

FCC Radio Test Report

FCC ID : 2AAAS-CM08
Equipment : Vivint Doorbell Camera Pro (Gen 2)
Brand Name : Vivint
Model Name : CM08
Applicant : Vivint, Inc.
4931 N. 300W., Provo, UT 84604 USA
Manufacturer : Chicony Electronics Co., Ltd
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 Mar. 23, 2022, and testing was started from Apr. 09, 2022 and completed on May 08, 2022. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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



Table of Contents

HISTORY OF THIS TEST REPORT3

SUMMARY OF TEST RESULT4

1 GENERAL DESCRIPTION5

1.1 Information.....5

1.2 Testing Applied Standards7

1.3 Testing Location Information7

1.4 Measurement Uncertainty7

2 TEST CONFIGURATION OF EUT.....8

2.1 Test Channel Mode8

2.2 The Worst Case Measurement Configuration.....9

2.3 Support Equipment.....10

2.4 Test Setup Diagram11

3 TRANSMITTER TEST RESULT13

3.1 AC Power-line Conducted Emissions13

3.2 DTS Bandwidth.....15

3.3 Maximum Conducted Output Power16

3.4 Power Spectral Density18

3.5 Emissions in Non-restricted Frequency Bands19

3.6 Emissions in Restricted Frequency Bands.....20

4 TEST EQUIPMENT AND CALIBRATION DATA.....24

APPENDIX A. TEST RESULTS OF AC POWER-LINE CONDUCTED EMISSIONS

APPENDIX B. TEST RESULTS OF DTS BANDWIDTH

APPENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER

APPENDIX D. TEST RESULTS OF POWER SPECTRAL DENSITY

APPENDIX E. TEST RESULTS OF EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

APPENDIX F. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS

APPENDIX G. TEST PHOTOS

PHOTOGRAPHS OF EUT V01



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: Sam Tsai

Report Producer: Michelle Tsai

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
1	Amphenol	CY5873-12-001-C	PIFA	I-PEX
2	Amphenol	CY5873-12-002-C	PIFA	I-PEX

Ant.	Port	Gain (dBi)		
		2.4G	5G	BT
1	1	0.72	2.33	0.72
2	2	0.69	2.56	-

Note 1: The EUT has two antennas.

For 2.4GHz function:

For IEEE 802.11 b/g/n/VHT 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. 1 (port 1) can be used as transmitting/receiving.

For 5GHz function:

For IEEE 802.11 a/n/ac 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 AC Adapter / Host system
EUT Function	<input checked="" type="checkbox"/> Point-to-multipoint <input type="checkbox"/> Point-to-point
Type of EUT	
<input checked="" type="checkbox"/> Stand-alone	
<input type="checkbox"/> Combined (EUT where the radio part is fully integrated within another device)	
Combined Equipment - Brand Name / Model No.:	...
<input type="checkbox"/> Plug-in radio (EUT intended for a variety of host systems)	
Host System - Brand Name / Model No.:	...
<input type="checkbox"/> Other:	

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-LE(1Mbps)	0.643	1.92	391.25u	3k

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				
<input checked="" type="checkbox"/>	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	Wayne Chiu	21.6~22.3°C / 54~57%	28/Apr/2022
RF Conducted	TH06-HY	Yuna Lin	22.4~24.9°C / 48~59%	27/Apr/2022~08/May/2022
Radiated	03CH02-HY	Lego Lin	22.1~25.2°C / 56~60%	09/Apr/2022~06/May/2022
<input type="checkbox"/>	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	Dos 6.1
-----------------------	---------

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	USB Mode
2	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		
2	USB Mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT	V		



2.3 Support Equipment

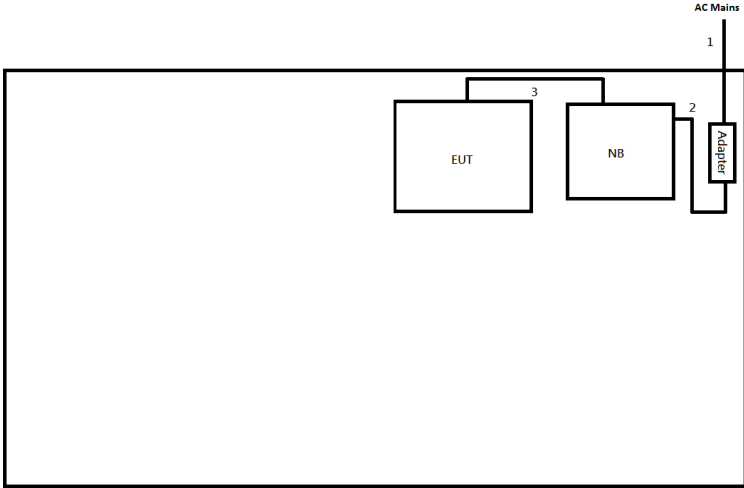
Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	HP	5220M	-	-
2	AC Power Cable	Power sync	PW-GPC180-3	-	-
3	Adapter (For NB)	HP	PPP012L-E	-	-
4	Adapter	HOIOTO	ADS-25SF-12 12024EPCU	-	Provided by Customer

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	AC Power Cable	Power sync	PW-GPC180-3	-	-
2	Adapter (For NB)	HP	PPP012L-E	-	-
3	Notebook	HP	5220M	-	-
4	Adapter	HOIOTO	ADS-25SF-12 12024EPCU	-	Provided by Customer

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

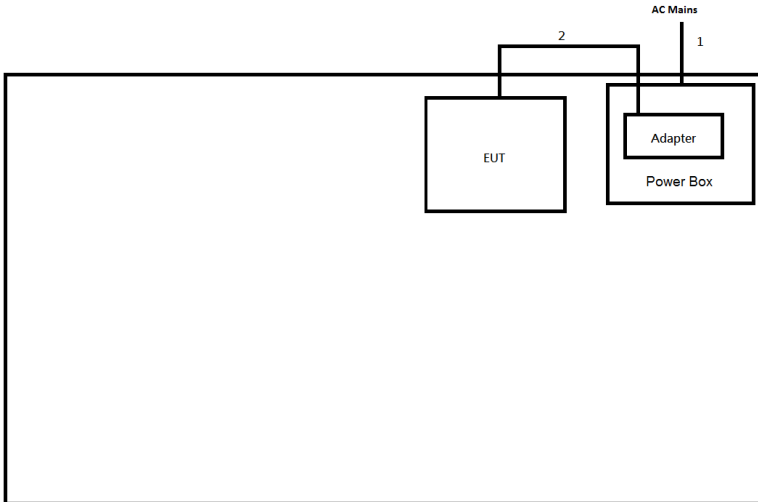
2.4 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test (USB Mode)



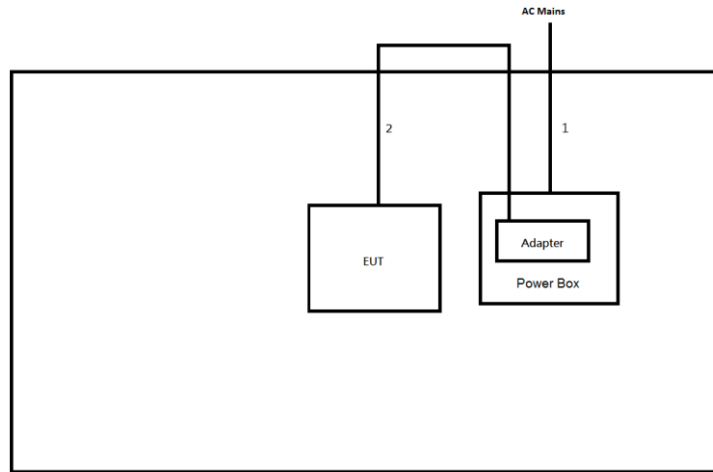
Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.5	-
3	USB cable	No	0.5	-

Test Setup Diagram – AC Line Conducted Emission Test (Adapter Mode)



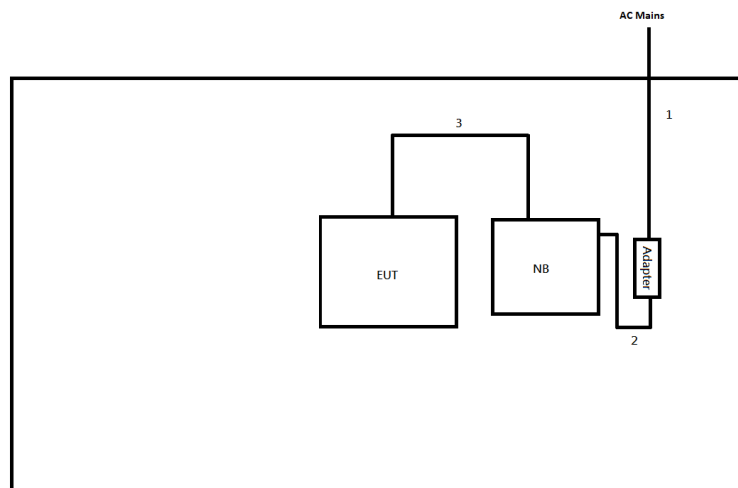
Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.5	-

Test Setup Diagram - Radiated Test (Adapter Mode)



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.5	-

Test Setup Diagram - Radiated Test (USB Mode)



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.5	-
3	USB cable	No	0.5	-

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

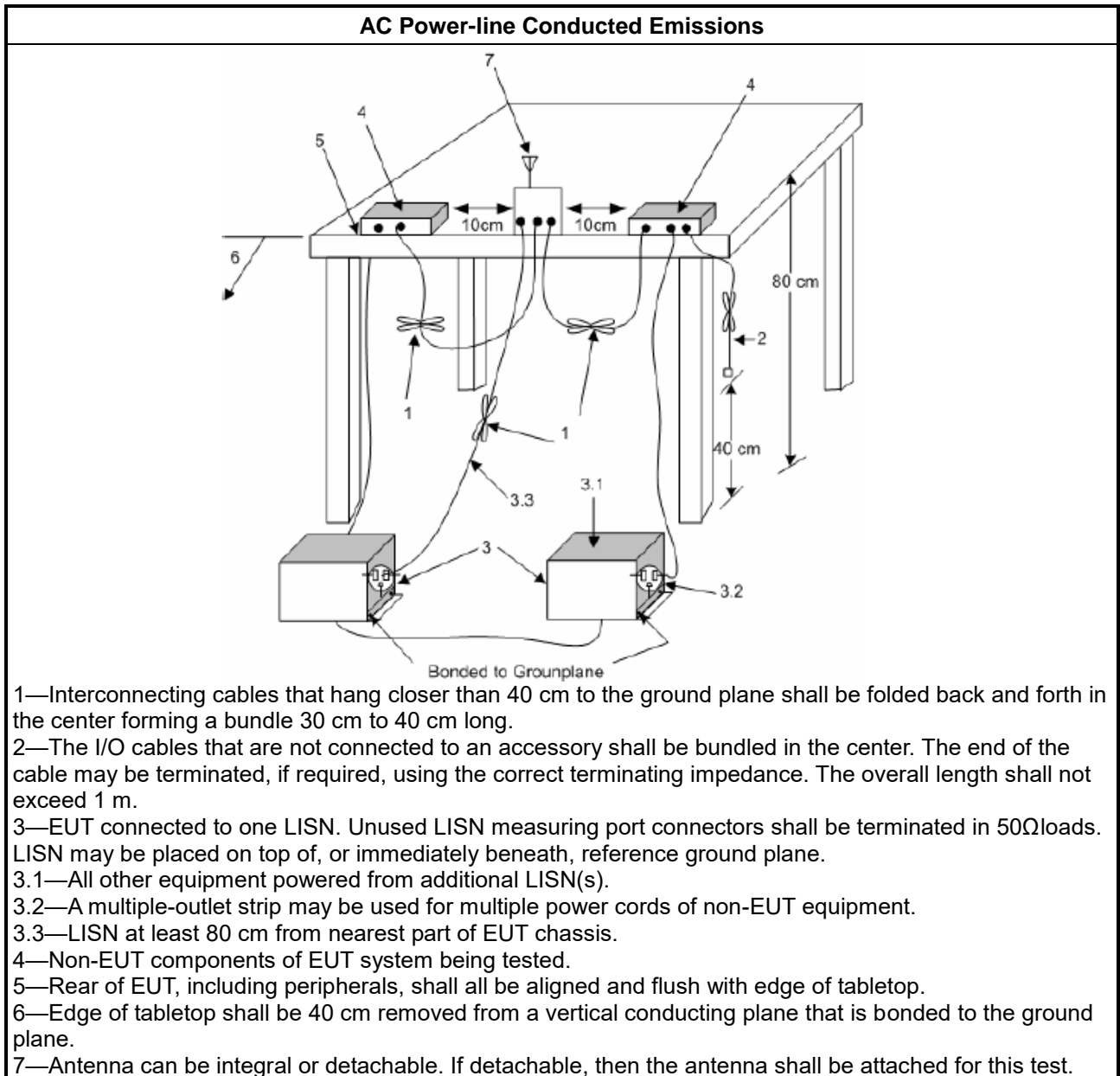
Test Method
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

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.

