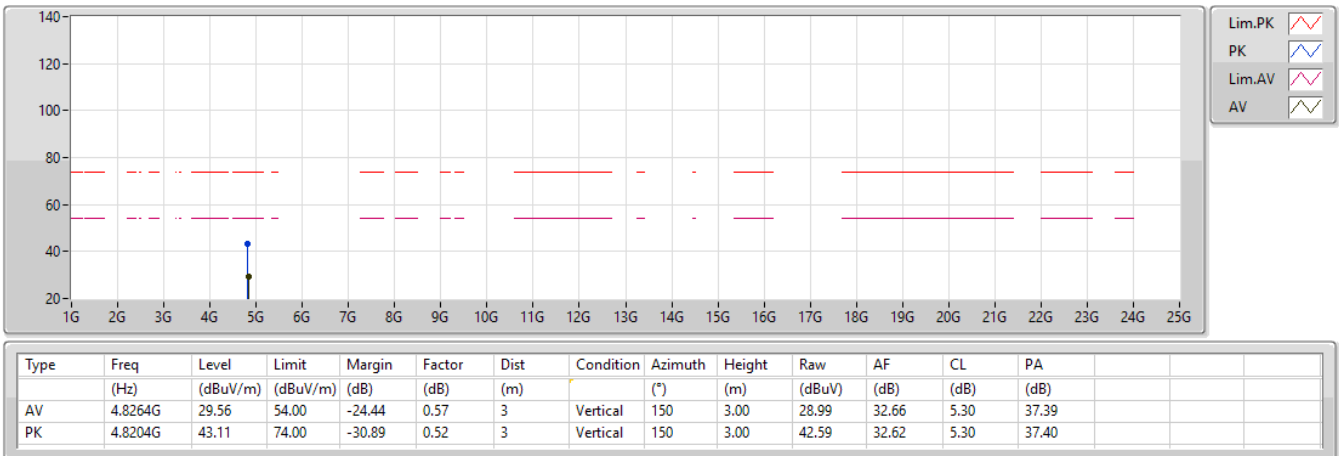
2412MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3898G	48.29	54.00	-5.71	31.23	3	Horizontal	337	1.97	17.06	27.60	3.63	-
AV	2.4148G	101.44	Inf	-Inf	31.35	3	Horizontal	337	1.97	70.09	27.70	3.65	-
PK	2.39G	63.89	74.00	-10.11	31.23	3	Horizontal	337	1.97	32.66	27.60	3.63	-
PK	2.4152G	111.39	Inf	-Inf	31.35	3	Horizontal	337	1.97	80.04	27.70	3.65	-

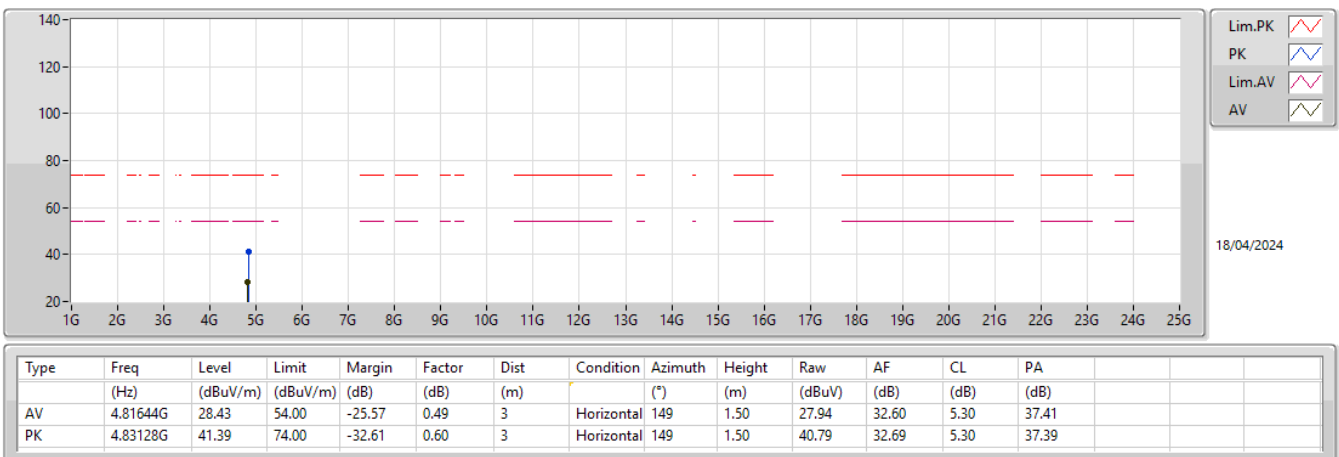
2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX



