

FCC Radio Test Report

FCC ID : 2ADPT-SD010
Equipment : Smart Card
Brand Name : SMARTdisplayer
Model Name : SD010,G1
Applicant : SmartDisplayer Technology
No. 2-1,Gongjian Rd.,Qidu Dist,
Keelung City,Taiwan
Manufacturer : SmartDisplayer Technology
No. 2-1,Gongjian Rd.,Qidu Dist,
Keelung City,Taiwan
Standard : 47 CFR FCC Part 15.247

The product was received on Sep. 07, 2023, and testing was started from Sep. 18, 2023 and completed on Sep. 19, 2023. 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.)



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	7
1.3 Testing Location Information	7
1.4 Measurement Uncertainty	7
2 TEST CONFIGURATION OF EUT.....	8
2.1 Test Channel Mode	8
2.2 The Worst Case Measurement Configuration	8
2.3 Accessories	9
2.4 Support Equipment.....	9
2.5 Test Setup Diagram	9
3 TRANSMITTER TEST RESULT	10
3.1 DTS Bandwidth.....	10
3.2 Maximum Conducted Output Power	11
3.3 Power Spectral Density	13
3.4 Emissions in Non-restricted Frequency Bands	14
3.5 Emissions in Restricted Frequency Bands.....	15
4 TEST EQUIPMENT AND CALIBRATION DATA	19
APPENDIX A. TEST RESULTS OF DTS BANDWIDTH	
APPENDIX B. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER	
APPENDIX C. TEST RESULTS OF POWER SPECTRAL DENSITY	
APPENDIX D. TEST RESULTS OF EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS	
APPENDIX E. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS	
APPENDIX F. TEST PHOTOS	
PHOTOGRAPHS OF EUT V01	



History of this test report

[illegible]

Summary of Test Result

Report Clause	Ref.Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
-	15.207	AC Power-line Conducted Emissions	PASS	Only employ battery power.
3.1	15.247(a)	DTS Bandwidth	PASS	-
3.2	15.247(b)	Maximum Conducted Output Power	PASS	-
3.3	15.247(e)	Power Spectral Density	PASS	-
3.4	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.5	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: Ann Hou

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(1Mbps)	1.0	1TX
2.4-2.4835GHz	BT-LE(2Mbps)	2.0	1TX

Note:

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

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	SmartDisplayer	SmartDisplayer	PCB antenna	N/A	2.09

Note 1: The EUT has one antenna.

For BT function:

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

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

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From Battery		
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) $\geq 1/T$
BT-LE(1Mbps)	0.632	1.99	395u	3k
BT-LE(2Mbps)	0.333	4.78	207.813u	10k

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.

Brand Name	Model Name	Description
SMARTdisplayer	SD010	All the models are identical, the different model served as marketing strategy.
	G1	

From the above models, model: SD010 was selected as representative model for the test and its data was recorded in this report.

1.2 Testing Applied Standards

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

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

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

- ♦ KDB 558074 D01 v05r02
- ♦ KDB 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
RF Conducted	TH01-HY	Luby hsu	22.2~23.4°C / 50~52%	19/Sep/2023
☒ Wenhua 3rd. (TAF: 3785)	ADD: No. 58, Aly. 75, Ln. 564, Wenhua 3rd Rd., Guishan Dist. Taoyuan City 333, Taiwan (R.O.C.)			
	TEL: 886-3-327-0868			
Test site Designation No. TW0036 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH24-HY	Simon Cheng	23.1~23.4°C / 50~52%	18/Sep/2023~19/Sep/2023
☐ 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
Bandwidth	3 MHz	Confidence levels of 95%
Maximum Conducted Output Power	2 dB	Confidence levels of 95%
Power Spectral Density	2 dB	Confidence levels of 95%
Emissions in Non-restricted Frequency Bands	0.14 dB	Confidence levels of 95%
Emissions in Restricted Frequency Bands	4.8 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	nrfconnect-setup-4.1.2
Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	8
2440MHz	3
2480MHz	4
BT-LE(2Mbps)	-
2402MHz	8
2440MHz	4
2480MHz	2

2.2 The Worst Case Measurement Configuration

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	Battery mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT			V

2.3 Accessories

Accessories				
Battery	Brand Name	NGK	Model Name	EC302304P-C
	Power Rating	3.8 Vdc, 14 mAh	Type	Li-ion
USB Charger Dongle	Brand Name	SmartDispalyer	Model Name	M0028
Micro USB Cable	Brand Name	SmartDispalyer	Model Name	54-00000003-01
	Power Cord	0.2 meter, non-shielded cable, w/o ferrite core		

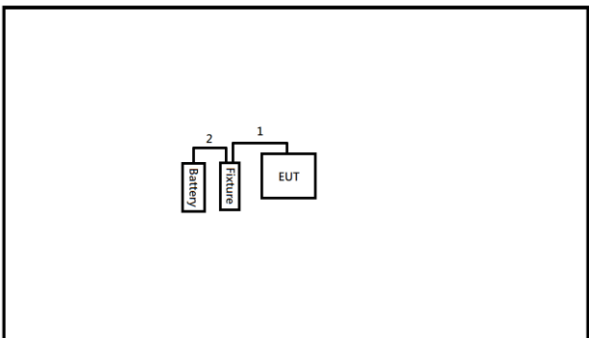
Reminder: Regarding to more detail and other information, please refer to user manual.

2.4 Support Equipment

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-
3	Fixture	SmartDispalyer	A2	-	Provided by Customer
4	Fixture (Battery)	SmartDispalyer	A3	-	Provided by Customer

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Fixture	SmartDispalyer	A2	-	Provided by Customer
2	Fixture(Battery)	SmartDispalyer	A3	-	Provided by Customer

2.5 Test Setup Diagram

Test Setup Diagram - Radiated Test				
				
Item	Connection	Shielded	Length(m)	
1	Fixture cable	No	0.255	
2	Fixture cable	No	0.255	

3 Transmitter Test Result

3.1 DTS Bandwidth

3.1.1 6dB Bandwidth Limit

6dB Bandwidth Limit	
Systems using digital modulation techniques:	
▪	6 dB bandwidth $\geq$ 500 kHz.

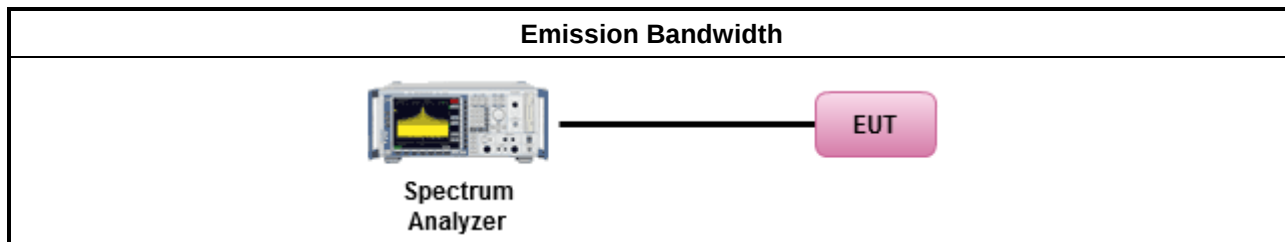
3.1.2 Measuring Instruments

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

3.1.3 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.

3.1.4 Test Setup



3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A

3.2 Maximum Conducted Output Power

3.2.1 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.	

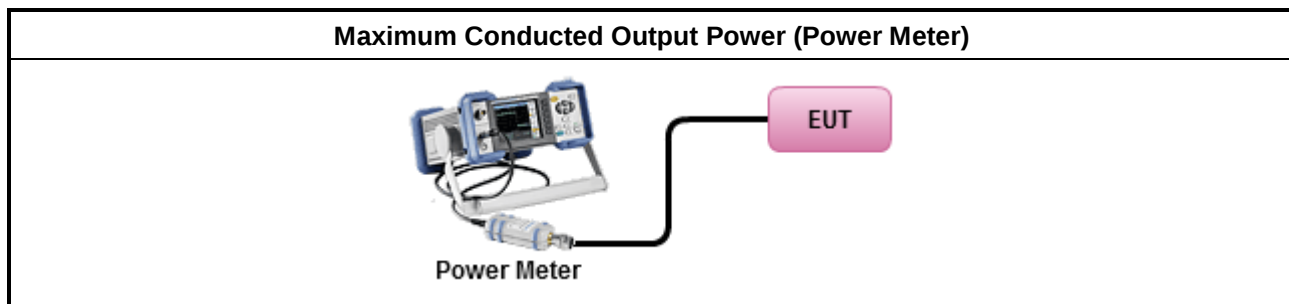
3.2.2 Measuring Instruments

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

3.2.3 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]) $EIRP_{total} = P_{total} + DG$	

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B

3.3 Power Spectral Density

3.3.1 Power Spectral Density Limit

Power Spectral Density Limit
Power Spectral Density (PSD) ≤ 8 dBm/3kHz

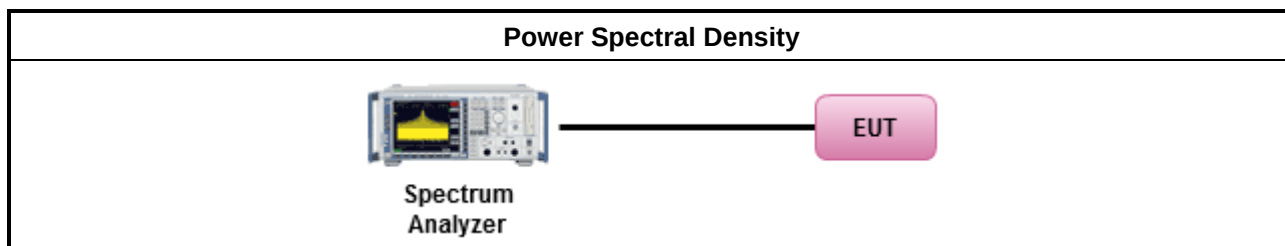
3.3.2 Measuring Instruments

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

3.3.3 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.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Refer as Appendix C

3.4 Emissions in Non-restricted Frequency Bands

3.4.1 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.	

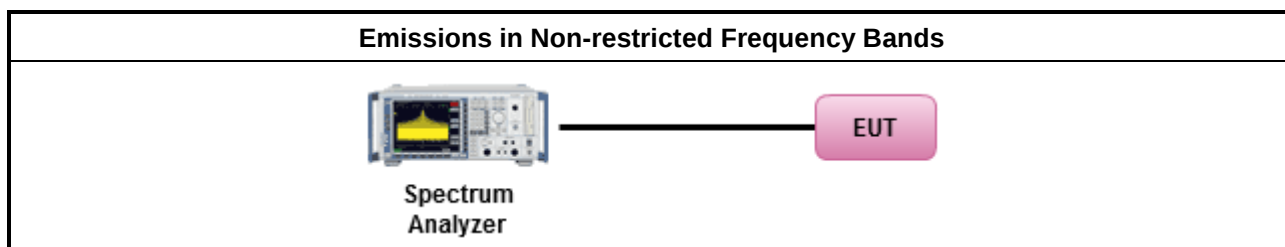
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

3.4.4 Test Setup



3.4.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix D

3.5 Emissions in Restricted Frequency Bands

3.5.1 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.

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

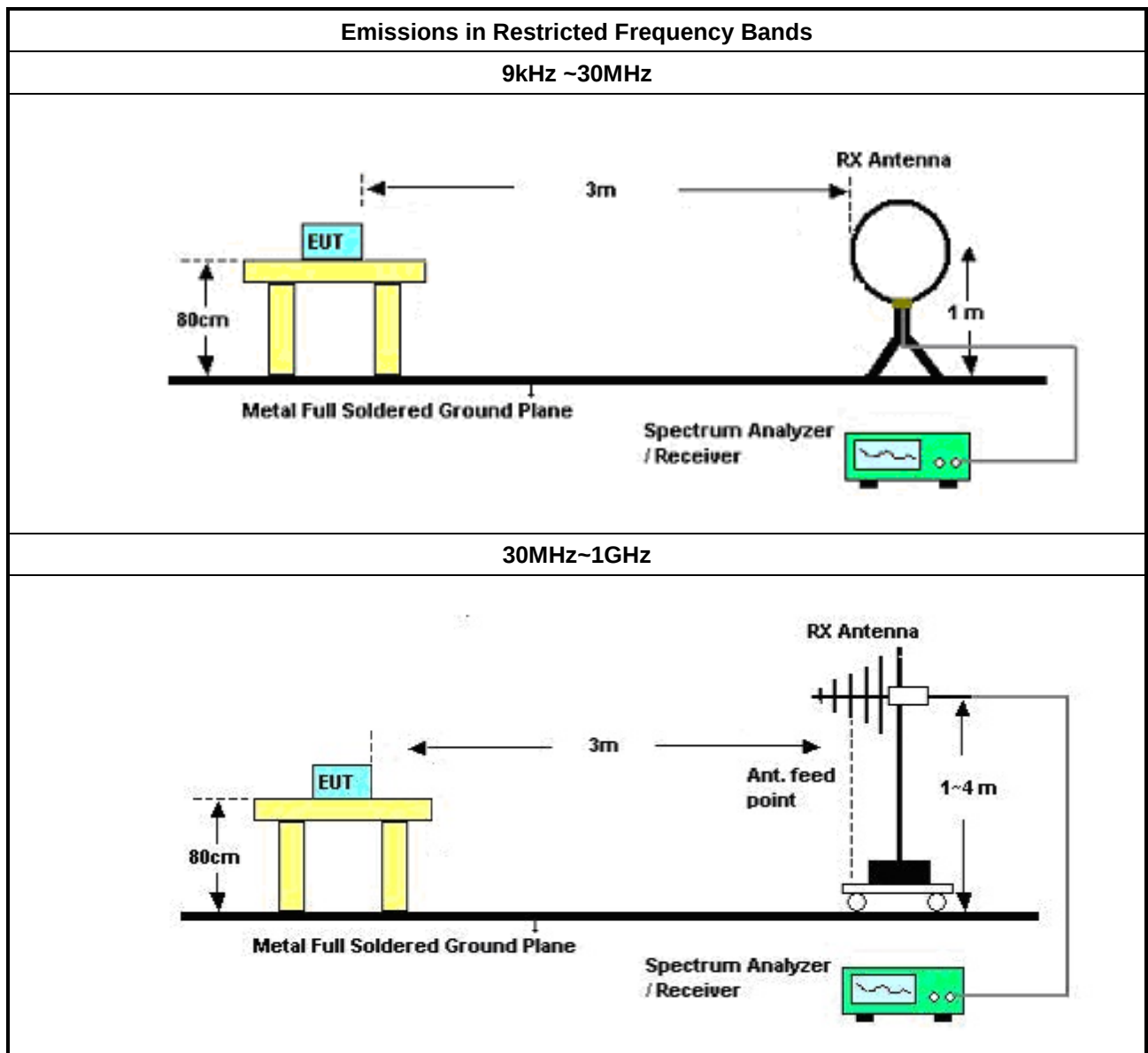
Test Method	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted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

