



RADIO TEST REPORT

FCC ID : ZQ6-AP6275S
Equipment : Wi-Fi/Bluetooth Module
Brand Name : AMPAK Technology Inc.
Model Name : AP6275S
Applicant : AMPAK Technology Inc.
3F, No. 1, Jen Ai Road, Hsinchu Industrial Park, Hsinchu
City 30352 , Taiwan (R.O.C.)
Manufacturer : BILLIONTON SYSTEMS INC.
No. 21, Sui-Lih Rd., Hsin-Chu City 300, Taiwan (R.O.C.)
Standard : 47 CFR FCC Part 15.247

The product was received on Jun. 17, 2024, and testing was started from Jun. 22, 2024 and completed on Sep. 10, 2024. 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: Rex Liao

Sporton International Inc. Hsinchu Laboratory

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



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 Information.....	5
1.2 Applicable Standards	8
1.3 Testing Location Information	8
1.4 Measurement Uncertainty	9
2 Test Configuration of EUT	10
2.1 Test Channel Mode	10
2.2 The Worst Case Measurement Configuration	10
2.3 EUT Operation during Test	11
2.4 Accessories	11
2.5 Support Equipment.....	12
2.6 Test Setup Diagram	13
3 Transmitter Test Result	16
3.1 AC Power-line Conducted Emissions	16
3.2 DTS Bandwidth.....	18
3.3 Maximum Conducted Output Power	19
3.4 Power Spectral Density	21
3.5 Emissions in Non-restricted Frequency Bands	23
3.6 Emissions in Restricted Frequency Bands.....	24
4 Test Equipment and Calibration Data	28
Appendix A. Test Results of AC Power-line Conducted Emissions	
Appendix B. Test Results of DTS Bandwidth	
Appendix C. Test Results of Maximum Conducted Output Power	
Appendix D. Test Results of Power Spectral Density	
Appendix E. Test Results of Emissions in Non-restricted Frequency Bands	
Appendix F. Test Results of Emissions in Restricted Frequency Bands	
Appendix G. Test Photos	
Photographs of EUT v01	



History of this test report

TEL : 886-3-656-9065	Page Number : 3 of 30
FAX : 886-3-656-9085	Issued Date : Sep. 19, 2024
Report Template No.: CB-A10 10 Ver1.3	Report Version : 01



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	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sam Chen

Report Producer: Sophia Shiung



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), ax (HEW20)	2412-2462	1-11 [11]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11ax HEW20	20	2TX

Note:

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



1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	PULSE ELECTRONICS PTE LTD	TZ2412W	Dipole	Reversed-SMA	Note 1
2					

Note 1:

Ant.	Port			Gain (dBi)		
	WLAN 2.4GHz	WLAN 5GHz	Bluetooth	WLAN 2.4GHz	WLAN 5GHz	Bluetooth
1	1	1	1	3.68	4.65	3.68
2	2	2	-	3.68	4.65	-

Note 2: The above information was declared by manufacturer.

Note 3: Directional gain information

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

Ex.

Directional Gain (NSS1) formula :

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

$$NSS1(g1,1) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20} ; NSS1(g1,3) = 10^{G3/20} ; NSS1(g1,4) = 10^{G4/20}$$

$$g_{j,k} = (NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2$$

$$DG = 10 \log[(NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2 / N_{ANT}] \Rightarrow 10$$

$$\log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / N_{ANT}]$$

Where ;

$$2.4G \ G1 = 3.68 \text{ dBi} ; G2 = 3.68 \text{ dBi} ;$$

$$5G \text{ UNII-1 } G1 = 4.65 \text{ dBi} ; G2 = 4.65 \text{ dBi} ;$$

$$5G \text{ UNII-2A } G1 = 4.65 \text{ dBi} ; G2 = 4.65 \text{ dBi} ;$$

$$5G \text{ UNII-2C } G1 = 4.65 \text{ dBi} ; G2 = 4.65 \text{ dBi} ;$$

$$5G \text{ UNII-3 } G1 = 4.65 \text{ dBi} ; G2 = 4.65 \text{ dBi} ;$$

$$2.4G \ DG = 6.69 \text{ dBi}$$

$$5G \text{ UNII-1 } DG = 7.66 \text{ dBi}$$

$$5G \text{ UNII-2A } DG = 7.66 \text{ dBi}$$

$$5G \text{ UNII-2C } DG = 7.66 \text{ dB}$$

$$5G \text{ UNII-3 } DG = 7.66 \text{ dBi}$$

**Note 4: For 2.4GHz function:****For IEEE 802.11 b/g/n/ax (2TX/2RX):**

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

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz function:**For IEEE 802.11 a/n/ac/ax (2TX/2RX):**

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

Port 1 and Port 2 could transmit/receive simultaneously.

For Bluetooth function (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF (dB)	T (s)	VBW (Hz) 1/T
802.11b_Nss 1,(1D)	0.998	0.01	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11g_Nss 1,(6D)	0.987	0.06	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ax HEW20_Nss 1,(M0)	0.982	0.08	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 host system			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Function	☒	Point-to-multipoint	☐	Point-to-point
Support RU	☒	Full RU	☐	Partial RU
Test Software Version	For Conducted: Terminal 3.6.2 For Radiated: DOS [ver 6.1.7601]			

Note: The above information was declared by manufacturer.



1.2 Applicable Standards

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

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

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

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

1.3 Testing Location Information

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu (TAF: 3787)	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) 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	TH03-CB	Owen Hsu	23.7~25.1 / 57~61	Jun. 25, 2024~ Jun. 28, 2024
Radiated < 1GHz	03CH01-CB	Gordon_Hung	21.6~22.7 / 56~59	Aug. 26, 2024~ Sep. 04, 2024
	03CH04-CB		22.7~23.8 / 56~59	
Radiated > 1GHz	03CH01-CB	Gordon_Hung	21.6~22.7 / 56~59	Jun. 22, 2024~ Jun. 25, 2024
	03CH06-CB		21.8~22.9 / 55~58	
AC Conduction	CO01-CB	Ryan Huang	22~23 / 61~63	Aug. 27, 2024~ Sep. 10, 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
Conducted Emission (150kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	4.1 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.0 dB	Confidence levels of 95%
Conducted Emission	3.1 dB	Confidence levels of 95%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.1 dB	Confidence levels of 95%
Bandwidth Measurement	2.1 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode
802.11b_Nss1,(1Mbps)_2TX
2412MHz
2437MHz
2462MHz
802.11g_Nss1,(6Mbps)_2TX
2412MHz
2417MHz
2437MHz
2457MHz
2462MHz
802.11ax HEW20_Nss1,(MCS0)_2TX
2412MHz
2417MHz
2437MHz
2457MHz
2462MHz

Note:

- ♦ Evaluated HEW20 mode only, due to similar modulation. The power setting of HT20 modes are the same or lower than HEW20.

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_Bluetooth
2	EUT_WLAN 2.4GHz
3	EUT_WLAN 5GHz
For operating, mode 1 is the worst case and it was recorded in this test report.	

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



The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
	The EUT was performed at X axis, Y axis and Z axis positions with each function at Radiated measurement > 1GH, and the worst cases were found at Z axis for WLAN 2.4GHz and 5GHz, and Y axis for Bluetooth. Thus, the measurement will follow these same test configurations.
1	EUT in Y axis_Bluetooth
2	EUT in Z axis_WLAN 2.4GHz
3	EUT in Z axis_WLAN 5GHz
For operating, mode 1 is the worst case and it was recorded in this test report.	
Operating Mode > 1GHz	CTX
	The EUT was performed at X axis, Y axis and Z axis positions, and the worst case was found at Z axis. Thus, the measurement will follow this same test configuration.
1	EUT in Z axis

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

N/A



2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	EUT Fixture	AMPAK Technology Inc.	P6276S_EVB_V01	N/A
B	BT Fixture	AMPAK Technology Inc.	UART_V06	N/A
C	Wireless Connectivity Tester	R&S	CMW270	N/A
D	Control NB	DELL	E6430	N/A
E	Earphone	SHYARO CHI	MIC-04	N/A
F	Mouse	HP	FM100	N/A

For Radiated < 1GHz:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	Lenovo	42T4430	N/A
B	EUT Fixture	AMPAK Technology Inc.	P6276S_EVB_V01	N/A
C	Earphone	e-Power	S90W	N/A
D	Mouse	Logitech	M-U0026	N/A
E	BT Connectivity Tester	Anritsu	MB8852B	N/A
F	BT Fixture	AMPAK Technology Inc.	UART_V06	N/A

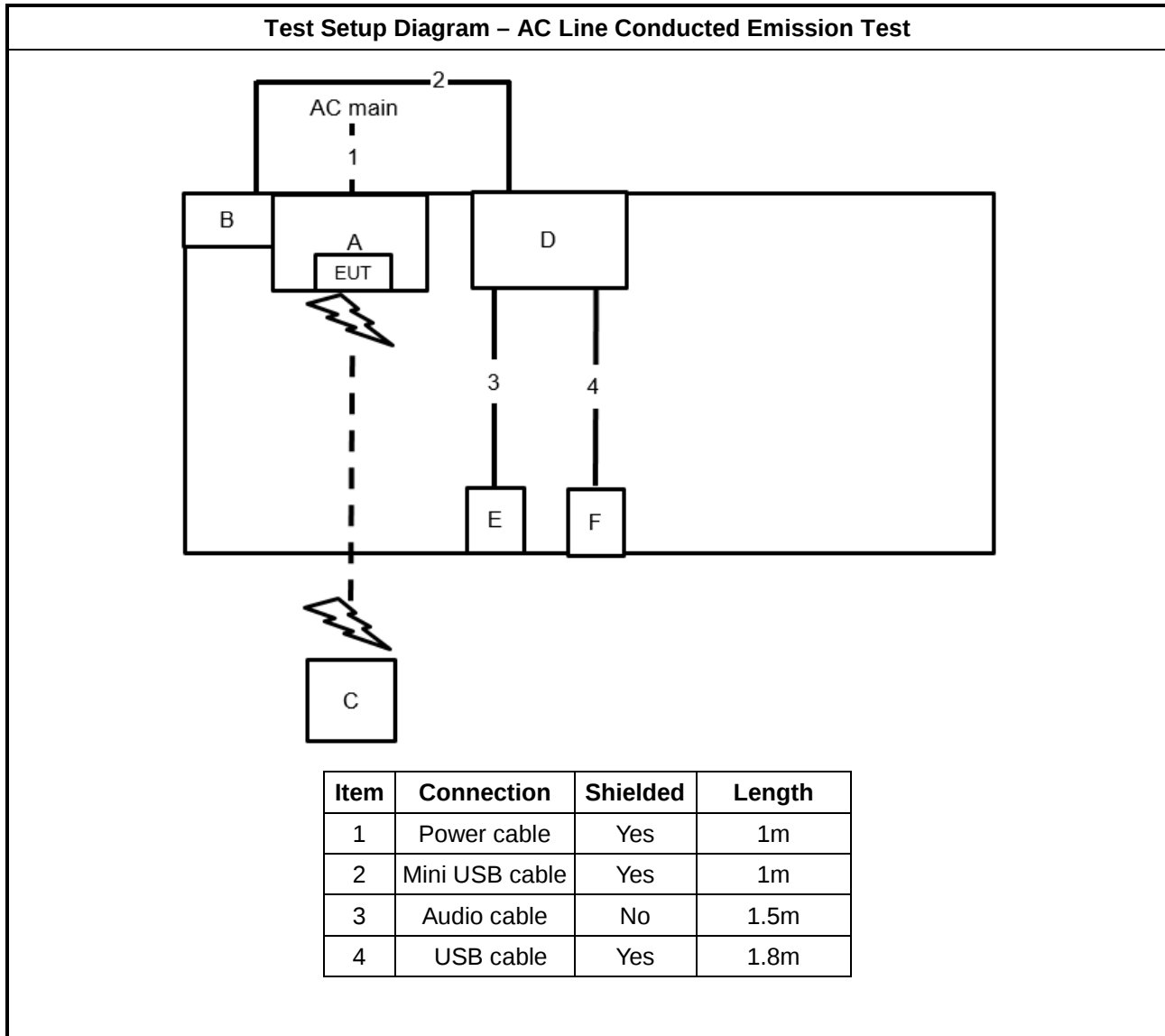
For Radiated > 1GHz:

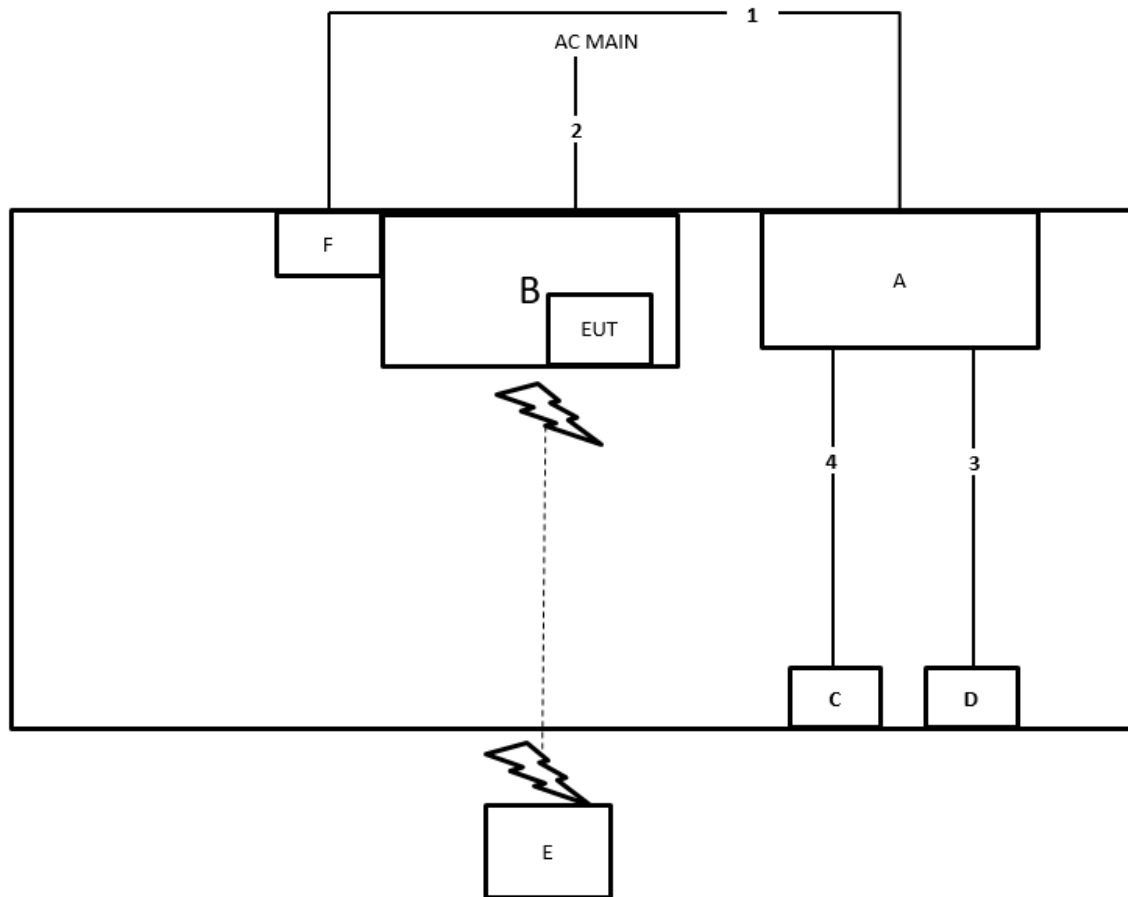
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	DC Power Supply	MOTECH	LPS-305	N/A
B	PC	AMPAK Technology Inc.	H81-PLUS	N/A
C	Wifi Fixture	AMPAK Technology Inc.	SD_EXTD-2IN1	N/A
D	EUT Fixture	AMPAK Technology Inc.	P6276S_EVB_V01	N/A

For RF Conducted:

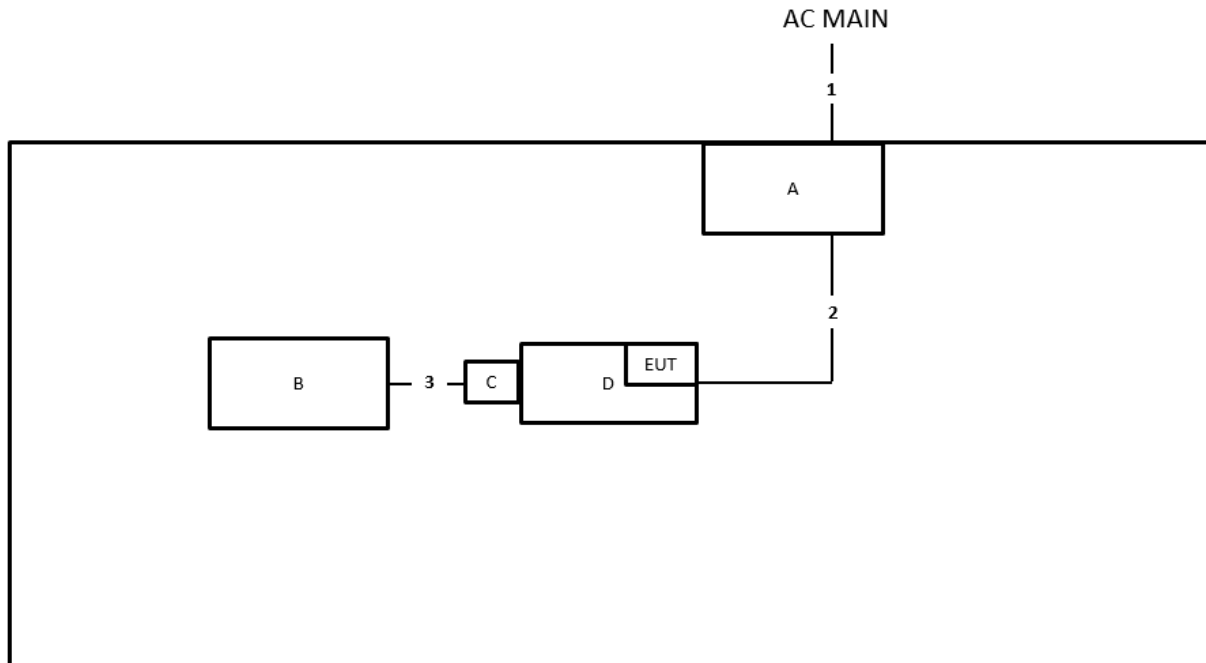
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PC	AMPAK Technology Inc.	H81-PLUS	N/A
B	EUT Fixture	AMPAK Technology Inc.	P6276S_EVB_V01	N/A
C	WIFI Fixture	AMPAK Technology Inc.	SD_EXTD-2IN1	N/A
D	DC Power Supply	MOTECH	LPS-305	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz


Item	Connection	Shielded	Length
1	Mini USB cable	Yes	1m
2	Power cable	No	1.5m
3	USB cable	Yes	1m
4	Audio cable	No	1.5m

Test Setup Diagram - Radiated Test > 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	1m
2	Crocodile clip cable*2	No	1m
3	PCIE	No	1m



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.		

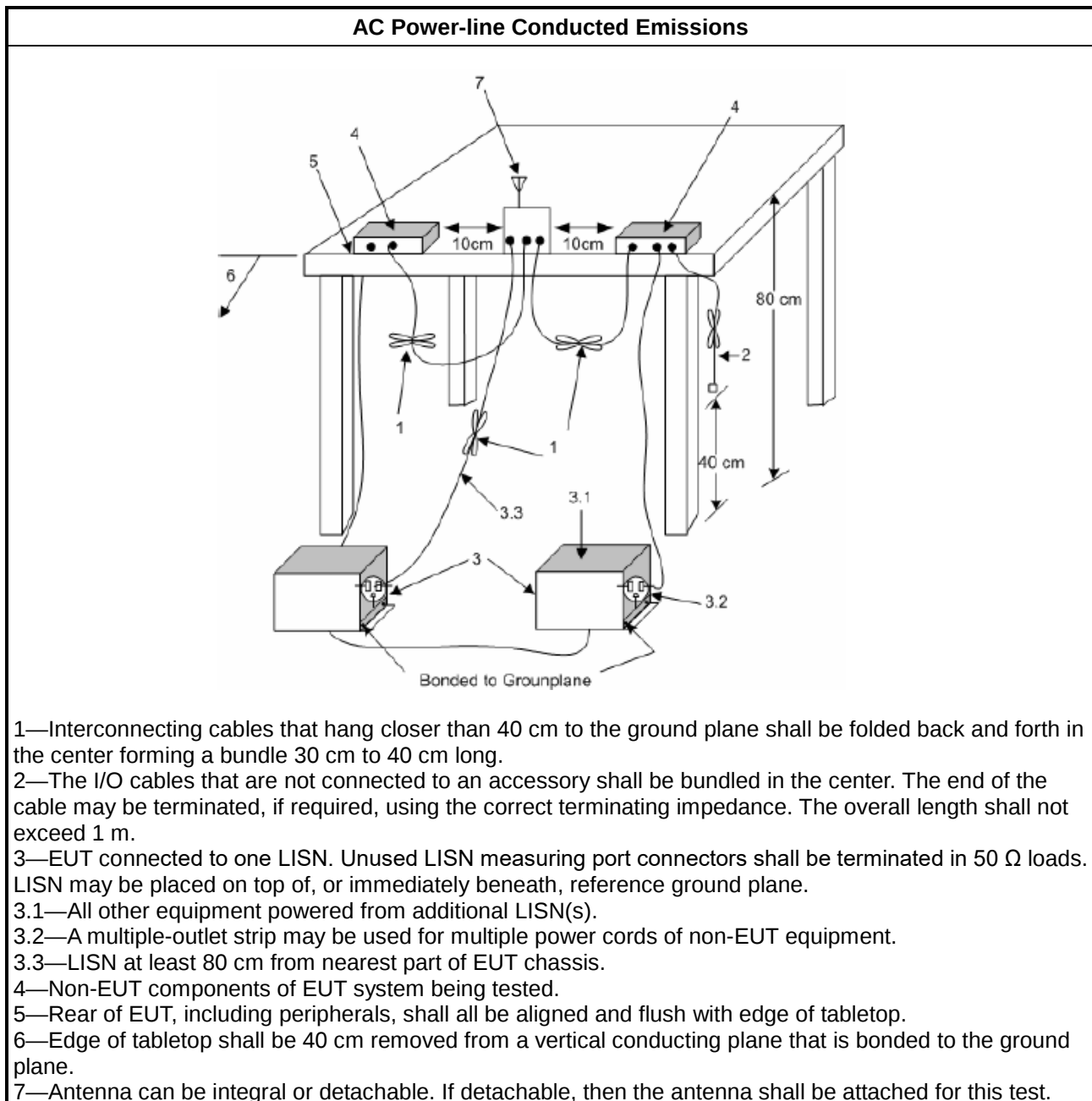
3.1.2 Measuring Instruments

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



3.1.5 Measurement Results Calculation

The measured Level is calculated using:

- Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level
- 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 $\geq$ 500 kHz.

