

FCC Radio Test Report

FCC ID : PPQ-QCS403YA
Equipment : QCS403-based 11ac+BT5.1 connectivity LGA SOM
Brand Name : LITEON
Model Name : QCS403YA
Applicant : Lite-On Technology Corp.
Bldg. C, 90, Chien 1 Road, Chung Ho, New Taipei City
23585, Taiwan, R.O.C
Manufacturer : LITE-ON TECHNOLOGY (Changzhou) CO., LTD
A9 Building, No.88 Yanghu Road, Wujin Hi-Tech
Industrial Development Zone, Changzhou City,
Jiangsu Province 213100 China
Standard : 47 CFR FCC Part 15.247

The product was received on Apr. 07, 2021, and testing was started from Apr. 15, 2021 and completed on Apr. 23, 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.)



Table of Contents

HISTORY OF THIS TEST REPORT	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Information.....	5
1.2 Testing Applied Standards	7
1.3 Testing Location Information	7
1.4 Measurement Uncertainty	7
2 TEST CONFIGURATION OF EUT.....	8
2.1 Test Channel Mode	8
2.2 The Worst Case Measurement Configuration	9
2.3 Support Equipment.....	10
2.4 Test Setup Diagram	11
3 TRANSMITTER TEST RESULT	12
3.1 AC Power-line Conducted Emissions	12
3.2 DTS Bandwidth.....	14
3.3 Maximum Conducted Output Power	15
3.4 Power Spectral Density	17
3.5 Emissions in Non-restricted Frequency Bands	18
3.6 Emissions in Restricted Frequency Bands.....	19
4 TEST EQUIPMENT AND CALIBRATION DATA.....	23
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 RESULTS OF RADIATED EMISSION CO-LOCATION	
APPENDIX H. TEST PHOTOS	
PHOTOGRAPHS OF EUT V01	



History of this test report

[illegible]

Summary of Test Result

Report Clause	Ref.Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
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: 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
2.4-2.4835GHz	BT-LE(2Mbps)	2.0	1TX

Note:

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

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	INPAQ	RFPCA370808IMLB302	PIFA Antenna	I-PEX
2	INPAQ	RFPCA370811IMLB301	PIFA Antenna	I-PEX
3	INPAQ	RFPCA370838IMLB302	PIFA Antenna	I-PEX
4	INPAQ	RFPCA320808IMAB301	PIFA Antenna	I-PEX
5	INPAQ	RFPCA320806IMAB302	PIFA Antenna	I-PEX

Ant.	Port	Gain (dBi)		
		2.4G	5G	BT
1	1	2.55	4.87	2.55
2	1	2.4	4.56	2.4
3	1	2.02	5.46	2.02
4	1	2.5	-	2.5
5	1	2.5	-	2.5

Note 1: The EUT has five antennas. (Optional)

Note 2: EUT can match with above antennas for using. The higher gain for 2.4G (Ant. 1) and higher gain for 5G (Ant. 3) was used to perform the worst configuration and result of that was recorded as the final test result.

For 2.4GHz function:

For IEEE 802.11 b/g/n mode (1TX/1RX)

Ant. 1/2/3/4/5 (port 1) can be used as transmitting/receiving.

For BT function:

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

Ant. 1/2/3/4/5 (port 1) can be used as transmitting/receiving.

For 5GHz function:

For IEEE 802.11 a/n/ac mode (1TX/1RX)

Ant. 1/2/3 (port 1) can be used as transmitting/receiving.

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From test fixture		
EUT Function	☐ Point-to-multipoint	☒ Point-to-point	
Type of EUT			
☒	Stand-alone		
☐	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.:		...
☐	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.:		...
☐	Other:		

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-LE(1Mbps)	0.63	2.01	393.438u	3k
BT-LE(2Mbps)	0.333	4.78	208.438u	10k

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

1.2 Testing Applied Standards

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

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

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

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

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	TEL: 886-3-327-3456		FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward Wang	21.2~22.3°C / 58~63%	17/Apr/2021
RF Conducted	TH01-HY	Vivi Jiang	20.1~26.9°C / 50~60%	20/Apr/2021
Radiated	03CH03-HY	Billy Wang	20.1~26.9°C / 52~54%	15/Apr/2021~23/Apr/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	QDART_WIN_4_8_Installer_00072_1
-----------------------	---------------------------------

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	Default
2440MHz	Default
2480MHz	Default
BT-LE(2Mbps)	-
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	Test Fixture mode

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

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	Bluetooth+WLAN 2.4GHz
2	Bluetooth+WLAN 5GHz
Refer to Sporton Test Report No.: FA133007 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

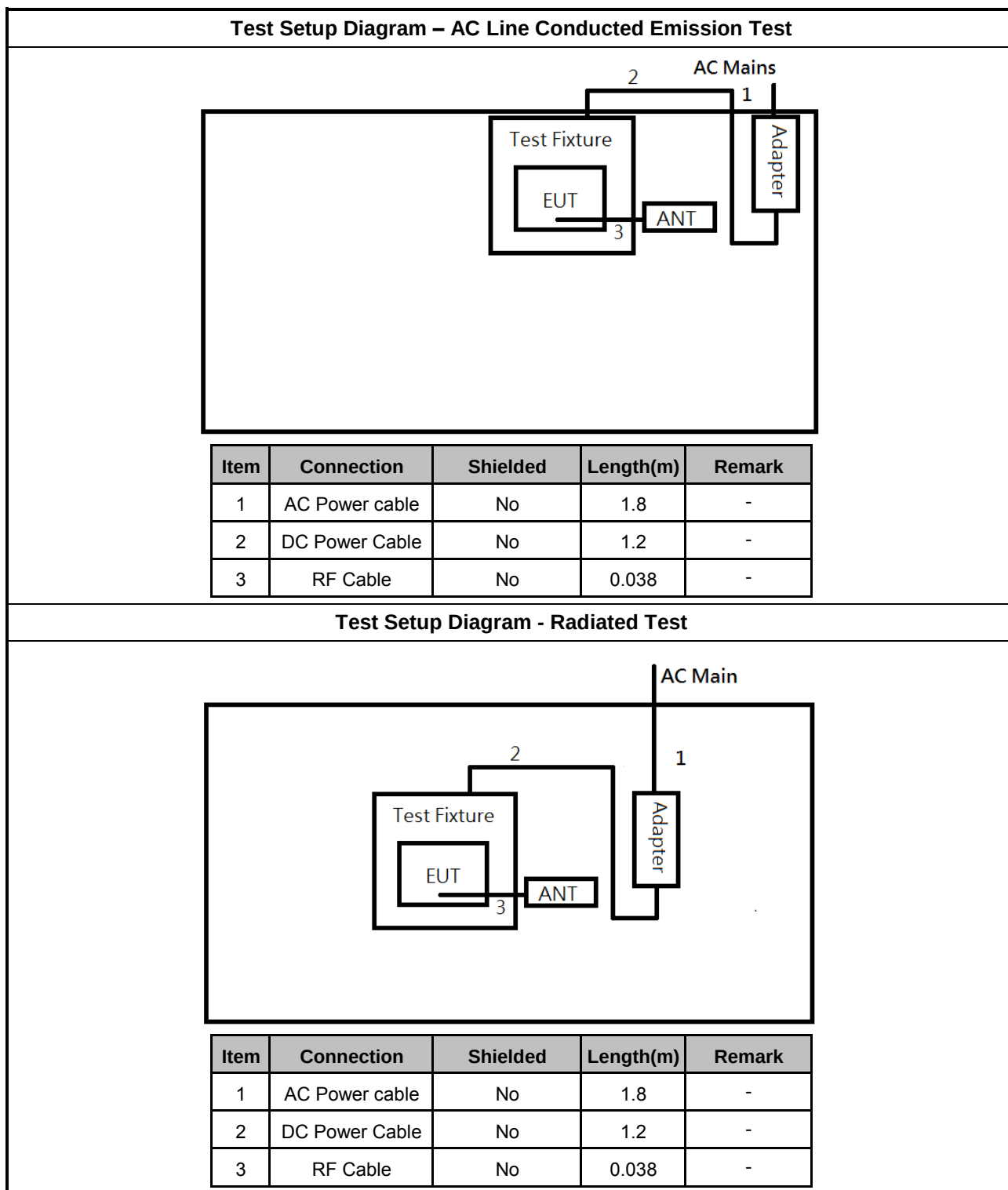
2.3 Support Equipment

Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	AC adapter	GlobTek	GT-46600-6012-T2	-	-
2	Test Fixture	-	-	-	-

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-
3	AC adapter	GlobTek	GT-46600-6012-T2	-	-
4	Test Fixture	-	-	-	-

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	AC adapter	GlobTek	GT-46600-6012-T2	-	-
2	Test Fixture	-	-	-	-

2.4 Test Setup Diagram



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

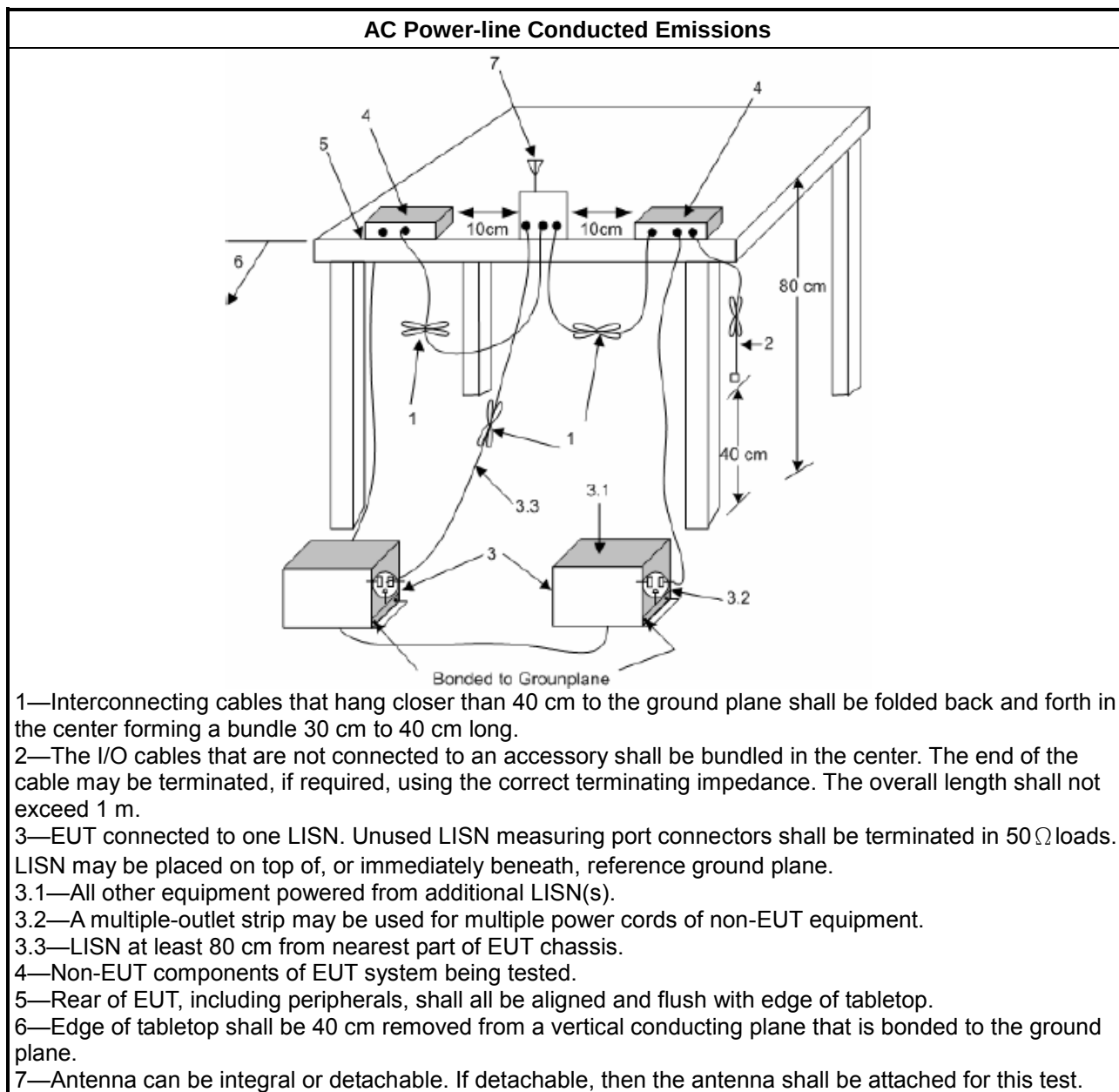
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

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.

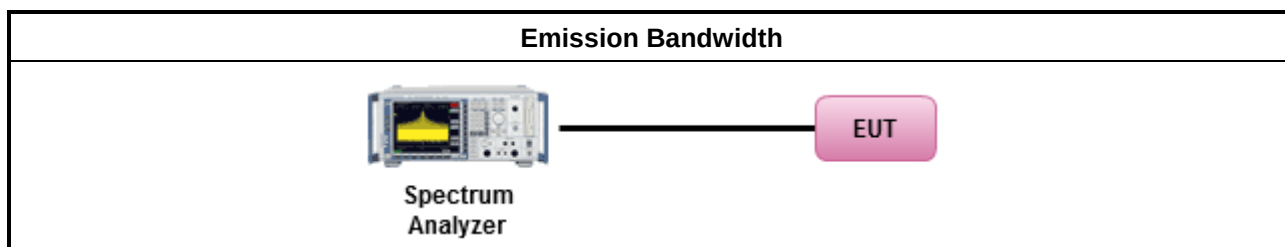
3.2.2 Measuring Instruments

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.	

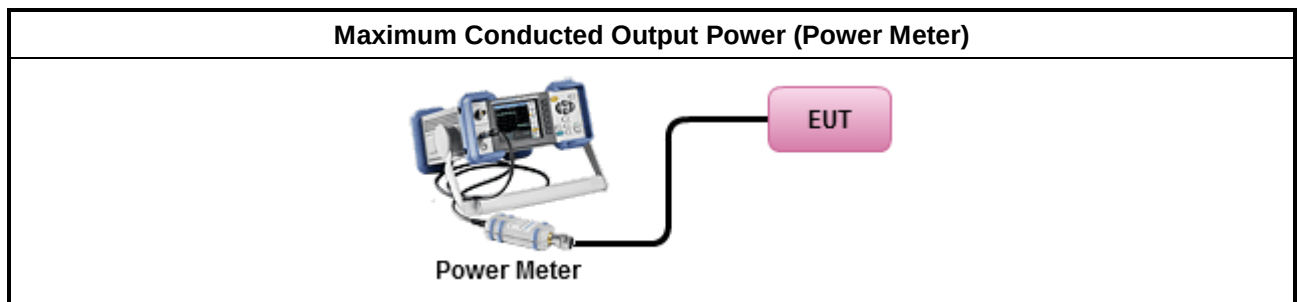
3.3.2 Measuring Instruments

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

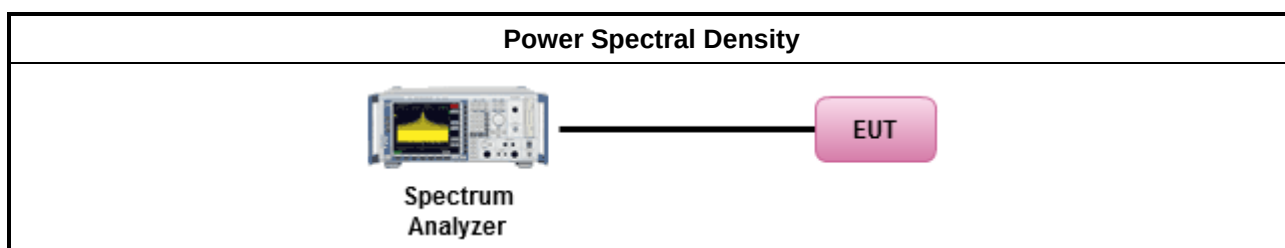
3.4.2 Measuring Instruments

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.	

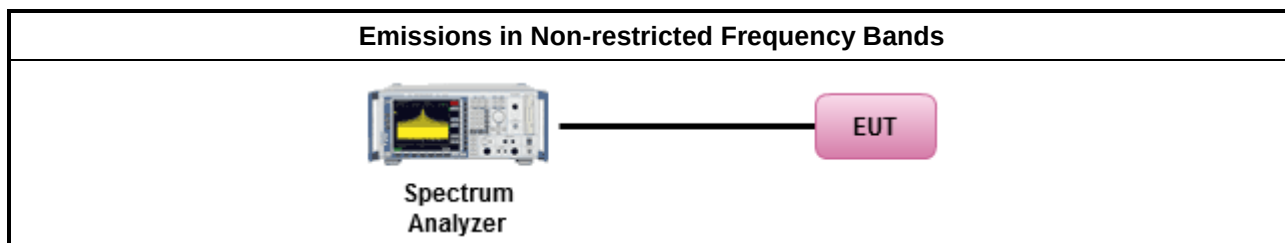
3.5.2 Measuring Instruments

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

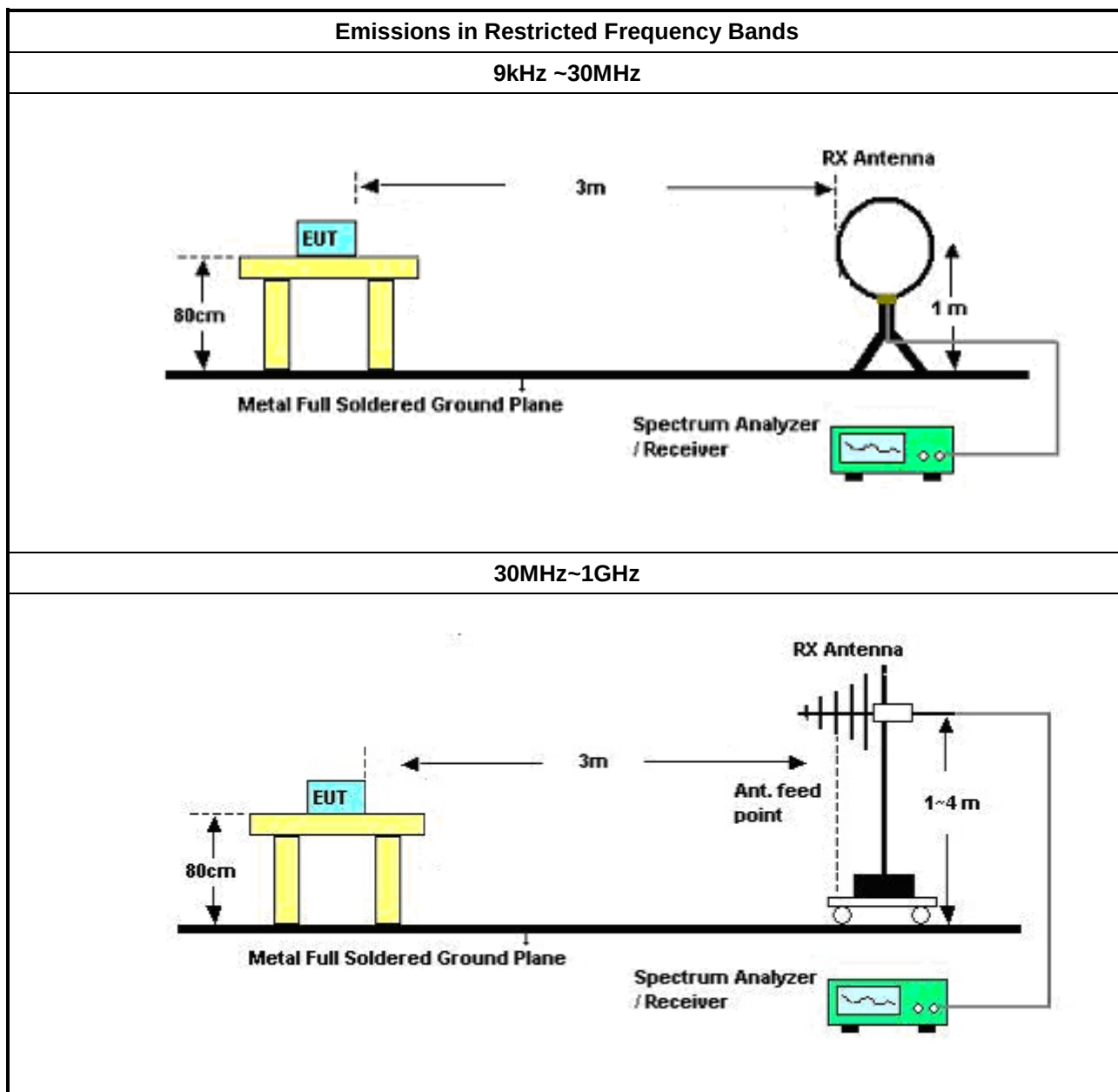
Test Method	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted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