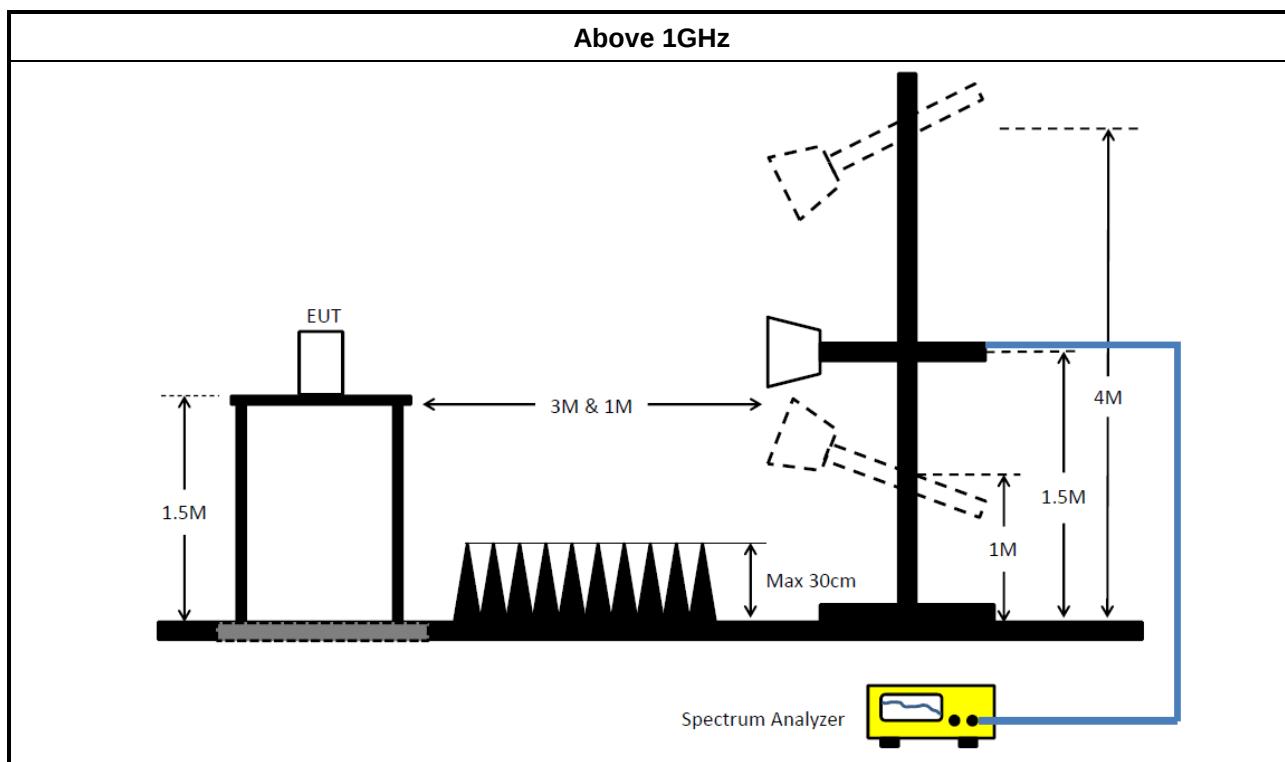
3.5.4 Measurement Results Calculation

The measured Level is calculated using:

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

3.5.5 Test Setup





3.5.6 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.

3.5.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix E

4 Test Equipment and Calibration Data

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	10/Apr/2023	09/Apr/2024
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	21/Oct/2022	20/Oct/2023
Pulse Sensor	Anritsu	MA2411B	917017	300MHz~40GHz	15/Feb/2023	14/Feb/2024
Power Meter	Anritsu	ML2495A	949003	300MHz~40GHz	15/Feb/2023	14/Feb/2024
SENSE-15247_FS	Sporton	V5.11.2	N/A	N/A	N/A	N/A

Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH24-HY	30MHz~1GHz 3m	17/Aug/2023	16/Aug/2024
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH24-HY	1GHz~18GHz 3m	03/Aug/2023	02/Aug/2024
Signal Analyzer	ROHDE&SCHWARZ	FSV3044	101345	10Hz~44GHz	10/Aug/2023	09/Aug/2024
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	2744	1GHz~18GHz	17/Aug/2023	16/Aug/2024
Bilog Antenna & 6dB Attenuator	TESEQ / Woken	CBL 6112D / 00800N1D01N-06	35376 / 02	30MHz~1GHz	17/Apr/2023	16/Apr/2024
Pre-Amplifier	Aglient	8447D	2944A06292	30MHz~1GHz	26/Apr/2023	25/Apr/2024
Amplifier	EM	EM01G18G	060870	1GHz ~18GHz	10/Aug/2023	09/Aug/2024
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB002	30MHz~40GHz	21/Jul/2023	20/Jul/2024
Amplifier	EM	EM18G40G	060604	18GHz ~ 40GHz	16/Mar/2023	15/Mar/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	01248	18GHz~40GHz	21/Aug/2023	20/Aug/2024
EMI Test Receiver	ROHDE & SCHWARZ	ESR	102318	9kHz~3.6GHz	29/Dec/2022	28/Dec/2023
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	23/Mar/2023	22/Mar/2024
SENSE-15247-FS	Sporton	V5.11	NA	NA	NA	NA



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)	701.25k	1.051M	1M05F1D	692.5k	1.046M
BT-LE(2Mbps)	1.143M	2.049M	2M05F1D	1.14M	2.039M

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

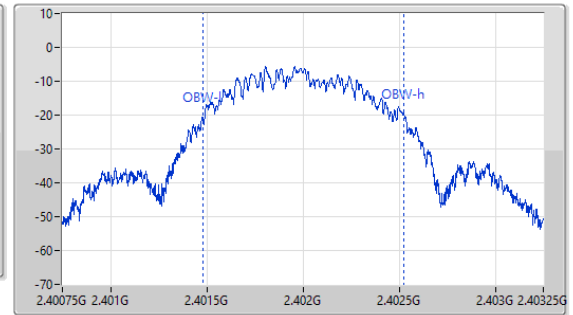
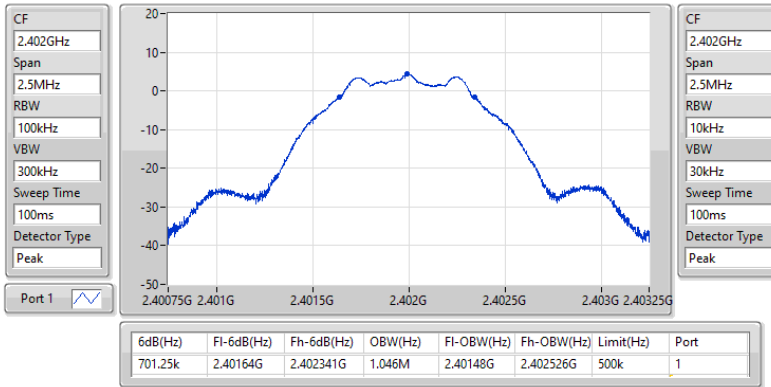
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	701.25k	1.046M
2440MHz	Pass	500k	698.75k	1.051M
2480MHz	Pass	500k	692.5k	1.049M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.14M	2.039M
2440MHz	Pass	500k	1.143M	2.044M
2480MHz	Pass	500k	1.143M	2.049M

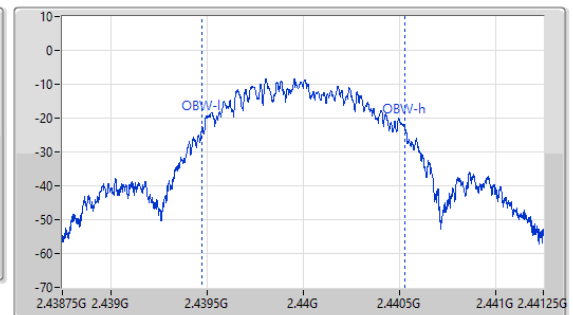
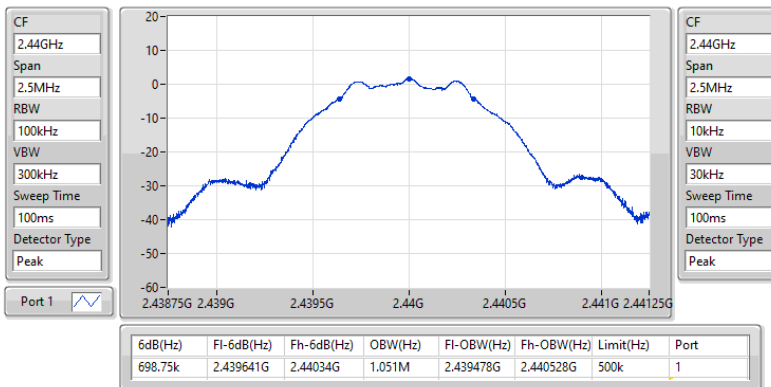
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

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

19/09/2023


2.4-2.4835GHz_BT-LE(1Mbps)
EBW-DTS
2440MHz

19/09/2023

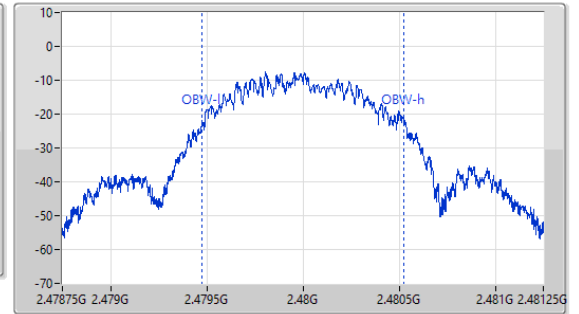
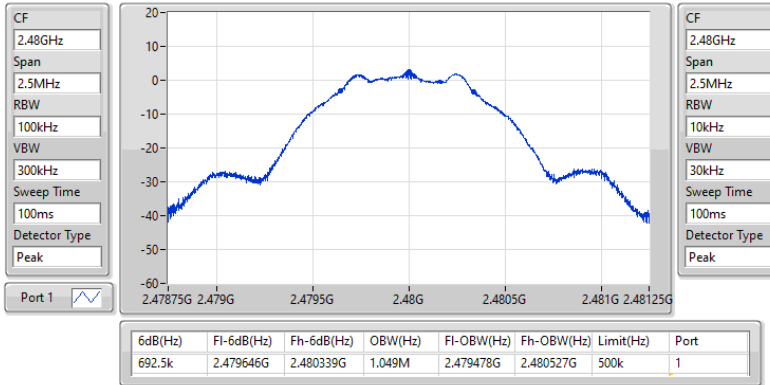


2.4-2.4835GHz_BT-LE(1Mbps)

EBW-DTS

2480MHz

19/09/2023

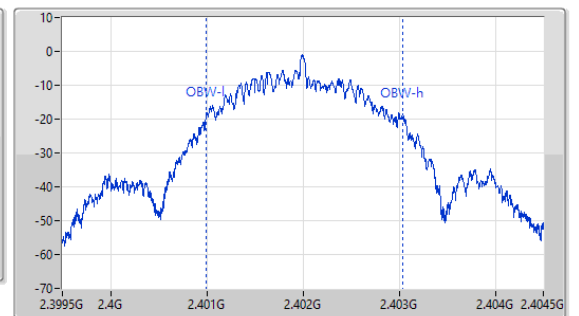
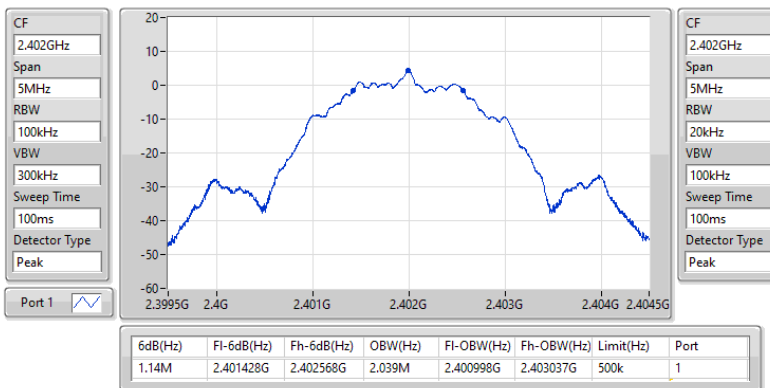


2.4-2.4835GHz_BT-LE(2Mbps)

EBW-DTS

2402MHz

19/09/2023

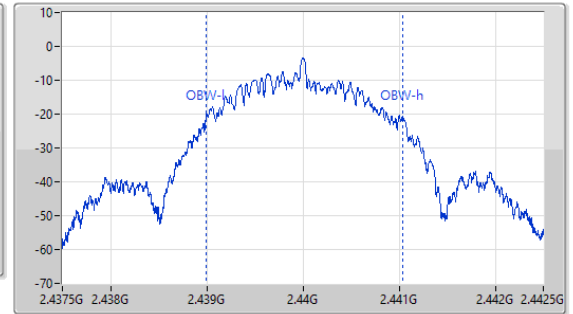
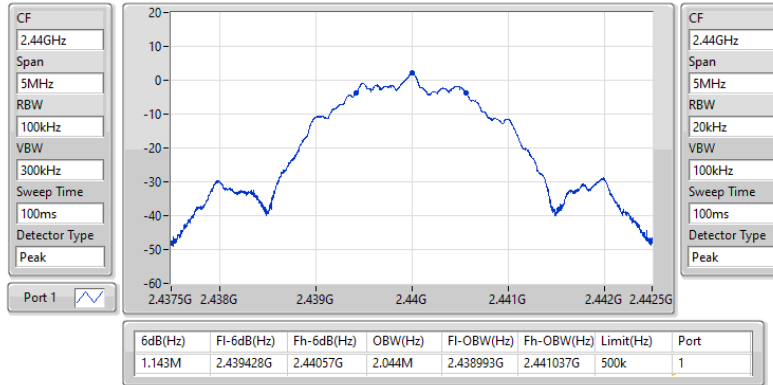


2.4-2.4835GHz_BT-LE(2Mbps)

EBW-DTS

2440MHz

19/09/2023

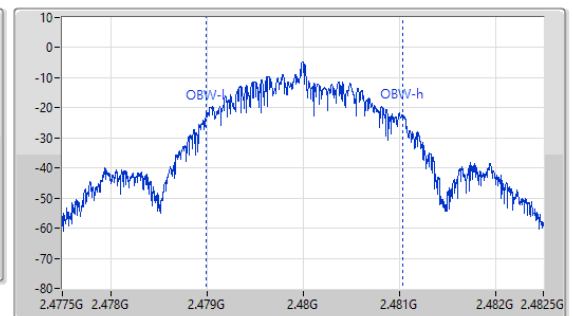
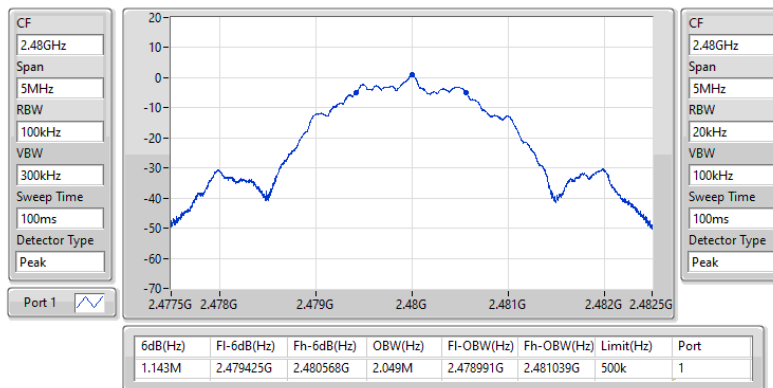


2.4-2.4835GHz_BT-LE(2Mbps)

EBW-DTS

2480MHz

19/09/2023





Summary

Mode	Total Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	4.76	0.00299
BT-LE(2Mbps)	4.76	0.00299



Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.09	4.54	30.00
2440MHz	Pass	2.09	4.58	30.00
2480MHz	Pass	2.09	4.76	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	2.09	4.76	30.00
2440MHz	Pass	2.09	4.57	30.00
2480MHz	Pass	2.09	4.57	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-11.29
BT-LE(2Mbps)	-13.65

RBW = 3kHz;



Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.09	-11.29	8.00
2440MHz	Pass	2.09	-13.95	8.00
2480MHz	Pass	2.09	-13.10	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	2.09	-13.65	8.00
2440MHz	Pass	2.09	-15.90	8.00
2480MHz	Pass	2.09	-17.36	8.00

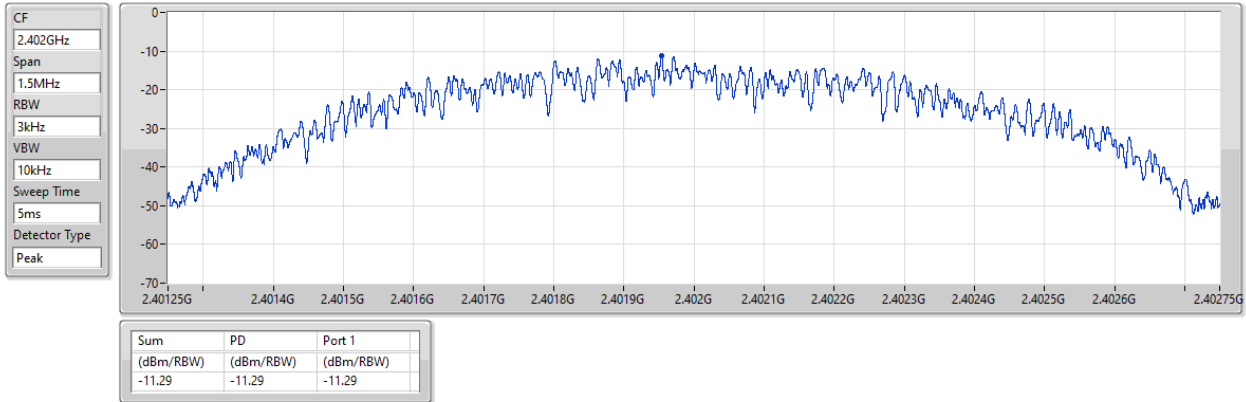
DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

2.4-2.4835GHz_BT-LE(1Mbps)

PSD

2402MHz

19/09/2023

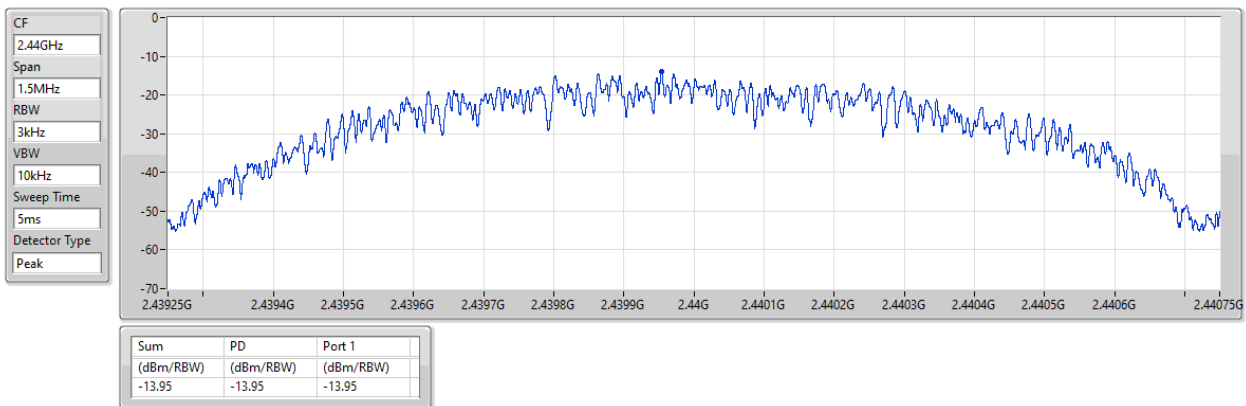


2.4-2.4835GHz_BT-LE(1Mbps)

PSD

2440MHz

19/09/2023

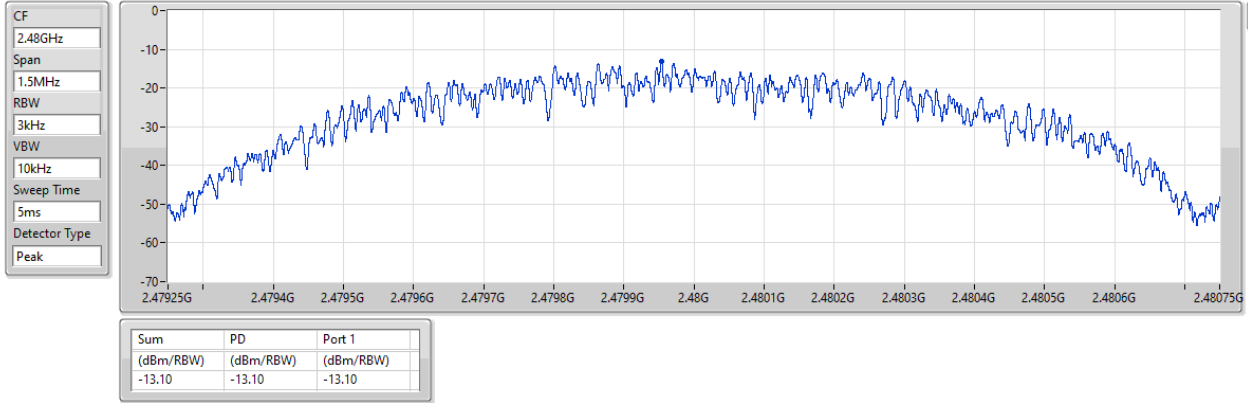


2.4-2.4835GHz_BT-LE(1Mbps)

PSD

2480MHz

19/09/2023

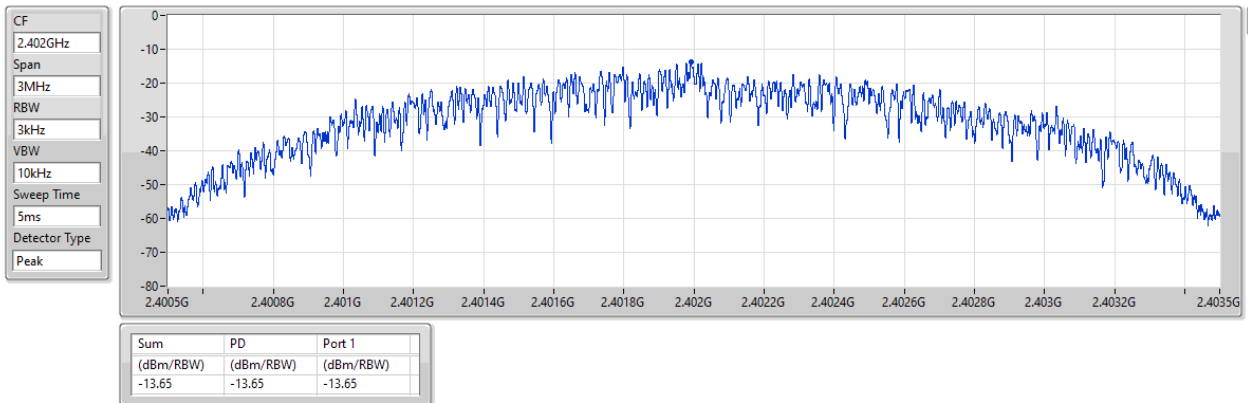


2.4-2.4835GHz_BT-LE(2Mbps)

PSD

2402MHz

19/09/2023

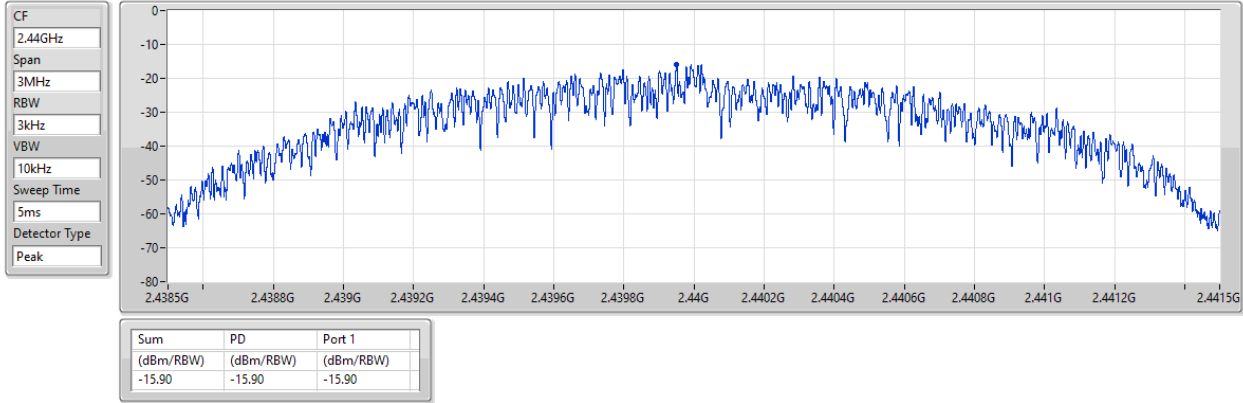


2.4-2.4835GHz_BT-LE(2Mbps)

PSD

2440MHz

19/09/2023

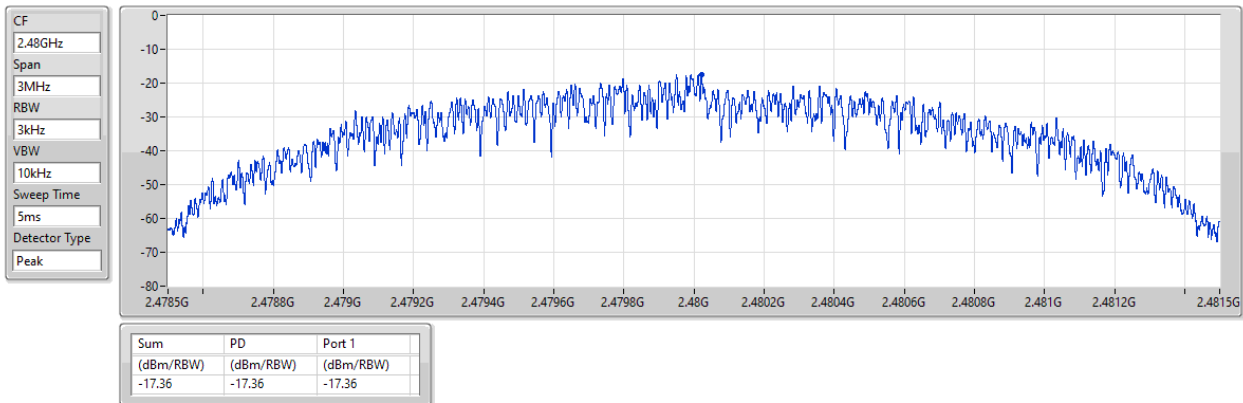


2.4-2.4835GHz_BT-LE(2Mbps)

PSD

2480MHz

19/09/2023



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	2.40184G	4.31	-25.69	2.12268G	-54.28	2.39736G	-42.37	2.4G	-51.48	2.50298G	-49.81	24.19013G	-40.62	1
BT-LE(2Mbps)	Pass	2.40184G	4.30	-25.70	2.18965G	-53.65	2.4G	-27.68	2.4G	-29.19	2.5033G	-49.52	7.20527G	-30.08	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	2.40184G	4.31	-25.69	2.30128G	-52.14	2.4G	-44.62	2.4G	-44.60	2.5035G	-48.47	7.20527G	-32.28	1
2440MHz	Pass	2.40184G	4.31	-25.69	2.12268G	-54.28	2.39736G	-42.37	2.4G	-51.48	2.50298G	-49.81	24.19013G	-40.62	1
2480MHz	Pass	2.40184G	4.31	-25.69	1.9852G	-54.32	2.39468G	-50.18	2.4G	-50.39	2.5011G	-46.03	23.13841G	-40.90	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	4.30	-25.70	2.18965G	-53.65	2.4G	-27.68	2.4G	-29.19	2.5033G	-49.52	7.20527G	-30.08	1
2440MHz	Pass	2.40184G	4.30	-25.70	2.00635G	-53.81	2.39736G	-41.46	2.4G	-51.90	2.5035G	-42.98	24.17325G	-41.49	1
2480MHz	Pass	2.40184G	4.30	-25.70	2.17085G	-53.52	2.39468G	-51.41	2.4G	-53.82	2.5013G	-46.98	16.33041G	-41.33	1

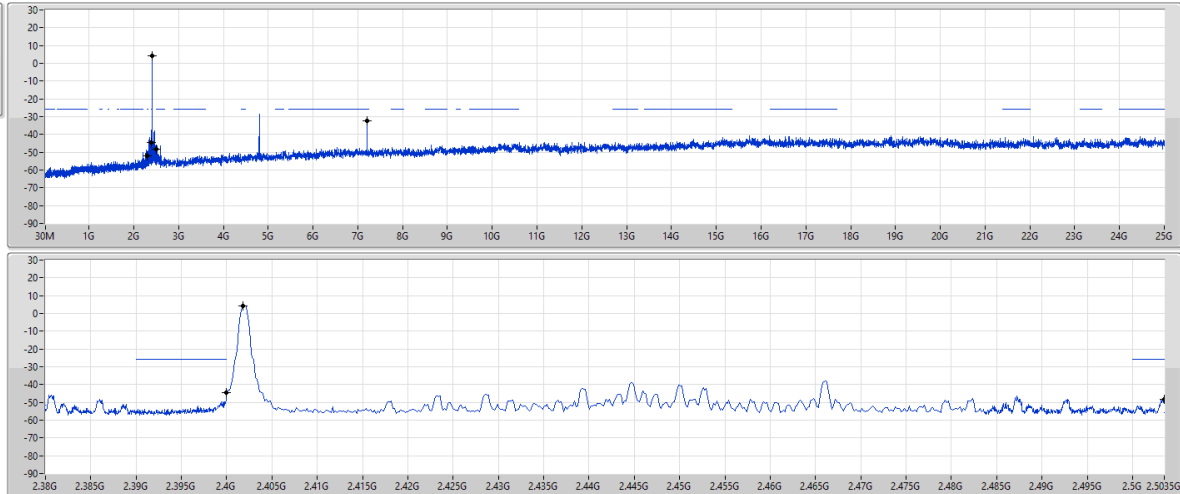
2.4-2.4835GHz_BT-LE(1Mbps)

CSENdB-DTS

2402MHz

19/09/2023

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
2.40184G	4.31	-25.69	2.30128G	-52.14	2.4G	-44.62	2.4G	-44.60	2.5035G	-48.47	7.20527G	-32.28	1

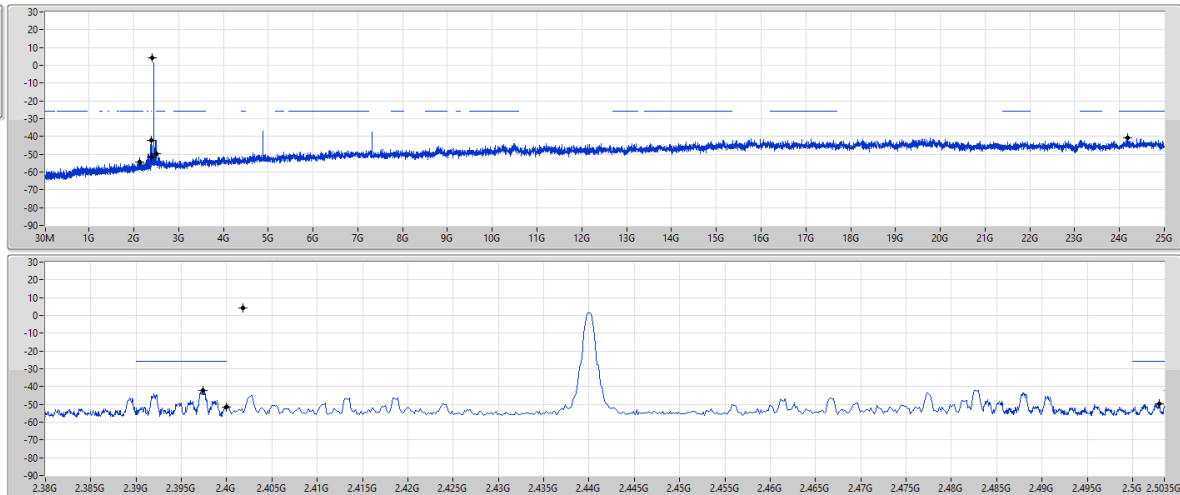
2.4-2.4835GHz_BT-LE(1Mbps)

