



FCC Radio Test Report

FCC ID : HDC-17600030F1
Contains FCC ID : HDC-649B
Equipment : WiFi 6 Mesh AP
Brand Name : **ADTRAN**[®]
Model Name : 841-t6YYYYYY(Y can be 0-9, a-z, A-Z, blank, "+" or "-" or "#")
Applicant : Adtran
901 Explorer Blvd., Huntsville, AL 35806, USA
Manufacturer : XAVi Technologies Corporation
22F., No.69, Sec. 2, Guangfu Rd., Sanchong Dist.,
New Taipei City 241, Taiwan (R.O.C.)
Standard : 47 CFR FCC Part 15.247

The product was received on Aug. 20, 2021, and testing was started from Sep. 16, 2021 and completed on Sep. 24, 2021. 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: Allen Lin

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



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TEL : 886-3-3273456
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Report Template No.: HE1-C10 Ver4.2
FCC ID: HDC-17600030F1

Summary of Test Result

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

Declaration of Conformity:

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

Comments and explanations:

None

Reviewed by: Ben Tseng

Report Producer: Jenny Yang

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

Note:

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

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Support
1	Galtronics	02036142-07357-1	PIFA	N/A	5G DFS RX
2	Galtronics	02036073-07357-3	PIFA	N/A	BT
3	Galtronics	60-2962-03-4	PCB	U.FL	2.4G+5G
4	Galtronics	60-2962-03-3	PCB	U.FL	2.4G+5G
5	Galtronics	60-2888-03-1	PCB	U.FL	5G
6	Galtronics	60-2791-03	PCB	U.FL	5G
7	Galtronics	60-2791-03	PCB	U.FL	5G
8	Galtronics	60-2888-03-1	PCB	U.FL	5G

Non-Beamforming

Ant.	Port	Gain (dBi)		
		2.4G	5G	BT
1	1	-	4.7	-
2	1	-	-	5.3
3	1	2.7	3.7	-
4	2	2.7	3.7	-
5	1	-	3.9	-
6	2	-	2.1	-
7	3	-	2.1	-
8	4	-	3.9	-

Note 1: The EUT has eight antennas.

For 2.4GHz function:

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

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

For BT function:

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

Only Ant. 2 (port 1) can be used as transmitting/receiving.

For 5GHz function (Low Band):

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

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

For 5GHz function (High Band):

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

Ant. 5 (port 1), Ant. 6 (port 2), Ant. 7 (port 3) and Ant. 8 (port 4) could transmit/receive simultaneously.

1.1.3 EUT Information

Operational Condition			
EUT Power Type		From AC Adapter	
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)	0.85	0.71	2.124m	1k

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

1.1.5 Table for Multiple Listing

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

Model Name	Description
841-t6YYYYYY(Y can be 0-9, a-z, A-Z, blank, "+" or "-" or "#")	All the models are identical, the difference model served as marketing strategy.

1.2 Testing Applied Standards

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

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

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

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

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	TEL: 886-3-327-3456		FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward Wang	23.0~23.5°C / 60~61%	23/Sep/2021
RF Conducted	TH01-HY	Johnny Yu	20.1~26.9°C / 50~60%	16/Sep/2021~24/Sep/2021
Radiated	03CH03-HY	Edward Wang	24.2~25.2°C / 50~60%	23/Sep/2021
☐ 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
Conducted Emission (150kHz ~ 30MHz)	0.9 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.0 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	WCN Combo Tool [2.1942.00]
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Mode	Power Setting
BT-LE(1Mbps)	-
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	Adapter 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	Adapter mode
Operating Mode > 1GHz	CTX
Orthogonal Planes of EUT	Y Plane
	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Operating Mode	CTX
1	Bluetooth+WLAN 2.4GHz+WLAN 5GHz (Low Band)+WLAN 5GHz (High Band)
Refer to Sporton Test Report No.: FA182051 for Co-location RF Exposure Evaluation.	

2.3 Accessories

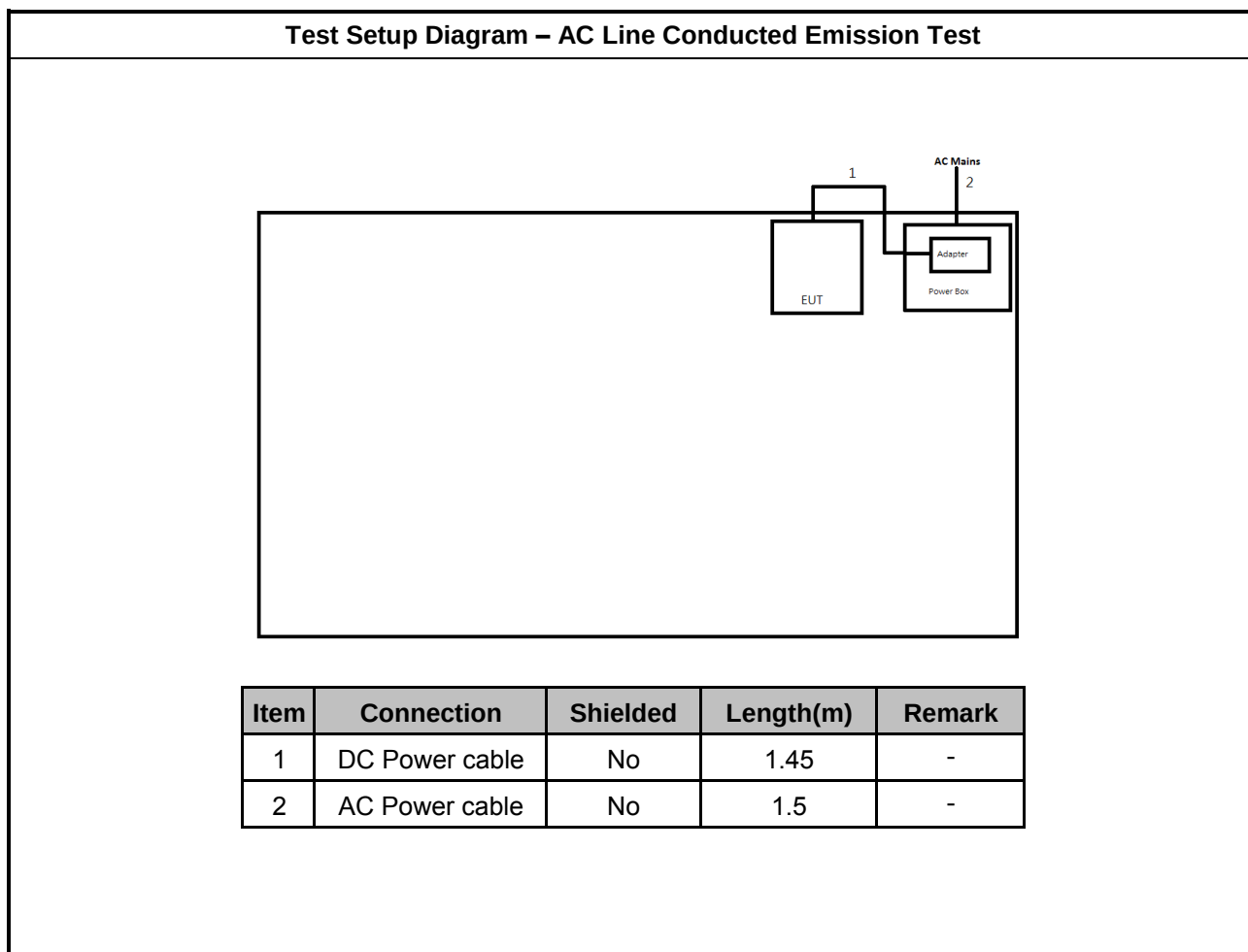
Accessories				
AC Adapter	Brand Name	MASS POWER	Model Name	S030-1A120250VU
	Power Rating	I/P: 100 - 240 Vac, 0.8 A, O/P: 12.0 Vdc, 2.5 A		
	Power Cord	1.45 meter, non-shielded cable, w/o ferrite core		

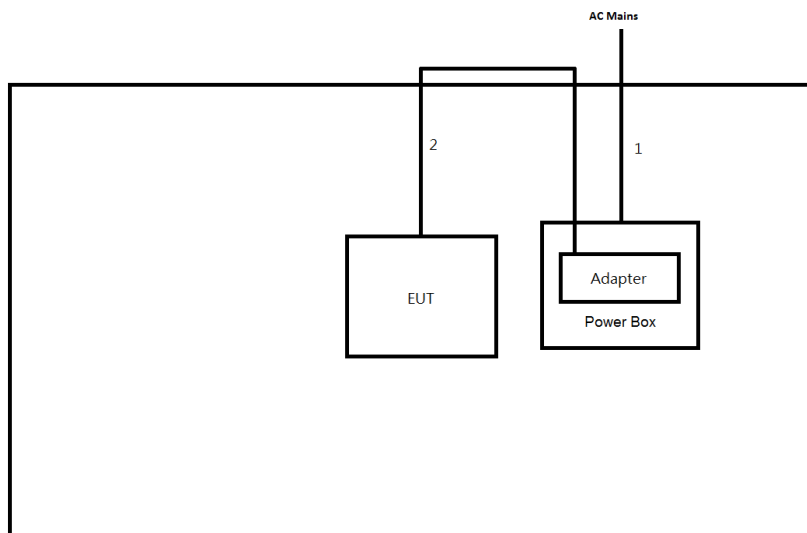
Reminder: Regarding to more detail and other information, please refer to user manual.

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	-	-

2.5 Test Setup Diagram



Test Setup Diagram - Radiated Test


Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.45	-

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

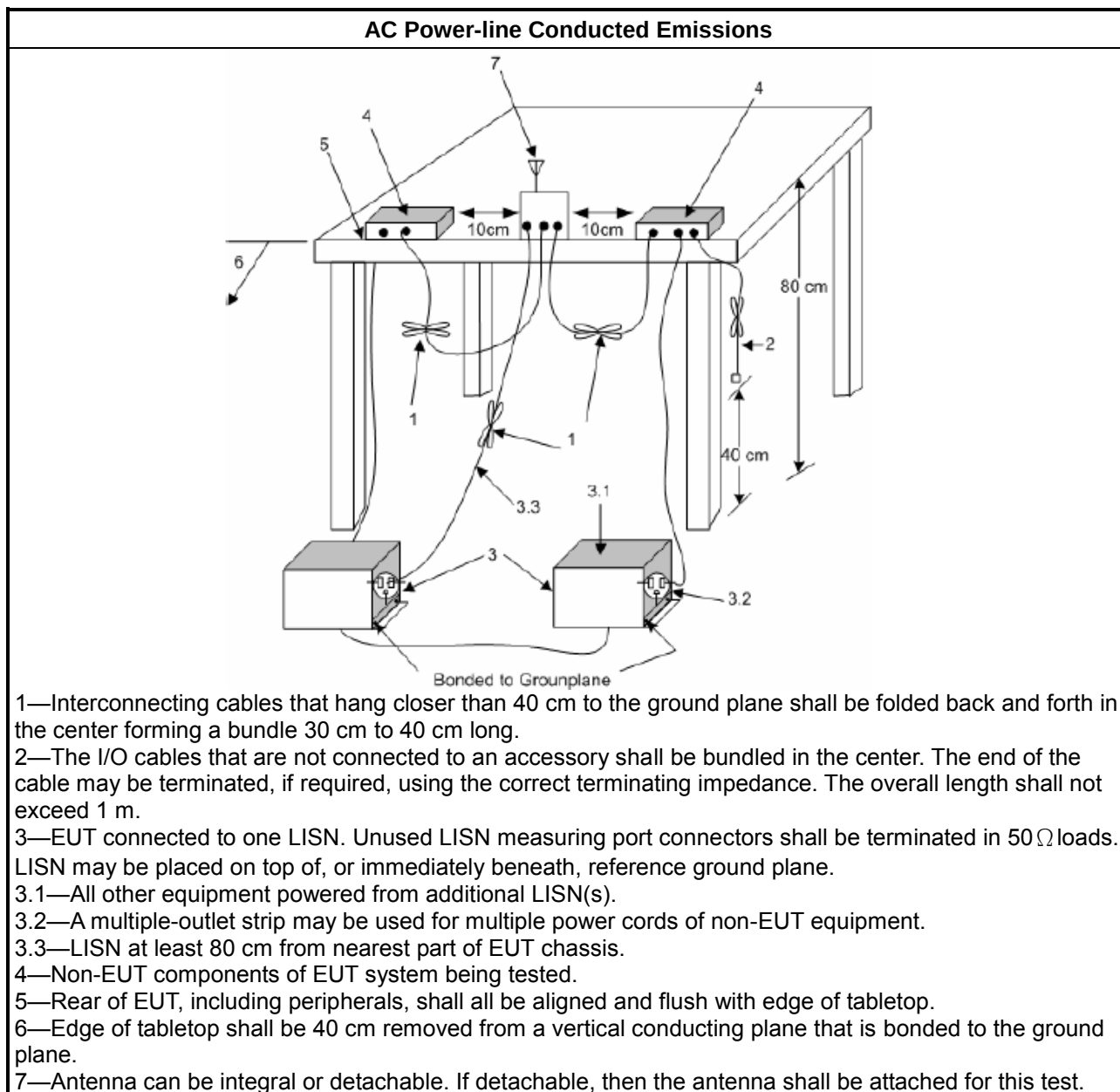
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

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.