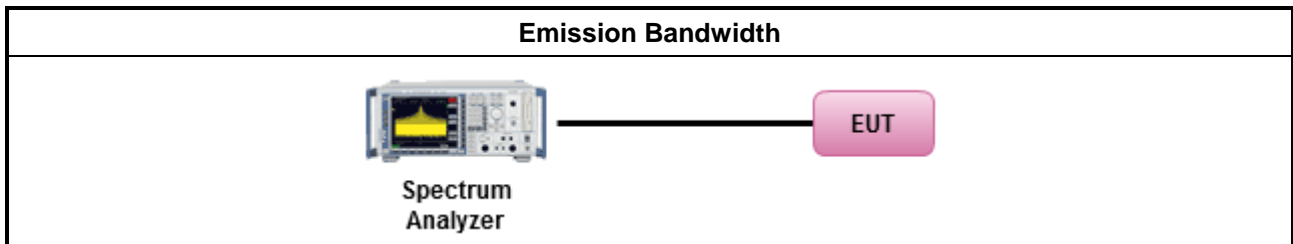
3.2.2 Measuring Instruments

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:
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
<input type="checkbox"/>	Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
<input type="checkbox"/>	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	
	<ul style="list-style-type: none"> ▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS):
	<ul style="list-style-type: none"> - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - 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:	
	<ul style="list-style-type: none"> ▪ 2400-2483.5 MHz Band
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS)
	<ul style="list-style-type: none"> - Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ dBm
<p>P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.</p>	

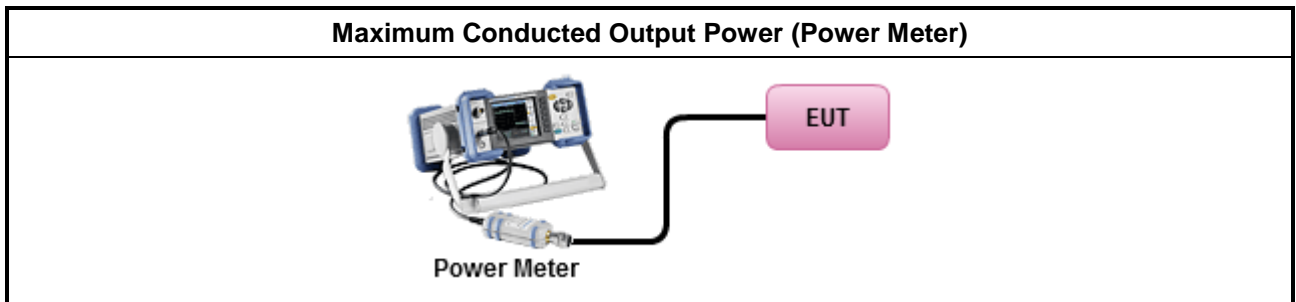
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> ▪ Maximum Peak Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
<ul style="list-style-type: none"> ▪ Maximum Average Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
<ul style="list-style-type: none"> ▪ For conducted measurement. 	
<ul style="list-style-type: none"> ▪ 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. 	
<ul style="list-style-type: none"> ▪ 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
<ul style="list-style-type: none"> Power Spectral Density (PSD) ≤ 8 dBm/3kHz

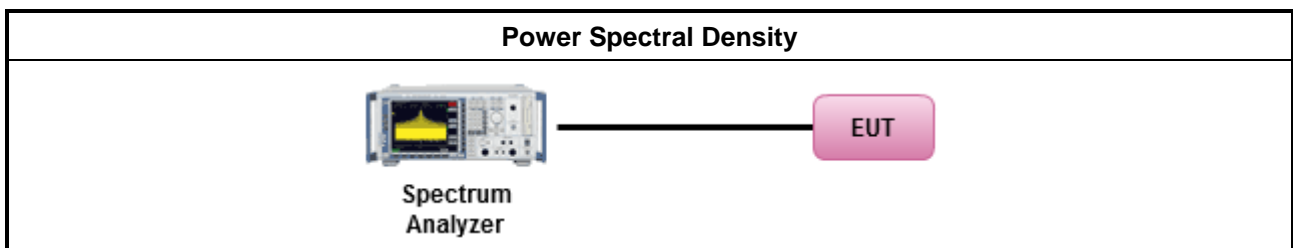
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> 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). 	
<input checked="" type="checkbox"/> Refer as KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Max. PSD.	
<ul style="list-style-type: none"> For conducted measurement. 	
<ul style="list-style-type: none"> If The EUT supports multiple transmit chains using options given below: 	
	<ul style="list-style-type: none"> 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.

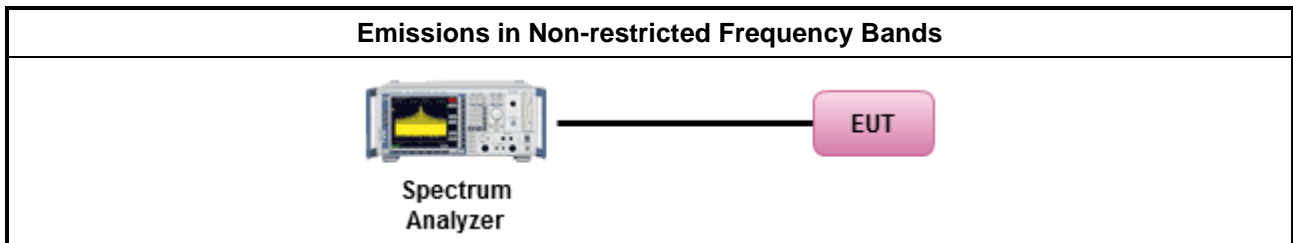
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
<ul style="list-style-type: none"> 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

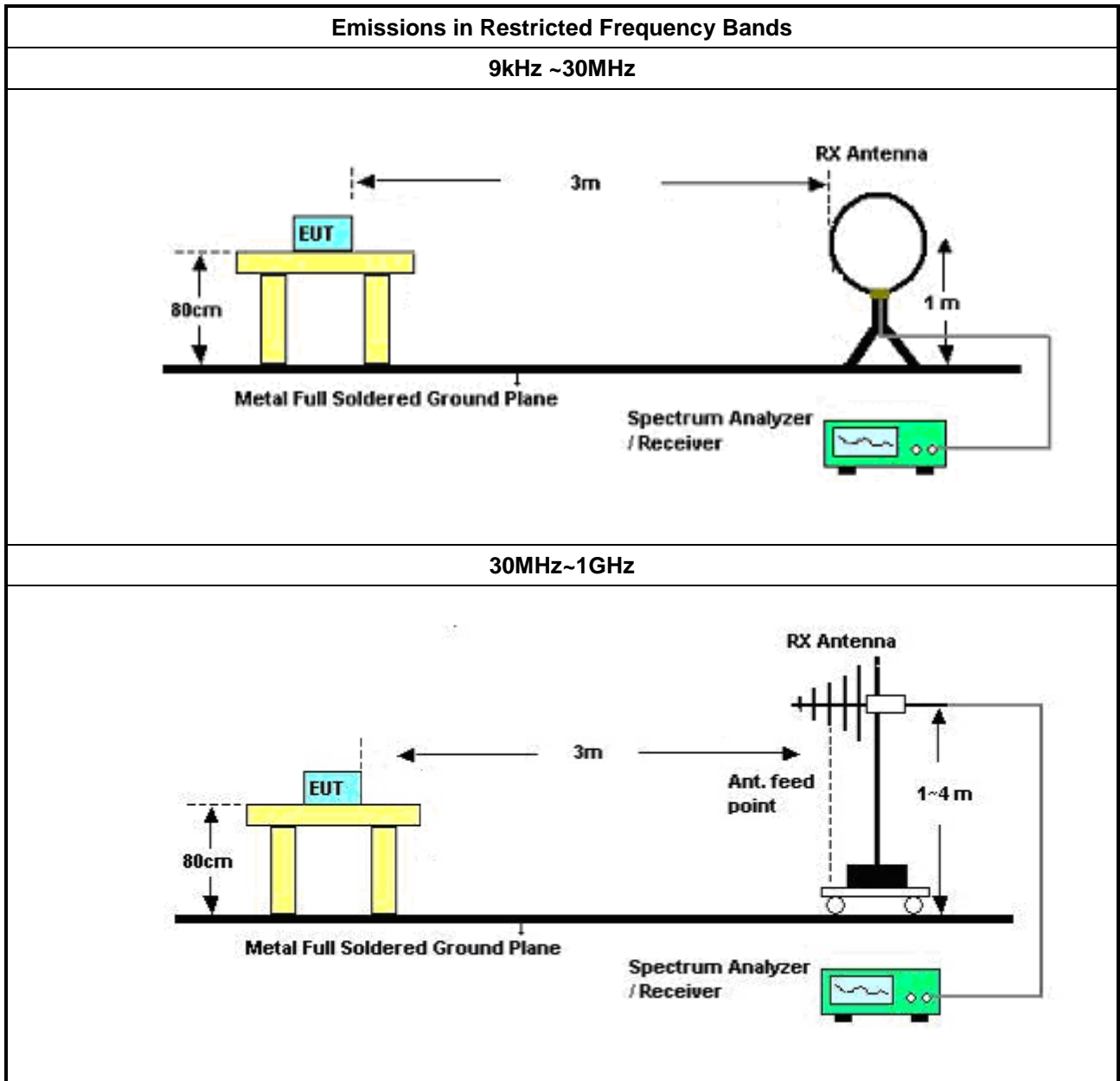
Test Method	
	<ul style="list-style-type: none"> ▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
	<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
	<ul style="list-style-type: none"> ▪ For the transmitter unwanted emissions shall be measured using following options below:
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
	<ul style="list-style-type: none"> ▪ For the transmitter band-edge emissions shall be measured using following options below:
	<ul style="list-style-type: none"> ▪ 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.
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels.
	<ul style="list-style-type: none"> ▪ Use the following spectrum analyzer settings:
	<ul style="list-style-type: none"> ▪ Set RBW=100 kHz for f < 1 GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	<ul style="list-style-type: none"> ▪ Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement. For average measurement, refer as 1.1.4.
	<ul style="list-style-type: none"> ▪ KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
	<ul style="list-style-type: none"> ▪ 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.
	<ul style="list-style-type: none"> ▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

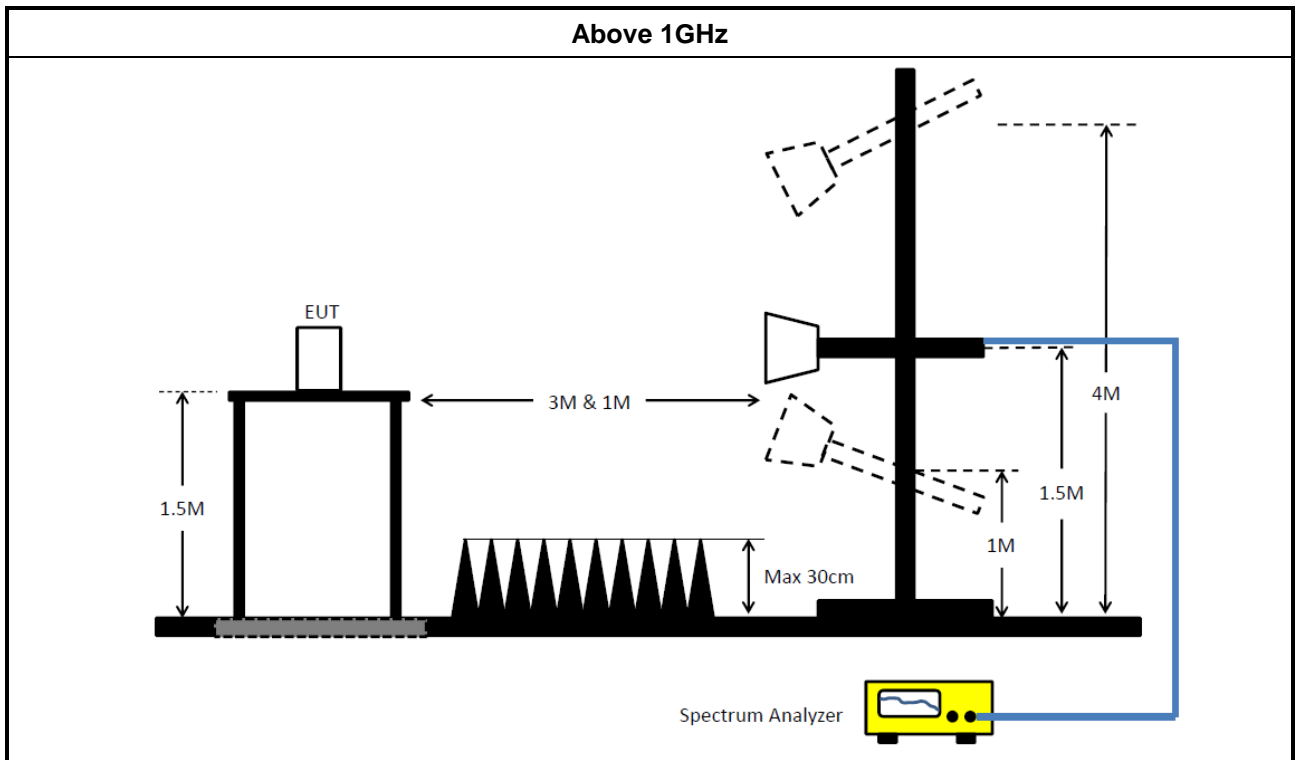
3.6.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp 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	ESR3	102051	9kHz ~ 3.6GHz	21/May/2021	20/May/2022
Two-Line V-Network	R&S	ENV 216	100003	9kHz ~ 30MHz	18/Feb/2022	17/Feb/2023
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	01/Mar/2022	28/Feb/2023
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	26/Oct/2021	25/Oct/2022
Software	Sporton	SENSE-EMI	V5.10.7	-	NCR	NCR

NCR: No Calibration Required

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	03CH02-HY	30MHz~1GHz 3m	02/Aug/2021	01/Aug/2022
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz~18GHz 3m	01/Aug/2021	31/Jul/2022
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	12/Oct/2021	11/Oct/2022
Amplifier	Agilent	8447D	2944A11149	100kHz~1.3GHz	29/Jun/2021	28/Jun/2022
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz~26.5GHz	03/Nov/2021	02/Nov/2022
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz~1GHz	04/Sep/2021	03/Sep/2022
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 01543	1GHz~18GHz	04/Jun/2021	03/Jun/2022
RF Cable	MVE	400LL	MVE-1-0802	9kHz~30MHz	05/May/2021	04/May/2022
RF Cable	MVE	400LL	MVE-1-0802	30MHz~1GHz	05/May/2021	04/May/2022
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX1 04	805193/4+805192 /4	1GHz~40GHz	01/Apr/2022	31/Mar/2023
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz~40GHz	18/Mar/2022	17/Mar/2023
Microwave Prempplier	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	02/Jun/2021	01/Jun/2022

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101029	10Hz~40GHz	20/Oct/2021	19/Oct/2022
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	21/Oct/2021	20/Oct/2022
Pulse Sensor	Anritsu	MA2411B	1027452	300MHz~40GHz	25/Mar/2022	24/Mar/2023
Power Meter	Anritsu	ML2495A	1124009	300MHz~40GHz	25/Mar/2022	24/Mar/2023
SENSE-15247_FS	Sporton	V5.10.7.14	N/A	N/A	N/A	N/A



Summary

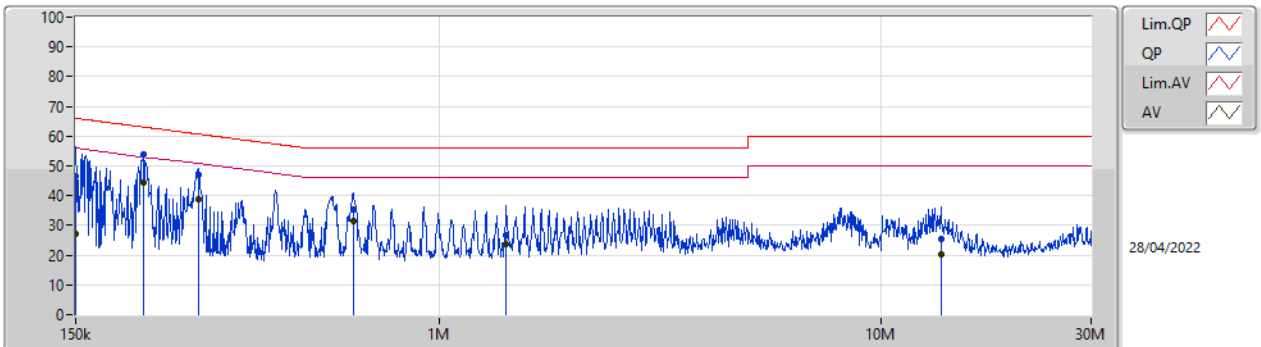
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	213.137k	44.55	53.07	-8.52	Line
Mode 2	Pass	AV	189.08k	30.67	54.07	-23.40	Line



