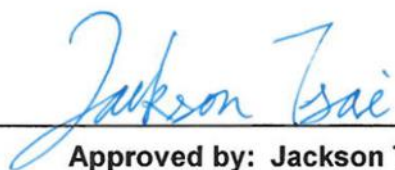


FCC Radio Test Report

FCC ID : UDX-600214010
Equipment : Cisco Wireless 9172I Series Wi-Fi 7 Access Point
Brand Name : CISCO
Model Name : CW9172I
Applicant : Cisco Systems, Inc.
170 West Tasman Drive, San Jose, CA 95134 USA
Manufacturer : Cisco Systems, Inc.
170 West Tasman Drive, San Jose, CA 95134 USA
Standard : 47 CFR FCC Part 15.247

The product was received on Aug. 29, 2024, and testing was started from Sep. 14, 2024 and completed on Oct. 02, 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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[illegible]

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:

None

Reviewed by: Ryan Hsiao

Report Producer: Michelle Tsai

1 General Description

1.1 Information

Radio 3 (Scan radio) is only RX function.

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

Band	Mode	BWch	Nant
2.4-2.4835GHz	BT-LE(125kbps)	1.0	1TX
2.4-2.4835GHz	BT-LE(500kbps)	1.0	1TX
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX
2.4-2.4835GHz	BT-LE(2Mbps)	2.0	1TX

Note:

- ♦ Bluetooth LE uses a GFSK (125kbps/500kbps/1Mbps/2Mbps) modulation.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Support	Radio
1	Sercomm	6172004VJHDB1H	PIFA	I-Pex	2.4G	Radio1
					5G	Radio 2
2	Sercomm	6172004VJHDB2V	PIFA	I-Pex	2.4G	Radio1
					5G	Radio 2
3	Sercomm	6172004VJH561H	PIFA	I-Pex	5G/6G	Radio 2
4	Sercomm	6172004VJH562V	PIFA	I-Pex		
5	Sercomm	6172004VJHSC1V	PIFA	I-Pex	2.4G/5G/6G	Scan Radio 3 (RX)
6	Sercomm	6172004VJHSC2V	PIFA	I-Pex		
7	Sercomm	6172004VJHBLEV	PIFA	I-Pex	BT	Radio 4

Ant.	Port	Gain (dBi)									BT
		2.4G	5G				6G				
			UNII-1	UNII-2A	UNII-2C	UNII-3	UNII-5	UNII-6	UNII-7	UNII-8	
1	1	3.78	3.45	2.71	4.22	3.86	-	-	-	-	-
2	2	4.06	3.44	3.37	4.88	4.62	-	-	-	-	-
3	3	-	5.26	5.46	5.47	4.92	6.23	5.81	5.59	5.80	-
4	4	-	4.03	5.09	4.08	4.73	4.68	3.89	3.74	4.66	-
5	1	2.4	2.87	2.96	3.08	2.71	3.61	3.17	4.38	3.32	-
6	2	2.3	3.24	3.56	3.46	3.18	3.96	4.12	3.98	4.08	-
7	1	-	-	-	-	-	-	-	-	-	2.23

Composite Gain (dBi)										
Wi-Fi Mode	2.4G		5G							
	Radio 1_2TX		Radio 2_2TX				Radio 2_4TX			
			UNII-1	UNII-2A	UNII-2C	UNII-3	UNII-1	UNII-2A	UNII-2C	UNII-3
DG [1SS]	4.65		4.96	5.14	5.8	6.03	6.76	6.31	6.67	6.69
DG [2SS]	4.06		3.45	3.37	4.88	4.62	5.26	5.46	5.47	4.92
DG [4SS]	-		-	-	-	-	5.26	5.46	5.47	4.92

Composite Gain (dBi)										
6G Radio 2_2TX										
Wi-Fi Mode	UNII-5		UNII-6		UNII-7		UNII-8			
DG [1SS]	6.84		7.04		6.2		6.56			
DG [2SS]	6.23		5.81		5.59		5.8			

Note 1: The EUT has seven antennas.

Note 2: The composite gain is derived as KDB 662911 D03 v01 which was used as directional gain. For more detail information, please refer to the Antenna Pattern Report AP470202-01.

For 2.4GHz function:

For IEEE 802.11 b/g/n/VHT/ax/be mode (1TX/1RX) (Radio 1)

Ant. 1 (port 1) could transmit/receive.

For IEEE 802.11 b/g/n/VHT/ax/be mode (2TX/2RX) (Radio 1)

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

For IEEE 802.11 b/g/n/VHT/ax mode (2RX) (Radio 3)

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

For 5GHz function:

For IEEE 802.11 a/n/ac/ax/be mode (1TX/1RX) (Radio 2)

Ant. 1 (port 1) could transmit/receive.

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

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

For IEEE 802.11 a/n/ac/ax/be mode (4TX/4RX) (Radio 2)

Ant. 1 (port 1), Ant. 2 (port 2), Ant. 3 (port 3) and Ant. 4 (port 4) could transmit/receive simultaneously.

For IEEE 802.11 a/n/ac/ax mode (2RX) (Radio 3)

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

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX) (Radio 4)

Ant. 7 (port 1) could transmit/receive.

For 6GHz function:

For IEEE 802.11 ax/be mode (1TX/1RX) (Radio 2)

Ant. 3 (port 3) could transmit/receive.

For IEEE 802.11 ax/be mode (2TX/2RX) (Radio 2)

Ant. 3 (port 3) and Ant. 4 (port 4) could transmit/receive simultaneously.

For IEEE 802.11 ax mode (2RX) (Radio 3)

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

1.1.3 EUT Information

Identify EUT	
EUT Power Type	From AC Adapter / PoE
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

Mode	DC	DCF (dB)	T (s)	VBW (Hz)_1/T
BT-LE(1Mbps)	0.858	0.67	2.147m	1k
BT-LE(125kbps)	0.978	0.1	17.068m	100
BT-LE(500kbps)	0.914	0.39	4.57m	300
BT-LE(2Mbps)	0.607	2.17	1.09m	1k

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

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 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	Edward Wang	22.1~23.6°C / 53~58%	02/Oct/2024
RF Conducted	TH01-HY	Jin Jing	23.7~24.2°C / 51~54%	20/Sep/2024~23/Sep/2024
Radiated	03CH03-HY	Vasari Huang	21.5~22.7°C / 51~52%	14/Sep/2024~26/Sep/2024
Radiated (Co-location)	03CH02-HY	Vasari Huang	23.5~25.2°C / 52~55%	23/Sep/2024
☐ Wen 33rd.St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)			
	TEL: 886-3-318-0787		FAX: 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				

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%
Receiver Radiated Unwanted Emissions	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	Dos V6.1
Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	220
2440MHz	220
2480MHz	135
BT-LE(2Mbps)	-
2402MHz	220
2440MHz	220
2478MHz	220
2480MHz	105
BT-LE(125kbps)	-
2402MHz	125
2440MHz	125
2480MHz	135
BT-LE(500kbps)	-
2402MHz	220
2440MHz	220
2480MHz	135

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	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT	V		

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	CTX
1	Radio 1: WLAN 2.4G (2*2) + Radio 2: WLAN 5G (2*2) + Radio 2: WLAN 6G (2*2) + Bluetooth
Refer to Sporton Test Report No.: FA470202-01 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.3 Accessories

Accessories				
Wall Mount	Brand Name	CISCO	Model Name	69-2160-04
Ceiling	Brand Name	CISCO	Model Name	800-26066-03

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

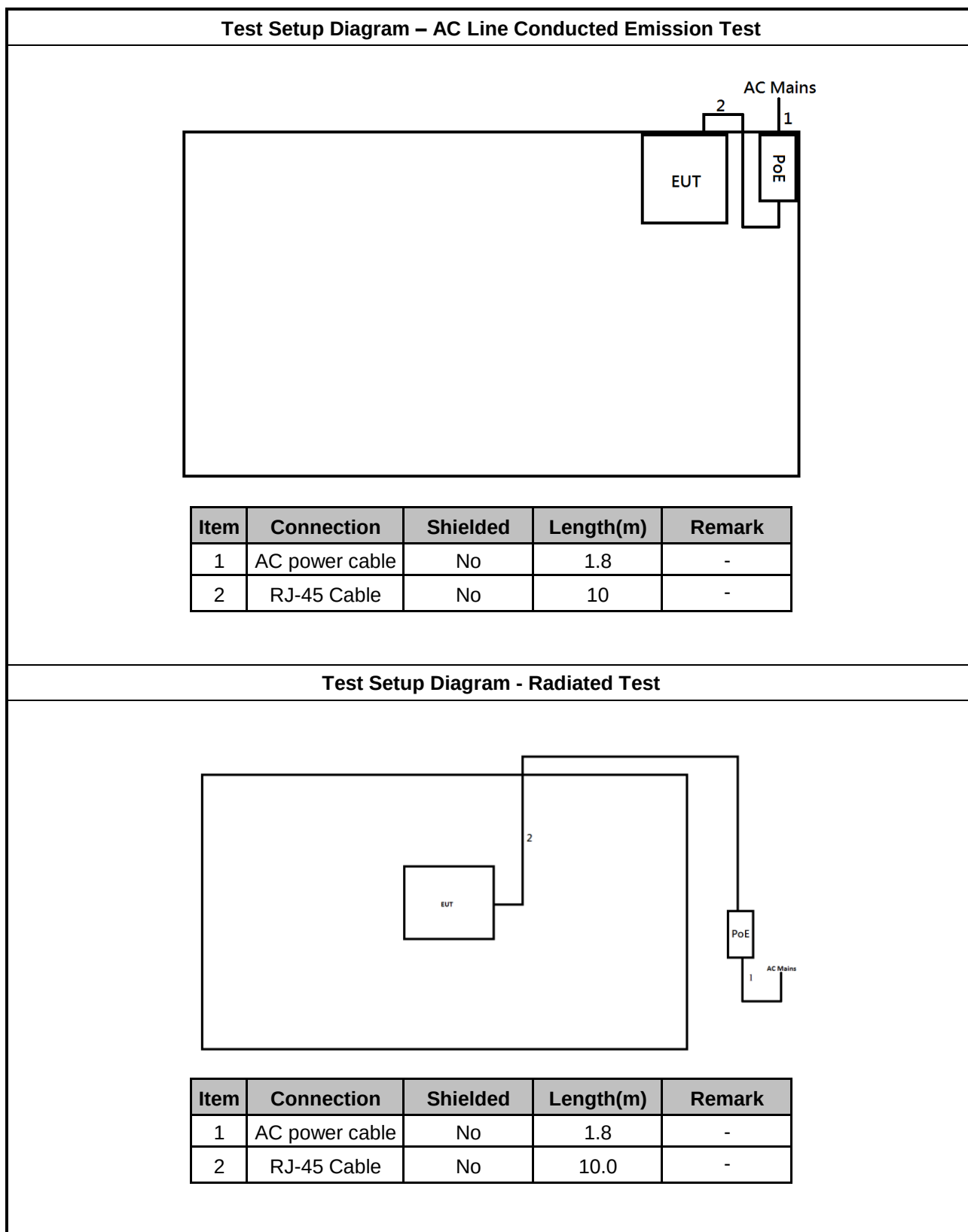
2.4 Support Equipment

Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	AC power cable	Power sync	PW-GPC180-3	-	-
2	PoE	PHIHONG	POE29U-1AT(PL)	-	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	-	-
3	PoE	Microsemi	PD-9001GR/AT/AC	-	Provided by Customer

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	PoE	PHIHONG	POE29U-1AT(PL)	-	Provided by Customer
2	AC power cable	Power sync	PW-GPC180-3	-	-

2.5 Test Setup Diagram



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

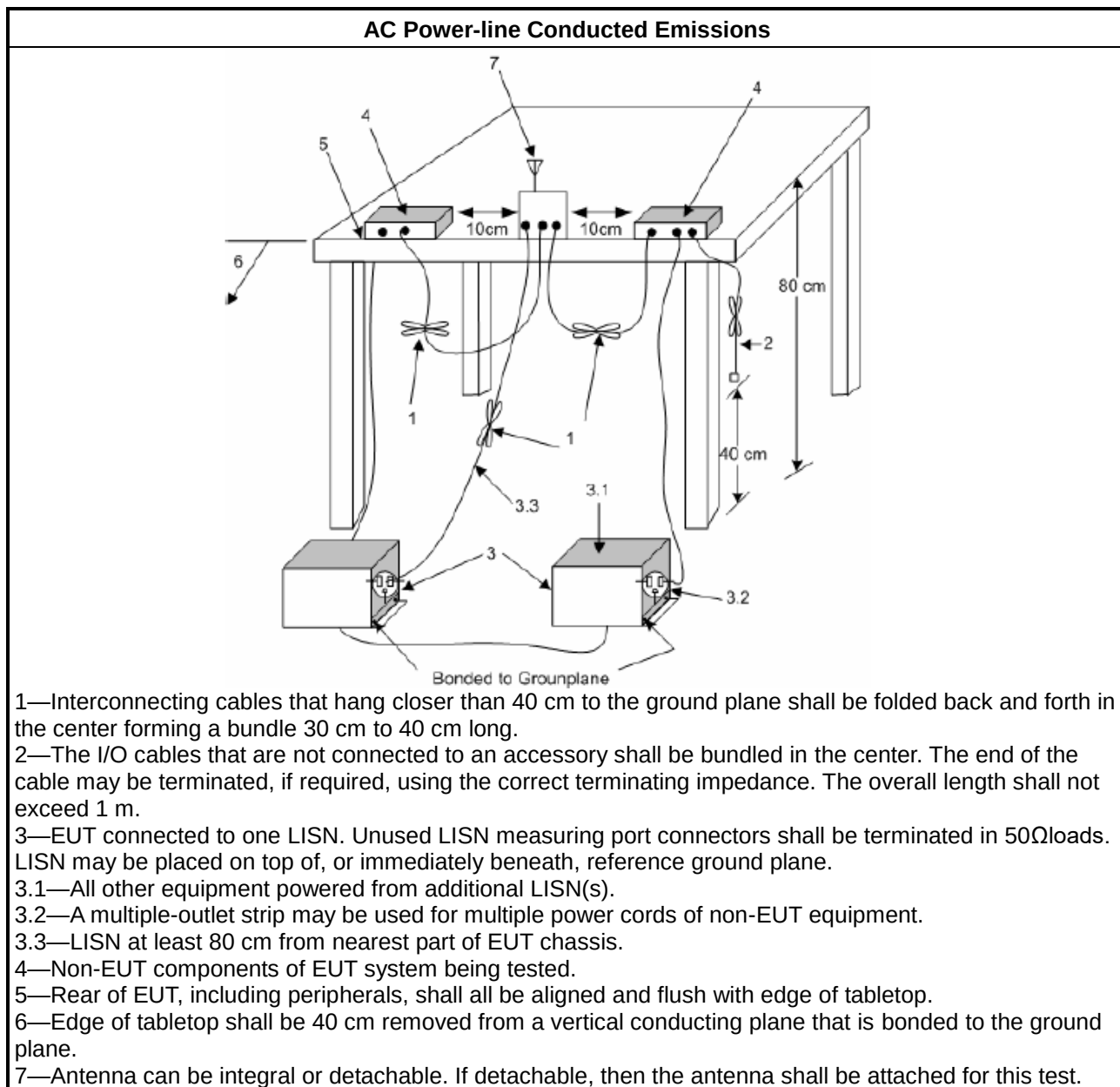
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

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.

