

FCC Radio Test Report

FCC ID : XPYANNAB5
Equipment : ANNA-B5 stand-alone Bluetooth Low Energy module
Brand Name : u-blox
Model Name : ANNA-B501, ANNA-B561, ANNA-B505 , ANNA-B565
Applicant : u-blox AG
Zürcherstrasse 68, 8800 Thalwil, Switzerland
Manufacturer : u-blox AG
Zürcherstrasse 68, 8800 Thalwil, Switzerland
Standard : 47 CFR FCC Part 15.247

The product was received on Jul. 14, 2026, and testing was started from Jul. 24, 2026 and completed on Aug. 12, 2026. 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 C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 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

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Table of Contents

HISTORY OF THIS TEST REPORT	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Information.....	5
1.2 Testing Applied 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.....	11
2.3 Support Equipment.....	12
2.4 Test Setup Diagram	13
3 TRANSMITTER TEST RESULT	14
3.1 AC Power-line Conducted Emissions	14
3.2 DTS Bandwidth.....	16
3.3 Maximum Conducted Output Power	17
3.4 Power Spectral Density	19
3.5 Emissions in Non-restricted Frequency Bands	20
3.6 Emissions in Restricted Frequency Bands.....	21
4 TEST EQUIPMENT AND CALIBRATION DATA	25
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 : 886-3-3273456
FAX : 886-3-3270973
Report Template No.: HE1-C10 Ver4.5
FCC ID: XPYANNAB5

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: Ben Tseng

Report Producer: Amber Chiu

1 General Description

1.1 Information

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 (MHz)	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 (1Mbps/2Mbps/125kbps/500kbps) modulation.
- BWch is the nominal channel bandwidth.
- Bluetooth LE 125k/500k/1Mbps uses the same modulation, and 1Mbps was found to be the worst case scenario which was performed full test and recorded in this test report.

1.1.2 Antenna Information

Model Name : ANNA-B501, ANNA-B561					
External Antenna					
Ant.	Brand	Model Name	Antenna Type	Connector	Support
1	Taoglas	FXP72.07.0053A	PCB Antenna	u.fl	BLE + 802.15.4
2	Taoglas	FXP74.07.0100A	PCB Antenna	u.fl	BLE + 802.15.4
3	Taoglas	FXP75.07.0045B	PCB Antenna	u.fl	BLE + 802.15.4
4	Taoglas	PC17.07.0070A	PCB Antenna	I-Pex	BLE + 802.15.4

Ant.	Gain (dBi)	
	802.15.4	BT
1	3.06	3.06
2	4	4
3	2.5	2.5
4	0.9	0.9

For BT function:

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

Ant. 1 or Ant. 2 or Ant.3 or Ant.4 could transmit/receive.

For 802.15.4 function:

For IEEE 802.15.4 mode (1TX/1RX)

Ant. 1 or Ant. 2 or Ant.3 or Ant.4 could transmit/receive.

Model Name : ANNA-B505, ANNA-B565					
Integrated Antenna					
Ant.	Brand	Model Name	Antenna Type	Connector	Support
1	U-Blox	ANNA-B5	Chip Antenna	u.fl	BLE + 802.15.4

Ant.	Gain (dBi)	
	802.15.4	BT
1	-0.38	-0.38

For BT function:

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

Ant. 1 could transmit/receive.

For 802.15.4 function:

For IEEE 802.15.4 mode (1TX/1RX)

Ant. 1 could transmit/receive.

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From Host System		
EUT Function	☒ Point-to-multipoint	☐ Point-to-point	
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)	1	0	60.002m	10Hz (DC>=0.98)
BT-LE(2Mbps)	1	0	60.002m	10Hz (DC>=0.98)

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



1.1.5 Table for Multiple Listing

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

Model Name	Description		
	Antenna type	Antenna	Software
ANNA-B501	External Antenna	Antenna pin	Open CPU
ANNA-B561	External Antenna	Antenna pin	u-connectXpress
ANNA-B505	Integrated Antenna	Chip antenna	Open CPU
ANNA-B565	Integrated Antenna	Chip antenna	u-connectXpress

From the above models, model: ANNA-B501, ANNA-B505 was selected as representative model for the test and its data was recorded in this report.

1.2 Testing Applied Standards

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

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024

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	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	(TAF: 3785)	TEL: 886-3-327-3456	FAX: 886-3-327-0973		
		Test site Designation No. TW3785 with FCC.			
Test Condition		Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction		CO04-HY	Lego Lin	20.5~22.7°C / 57~59%	01/Aug/2026
RF Conducted		TH07-HY	Yulin Chen	22.8~24.2°C / 53~60%	24/Jul/2026~12/Aug/2026
☒	Wenhua 3rd..	ADD: No. 58, Aly. 75, Ln. 564, Wenhua 3rd Rd., Guishan Dist. Taoyuan City 333, Taiwan (R.O.C.)			
	(TAF: 3785)	TEL: 886-3-327-0868			
		Test site Designation No. TW0036 with FCC.			
Test Condition		Test Site No.	Test Engineer	Test Environment	Test Date
Radiated		03CH24-HY	Jack Tang	20.1~22.3°C / 53~58%	28/Jul/2026~12/Aug/2026

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	3.24 dB	Confidence levels of 95%
Conducted Output Power	1.12 dB	Confidence levels of 95%
Bandwidth	0.07 MHz	Confidence levels of 95%
Conducted Emission	1.12 dB	Confidence levels of 95%
Power Spectral Density	1.22 dB	Confidence levels of 95%
Radiated Emission (9 kHz ~ 30 MHz)	1.76 dB	Confidence levels of 95%
Radiated Emission (30 MHz ~ 1 GHz)	5.38 dB	Confidence levels of 95%
Radiated Emission (1 GHz ~ 18 GHz)	4.94 dB	Confidence levels of 95%
Radiated Emission (18 GHz ~ 40 GHz)	4.92 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	Tera Term Version 4.76
-----------------------	------------------------

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	8
2440MHz	8
2480MHz	8
BT-LE(2Mbps)	-
2402MHz	8
2440MHz	8
2480MHz	8

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	Fixture 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	Fixture mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT	V (Integrated Antenna)		V (External Antenna)

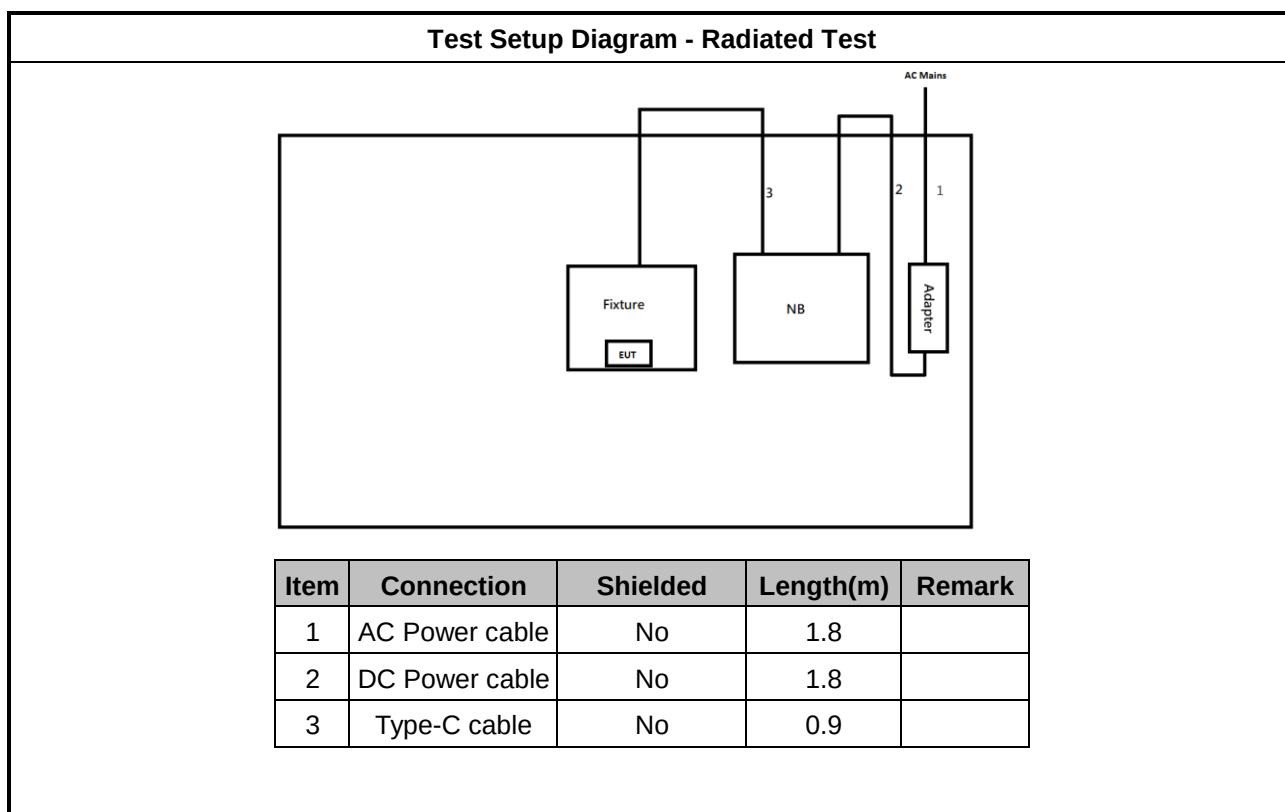
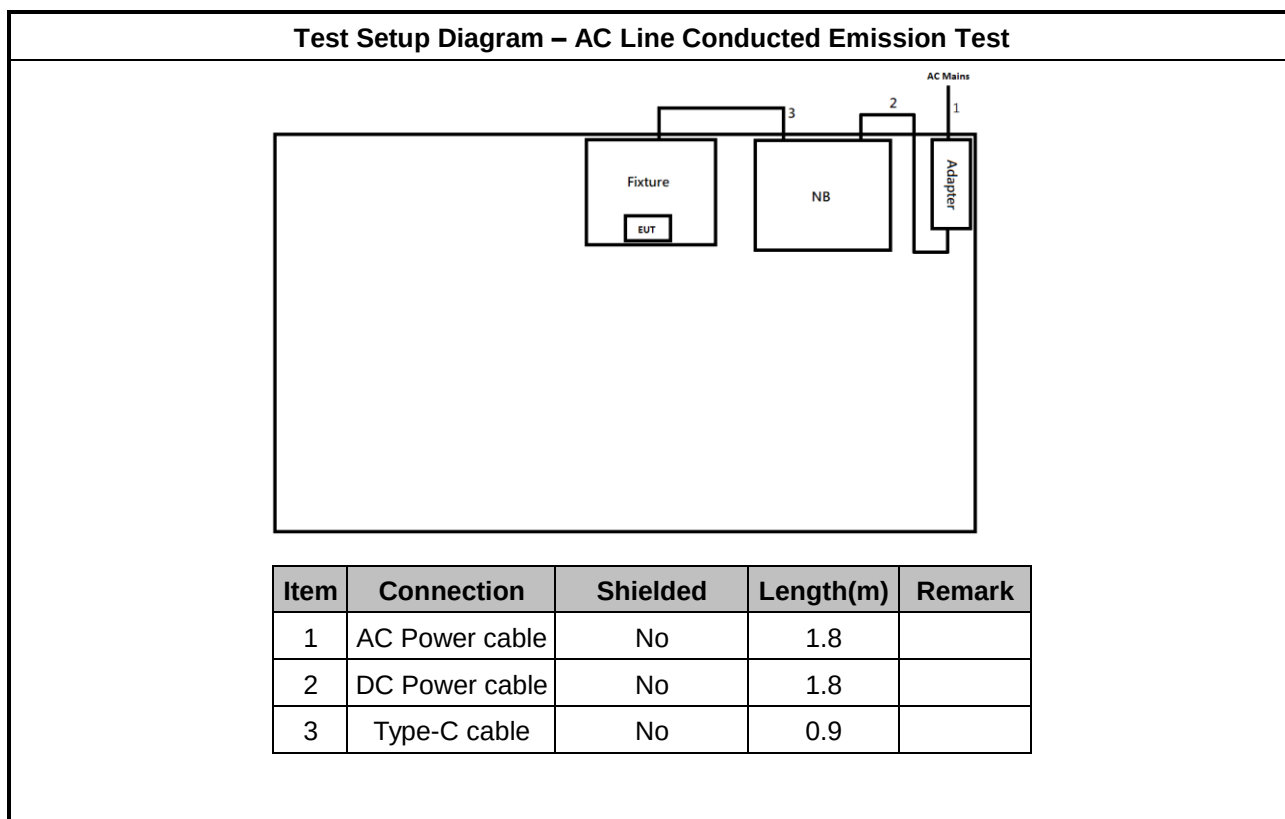
2.3 Support Equipment

Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	ANNA-B5 Evaluation Board	U-blox	ANNA-B5	-	-
2	Type-C Cable	UGREEN	US184	-	-
3	Notebook	DELL	Latitude 7290	-	-
4	Adapter for notebook	DELL	HA65NM130	-	-

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

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	ANNA-B5 Evaluation Board	U-blox	ANNA-B5	-	-
2	Type-C Cable	UGREEN	US184	-	-
3	Notebook	DELL	Latitude 7290	-	-
4	Adapter for notebook	DELL	HA65NM130	-	-

2.4 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

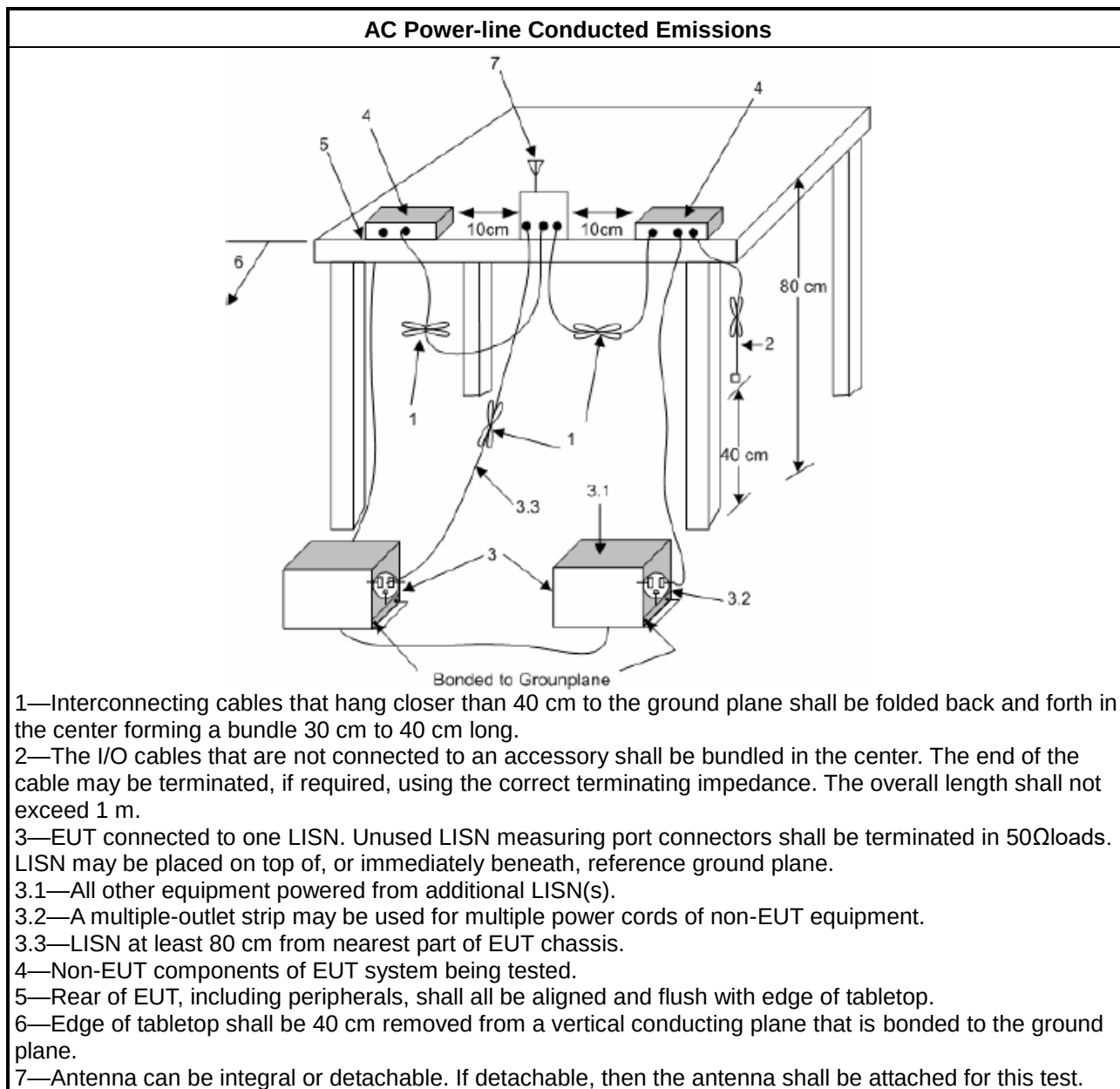
Test Method
▪ Refer as ANSI C63.10, clause 6.2 foray power-line conducted emissions.

