

FCC Radio Test Report

FCC ID : 2A8MT-AP6
Equipment : 2x2 Dual-band Enterprise Access Point
Brand Name : ALTA LABS [Λ] 
Model Name : AP6
Applicant : SoundVision Technologies, dba Alta Labs
192 N Old Hwy 91, Unit 1 Hurricane, Utah, United States 84737
Manufacturer : SoundVision Technologies, dba Alta Labs
192 N Old Hwy 91, Unit 1 Hurricane, Utah, United States 84737
Standard : 47 CFR FCC Part 15.247

The product was received on Feb. 17, 2023, and testing was started from Feb. 16, 2023 and completed on Mar. 15, 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.)

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History of this test report

TEL : 886-3-3273456
FAX : 886-3-3270973
Report Template No.: HE1-C10 Ver4.3
FCC ID: 2A8MT-AP6

Summary of Test Result

Report Clause	Ref.Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:

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

Comments and explanations:

None

Reviewed by: Ryan Hsiao

Report Producer: Debby Hung

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

Note:

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

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Ramark
1	LITEON	3010001439GD	PIFA	I-PEX	Radio 1_2.4G+ Radio 2_5G
2	LITEON	3010001437GD	PIFA	I-PEX	Radio 1_2.4G+ Radio 2_5G
3	LITEON	3010001440GD	PIFA	I-PEX	Radio 1_BT

Ant.	Port	Gain (dBi)					
		2.4G	UNII-1	UNII-2A	UNII-2C	UNII-3	BT
1	1	3.4	4.2	4.0	4.3	4.2	-
2	2	3.2	4.3	4.2	4.1	4.0	-
3	1	-	-	-	-	-	2.7

Note 1: The EUT has three antennas.

For 2.4GHz function:

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

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

For BT function:

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

Ant. 3 (port 1) could transmit/receive.

For 5GHz function:

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

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

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From PoE		
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)	0.628	2.02	392.5u	3k
BT-LE(125kbps)	0.871	0.6	3.105m	1k
BT-LE(500kbps)	0.594	2.26	1.071m	1k
BT-LE(2Mbps)	0.334	4.76	208.75u	10k

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

1.2 Testing Applied Standards

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

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

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

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

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	TEL: 886-3-327-3456		FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Daniel Lin	23.8~24.9°C / 52~57%	15/Mar/2023
RF Conducted	TH01-HY	Johnny Yu	22.2~23.4°C / 50~52%	06/Mar/2023~09/Mar/2023
Radiated (Co-location)	03CH03-HY	Bart Chen	22.2~23.4°C / 50~52%	13/Mar/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.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH09-HY	Lego Lin	21.2~22.3°C / 56~59%	16/Feb/2023~03/Mar/2023

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

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

2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	qdart_conn.win.1.0_installer_00086.1
------------------------------	--------------------------------------

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	default
2440MHz	default
2480MHz	default
BT-LE(2Mbps)	-
2402MHz	default
2440MHz	default
2480MHz	default
BT-LE(125kbps)	-
2402MHz	default
2440MHz	default
2480MHz	default
BT-LE(500kbps)	-
2402MHz	default
2440MHz	default
2480MHz	default

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
1	PoE mode

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

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	CTX		
1	PoE mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	CTX
1	2.4GHz WLAN+5GHz WLAN+Bluetooth
Refer to Sporton Test Report No.: FA321732 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.3 Accessories

Accessories				
Ceiling Bracket	Brand Name	N/A	Model Name	N/A
Wallmount	Brand Name	N/A	Model Name	N/A

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

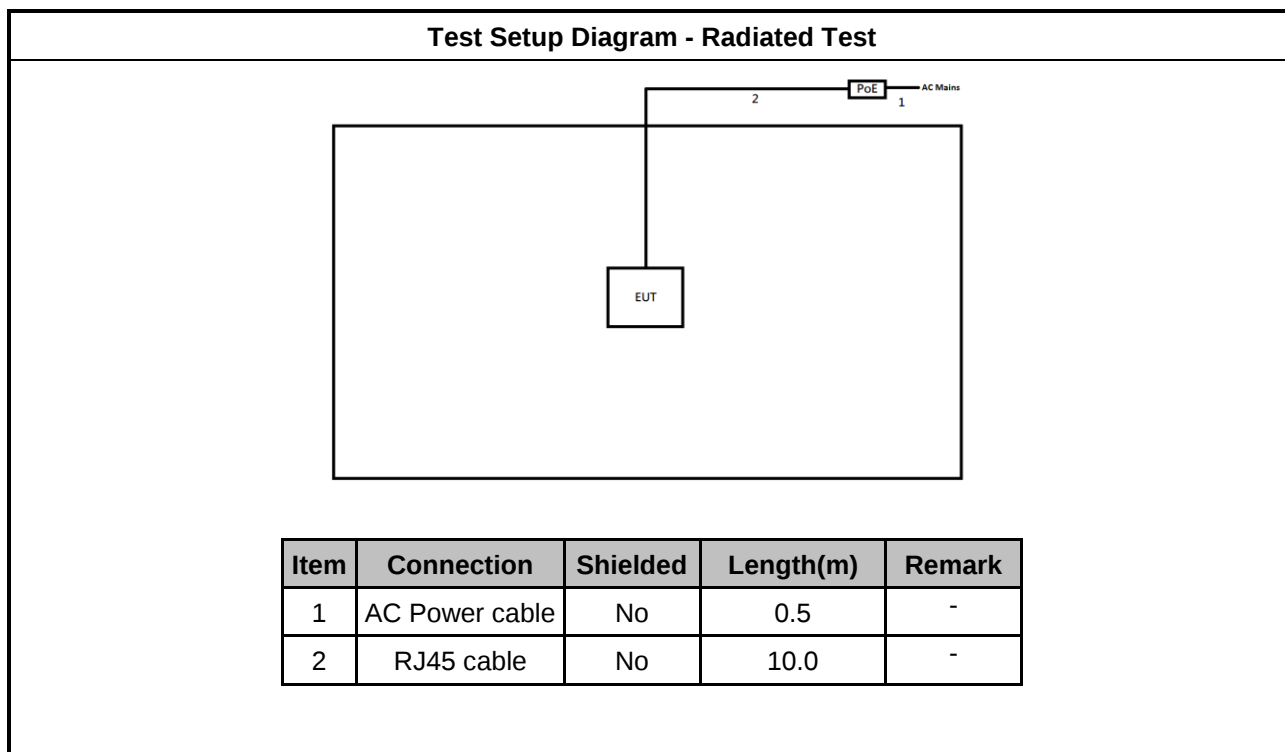
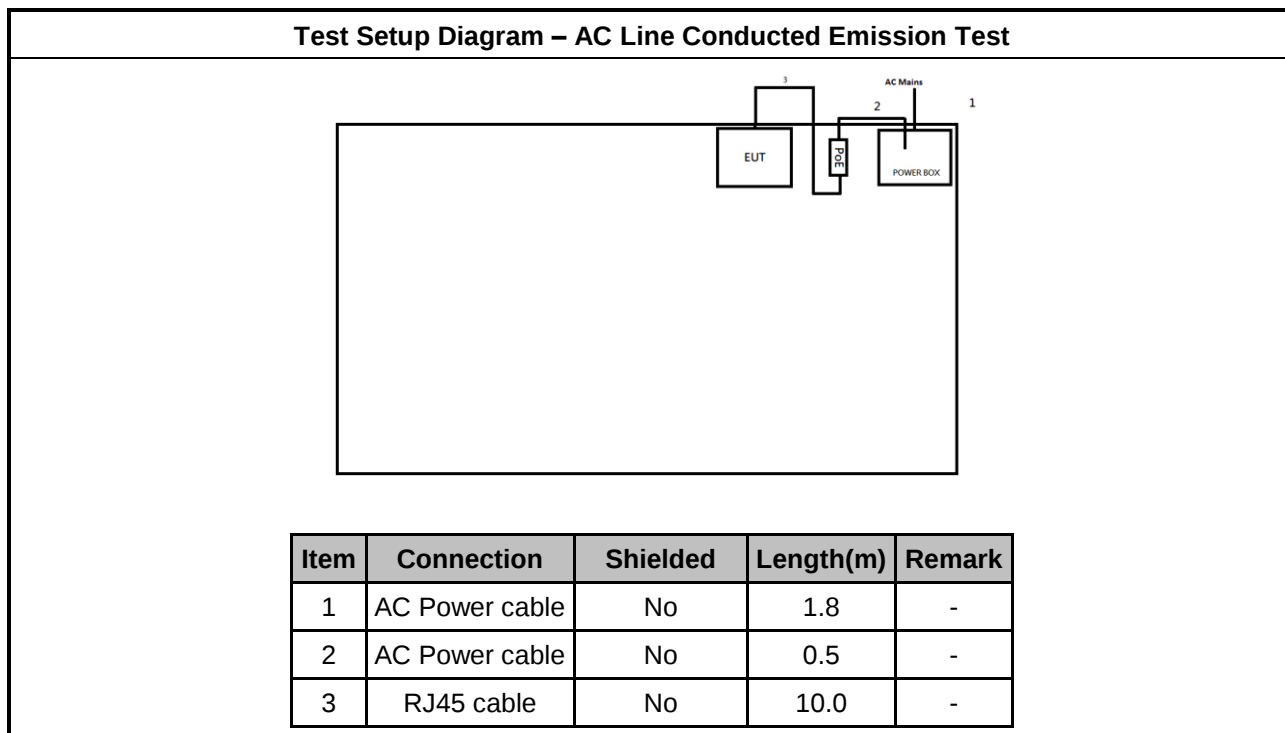
2.4 Support Equipment

Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	PoE	EnGenius	EPA5006GP	-	-

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	PoE	EnGenius	EPA5006GP	-	Remote
2	AC Power cable	Power Sync	PW-GPC180-3	-	-

2.5 Test Setup Diagram



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

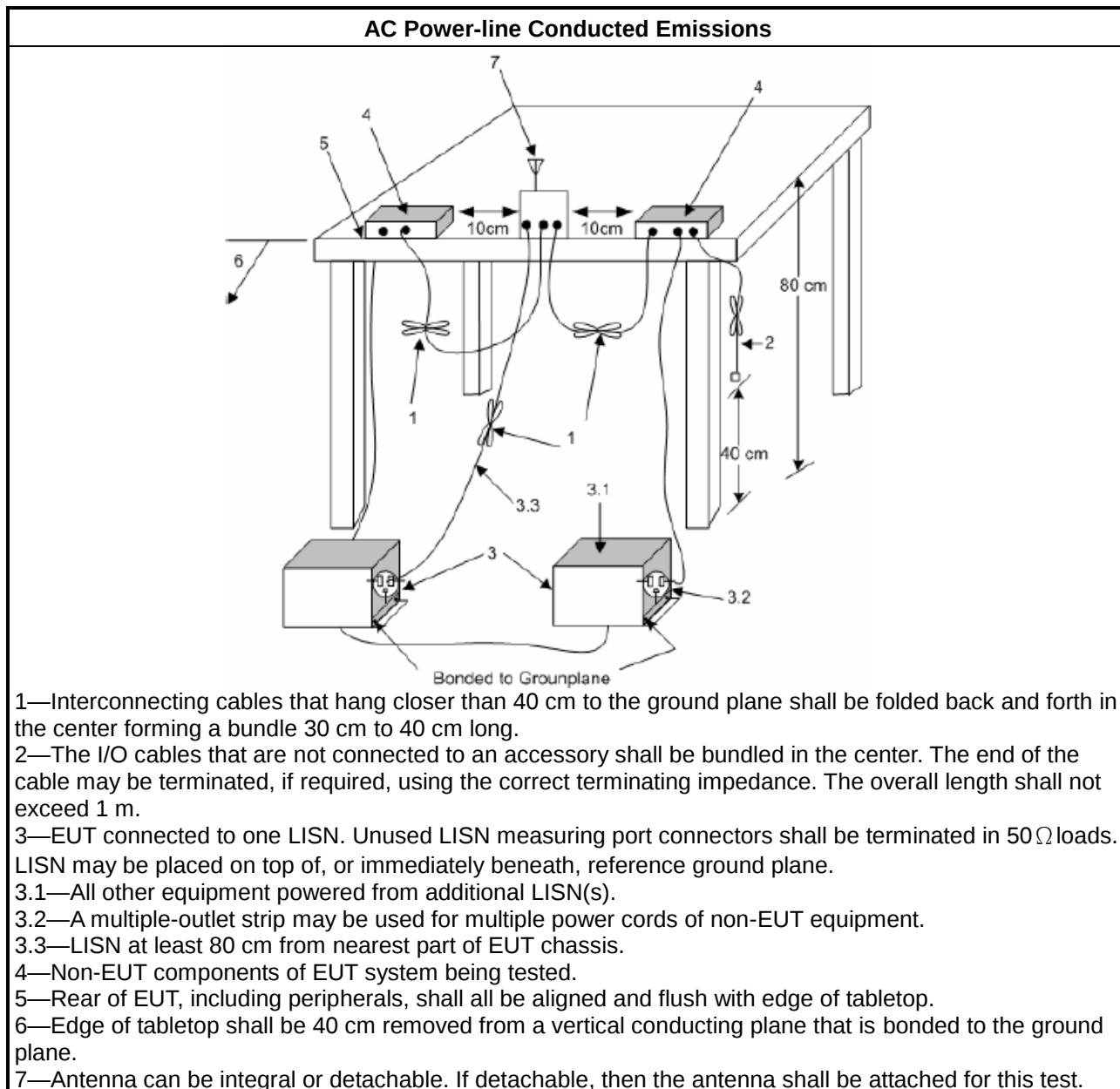
Test Method
Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:

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

3.1.5 Test Setup



3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

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

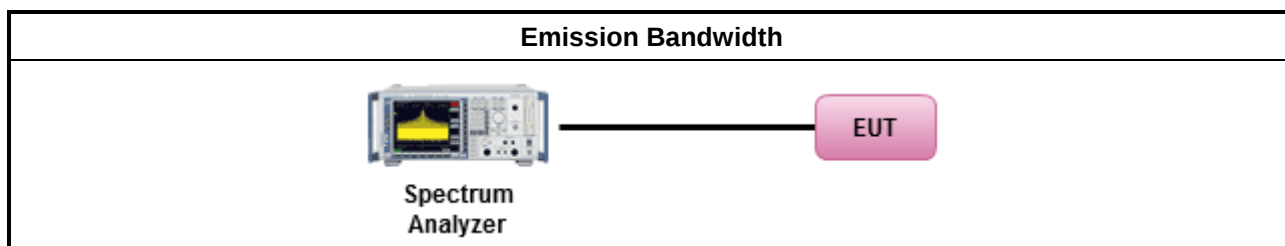
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪	For the emission bandwidth shall be measured using one of the options below:
☒	Refer as KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
☒	Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
☐	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
	If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	Smart antenna system (SAS):
	- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm
e.i.r.p. Power Limit:	
	2400-2483.5 MHz Band
	Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	Smart antenna system (SAS)
	- Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	- Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	- Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ dBm
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

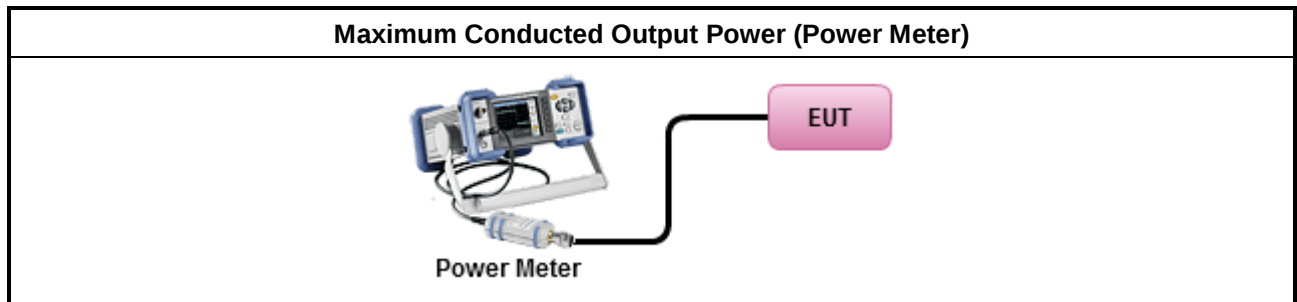
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Peak Conducted Output Power	
☐	Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
☐	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
☐	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
Maximum Average Conducted Output Power	
☐	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
☒	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.	
If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

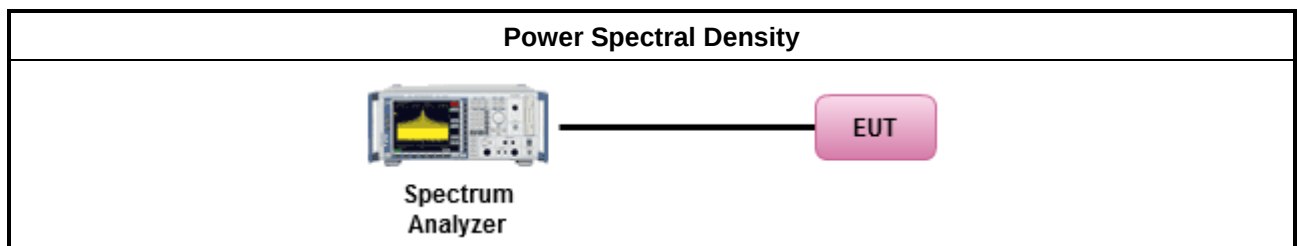
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method
Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
☒ Refer as KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Max. PSD.
For conducted measurement.
If The EUT supports multiple transmit chains using options given below:
Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dB)
Peak output power procedure	20
Average output power procedure	30
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak level. Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average level.	

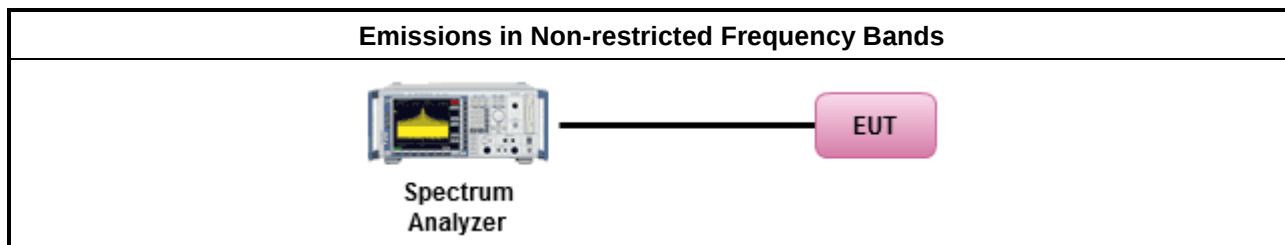
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

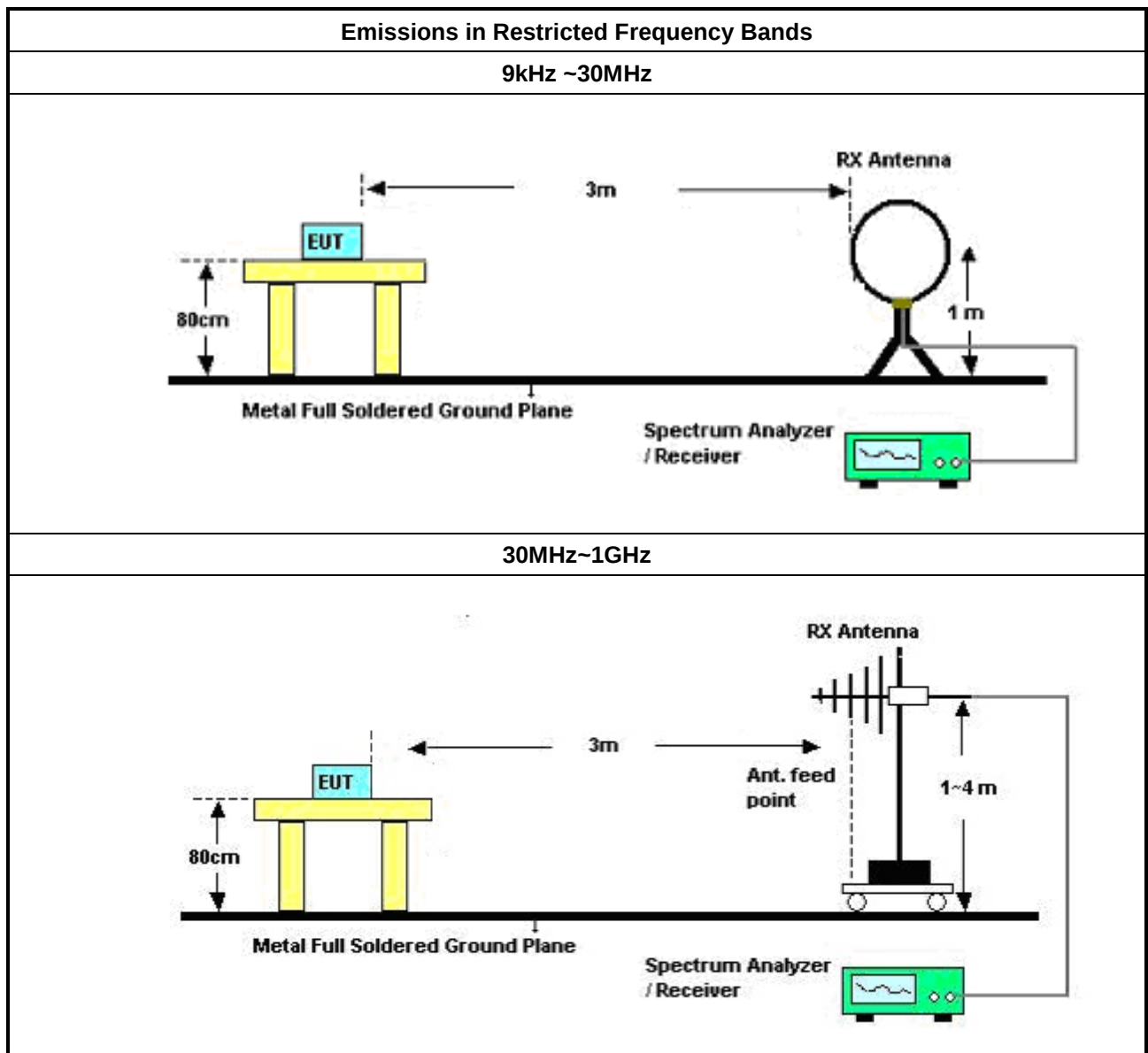
Test Method	
	- The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor]. - Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
	- For the transmitter unwanted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

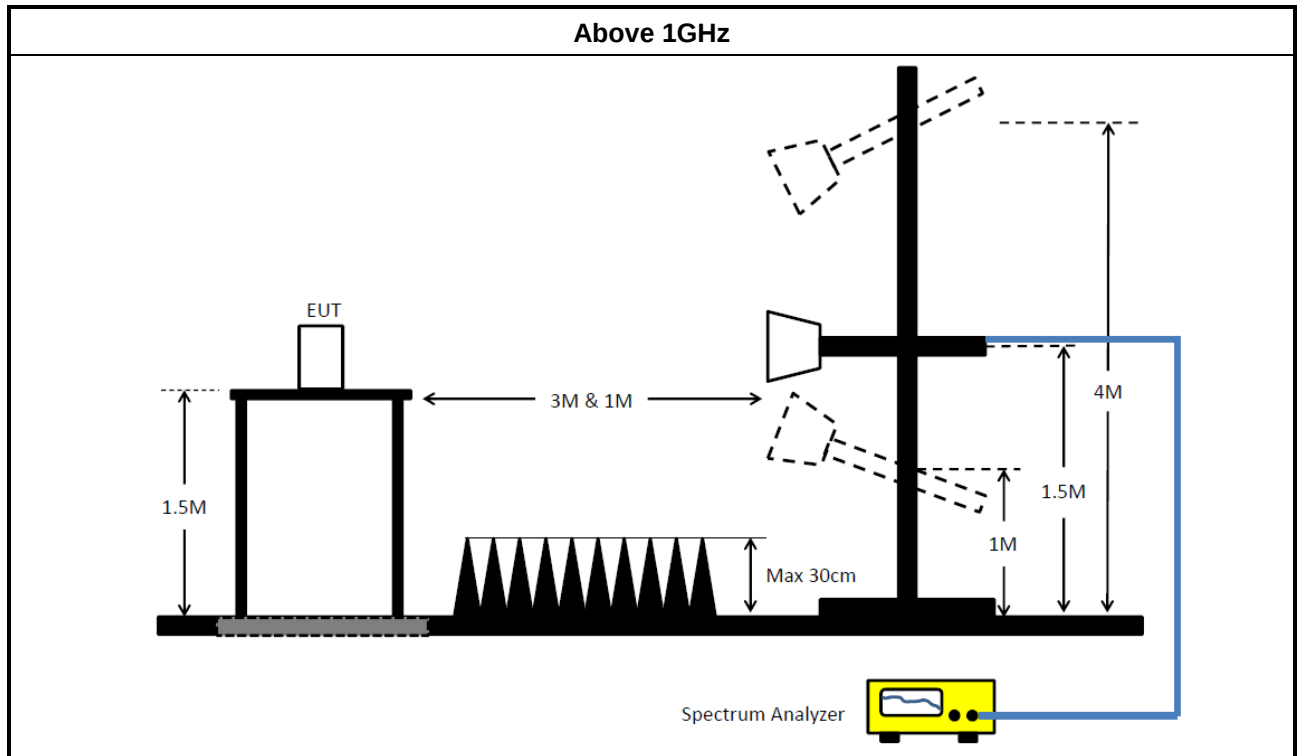
3.6.4 Measurement Results Calculation

The measured Level is calculated using:

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

3.6.5 Test Setup





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

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

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR	102051	9kHz ~ 3.6GHz	13/May/2022	12/May/2023
Two-Line V-Network	R&S	ENV 216	100003	9kHz ~ 30MHz	16/Feb/2023	15/Feb/2024
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	28/Feb/2023	27/Feb/2024
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	25/Oct/2022	24/Oct/2023
Software	Sporton	SENSE-EMI	V5.10.8.7	-	NCR	NCR

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	01/Apr/2022	31/Mar/2023
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	21/Oct/2022	20/Oct/2023
Pulse Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	15/Feb/2023	14/Feb/2024
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	15/Feb/2023	14/Feb/2024
SENSE-15247_DTS	Sporton	V5.10.8.8	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
Amplifier	EMC	EMC9135	980232	9kHz~1GHz	08/Apr/2022	07/Apr/2023
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz~26.5GHz	22/Jul/2022	21/Jul/2023
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D&MT J6102-05	35418 & 3	30MHz~1GHz	28/Aug/2022	27/Aug/2023
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1534	1GHz~18GHz	10/Mar/2022	09/Mar/2023
RF Cable-low	Jye Bao	RG142	03CH09-cable-01	9kHz~1GHz	21/Feb/2023	20/Feb/2024
RF CABLE 5m+3m+1m	HUBER+SUHNE R	SUCOFLEX104	03CH09-cable-02	1GHz~40GHz	17/Aug/2022	16/Aug/2023
RF CABLE 5m+3m+1m	HUBER+SUHNE R	SUCOFLEX104	03CH09-cable-02	1GHz~40GHz	21/Feb/2023	20/Feb/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz~40GHz	18/Mar/2022	17/Mar/2023
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	08/Mar/2022	07/Mar/2023
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	18/Mar/2022	17/Mar/2023
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	30/May/2022	29/May/2023
SENSE_15247_FS	Sporton	Sporton	V5.11	NA	NA	NA

**Instrument for Radiated Test (Co-location)**

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	02/Aug/2022	01/Aug/2023
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	26/Oct/2022	25/Oct/2023
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02267	1GHz ~18GHz	27/Sep/2022	26/Sep/2023
RF CABLE 5+6m	HUBER+SUHNER	SUOFLEX 104	03CH03-cable-01	1GHz~40GHz	27/Jul/2022	26/Jul/2023
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz~40GHz	18/Mar/2022	17/Mar/2023
Microwave Premplifier	Agilent	8449B	3008A02326	1GHz~26.5GHz	14/Jul/2022	13/Jul/2023
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	060874	18GHz ~ 40GHz	23/Aug/2022	22/Aug/2023
SENSE-15407	Sporton	NA	5.11	NA	NA	NA



Conducted Emissions at Powerline

Appendix A

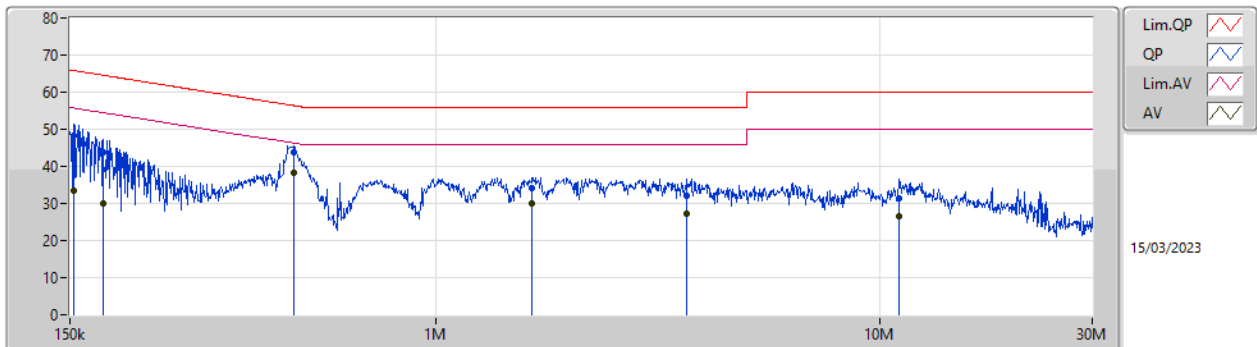
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	477.384k	38.12	46.38	-8.26	Line