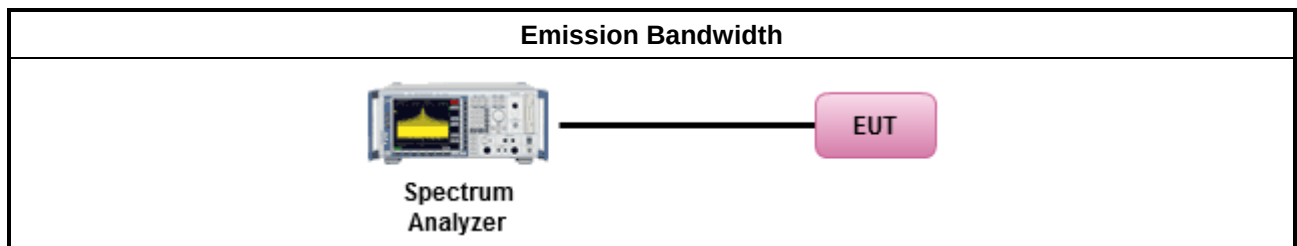
3.2.2 Measuring Instruments

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.	

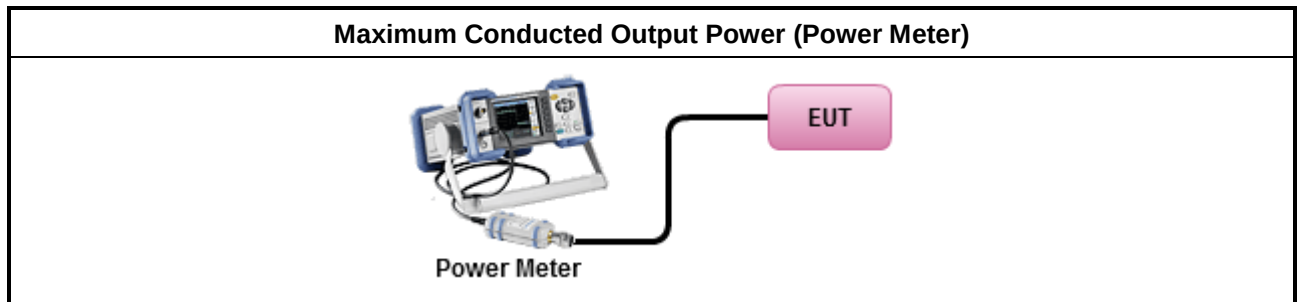
3.3.2 Measuring Instruments

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

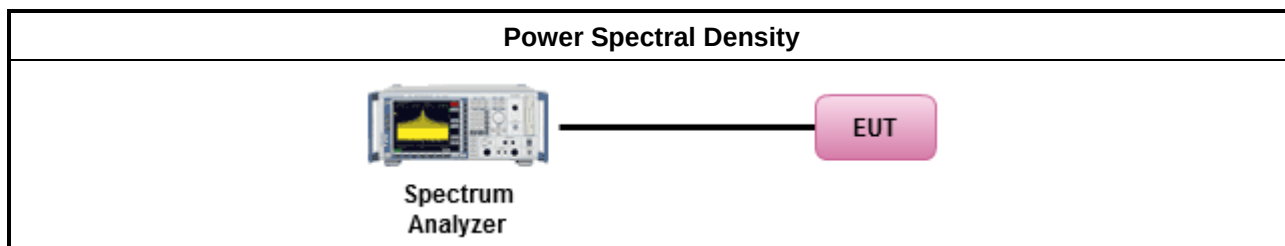
3.4.2 Measuring Instruments

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.	

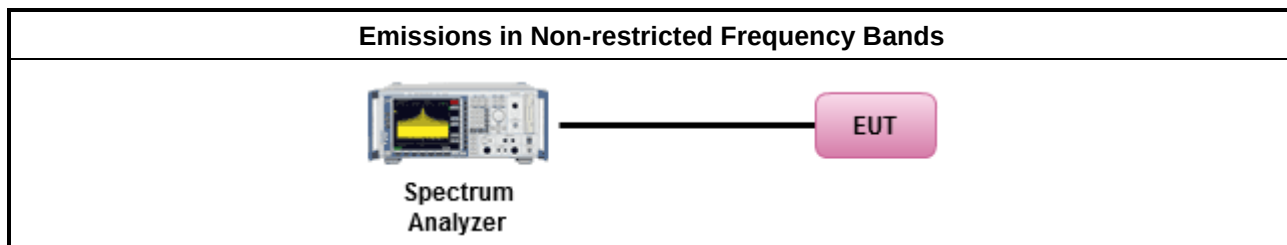
3.5.2 Measuring Instruments

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

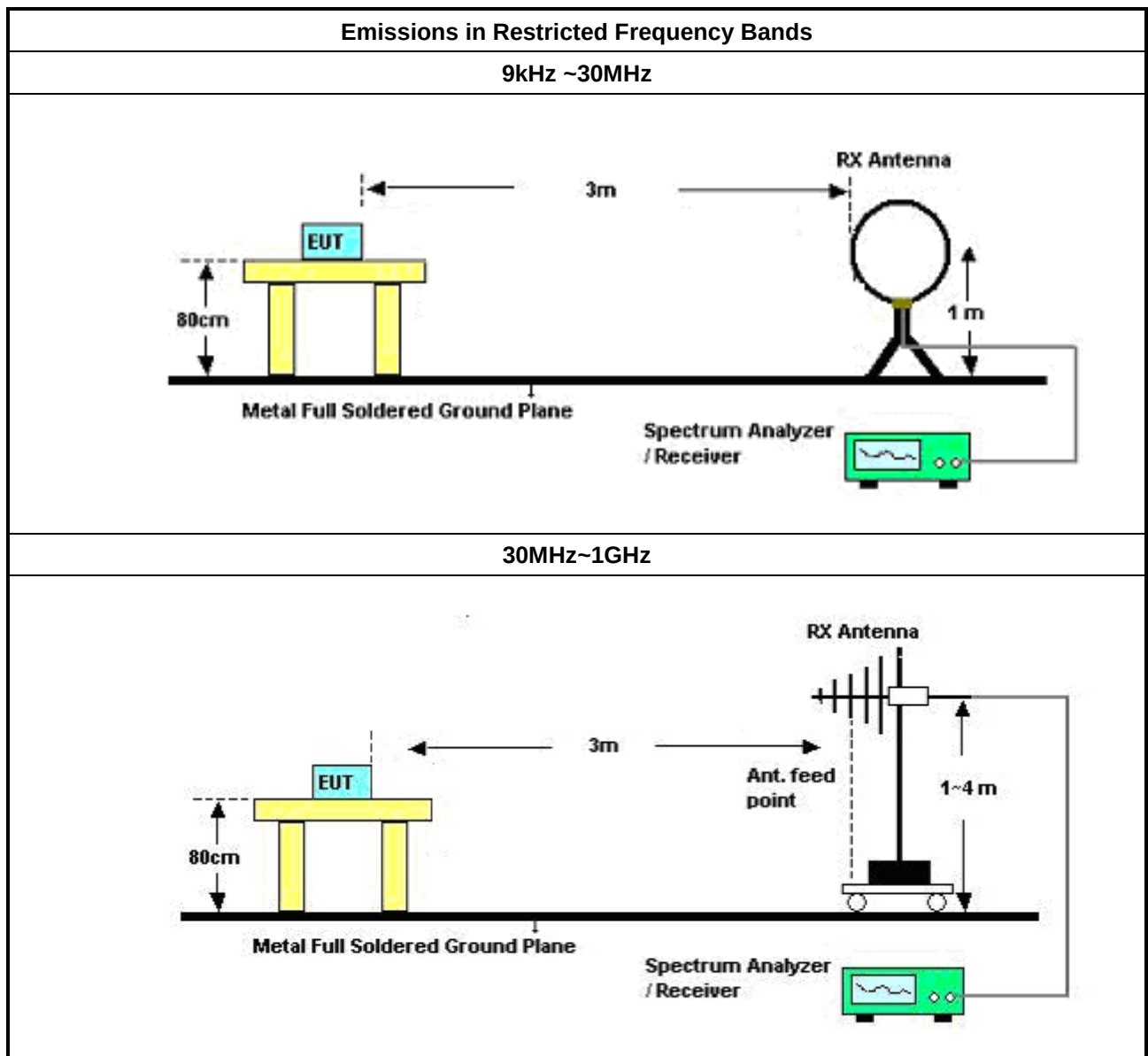
Test Method	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted 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.

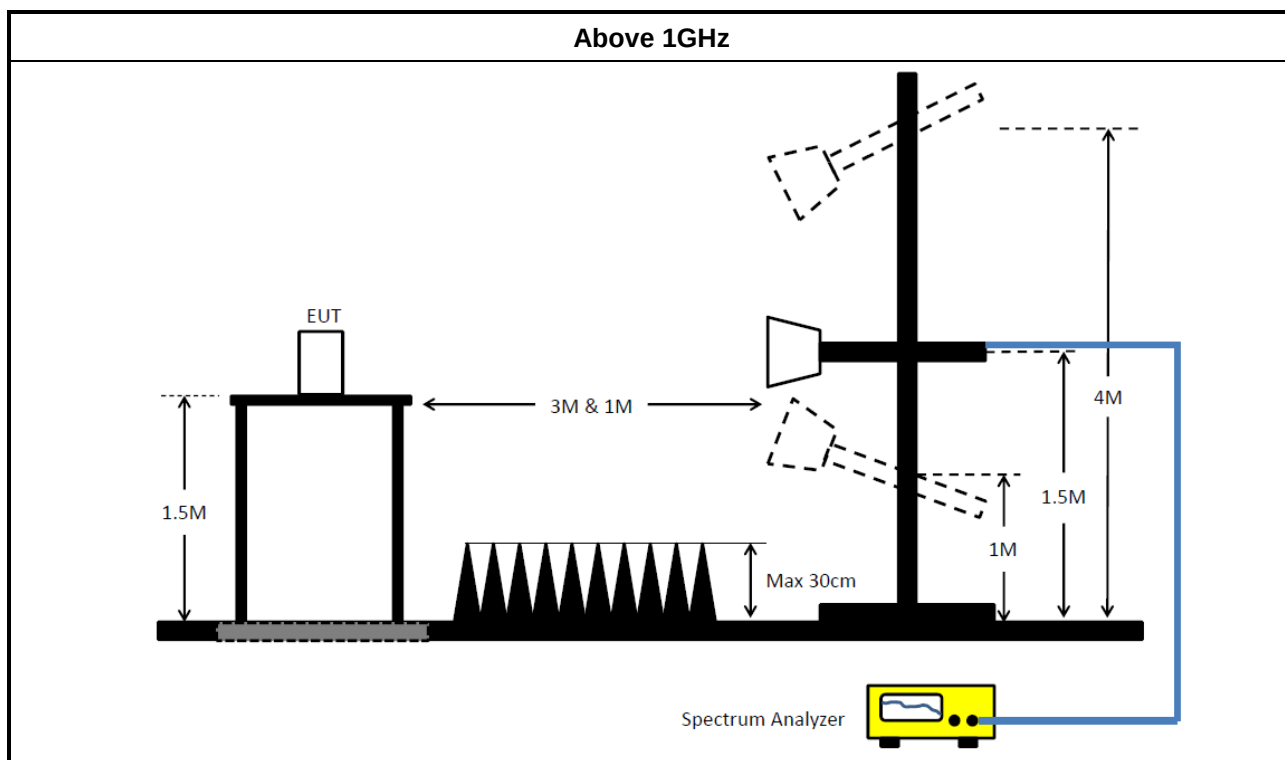
3.6.4 Measurement Results Calculation

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	ROHDE & SCHWARZ	ESR3	102051	9kHz ~ 3.6GHz	17/May/2024	16/May/2025
Two-Line V-Network	ROHDE & SCHWARZ	ENV 216	101274	9kHz ~ 30MHz	18/Jun/2024	17/Jun/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
Sporton	SENSE-EMI	V5.11.3	N/A	N/A	N/A	N/A

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	09/Apr/2024	08/Apr/2025
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	20/Oct/2023	19/Oct/2024
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	17/Feb/2024	16/Feb/2025
Pulse Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	17/Feb/2024	16/Feb/2025
SENSE-15247_FS	Sporton	V5.11.18	N/A	N/A	N/A	N/A

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	14/Jul/2024	13/Jul/2025
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	14/Jul/2024	13/Jul/2025
EMI Test Receiver	R&S	ESR	102052	9kHz~3.6GHz	03/May/2024	02/May/2025
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	26/Oct/2023	25/Oct/2024
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	19/Mar/2024	18/Mar/2025
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMC	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	15/Oct/2023	14/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-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	12/Jun/2024	11/Jun/2025
RF Cable-R03m	Jye Bao	RG142	03CH03-cable-02	30MHz~1GHz	12/Jun/2024	11/Jun/2025
RF CABLE 5+8m	HUBER+SUHNER	SUOFLEX_104	03CH03-cable-03	1GHz~40GHz	20/Feb/2024	19/Feb/2025
Amplifier	Aglient	8447D	2944A08033	100kHz~1.3GHz	13/Sep/2024	12/Sep/2025
Microwave Prempplier	Agilent	8449B	3008A02326	1GHz~26.5GHz	25/Jul/2024	24/Jul/2025
Microwave Prempplier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	19/Apr/2024	18/Apr/2025
SENSE-15247_FS	Sporton	V5.11.18	N/A	N/A	N/A	N/A