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.

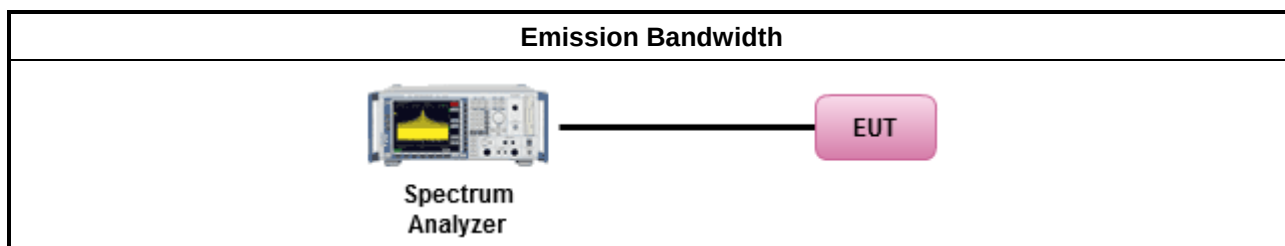
3.2.2 Measuring Instruments

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.	

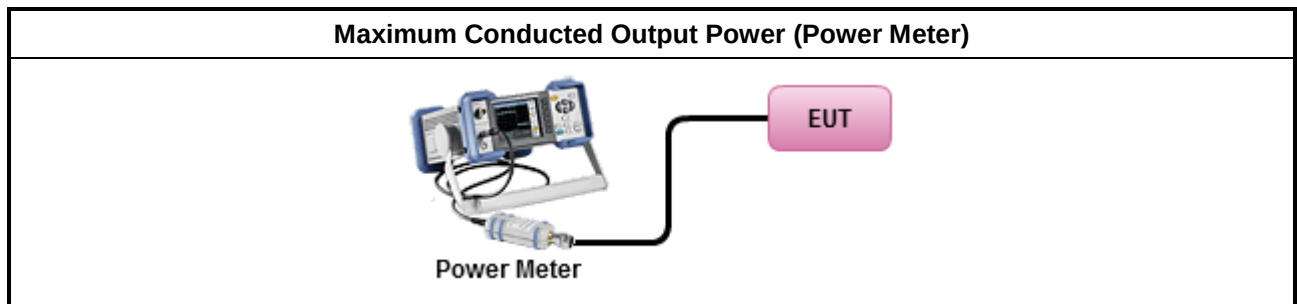
3.3.2 Measuring Instruments

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 integrated band power method.
☒	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.2 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

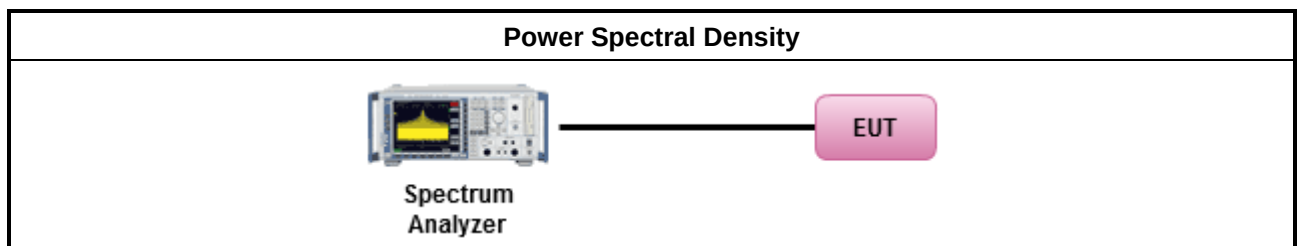
3.4.2 Measuring Instruments

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.	

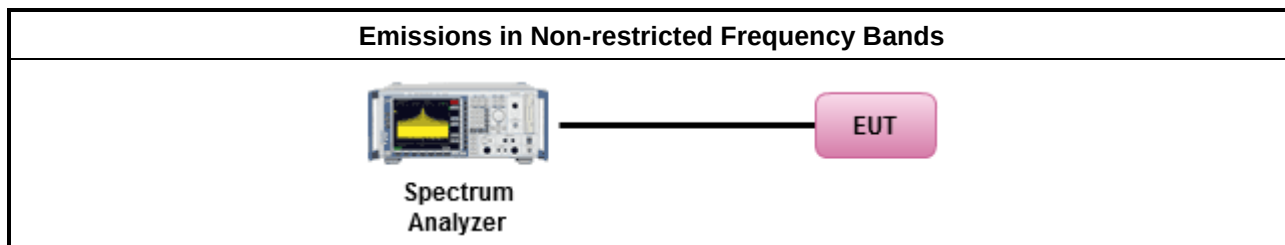
3.5.2 Measuring Instruments

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

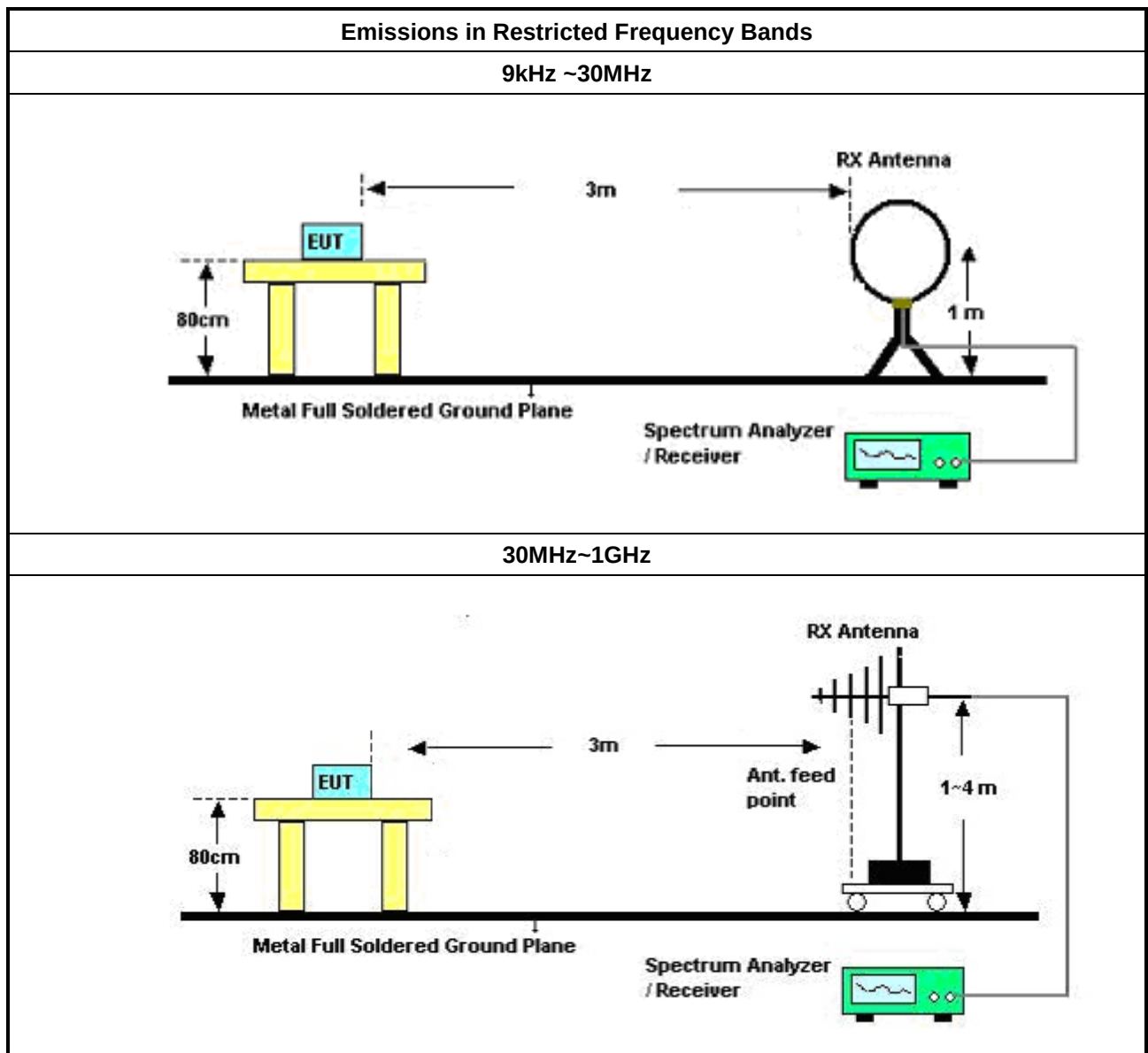
Test Method	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted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

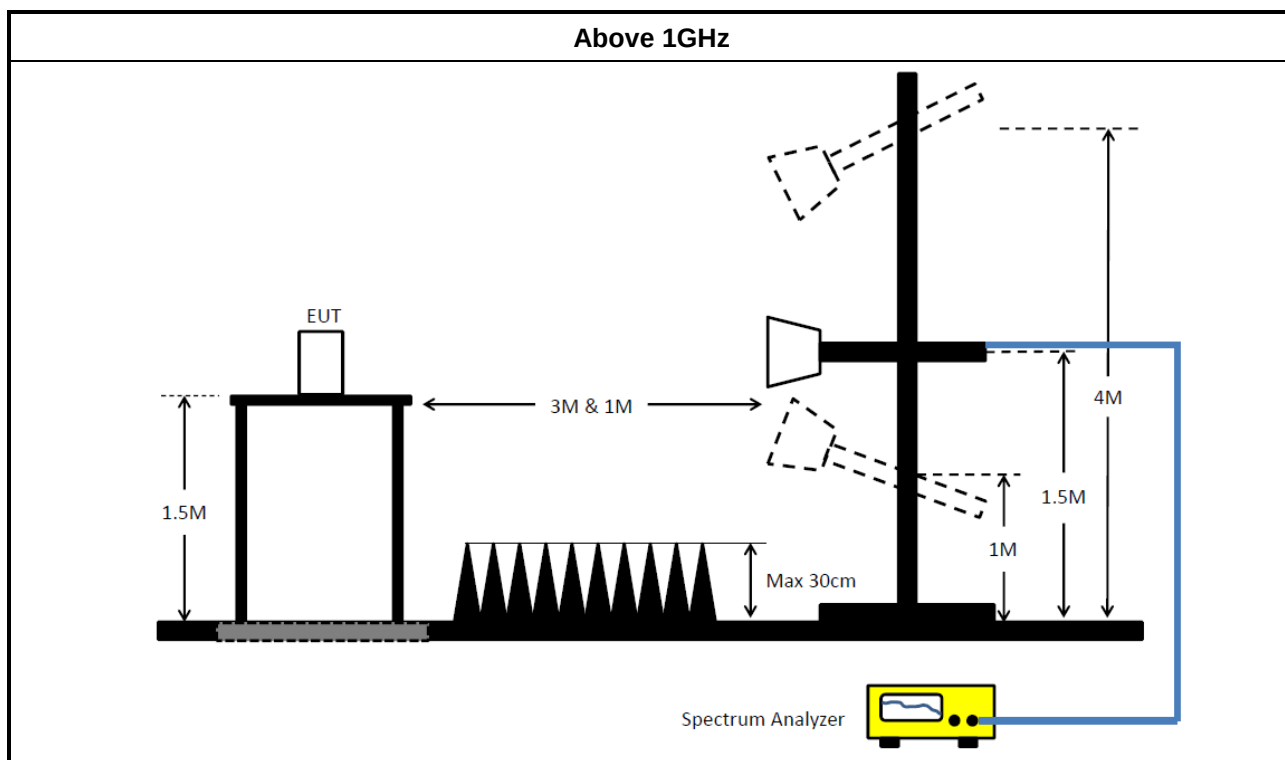
3.6.4 Measurement Results Calculation

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	05/Jun/2026	04/Jun/2027
Two-Line V-Network	ROHDE & SCHWARZ	ENV 216	101578	9kHz ~ 30MHz	24/Aug/2025	23/Aug/2026
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	25/Feb/2026	24/Feb/2027
Pulse Limiter	SCHWARZBECK	VTSD 9561F-F	9561-F041	9kHz ~ 30MHz	27/Oct/2025	26/Oct/2026
Software	Sporton	SENSE-EMI	V5.11.6	-	NCR	NCR

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV3044	101438	10Hz~44GHz	14/Oct/2025	13/Oct/2026
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	29/Oct/2025	28/Oct/2026
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	04/Feb/2026	03/Feb/2027
Pulse Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	04/Feb/2026	03/Feb/2027
SENSE-15247_FS	Sporton	V5.11.28	N/A	N/A	N/A	N/A

Instrument for Radiated Test_ External Antenna

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH24-HY	30MHz~1GHz 3m	15/Aug/2025	14/Aug/2026
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH24-HY	1GHz~18GHz 3m	23/Jul/2026	22/Jul/2027
EMI Test Receiver	ROHDE & SCHWARZ	ESR	102318	9kHz~3.6GHz	08/Dec/2025	07/Dec/2026
Signal Analyzer	ROHDE&SCHWARZ	FSV3044	101345	10Hz~44GHz	26/Aug/2025	25/Aug/2026
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2026	15/Mar/2027
Bilog Antenna & 6dB Attenuator	TESEQ / Woken	CBL 6112D / 00800N1D01N-06	35376 / 02	30MHz~1GHz	12/Apr/2026	11/Apr/2027
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1534	1GHz~18GHz	11/Mar/2026	10/Mar/2027
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	01248	18GHz~40GHz	07/Oct/2025	06/Oct/2026
RF Cable	HUBER+SUHNER	SUOFLEX 104	03CH24-cable-01	9kHz~40GHz	02/Oct/2025	01/Oct/2026
Pre-Amplifier	Aglient	8447D	2944A06292	30MHz~1GHz	07/Apr/2026	06/Apr/2027
Amplifier	EM	EM01G18G	060870	1GHz ~18GHz	08/Aug/2025	07/Aug/2026
Amplifier	EM	EM18G40GA	060874	18GHz ~40GHz	27/Apr/2026	26/Apr/2027
SENSE-15247-FS	Sporton	V5.11.24	NA	NA	NA	NA