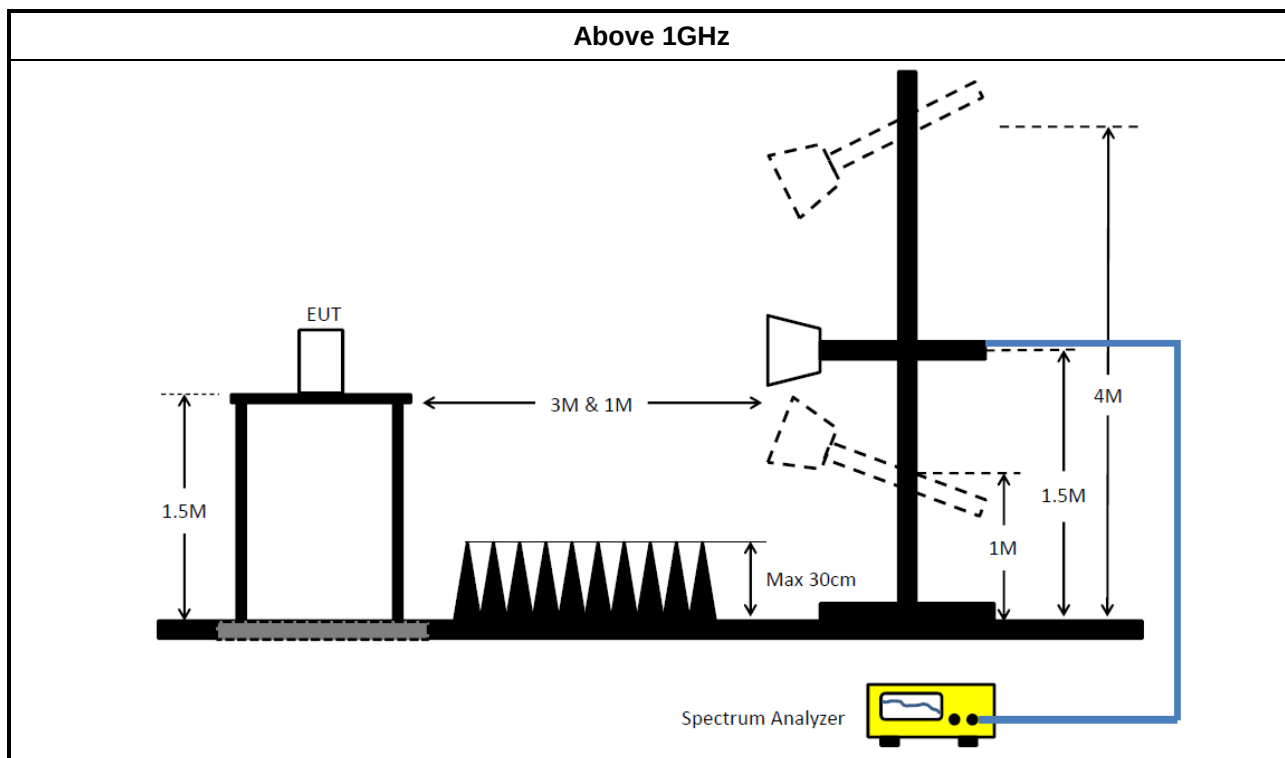
3.6.4 Measurement Results Calculation

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	ESR3	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021
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	21/Sep/2020	20/Sep/2021

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	06/Aug/2020	05/Aug/2021
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	04/Aug/2020	03/Aug/2021
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	19/Aug/2020	18/Aug/2021
Microwave System Preamplifier	KEYSIGHT	83017A	MY53270196	1GHz~26.5GHz	06/Oct/2020	05/Oct/2021
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMC	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	MY37335/4+CB0 21-1+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	04/Aug/2020	03/Aug/2021
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
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	19/Jun/2020	18/Jun/2021
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2021	15/Mar/2022
Amplifier	HP	8447D	2944A08033	10kHz~1.3GHz	13/Apr/2021	12/Apr/2022
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	29/May/2020	28/May/2021



Conducted Emissions at Powerline

Appendix A

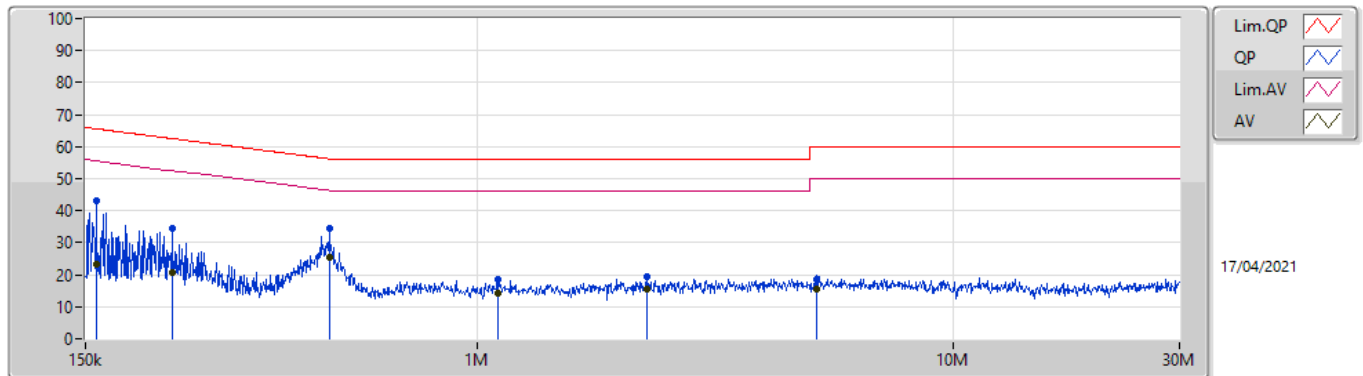
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	488.957k	25.52	46.19	-20.67	Line

Result

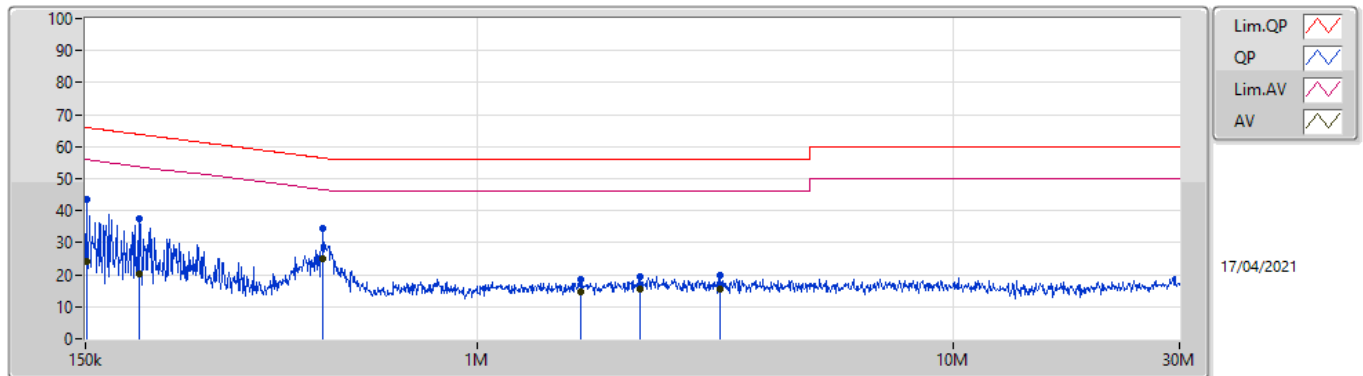
Mode	Result	Type	Freq (Hz)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	157.99k	43.01	65.56	-22.55	Line	-
Mode 1	Pass	AV	157.99k	23.28	55.56	-32.28	Line	-
Mode 1	Pass	QP	228.103k	34.66	62.52	-27.86	Line	-
Mode 1	Pass	AV	228.103k	20.72	52.52	-31.80	Line	-
Mode 1	Pass	QP	488.957k	34.49	56.19	-21.70	Line	-
Mode 1	Pass	AV	488.957k	25.52	46.19	-20.67	Line	-
Mode 1	Pass	QP	1.108M	18.70	56.00	-37.30	Line	-
Mode 1	Pass	AV	1.108M	14.38	46.00	-31.62	Line	-
Mode 1	Pass	QP	2.274M	19.55	56.00	-36.45	Line	-
Mode 1	Pass	AV	2.274M	15.66	46.00	-30.34	Line	-
Mode 1	Pass	QP	5.175M	18.48	60.00	-41.52	Line	-
Mode 1	Pass	AV	5.175M	15.53	50.00	-34.47	Line	-
Mode 1	Pass	QP	150.6k	43.64	65.96	-22.32	Neutral	-
Mode 1	Pass	AV	150.6k	24.35	55.96	-31.61	Neutral	-
Mode 1	Pass	QP	195.216k	37.53	63.80	-26.27	Neutral	-
Mode 1	Pass	AV	195.216k	20.44	53.80	-33.36	Neutral	-
Mode 1	Pass	QP	473.588k	34.43	56.46	-22.03	Neutral	-
Mode 1	Pass	AV	473.588k	25.18	46.46	-21.28	Neutral	-
Mode 1	Pass	QP	1.652M	18.55	56.00	-37.45	Neutral	-
Mode 1	Pass	AV	1.652M	14.59	46.00	-31.41	Neutral	-
Mode 1	Pass	QP	2.194M	19.28	56.00	-36.72	Neutral	-
Mode 1	Pass	AV	2.194M	15.46	46.00	-30.54	Neutral	-
Mode 1	Pass	QP	3.244M	19.69	56.00	-36.31	Neutral	-
Mode 1	Pass	AV	3.244M	15.71	46.00	-30.29	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	157.99k	43.01	65.56	-22.55	19.63	Line	-	23.38	9.69	0.04	9.90			
AV	157.99k	23.28	55.56	-32.28	19.63	Line	-	3.65	9.69	0.04	9.90			
QP	228.103k	34.66	62.52	-27.86	19.62	Line	-	15.04	9.68	0.04	9.90			
AV	228.103k	20.72	52.52	-31.80	19.62	Line	-	1.10	9.68	0.04	9.90			
QP	488.957k	34.49	56.19	-21.70	19.61	Line	-	14.88	9.67	0.06	9.88			
AV	488.957k	25.52	46.19	-20.67	19.61	Line	-	5.91	9.67	0.06	9.88			
QP	1.108M	18.70	56.00	-37.30	19.55	Line	-	-0.85	9.67	0.08	9.80			
AV	1.108M	14.38	46.00	-31.62	19.55	Line	-	-5.17	9.67	0.08	9.80			
QP	2.274M	19.55	56.00	-36.45	19.61	Line	-	-0.06	9.68	0.11	9.82			
AV	2.274M	15.66	46.00	-30.34	19.61	Line	-	-3.95	9.68	0.11	9.82			
QP	5.175M	18.48	60.00	-41.52	19.76	Line	-	-1.28	9.70	0.16	9.90			
AV	5.175M	15.53	50.00	-34.47	19.76	Line	-	-4.23	9.70	0.16	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	43.64	65.96	-22.32	19.63	Neutral	-	24.01	9.69	0.04	9.90			
AV	150.6k	24.35	55.96	-31.61	19.63	Neutral	-	4.72	9.69	0.04	9.90			
QP	195.216k	37.53	63.80	-26.27	19.62	Neutral	-	17.91	9.68	0.04	9.90			
AV	195.216k	20.44	53.80	-33.36	19.62	Neutral	-	0.82	9.68	0.04	9.90			
QP	473.588k	34.43	56.46	-22.03	19.61	Neutral	-	14.82	9.67	0.06	9.88			
AV	473.588k	25.18	46.46	-21.28	19.61	Neutral	-	5.57	9.67	0.06	9.88			
QP	1.652M	18.55	56.00	-37.45	19.57	Neutral	-	-1.02	9.68	0.09	9.80			
AV	1.652M	14.59	46.00	-31.41	19.57	Neutral	-	-4.98	9.68	0.09	9.80			
QP	2.194M	19.28	56.00	-36.72	19.60	Neutral	-	-0.32	9.68	0.11	9.81			
AV	2.194M	15.46	46.00	-30.54	19.60	Neutral	-	-4.14	9.68	0.11	9.81			
QP	3.244M	19.69	56.00	-36.31	19.69	Neutral	-	0.00	9.69	0.13	9.87			
AV	3.244M	15.71	46.00	-30.29	19.69	Neutral	-	-3.98	9.69	0.13	9.87			



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)	665k	1.031M	1M03F1D	658.75k	1.026M
BT-LE(2Mbps)	1.135M	2.046M	2M05F1D	1.115M	2.036M

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

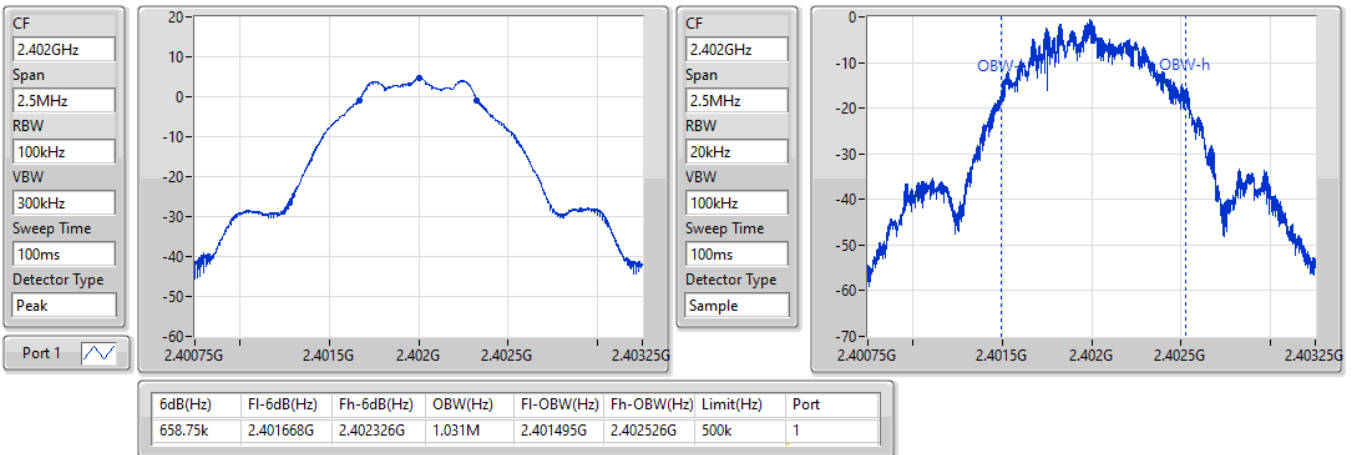
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	658.75k	1.031M
2440MHz	Pass	500k	665k	1.026M
2480MHz	Pass	500k	661.25k	1.028M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.115M	2.046M
2440MHz	Pass	500k	1.135M	2.041M
2480MHz	Pass	500k	1.135M	2.036M

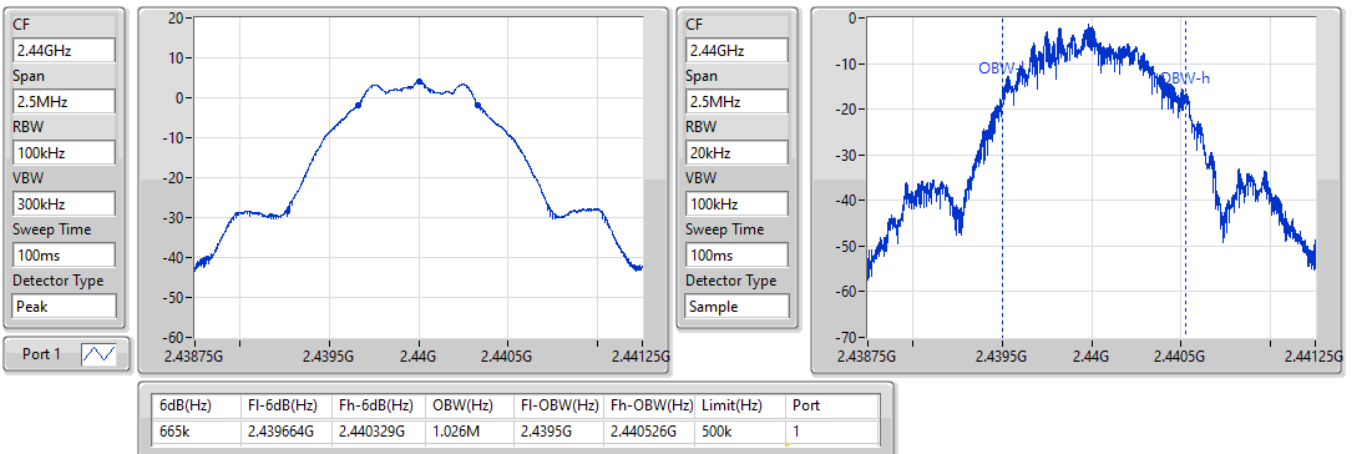
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