CSENdB-DTS

2440MHz

19/09/2023

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

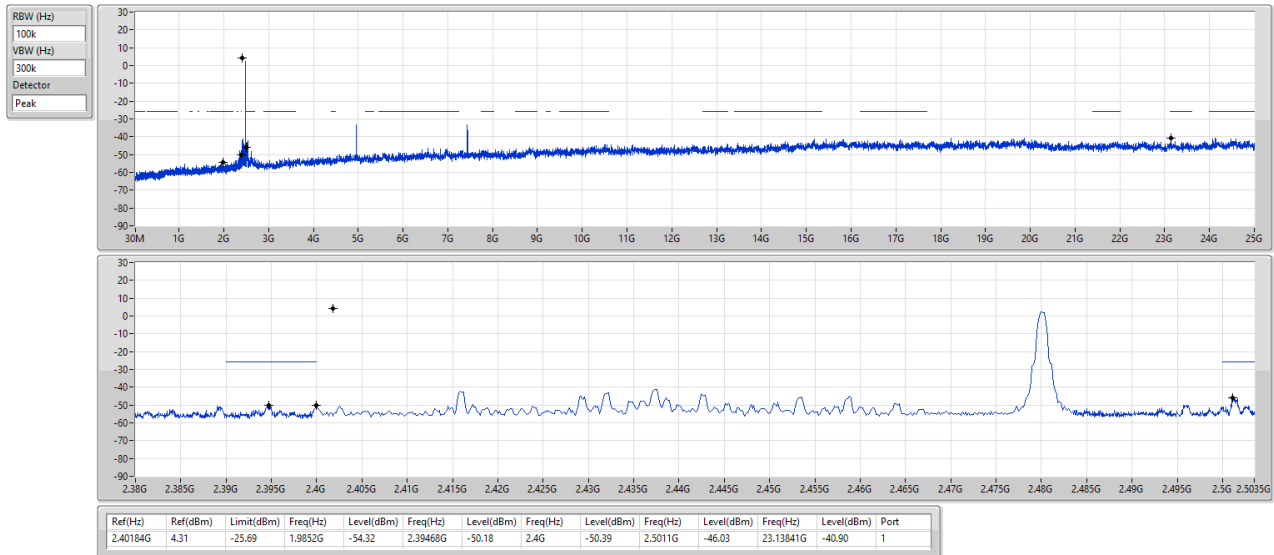


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40184G	4.31	-25.69	2.12268G	-54.28	2.39736G	-42.37	2.4G	-51.48	2.50298G	-49.81	24.19013G	-40.62	1

2.4-2.4835GHz_BT-LE(1Mbps)

CSEndB-DTS

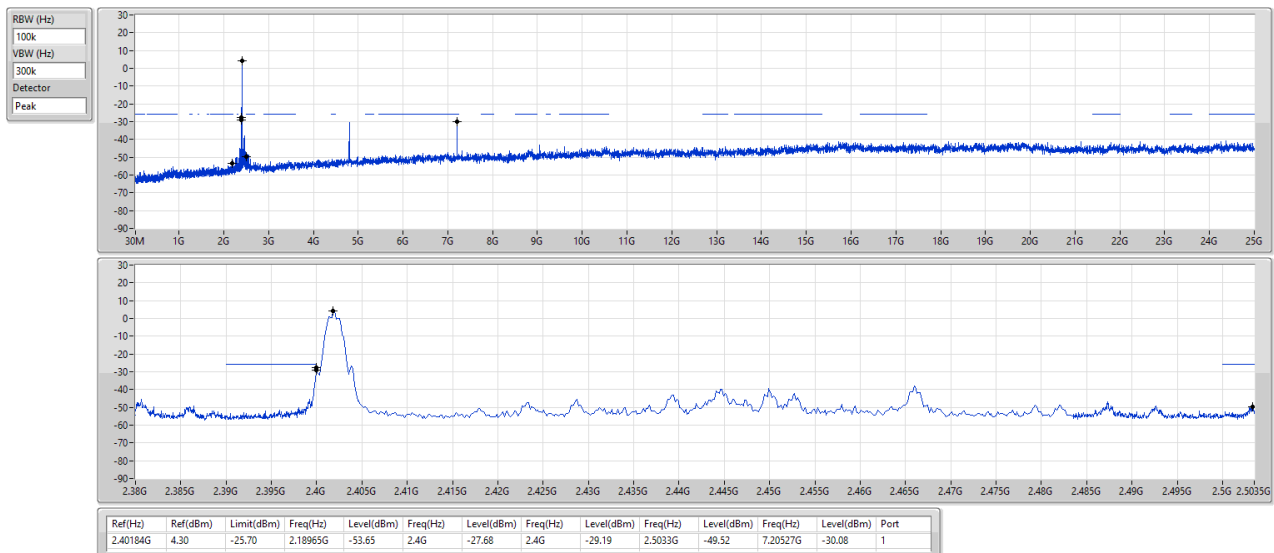
2480MHz



2.4-2.4835GHz_BT-LE(2Mbps)

CSEndB-DTS

2402MHz

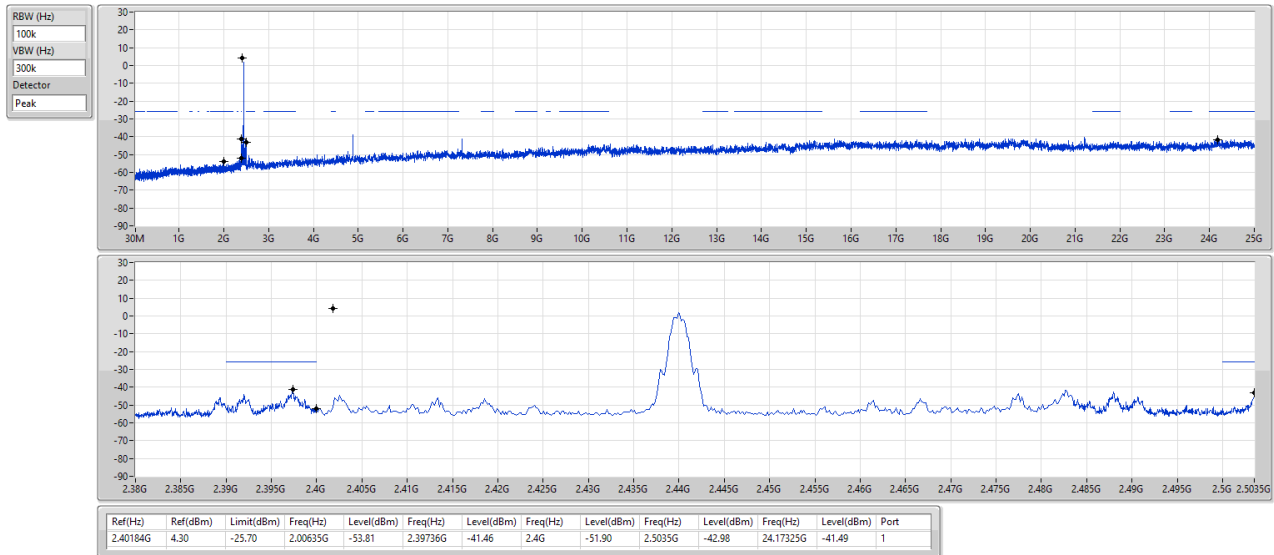


2.4-2.4835GHz_BT-LE(2Mbps)

CSEndB-DTS

2440MHz

19/09/2023

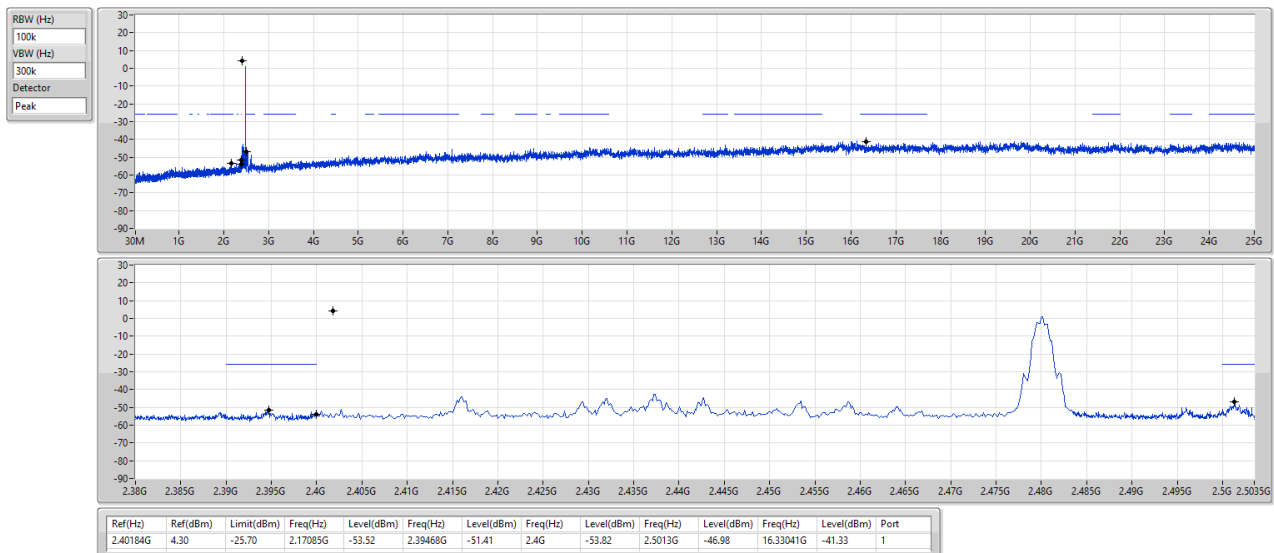


2.4-2.4835GHz_BT-LE(2Mbps)

CSEndB-DTS

2480MHz

19/09/2023





Summary

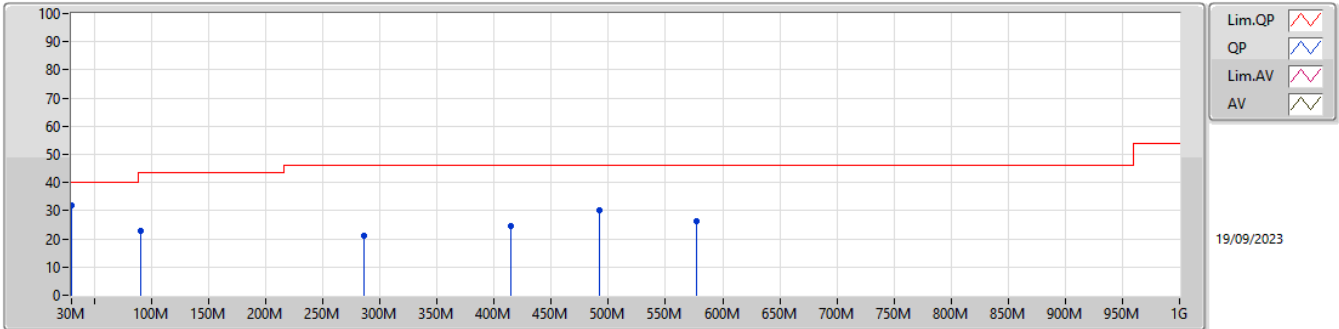
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(2Mbps)	Pass	PK	30M	32.06	40.00	-7.94	3	Vertical	360	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	PK	30M	32.06	40.00	-7.94	3	Vertical	360	1.00
2402MHz	Pass	PK	90.14M	22.74	43.50	-20.76	3	Vertical	360	1.00
2402MHz	Pass	PK	286.08M	21.19	46.00	-24.81	3	Vertical	360	1.00
2402MHz	Pass	PK	414.12M	24.53	46.00	-21.47	3	Vertical	360	1.00
2402MHz	Pass	PK	491.72M	30.08	46.00	-15.92	3	Vertical	360	1.00
2402MHz	Pass	PK	577.08M	26.17	46.00	-19.83	3	Vertical	360	1.00
2402MHz	Pass	PK	30M	24.06	40.00	-15.94	3	Horizontal	0	1.00
2402MHz	Pass	PK	127M	19.27	43.50	-24.23	3	Horizontal	0	1.00
2402MHz	Pass	PK	212.36M	26.72	43.50	-16.78	3	Horizontal	0	1.00
2402MHz	Pass	PK	408.3M	22.38	46.00	-23.62	3	Horizontal	0	1.00
2402MHz	Pass	PK	522.76M	28.01	46.00	-17.99	3	Horizontal	0	1.00
2402MHz	Pass	PK	662.44M	28.55	46.00	-17.45	3	Horizontal	0	1.00

2.4-2.4835GHz_BT-LE(2Mbps)

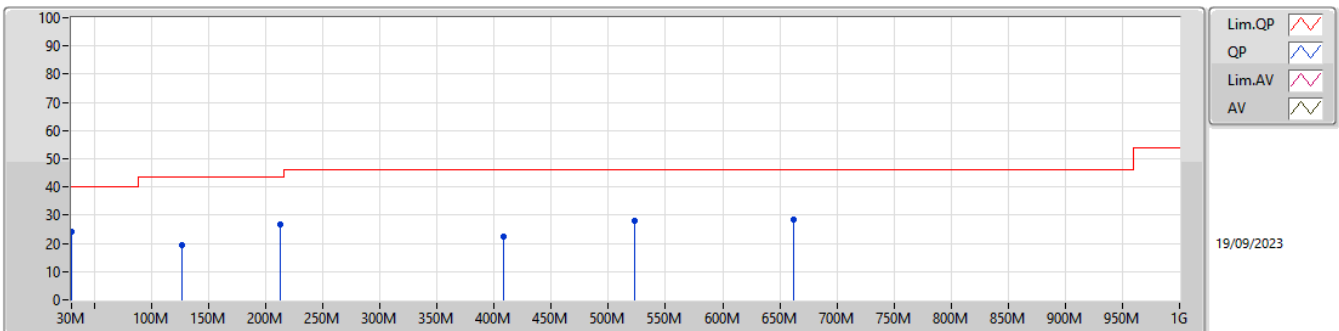
2402MHz_Battery



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)				
PK	30M	32.06	40.00	-7.94	-3.34	3	Vertical	360	1.00	35.40	23.66	0.42	27.42				
PK	90.14M	22.74	43.50	-20.76	-12.48	3	Vertical	360	1.00	35.22	14.14	0.71	27.33				
PK	286.08M	21.19	46.00	-24.81	-7.47	3	Vertical	360	1.00	28.66	18.02	1.25	26.74				
PK	414.12M	24.53	46.00	-21.47	-4.55	3	Vertical	360	1.00	29.08	21.60	1.50	27.65				
PK	491.72M	30.08	46.00	-15.92	-4.05	3	Vertical	360	1.00	34.13	22.45	1.64	28.14				
PK	577.08M	26.17	46.00	-19.83	-2.87	3	Vertical	360	1.00	29.04	23.73	1.76	28.36				

2.4-2.4835GHz_BT-LE(2Mbps)