**Instrument for Radiated Test Integrated Antenna**

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH24-HY	30MHz~1GHz 3m	15/Aug/2025	14/Aug/2026
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH24-HY	1GHz~18GHz 3m	28/Jul/2026	27/Jul/2027
EMI Test Receiver	ROHDE & SCHWARZ	ESR	102318	9kHz~3.6GHz	08/Dec/2025	07/Dec/2026
Signal Analyzer	ROHDE&SCHWARZ	FSV3044	101345	10Hz~44GHz	26/Aug/2025	25/Aug/2026
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2026	15/Mar/2027
Bilog Antenna & 6dB Attenuator	TESEQ / Woken	CBL 6112D / 00800N1D01N-06	35376 / 02	30MHz~1GHz	12/Apr/2026	11/Apr/2027
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1534	1GHz~18GHz	11/Mar/2026	10/Mar/2027
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02744	1GHz~18GHz	29/Jul/2026	28/Jul/2027
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	01248	18GHz~40GHz	07/Oct/2025	06/Oct/2026
RF Cable	HUBER+SUHNER	SUOFLEX 104	03CH24-cable-01	9kHz~40GHz	02/Oct/2025	01/Oct/2026
Pre-Amplifier	Aglient	8447D	2944A06292	30MHz~1GHz	07/Apr/2026	06/Apr/2027
Amplifier	EM	EM01G18G	060870	1GHz ~18GHz	08/Aug/2025	07/Aug/2026
Amplifier	EM	EM01G18G	060870	1GHz ~18GHz	07/Aug/2026	06/Aug/2027
Amplifier	EM	EM18G40GA	060874	18GHz ~40GHz	27/Apr/2026	26/Apr/2027
SENSE-15247-FS	Sporton	V5.11.24	NA	NA	NA	NA



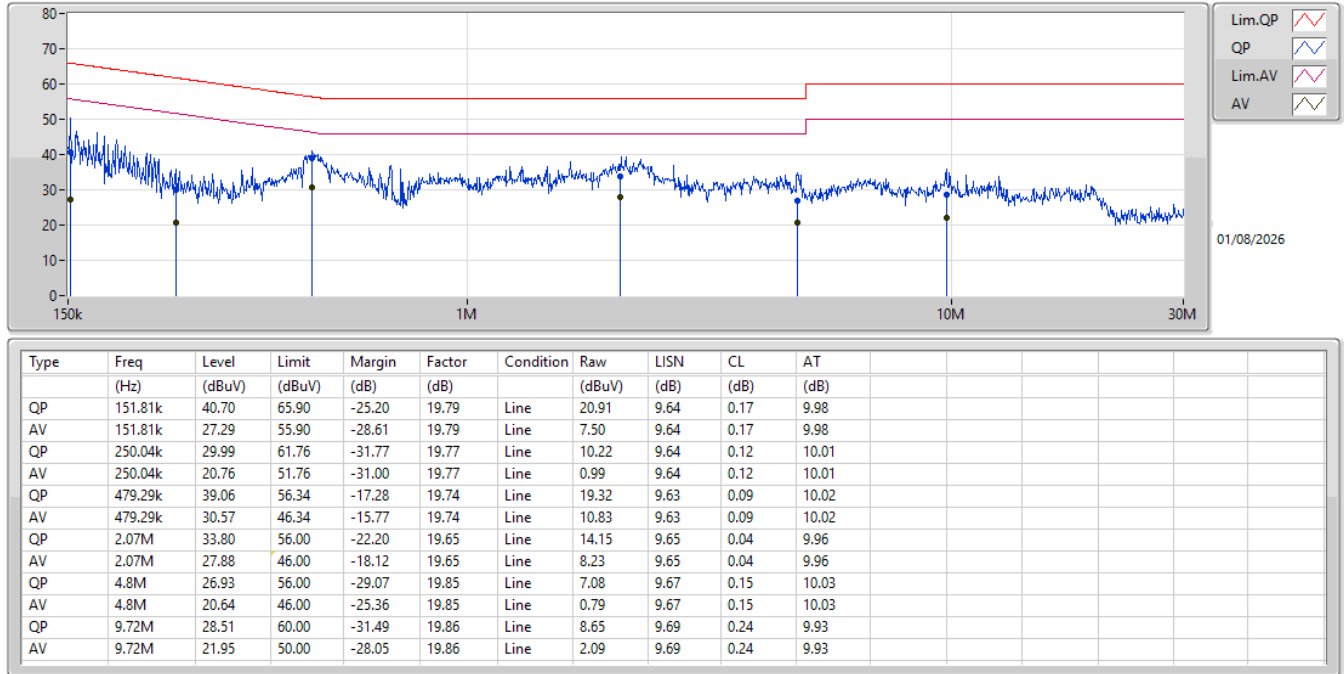
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	485.07k	32.41	46.25	-13.84	Neutral

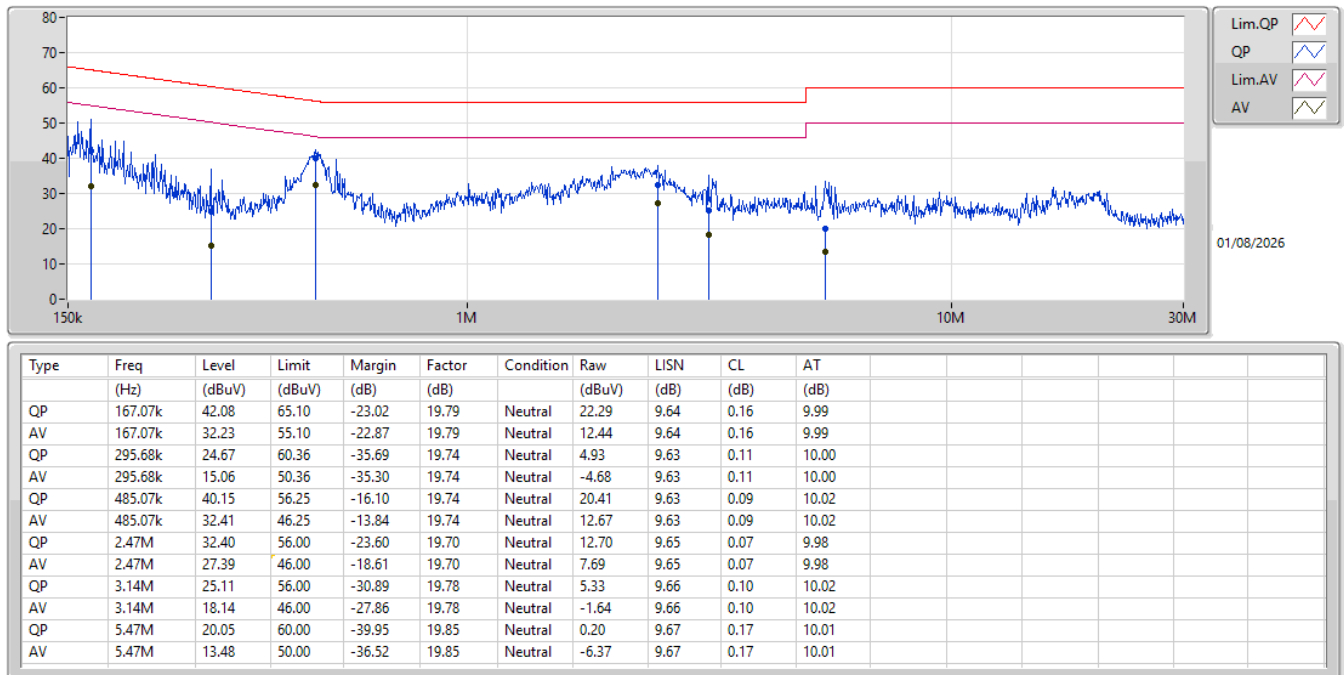
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	151.81k	40.70	65.90	-25.20	Line
Mode 1	Pass	AV	151.81k	27.29	55.90	-28.61	Line
Mode 1	Pass	QP	250.04k	29.99	61.76	-31.77	Line
Mode 1	Pass	AV	250.04k	20.76	51.76	-31.00	Line
Mode 1	Pass	QP	479.29k	39.06	56.34	-17.28	Line
Mode 1	Pass	AV	479.29k	30.57	46.34	-15.77	Line
Mode 1	Pass	QP	2.07M	33.80	56.00	-22.20	Line
Mode 1	Pass	AV	2.07M	27.88	46.00	-18.12	Line
Mode 1	Pass	QP	4.8M	26.93	56.00	-29.07	Line
Mode 1	Pass	AV	4.8M	20.64	46.00	-25.36	Line
Mode 1	Pass	QP	9.72M	28.51	60.00	-31.49	Line
Mode 1	Pass	AV	9.72M	21.95	50.00	-28.05	Line
Mode 1	Pass	QP	167.07k	42.08	65.10	-23.02	Neutral
Mode 1	Pass	AV	167.07k	32.23	55.10	-22.87	Neutral
Mode 1	Pass	QP	295.68k	24.67	60.36	-35.69	Neutral
Mode 1	Pass	AV	295.68k	15.06	50.36	-35.30	Neutral
Mode 1	Pass	QP	485.07k	40.15	56.25	-16.10	Neutral
Mode 1	Pass	AV	485.07k	32.41	46.25	-13.84	Neutral
Mode 1	Pass	QP	2.47M	32.40	56.00	-23.60	Neutral
Mode 1	Pass	AV	2.47M	27.39	46.00	-18.61	Neutral
Mode 1	Pass	QP	3.14M	25.11	56.00	-30.89	Neutral
Mode 1	Pass	AV	3.14M	18.14	46.00	-27.86	Neutral
Mode 1	Pass	QP	5.47M	20.05	60.00	-39.95	Neutral
Mode 1	Pass	AV	5.47M	13.48	50.00	-36.52	Neutral

Conducted Emissions at Powerline_Mode 1



Conducted Emissions at Powerline_Mode 1





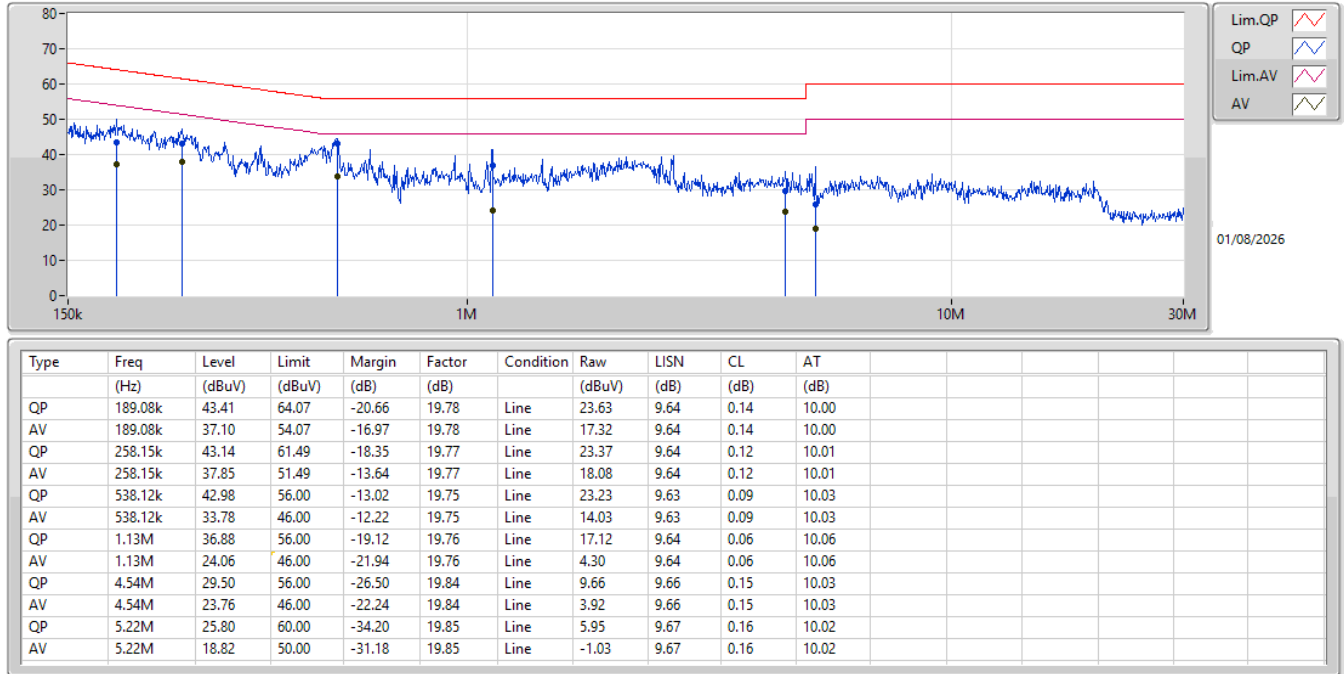
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	256.1k	40.37	51.56	-11.19	Neutral

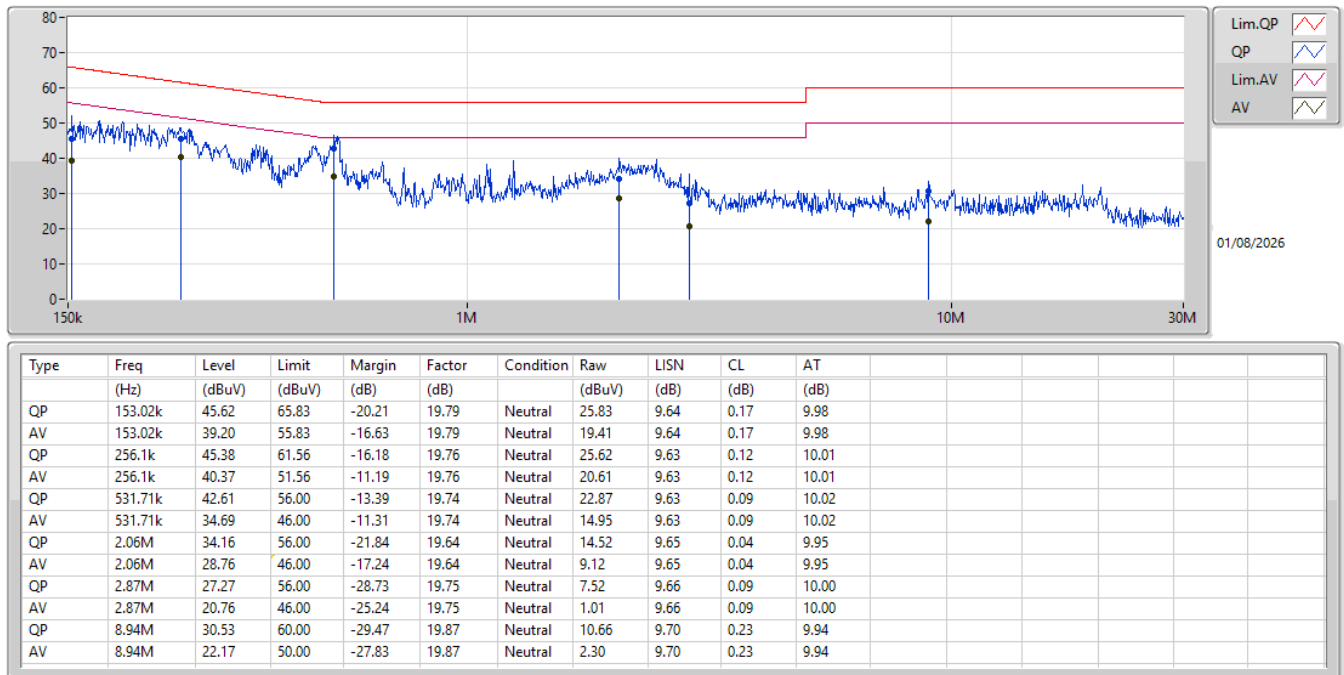
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	189.08k	43.41	64.07	-20.66	Line
Mode 1	Pass	AV	189.08k	37.10	54.07	-16.97	Line
Mode 1	Pass	QP	258.15k	43.14	61.49	-18.35	Line
Mode 1	Pass	AV	258.15k	37.85	51.49	-13.64	Line
Mode 1	Pass	QP	538.12k	42.98	56.00	-13.02	Line
Mode 1	Pass	AV	538.12k	33.78	46.00	-12.22	Line
Mode 1	Pass	QP	1.13M	36.88	56.00	-19.12	Line
Mode 1	Pass	AV	1.13M	24.06	46.00	-21.94	Line
Mode 1	Pass	QP	4.54M	29.50	56.00	-26.50	Line
Mode 1	Pass	AV	4.54M	23.76	46.00	-22.24	Line
Mode 1	Pass	QP	5.22M	25.80	60.00	-34.20	Line
Mode 1	Pass	AV	5.22M	18.82	50.00	-31.18	Line
Mode 1	Pass	QP	153.02k	45.62	65.83	-20.21	Neutral
Mode 1	Pass	AV	153.02k	39.20	55.83	-16.63	Neutral
Mode 1	Pass	QP	256.1k	45.38	61.56	-16.18	Neutral
Mode 1	Pass	AV	256.1k	40.37	51.56	-11.19	Neutral
Mode 1	Pass	QP	531.71k	42.61	56.00	-13.39	Neutral
Mode 1	Pass	AV	531.71k	34.69	46.00	-11.31	Neutral
Mode 1	Pass	QP	2.06M	34.16	56.00	-21.84	Neutral
Mode 1	Pass	AV	2.06M	28.76	46.00	-17.24	Neutral
Mode 1	Pass	QP	2.87M	27.27	56.00	-28.73	Neutral
Mode 1	Pass	AV	2.87M	20.76	46.00	-25.24	Neutral
Mode 1	Pass	QP	8.94M	30.53	60.00	-29.47	Neutral
Mode 1	Pass	AV	8.94M	22.17	50.00	-27.83	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)	711.25k	1.082M	1M08F1D	651.25k	1.054M
BT-LE(2Mbps)	1.385M	2.119M	2M12F1D	1.273M	2.106M