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

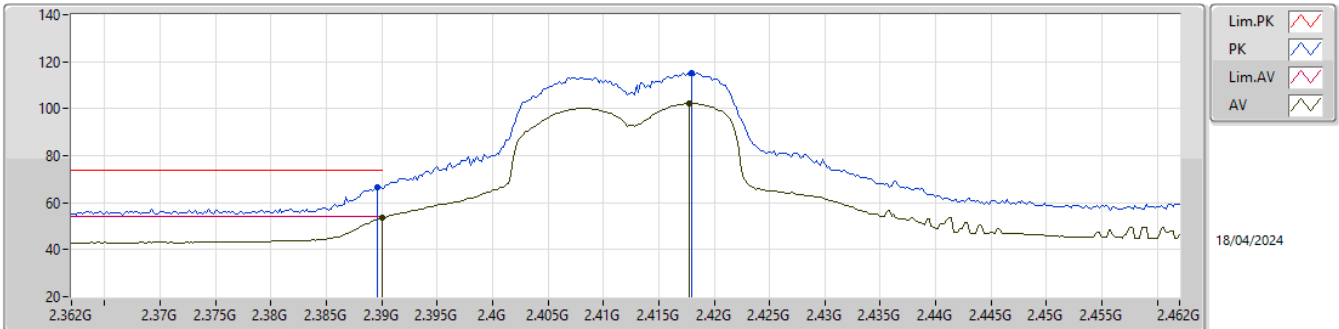
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18/04/2024

2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_2TX

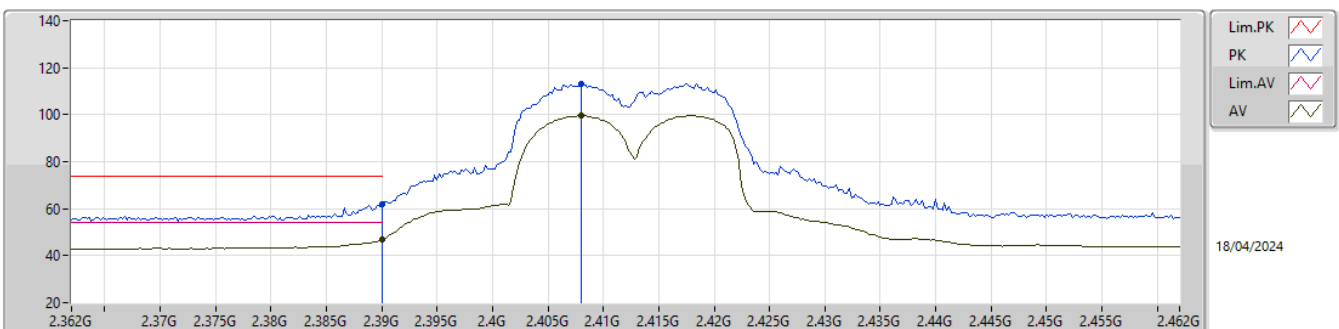
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Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.39G	53.46	54.00	-0.54	31.23	3	Vertical	186	1.13	22.23	27.60	3.63	-
AV	2.4178G	102.08	Inf	-Inf	31.35	3	Vertical	186	1.13	70.73	27.70	3.65	-
PK	2.3896G	66.80	74.00	-7.20	31.23	3	Vertical	186	1.13	35.57	27.60	3.63	-
PK	2.418G	115.11	Inf	-Inf	31.35	3	Vertical	186	1.13	83.76	27.70	3.65	-