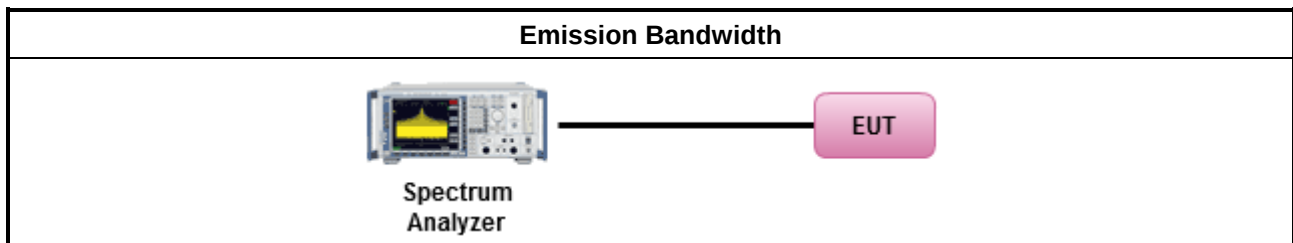
3.2.2 Measuring Instruments

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 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



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

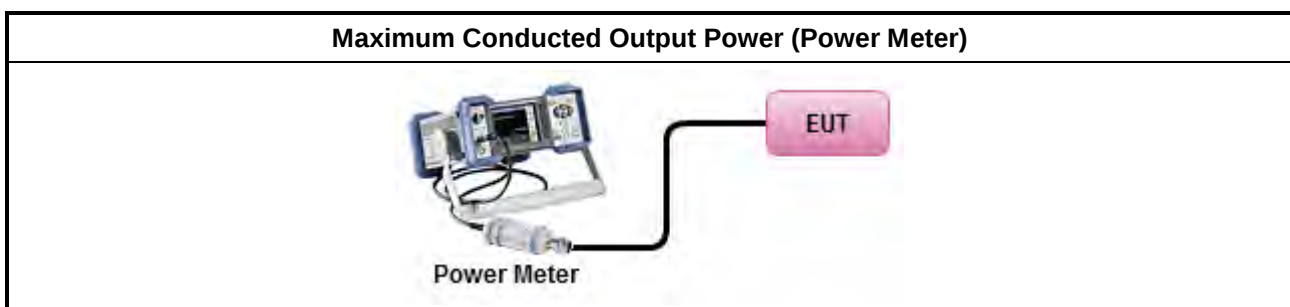
Refer a test equipment and calibration data table in this test report.

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 $\geq$ 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 $\geq 98\%$ 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: $P_{total} = P_1 + P_2 + \dots + P_n$ (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

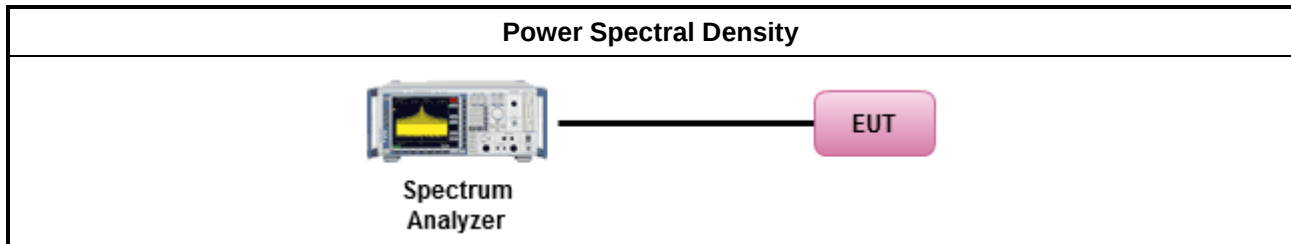
3.4.2 Measuring Instruments

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 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



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.	

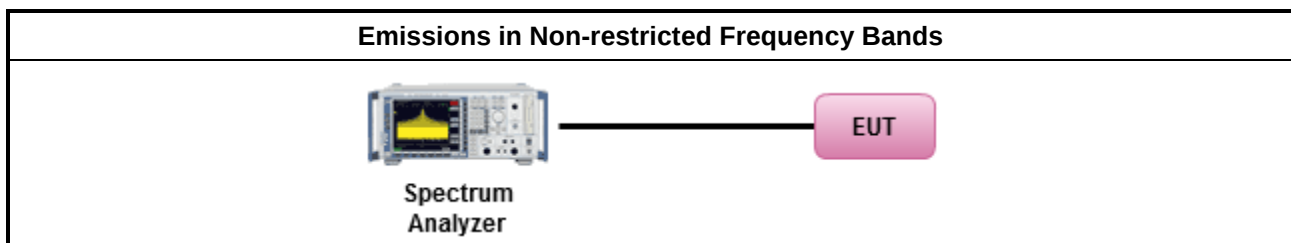
3.5.2 Measuring Instruments

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



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.

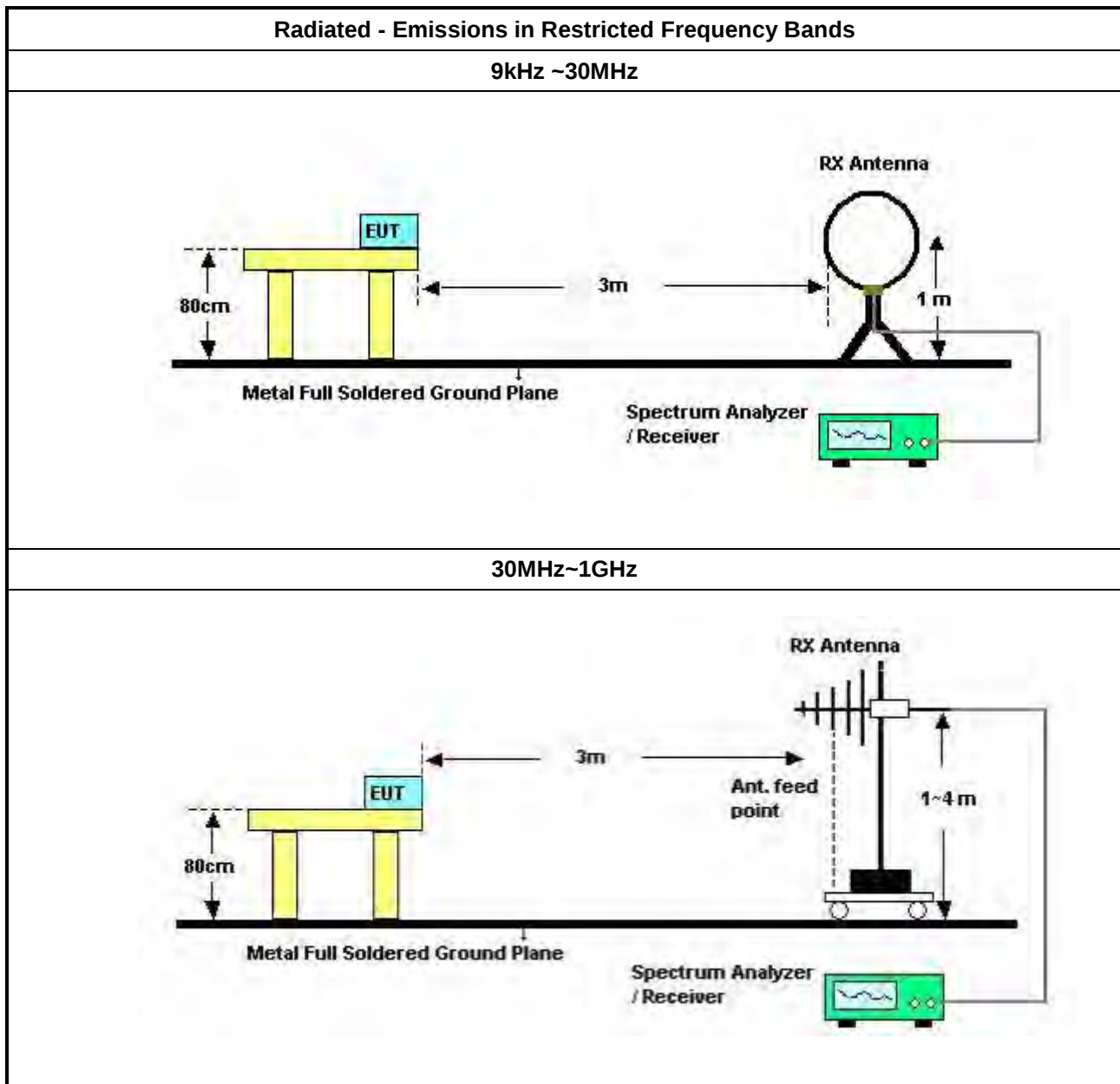
3.6.2 Measuring Instruments

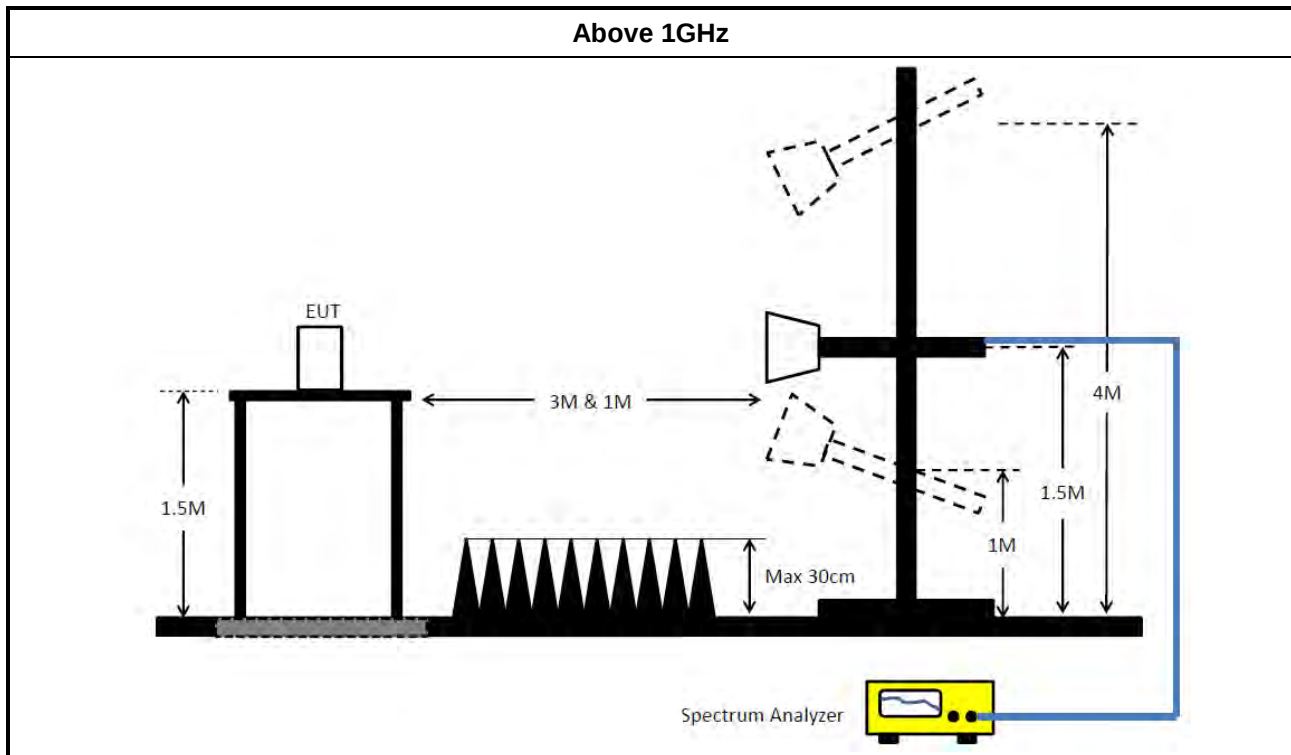
Refer a test equipment and calibration data table in this test report.

**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 $\geq 98\%$).
	☐ 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 $\geq 1/T$).
	☐ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW $\geq 1/T$, 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





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	Mar. 01, 2024	Feb. 28, 2025	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 19, 2024	Feb. 18, 2025	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 24, 2024	Apr. 23, 2025	Conduction (CO01-CB)
Pulse Limiter	Rohde& Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 08, 2024	Feb. 07, 2025	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	Oct. 17, 2023	Oct. 16, 2024	Conduction (CO01-CB)
Test Software	SPORTON	SENSE-EMI	V5.11	150kHz-30MHz	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30 MHz	Oct. 13, 2023	Oct. 12, 2024	Radiation (03CH01-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH01-CB	30MHz ~ 1GHz	Jan. 18, 2024	Jan. 17, 2025	Radiation (03CH01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCi	CBL6112D N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Feb. 18, 2024	Feb. 17, 2025	Radiation (03CH01-CB)
Pre-Amplifier	SGH	SGH0301	20230109-2	10M~1GHz	Jun. 22, 2024	Jun. 21, 2025	Radiation (03CH01-CB)
Signal Analyzer	R&S	FSV3044	101437	10kHz ~ 44GHz	Nov. 28, 2023	Nov. 27, 2024	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 20, 2023	Oct. 19, 2024	Radiation (03CH01-CB)
RF Cable-low	Woken	RG402	Low Cable-31+32	30MHz ~ 1GHz	Aug. 02, 2024	Aug. 01, 2025	Radiation (03CH01-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH01-CB	1GHz ~18GHz 3m	May 04, 2024	May 03, 2025	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120D-01816	1GHz~18GHz	Dec. 20, 2023	Dec. 19, 2024	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Sep. 04, 2023	Sep. 03, 2024	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02121	1GHz ~ 26.5GHz	May 17, 2024	May 16, 2025	Radiation (03CH01-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 24, 2023	Nov. 23, 2024	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16	1 GHz ~ 18 GHz	Nov. 06, 2023	Nov. 05, 2024	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16+17	1 GHz ~ 18 GHz	Nov. 06, 2023	Nov. 05, 2024	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Jan. 11, 2024	Jan. 10, 2025	Radiation (03CH01-CB)
Test Software	SPORTON	SENSE-EMI	V5.11.8	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH01-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Test Software	SPORTON	SENSE-15247_DTS	V5.11.18	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30 MHz	Oct. 13, 2023	Oct. 12, 2024	Radiation (03CH04-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH04-CB	30MHz ~ 1GHz	Jul. 31, 2024	Jul. 30, 2025	Radiation (03CH04-CB)
BILOG ANTENNA with 6dB attenuator	Schaffner & EMCi	CBL6112B & N-6-06	22021&AT-N06 07	30MHz ~ 1GHz	Oct. 07, 2023	Oct. 06, 2024	Radiation (03CH04-CB)
Pre-Amplifier	EMCI	EMC330N	980391	20MHz ~ 3GHz	May 22, 2024	May 21, 2025	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Mar. 19, 2024	Mar. 18, 2025	Radiation (03CH04-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 20, 2023	Oct. 19, 2024	Radiation (03CH04-CB)
RF Cable-low	Woken	RG402	Low Cable-03+67	30MHz ~ 1GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH04-CB)
Test Software	SPORTON	SENSE-EMI	V5.11.8	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH04-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH06-CB	1GHz ~18GHz 3m	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1292	1GHz~18GHz	Jul. 31, 2023	Jul. 30, 2024	Radiation (03CH06-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Sep. 04, 2023	Sep. 03, 2024	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	83017A	MY53270064	0.5GHz ~ 26.5GHz	Aug. 01, 2023	Jul. 31, 2024	Radiation (03CH06-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 24, 2023	Nov. 23, 2024	Radiation (03CH06-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Apr. 26, 2024	Apr. 25, 2025	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-05+68	1GHz~18GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Jan. 11, 2024	Jan. 10, 2025	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE-15247_DTS	V5.11.18	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Dec. 22, 2023	Dec. 21, 2024	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1726195	300MHz~40GHz	Sep. 04, 2023	Sep. 03, 2024	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 04, 2023	Sep. 03, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-11	30MHz ~18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-12	30MHz ~18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)

**RADIO TEST REPORT****Report No. : FR412214AA**

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable	Woken	RG402	High Cable-13	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1 ~26.5 GHz	Oct. 03, 2023	Oct. 02, 2024	Conducted (TH03-CB)
Test Software	SPORTON	SENSE-15247 _DTS	V5.11.18	2.4GHz- 2.4835GHz	N.C.R.	N.C.R.	Conducted (TH03-CB)

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

NCR means Non-Calibration required.



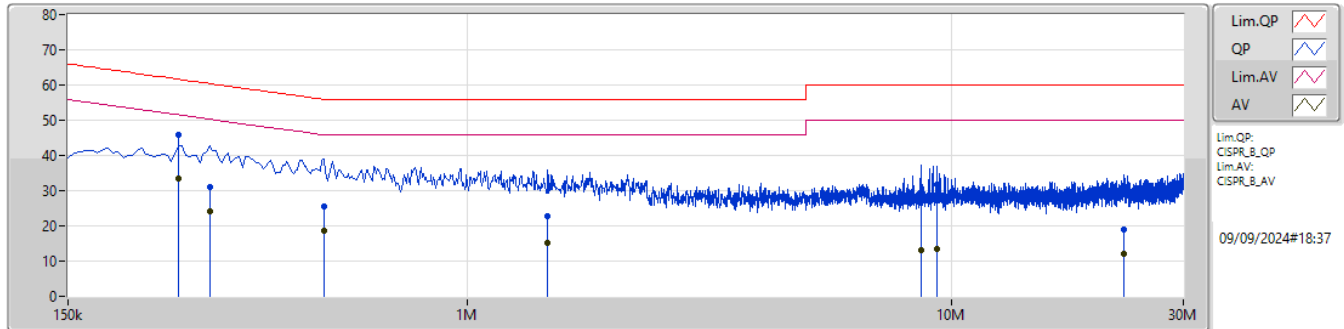
Conducted Emissions at Powerline

Appendix A

Summary

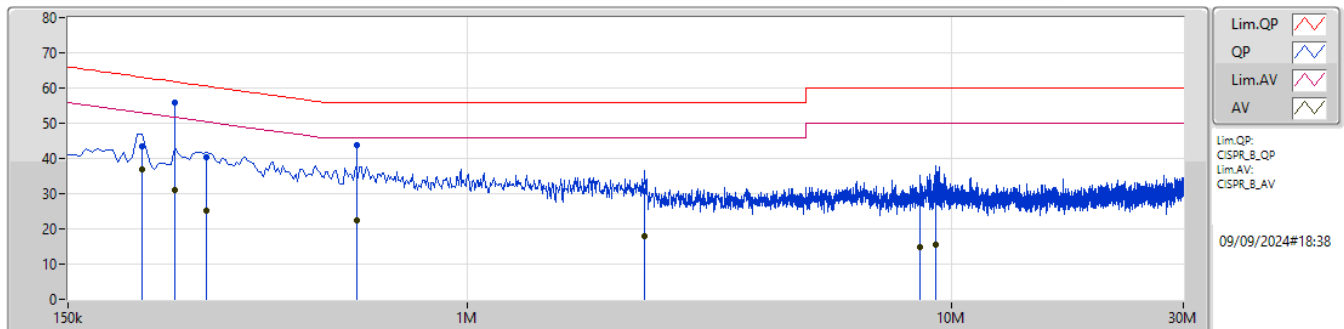
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	249k	55.72	61.79	-6.07	Neutral

Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	253.5k	45.91	61.64	-15.73	9.92	Line	"Worst"	35.99	0.04	0.02	9.86						
AV	253.5k	33.36	51.64	-18.28	9.92	Line	-	23.44	0.04	0.02	9.86						
QP	294k	31.12	60.42	-29.30	9.94	Line	-	21.18	0.05	0.02	9.87						
AV	294k	24.13	50.42	-26.29	9.94	Line	-	14.19	0.05	0.02	9.87						
QP	505.5k	25.68	56.00	-30.32	9.98	Line	-	15.70	0.06	0.02	9.90						
AV	505.5k	18.76	46.00	-27.24	9.98	Line	-	8.78	0.06	0.02	9.90						
QP	1.464M	22.70	56.00	-33.30	10.02	Line	-	12.68	0.08	0.04	9.90						
AV	1.464M	15.02	46.00	-30.98	10.02	Line	-	5.00	0.08	0.04	9.90						
QP	8.637M	29.51	60.00	-30.49	10.26	Line	-	19.25	0.21	0.14	9.91						
AV	8.637M	12.98	50.00	-37.02	10.26	Line	-	2.72	0.21	0.14	9.91						
QP	9.33M	31.79	60.00	-28.21	10.27	Line	-	21.52	0.22	0.14	9.91						
AV	9.33M	13.52	50.00	-36.48	10.27	Line	-	3.25	0.22	0.14	9.91						
QP	22.637M	18.87	60.00	-41.13	10.60	Line	-	8.27	0.32	0.24	10.04						
AV	22.637M	12.13	50.00	-37.87	10.60	Line	-	1.53	0.32	0.24	10.04						

Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	213k	43.30	63.09	-19.79	9.93	Neutral	-	33.37	0.06	0.02	9.85						
AV	213k	36.81	53.09	-16.28	9.93	Neutral	-	26.88	0.06	0.02	9.85						
QP	249k	55.72	61.79	-6.07	9.94	Neutral	"Worst"	45.78	0.06	0.02	9.86						
AV	249k	31.09	51.79	-20.70	9.94	Neutral	-	21.15	0.06	0.02	9.86						
QP	289.5k	40.25	60.53	-20.28	9.95	Neutral	-	30.30	0.06	0.02	9.87						
AV	289.5k	25.28	50.53	-25.25	9.95	Neutral	-	15.33	0.06	0.02	9.87						
QP	591k	43.83	56.00	-12.17	9.99	Neutral	-	33.84	0.07	0.02	9.90						
AV	591k	22.44	46.00	-23.56	9.99	Neutral	-	12.45	0.07	0.02	9.90						
QP	2.319M	30.67	56.00	-25.33	10.08	Neutral	-	20.59	0.11	0.08	9.89						
AV	2.319M	18.07	46.00	-27.93	10.08	Neutral	-	7.99	0.11	0.08	9.89						
QP	8.583M	27.87	60.00	-32.13	10.27	Neutral	-	17.60	0.22	0.14	9.91						
AV	8.583M	14.70	50.00	-35.30	10.27	Neutral	-	4.43	0.22	0.14	9.91						
QP	9.276M	31.78	60.00	-28.22	10.28	Neutral	-	21.50	0.23	0.14	9.91						
AV	9.276M	15.54	50.00	-34.46	10.28	Neutral	-	5.26	0.23	0.14	9.91						

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	7.9M	11.923M	11M9G1D	6.75M	11.268M
802.11g_Nss1,(6Mbps)_2TX	16.45M	16.645M	16M6D1D	16.325M	16.459M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.625M	19.07M	19M1D1D	13.85M	18.781M

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

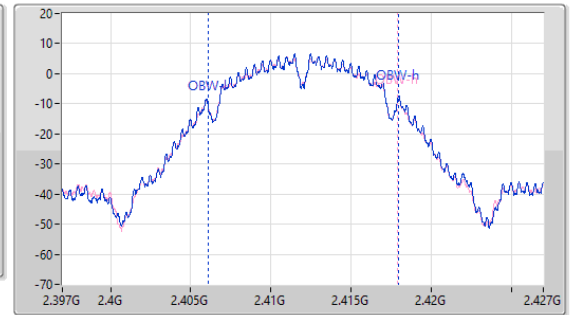
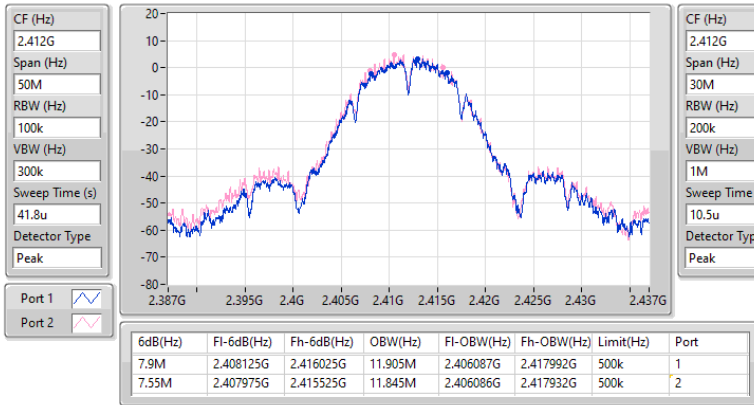
Result

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	7.9M	11.905M	7.55M	11.845M
2437MHz	Pass	500k	6.75M	11.893M	7.575M	11.923M
2462MHz	Pass	500k	7.2M	11.464M	7.05M	11.268M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.45M	16.645M	16.375M	16.506M
2437MHz	Pass	500k	16.45M	16.606M	16.325M	16.515M
2462MHz	Pass	500k	16.45M	16.459M	16.325M	16.502M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	14.775M	18.845M	16.775M	19.07M
2437MHz	Pass	500k	13.85M	18.995M	18.625M	18.864M
2462MHz	Pass	500k	18.45M	18.895M	16.875M	18.781M

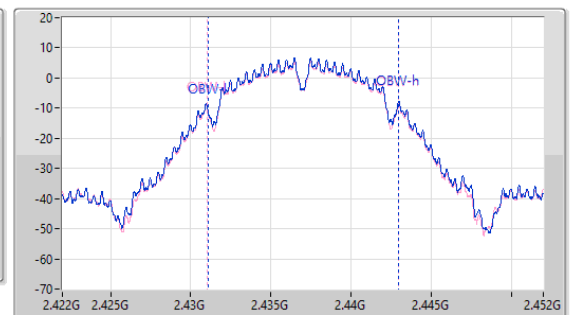
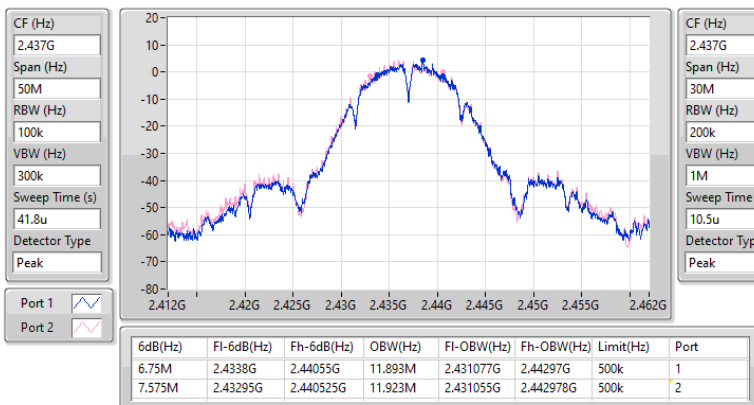
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX
EBW
2412MHz

28/06/2024

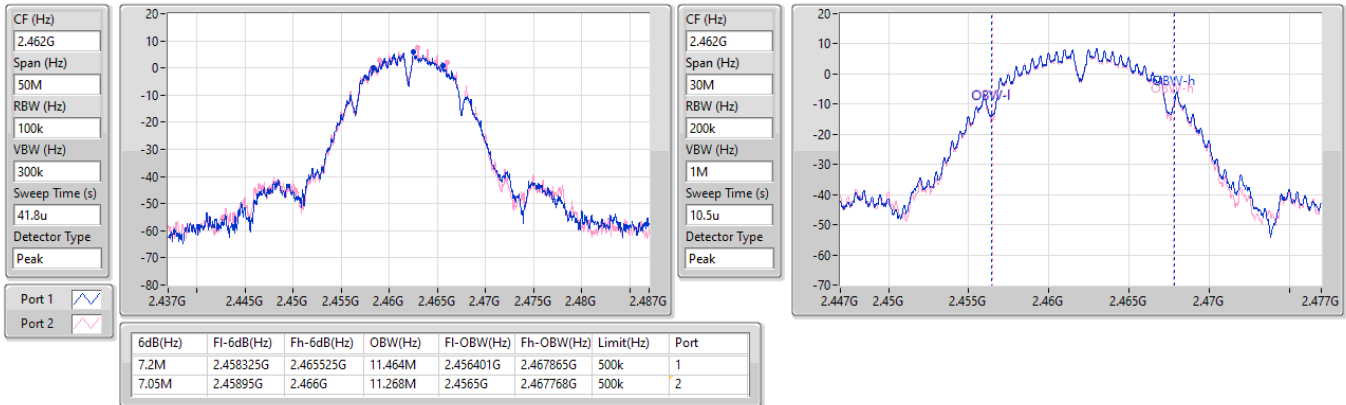

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX
EBW
2437MHz

28/06/2024

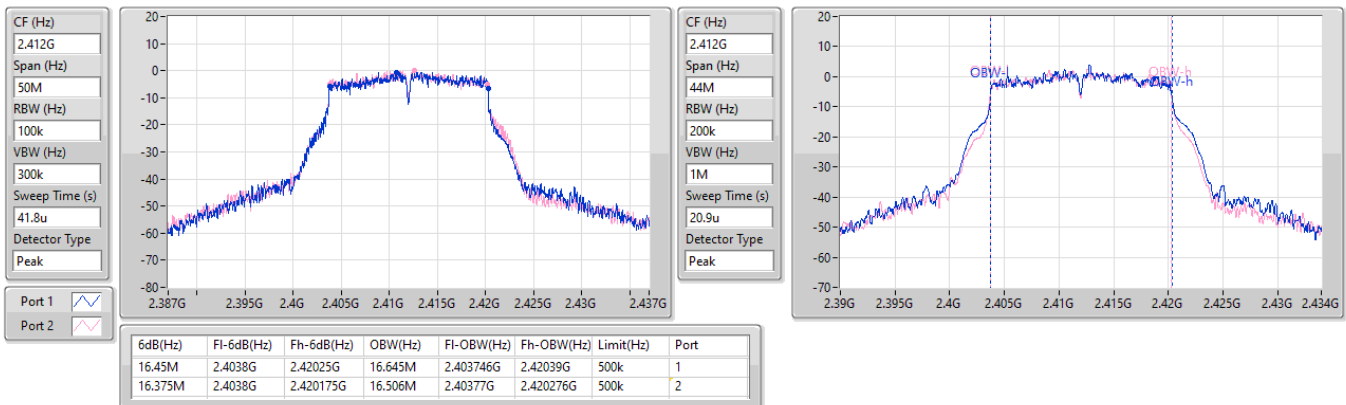


2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX
EBW
2462MHz

28/06/2024


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX
EBW
2412MHz

28/06/2024

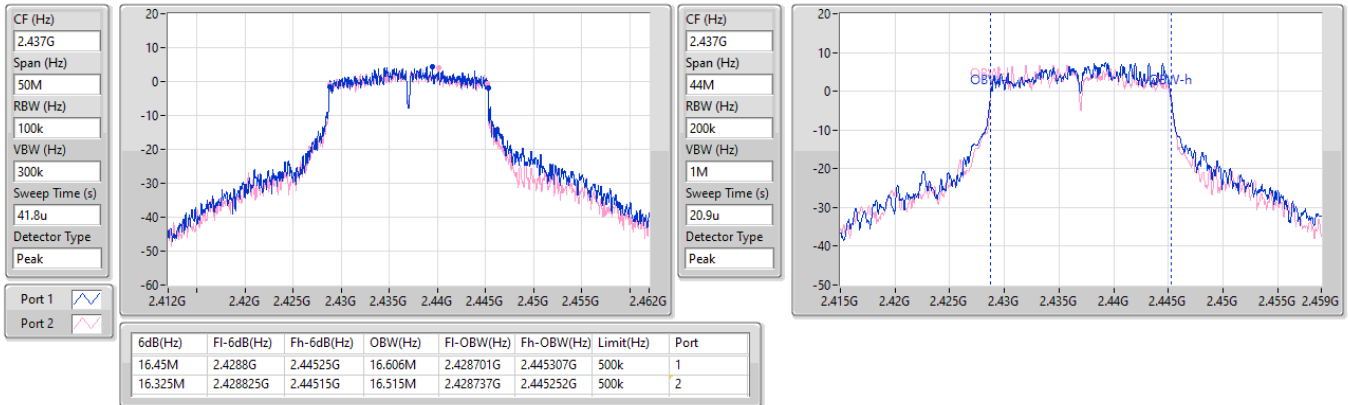


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

EBW

2437MHz

28/06/2024

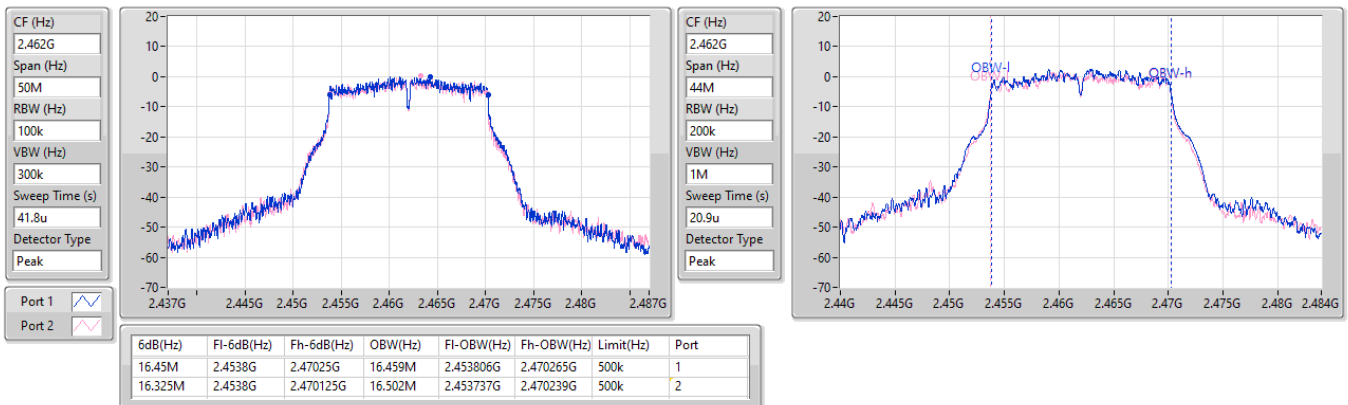


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

EBW

2462MHz

28/06/2024

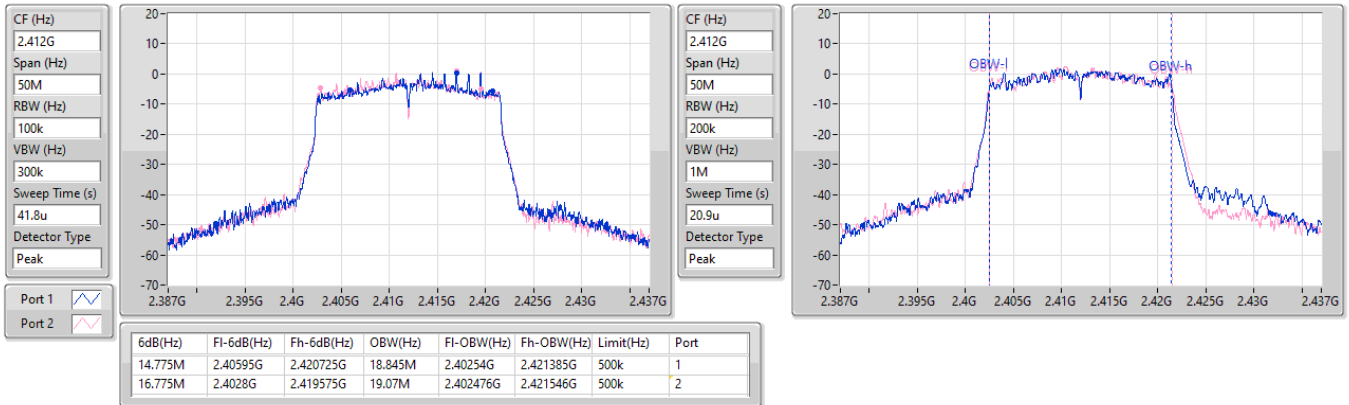


2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_2TX

EBW

2412MHz

28/06/2024

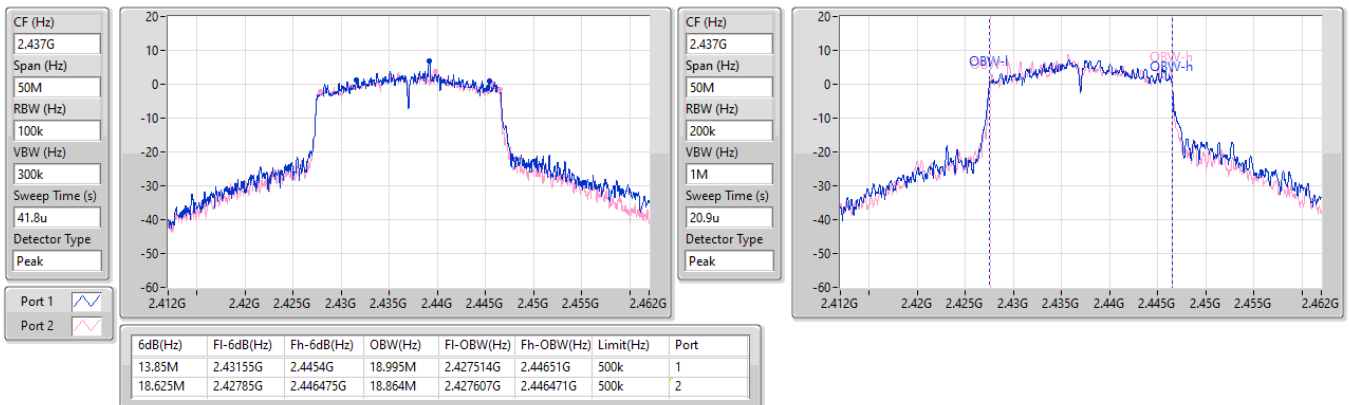


2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_2TX

EBW

2437MHz

28/06/2024

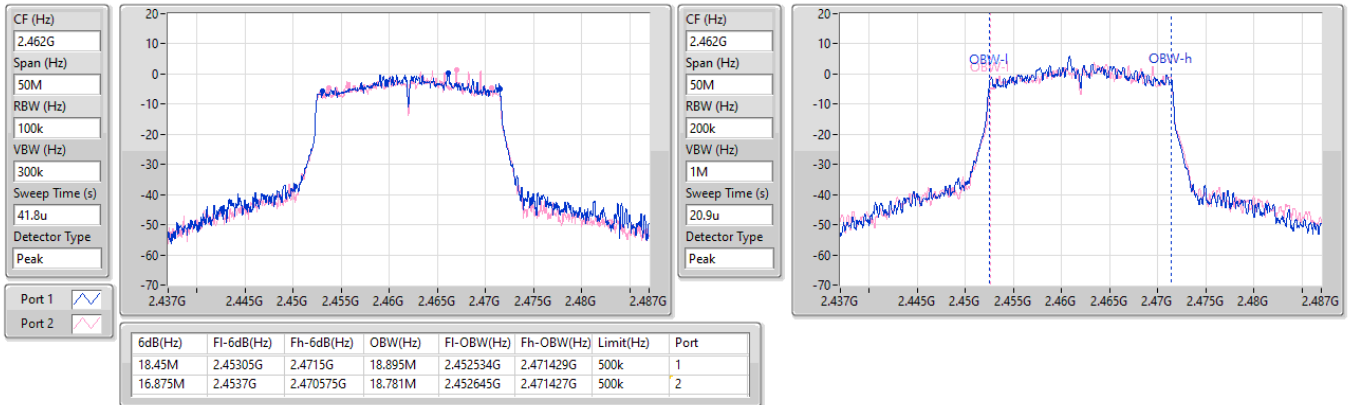


2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_2TX

EBW

2462MHz

28/06/2024





Average Power

Appendix C

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	19.10	0.08128
802.11g_Nss1,(6Mbps)_2TX	21.03	0.12677
802.11ax HEW20_Nss1,(MCS0)_2TX	21.32	0.13552

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.68	14.18	14.44	17.32	30.00
2437MHz	Pass	3.68	14.72	14.07	17.42	30.00
2462MHz	Pass	3.68	16.18	15.99	19.10	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.68	13.86	14.05	16.97	30.00
2417MHz	Pass	3.68	14.59	14.97	17.79	30.00
2437MHz	Pass	3.68	18.27	17.76	21.03	30.00
2457MHz	Pass	3.68	15.86	15.31	18.60	30.00
2462MHz	Pass	3.68	14.10	13.35	16.75	30.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.68	13.34	13.28	16.32	30.00
2417MHz	Pass	3.68	15.19	15.29	18.25	30.00
2437MHz	Pass	3.68	18.57	18.04	21.32	30.00
2457MHz	Pass	3.68	15.14	14.69	17.93	30.00
2462MHz	Pass	3.68	14.32	13.78	17.07	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	-6.00
802.11g_Nss1,(6Mbps)_2TX	-5.52
802.11ax HEW20_Nss1,(MCS0)_2TX	-7.06

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	6.69	-9.94	-9.00	-7.36	7.31
2437MHz	Pass	6.69	-8.91	-9.22	-7.61	7.31
2462MHz	Pass	6.69	-7.12	-7.75	-6.00	7.31
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	6.69	-10.95	-11.09	-8.28	7.31
2437MHz	Pass	6.69	-7.09	-7.34	-5.52	7.31
2462MHz	Pass	6.69	-11.41	-11.88	-9.07	7.31
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	6.69	-13.34	-13.93	-11.79	7.31
2437MHz	Pass	6.69	-8.77	-8.78	-7.06	7.31
2462MHz	Pass	6.69	-11.06	-13.08	-10.07	7.31