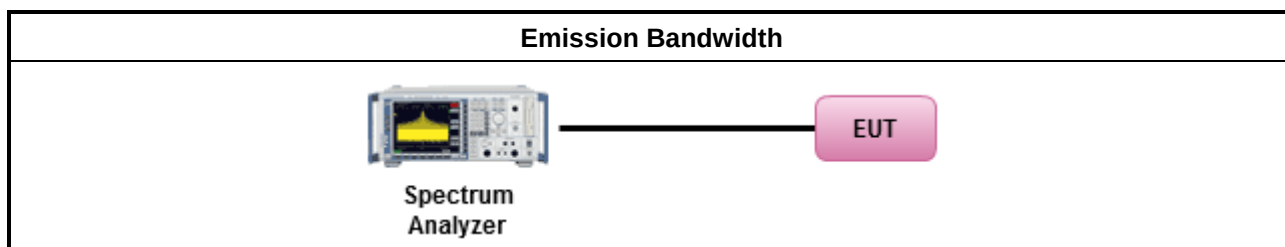
3.2.2 Measuring Instruments

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.	

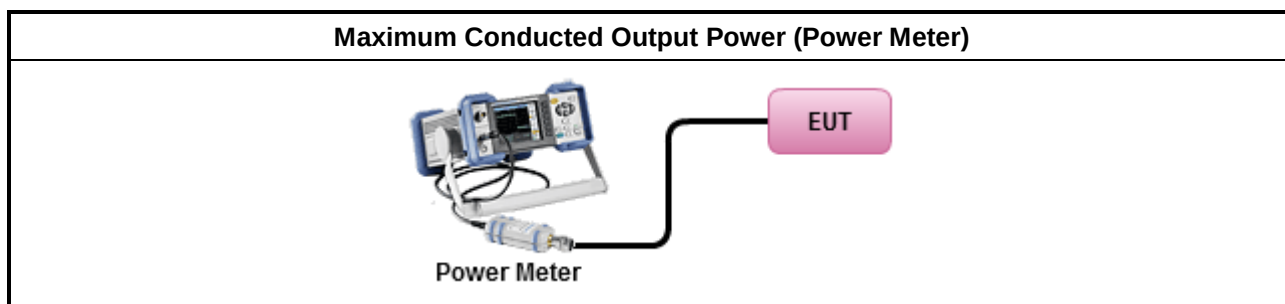
3.3.2 Measuring Instruments

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

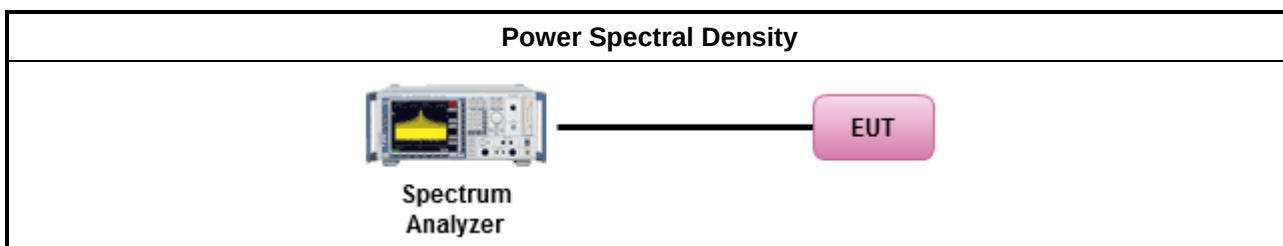
3.4.2 Measuring Instruments

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.	

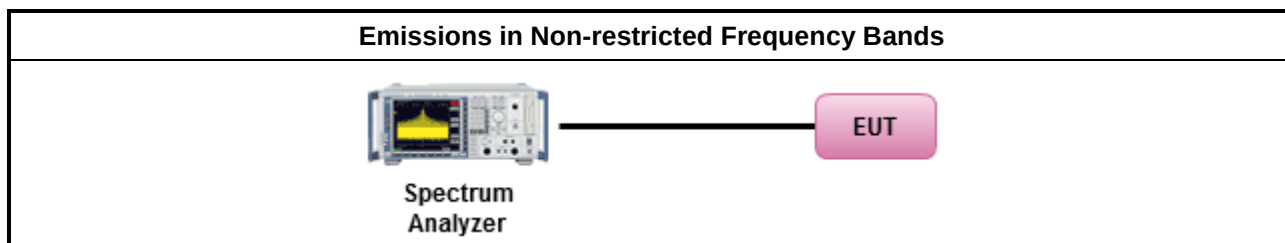
3.5.2 Measuring Instruments

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

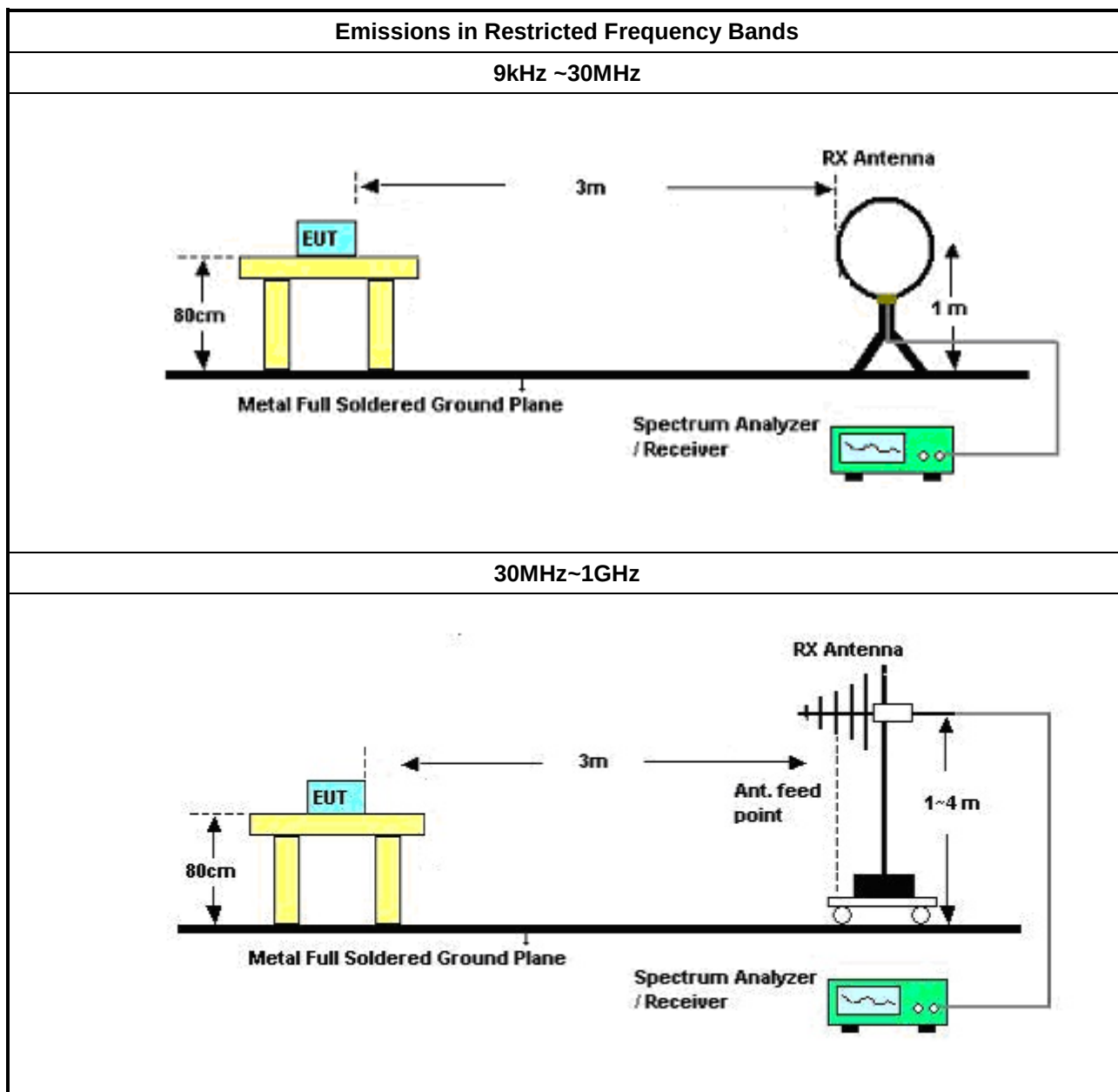
Test Method	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted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