Instrument for Radiated Test (03CH02-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz~18GHz 3m	14/Jul/2024	13/Jul/2025
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1534	1GHz~18GHz	21/Mar/2024	20/Mar/2025
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170154	18GHz~40GHz	04/Jun/2024	03/Jun/2025
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX 104	03CH02-cable-01	1GHz~40GHz	15/Feb/2024	14/Feb/2025
Amplifier	EM	EM01G18G	060870	1GHz~18GHz	12/Aug/2024	11/Aug/2025
Microwave Preampplier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~40GHz	19/Apr/2024	18/Apr/2025
SENSE-EMI	Sporton	V5.11.8	N/A	N/A	N/A	N/A



Conducted Emissions at Powerline

Appendix A

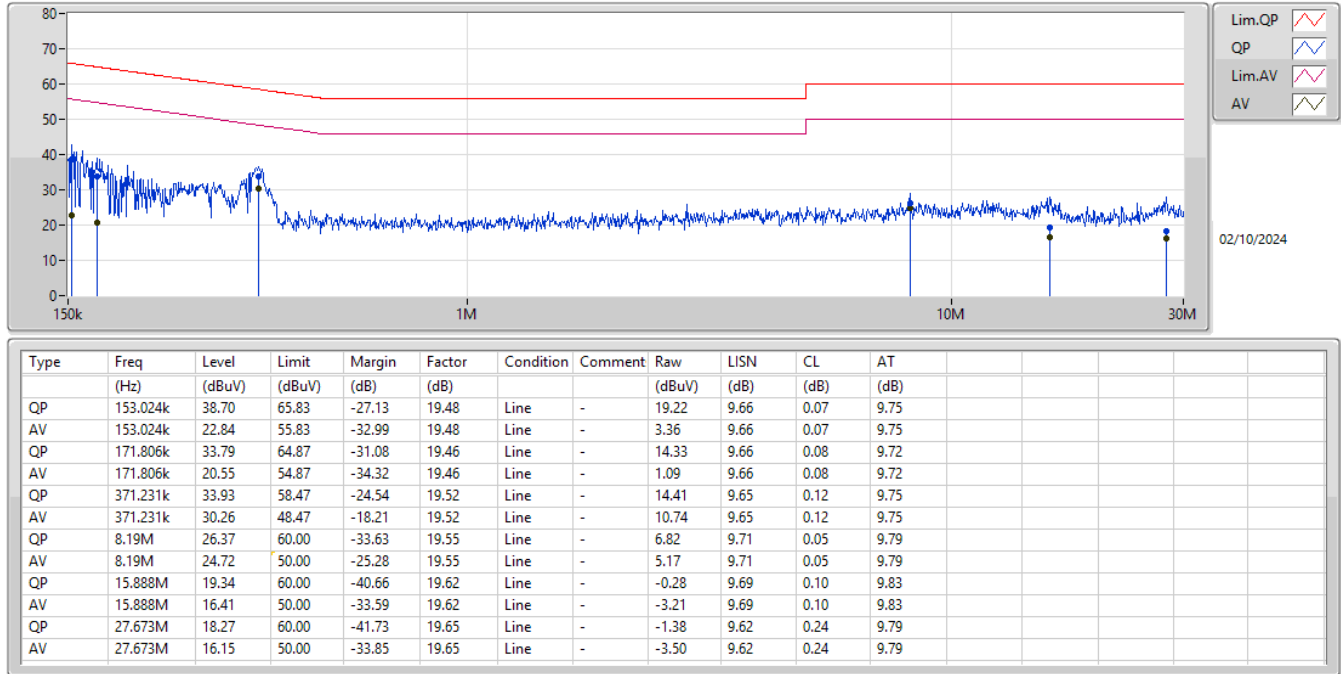
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	368.279k	35.62	48.54	-12.92	Neutral

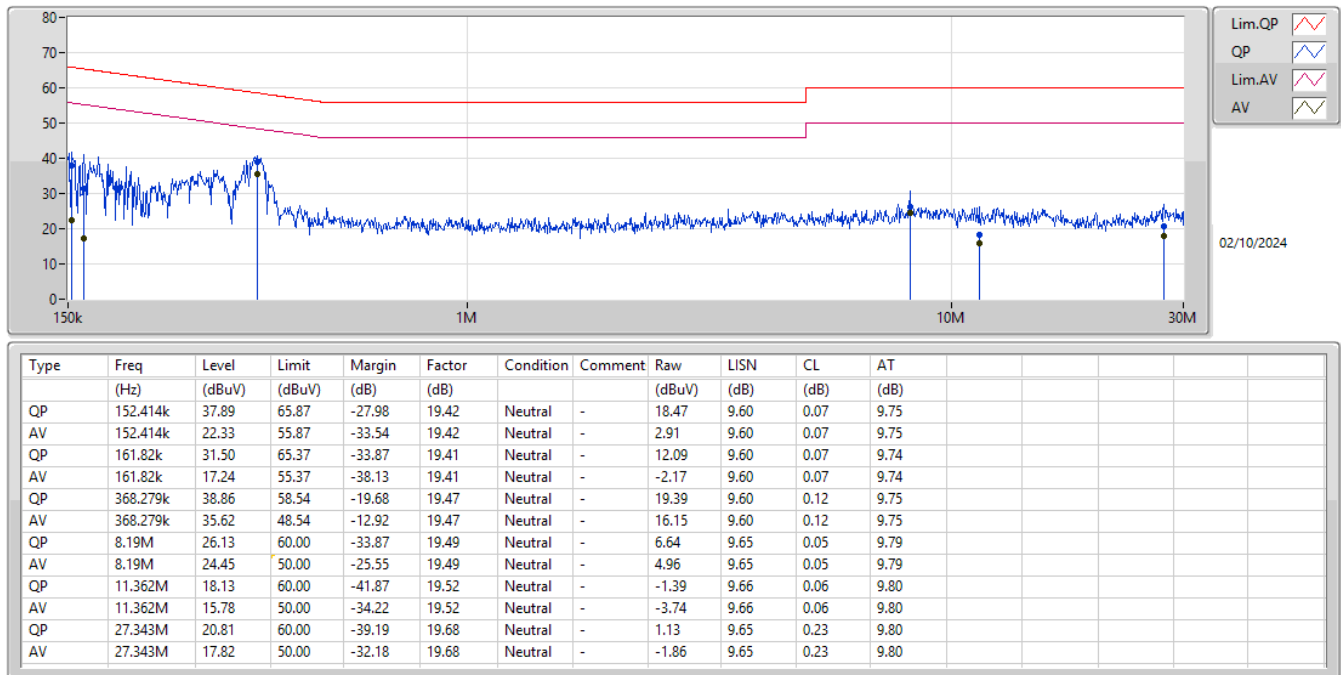
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	153.024k	38.70	65.83	-27.13	Line
Mode 1	Pass	AV	153.024k	22.84	55.83	-32.99	Line
Mode 1	Pass	QP	171.806k	33.79	64.87	-31.08	Line
Mode 1	Pass	AV	171.806k	20.55	54.87	-34.32	Line
Mode 1	Pass	QP	371.231k	33.93	58.47	-24.54	Line
Mode 1	Pass	AV	371.231k	30.26	48.47	-18.21	Line
Mode 1	Pass	QP	8.19M	26.37	60.00	-33.63	Line
Mode 1	Pass	AV	8.19M	24.72	50.00	-25.28	Line
Mode 1	Pass	QP	15.888M	19.34	60.00	-40.66	Line
Mode 1	Pass	AV	15.888M	16.41	50.00	-33.59	Line
Mode 1	Pass	QP	27.673M	18.27	60.00	-41.73	Line
Mode 1	Pass	AV	27.673M	16.15	50.00	-33.85	Line
Mode 1	Pass	QP	152.414k	37.89	65.87	-27.98	Neutral
Mode 1	Pass	AV	152.414k	22.33	55.87	-33.54	Neutral
Mode 1	Pass	QP	161.82k	31.50	65.37	-33.87	Neutral
Mode 1	Pass	AV	161.82k	17.24	55.37	-38.13	Neutral
Mode 1	Pass	QP	368.279k	38.86	58.54	-19.68	Neutral
Mode 1	Pass	AV	368.279k	35.62	48.54	-12.92	Neutral
Mode 1	Pass	QP	8.19M	26.13	60.00	-33.87	Neutral
Mode 1	Pass	AV	8.19M	24.45	50.00	-25.55	Neutral
Mode 1	Pass	QP	11.362M	18.13	60.00	-41.87	Neutral
Mode 1	Pass	AV	11.362M	15.78	50.00	-34.22	Neutral
Mode 1	Pass	QP	27.343M	20.81	60.00	-39.19	Neutral
Mode 1	Pass	AV	27.343M	17.82	50.00	-32.18	Neutral

Conducted Emissions at Powerline_Mode 1



Conducted Emissions at Powerline_Mode 1



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	751.25k	1.112M	1M11F1D	721.25k	1.039M
BT-LE(125kbps)	720k	1.083M	1M08F1D	707.5k	1.071M
BT-LE(500kbps)	735k	1.077M	1M08F1D	638.75k	1.037M
BT-LE(2Mbps)	1.323M	2.111M	2M11F1D	955k	2.081M

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)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	742.5k	1.041M
2440MHz	Pass	500k	751.25k	1.112M
2480MHz	Pass	500k	721.25k	1.039M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.25M	2.086M
2440MHz	Pass	500k	1.215M	2.111M
2478MHz	Pass	500k	1.323M	2.101M
2480MHz	Pass	500k	955k	2.081M
BT-LE(125kbps)	-	-	-	-
2402MHz	Pass	500k	707.5k	1.071M
2440MHz	Pass	500k	712.5k	1.072M
2480MHz	Pass	500k	720k	1.083M
BT-LE(500kbps)	-	-	-	-
2402MHz	Pass	500k	638.75k	1.077M
2440MHz	Pass	500k	688.75k	1.037M
2480MHz	Pass	500k	735k	1.037M

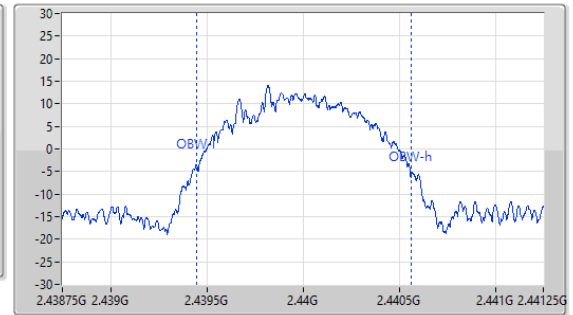
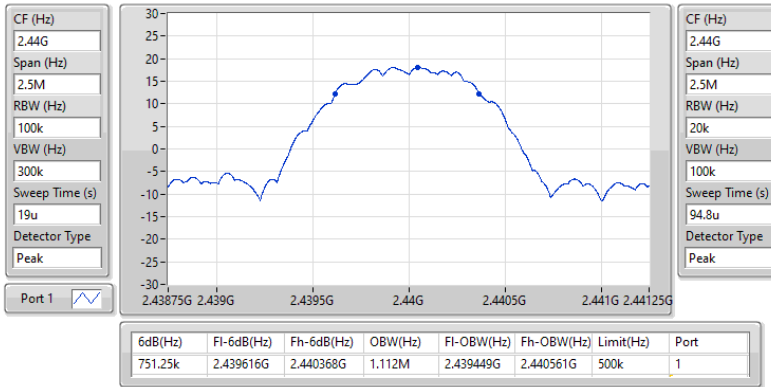
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_BT-LE(1Mbps)

EBW-DTS

2440MHz

20/09/2024

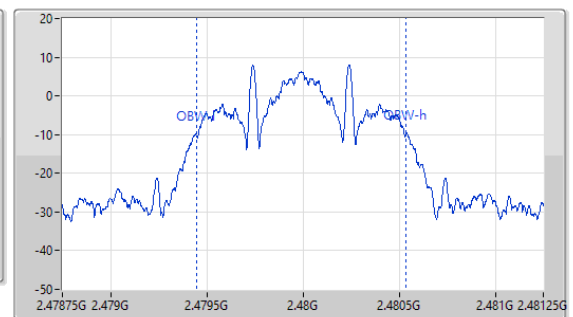
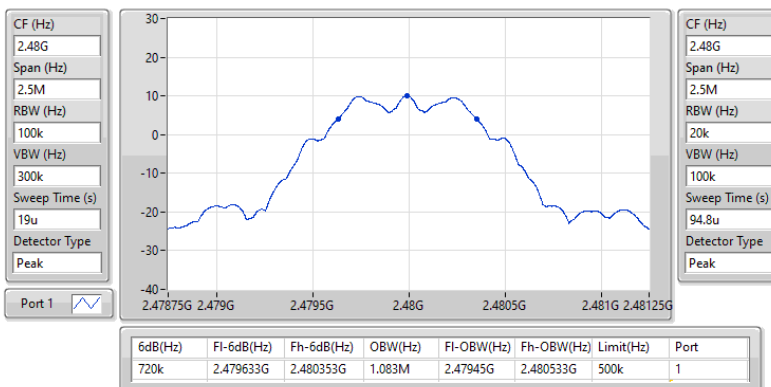


2.4-2.4835GHz_BT-LE(125kbps)

EBW-DTS

2480MHz

20/09/2024

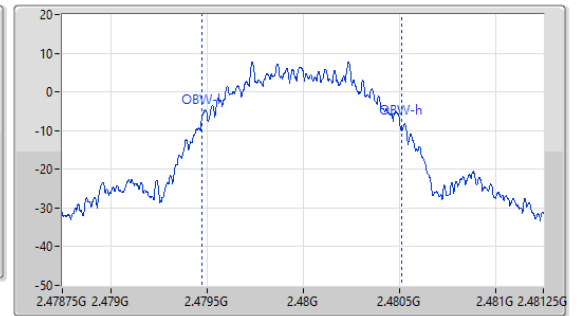
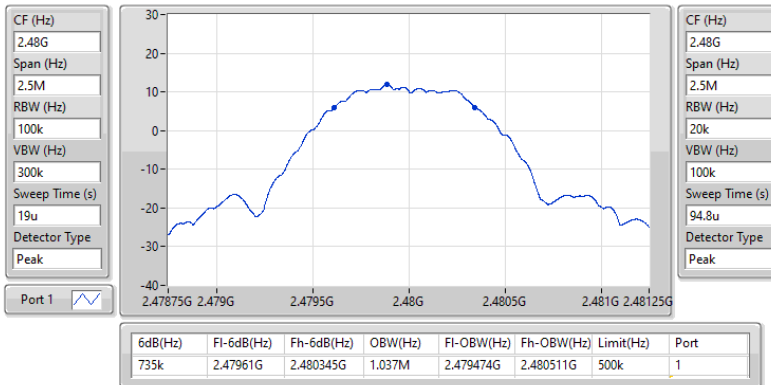