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

20/04/2021

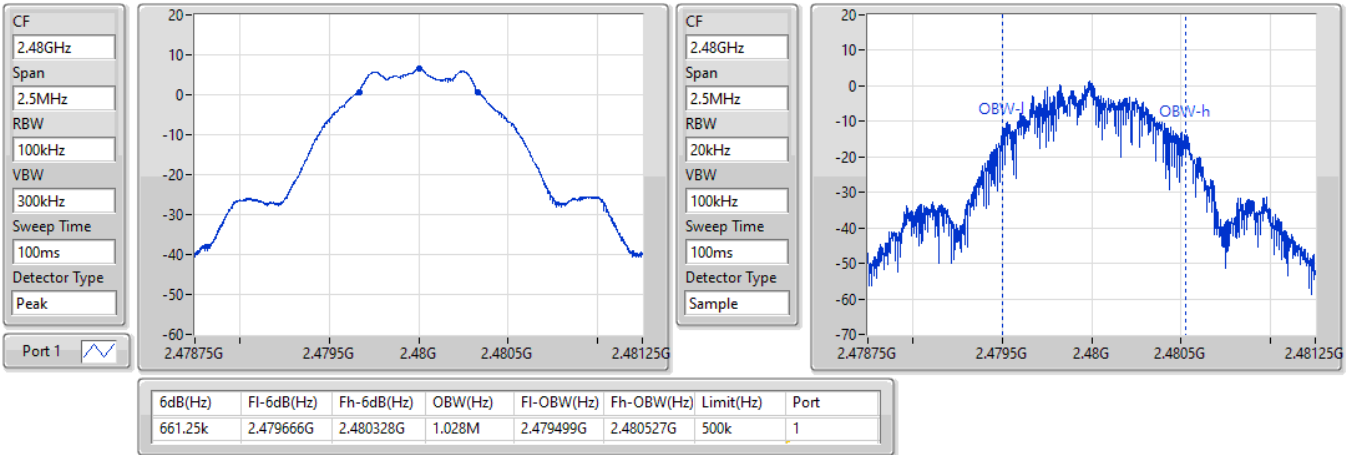

BT-LE(1Mbps)
2440MHz
EBW-DTS

20/04/2021

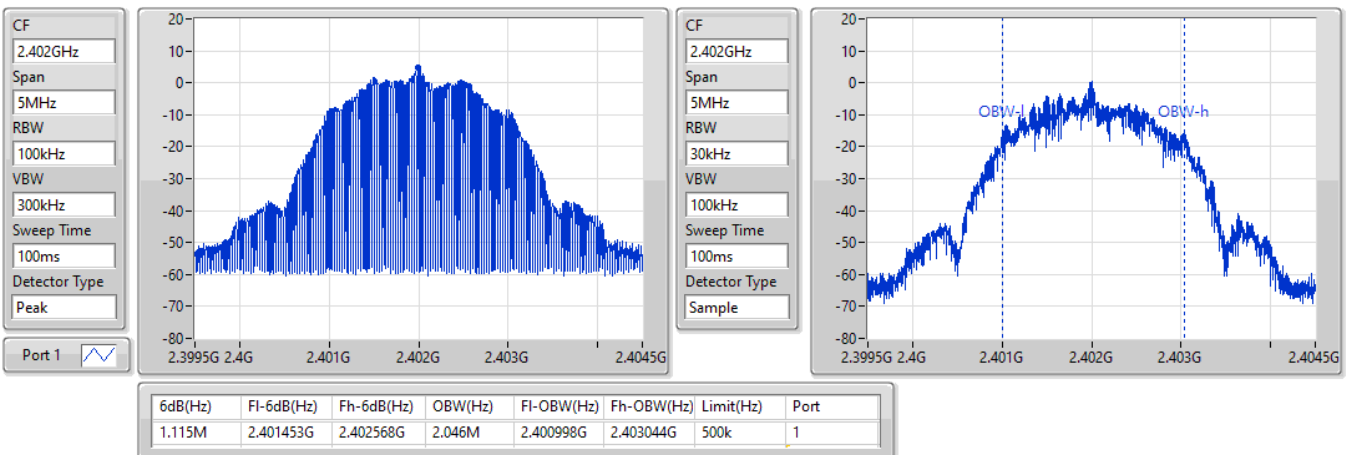


BT-LE(1Mbps)
EBW-DTS
2480MHz

20/04/2021

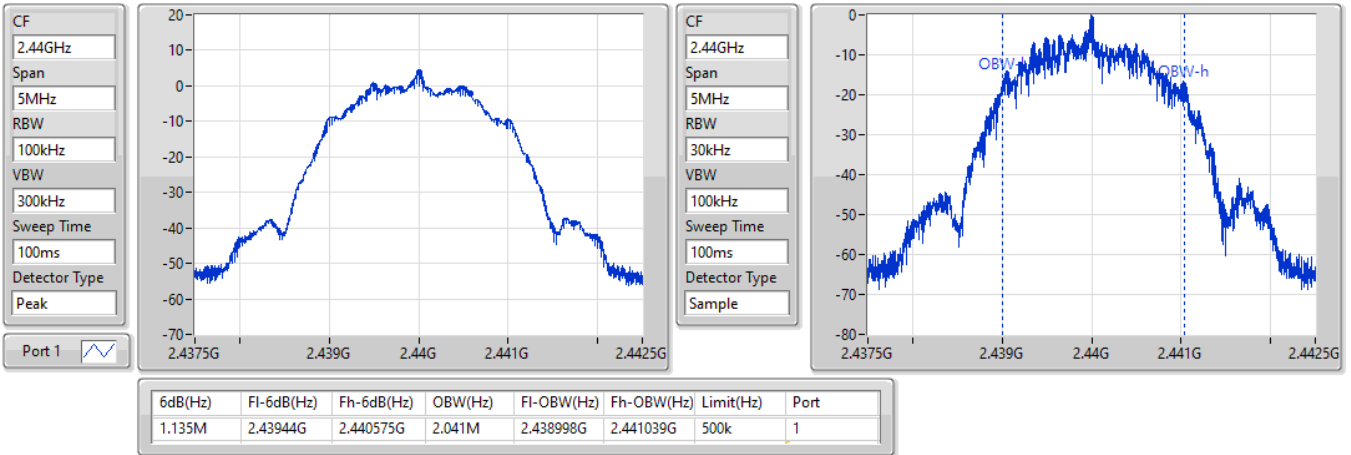

BT-LE(2Mbps)
EBW-DTS
2402MHz

20/04/2021

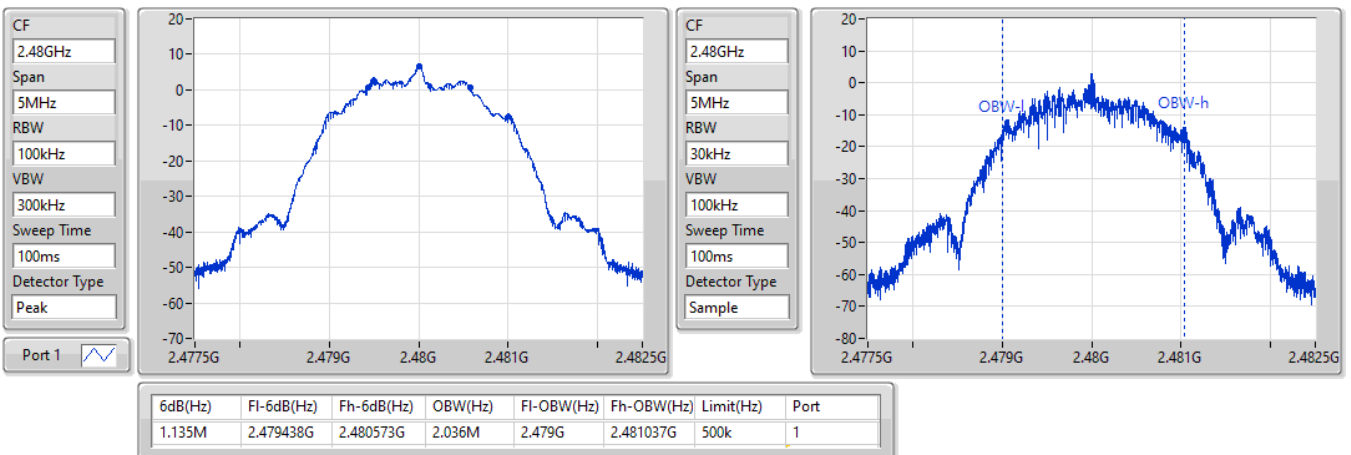


BT-LE(2Mbps)
EBW-DTS
2440MHz

20/04/2021


BT-LE(2Mbps)
EBW-DTS
2480MHz

20/04/2021





Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LF(1Mbps)	7.22	0.00527
BT-LF(2Mbps)	7.06	0.00508



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.55	5.34	30.00
2440MHz	Pass	2.55	4.67	30.00
2480MHz	Pass	2.55	7.22	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	2.55	5.15	30.00
2440MHz	Pass	2.55	4.40	30.00
2480MHz	Pass	2.55	7.06	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-8.25
BT-LE(2Mbps)	-11.95

RBW = 3kHz;



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.55	-10.07	8.00
2440MHz	Pass	2.55	-10.72	8.00
2480MHz	Pass	2.55	-8.25	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	2.55	-14.04	8.00
2440MHz	Pass	2.55	-14.34	8.00
2480MHz	Pass	2.55	-11.95	8.00

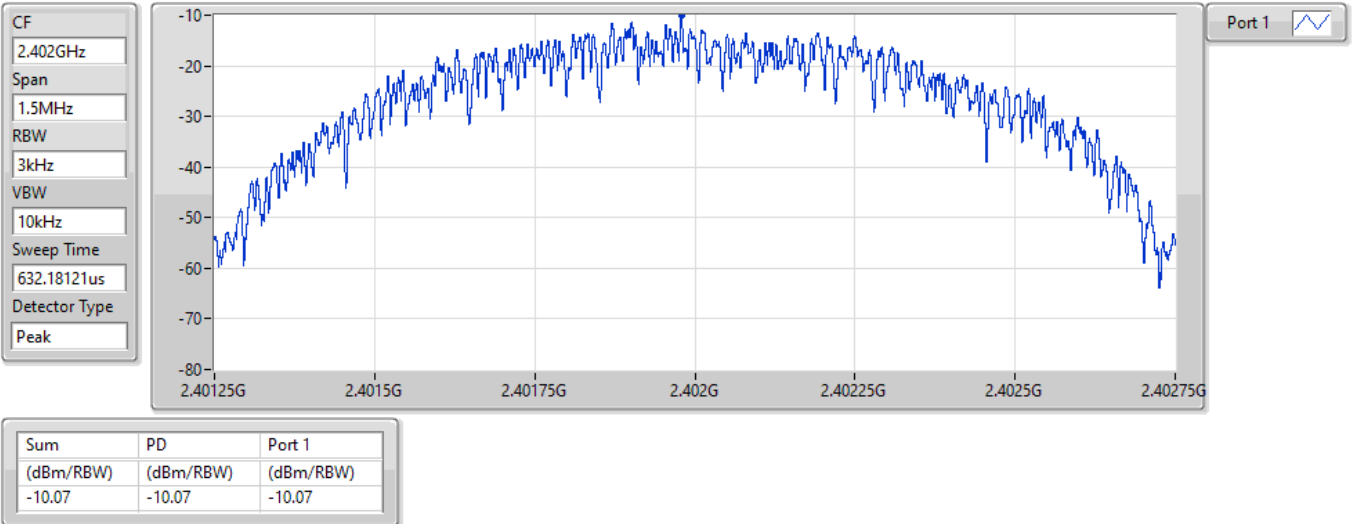
DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

BT-LE(1Mbps)

PSD

2402MHz

20/04/2021

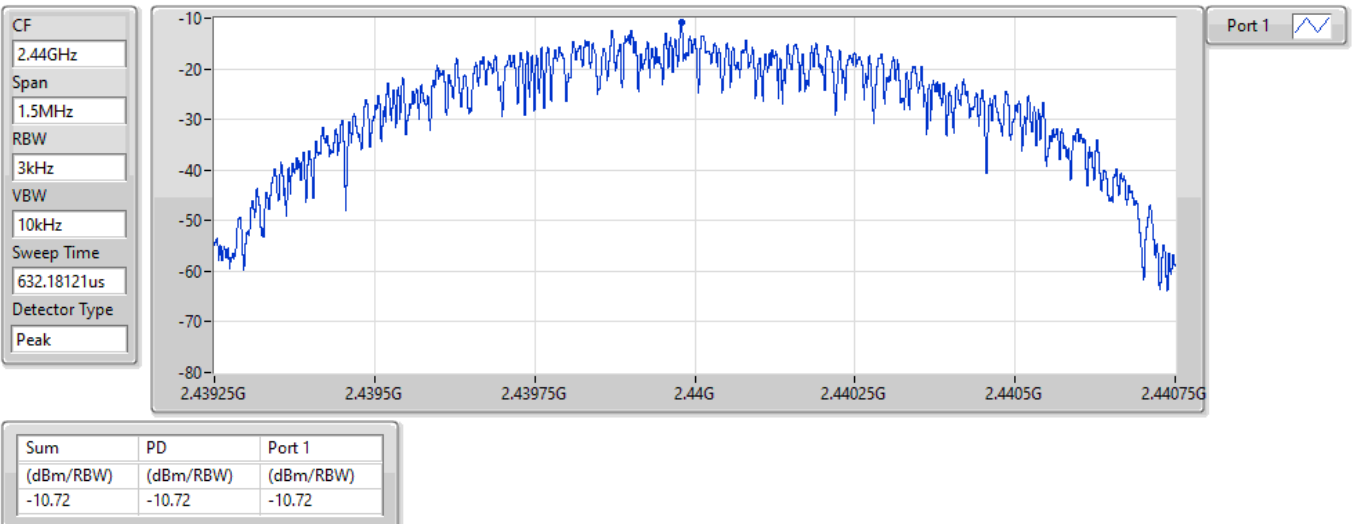


BT-LE(1Mbps)

PSD

2440MHz

20/04/2021

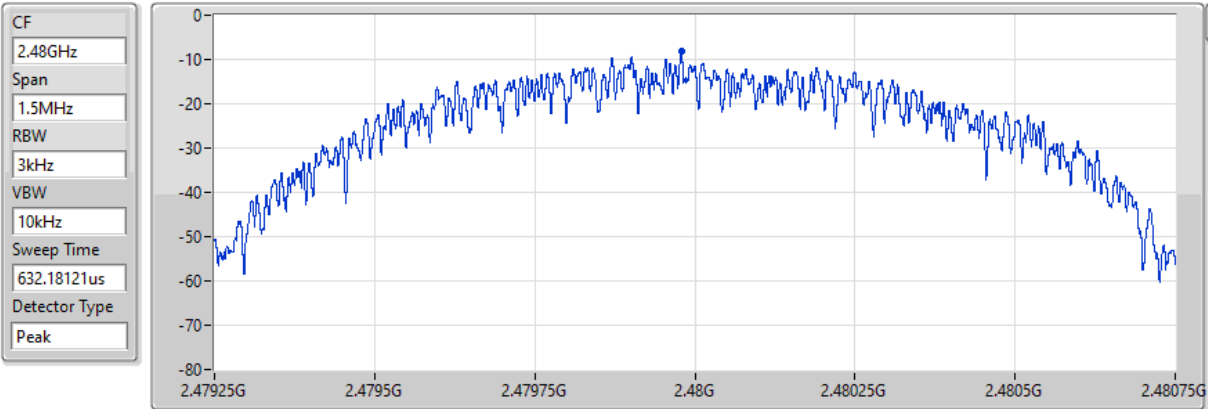


BT-LE(1Mbps)

PSD

2480MHz

20/04/2021



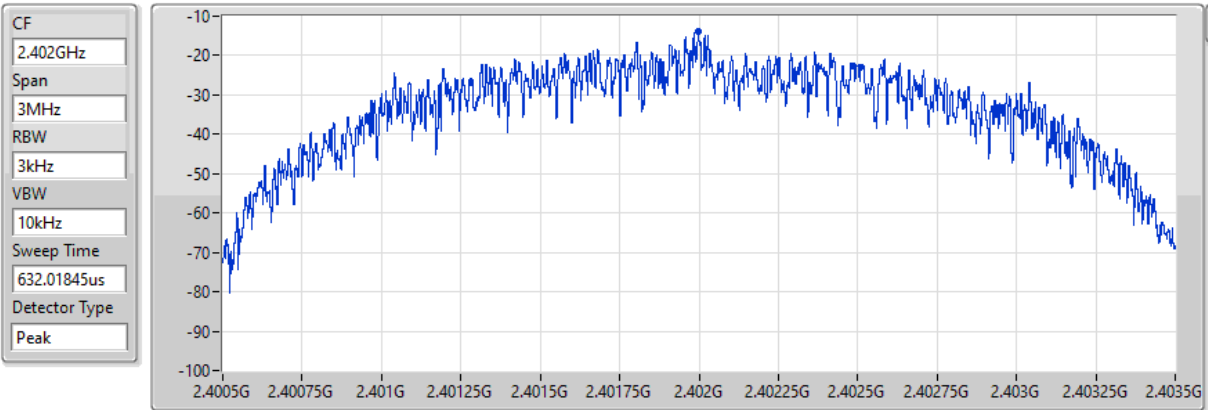
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-8.25	-8.25	-8.25

BT-LE(2Mbps)

PSD

2402MHz

20/04/2021

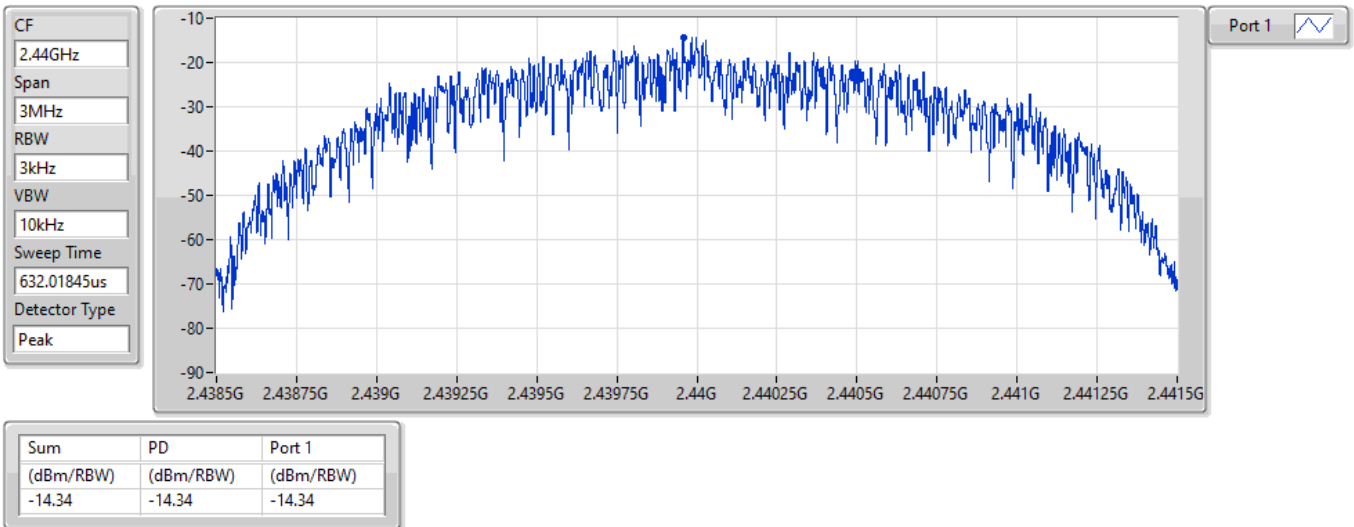


Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-14.04	-14.04	-14.04

BT-LE(2Mbps)

2440MHz

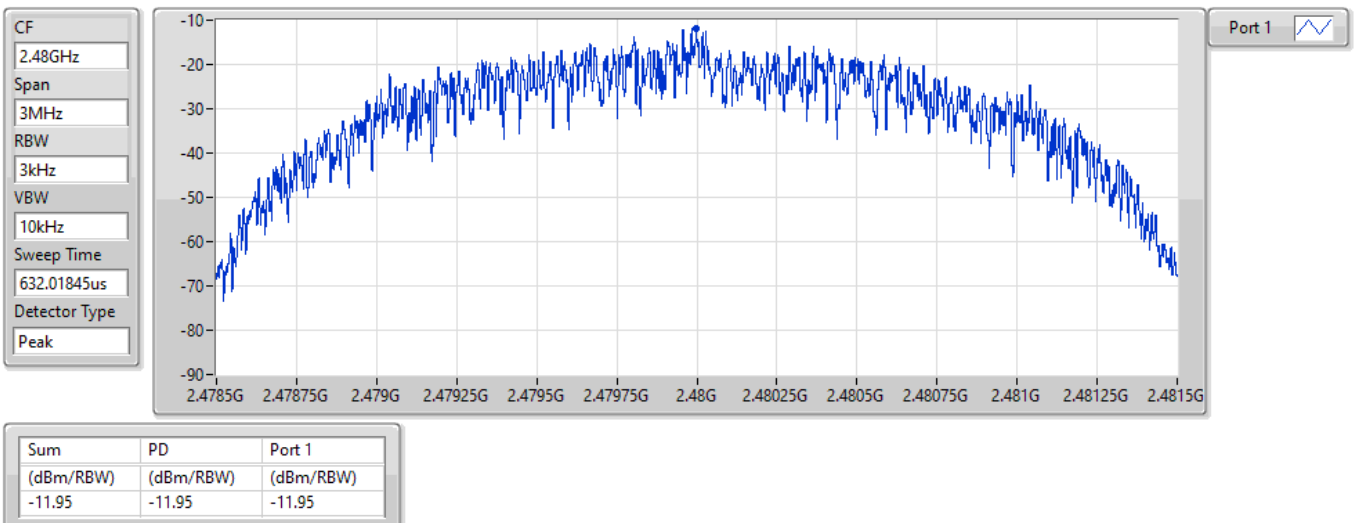
20/04/2021



BT-LE(2Mbps)

2480MHz

20/04/2021





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	2.47999G	6.37	-23.63	2.10652G	-56.67	2.39999G	-49.33	2.4G	-50.02	2.49501G	-55.39	24.79191G	-44.04	1
BT-LE(2Mbps)	Pass	2.48003G	6.49	-23.51	1.95759G	-57.18	2.39998G	-43.41	2.4G	-42.92	2.4915G	-55.24	21.88705G	-43.68	1

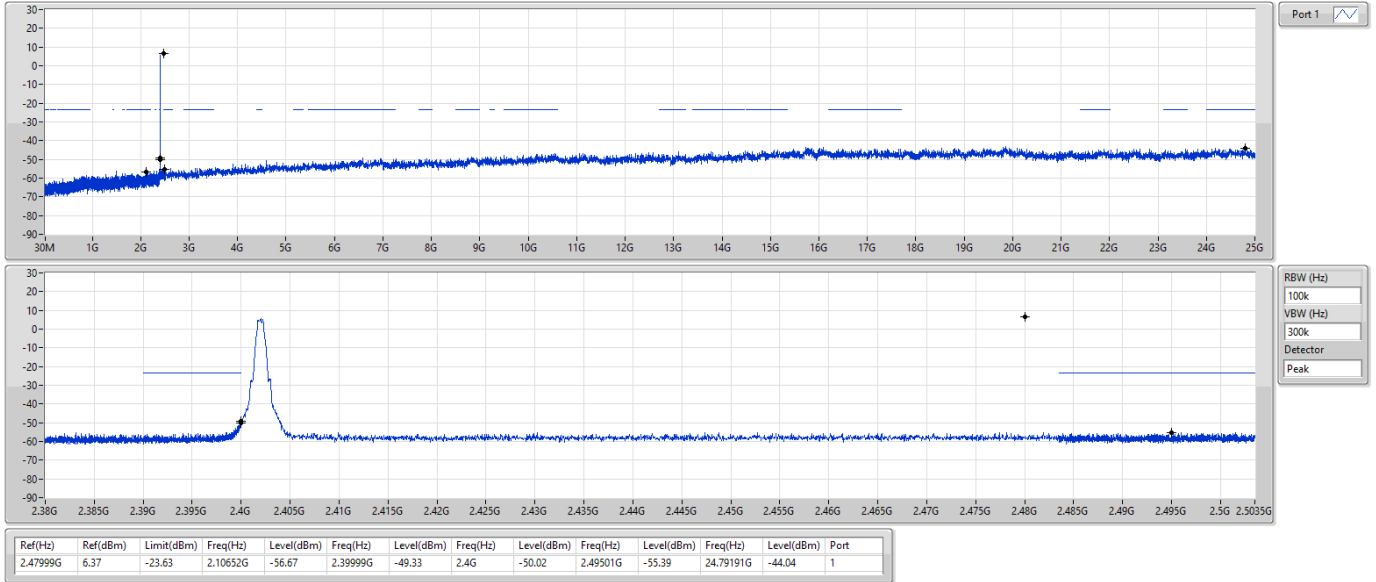
Result

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	2.47999G	6.37	-23.63	2.10652G	-56.67	2.39999G	-49.33	2.4G	-50.02	2.49501G	-55.39	24.79191G	-44.04	1
2440MHz	Pass	2.47999G	6.37	-23.63	1.99901G	-57.18	2.39171G	-54.81	2.4835G	-57.33	2.49393G	-54.11	24.14513G	-43.28	1
2480MHz	Pass	2.47999G	6.37	-23.63	1.99196G	-56.59	2.39867G	-56.14	2.4835G	-56.30	2.48516G	-54.87	17.63802G	-42.91	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.48003G	6.49	-23.51	1.95759G	-57.18	2.39998G	-43.41	2.4G	-42.92	2.4915G	-55.24	21.88705G	-43.68	1
2440MHz	Pass	2.48003G	6.49	-23.51	2.11798G	-57.15	2.39098G	-55.60	2.4G	-57.46	2.49368G	-55.12	24.14795G	-43.61	1
2480MHz	Pass	2.48003G	6.49	-23.51	2.09536G	-56.90	2.39637G	-55.78	2.4835G	-57.31	2.48364G	-53.26	24.23231G	-43.50	1