2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_2TX

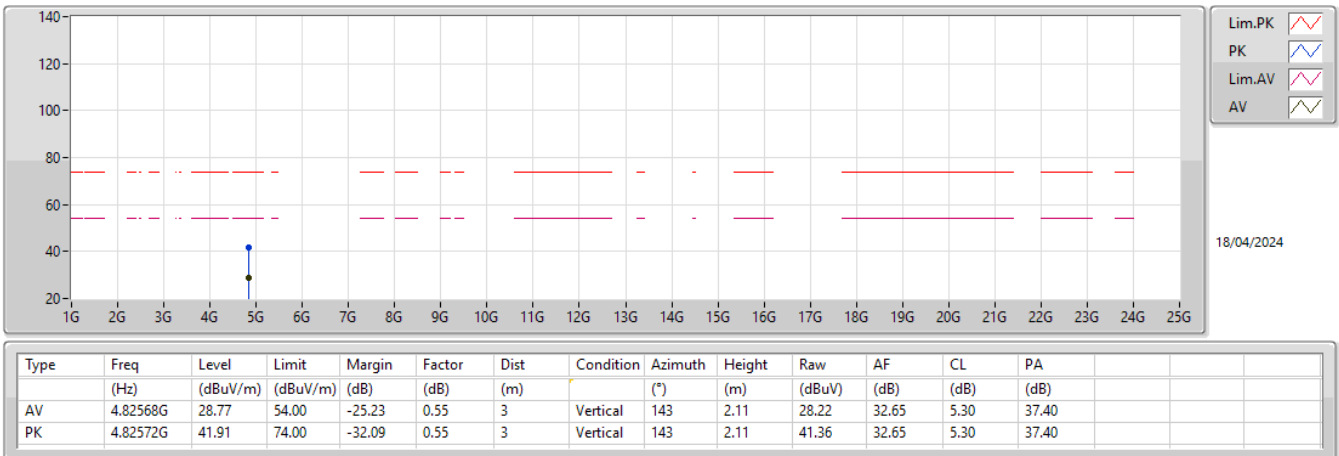
2412MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.39G	46.75	54.00	-7.25	31.23	3	Horizontal	332	1.98	15.52	27.60	3.63	-
AV	2.408G	99.59	Inf	-Inf	31.35	3	Horizontal	332	1.98	68.24	27.70	3.65	-
PK	2.39G	61.86	74.00	-12.14	31.23	3	Horizontal	332	1.98	30.63	27.60	3.63	-
PK	2.408G	113.25	Inf	-Inf	31.35	3	Horizontal	332	1.98	81.90	27.70	3.65	-

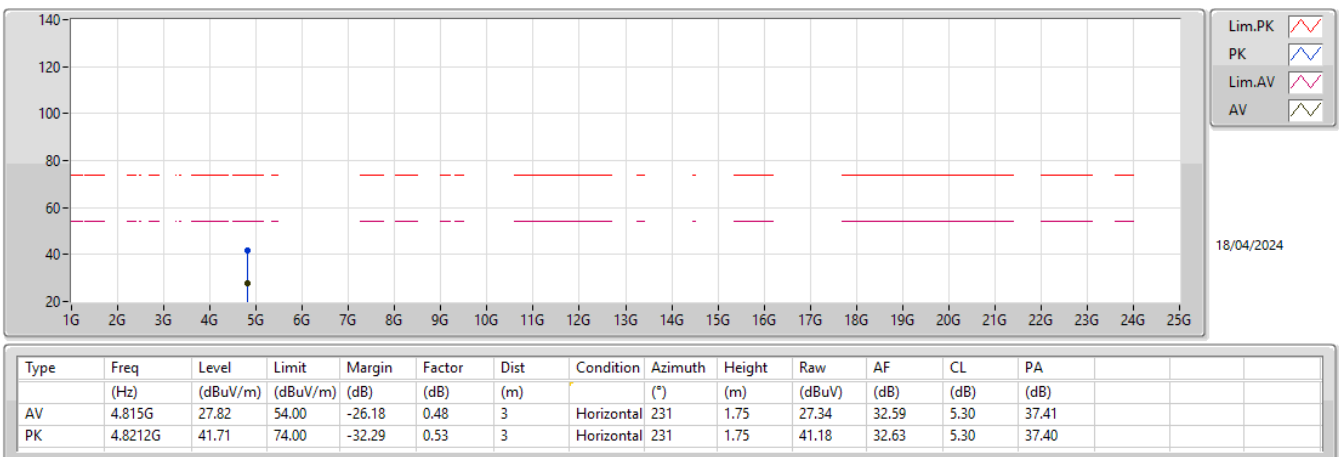
2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