DG = Directional Gain; RBW = 3kHz;

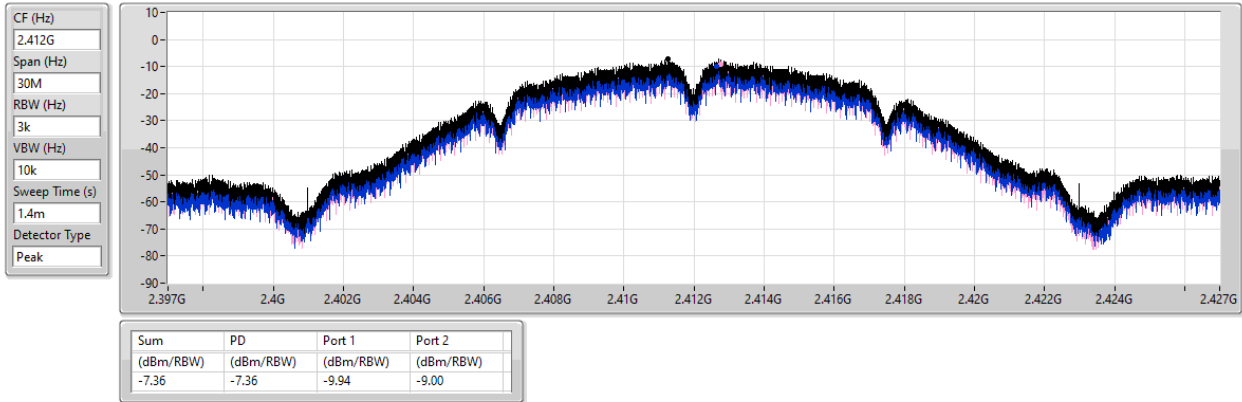
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

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

PSD

2412MHz

28/06/2024

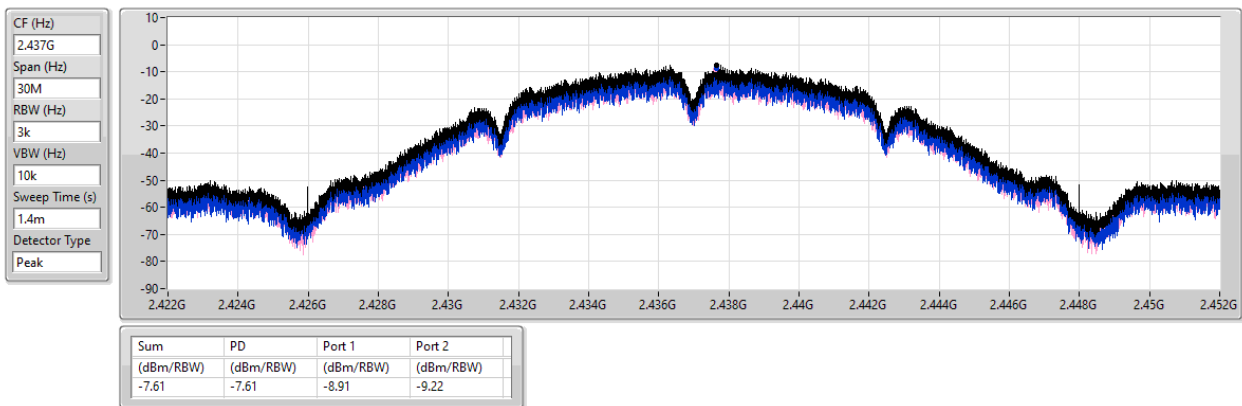


2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX

PSD

2437MHz

28/06/2024

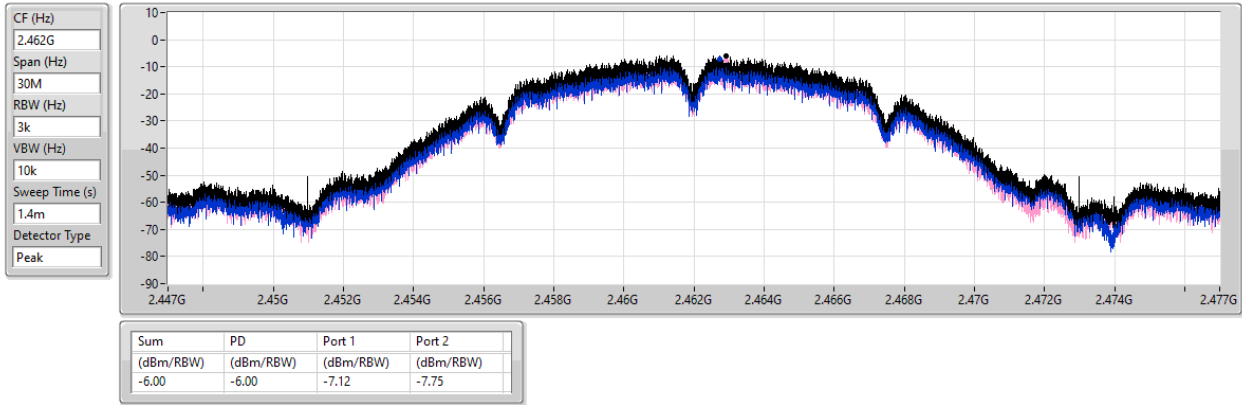


2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX

PSD

2462MHz

28/06/2024

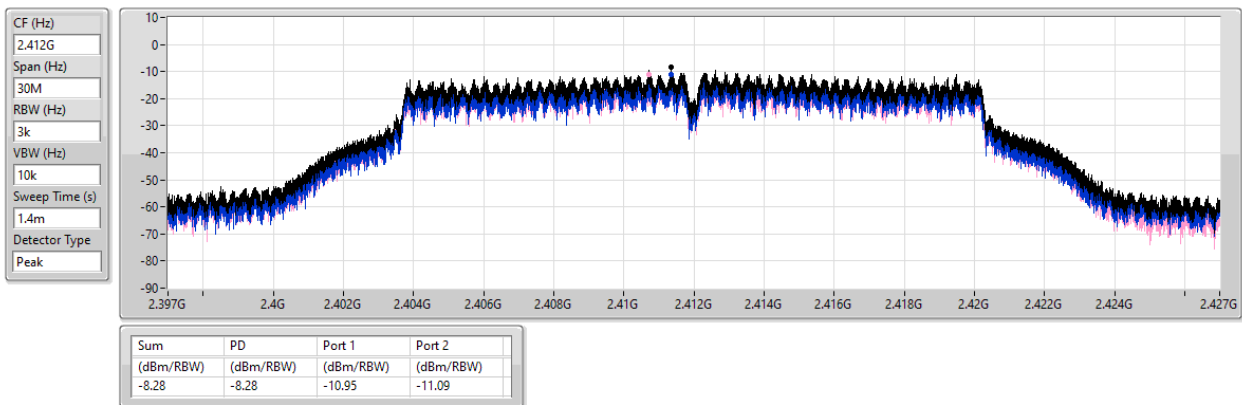


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

PSD

2412MHz

28/06/2024

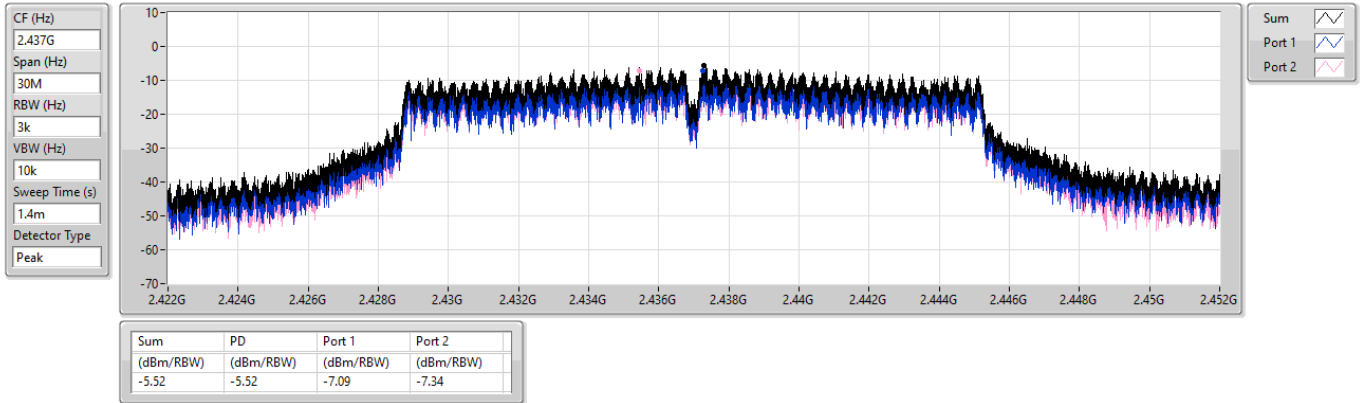


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

PSD

2437MHz

28/06/2024

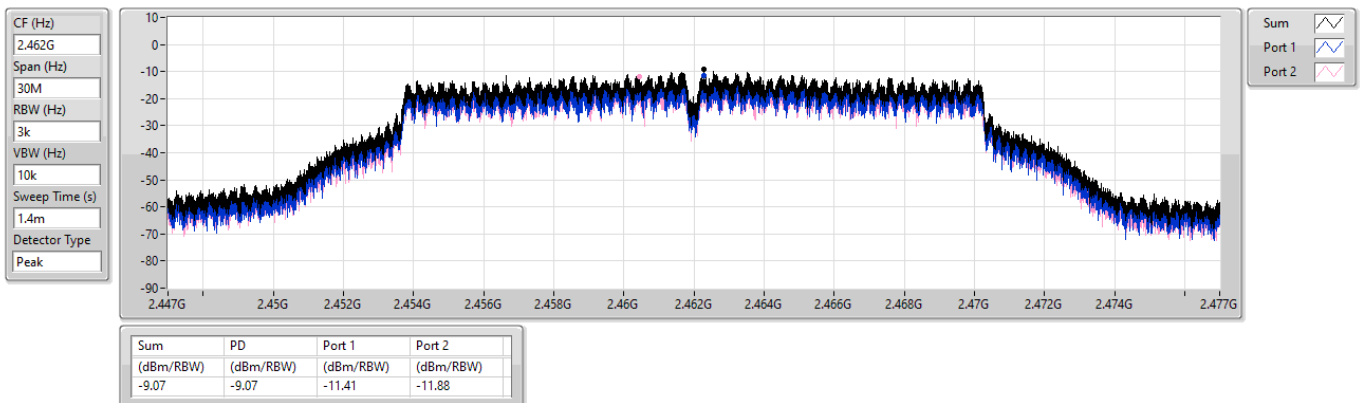


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

PSD

2462MHz

28/06/2024

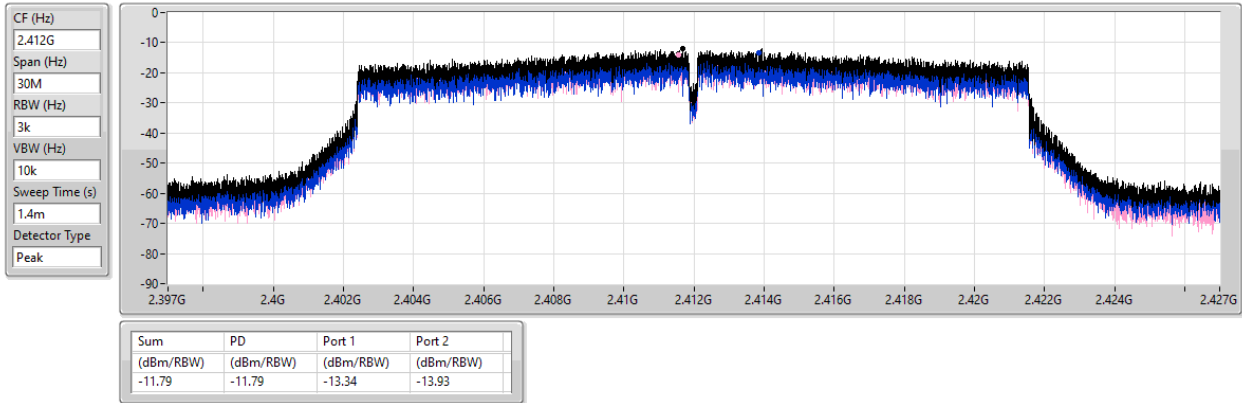


2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

2412MHz

28/06/2024

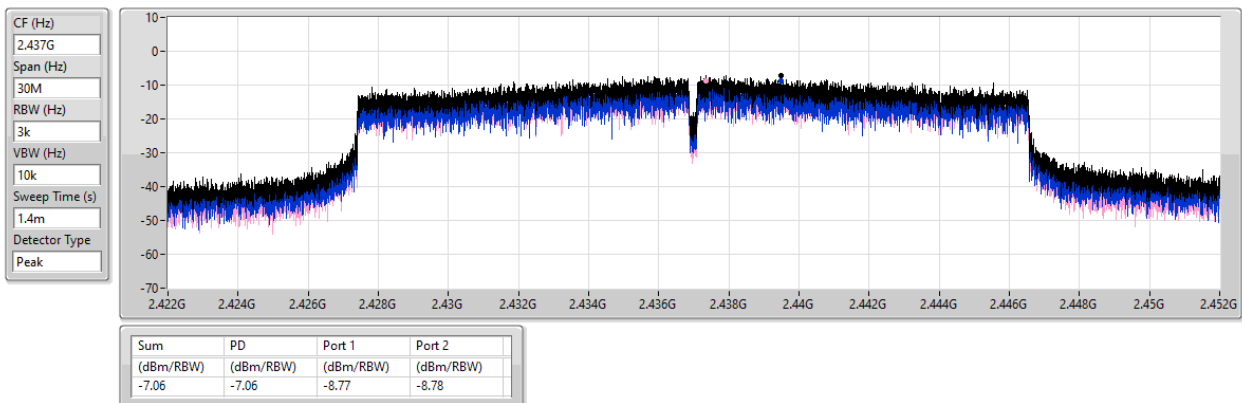


2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

2437MHz

28/06/2024

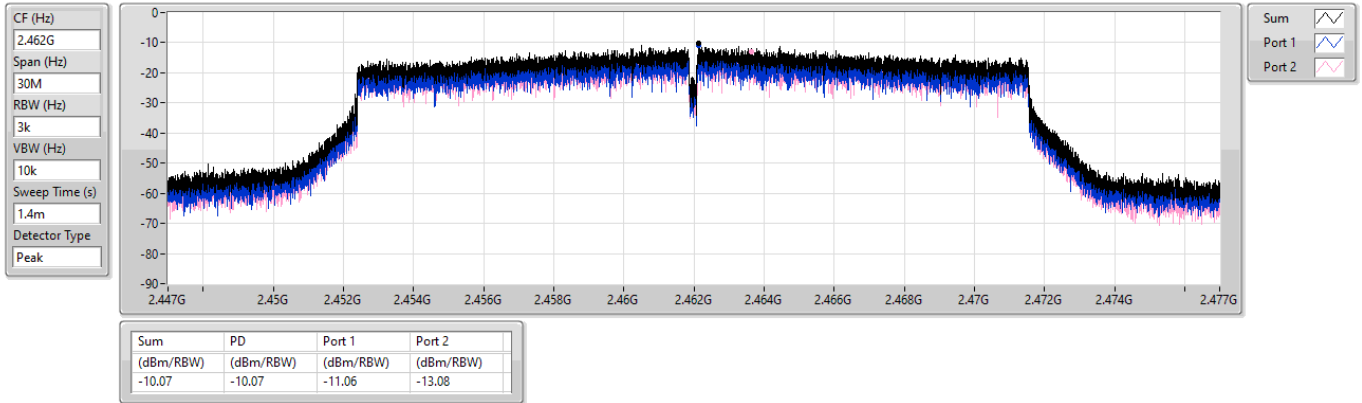


2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_2TX

PSD

2462MHz

28/06/2024





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	2.46296G	7.70	-22.30	54.47M	-53.44	2.398G	-35.89	2.4G	-40.63	2.52198G	-51.21	21.59762G	-44.57	2
802.11g_Nss1,(6Mbps)_2TX	Pass	2.43824G	6.44	-23.56	2.03846G	-54.57	2.39952G	-34.32	2.4G	-34.84	2.50102G	-51.48	21.43186G	-45.16	2
802.11ax HEW20_Nss1,(MCS0)_2TX	Pass	2.43908G	6.75	-23.25	1.72275G	-54.66	2.39944G	-37.08	2.4G	-37.93	2.5215G	-51.14	21.54424G	-45.20	2

Result

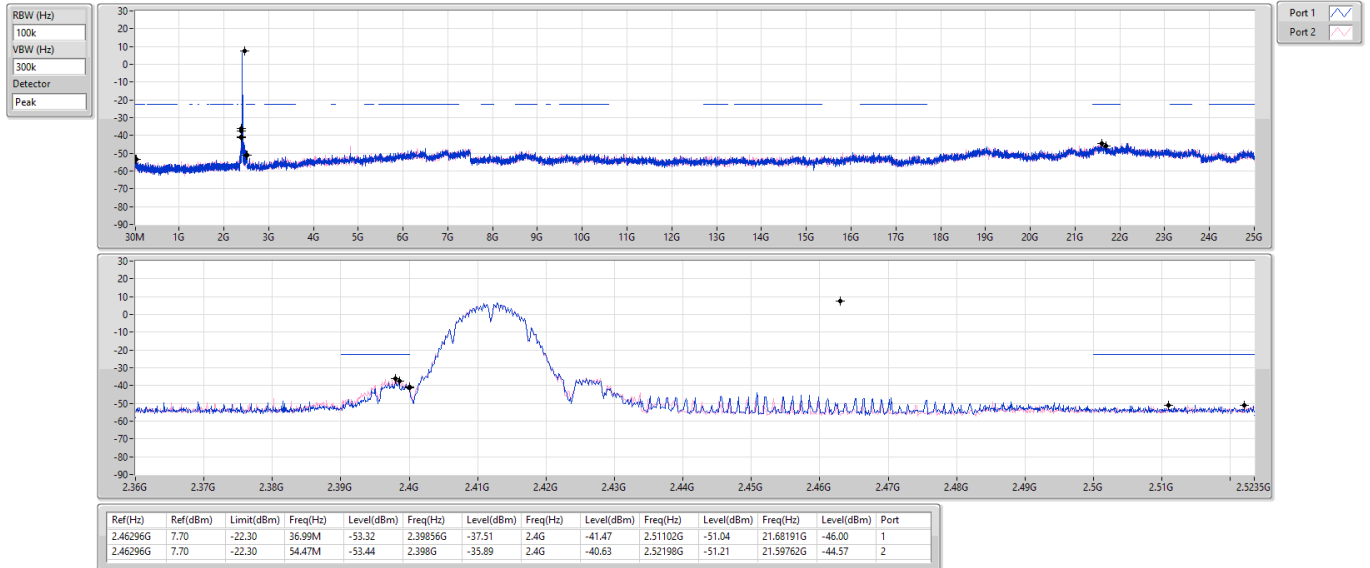
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11b_Nss1.(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.46296G	7.70	-22.30	36.99M	-53.32	2.39856G	-37.51	2.4G	-41.47	2.51102G	-51.04	21.68191G	-46.00	1
2412MHz	Pass	2.46296G	7.70	-22.30	54.47M	-53.44	2.398G	-35.89	2.4G	-40.63	2.52198G	-51.21	21.59762G	-44.57	2
2437MHz	Pass	2.46296G	7.70	-22.30	52.14M	-53.17	2.39456G	-48.03	2.4G	-55.66	2.50198G	-48.43	21.5611G	-44.61	1
2437MHz	Pass	2.46296G	7.70	-22.30	36.99M	-53.38	2.4G	-49.07	2.4G	-56.00	2.50254G	-48.97	21.58638G	-44.86	2
2462MHz	Pass	2.46296G	7.70	-22.30	1.79498G	-53.86	2.39248G	-51.95	2.4G	-56.14	2.51614G	-50.88	21.52738G	-45.20	1
2462MHz	Pass	2.46296G	7.70	-22.30	41.65M	-54.82	2.4G	-52.28	2.4G	-56.88	2.50366G	-50.93	21.55267G	-44.24	2
802.11g_Nss1.(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43824G	6.44	-23.56	2.01167G	-54.44	2.39944G	-36.58	2.4G	-37.29	2.5043G	-51.19	21.57233G	-44.25	1
2412MHz	Pass	2.43824G	6.44	-23.56	2.03846G	-54.57	2.39952G	-34.32	2.4G	-34.84	2.50102G	-51.48	21.43186G	-45.16	2
2437MHz	Pass	2.43824G	6.44	-23.56	36.99M	-53.26	2.39592G	-46.59	2.4G	-45.87	2.5095G	-48.92	21.49648G	-45.08	1
2437MHz	Pass	2.43824G	6.44	-23.56	36.99M	-51.66	2.39992G	-46.23	2.4G	-48.49	2.50942G	-50.28	21.48805G	-45.10	2
2462MHz	Pass	2.43824G	6.44	-23.56	1.87303G	-54.56	2.39264G	-52.94	2.4G	-56.85	2.5107G	-50.64	21.49648G	-44.24	1
2462MHz	Pass	2.43824G	6.44	-23.56	36.99M	-53.36	2.39496G	-52.42	2.4G	-56.50	2.50398G	-51.07	21.59762G	-45.16	2
802.11ax HEW20_Nss1.(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43908G	6.75	-23.25	36.99M	-53.54	2.39984G	-37.14	2.4G	-39.07	2.51262G	-50.63	21.58638G	-44.83	1
2412MHz	Pass	2.43908G	6.75	-23.25	1.72275G	-54.66	2.39944G	-37.08	2.4G	-37.93	2.5215G	-51.14	21.54424G	-45.20	2
2437MHz	Pass	2.43908G	6.75	-23.25	1.78216G	-54.34	2.39624G	-45.64	2.4G	-45.84	2.51702G	-48.40	21.57795G	-45.27	1
2437MHz	Pass	2.43908G	6.75	-23.25	2.14215G	-54.47	2.3968G	-46.07	2.4G	-47.94	2.50014G	-49.92	21.62572G	-44.46	2
2462MHz	Pass	2.43908G	6.75	-23.25	2.18991G	-54.16	2.39152G	-52.32	2.4G	-56.00	2.51734G	-50.04	21.40376G	-45.18	1
2462MHz	Pass	2.43908G	6.75	-23.25	36.99M	-53.87	2.39352G	-52.56	2.4G	-56.55	2.50206G	-50.10	21.56671G	-45.13	2