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

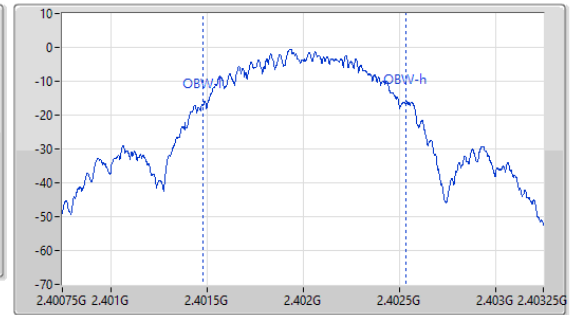
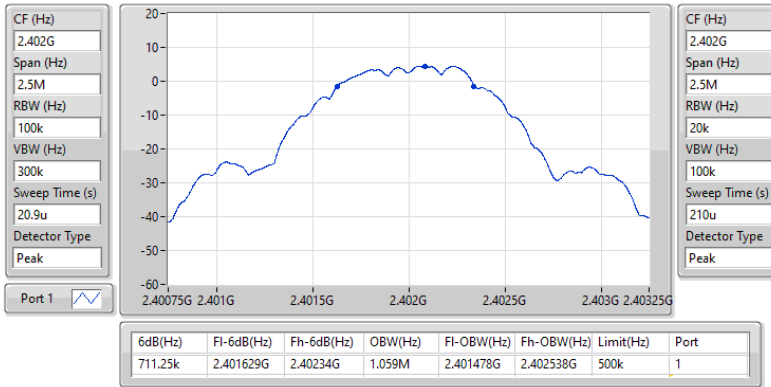
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	711.25k	1.059M
2440MHz	Pass	500k	695k	1.082M
2480MHz	Pass	500k	651.25k	1.054M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.273M	2.119M
2440MHz	Pass	500k	1.275M	2.106M
2480MHz	Pass	500k	1.385M	2.118M

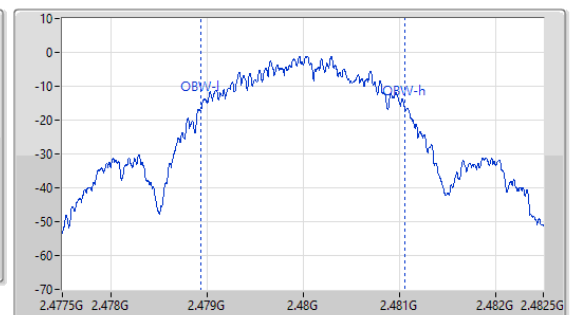
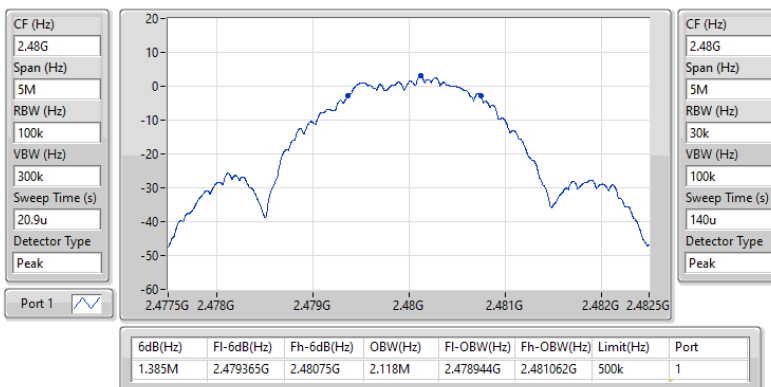
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_BT-LE(1Mbps)
EBW-DTS
2402MHz

24/07/2026


2.4-2.4835GHz_BT-LE(2Mbps)
EBW-DTS
2480MHz

24/07/2026





Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	6.56	0.00453
BT-LE(2Mbps)	6.56	0.00453



Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.00	6.50	30.00
2440MHz	Pass	4.00	6.48	30.00
2480MHz	Pass	4.00	6.56	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.00	6.41	30.00
2440MHz	Pass	4.00	6.46	30.00
2480MHz	Pass	4.00	6.56	30.00

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



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	6.36	0.00433
BT-LE(2Mbps)	6.37	0.00434

**Result**

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.00	6.32	30.00
2440MHz	Pass	4.00	6.33	30.00
2480MHz	Pass	4.00	6.36	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.00	6.31	30.00
2440MHz	Pass	4.00	6.34	30.00
2480MHz	Pass	4.00	6.37	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)	-5.84
BT-LE(2Mbps)	-9.80

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.00	-5.84	8.00
2440MHz	Pass	4.00	-8.19	8.00
2480MHz	Pass	4.00	-8.64	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.00	-10.43	8.00
2440MHz	Pass	4.00	-9.80	8.00
2480MHz	Pass	4.00	-10.27	8.00

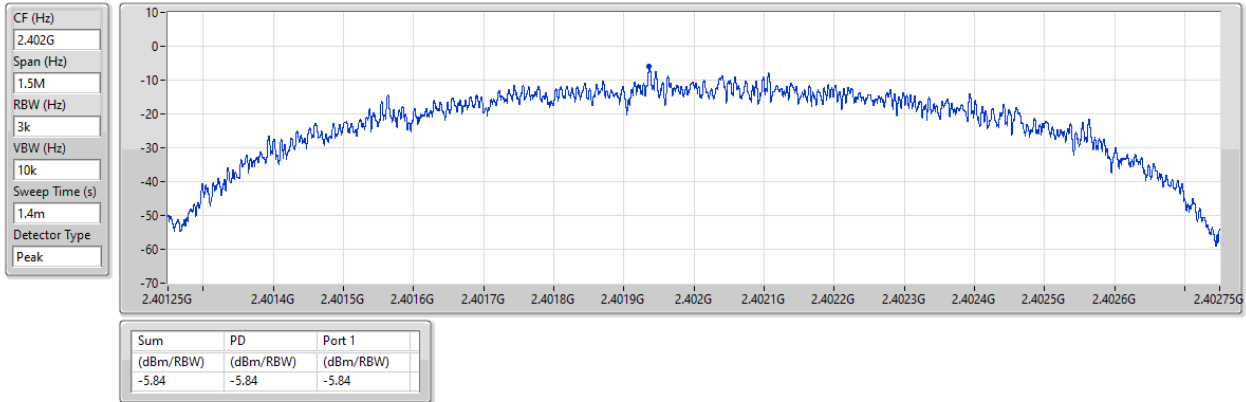
DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;
Inf = There's no restriction for the limit.

2.4-2.4835GHz_BT-LE(1Mbps)

PSD

2402MHz

24/07/2026

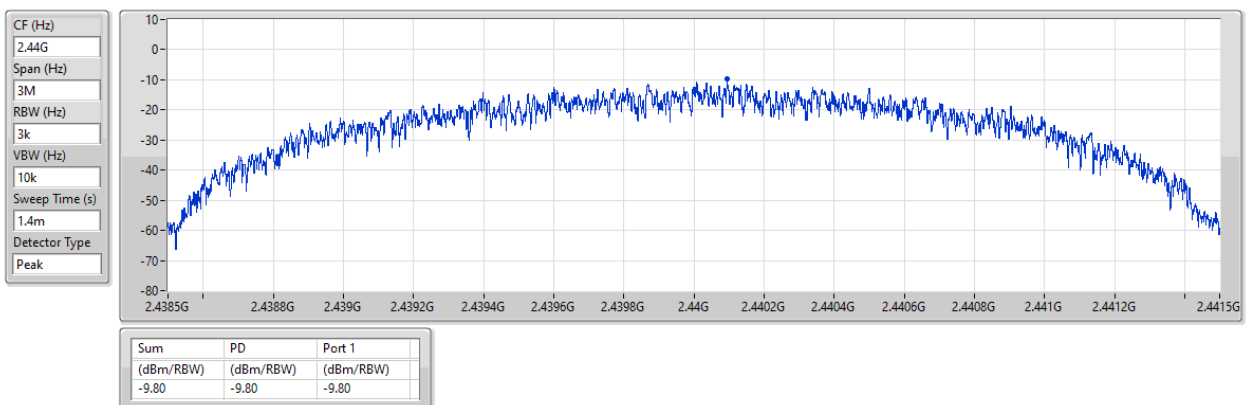


2.4-2.4835GHz_BT-LE(2Mbps)

PSD

2440MHz

24/07/2026



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	2.48033G	5.66	-14.34	1.7737G	-54.49	2.39996G	-44.95	2.4G	-46.10	2.50206G	-54.40	24.21262G	-42.83	1
BT-LE(2Mbps)	Pass	2.48016G	4.07	-15.93	1.7972G	-54.75	2.4G	-24.99	2.4G	-25.01	2.50274G	-53.44	21.47649G	-42.81	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	2.48033G	5.66	-14.34	1.7737G	-54.49	2.39996G	-44.95	2.4G	-46.10	2.50206G	-54.40	24.21262G	-42.83	1
2440MHz	Pass	2.48033G	5.66	-14.34	2.11915G	-56.02	2.3944G	-54.13	2.4G	-56.51	2.50138G	-53.78	16.4682G	-43.11	1
2480MHz	Pass	2.48033G	5.66	-14.34	2.14265G	-53.70	2.3932G	-53.76	2.4G	-56.37	2.50122G	-53.76	24.8369G	-41.91	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.48016G	4.07	-15.93	1.7972G	-54.75	2.4G	-24.99	2.4G	-25.01	2.50274G	-53.44	21.47649G	-42.81	1
2440MHz	Pass	2.48016G	4.07	-15.93	2.1356G	-54.34	2.39792G	-53.37	2.4G	-55.75	2.50202G	-53.94	24.52476G	-42.95	1
2480MHz	Pass	2.48016G	4.07	-15.93	2.3001G	-54.63	2.39668G	-54.13	2.4G	-55.32	2.5013G	-52.56	21.72114G	-43.34	1

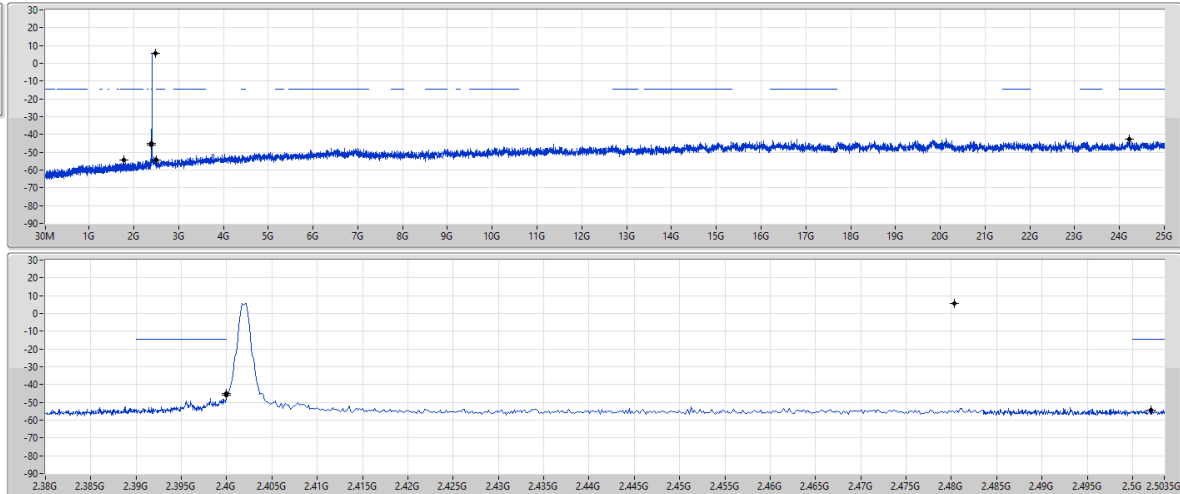
2.4-2.4835GHz_BT-LE(1Mbps)

CSEndB-DTS

2402MHz

12/08/2026

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



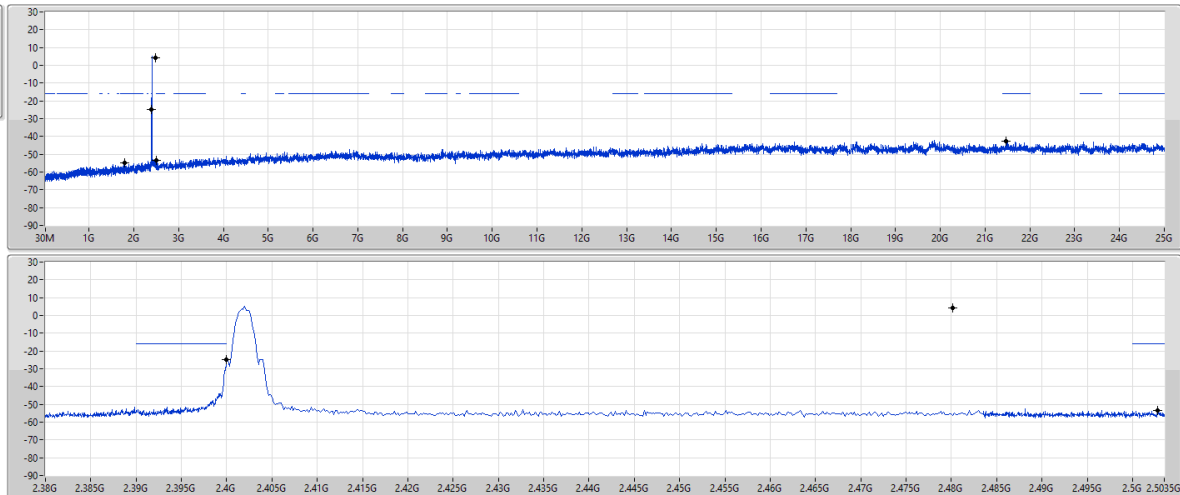
2.4-2.4835GHz_BT-LE(2Mbps)