2402MHz_Battery



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)				
PK	30M	24.06	40.00	-15.94	-3.34	3	Horizontal	0	1.00	27.40	23.66	0.42	27.42				
PK	127M	19.27	43.50	-24.23	-9.29	3	Horizontal	0	1.00	28.56	17.09	0.84	27.22				
PK	212.36M	26.72	43.50	-16.78	-11.67	3	Horizontal	0	1.00	38.39	14.07	1.08	26.82				
PK	408.3M	22.38	46.00	-23.62	-4.80	3	Horizontal	0	1.00	27.18	21.30	1.49	27.59				
PK	522.76M	28.01	46.00	-17.99	-3.96	3	Horizontal	0	1.00	31.97	22.61	1.68	28.25				
PK	662.44M	28.55	46.00	-17.45	-2.49	3	Horizontal	0	1.00	31.04	24.05	1.88	28.42				



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	7.43941G	53.74	54.00	-0.26	3	Horizontal	119	1.00
BT-LE(2Mbps)	Pass	AV	7.31874G	53.16	54.00	-0.84	3	Horizontal	29	1.11

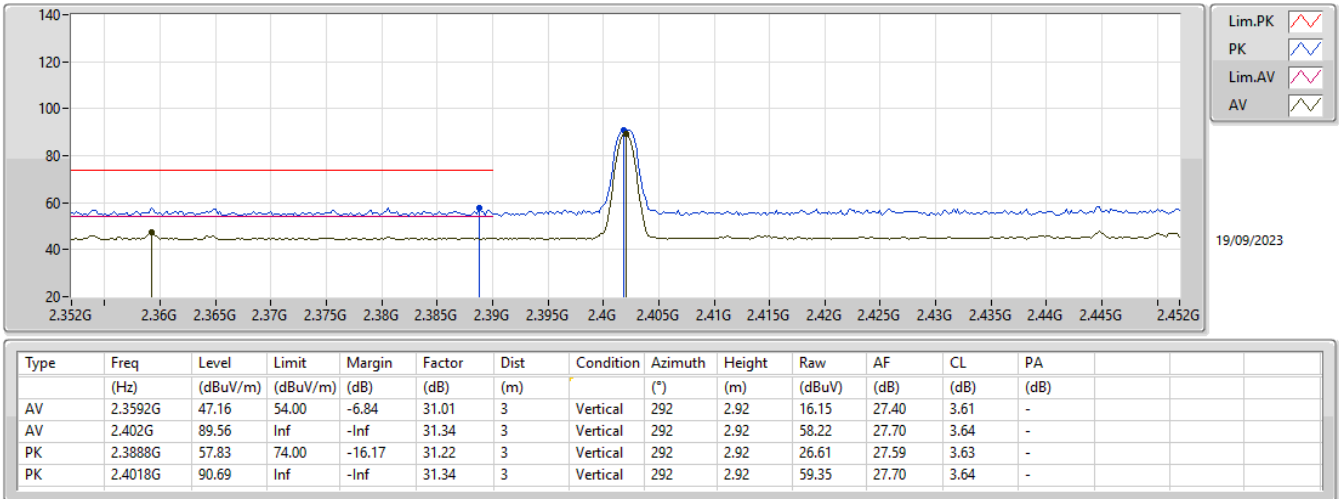
Result

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	2.3592G	47.16	54.00	-6.84	3	Vertical	292	2.92
2402MHz	Pass	AV	2.402G	89.56	Inf	-Inf	3	Vertical	292	2.92
2402MHz	Pass	PK	2.3888G	57.83	74.00	-16.17	3	Vertical	292	2.92
2402MHz	Pass	PK	2.4018G	90.69	Inf	-Inf	3	Vertical	292	2.92
2402MHz	Pass	AV	2.3592G	50.42	54.00	-3.58	3	Horizontal	73	1.15
2402MHz	Pass	AV	2.402G	93.28	Inf	-Inf	3	Horizontal	73	1.15
2402MHz	Pass	PK	2.3596G	58.84	74.00	-15.16	3	Horizontal	73	1.15
2402MHz	Pass	PK	2.4018G	94.40	Inf	-Inf	3	Horizontal	73	1.15
2402MHz	Pass	AV	4.80363G	33.89	54.00	-20.11	3	Vertical	36	2.06
2402MHz	Pass	PK	4.80336G	44.13	74.00	-29.87	3	Vertical	36	2.06
2402MHz	Pass	AV	4.80398G	40.16	54.00	-13.84	3	Horizontal	187	2.99
2402MHz	Pass	PK	4.80374G	47.62	74.00	-26.38	3	Horizontal	187	2.99
2440MHz	Pass	AV	2.39G	44.93	54.00	-9.07	3	Vertical	257	1.21
2440MHz	Pass	AV	2.44G	73.18	Inf	-Inf	3	Vertical	257	1.21
2440MHz	Pass	AV	2.4916G	45.37	54.00	-8.63	3	Vertical	257	1.21
2440MHz	Pass	PK	2.3412G	57.17	74.00	-16.83	3	Vertical	257	1.21
2440MHz	Pass	PK	2.44G	74.95	Inf	-Inf	3	Vertical	257	1.21
2440MHz	Pass	PK	2.4835G	57.46	74.00	-16.54	3	Vertical	257	1.21
2440MHz	Pass	AV	2.376G	46.39	54.00	-7.61	3	Horizontal	72	1.13
2440MHz	Pass	AV	2.44G	87.51	Inf	-Inf	3	Horizontal	72	1.13
2440MHz	Pass	AV	2.4908G	45.61	54.00	-8.39	3	Horizontal	72	1.13
2440MHz	Pass	PK	2.3756G	57.12	74.00	-16.88	3	Horizontal	72	1.13
2440MHz	Pass	PK	2.4404G	88.69	Inf	-Inf	3	Horizontal	72	1.13
2440MHz	Pass	PK	2.4956G	58.21	74.00	-15.79	3	Horizontal	72	1.13
2440MHz	Pass	AV	4.87948G	32.31	54.00	-21.69	3	Vertical	63	2.78
2440MHz	Pass	AV	7.31941G	52.18	54.00	-1.82	3	Vertical	268	1.08
2440MHz	Pass	PK	4.87956G	43.45	74.00	-30.55	3	Vertical	63	2.78
2440MHz	Pass	PK	7.31916G	60.40	74.00	-13.60	3	Vertical	268	1.08
2440MHz	Pass	AV	4.87991G	34.94	54.00	-19.06	3	Horizontal	169	1.18
2440MHz	Pass	AV	7.31938G	53.29	54.00	-0.71	3	Horizontal	117	1.15
2440MHz	Pass	PK	4.8796G	45.12	74.00	-28.88	3	Horizontal	169	1.18
2440MHz	Pass	PK	7.32077G	61.65	74.00	-12.35	3	Horizontal	117	1.15
2480MHz	Pass	AV	2.48G	73.78	Inf	-Inf	3	Vertical	266	1.58
2480MHz	Pass	AV	2.4942G	45.54	54.00	-8.46	3	Vertical	266	1.58
2480MHz	Pass	PK	2.4798G	75.50	Inf	-Inf	3	Vertical	266	1.58
2480MHz	Pass	PK	2.493G	59.63	74.00	-14.37	3	Vertical	266	1.58
2480MHz	Pass	AV	2.48G	88.02	Inf	-Inf	3	Horizontal	79	1.57
2480MHz	Pass	AV	2.489G	45.49	54.00	-8.51	3	Horizontal	79	1.57
2480MHz	Pass	PK	2.4798G	89.20	Inf	-Inf	3	Horizontal	79	1.57
2480MHz	Pass	PK	2.4976G	58.01	74.00	-15.99	3	Horizontal	79	1.57
2480MHz	Pass	AV	4.95965G	33.85	54.00	-20.15	3	Vertical	58	2.68
2480MHz	Pass	AV	7.43932G	52.57	54.00	-1.43	3	Vertical	266	1.10
2480MHz	Pass	PK	4.96032G	44.67	74.00	-29.33	3	Vertical	58	2.68
2480MHz	Pass	PK	7.43922G	60.82	74.00	-13.18	3	Vertical	266	1.10
2480MHz	Pass	AV	4.95989G	36.18	54.00	-17.82	3	Horizontal	167	1.10
2480MHz	Pass	AV	7.43941G	53.74	54.00	-0.26	3	Horizontal	119	1.00
2480MHz	Pass	PK	4.95994G	46.55	74.00	-27.45	3	Horizontal	167	1.10
2480MHz	Pass	PK	7.44078G	62.52	74.00	-11.48	3	Horizontal	119	1.00
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3566G	46.48	54.00	-7.52	3	Vertical	161	1.06
2402MHz	Pass	AV	2.402G	79.62	Inf	-Inf	3	Vertical	161	1.06
2402MHz	Pass	PK	2.3602G	57.48	74.00	-16.52	3	Vertical	161	1.06
2402MHz	Pass	PK	2.4016G	82.11	Inf	-Inf	3	Vertical	161	1.06
2402MHz	Pass	AV	2.359G	49.27	54.00	-4.73	3	Horizontal	244	1.16
2402MHz	Pass	AV	2.402G	90.45	Inf	-Inf	3	Horizontal	244	1.16
2402MHz	Pass	PK	2.3594G	58.48	74.00	-15.52	3	Horizontal	244	1.16
2402MHz	Pass	PK	2.4016G	92.78	Inf	-Inf	3	Horizontal	244	1.16
2402MHz	Pass	AV	4.80401G	36.10	54.00	-17.90	3	Vertical	51	2.83
2402MHz	Pass	PK	4.80312G	44.43	74.00	-29.57	3	Vertical	51	2.83
2402MHz	Pass	AV	4.80308G	38.94	54.00	-15.06	3	Horizontal	164	1.00

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2402MHz	Pass	PK	4.80404G	46.89	74.00	-27.11	3	Horizontal	164	1.00
2440MHz	Pass	AV	2.3888G	46.46	54.00	-7.54	3	Vertical	50	1.55
2440MHz	Pass	AV	2.44G	74.00	Inf	-Inf	3	Vertical	50	1.55
2440MHz	Pass	AV	2.494G	46.83	54.00	-7.17	3	Vertical	50	1.55
2440MHz	Pass	PK	2.3452G	57.05	74.00	-16.95	3	Vertical	50	1.55
2440MHz	Pass	PK	2.4404G	77.02	Inf	-Inf	3	Vertical	50	1.55
2440MHz	Pass	PK	2.4908G	57.57	74.00	-16.43	3	Vertical	50	1.55
2440MHz	Pass	AV	2.3756G	46.97	54.00	-7.03	3	Horizontal	245	1.19
2440MHz	Pass	AV	2.44G	86.27	Inf	-Inf	3	Horizontal	245	1.19
2440MHz	Pass	AV	2.4876G	47.14	54.00	-6.86	3	Horizontal	245	1.19
2440MHz	Pass	PK	2.3784G	57.69	74.00	-16.31	3	Horizontal	245	1.19
2440MHz	Pass	PK	2.4396G	88.64	Inf	-Inf	3	Horizontal	245	1.19
2440MHz	Pass	PK	2.4872G	57.94	74.00	-16.06	3	Horizontal	245	1.19
2440MHz	Pass	AV	4.87996G	33.28	54.00	-20.72	3	Vertical	90	2.19
2440MHz	Pass	AV	7.31873G	52.46	54.00	-1.54	3	Vertical	97	1.18
2440MHz	Pass	PK	4.88091G	43.82	74.00	-30.18	3	Vertical	90	2.19
2440MHz	Pass	PK	7.32011G	59.18	74.00	-14.82	3	Vertical	97	1.18
2440MHz	Pass	AV	4.87892G	37.78	54.00	-16.22	3	Horizontal	323	1.00
2440MHz	Pass	AV	7.31874G	53.16	54.00	-0.84	3	Horizontal	29	1.11
2440MHz	Pass	PK	4.8811G	46.18	74.00	-27.82	3	Horizontal	323	1.00
2440MHz	Pass	PK	7.32162G	59.85	74.00	-14.15	3	Horizontal	29	1.11
2480MHz	Pass	AV	2.48G	75.49	Inf	-Inf	3	Vertical	38	2.44
2480MHz	Pass	AV	2.4966G	47.18	54.00	-6.82	3	Vertical	38	2.44
2480MHz	Pass	PK	2.4804G	78.23	Inf	-Inf	3	Vertical	38	2.44
2480MHz	Pass	PK	2.492G	57.72	74.00	-16.28	3	Vertical	38	2.44
2480MHz	Pass	AV	2.48G	83.07	Inf	-Inf	3	Horizontal	248	1.11
2480MHz	Pass	AV	2.4972G	47.17	54.00	-6.83	3	Horizontal	248	1.11
2480MHz	Pass	PK	2.4806G	85.50	Inf	-Inf	3	Horizontal	248	1.11
2480MHz	Pass	PK	2.4938G	57.60	74.00	-16.40	3	Horizontal	248	1.11
2480MHz	Pass	AV	4.95905G	33.91	54.00	-20.09	3	Vertical	96	2.46
2480MHz	Pass	AV	7.43872G	46.35	54.00	-7.65	3	Vertical	83	2.31
2480MHz	Pass	PK	4.96013G	44.06	74.00	-29.94	3	Vertical	96	2.46
2480MHz	Pass	PK	7.44164G	54.10	74.00	-19.90	3	Vertical	83	2.31
2480MHz	Pass	AV	4.95903G	37.19	54.00	-16.81	3	Horizontal	300	1.06
2480MHz	Pass	AV	7.43883G	52.36	54.00	-1.64	3	Horizontal	38	1.07
2480MHz	Pass	PK	4.96092G	46.22	74.00	-27.78	3	Horizontal	300	1.06
2480MHz	Pass	PK	7.43848G	58.80	74.00	-15.20	3	Horizontal	38	1.07

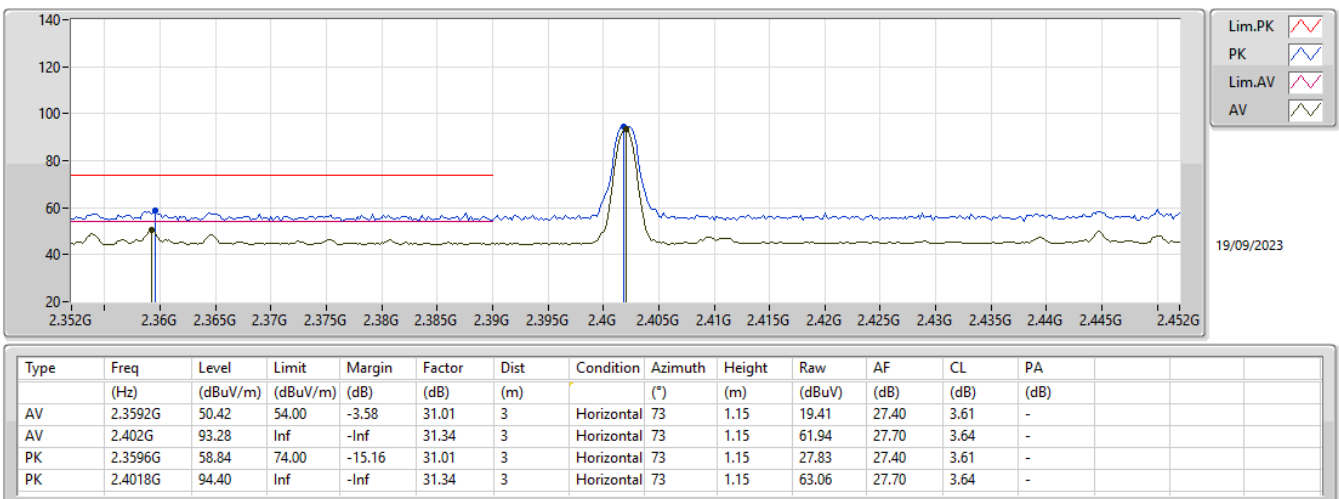
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2402MHz_TX