Result

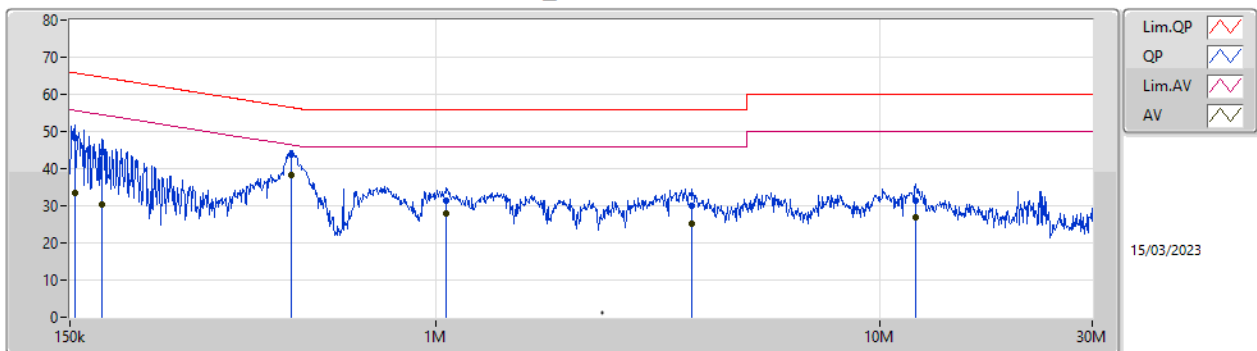
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	153.024k	48.41	65.83	-17.42	Line	-
Mode 1	Pass	AV	153.024k	33.29	55.83	-22.54	Line	-
Mode 1	Pass	QP	178.091k	43.63	64.57	-20.94	Line	-
Mode 1	Pass	AV	178.091k	29.92	54.57	-24.65	Line	-
Mode 1	Pass	QP	477.384k	43.90	56.38	-12.48	Line	-
Mode 1	Pass	AV	477.384k	38.12	46.38	-8.26	Line	-
Mode 1	Pass	QP	1.646M	33.98	56.00	-22.02	Line	-
Mode 1	Pass	AV	1.646M	30.00	46.00	-16.00	Line	-
Mode 1	Pass	QP	3.671M	32.00	56.00	-24.00	Line	-
Mode 1	Pass	AV	3.671M	27.19	46.00	-18.81	Line	-
Mode 1	Pass	QP	11.048M	31.21	60.00	-28.79	Line	-
Mode 1	Pass	AV	11.048M	26.47	50.00	-23.53	Line	-
Mode 1	Pass	QP	153.636k	48.35	65.81	-17.46	Neutral	-
Mode 1	Pass	AV	153.636k	33.62	55.81	-22.19	Neutral	-
Mode 1	Pass	QP	176.674k	44.47	64.64	-20.17	Neutral	-
Mode 1	Pass	AV	176.674k	30.41	54.64	-24.23	Neutral	-
Mode 1	Pass	QP	473.588k	43.70	56.46	-12.76	Neutral	-
Mode 1	Pass	AV	473.588k	38.17	46.46	-8.29	Neutral	-
Mode 1	Pass	QP	1.057M	31.22	56.00	-24.78	Neutral	-
Mode 1	Pass	AV	1.057M	27.80	46.00	-18.20	Neutral	-
Mode 1	Pass	QP	3.76M	30.03	56.00	-25.97	Neutral	-
Mode 1	Pass	AV	3.76M	25.06	46.00	-20.94	Neutral	-
Mode 1	Pass	QP	12.015M	31.53	60.00	-28.47	Neutral	-
Mode 1	Pass	AV	12.015M	26.79	50.00	-23.21	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	153.024k	48.41	65.83	-17.42	19.61	Line	-	28.80	9.65	0.03	9.93			
AV	153.024k	33.29	55.83	-22.54	19.61	Line	-	13.68	9.65	0.03	9.93			
QP	178.091k	43.63	64.57	-20.94	19.61	Line	-	24.02	9.65	0.03	9.93			
AV	178.091k	29.92	54.57	-24.65	19.61	Line	-	10.31	9.65	0.03	9.93			
QP	477.384k	43.90	56.38	-12.48	19.64	Line	-	24.26	9.64	0.04	9.96			
AV	477.384k	38.12	46.38	-8.26	19.64	Line	-	18.48	9.64	0.04	9.96			
QP	1.646M	33.98	56.00	-22.02	19.68	Line	-	14.30	9.67	0.07	9.94			
AV	1.646M	30.00	46.00	-16.00	19.68	Line	-	10.32	9.67	0.07	9.94			
QP	3.671M	32.00	56.00	-24.00	19.75	Line	-	12.25	9.70	0.12	9.93			
AV	3.671M	27.19	46.00	-18.81	19.75	Line	-	7.44	9.70	0.12	9.93			
QP	11.048M	31.21	60.00	-28.79	19.95	Line	-	11.26	9.80	0.19	9.96			
AV	11.048M	26.47	50.00	-23.53	19.95	Line	-	6.52	9.80	0.19	9.96			

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	153.636k	48.35	65.81	-17.46	19.59	Neutral	-	28.76	9.63	0.03	9.93			
AV	153.636k	33.62	55.81	-22.19	19.59	Neutral	-	14.03	9.63	0.03	9.93			
QP	176.674k	44.47	64.64	-20.17	19.58	Neutral	-	24.89	9.62	0.03	9.93			
AV	176.674k	30.41	54.64	-24.23	19.58	Neutral	-	10.83	9.62	0.03	9.93			
QP	473.588k	43.70	56.46	-12.76	19.63	Neutral	-	24.07	9.63	0.04	9.96			
AV	473.588k	38.17	46.46	-8.29	19.63	Neutral	-	18.54	9.63	0.04	9.96			
QP	1.057M	31.22	56.00	-24.78	19.64	Neutral	-	11.58	9.65	0.05	9.94			
AV	1.057M	27.80	46.00	-18.20	19.64	Neutral	-	8.16	9.65	0.05	9.94			
QP	3.76M	30.03	56.00	-25.97	19.74	Neutral	-	10.29	9.68	0.13	9.93			
AV	3.76M	25.06	46.00	-20.94	19.74	Neutral	-	5.32	9.68	0.13	9.93			
QP	12.015M	31.53	60.00	-28.47	20.02	Neutral	-	11.51	9.85	0.21	9.96			
AV	12.015M	26.79	50.00	-23.21	20.02	Neutral	-	6.77	9.85	0.21	9.96			

**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)	681.25k	1.026M	1M03F1D	677.5k	1.024M
BT-LE(125kbps)	625k	1.052M	1M05F1D	622.5k	1.048M
BT-LE(500kbps)	658.75k	1.014M	1M01F1D	657.5k	1.012M
BT-LE(2Mbps)	1.153M	2.019M	2M02F1D	1.148M	2.011M

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

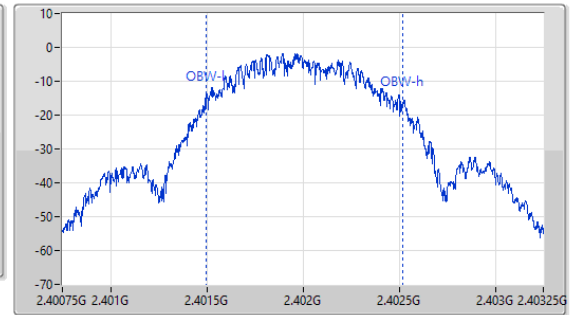
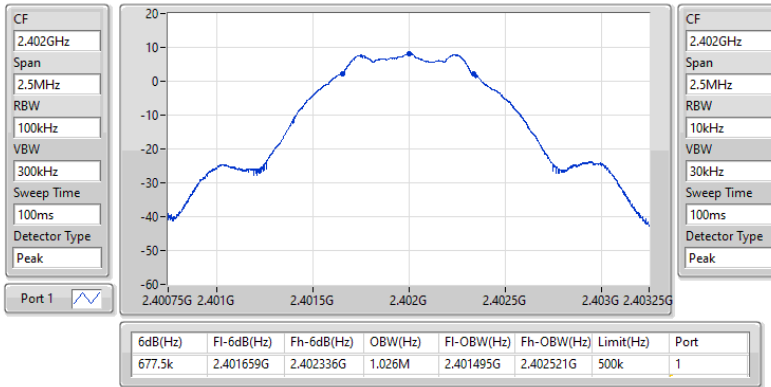
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	677.5k	1.026M
2440MHz	Pass	500k	678.75k	1.024M
2480MHz	Pass	500k	681.25k	1.024M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.148M	2.011M
2440MHz	Pass	500k	1.153M	2.019M
2480MHz	Pass	500k	1.153M	2.019M
BT-LE(125kbps)	-	-	-	-
2402MHz	Pass	500k	625k	1.048M
2440MHz	Pass	500k	622.5k	1.048M
2480MHz	Pass	500k	625k	1.052M
BT-LE(500kbps)	-	-	-	-
2402MHz	Pass	500k	658.75k	1.012M
2440MHz	Pass	500k	657.5k	1.012M
2480MHz	Pass	500k	658.75k	1.014M

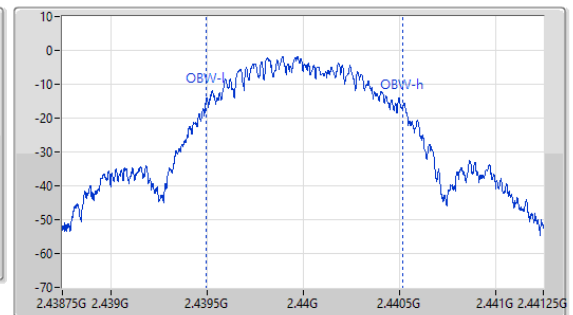
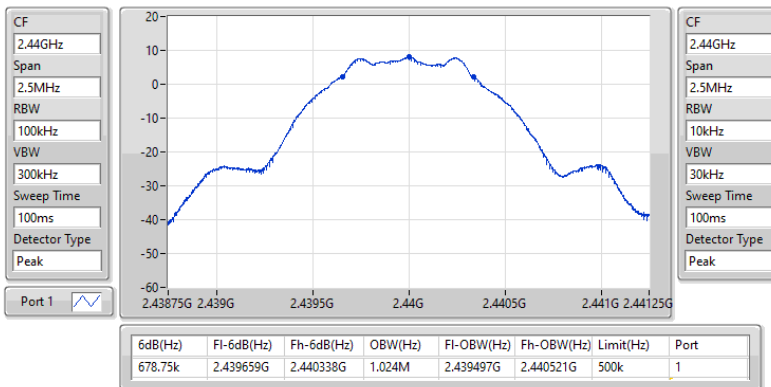
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

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

06/03/2023


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

06/03/2023

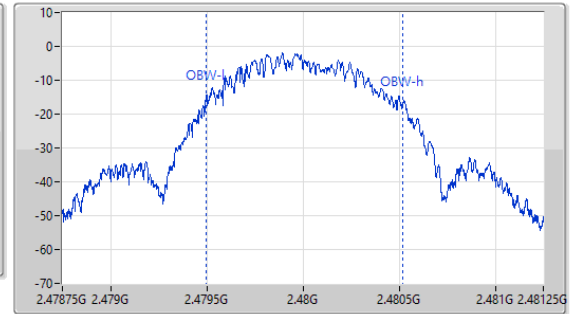
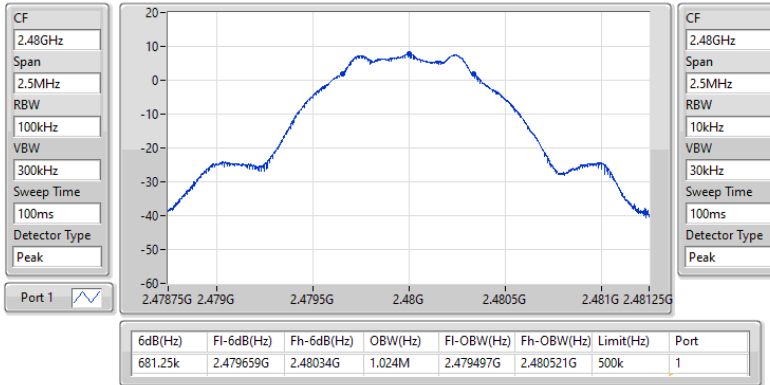


2.4-2.4835GHz_BT-LE(1Mbps)

EBW-DTS

2480MHz

06/03/2023

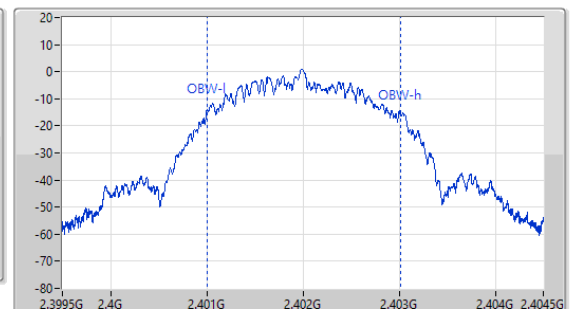
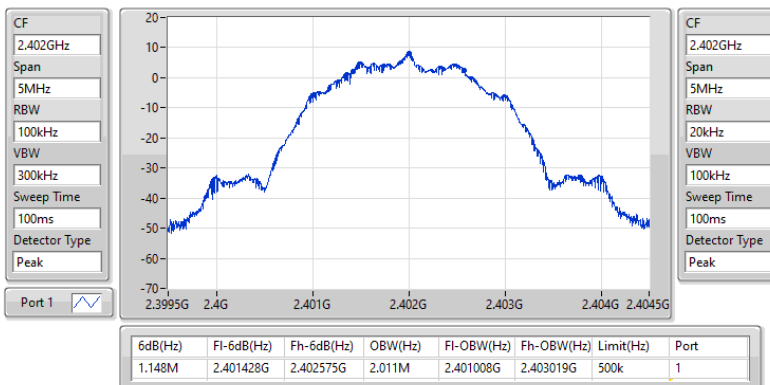


2.4-2.4835GHz_BT-LE(2Mbps)

EBW-DTS

2402MHz

06/03/2023

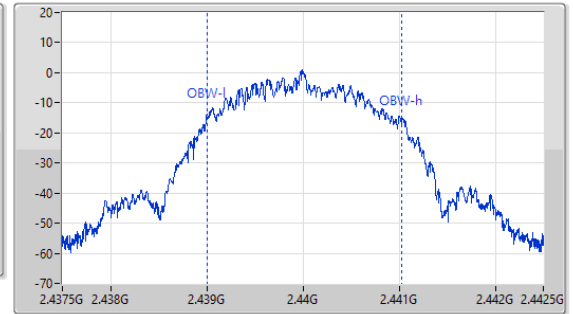
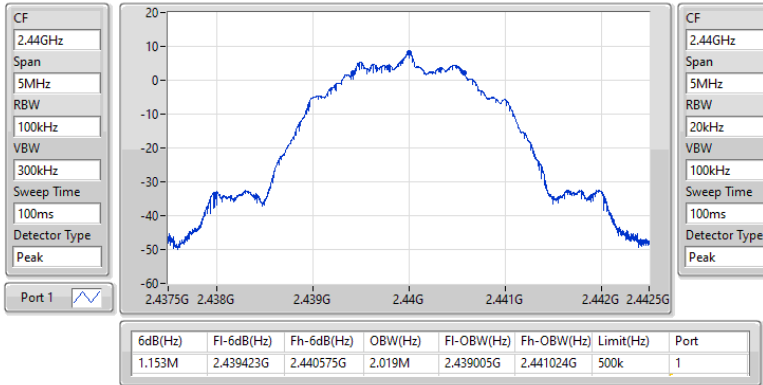


2.4-2.4835GHz_BT-LE(2Mbps)

EBW-DTS

2440MHz

06/03/2023

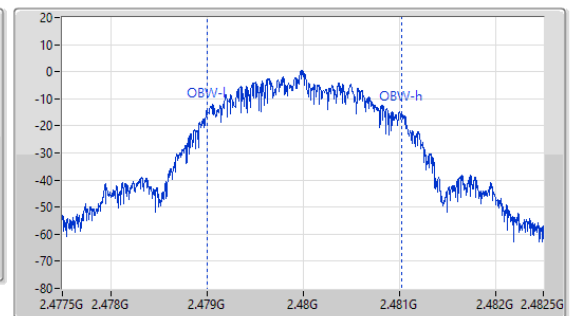
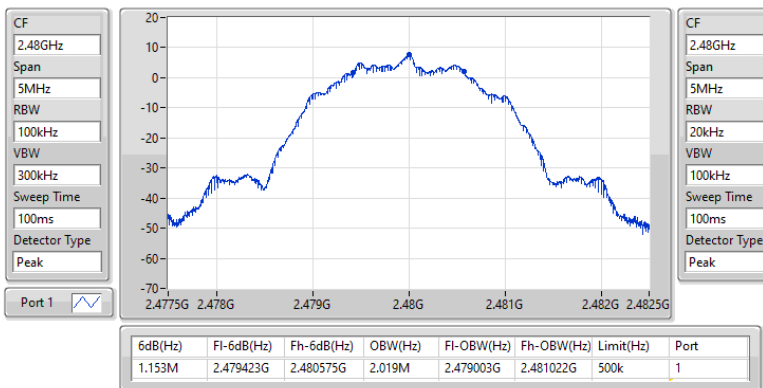


2.4-2.4835GHz_BT-LE(2Mbps)

EBW-DTS

2480MHz

07/03/2023

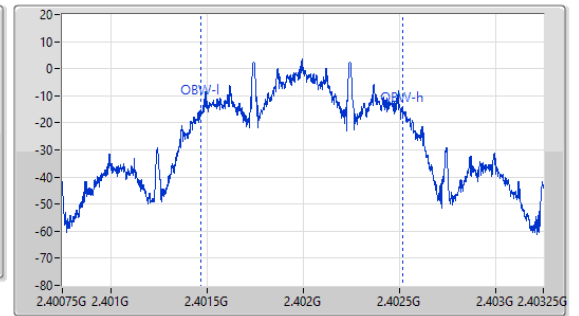
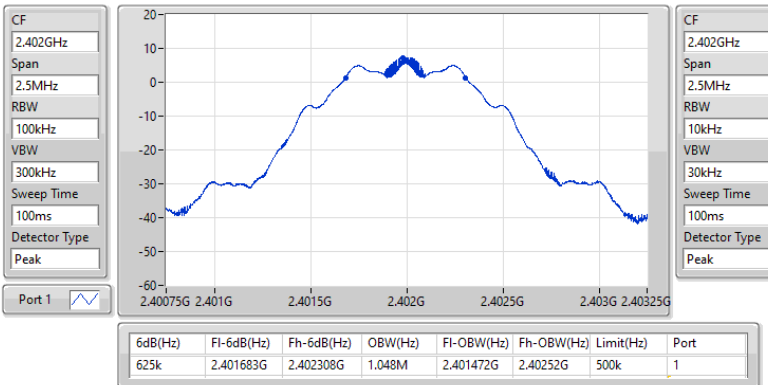


2.4-2.4835GHz_BT-LE(125kbps)

EBW-DTS

2402MHz

06/03/2023

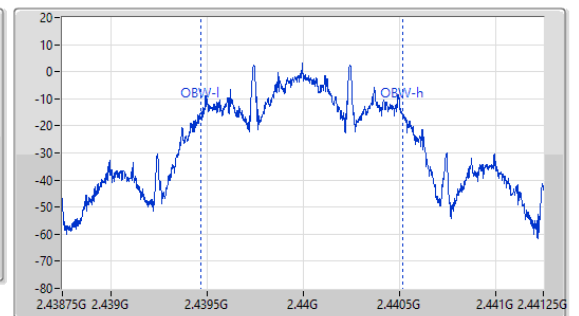
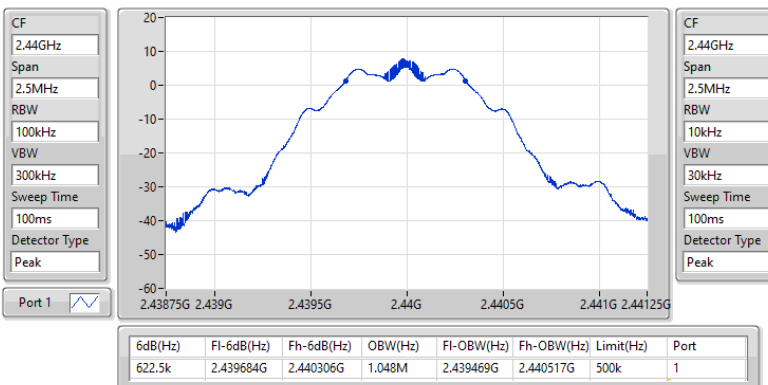


2.4-2.4835GHz_BT-LE(125kbps)

EBW-DTS

2440MHz

06/03/2023

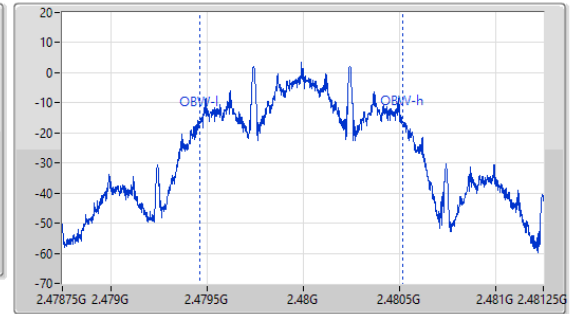
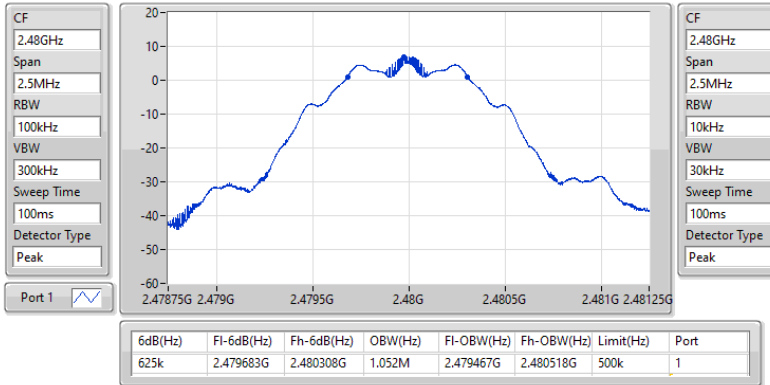


2.4-2.4835GHz_BT-LE(125kbps)

EBW-DTS

2480MHz

06/03/2023

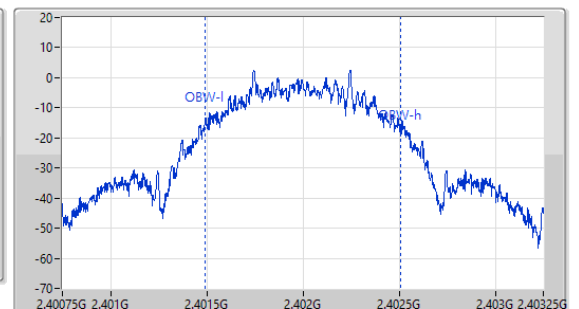
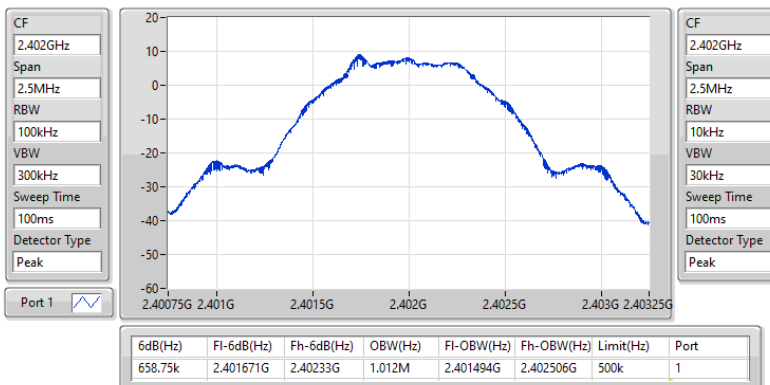


2.4-2.4835GHz_BT-LE(500kbps)

EBW-DTS

2402MHz

06/03/2023

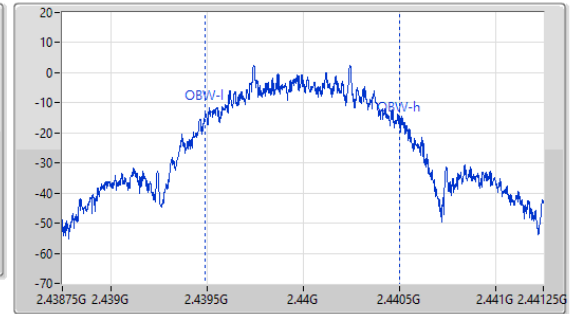
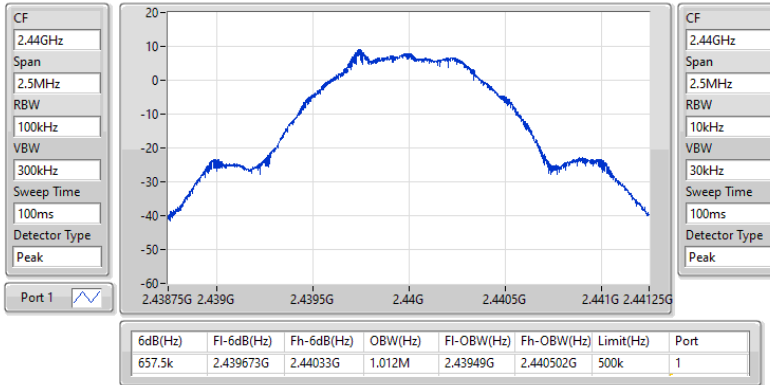


2.4-2.4835GHz_BT-LE(500kbps)

EBW-DTS

2440MHz

06/03/2023

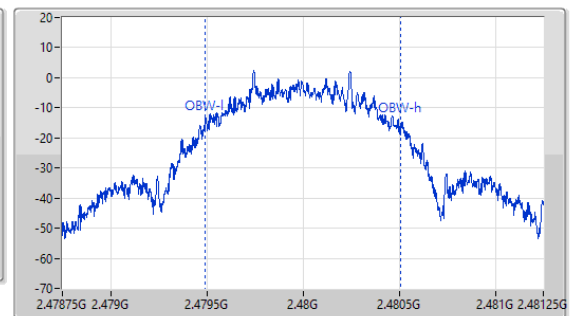
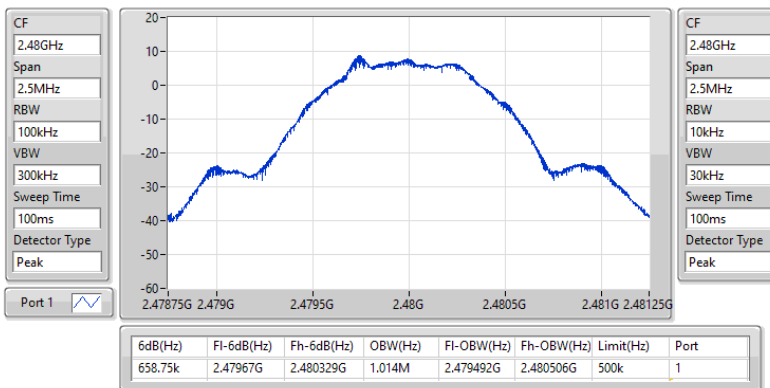


2.4-2.4835GHz_BT-LE(500kbps)

EBW-DTS

2480MHz

06/03/2023





Summary

Mode	Total Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	8.35	0.00684
BT-LE(125kbps)	8.49	0.00706
BT-LE(500kbps)	8.48	0.00705
BT-LE(2Mbps)	8.20	0.00661

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.70	8.35	30.00
2440MHz	Pass	2.70	8.15	30.00
2480MHz	Pass	2.70	7.91	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	2.70	8.20	30.00
2440MHz	Pass	2.70	8.06	30.00
2480MHz	Pass	2.70	7.78	30.00
BT-LE(125kbps)	-	-	-	-
2402MHz	Pass	2.70	8.49	30.00
2440MHz	Pass	2.70	8.31	30.00
2480MHz	Pass	2.70	8.05	30.00
BT-LE(500kbps)	-	-	-	-
2402MHz	Pass	2.70	8.48	30.00
2440MHz	Pass	2.70	8.30	30.00
2480MHz	Pass	2.70	8.03	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-6.47
BT-LE(125kbps)	2.46
BT-LE(500kbps)	1.67
BT-LE(2Mbps)	-9.03

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.70	-6.47	8.00
2440MHz	Pass	2.70	-6.82	8.00
2480MHz	Pass	2.70	-7.94	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	2.70	-9.03	8.00
2440MHz	Pass	2.70	-9.24	8.00
2480MHz	Pass	2.70	-9.44	8.00
BT-LE(125kbps)	-	-	-	-
2402MHz	Pass	2.70	2.46	8.00
2440MHz	Pass	2.70	2.36	8.00
2480MHz	Pass	2.70	2.09	8.00
BT-LE(500kbps)	-	-	-	-
2402MHz	Pass	2.70	1.59	8.00
2440MHz	Pass	2.70	1.25	8.00
2480MHz	Pass	2.70	1.67	8.00

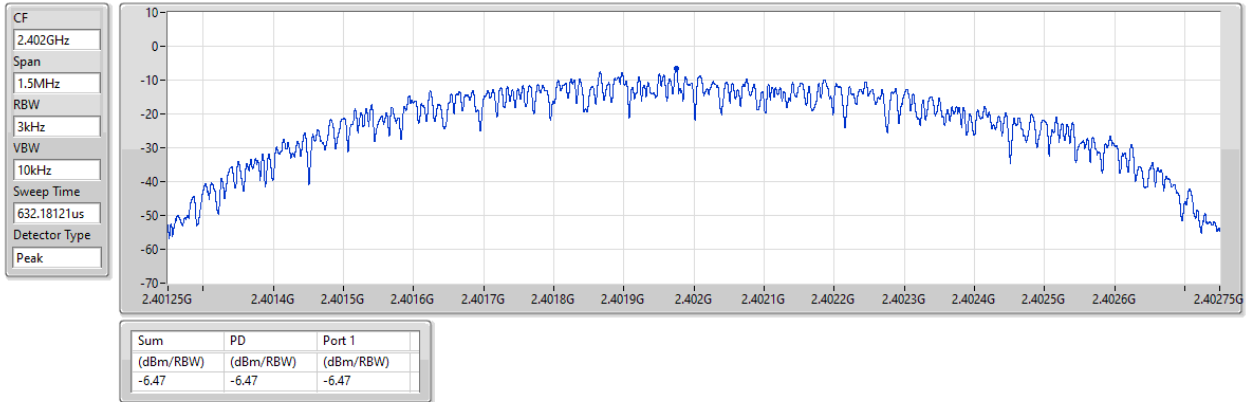
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