2.4-2.4835GHz_BT-LE(500kbps)

EBW-DTS

2480MHz

20/09/2024

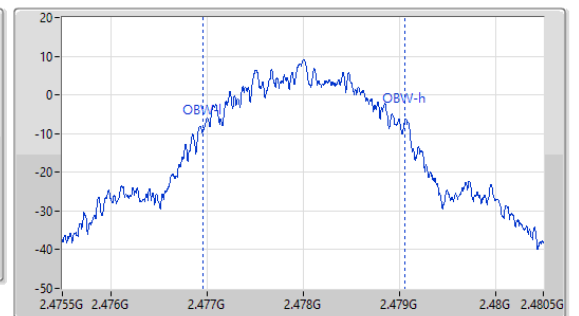
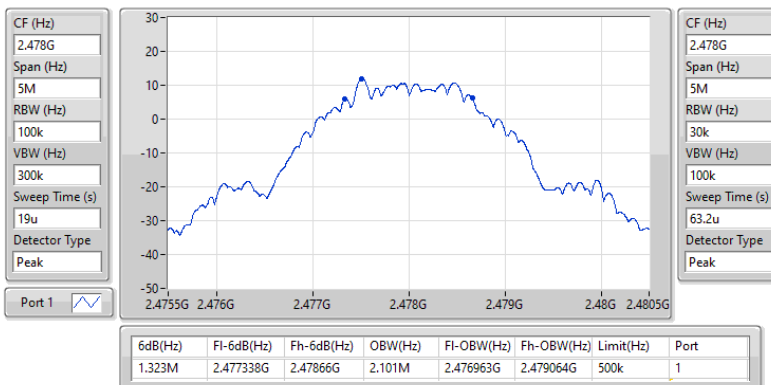


2.4-2.4835GHz_BT-LE(2Mbps)

EBW-DTS

2478MHz

20/09/2024





Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	19.96	0.09908
BT-LE(125kbps)	13.15	0.02065
BT-LE(500kbps)	20.17	0.10399
BT-LE(2Mbps)	19.84	0.09638

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.23	19.96	30.00
2440MHz	Pass	2.23	19.76	30.00
2480MHz	Pass	2.23	13.01	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	2.23	19.84	30.00
2440MHz	Pass	2.23	19.78	30.00
2478MHz	Pass	2.23	14.64	30.00
2480MHz	Pass	2.23	9.58	30.00
BT-LE(125kbps)	-	-	-	-
2402MHz	Pass	2.23	13.02	30.00
2440MHz	Pass	2.23	12.91	30.00
2480MHz	Pass	2.23	13.15	30.00
BT-LE(500kbps)	-	-	-	-
2402MHz	Pass	2.23	20.17	30.00
2440MHz	Pass	2.23	20.11	30.00
2480MHz	Pass	2.23	13.04	30.00

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	-
BT-LE(1Mbps)	4.92
BT-LE(125kbps)	7.74
BT-LE(500kbps)	5.95
BT-LE(2Mbps)	3.55

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.23	4.92	8.00
2440MHz	Pass	2.23	4.08	8.00
2480MHz	Pass	2.23	-2.07	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	2.23	3.55	8.00
2440MHz	Pass	2.23	3.18	8.00
2478MHz	Pass	2.23	-2.03	8.00
2480MHz	Pass	2.23	-7.10	8.00
BT-LE(125kbps)	-	-	-	-
2402MHz	Pass	2.23	7.70	8.00
2440MHz	Pass	2.23	7.55	8.00
2480MHz	Pass	2.23	7.74	8.00
BT-LE(500kbps)	-	-	-	-
2402MHz	Pass	2.23	5.62	8.00
2440MHz	Pass	2.23	5.95	8.00
2480MHz	Pass	2.23	-1.00	8.00

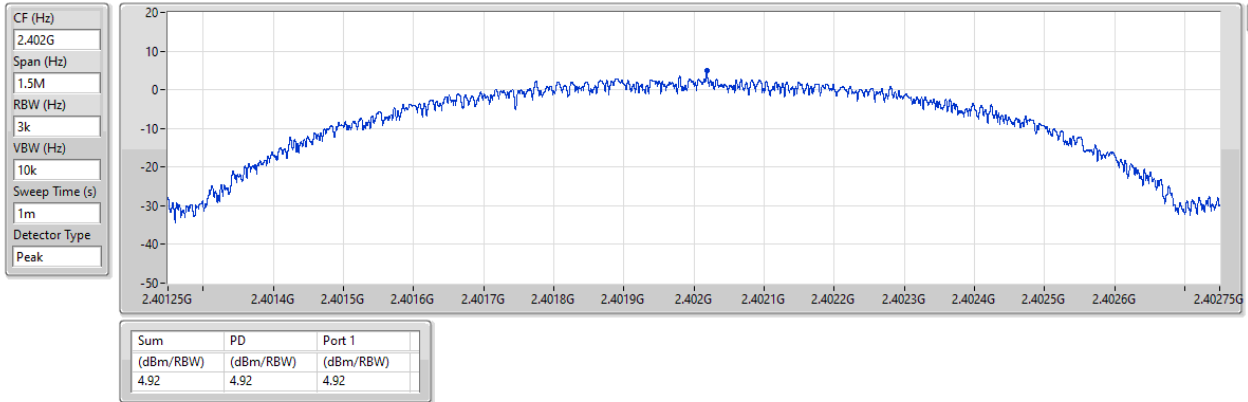
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;
 Inf = There's no restriction for the limit.

2.4-2.4835GHz_BT-LE(1Mbps)

PSD

2402MHz

20/09/2024

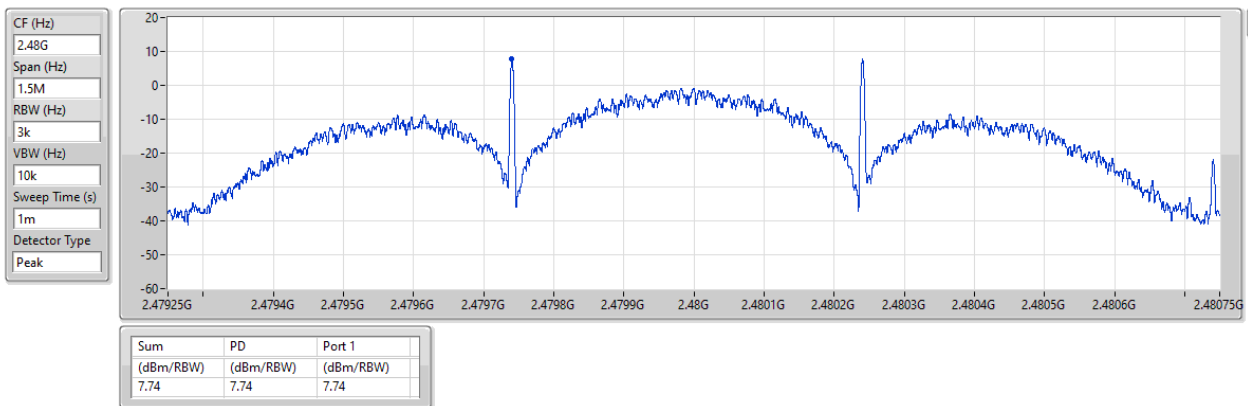


2.4-2.4835GHz_BT-LE(125kbps)

PSD

2480MHz

20/09/2024

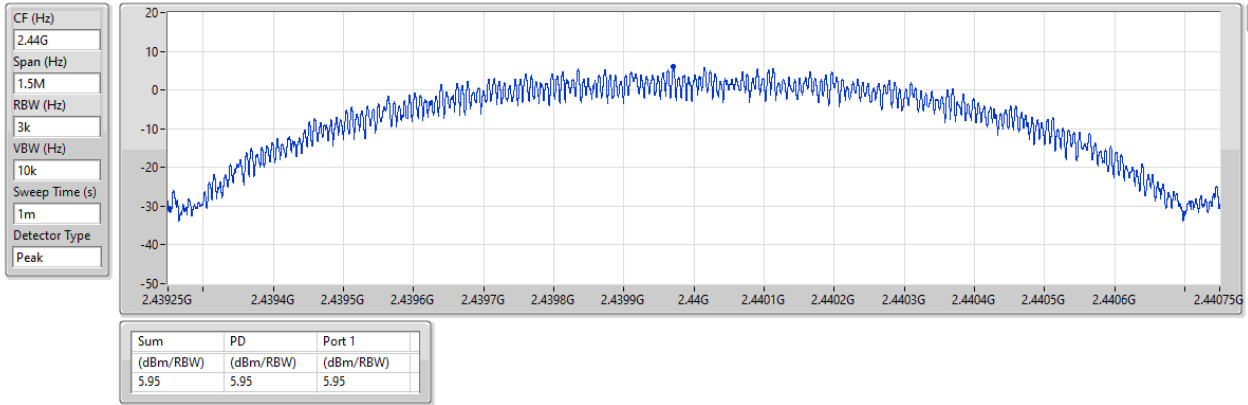


2.4-2.4835GHz_BT-LE(500kbps)

PSD

2440MHz

20/09/2024

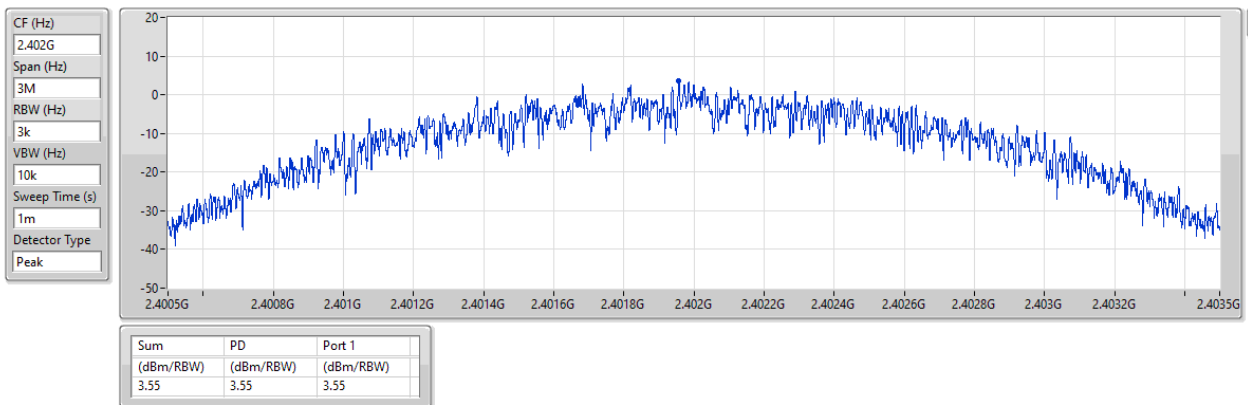


2.4-2.4835GHz_BT-LE(2Mbps)

PSD

2402MHz

20/09/2024



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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.402G	20.32	-9.68	1.79955G	-52.63	2.4G	-25.21	2.4G	-25.00	2.5003G	-52.93	24.50789G	-41.77	1
BT-LE(125kbps)	Pass	2.47983G	10.13	-19.87	2.17085G	-54.00	2.4G	-38.27	2.4G	-38.76	2.50278G	-52.40	24.62881G	-41.25	1
BT-LE(500kbps)	Pass	2.40184G	20.14	-9.86	2.15205G	-53.72	2.4G	-29.58	2.4G	-29.96	2.50334G	-51.83	24.80034G	-41.24	1
BT-LE(2Mbps)	Pass	2.40184G	19.31	-10.69	1.91588G	-54.56	2.39996G	-14.04	2.4G	-13.14	2.50222G	-53.70	16.9097G	-45.99	1