BT-LE(1Mbps)

CSEndB-DTS

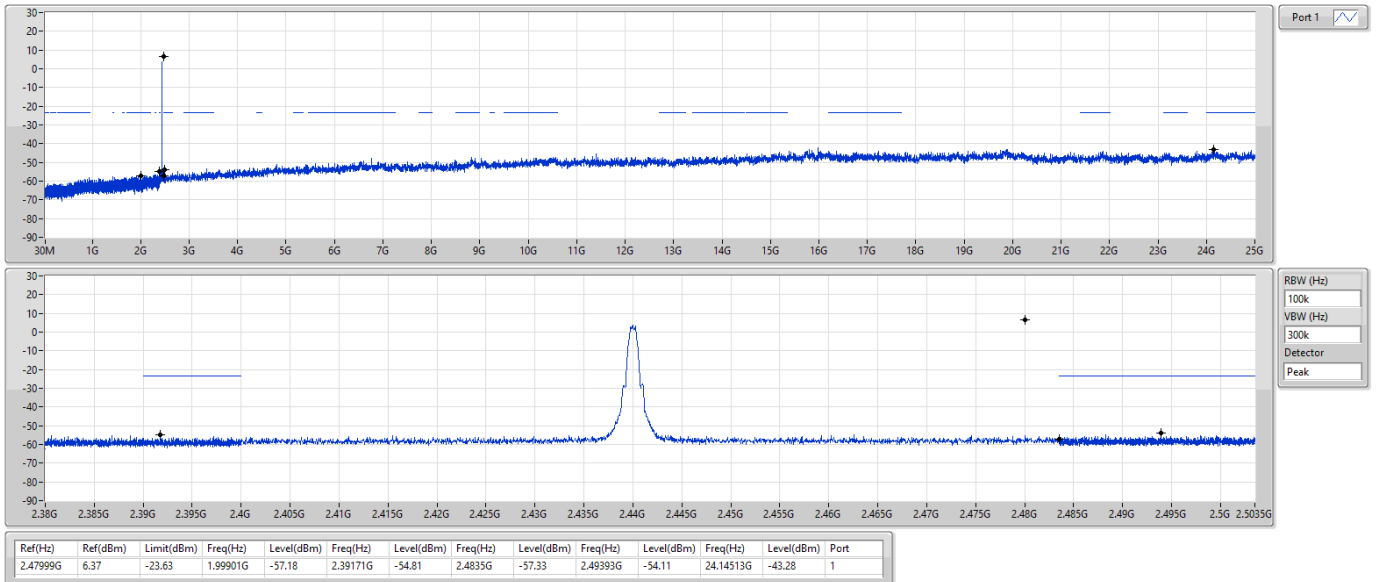
2402MHz



BT-LE(1Mbps)

CSEndB-DTS

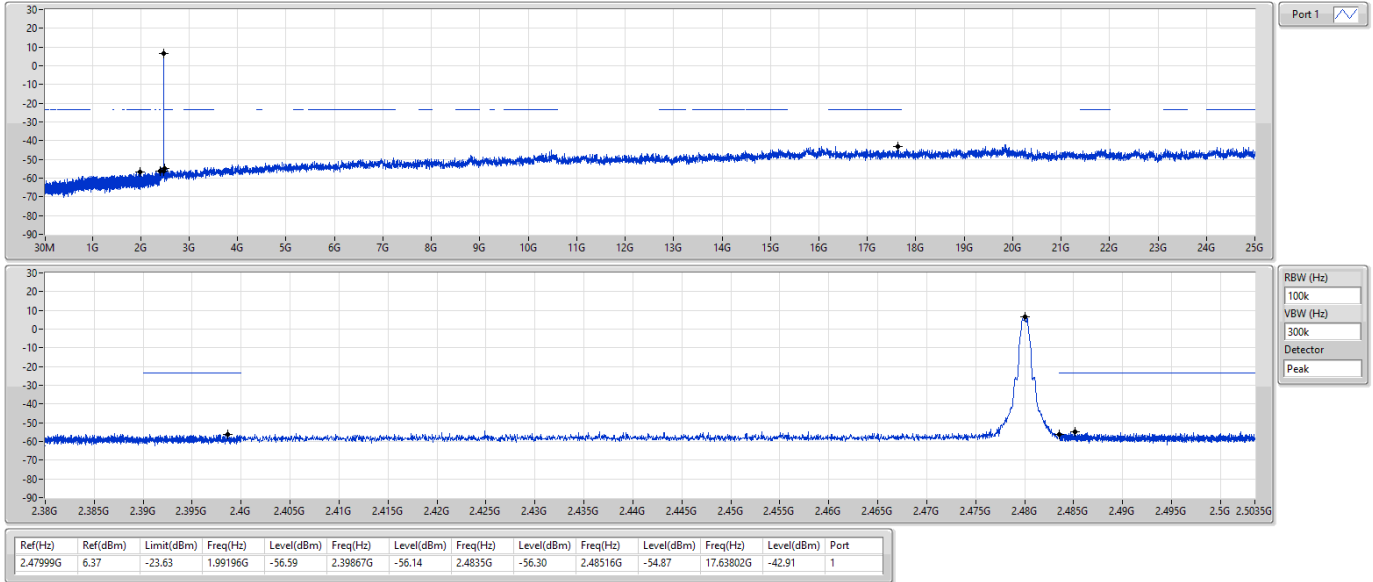
2440MHz



BT-LE(1Mbps)

CSEndB-DTS

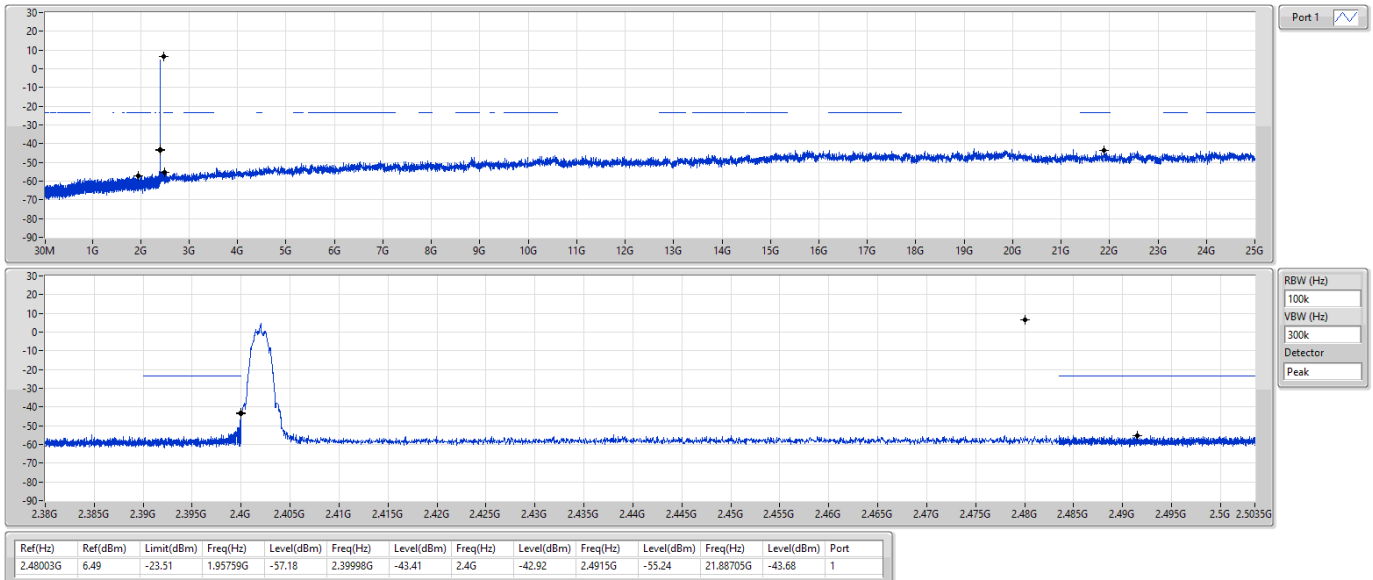
2480MHz



BT-LE(2Mbps)

CSEndB-DTS

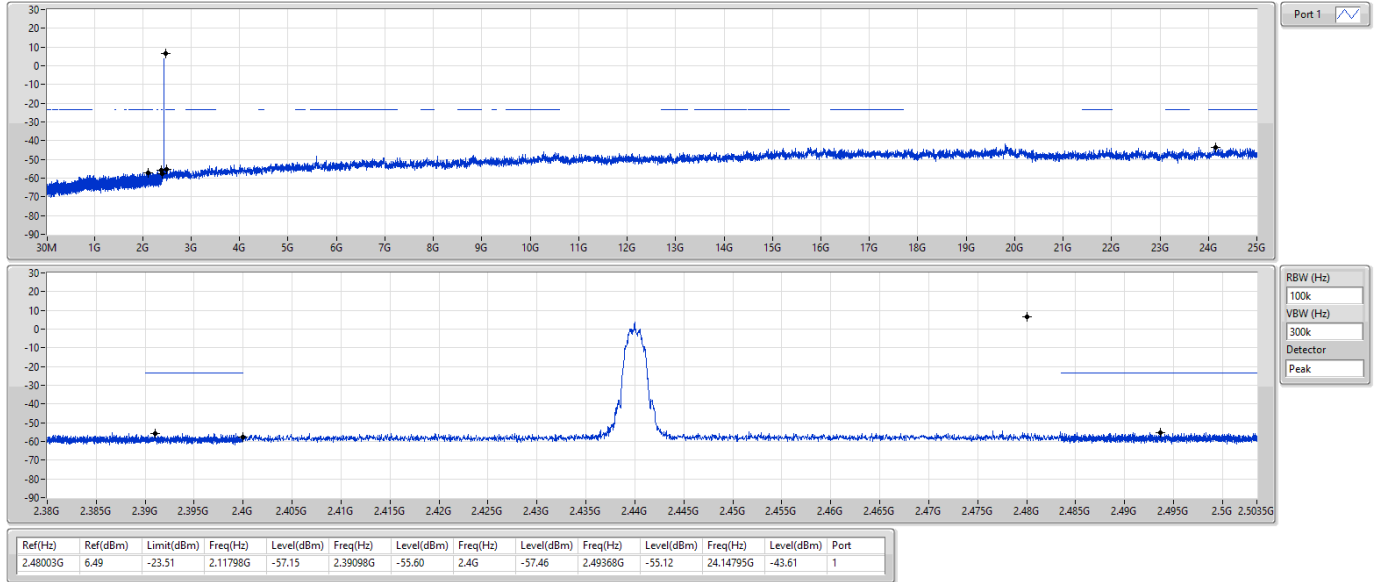
2402MHz



BT-LE(2Mbps)

CSEndB-DTS

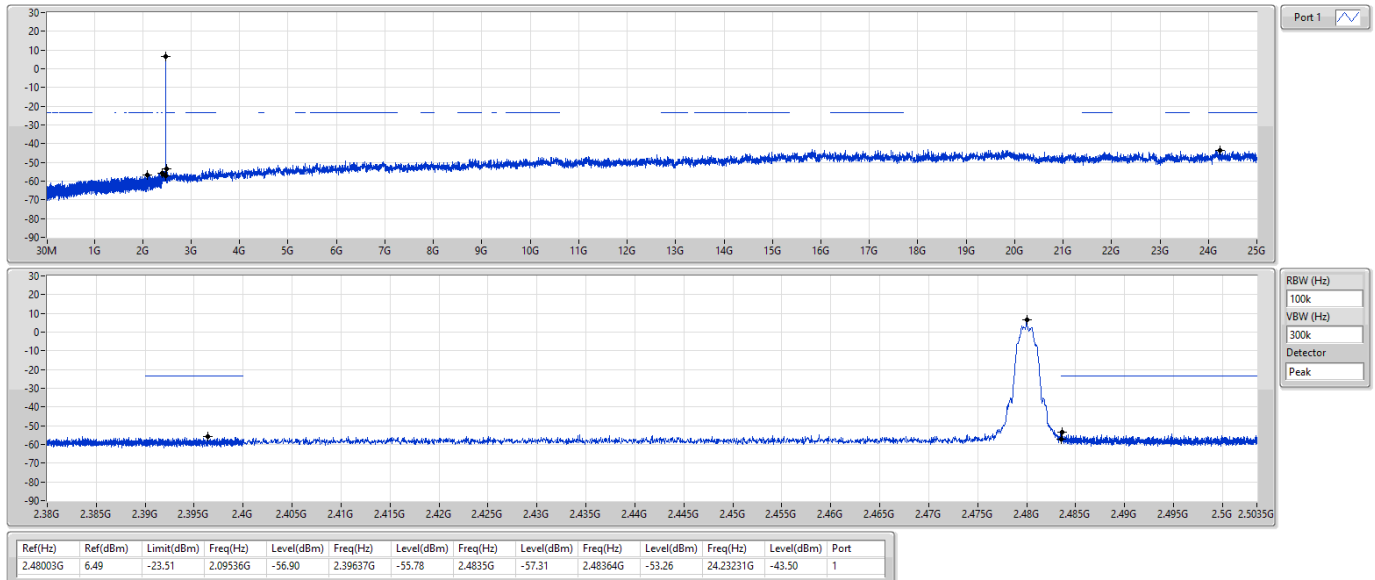
2440MHz



BT-LE(2Mbps)

CSEndB-DTS

2480MHz





Summary

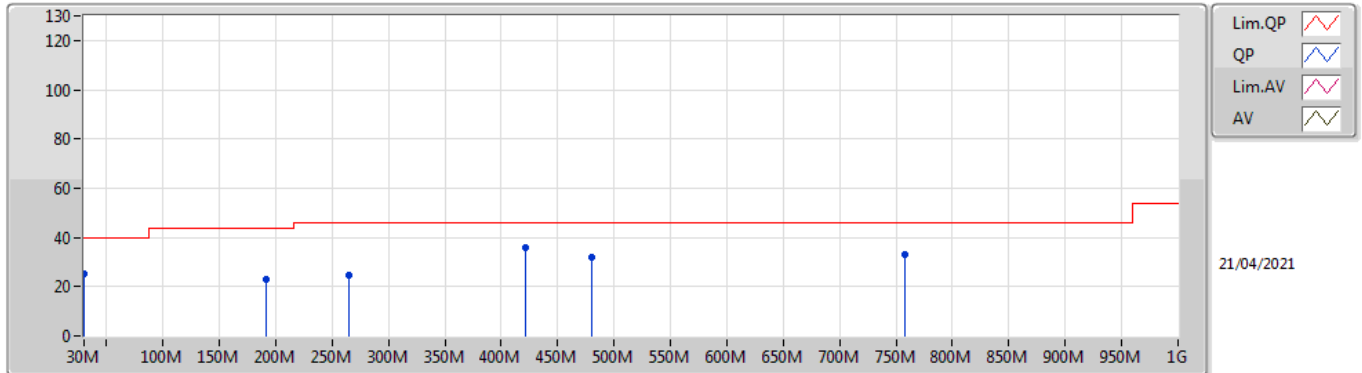
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(2Mbps)	Pass	PK	31.94M	34.44	40.00	-5.56	3	Horizontal	0	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	30M	25.07	40.00	-14.93	3	Vertical	360	1.00	-
2440MHz	Pass	PK	191.02M	23.04	43.50	-20.46	3	Vertical	360	1.00	-
2440MHz	Pass	PK	264.74M	24.57	46.00	-21.43	3	Vertical	360	1.00	-
2440MHz	Pass	PK	421.88M	35.76	46.00	-10.24	3	Vertical	360	1.00	-
2440MHz	Pass	PK	480.08M	31.89	46.00	-14.11	3	Vertical	360	1.00	-
2440MHz	Pass	PK	757.5M	33.29	46.00	-12.71	3	Vertical	360	1.00	-
2440MHz	Pass	PK	31.94M	34.44	40.00	-5.56	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	191.02M	27.18	43.50	-16.32	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	262.8M	25.09	46.00	-20.91	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	416.06M	29.14	46.00	-16.86	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	577.08M	32.10	46.00	-13.90	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	652.74M	34.08	46.00	-11.92	3	Horizontal	0	1.00	-

BT-LE(2Mbps)

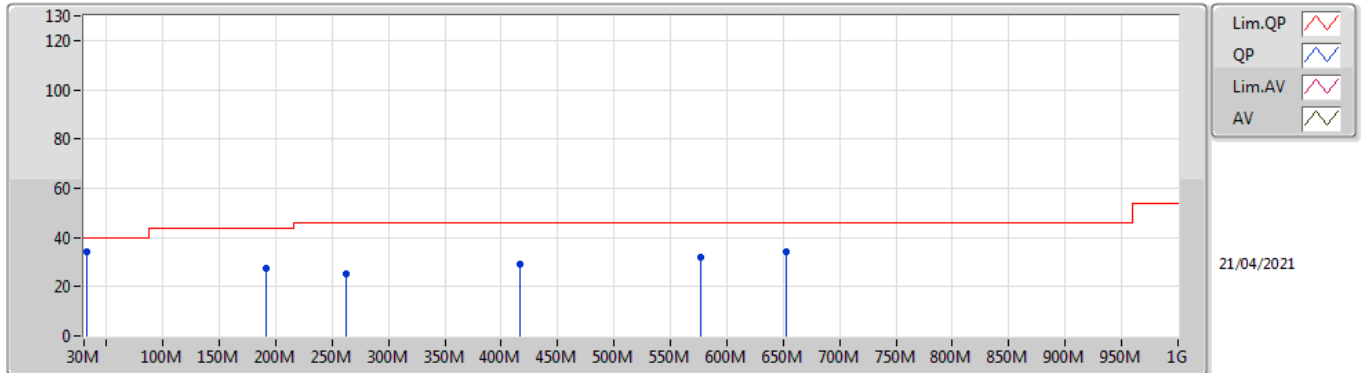
2440MHz_Test Fixture



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	25.07	40.00	-14.93	-3.23	3	Vertical	360	1.00	-	28.30	23.51	0.90	27.64
PK	191.02M	23.04	43.50	-20.46	-10.35	3	Vertical	360	1.00	-	33.39	14.41	2.33	27.09
PK	264.74M	24.57	46.00	-21.43	-5.43	3	Vertical	360	1.00	-	30.00	18.57	2.74	26.74
PK	421.88M	35.76	46.00	-10.24	-2.10	3	Vertical	360	1.00	-	37.86	21.82	3.55	27.47
PK	480.08M	31.89	46.00	-14.11	-1.24	3	Vertical	360	1.00	-	33.13	22.67	3.79	27.70
PK	757.5M	33.29	46.00	-12.71	2.43	3	Vertical	360	1.00	-	30.86	25.55	4.85	27.97

BT-LE(2Mbps)

