

# FCC Radio Test Report

**FCC ID** : TLZ-CU544  
**Equipment** : IEEE 802.11 b/g/n MAC/baseband/radio and Bluetooth 5.2 IoT Module  
**Brand Name** : AzureWave  
**Model Name** : AW-CU544-E, AW-CU544-P  
**Applicant** : AzureWave Technologies, Inc.  
8F., No.94, Baozhong Rd. , Xindian Dist.,  
New Taipei City , Taiwan 231  
**Manufacturer** : AzureWave Technologies, Inc.  
8F., No.94, Baozhong Rd. , Xindian Dist.,  
New Taipei City , Taiwan 231  
**Standard** : 47 CFR FCC Part 15.247

The product was received on May 11, 2022, and testing was started from May 28, 2022 and completed on Jul. 11, 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.)



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### History of this test report

Report No.	Version	Description	Issued Date
FR251003AL	01	Initial issue of report	Jul. 22, 2022



### 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	-

<b>Declaration of Conformity:</b>
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
<b>Comments and explanations:</b>
None

**Reviewed by: Ben Tseng**  
**Report Producer: Ann Hou**



# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX

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	Gain (dBi)	Remark
1	MAG. LAYERS SCIENTIFIC-TECHNICS CO., LTD	MSA-4008-25G C1-A	PIFA	I-Pex	2.98	SKU 1
2	Azurewave	AW-CU544	PCB	N/A	3.12	SKU 2

Note 1: The EUT has two antennas.

Note 2: EUT can match with above antennas for using. Higher gain in each type of antenna 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 or Ant. 2 could transmit/receive.

**For BT function:**

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

Ant. 1 or Ant. 2 could transmit/receive.



1.1.3 EUT Information

Operational Condition	
EUT Power Type	From 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)	0.181	7.42	113.125u	10k

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

1.1.5 Table for Multiple Listing

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

Model Name	Description
AW-CU544-E, AW-CU544-P	All the models are identical, the difference model for served as marketing strategy.

Note: From the above models, model: AW-CU544-E was selected as representative model for the test and its data was recorded in this report.

## 1.2 Testing Applied Standards

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

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

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

- ◆ KDB 558074 D01 v05r02
- ◆ KDB 414788 D01 v01r01

## 1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
<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	Yuna	22.4~23.6°C / 58~62%	18/Jun/2022
RF Conducted	TH01-HY	Johnny	23.1~25.7°C / 54~63%	08/Jun/2022~11/Jul/2022
Radiated	03CH02-HY	Lego	21.5~22.3°C / 58~61%	28/May/2022~10/Jun/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	ActivePerl-5.8.4.810-MSWin32
-----------------------	------------------------------




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	
<b>Tests Item</b>	AC power-line conducted emissions
<b>Condition</b>	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
<b>Operating Mode</b>	CTX
1	USB mode; PCB Ant.
2	USB mode; PIFA Ant.

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

The Worst Case Mode for Following Conformance Tests			
<b>Tests Item</b>	Emissions in Restricted Frequency Bands		
<b>Test Condition</b>	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.		
<b>Operating Mode &lt; 1GHz</b>	CTX		
1	USB mode; PCB Ant.		
2	USB mode; PIFA Ant.		
<b>Operating Mode &gt; 1GHz</b>	CTX		
<b>Orthogonal Planes of EUT</b>	<b>X Plane</b>	<b>Y Plane</b>	<b>Z Plane</b>
			
<b>Worst Planes of EUT</b>			V



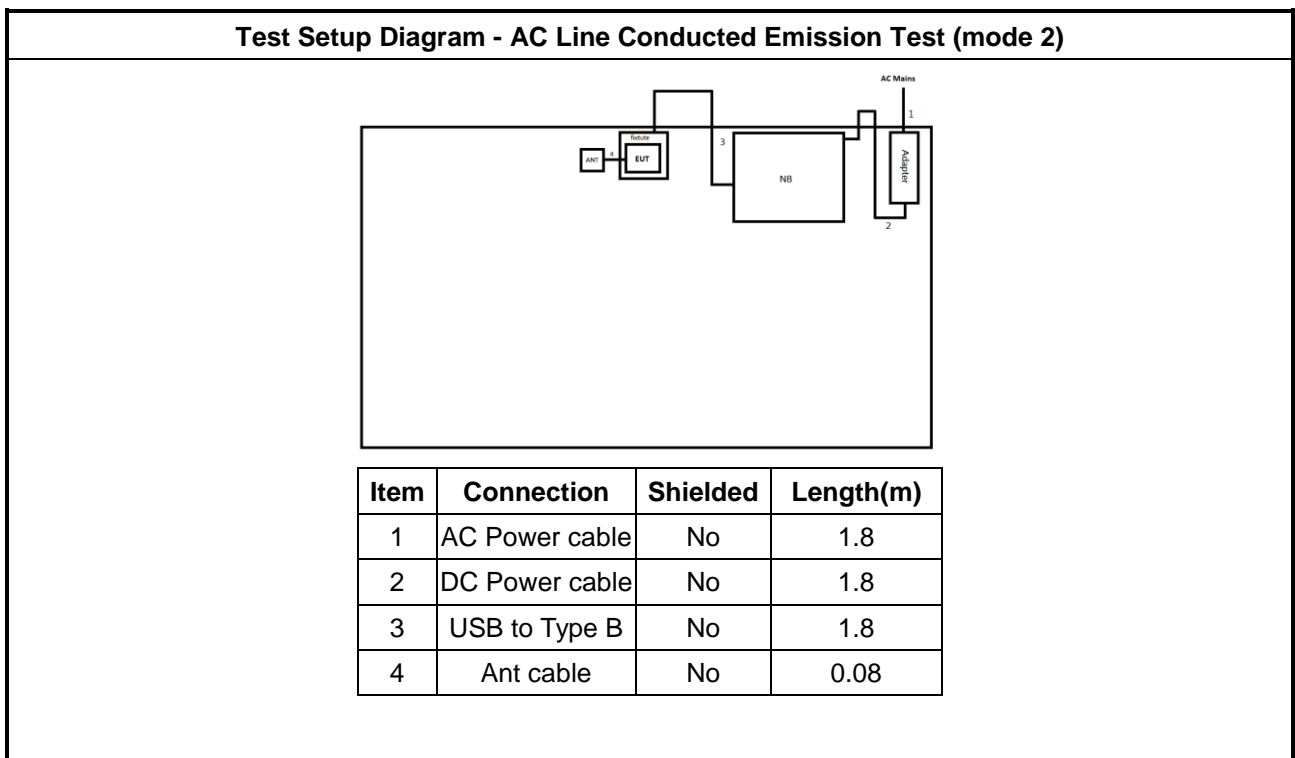
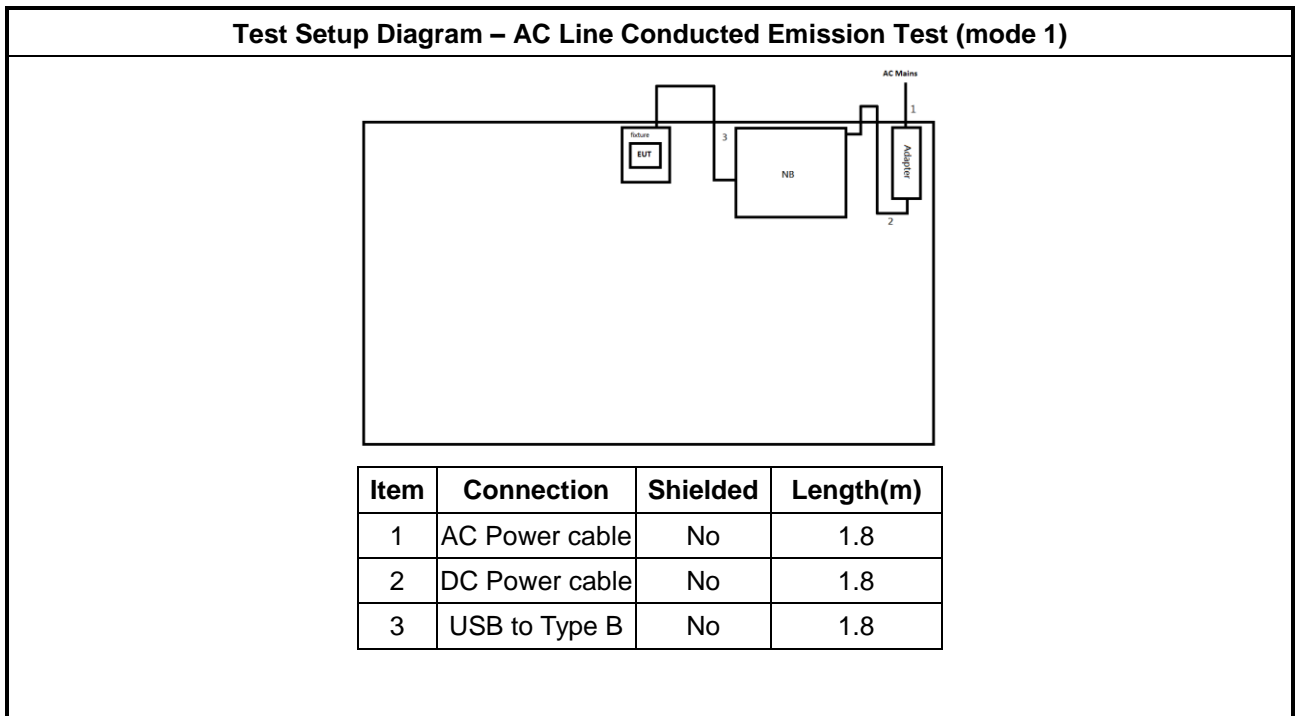
### 2.3 Support Equipment

Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	HP	HSTNN-142C	-	-
2	Adapter for NB	HP	HSTNN-LA40	-	-
3	USB to Type B	-	-	-	-
4	Fixture	AzureWave	2427	-	Provided by Customer

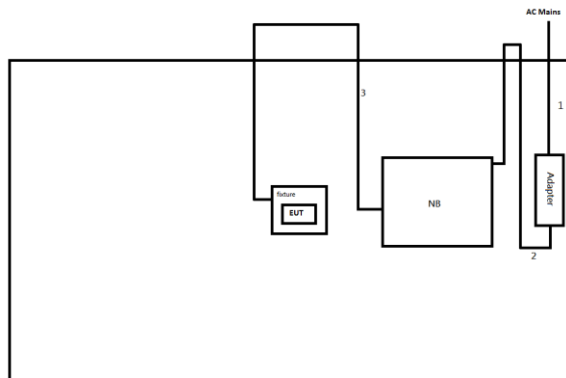
Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	HP	HSTNN-142C	-	-
2	Adapter for NB	HP	HSTNN-CA40	-	-
3	Fixture	AzureWave	2427	-	Provided by Customer

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	HP	HSTNN-142C	-	-
2	Adapter for NB	HP	HSTNN-LA40	-	-
3	USB to Type B	-	-	-	-
4	Fixture	AzureWave	2427	-	Provided by Customer

## 2.4 Test Setup Diagram

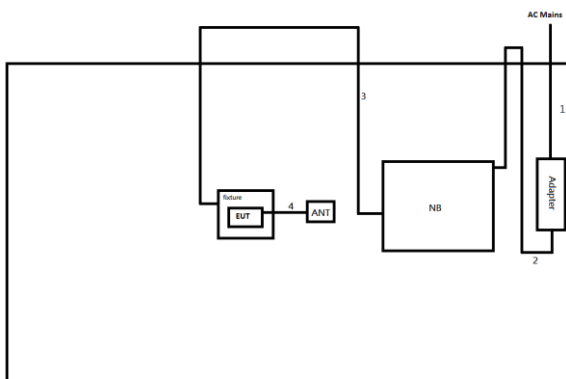


**Test Setup Diagram - Radiated Test (mode 1)**



Item	Connection	Shielded	Length(m)
1	AC Power cable	No	1.8
2	DC Power cable	No	1.8
3	USB to Type B	No	1.8

**Test Setup Diagram - Radiated Test (mode 2)**



Item	Connection	Shielded	Length(m)
1	AC Power cable	No	1.8
2	DC Power cable	No	1.8
3	USB to Type B	No	1.8
4	Ant cable	No	0.08

### 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

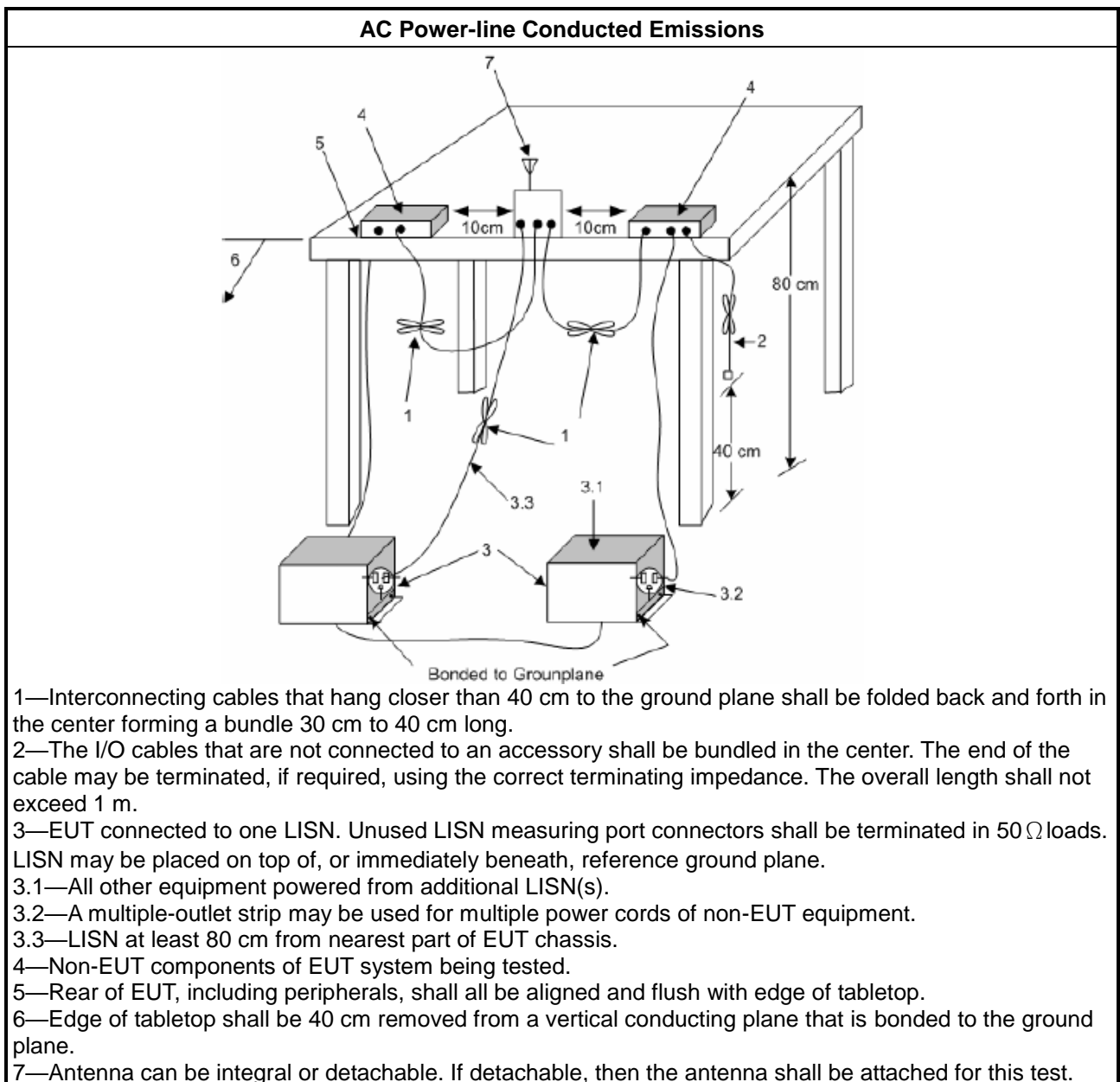
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

##### 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.

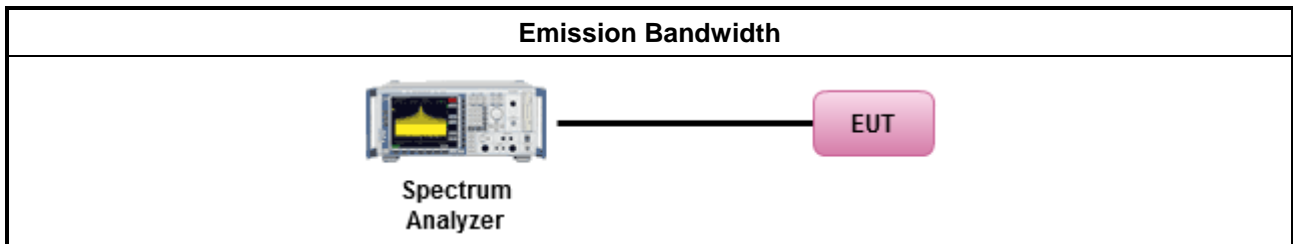
#### 3.2.2 Measuring Instruments

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:
<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"> <li>▪ If <math>G_{TX} \leq 6</math> dBi, then <math>P_{Out} \leq 30</math> dBm (1 W)</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Point-to-multipoint systems (P2M): If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Point-to-point systems (P2P): If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Smart antenna system (SAS):</li> </ul>
	<ul style="list-style-type: none"> <li>- Single beam: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>- Overlap beam: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>- Aggregate power on all beams: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3 + 8</math> dB dBm</li> </ul>
e.i.r.p. Power Limit:	
	<ul style="list-style-type: none"> <li>▪ 2400-2483.5 MHz Band</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Point-to-multipoint systems (P2M): <math>P_{eirp} \leq 36</math> dBm (4 W)</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Point-to-point systems (P2P): <math>P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Smart antenna system (SAS)</li> </ul>
	<ul style="list-style-type: none"> <li>- Single beam: <math>P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>- Overlap beam: <math>P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>- Aggregate power on all beams: <math>P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])</math> dBm</li> </ul>
<p><math>P_{Out}</math> = maximum peak conducted output power or maximum conducted output power in dBm,  <math>G_{TX}</math> = the maximum transmitting antenna directional gain in dBi.</p>	

#### 3.3.2 Measuring Instruments

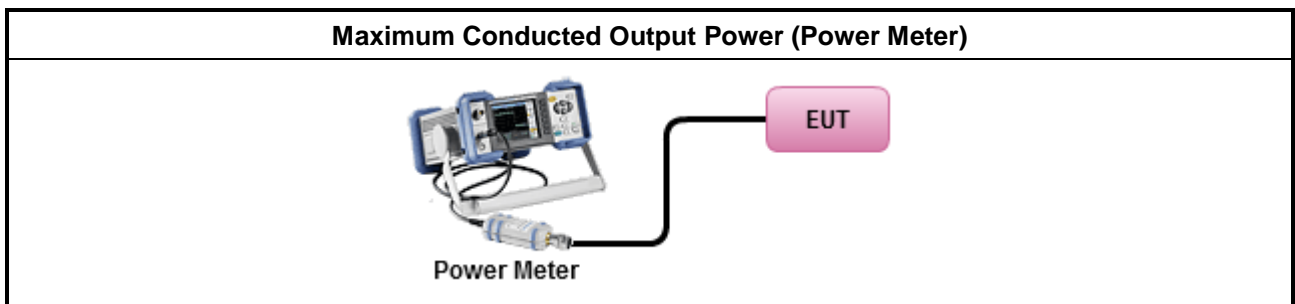
Refer a test equipment and calibration data table in this test report.