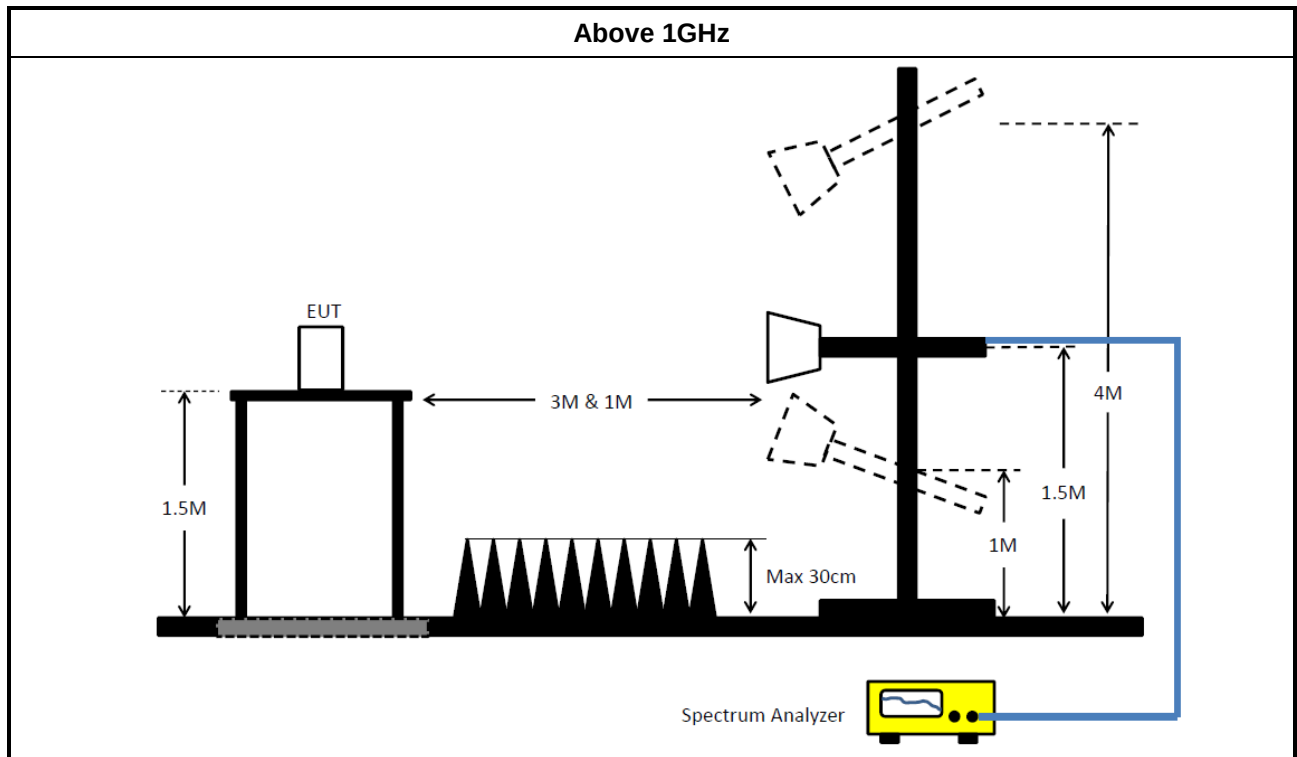
3.6.4 Measurement Results Calculation

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	102052	9kHz ~ 3.6GHz	19/Apr/2021	18/Apr/2022
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	11/Nov/2020	10/Nov/2021
RF Cable 5m	TITAN	TITAN	CO04-cable-01	0.1MHz~200MHz	03/Mar/2021	02/Mar/2022
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	15/Sep/2021	14/Sep/2022

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	30/Mar/2021	29/Mar/2022
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	20/Oct/2020	19/Oct/2021
Pulse Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	23/Feb/2021	22/Feb/2022
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	23/Feb/2021	22/Feb/2022

Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	03/Aug/2021	02/Aug/2022
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	03/Aug/2021	02/Aug/2022
Signal Analyzer	R&S	FSV40	101515	10Hz~40GHz	26/Mar/2021	25/Mar/2022
Amplifier	HP	8447D	2944A08033	10kHz~1.3GHz	13/Apr/2021	12/Apr/2022
Microwave System Preamplifier	Agilent	8449B	3008A02326	1GHz~26.5GHz	15/Jul/2021	14/Jul/2022
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMCI	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	25/Oct/2020	24/Oct/2021
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1531	1GHz~18GHz	24/Mar/2021	23/Mar/2022
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	16/Jun/2021	15/Jun/2022
RF Cable-R03m	Jye Bao	RG142	MY37335/4+CB021-1+CB021-2	30MHz~1GHz	17/Mar/2021	16/Mar/2022
RF CABLE 5+6m	HUBER+SUHNER	SUOFLEX 104	SN MY38596/4+SN 804300/4	1GHz~40GHz	28/Jul/2021	27/Jul/2022
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz~40GHz	11/Mar/2021	10/Mar/2022
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	09/Mar/2021	08/Mar/2022
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2021	15/Mar/2022
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	19/Apr/2021	18/Apr/2022



Conducted Emissions at Powerline

Appendix A

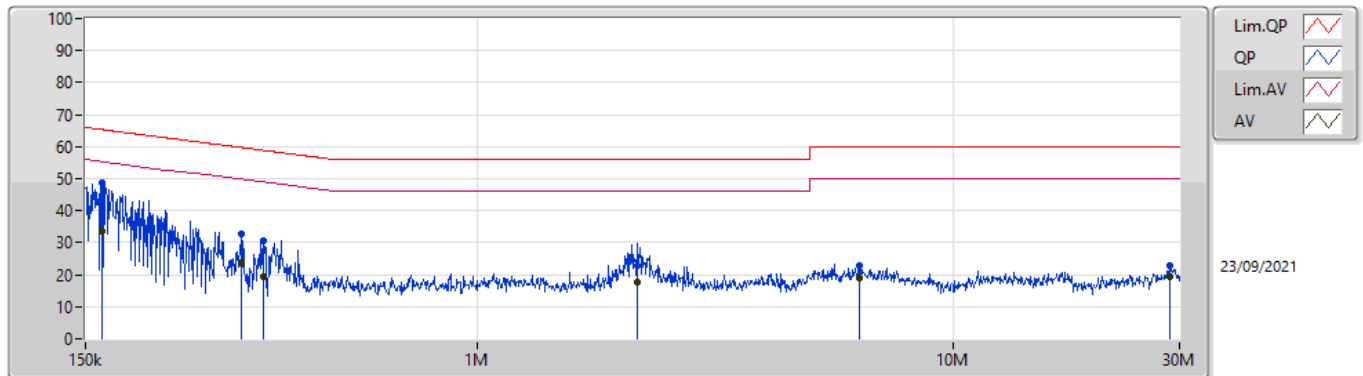
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	150.6k	51.40	65.96	-14.56	Neutral

Mode Configure

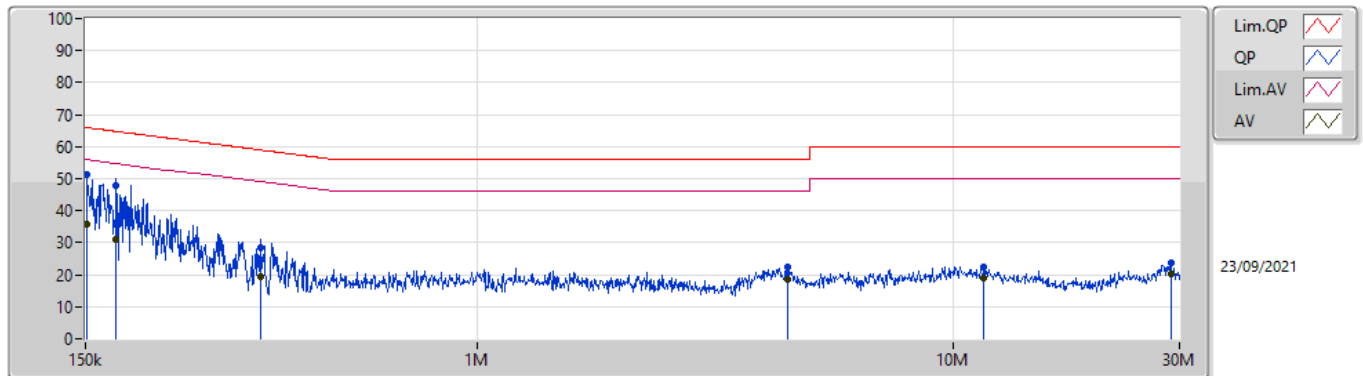
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	162.467k	48.81	65.33	-16.52	Line	-
Mode 1	Pass	AV	162.467k	33.64	55.33	-21.69	Line	-
Mode 1	Pass	QP	318.98k	32.64	59.73	-27.09	Line	-
Mode 1	Pass	AV	318.98k	23.57	49.73	-26.16	Line	-
Mode 1	Pass	QP	355.282k	30.66	58.83	-28.17	Line	-
Mode 1	Pass	AV	355.282k	19.36	48.83	-29.47	Line	-
Mode 1	Pass	QP	2.167M	23.02	56.00	-32.98	Line	-
Mode 1	Pass	AV	2.167M	17.86	46.00	-28.14	Line	-
Mode 1	Pass	QP	6.369M	23.06	60.00	-36.94	Line	-
Mode 1	Pass	AV	6.369M	19.02	50.00	-30.98	Line	-
Mode 1	Pass	QP	28.685M	22.90	60.00	-37.10	Line	-
Mode 1	Pass	AV	28.685M	19.58	50.00	-30.42	Line	-
Mode 1	Pass	QP	150.6k	51.40	65.96	-14.56	Neutral	-
Mode 1	Pass	AV	150.6k	35.89	55.96	-20.07	Neutral	-
Mode 1	Pass	QP	173.876k	48.04	64.78	-16.74	Neutral	-
Mode 1	Pass	AV	173.876k	31.14	54.78	-23.64	Neutral	-
Mode 1	Pass	QP	349.654k	28.40	58.96	-30.56	Neutral	-
Mode 1	Pass	AV	349.654k	19.50	48.96	-29.46	Neutral	-
Mode 1	Pass	QP	4.5M	22.39	56.00	-33.61	Neutral	-
Mode 1	Pass	AV	4.5M	18.69	46.00	-27.31	Neutral	-
Mode 1	Pass	QP	11.637M	22.60	60.00	-37.40	Neutral	-
Mode 1	Pass	AV	11.637M	19.11	50.00	-30.89	Neutral	-
Mode 1	Pass	QP	28.8M	23.50	60.00	-36.50	Neutral	-
Mode 1	Pass	AV	28.8M	20.25	50.00	-29.75	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	162.467k	48.81	65.33	-16.52	19.62	Line	-	29.19	9.69	0.04	9.89			
AV	162.467k	33.64	55.33	-21.69	19.62	Line	-	14.02	9.69	0.04	9.89			
QP	318.98k	32.64	59.73	-27.09	19.61	Line	-	13.03	9.67	0.05	9.89			
AV	318.98k	23.57	49.73	-26.16	19.61	Line	-	3.96	9.67	0.05	9.89			
QP	355.282k	30.66	58.83	-28.17	19.62	Line	-	11.04	9.67	0.06	9.89			
AV	355.282k	19.36	48.83	-29.47	19.62	Line	-	-0.26	9.67	0.06	9.89			
QP	2.167M	23.02	56.00	-32.98	19.66	Line	-	3.36	9.68	0.10	9.88			
AV	2.167M	17.86	46.00	-28.14	19.66	Line	-	-1.80	9.68	0.10	9.88			
QP	6.369M	23.06	60.00	-36.94	19.77	Line	-	3.29	9.71	0.17	9.89			
AV	6.369M	19.02	50.00	-30.98	19.77	Line	-	-0.75	9.71	0.17	9.89			
QP	28.685M	22.90	60.00	-37.10	19.79	Line	-	3.11	9.55	0.34	9.90			
AV	28.685M	19.58	50.00	-30.42	19.79	Line	-	-0.21	9.55	0.34	9.90			

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	150.6k	51.40	65.96	-14.56	19.62	Neutral	-	31.78	9.69	0.04	9.89			
AV	150.6k	35.89	55.96	-20.07	19.62	Neutral	-	16.27	9.69	0.04	9.89			
QP	173.876k	48.04	64.78	-16.74	19.61	Neutral	-	28.43	9.68	0.04	9.89			
AV	173.876k	31.14	54.78	-23.64	19.61	Neutral	-	11.53	9.68	0.04	9.89			
QP	349.654k	28.40	58.96	-30.56	19.62	Neutral	-	8.78	9.67	0.06	9.89			
AV	349.654k	19.50	48.96	-29.46	19.62	Neutral	-	-0.12	9.67	0.06	9.89			
QP	4.5M	22.39	56.00	-33.61	19.74	Neutral	-	2.65	9.70	0.15	9.89			
AV	4.5M	18.69	46.00	-27.31	19.74	Neutral	-	-1.05	9.70	0.15	9.89			
QP	11.637M	22.60	60.00	-37.40	19.84	Neutral	-	2.76	9.73	0.22	9.89			
AV	11.637M	19.11	50.00	-30.89	19.84	Neutral	-	-0.73	9.73	0.22	9.89			
QP	28.8M	23.50	60.00	-36.50	19.95	Neutral	-	3.55	9.71	0.34	9.90			
AV	28.8M	20.25	50.00	-29.75	19.95	Neutral	-	0.30	9.71	0.34	9.90			