2440MHz_Test Fixture



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	31.94M	34.44	40.00	-5.56	-4.59	3	Horizontal	0	1.00	-	39.03	22.11	0.93	27.63
PK	191.02M	27.18	43.50	-16.32	-10.35	3	Horizontal	0	1.00	-	37.53	14.41	2.33	27.09
PK	262.8M	25.09	46.00	-20.91	-5.28	3	Horizontal	0	1.00	-	30.37	18.73	2.73	26.74
PK	416.06M	29.14	46.00	-16.86	-2.14	3	Horizontal	0	1.00	-	31.28	21.75	3.52	27.41
PK	577.08M	32.10	46.00	-13.90	0.18	3	Horizontal	0	1.00	-	31.92	24.02	4.25	28.09
PK	652.74M	34.08	46.00	-11.92	0.57	3	Horizontal	0	1.00	-	33.51	24.26	4.45	28.14



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	2.4984G	48.41	54.00	-5.59	3	Vertical	0	1.30	-
BT-LE(2Mbps)	Pass	AV	2.4992G	48.41	54.00	-5.59	3	Vertical	360	1.29	-

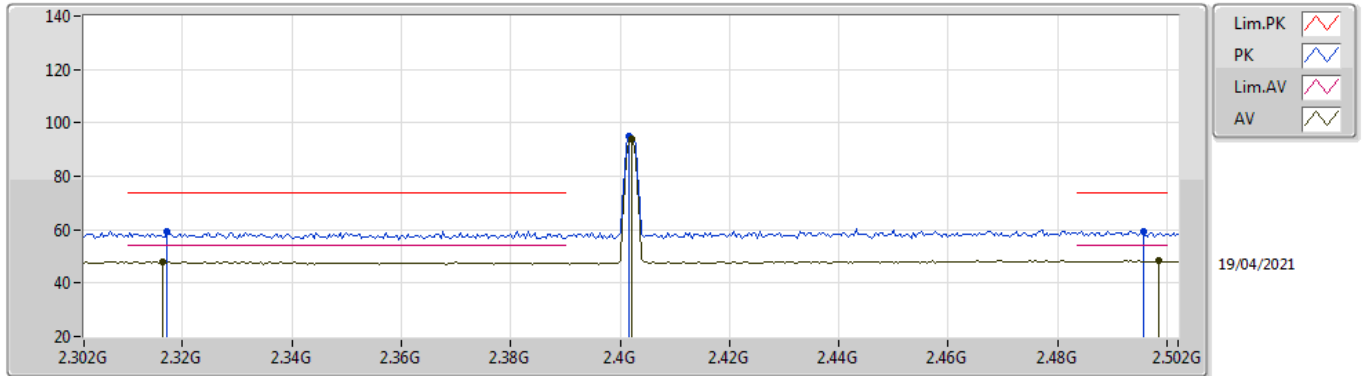
Result

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	2.3164G	48.18	54.00	-5.82	3	Vertical	0	1.30	-
2402MHz	Pass	AV	2.402G	93.87	Inf	-Inf	3	Vertical	0	1.30	-
2402MHz	Pass	AV	2.4984G	48.41	54.00	-5.59	3	Vertical	0	1.30	-
2402MHz	Pass	PK	2.3172G	59.47	74.00	-14.53	3	Vertical	0	1.30	-
2402MHz	Pass	PK	2.4016G	94.81	Inf	-Inf	3	Vertical	0	1.30	-
2402MHz	Pass	PK	2.4956G	59.36	74.00	-14.64	3	Vertical	0	1.30	-
2402MHz	Pass	AV	2.3104G	47.95	54.00	-6.05	3	Horizontal	328	1.00	-
2402MHz	Pass	AV	2.402G	101.50	Inf	-Inf	3	Horizontal	328	1.00	-
2402MHz	Pass	AV	2.4972G	48.40	54.00	-5.60	3	Horizontal	328	1.00	-
2402MHz	Pass	PK	2.3436G	58.99	74.00	-15.01	3	Horizontal	328	1.00	-
2402MHz	Pass	PK	2.4016G	102.42	Inf	-Inf	3	Horizontal	328	1.00	-
2402MHz	Pass	PK	2.4896G	59.26	74.00	-14.74	3	Horizontal	328	1.00	-
2402MHz	Pass	AV	4.80155G	33.94	54.00	-20.06	3	Vertical	351	1.46	-
2402MHz	Pass	PK	4.80152G	46.39	74.00	-27.61	3	Vertical	351	1.46	-
2402MHz	Pass	AV	4.80354G	34.21	54.00	-19.79	3	Horizontal	133	1.59	-
2402MHz	Pass	PK	4.80411G	45.87	74.00	-28.13	3	Horizontal	133	1.59	-
2440MHz	Pass	AV	2.3624G	47.76	54.00	-6.24	3	Vertical	342	1.62	-
2440MHz	Pass	AV	2.44G	91.40	Inf	-Inf	3	Vertical	342	1.62	-
2440MHz	Pass	AV	2.4896G	48.37	54.00	-5.63	3	Vertical	342	1.62	-
2440MHz	Pass	PK	2.3756G	59.36	74.00	-14.64	3	Vertical	342	1.62	-
2440MHz	Pass	PK	2.4396G	92.40	Inf	-Inf	3	Vertical	342	1.62	-
2440MHz	Pass	PK	2.4876G	59.80	74.00	-14.20	3	Vertical	342	1.62	-
2440MHz	Pass	AV	2.344G	47.64	54.00	-6.36	3	Horizontal	325	1.01	-
2440MHz	Pass	AV	2.44G	99.33	Inf	-Inf	3	Horizontal	325	1.01	-
2440MHz	Pass	AV	2.4956G	48.40	54.00	-5.60	3	Horizontal	325	1.01	-
2440MHz	Pass	PK	2.3408G	59.47	74.00	-14.53	3	Horizontal	325	1.01	-
2440MHz	Pass	PK	2.4396G	100.26	Inf	-Inf	3	Horizontal	325	1.01	-
2440MHz	Pass	PK	2.4852G	59.63	74.00	-14.37	3	Horizontal	325	1.01	-
2440MHz	Pass	AV	4.878G	34.64	54.00	-19.36	3	Vertical	185	1.72	-
2440MHz	Pass	AV	7.32197G	39.52	54.00	-14.48	3	Vertical	243	2.44	-
2440MHz	Pass	PK	4.87849G	46.91	74.00	-27.09	3	Vertical	185	1.72	-
2440MHz	Pass	PK	7.32129G	51.10	74.00	-22.90	3	Vertical	243	2.44	-
2440MHz	Pass	AV	4.87941G	34.65	54.00	-19.35	3	Horizontal	200	1.44	-
2440MHz	Pass	AV	7.31799G	39.51	54.00	-14.49	3	Horizontal	177	1.52	-
2440MHz	Pass	PK	4.88038G	46.97	74.00	-27.03	3	Horizontal	200	1.44	-
2440MHz	Pass	PK	7.31896G	51.26	74.00	-22.74	3	Horizontal	177	1.52	-
2480MHz	Pass	AV	2.39G	47.55	54.00	-6.45	3	Vertical	339	2.04	-
2480MHz	Pass	AV	2.48G	94.13	Inf	-Inf	3	Vertical	339	2.04	-
2480MHz	Pass	AV	2.4992G	48.41	54.00	-5.59	3	Vertical	339	2.04	-
2480MHz	Pass	PK	2.3812G	58.70	74.00	-15.30	3	Vertical	339	2.04	-
2480MHz	Pass	PK	2.4804G	95.11	Inf	-Inf	3	Vertical	339	2.04	-
2480MHz	Pass	PK	2.492G	60.79	74.00	-13.21	3	Vertical	339	2.04	-
2480MHz	Pass	AV	2.3896G	47.54	54.00	-6.46	3	Horizontal	322	1.42	-
2480MHz	Pass	AV	2.48G	100.64	Inf	-Inf	3	Horizontal	322	1.42	-
2480MHz	Pass	AV	2.4876G	48.37	54.00	-5.63	3	Horizontal	322	1.42	-
2480MHz	Pass	PK	2.3888G	58.65	74.00	-15.35	3	Horizontal	322	1.42	-
2480MHz	Pass	PK	2.4804G	101.60	Inf	-Inf	3	Horizontal	322	1.42	-
2480MHz	Pass	PK	2.4892G	59.95	74.00	-14.05	3	Horizontal	322	1.42	-
2480MHz	Pass	AV	4.95967G	34.98	54.00	-19.02	3	Vertical	153	1.79	-
2480MHz	Pass	AV	7.43908G	39.22	54.00	-14.78	3	Vertical	342	2.30	-
2480MHz	Pass	PK	4.95889G	46.73	74.00	-27.27	3	Vertical	153	1.79	-
2480MHz	Pass	PK	7.43981G	51.35	74.00	-22.65	3	Vertical	342	2.30	-
2480MHz	Pass	AV	4.95988G	37.82	54.00	-16.18	3	Horizontal	37	2.26	-
2480MHz	Pass	AV	7.44127G	39.25	54.00	-14.75	3	Horizontal	220	1.50	-
2480MHz	Pass	PK	4.9596G	48.28	74.00	-25.72	3	Horizontal	37	2.26	-
2480MHz	Pass	PK	7.43886G	51.28	74.00	-22.72	3	Horizontal	220	1.50	-
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.31G	47.95	54.00	-6.05	3	Vertical	360	1.29	-
2402MHz	Pass	AV	2.402G	92.21	Inf	-Inf	3	Vertical	360	1.29	-
2402MHz	Pass	AV	2.4992G	48.41	54.00	-5.59	3	Vertical	360	1.29	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2402MHz	Pass	PK	2.3688G	59.35	74.00	-14.65	3	Vertical	360	1.29	-
2402MHz	Pass	PK	2.402G	95.09	Inf	-Inf	3	Vertical	360	1.29	-
2402MHz	Pass	PK	2.4996G	60.76	74.00	-13.24	3	Vertical	360	1.29	-
2402MHz	Pass	AV	2.3144G	47.91	54.00	-6.09	3	Horizontal	327	1.01	-
2402MHz	Pass	AV	2.402G	99.70	Inf	-Inf	3	Horizontal	327	1.01	-
2402MHz	Pass	AV	2.4936G	48.39	54.00	-5.61	3	Horizontal	327	1.01	-
2402MHz	Pass	PK	2.364G	59.89	74.00	-14.11	3	Horizontal	327	1.01	-
2402MHz	Pass	PK	2.402G	102.50	Inf	-Inf	3	Horizontal	327	1.01	-
2402MHz	Pass	PK	2.5G	61.22	74.00	-12.78	3	Horizontal	327	1.01	-
2402MHz	Pass	AV	4.80179G	34.74	54.00	-19.26	3	Vertical	243	1.20	-
2402MHz	Pass	PK	4.80694G	46.47	74.00	-27.53	3	Vertical	243	1.20	-
2402MHz	Pass	AV	4.80104G	33.94	54.00	-20.06	3	Horizontal	280	2.80	-
2402MHz	Pass	PK	4.80694G	46.47	74.00	-27.53	3	Horizontal	280	2.80	-
2440MHz	Pass	AV	2.3404G	47.68	54.00	-6.32	3	Vertical	0	1.61	-
2440MHz	Pass	AV	2.44G	88.48	Inf	-Inf	3	Vertical	0	1.61	-
2440MHz	Pass	AV	2.4984G	48.41	54.00	-5.59	3	Vertical	0	1.61	-
2440MHz	Pass	PK	2.382G	59.28	74.00	-14.72	3	Vertical	0	1.61	-
2440MHz	Pass	PK	2.4404G	91.24	Inf	-Inf	3	Vertical	0	1.61	-
2440MHz	Pass	PK	2.4892G	60.38	74.00	-13.62	3	Vertical	0	1.61	-
2440MHz	Pass	AV	2.3616G	47.75	54.00	-6.25	3	Horizontal	324	1.00	-
2440MHz	Pass	AV	2.44G	97.65	Inf	-Inf	3	Horizontal	324	1.00	-
2440MHz	Pass	AV	2.4964G	48.40	54.00	-5.60	3	Horizontal	324	1.00	-
2440MHz	Pass	PK	2.342G	59.31	74.00	-14.69	3	Horizontal	324	1.00	-
2440MHz	Pass	PK	2.4396G	100.32	Inf	-Inf	3	Horizontal	324	1.00	-
2440MHz	Pass	PK	2.4848G	59.23	74.00	-14.77	3	Horizontal	324	1.00	-
2440MHz	Pass	AV	4.88049G	34.52	54.00	-19.48	3	Vertical	319	1.22	-
2440MHz	Pass	AV	7.31989G	39.18	54.00	-14.82	3	Vertical	134	1.82	-
2440MHz	Pass	PK	4.87923G	46.25	74.00	-27.75	3	Vertical	319	1.22	-
2440MHz	Pass	PK	7.32067G	51.44	74.00	-22.56	3	Vertical	134	1.82	-
2440MHz	Pass	AV	4.87899G	34.78	54.00	-19.22	3	Horizontal	56	2.27	-
2440MHz	Pass	AV	7.31974G	39.40	54.00	-14.60	3	Horizontal	225	2.12	-
2440MHz	Pass	PK	4.88121G	47.61	74.00	-26.39	3	Horizontal	56	2.27	-
2440MHz	Pass	PK	7.31753G	52.29	74.00	-21.71	3	Horizontal	225	2.12	-
2480MHz	Pass	AV	2.39G	47.55	54.00	-6.45	3	Vertical	340	2.12	-
2480MHz	Pass	AV	2.48G	91.84	Inf	-Inf	3	Vertical	340	2.12	-
2480MHz	Pass	AV	2.494G	48.39	54.00	-5.61	3	Vertical	340	2.12	-
2480MHz	Pass	PK	2.3832G	59.91	74.00	-14.09	3	Vertical	340	2.12	-
2480MHz	Pass	PK	2.48G	94.65	Inf	-Inf	3	Vertical	340	2.12	-
2480MHz	Pass	PK	2.4916G	59.87	74.00	-14.13	3	Vertical	340	2.12	-
2480MHz	Pass	AV	2.3892G	47.54	54.00	-6.46	3	Horizontal	322	1.42	-
2480MHz	Pass	AV	2.48G	98.88	Inf	-Inf	3	Horizontal	322	1.42	-
2480MHz	Pass	AV	2.4932G	48.39	54.00	-5.61	3	Horizontal	322	1.42	-
2480MHz	Pass	PK	2.382G	58.53	74.00	-15.47	3	Horizontal	322	1.42	-
2480MHz	Pass	PK	2.4804G	101.61	Inf	-Inf	3	Horizontal	322	1.42	-
2480MHz	Pass	PK	2.4835G	60.14	74.00	-13.86	3	Horizontal	322	1.42	-
2480MHz	Pass	AV	4.9594G	34.97	54.00	-19.03	3	Vertical	287	1.57	-
2480MHz	Pass	AV	7.43729G	39.08	54.00	-14.92	3	Vertical	296	2.34	-
2480MHz	Pass	PK	4.96019G	46.88	74.00	-27.12	3	Vertical	287	1.57	-
2480MHz	Pass	PK	7.44264G	51.36	74.00	-22.64	3	Vertical	296	2.34	-
2480MHz	Pass	AV	4.95904G	36.62	54.00	-17.38	3	Horizontal	48	2.20	-
2480MHz	Pass	AV	7.4374G	39.08	54.00	-14.92	3	Horizontal	299	2.20	-
2480MHz	Pass	PK	4.96025G	47.75	74.00	-26.25	3	Horizontal	48	2.20	-
2480MHz	Pass	PK	7.43765G	51.34	74.00	-22.66	3	Horizontal	299	2.20	-

BT-LE(1Mbps)

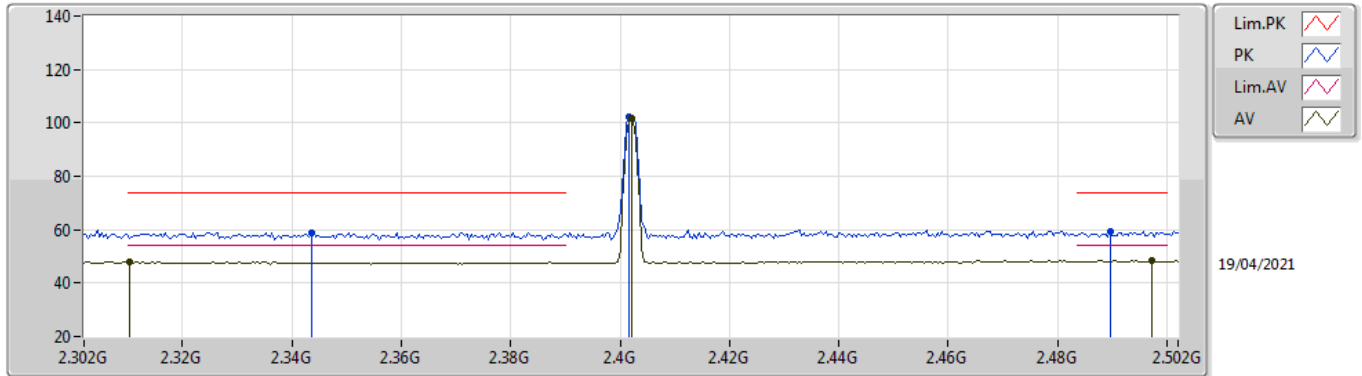
2402MHz_TX



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	2.3164G	48.18	54.00	-5.82	32.09	3	Vertical	0	1.30	-	16.09	27.87	4.22	-
AV	2.402G	93.87	Inf	-Inf	31.90	3	Vertical	0	1.30	-	61.97	27.60	4.30	-
AV	2.4984G	48.41	54.00	-5.59	32.10	3	Vertical	0	1.30	-	16.31	27.70	4.40	-
PK	2.3172G	59.47	74.00	-14.53	32.09	3	Vertical	0	1.30	-	27.38	27.87	4.22	-
PK	2.4016G	94.81	Inf	-Inf	31.90	3	Vertical	0	1.30	-	62.91	27.60	4.30	-
PK	2.4956G	59.36	74.00	-14.64	32.09	3	Vertical	0	1.30	-	27.27	27.69	4.40	-

BT-LE(1Mbps)

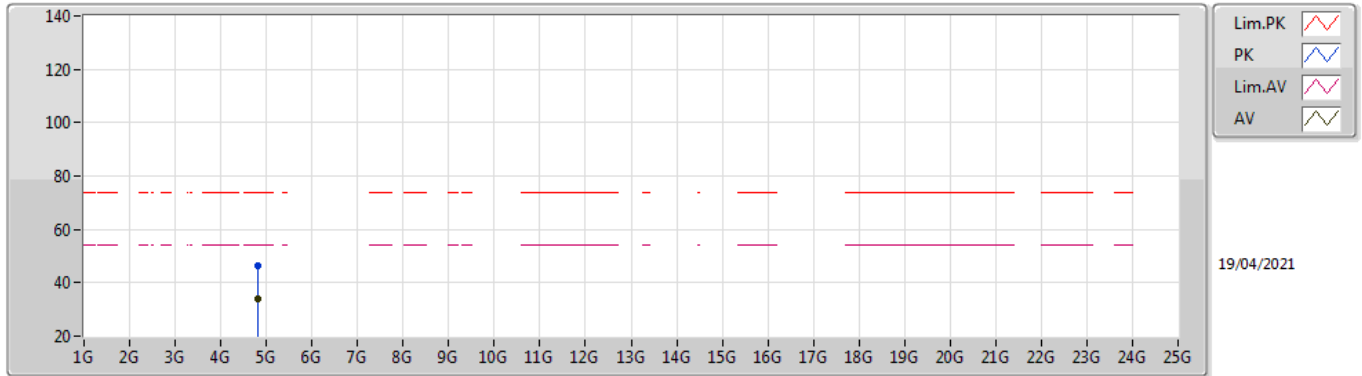
2402MHz_TX



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	2.3104G	47.95	54.00	-6.05	32.09	3	Horizontal	328	1.00	-	15.86	27.88	4.21	-
AV	2.402G	101.50	Inf	-Inf	31.90	3	Horizontal	328	1.00	-	69.60	27.60	4.30	-
AV	2.4972G	48.40	54.00	-5.60	32.09	3	Horizontal	328	1.00	-	16.31	27.69	4.40	-
PK	2.3436G	58.99	74.00	-15.01	32.05	3	Horizontal	328	1.00	-	26.94	27.81	4.24	-
PK	2.4016G	102.42	Inf	-Inf	31.90	3	Horizontal	328	1.00	-	70.52	27.60	4.30	-
PK	2.4896G	59.26	74.00	-14.74	32.07	3	Horizontal	328	1.00	-	27.19	27.68	4.39	-

BT-LE(1Mbps)