### 3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> <li>▪ Maximum Peak Conducted Output Power</li> </ul>	
<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"> <li>▪ Maximum Average Conducted Output Power</li> </ul>	
<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"> <li>▪ For conducted measurement.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ If multiple transmit chains, EIRP calculation could be following as methods:  <math>P_{total} = P_1 + P_2 + \dots + P_n</math>                      (calculated in linear unit [mW] and transfer to log unit [dBm])  <math>EIRP_{total} = P_{total} + DG</math> </li> </ul>	

### 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"> <li>▪ Power Spectral Density (PSD) ≤ 8 dBm/3kHz</li> </ul>

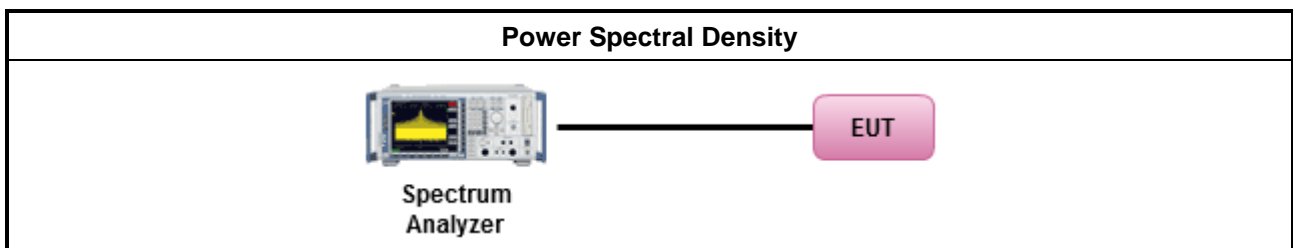
#### 3.4.2 Measuring Instruments

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"> <li>▪ 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).</li> </ul>
<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"> <li>▪ For conducted measurement.</li> </ul>
<ul style="list-style-type: none"> <li>▪ If The EUT supports multiple transmit chains using options given below:</li> </ul>
<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>

#### 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.

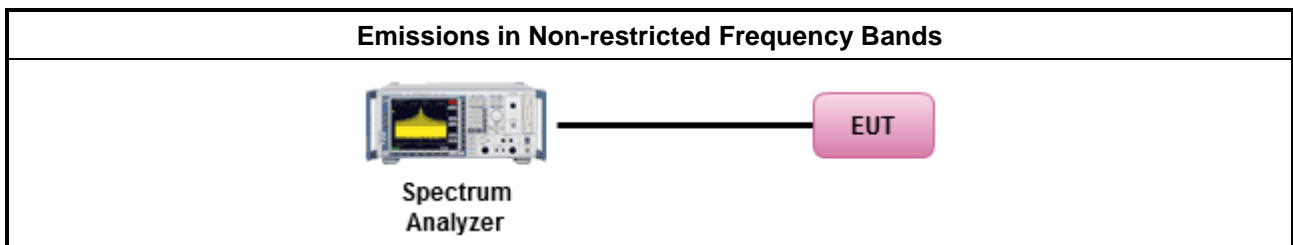
#### 3.5.2 Measuring Instruments

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"> <li>Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency bands.</li> </ul>

#### 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

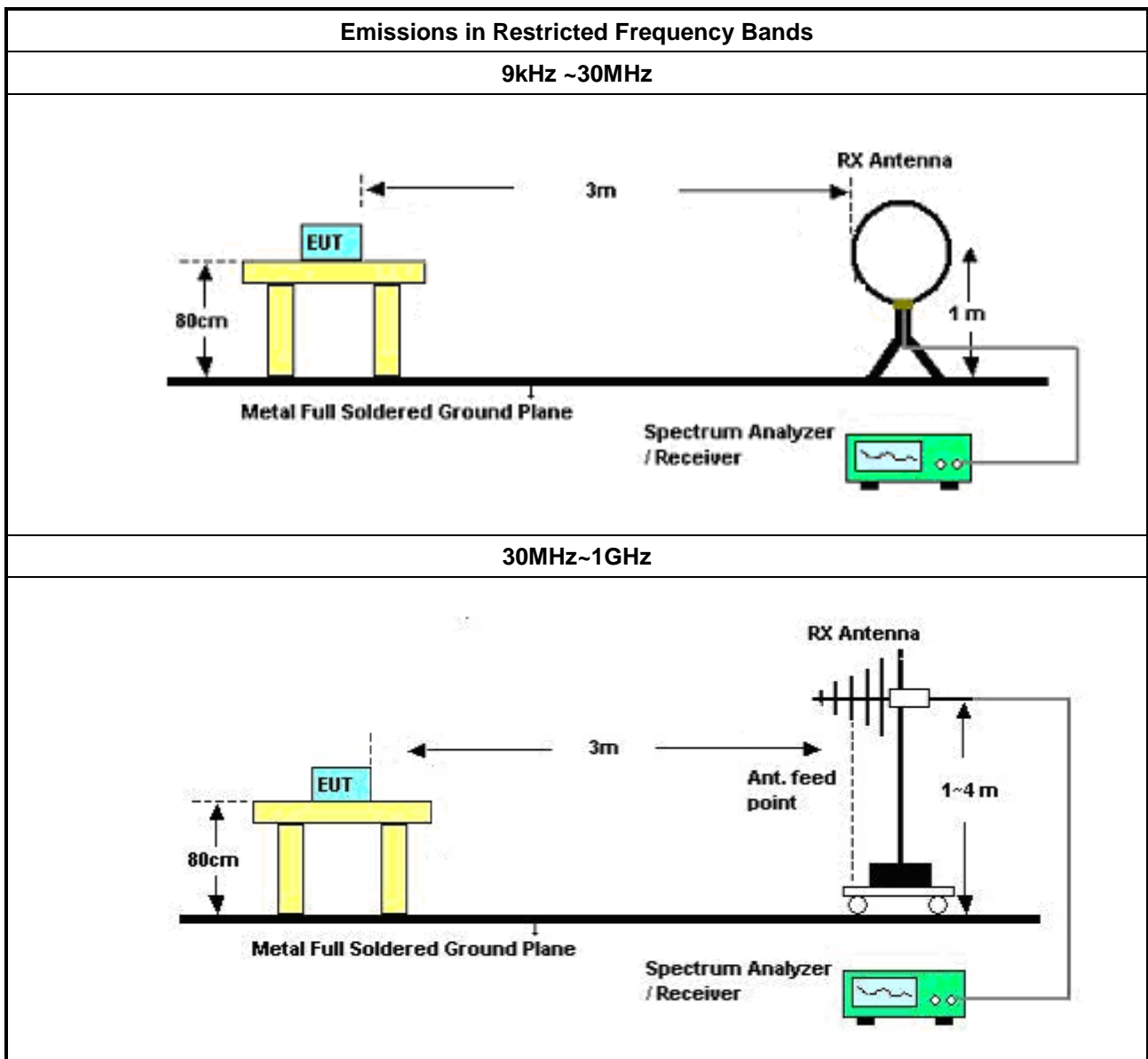
<b>Test Method</b>	
	<ul style="list-style-type: none"> <li>▪ The average emission levels shall be measured in [duty cycle <math>\geq</math> 98 or duty factor].</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest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

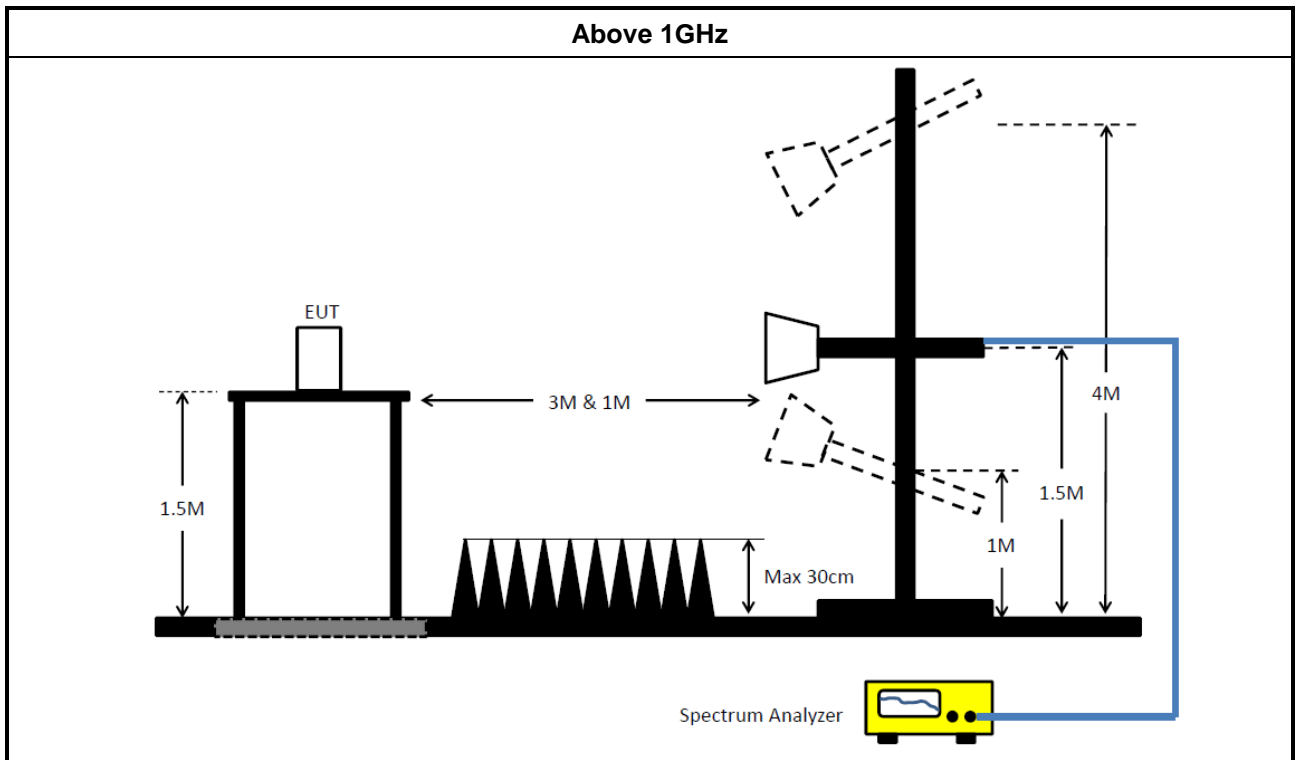
### 3.6.4 Measurement Results Calculation