Result

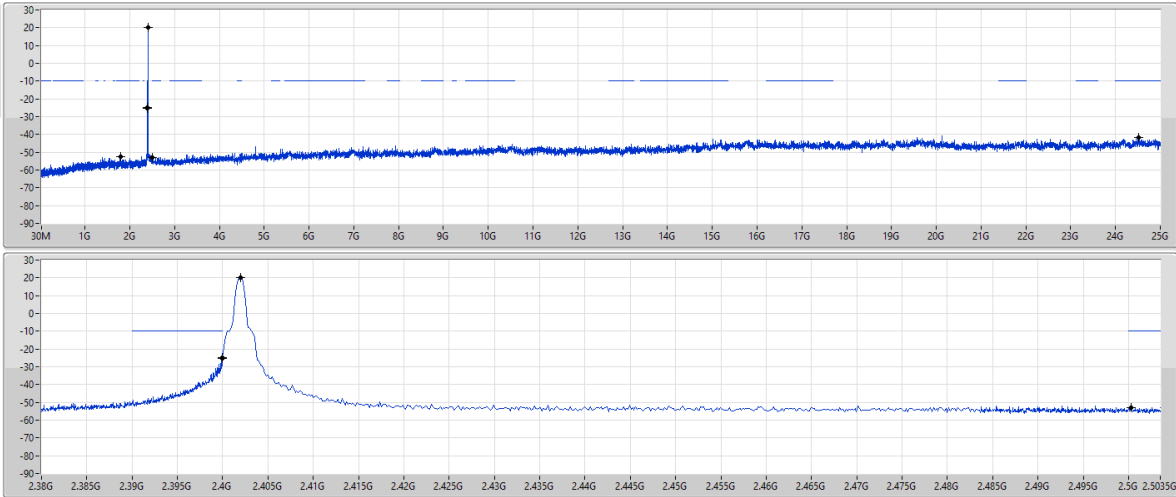
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	20.32	-9.68	1.79955G	-52.63	2.4G	-25.21	2.4G	-25.00	2.5003G	-52.93	24.50789G	-41.77	1
2440MHz	Pass	2.402G	20.32	-9.68	1.65268G	-53.26	2.39576G	-52.19	2.4G	-52.85	2.50102G	-52.25	24.52195G	-41.62	1
2480MHz	Pass	2.402G	20.32	-9.68	1.79015G	-53.88	2.3994G	-52.78	2.4G	-55.21	2.50326G	-52.61	24.23231G	-41.16	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	19.31	-10.69	1.91588G	-54.56	2.39996G	-14.04	2.4G	-13.14	2.50222G	-53.70	16.9097G	-45.99	1
2440MHz	Pass	2.40184G	19.31	-10.69	2.09918G	-54.84	2.4G	-51.98	2.4G	-53.58	2.5031G	-53.61	23.29027G	-45.46	1
2478MHz	Pass	2.40184G	19.31	-10.69	2.1262G	-53.65	2.39344G	-54.05	2.4G	-55.93	2.50094G	-53.17	23.17497G	-45.93	1
2480MHz	Pass	2.40184G	19.31	-10.69	1.77488G	-54.89	2.3902G	-53.80	2.4G	-56.24	2.5007G	-53.16	16.53288G	-45.86	1
BT-LE(125kbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.47983G	10.13	-19.87	2.17085G	-54.00	2.4G	-38.27	2.4G	-38.76	2.50278G	-52.40	24.62881G	-41.25	1
2440MHz	Pass	2.47983G	10.13	-19.87	1.92763G	-53.52	2.39764G	-52.72	2.4G	-55.17	2.50246G	-52.42	24.49102G	-41.96	1
2480MHz	Pass	2.47983G	10.13	-19.87	2.13325G	-53.40	2.39956G	-52.14	2.4G	-54.95	2.50234G	-51.45	24.17607G	-42.27	1
BT-LE(500kbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	20.14	-9.86	2.15205G	-53.72	2.4G	-29.58	2.4G	-29.96	2.50334G	-51.83	24.80034G	-41.24	1
2440MHz	Pass	2.40184G	20.14	-9.86	1.80895G	-52.36	2.39956G	-52.48	2.4G	-52.99	2.50026G	-51.81	24.22949G	-41.16	1
2480MHz	Pass	2.40184G	20.14	-9.86	2.1356G	-54.17	2.3918G	-52.81	2.4G	-54.63	2.50182G	-52.60	24.46571G	-41.84	1

2.4-2.4835GHz_BT-LE(1Mbps)

CSEndB-DTS

2402MHz

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



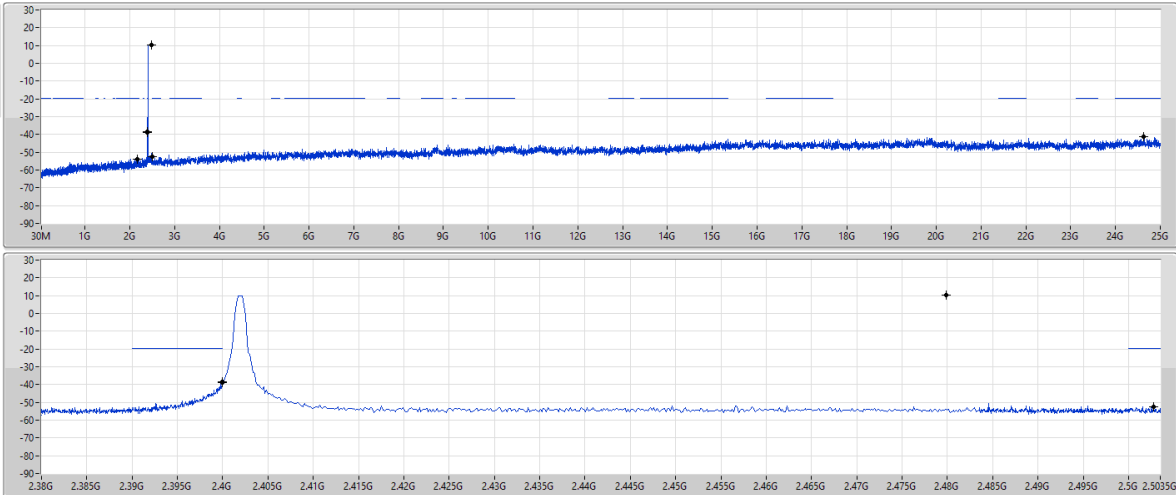
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.402G	20.32	-9.68	1.79955G	-52.63	2.4G	-25.21	2.4G	-25.00	2.5003G	-52.93	2.450789G	-41.77	1

2.4-2.4835GHz_BT-LE(125kbps)

CSEndB-DTS

2402MHz

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



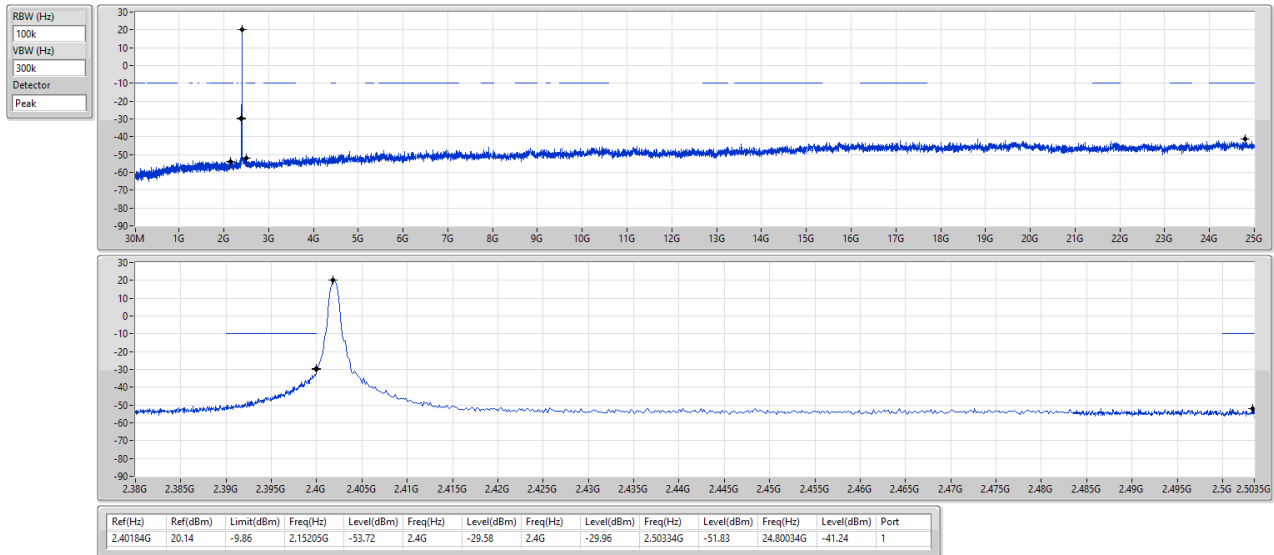
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47983G	10.13	-19.87	2.17085G	-54.00	2.4G	-38.27	2.4G	-38.76	2.50278G	-52.40	2.462881G	-41.25	1

2.4-2.4835GHz_BT-LE(500kbps)

CSEndB-DTS

2402MHz

20/09/2024

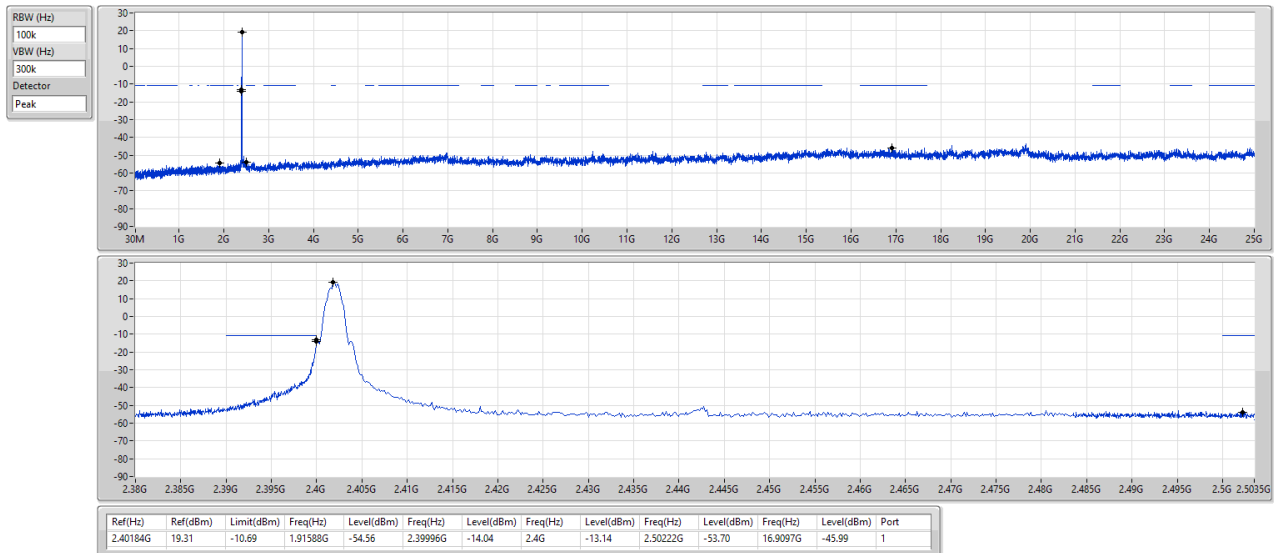


2.4-2.4835GHz_BT-LE(2Mbps)

CSEndB-DTS

2402MHz

23/09/2024





Summary

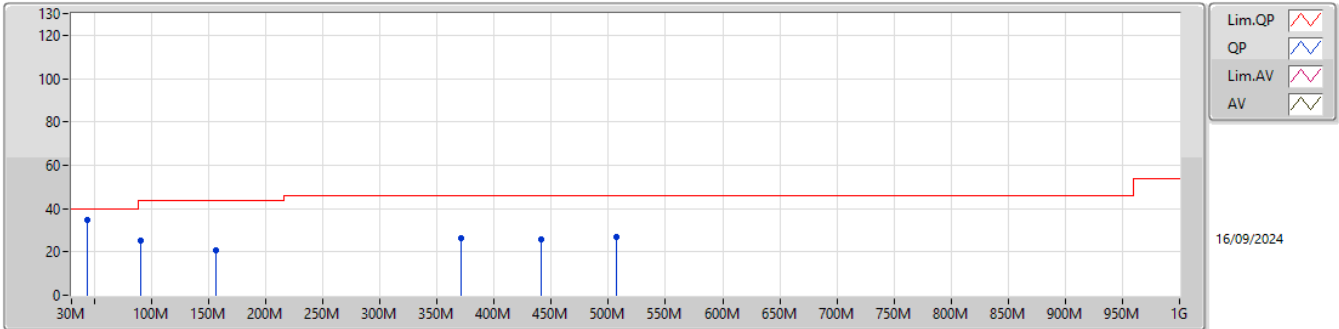
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(2Mbps)	Pass	PK	43.58M	34.95	40.00	-5.05	3	Vertical	360	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz_PoE	Pass	PK	43.58M	34.95	40.00	-5.05	3	Vertical	360	1.00
2402MHz_PoE	Pass	PK	90.14M	24.94	43.50	-18.56	3	Vertical	360	1.00
2402MHz_PoE	Pass	PK	156.1M	20.77	43.50	-22.73	3	Vertical	360	1.00
2402MHz_PoE	Pass	PK	371.44M	26.37	46.00	-19.63	3	Vertical	360	1.00
2402MHz_PoE	Pass	PK	441.28M	25.74	46.00	-20.26	3	Vertical	360	1.00
2402MHz_PoE	Pass	PK	507.24M	26.81	46.00	-19.19	3	Vertical	360	1.00
2402MHz_PoE	Pass	PK	43.58M	26.44	40.00	-13.56	3	Horizontal	0	1.00
2402MHz_PoE	Pass	PK	90.14M	27.27	43.50	-16.23	3	Horizontal	0	1.00
2402MHz_PoE	Pass	PK	249.22M	24.79	46.00	-21.21	3	Horizontal	0	1.00
2402MHz_PoE	Pass	PK	410.24M	29.52	46.00	-16.48	3	Horizontal	0	1.00
2402MHz_PoE	Pass	PK	503.36M	26.58	46.00	-19.42	3	Horizontal	0	1.00
2402MHz_PoE	Pass	PK	573.2M	27.85	46.00	-18.15	3	Horizontal	0	1.00

2.4-2.4835GHz_BT-LE(2Mbps)

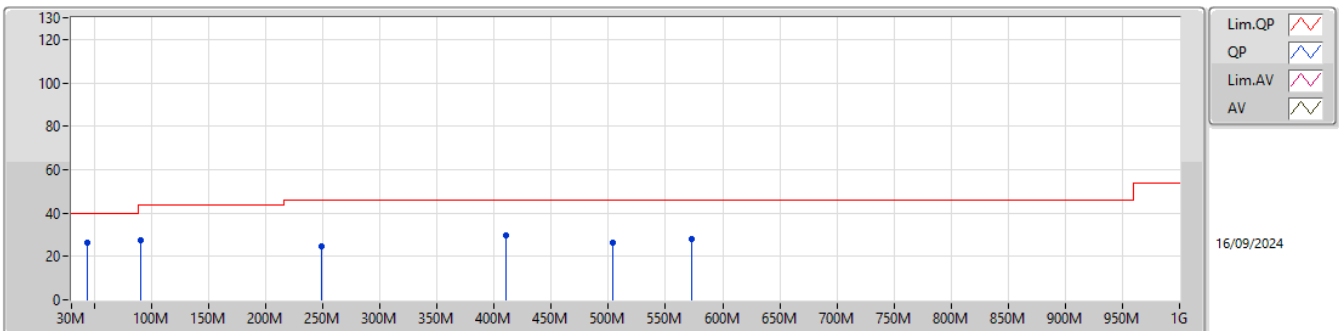
2402MHz_PoE



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)
PK	43.58M	34.95	40.00	-5.05	-10.86	3	Vertical	360	1.00	45.81	16.18	0.36	27.40
PK	90.14M	24.94	43.50	-18.56	-12.06	3	Vertical	360	1.00	37.00	14.35	0.91	27.32
PK	156.1M	20.77	43.50	-22.73	-10.31	3	Vertical	360	1.00	31.08	15.13	1.68	27.12
PK	371.44M	26.37	46.00	-19.63	-4.64	3	Vertical	360	1.00	31.01	20.01	2.59	27.24
PK	441.28M	25.74	46.00	-20.26	-2.78	3	Vertical	360	1.00	28.52	22.14	2.87	27.79
PK	507.24M	26.81	46.00	-19.19	-1.87	3	Vertical	360	1.00	28.68	23.04	3.27	28.18