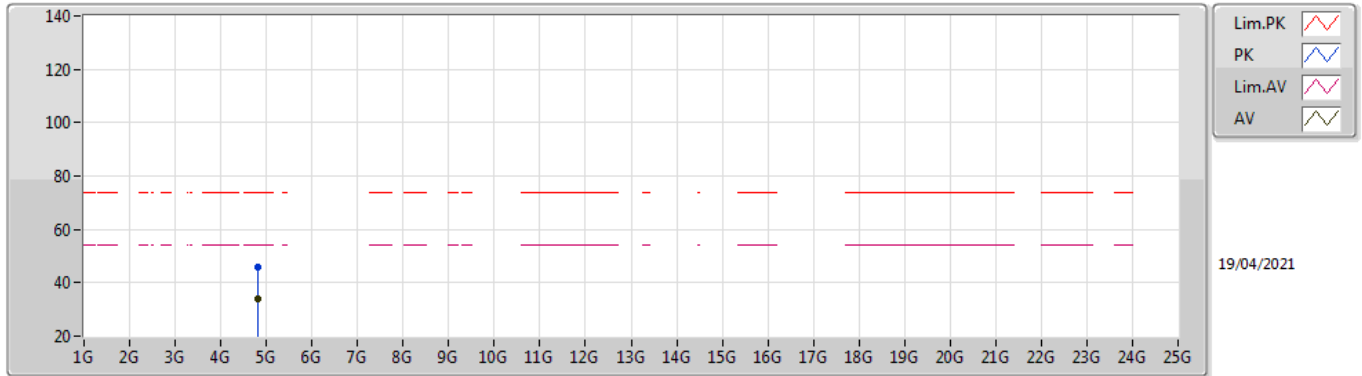
2402MHz_TX



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	4.80155G	33.94	54.00	-20.06	8.37	3	Vertical	351	1.46	-	25.57	31.10	6.50	29.23
PK	4.80152G	46.39	74.00	-27.61	8.37	3	Vertical	351	1.46	-	38.02	31.10	6.50	29.23

BT-LE(1Mbps)

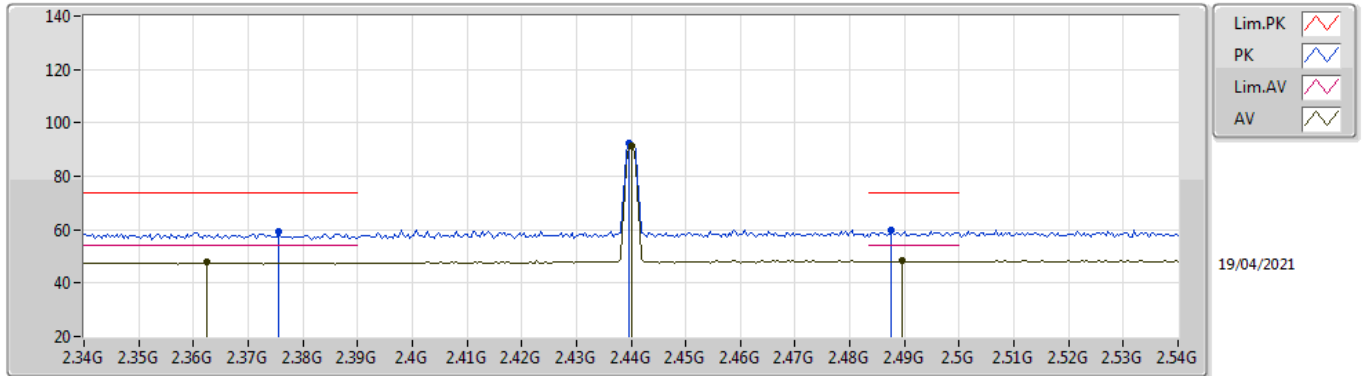
2402MHz_TX



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	4.80354G	34.21	54.00	-19.79	8.38	3	Horizontal	133	1.59	-	25.83	31.11	6.50	29.23
PK	4.80411G	45.87	74.00	-28.13	8.38	3	Horizontal	133	1.59	-	37.49	31.11	6.50	29.23

BT-LE(1Mbps)

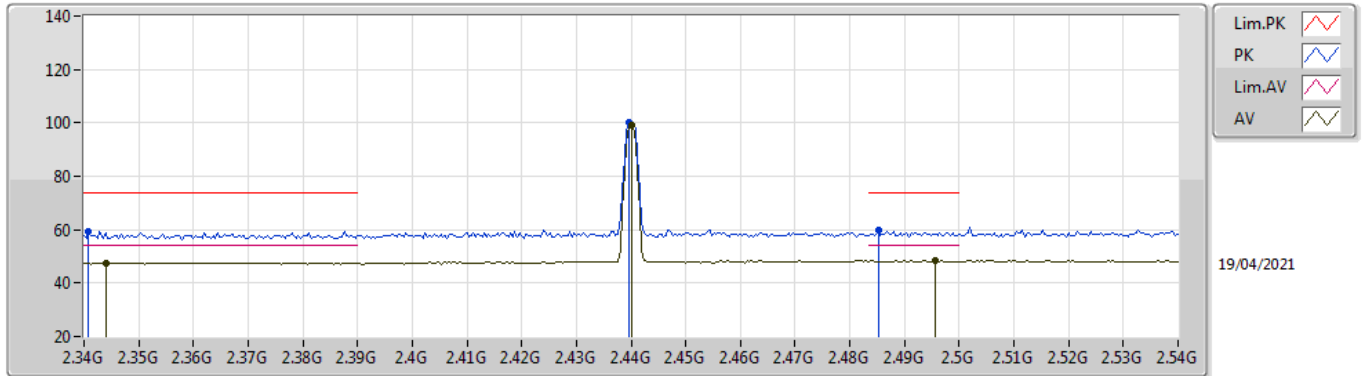
2440MHz_TX



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	2.3624G	47.76	54.00	-6.24	32.01	3	Vertical	342	1.62	-	15.75	27.75	4.26	-
AV	2.44G	91.40	Inf	-Inf	31.94	3	Vertical	342	1.62	-	59.46	27.60	4.34	-
AV	2.4896G	48.37	54.00	-5.63	32.07	3	Vertical	342	1.62	-	16.30	27.68	4.39	-
PK	2.3756G	59.36	74.00	-14.64	31.98	3	Vertical	342	1.62	-	27.38	27.70	4.28	-
PK	2.4396G	92.40	Inf	-Inf	31.94	3	Vertical	342	1.62	-	60.46	27.60	4.34	-
PK	2.4876G	59.80	74.00	-14.20	32.07	3	Vertical	342	1.62	-	27.73	27.68	4.39	-

BT-LE(1Mbps)

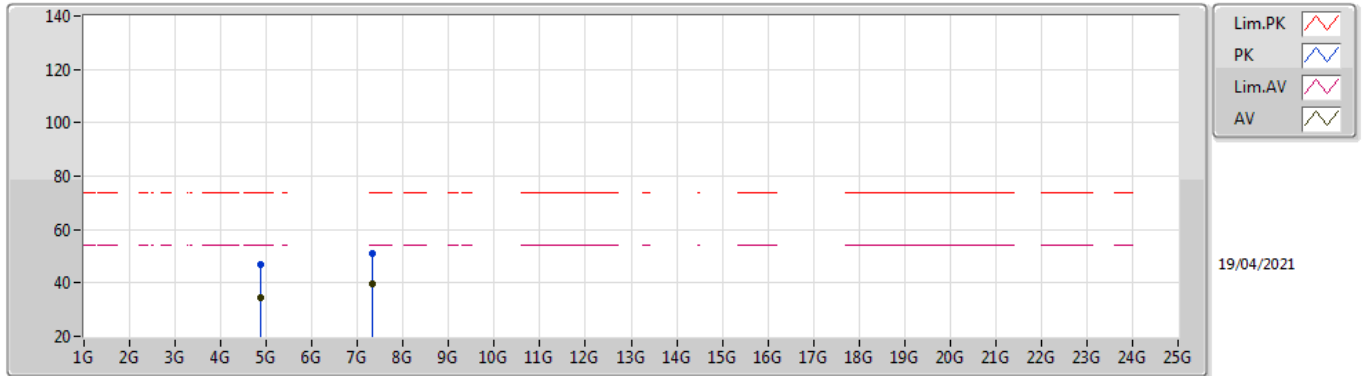
2440MHz_TX



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	2.344G	47.64	54.00	-6.36	32.05	3	Horizontal	325	1.01	-	15.59	27.81	4.24	-
AV	2.44G	99.33	Inf	-Inf	31.94	3	Horizontal	325	1.01	-	67.39	27.60	4.34	-
AV	2.4956G	48.40	54.00	-5.60	32.09	3	Horizontal	325	1.01	-	16.31	27.69	4.40	-
PK	2.3408G	59.47	74.00	-14.53	32.06	3	Horizontal	325	1.01	-	27.41	27.82	4.24	-
PK	2.4396G	100.26	Inf	-Inf	31.94	3	Horizontal	325	1.01	-	68.32	27.60	4.34	-
PK	2.4852G	59.63	74.00	-14.37	32.06	3	Horizontal	325	1.01	-	27.57	27.67	4.39	-

BT-LE(1Mbps)

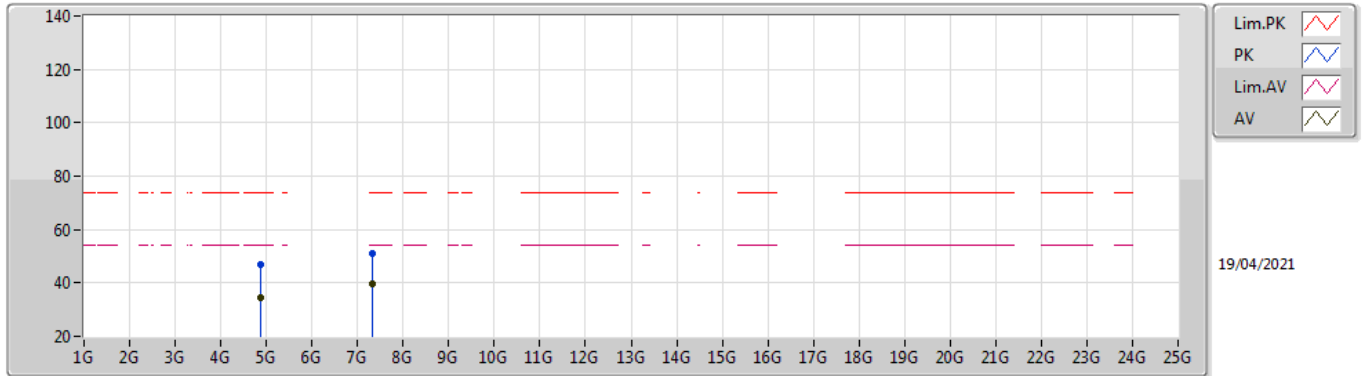
2440MHz_TX



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	4.878G	34.64	54.00	-19.36	8.57	3	Vertical	185	1.72	-	26.07	31.20	6.58	29.21
AV	7.32197G	39.52	54.00	-14.48	13.69	3	Vertical	243	2.44	-	25.83	36.26	7.60	30.17
PK	4.87849G	46.91	74.00	-27.09	8.57	3	Vertical	185	1.72	-	38.34	31.20	6.58	29.21
PK	7.32129G	51.10	74.00	-22.90	13.69	3	Vertical	243	2.44	-	37.41	36.26	7.60	30.17

BT-LE(1Mbps)

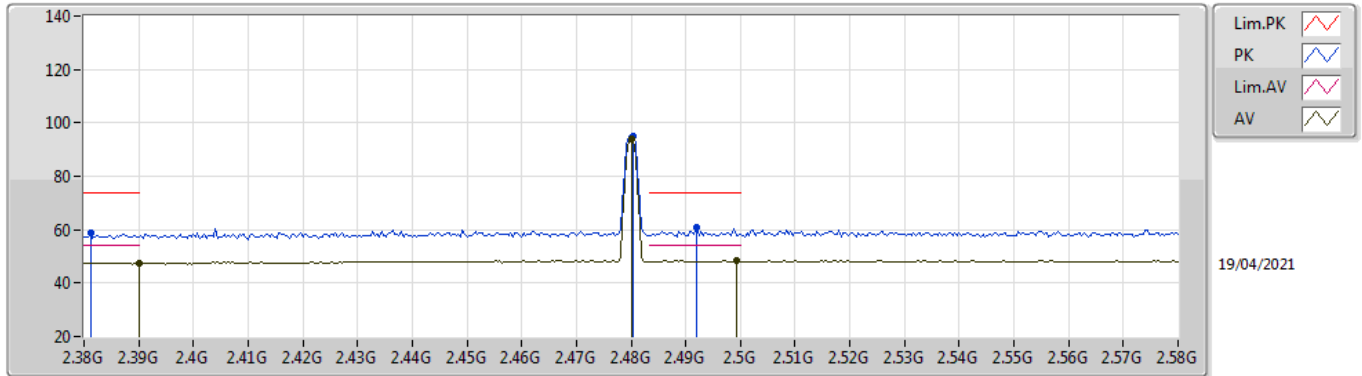
2440MHz_TX



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	4.87941G	34.65	54.00	-19.35	8.57	3	Horizontal	200	1.44	-	26.08	31.20	6.58	29.21
AV	7.31799G	39.51	54.00	-14.49	13.69	3	Horizontal	177	1.52	-	25.82	36.26	7.60	30.17
PK	4.88038G	46.97	74.00	-27.03	8.57	3	Horizontal	200	1.44	-	38.40	31.20	6.58	29.21
PK	7.31896G	51.26	74.00	-22.74	13.69	3	Horizontal	177	1.52	-	37.57	36.26	7.60	30.17

BT-LE(1Mbps)

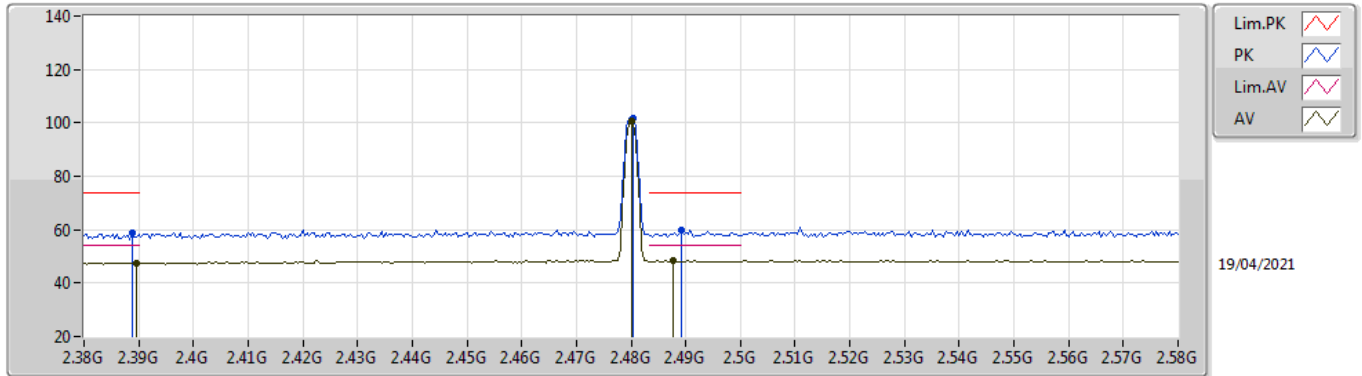
2480MHz_TX



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	2.39G	47.55	54.00	-6.45	31.93	3	Vertical	339	2.04	-	15.62	27.64	4.29	-
AV	2.48G	94.13	Inf	-Inf	32.04	3	Vertical	339	2.04	-	62.09	27.66	4.38	-
AV	2.4992G	48.41	54.00	-5.59	32.10	3	Vertical	339	2.04	-	16.31	27.70	4.40	-
PK	2.3812G	58.70	74.00	-15.30	31.96	3	Vertical	339	2.04	-	26.74	27.68	4.28	-
PK	2.4804G	95.11	Inf	-Inf	32.04	3	Vertical	339	2.04	-	63.07	27.66	4.38	-
PK	2.492G	60.79	74.00	-13.21	32.07	3	Vertical	339	2.04	-	28.72	27.68	4.39	-

BT-LE(1Mbps)

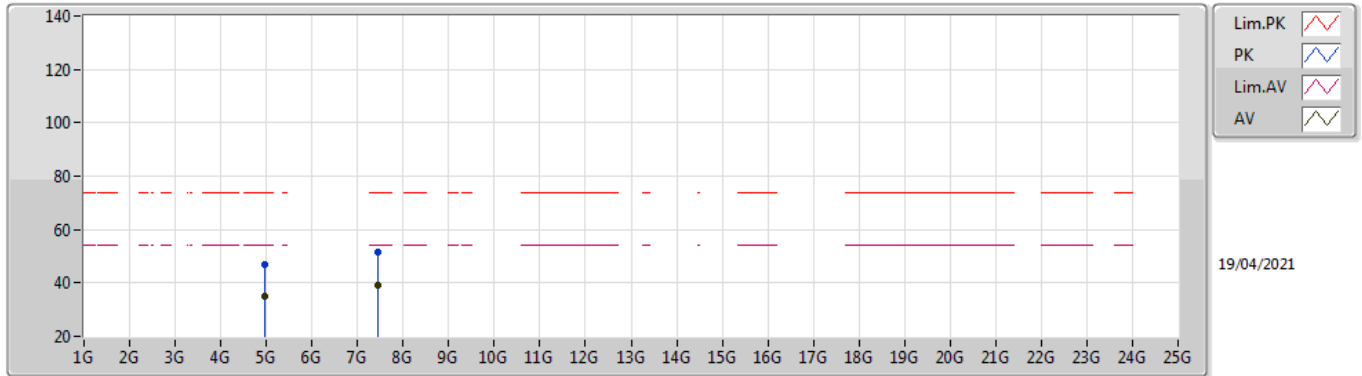
2480MHz_TX



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	2.3896G	47.54	54.00	-6.46	31.93	3	Horizontal	322	1.42	-	15.61	27.64	4.29	-
AV	2.48G	100.64	Inf	-Inf	32.04	3	Horizontal	322	1.42	-	68.60	27.66	4.38	-
AV	2.4876G	48.37	54.00	-5.63	32.07	3	Horizontal	322	1.42	-	16.30	27.68	4.39	-
PK	2.3888G	58.65	74.00	-15.35	31.93	3	Horizontal	322	1.42	-	26.72	27.64	4.29	-
PK	2.4804G	101.60	Inf	-Inf	32.04	3	Horizontal	322	1.42	-	69.56	27.66	4.38	-
PK	2.4892G	59.95	74.00	-14.05	32.07	3	Horizontal	322	1.42	-	27.88	27.68	4.39	-

BT-LE(1Mbps)

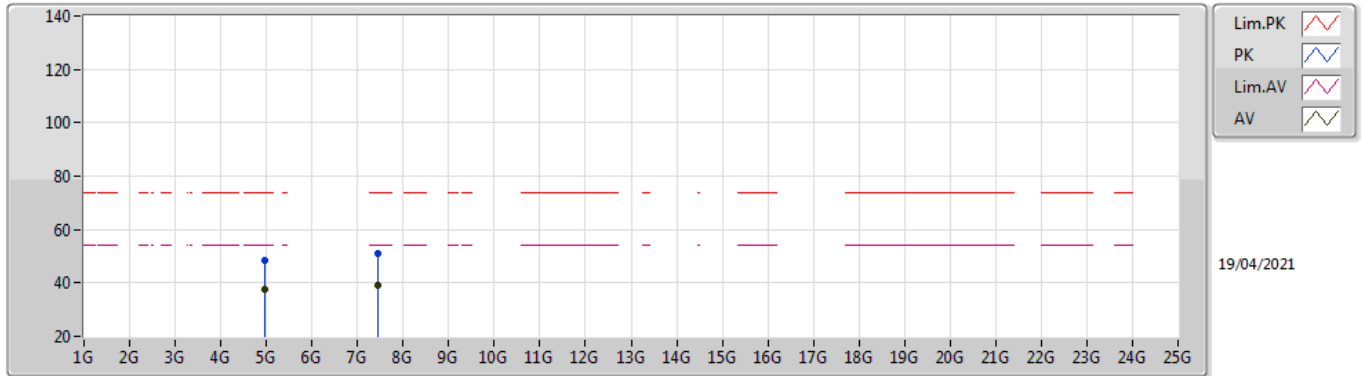
2480MHz_TX



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	4.95967G	34.98	54.00	-19.02	8.82	3	Vertical	153	1.79	-	26.16	31.34	6.66	29.18
AV	7.43908G	39.22	54.00	-14.78	13.64	3	Vertical	342	2.30	-	25.58	36.26	7.64	30.26
PK	4.95889G	46.73	74.00	-27.27	8.82	3	Vertical	153	1.79	-	37.91	31.34	6.66	29.18
PK	7.43981G	51.35	74.00	-22.65	13.64	3	Vertical	342	2.30	-	37.71	36.26	7.64	30.26

BT-LE(1Mbps)