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	ESR	102051	9kHz ~ 3.6GHz	13/May/2022	12/May/2023
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	V5.10.14	-	NCR	NCR

NCR: No Calibration Required

### Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	01/Apr/2022	31/Mar/2023
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	21/Oct/2021	20/Oct/2022
Pulse Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	21/Feb/2022	20/Feb/2023
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	21/Feb/2022	20/Feb/2023
SENSE-15247_FS	Sporton	V5.10.7.16	N/A	N/A	N/A	N/A

### Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	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	FSP40	100593	9kHz~40GHz	08/Apr/2022	07/Apr/2023
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
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02268	1GHz ~18GHz	14/Sep/2021	13/Sep/2022
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz~1GHz	04/Sep/2021	03/Sep/2022
RF Cable	MVE	400LL	MVE-1-0802	9kHz~30MHz	04/May/2022	03/May/2023
RF Cable	MVE	400LL	MVE-1-0802	30MHz~1GHz	04/May/2022	03/May/2023
RF Cable-R03m	HUBER+SUHNE R	SUCOFLEX104	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 Premplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz~40GHz	08/Mar/2022	07/Mar/2023
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	18/Mar/2022	17/Mar/2023
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	13/May/2022	12/May/2023
SENSE-15247_FS	Sporton	V5.10.7.14	N/A	N/A	N/A	N/A





**Summary**

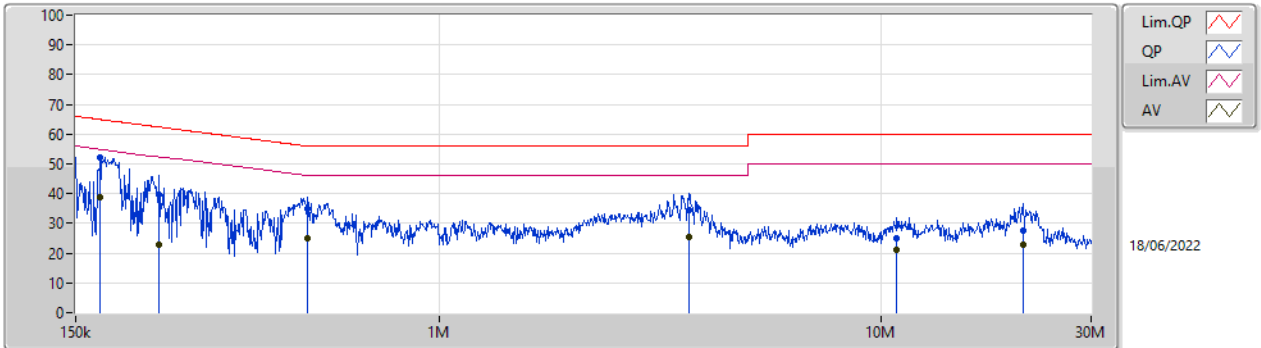
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	167.071k	52.32	65.10	-12.78	Neutral



Result

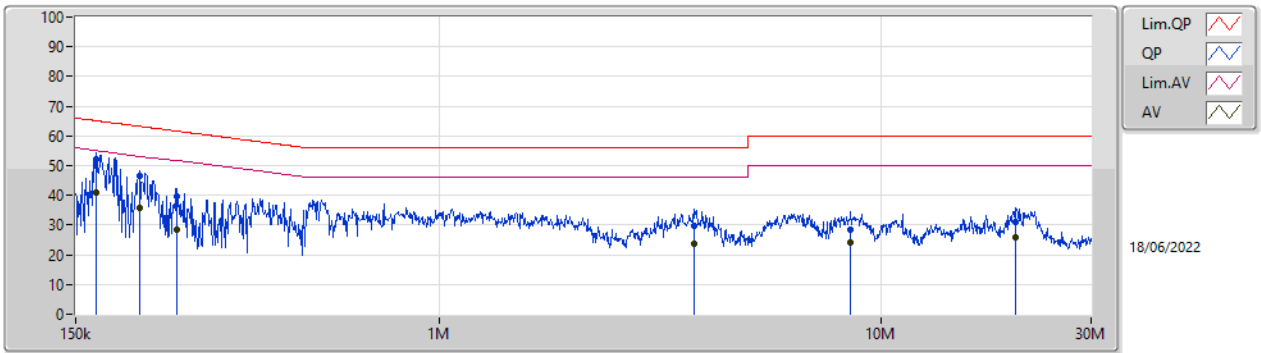
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	170.439k	52.11	64.93	-12.82	Line	-
Mode 1	Pass	AV	170.439k	38.92	54.93	-16.01	Line	-
Mode 1	Pass	QP	231.775k	39.64	62.39	-22.75	Line	-
Mode 1	Pass	AV	231.775k	22.72	52.39	-29.67	Line	-
Mode 1	Pass	QP	502.813k	34.91	56.00	-21.09	Line	-
Mode 1	Pass	AV	502.813k	24.89	46.00	-21.11	Line	-
Mode 1	Pass	QP	3.686M	34.47	56.00	-21.53	Line	-
Mode 1	Pass	AV	3.686M	25.46	46.00	-20.54	Line	-
Mode 1	Pass	QP	10.873M	25.14	60.00	-34.86	Line	-
Mode 1	Pass	AV	10.873M	21.18	50.00	-28.82	Line	-
Mode 1	Pass	QP	21.094M	27.72	60.00	-32.28	Line	-
Mode 1	Pass	AV	21.094M	22.89	50.00	-27.11	Line	-
Mode 1	Pass	QP	167.071k	52.32	65.10	-12.78	Neutral	-
Mode 1	Pass	AV	167.071k	40.75	55.10	-14.35	Neutral	-
Mode 1	Pass	QP	209.76k	46.39	63.21	-16.82	Neutral	-
Mode 1	Pass	AV	209.76k	35.72	53.21	-17.49	Neutral	-
Mode 1	Pass	QP	254.063k	39.71	61.62	-21.91	Neutral	-
Mode 1	Pass	AV	254.063k	28.55	51.62	-23.07	Neutral	-
Mode 1	Pass	QP	3.775M	29.60	56.00	-26.40	Neutral	-
Mode 1	Pass	AV	3.775M	23.83	46.00	-22.17	Neutral	-
Mode 1	Pass	QP	8.557M	28.57	60.00	-31.43	Neutral	-
Mode 1	Pass	AV	8.557M	24.25	50.00	-25.75	Neutral	-
Mode 1	Pass	QP	20.269M	30.82	60.00	-29.18	Neutral	-
Mode 1	Pass	AV	20.269M	25.85	50.00	-24.15	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	170.439k	52.11	64.93	-12.82	19.63	Line	-	32.48	9.69	0.03	9.91
AV	170.439k	38.92	54.93	-16.01	19.63	Line	-	19.29	9.69	0.03	9.91
QP	231.775k	39.64	62.39	-22.75	19.63	Line	-	20.01	9.69	0.03	9.91
AV	231.775k	22.72	52.39	-29.67	19.63	Line	-	3.09	9.69	0.03	9.91
QP	502.813k	34.91	56.00	-21.09	19.63	Line	-	15.28	9.68	0.04	9.91
AV	502.813k	24.89	46.00	-21.11	19.63	Line	-	5.26	9.68	0.04	9.91
QP	3.686M	34.47	56.00	-21.53	19.75	Line	-	14.72	9.71	0.12	9.92
AV	3.686M	25.46	46.00	-20.54	19.75	Line	-	5.71	9.71	0.12	9.92
QP	10.873M	25.14	60.00	-34.86	19.93	Line	-	5.21	9.81	0.19	9.93
AV	10.873M	21.18	50.00	-28.82	19.93	Line	-	1.25	9.81	0.19	9.93
QP	21.094M	27.72	60.00	-32.28	20.00	Line	-	7.72	9.79	0.28	9.93
AV	21.094M	22.89	50.00	-27.11	20.00	Line	-	2.89	9.79	0.28	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	167.071k	52.32	65.10	-12.78	19.67	Neutral	-	32.65	9.73	0.03	9.91
AV	167.071k	40.75	55.10	-14.35	19.67	Neutral	-	21.08	9.73	0.03	9.91
QP	209.76k	46.39	63.21	-16.82	19.66	Neutral	-	26.73	9.72	0.03	9.91
AV	209.76k	35.72	53.21	-17.49	19.66	Neutral	-	16.06	9.72	0.03	9.91
QP	254.063k	39.71	61.62	-21.91	19.66	Neutral	-	20.05	9.72	0.03	9.91
AV	254.063k	28.55	51.62	-23.07	19.66	Neutral	-	8.89	9.72	0.03	9.91
QP	3.775M	29.60	56.00	-26.40	19.81	Neutral	-	9.79	9.76	0.13	9.92
AV	3.775M	23.83	46.00	-22.17	19.81	Neutral	-	4.02	9.76	0.13	9.92
QP	8.557M	28.57	60.00	-31.43	19.97	Neutral	-	8.60	9.87	0.17	9.93
AV	8.557M	24.25	50.00	-25.75	19.97	Neutral	-	4.28	9.87	0.17	9.93
QP	20.269M	30.82	60.00	-29.18	20.20	Neutral	-	10.62	10.00	0.27	9.93
AV	20.269M	25.85	50.00	-24.15	20.20	Neutral	-	5.65	10.00	0.27	9.93