**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)	662.5k	1.042M	1M04F1D	657.5k	1.039M

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

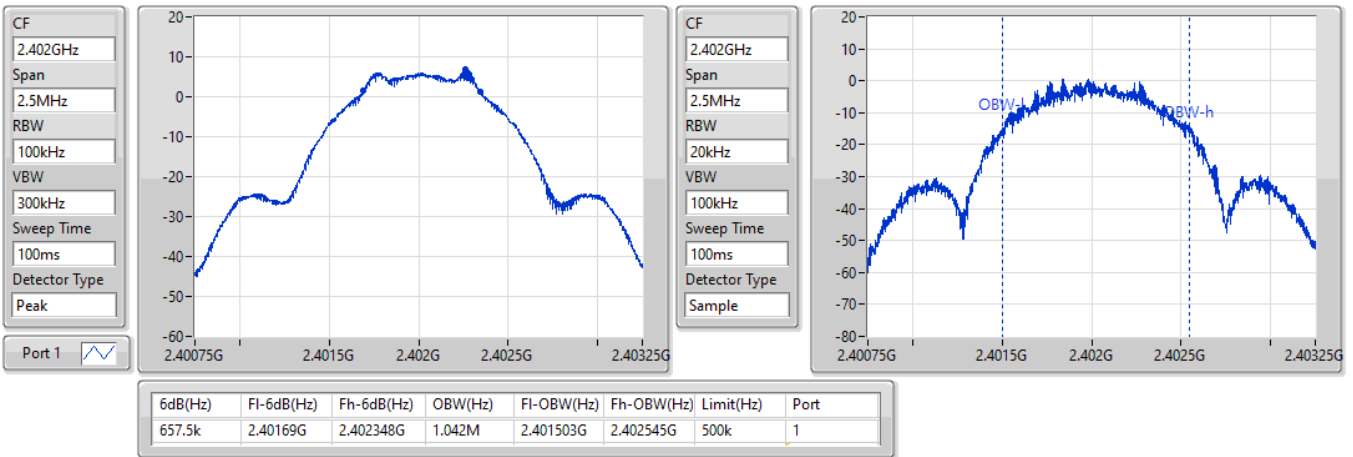
**Result**

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	657.5k	1.042M
2440MHz	Pass	500k	662.5k	1.039M
2480MHz	Pass	500k	661.25k	1.041M

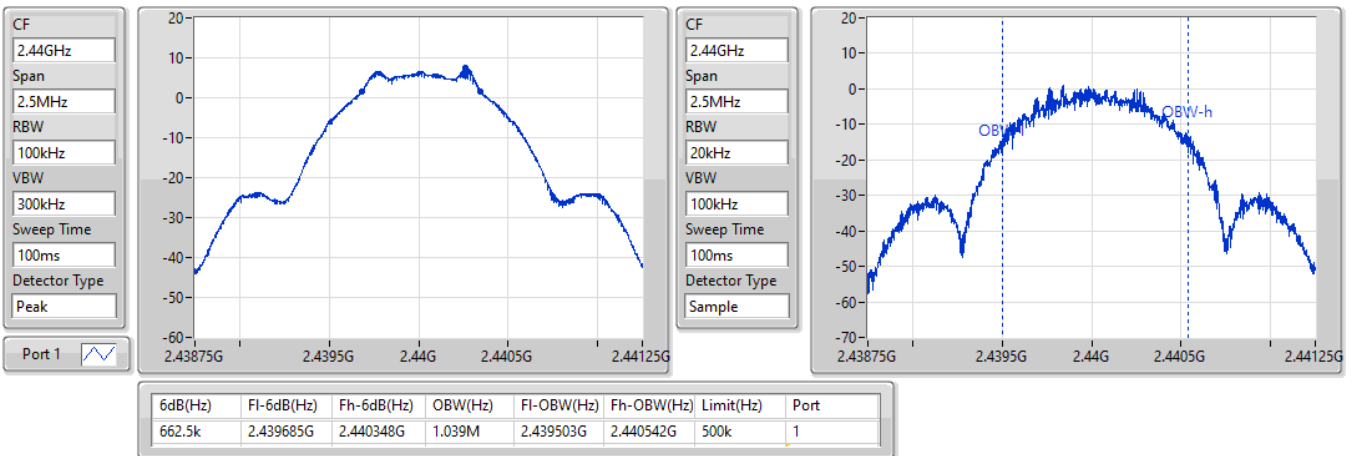
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

BT-LE(1Mbps)
2402MHz
EBW-DTS

23/09/2021

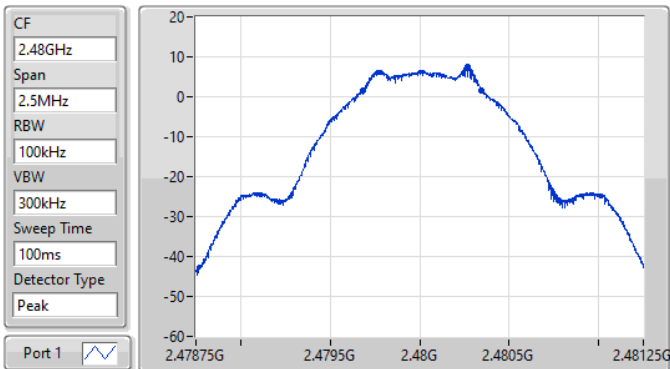

BT-LE(1Mbps)
2440MHz
EBW-DTS

23/09/2021



BT-LE(1Mbps)

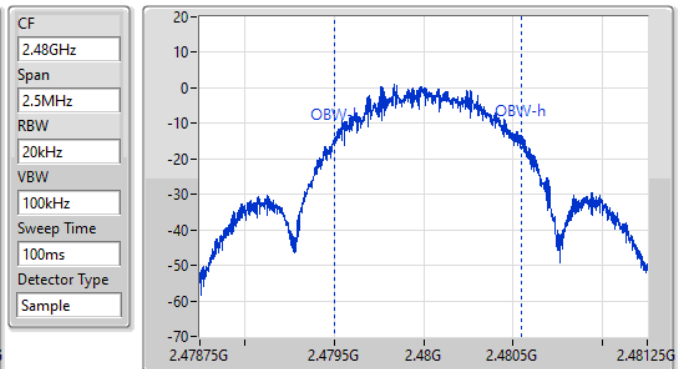
2480MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
661.25k	2.479686G	2.480348G	1.041M	2.479503G	2.480543G	500k	1

EBW-DTS

23/09/2021





Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	7.15	0.00519



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	5.30	6.01	30.00
2440MHz	Pass	5.30	7.07	30.00
2480MHz	Pass	5.30	7.15	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-9.40

RBW = 3kHz;



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	5.30	-10.05	8.00
2440MHz	Pass	5.30	-9.41	8.00
2480MHz	Pass	5.30	-9.40	8.00

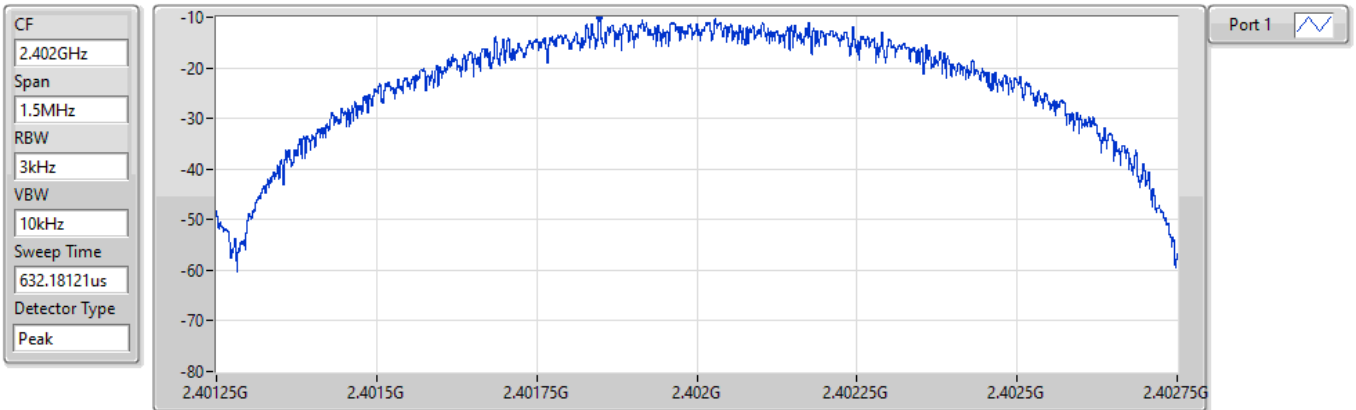
DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

BT-LE(1Mbps)

PSD

2402MHz

23/09/2021

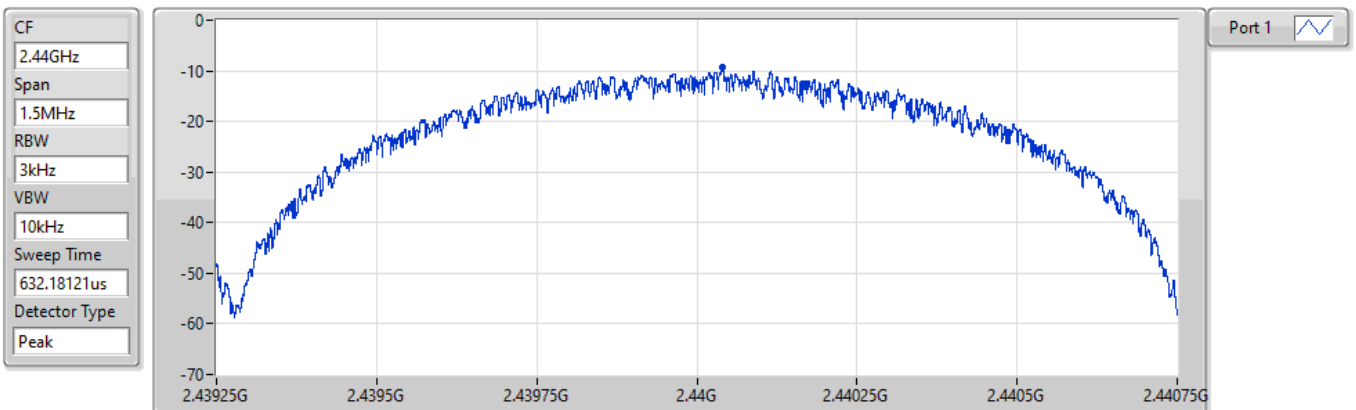


BT-LE(1Mbps)

PSD

2440MHz

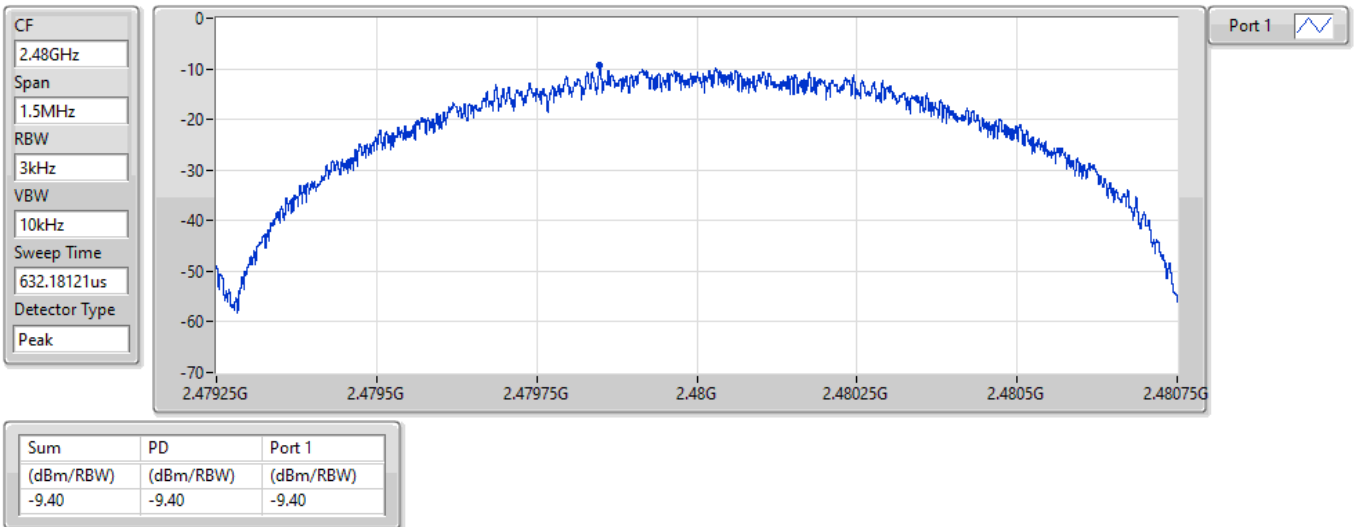
23/09/2021



BT-LE(1Mbps)