2.4-2.4835GHz_BT-LE(2Mbps)

2402MHz_PoE



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)
PK	43.58M	26.44	40.00	-13.56	-10.86	3	Horizontal	0	1.00	37.30	16.18	0.36	27.40
PK	90.14M	27.27	43.50	-16.23	-12.06	3	Horizontal	0	1.00	39.33	14.35	0.91	27.32
PK	249.22M	24.79	46.00	-21.21	-7.07	3	Horizontal	0	1.00	31.86	17.51	2.16	26.74
PK	410.24M	29.52	46.00	-16.48	-3.29	3	Horizontal	0	1.00	32.81	21.53	2.74	27.56
PK	503.36M	26.58	46.00	-19.42	-1.99	3	Horizontal	0	1.00	28.57	22.94	3.25	28.18
PK	573.2M	27.85	46.00	-18.15	-0.63	3	Horizontal	0	1.00	28.48	24.08	3.49	28.20

**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	2.4835G	52.86	54.00	-1.14	3	Horizontal	325	1.08
BT-LE(125kbps)	Pass	AV	2.4835G	53.43	54.00	-0.57	3	Horizontal	42	1.50
BT-LE(500kbps)	Pass	AV	2.4835G	53.29	54.00	-0.71	3	Horizontal	43	1.50
BT-LE(2Mbps)	Pass	AV	2.4835G	53.42	54.00	-0.58	3	Horizontal	46	1.29

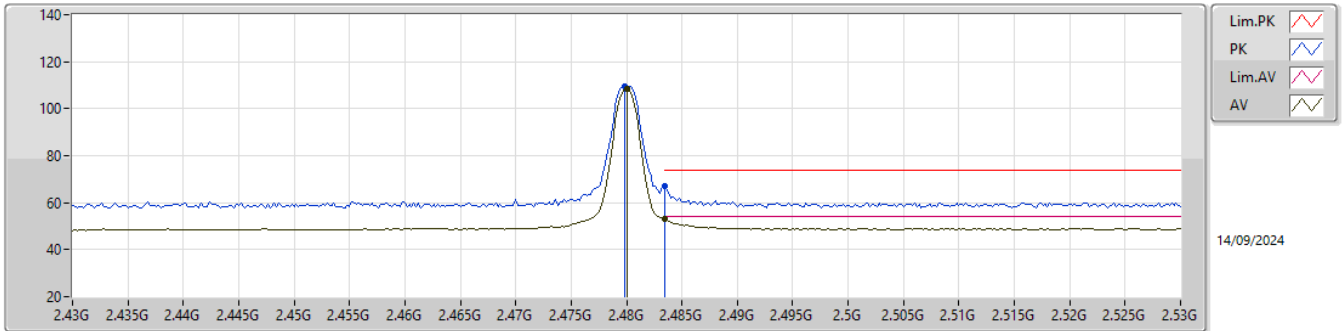
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.39G	49.38	54.00	-4.62	3	Horizontal	58	1.16
2402MHz	Pass	AV	2.402G	117.43	Inf	-Inf	3	Horizontal	58	1.16
2402MHz	Pass	PK	2.388G	59.79	74.00	-14.21	3	Horizontal	58	1.16
2402MHz	Pass	PK	2.4018G	118.39	Inf	-Inf	3	Horizontal	58	1.16
2402MHz	Pass	AV	4.80428G	34.98	54.00	-19.02	3	Vertical	318	1.50
2402MHz	Pass	PK	4.8034G	46.61	74.00	-27.39	3	Vertical	318	1.50
2402MHz	Pass	AV	4.80608G	34.79	54.00	-19.21	3	Horizontal	56	1.50
2402MHz	Pass	PK	4.8063G	46.85	74.00	-27.15	3	Horizontal	56	1.50
2440MHz	Pass	AV	2.3884G	48.23	54.00	-5.77	3	Horizontal	55	1.35
2440MHz	Pass	AV	2.44G	116.72	Inf	-Inf	3	Horizontal	55	1.35
2440MHz	Pass	AV	2.4912G	49.13	54.00	-4.87	3	Horizontal	55	1.35
2440MHz	Pass	PK	2.3644G	60.04	74.00	-13.96	3	Horizontal	55	1.35
2440MHz	Pass	PK	2.4396G	117.68	Inf	-Inf	3	Horizontal	55	1.35
2440MHz	Pass	PK	2.4892G	60.75	74.00	-13.25	3	Horizontal	55	1.35
2440MHz	Pass	AV	4.88106G	35.02	54.00	-18.98	3	Vertical	253	2.28
2440MHz	Pass	PK	4.8787G	47.50	74.00	-26.50	3	Vertical	253	2.28
2440MHz	Pass	AV	4.88035G	35.09	54.00	-18.91	3	Horizontal	115	2.34
2440MHz	Pass	PK	4.88107G	47.14	74.00	-26.86	3	Horizontal	115	2.34
2480MHz	Pass	AV	2.48G	108.59	Inf	-Inf	3	Horizontal	325	1.08
2480MHz	Pass	AV	2.4835G	52.86	54.00	-1.14	3	Horizontal	325	1.08
2480MHz	Pass	PK	2.4798G	109.54	Inf	-Inf	3	Horizontal	325	1.08
2480MHz	Pass	PK	2.4835G	67.02	74.00	-6.98	3	Horizontal	325	1.08
2480MHz	Pass	AV	4.96126G	35.60	54.00	-18.40	3	Vertical	275	1.69
2480MHz	Pass	PK	4.95944G	47.06	74.00	-26.94	3	Vertical	275	1.69
2480MHz	Pass	AV	4.95932G	35.53	54.00	-18.47	3	Horizontal	210	1.76
2480MHz	Pass	PK	4.96007G	48.19	74.00	-25.81	3	Horizontal	210	1.76
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3898G	49.59	54.00	-4.41	3	Horizontal	57	1.16
2402MHz	Pass	AV	2.402G	115.77	Inf	-Inf	3	Horizontal	57	1.16
2402MHz	Pass	PK	2.3882G	60.47	74.00	-13.53	3	Horizontal	57	1.16
2402MHz	Pass	PK	2.4014G	118.39	Inf	-Inf	3	Horizontal	57	1.16
2402MHz	Pass	AV	4.80426G	34.82	54.00	-19.18	3	Vertical	181	2.86
2402MHz	Pass	PK	4.8029G	47.50	74.00	-26.50	3	Vertical	181	2.86
2402MHz	Pass	AV	4.80386G	34.95	54.00	-19.05	3	Horizontal	322	2.75
2402MHz	Pass	PK	4.80385G	47.44	74.00	-26.56	3	Horizontal	322	2.75
2440MHz	Pass	AV	2.39G	48.01	54.00	-5.99	3	Horizontal	57	1.36
2440MHz	Pass	AV	2.44G	115.46	Inf	-Inf	3	Horizontal	57	1.36
2440MHz	Pass	AV	2.4912G	49.13	54.00	-4.87	3	Horizontal	57	1.36
2440MHz	Pass	PK	2.35G	59.79	74.00	-14.21	3	Horizontal	57	1.36
2440MHz	Pass	PK	2.4396G	117.82	Inf	-Inf	3	Horizontal	57	1.36
2440MHz	Pass	PK	2.498G	60.26	74.00	-13.74	3	Horizontal	57	1.36
2440MHz	Pass	AV	4.88089G	35.02	54.00	-18.98	3	Vertical	232	1.64
2440MHz	Pass	PK	4.87949G	47.14	74.00	-26.86	3	Vertical	232	1.64
2440MHz	Pass	AV	4.8813G	35.02	54.00	-18.98	3	Horizontal	302	1.89
2440MHz	Pass	PK	4.87994G	46.22	74.00	-27.78	3	Horizontal	302	1.89
2478MHz	Pass	AV	2.478G	110.50	Inf	-Inf	3	Horizontal	58	1.09
2478MHz	Pass	AV	2.4835G	52.81	54.00	-1.19	3	Horizontal	58	1.09
2478MHz	Pass	PK	2.4776G	112.86	Inf	-Inf	3	Horizontal	58	1.09
2478MHz	Pass	PK	2.4844G	64.62	74.00	-9.38	3	Horizontal	58	1.09
2478MHz	Pass	AV	4.974G	35.95	54.00	-18.05	3	Vertical	229	1.32
2478MHz	Pass	PK	4.9744G	48.07	74.00	-25.93	3	Vertical	229	1.32
2478MHz	Pass	AV	4.97584G	35.83	54.00	-18.17	3	Horizontal	93	1.69
2478MHz	Pass	PK	4.95336G	48.20	74.00	-25.80	3	Horizontal	93	1.69
2480MHz	Pass	AV	2.48G	103.70	Inf	-Inf	3	Horizontal	46	1.29
2480MHz	Pass	AV	2.4835G	53.42	54.00	-0.58	3	Horizontal	46	1.29
2480MHz	Pass	PK	2.4806G	106.03	Inf	-Inf	3	Horizontal	46	1.29
2480MHz	Pass	PK	2.4835G	64.69	74.00	-9.31	3	Horizontal	46	1.29
2480MHz	Pass	AV	4.95887G	35.61	54.00	-18.39	3	Vertical	9	1.12
2480MHz	Pass	PK	4.95984G	47.22	74.00	-26.78	3	Vertical	9	1.12
2480MHz	Pass	AV	4.95862G	35.45	54.00	-18.55	3	Horizontal	258	1.42

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2480MHz	Pass	PK	4.95851G	47.23	74.00	-26.77	3	Horizontal	258	1.42
BT-LE(125kbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3896G	48.53	54.00	-5.47	3	Horizontal	42	1.14
2402MHz	Pass	AV	2.402G	117.18	Inf	-Inf	3	Horizontal	42	1.14
2402MHz	Pass	PK	2.3844G	60.61	74.00	-13.39	3	Horizontal	42	1.14
2402MHz	Pass	PK	2.4018G	118.36	Inf	-Inf	3	Horizontal	42	1.14
2402MHz	Pass	AV	4.80336G	35.37	54.00	-18.63	3	Vertical	114	1.42
2402MHz	Pass	PK	4.81224G	47.37	74.00	-26.63	3	Vertical	114	1.42
2402MHz	Pass	AV	4.80392G	35.44	54.00	-18.56	3	Horizontal	234	1.50
2402MHz	Pass	PK	4.8224G	47.39	74.00	-26.61	3	Horizontal	234	1.50
2440MHz	Pass	AV	2.3896G	47.31	54.00	-6.69	3	Horizontal	42	1.33
2440MHz	Pass	AV	2.44G	117.26	Inf	-Inf	3	Horizontal	42	1.33
2440MHz	Pass	AV	2.4888G	48.43	54.00	-5.57	3	Horizontal	42	1.33
2440MHz	Pass	PK	2.3528G	59.23	74.00	-14.77	3	Horizontal	42	1.33
2440MHz	Pass	PK	2.44G	118.55	Inf	-Inf	3	Horizontal	42	1.33
2440MHz	Pass	PK	2.4912G	59.89	74.00	-14.11	3	Horizontal	42	1.33
2440MHz	Pass	AV	4.87976G	35.97	54.00	-18.03	3	Vertical	23	1.63
2440MHz	Pass	PK	4.89624G	48.12	74.00	-25.88	3	Vertical	23	1.63
2440MHz	Pass	AV	4.89616G	35.99	54.00	-18.01	3	Horizontal	118	1.22
2440MHz	Pass	PK	4.89528G	47.46	74.00	-26.54	3	Horizontal	118	1.22
2480MHz	Pass	AV	2.48G	109.37	Inf	-Inf	3	Horizontal	42	1.50
2480MHz	Pass	AV	2.4835G	53.43	54.00	-0.57	3	Horizontal	42	1.50
2480MHz	Pass	PK	2.4802G	110.54	Inf	-Inf	3	Horizontal	42	1.50
2480MHz	Pass	PK	2.4835G	66.15	74.00	-7.85	3	Horizontal	42	1.50
2480MHz	Pass	AV	4.9792G	36.43	54.00	-17.57	3	Vertical	360	2.41
2480MHz	Pass	PK	4.9536G	48.41	74.00	-25.59	3	Vertical	360	2.41
2480MHz	Pass	AV	4.976G	36.42	54.00	-17.58	3	Horizontal	236	1.50
2480MHz	Pass	PK	4.95064G	48.50	74.00	-25.50	3	Horizontal	236	1.50
BT-LE(500kbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3898G	48.98	54.00	-5.02	3	Horizontal	40	1.00
2402MHz	Pass	AV	2.402G	117.46	Inf	-Inf	3	Horizontal	40	1.00
2402MHz	Pass	PK	2.3892G	59.81	74.00	-14.19	3	Horizontal	40	1.00
2402MHz	Pass	PK	2.4018G	118.47	Inf	-Inf	3	Horizontal	40	1.00
2402MHz	Pass	AV	4.80584G	34.96	54.00	-19.04	3	Vertical	284	1.50
2402MHz	Pass	PK	4.80832G	47.10	74.00	-26.90	3	Vertical	284	1.50
2402MHz	Pass	AV	4.80264G	34.99	54.00	-19.01	3	Horizontal	193	1.80
2402MHz	Pass	PK	4.808G	47.13	74.00	-26.87	3	Horizontal	193	1.80
2440MHz	Pass	AV	2.3888G	47.55	54.00	-6.45	3	Horizontal	42	1.35
2440MHz	Pass	AV	2.44G	117.17	Inf	-Inf	3	Horizontal	42	1.35
2440MHz	Pass	AV	2.4872G	48.67	54.00	-5.33	3	Horizontal	42	1.35
2440MHz	Pass	PK	2.3772G	59.46	74.00	-14.54	3	Horizontal	42	1.35
2440MHz	Pass	PK	2.44G	118.37	Inf	-Inf	3	Horizontal	42	1.35
2440MHz	Pass	PK	2.4988G	60.79	74.00	-13.21	3	Horizontal	42	1.35
2440MHz	Pass	AV	4.89016G	35.57	54.00	-18.43	3	Vertical	153	1.50
2440MHz	Pass	PK	4.89G	49.24	74.00	-24.76	3	Vertical	153	1.50
2440MHz	Pass	AV	4.89776G	35.50	54.00	-18.50	3	Horizontal	360	1.50
2440MHz	Pass	PK	4.88528G	47.87	74.00	-26.13	3	Horizontal	360	1.50
2480MHz	Pass	AV	2.48G	109.48	Inf	-Inf	3	Horizontal	43	1.50
2480MHz	Pass	AV	2.4835G	53.29	54.00	-0.71	3	Horizontal	43	1.50
2480MHz	Pass	PK	2.48G	110.46	Inf	-Inf	3	Horizontal	43	1.50
2480MHz	Pass	PK	2.4835G	67.05	74.00	-6.95	3	Horizontal	43	1.50
2480MHz	Pass	AV	4.97504G	36.12	54.00	-17.88	3	Vertical	307	1.23
2480MHz	Pass	PK	4.9792G	48.05	74.00	-25.95	3	Vertical	307	1.23
2480MHz	Pass	AV	4.97664G	36.12	54.00	-17.88	3	Horizontal	342	1.50
2480MHz	Pass	PK	4.96936G	48.25	74.00	-25.75	3	Horizontal	342	1.50