**Summary**

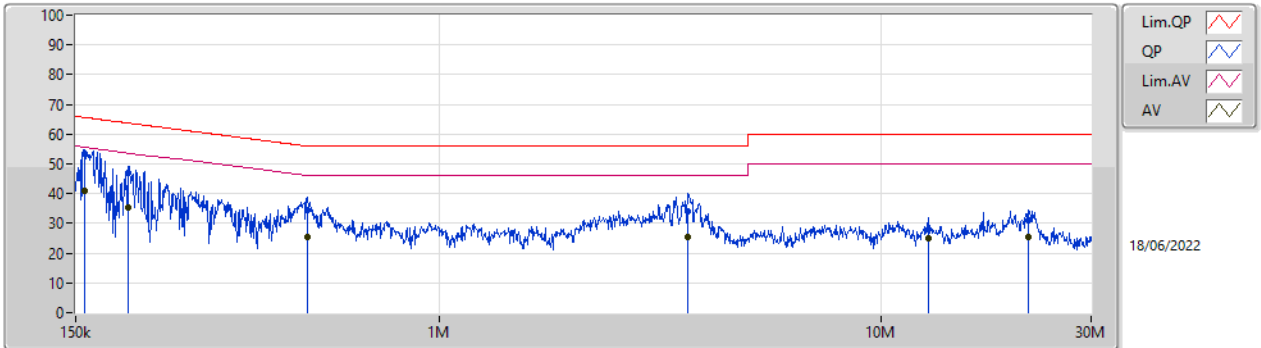
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 2	Pass	QP	156.734k	53.25	65.64	-12.39	Line



Result

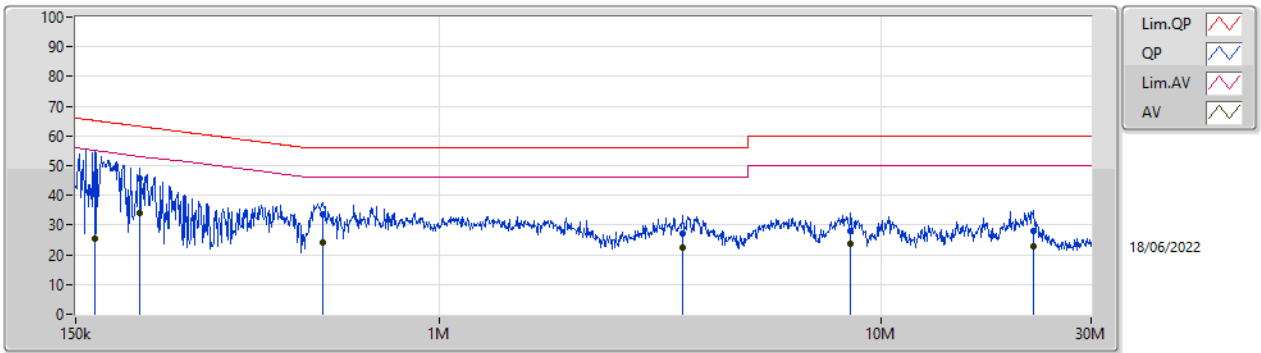
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 2	Pass	QP	156.734k	53.25	65.64	-12.39	Line	-
Mode 2	Pass	AV	156.734k	41.09	55.64	-14.55	Line	-
Mode 2	Pass	QP	196.781k	46.80	63.74	-16.94	Line	-
Mode 2	Pass	AV	196.781k	35.25	53.74	-18.49	Line	-
Mode 2	Pass	QP	502.813k	34.44	56.00	-21.56	Line	-
Mode 2	Pass	AV	502.813k	25.47	46.00	-20.53	Line	-
Mode 2	Pass	QP	3.656M	34.03	56.00	-21.97	Line	-
Mode 2	Pass	AV	3.656M	25.25	46.00	-20.75	Line	-
Mode 2	Pass	QP	12.807M	27.98	60.00	-32.02	Line	-
Mode 2	Pass	AV	12.807M	24.79	50.00	-25.21	Line	-
Mode 2	Pass	QP	21.692M	30.86	60.00	-29.14	Line	-
Mode 2	Pass	AV	21.692M	25.52	50.00	-24.48	Line	-
Mode 2	Pass	QP	165.743k	45.35	65.18	-19.83	Neutral	-
Mode 2	Pass	AV	165.743k	25.24	55.18	-29.94	Neutral	-
Mode 2	Pass	QP	209.76k	45.71	63.21	-17.50	Neutral	-
Mode 2	Pass	AV	209.76k	34.09	53.21	-19.12	Neutral	-
Mode 2	Pass	QP	544.604k	33.83	56.00	-22.17	Neutral	-
Mode 2	Pass	AV	544.604k	23.96	46.00	-22.04	Neutral	-
Mode 2	Pass	QP	3.57M	27.13	56.00	-28.87	Neutral	-
Mode 2	Pass	AV	3.57M	22.26	46.00	-23.74	Neutral	-
Mode 2	Pass	QP	8.557M	27.90	60.00	-32.10	Neutral	-
Mode 2	Pass	AV	8.557M	23.65	50.00	-26.35	Neutral	-
Mode 2	Pass	QP	22.218M	27.98	60.00	-32.02	Neutral	-
Mode 2	Pass	AV	22.218M	23.02	50.00	-26.98	Neutral	-

### 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	156.734k	53.25	65.64	-12.39	19.63	Line	-	33.62	9.69	0.03	9.91
AV	156.734k	41.09	55.64	-14.55	19.63	Line	-	21.46	9.69	0.03	9.91
QP	196.781k	46.80	63.74	-16.94	19.63	Line	-	27.17	9.69	0.03	9.91
AV	196.781k	35.25	53.74	-18.49	19.63	Line	-	15.62	9.69	0.03	9.91
QP	502.813k	34.44	56.00	-21.56	19.63	Line	-	14.81	9.68	0.04	9.91
AV	502.813k	25.47	46.00	-20.53	19.63	Line	-	5.84	9.68	0.04	9.91
QP	3.656M	34.03	56.00	-21.97	19.75	Line	-	14.28	9.71	0.12	9.92
AV	3.656M	25.25	46.00	-20.75	19.75	Line	-	5.50	9.71	0.12	9.92
QP	12.807M	27.98	60.00	-32.02	19.95	Line	-	8.03	9.80	0.22	9.93
AV	12.807M	24.79	50.00	-25.21	19.95	Line	-	4.84	9.80	0.22	9.93
QP	21.692M	30.86	60.00	-29.14	20.00	Line	-	10.86	9.79	0.28	9.93
AV	21.692M	25.52	50.00	-24.48	20.00	Line	-	5.52	9.79	0.28	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	165.743k	45.35	65.18	-19.83	19.67	Neutral	-	25.68	9.73	0.03	9.91
AV	165.743k	25.24	55.18	-29.94	19.67	Neutral	-	5.57	9.73	0.03	9.91
QP	209.76k	45.71	63.21	-17.50	19.66	Neutral	-	26.05	9.72	0.03	9.91
AV	209.76k	34.09	53.21	-19.12	19.66	Neutral	-	14.43	9.72	0.03	9.91
QP	544.604k	33.83	56.00	-22.17	19.67	Neutral	-	14.16	9.72	0.04	9.91
AV	544.604k	23.96	46.00	-22.04	19.67	Neutral	-	4.29	9.72	0.04	9.91
QP	3.57M	27.13	56.00	-28.87	19.80	Neutral	-	7.33	9.76	0.12	9.92
AV	3.57M	22.26	46.00	-23.74	19.80	Neutral	-	2.46	9.76	0.12	9.92
QP	8.557M	27.90	60.00	-32.10	19.97	Neutral	-	7.93	9.87	0.17	9.93
AV	8.557M	23.65	50.00	-26.35	19.97	Neutral	-	3.68	9.87	0.17	9.93
QP	22.218M	27.98	60.00	-32.02	20.25	Neutral	-	7.73	10.03	0.29	9.93
AV	22.218M	23.02	50.00	-26.98	20.25	Neutral	-	2.77	10.03	0.29	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)	506.25k	1.052M	1M05F1D	501.25k	1.048M