2480MHz

23/09/2021





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	2.48024G	6.79	-23.21	2.10299G	-56.00	2.39471G	-54.32	2.4835G	-55.27	2.48897G	-53.06	24.207G	-41.65	1

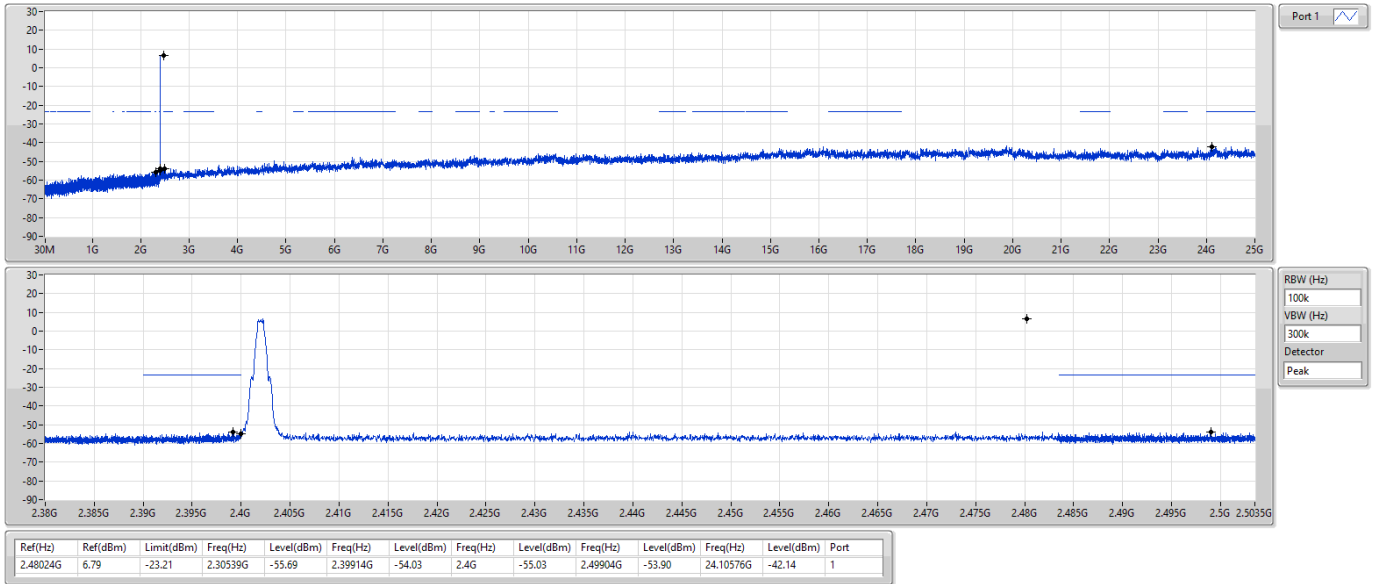
Result

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	2.48024G	6.79	-23.21	2.30539G	-55.69	2.39914G	-54.03	2.4G	-55.03	2.49904G	-53.90	24.10576G	-42.14	1
2440MHz	Pass	2.48024G	6.79	-23.21	1.91235G	-56.05	2.39871G	-55.13	2.4835G	-55.00	2.49659G	-54.23	16.98562G	-43.00	1
2480MHz	Pass	2.48024G	6.79	-23.21	2.10299G	-56.00	2.39471G	-54.32	2.4835G	-55.27	2.48897G	-53.06	24.207G	-41.65	1

BT-LE(1Mbps)

CSEndB-DTS

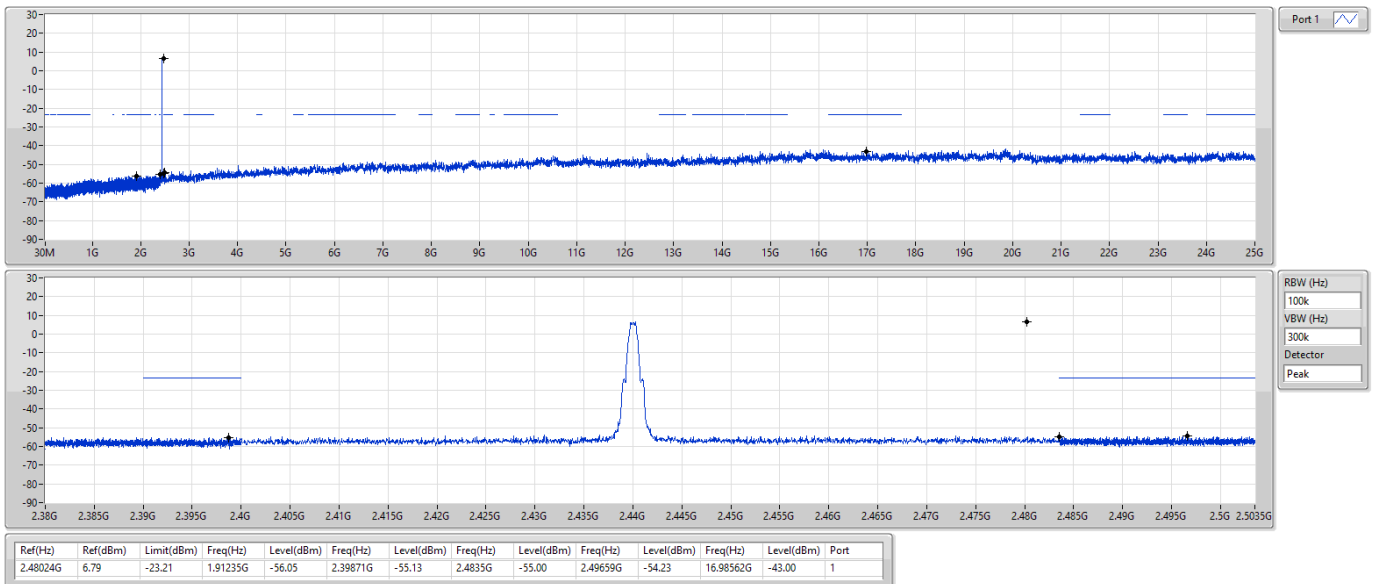
2402MHz



BT-LE(1Mbps)

CSEndB-DTS

2440MHz

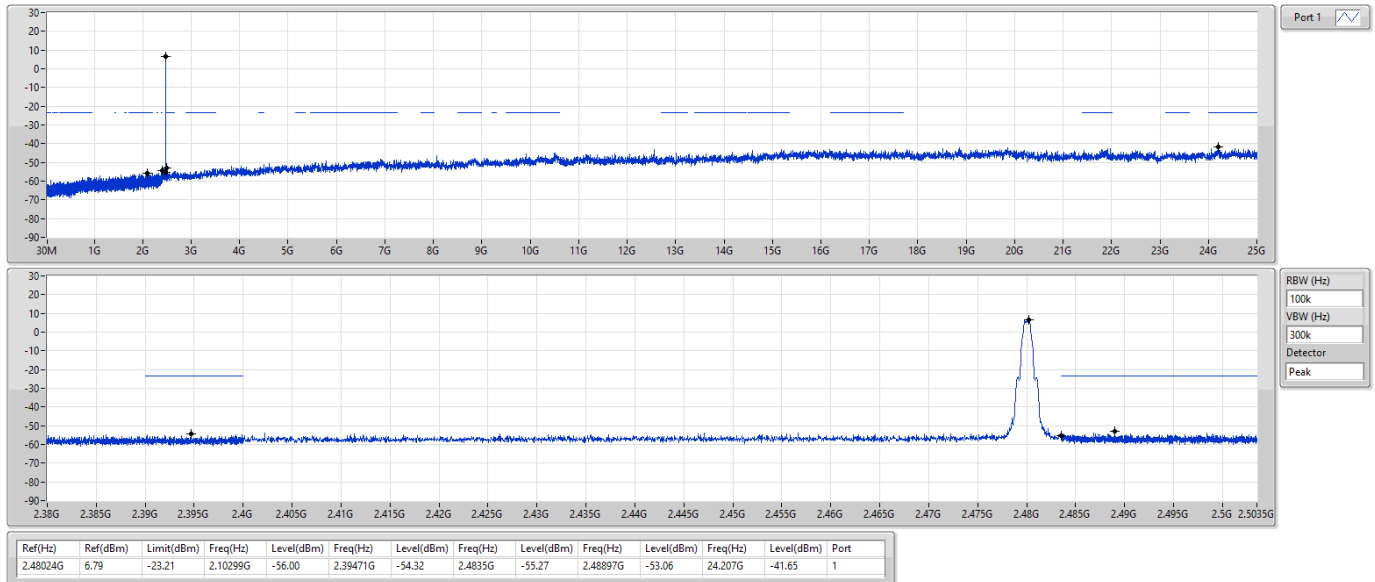


BT-LE(1Mbps)

CSEndB-DTS

2480MHz

23/09/2021





Summary

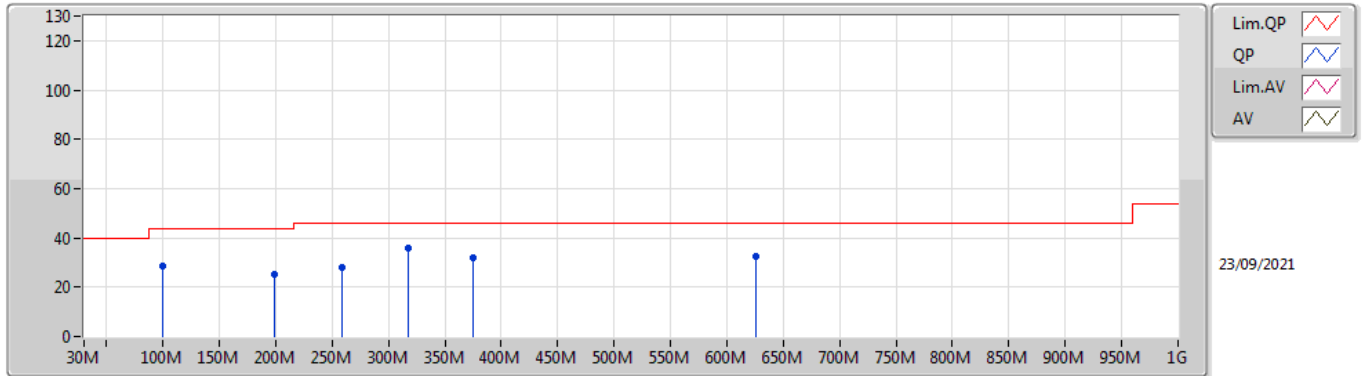
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	375.32M	37.79	46.00	-8.21	3	Horizontal	0	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	99.84M	28.67	43.50	-14.83	3	Vertical	360	1.00	-
2440MHz	Pass	PK	198.78M	25.20	43.50	-18.30	3	Vertical	360	1.00	-
2440MHz	Pass	PK	258.92M	28.27	46.00	-17.73	3	Vertical	360	1.00	-
2440MHz	Pass	PK	317.12M	36.08	46.00	-9.92	3	Vertical	360	1.00	-
2440MHz	Pass	PK	375.32M	31.70	46.00	-14.30	3	Vertical	360	1.00	-
2440MHz	Pass	PK	625.58M	32.32	46.00	-13.68	3	Vertical	360	1.00	-
2440MHz	Pass	PK	30M	23.53	40.00	-16.47	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	97.9M	26.29	43.50	-17.21	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	256.98M	31.14	46.00	-14.86	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	317.12M	36.27	46.00	-9.73	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	375.32M	37.79	46.00	-8.21	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	625.58M	35.79	46.00	-10.21	3	Horizontal	0	1.00	-