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

CSEndB

2412MHz

28/06/2024

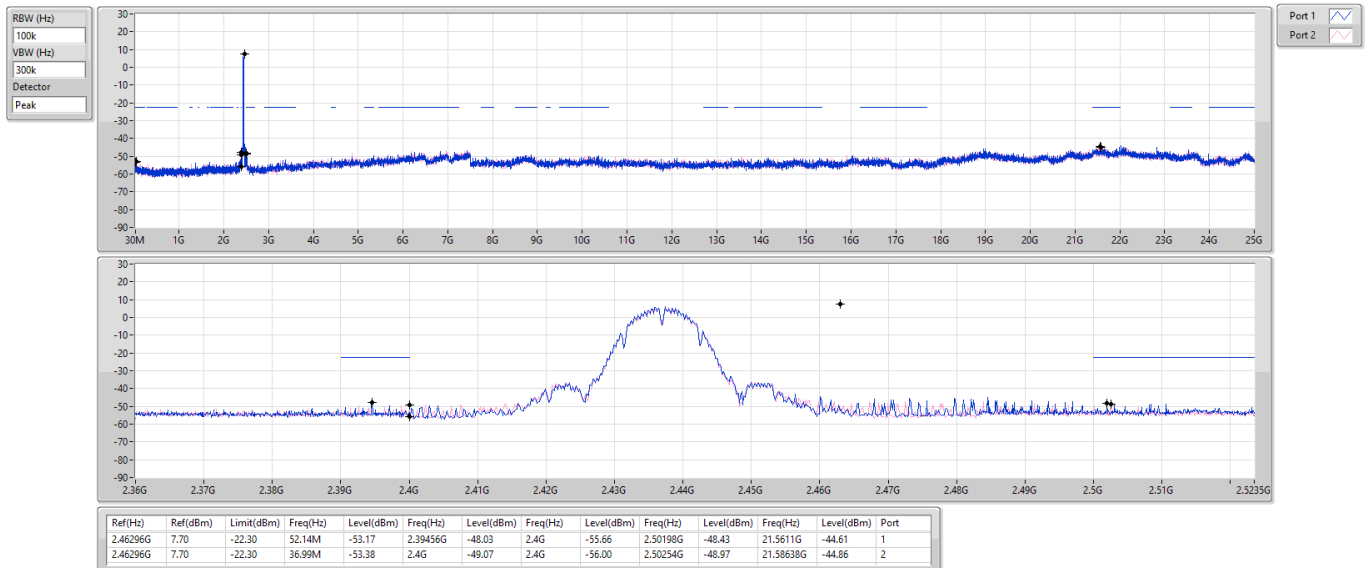


2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX

CSEndB

2437MHz

28/06/2024

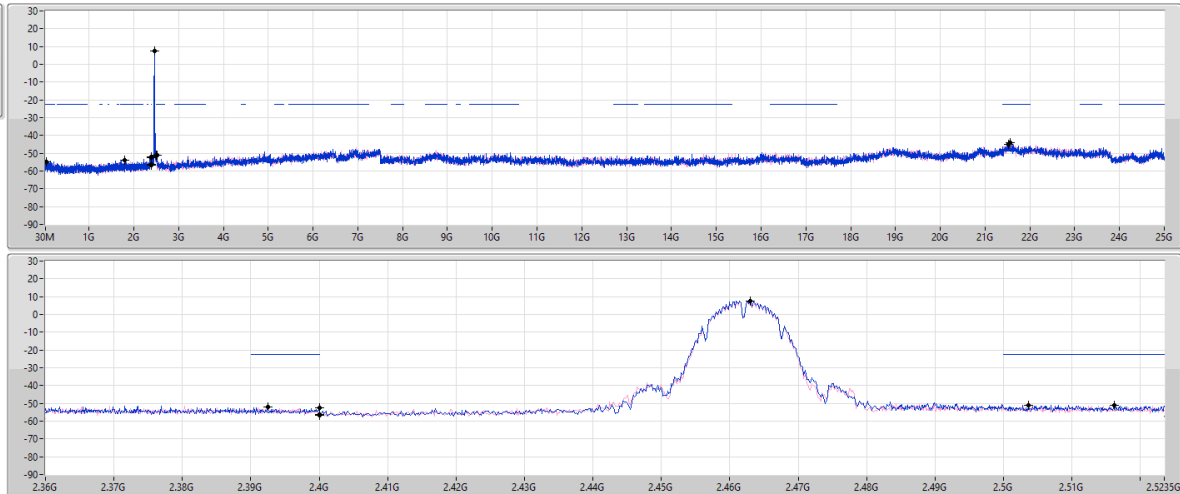


2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX

CSEndB

2462MHz

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



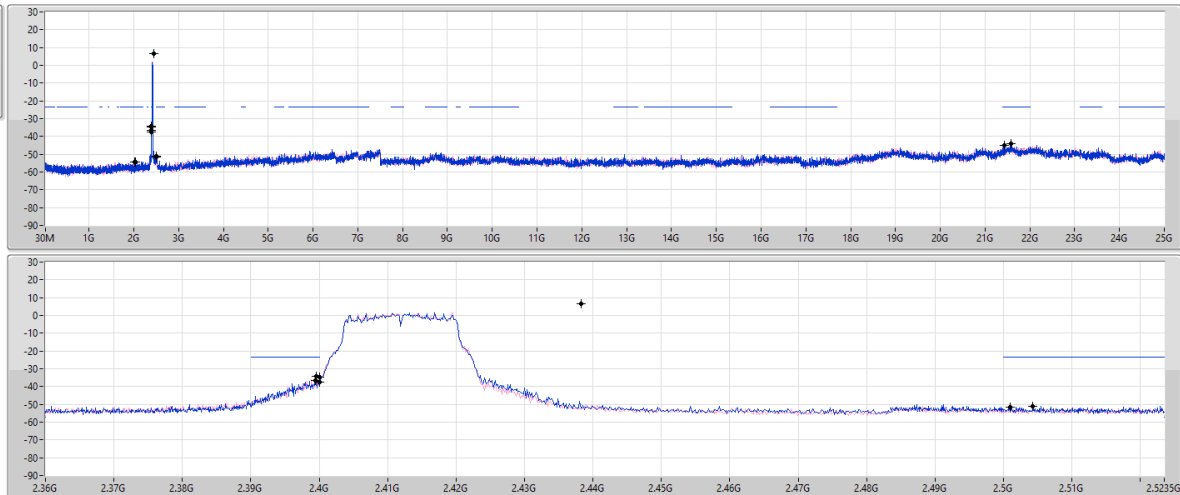
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.46296G	7.70	-22.30	1.79498G	-53.86	2.39248G	-51.95	2.4G	-56.14	2.51614G	-50.88	21.52738G	-45.20	1
2.46296G	7.70	-22.30	41.65M	-54.82	2.4G	-52.28	2.4G	-56.88	2.50366G	-50.93	21.55267G	-44.24	2

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

CSEndB

2412MHz

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



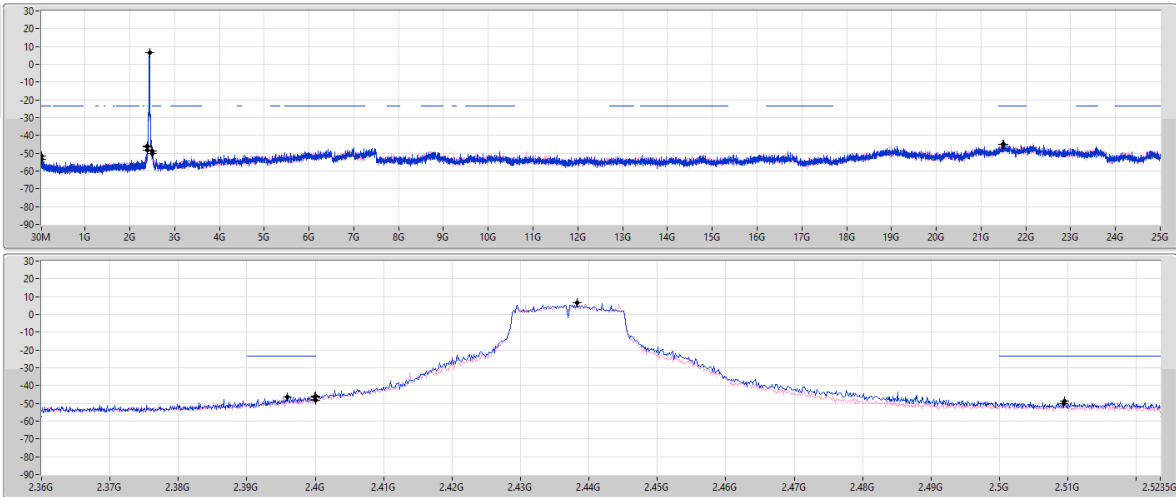
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43824G	6.44	-23.56	2.01167G	-54.44	2.39944G	-36.58	2.4G	-37.29	2.5043G	-51.19	21.57233G	-44.25	1
2.43824G	6.44	-23.56	2.03846G	-54.57	2.39952G	-34.32	2.4G	-34.84	2.50102G	-51.48	21.43186G	-45.16	2

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

CSEndB

2437MHz

28/06/2024

RBW (Hz)
100k
VBW (Hz)
300k
Detector
PeakPort 1
Port 2

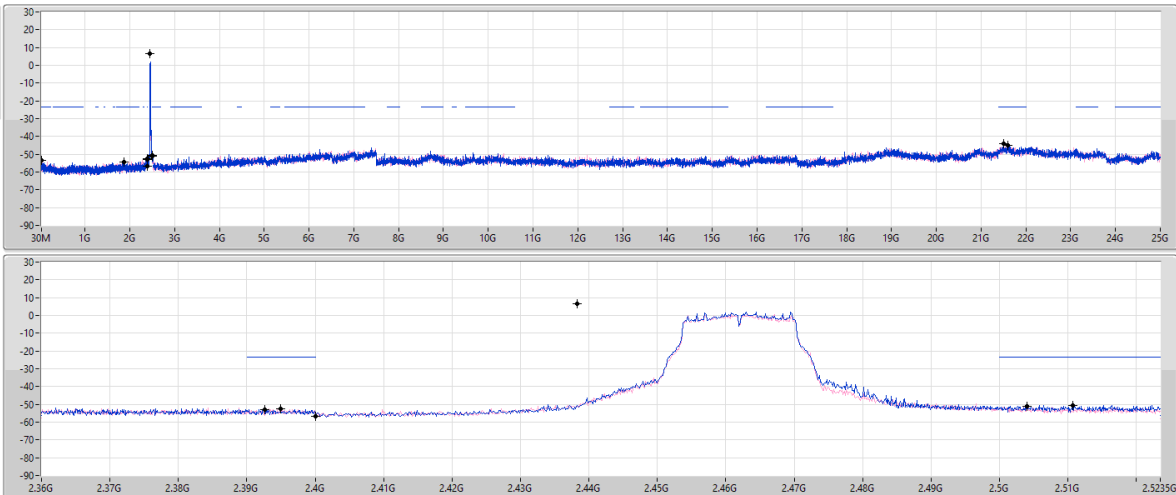
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43824G	6.44	-23.56	36.99M	-53.26	2.39592G	-46.59	2.4G	-45.87	2.5095G	-48.92	21.49648G	-45.08	1
2.43824G	6.44	-23.56	36.99M	-51.66	2.39992G	-46.23	2.4G	-48.49	2.50942G	-50.28	21.48805G	-45.10	2

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

CSEndB

2462MHz

28/06/2024

RBW (Hz)
100k
VBW (Hz)
300k
Detector
PeakPort 1
Port 2

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43824G	6.44	-23.56	1.87303G	-54.56	2.39264G	-52.94	2.4G	-56.85	2.5107G	-50.64	21.49648G	-44.24	1
2.43824G	6.44	-23.56	36.99M	-53.36	2.39496G	-52.42	2.4G	-56.50	2.50998G	-51.07	21.59762G	-45.16	2

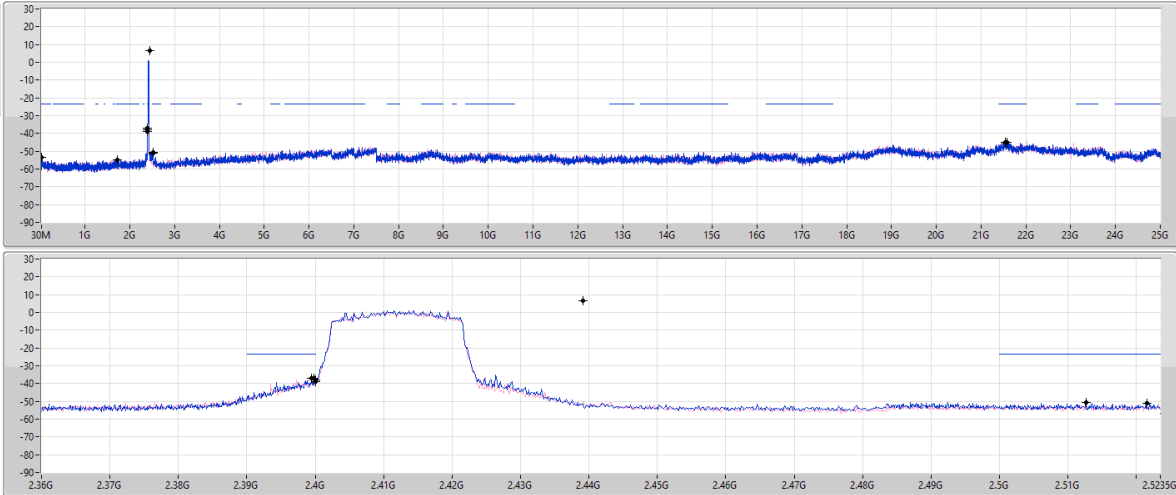
2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_2TX

CSEndB

2412MHz

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

28/06/2024
Port 1
Port 2



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
2.43908G	6.75	-23.25	36.99M	-53.54	2.39984G	-37.14	2.4G	-39.07	2.51262G	-50.63	21.58638G	-44.83	1
2.43908G	6.75	-23.25	1.72275G	-54.66	2.39944G	-37.08	2.4G	-37.93	2.5215G	-51.14	21.54424G	-45.20	2

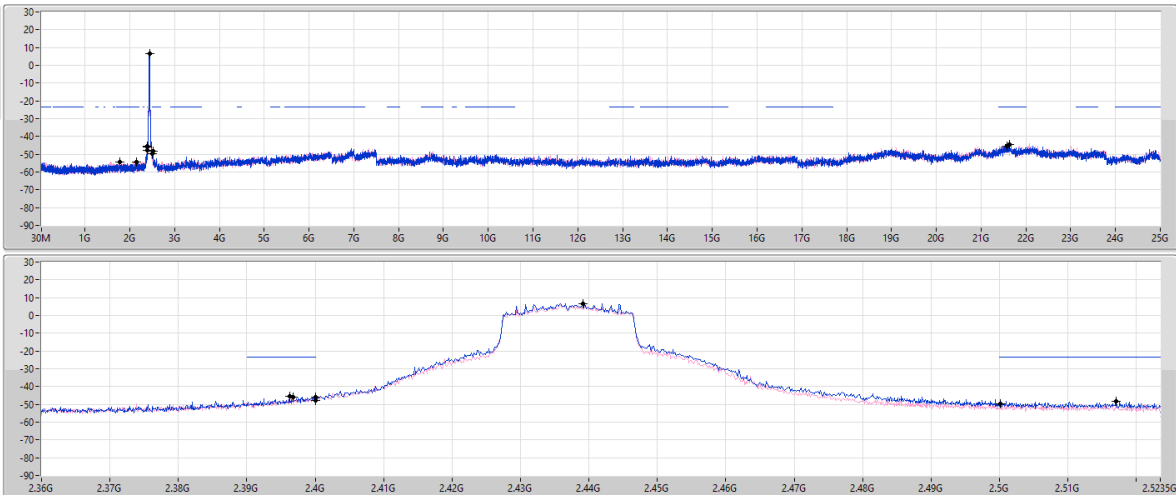
2.4-2.4835GHz_802.11ax_HEW20_Nss1,(MCS0)_2TX

CSEndB

2437MHz

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

28/06/2024
Port 1
Port 2



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
2.43908G	6.75	-23.25	1.78216G	-54.34	2.39624G	-45.64	2.4G	-45.84	2.51702G	-48.40	21.57795G	-45.27	1
2.43908G	6.75	-23.25	2.14215G	-54.47	2.3968G	-46.07	2.4G	-47.94	2.50014G	-49.92	21.62572G	-44.46	2

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

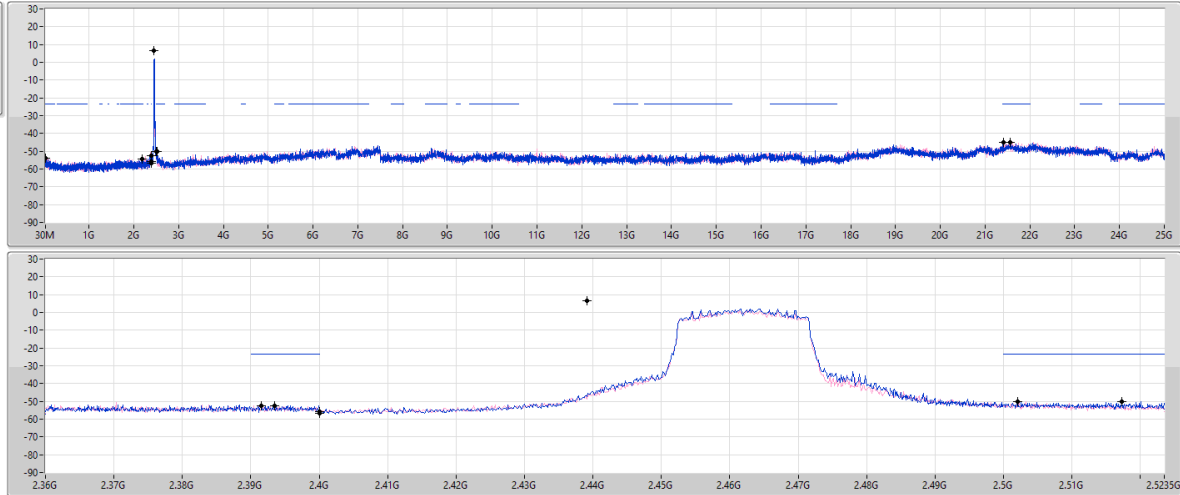
CSEndB

2462MHz

28/06/2024

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

Port 1
Port 2



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
2.43908G	6.75	-23.25	2.18991G	-54.16	2.39152G	-52.32	2.4G	-56.00	2.51734G	-50.04	2.140376G	-45.18	1
2.43908G	6.75	-23.25	36.99M	-53.87	2.39352G	-52.56	2.4G	-56.55	2.50206G	-50.10	2.156671G	-45.13	2



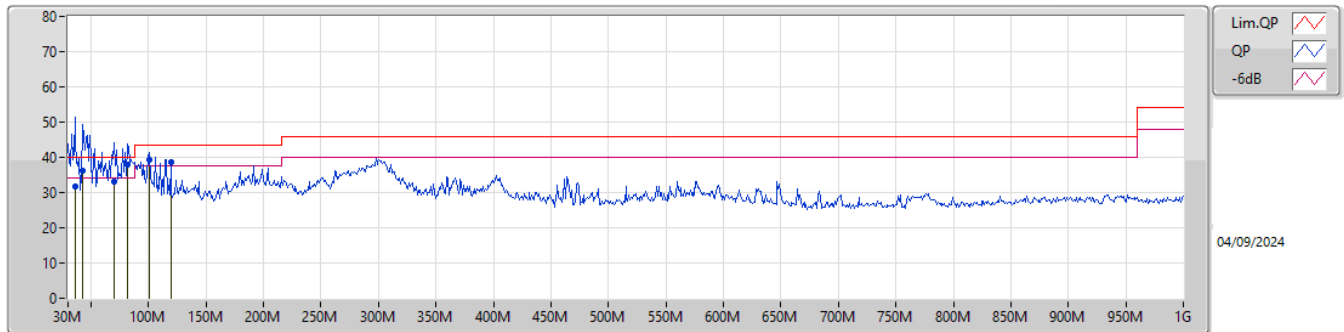
Radiated Emissions below 1GHz

Appendix F.1

Summary

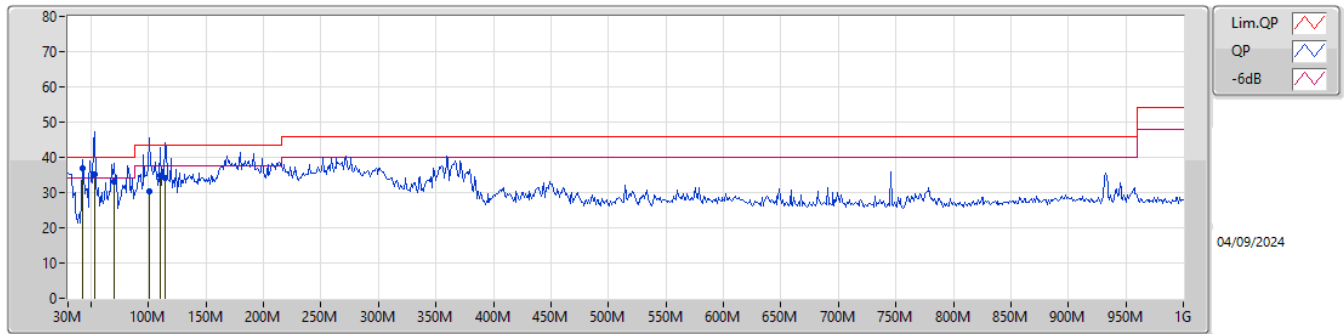
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	QP	81.41M	37.80	40.00	-2.20	Vertical

Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)		
QP	35.82M	31.77	40.00	-8.23	-9.49	3	Vertical	346	1.50	-	41.26	20.79	0.37	30.65		
QP	42.61M	36.20	40.00	-3.80	-13.05	3	Vertical	103	2.00	-	49.25	17.18	0.43	30.66		
QP	69.77M	33.01	40.00	-6.99	-17.64	3	Vertical	281	2.00	-	50.65	12.45	0.65	30.74		
QP	81.41M	37.80	40.00	-2.20	-16.95	3	Vertical	212	1.50	"Worst"	54.75	13.37	0.74	31.06		
QP	100.81M	39.33	43.50	-4.17	-12.64	3	Vertical	238	1.50	-	51.97	17.23	0.82	30.69		
PK	119.24M	38.45	43.50	-5.05	-11.61	3	Vertical	131	1.00	-	50.06	18.48	0.94	31.03		

Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)		
QP	42.61M	36.74	40.00	-3.26	-13.05	3	Horizontal	320	2.00	"Worst"	49.79	17.18	0.43	30.66		
QP	53.28M	35.22	40.00	-4.78	-17.39	3	Horizontal	185	1.50	-	52.61	13.14	0.55	31.08		
QP	69.77M	33.22	40.00	-6.78	-17.64	3	Horizontal	352	2.00	-	50.86	12.45	0.65	30.74		
QP	100.81M	30.34	43.50	-13.16	-12.64	3	Horizontal	251	2.00	-	42.98	17.23	0.82	30.69		
QP	110.51M	34.86	43.50	-8.64	-11.88	3	Horizontal	267	3.00	-	46.74	18.11	0.88	30.87		
QP	114.39M	34.06	43.50	-9.44	-11.73	3	Horizontal	261	3.00	-	45.79	18.30	0.91	30.94		

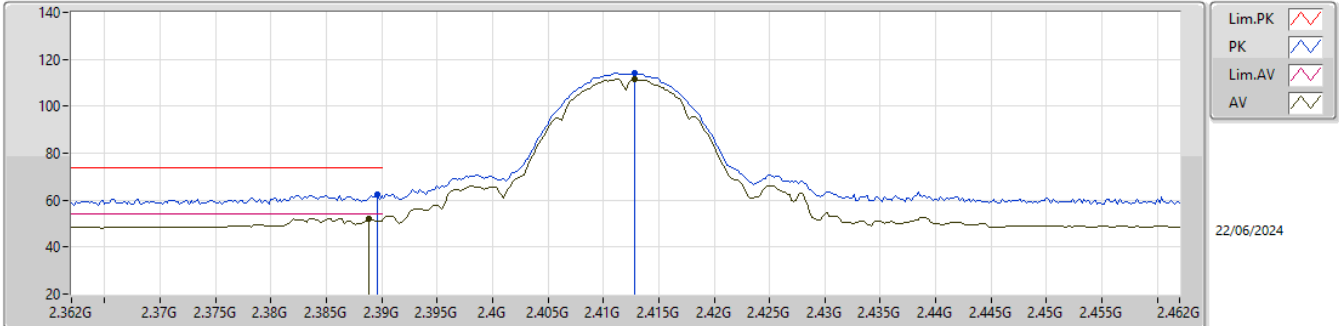


Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	AV	4.87394G	53.85	54.00	-0.15	3	Vertical	237	2.21	-

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

2412MHz_TX

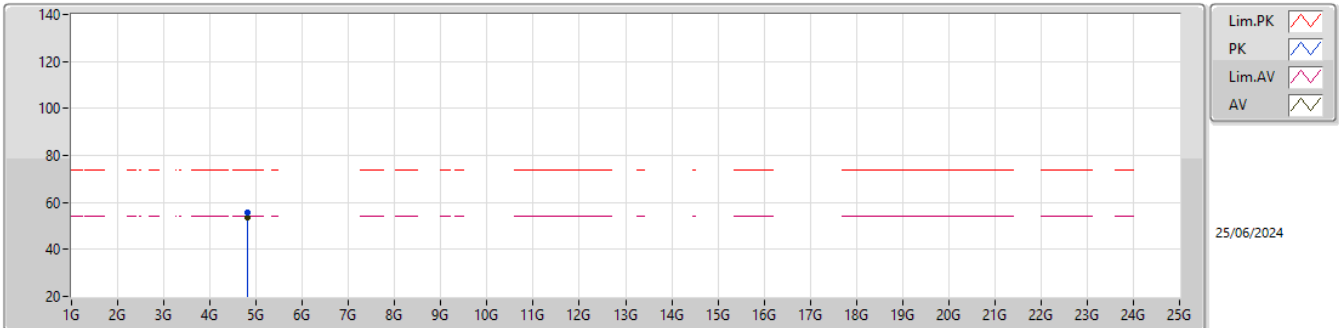


EUT_Z_2TX
Setting 17
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	2.3896G	62.24	74.00	-11.76	29.89	3	Vertical	84	3.00	-	27.70	4.65	-			
AV	2.3888G	52.00	54.00	-2.00	19.65	3	Vertical	84	3.00	-	27.70	4.65	-			
PK	2.4128G	113.94	Inf	-Inf	81.65	3	Vertical	84	3.00	-	27.63	4.66	-			
AV	2.4128G	111.38	Inf	-Inf	79.09	3	Vertical	84	3.00	-	27.63	4.66	-			

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

2412MHz_TX

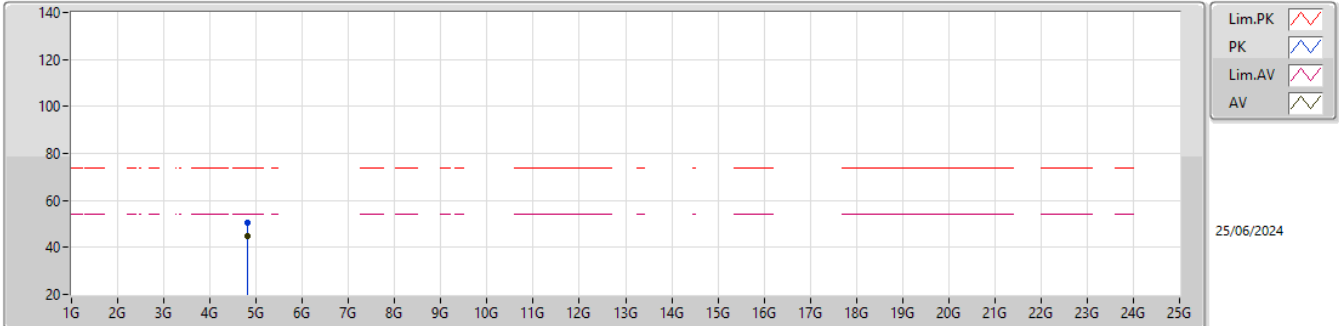


EUT_Z_2TX
Setting 15
06-K-S-4

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	4.82396G	55.72	74.00	-18.28	49.13	3	Vertical	222	1.80	-	31.30	6.69	31.40			
AV	4.82398G	53.76	54.00	-0.24	47.17	3	Vertical	222	1.80	-	31.30	6.69	31.40			

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

2412MHz_TX

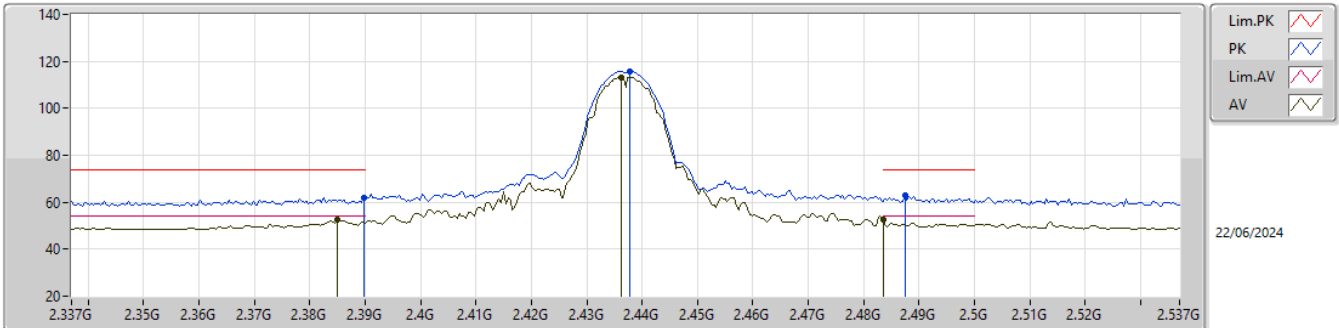


EUT_Z_2TX
Setting 15
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.82404G	50.53	74.00	-23.47	43.94	3	Horizontal	225	1.80	-	31.30	6.69	31.40			
AV	4.82396G	44.61	54.00	-9.39	38.02	3	Horizontal	225	1.80	-	31.30	6.69	31.40			

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

2437MHz_TX

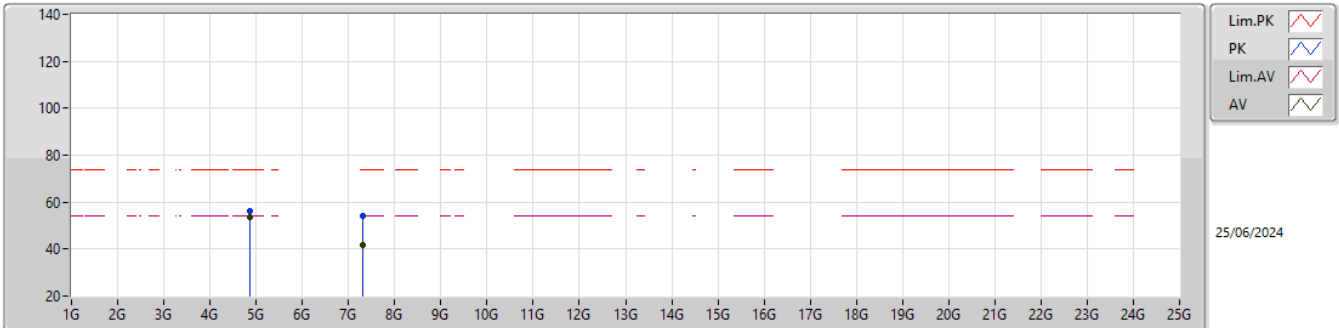


EUT_Z_2TX
Setting 19
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)				
PK	2.3898G	62.13	74.00	-11.87	29.77	3	Vertical	75	2.34	-	27.70	4.66	-				
AV	2.385G	52.71	54.00	-1.29	20.36	3	Vertical	75	2.34	-	27.70	4.65	-				
PK	2.4378G	115.78	Inf	-Inf	83.62	3	Vertical	75	2.34	-	27.52	4.64	-				
AV	2.4362G	113.21	Inf	-Inf	81.03	3	Vertical	75	2.34	-	27.54	4.64	-				
PK	2.4874G	62.87	74.00	-11.13	30.77	3	Vertical	75	2.34	-	27.50	4.60	-				
AV	2.4835G	52.81	54.00	-1.19	20.71	3	Vertical	75	2.34	-	27.50	4.60	-				

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

2437MHz_TX

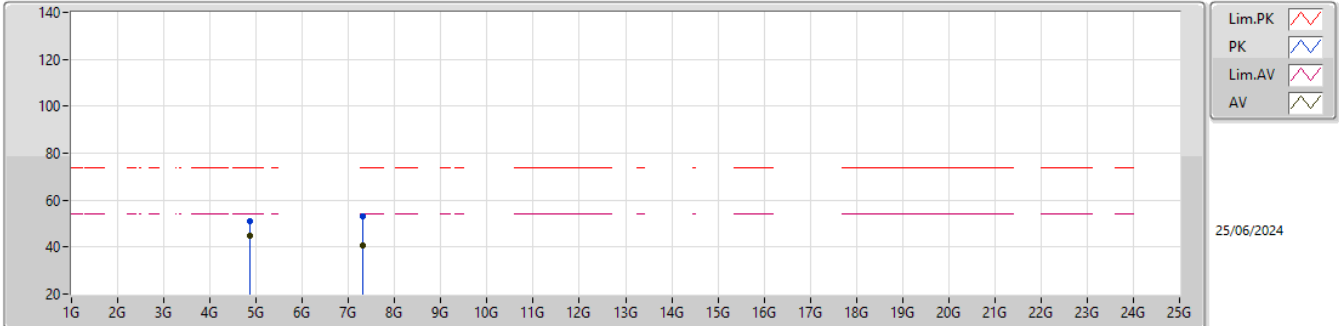


EUT_Z_2TX
Setting 15
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)				
PK	4.87396G	56.20	74.00	-17.80	49.54	3	Vertical	237	2.21	-	31.30	6.73	31.37				
AV	4.87394G	53.85	54.00	-0.15	47.19	3	Vertical	237	2.21	-	31.30	6.73	31.37				
PK	7.31134G	54.04	74.00	-19.96	41.70	3	Vertical	295	2.17	-	36.60	8.34	32.60				
AV	7.3095G	41.58	54.00	-12.42	29.24	3	Vertical	295	2.17	-	36.60	8.34	32.60				

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

2437MHz_TX

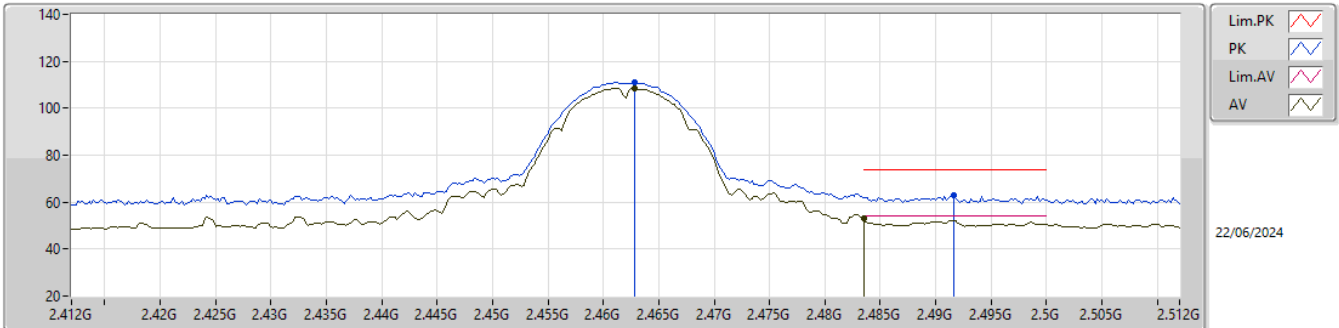


EUT_Z_2TX
Setting 15
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.87414G	50.85	74.00	-23.15	44.19	3	Horizontal	280	1.80	-	31.30	6.73	31.37			
AV	4.87392G	44.81	54.00	-9.19	38.15	3	Horizontal	280	1.80	-	31.30	6.73	31.37			
PK	7.31276G	53.15	74.00	-20.85	40.81	3	Horizontal	305	2.57	-	36.60	8.34	32.60			
AV	7.3091G	40.94	54.00	-13.06	28.60	3	Horizontal	305	2.57	-	36.60	8.34	32.60			

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

2462MHz_TX

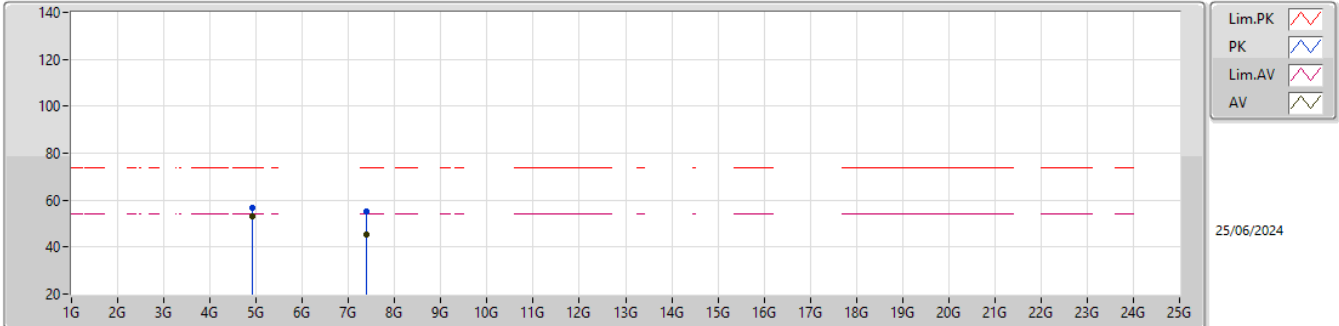


EUT_Z_2TX
Setting 17
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)				
PK	2.4628G	111.02	Inf	-Inf	79.00	3	Vertical	65	1.80	-	27.40	4.62	-				
AV	2.4628G	108.62	Inf	-Inf	76.60	3	Vertical	65	1.80	-	27.40	4.62	-				
PK	2.4916G	62.84	74.00	-11.16	30.75	3	Vertical	65	1.80	-	27.50	4.59	-				
AV	2.4835G	52.98	54.00	-1.02	20.88	3	Vertical	65	1.80	-	27.50	4.60	-				

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

2462MHz_TX

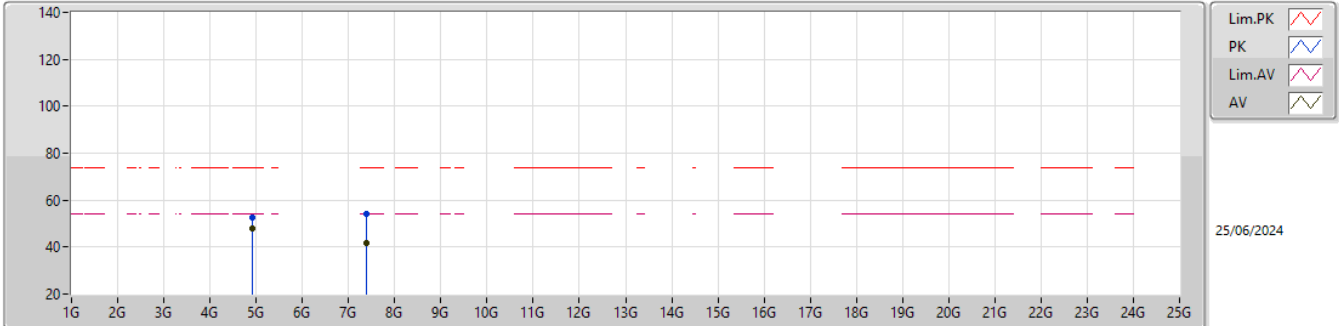


EUT_Z_2TX
Setting 17
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.92388G	56.68	74.00	-17.32	49.83	3	Vertical	234	2.47	-	31.40	6.78	31.33			
AV	4.92396G	53.26	54.00	-0.74	46.41	3	Vertical	234	2.47	-	31.40	6.78	31.33			
PK	7.38448G	55.34	74.00	-18.66	43.11	3	Vertical	360	3.00	-	36.60	8.34	32.71			
AV	7.38664G	45.09	54.00	-8.91	32.86	3	Vertical	360	3.00	-	36.60	8.34	32.71			

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

2462MHz_TX

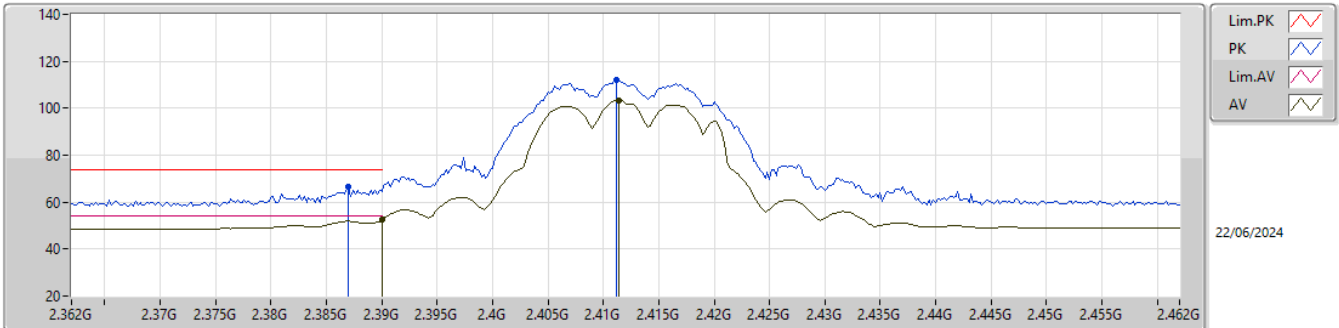


EUT_Z_2TX
Setting 17
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.92394G	52.73	74.00	-21.27	45.88	3	Horizontal	258	3.00	-	31.40	6.78	31.33			
AV	4.92396G	47.96	54.00	-6.04	41.11	3	Horizontal	258	3.00	-	31.40	6.78	31.33			
PK	7.38832G	54.25	74.00	-19.75	42.02	3	Horizontal	280	1.80	-	36.60	8.34	32.71			
AV	7.38438G	41.60	54.00	-12.40	29.37	3	Horizontal	280	1.80	-	36.60	8.34	32.71			