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

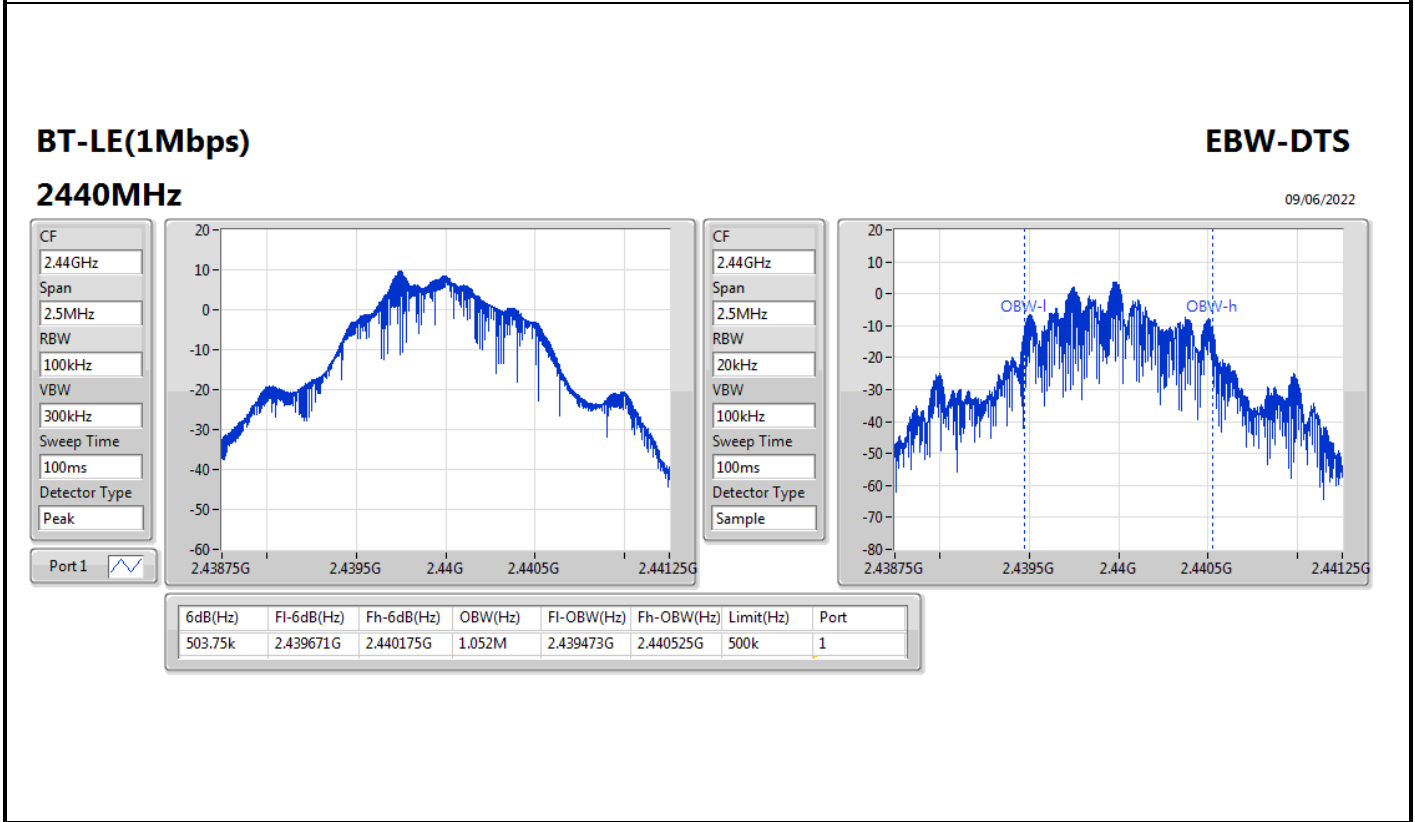
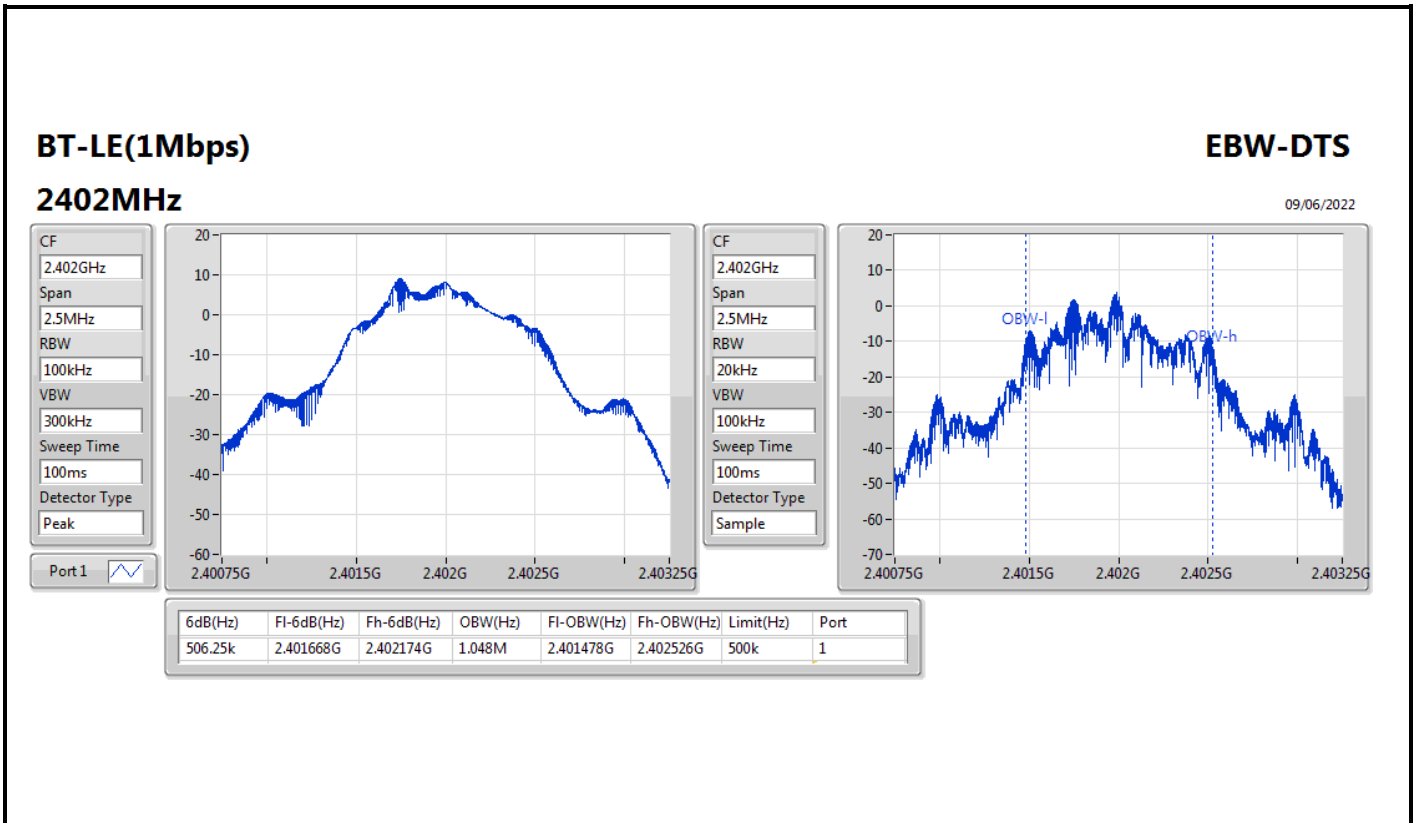


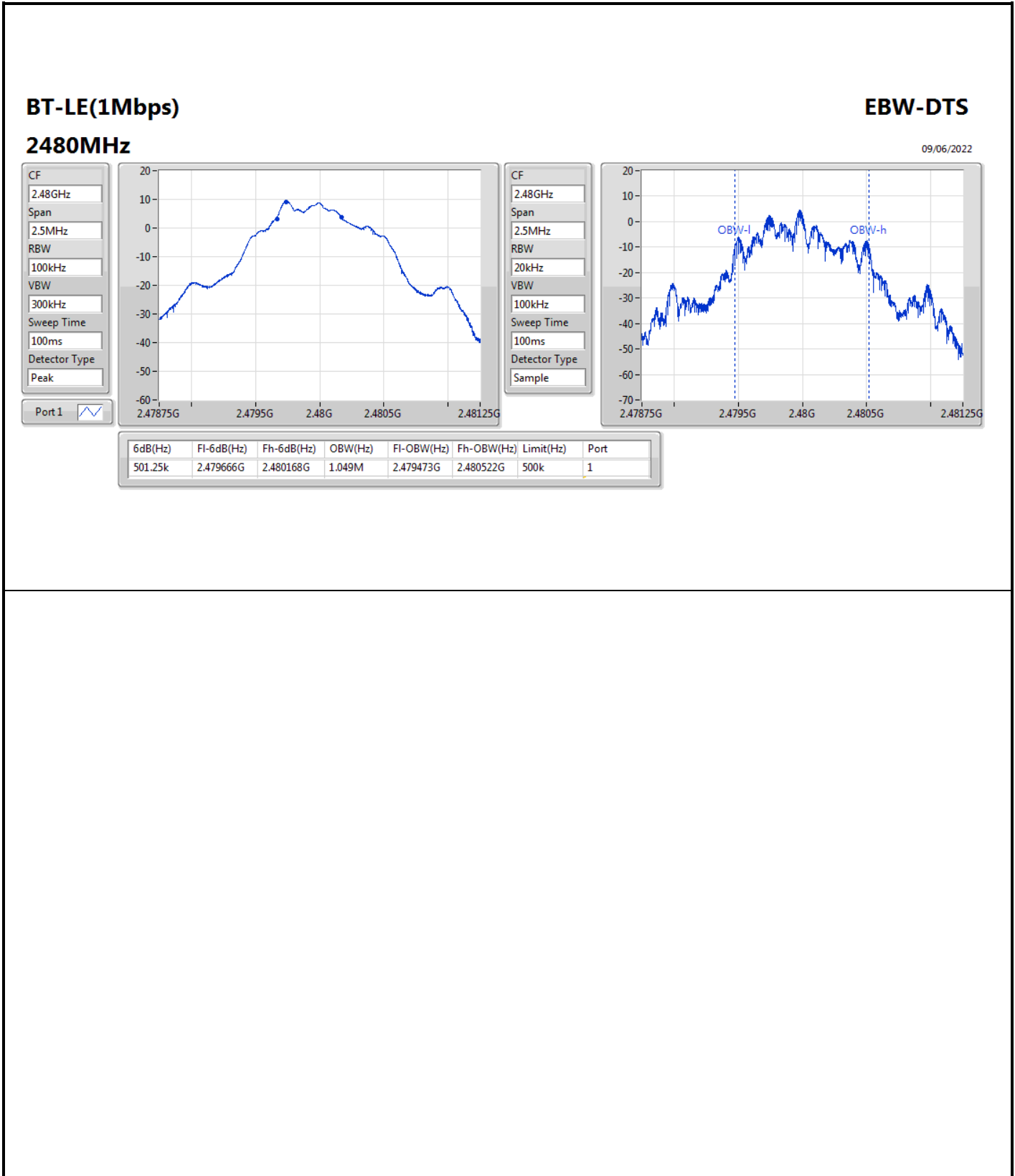
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	506.25k	1.048M
2440MHz	Pass	500k	503.75k	1.052M
2480MHz	Pass	500k	501.25k	1.049M