2.4-2.4835GHz_BT-LE(1Mbps)

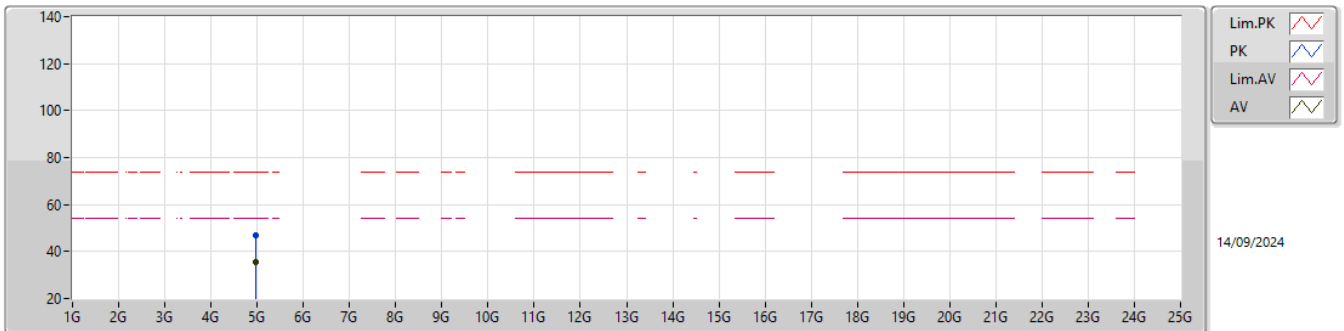
2480MHz_TX



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	2.48G	108.59	Inf	-Inf	33.21	3	Horizontal	325	1.08	75.38	27.70	5.51	-
AV	2.4835G	52.86	54.00	-1.14	33.25	3	Horizontal	325	1.08	19.61	27.74	5.51	-
PK	2.4798G	109.54	Inf	-Inf	33.21	3	Horizontal	325	1.08	76.33	27.70	5.51	-
PK	2.4835G	67.02	74.00	-6.98	33.25	3	Horizontal	325	1.08	33.77	27.74	5.51	-

2.4-2.4835GHz_BT-LE(1Mbps)

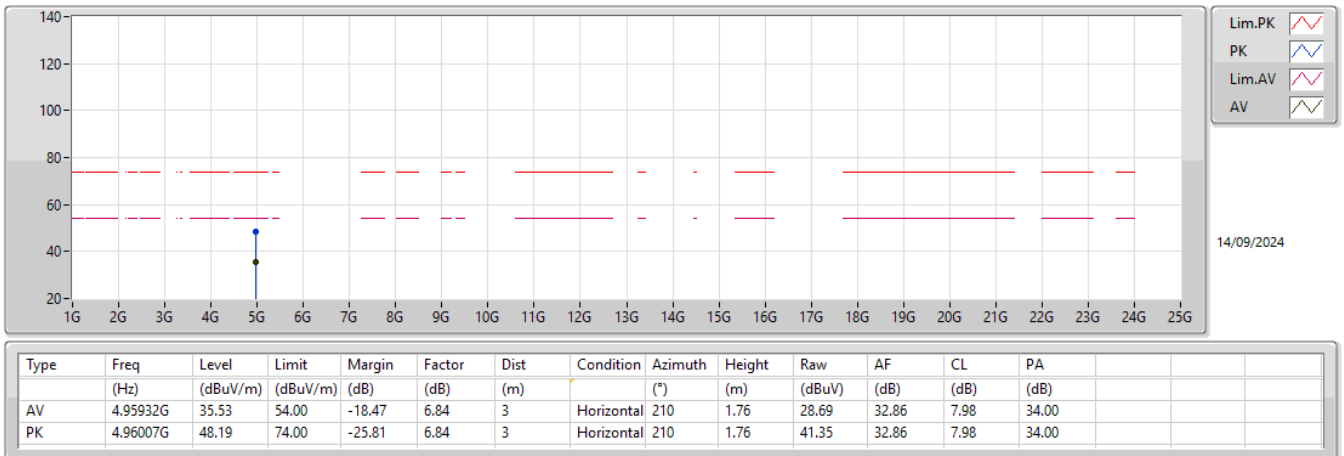
2480MHz_TX



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	4.96126G	35.60	54.00	-18.40	6.85	3	Vertical	275	1.69	28.75	32.87	7.98	34.00
PK	4.95944G	47.06	74.00	-26.94	6.84	3	Vertical	275	1.69	40.22	32.86	7.98	34.00

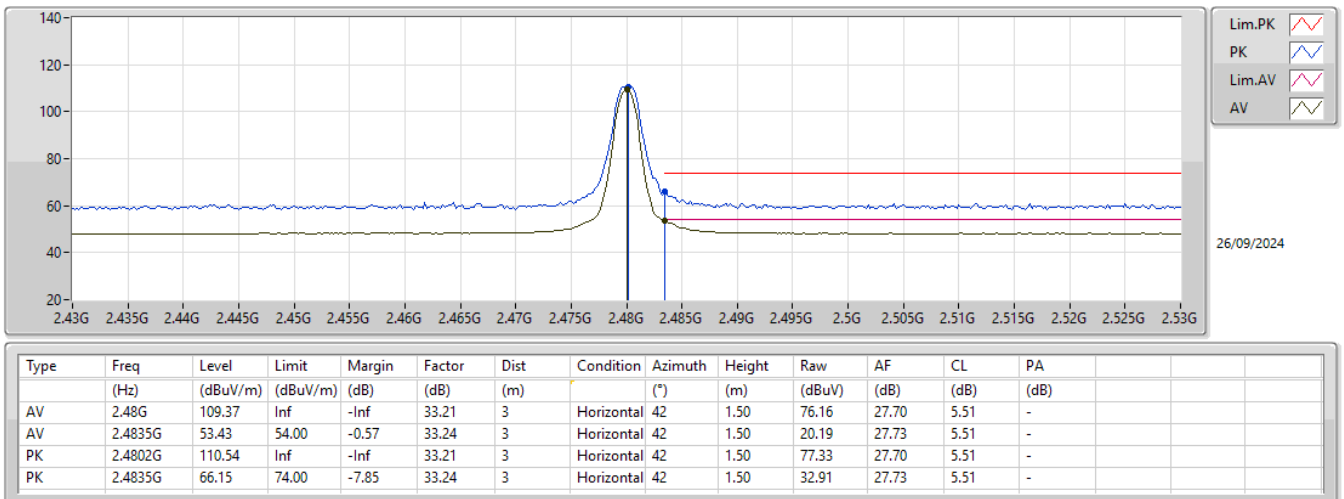
2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX



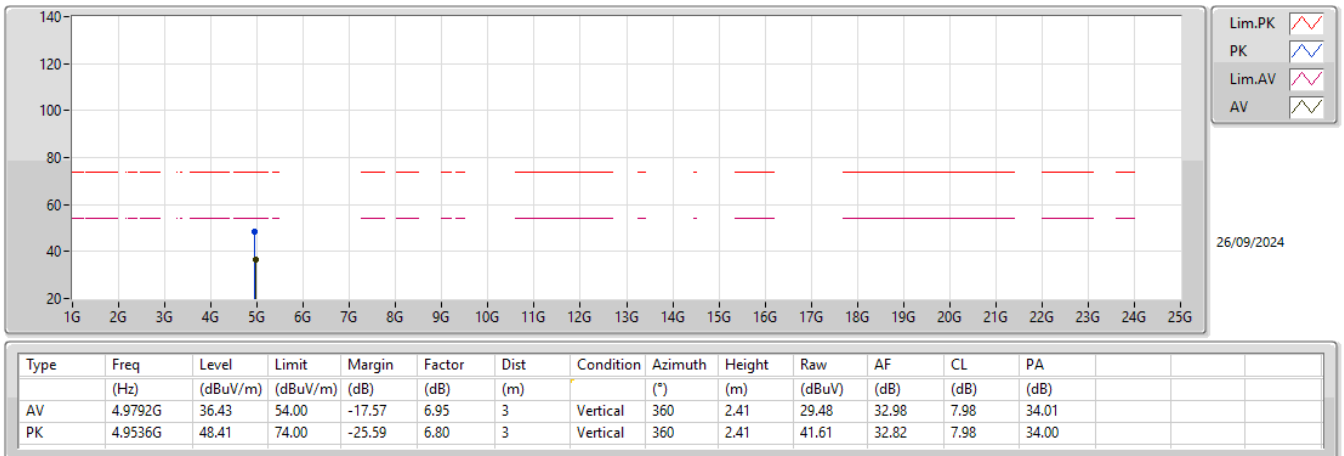
2.4-2.4835GHz_BT-LE(125kbps)

2480MHz_TX



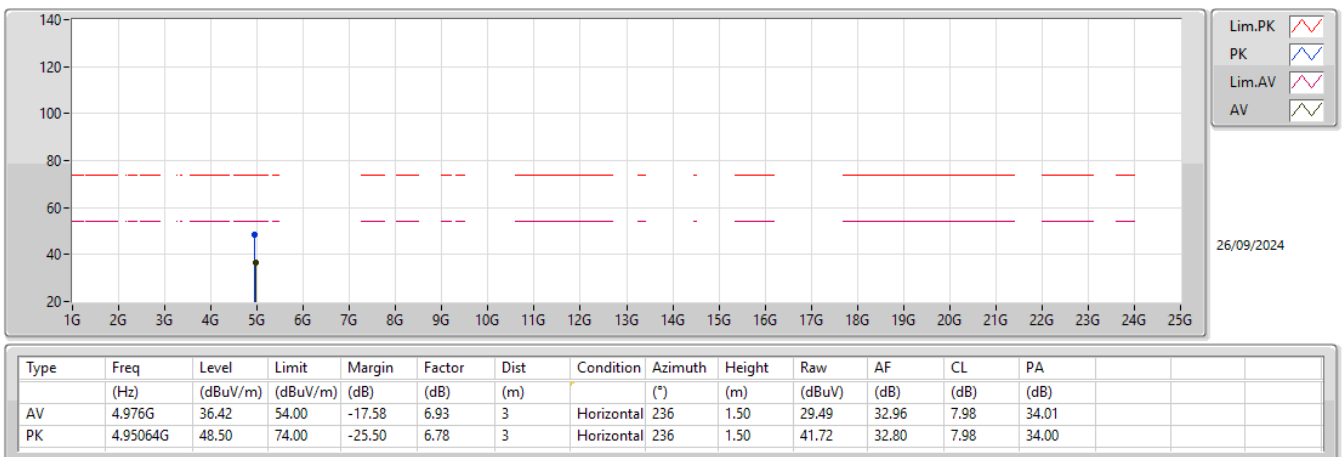
2.4-2.4835GHz_BT-LE(125kbps)

2480MHz_TX



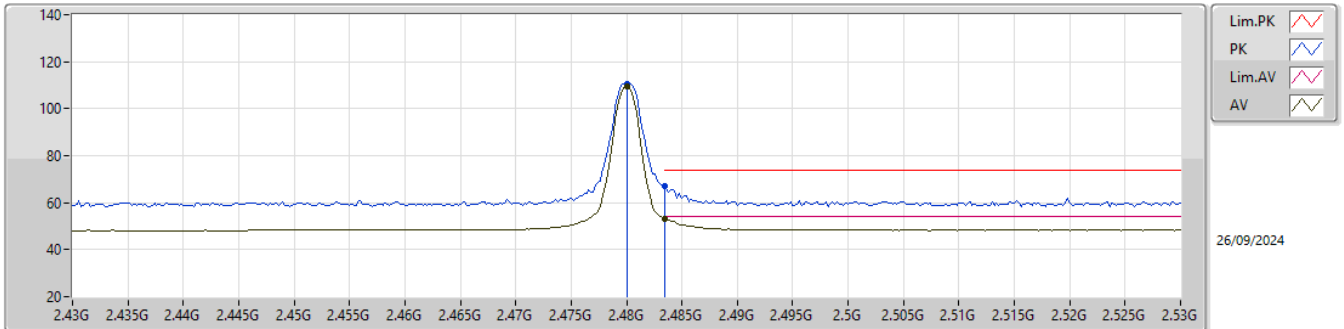
2.4-2.4835GHz_BT-LE(125kbps)

2480MHz_TX



2.4-2.4835GHz_BT-LE(500kbps)