2.4-2.4835GHz_BT-LE(1Mbps)

PSD

2402MHz

06/03/2023

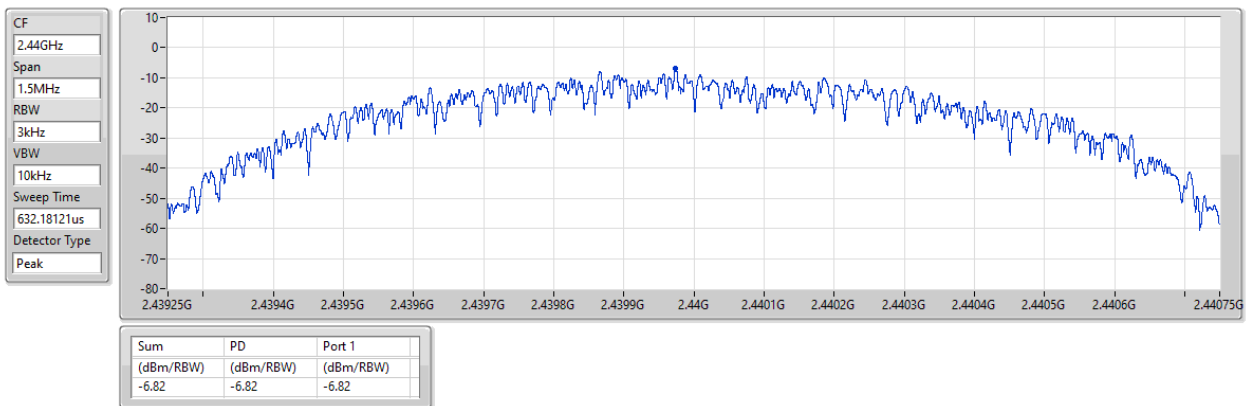


2.4-2.4835GHz_BT-LE(1Mbps)

PSD

2440MHz

06/03/2023

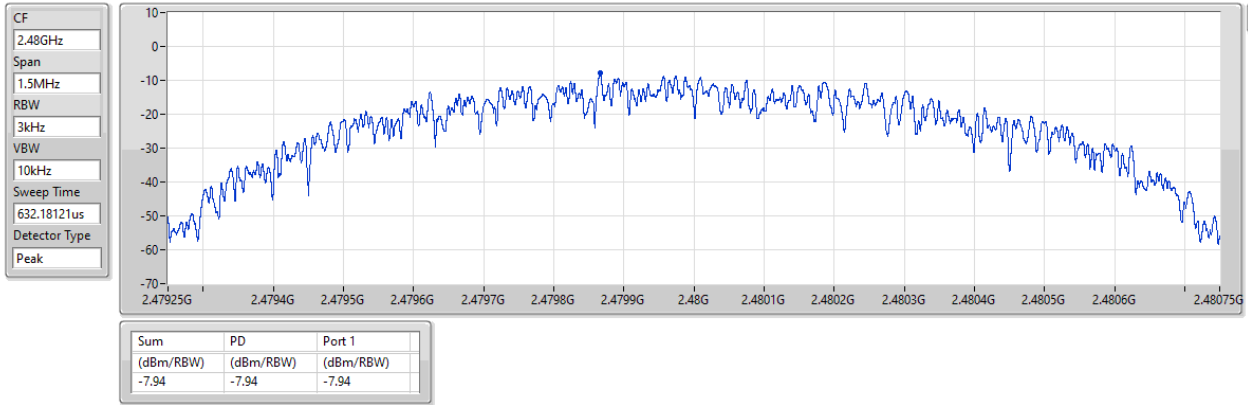


2.4-2.4835GHz_BT-LE(1Mbps)

PSD

2480MHz

06/03/2023

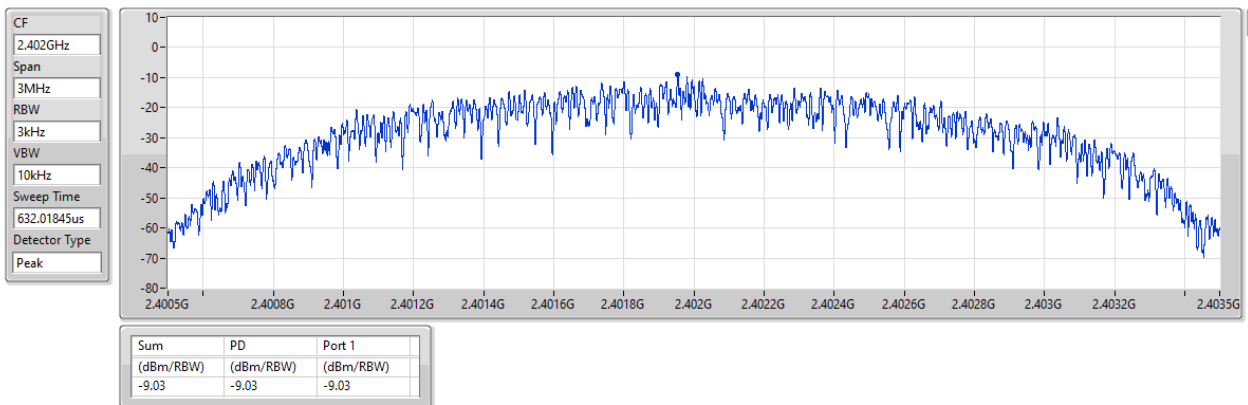


2.4-2.4835GHz_BT-LE(2Mbps)

PSD

2402MHz

06/03/2023

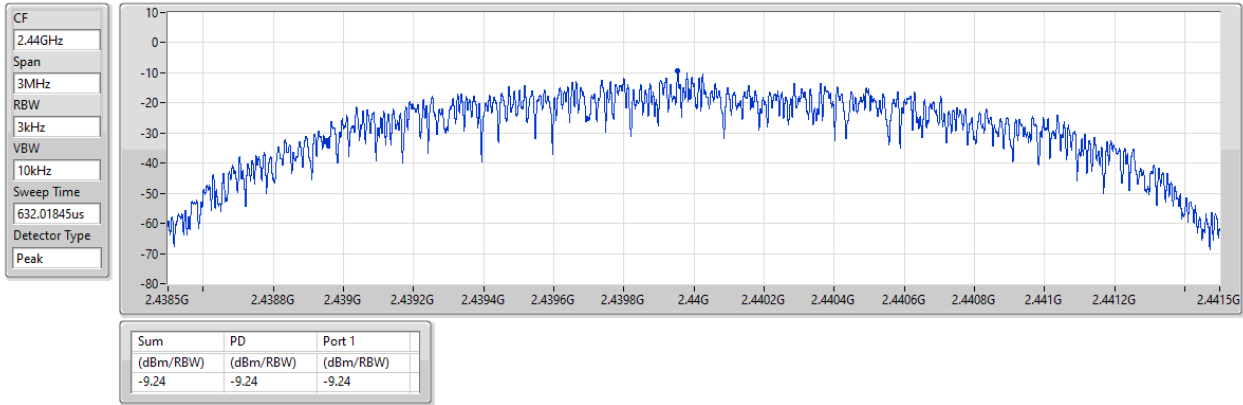


2.4-2.4835GHz_BT-LE(2Mbps)

PSD

2440MHz

06/03/2023

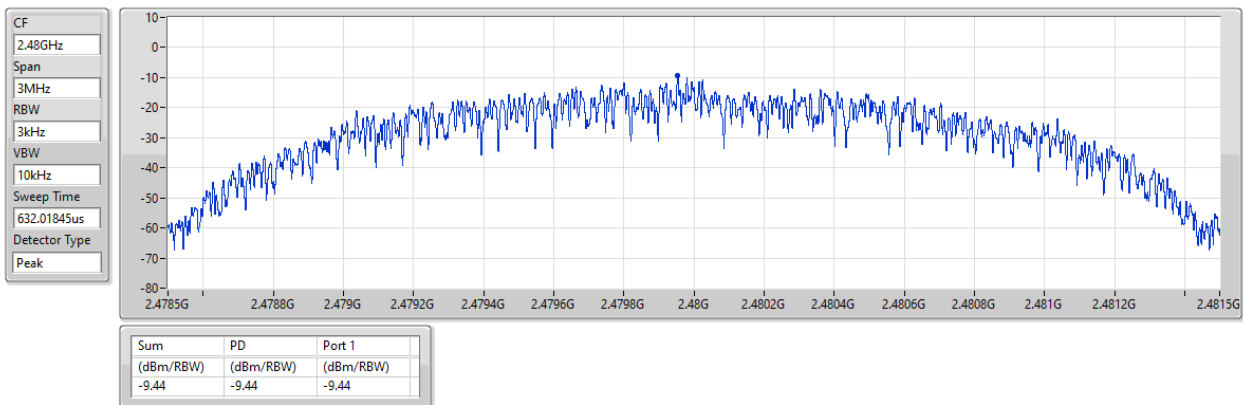


2.4-2.4835GHz_BT-LE(2Mbps)

PSD

2480MHz

06/03/2023

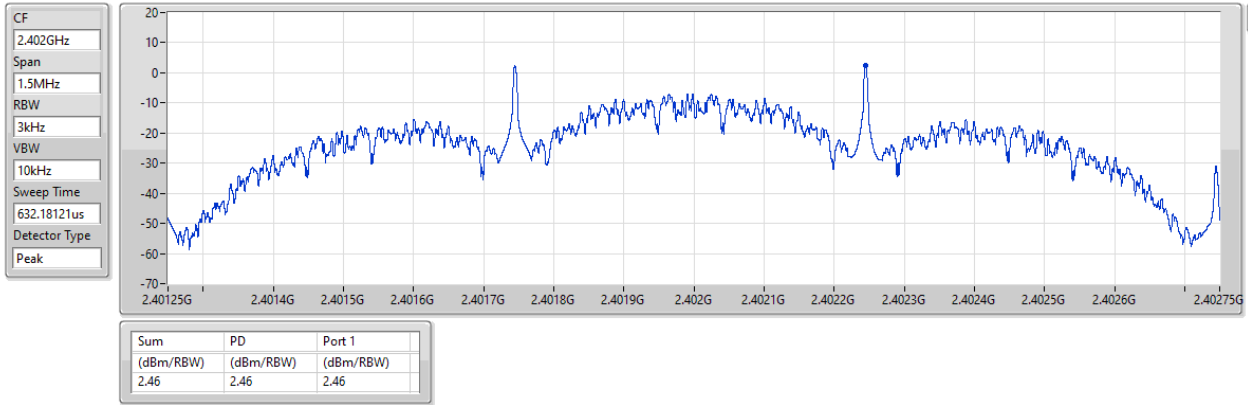


2.4-2.4835GHz_BT-LE(125kbps)

PSD

2402MHz

06/03/2023

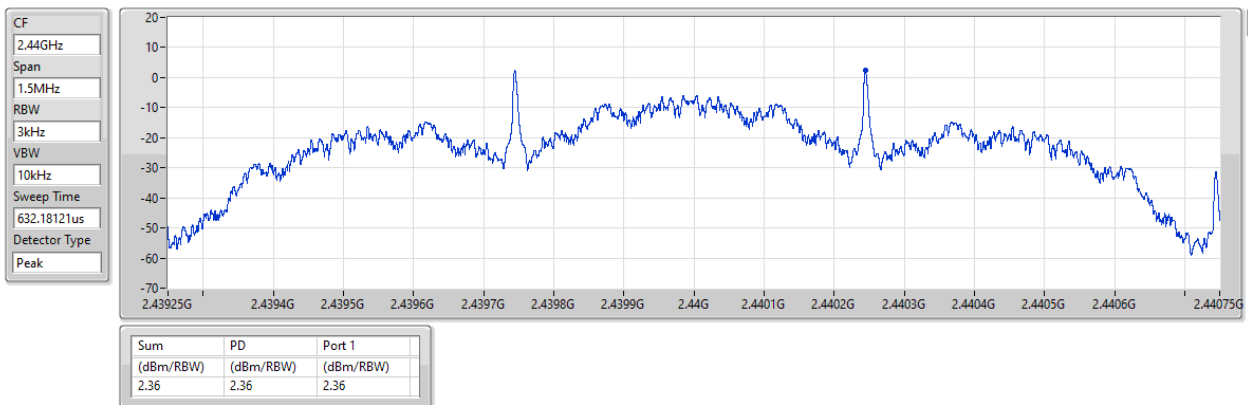


2.4-2.4835GHz_BT-LE(125kbps)

PSD

2440MHz

06/03/2023

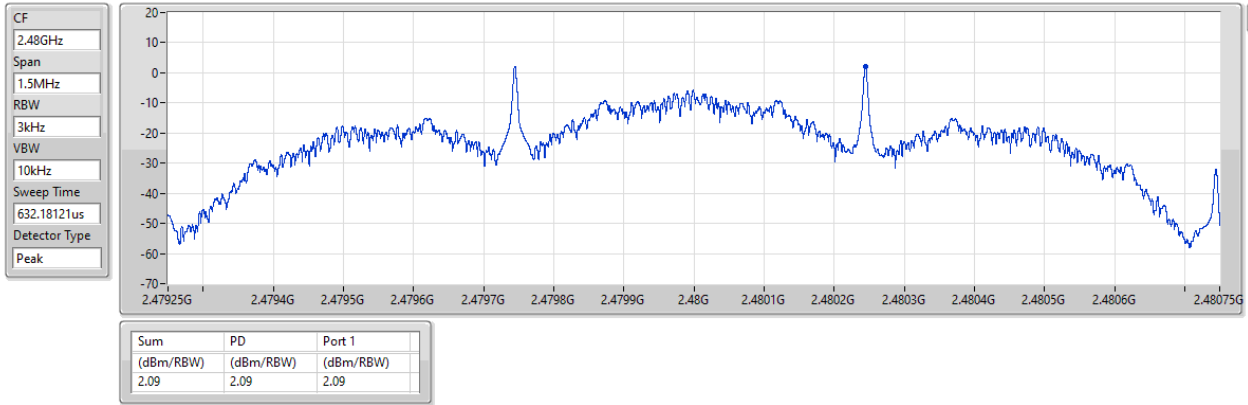


2.4-2.4835GHz_BT-LE(125kbps)

PSD

2480MHz

06/03/2023

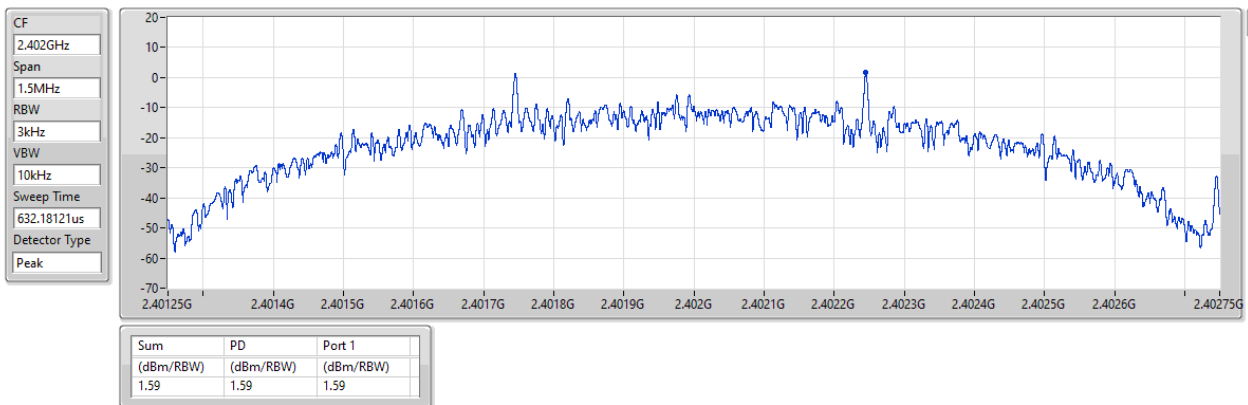


2.4-2.4835GHz_BT-LE(500kbps)

PSD

2402MHz

06/03/2023

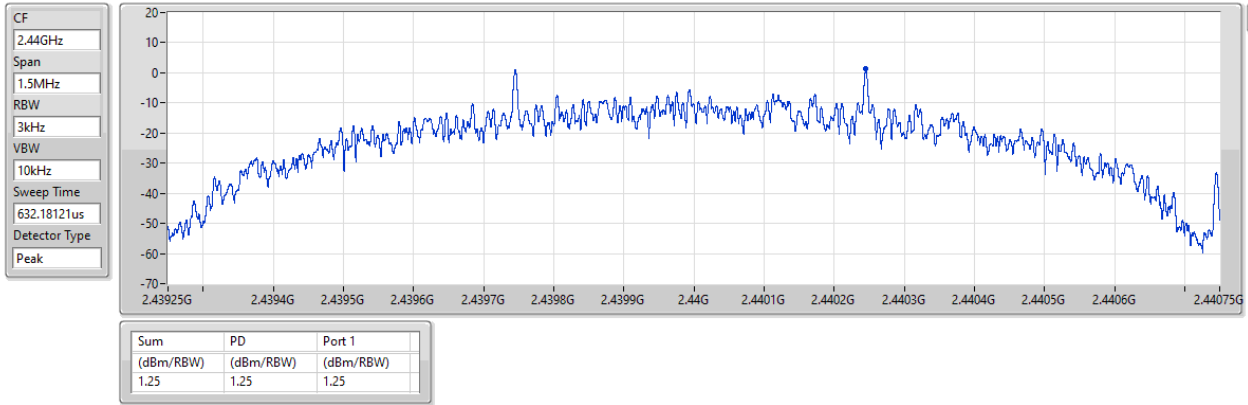


2.4-2.4835GHz_BT-LE(500kbps)

PSD

2440MHz

06/03/2023

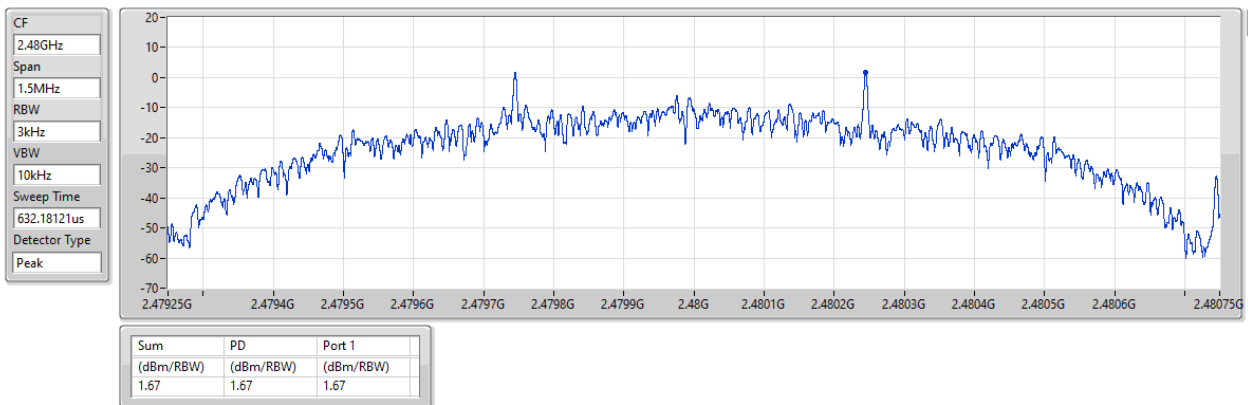


2.4-2.4835GHz_BT-LE(500kbps)

PSD

2480MHz

06/03/2023





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	8.11	-21.89	2.1074G	-54.58	2.39984G	-50.58	2.4G	-49.42	2.50074G	-53.06	24.2998G	-42.55	1
BT-LE(125kbps)	Pass	2.402G	7.06	-22.94	2.30715G	-54.59	2.4G	-51.81	2.4G	-50.48	2.50114G	-52.64	24.96063G	-42.70	1
BT-LE(500kbps)	Pass	2.40167G	7.98	-22.02	2.13325G	-54.75	2.3998G	-51.46	2.4G	-48.82	2.50274G	-53.66	17.59022G	-42.60	1
BT-LE(2Mbps)	Pass	2.402G	8.08	-21.92	2.30598G	-54.51	2.4G	-32.97	2.4G	-33.35	2.50114G	-52.07	15.21402G	-42.60	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	8.11	-21.89	2.1074G	-54.58	2.39984G	-50.58	2.4G	-49.42	2.50074G	-53.06	24.2998G	-42.55	1
2440MHz	Pass	2.40184G	8.11	-21.89	2.18378G	-54.84	2.39624G	-53.18	2.4G	-55.89	2.50302G	-52.07	24.8594G	-42.53	1
2480MHz	Pass	2.40184G	8.11	-21.89	2.1309G	-53.39	2.39016G	-52.95	2.4G	-55.13	2.50246G	-52.25	15.17465G	-42.65	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	8.08	-21.92	2.30598G	-54.51	2.4G	-32.97	2.4G	-33.35	2.50114G	-52.07	15.21402G	-42.60	1
2440MHz	Pass	2.402G	8.08	-21.92	2.11915G	-53.97	2.3992G	-53.86	2.4G	-56.09	2.50114G	-52.92	24.65693G	-42.49	1
2480MHz	Pass	2.402G	8.08	-21.92	1.9382G	-54.41	2.39996G	-53.96	2.4G	-54.73	2.50106G	-52.67	15.23371G	-42.34	1
BT-LE(125kbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	7.06	-22.94	2.30715G	-54.59	2.4G	-51.81	2.4G	-50.48	2.50114G	-52.64	24.96063G	-42.70	1
2440MHz	Pass	2.402G	7.06	-22.94	2.30715G	-54.18	2.39144G	-52.77	2.4G	-56.18	2.5035G	-53.49	15.27026G	-42.46	1
2480MHz	Pass	2.402G	7.06	-22.94	1.9476G	-54.50	2.39684G	-53.40	2.4G	-54.86	2.50114G	-53.25	24.75535G	-41.19	1
BT-LE(500kbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40167G	7.98	-22.02	2.13325G	-54.75	2.3998G	-51.46	2.4G	-48.82	2.50274G	-53.66	17.59022G	-42.60	1
2440MHz	Pass	2.40167G	7.98	-22.02	287.33M	-54.58	2.39184G	-51.72	2.4G	-55.08	2.50314G	-52.95	15.21965G	-42.05	1
2480MHz	Pass	2.40167G	7.98	-22.02	2.08038G	-54.33	2.393G	-53.55	2.4G	-56.68	2.50138G	-53.17	23.29027G	-42.40	1

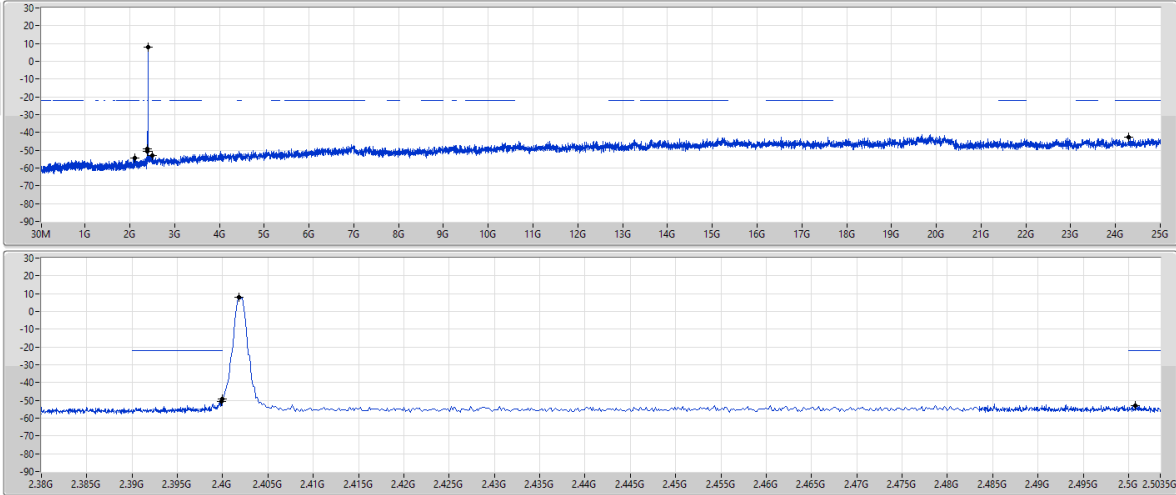
2.4-2.4835GHz_BT-LE(1Mbps)

CSEndB-DTS

2402MHz

06/03/2023

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	8.11	-21.89	2.1074G	-54.58	2.39984G	-50.58	2.4G	-49.42	2.50074G	-53.06	2.42998G	-42.55	1

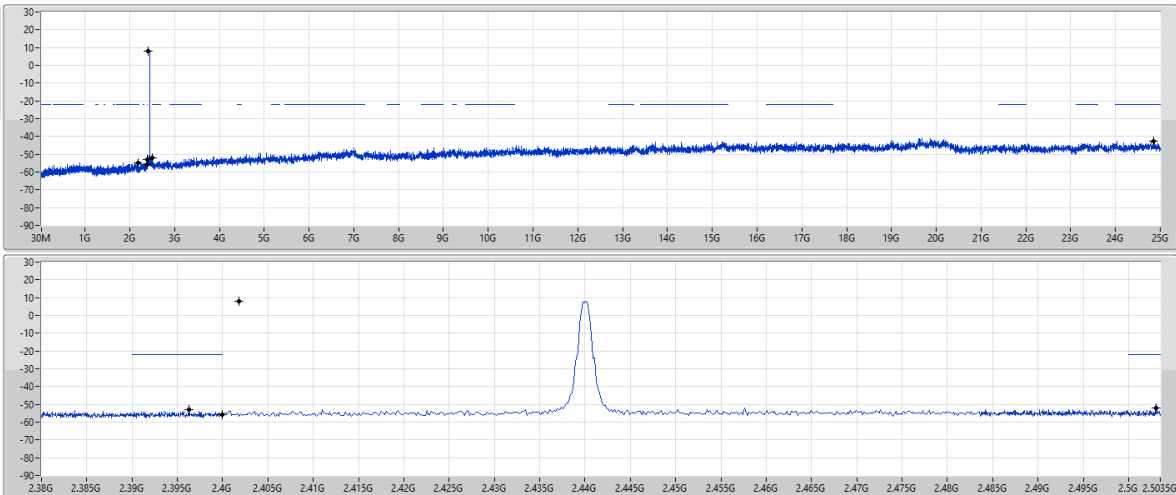
2.4-2.4835GHz_BT-LE(1Mbps)

CSEndB-DTS

2440MHz

06/03/2023

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

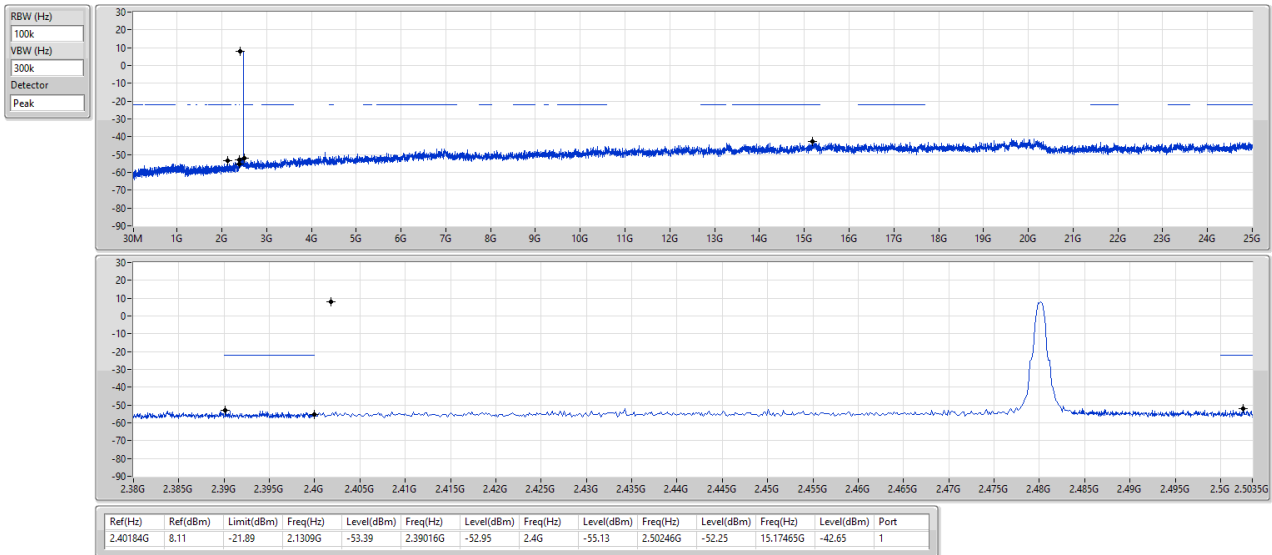


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40184G	8.11	-21.89	2.18378G	-54.84	2.39624G	-53.18	2.4G	-55.89	2.50302G	-52.07	2.48594G	-42.53	1

2.4-2.4835GHz_BT-LE(1Mbps)