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)	8.48	0.00705



**Result**

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	3.12	8.04	30.00
2440MHz	Pass	3.12	8.47	30.00
2480MHz	Pass	3.12	8.48	30.00

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



**Summary**

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-7.72

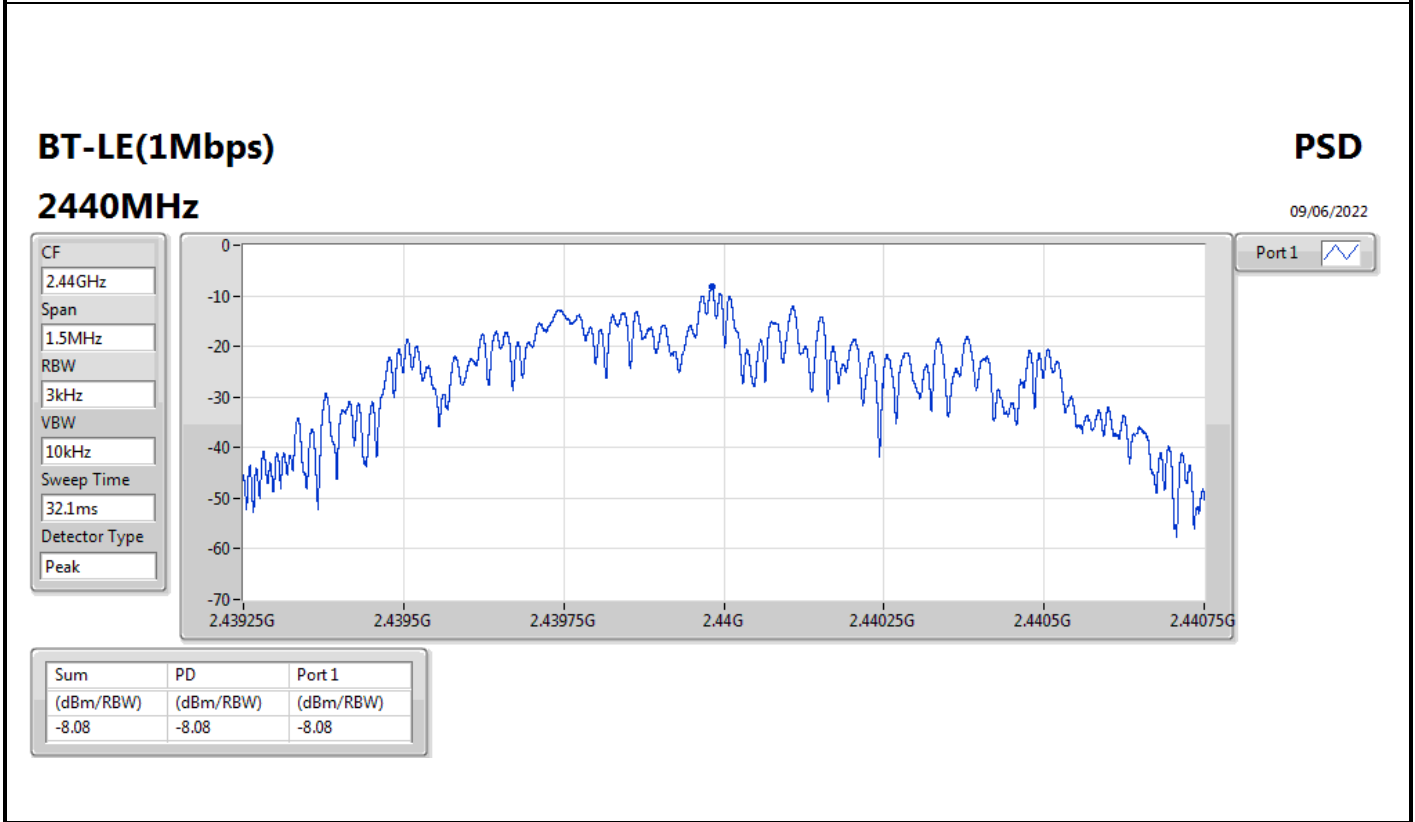
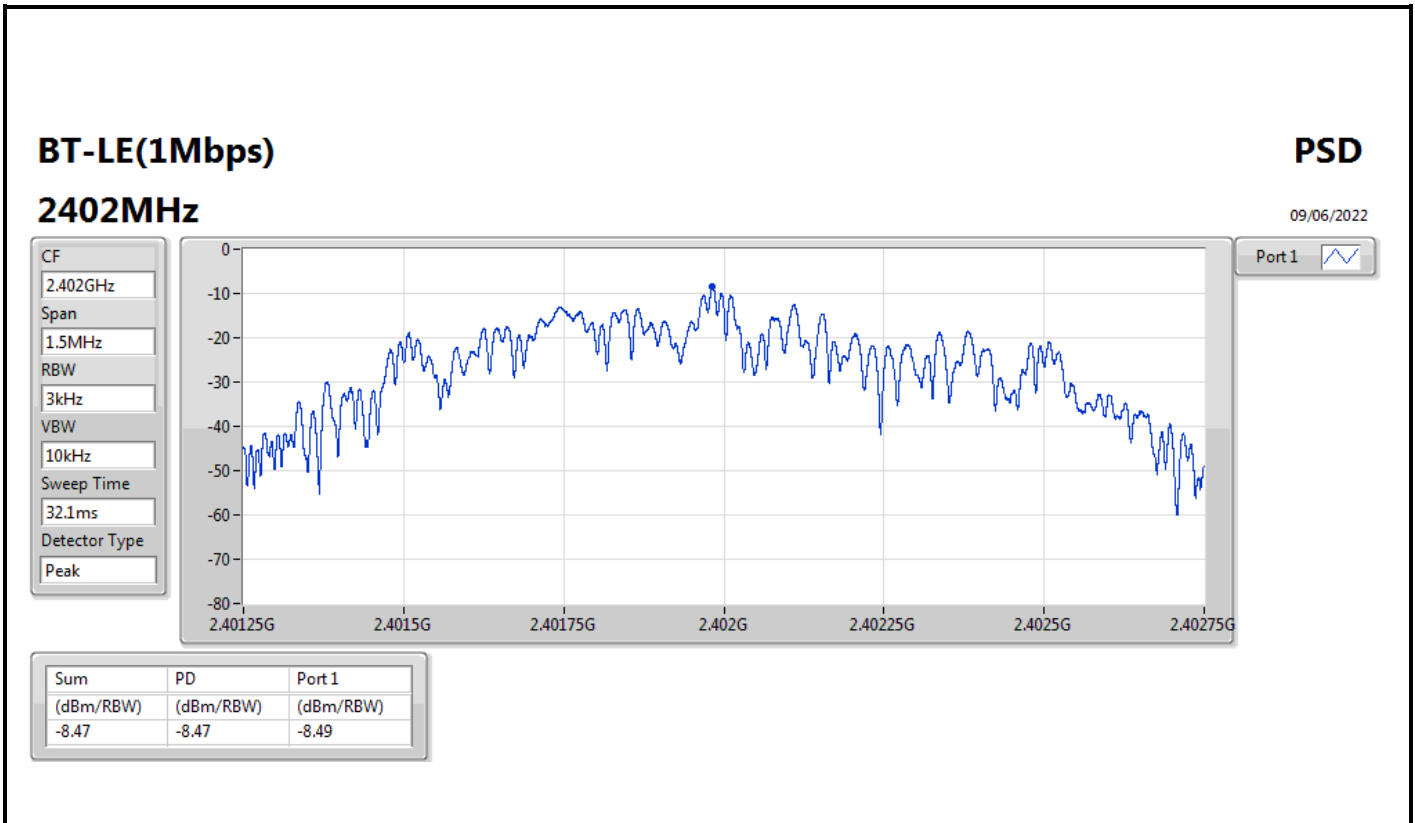
RBW = 3kHz;