Result

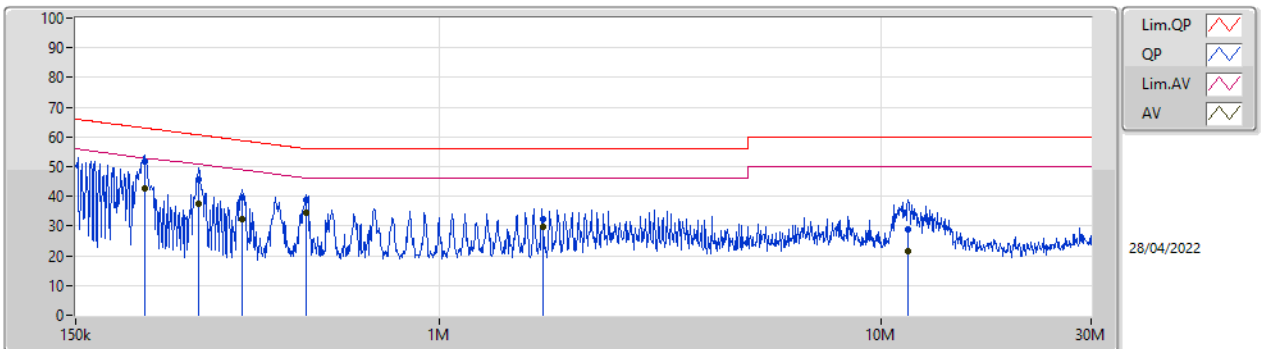
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	150k	46.66	66.00	-19.34	Line	-
Mode 1	Pass	AV	150k	27.25	56.00	-28.75	Line	-
Mode 1	Pass	QP	213.137k	53.84	63.07	-9.23	Line	-
Mode 1	Pass	AV	213.137k	44.55	53.07	-8.52	Line	-
Mode 1	Pass	QP	284.109k	47.04	60.70	-13.66	Line	-
Mode 1	Pass	AV	284.109k	38.60	50.70	-12.10	Line	-
Mode 1	Pass	QP	638.894k	35.41	56.00	-20.59	Line	-
Mode 1	Pass	AV	638.894k	31.52	46.00	-14.48	Line	-
Mode 1	Pass	QP	1.42M	26.72	56.00	-29.28	Line	-
Mode 1	Pass	AV	1.42M	23.80	46.00	-22.20	Line	-
Mode 1	Pass	QP	13.706M	25.25	60.00	-34.75	Line	-
Mode 1	Pass	AV	13.706M	20.41	50.00	-29.59	Line	-
Mode 1	Pass	QP	215.704k	51.53	62.98	-11.45	Neutral	-
Mode 1	Pass	AV	215.704k	42.53	52.98	-10.45	Neutral	-
Mode 1	Pass	QP	285.246k	45.82	60.67	-14.85	Neutral	-
Mode 1	Pass	AV	285.246k	37.68	50.67	-12.99	Neutral	-
Mode 1	Pass	QP	358.13k	39.50	58.77	-19.27	Neutral	-
Mode 1	Pass	AV	358.13k	32.14	48.77	-16.63	Neutral	-
Mode 1	Pass	QP	498.814k	38.89	56.02	-17.13	Neutral	-
Mode 1	Pass	AV	498.814k	34.48	46.02	-11.54	Neutral	-
Mode 1	Pass	QP	1.713M	32.49	56.00	-23.51	Neutral	-
Mode 1	Pass	AV	1.713M	29.61	46.00	-16.39	Neutral	-
Mode 1	Pass	QP	11.544M	29.00	60.00	-31.00	Neutral	-
Mode 1	Pass	AV	11.544M	21.47	50.00	-28.53	Neutral	-
Mode 2	Pass	QP	189.08k	37.67	64.07	-26.40	Line	-
Mode 2	Pass	AV	189.08k	30.67	54.07	-23.40	Line	-
Mode 2	Pass	QP	285.246k	18.73	60.67	-41.94	Line	-
Mode 2	Pass	AV	285.246k	15.54	50.67	-35.13	Line	-
Mode 2	Pass	QP	400.483k	13.15	57.84	-44.69	Line	-
Mode 2	Pass	AV	400.483k	12.27	47.84	-35.57	Line	-
Mode 2	Pass	QP	879.278k	18.72	56.00	-37.28	Line	-
Mode 2	Pass	AV	879.278k	17.50	46.00	-28.50	Line	-
Mode 2	Pass	QP	3.092M	14.80	56.00	-41.20	Line	-
Mode 2	Pass	AV	3.092M	13.84	46.00	-32.16	Line	-
Mode 2	Pass	QP	10.49M	15.58	60.00	-44.42	Line	-
Mode 2	Pass	AV	10.49M	14.66	50.00	-35.34	Line	-
Mode 2	Pass	QP	189.837k	37.33	64.05	-26.72	Neutral	-
Mode 2	Pass	AV	189.837k	30.26	54.05	-23.79	Neutral	-
Mode 2	Pass	QP	292.16k	20.11	60.46	-40.35	Neutral	-
Mode 2	Pass	AV	292.16k	18.64	50.46	-31.82	Neutral	-
Mode 2	Pass	QP	359.562k	13.69	58.73	-45.04	Neutral	-
Mode 2	Pass	AV	359.562k	12.56	48.73	-36.17	Neutral	-
Mode 2	Pass	QP	740.588k	15.44	56.00	-40.56	Neutral	-
Mode 2	Pass	AV	740.588k	12.64	46.00	-33.36	Neutral	-
Mode 2	Pass	QP	2.265M	15.11	56.00	-40.89	Neutral	-
Mode 2	Pass	AV	2.265M	13.76	46.00	-32.24	Neutral	-
Mode 2	Pass	QP	10.241M	29.43	60.00	-30.57	Neutral	-
Mode 2	Pass	AV	10.241M	25.87	50.00	-24.13	Neutral	-

Conducted Emissions at Powerline_Mode 1



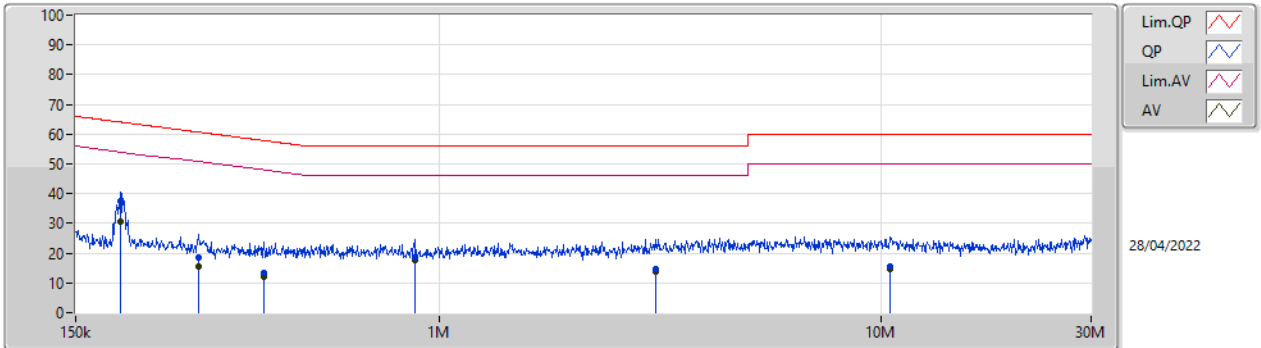
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	150k	46.66	66.00	-19.34	19.63	Line	-	27.03	9.69	0.03	9.91
AV	150k	27.25	56.00	-28.75	19.63	Line	-	7.62	9.69	0.03	9.91
QP	213.137k	53.84	63.07	-9.23	19.63	Line	-	34.21	9.69	0.03	9.91
AV	213.137k	44.55	53.07	-8.52	19.63	Line	-	24.92	9.69	0.03	9.91
QP	284.109k	47.04	60.70	-13.66	19.63	Line	-	27.41	9.68	0.04	9.91
AV	284.109k	38.60	50.70	-12.10	19.63	Line	-	18.97	9.68	0.04	9.91
QP	638.894k	35.41	56.00	-20.59	19.65	Line	-	15.76	9.68	0.05	9.92
AV	638.894k	31.52	46.00	-14.48	19.65	Line	-	11.87	9.68	0.05	9.92
QP	1.42M	26.72	56.00	-29.28	19.68	Line	-	7.04	9.69	0.07	9.92
AV	1.42M	23.80	46.00	-22.20	19.68	Line	-	4.12	9.69	0.07	9.92
QP	13.706M	25.25	60.00	-34.75	19.96	Line	-	5.29	9.80	0.23	9.93
AV	13.706M	20.41	50.00	-29.59	19.96	Line	-	0.45	9.80	0.23	9.93

Conducted Emissions at Powerline_Mode 1



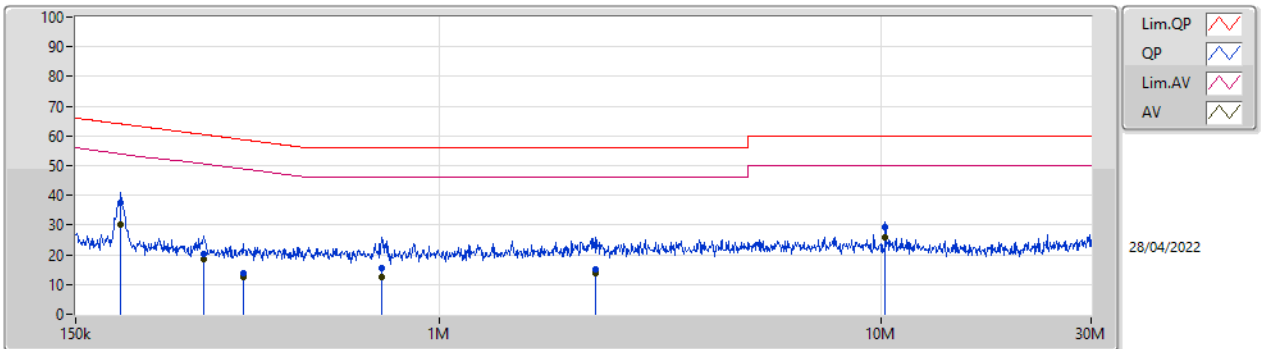
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	215.704k	51.53	62.98	-11.45	19.66	Neutral	-	31.87	9.72	0.03	9.91
AV	215.704k	42.53	52.98	-10.45	19.66	Neutral	-	22.87	9.72	0.03	9.91
QP	285.246k	45.82	60.67	-14.85	19.67	Neutral	-	26.15	9.72	0.04	9.91
AV	285.246k	37.68	50.67	-12.99	19.67	Neutral	-	18.01	9.72	0.04	9.91
QP	358.13k	39.50	58.77	-19.27	19.67	Neutral	-	19.83	9.72	0.04	9.91
AV	358.13k	32.14	48.77	-16.63	19.67	Neutral	-	12.47	9.72	0.04	9.91
QP	498.814k	38.89	56.02	-17.13	19.67	Neutral	-	19.22	9.72	0.04	9.91
AV	498.814k	34.48	46.02	-11.54	19.67	Neutral	-	14.81	9.72	0.04	9.91
QP	1.713M	32.49	56.00	-23.51	19.73	Neutral	-	12.76	9.74	0.07	9.92
AV	1.713M	29.61	46.00	-16.39	19.73	Neutral	-	9.88	9.74	0.07	9.92
QP	11.544M	29.00	60.00	-31.00	20.04	Neutral	-	8.96	9.91	0.20	9.93
AV	11.544M	21.47	50.00	-28.53	20.04	Neutral	-	1.43	9.91	0.20	9.93

Conducted Emissions at Powerline_Mode 2



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	189.08k	37.67	64.07	-26.40	19.63	Line	-	18.04	9.69	0.03	9.91
AV	189.08k	30.67	54.07	-23.40	19.63	Line	-	11.04	9.69	0.03	9.91
QP	285.246k	18.73	60.67	-41.94	19.63	Line	-	-0.90	9.68	0.04	9.91
AV	285.246k	15.54	50.67	-35.13	19.63	Line	-	-4.09	9.68	0.04	9.91
QP	400.483k	13.15	57.84	-44.69	19.63	Line	-	-6.48	9.68	0.04	9.91
AV	400.483k	12.27	47.84	-35.57	19.63	Line	-	-7.36	9.68	0.04	9.91
QP	879.278k	18.72	56.00	-37.28	19.65	Line	-	-0.93	9.68	0.05	9.92
AV	879.278k	17.50	46.00	-28.50	19.65	Line	-	-2.15	9.68	0.05	9.92
QP	3.092M	14.80	56.00	-41.20	19.74	Line	-	-4.94	9.71	0.11	9.92
AV	3.092M	13.84	46.00	-32.16	19.74	Line	-	-5.90	9.71	0.11	9.92
QP	10.49M	15.58	60.00	-44.42	19.93	Line	-	-4.35	9.81	0.19	9.93
AV	10.49M	14.66	50.00	-35.34	19.93	Line	-	-5.27	9.81	0.19	9.93

Conducted Emissions at Powerline_Mode 2



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	189.837k	37.33	64.05	-26.72	19.66	Neutral	-	17.67	9.72	0.03	9.91
AV	189.837k	30.26	54.05	-23.79	19.66	Neutral	-	10.60	9.72	0.03	9.91
QP	292.16k	20.11	60.46	-40.35	19.67	Neutral	-	0.44	9.72	0.04	9.91
AV	292.16k	18.64	50.46	-31.82	19.67	Neutral	-	-1.03	9.72	0.04	9.91
QP	359.562k	13.69	58.73	-45.04	19.67	Neutral	-	-5.98	9.72	0.04	9.91
AV	359.562k	12.56	48.73	-36.17	19.67	Neutral	-	-7.11	9.72	0.04	9.91
QP	740.588k	15.44	56.00	-40.56	19.70	Neutral	-	-4.26	9.73	0.05	9.92
AV	740.588k	12.64	46.00	-33.36	19.70	Neutral	-	-7.06	9.73	0.05	9.92
QP	2.265M	15.11	56.00	-40.89	19.75	Neutral	-	-4.64	9.74	0.09	9.92
AV	2.265M	13.76	46.00	-32.24	19.75	Neutral	-	-5.99	9.74	0.09	9.92
QP	10.241M	29.43	60.00	-30.57	20.00	Neutral	-	9.43	9.89	0.18	9.93
AV	10.241M	25.87	50.00	-24.13	20.00	Neutral	-	5.87	9.89	0.18	9.93