2412MHz_TX



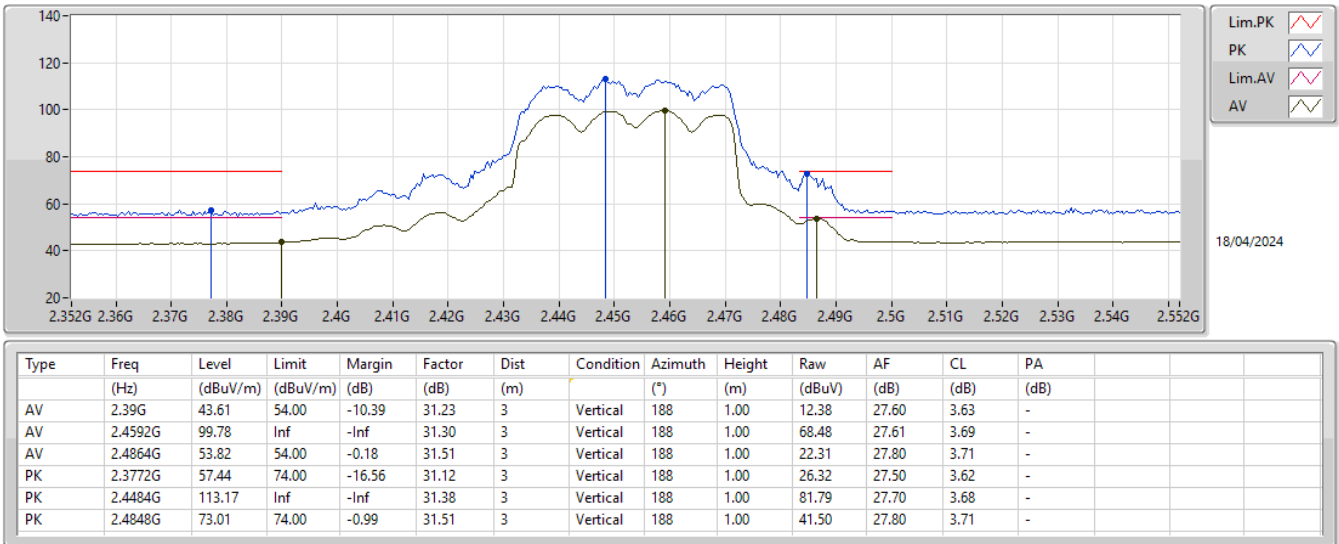
2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

2412MHz_TX



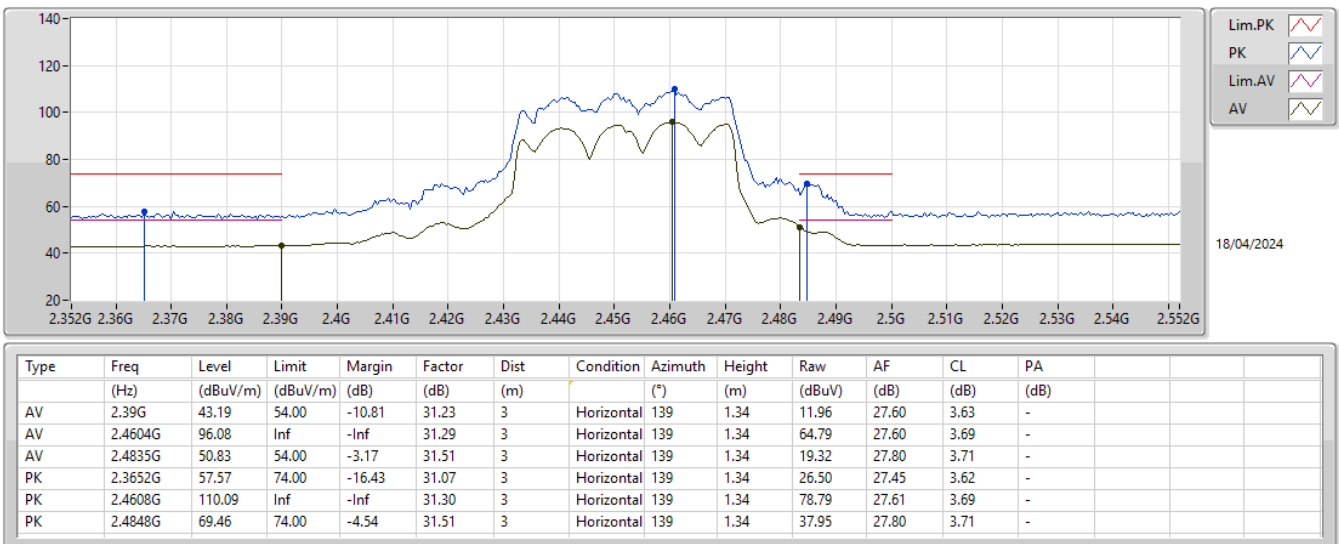
2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