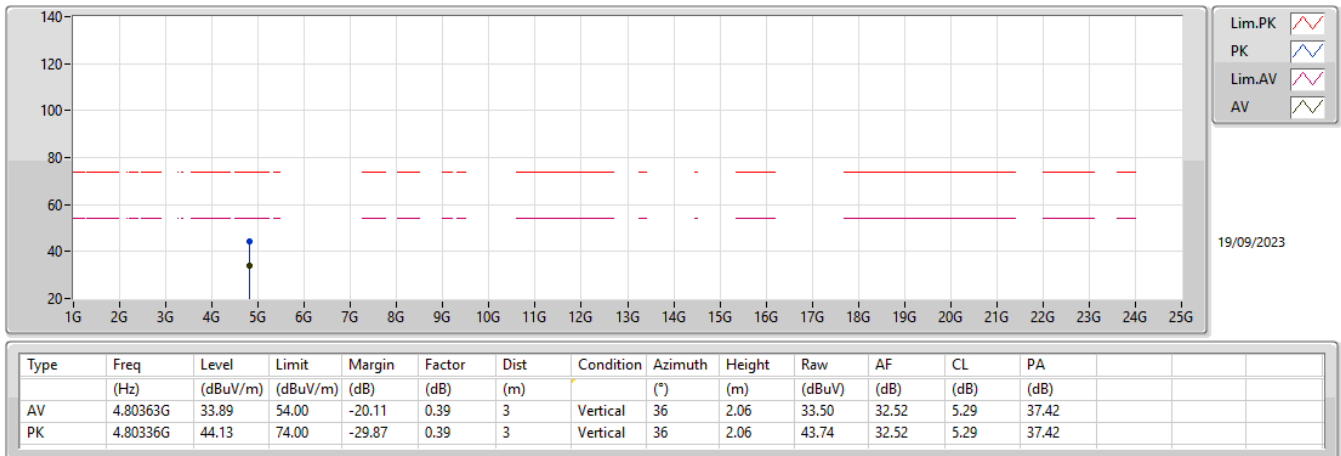
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2402MHz_TX



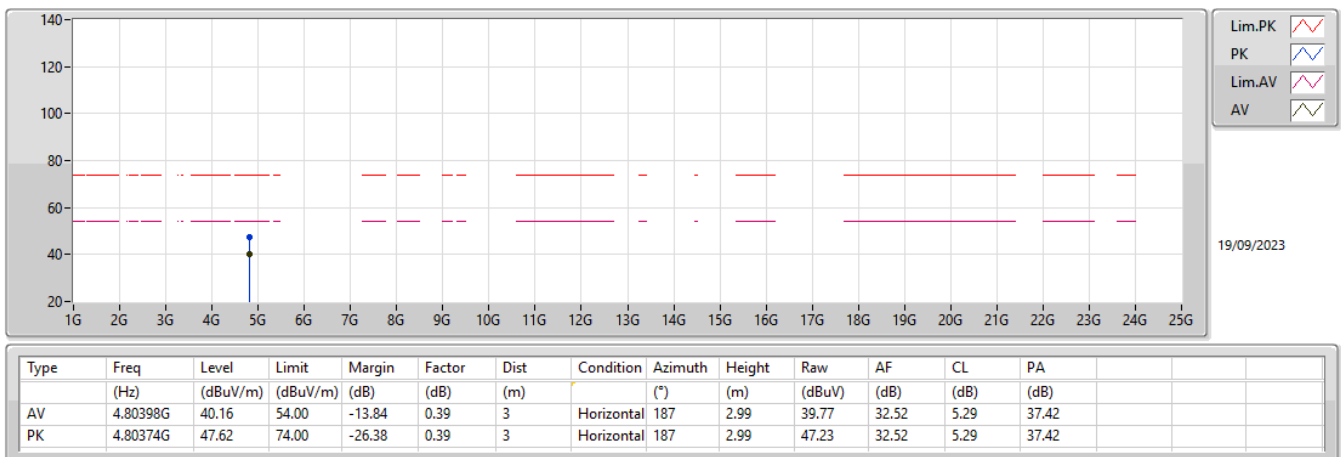
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2402MHz_TX



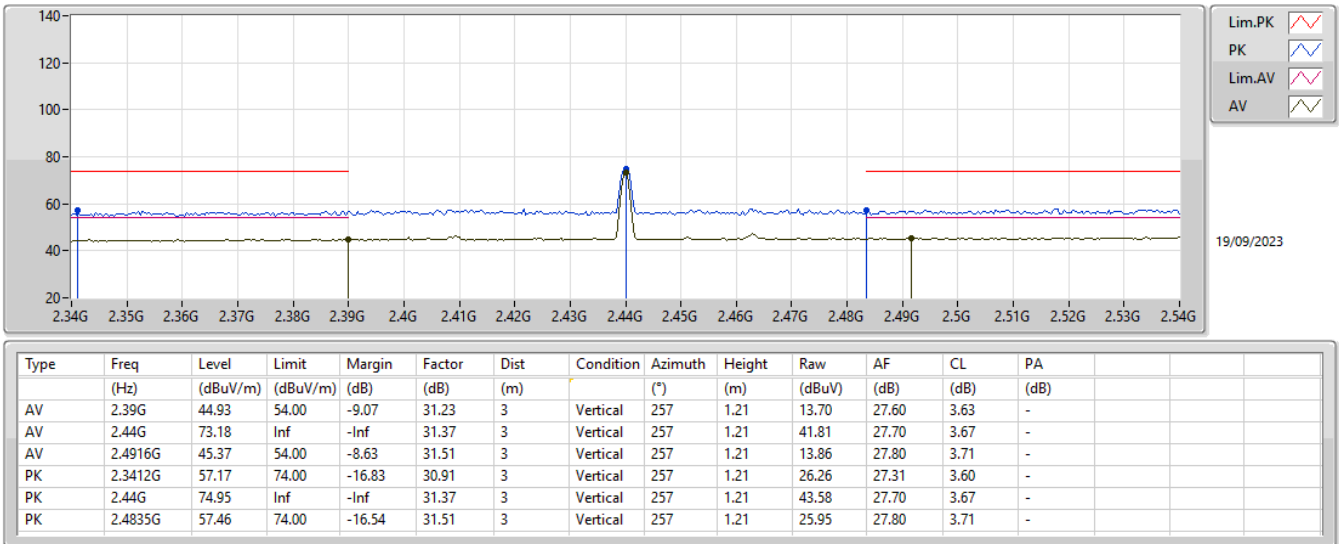
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2402MHz_TX



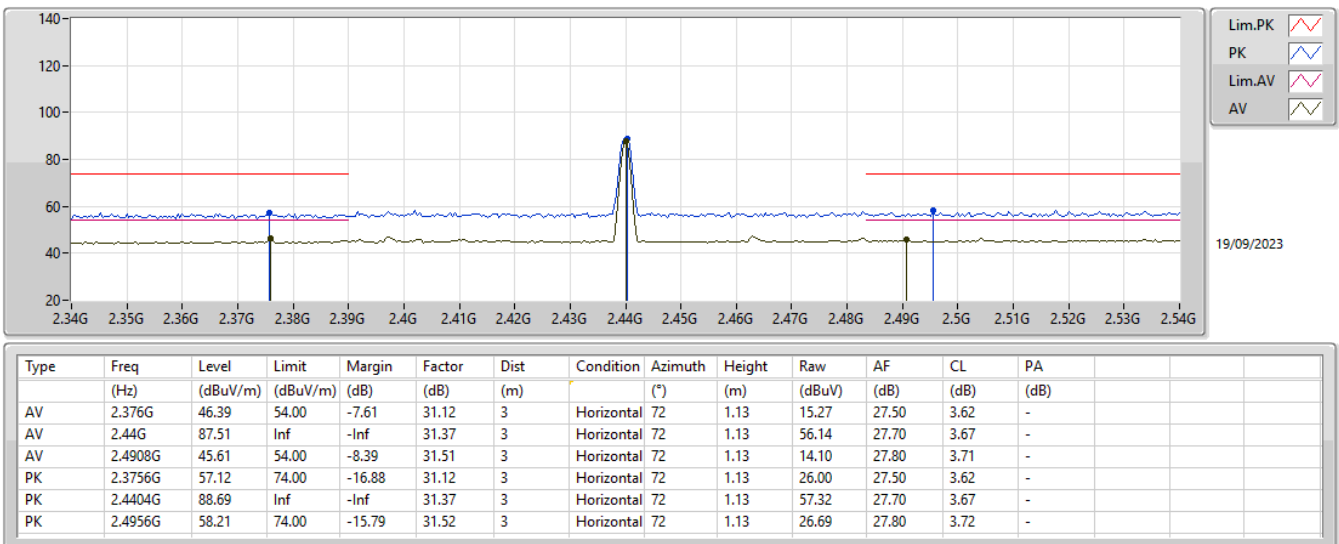
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2440MHz_TX



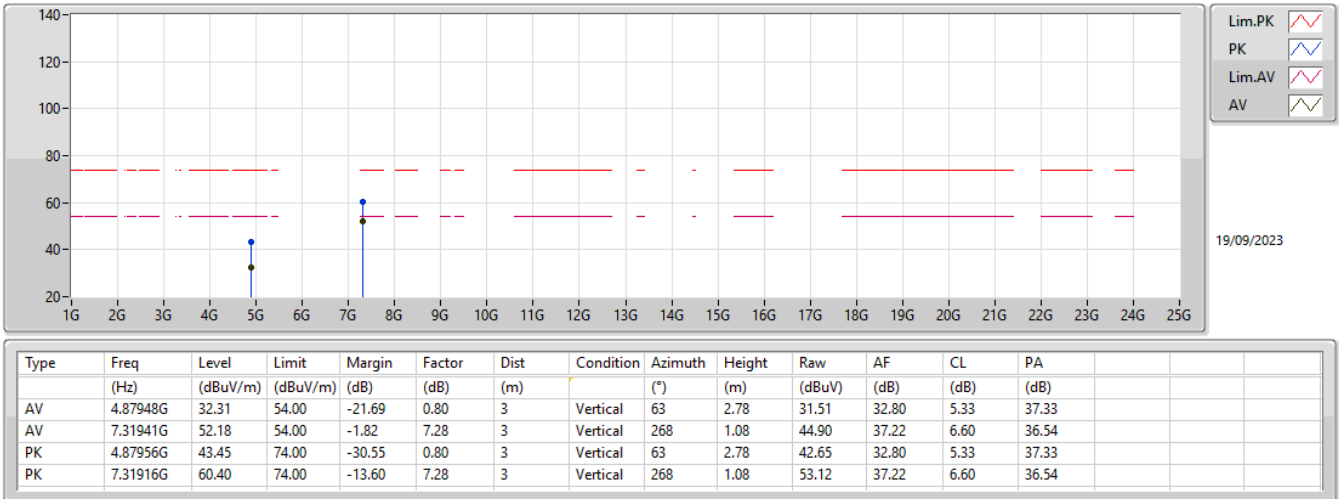
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2440MHz_TX



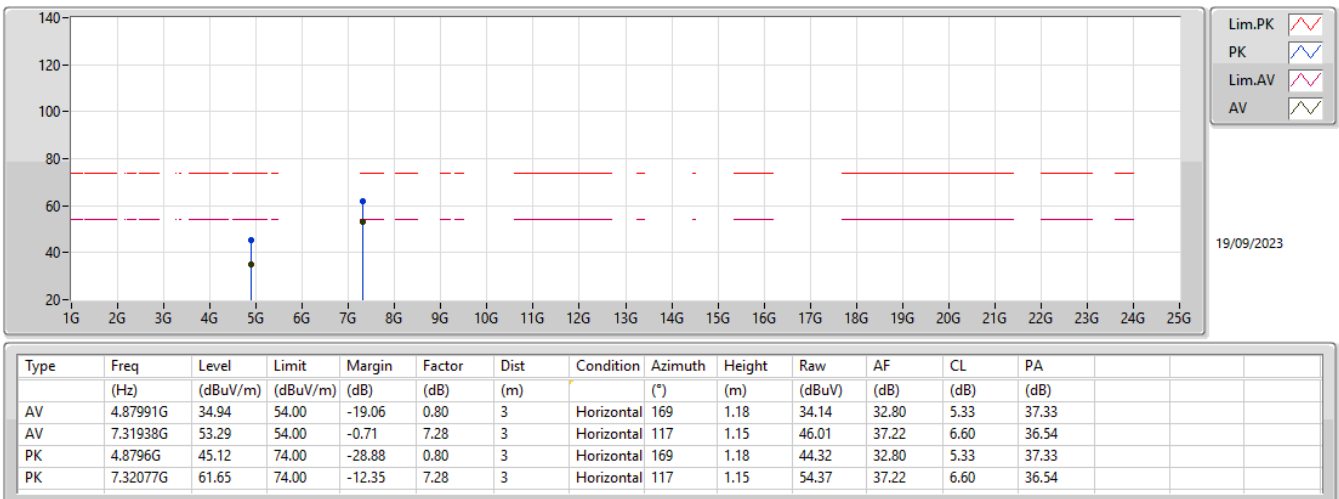
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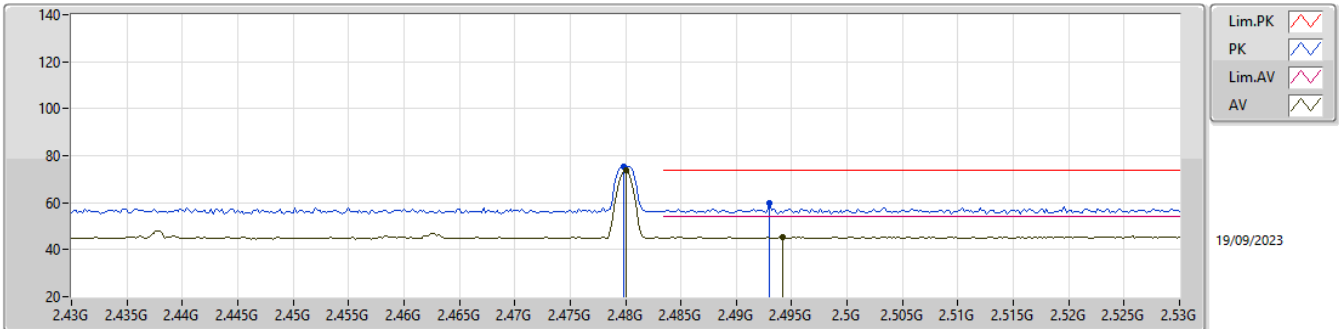
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2440MHz_TX



2.4-2.4835GHz_BT-LE(1Mbps)