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)	685k	1.049M	1M05F1D	676.25k	1.046M

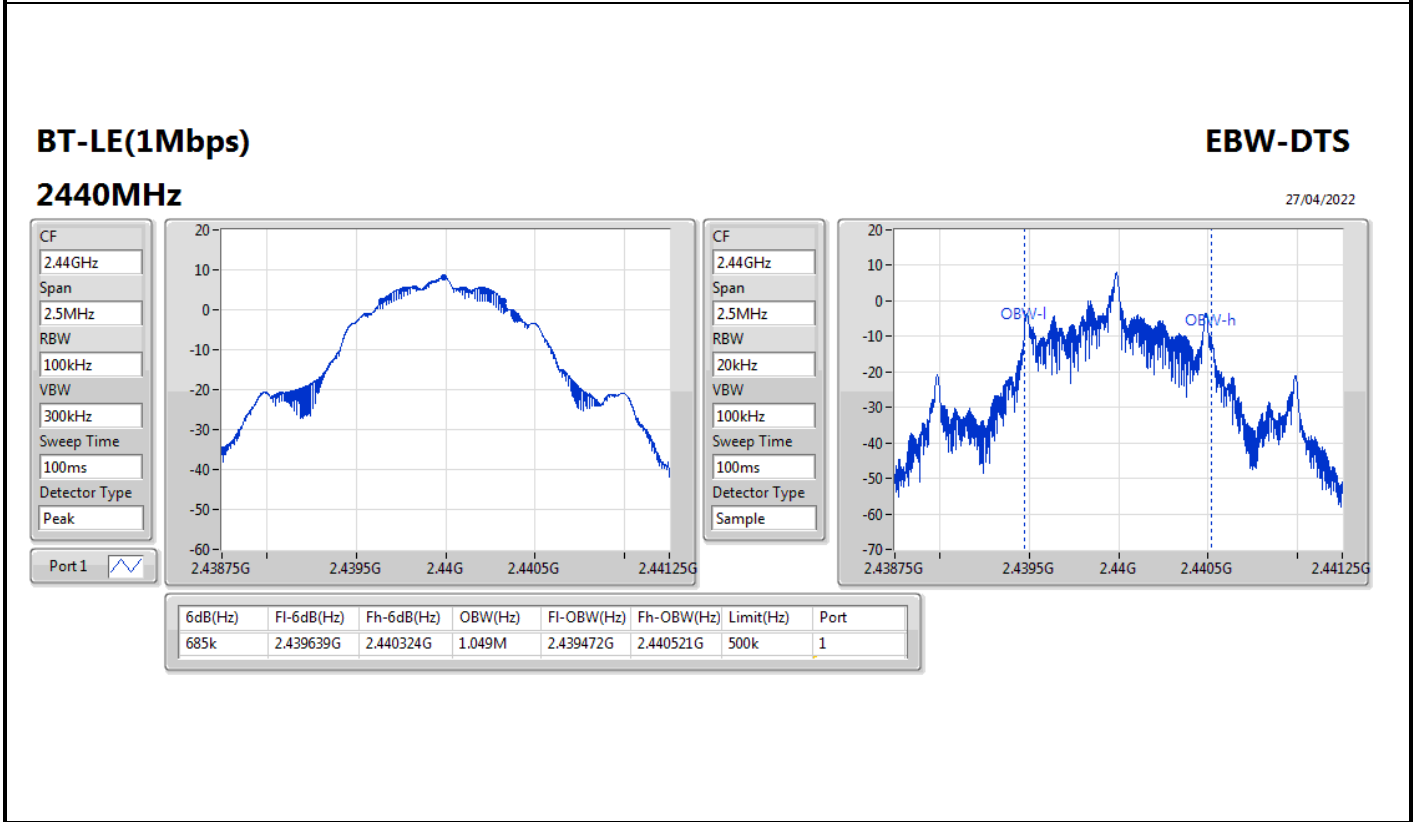
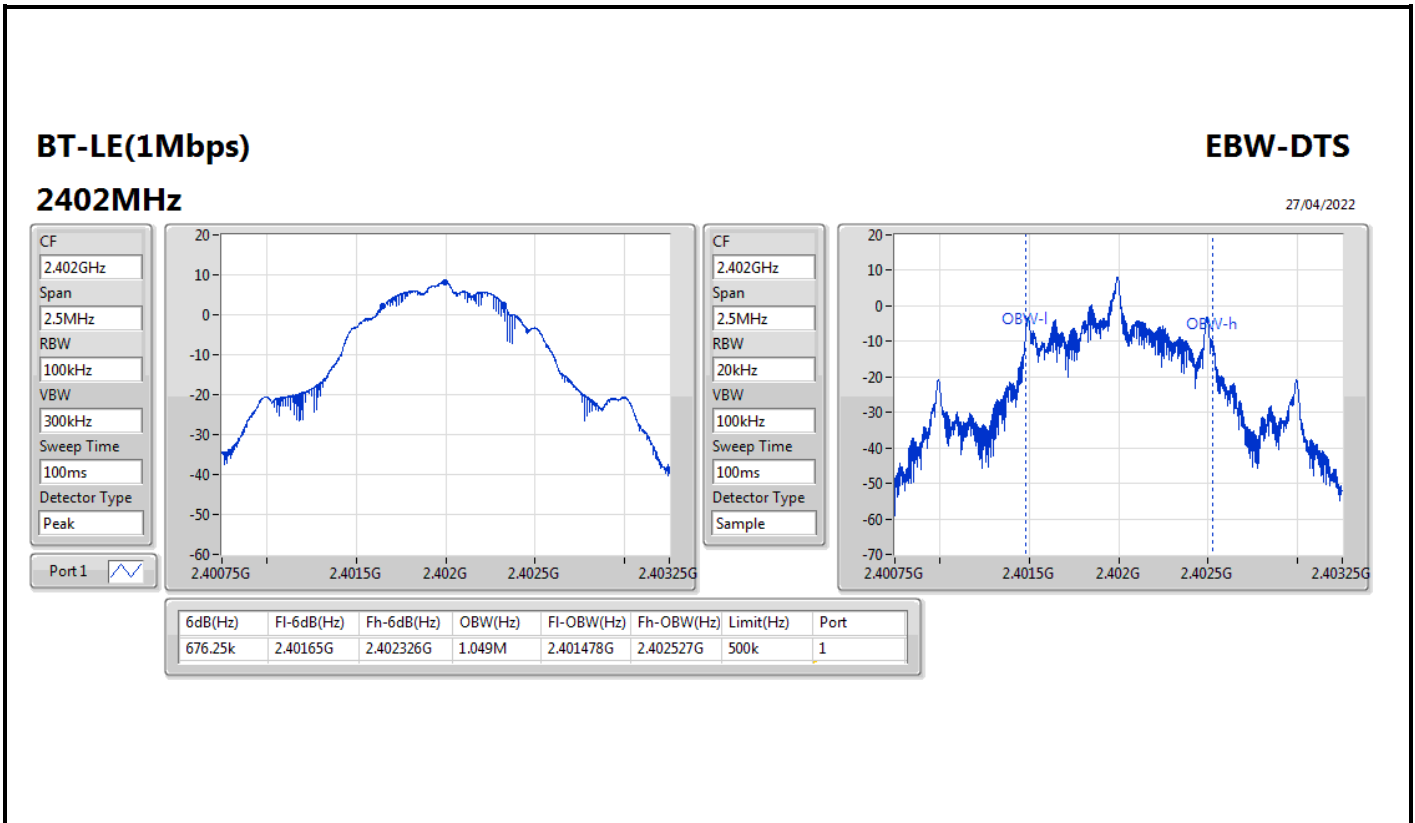
Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

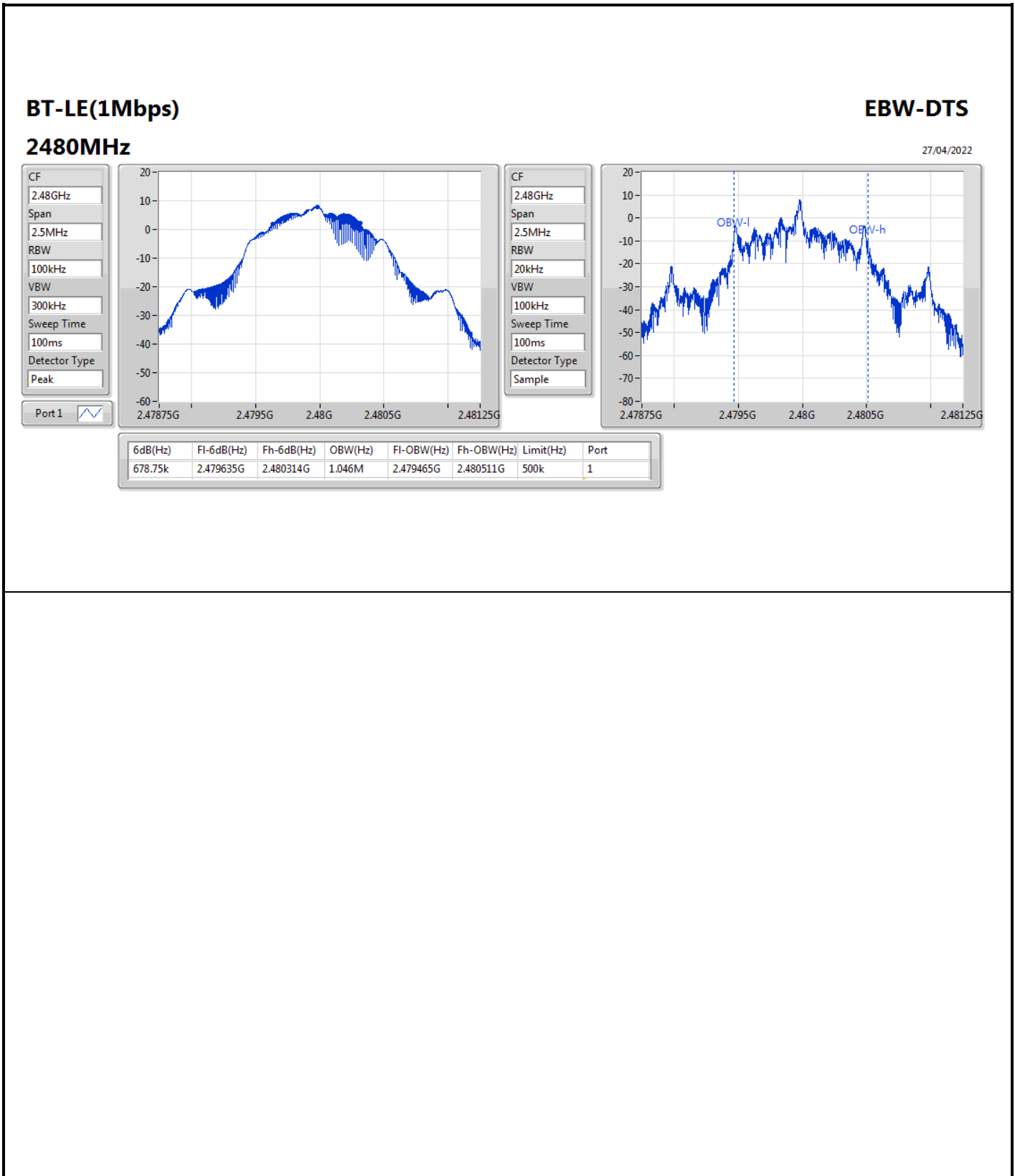


Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	676.25k	1.049M
2440MHz	Pass	500k	685k	1.049M
2480MHz	Pass	500k	678.75k	1.046M

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







Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	8.51	0.00710



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	0.72	8.51	30.00
2440MHz	Pass	0.72	8.24	30.00
2480MHz	Pass	0.72	8.28	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	7.29

RBW = 3kHz;



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	0.72	7.29	8.00
2440MHz	Pass	0.72	7.13	8.00
2480MHz	Pass	0.72	6.66	8.00

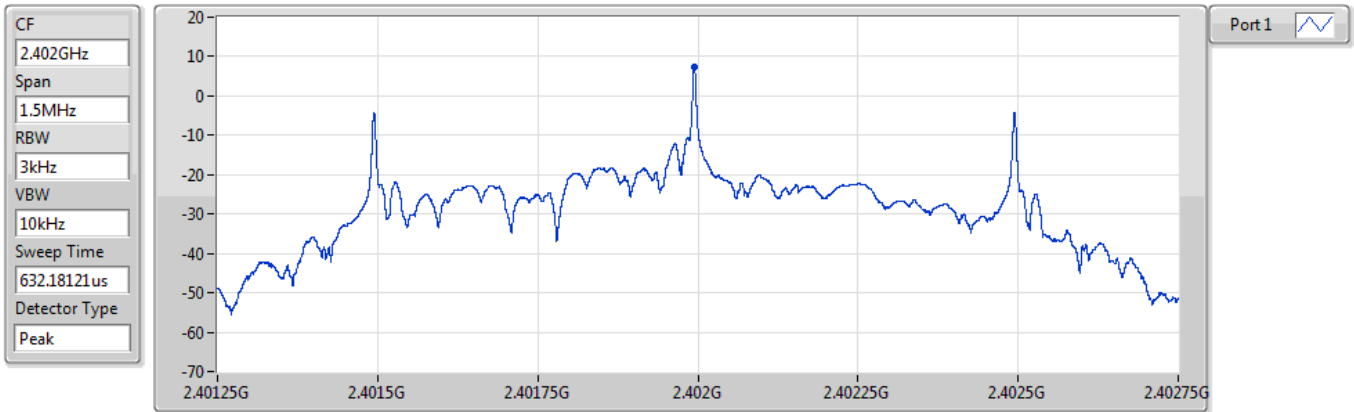
DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

BT-LE(1Mbps)