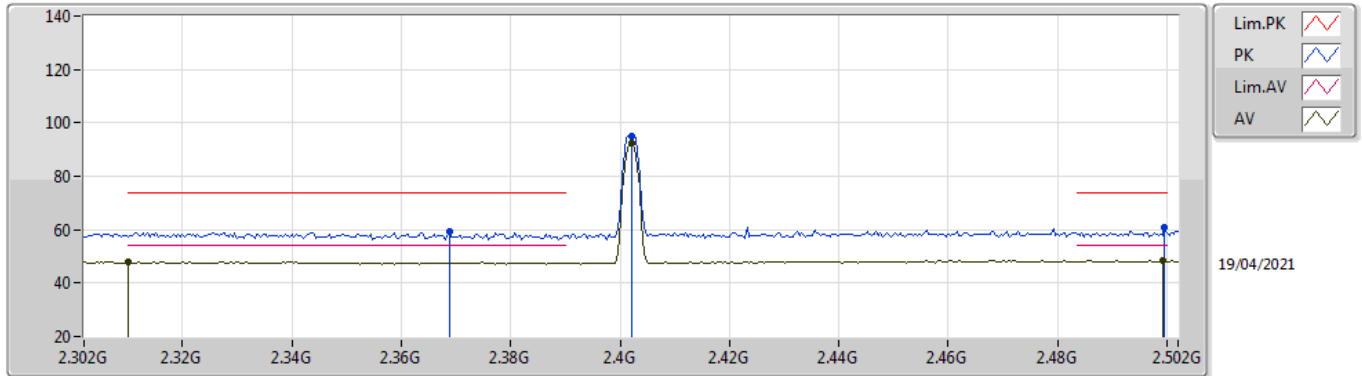
2480MHz_TX



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	4.95988G	37.82	54.00	-16.18	8.82	3	Horizontal	37	2.26	-	29.00	31.34	6.66	29.18
AV	7.44127G	39.25	54.00	-14.75	13.65	3	Horizontal	220	1.50	-	25.60	36.27	7.64	30.26
PK	4.9596G	48.28	74.00	-25.72	8.82	3	Horizontal	37	2.26	-	39.46	31.34	6.66	29.18
PK	7.43886G	51.28	74.00	-22.72	13.64	3	Horizontal	220	1.50	-	37.64	36.26	7.64	30.26

BT-LE(2Mbps)

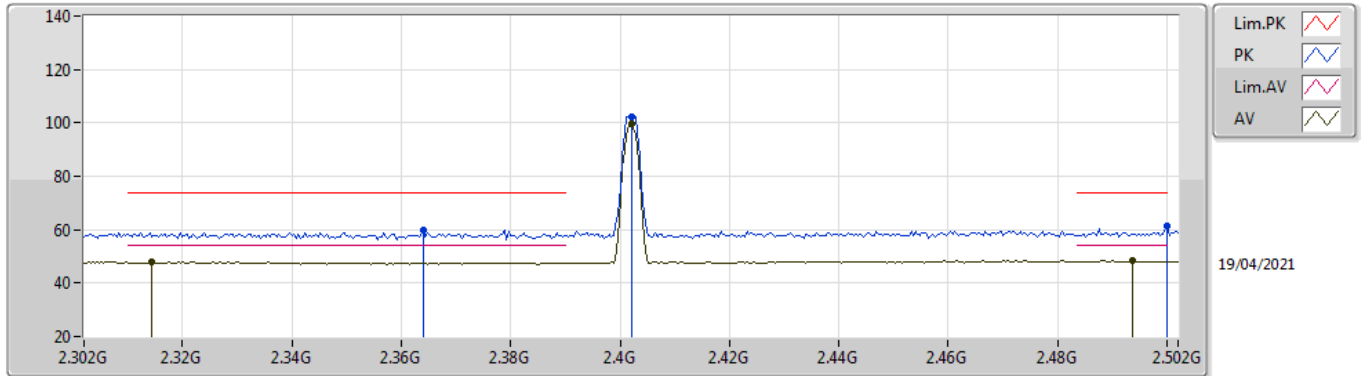
2402MHz_TX



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	2.31G	47.95	54.00	-6.05	32.09	3	Vertical	360	1.29	-	15.86	27.88	4.21	-
AV	2.402G	92.21	Inf	-Inf	31.90	3	Vertical	360	1.29	-	60.31	27.60	4.30	-
AV	2.4992G	48.41	54.00	-5.59	32.10	3	Vertical	360	1.29	-	16.31	27.70	4.40	-
PK	2.3688G	59.35	74.00	-14.65	31.99	3	Vertical	360	1.29	-	27.36	27.72	4.27	-
PK	2.402G	95.09	Inf	-Inf	31.90	3	Vertical	360	1.29	-	63.19	27.60	4.30	-
PK	2.4996G	60.76	74.00	-13.24	32.10	3	Vertical	360	1.29	-	28.66	27.70	4.40	-

BT-LE(2Mbps)

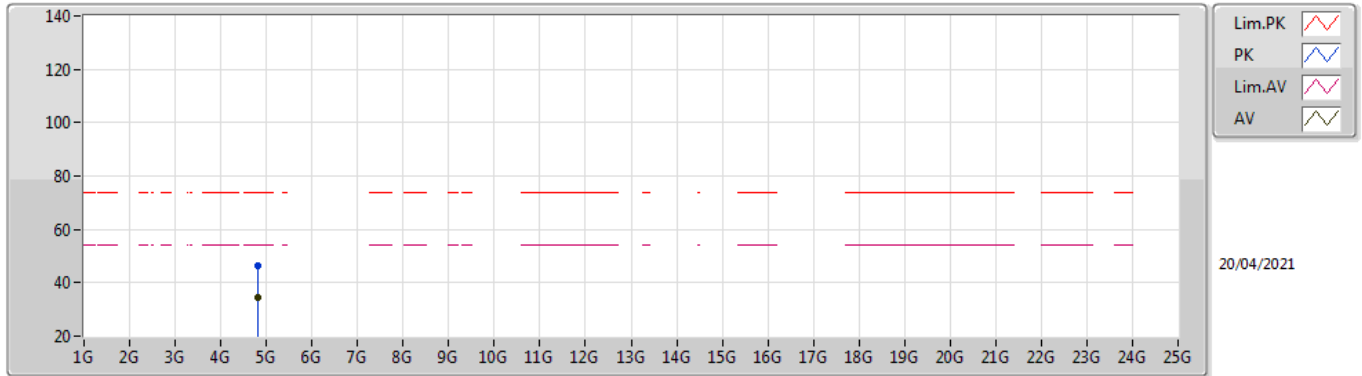
2402MHz_TX



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	2.3144G	47.91	54.00	-6.09	32.08	3	Horizontal	327	1.01	-	15.83	27.87	4.21	-
AV	2.402G	99.70	Inf	-Inf	31.90	3	Horizontal	327	1.01	-	67.80	27.60	4.30	-
AV	2.4936G	48.39	54.00	-5.61	32.08	3	Horizontal	327	1.01	-	16.31	27.69	4.39	-
PK	2.364G	59.89	74.00	-14.11	32.00	3	Horizontal	327	1.01	-	27.89	27.74	4.26	-
PK	2.402G	102.50	Inf	-Inf	31.90	3	Horizontal	327	1.01	-	70.60	27.60	4.30	-
PK	2.5G	61.22	74.00	-12.78	32.10	3	Horizontal	327	1.01	-	29.12	27.70	4.40	-

BT-LE(2Mbps)

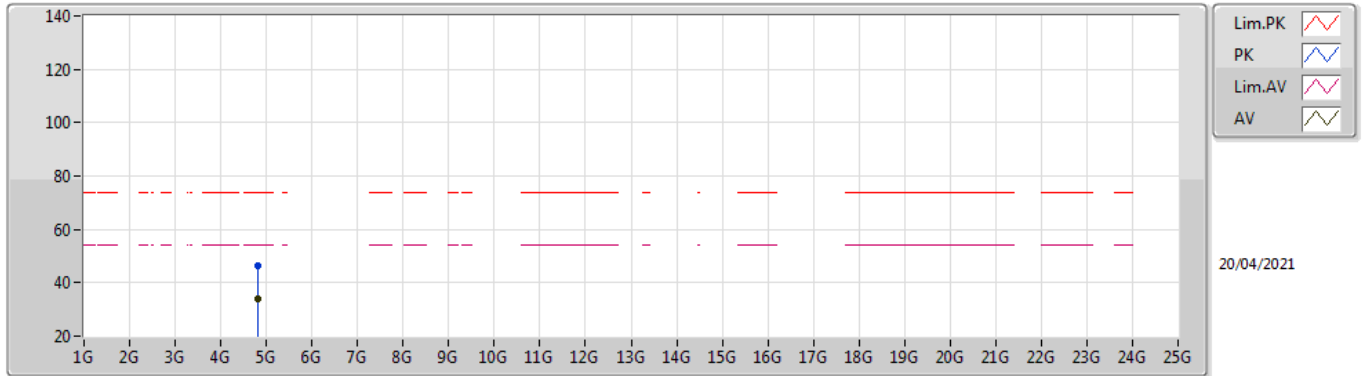
2402MHz_TX



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	4.80179G	34.74	54.00	-19.26	8.37	3	Vertical	243	1.20	-	26.37	31.10	6.50	29.23
PK	4.80694G	46.47	74.00	-27.53	8.39	3	Vertical	243	1.20	-	38.08	31.11	6.51	29.23

BT-LE(2Mbps)

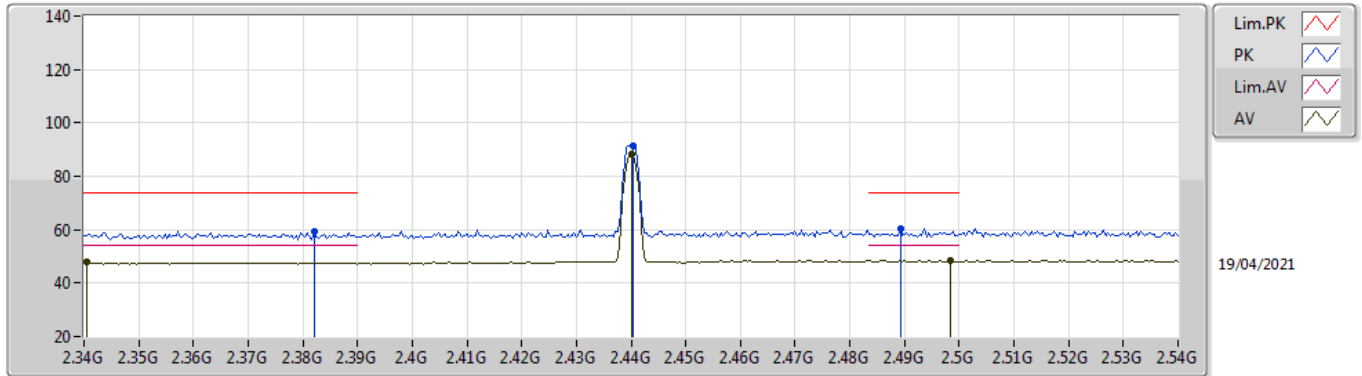
2402MHz_TX



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	4.80104G	33.94	54.00	-20.06	8.37	3	Horizontal	280	2.80	-	25.57	31.10	6.50	29.23
PK	4.80694G	46.47	74.00	-27.53	8.39	3	Horizontal	280	2.80	-	38.08	31.11	6.51	29.23

BT-LE(2Mbps)

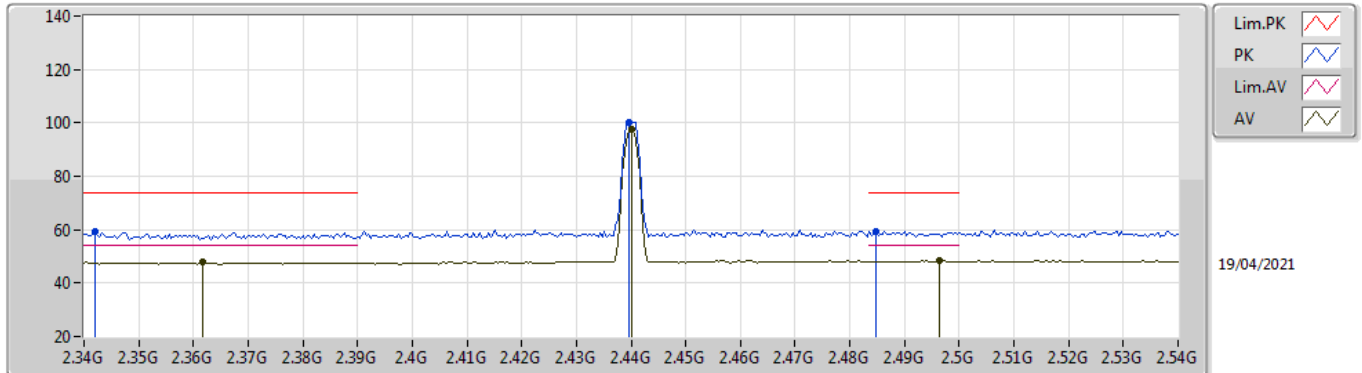
2440MHz_TX



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	2.3404G	47.68	54.00	-6.32	32.06	3	Vertical	0	1.61	-	15.62	27.82	4.24	-
AV	2.44G	88.48	Inf	-Inf	31.94	3	Vertical	0	1.61	-	56.54	27.60	4.34	-
AV	2.4984G	48.41	54.00	-5.59	32.10	3	Vertical	0	1.61	-	16.31	27.70	4.40	-
PK	2.382G	59.28	74.00	-14.72	31.95	3	Vertical	0	1.61	-	27.33	27.67	4.28	-
PK	2.4404G	91.24	Inf	-Inf	31.94	3	Vertical	0	1.61	-	59.30	27.60	4.34	-
PK	2.4892G	60.38	74.00	-13.62	32.07	3	Vertical	0	1.61	-	28.31	27.68	4.39	-

BT-LE(2Mbps)

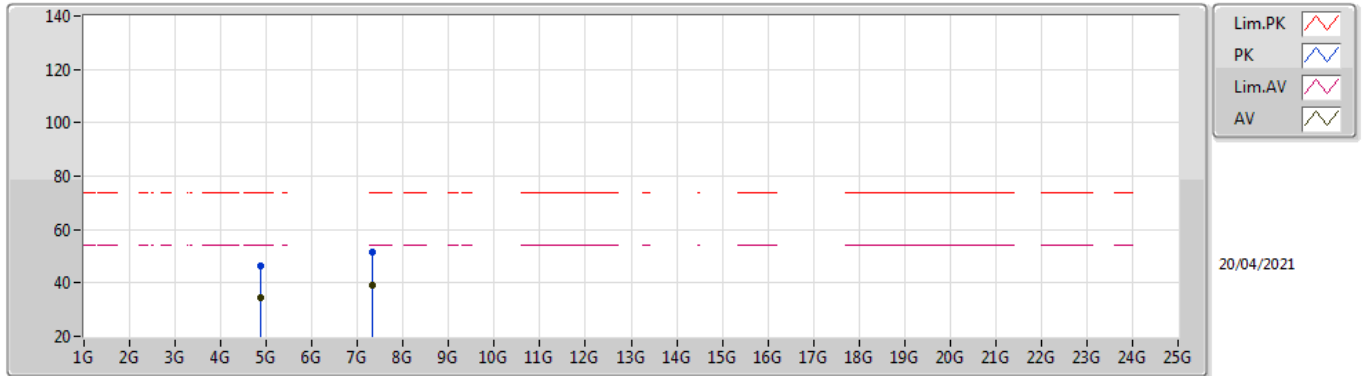
2440MHz_TX



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	2.3616G	47.75	54.00	-6.25	32.01	3	Horizontal	324	1.00	-	15.74	27.75	4.26	-
AV	2.44G	97.65	Inf	-Inf	31.94	3	Horizontal	324	1.00	-	65.71	27.60	4.34	-
AV	2.4964G	48.40	54.00	-5.60	32.09	3	Horizontal	324	1.00	-	16.31	27.69	4.40	-
PK	2.342G	59.31	74.00	-14.69	32.06	3	Horizontal	324	1.00	-	27.25	27.82	4.24	-
PK	2.4396G	100.32	Inf	-Inf	31.94	3	Horizontal	324	1.00	-	68.38	27.60	4.34	-
PK	2.4848G	59.23	74.00	-14.77	32.05	3	Horizontal	324	1.00	-	27.18	27.67	4.38	-

BT-LE(2Mbps)

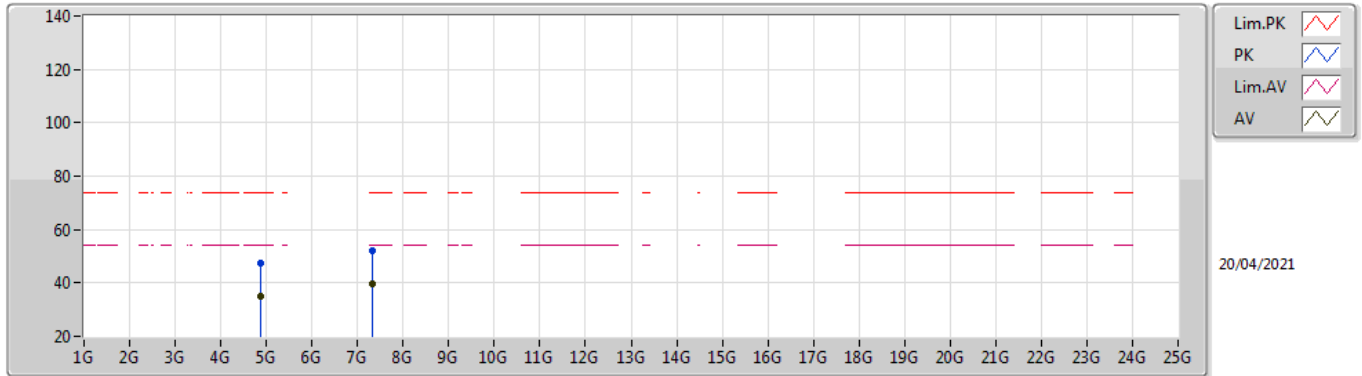
2440MHz_TX



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	4.88049G	34.52	54.00	-19.48	8.57	3	Vertical	319	1.22	-	25.95	31.20	6.58	29.21
AV	7.31989G	39.18	54.00	-14.82	13.69	3	Vertical	134	1.82	-	25.49	36.26	7.60	30.17
PK	4.87923G	46.25	74.00	-27.75	8.57	3	Vertical	319	1.22	-	37.68	31.20	6.58	29.21
PK	7.32067G	51.44	74.00	-22.56	13.69	3	Vertical	134	1.82	-	37.75	36.26	7.60	30.17

BT-LE(2Mbps)

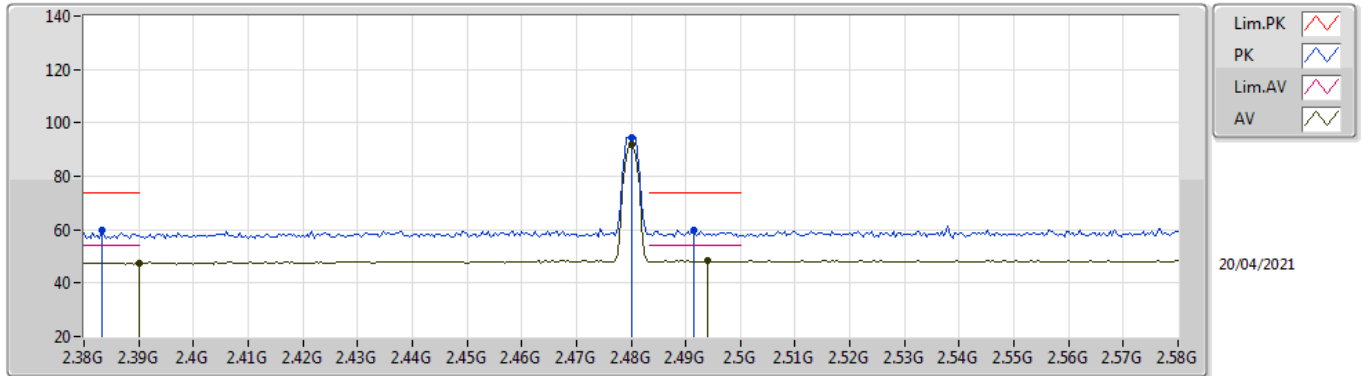
2440MHz_TX



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	4.87899G	34.78	54.00	-19.22	8.57	3	Horizontal	56	2.27	-	26.21	31.20	6.58	29.21
AV	7.31974G	39.40	54.00	-14.60	13.69	3	Horizontal	225	2.12	-	25.71	36.26	7.60	30.17
PK	4.88121G	47.61	74.00	-26.39	8.57	3	Horizontal	56	2.27	-	39.04	31.20	6.58	29.21
PK	7.31753G	52.29	74.00	-21.71	13.69	3	Horizontal	225	2.12	-	38.60	36.26	7.60	30.17