CSEndB-DTS

2402MHz

12/08/2026

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





Summary

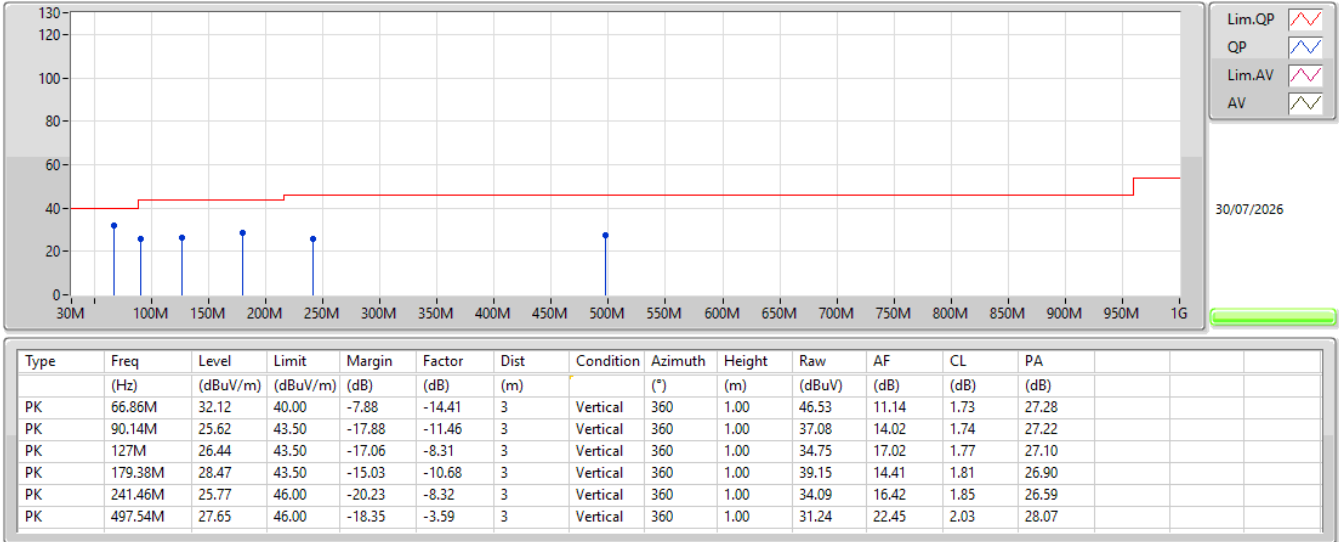
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(2Mbps)	Pass	PK	161.92M	36.48	43.50	-7.02	3	Horizontal	0	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2440MHz Test Fixture	Pass	PK	66.86M	32.12	40.00	-7.88	3	Vertical	360	1.00
2440MHz Test Fixture	Pass	PK	90.14M	25.62	43.50	-17.88	3	Vertical	360	1.00
2440MHz Test Fixture	Pass	PK	127M	26.44	43.50	-17.06	3	Vertical	360	1.00
2440MHz Test Fixture	Pass	PK	179.38M	28.47	43.50	-15.03	3	Vertical	360	1.00
2440MHz Test Fixture	Pass	PK	241.46M	25.77	46.00	-20.23	3	Vertical	360	1.00
2440MHz Test Fixture	Pass	PK	497.54M	27.65	46.00	-18.35	3	Vertical	360	1.00
2440MHz Test Fixture	Pass	PK	127M	28.21	43.50	-15.29	3	Horizontal	0	1.00
2440MHz Test Fixture	Pass	PK	161.92M	36.48	43.50	-7.02	3	Horizontal	0	1.00
2440MHz Test Fixture	Pass	PK	239.52M	35.58	46.00	-10.42	3	Horizontal	0	1.00
2440MHz Test Fixture	Pass	PK	280.26M	32.25	46.00	-13.75	3	Horizontal	0	1.00
2440MHz Test Fixture	Pass	PK	518.88M	30.81	46.00	-15.19	3	Horizontal	0	1.00
2440MHz Test Fixture	Pass	QP	66.86M	29.47	40.00	-10.53	3	Horizontal	205	2.85

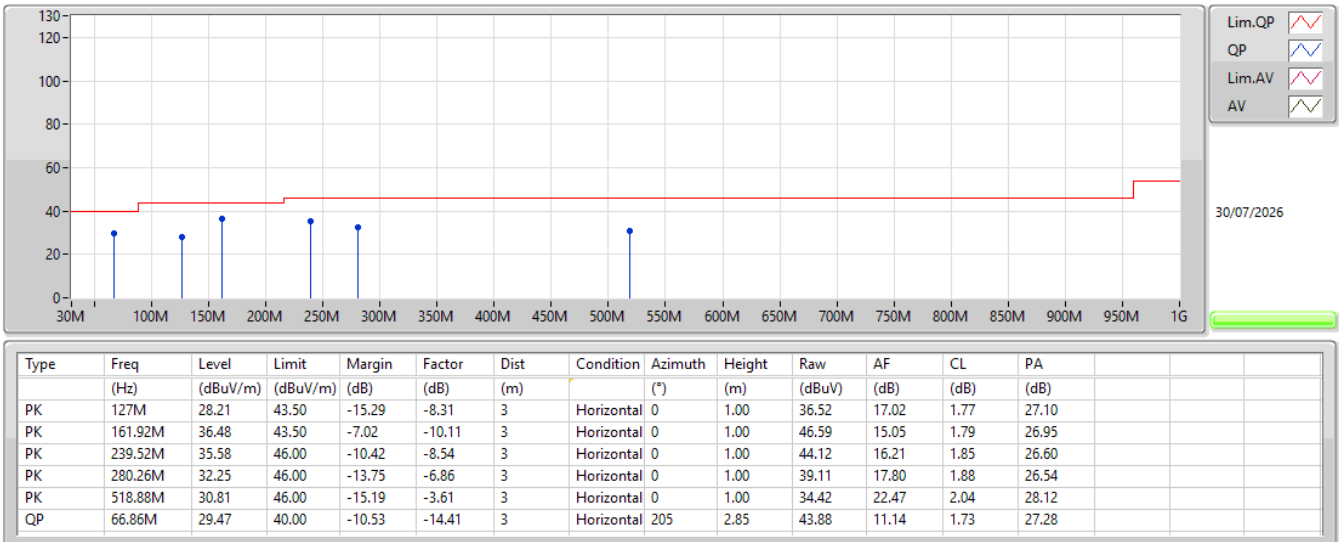
2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_Test Fixture



2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_Test Fixture





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	45.88	54.00	-8.12	3	Vertical	165	1.33
BT-LE(2Mbps)	Pass	AV	2.4835G	47.39	54.00	-6.61	3	Vertical	110	1.61

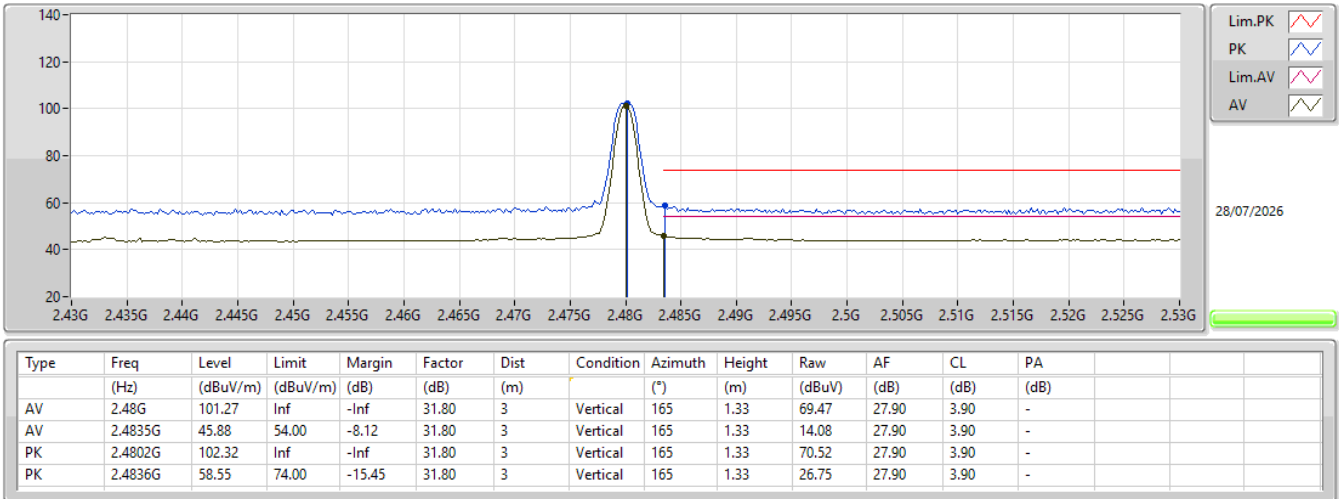
Result

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	43.53	54.00	-10.47	3	Vertical	163	1.18
2402MHz	Pass	AV	2.402G	99.17	Inf	-Inf	3	Vertical	163	1.18
2402MHz	Pass	PK	2.3762G	57.05	74.00	-16.95	3	Vertical	163	1.18
2402MHz	Pass	PK	2.4022G	100.25	Inf	-Inf	3	Vertical	163	1.18
2402MHz	Pass	AV	2.3896G	43.44	54.00	-10.56	3	Horizontal	50	1.86
2402MHz	Pass	AV	2.402G	97.85	Inf	-Inf	3	Horizontal	50	1.86
2402MHz	Pass	PK	2.3834G	57.02	74.00	-16.98	3	Horizontal	50	1.86
2402MHz	Pass	PK	2.4022G	98.94	Inf	-Inf	3	Horizontal	50	1.86
2402MHz	Pass	AV	4.80403G	37.27	54.00	-16.73	3	Vertical	87	2.45
2402MHz	Pass	PK	4.80349G	46.30	74.00	-27.70	3	Vertical	87	2.45
2402MHz	Pass	AV	4.80398G	38.09	54.00	-15.91	3	Horizontal	296	1.28
2402MHz	Pass	PK	4.80333G	46.66	74.00	-27.34	3	Horizontal	296	1.28
2402MHz	Pass	AV	2.3896G	43.34	54.00	-10.66	3	Vertical	165	1.13
2440MHz	Pass	AV	2.44G	100.50	Inf	-Inf	3	Vertical	165	1.13
2440MHz	Pass	AV	2.4835G	43.96	54.00	-10.04	3	Vertical	165	1.13
2440MHz	Pass	PK	2.372G	56.86	74.00	-17.14	3	Vertical	165	1.13
2440MHz	Pass	PK	2.4404G	101.57	Inf	-Inf	3	Vertical	165	1.13
2440MHz	Pass	PK	2.4936G	57.56	74.00	-16.44	3	Vertical	165	1.13
2440MHz	Pass	AV	2.3876G	43.42	54.00	-10.58	3	Horizontal	50	1.55
2440MHz	Pass	AV	2.44G	99.21	Inf	-Inf	3	Horizontal	50	1.55
2440MHz	Pass	AV	2.4884G	44.01	54.00	-9.99	3	Horizontal	50	1.55
2440MHz	Pass	PK	2.3892G	57.05	74.00	-16.95	3	Horizontal	50	1.55
2440MHz	Pass	PK	2.4396G	100.27	Inf	-Inf	3	Horizontal	50	1.55
2440MHz	Pass	PK	2.4892G	57.17	74.00	-16.83	3	Horizontal	50	1.55
2440MHz	Pass	AV	4.88002G	35.69	54.00	-18.31	3	Vertical	108	2.86
2440MHz	Pass	PK	4.8795G	44.98	74.00	-29.02	3	Vertical	108	2.86
2440MHz	Pass	AV	4.88002G	36.95	54.00	-17.05	3	Horizontal	314	2.07
2440MHz	Pass	PK	4.87951G	45.84	74.00	-28.16	3	Horizontal	314	2.07
2480MHz	Pass	AV	2.48G	101.27	Inf	-Inf	3	Vertical	165	1.33
2480MHz	Pass	AV	2.4835G	45.88	54.00	-8.12	3	Vertical	165	1.33
2480MHz	Pass	PK	2.4802G	102.32	Inf	-Inf	3	Vertical	165	1.33
2480MHz	Pass	PK	2.4836G	58.55	74.00	-15.45	3	Vertical	165	1.33
2480MHz	Pass	AV	2.48G	99.66	Inf	-Inf	3	Horizontal	45	1.70
2480MHz	Pass	AV	2.4835G	45.27	54.00	-8.73	3	Horizontal	45	1.70
2480MHz	Pass	PK	2.4802G	100.70	Inf	-Inf	3	Horizontal	45	1.70
2480MHz	Pass	PK	2.4924G	58.30	74.00	-15.70	3	Horizontal	45	1.70
2480MHz	Pass	AV	4.96003G	41.87	54.00	-12.13	3	Vertical	124	1.73
2480MHz	Pass	PK	4.96066G	48.95	74.00	-25.05	3	Vertical	124	1.73
2480MHz	Pass	AV	4.96004G	38.34	54.00	-15.66	3	Horizontal	107	1.92
2480MHz	Pass	PK	4.96042G	46.92	74.00	-27.08	3	Horizontal	107	1.92
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3888G	43.54	54.00	-10.46	3	Vertical	165	1.18
2402MHz	Pass	AV	2.402G	97.53	Inf	-Inf	3	Vertical	165	1.18
2402MHz	Pass	PK	2.3676G	57.21	74.00	-16.79	3	Vertical	165	1.18
2402MHz	Pass	PK	2.4026G	100.52	Inf	-Inf	3	Vertical	165	1.18
2402MHz	Pass	AV	2.389G	43.50	54.00	-10.50	3	Horizontal	49	1.86
2402MHz	Pass	AV	2.402G	96.21	Inf	-Inf	3	Horizontal	49	1.86
2402MHz	Pass	PK	2.3858G	57.56	74.00	-16.44	3	Horizontal	49	1.86
2402MHz	Pass	PK	2.4026G	99.18	Inf	-Inf	3	Horizontal	49	1.86
2402MHz	Pass	AV	4.80307G	33.98	54.00	-20.02	3	Vertical	79	2.61
2402MHz	Pass	PK	4.80496G	45.35	74.00	-28.65	3	Vertical	79	2.61
2402MHz	Pass	AV	4.80311G	35.24	54.00	-18.76	3	Horizontal	295	1.14
2402MHz	Pass	PK	4.80295G	46.36	74.00	-27.64	3	Horizontal	295	1.14
2440MHz	Pass	AV	2.3772G	43.36	54.00	-10.64	3	Vertical	165	1.14
2440MHz	Pass	AV	2.44G	98.57	Inf	-Inf	3	Vertical	165	1.14
2440MHz	Pass	AV	2.4988G	44.01	54.00	-9.99	3	Vertical	165	1.14
2440MHz	Pass	PK	2.3428G	56.70	74.00	-17.30	3	Vertical	165	1.14
2440MHz	Pass	PK	2.4404G	101.58	Inf	-Inf	3	Vertical	165	1.14
2440MHz	Pass	PK	2.4972G	57.23	74.00	-16.77	3	Vertical	165	1.14
2440MHz	Pass	AV	2.3892G	43.37	54.00	-10.63	3	Horizontal	50	1.55