2452MHz_TX



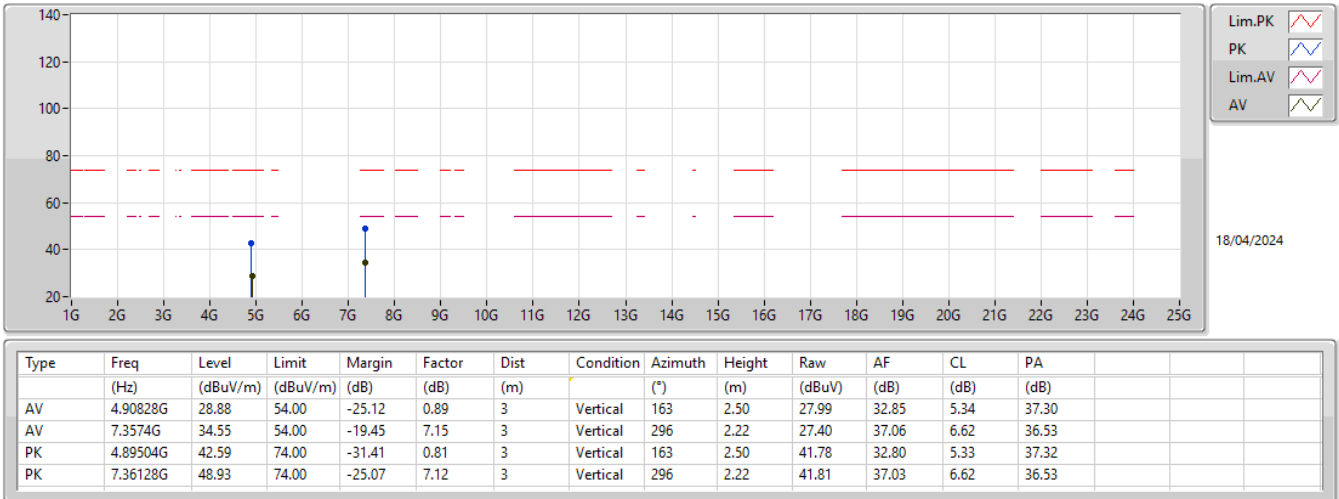
2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

2452MHz_TX



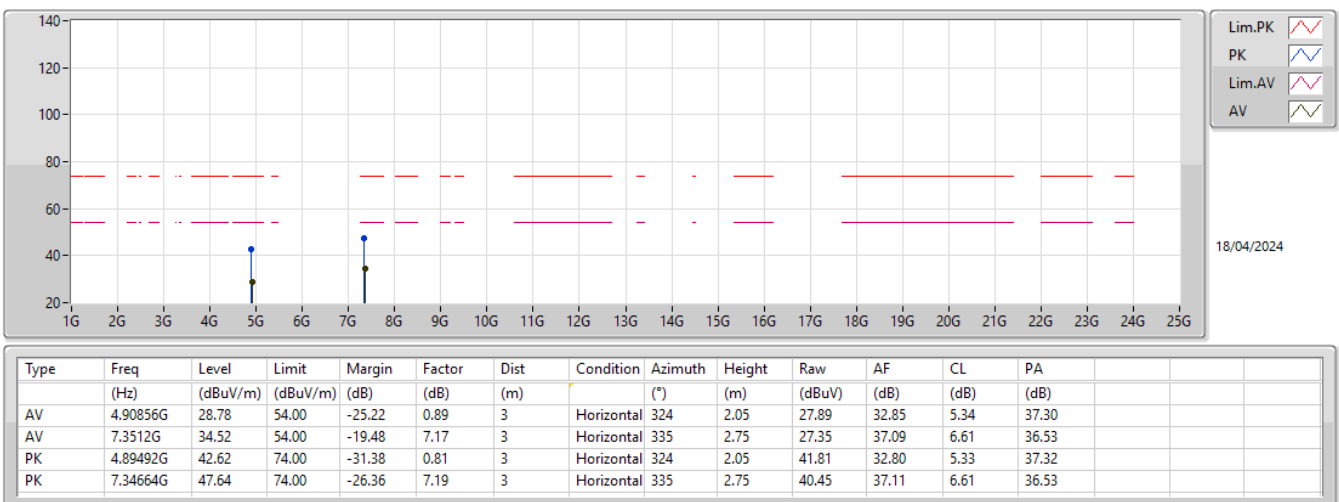
2.4-2.4835GHz_802.11ax_HEW40_Nss1,(MCS0)_2TX