PSD

2402MHz

27/04/2022



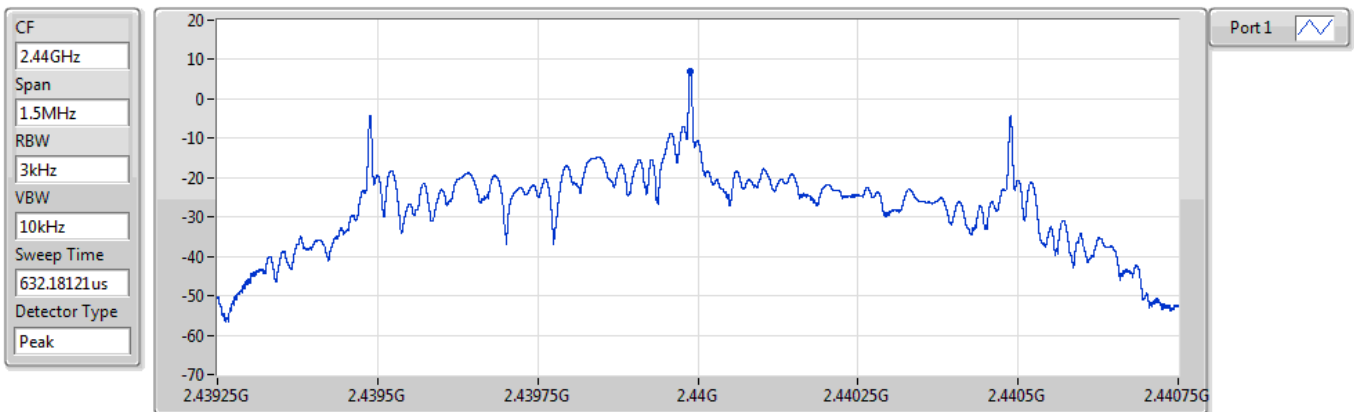
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.29	7.29	7.29

BT-LE(1Mbps)

PSD

2440MHz

27/04/2022



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.13	7.13	7.13

BT-LE(1Mbps)

PSD

2480MHz

27/04/2022

CF
2.48GHz

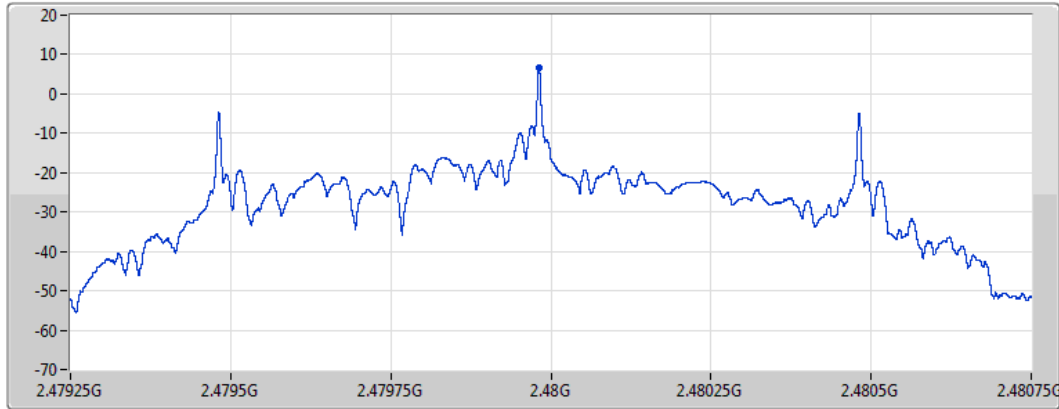
Span
1.5MHz

RBW
3kHz

VBW
10kHz

Sweep Time
632.18121us

Detector Type
Peak



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.66	6.66	6.66



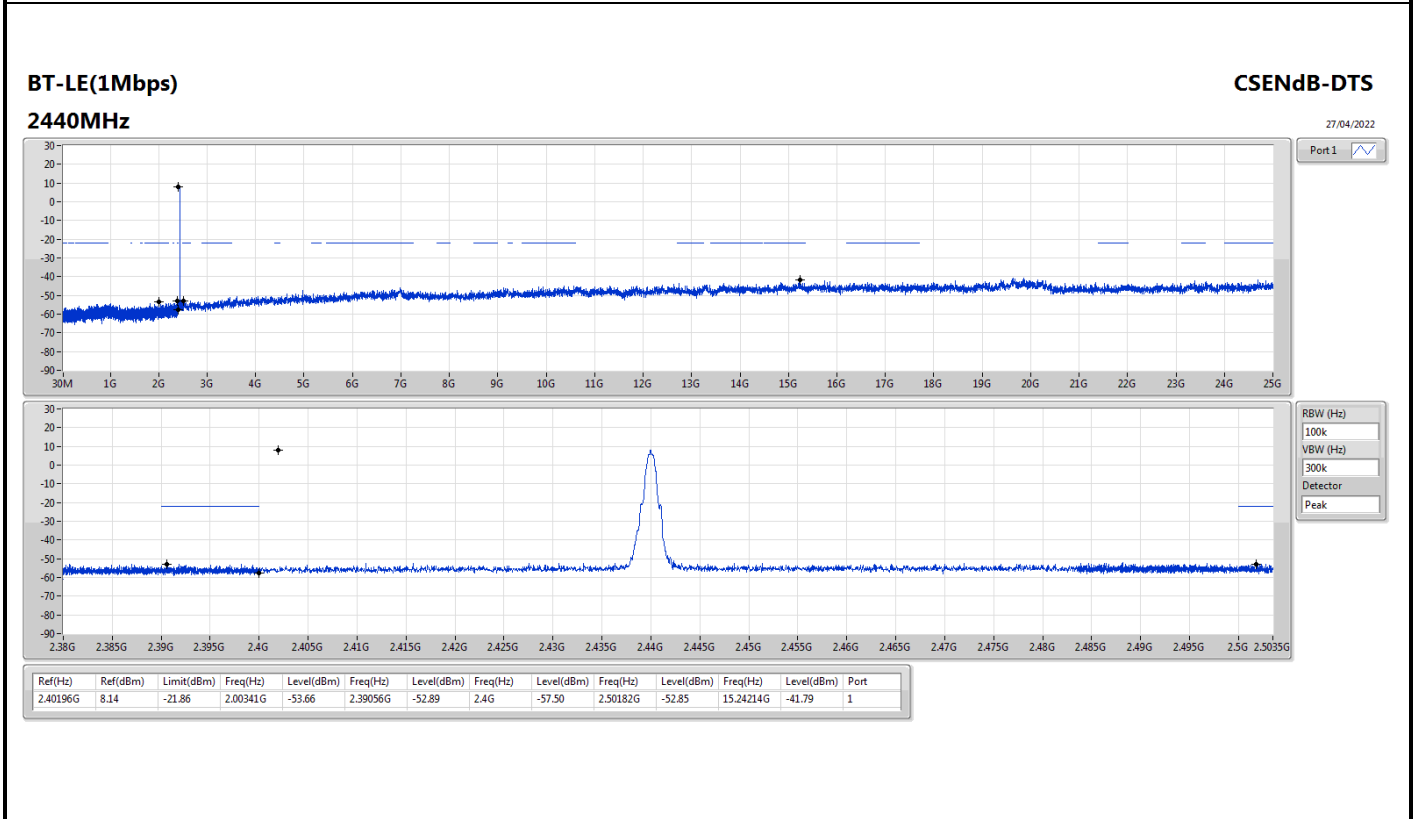
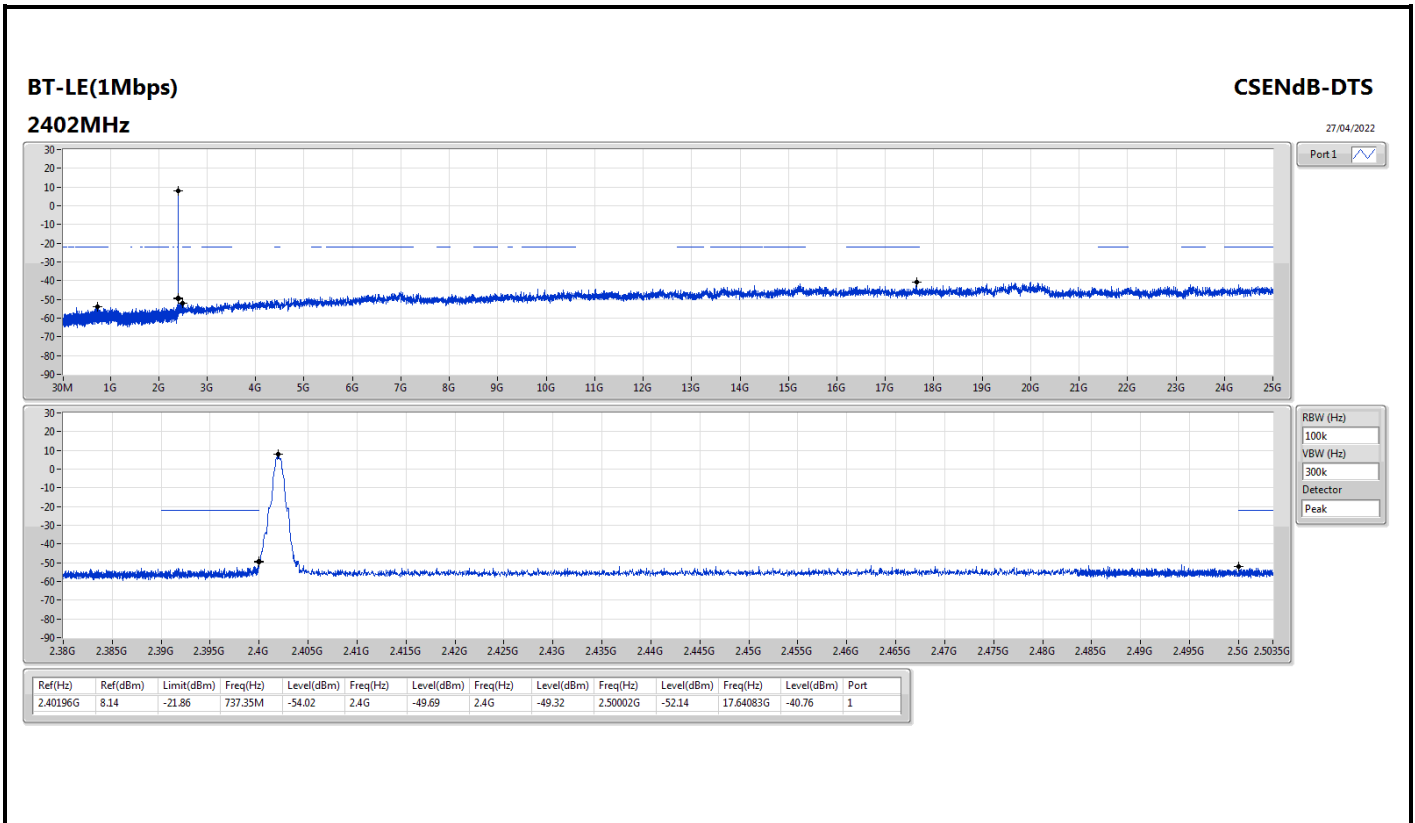
Summary

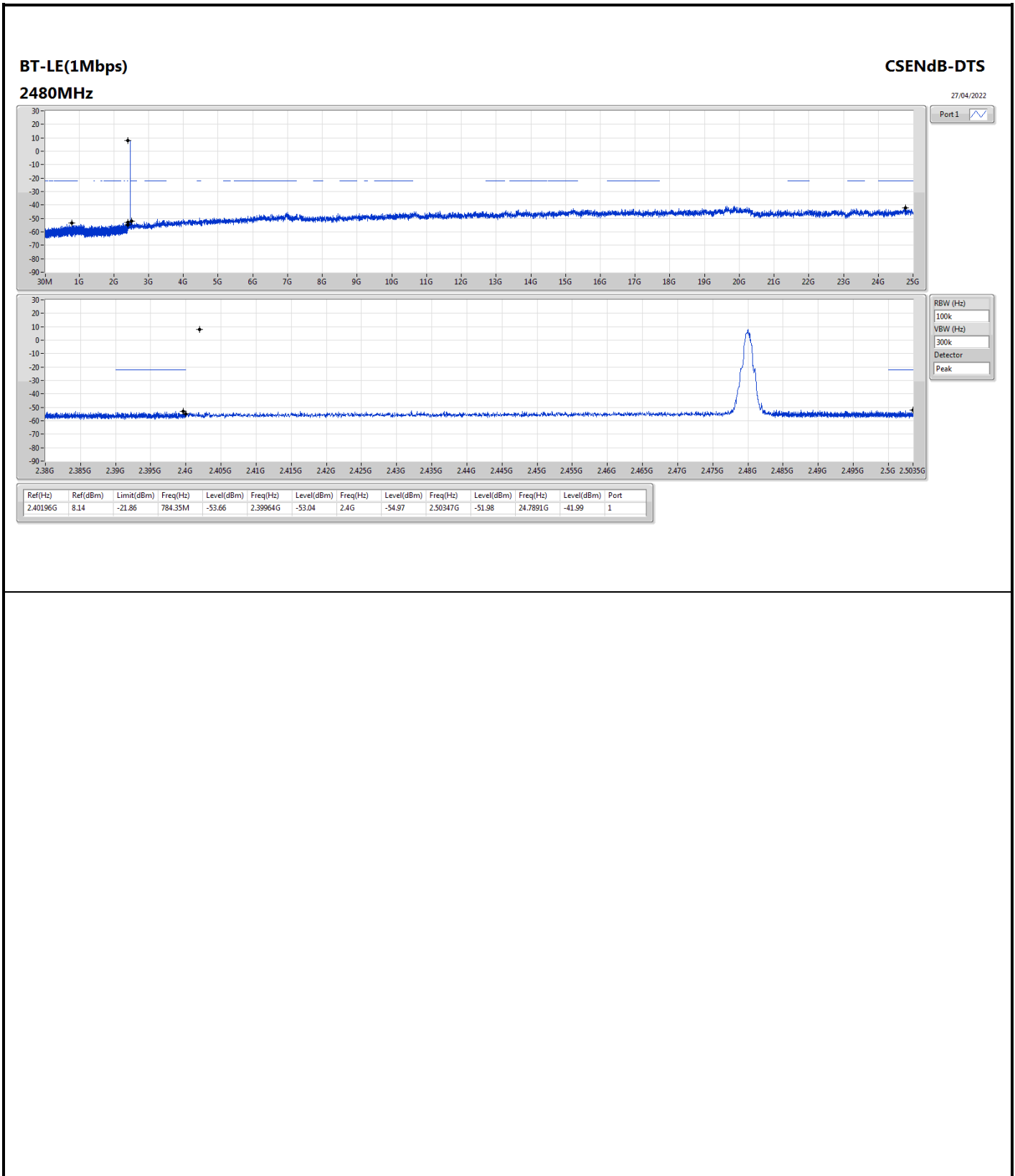
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.40196G	8.14	-21.86	737.35M	-54.02	2.4G	-49.69	2.4G	-49.32	2.50002G	-52.14	17.64083G	-40.76	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	2.40196G	8.14	-21.86	737.35M	-54.02	2.4G	-49.69	2.4G	-49.32	2.50002G	-52.14	17.64083G	-40.76	1
2440MHz	Pass	2.40196G	8.14	-21.86	2.00341G	-53.66	2.39056G	-52.89	2.4G	-57.50	2.50182G	-52.85	15.24214G	-41.79	1
2480MHz	Pass	2.40196G	8.14	-21.86	784.35M	-53.66	2.39964G	-53.04	2.4G	-54.97	2.50347G	-51.98	24.7891G	-41.99	1