CSEndB-DTS

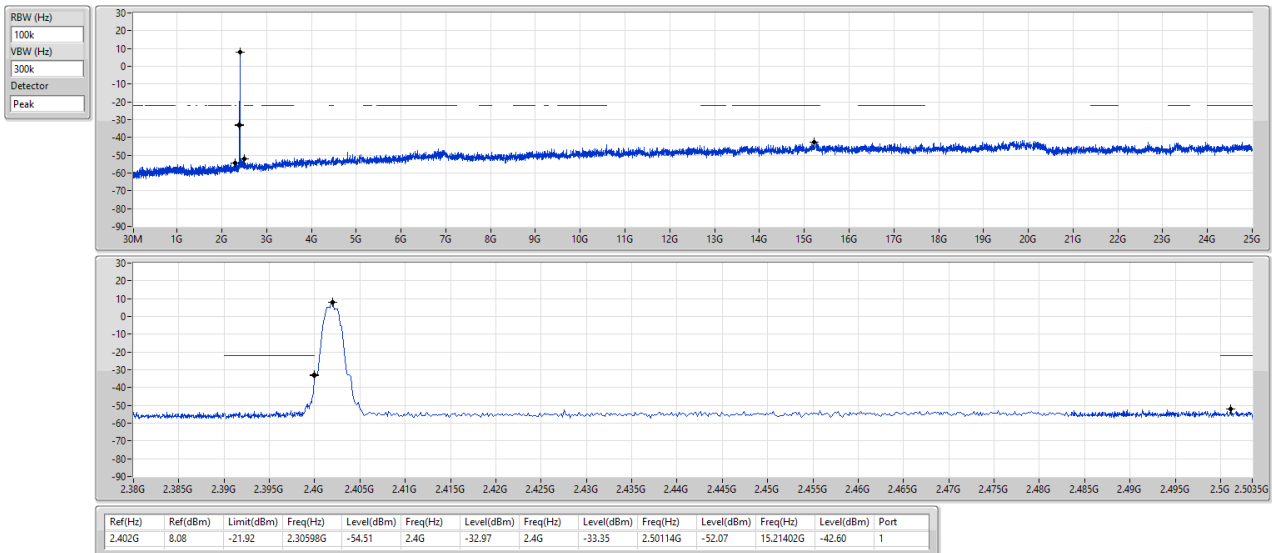
2480MHz



2.4-2.4835GHz_BT-LE(2Mbps)

CSEndB-DTS

2402MHz

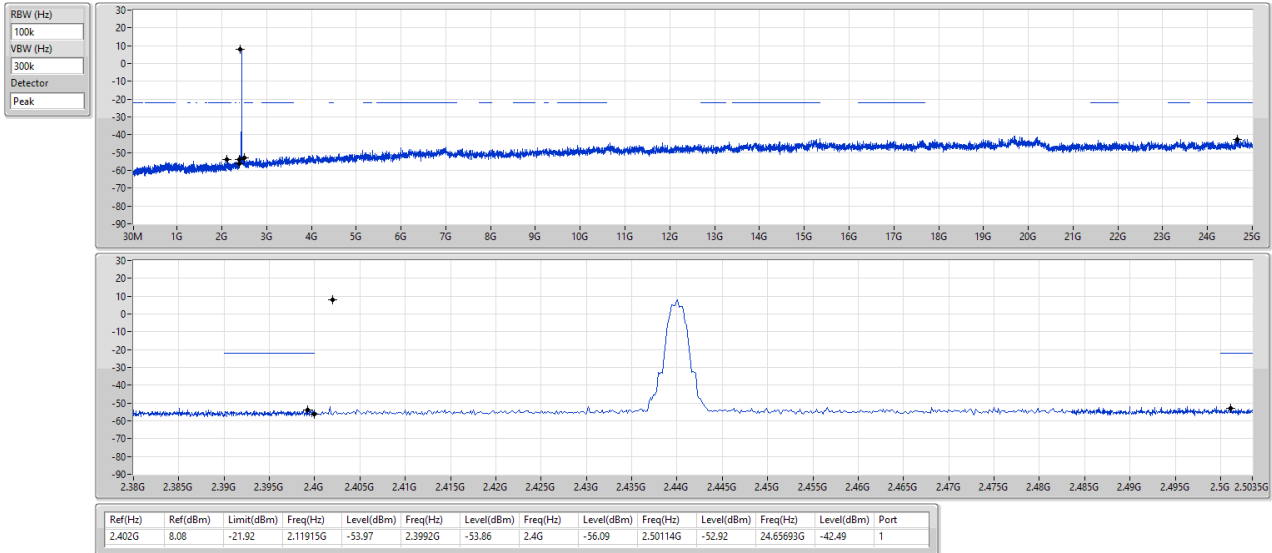


2.4-2.4835GHz_BT-LE(2Mbps)

CSEndB-DTS

2440MHz

06/03/2023

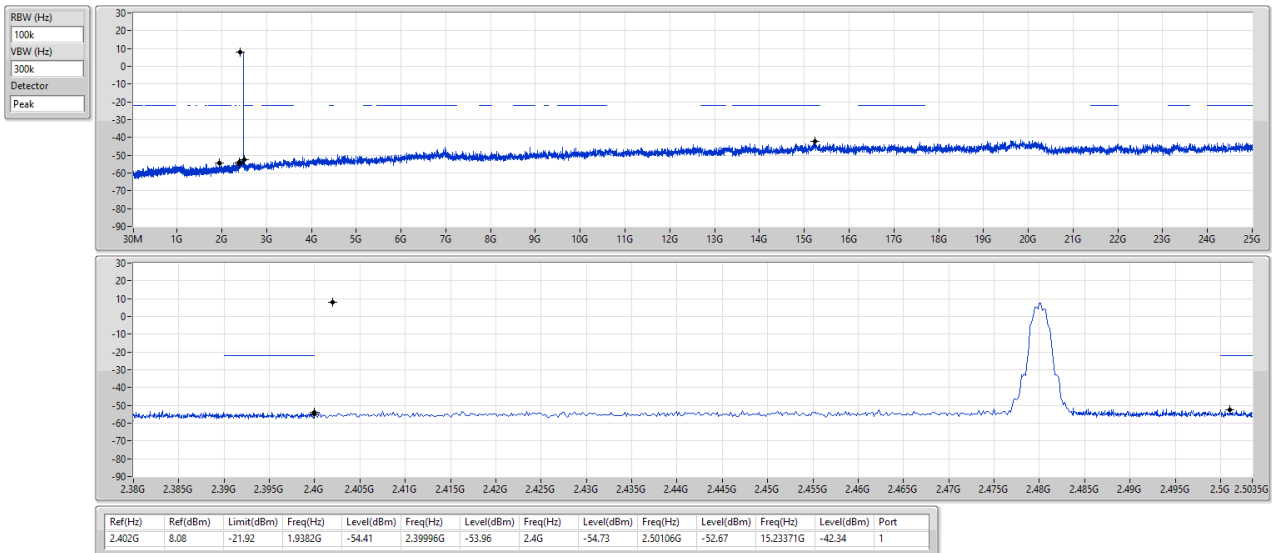


2.4-2.4835GHz_BT-LE(2Mbps)

CSEndB-DTS

2480MHz

06/03/2023

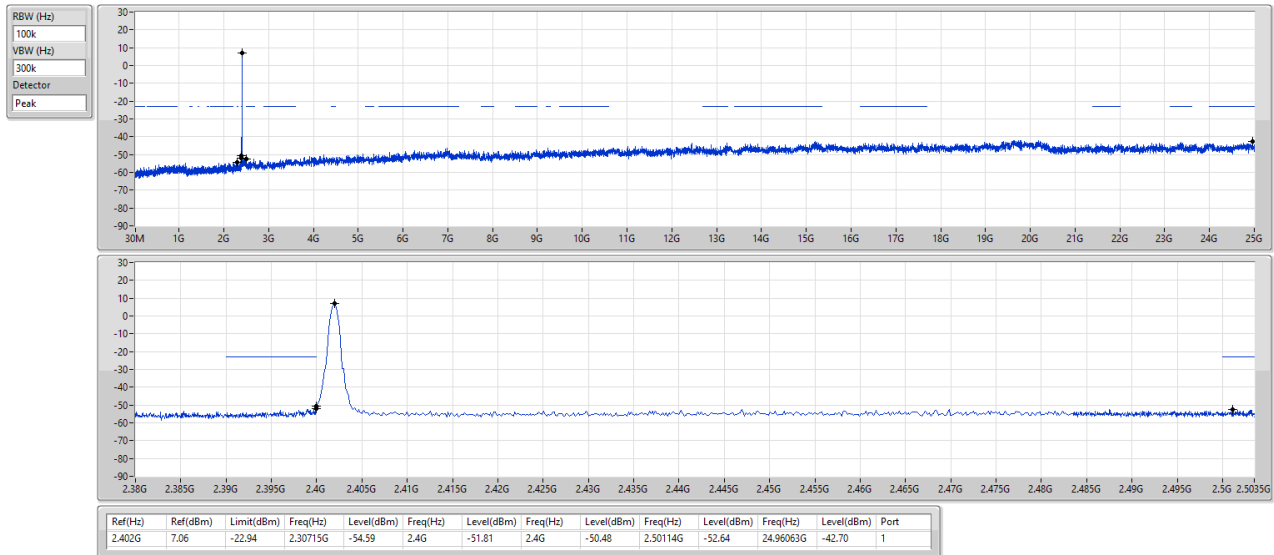


2.4-2.4835GHz_BT-LE(125kbps)

CSEndB-DTS

2402MHz

06/03/2023

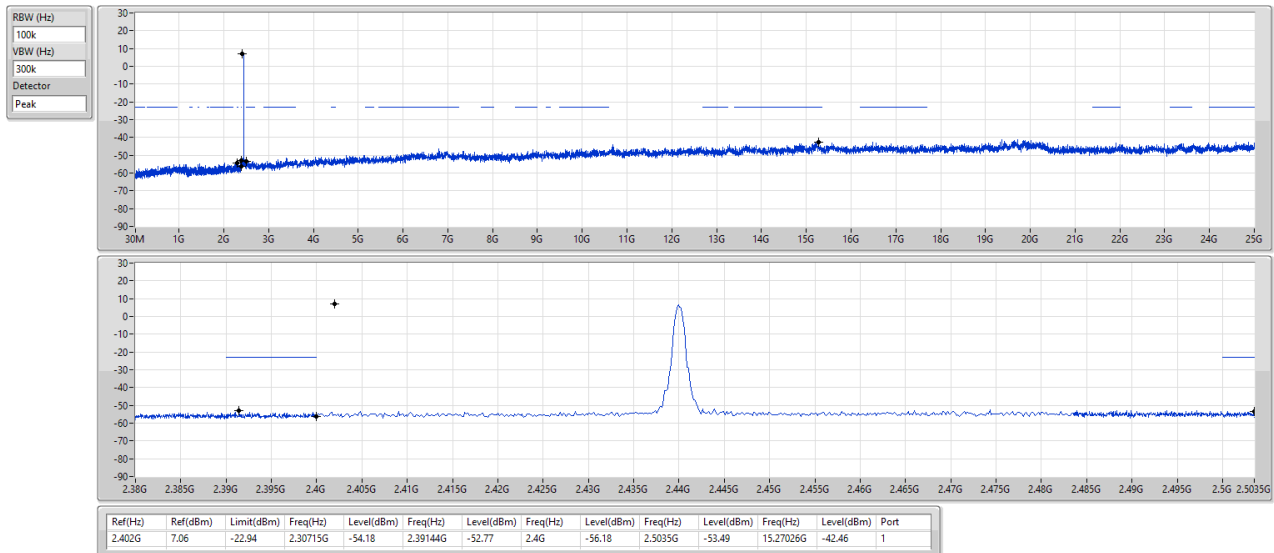


2.4-2.4835GHz_BT-LE(125kbps)

CSEndB-DTS

2440MHz

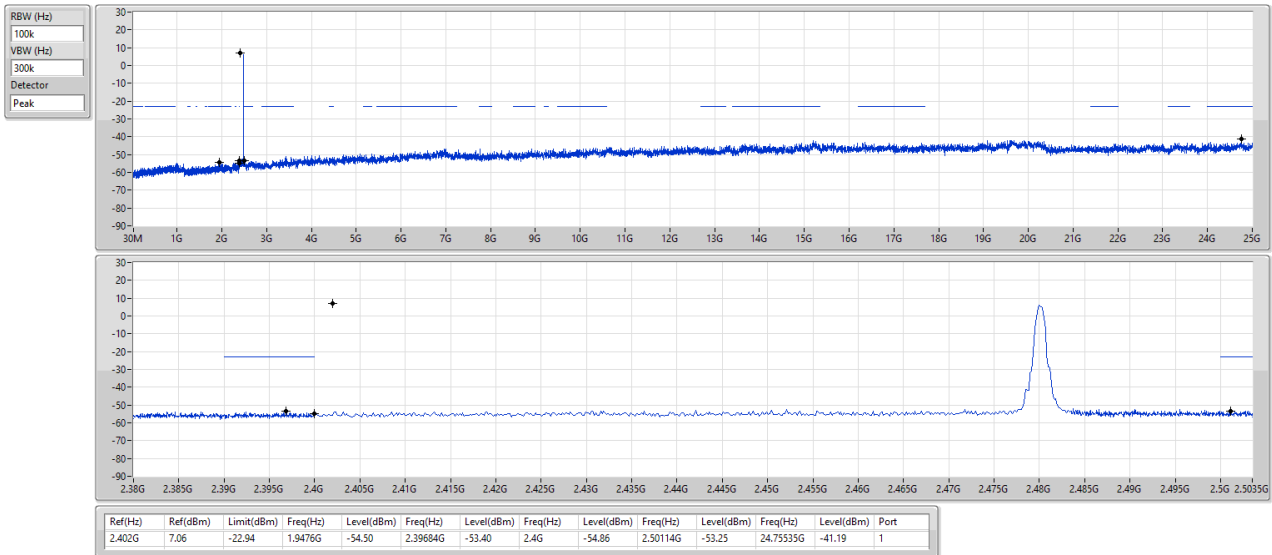
06/03/2023



2.4-2.4835GHz_BT-LE(125kbps)

CSEndB-DTS

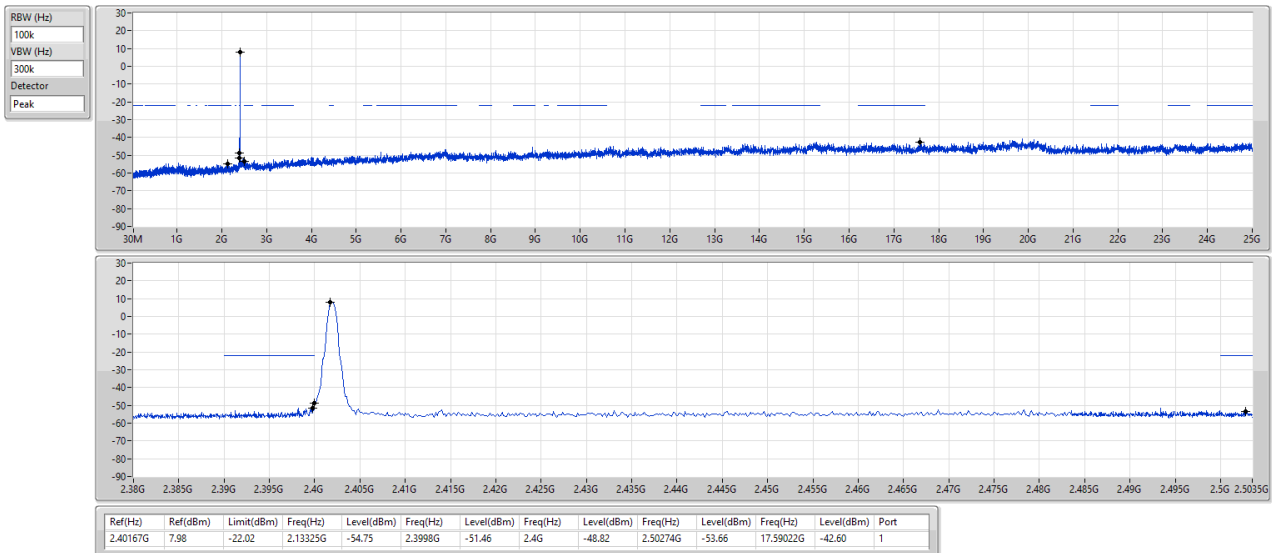
2480MHz



2.4-2.4835GHz_BT-LE(500kbps)

CSEndB-DTS

2402MHz



2.4-2.4835GHz_BT-LE(500kbps)

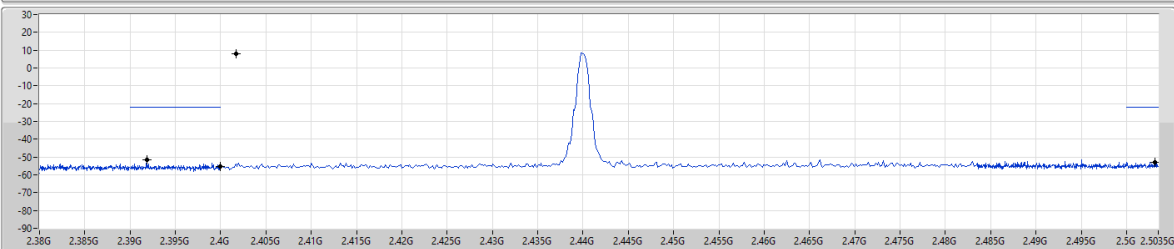
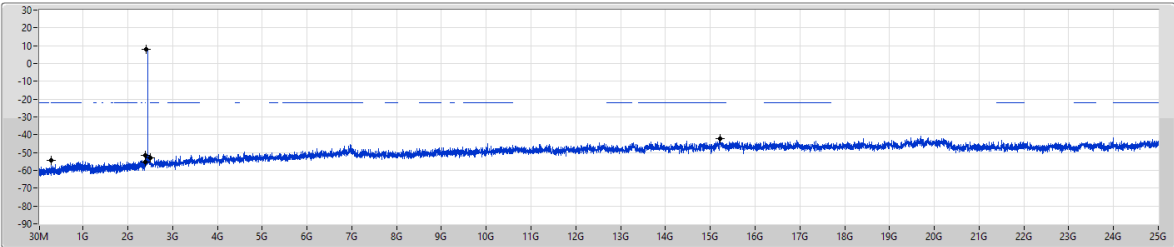
CSEndB-DTS

2440MHz

06/03/2023

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

Port 1



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
2.40167G	7.98	-22.02	2.40167G	-54.58	2.39184G	-51.72	2.4G	-55.08	2.50314G	-52.95	15.21965G	-42.05	1

2.4-2.4835GHz_BT-LE(500kbps)

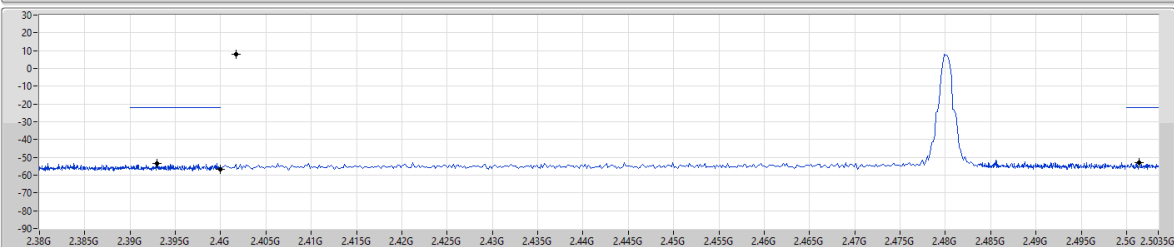
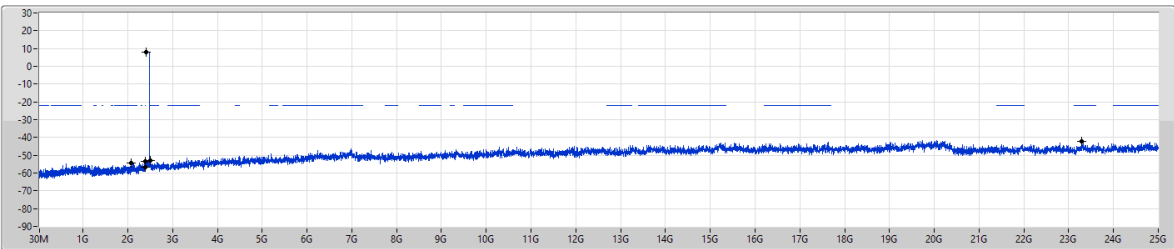
CSEndB-DTS

2480MHz

06/03/2023

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

Port 1



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
2.40167G	7.98	-22.02	2.08038G	-54.33	2.393G	-53.55	2.4G	-56.68	2.50138G	-53.17	23.29027G	-42.40	1



Summary

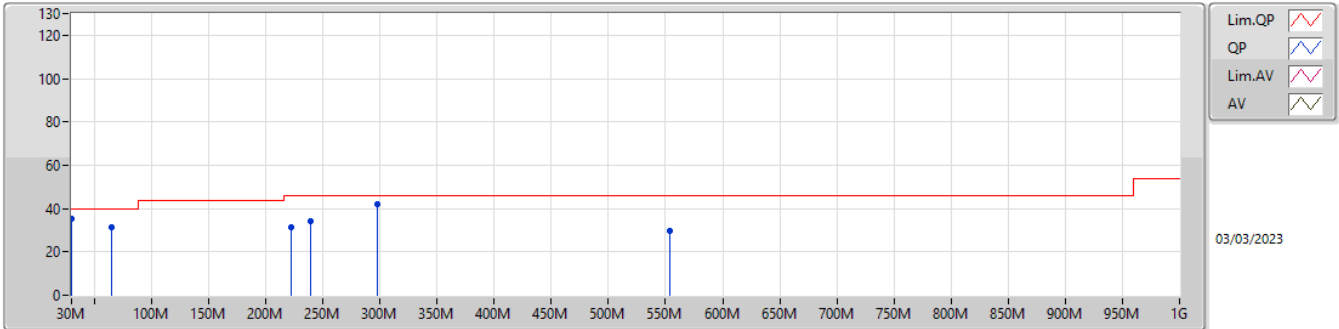
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(2Mbps)	Pass	PK	297.72M	41.92	46.00	-4.08	3	Vertical	0	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2480MHz	Pass	PK	30M	35.32	40.00	-4.68	3	Vertical	0	1.00
2480MHz	Pass	PK	64.92M	31.46	40.00	-8.54	3	Vertical	0	1.00
2480MHz	Pass	PK	222.06M	31.30	46.00	-14.70	3	Vertical	0	1.00
2480MHz	Pass	PK	239.52M	34.23	46.00	-11.77	3	Vertical	0	1.00
2480MHz	Pass	PK	297.72M	41.92	46.00	-4.08	3	Vertical	0	1.00
2480MHz	Pass	PK	553.8M	29.43	46.00	-16.57	3	Vertical	0	1.00
2480MHz	Pass	PK	74.62M	30.24	40.00	-9.76	3	Horizontal	360	1.00
2480MHz	Pass	PK	130.88M	27.79	43.50	-15.71	3	Horizontal	360	1.00
2480MHz	Pass	PK	295.78M	34.87	46.00	-11.13	3	Horizontal	360	1.00
2480MHz	Pass	PK	322.94M	29.51	46.00	-16.49	3	Horizontal	360	1.00
2480MHz	Pass	PK	456.8M	28.59	46.00	-17.41	3	Horizontal	360	1.00
2480MHz	Pass	PK	710.94M	32.78	46.00	-13.22	3	Horizontal	360	1.00

2.4-2.4835GHz_BT-LE(2Mbps)

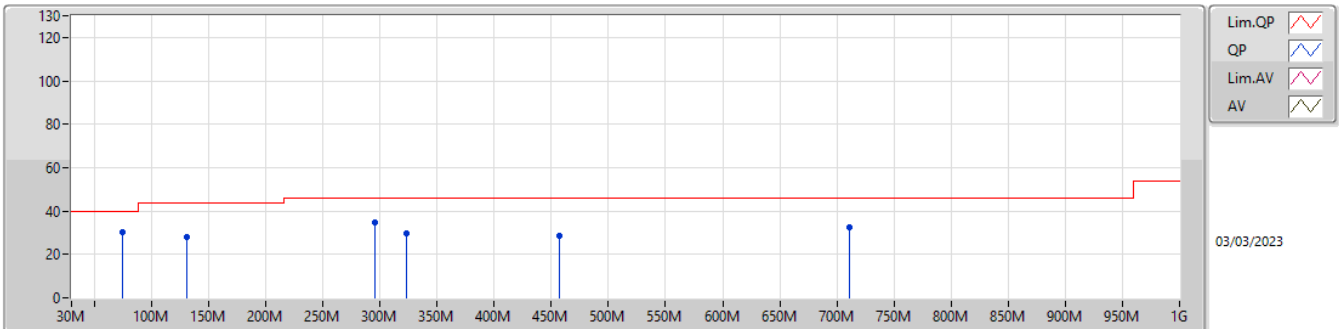
2480MHz_TX



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)				
PK	30M	35.32	40.00	-4.68	-12.92	3	Vertical	0	1.00	48.24	23.71	0.57	37.20				
PK	64.92M	31.46	40.00	-8.54	-24.99	3	Vertical	0	1.00	56.45	11.18	0.86	37.03				
PK	222.06M	31.30	46.00	-14.70	-20.19	3	Vertical	0	1.00	51.49	14.46	1.71	36.36				
PK	239.52M	34.23	46.00	-11.77	-18.30	3	Vertical	0	1.00	52.53	16.35	1.79	36.44				
PK	297.72M	41.92	46.00	-4.08	-16.03	3	Vertical	0	1.00	57.95	18.34	2.04	36.41				
PK	553.8M	29.43	46.00	-16.57	-9.31	3	Vertical	0	1.00	38.74	24.90	2.92	37.13				

2.4-2.4835GHz_BT-LE(2Mbps)

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)				
PK	74.62M	30.24	40.00	-9.76	-24.03	3	Horizontal	360	1.00	54.27	11.95	0.94	36.92				
PK	130.88M	27.79	43.50	-15.71	-18.51	3	Horizontal	360	1.00	46.30	16.76	1.26	36.53				
PK	295.78M	34.87	46.00	-11.13	-16.06	3	Horizontal	360	1.00	50.93	18.33	2.03	36.42				
PK	322.94M	29.51	46.00	-16.49	-15.65	3	Horizontal	360	1.00	45.16	18.69	2.13	36.47				
PK	456.8M	28.59	46.00	-17.41	-11.73	3	Horizontal	360	1.00	40.32	22.37	2.59	36.69				
PK	710.94M	32.78	46.00	-13.22	-8.14	3	Horizontal	360	1.00	40.92	25.89	3.34	37.37				

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	2.496G	46.65	54.00	-7.35	3	Horizontal	316	1.12	-
BT-LE(125kbps)	Pass	AV	2.4844G	46.09	54.00	-7.91	3	Horizontal	64	2.65	-
BT-LE(500kbps)	Pass	AV	2.4835G	46.02	54.00	-7.98	3	Horizontal	63	2.64	-
BT-LE(2Mbps)	Pass	AV	2.4835G	48.46	54.00	-5.54	3	Horizontal	315	1.11	-