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2440MHz	Pass	AV	2.44G	97.21	Inf	-Inf	3	Horizontal	50	1.55
2440MHz	Pass	AV	2.4936G	43.97	54.00	-10.03	3	Horizontal	50	1.55
2440MHz	Pass	PK	2.3696G	56.76	74.00	-17.24	3	Horizontal	50	1.55
2440MHz	Pass	PK	2.4396G	100.21	Inf	-Inf	3	Horizontal	50	1.55
2440MHz	Pass	PK	2.484G	56.99	74.00	-17.01	3	Horizontal	50	1.55
2440MHz	Pass	AV	4.8809G	32.42	54.00	-21.58	3	Vertical	114	2.70
2440MHz	Pass	PK	4.87899G	44.41	74.00	-29.59	3	Vertical	114	2.70
2440MHz	Pass	AV	4.87911G	32.96	54.00	-21.04	3	Horizontal	314	1.80
2440MHz	Pass	PK	4.87893G	44.85	74.00	-29.15	3	Horizontal	314	1.80
2480MHz	Pass	AV	2.48G	98.61	Inf	-Inf	3	Vertical	110	1.61
2480MHz	Pass	AV	2.4835G	47.39	54.00	-6.61	3	Vertical	110	1.61
2480MHz	Pass	PK	2.4806G	101.63	Inf	-Inf	3	Vertical	110	1.61
2480MHz	Pass	PK	2.4835G	59.43	74.00	-14.57	3	Vertical	110	1.61
2480MHz	Pass	AV	2.48G	97.58	Inf	-Inf	3	Horizontal	45	1.72
2480MHz	Pass	AV	2.4835G	46.87	54.00	-7.13	3	Horizontal	45	1.72
2480MHz	Pass	PK	2.4806G	100.61	Inf	-Inf	3	Horizontal	45	1.72
2480MHz	Pass	PK	2.4835G	58.65	74.00	-15.35	3	Horizontal	45	1.72
2480MHz	Pass	AV	4.96095G	37.91	54.00	-16.09	3	Vertical	123	1.73
2480MHz	Pass	PK	4.96113G	48.58	74.00	-25.42	3	Vertical	123	1.73
2480MHz	Pass	AV	4.96094G	34.60	54.00	-19.40	3	Horizontal	104	1.90
2480MHz	Pass	PK	4.96105G	46.05	74.00	-27.95	3	Horizontal	104	1.90

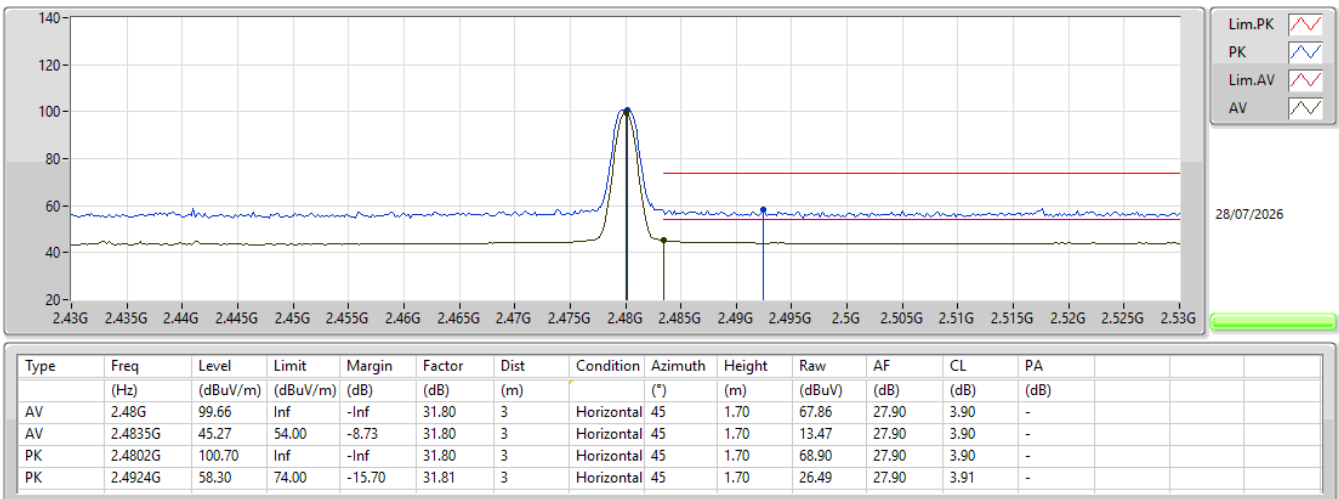
2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX



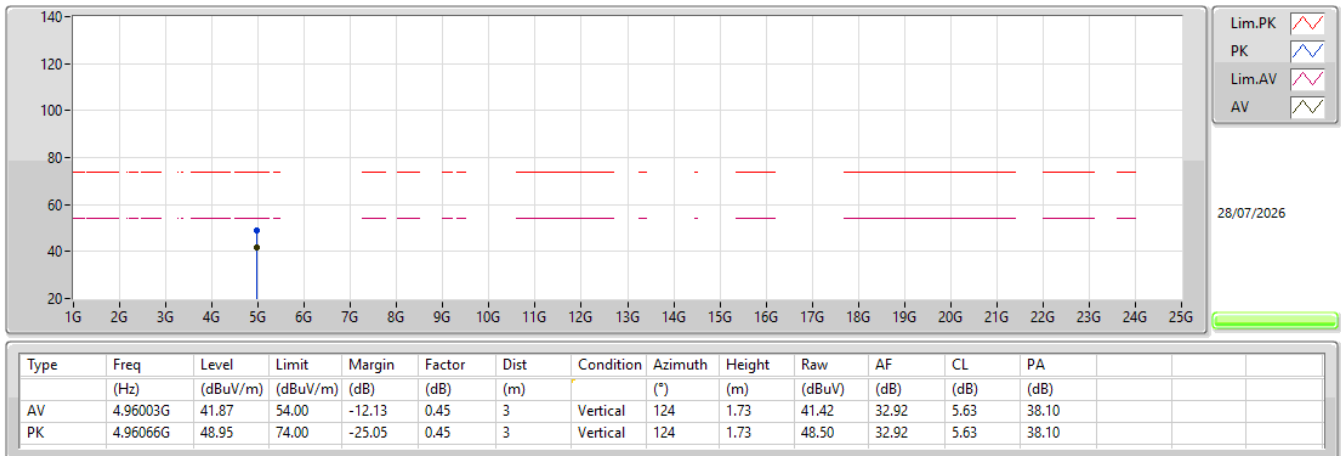
2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX



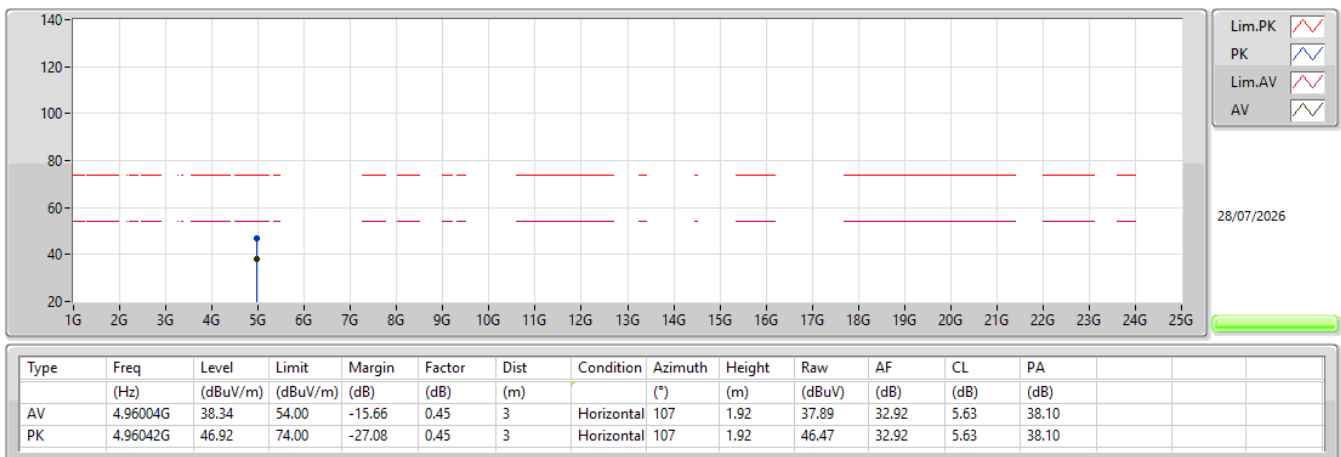
2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX



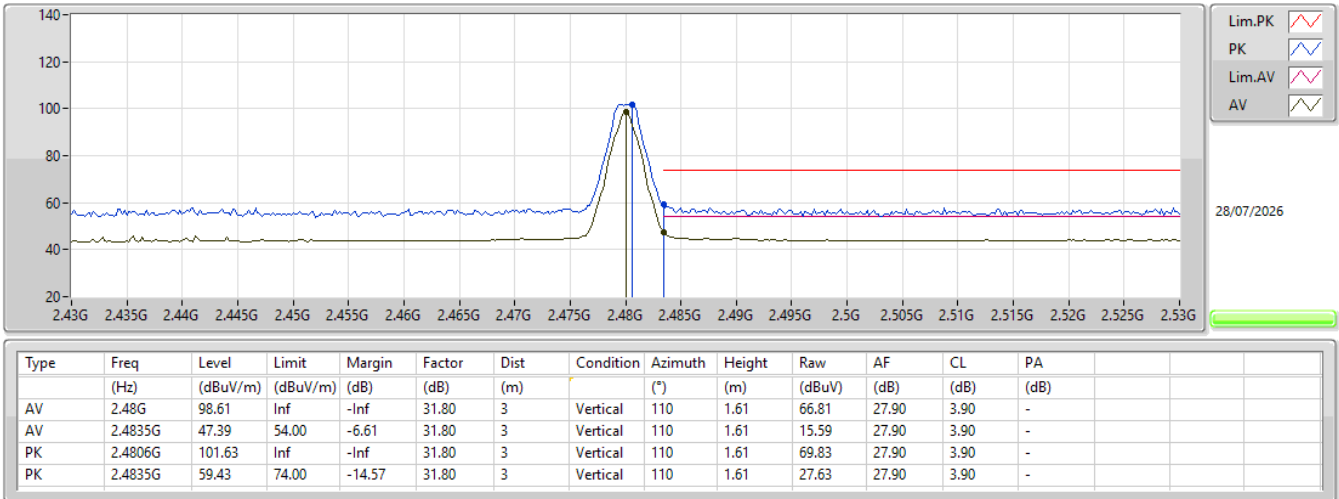
2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX



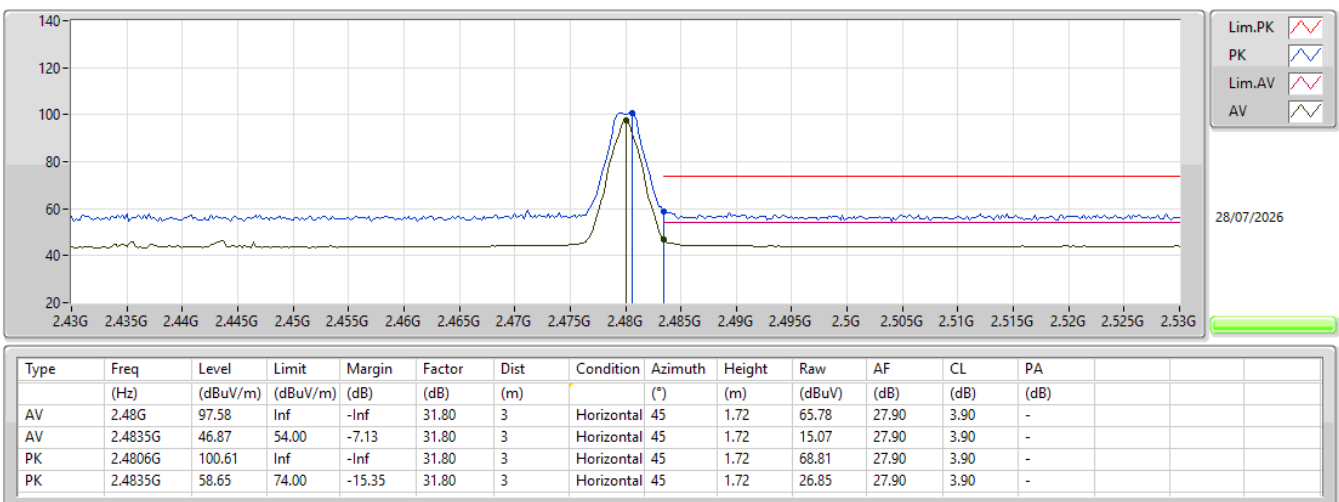
2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



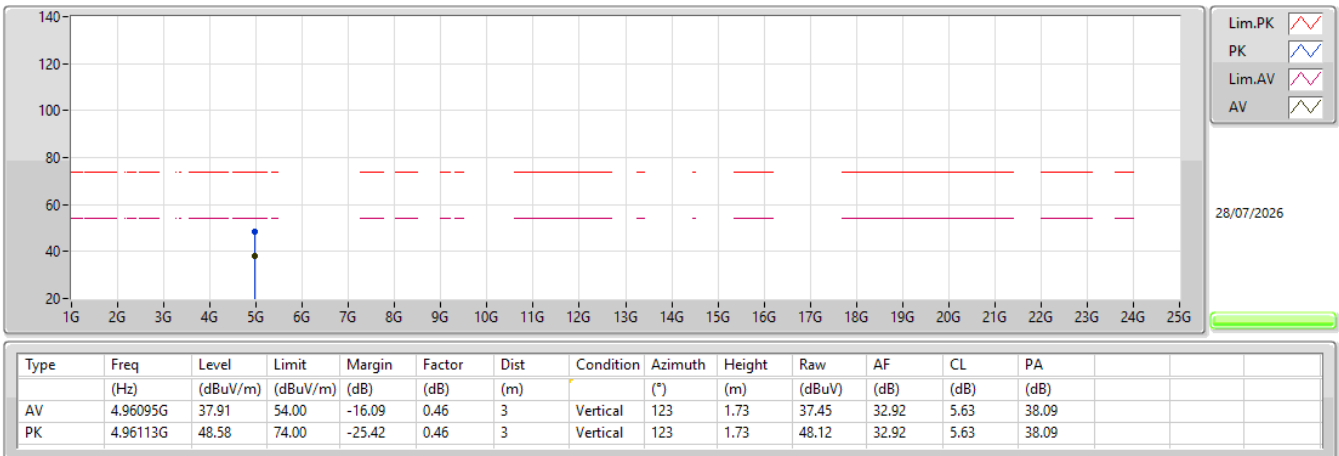
2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