Summary

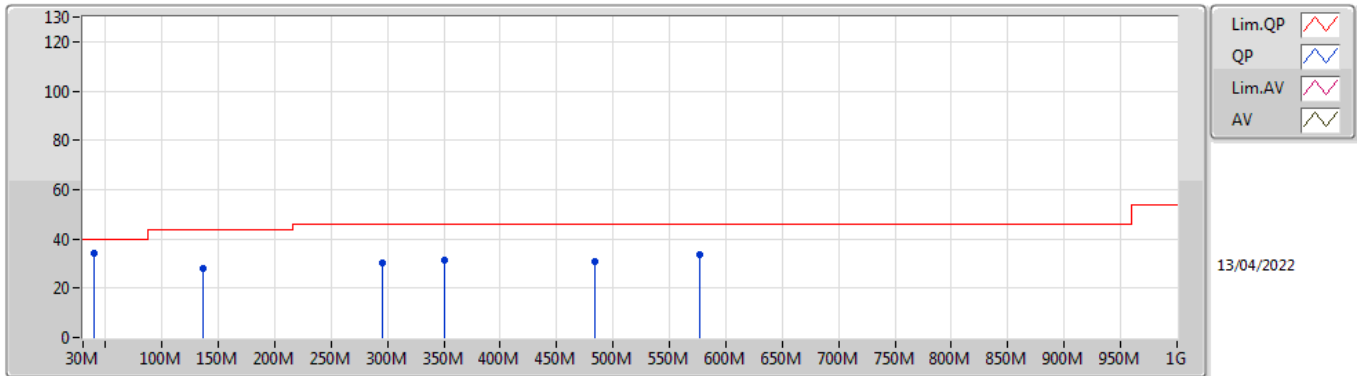
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	39.7M	34.37	40.00	-5.63	3	Vertical	360	1.00	-



Result

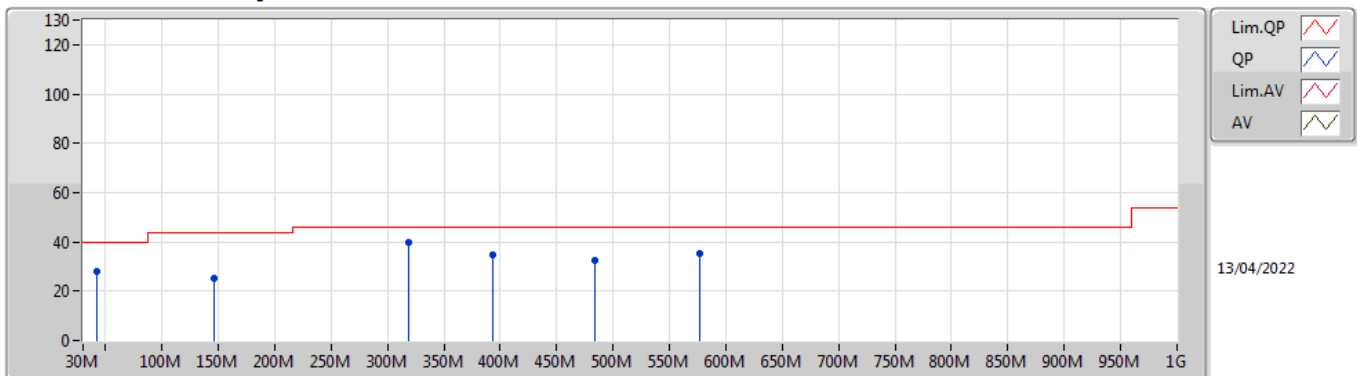
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	39.7M	34.37	40.00	-5.63	3	Vertical	360	1.00	-
2440MHz	Pass	PK	136.7M	27.84	43.50	-15.66	3	Vertical	360	1.00	-
2440MHz	Pass	PK	295.78M	30.10	46.00	-15.90	3	Vertical	360	1.00	-
2440MHz	Pass	PK	350.1M	31.50	46.00	-14.50	3	Vertical	360	1.00	-
2440MHz	Pass	PK	483.96M	30.73	46.00	-15.27	3	Vertical	360	1.00	-
2440MHz	Pass	PK	577.08M	33.69	46.00	-12.31	3	Vertical	360	1.00	-
2440MHz	Pass	PK	41.64M	28.06	40.00	-11.94	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	146.4M	25.46	43.50	-18.04	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	319.06M	39.80	46.00	-6.20	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	392.78M	34.61	46.00	-11.39	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	483.96M	32.51	46.00	-13.49	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	577.08M	35.13	46.00	-10.87	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	30M	30.91	40.00	-9.09	3	Vertical	0	1.00	-
2440MHz	Pass	PK	51.34M	30.59	40.00	-9.41	3	Vertical	0	1.00	-
2440MHz	Pass	PK	90.14M	28.87	43.50	-14.63	3	Vertical	0	1.00	-
2440MHz	Pass	PK	125.06M	26.34	43.50	-17.16	3	Vertical	0	1.00	-
2440MHz	Pass	PK	258.92M	24.52	46.00	-21.48	3	Vertical	0	1.00	-
2440MHz	Pass	PK	344.28M	27.41	46.00	-18.59	3	Vertical	0	1.00	-
2440MHz	Pass	PK	41.64M	31.33	40.00	-8.67	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	142.52M	32.14	43.50	-11.36	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	233.7M	26.82	46.00	-19.18	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	311.3M	30.67	46.00	-15.33	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	406.36M	29.29	46.00	-16.71	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	577.08M	35.70	46.00	-10.30	3	Horizontal	360	1.00	-

BT-LE(1Mbps)
2440MHz_Adapter



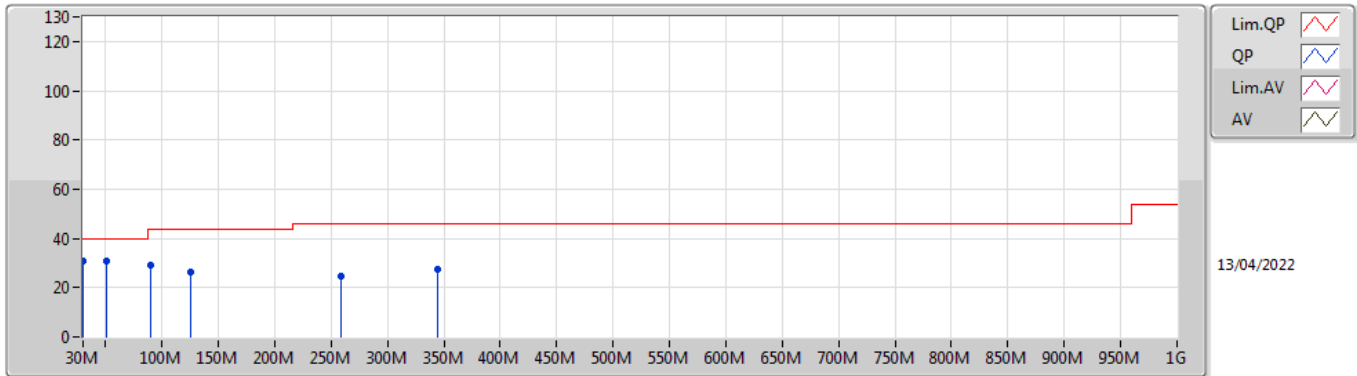
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	39.7M	34.37	40.00	-5.63	-8.49	3	Vertical	360	1.00	-	42.86	17.92	0.96	27.37
PK	136.7M	27.84	43.50	-15.66	-9.36	3	Vertical	360	1.00	-	37.20	16.65	1.62	27.63
PK	295.78M	30.10	46.00	-15.90	-6.46	3	Vertical	360	1.00	-	36.56	18.26	2.34	27.06
PK	350.1M	31.50	46.00	-14.50	-5.19	3	Vertical	360	1.00	-	36.69	19.59	2.55	27.33
PK	483.96M	30.73	46.00	-15.27	-2.52	3	Vertical	360	1.00	-	33.25	22.72	3.02	28.26
PK	577.08M	33.69	46.00	-12.31	-1.18	3	Vertical	360	1.00	-	34.87	23.91	3.29	28.38

BT-LE(1Mbps)
2440MHz_Adapter



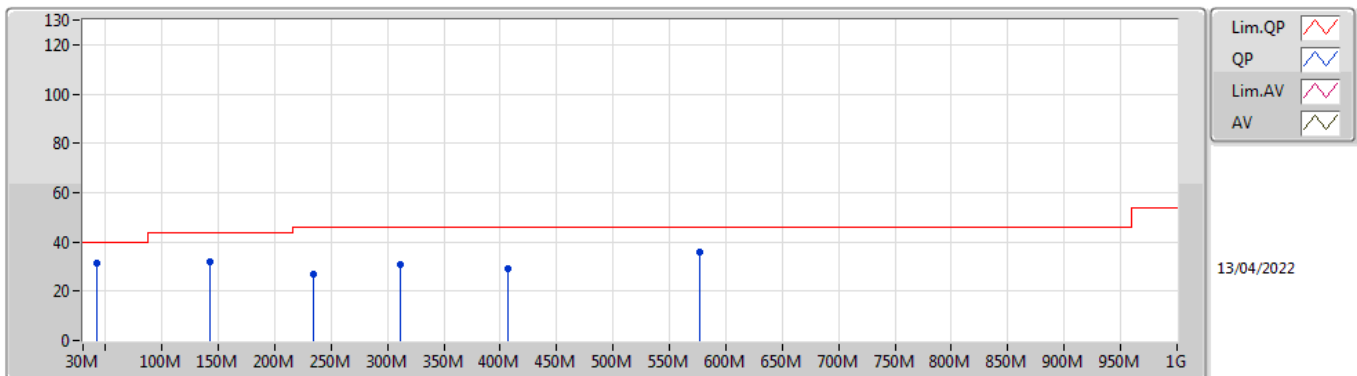
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	41.64M	28.06	40.00	-11.94	-9.66	3	Horizontal	0	1.00	-	37.72	16.80	0.98	27.44
PK	146.4M	25.46	43.50	-18.04	-10.06	3	Horizontal	0	1.00	-	35.52	15.83	1.68	27.57
PK	319.06M	39.80	46.00	-6.20	-5.93	3	Horizontal	0	1.00	-	45.73	18.80	2.43	27.16
PK	392.78M	34.61	46.00	-11.39	-4.43	3	Horizontal	0	1.00	-	39.04	20.58	2.71	27.72
PK	483.96M	32.51	46.00	-13.49	-2.52	3	Horizontal	0	1.00	-	35.03	22.72	3.02	28.26
PK	577.08M	35.13	46.00	-10.87	-1.18	3	Horizontal	0	1.00	-	36.31	23.91	3.29	28.38

BT-LE(1Mbps)
2440MHz_USB



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	30M	30.91	40.00	-9.09	-2.87	3	Vertical	0	1.00	-	33.78	23.26	0.86	26.99
PK	51.34M	30.59	40.00	-9.41	-13.92	3	Vertical	0	1.00	-	44.51	12.72	1.08	27.72
PK	90.14M	28.87	43.50	-14.63	-12.39	3	Vertical	0	1.00	-	41.26	14.10	1.35	27.84
PK	125.06M	26.34	43.50	-17.16	-8.85	3	Vertical	0	1.00	-	35.19	17.33	1.57	27.75
PK	258.92M	24.52	46.00	-21.48	-6.20	3	Vertical	0	1.00	-	30.72	18.64	2.19	27.03
PK	344.28M	27.41	46.00	-18.59	-5.44	3	Vertical	0	1.00	-	32.85	19.33	2.53	27.30

BT-LE(1Mbps)
2440MHz_USB



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	41.64M	31.33	40.00	-8.67	-9.66	3	Horizontal	360	1.00	-	40.99	16.80	0.98	27.44
PK	142.52M	32.14	43.50	-11.36	-9.75	3	Horizontal	360	1.00	-	41.89	16.18	1.66	27.59
PK	233.7M	26.82	46.00	-19.18	-9.27	3	Horizontal	360	1.00	-	36.09	15.76	2.09	27.12
PK	311.3M	30.67	46.00	-15.33	-6.03	3	Horizontal	360	1.00	-	36.70	18.69	2.40	27.12
PK	406.36M	29.29	46.00	-16.71	-3.72	3	Horizontal	360	1.00	-	33.01	21.34	2.76	27.82
PK	577.08M	35.70	46.00	-10.30	-1.18	3	Horizontal	360	1.00	-	36.88	23.91	3.29	28.38



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	2.4835G	50.96	54.00	-3.04	3	Horizontal	347	2.18	-