BT-LE(1Mbps)

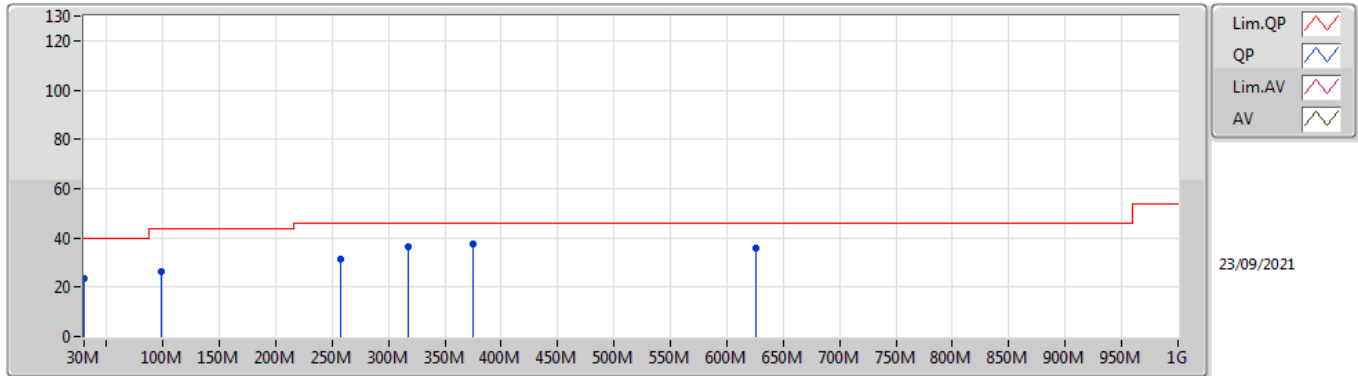
2440MHz_Adapter



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	99.84M	28.67	43.50	-14.83	-9.49	3	Vertical	360	1.00	-	38.16	16.20	1.70	27.39
PK	198.78M	25.20	43.50	-18.30	-10.12	3	Vertical	360	1.00	-	35.32	14.55	2.39	27.06
PK	258.92M	28.27	46.00	-17.73	-5.19	3	Vertical	360	1.00	-	33.46	18.83	2.71	26.73
PK	317.12M	36.08	46.00	-9.92	-5.07	3	Vertical	360	1.00	-	41.15	18.74	3.04	26.85
PK	375.32M	31.70	46.00	-14.30	-3.64	3	Vertical	360	1.00	-	35.34	20.12	3.36	27.12
PK	625.58M	32.32	46.00	-13.68	0.41	3	Vertical	360	1.00	-	31.91	24.09	4.42	28.10

BT-LE(1Mbps)

2440MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	30M	23.53	40.00	-16.47	-3.23	3	Horizontal	0	1.00	-	26.76	23.51	0.90	27.64
PK	97.9M	26.29	43.50	-17.21	-9.80	3	Horizontal	0	1.00	-	36.09	15.94	1.68	27.42
PK	256.98M	31.14	46.00	-14.86	-5.44	3	Horizontal	0	1.00	-	36.58	18.59	2.70	26.73
PK	317.12M	36.27	46.00	-9.73	-5.07	3	Horizontal	0	1.00	-	41.34	18.74	3.04	26.85
PK	375.32M	37.79	46.00	-8.21	-3.64	3	Horizontal	0	1.00	-	41.43	20.12	3.36	27.12
PK	625.58M	35.79	46.00	-10.21	0.41	3	Horizontal	0	1.00	-	35.38	24.09	4.42	28.10



Summary

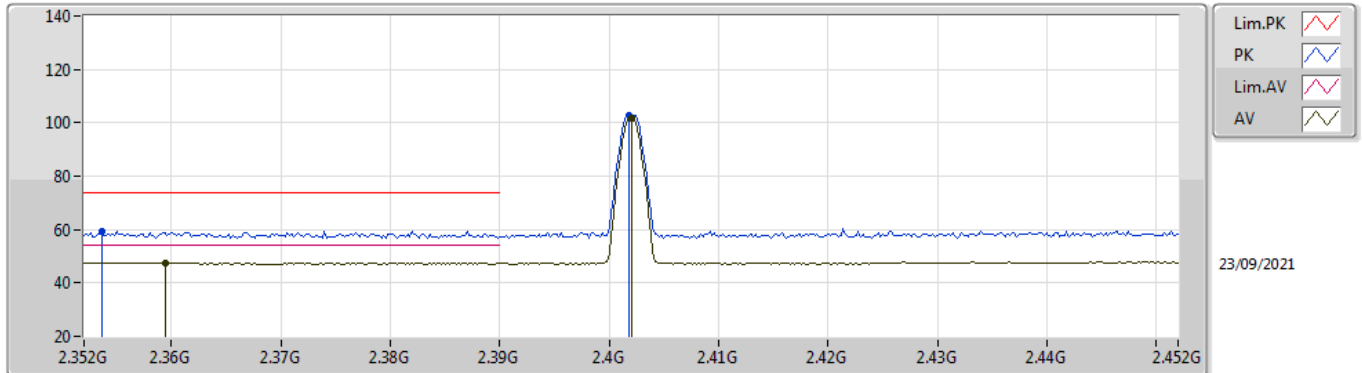
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	2.4888G	48.44	54.00	-5.56	3	Horizontal	313	1.56	-

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	2.3594G	47.67	54.00	-6.33	3	Vertical	107	1.00	-
2402MHz	Pass	AV	2.402G	101.72	Inf	-Inf	3	Vertical	107	1.00	-
2402MHz	Pass	PK	2.3536G	59.50	74.00	-14.50	3	Vertical	107	1.00	-
2402MHz	Pass	PK	2.4018G	102.63	Inf	-Inf	3	Vertical	107	1.00	-
2402MHz	Pass	AV	2.3524G	47.74	54.00	-6.26	3	Horizontal	243	1.10	-
2402MHz	Pass	AV	2.402G	98.84	Inf	-Inf	3	Horizontal	243	1.10	-
2402MHz	Pass	PK	2.3626G	59.70	74.00	-14.30	3	Horizontal	243	1.10	-
2402MHz	Pass	PK	2.4022G	99.74	Inf	-Inf	3	Horizontal	243	1.10	-
2402MHz	Pass	AV	4.80387G	30.57	54.00	-23.43	3	Vertical	357	1.50	-
2402MHz	Pass	PK	4.80354G	42.49	74.00	-31.51	3	Vertical	357	1.50	-
2402MHz	Pass	AV	4.80358G	30.40	54.00	-23.60	3	Horizontal	212	1.27	-
2402MHz	Pass	PK	4.80474G	42.54	74.00	-31.46	3	Horizontal	212	1.27	-
2440MHz	Pass	AV	2.3488G	47.77	54.00	-6.23	3	Vertical	117	1.09	-
2440MHz	Pass	AV	2.44G	101.44	Inf	-Inf	3	Vertical	117	1.09	-
2440MHz	Pass	AV	2.4932G	48.21	54.00	-5.79	3	Vertical	117	1.09	-
2440MHz	Pass	PK	2.3404G	59.85	74.00	-14.15	3	Vertical	117	1.09	-
2440MHz	Pass	PK	2.4396G	102.34	Inf	-Inf	3	Vertical	117	1.09	-
2440MHz	Pass	PK	2.4876G	59.78	74.00	-14.22	3	Vertical	117	1.09	-
2440MHz	Pass	AV	2.3596G	47.90	54.00	-6.10	3	Horizontal	313	1.56	-
2440MHz	Pass	AV	2.44G	100.12	Inf	-Inf	3	Horizontal	313	1.56	-
2440MHz	Pass	AV	2.4888G	48.44	54.00	-5.56	3	Horizontal	313	1.56	-
2440MHz	Pass	PK	2.3648G	59.62	74.00	-14.38	3	Horizontal	313	1.56	-
2440MHz	Pass	PK	2.4404G	101.02	Inf	-Inf	3	Horizontal	313	1.56	-
2440MHz	Pass	PK	2.4848G	59.71	74.00	-14.29	3	Horizontal	313	1.56	-
2440MHz	Pass	AV	4.8796G	30.72	54.00	-23.28	3	Vertical	346	1.50	-
2440MHz	Pass	PK	4.87915G	43.28	74.00	-30.72	3	Vertical	346	1.50	-
2440MHz	Pass	AV	4.87906G	30.72	54.00	-23.28	3	Horizontal	339	2.14	-
2440MHz	Pass	PK	4.87987G	42.72	74.00	-31.28	3	Horizontal	339	2.14	-
2480MHz	Pass	AV	2.48G	100.46	Inf	-Inf	3	Vertical	110	1.19	-
2480MHz	Pass	AV	2.4854G	48.44	54.00	-5.56	3	Vertical	110	1.19	-
2480MHz	Pass	PK	2.4802G	101.39	Inf	-Inf	3	Vertical	110	1.19	-
2480MHz	Pass	PK	2.4928G	60.74	74.00	-13.26	3	Vertical	110	1.19	-
2480MHz	Pass	AV	2.48G	100.40	Inf	-Inf	3	Horizontal	310	1.20	-
2480MHz	Pass	AV	2.4896G	48.44	54.00	-5.56	3	Horizontal	310	1.20	-
2480MHz	Pass	PK	2.4802G	101.33	Inf	-Inf	3	Horizontal	310	1.20	-
2480MHz	Pass	PK	2.488G	60.39	74.00	-13.61	3	Horizontal	310	1.20	-
2480MHz	Pass	AV	4.95996G	31.09	54.00	-22.91	3	Vertical	0	1.45	-
2480MHz	Pass	PK	4.96076G	43.06	74.00	-30.94	3	Vertical	0	1.45	-
2480MHz	Pass	AV	4.96016G	30.84	54.00	-23.16	3	Horizontal	173	1.50	-
2480MHz	Pass	PK	4.9603G	43.51	74.00	-30.49	3	Horizontal	173	1.50	-

BT-LE(1Mbps)