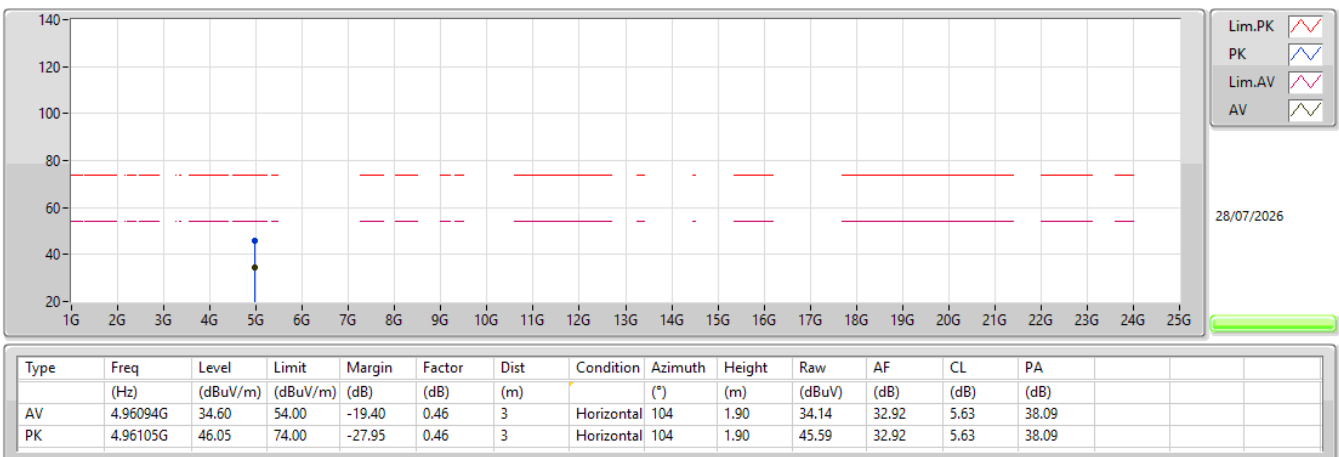
2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX





Summary

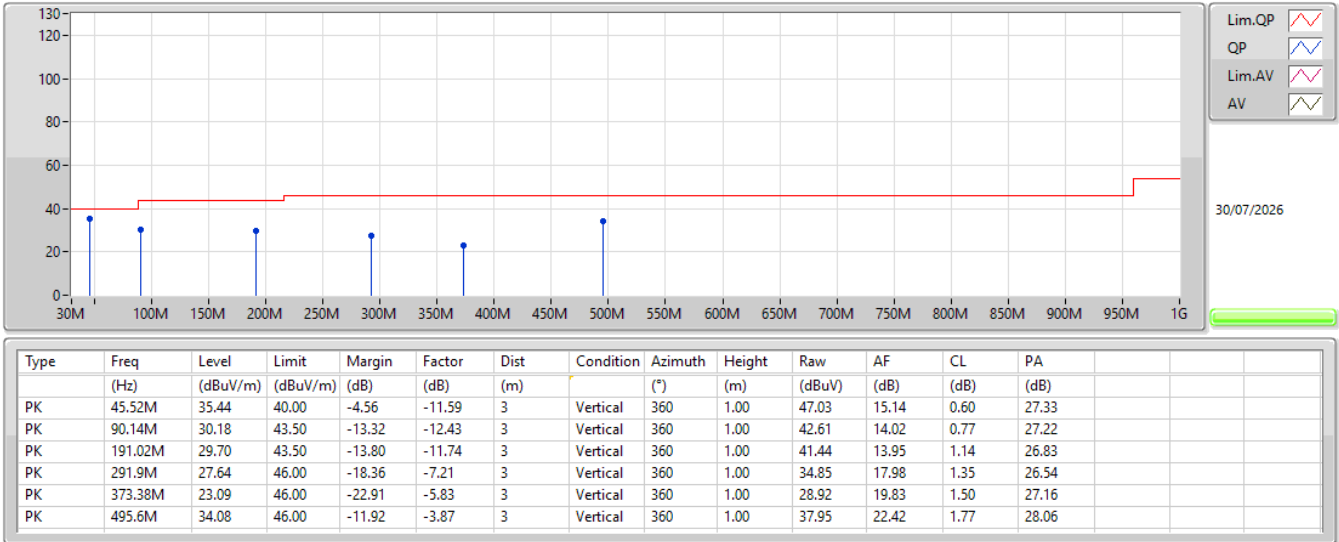
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(2Mbps)	Pass	PK	64.92M	36.20	40.00	-3.80	3	Horizontal	0	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2440MHz_Test Fixture	Pass	PK	45.52M	35.44	40.00	-4.56	3	Vertical	360	1.00
2440MHz_Test Fixture	Pass	PK	90.14M	30.18	43.50	-13.32	3	Vertical	360	1.00
2440MHz_Test Fixture	Pass	PK	191.02M	29.70	43.50	-13.80	3	Vertical	360	1.00
2440MHz_Test Fixture	Pass	PK	291.9M	27.64	46.00	-18.36	3	Vertical	360	1.00
2440MHz_Test Fixture	Pass	PK	373.38M	23.09	46.00	-22.91	3	Vertical	360	1.00
2440MHz_Test Fixture	Pass	PK	495.6M	34.08	46.00	-11.92	3	Vertical	360	1.00
2440MHz_Test Fixture	Pass	PK	64.92M	36.20	40.00	-3.80	3	Horizontal	0	1.00
2440MHz_Test Fixture	Pass	PK	161.92M	34.30	43.50	-9.20	3	Horizontal	0	1.00
2440MHz_Test Fixture	Pass	PK	241.46M	34.72	46.00	-11.28	3	Horizontal	0	1.00
2440MHz_Test Fixture	Pass	PK	295.78M	33.23	46.00	-12.77	3	Horizontal	0	1.00
2440MHz_Test Fixture	Pass	PK	371.44M	28.10	46.00	-17.90	3	Horizontal	0	1.00
2440MHz_Test Fixture	Pass	PK	489.78M	30.93	46.00	-15.07	3	Horizontal	0	1.00

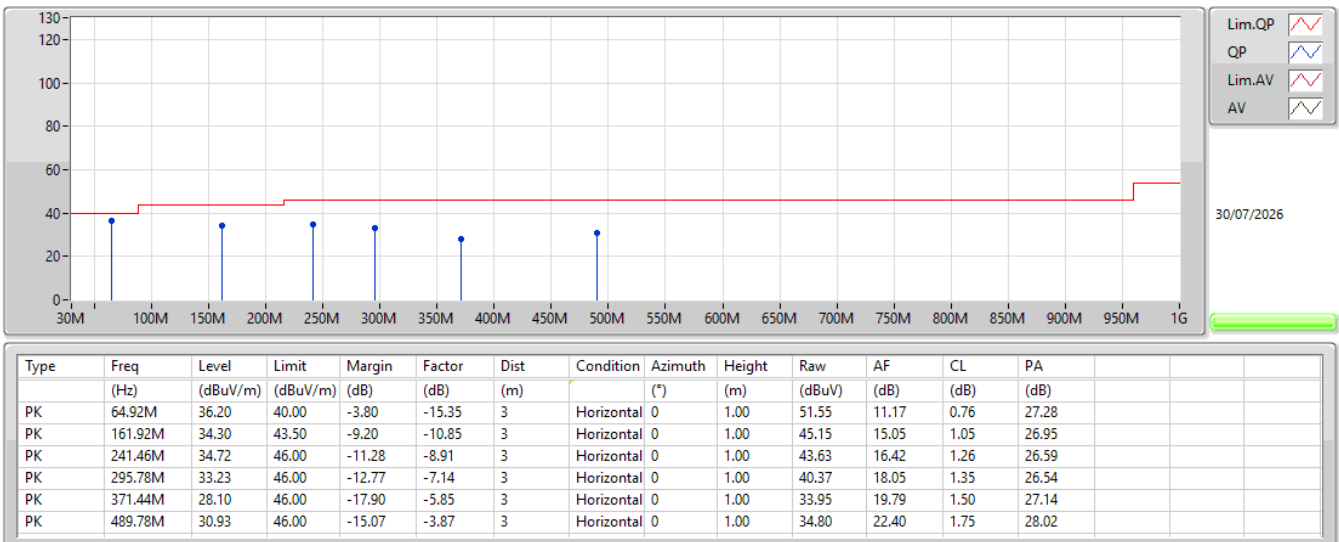
2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_Test Fixture



2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_Test Fixture





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	2.4836G	46.42	54.00	-7.58	3	Vertical	70	1.98
BT-LE(2Mbps)	Pass	AV	2.4835G	47.76	54.00	-6.24	3	Vertical	76	1.96

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	2.3706G	43.98	54.00	-10.02	3	Vertical	69	1.84
2402MHz	Pass	AV	2.402G	100.46	Inf	-Inf	3	Vertical	69	1.84
2402MHz	Pass	PK	2.3806G	56.24	74.00	-17.76	3	Vertical	69	1.84
2402MHz	Pass	PK	2.4022G	101.33	Inf	-Inf	3	Vertical	69	1.84
2402MHz	Pass	AV	2.3706G	44.04	54.00	-9.96	3	Horizontal	69	1.07
2402MHz	Pass	AV	2.402G	84.28	Inf	-Inf	3	Horizontal	69	1.07
2402MHz	Pass	PK	2.3532G	56.55	74.00	-17.45	3	Horizontal	69	1.07
2402MHz	Pass	PK	2.4018G	85.34	Inf	-Inf	3	Horizontal	69	1.07
2402MHz	Pass	AV	4.80403G	32.40	54.00	-21.60	3	Vertical	195	1.09
2402MHz	Pass	PK	4.80365G	44.42	74.00	-29.58	3	Vertical	195	1.09
2402MHz	Pass	AV	4.80404G	36.18	54.00	-17.82	3	Horizontal	244	1.01
2402MHz	Pass	PK	4.80362G	45.35	74.00	-28.65	3	Horizontal	244	1.01
2402MHz	Pass	AV	2.3792G	44.03	54.00	-9.97	3	Vertical	71	2.11
2440MHz	Pass	AV	2.44G	101.45	Inf	-Inf	3	Vertical	71	2.11
2440MHz	Pass	AV	2.4908G	44.81	54.00	-9.19	3	Vertical	71	2.11
2440MHz	Pass	PK	2.3836G	57.09	74.00	-16.91	3	Vertical	71	2.11
2440MHz	Pass	PK	2.4396G	102.47	Inf	-Inf	3	Vertical	71	2.11
2440MHz	Pass	PK	2.4976G	57.43	74.00	-16.57	3	Vertical	71	2.11
2440MHz	Pass	AV	2.3896G	44.05	54.00	-9.95	3	Horizontal	67	1.31
2440MHz	Pass	AV	2.44G	87.54	Inf	-Inf	3	Horizontal	67	1.31
2440MHz	Pass	AV	2.4988G	44.82	54.00	-9.18	3	Horizontal	67	1.31
2440MHz	Pass	PK	2.3784G	56.73	74.00	-17.27	3	Horizontal	67	1.31
2440MHz	Pass	PK	2.4396G	88.68	Inf	-Inf	3	Horizontal	67	1.31
2440MHz	Pass	PK	2.4944G	57.32	74.00	-16.68	3	Horizontal	67	1.31
2440MHz	Pass	AV	4.88003G	31.17	54.00	-22.83	3	Vertical	207	1.36
2440MHz	Pass	PK	4.8798G	43.20	74.00	-30.80	3	Vertical	207	1.36
2440MHz	Pass	AV	4.88029G	31.16	54.00	-22.84	3	Horizontal	196	2.95
2440MHz	Pass	PK	4.88048G	43.56	74.00	-30.44	3	Horizontal	196	2.95
2480MHz	Pass	AV	2.48G	102.30	Inf	-Inf	3	Vertical	70	1.98
2480MHz	Pass	AV	2.4836G	46.42	54.00	-7.58	3	Vertical	70	1.98
2480MHz	Pass	PK	2.4802G	103.18	Inf	-Inf	3	Vertical	70	1.98
2480MHz	Pass	PK	2.4858G	58.21	74.00	-15.79	3	Vertical	70	1.98
2480MHz	Pass	AV	2.48G	87.06	Inf	-Inf	3	Horizontal	68	1.16
2480MHz	Pass	AV	2.4934G	45.00	54.00	-9.00	3	Horizontal	68	1.16
2480MHz	Pass	PK	2.4798G	88.07	Inf	-Inf	3	Horizontal	68	1.16
2480MHz	Pass	PK	2.4835G	56.75	74.00	-17.25	3	Horizontal	68	1.16
2480MHz	Pass	AV	4.96017G	34.72	54.00	-19.28	3	Vertical	272	1.01
2480MHz	Pass	PK	4.95962G	44.67	74.00	-29.33	3	Vertical	272	1.01
2480MHz	Pass	AV	4.96009G	35.19	54.00	-18.81	3	Horizontal	239	1.06
2480MHz	Pass	PK	4.96056G	45.13	74.00	-28.87	3	Horizontal	239	1.06
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.39G	42.76	54.00	-11.24	3	Vertical	75	1.78
2402MHz	Pass	AV	2.402G	97.42	Inf	-Inf	3	Vertical	75	1.78
2402MHz	Pass	PK	2.374G	56.04	74.00	-17.96	3	Vertical	75	1.78
2402MHz	Pass	PK	2.4026G	100.33	Inf	-Inf	3	Vertical	75	1.78
2402MHz	Pass	AV	2.3868G	42.79	54.00	-11.21	3	Horizontal	217	2.72
2402MHz	Pass	AV	2.402G	86.87	Inf	-Inf	3	Horizontal	217	2.72
2402MHz	Pass	PK	2.3696G	55.88	74.00	-18.12	3	Horizontal	217	2.72
2402MHz	Pass	PK	2.4024G	89.79	Inf	-Inf	3	Horizontal	217	2.72
2402MHz	Pass	AV	4.80307G	31.48	54.00	-22.52	3	Vertical	199	2.29
2402MHz	Pass	PK	4.80496G	43.74	74.00	-30.26	3	Vertical	199	2.29
2402MHz	Pass	AV	4.80307G	32.81	54.00	-21.19	3	Horizontal	243	1.04
2402MHz	Pass	PK	4.80293G	44.41	74.00	-29.59	3	Horizontal	243	1.04
2440MHz	Pass	AV	2.3844G	42.60	54.00	-11.40	3	Vertical	76	2.11
2440MHz	Pass	AV	2.44G	98.52	Inf	-Inf	3	Vertical	76	2.11
2440MHz	Pass	AV	2.5G	43.47	54.00	-10.53	3	Vertical	76	2.11
2440MHz	Pass	PK	2.374G	56.03	74.00	-17.97	3	Vertical	76	2.11
2440MHz	Pass	PK	2.4396G	101.29	Inf	-Inf	3	Vertical	76	2.11
2440MHz	Pass	PK	2.488G	57.40	74.00	-16.60	3	Vertical	76	2.11
2440MHz	Pass	AV	2.388G	42.84	54.00	-11.16	3	Horizontal	228	2.42