2452MHz_TX



2.4-2.4835GHz_802.11ax_HEW40_Nss1,(MCS0)_2TX

2452MHz_TX





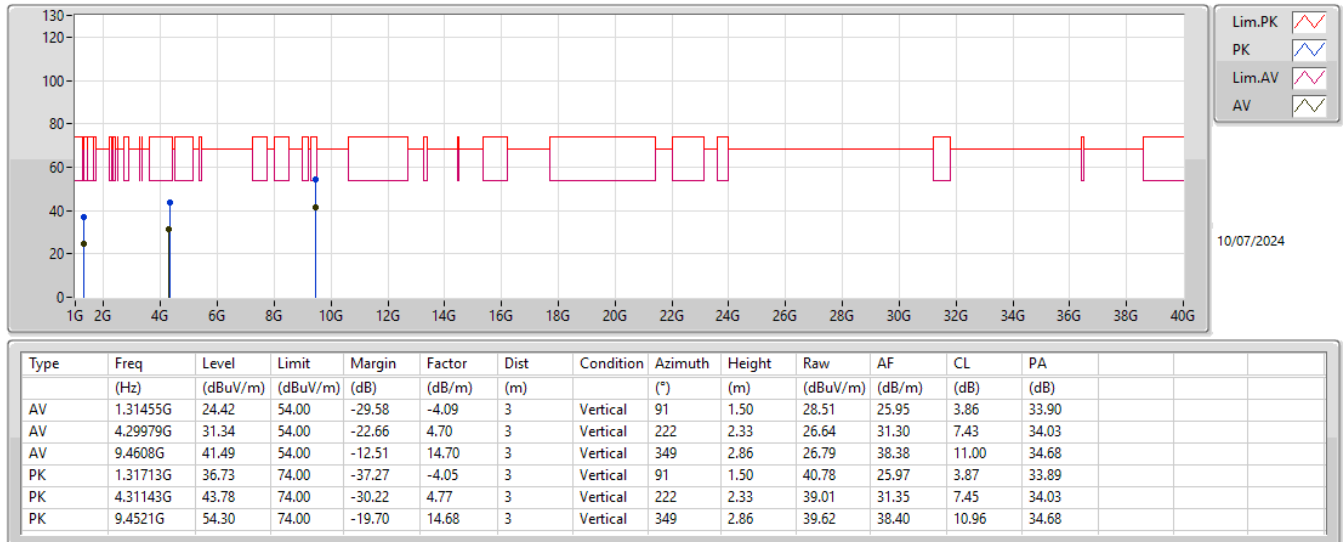
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	9.4608G	41.49	54.00	-12.51	Vertical

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Mode 1	Pass	AV	1.31455G	24.42	54.00	-29.58	3	Vertical	91	1.50
Mode 1	Pass	AV	4.29979G	31.34	54.00	-22.66	3	Vertical	222	2.33
Mode 1	Pass	AV	9.4608G	41.49	54.00	-12.51	3	Vertical	349	2.86
Mode 1	Pass	PK	1.31713G	36.73	74.00	-37.27	3	Vertical	91	1.50
Mode 1	Pass	PK	4.31143G	43.78	74.00	-30.22	3	Vertical	222	2.33
Mode 1	Pass	PK	9.4521G	54.30	74.00	-19.70	3	Vertical	349	2.86
Mode 1	Pass	AV	1.31537G	24.51	54.00	-29.49	3	Horizontal	238	1.50
Mode 1	Pass	AV	4.29876G	31.44	54.00	-22.56	3	Horizontal	245	2.43
Mode 1	Pass	AV	9.45776G	41.42	54.00	-12.58	3	Horizontal	254	3.00
Mode 1	Pass	PK	1.31258G	37.20	74.00	-36.80	3	Horizontal	238	1.50
Mode 1	Pass	PK	4.29972G	44.69	74.00	-29.31	3	Horizontal	245	2.43
Mode 1	Pass	PK	9.45991G	54.74	74.00	-19.26	3	Horizontal	254	3.00

Radiated Emissions above 1GHz_Mode 1



Radiated Emissions above 1GHz_Mode 1