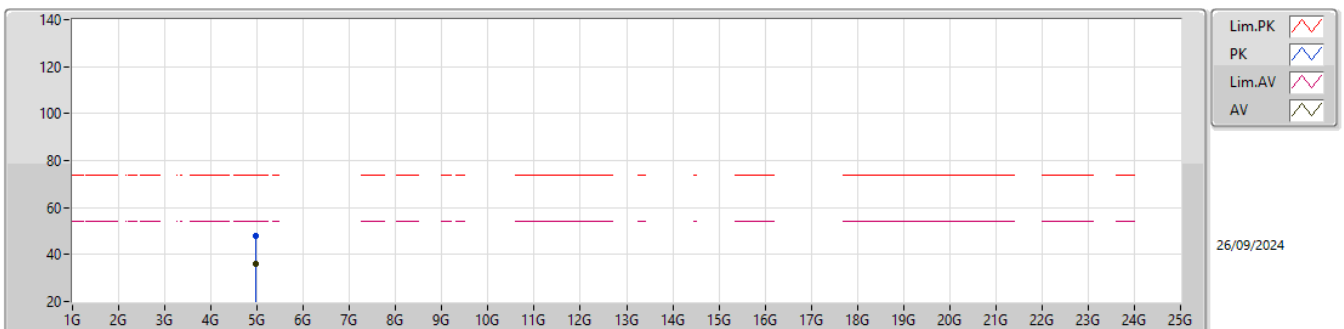
2480MHz_TX



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	2.48G	109.48	Inf	-Inf	33.21	3	Horizontal	43	1.50	76.27	27.70	5.51	-
AV	2.4835G	53.29	54.00	-0.71	33.24	3	Horizontal	43	1.50	20.05	27.73	5.51	-
PK	2.48G	110.46	Inf	-Inf	33.21	3	Horizontal	43	1.50	77.25	27.70	5.51	-
PK	2.4835G	67.05	74.00	-6.95	33.24	3	Horizontal	43	1.50	33.81	27.73	5.51	-

2.4-2.4835GHz_BT-LE(500kbps)

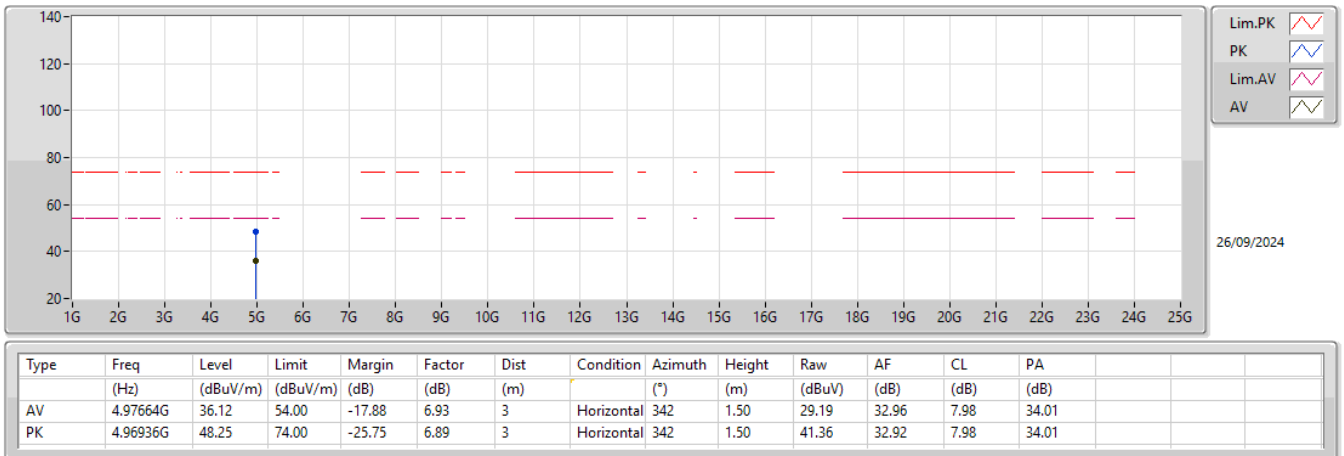
2480MHz_TX



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	4.97504G	36.12	54.00	-17.88	6.92	3	Vertical	307	1.23	29.20	32.95	7.98	34.01
PK	4.9792G	48.05	74.00	-25.95	6.95	3	Vertical	307	1.23	41.10	32.98	7.98	34.01

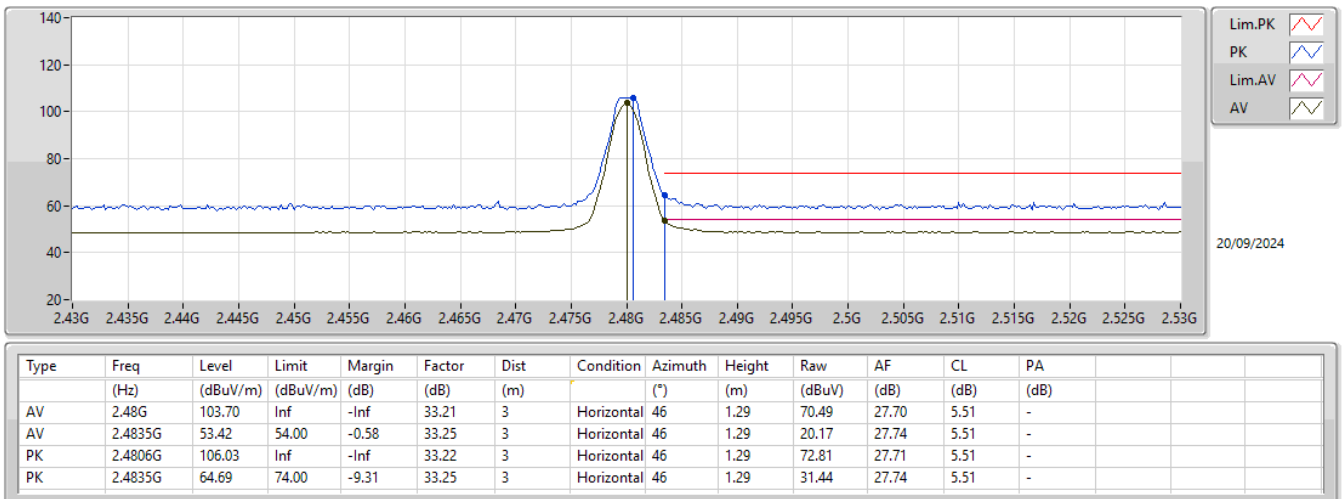
2.4-2.4835GHz_BT-LE(500kbps)

2480MHz_TX



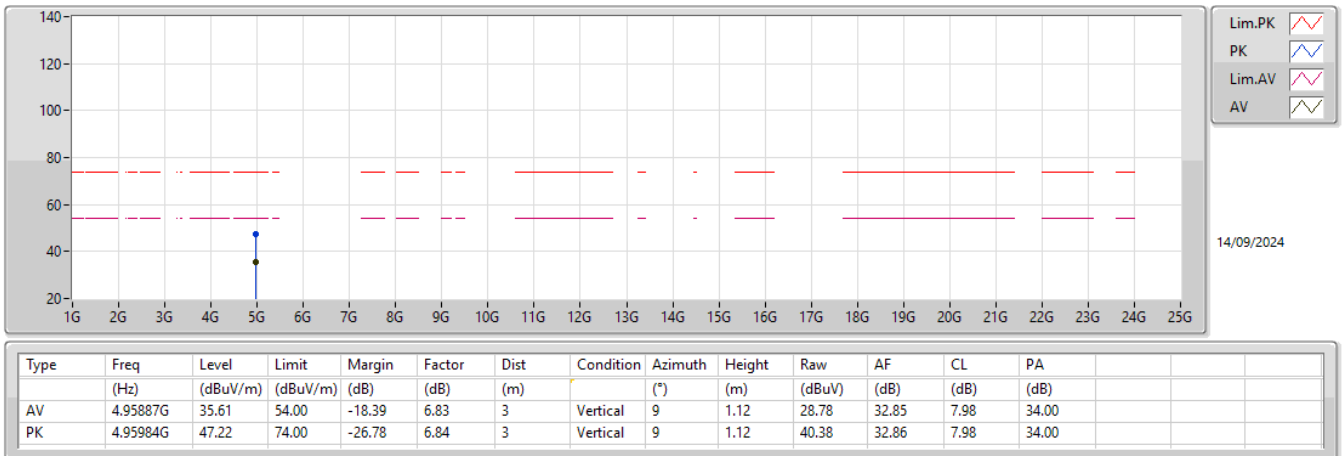
2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



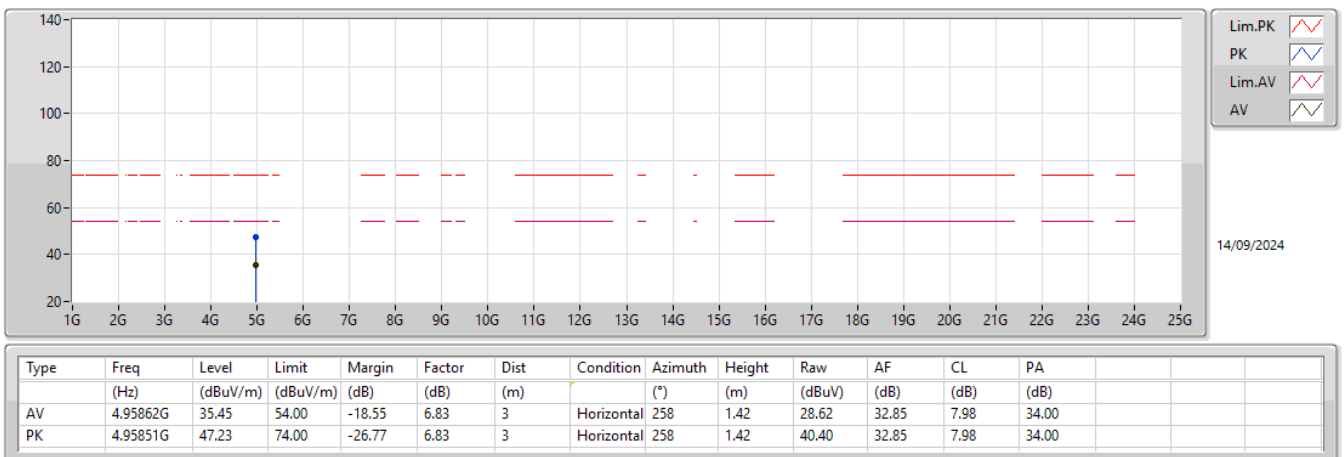
2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX





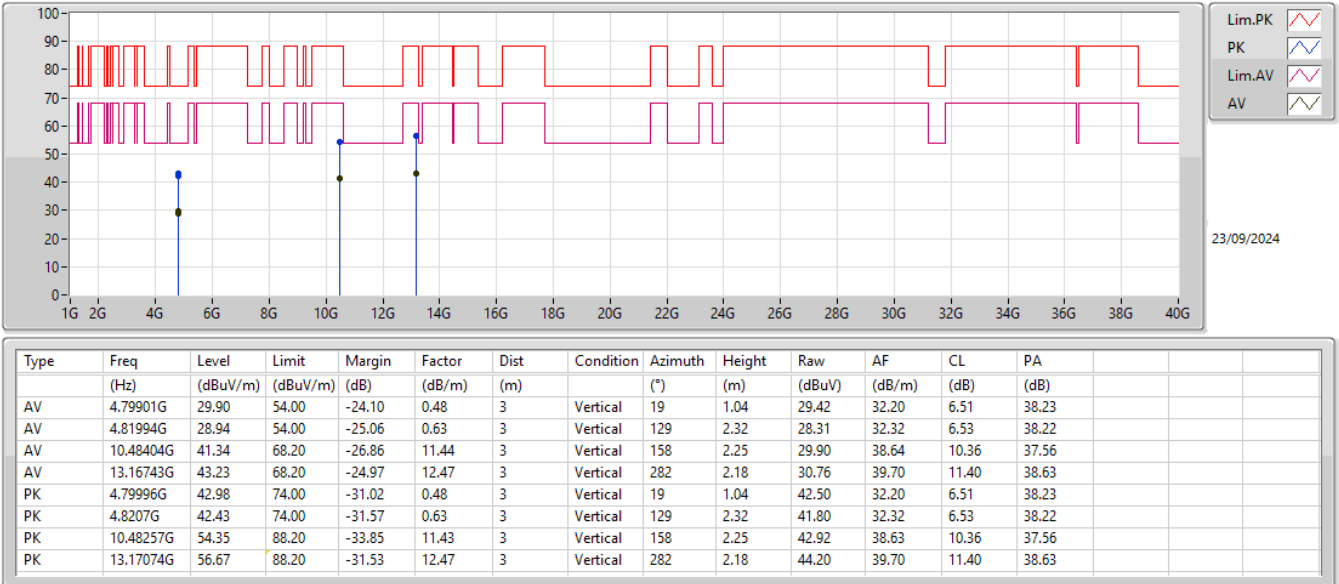
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	4.79901G	29.90	54.00	-24.10	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	4.79901G	29.90	54.00	-24.10	3	Vertical	19	1.04
Mode 1	Pass	AV	4.81994G	28.94	54.00	-25.06	3	Vertical	129	2.32
Mode 1	Pass	AV	10.48404G	41.34	68.20	-26.86	3	Vertical	158	2.25
Mode 1	Pass	AV	13.16743G	43.23	68.20	-24.97	3	Vertical	282	2.18
Mode 1	Pass	PK	4.79996G	42.98	74.00	-31.02	3	Vertical	19	1.04
Mode 1	Pass	PK	4.8207G	42.43	74.00	-31.57	3	Vertical	129	2.32
Mode 1	Pass	PK	10.48257G	54.35	88.20	-33.85	3	Vertical	158	2.25
Mode 1	Pass	PK	13.17074G	56.67	88.20	-31.53	3	Vertical	282	2.18
Mode 1	Pass	AV	4.7998G	29.85	54.00	-24.15	3	Horizontal	225	2.14
Mode 1	Pass	AV	4.82343G	29.05	54.00	-24.95	3	Horizontal	197	1.47
Mode 1	Pass	AV	10.47985G	41.28	68.20	-26.92	3	Horizontal	322	1.85
Mode 1	Pass	AV	13.17256G	43.11	68.20	-25.09	3	Horizontal	130	2.42
Mode 1	Pass	PK	4.80391G	43.36	74.00	-30.64	3	Horizontal	225	2.14
Mode 1	Pass	PK	4.82665G	42.11	74.00	-31.89	3	Horizontal	197	1.47
Mode 1	Pass	PK	10.48057G	54.82	88.20	-33.38	3	Horizontal	322	1.85
Mode 1	Pass	PK	13.16646G	56.54	88.20	-31.66	3	Horizontal	130	2.42

Radiated Emissions above 1GHz_Mode 1



Radiated Emissions above 1GHz_Mode 1