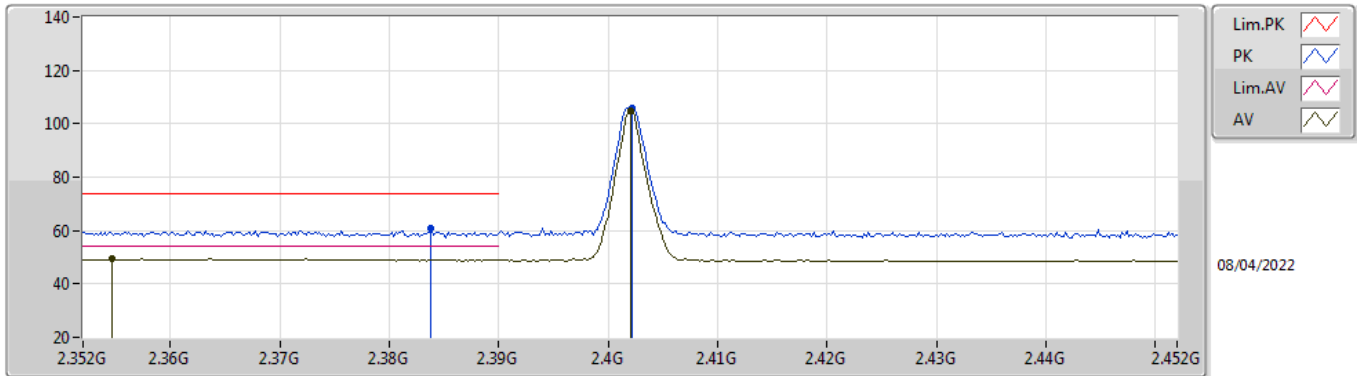


Result

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	2.3546G	49.36	54.00	-4.64	3	Vertical	61	2.67	-
2402MHz	Pass	AV	2.402G	104.83	Inf	-Inf	3	Vertical	61	2.67	-
2402MHz	Pass	PK	2.3838G	60.97	74.00	-13.03	3	Vertical	61	2.67	-
2402MHz	Pass	PK	2.4022G	105.80	Inf	-Inf	3	Vertical	61	2.67	-
2402MHz	Pass	AV	2.388G	49.34	54.00	-4.66	3	Horizontal	307	1.13	-
2402MHz	Pass	AV	2.402G	104.05	Inf	-Inf	3	Horizontal	307	1.13	-
2402MHz	Pass	PK	2.387G	60.34	74.00	-13.66	3	Horizontal	307	1.13	-
2402MHz	Pass	PK	2.4018G	105.03	Inf	-Inf	3	Horizontal	307	1.13	-
2402MHz	Pass	AV	4.80392G	32.19	54.00	-21.81	3	Vertical	0	2.47	-
2402MHz	Pass	PK	4.8038G	44.41	74.00	-29.59	3	Vertical	0	2.47	-
2402MHz	Pass	AV	4.80512G	31.86	54.00	-22.14	3	Horizontal	4	1.50	-
2402MHz	Pass	PK	4.80392G	43.70	74.00	-30.30	3	Horizontal	4	1.50	-
2440MHz	Pass	AV	2.3424G	49.46	54.00	-4.54	3	Vertical	62	2.62	-
2440MHz	Pass	AV	2.44G	100.99	Inf	-Inf	3	Vertical	62	2.62	-
2440MHz	Pass	AV	2.488G	48.87	54.00	-5.13	3	Vertical	62	2.62	-
2440MHz	Pass	PK	2.3444G	59.31	74.00	-14.69	3	Vertical	62	2.62	-
2440MHz	Pass	PK	2.4404G	101.93	Inf	-Inf	3	Vertical	62	2.62	-
2440MHz	Pass	PK	2.4996G	59.34	74.00	-14.66	3	Vertical	62	2.62	-
2440MHz	Pass	AV	2.3416G	49.38	54.00	-4.62	3	Horizontal	353	2.02	-
2440MHz	Pass	AV	2.44G	103.27	Inf	-Inf	3	Horizontal	353	2.02	-
2440MHz	Pass	AV	2.4956G	48.72	54.00	-5.28	3	Horizontal	353	2.02	-
2440MHz	Pass	PK	2.3564G	60.51	74.00	-13.49	3	Horizontal	353	2.02	-
2440MHz	Pass	PK	2.4404G	104.15	Inf	-Inf	3	Horizontal	353	2.02	-
2440MHz	Pass	PK	2.4964G	58.84	74.00	-15.16	3	Horizontal	353	2.02	-
2440MHz	Pass	AV	4.87874G	32.09	54.00	-21.91	3	Vertical	360	2.41	-
2440MHz	Pass	PK	4.88062G	44.14	74.00	-29.86	3	Vertical	360	2.41	-
2440MHz	Pass	AV	4.8805G	32.27	54.00	-21.73	3	Horizontal	360	1.50	-
2440MHz	Pass	PK	4.87983G	44.20	74.00	-29.80	3	Horizontal	360	1.50	-
2480MHz	Pass	AV	2.48G	98.43	Inf	-Inf	3	Vertical	38	2.04	-
2480MHz	Pass	AV	2.4835G	49.62	54.00	-4.38	3	Vertical	38	2.04	-
2480MHz	Pass	PK	2.4798G	99.40	Inf	-Inf	3	Vertical	38	2.04	-
2480MHz	Pass	PK	2.497G	58.61	74.00	-15.39	3	Vertical	38	2.04	-
2480MHz	Pass	AV	2.48G	101.57	Inf	-Inf	3	Horizontal	347	2.18	-
2480MHz	Pass	AV	2.4835G	50.96	54.00	-3.04	3	Horizontal	347	2.18	-
2480MHz	Pass	PK	2.4798G	102.49	Inf	-Inf	3	Horizontal	347	2.18	-
2480MHz	Pass	PK	2.4836G	59.77	74.00	-14.23	3	Horizontal	347	2.18	-
2480MHz	Pass	AV	4.95996G	33.57	54.00	-20.43	3	Vertical	0	1.09	-
2480MHz	Pass	PK	4.95979G	45.07	74.00	-28.93	3	Vertical	0	1.09	-
2480MHz	Pass	AV	4.95996G	33.85	54.00	-20.15	3	Horizontal	2	1.92	-
2480MHz	Pass	PK	4.96067G	44.87	74.00	-29.13	3	Horizontal	2	1.92	-

BT-LE(1Mbps)

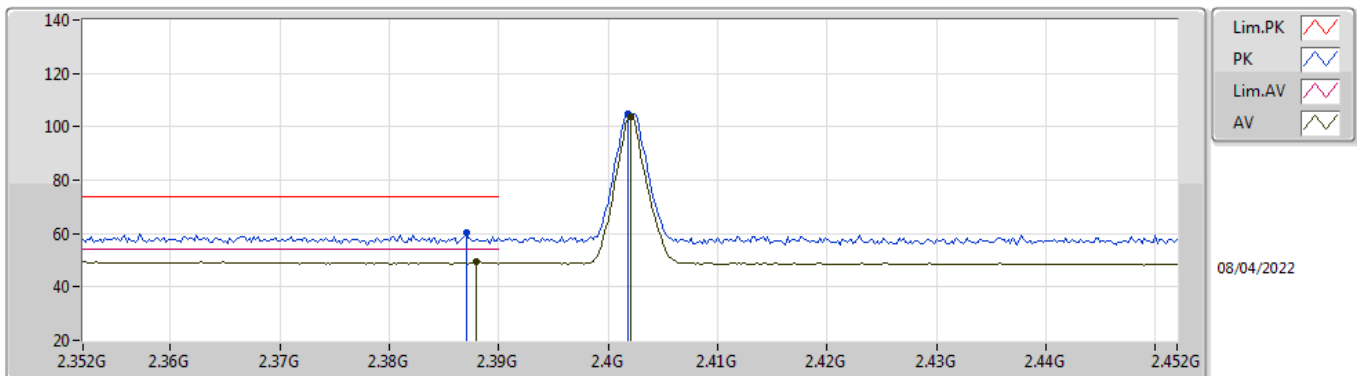
2402MHz_TX



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	2.3546G	49.36	54.00	-4.64	36.05	3	Vertical	61	2.67	-	13.31	27.79	8.26	-
AV	2.402G	104.83	Inf	-Inf	35.98	3	Vertical	61	2.67	-	68.85	27.69	8.29	-
PK	2.3838G	60.97	74.00	-13.03	36.01	3	Vertical	61	2.67	-	24.96	27.73	8.28	-
PK	2.4022G	105.80	Inf	-Inf	35.98	3	Vertical	61	2.67	-	69.82	27.69	8.29	-

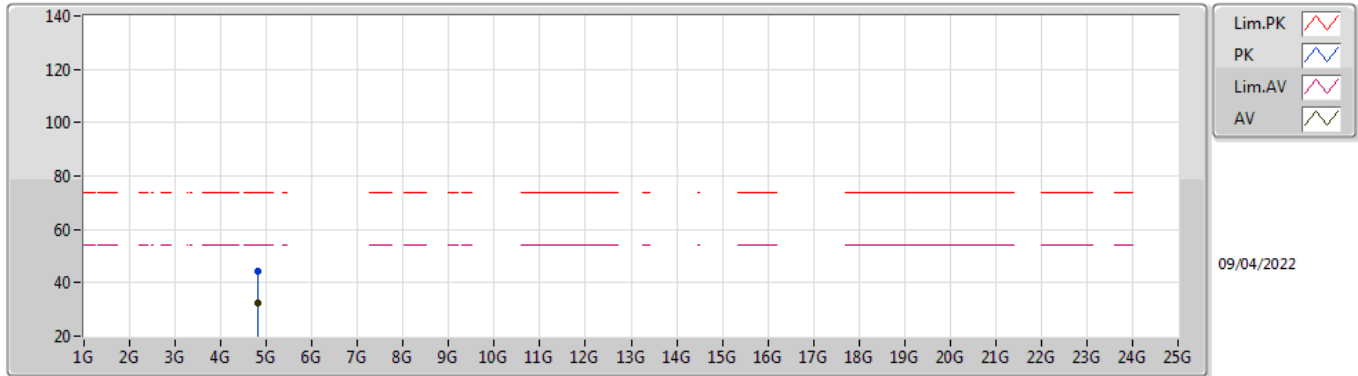
BT-LE(1Mbps)

2402MHz_TX



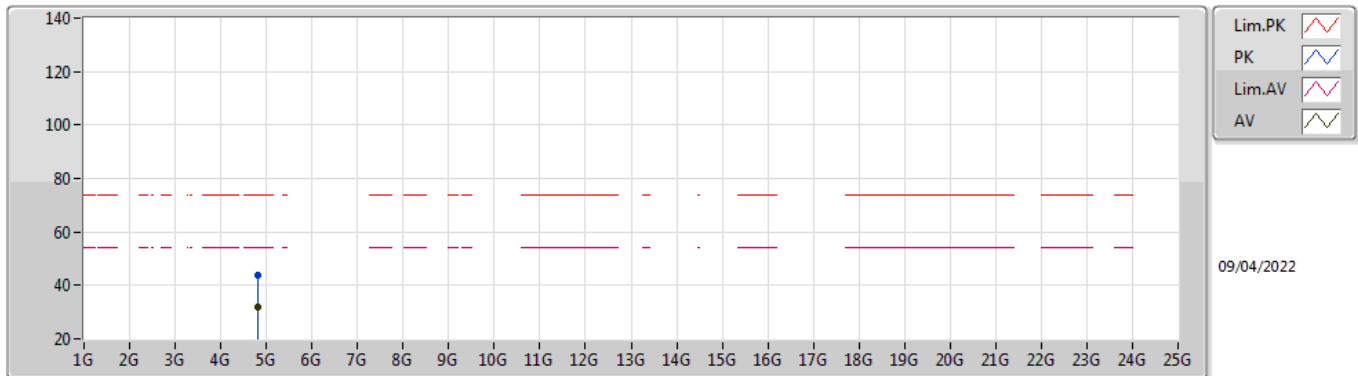
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.388G	49.34	54.00	-4.66	36.00	3	Horizontal	307	1.13	-	13.34	27.72	8.28	-
AV	2.402G	104.05	Inf	-Inf	35.98	3	Horizontal	307	1.13	-	68.07	27.69	8.29	-
PK	2.387G	60.34	74.00	-13.66	36.01	3	Horizontal	307	1.13	-	24.33	27.73	8.28	-
PK	2.4018G	105.03	Inf	-Inf	35.98	3	Horizontal	307	1.13	-	69.05	27.69	8.29	-

BT-LE(1Mbps)
2402MHz_TX



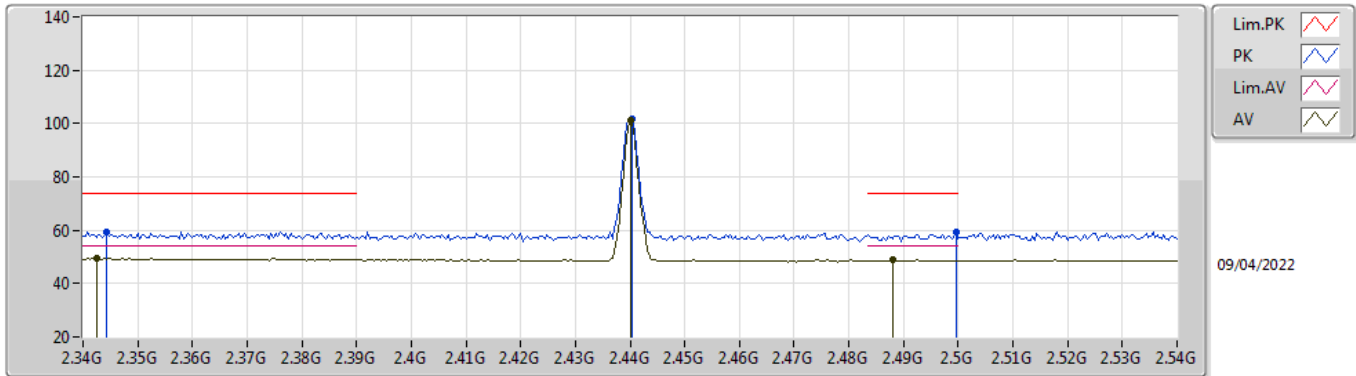
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80392G	32.19	54.00	-21.81	6.59	3	Vertical	0	2.47	-	25.60	31.11	9.67	34.19
PK	4.8038G	44.41	74.00	-29.59	6.59	3	Vertical	0	2.47	-	37.82	31.11	9.67	34.19

BT-LE(1Mbps)
2402MHz_TX



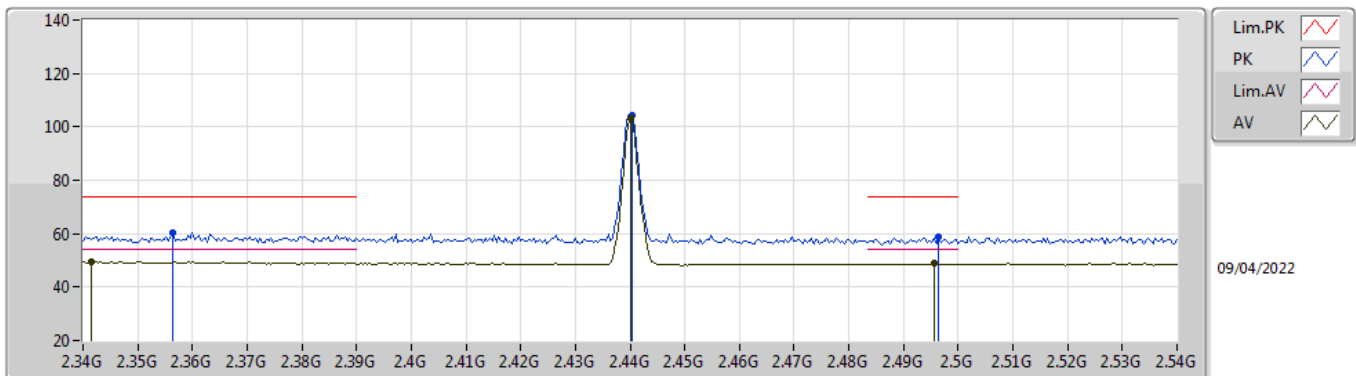
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80512G	31.86	54.00	-22.14	6.59	3	Horizontal	4	1.50	-	25.27	31.11	9.67	34.19
PK	4.80392G	43.70	74.00	-30.30	6.59	3	Horizontal	4	1.50	-	37.11	31.11	9.67	34.19