BT-LE(2Mbps)

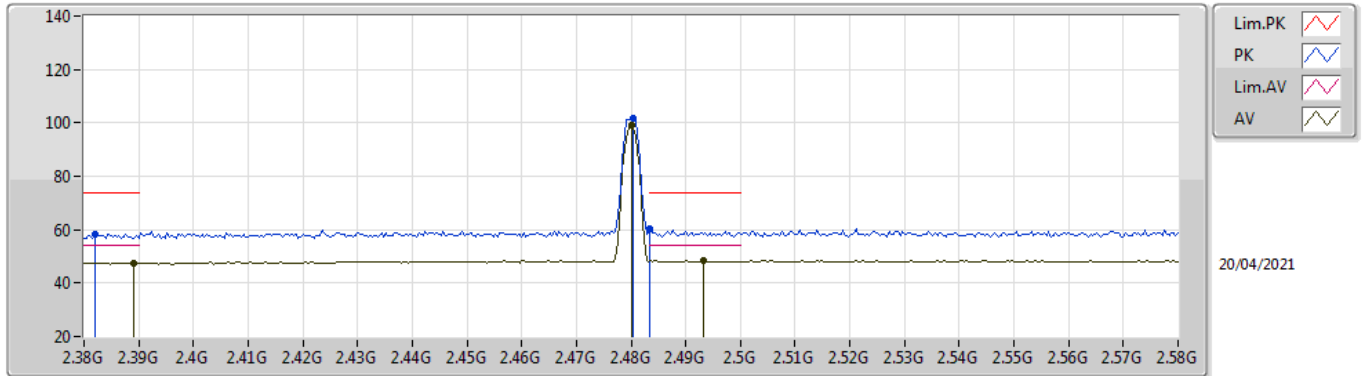
2480MHz_TX



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	2.39G	47.55	54.00	-6.45	31.93	3	Vertical	340	2.12	-	15.62	27.64	4.29	-
AV	2.48G	91.84	Inf	-Inf	32.04	3	Vertical	340	2.12	-	59.80	27.66	4.38	-
AV	2.494G	48.39	54.00	-5.61	32.08	3	Vertical	340	2.12	-	16.31	27.69	4.39	-
PK	2.3832G	59.91	74.00	-14.09	31.95	3	Vertical	340	2.12	-	27.96	27.67	4.28	-
PK	2.48G	94.65	Inf	-Inf	32.04	3	Vertical	340	2.12	-	62.61	27.66	4.38	-
PK	2.4916G	59.87	74.00	-14.13	32.07	3	Vertical	340	2.12	-	27.80	27.68	4.39	-

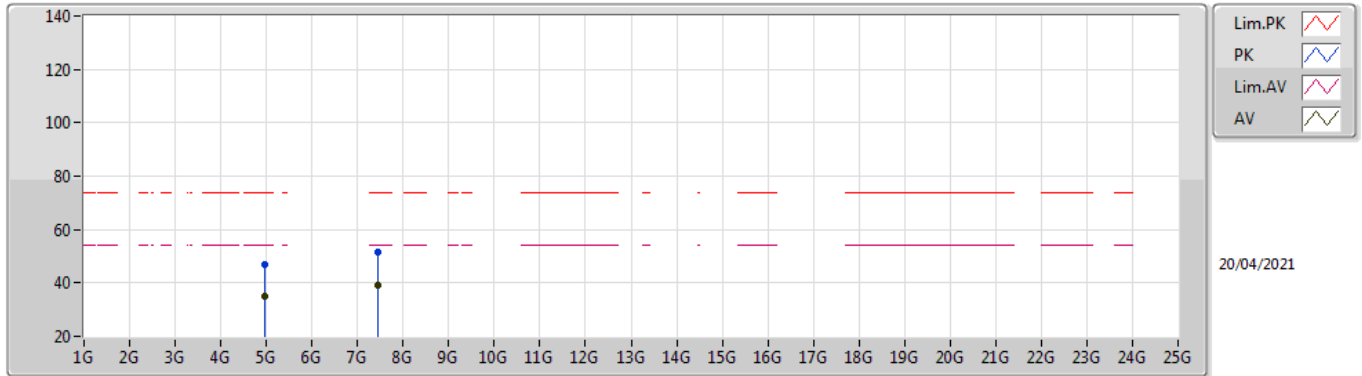
BT-LE(2Mbps)

2480MHz_TX



BT-LE(2Mbps)

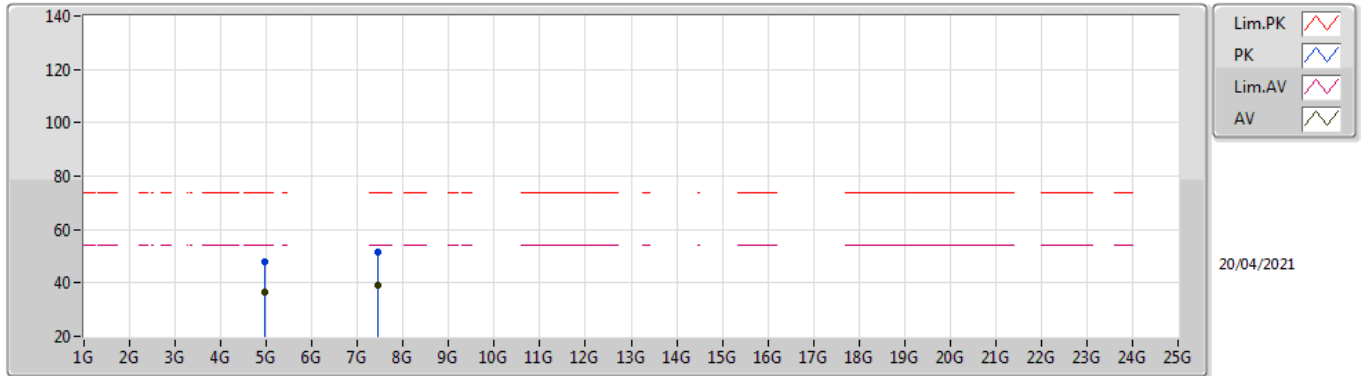
2480MHz_TX



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	4.9594G	34.97	54.00	-19.03	8.82	3	Vertical	287	1.57	-	26.15	31.34	6.66	29.18
AV	7.43729G	39.08	54.00	-14.92	13.64	3	Vertical	296	2.34	-	25.44	36.25	7.64	30.25
PK	4.96019G	46.88	74.00	-27.12	8.82	3	Vertical	287	1.57	-	38.06	31.34	6.66	29.18
PK	7.44264G	51.36	74.00	-22.64	13.65	3	Vertical	296	2.34	-	37.71	36.27	7.64	30.26

BT-LE(2Mbps)

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	4.95904G	36.62	54.00	-17.38	8.82	3	Horizontal	48	2.20	-	27.80	31.34	6.66	29.18
AV	7.4374G	39.08	54.00	-14.92	13.64	3	Horizontal	299	2.20	-	25.44	36.25	7.64	30.25
PK	4.96025G	47.75	74.00	-26.25	8.82	3	Horizontal	48	2.20	-	38.93	31.34	6.66	29.18
PK	7.43765G	51.34	74.00	-22.66	13.63	3	Horizontal	299	2.20	-	37.71	36.25	7.64	30.26

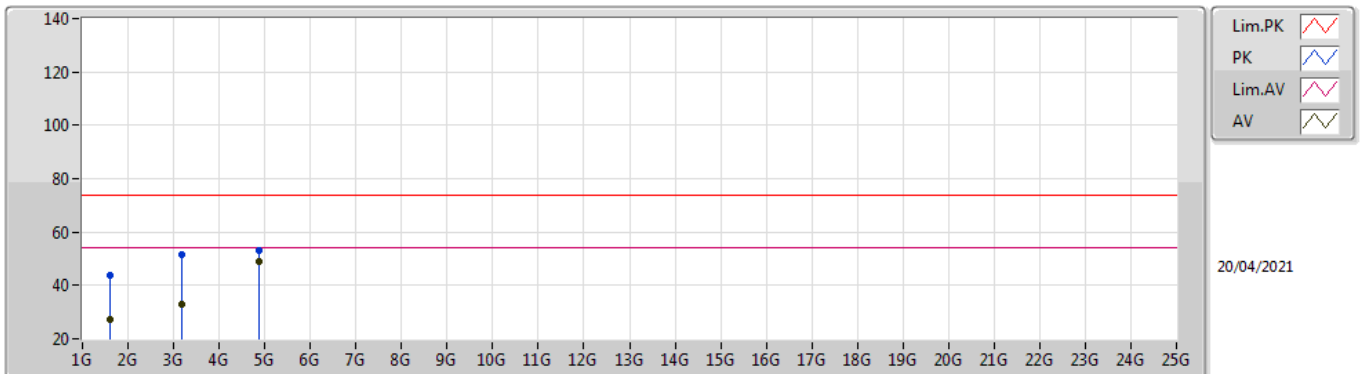
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	4.87399G	48.99	54.00	-5.01	Vertical
Mode 2	Pass	PK	5.176G	56.93	68.20	-11.27	Vertical

Mode Configure

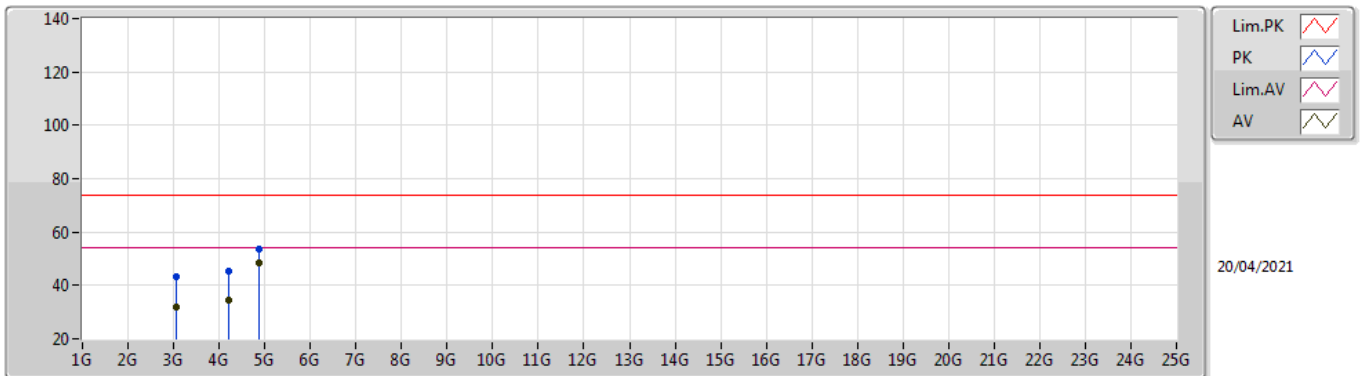
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	1.594G	27.48	54.00	-26.52	-2.35	3	Vertical	360	1.00	-
Mode 1	Pass	AV	3.178G	32.86	54.00	-21.14	4.28	3	Vertical	360	1.00	-
Mode 1	Pass	AV	4.87399G	48.99	54.00	-5.01	8.56	3	Vertical	312	1.27	-
Mode 1	Pass	PK	1.594G	43.68	74.00	-30.32	-2.35	3	Vertical	360	1.00	-
Mode 1	Pass	PK	3.178G	51.32	74.00	-22.68	4.28	3	Vertical	360	1.00	-
Mode 1	Pass	PK	4.87406G	53.29	74.00	-20.71	8.56	3	Vertical	312	1.27	-
Mode 1	Pass	AV	3.052G	32.13	54.00	-21.87	3.74	3	Horizontal	0	1.00	-
Mode 1	Pass	AV	4.222G	34.53	54.00	-19.47	6.72	3	Horizontal	0	1.00	-
Mode 1	Pass	AV	4.874G	48.19	54.00	-5.81	8.56	3	Horizontal	341	2.32	-
Mode 1	Pass	PK	3.052G	43.35	74.00	-30.65	3.74	3	Horizontal	0	1.00	-
Mode 1	Pass	PK	4.222G	45.39	74.00	-28.61	6.72	3	Horizontal	0	1.00	-
Mode 1	Pass	PK	4.87402G	53.73	74.00	-20.27	8.56	3	Horizontal	341	2.32	-
Mode 2	Pass	AV	1.492G	29.99	54.00	-24.01	-1.89	3	Vertical	0	1.00	-
Mode 2	Pass	AV	3.184G	35.22	68.20	-32.98	4.28	3	Vertical	0	1.00	-
Mode 2	Pass	AV	5.176G	37.72	68.20	-30.48	9.56	3	Vertical	0	1.00	-
Mode 2	Pass	PK	1.492G	43.89	74.00	-30.11	-1.89	3	Vertical	0	1.00	-
Mode 2	Pass	PK	3.184G	51.40	68.20	-16.80	4.28	3	Vertical	0	1.00	-
Mode 2	Pass	PK	5.176G	56.93	68.20	-11.27	9.56	3	Vertical	0	1.00	-
Mode 2	Pass	AV	2.194G	31.88	68.20	-36.32	2.03	3	Horizontal	360	1.00	-
Mode 2	Pass	AV	3.184G	33.10	68.20	-35.10	4.28	3	Horizontal	360	1.00	-
Mode 2	Pass	AV	4.696G	36.54	54.00	-17.46	8.37	3	Horizontal	360	1.00	-
Mode 2	Pass	PK	2.194G	42.18	68.20	-26.02	2.03	3	Horizontal	360	1.00	-
Mode 2	Pass	PK	3.184G	46.21	68.20	-21.99	4.28	3	Horizontal	360	1.00	-
Mode 2	Pass	PK	4.696G	46.97	74.00	-27.03	8.37	3	Horizontal	360	1.00	-

Radiated Emissions above 1GHz_Mode 1



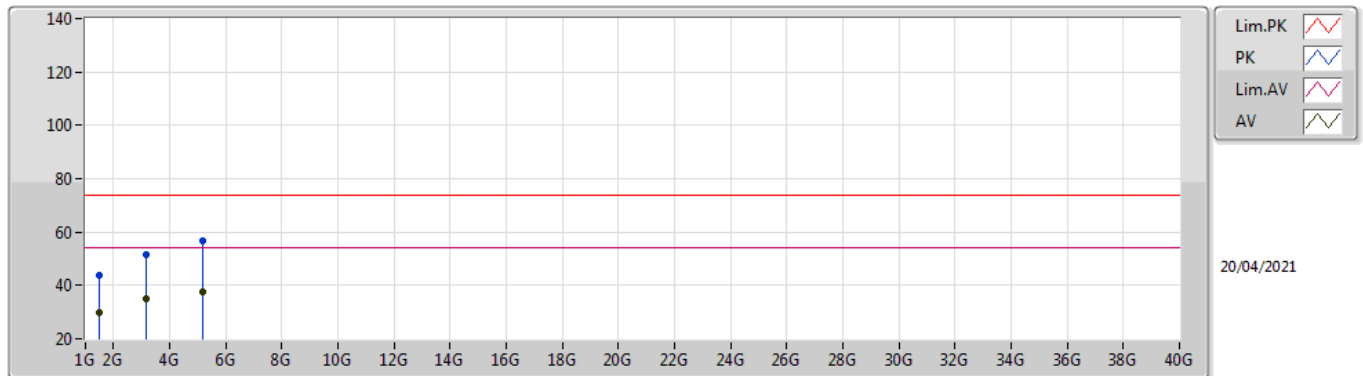
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.594G	27.48	54.00	-26.52	-2.35	3	Vertical	360	1.00	-	29.83	25.04	3.39	30.78
AV	3.178G	32.86	54.00	-21.14	4.28	3	Vertical	360	1.00	-	28.58	28.90	5.18	29.80
AV	4.87399G	48.99	54.00	-5.01	8.56	3	Vertical	312	1.27	-	40.43	31.20	6.57	29.21
PK	1.594G	43.68	74.00	-30.32	-2.35	3	Vertical	360	1.00	-	46.03	25.04	3.39	30.78
PK	3.178G	51.32	74.00	-22.68	4.28	3	Vertical	360	1.00	-	47.04	28.90	5.18	29.80
PK	4.87406G	53.29	74.00	-20.71	8.56	3	Vertical	312	1.27	-	44.73	31.20	6.57	29.21

Radiated Emissions above 1GHz_Mode 1



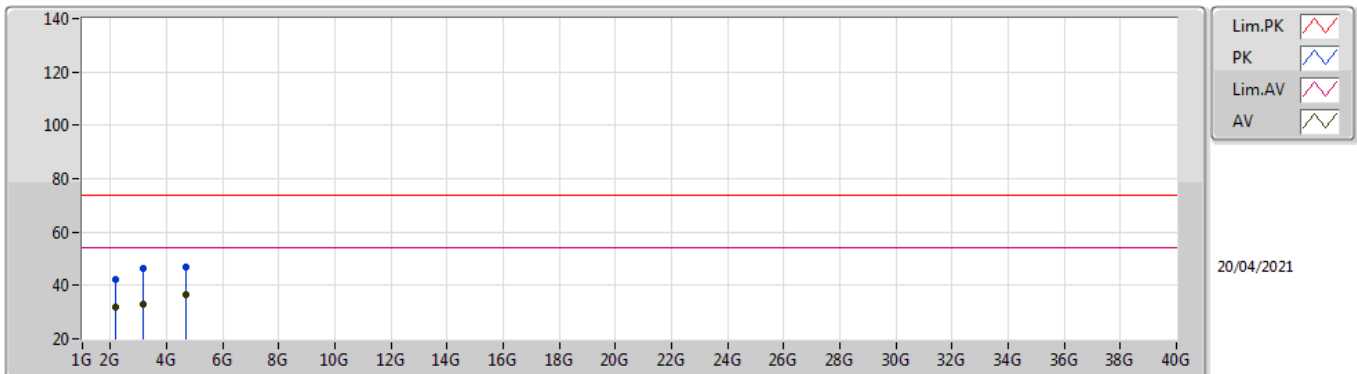
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	3.052G	32.13	54.00	-21.87	3.74	3	Horizontal	0	1.00	-	28.39	28.51	5.05	29.82
AV	4.222G	34.53	54.00	-19.47	6.72	3	Horizontal	0	1.00	-	27.81	29.94	6.12	29.34
AV	4.874G	48.19	54.00	-5.81	8.56	3	Horizontal	341	2.32	-	39.63	31.20	6.57	29.21
PK	3.052G	43.35	74.00	-30.65	3.74	3	Horizontal	0	1.00	-	39.61	28.51	5.05	29.82
PK	4.222G	45.39	74.00	-28.61	6.72	3	Horizontal	0	1.00	-	38.67	29.94	6.12	29.34
PK	4.87402G	53.73	74.00	-20.27	8.56	3	Horizontal	341	2.32	-	45.17	31.20	6.57	29.21

Radiated Emissions above 1GHz_Mode 2



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.492G	29.99	54.00	-24.01	-1.89	3	Vertical	0	1.00	-	31.88	25.76	3.29	30.94
AV	3.184G	35.22	54.00	-18.78	4.28	3	Vertical	0	1.00	-	30.94	28.90	5.18	29.80
AV	5.176G	37.72	54.00	-16.28	9.56	3	Vertical	0	1.00	-	28.16	31.95	6.79	29.18
PK	1.492G	43.89	74.00	-30.11	-1.89	3	Vertical	0	1.00	-	45.78	25.76	3.29	30.94
PK	3.184G	51.40	74.00	-22.60	4.28	3	Vertical	0	1.00	-	47.12	28.90	5.18	29.80
PK	5.176G	56.93	74.00	-17.07	9.56	3	Vertical	0	1.00	-	47.37	31.95	6.79	29.18

Radiated Emissions above 1GHz_Mode 2



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	2.194G	31.88	54.00	-22.12	2.03	3	Horizontal	360	1.00	-	29.85	28.06	4.09	30.12
AV	3.184G	33.10	54.00	-20.90	4.28	3	Horizontal	360	1.00	-	28.82	28.90	5.18	29.80
AV	4.696G	36.54	54.00	-17.46	8.37	3	Horizontal	360	1.00	-	28.17	31.19	6.45	29.27
PK	2.194G	42.18	74.00	-31.82	2.03	3	Horizontal	360	1.00	-	40.15	28.06	4.09	30.12
PK	3.184G	46.21	74.00	-27.79	4.28	3	Horizontal	360	1.00	-	41.93	28.90	5.18	29.80
PK	4.696G	46.97	74.00	-27.03	8.37	3	Horizontal	360	1.00	-	38.60	31.19	6.45	29.27