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

2412MHz_TX

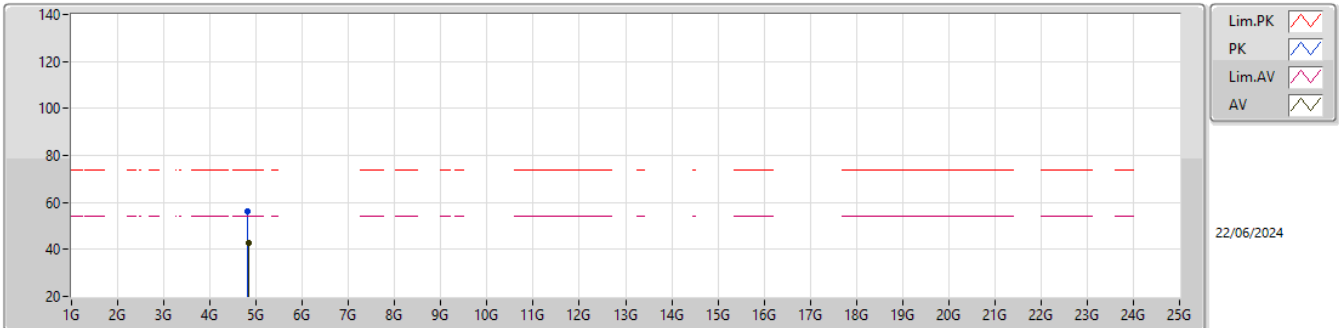


EUT_Z_2TX
Setting 14
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	2.387G	66.47	74.00	-7.53	34.06	3	Vertical	71	1.91	-	27.70	4.71	-			
AV	2.39G	52.51	54.00	-1.49	20.10	3	Vertical	71	1.91	-	27.70	4.71	-			
PK	2.4112G	112.16	Inf	-Inf	79.83	3	Vertical	71	1.91	-	27.60	4.73	-			
AV	2.4114G	103.37	Inf	-Inf	71.04	3	Vertical	71	1.91	-	27.60	4.73	-			

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

2412MHz_TX

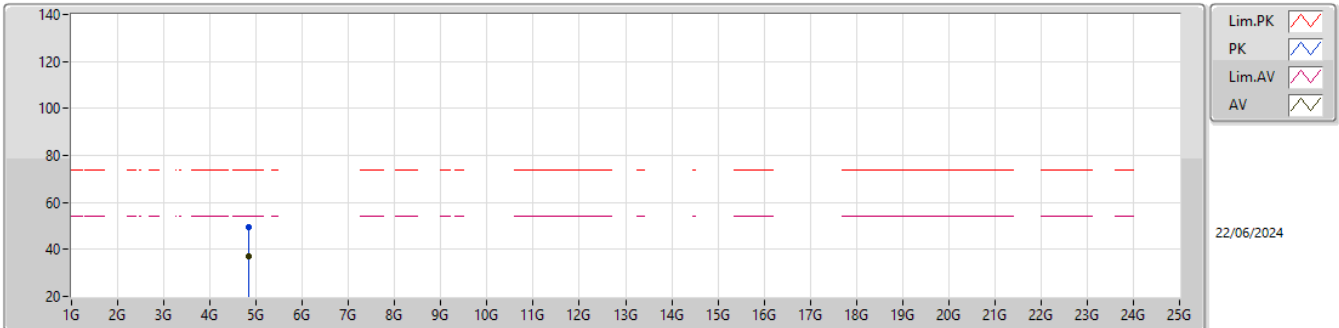


EUT_Z_2TX
Setting 14
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.82236G	56.37	74.00	-17.63	50.71	3	Vertical	248	1.80	-	31.30	6.93	32.57			
AV	4.8272G	42.85	54.00	-11.15	37.18	3	Vertical	248	1.80	-	31.30	6.94	32.57			

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

2412MHz_TX

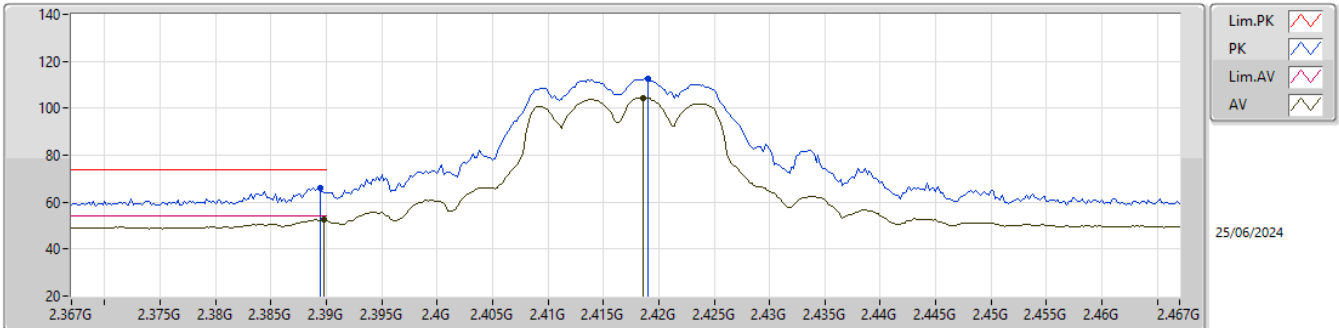


EUT_Z_2TX
Setting 14
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.82798G	49.41	74.00	-24.59	43.74	3	Horizontal	254	1.95	-	31.30	6.94	32.57			
AV	4.82688G	37.16	54.00	-16.84	31.49	3	Horizontal	254	1.95	-	31.30	6.94	32.57			

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

2417MHz_TX

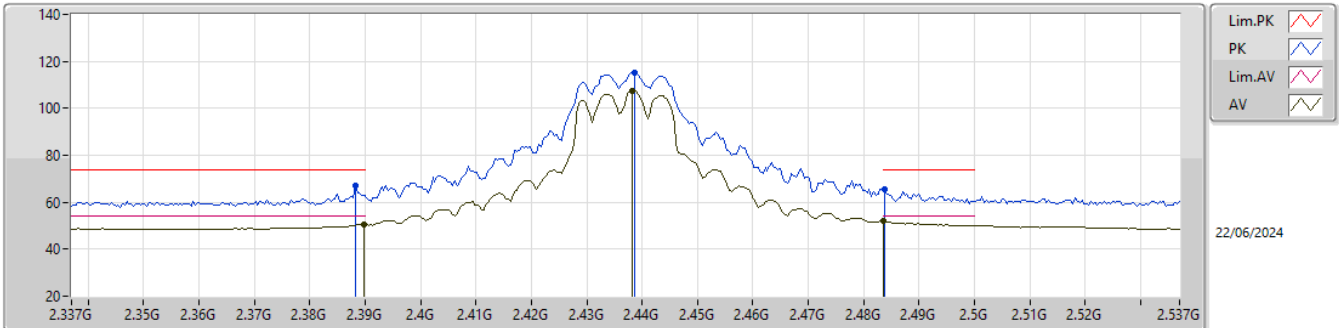


EUT_Z_2TX
Setting 15
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	2.3894G	65.97	74.00	-8.03	33.56	3	Vertical	72	1.66	-	27.70	4.71	-			
AV	2.3898G	52.78	54.00	-1.22	20.37	3	Vertical	72	1.66	-	27.70	4.71	-			
PK	2.419G	112.75	Inf	-Inf	80.41	3	Vertical	72	1.66	-	27.60	4.74	-			
AV	2.4186G	104.49	Inf	-Inf	72.15	3	Vertical	72	1.66	-	27.60	4.74	-			

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

2437MHz_TX

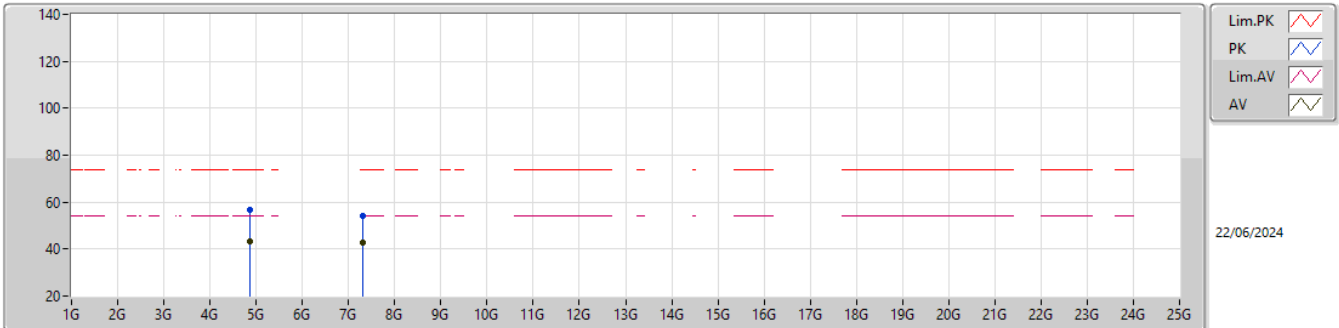


EUT_Z_2TX
Setting 18
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)				
PK	2.3882G	66.84	74.00	-7.16	34.49	3	Vertical	68	1.80	-	27.70	4.65	-				
AV	2.3898G	50.59	54.00	-3.41	18.23	3	Vertical	68	1.80	-	27.70	4.66	-				
PK	2.4386G	115.30	Inf	-Inf	83.15	3	Vertical	68	1.80	-	27.51	4.64	-				
AV	2.4382G	107.30	Inf	-Inf	75.14	3	Vertical	68	1.80	-	27.52	4.64	-				
PK	2.4838G	65.66	74.00	-8.34	33.56	3	Vertical	68	1.80	-	27.50	4.60	-				
AV	2.4835G	51.87	54.00	-2.13	19.77	3	Vertical	68	1.80	-	27.50	4.60	-				

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

2437MHz_TX

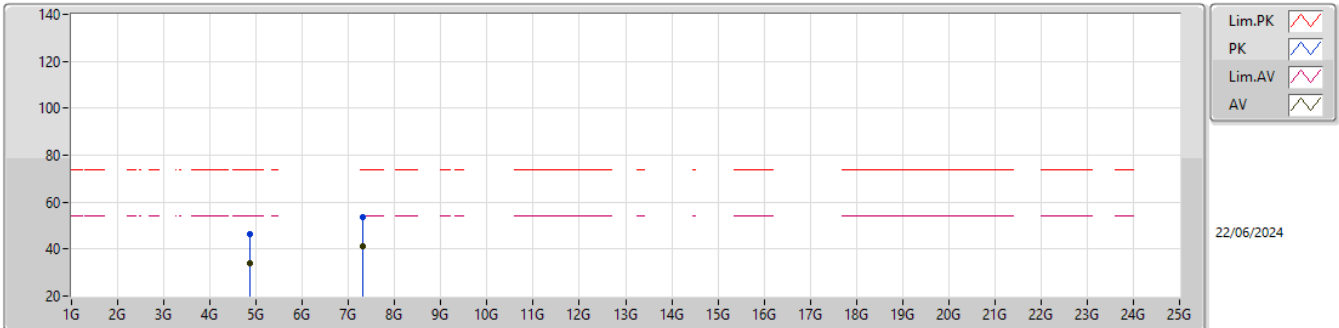


EUT_Z_2TX
Setting 18
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)				
PK	4.8726G	56.47	74.00	-17.53	50.76	3	Vertical	248	1.80	-	31.30	6.98	32.57				
AV	4.87212G	43.24	54.00	-10.76	37.53	3	Vertical	248	1.80	-	31.30	6.98	32.57				
PK	7.30492G	54.30	74.00	-19.70	42.03	3	Vertical	121	2.06	-	36.28	8.62	32.63				
AV	7.3054G	42.52	54.00	-11.48	30.25	3	Vertical	121	2.06	-	36.28	8.62	32.63				

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

2437MHz_TX

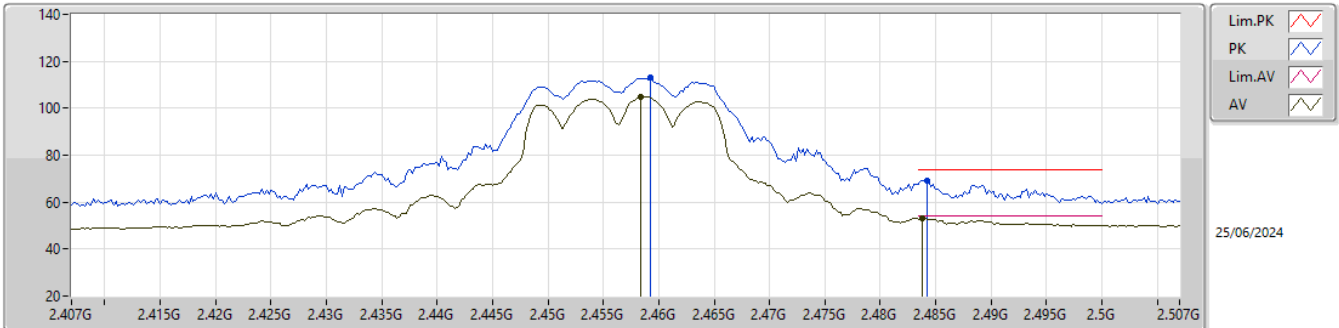


EUT_Z_2TX
Setting 18
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.87172G	46.35	74.00	-27.65	40.64	3	Horizontal	198	2.58	-	31.30	6.98	32.57			
AV	4.87316G	34.07	54.00	-19.93	28.36	3	Horizontal	198	2.58	-	31.30	6.98	32.57			
PK	7.31044G	53.43	74.00	-20.57	41.18	3	Horizontal	98	1.97	-	36.26	8.62	32.63			
AV	7.305G	41.01	54.00	-12.99	28.74	3	Horizontal	98	1.97	-	36.28	8.62	32.63			

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

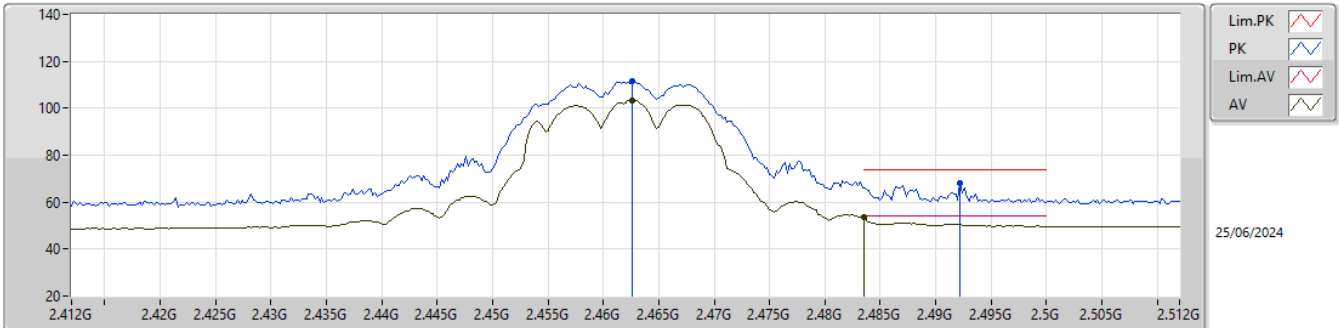
2457MHz_TX


EUT_Z_2TX
Setting 16
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	2.4592G	113.28	Inf	-Inf	81.10	3	Vertical	71	1.80	-	27.41	4.77	-			
AV	2.4584G	104.74	Inf	-Inf	72.55	3	Vertical	71	1.80	-	27.42	4.77	-			
PK	2.4842G	69.08	74.00	-4.92	36.88	3	Vertical	71	1.80	-	27.40	4.80	-			
AV	2.4838G	53.34	54.00	-0.66	21.14	3	Vertical	71	1.80	-	27.40	4.80	-			

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

2462MHz_TX

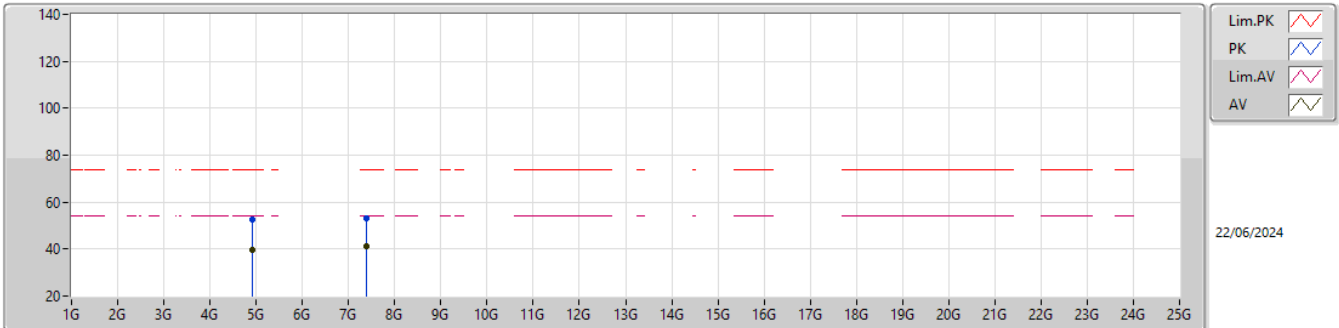


EUT_Z_2TX
Setting 14
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	2.4626G	111.63	Inf	-Inf	79.45	3	Vertical	227	1.95	-	27.40	4.78	-			
AV	2.4626G	103.51	Inf	-Inf	71.33	3	Vertical	227	1.95	-	27.40	4.78	-			
PK	2.4922G	68.21	74.00	-5.79	36.01	3	Vertical	227	1.95	-	27.40	4.80	-			
AV	2.4835G	53.49	54.00	-0.51	21.29	3	Vertical	227	1.95	-	27.40	4.80	-			

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

2462MHz_TX

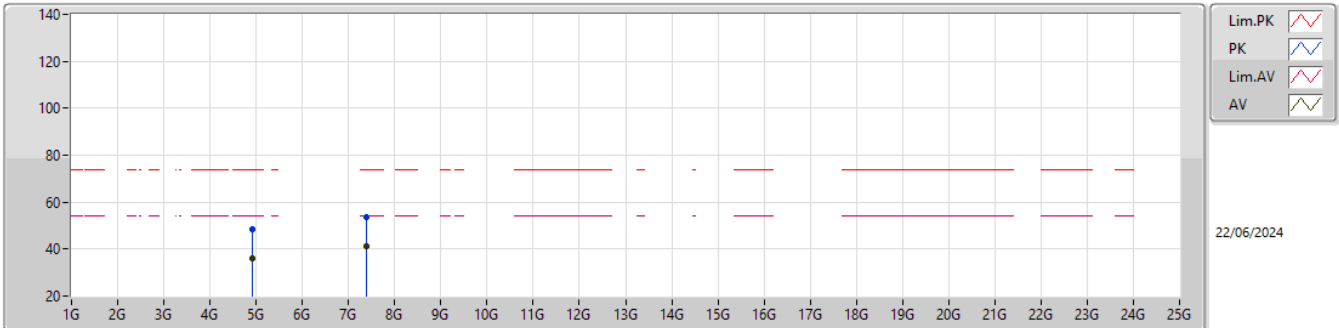


EUT_Z_2TX
Setting 14
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)				
PK	4.92248G	52.41	74.00	-21.59	46.57	3	Vertical	234	1.80	-	31.39	7.03	32.58				
AV	4.92728G	39.61	54.00	-14.39	33.74	3	Vertical	234	1.80	-	31.41	7.04	32.58				
PK	7.38304G	53.25	74.00	-20.75	41.04	3	Vertical	319	1.94	-	36.10	8.71	32.60				
AV	7.3842G	41.01	54.00	-12.99	28.80	3	Vertical	319	1.94	-	36.10	8.71	32.60				