Result

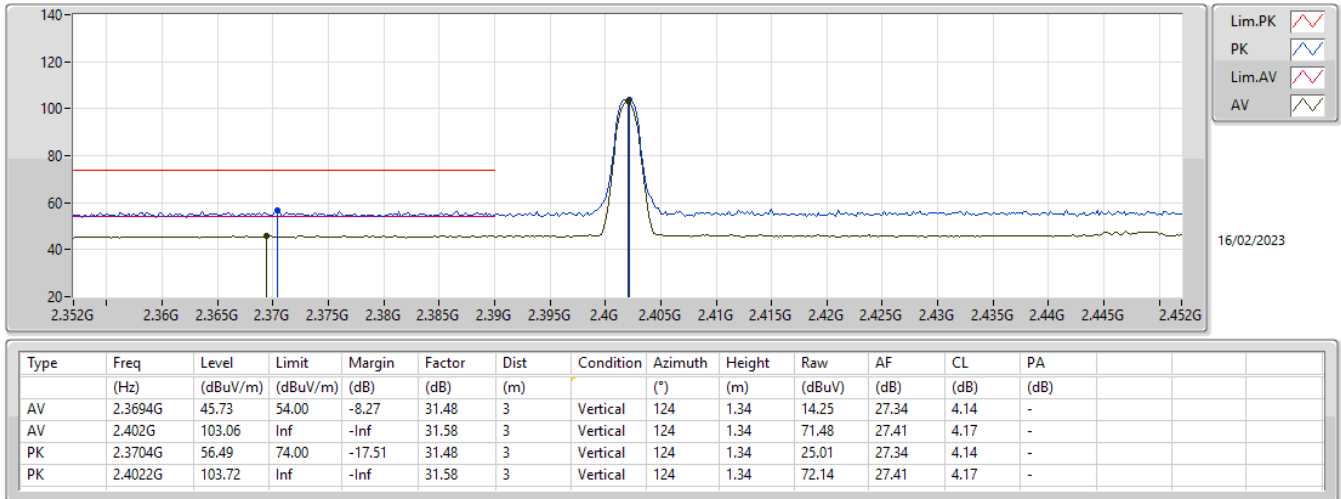
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3694G	45.73	54.00	-8.27	3	Vertical	124	1.34	-
2402MHz	Pass	AV	2.402G	103.06	Inf	-Inf	3	Vertical	124	1.34	-
2402MHz	Pass	PK	2.3704G	56.49	74.00	-17.51	3	Vertical	124	1.34	-
2402MHz	Pass	PK	2.4022G	103.72	Inf	-Inf	3	Vertical	124	1.34	-
2402MHz	Pass	AV	2.3642G	46.13	54.00	-7.87	3	Horizontal	56	1.48	-
2402MHz	Pass	AV	2.402G	105.86	Inf	-Inf	3	Horizontal	56	1.48	-
2402MHz	Pass	PK	2.3682G	56.37	74.00	-17.63	3	Horizontal	56	1.48	-
2402MHz	Pass	PK	2.4022G	106.48	Inf	-Inf	3	Horizontal	56	1.48	-
2402MHz	Pass	AV	4.80414G	41.32	54.00	-12.68	3	Vertical	355	2.10	-
2402MHz	Pass	PK	4.80432G	50.08	74.00	-23.92	3	Vertical	355	2.10	-
2402MHz	Pass	AV	4.80381G	44.73	54.00	-9.27	3	Horizontal	10	2.18	-
2402MHz	Pass	PK	4.80371G	51.57	74.00	-22.43	3	Horizontal	10	2.18	-
2440MHz	Pass	AV	2.3716G	45.56	54.00	-8.44	3	Vertical	107	1.31	-
2440MHz	Pass	AV	2.44G	101.04	Inf	-Inf	3	Vertical	107	1.31	-
2440MHz	Pass	AV	2.4852G	46.37	54.00	-7.63	3	Vertical	107	1.31	-
2440MHz	Pass	PK	2.3848G	56.93	74.00	-17.07	3	Vertical	107	1.31	-
2440MHz	Pass	PK	2.4404G	101.75	Inf	-Inf	3	Vertical	107	1.31	-
2440MHz	Pass	PK	2.4996G	56.37	74.00	-17.63	3	Vertical	107	1.31	-
2440MHz	Pass	AV	2.3692G	45.83	54.00	-8.17	3	Horizontal	58	2.38	-
2440MHz	Pass	AV	2.44G	105.74	Inf	-Inf	3	Horizontal	58	2.38	-
2440MHz	Pass	AV	2.4892G	46.43	54.00	-7.57	3	Horizontal	58	2.38	-
2440MHz	Pass	PK	2.3472G	56.76	74.00	-17.24	3	Horizontal	58	2.38	-
2440MHz	Pass	PK	2.4396G	106.37	Inf	-Inf	3	Horizontal	58	2.38	-
2440MHz	Pass	PK	2.4992G	56.28	74.00	-17.72	3	Horizontal	58	2.38	-
2440MHz	Pass	AV	4.87987G	39.53	54.00	-14.47	3	Vertical	0	2.04	-
2440MHz	Pass	PK	4.87992G	48.74	74.00	-25.26	3	Vertical	0	2.04	-
2440MHz	Pass	AV	4.88005G	42.04	54.00	-11.96	3	Horizontal	360	1.97	-
2440MHz	Pass	PK	4.8804G	50.20	74.00	-23.80	3	Horizontal	360	1.97	-
2480MHz	Pass	AV	2.48G	100.43	Inf	-Inf	3	Vertical	110	1.50	-
2480MHz	Pass	AV	2.4934G	46.44	54.00	-7.56	3	Vertical	110	1.50	-
2480MHz	Pass	PK	2.4798G	101.15	Inf	-Inf	3	Vertical	110	1.50	-
2480MHz	Pass	PK	2.4878G	57.78	74.00	-16.22	3	Vertical	110	1.50	-
2480MHz	Pass	AV	2.48G	102.89	Inf	-Inf	3	Horizontal	316	1.12	-
2480MHz	Pass	AV	2.496G	46.65	54.00	-7.35	3	Horizontal	316	1.12	-
2480MHz	Pass	PK	2.4802G	103.51	Inf	-Inf	3	Horizontal	316	1.12	-
2480MHz	Pass	PK	2.4854G	56.93	74.00	-17.07	3	Horizontal	316	1.12	-
2480MHz	Pass	AV	4.95965G	39.21	54.00	-14.79	3	Vertical	348	2.74	-
2480MHz	Pass	PK	4.96077G	48.62	74.00	-25.38	3	Vertical	348	2.74	-
2480MHz	Pass	AV	4.95985G	40.22	54.00	-13.78	3	Horizontal	0	2.10	-
2480MHz	Pass	PK	4.95949G	49.28	74.00	-24.72	3	Horizontal	0	2.10	-
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3864G	47.30	54.00	-6.70	3	Vertical	119	1.50	-
2402MHz	Pass	AV	2.402G	99.61	Inf	-Inf	3	Vertical	119	1.50	-
2402MHz	Pass	PK	2.3772G	56.43	74.00	-17.57	3	Vertical	119	1.50	-
2402MHz	Pass	PK	2.4014G	101.56	Inf	-Inf	3	Vertical	119	1.50	-
2402MHz	Pass	AV	2.3886G	47.51	54.00	-6.49	3	Horizontal	55	2.75	-
2402MHz	Pass	AV	2.402G	104.04	Inf	-Inf	3	Horizontal	55	2.75	-
2402MHz	Pass	PK	2.3678G	56.69	74.00	-17.31	3	Horizontal	55	2.75	-
2402MHz	Pass	PK	2.4024G	105.98	Inf	-Inf	3	Horizontal	55	2.75	-
2402MHz	Pass	AV	4.80298G	42.59	54.00	-11.41	3	Vertical	3	2.24	-
2402MHz	Pass	PK	4.80311G	49.96	74.00	-24.04	3	Vertical	3	2.24	-
2402MHz	Pass	AV	4.80301G	46.10	54.00	-7.90	3	Horizontal	14	1.77	-
2402MHz	Pass	PK	4.80309G	53.02	74.00	-20.98	3	Horizontal	14	1.77	-
2440MHz	Pass	AV	2.3768G	47.32	54.00	-6.68	3	Vertical	107	1.30	-
2440MHz	Pass	AV	2.44G	99.76	Inf	-Inf	3	Vertical	107	1.30	-
2440MHz	Pass	AV	2.5G	47.90	54.00	-6.10	3	Vertical	107	1.30	-
2440MHz	Pass	PK	2.3856G	56.22	74.00	-17.78	3	Vertical	107	1.30	-
2440MHz	Pass	PK	2.44G	101.65	Inf	-Inf	3	Vertical	107	1.30	-
2440MHz	Pass	PK	2.4952G	56.28	74.00	-17.72	3	Vertical	107	1.30	-
2440MHz	Pass	AV	2.3708G	47.20	54.00	-6.80	3	Horizontal	60	2.38	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2440MHz	Pass	AV	2.44G	104.41	Inf	-Inf	3	Horizontal	60	2.38	-
2440MHz	Pass	AV	2.49G	47.91	54.00	-6.09	3	Horizontal	60	2.38	-
2440MHz	Pass	PK	2.3744G	56.07	74.00	-17.93	3	Horizontal	60	2.38	-
2440MHz	Pass	PK	2.4404G	106.37	Inf	-Inf	3	Horizontal	60	2.38	-
2440MHz	Pass	PK	2.4988G	58.33	74.00	-15.67	3	Horizontal	60	2.38	-
2440MHz	Pass	AV	4.87906G	41.51	54.00	-12.49	3	Vertical	360	3.00	-
2440MHz	Pass	PK	4.88107G	49.11	74.00	-24.89	3	Vertical	360	3.00	-
2440MHz	Pass	AV	4.8791G	43.54	54.00	-10.46	3	Horizontal	2	1.50	-
2440MHz	Pass	PK	4.87893G	50.69	74.00	-23.31	3	Horizontal	2	1.50	-
2480MHz	Pass	AV	2.48G	99.18	Inf	-Inf	3	Vertical	110	1.50	-
2480MHz	Pass	AV	2.4916G	48.05	54.00	-5.95	3	Vertical	110	1.50	-
2480MHz	Pass	PK	2.4794G	101.17	Inf	-Inf	3	Vertical	110	1.50	-
2480MHz	Pass	PK	2.4874G	57.68	74.00	-16.32	3	Vertical	110	1.50	-
2480MHz	Pass	AV	2.48G	101.80	Inf	-Inf	3	Horizontal	315	1.11	-
2480MHz	Pass	AV	2.4835G	48.46	54.00	-5.54	3	Horizontal	315	1.11	-
2480MHz	Pass	PK	2.4804G	103.71	Inf	-Inf	3	Horizontal	315	1.11	-
2480MHz	Pass	PK	2.484G	56.86	74.00	-17.14	3	Horizontal	315	1.11	-
2480MHz	Pass	AV	4.95901G	40.79	54.00	-13.21	3	Vertical	359	2.73	-
2480MHz	Pass	PK	4.96102G	48.84	74.00	-25.16	3	Vertical	359	2.73	-
2480MHz	Pass	AV	4.95906G	42.45	54.00	-11.55	3	Horizontal	360	1.87	-
2480MHz	Pass	PK	4.96093G	49.79	74.00	-24.21	3	Horizontal	360	1.87	-
BT-LE(125kpbs)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3714G	44.98	54.00	-9.02	3	Vertical	119	1.50	-
2402MHz	Pass	AV	2.402G	100.47	Inf	-Inf	3	Vertical	119	1.50	-
2402MHz	Pass	PK	2.3582G	56.77	74.00	-17.23	3	Vertical	119	1.50	-
2402MHz	Pass	PK	2.4018G	101.39	Inf	-Inf	3	Vertical	119	1.50	-
2402MHz	Pass	AV	2.3866G	45.02	54.00	-8.98	3	Horizontal	55	2.75	-
2402MHz	Pass	AV	2.402G	105.07	Inf	-Inf	3	Horizontal	55	2.75	-
2402MHz	Pass	PK	2.373G	56.49	74.00	-17.51	3	Horizontal	55	2.75	-
2402MHz	Pass	PK	2.4022G	105.96	Inf	-Inf	3	Horizontal	55	2.75	-
2402MHz	Pass	AV	4.80367G	41.64	54.00	-12.36	3	Vertical	356	2.25	-
2402MHz	Pass	PK	4.80342G	50.51	74.00	-23.49	3	Vertical	356	2.25	-
2402MHz	Pass	AV	4.80411G	44.98	54.00	-9.02	3	Horizontal	3	1.56	-
2402MHz	Pass	PK	4.80341G	52.86	74.00	-21.14	3	Horizontal	3	1.56	-
2440MHz	Pass	AV	2.3656G	44.94	54.00	-9.06	3	Vertical	109	1.29	-
2440MHz	Pass	AV	2.44G	100.34	Inf	-Inf	3	Vertical	109	1.29	-
2440MHz	Pass	AV	2.4936G	45.84	54.00	-8.16	3	Vertical	109	1.29	-
2440MHz	Pass	PK	2.388G	56.14	74.00	-17.86	3	Vertical	109	1.29	-
2440MHz	Pass	PK	2.4404G	101.33	Inf	-Inf	3	Vertical	109	1.29	-
2440MHz	Pass	PK	2.4948G	56.47	74.00	-17.53	3	Vertical	109	1.29	-
2440MHz	Pass	AV	2.3876G	45.23	54.00	-8.77	3	Horizontal	60	2.38	-
2440MHz	Pass	AV	2.44G	105.33	Inf	-Inf	3	Horizontal	60	2.38	-
2440MHz	Pass	AV	2.4976G	45.65	54.00	-8.35	3	Horizontal	60	2.38	-
2440MHz	Pass	PK	2.3548G	55.90	74.00	-18.10	3	Horizontal	60	2.38	-
2440MHz	Pass	PK	2.4404G	106.24	Inf	-Inf	3	Horizontal	60	2.38	-
2440MHz	Pass	PK	2.4868G	57.37	74.00	-16.63	3	Horizontal	60	2.38	-
2440MHz	Pass	AV	4.87993G	40.41	54.00	-13.59	3	Vertical	1	3.00	-
2440MHz	Pass	PK	4.87969G	49.42	74.00	-24.58	3	Vertical	1	3.00	-
2440MHz	Pass	AV	4.88035G	43.13	54.00	-10.87	3	Horizontal	360	1.94	-
2440MHz	Pass	PK	4.87956G	51.08	74.00	-22.92	3	Horizontal	360	1.94	-
2480MHz	Pass	AV	2.48G	100.21	Inf	-Inf	3	Vertical	111	1.50	-
2480MHz	Pass	AV	2.496G	45.87	54.00	-8.13	3	Vertical	111	1.50	-
2480MHz	Pass	PK	2.4798G	101.19	Inf	-Inf	3	Vertical	111	1.50	-
2480MHz	Pass	PK	2.4954G	57.70	74.00	-16.30	3	Vertical	111	1.50	-
2480MHz	Pass	AV	2.48G	104.95	Inf	-Inf	3	Horizontal	64	2.65	-
2480MHz	Pass	AV	2.4844G	46.09	54.00	-7.91	3	Horizontal	64	2.65	-
2480MHz	Pass	PK	2.4798G	105.92	Inf	-Inf	3	Horizontal	64	2.65	-
2480MHz	Pass	PK	2.4896G	57.38	74.00	-16.62	3	Horizontal	64	2.65	-
2480MHz	Pass	AV	4.96034G	39.75	54.00	-14.25	3	Vertical	1	2.92	-
2480MHz	Pass	PK	4.9604G	49.37	74.00	-24.63	3	Vertical	1	2.92	-
2480MHz	Pass	AV	4.96022G	41.30	54.00	-12.70	3	Horizontal	360	1.86	-
2480MHz	Pass	PK	4.96053G	50.03	74.00	-23.97	3	Horizontal	360	1.86	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(500kpbs)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3878G	45.19	54.00	-8.81	3	Vertical	121	1.50	-
2402MHz	Pass	AV	2.402G	100.92	Inf	-Inf	3	Vertical	121	1.50	-
2402MHz	Pass	PK	2.3674G	56.23	74.00	-17.77	3	Vertical	121	1.50	-
2402MHz	Pass	PK	2.4018G	101.57	Inf	-Inf	3	Vertical	121	1.50	-
2402MHz	Pass	AV	2.3858G	45.18	54.00	-8.82	3	Horizontal	57	2.75	-
2402MHz	Pass	AV	2.402G	105.16	Inf	-Inf	3	Horizontal	57	2.75	-
2402MHz	Pass	PK	2.3864G	57.23	74.00	-16.77	3	Horizontal	57	2.75	-
2402MHz	Pass	PK	2.4022G	105.92	Inf	-Inf	3	Horizontal	57	2.75	-
2402MHz	Pass	AV	4.80406G	42.19	54.00	-11.81	3	Vertical	1	3.00	-
2402MHz	Pass	PK	4.80359G	50.60	74.00	-23.40	3	Vertical	1	3.00	-
2402MHz	Pass	AV	4.80403G	45.92	54.00	-8.08	3	Horizontal	8	1.63	-
2402MHz	Pass	PK	4.80345G	53.30	74.00	-20.70	3	Horizontal	8	1.63	-
2440MHz	Pass	AV	2.356G	45.02	54.00	-8.98	3	Vertical	110	1.31	-
2440MHz	Pass	AV	2.44G	100.75	Inf	-Inf	3	Vertical	110	1.31	-
2440MHz	Pass	AV	2.4992G	45.75	54.00	-8.25	3	Vertical	110	1.31	-
2440MHz	Pass	PK	2.3692G	56.49	74.00	-17.51	3	Vertical	110	1.31	-
2440MHz	Pass	PK	2.4404G	101.56	Inf	-Inf	3	Vertical	110	1.31	-
2440MHz	Pass	PK	2.4876G	56.59	74.00	-17.41	3	Vertical	110	1.31	-
2440MHz	Pass	AV	2.39G	45.21	54.00	-8.79	3	Horizontal	62	2.38	-
2440MHz	Pass	AV	2.44G	105.56	Inf	-Inf	3	Horizontal	62	2.38	-
2440MHz	Pass	AV	2.4835G	45.65	54.00	-8.35	3	Horizontal	62	2.38	-
2440MHz	Pass	PK	2.3584G	56.16	74.00	-17.84	3	Horizontal	62	2.38	-
2440MHz	Pass	PK	2.4404G	106.28	Inf	-Inf	3	Horizontal	62	2.38	-
2440MHz	Pass	PK	2.4952G	57.17	74.00	-16.83	3	Horizontal	62	2.38	-
2440MHz	Pass	AV	4.88007G	40.80	54.00	-13.20	3	Vertical	0	3.00	-
2440MHz	Pass	PK	4.87987G	49.75	74.00	-24.25	3	Vertical	0	3.00	-
2440MHz	Pass	AV	4.8802G	43.68	54.00	-10.32	3	Horizontal	0	1.61	-
2440MHz	Pass	PK	4.87998G	51.20	74.00	-22.80	3	Horizontal	0	1.61	-
2480MHz	Pass	AV	2.48G	100.32	Inf	-Inf	3	Vertical	113	1.50	-
2480MHz	Pass	AV	2.4968G	45.80	54.00	-8.20	3	Vertical	113	1.50	-
2480MHz	Pass	PK	2.4798G	101.19	Inf	-Inf	3	Vertical	113	1.50	-
2480MHz	Pass	PK	2.4994G	56.88	74.00	-17.12	3	Vertical	113	1.50	-
2480MHz	Pass	AV	2.48G	105.25	Inf	-Inf	3	Horizontal	63	2.64	-
2480MHz	Pass	AV	2.4835G	46.02	54.00	-7.98	3	Horizontal	63	2.64	-
2480MHz	Pass	PK	2.4798G	106.06	Inf	-Inf	3	Horizontal	63	2.64	-
2480MHz	Pass	PK	2.4838G	57.59	74.00	-16.41	3	Horizontal	63	2.64	-
2480MHz	Pass	AV	4.95999G	39.87	54.00	-14.13	3	Vertical	358	2.92	-
2480MHz	Pass	PK	4.95952G	48.77	74.00	-25.23	3	Vertical	358	2.92	-
2480MHz	Pass	AV	4.96009G	41.30	54.00	-12.70	3	Horizontal	358	1.46	-
2480MHz	Pass	PK	4.96053G	49.67	74.00	-24.33	3	Horizontal	358	1.46	-

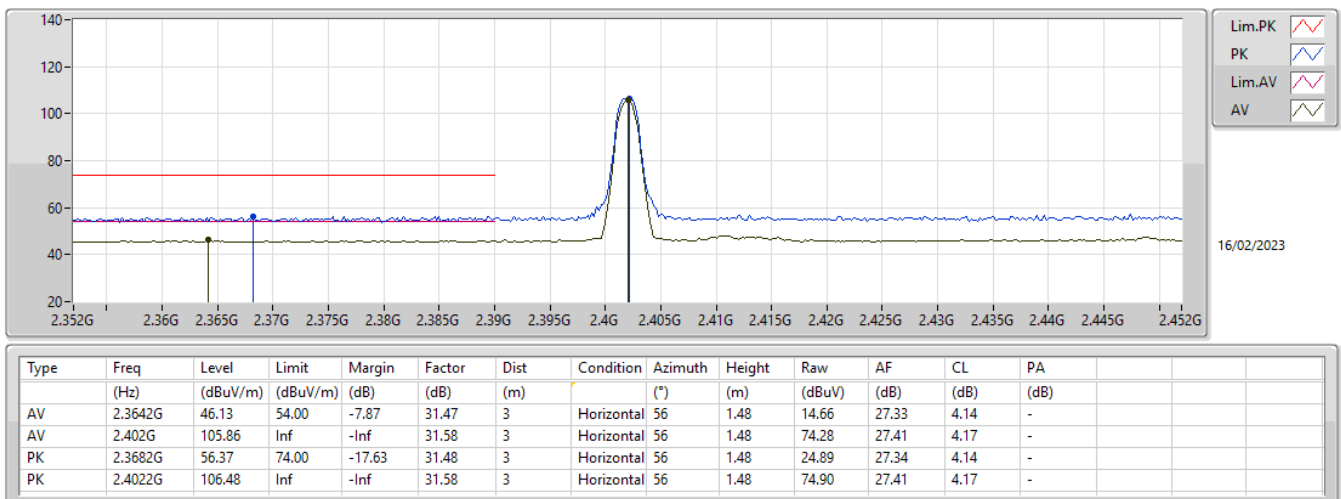
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2402MHz_TX



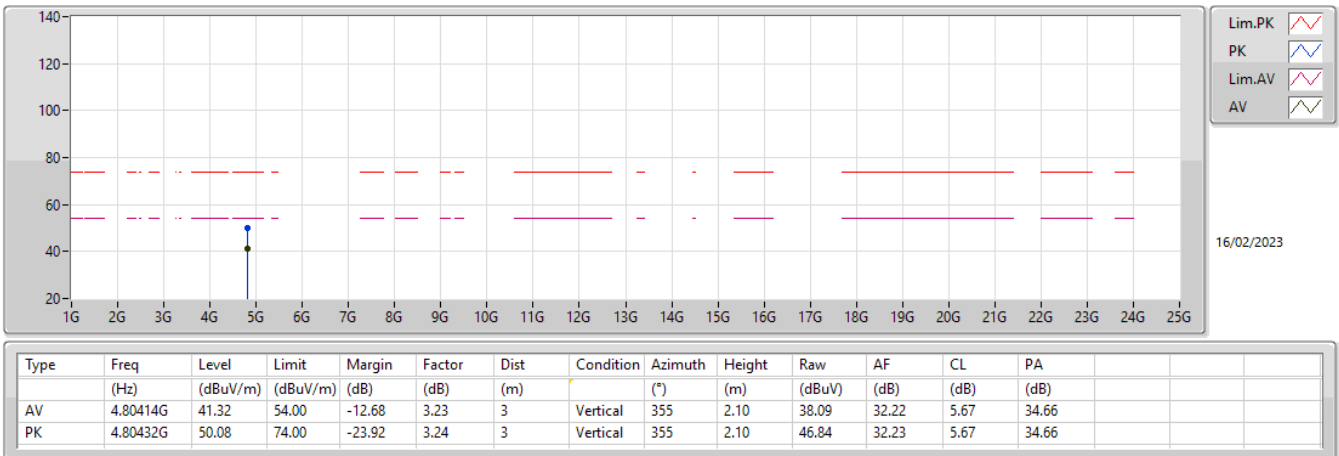
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2402MHz_TX



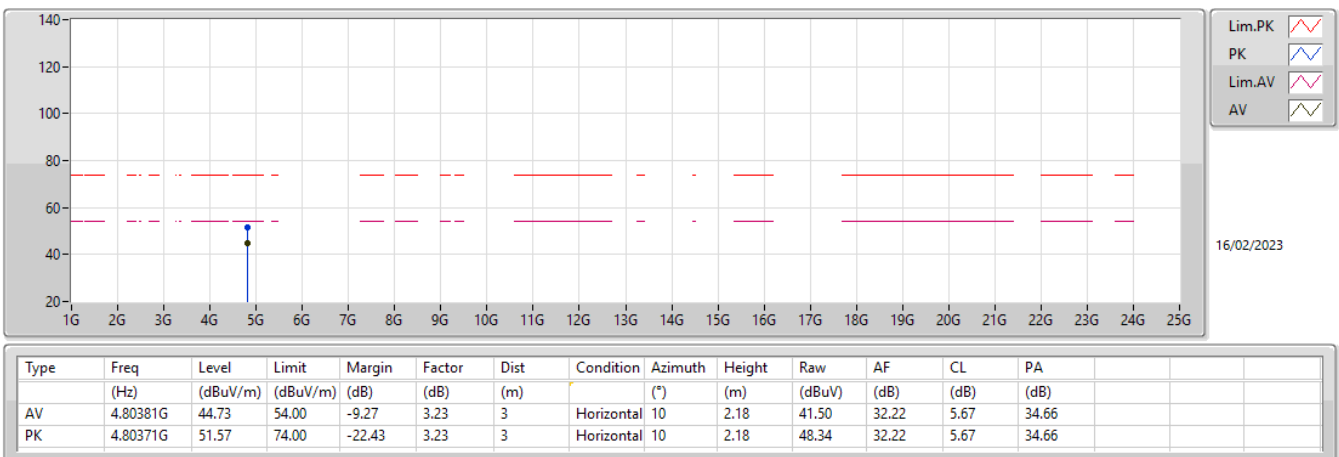
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2402MHz_TX



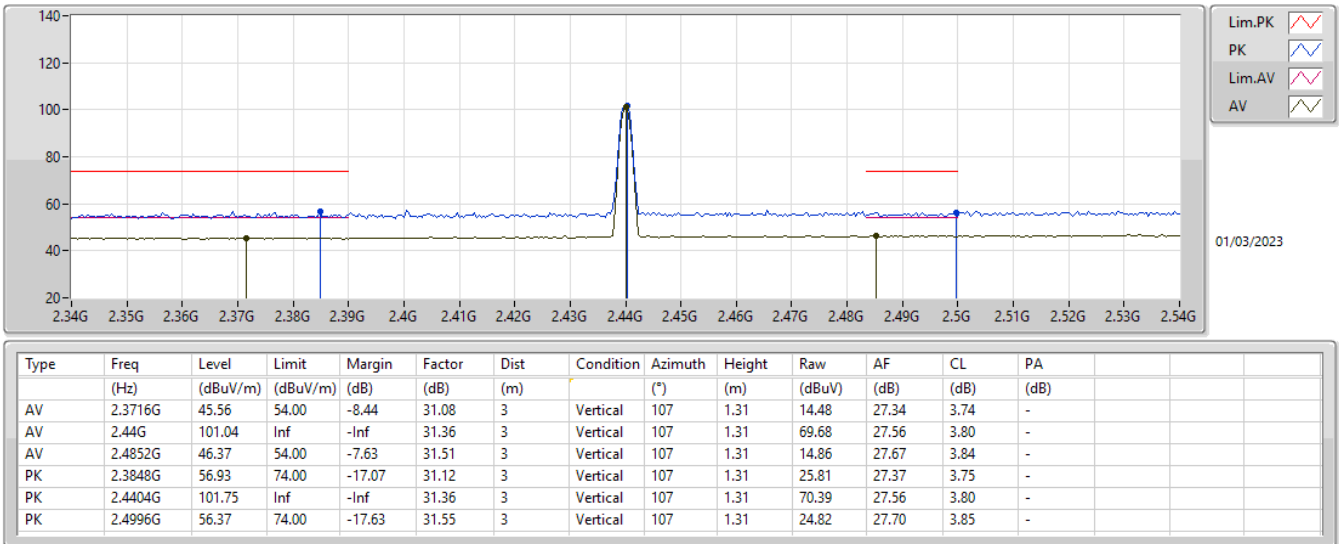
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2402MHz_TX



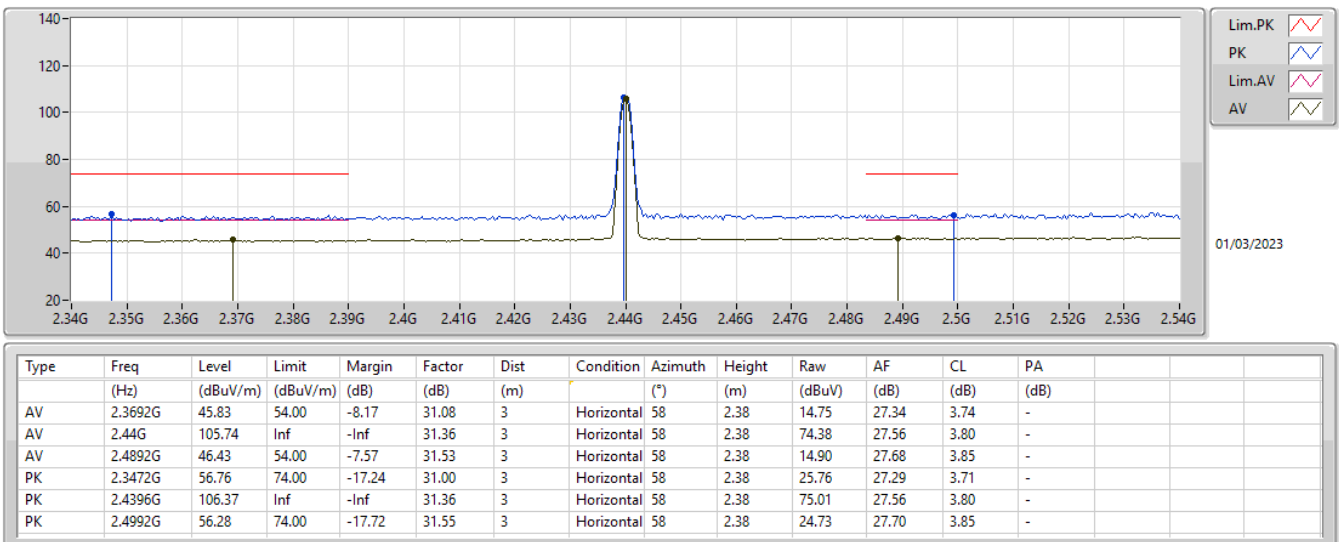
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2440MHz_TX



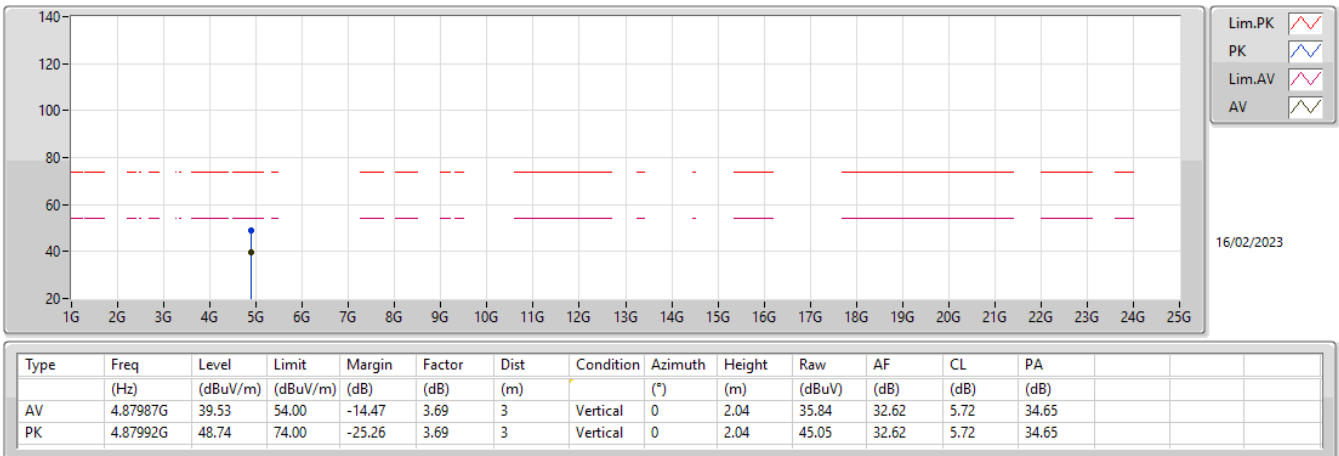
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2440MHz_TX