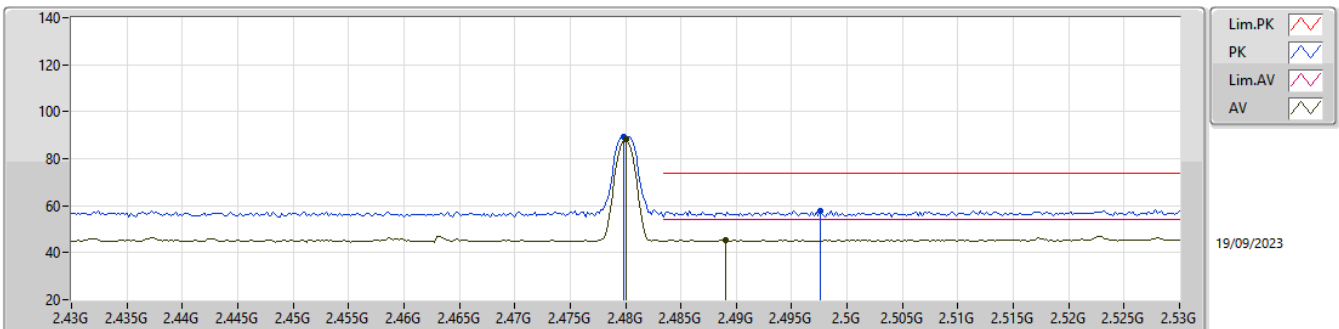
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	73.78	Inf	-Inf	31.50	3	Vertical	266	1.58	42.28	27.80	3.70	-
AV	2.4942G	45.54	54.00	-8.46	31.52	3	Vertical	266	1.58	14.02	27.80	3.72	-
PK	2.4798G	75.50	Inf	-Inf	31.50	3	Vertical	266	1.58	44.00	27.80	3.70	-
PK	2.493G	59.63	74.00	-14.37	31.51	3	Vertical	266	1.58	28.12	27.80	3.71	-

2.4-2.4835GHz_BT-LE(1Mbps)

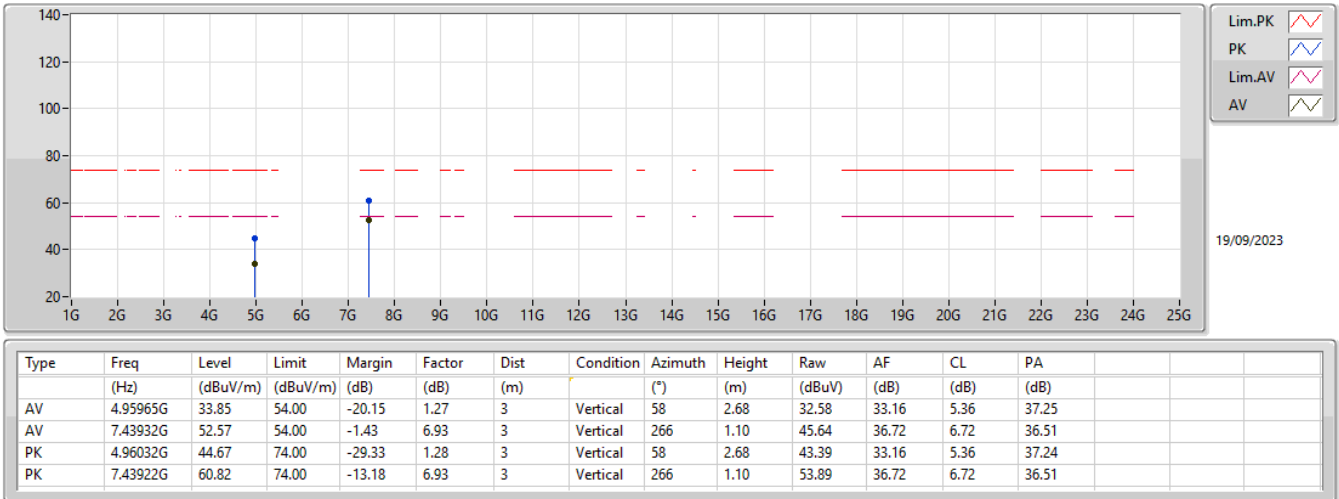
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	88.02	Inf	-Inf	31.50	3	Horizontal	79	1.57	56.52	27.80	3.70	-
AV	2.489G	45.49	54.00	-8.51	31.51	3	Horizontal	79	1.57	13.98	27.80	3.71	-
PK	2.4798G	89.20	Inf	-Inf	31.50	3	Horizontal	79	1.57	57.70	27.80	3.70	-
PK	2.4976G	58.01	74.00	-15.99	31.52	3	Horizontal	79	1.57	26.49	27.80	3.72	-

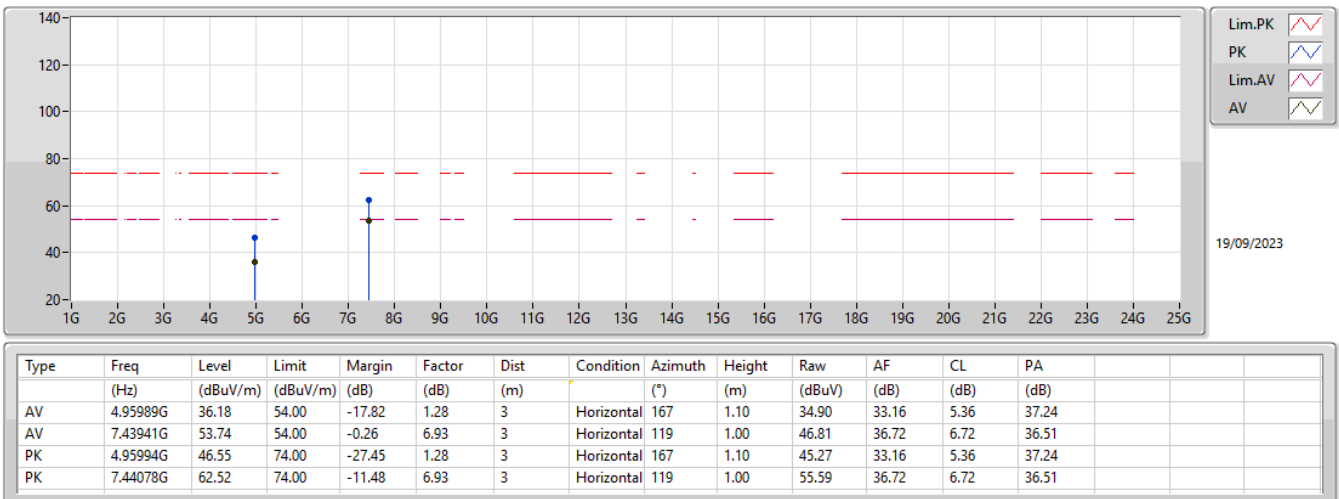
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2480MHz_TX



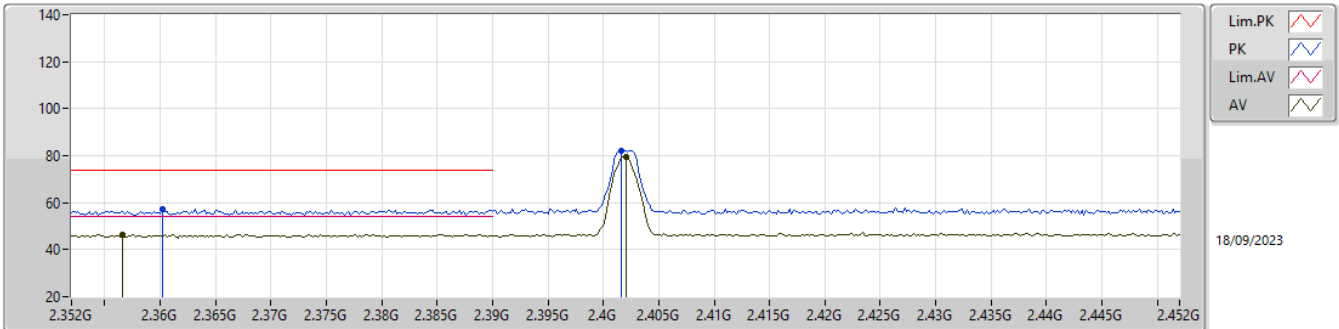
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2480MHz_TX



2.4-2.4835GHz_BT-LE(2Mbps)

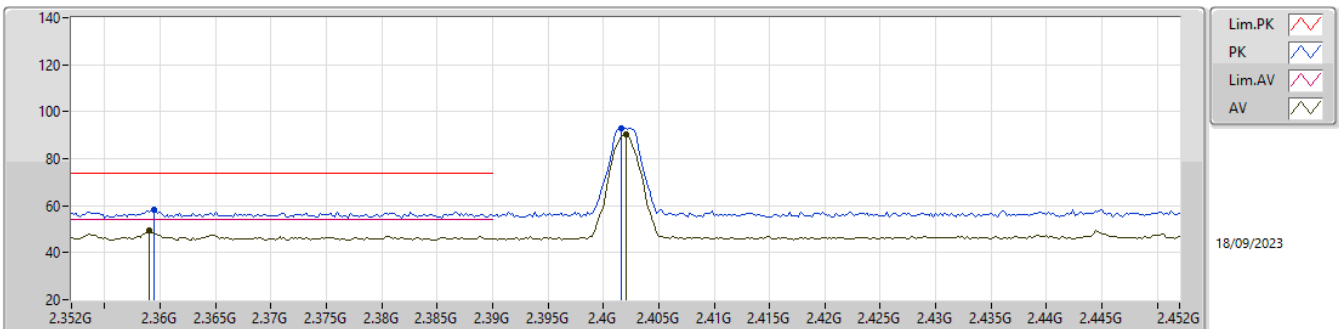
2402MHz_TX



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	2.3566G	46.48	54.00	-7.52	31.01	3	Vertical	161	1.06	15.47	27.40	3.61	-
AV	2.402G	79.62	Inf	-Inf	31.34	3	Vertical	161	1.06	48.28	27.70	3.64	-
PK	2.3602G	57.48	74.00	-16.52	31.01	3	Vertical	161	1.06	26.47	27.40	3.61	-
PK	2.4016G	82.11	Inf	-Inf	31.34	3	Vertical	161	1.06	50.77	27.70	3.64	-

2.4-2.4835GHz_BT-LE(2Mbps)

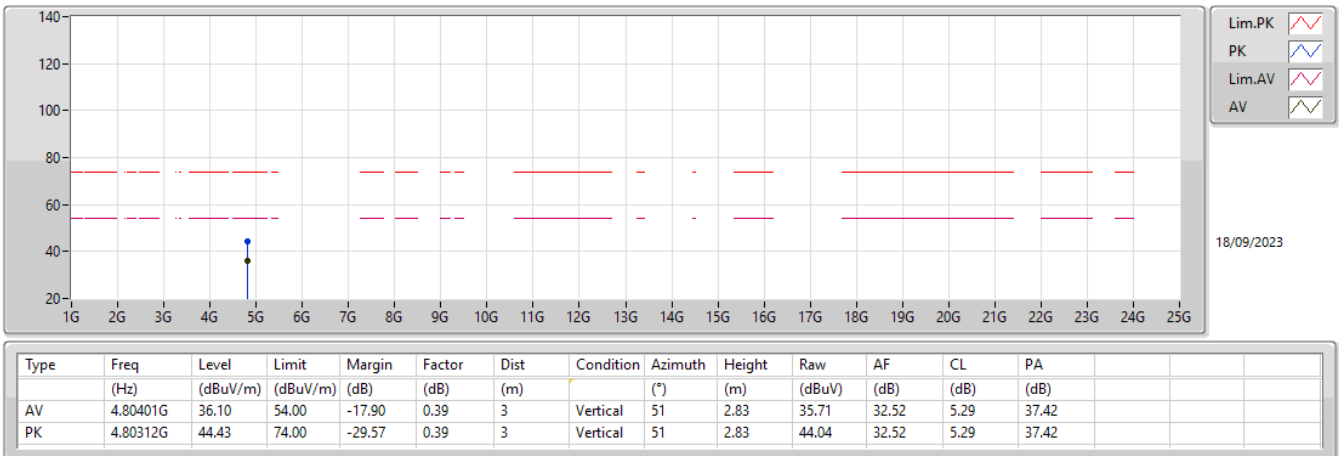
2402MHz_TX



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	2.359G	49.27	54.00	-4.73	31.01	3	Horizontal	244	1.16	18.26	27.40	3.61	-
AV	2.402G	90.45	Inf	-Inf	31.34	3	Horizontal	244	1.16	59.11	27.70	3.64	-
PK	2.3594G	58.48	74.00	-15.52	31.01	3	Horizontal	244	1.16	27.47	27.40	3.61	-
PK	2.4016G	92.78	Inf	-Inf	31.34	3	Horizontal	244	1.16	61.44	27.70	3.64	-

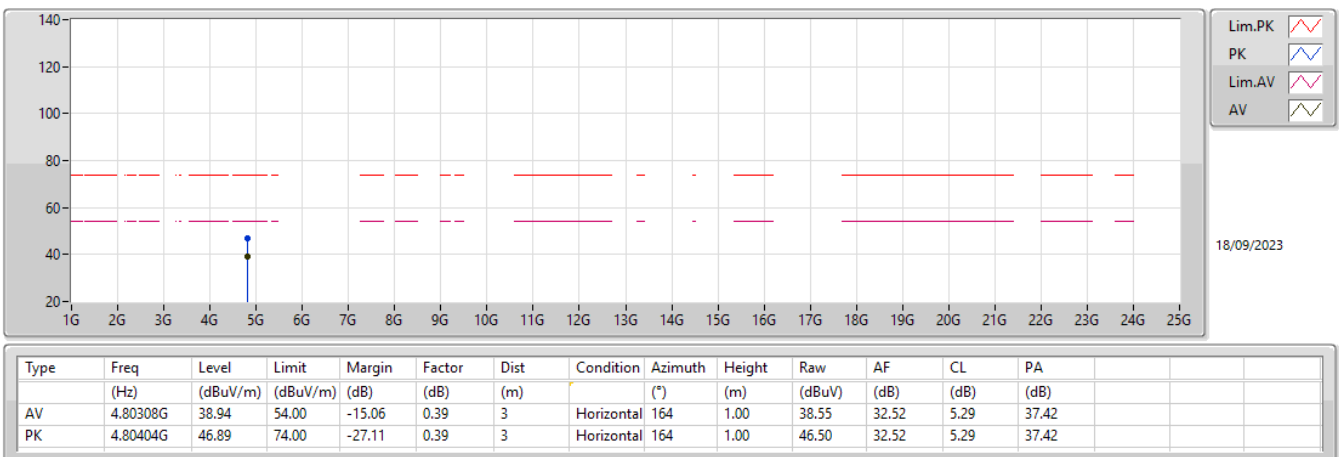
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2402MHz_TX