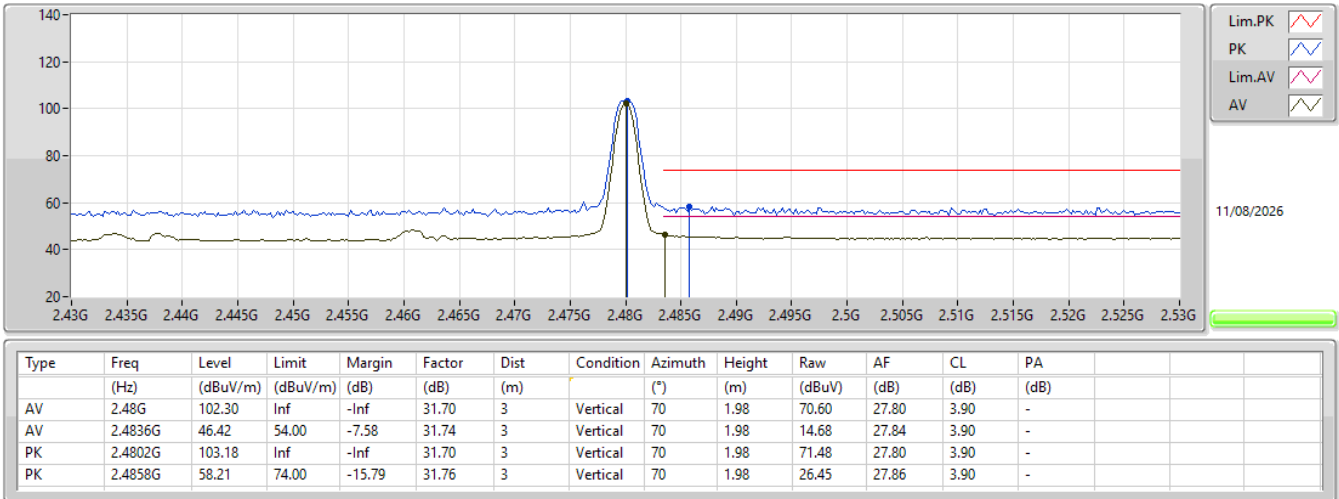
RSE TX above 1GHz_Integrated Antenna

Appendix F.4

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2440MHz	Pass	AV	2.44G	86.82	Inf	-Inf	3	Horizontal	228	2.42
2440MHz	Pass	AV	2.4992G	43.67	54.00	-10.33	3	Horizontal	228	2.42
2440MHz	Pass	PK	2.3752G	56.73	74.00	-17.27	3	Horizontal	228	2.42
2440MHz	Pass	PK	2.4396G	89.59	Inf	-Inf	3	Horizontal	228	2.42
2440MHz	Pass	PK	2.4835G	56.36	74.00	-17.64	3	Horizontal	228	2.42
2440MHz	Pass	AV	4.87909G	30.92	54.00	-23.08	3	Vertical	219	1.00
2440MHz	Pass	PK	4.88003G	43.72	74.00	-30.28	3	Vertical	219	1.00
2440MHz	Pass	AV	4.87916G	29.35	54.00	-24.65	3	Horizontal	182	1.03
2440MHz	Pass	PK	4.87917G	42.13	74.00	-31.87	3	Horizontal	182	1.03
2480MHz	Pass	AV	2.48G	99.02	Inf	-Inf	3	Vertical	76	1.96
2480MHz	Pass	AV	2.4835G	47.76	54.00	-6.24	3	Vertical	76	1.96
2480MHz	Pass	PK	2.4806G	101.90	Inf	-Inf	3	Vertical	76	1.96
2480MHz	Pass	PK	2.4842G	58.90	74.00	-15.10	3	Vertical	76	1.96
2480MHz	Pass	AV	2.48G	82.51	Inf	-Inf	3	Horizontal	40	1.86
2480MHz	Pass	AV	2.4992G	43.67	54.00	-10.33	3	Horizontal	40	1.86
2480MHz	Pass	PK	2.4806G	85.48	Inf	-Inf	3	Horizontal	40	1.86
2480MHz	Pass	PK	2.485G	56.44	74.00	-17.56	3	Horizontal	40	1.86
2480MHz	Pass	AV	4.95892G	31.56	54.00	-22.44	3	Vertical	267	1.50
2480MHz	Pass	PK	4.96095G	43.79	74.00	-30.21	3	Vertical	267	1.50
2480MHz	Pass	AV	4.96085G	32.49	54.00	-21.51	3	Horizontal	203	2.49
2480MHz	Pass	PK	4.96095G	44.52	74.00	-29.48	3	Horizontal	203	2.49

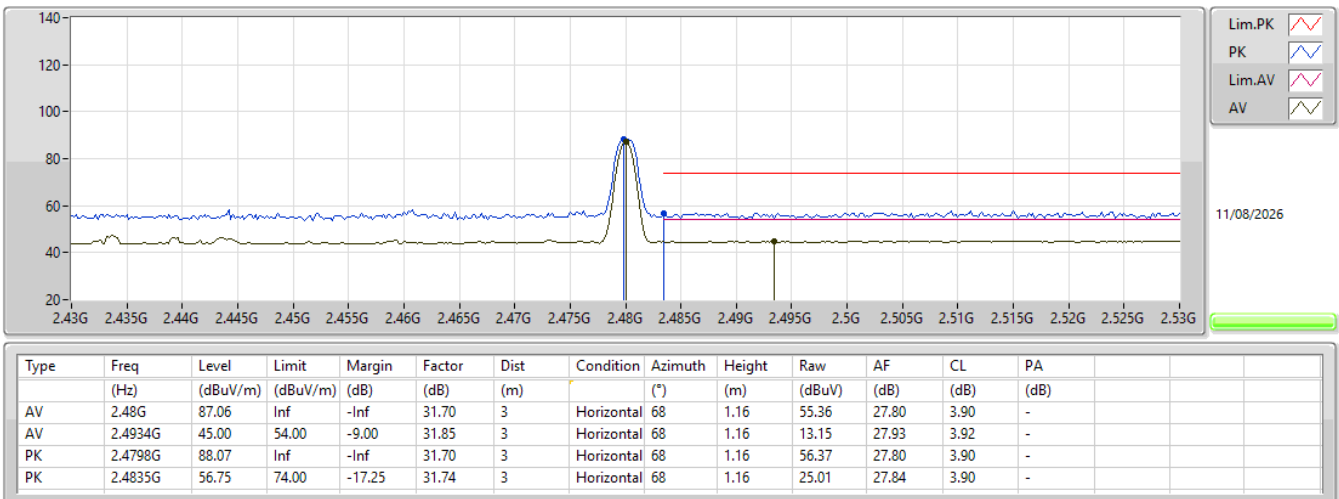
2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX



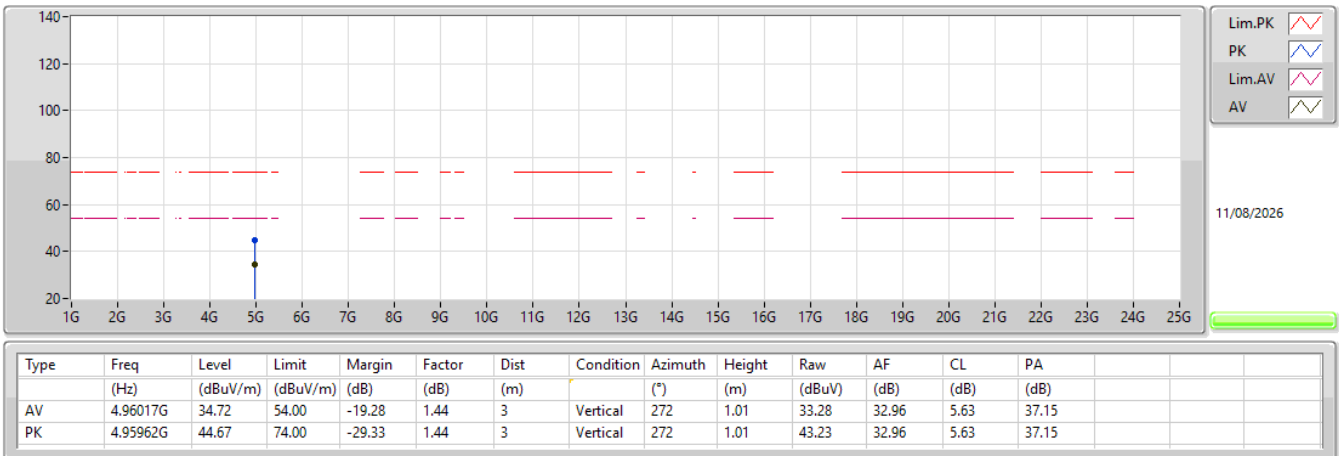
2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX



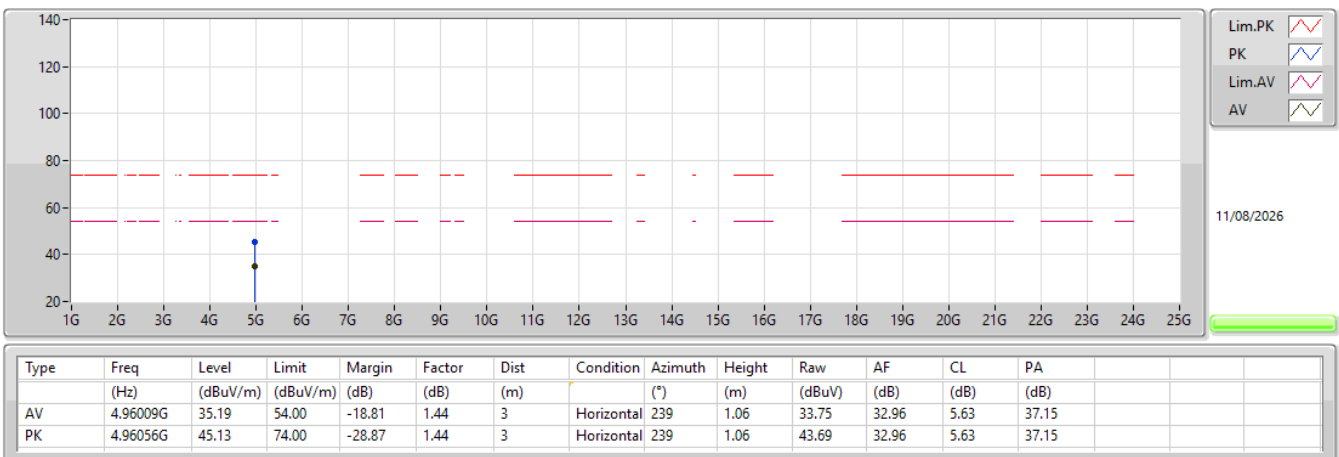
2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX



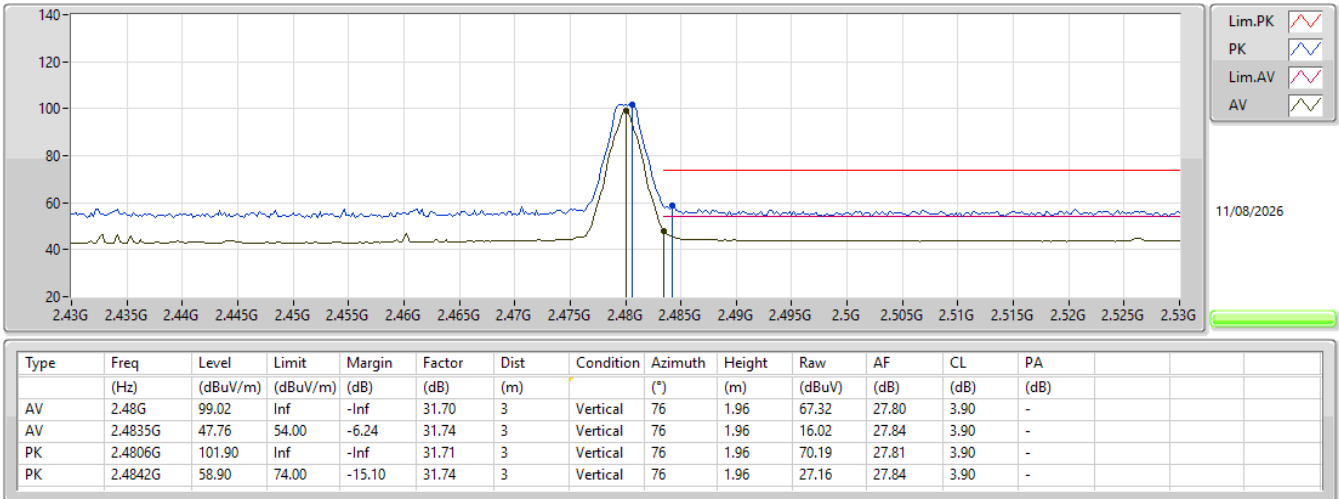
2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX



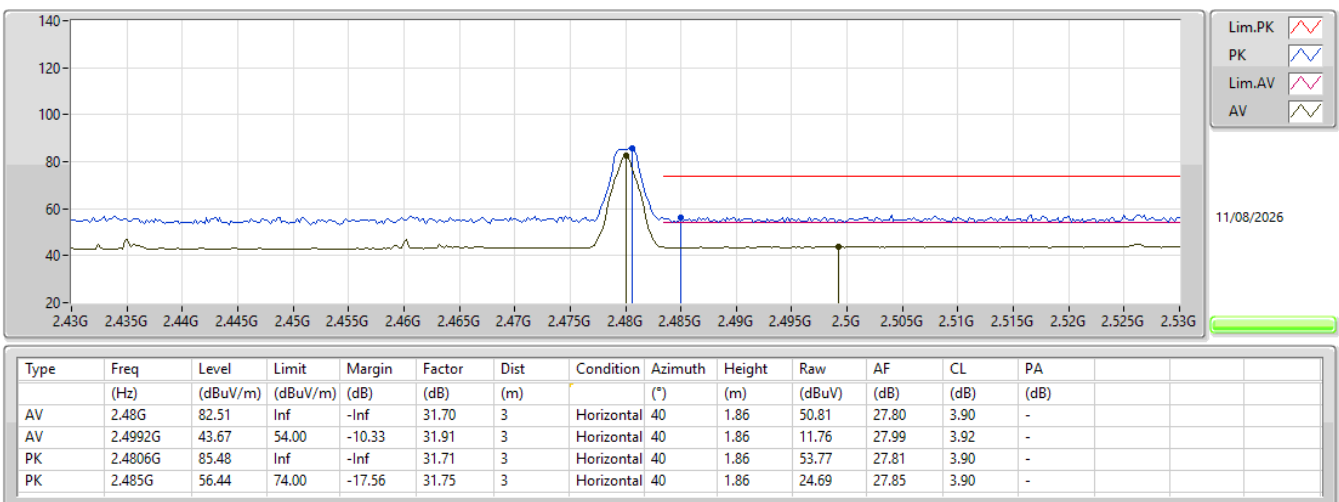
2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



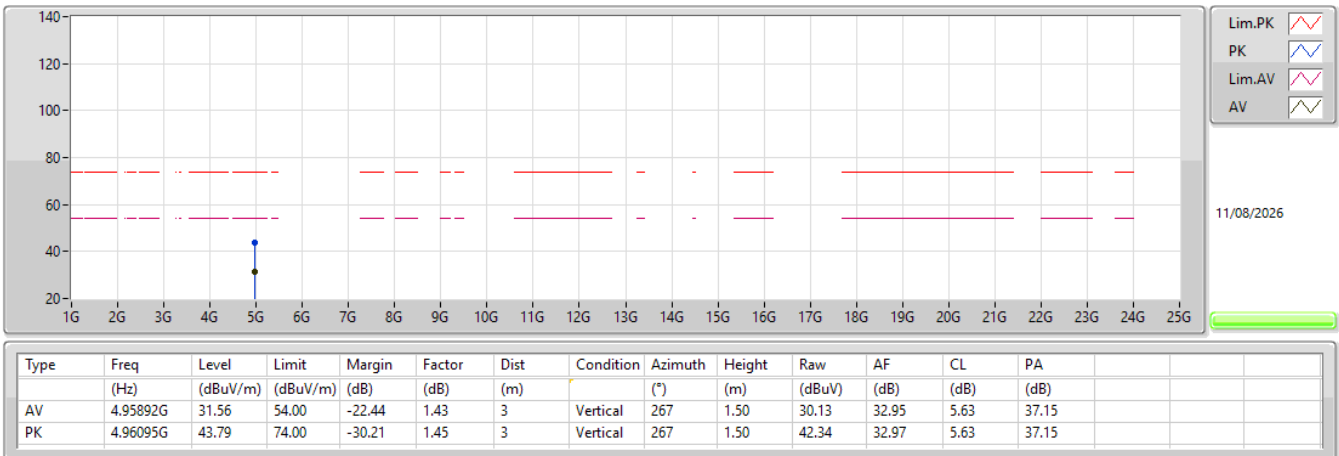
2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX