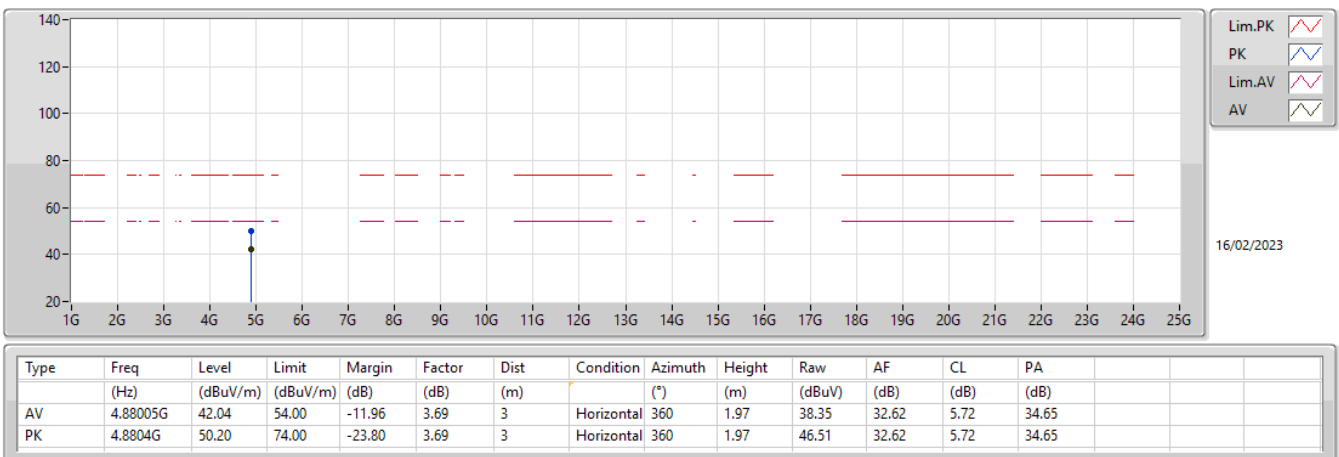
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2440MHz_TX



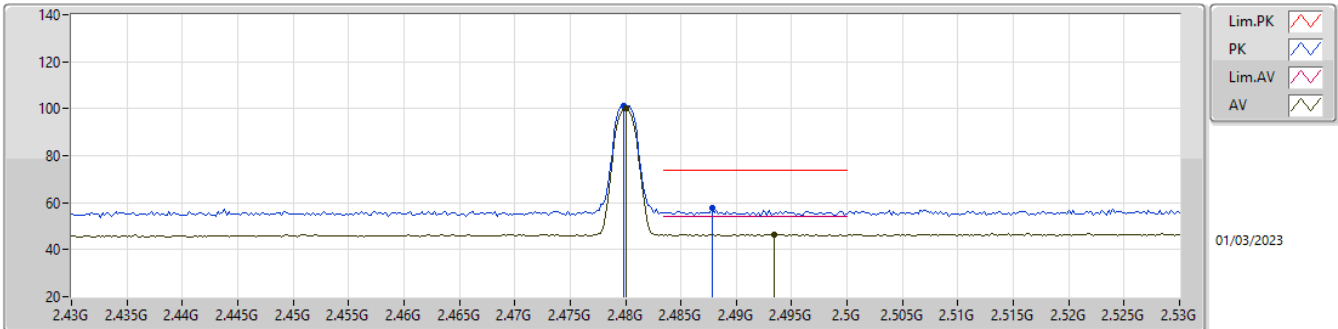
2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX



2.4-2.4835GHz_BT-LE(1Mbps)

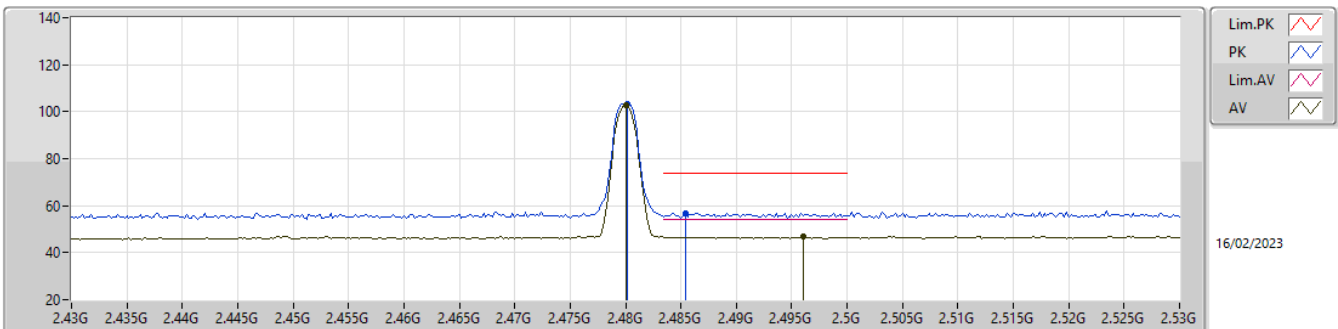
2480MHz_TX



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	100.43	Inf	-Inf	31.50	3	Vertical	110	1.50	68.93	27.66	3.84	-
AV	2.4934G	46.44	54.00	-7.56	31.54	3	Vertical	110	1.50	14.90	27.69	3.85	-
PK	2.4798G	101.15	Inf	-Inf	31.50	3	Vertical	110	1.50	69.65	27.66	3.84	-
PK	2.4878G	57.78	74.00	-16.22	31.52	3	Vertical	110	1.50	26.26	27.68	3.84	-

2.4-2.4835GHz_BT-LE(1Mbps)

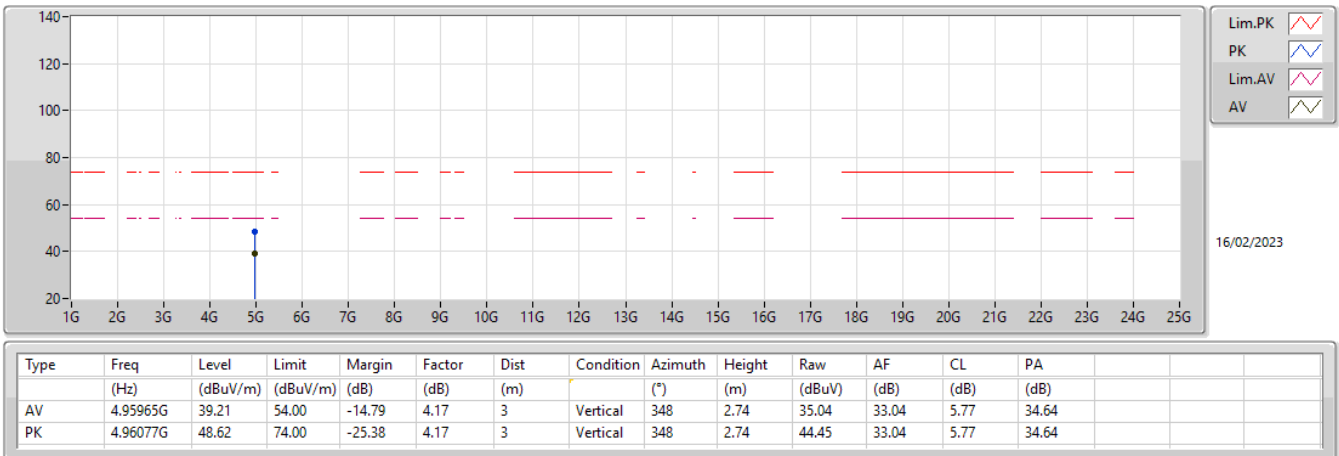
2480MHz_TX



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	102.89	Inf	-Inf	31.88	3	Horizontal	316	1.12	71.01	27.66	4.22	-
AV	2.496G	46.65	54.00	-7.35	31.92	3	Horizontal	316	1.12	14.73	27.69	4.23	-
PK	2.4802G	103.51	Inf	-Inf	31.88	3	Horizontal	316	1.12	71.63	27.66	4.22	-
PK	2.4854G	56.93	74.00	-17.07	31.89	3	Horizontal	316	1.12	25.04	27.67	4.22	-

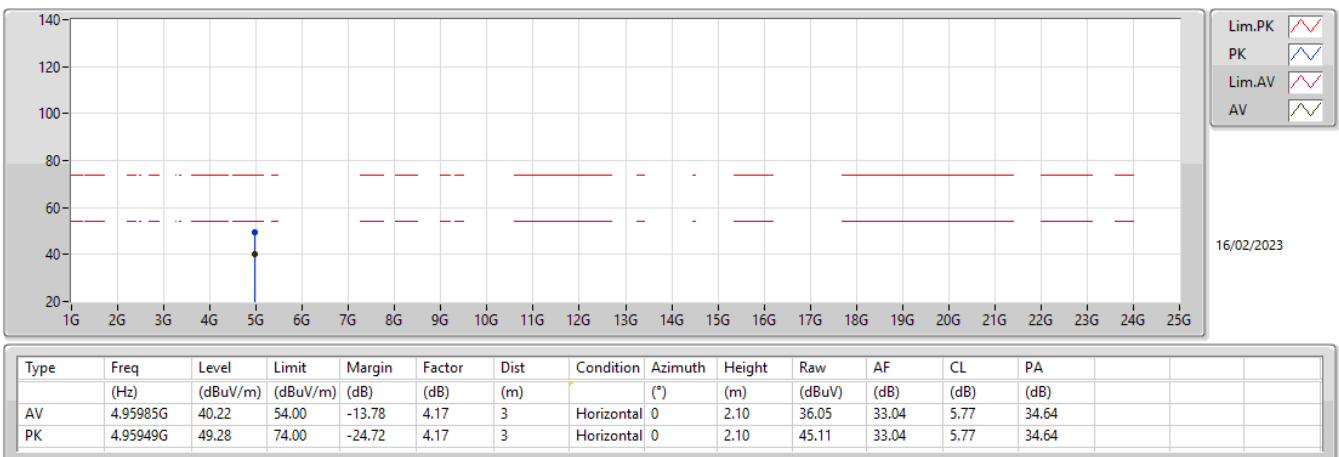
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2480MHz_TX



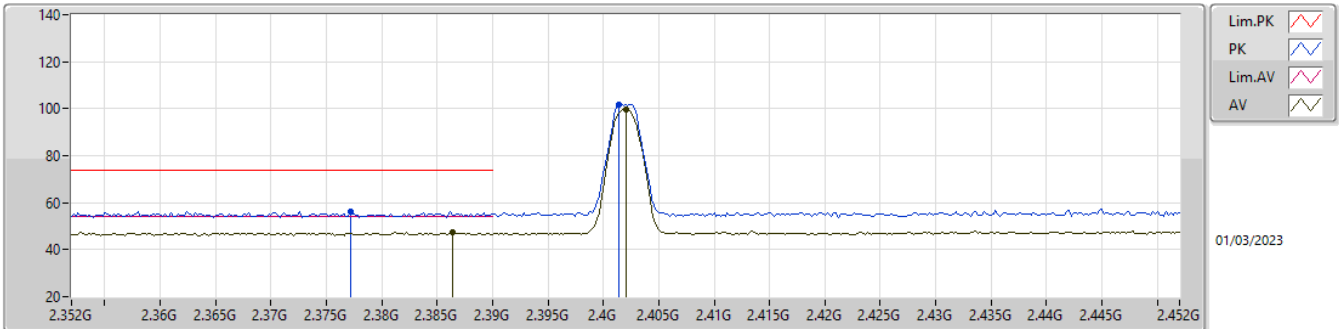
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2480MHz_TX



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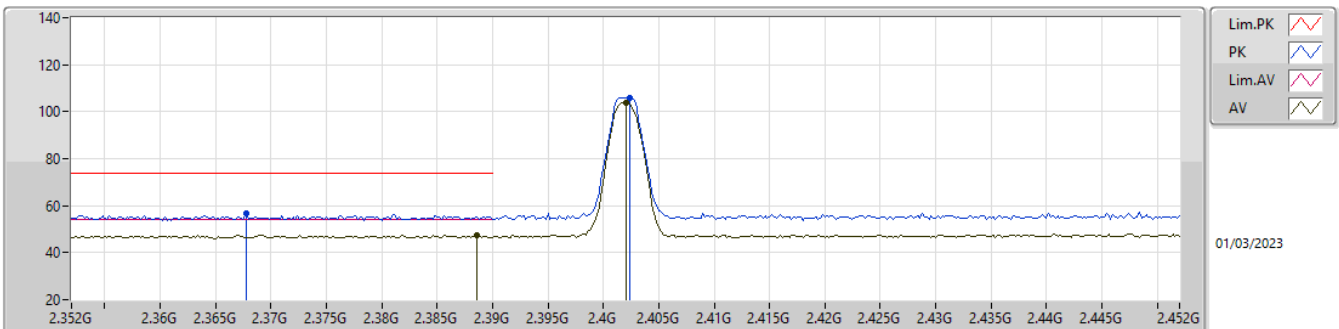
2402MHz_TX



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	2.3864G	47.30	54.00	-6.70	31.13	3	Vertical	119	1.50	16.17	27.37	3.76	-
AV	2.402G	99.61	Inf	-Inf	31.18	3	Vertical	119	1.50	68.43	27.41	3.77	-
PK	2.3772G	56.43	74.00	-17.57	31.10	3	Vertical	119	1.50	25.33	27.35	3.75	-
PK	2.4014G	101.56	Inf	-Inf	31.18	3	Vertical	119	1.50	70.38	27.41	3.77	-

2.4-2.4835GHz_BT-LE(2Mbps)

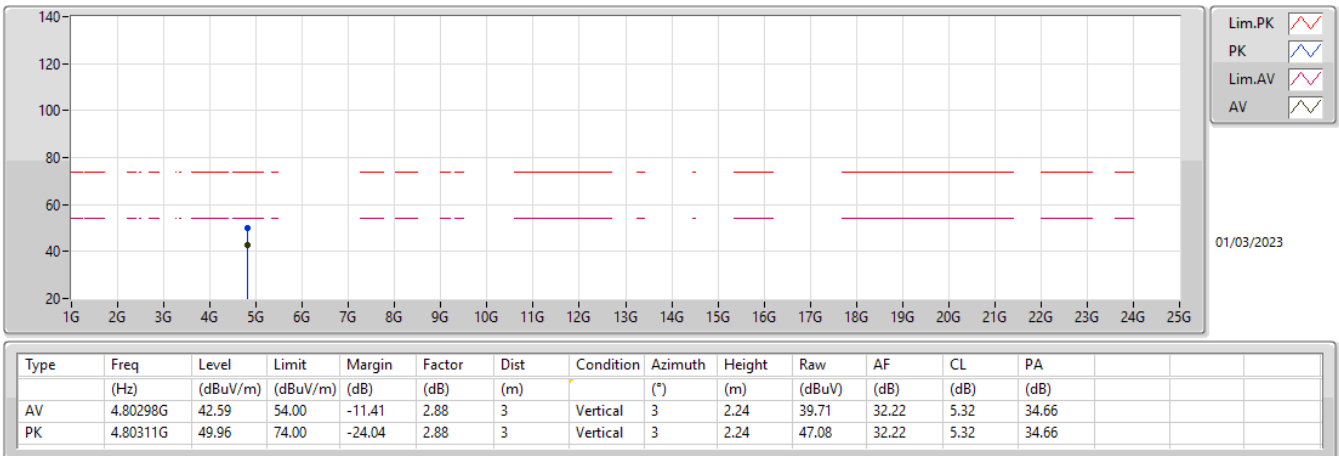
2402MHz_TX



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	2.3886G	47.51	54.00	-6.49	31.14	3	Horizontal	55	2.75	16.37	27.38	3.76	-
AV	2.402G	104.04	Inf	-Inf	31.18	3	Horizontal	55	2.75	72.86	27.41	3.77	-
PK	2.3678G	56.69	74.00	-17.31	31.08	3	Horizontal	55	2.75	25.61	27.34	3.74	-
PK	2.4024G	105.98	Inf	-Inf	31.18	3	Horizontal	55	2.75	74.80	27.41	3.77	-

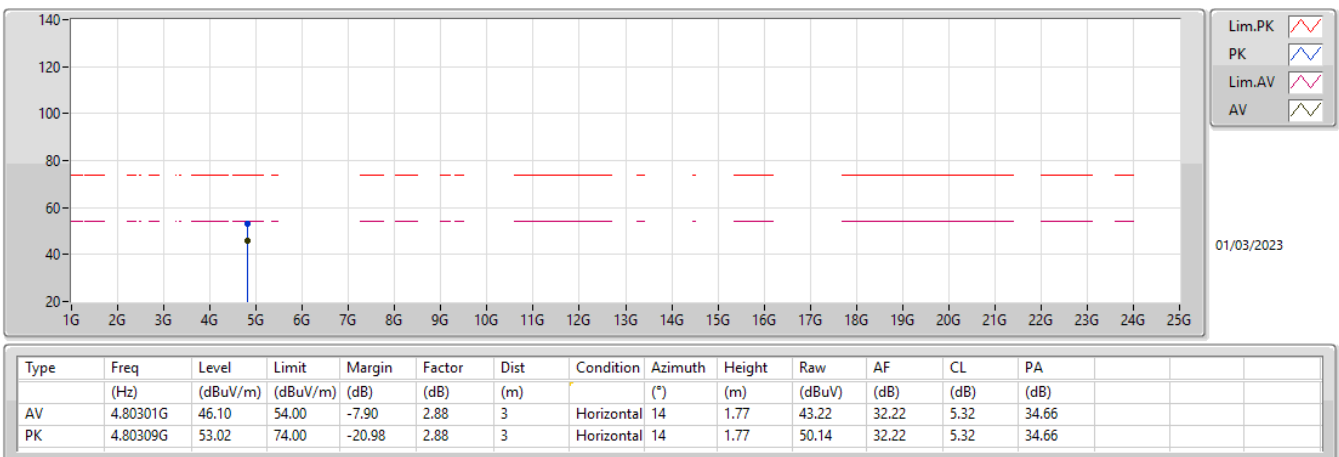
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2402MHz_TX



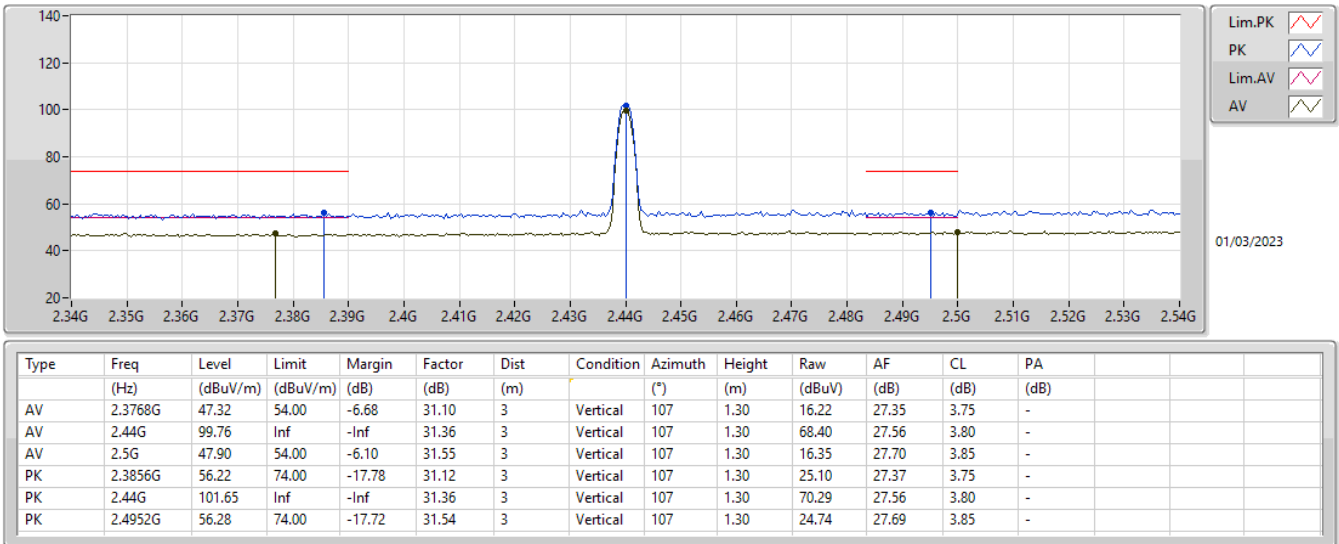
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2402MHz_TX



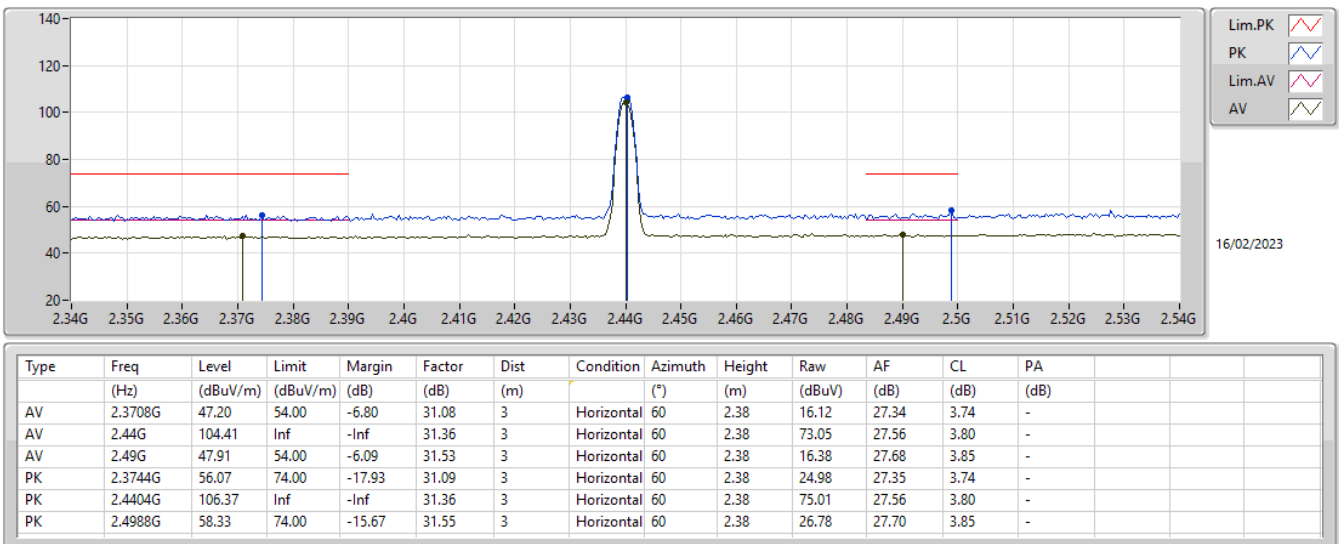
2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX



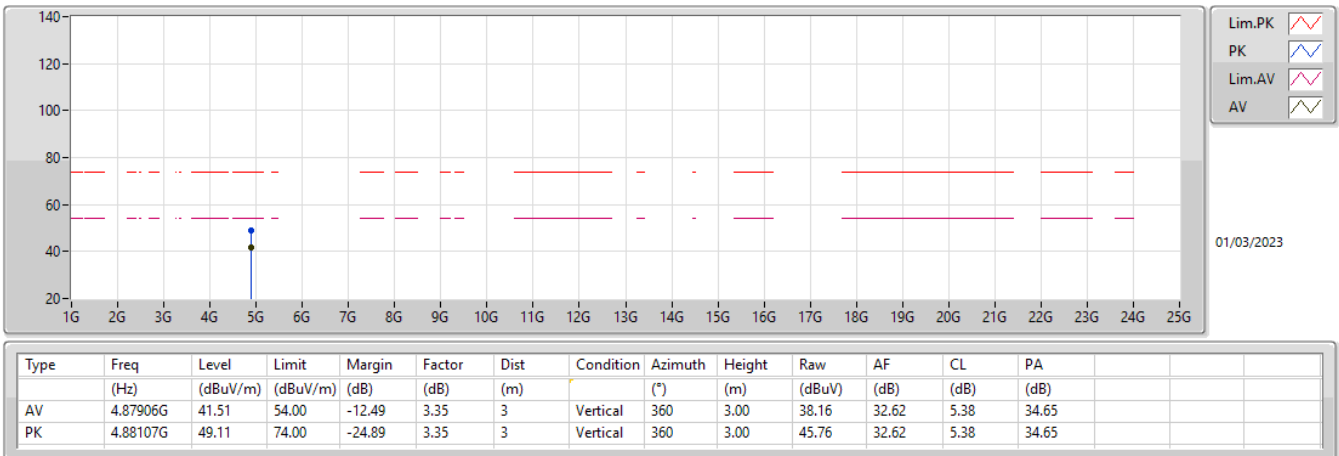
2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX



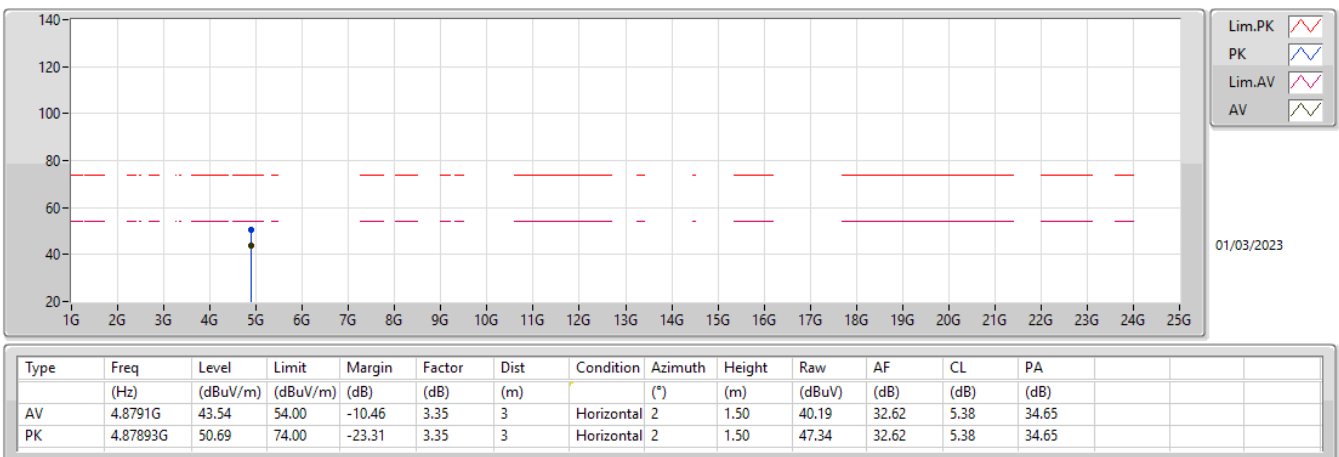
2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX



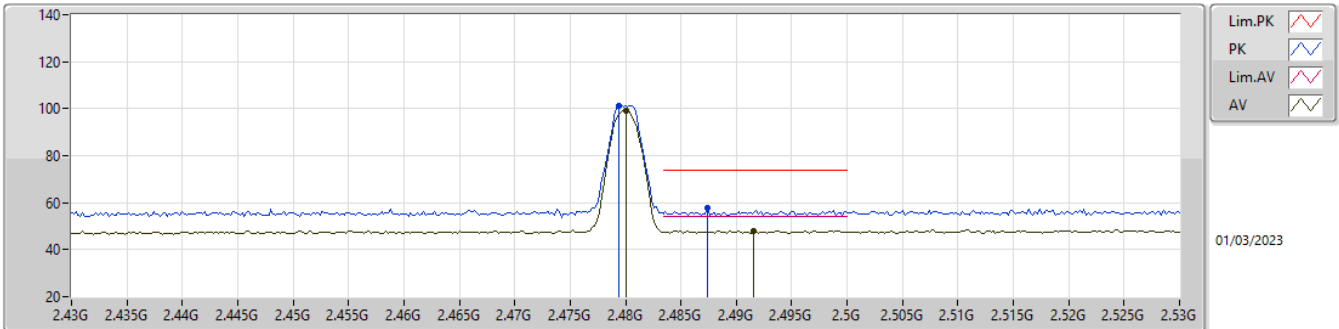
2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX



2.4-2.4835GHz_BT-LE(2Mbps)

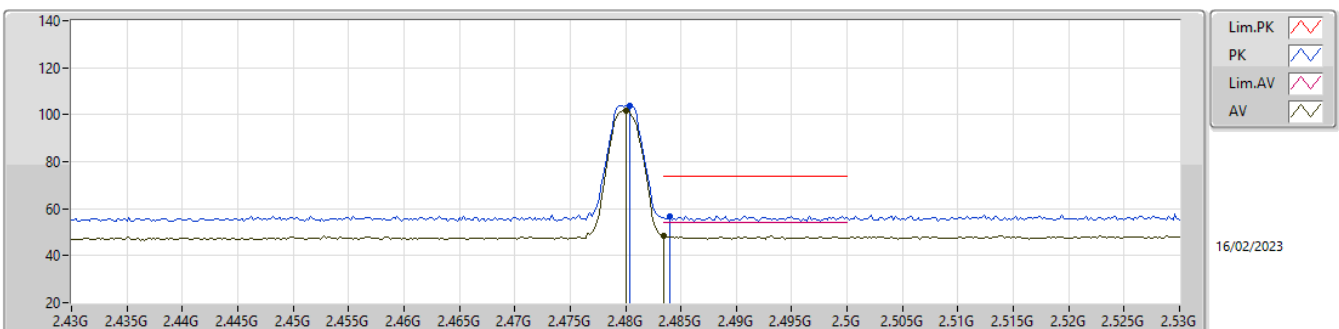
2480MHz_TX



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	99.18	Inf	-Inf	31.50	3	Vertical	110	1.50	67.68	27.66	3.84	-
AV	2.4916G	48.05	54.00	-5.95	31.53	3	Vertical	110	1.50	16.52	27.68	3.85	-
PK	2.4794G	101.17	Inf	-Inf	31.50	3	Vertical	110	1.50	69.67	27.66	3.84	-
PK	2.4874G	57.68	74.00	-16.32	31.51	3	Vertical	110	1.50	26.17	27.67	3.84	-

2.4-2.4835GHz_BT-LE(2Mbps)

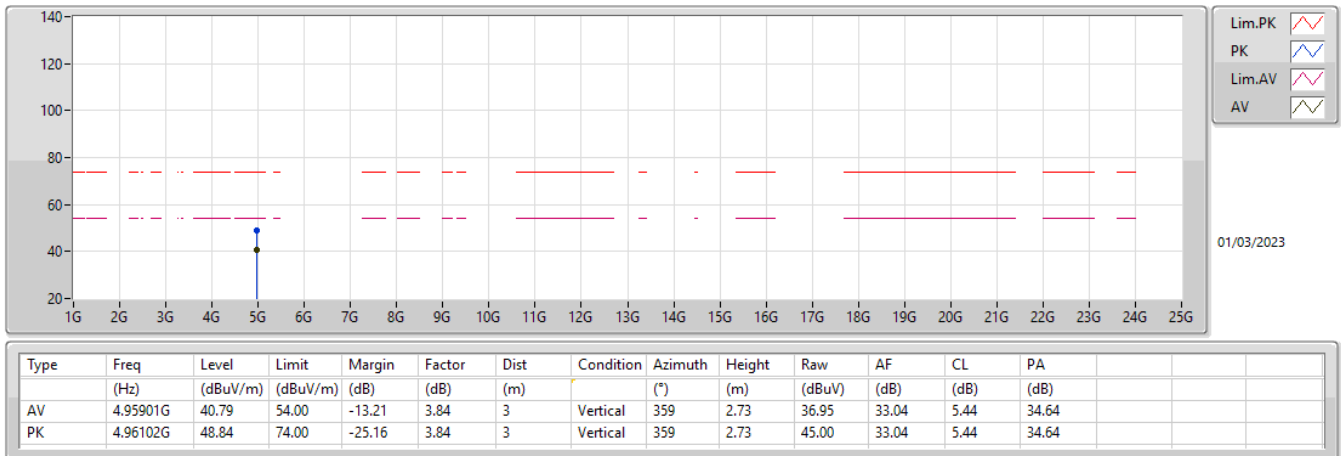
2480MHz_TX



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	101.80	Inf	-Inf	31.88	3	Horizontal	315	1.11	69.92	27.66	4.22	-
AV	2.4835G	48.46	54.00	-5.54	31.89	3	Horizontal	315	1.11	16.57	27.67	4.22	-
PK	2.4804G	103.71	Inf	-Inf	31.88	3	Horizontal	315	1.11	71.83	27.66	4.22	-
PK	2.484G	56.86	74.00	-17.14	31.89	3	Horizontal	315	1.11	24.97	27.67	4.22	-

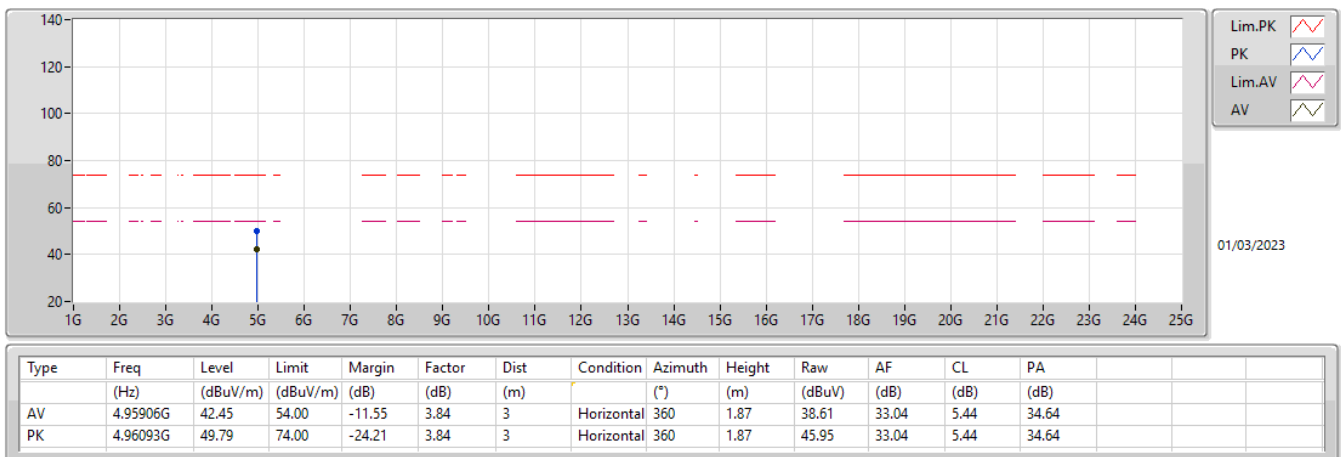
2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



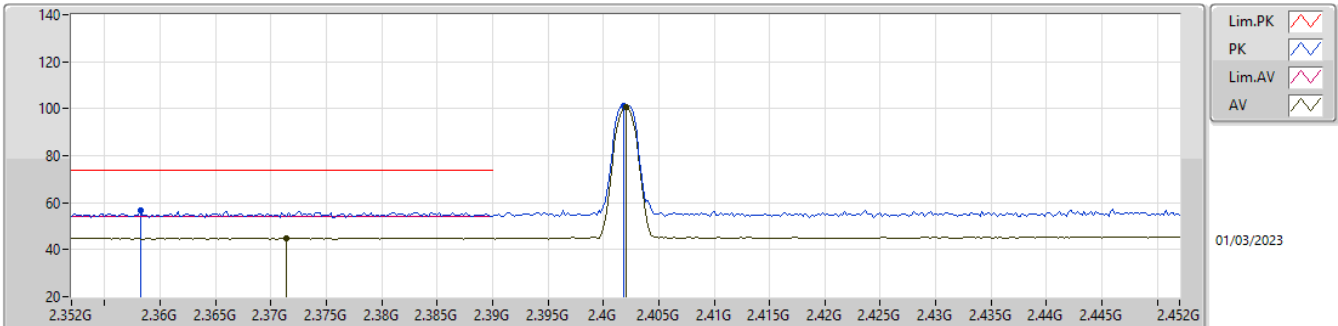
2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



2.4-2.4835GHz_BT-LE(125kbps)

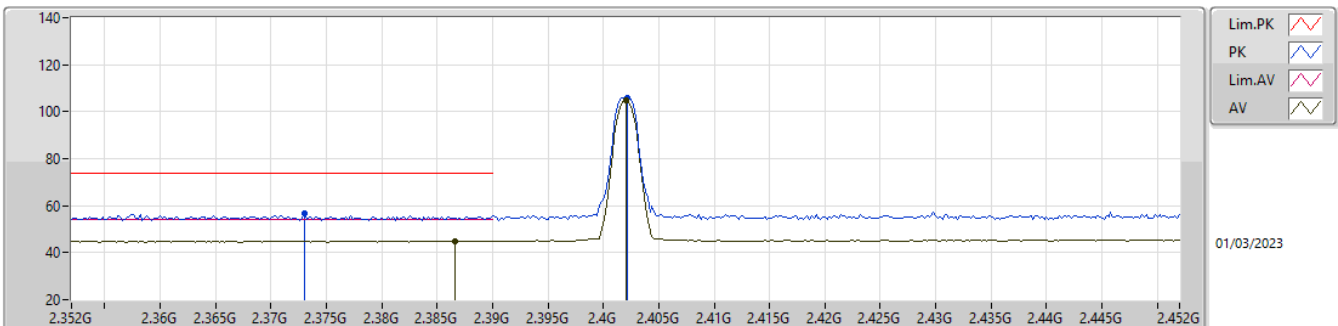
2402MHz_TX



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	2.3714G	44.98	54.00	-9.02	31.08	3	Vertical	119	1.50	13.90	27.34	3.74	-
AV	2.402G	100.47	Inf	-Inf	31.18	3	Vertical	119	1.50	69.29	27.41	3.77	-
PK	2.3582G	56.77	74.00	-17.23	31.05	3	Vertical	119	1.50	25.72	27.32	3.73	-
PK	2.4018G	101.39	Inf	-Inf	31.18	3	Vertical	119	1.50	70.21	27.41	3.77	-

2.4-2.4835GHz_BT-LE(125kbps)

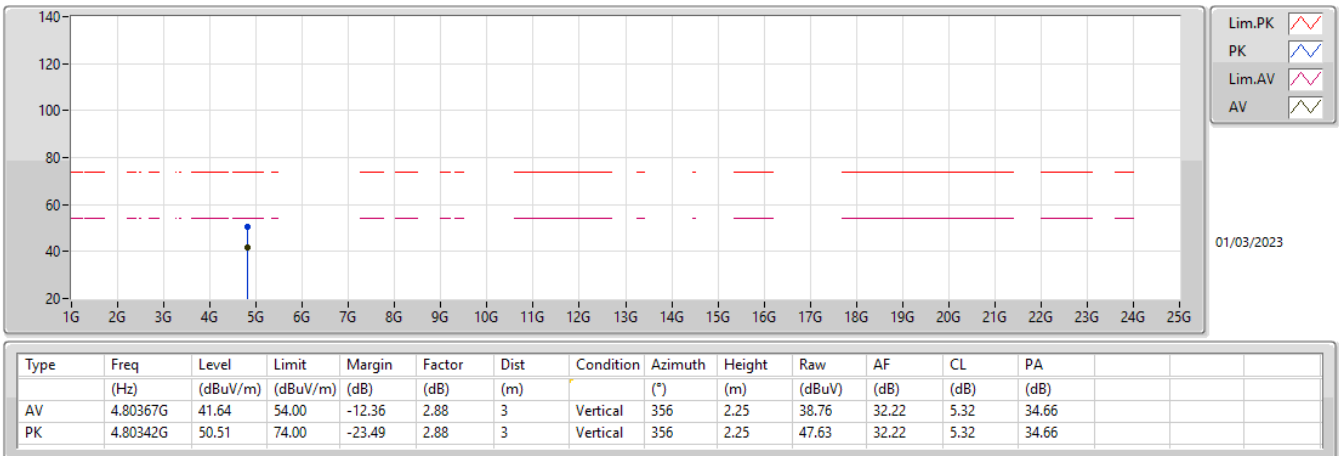
2402MHz_TX



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	2.3866G	45.02	54.00	-8.98	31.13	3	Horizontal	55	2.75	13.89	27.37	3.76	-
AV	2.402G	105.07	Inf	-Inf	31.18	3	Horizontal	55	2.75	73.89	27.41	3.77	-
PK	2.373G	56.49	74.00	-17.51	31.09	3	Horizontal	55	2.75	25.40	27.35	3.74	-
PK	2.4022G	105.96	Inf	-Inf	31.18	3	Horizontal	55	2.75	74.78	27.41	3.77	-

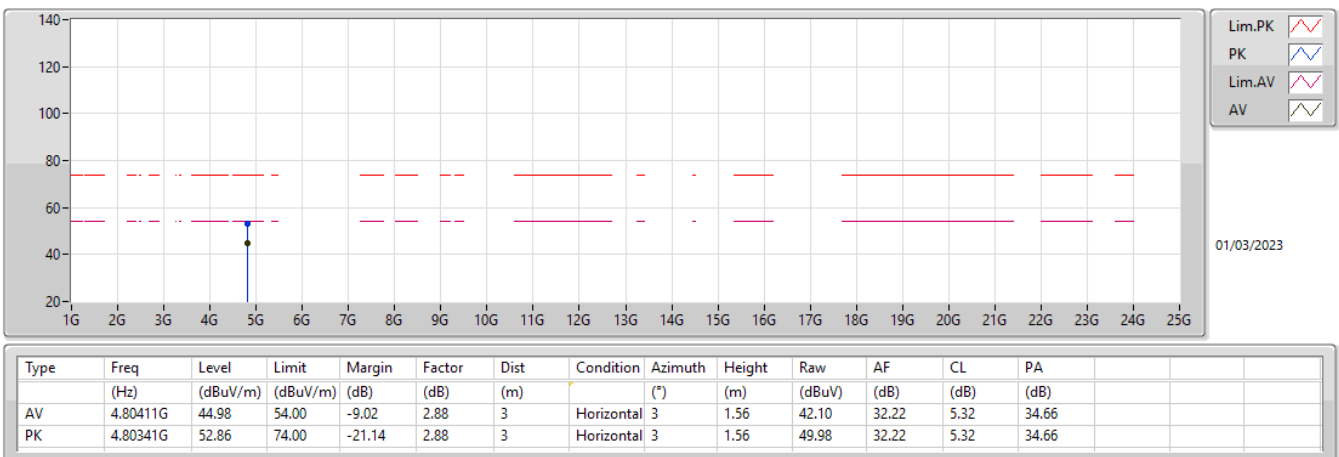
2.4-2.4835GHz_BT-LE(125kbps)

2402MHz_TX



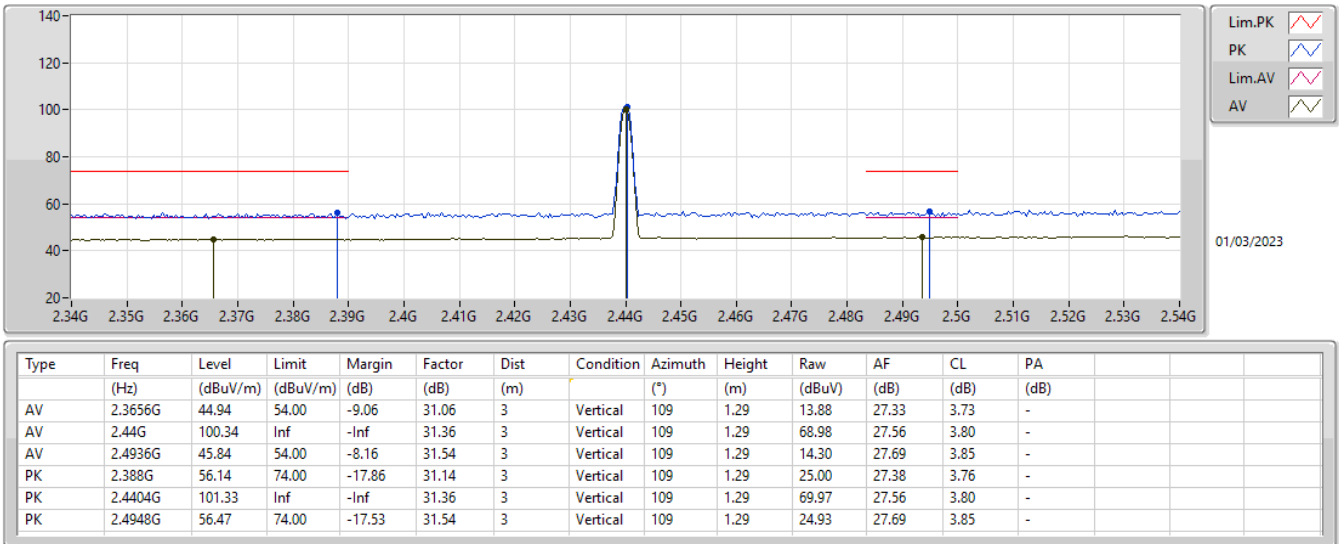
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2402MHz_TX



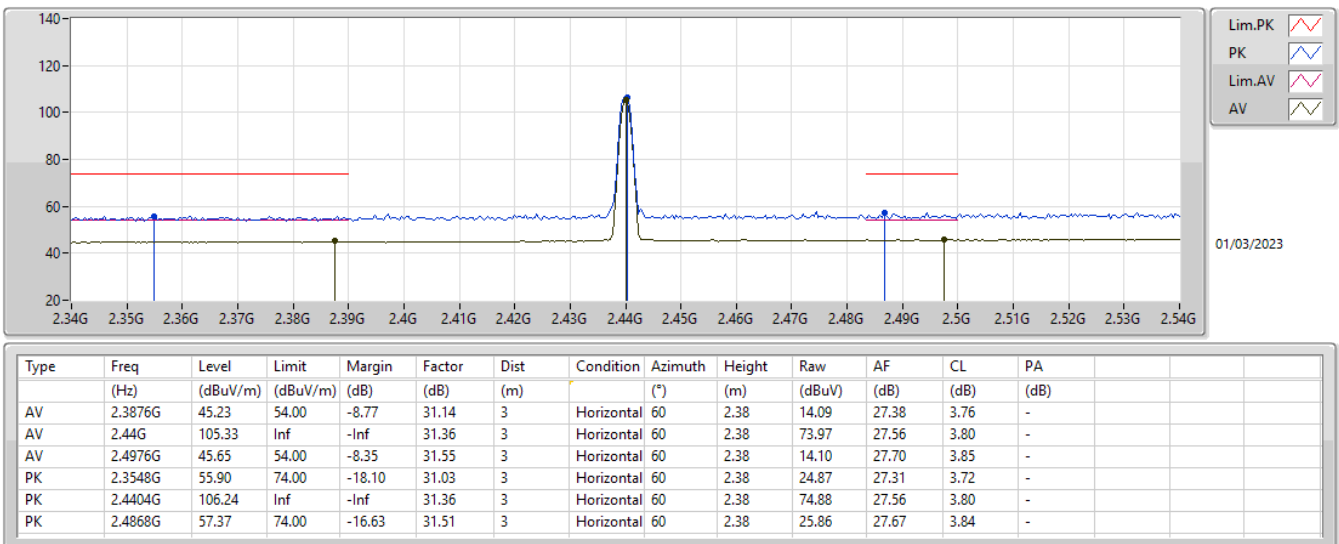
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2440MHz_TX



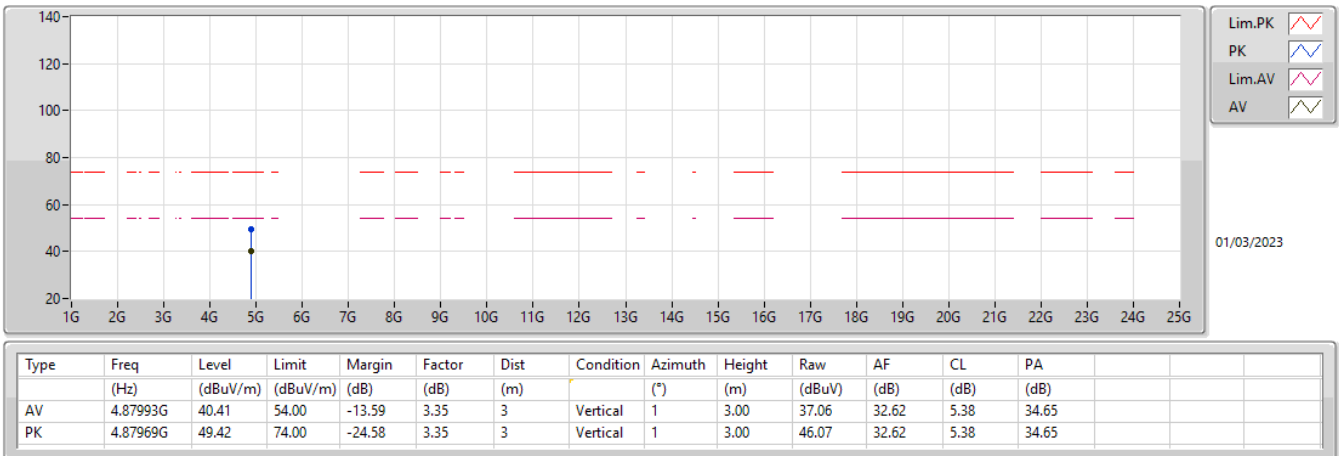
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2440MHz_TX



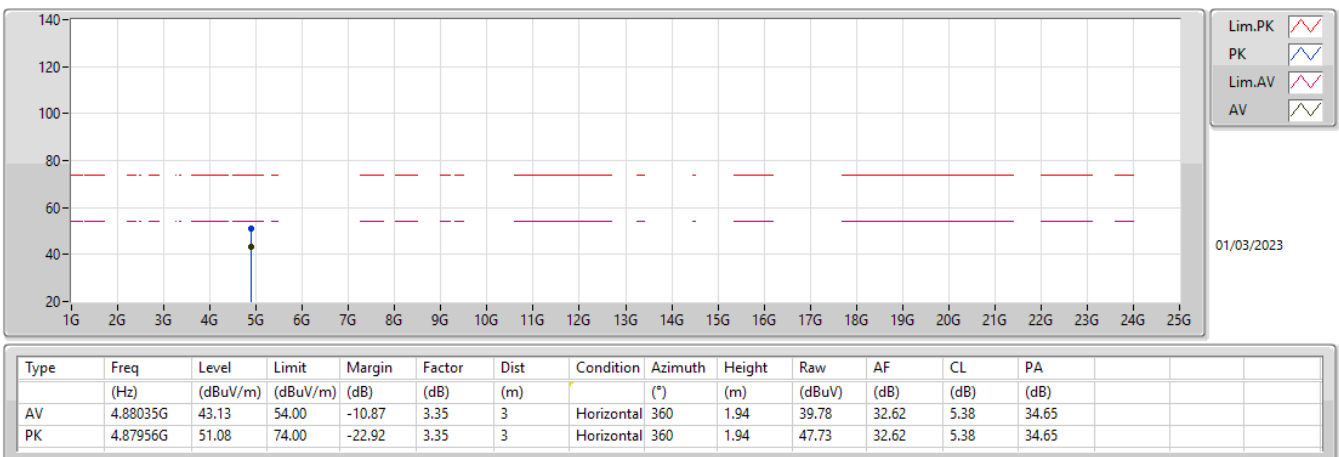
2.4-2.4835GHz_BT-LE(125kbps)

2440MHz_TX



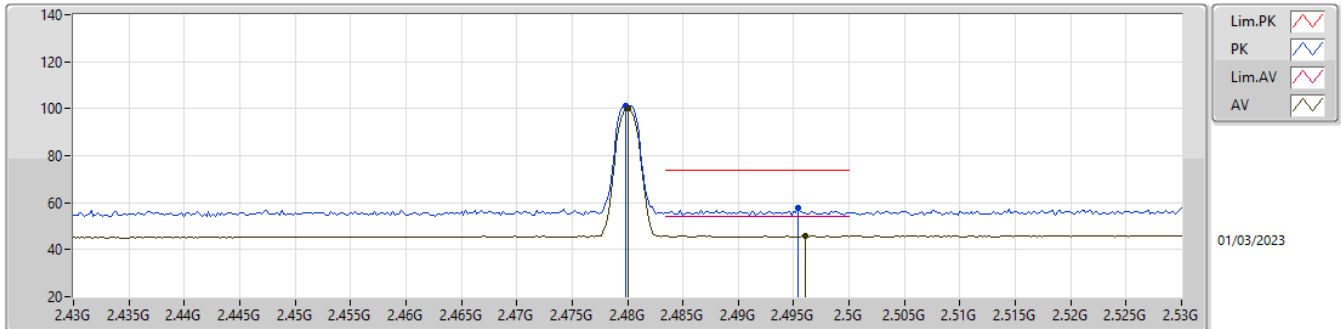
2.4-2.4835GHz_BT-LE(125kbps)

2440MHz_TX



2.4-2.4835GHz_BT-LE(125kbps)

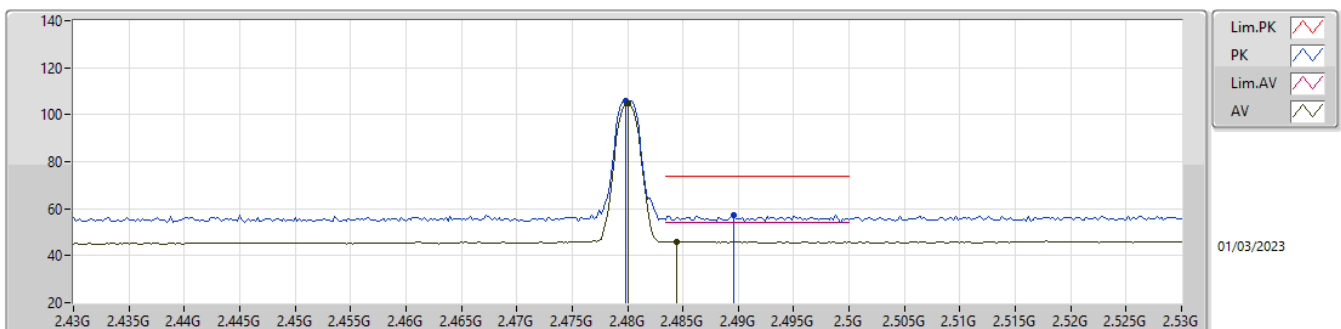
2480MHz_TX



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	100.21	Inf	-Inf	31.50	3	Vertical	111	1.50	68.71	27.66	3.84	-
AV	2.496G	45.87	54.00	-8.13	31.54	3	Vertical	111	1.50	14.33	27.69	3.85	-
PK	2.4798G	101.19	Inf	-Inf	31.50	3	Vertical	111	1.50	69.69	27.66	3.84	-
PK	2.4954G	57.70	74.00	-16.30	31.54	3	Vertical	111	1.50	26.16	27.69	3.85	-

2.4-2.4835GHz_BT-LE(125kbps)

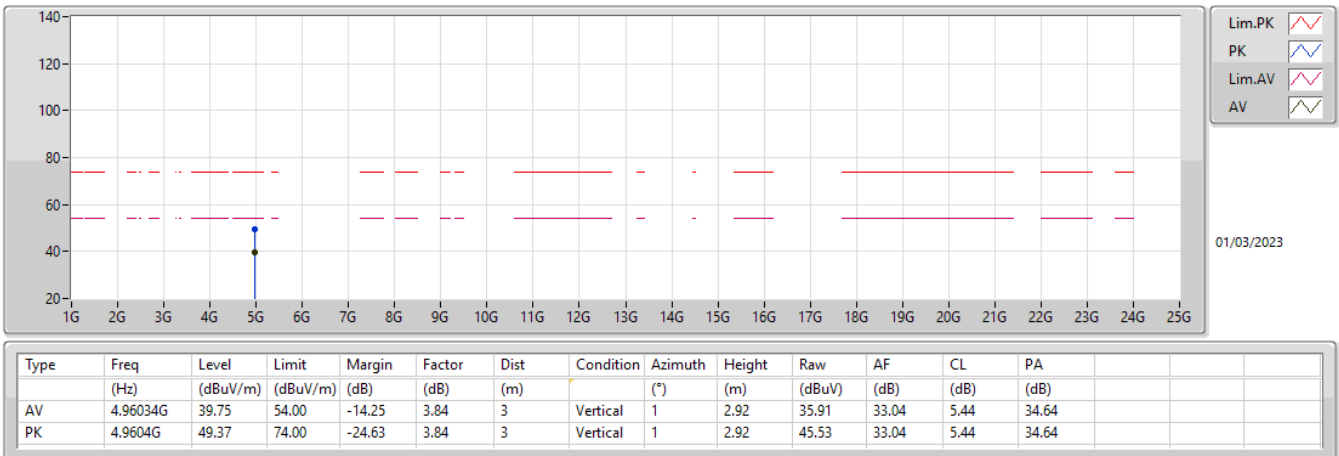
2480MHz_TX



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	104.95	Inf	-Inf	31.50	3	Horizontal	64	2.65	73.45	27.66	3.84	-
AV	2.4844G	46.09	54.00	-7.91	31.51	3	Horizontal	64	2.65	14.58	27.67	3.84	-
PK	2.4798G	105.92	Inf	-Inf	31.50	3	Horizontal	64	2.65	74.42	27.66	3.84	-
PK	2.4896G	57.38	74.00	-16.62	31.53	3	Horizontal	64	2.65	25.85	27.68	3.85	-

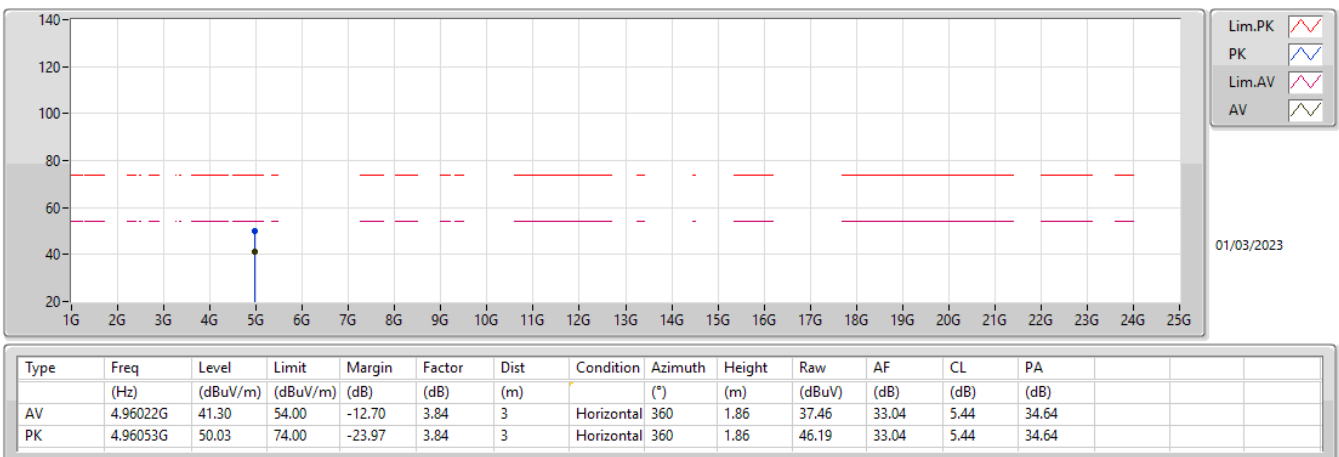
2.4-2.4835GHz_BT-LE(125kbps)

2480MHz_TX



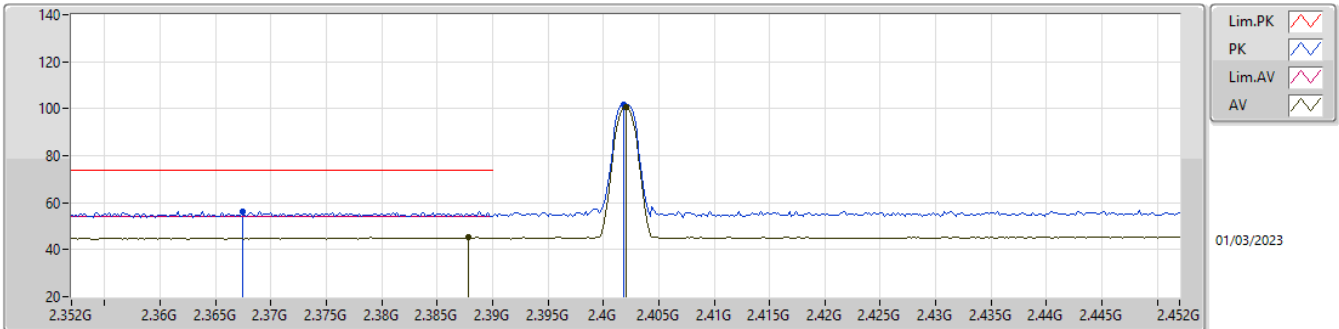
2.4-2.4835GHz_BT-LE(125kbps)

2480MHz_TX



2.4-2.4835GHz_BT-LE(500kbps)

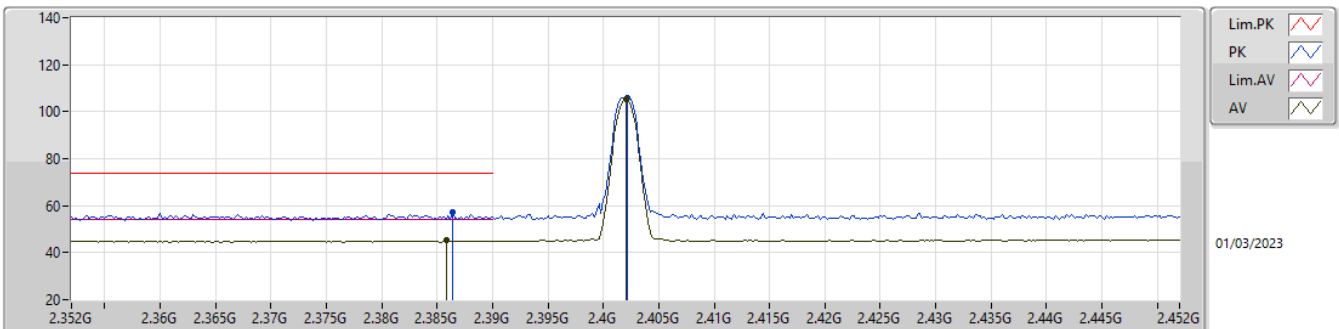
2402MHz_TX



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	2.3878G	45.19	54.00	-8.81	31.14	3	Vertical	121	1.50	14.05	27.38	3.76	-
AV	2.402G	100.92	Inf	-Inf	31.18	3	Vertical	121	1.50	69.74	27.41	3.77	-
PK	2.3674G	56.23	74.00	-17.77	31.07	3	Vertical	121	1.50	25.16	27.33	3.74	-
PK	2.4018G	101.57	Inf	-Inf	31.18	3	Vertical	121	1.50	70.39	27.41	3.77	-

2.4-2.4835GHz_BT-LE(500kbps)

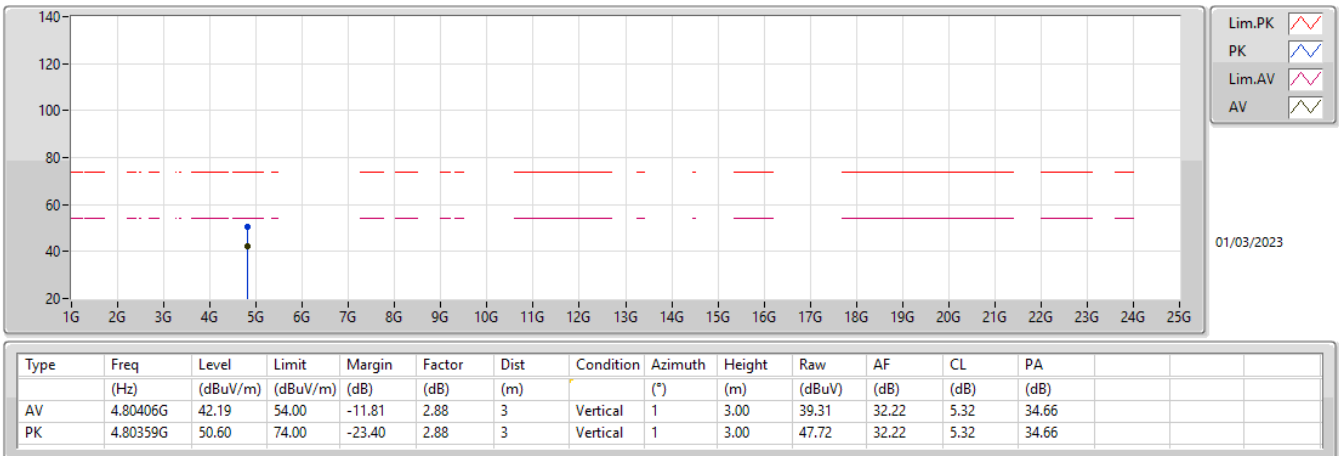
2402MHz_TX



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	2.3858G	45.18	54.00	-8.82	31.13	3	Horizontal	57	2.75	14.05	27.37	3.76	-
AV	2.402G	105.16	Inf	-Inf	31.18	3	Horizontal	57	2.75	73.98	27.41	3.77	-
PK	2.3864G	57.23	74.00	-16.77	31.13	3	Horizontal	57	2.75	26.10	27.37	3.76	-
PK	2.4022G	105.92	Inf	-Inf	31.18	3	Horizontal	57	2.75	74.74	27.41	3.77	-

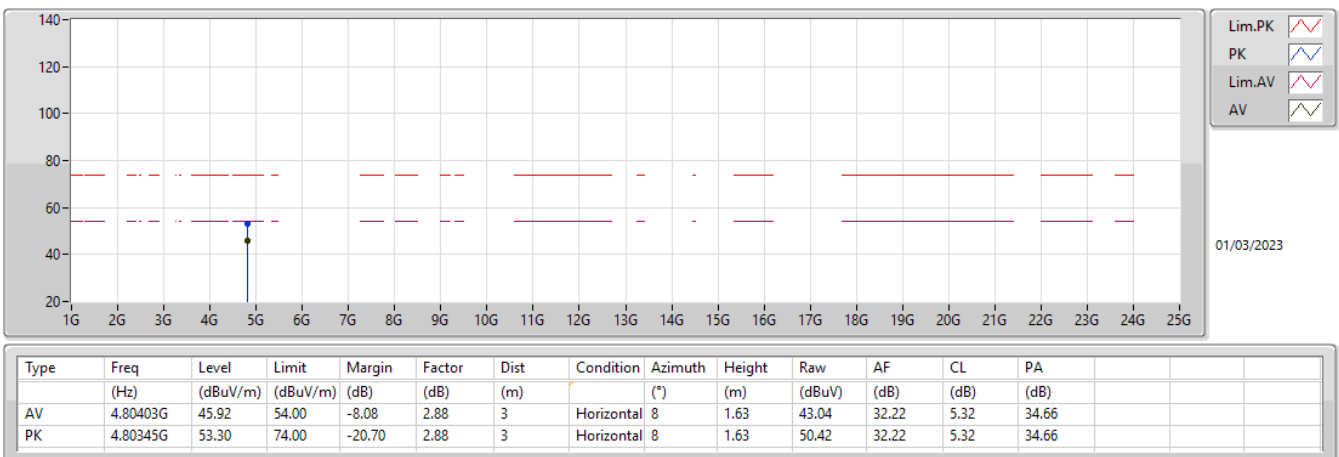
2.4-2.4835GHz_BT-LE(500kbps)

2402MHz_TX



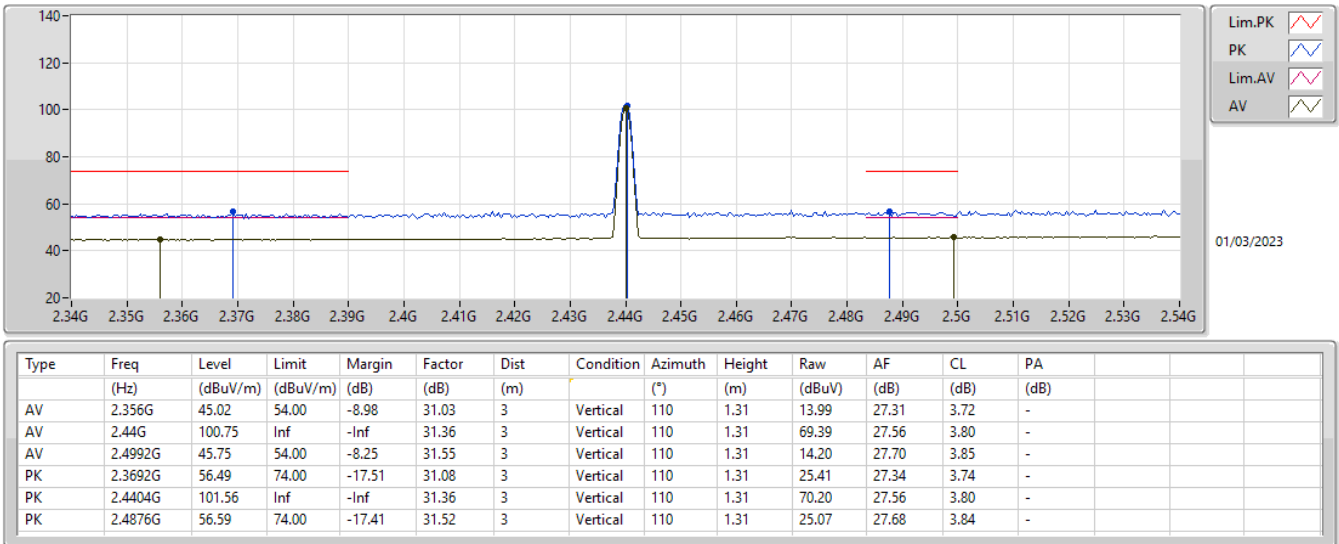
2.4-2.4835GHz_BT-LE(500kbps)

2402MHz_TX



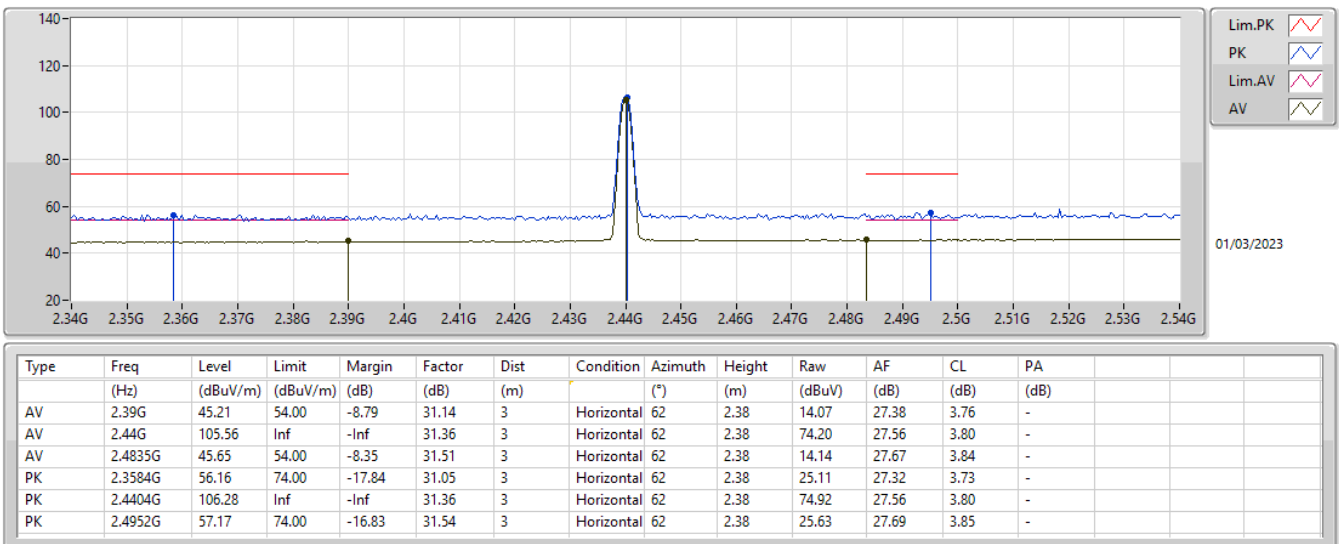
2.4-2.4835GHz_BT-LE(500kbps)

2440MHz_TX



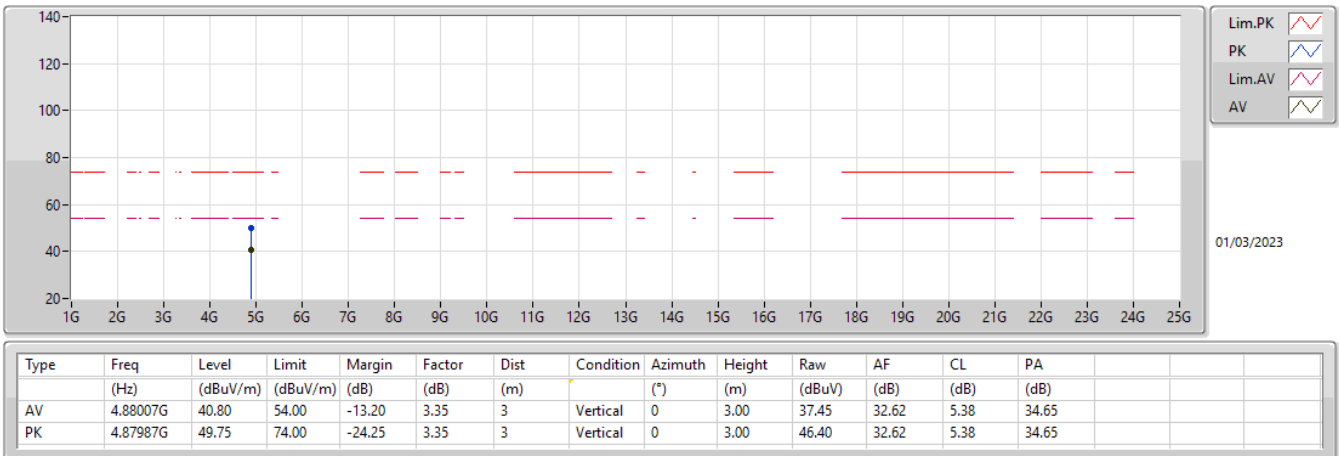
2.4-2.4835GHz_BT-LE(500kbps)

2440MHz_TX



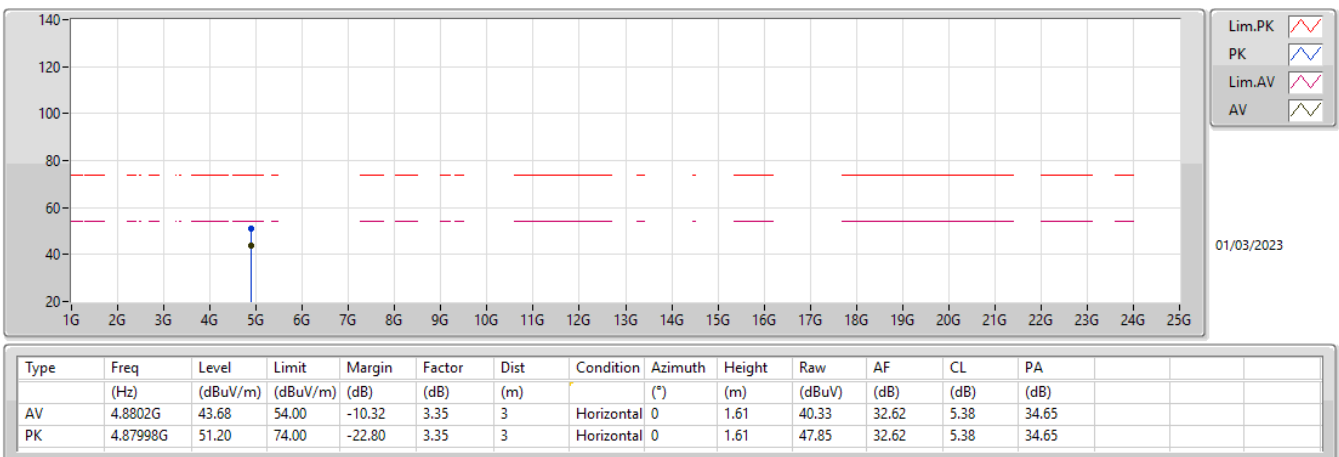
2.4-2.4835GHz_BT-LE(500kbps)

2440MHz_TX



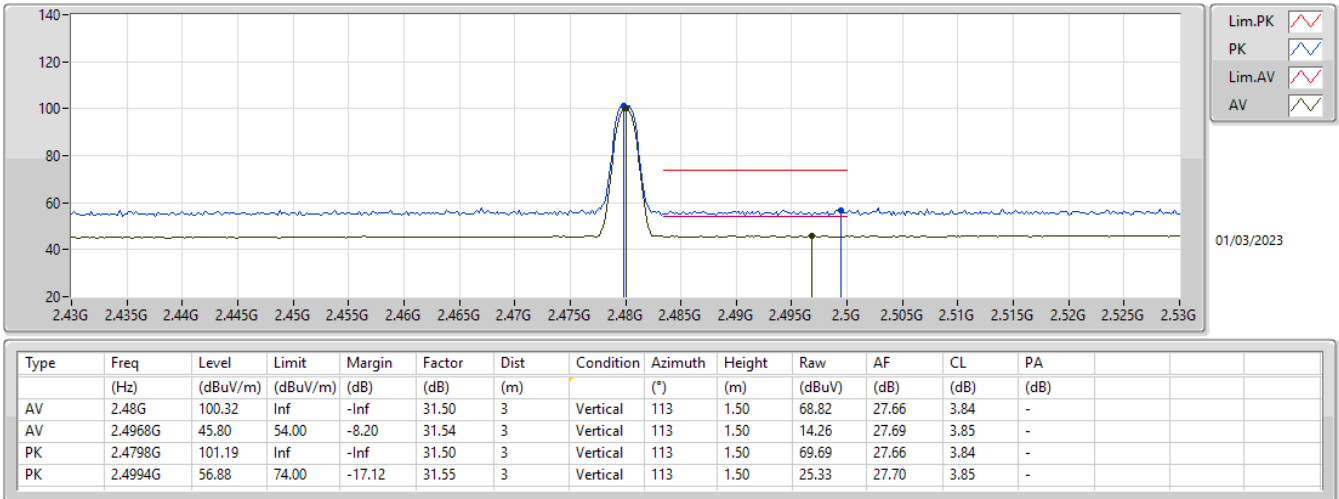
2.4-2.4835GHz_BT-LE(500kbps)

2440MHz_TX



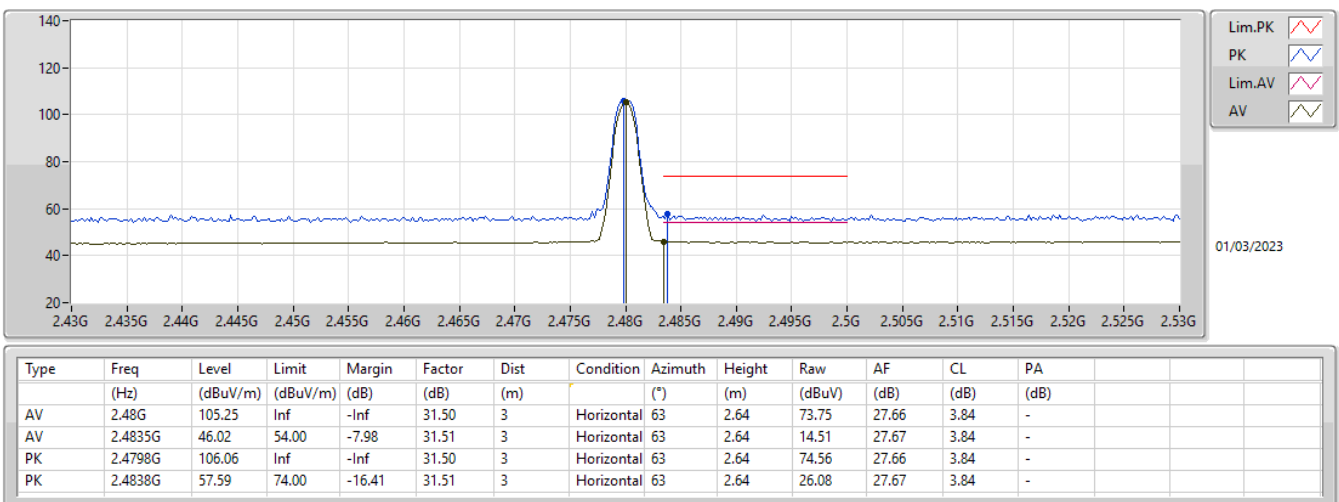
2.4-2.4835GHz_BT-LE(500kbps)

2480MHz_TX



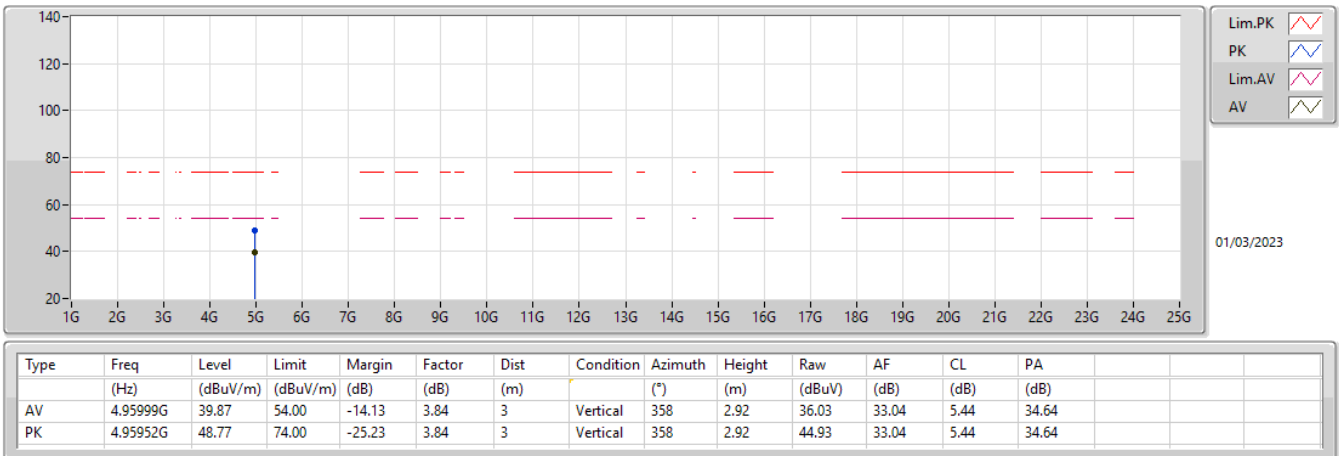
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2480MHz_TX



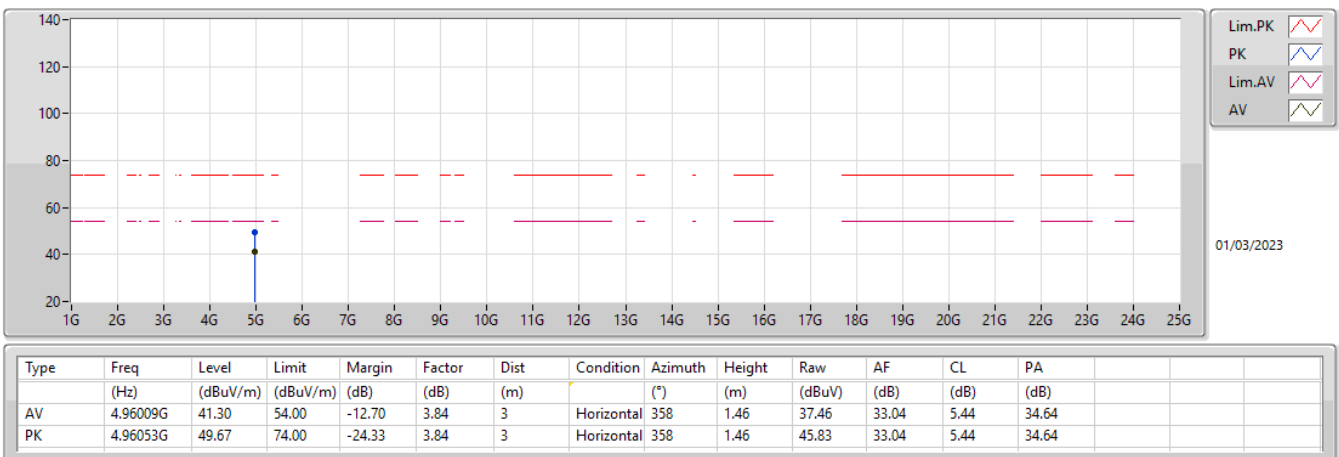
2.4-2.4835GHz_BT-LE(500kbps)

2480MHz_TX



2.4-2.4835GHz_BT-LE(500kbps)

2480MHz_TX





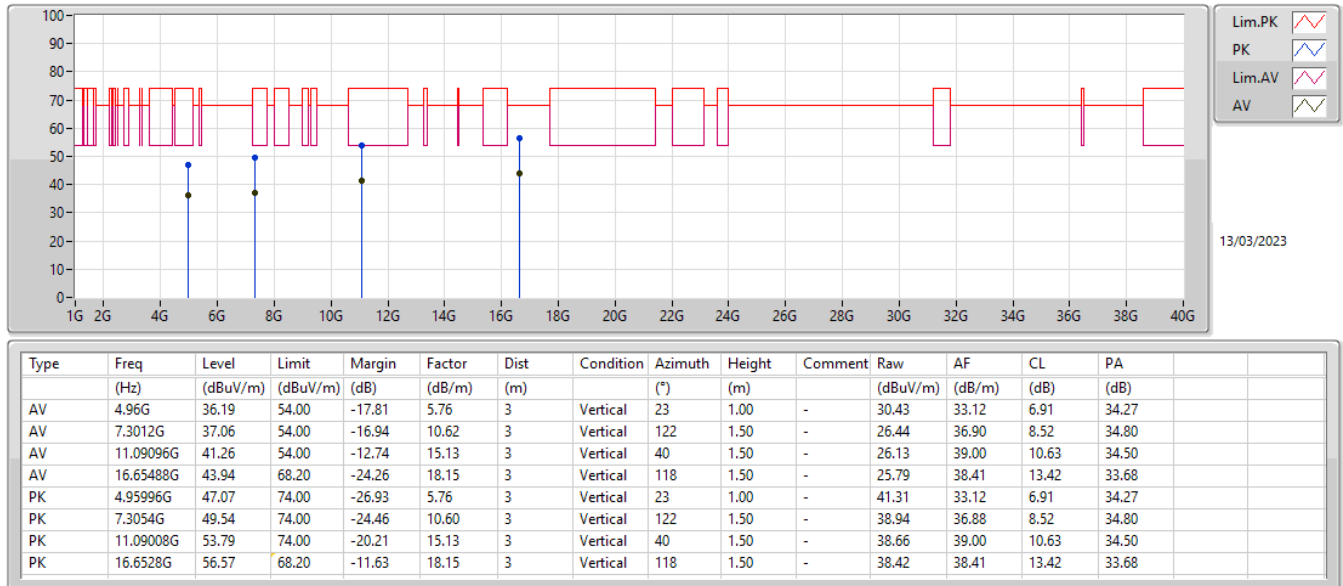
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	PK	16.6528G	56.57	68.20	-11.63	Vertical

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	4.96G	36.19	54.00	-17.81	3	Vertical	23	1.00	-
Mode 1	Pass	AV	7.3012G	37.06	54.00	-16.94	3	Vertical	122	1.50	-
Mode 1	Pass	AV	11.09096G	41.26	54.00	-12.74	3	Vertical	40	1.50	-
Mode 1	Pass	AV	16.65488G	43.94	68.20	-24.26	3	Vertical	118	1.50	-
Mode 1	Pass	PK	4.95996G	47.07	74.00	-26.93	3	Vertical	23	1.00	-
Mode 1	Pass	PK	7.3054G	49.54	74.00	-24.46	3	Vertical	122	1.50	-
Mode 1	Pass	PK	11.09008G	53.79	74.00	-20.21	3	Vertical	40	1.50	-
Mode 1	Pass	PK	16.6528G	56.57	68.20	-11.63	3	Vertical	118	1.50	-
Mode 1	Pass	AV	4.96004G	37.08	54.00	-16.92	3	Horizontal	30	1.46	-
Mode 1	Pass	AV	7.30072G	36.92	54.00	-17.08	3	Horizontal	287	2.27	-
Mode 1	Pass	AV	11.09817G	41.18	54.00	-12.82	3	Horizontal	242	1.50	-
Mode 1	Pass	AV	16.66G	44.16	68.20	-24.04	3	Horizontal	291	1.49	-
Mode 1	Pass	PK	4.95976G	47.15	74.00	-26.85	3	Horizontal	30	1.46	-
Mode 1	Pass	PK	7.30444G	48.92	74.00	-25.08	3	Horizontal	287	2.27	-
Mode 1	Pass	PK	11.09951G	53.63	74.00	-20.37	3	Horizontal	242	1.50	-
Mode 1	Pass	PK	16.64204G	56.21	68.20	-11.99	3	Horizontal	291	1.49	-

Mode 1



Mode 1