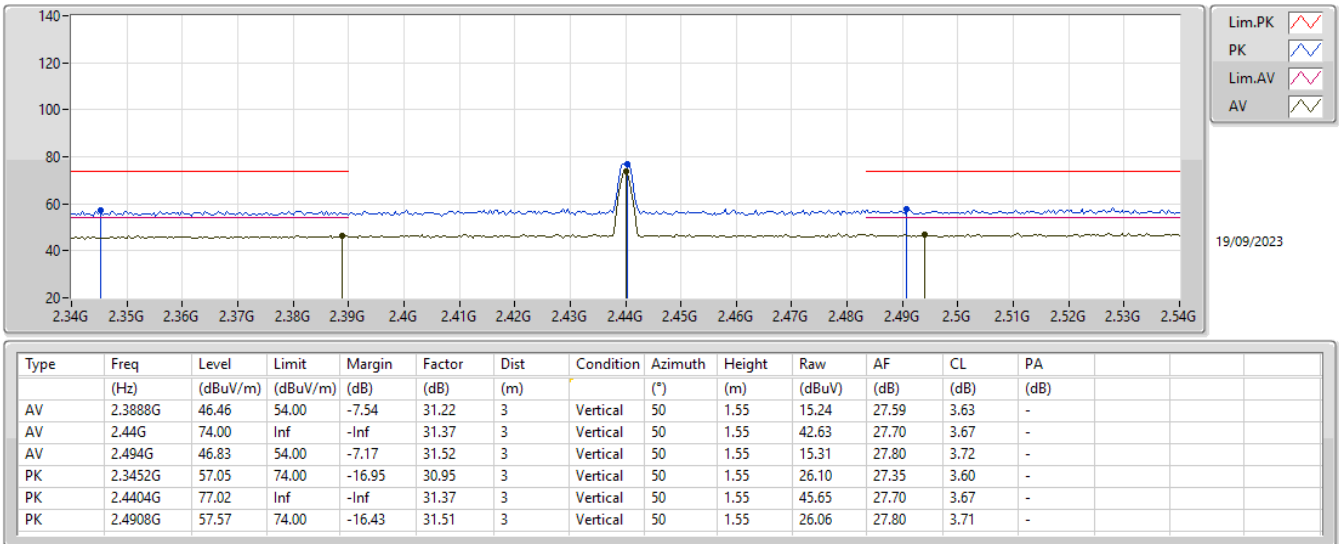
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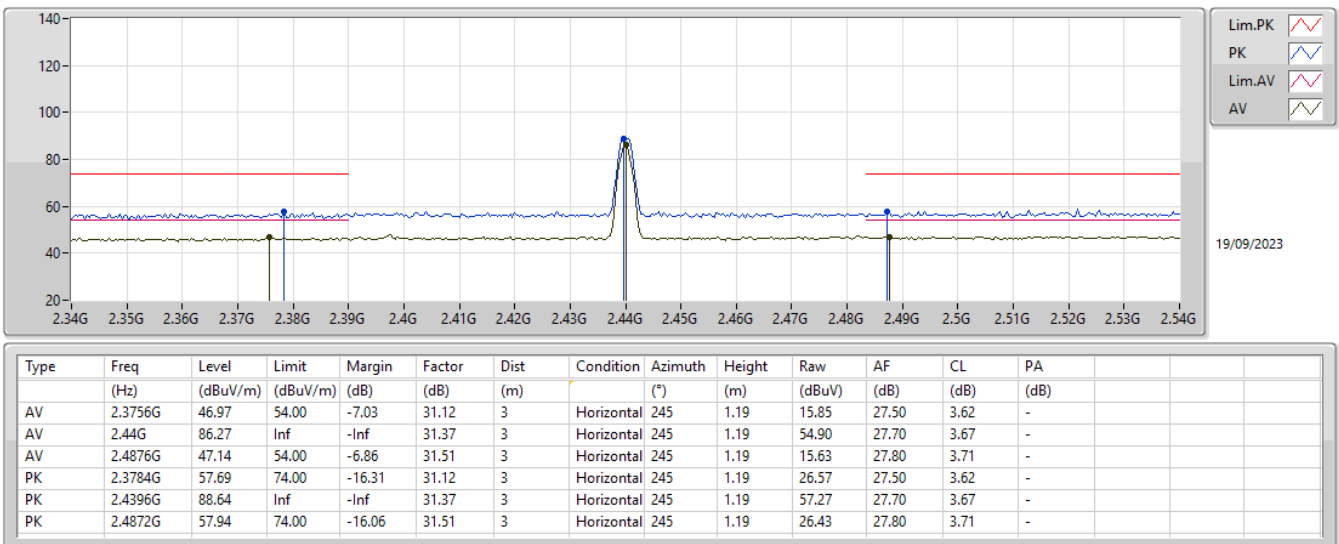
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2440MHz_TX



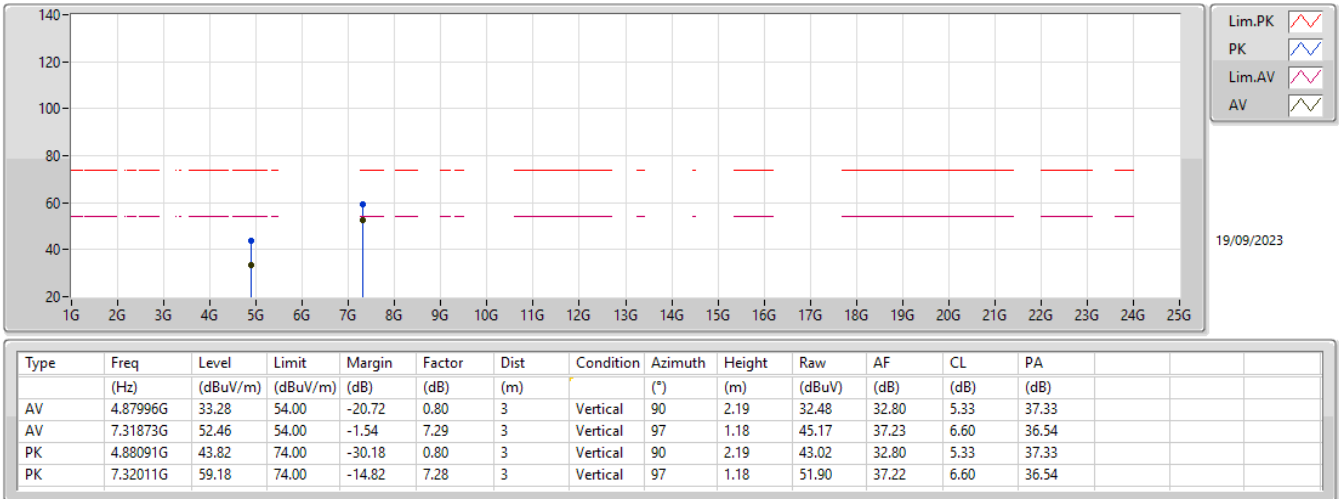
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2440MHz_TX



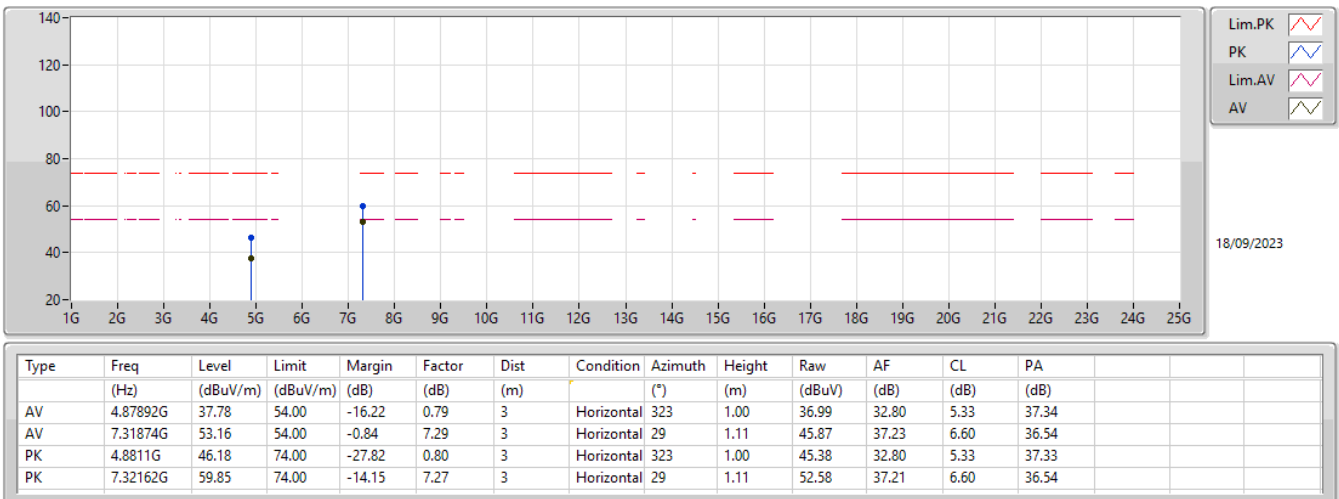
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2440MHz_TX



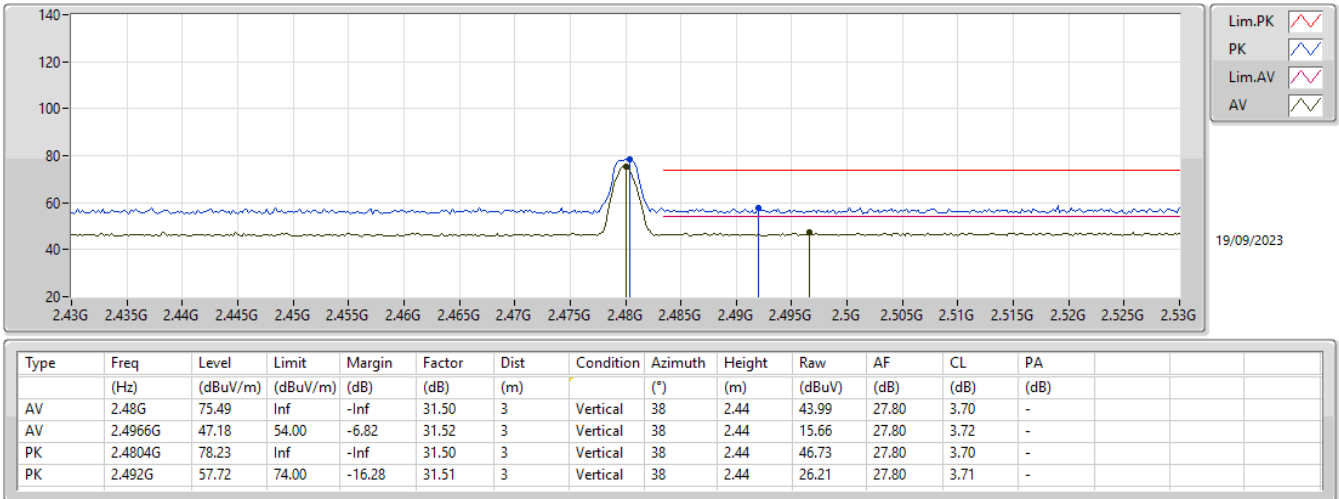
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2440MHz_TX



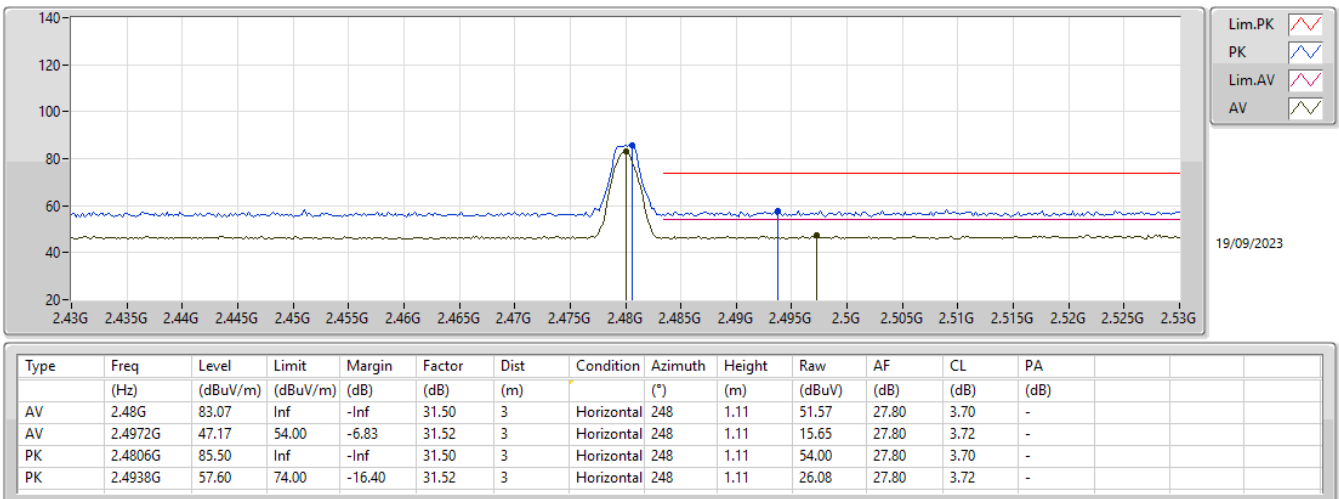
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2480MHz_TX



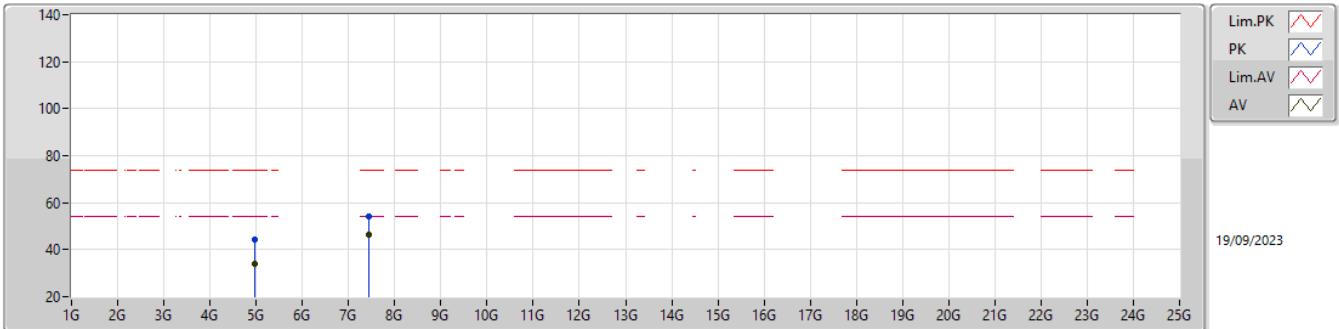
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2480MHz_TX



2.4-2.4835GHz_BT-LE(2Mbps)

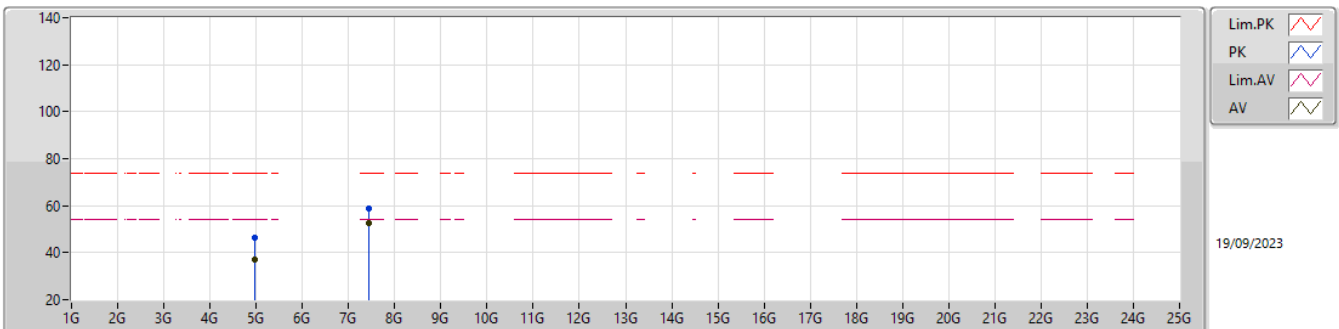
2480MHz_TX



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	4.95905G	33.91	54.00	-20.09	1.26	3	Vertical	96	2.46	32.65	33.15	5.36	37.25
AV	7.43872G	46.35	54.00	-7.65	6.93	3	Vertical	83	2.31	39.42	36.72	6.72	36.51
PK	4.96013G	44.06	74.00	-29.94	1.28	3	Vertical	96	2.46	42.78	33.16	5.36	37.24
PK	7.44164G	54.10	74.00	-19.90	6.93	3	Vertical	83	2.31	47.17	36.72	6.72	36.51

2.4-2.4835GHz_BT-LE(2Mbps)

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	4.95903G	37.19	54.00	-16.81	1.26	3	Horizontal	300	1.06	35.93	33.15	5.36	37.25
AV	7.43883G	52.36	54.00	-1.64	6.93	3	Horizontal	38	1.07	45.43	36.72	6.72	36.51
PK	4.96092G	46.22	74.00	-27.78	1.29	3	Horizontal	300	1.06	44.93	33.17	5.36	37.24
PK	7.43848G	58.80	74.00	-15.20	6.93	3	Horizontal	38	1.07	51.87	36.72	6.72	36.51