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

2462MHz_TX

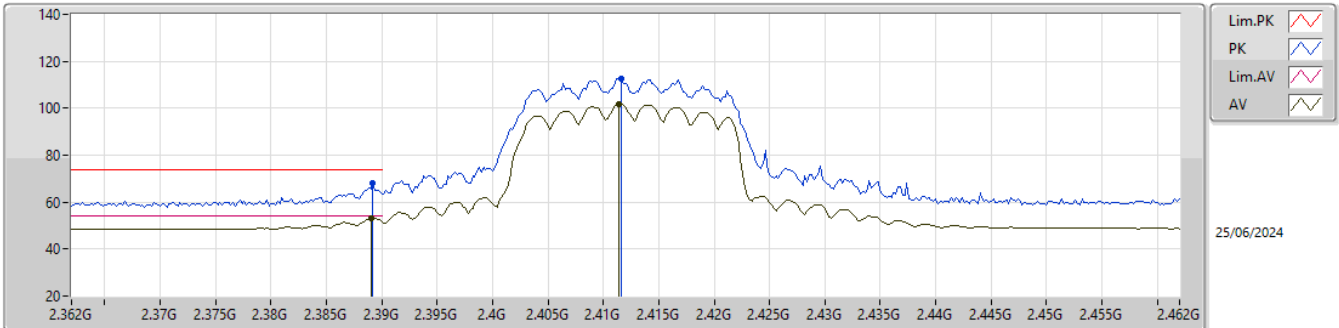


EUT_Z_2TX
Setting 14
01-I-G-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.92796G	48.40	74.00	-25.60	42.53	3	Horizontal	238	1.80	-	31.41	7.04	32.58			
AV	4.92208G	35.90	54.00	-18.10	30.06	3	Horizontal	238	1.80	-	31.39	7.03	32.58			
PK	7.384G	53.59	74.00	-20.41	41.38	3	Horizontal	64	2.92	-	36.10	8.71	32.60			
AV	7.38356G	41.01	54.00	-12.99	28.80	3	Horizontal	64	2.92	-	36.10	8.71	32.60			

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

2412MHz_TX

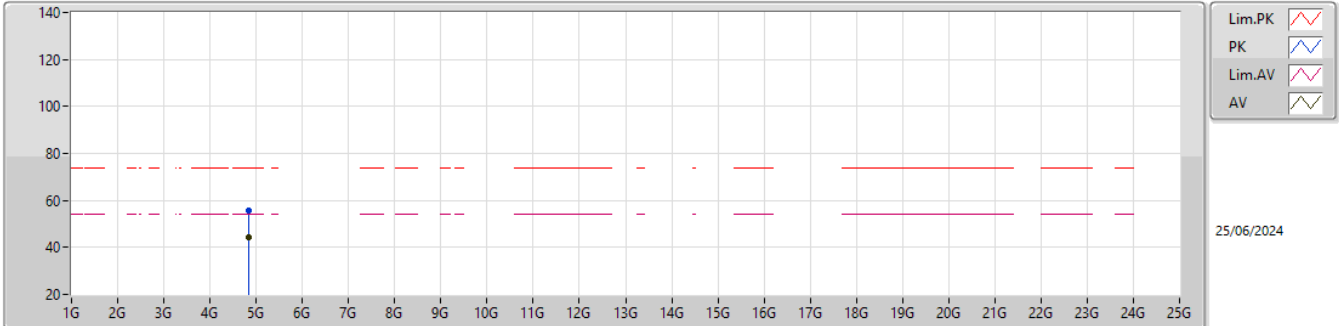


EUT_Z_2TX
Setting 13
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	2.3892G	68.03	74.00	-5.97	35.62	3	Vertical	71	1.63	-	27.70	4.71	-			
AV	2.389G	53.10	54.00	-0.90	20.69	3	Vertical	71	1.63	-	27.70	4.71	-			
PK	2.4116G	112.79	Inf	-Inf	80.46	3	Vertical	71	1.63	-	27.60	4.73	-			
AV	2.4114G	101.61	Inf	-Inf	69.28	3	Vertical	71	1.63	-	27.60	4.73	-			

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

2412MHz_TX

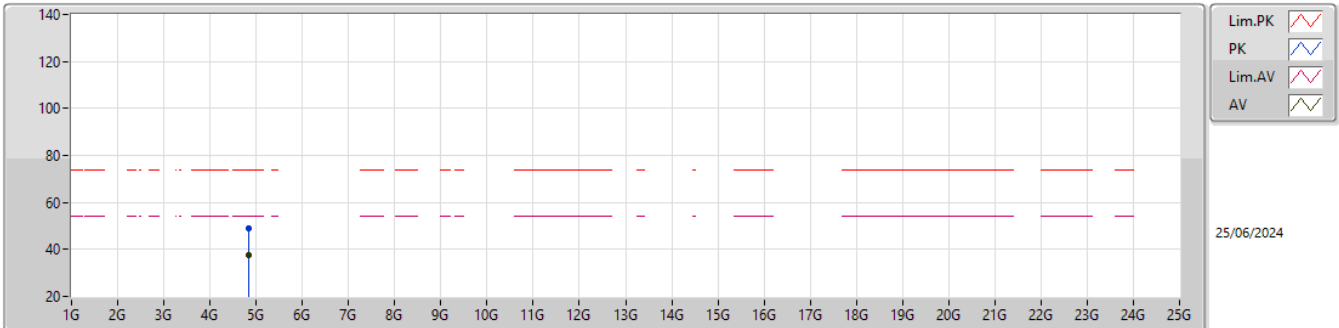


EUT_Z_2TX
Setting 13
06-K-S-4

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	4.82556G	55.73	74.00	-18.27	49.14	3	Vertical	229	2.56	-	31.30	6.69	31.40			
AV	4.82568G	44.20	54.00	-9.80	37.61	3	Vertical	229	2.56	-	31.30	6.69	31.40			

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

2412MHz_TX

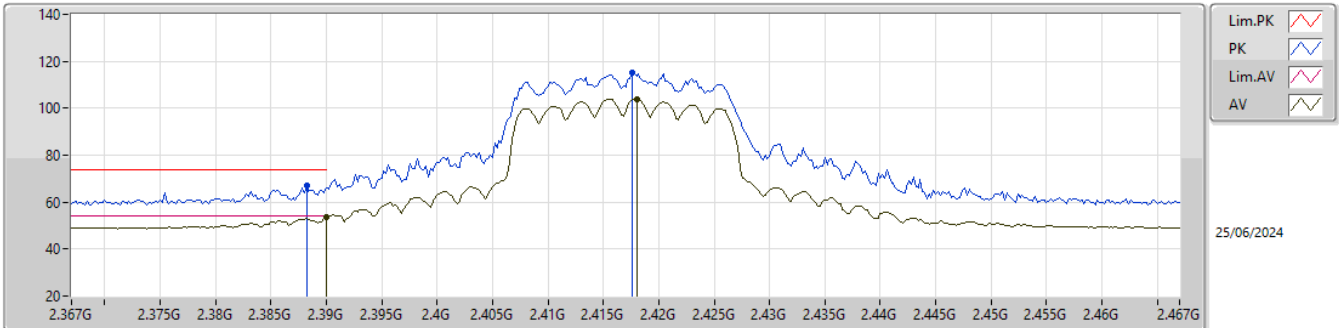


EUT_Z_2TX
Setting 13
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.83354G	48.97	74.00	-25.03	42.37	3	Horizontal	239	1.80	-	31.30	6.70	31.40			
AV	4.82586G	37.52	54.00	-16.48	30.93	3	Horizontal	239	1.80	-	31.30	6.69	31.40			

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

2417MHz_TX

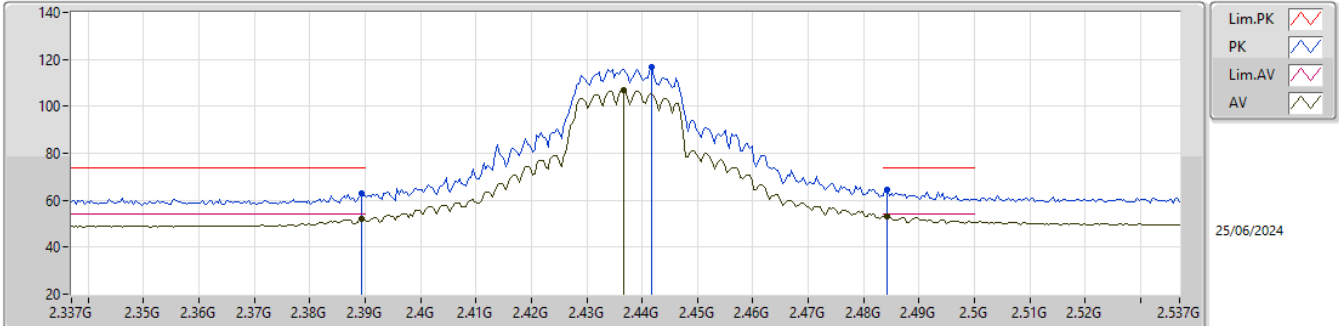


EUT_Z_2TX
Setting 15
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	2.3882G	67.10	74.00	-6.90	34.69	3	Vertical	71	1.94	-	27.70	4.71	-			
AV	2.39G	53.71	54.00	-0.29	21.30	3	Vertical	71	1.94	-	27.70	4.71	-			
PK	2.4176G	115.13	Inf	-Inf	82.79	3	Vertical	71	1.94	-	27.60	4.74	-			
AV	2.418G	103.95	Inf	-Inf	71.61	3	Vertical	71	1.94	-	27.60	4.74	-			

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

2437MHz_TX

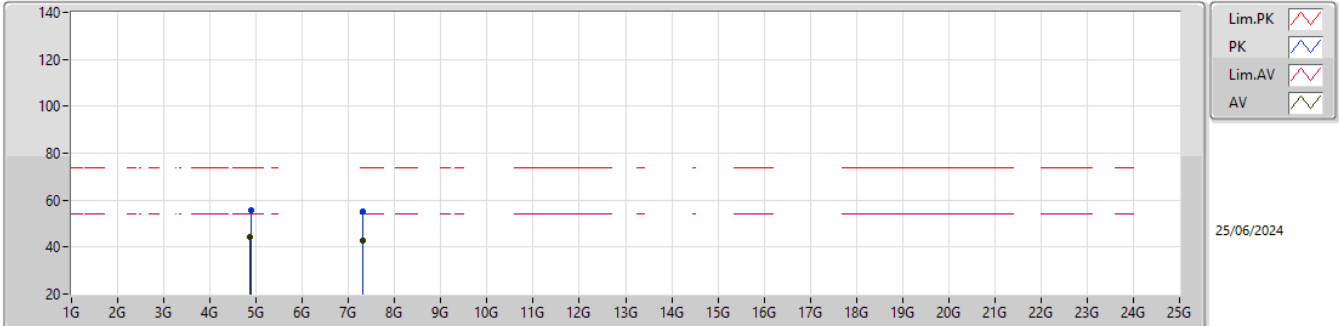


EUT_Z_2TX
Setting 18
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	2.3894G	62.81	74.00	-11.19	30.40	3	Vertical	71	2.34	-	27.70	4.71	-			
AV	2.3894G	52.10	54.00	-1.90	19.69	3	Vertical	71	2.34	-	27.70	4.71	-			
PK	2.4418G	116.68	Inf	-Inf	84.42	3	Vertical	71	2.34	-	27.50	4.76	-			
AV	2.4366G	106.81	Inf	-Inf	74.56	3	Vertical	71	2.34	-	27.50	4.75	-			
PK	2.4842G	64.23	74.00	-9.77	32.03	3	Vertical	71	2.34	-	27.40	4.80	-			
AV	2.4842G	53.18	54.00	-0.82	20.98	3	Vertical	71	2.34	-	27.40	4.80	-			

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

2437MHz_TX

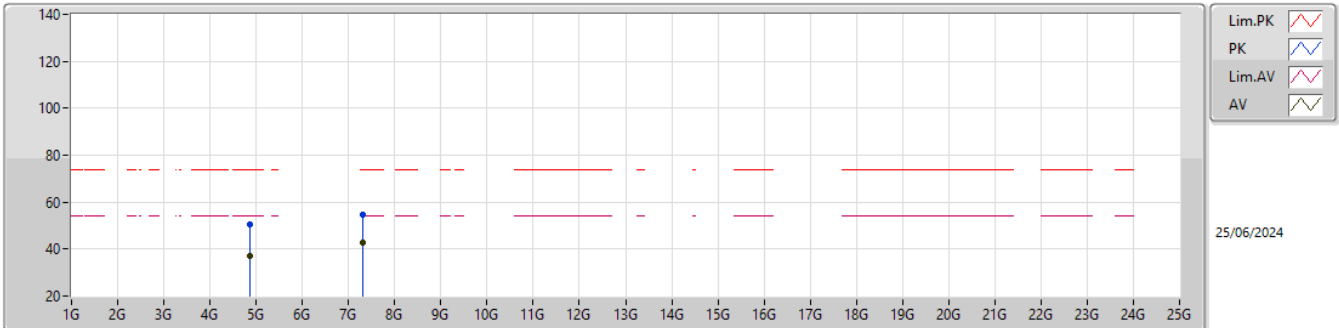


EUT_Z_2TX
Setting 18
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.87826G	55.94	74.00	-18.06	49.27	3	Vertical	229	1.80	-	31.30	6.74	31.37			
AV	4.8734G	44.31	54.00	-9.69	37.65	3	Vertical	229	1.80	-	31.30	6.73	31.37			
PK	7.31113G	55.09	74.00	-18.91	42.75	3	Vertical	93	2.12	-	36.60	8.34	32.60			
AV	7.31052G	42.96	54.00	-11.04	30.62	3	Vertical	93	2.12	-	36.60	8.34	32.60			

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

2437MHz_TX

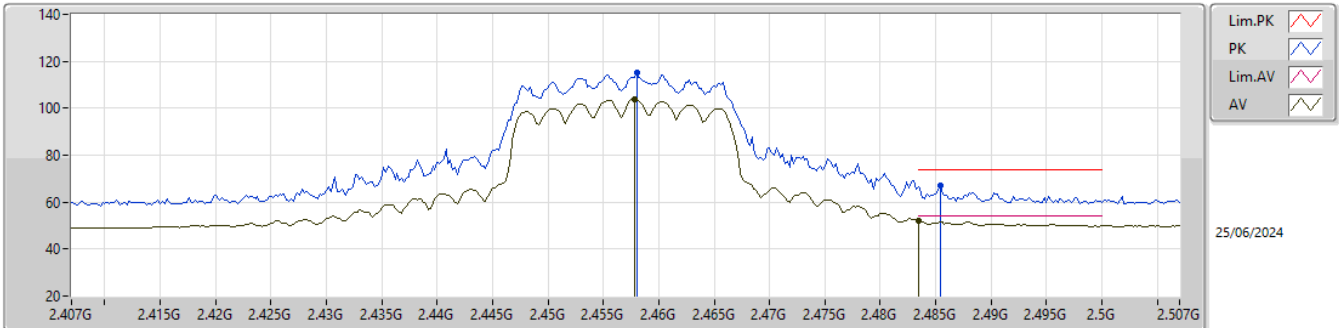


EUT_Z_2TX
Setting 18
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.87058G	50.40	74.00	-23.60	43.74	3	Horizontal	234	3.00	-	31.30	6.73	31.37			
AV	4.87328G	37.31	54.00	-16.69	30.65	3	Horizontal	234	3.00	-	31.30	6.73	31.37			
PK	7.31148G	54.64	74.00	-19.36	42.30	3	Horizontal	145	1.47	-	36.60	8.34	32.60			
AV	7.3108G	42.66	54.00	-11.34	30.32	3	Horizontal	145	1.47	-	36.60	8.34	32.60			

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

2457MHz_TX

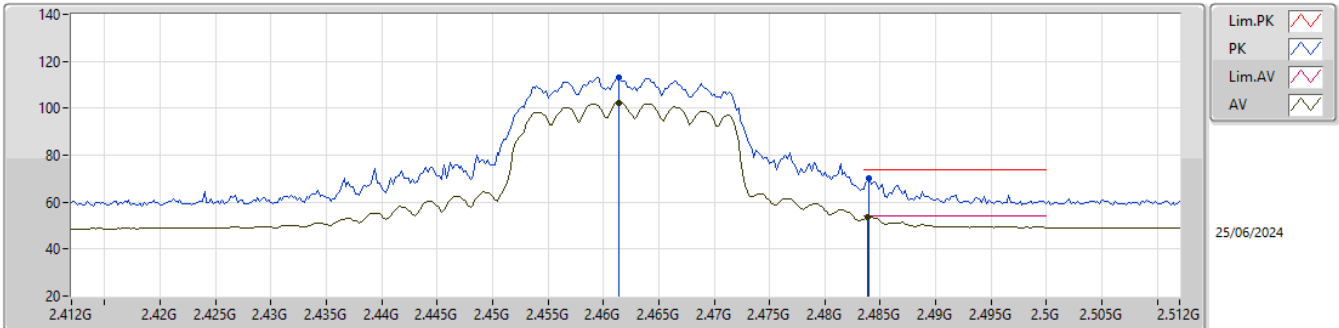


EUT_Z_2TX
Setting 15
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	2.458G	115.18	Inf	-Inf	82.99	3	Vertical	68	1.80	-	27.42	4.77	-			
AV	2.4578G	103.87	Inf	-Inf	71.68	3	Vertical	68	1.80	-	27.42	4.77	-			
PK	2.4854G	67.12	74.00	-6.88	34.92	3	Vertical	68	1.80	-	27.40	4.80	-			
AV	2.4835G	52.13	54.00	-1.87	19.93	3	Vertical	68	1.80	-	27.40	4.80	-			

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

2462MHz_TX

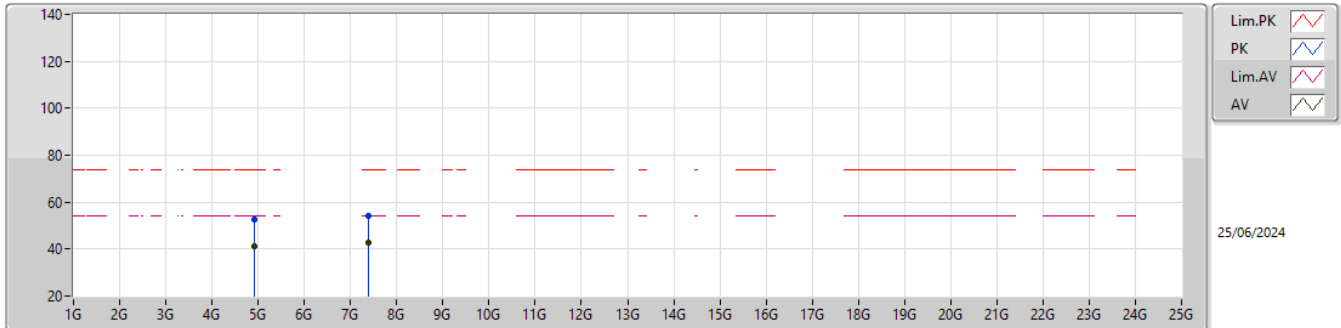


EUT_Z_2TX
Setting 14
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	2.4614G	113.21	Inf	-Inf	81.03	3	Vertical	69	1.67	-	27.40	4.78	-			
AV	2.4614G	102.42	Inf	-Inf	70.24	3	Vertical	69	1.67	-	27.40	4.78	-			
PK	2.484G	70.29	74.00	-3.71	38.09	3	Vertical	69	1.67	-	27.40	4.80	-			
AV	2.4838G	53.50	54.00	-0.50	21.30	3	Vertical	69	1.67	-	27.40	4.80	-			

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

2462MHz_TX

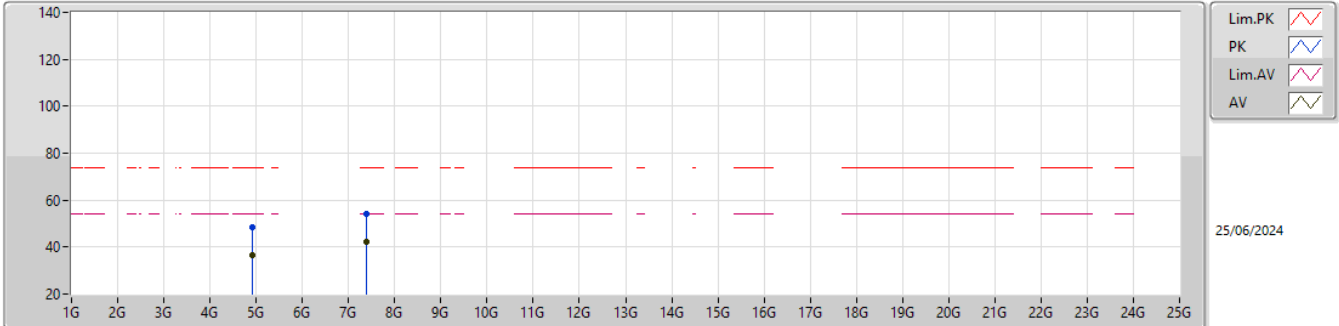


EUT_Z_2TX
Setting 14
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.92052G	52.72	74.00	-21.28	45.91	3	Vertical	245	1.80	-	31.38	6.77	31.34			
AV	4.92322G	40.99	54.00	-13.01	34.16	3	Vertical	245	1.80	-	31.39	6.77	31.33			
PK	7.38563G	54.38	74.00	-19.62	42.15	3	Vertical	339	2.54	-	36.60	8.34	32.71			
AV	7.38619G	42.60	54.00	-11.40	30.37	3	Vertical	339	2.54	-	36.60	8.34	32.71			

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

2462MHz_TX



EUT_Z_2TX
Setting 14
06-K-S-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)			
PK	4.92034G	48.56	74.00	-25.44	41.75	3	Horizontal	233	1.80	-	31.38	6.77	31.34			
AV	4.92298G	36.72	54.00	-17.28	29.89	3	Horizontal	233	1.80	-	31.39	6.77	31.33			
PK	7.38642G	54.31	74.00	-19.69	42.08	3	Horizontal	243	2.70	-	36.60	8.34	32.71			
AV	7.38642G	42.49	54.00	-11.51	30.26	3	Horizontal	243	2.70	-	36.60	8.34	32.71			