BT-LE(1Mbps)
2440MHz_TX



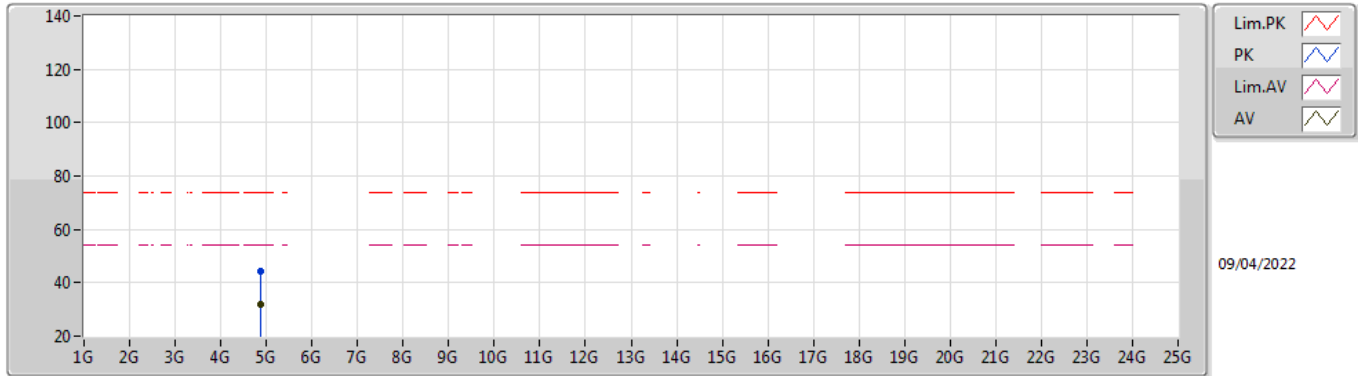
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3424G	49.46	54.00	-4.54	36.07	3	Vertical	62	2.62	-	13.39	27.82	8.25	-
AV	2.44G	100.99	Inf	-Inf	35.78	3	Vertical	62	2.62	-	65.21	27.46	8.32	-
AV	2.488G	48.87	54.00	-5.13	35.75	3	Vertical	62	2.62	-	13.12	27.40	8.35	-
PK	2.3444G	59.31	74.00	-14.69	36.06	3	Vertical	62	2.62	-	23.25	27.81	8.25	-
PK	2.4404G	101.93	Inf	-Inf	35.78	3	Vertical	62	2.62	-	66.15	27.46	8.32	-
PK	2.4996G	59.34	74.00	-14.66	35.75	3	Vertical	62	2.62	-	23.59	27.40	8.35	-

BT-LE(1Mbps)
2440MHz_TX



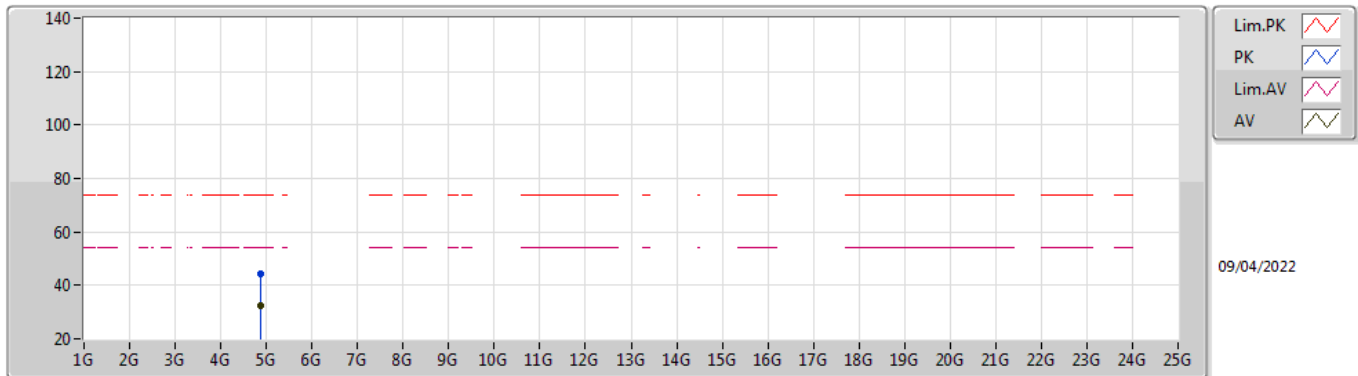
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3416G	49.38	54.00	-4.62	36.07	3	Horizontal	353	2.02	-	13.31	27.82	8.25	-
AV	2.44G	103.27	Inf	-Inf	35.78	3	Horizontal	353	2.02	-	67.49	27.46	8.32	-
AV	2.4956G	48.72	54.00	-5.28	35.75	3	Horizontal	353	2.02	-	12.97	27.40	8.35	-
PK	2.3564G	60.51	74.00	-13.49	36.05	3	Horizontal	353	2.02	-	24.46	27.79	8.26	-
PK	2.4404G	104.15	Inf	-Inf	35.78	3	Horizontal	353	2.02	-	68.37	27.46	8.32	-
PK	2.4964G	58.84	74.00	-15.16	35.75	3	Horizontal	353	2.02	-	23.09	27.40	8.35	-

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	4.87874G	32.09	54.00	-21.91	6.74	3	Vertical	360	2.41	-	25.35	31.20	9.70	34.16
PK	4.88062G	44.14	74.00	-29.86	6.74	3	Vertical	360	2.41	-	37.40	31.20	9.70	34.16

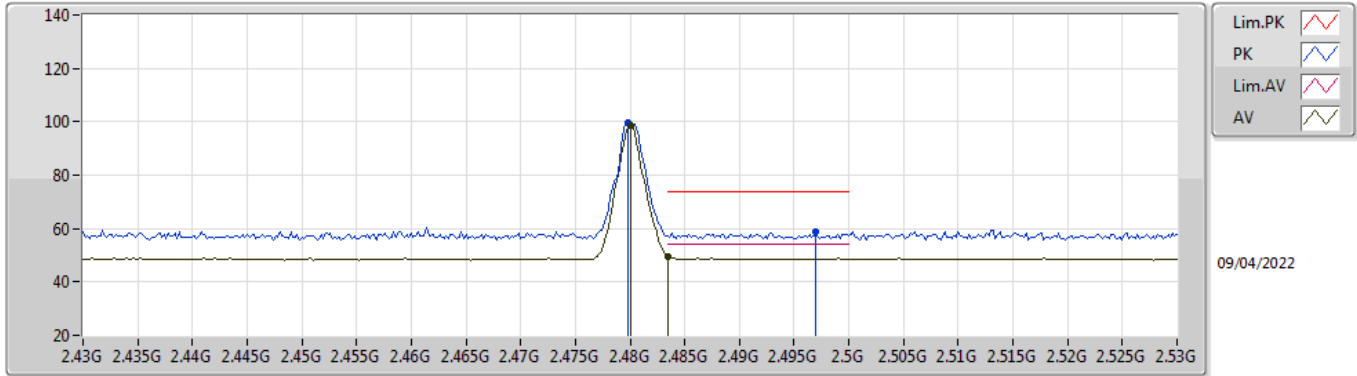
BT-LE(1Mbps)
2440MHz_TX



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	4.8805G	32.27	54.00	-21.73	6.74	3	Horizontal	360	1.50	-	25.53	31.20	9.70	34.16
PK	4.87983G	44.20	74.00	-29.80	6.74	3	Horizontal	360	1.50	-	37.46	31.20	9.70	34.16

BT-LE(1Mbps)

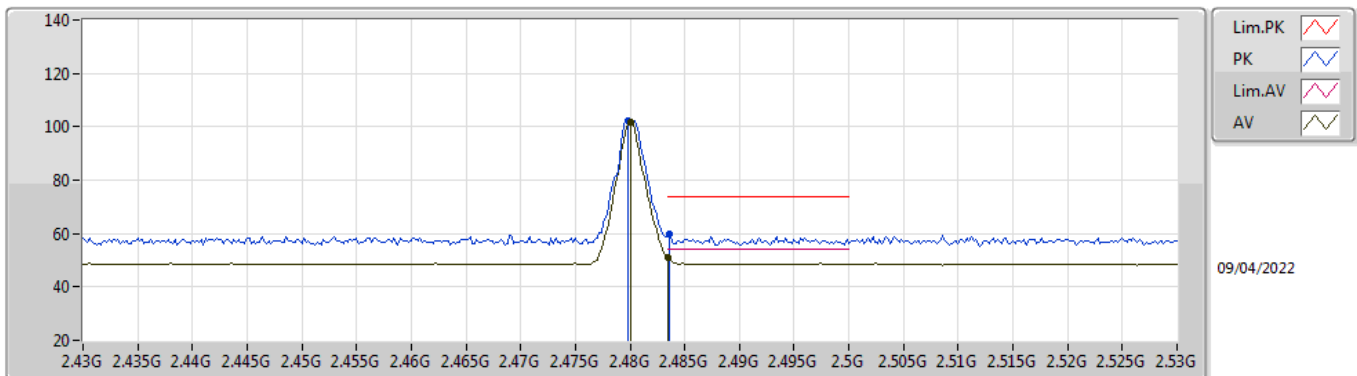
2480MHz_TX



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	98.43	Inf	-Inf	35.74	3	Vertical	38	2.04	-	62.69	27.40	8.34	-
AV	2.4835G	49.62	54.00	-4.38	35.74	3	Vertical	38	2.04	-	13.88	27.40	8.34	-
PK	2.4798G	99.40	Inf	-Inf	35.74	3	Vertical	38	2.04	-	63.66	27.40	8.34	-
PK	2.497G	58.61	74.00	-15.39	35.75	3	Vertical	38	2.04	-	22.86	27.40	8.35	-

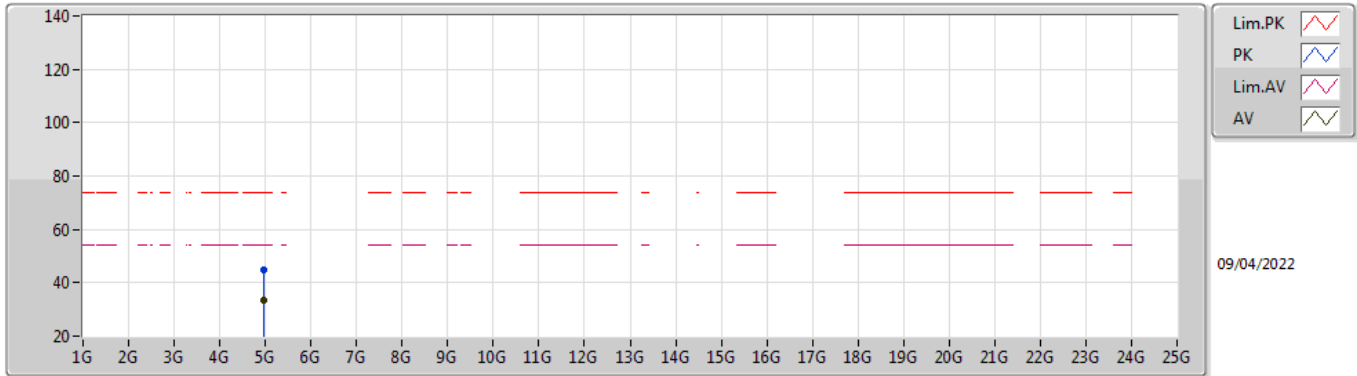
BT-LE(1Mbps)

2480MHz_TX



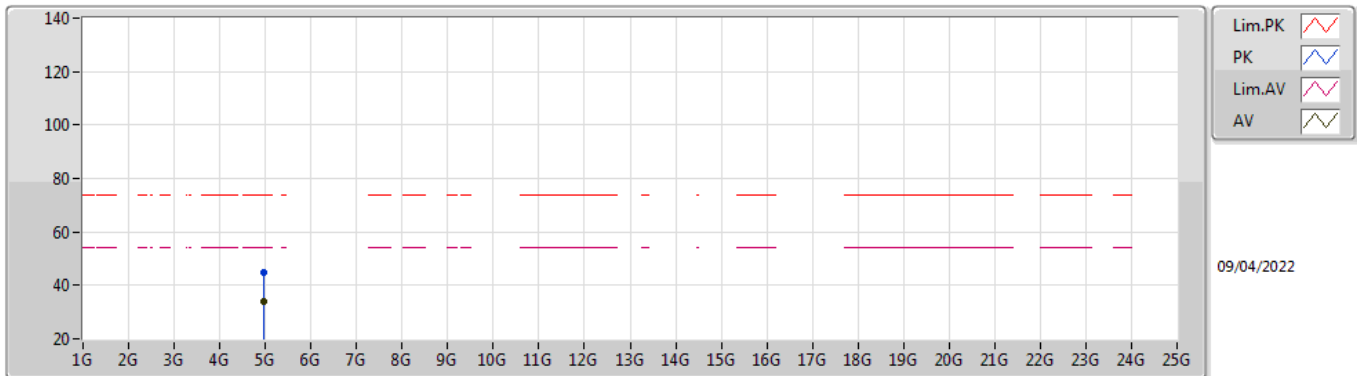
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	101.57	Inf	-Inf	35.74	3	Horizontal	347	2.18	-	65.83	27.40	8.34	-
AV	2.4835G	50.96	54.00	-3.04	35.74	3	Horizontal	347	2.18	-	15.22	27.40	8.34	-
PK	2.4798G	102.49	Inf	-Inf	35.74	3	Horizontal	347	2.18	-	66.75	27.40	8.34	-
PK	2.4836G	59.77	74.00	-14.23	35.74	3	Horizontal	347	2.18	-	24.03	27.40	8.34	-

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	4.95996G	33.57	54.00	-20.43	7.03	3	Vertical	0	1.09	-	26.54	31.42	9.73	34.12
PK	4.95979G	45.07	74.00	-28.93	7.03	3	Vertical	0	1.09	-	38.04	31.42	9.73	34.12

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	4.95996G	33.85	54.00	-20.15	7.03	3	Horizontal	2	1.92	-	26.82	31.42	9.73	34.12
PK	4.96067G	44.87	74.00	-29.13	7.03	3	Horizontal	2	1.92	-	37.84	31.42	9.73	34.12