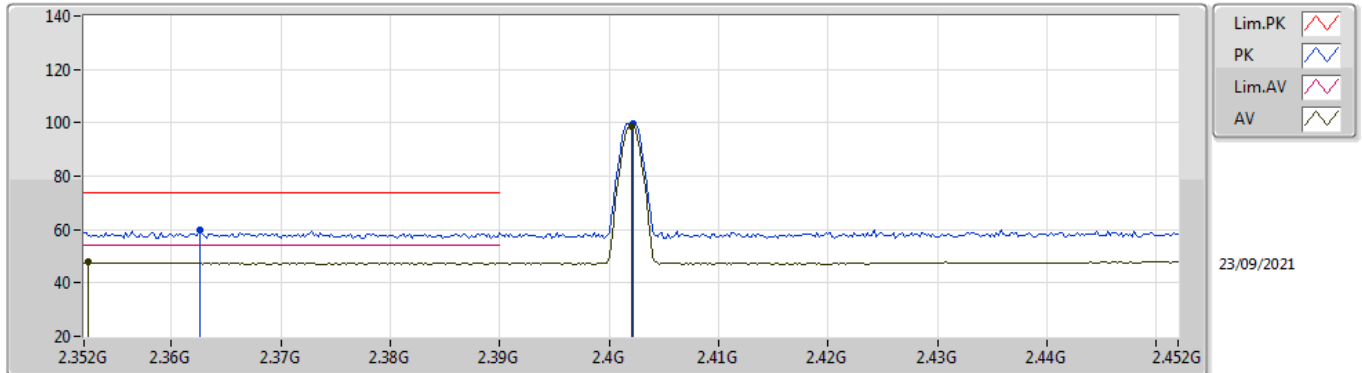
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3594G	47.67	54.00	-6.33	32.10	3	Vertical	107	1.00	-	15.57	27.76	4.34	-
AV	2.402G	101.72	Inf	-Inf	31.98	3	Vertical	107	1.00	-	69.74	27.60	4.38	-
PK	2.3536G	59.50	74.00	-14.50	32.12	3	Vertical	107	1.00	-	27.38	27.79	4.33	-
PK	2.4018G	102.63	Inf	-Inf	31.98	3	Vertical	107	1.00	-	70.65	27.60	4.38	-

BT-LE(1Mbps)

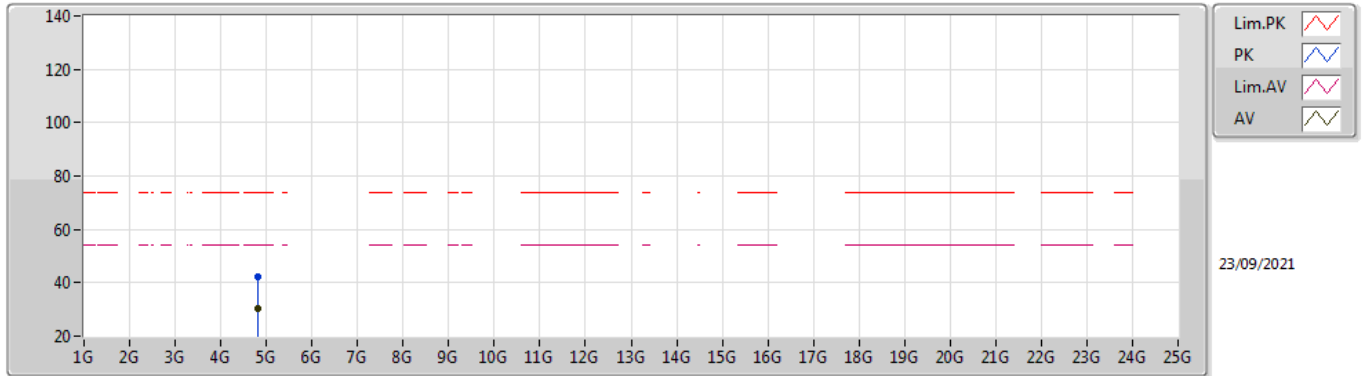
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3524G	47.74	54.00	-6.26	32.12	3	Horizontal	243	1.10	-	15.62	27.79	4.33	-
AV	2.402G	98.84	Inf	-Inf	31.98	3	Horizontal	243	1.10	-	66.86	27.60	4.38	-
PK	2.3626G	59.70	74.00	-14.30	32.09	3	Horizontal	243	1.10	-	27.61	27.75	4.34	-
PK	2.4022G	99.74	Inf	-Inf	31.98	3	Horizontal	243	1.10	-	67.76	27.60	4.38	-

BT-LE(1Mbps)

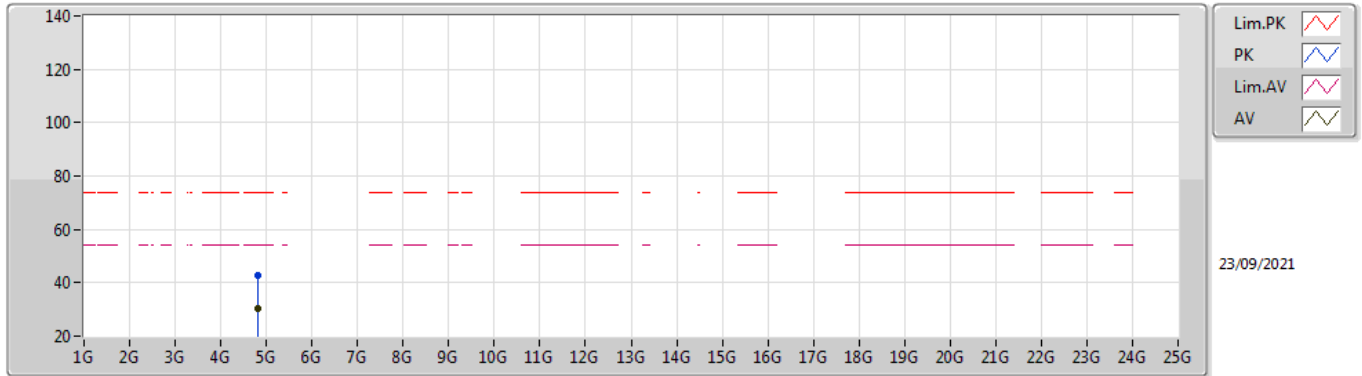
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80387G	30.57	54.00	-23.43	2.92	3	Vertical	357	1.50	-	27.65	31.11	6.26	34.45
PK	4.80354G	42.49	74.00	-31.51	2.92	3	Vertical	357	1.50	-	39.57	31.11	6.26	34.45

BT-LE(1Mbps)

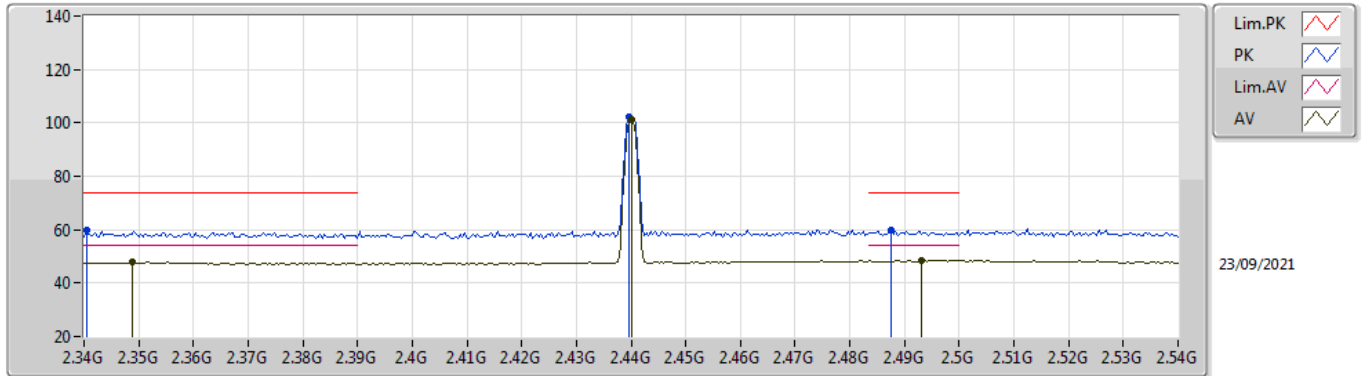
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80358G	30.40	54.00	-23.60	2.92	3	Horizontal	212	1.27	-	27.48	31.11	6.26	34.45
PK	4.80474G	42.54	74.00	-31.46	2.92	3	Horizontal	212	1.27	-	39.62	31.11	6.26	34.45

BT-LE(1Mbps)

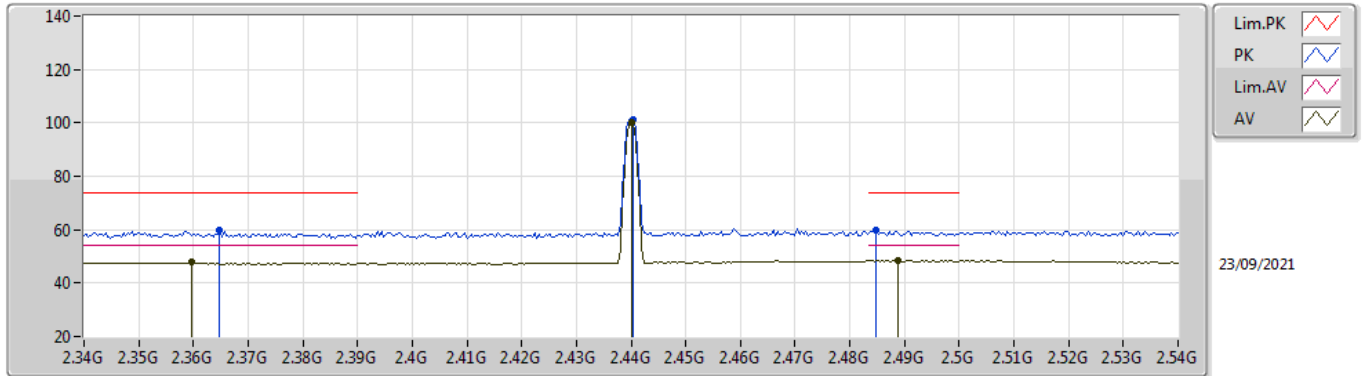
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3488G	47.77	54.00	-6.23	32.13	3	Vertical	117	1.09	-	15.64	27.80	4.33	-
AV	2.44G	101.44	Inf	-Inf	32.04	3	Vertical	117	1.09	-	69.40	27.60	4.44	-
AV	2.4932G	48.21	54.00	-5.79	32.21	3	Vertical	117	1.09	-	16.00	27.69	4.52	-
PK	2.3404G	59.85	74.00	-14.15	32.14	3	Vertical	117	1.09	-	27.71	27.82	4.32	-
PK	2.4396G	102.34	Inf	-Inf	32.04	3	Vertical	117	1.09	-	70.30	27.60	4.44	-
PK	2.4876G	59.78	74.00	-14.22	32.19	3	Vertical	117	1.09	-	27.59	27.68	4.51	-

BT-LE(1Mbps)

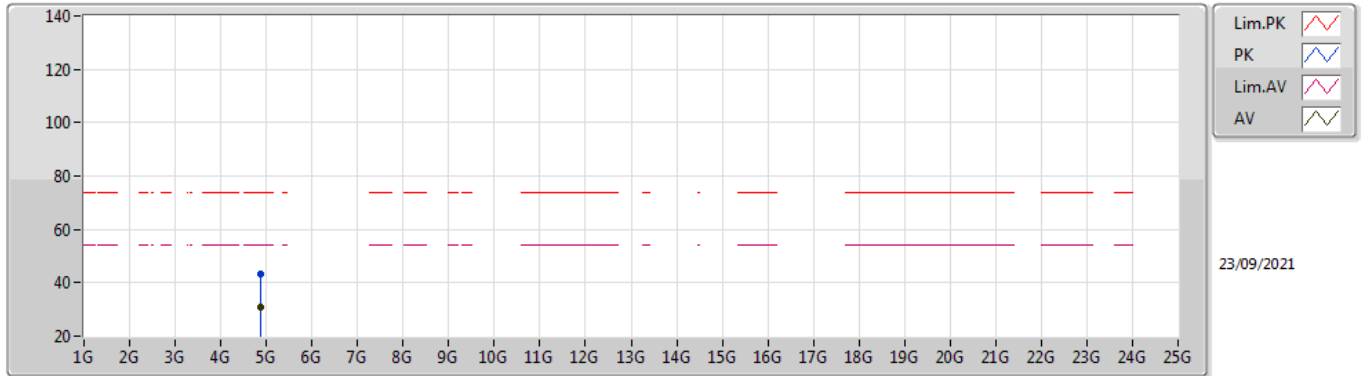
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3596G	47.90	54.00	-6.10	32.10	3	Horizontal	313	1.56	-	15.80	27.76	4.34	-
AV	2.44G	100.12	Inf	-Inf	32.04	3	Horizontal	313	1.56	-	68.08	27.60	4.44	-
AV	2.4888G	48.44	54.00	-5.56	32.19	3	Horizontal	313	1.56	-	16.25	27.68	4.51	-
PK	2.3648G	59.62	74.00	-14.38	32.08	3	Horizontal	313	1.56	-	27.54	27.74	4.34	-
PK	2.4404G	101.02	Inf	-Inf	32.04	3	Horizontal	313	1.56	-	68.98	27.60	4.44	-
PK	2.4848G	59.71	74.00	-14.29	32.17	3	Horizontal	313	1.56	-	27.54	27.67	4.50	-

BT-LE(1Mbps)

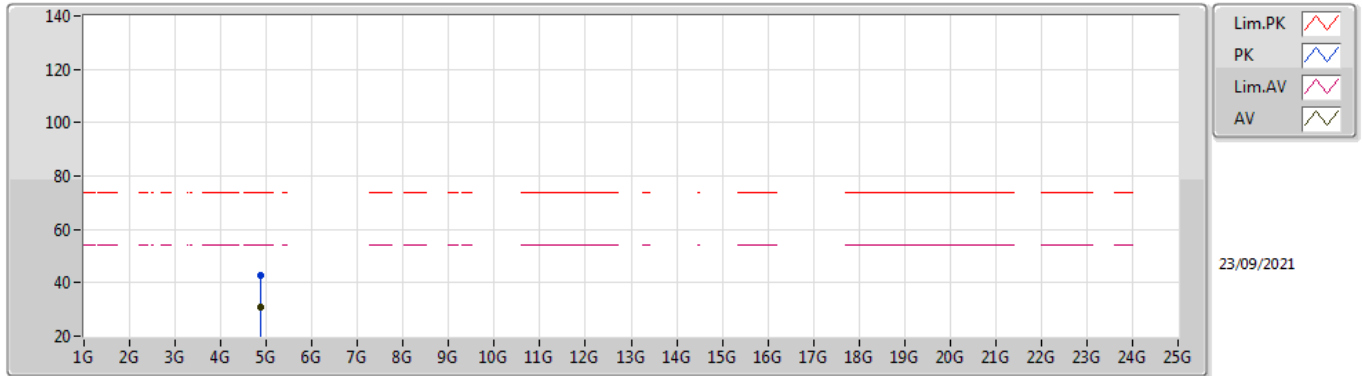
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.8796G	30.72	54.00	-23.28	3.07	3	Vertical	346	1.50	-	27.65	31.20	6.31	34.44
PK	4.87915G	43.28	74.00	-30.72	3.07	3	Vertical	346	1.50	-	40.21	31.20	6.31	34.44

BT-LE(1Mbps)

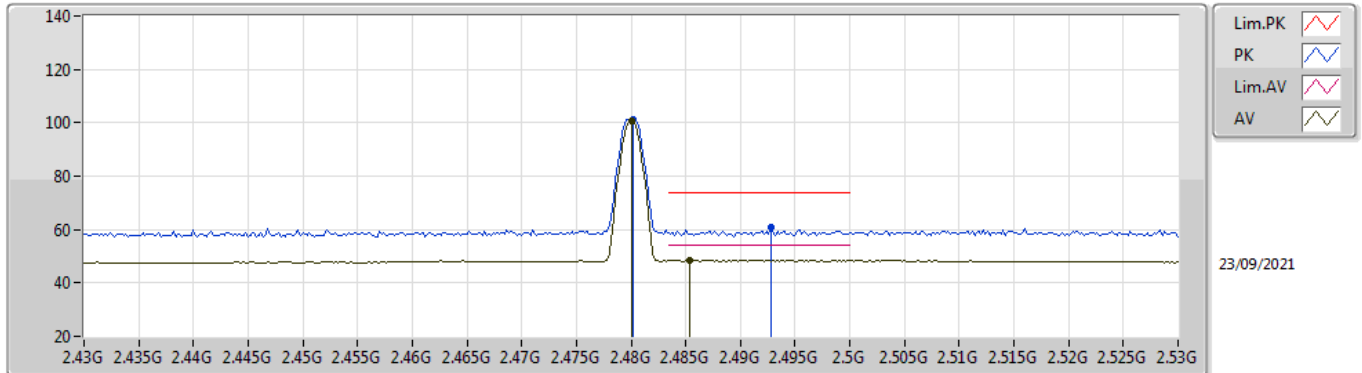
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87906G	30.72	54.00	-23.28	3.07	3	Horizontal	339	2.14	-	27.65	31.20	6.31	34.44
PK	4.87987G	42.72	74.00	-31.28	3.07	3	Horizontal	339	2.14	-	39.65	31.20	6.31	34.44

BT-LE(1Mbps)

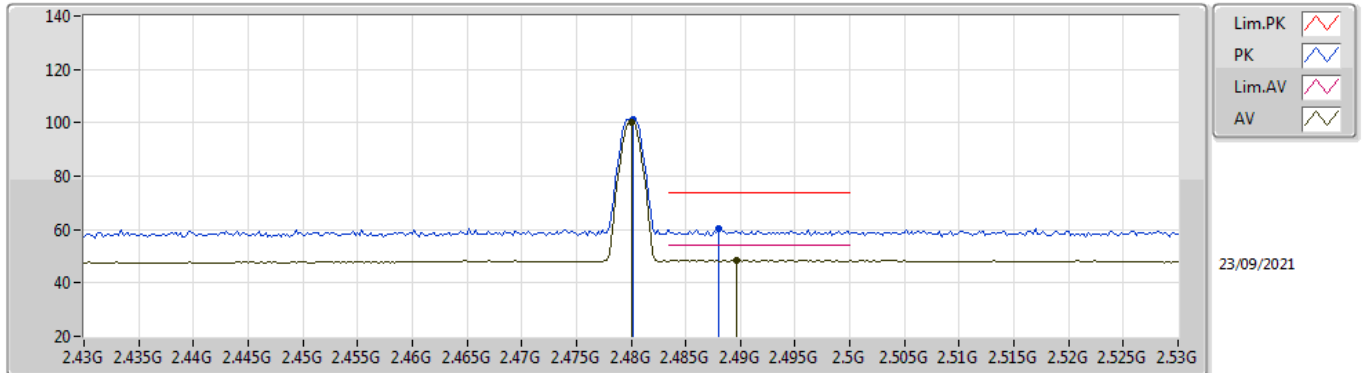
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	100.46	Inf	-Inf	32.16	3	Vertical	110	1.19	-	68.30	27.66	4.50	-
AV	2.4854G	48.44	54.00	-5.56	32.17	3	Vertical	110	1.19	-	16.27	27.67	4.50	-
PK	2.4802G	101.39	Inf	-Inf	32.16	3	Vertical	110	1.19	-	69.23	27.66	4.50	-
PK	2.4928G	60.74	74.00	-13.26	32.20	3	Vertical	110	1.19	-	28.54	27.69	4.51	-

BT-LE(1Mbps)

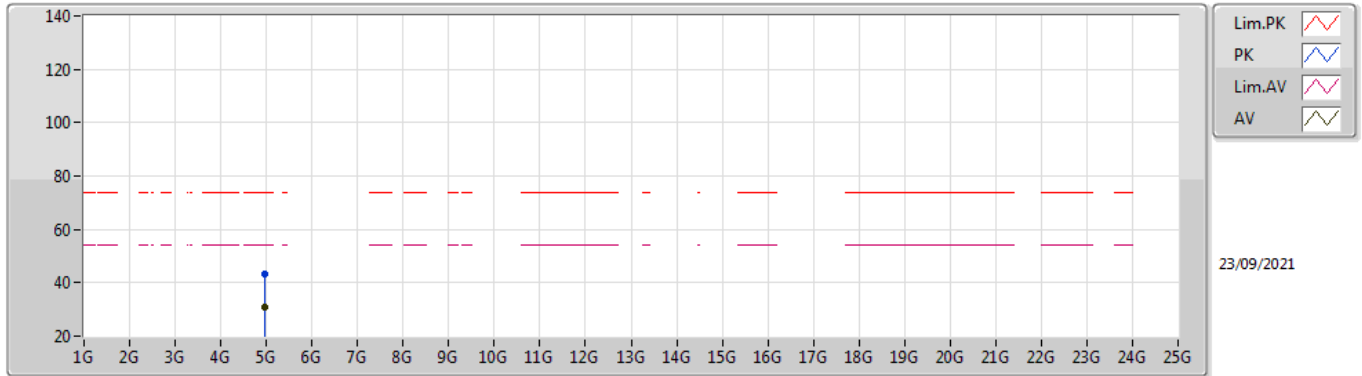
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	100.40	Inf	-Inf	32.16	3	Horizontal	310	1.20	-	68.24	27.66	4.50	-
AV	2.4896G	48.44	54.00	-5.56	32.19	3	Horizontal	310	1.20	-	16.25	27.68	4.51	-
PK	2.4802G	101.33	Inf	-Inf	32.16	3	Horizontal	310	1.20	-	69.17	27.66	4.50	-
PK	2.488G	60.39	74.00	-13.61	32.19	3	Horizontal	310	1.20	-	28.20	27.68	4.51	-

BT-LE(1Mbps)

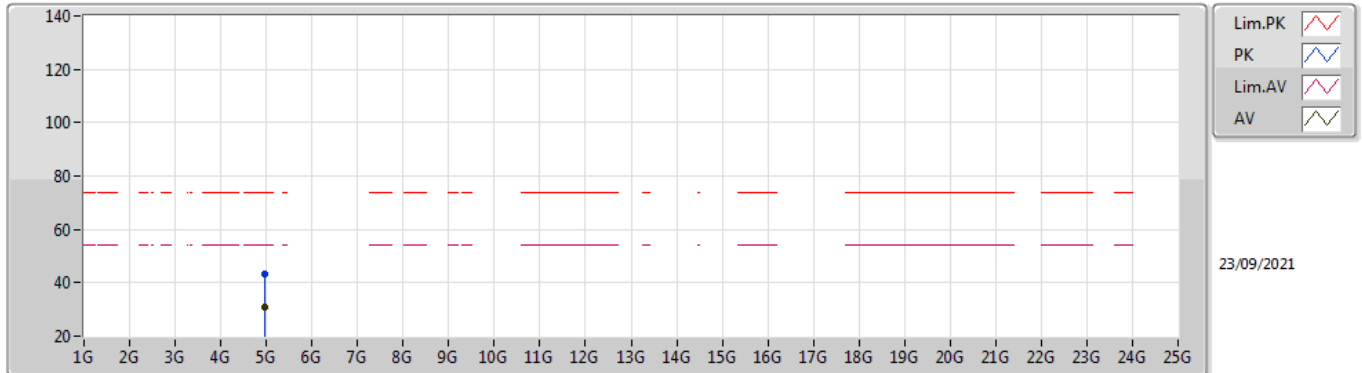
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95996G	31.09	54.00	-22.91	3.27	3	Vertical	0	1.45	-	27.82	31.34	6.36	34.43
PK	4.96076G	43.06	74.00	-30.94	3.27	3	Vertical	0	1.45	-	39.79	31.34	6.36	34.43

BT-LE(1Mbps)

2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.96016G	30.84	54.00	-23.16	3.27	3	Horizontal	173	1.50	-	27.57	31.34	6.36	34.43
PK	4.9603G	43.51	74.00	-30.49	3.27	3	Horizontal	173	1.50	-	40.24	31.34	6.36	34.43