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	3.12	-8.47	8.00
2440MHz	Pass	3.12	-8.08	8.00
2480MHz	Pass	3.12	-7.72	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**

**2480MHz**

09/06/2022

CF  
2.48GHz

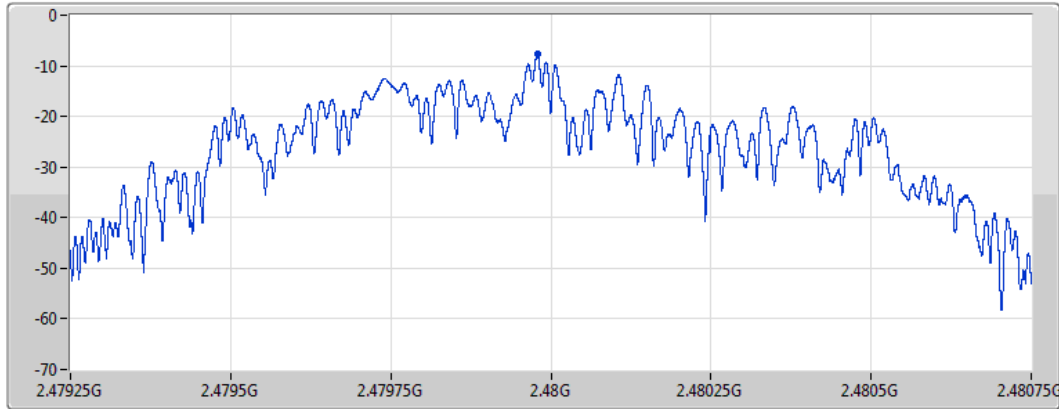
Span  
1.5MHz

RBW  
3kHz

VBW  
10kHz

Sweep Time  
32.1ms

Detector Type  
Peak



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.72	-7.72	-7.72





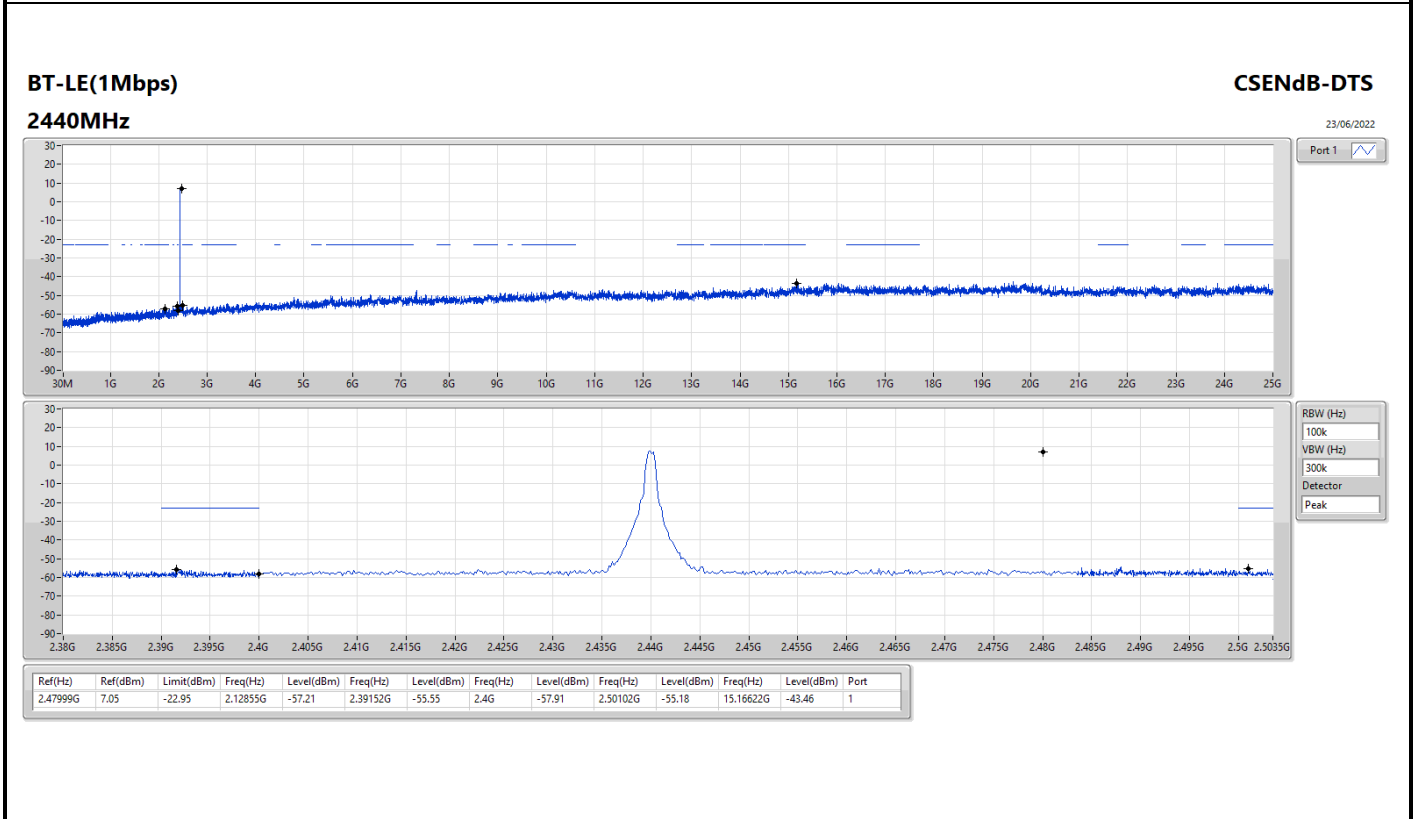
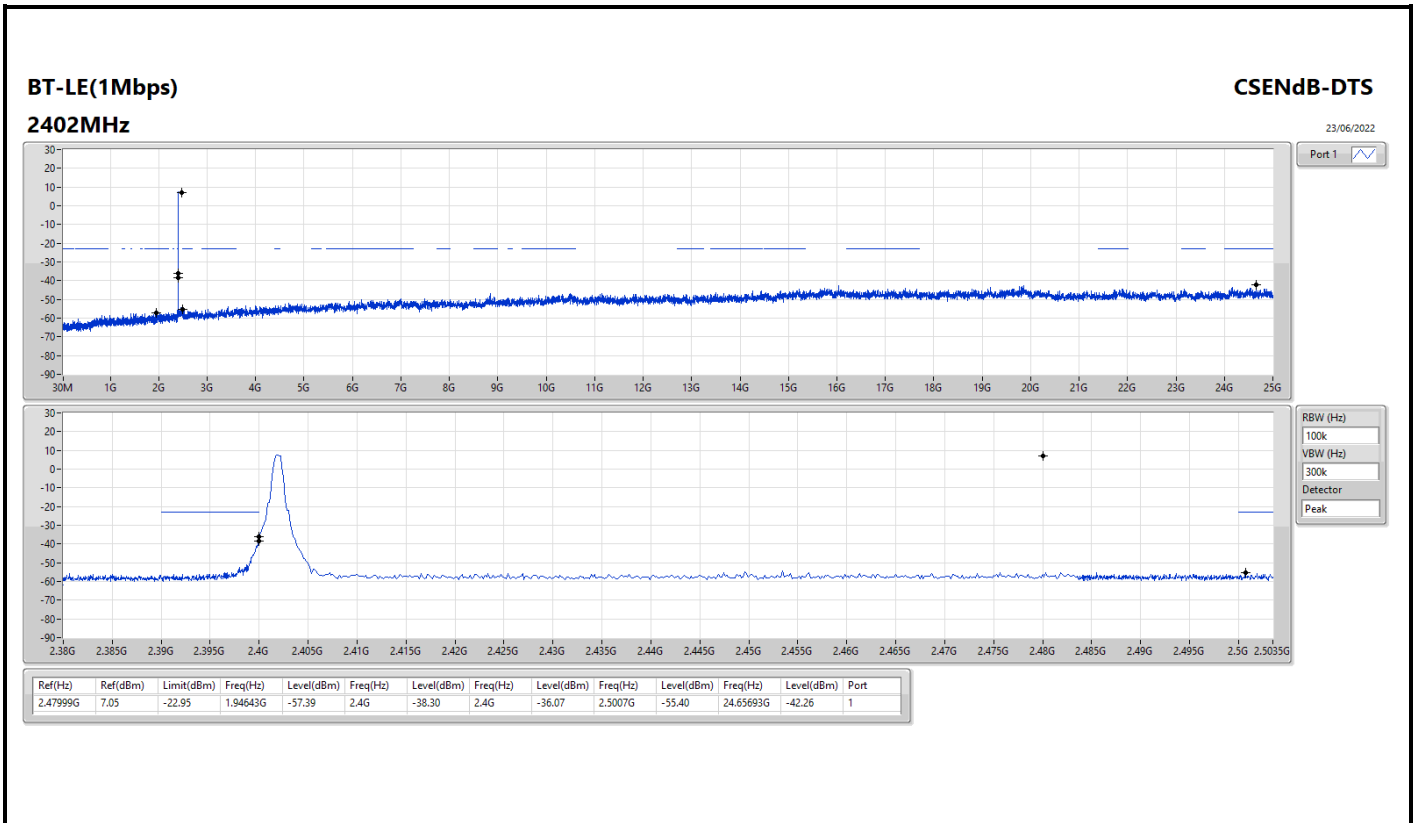
Summary

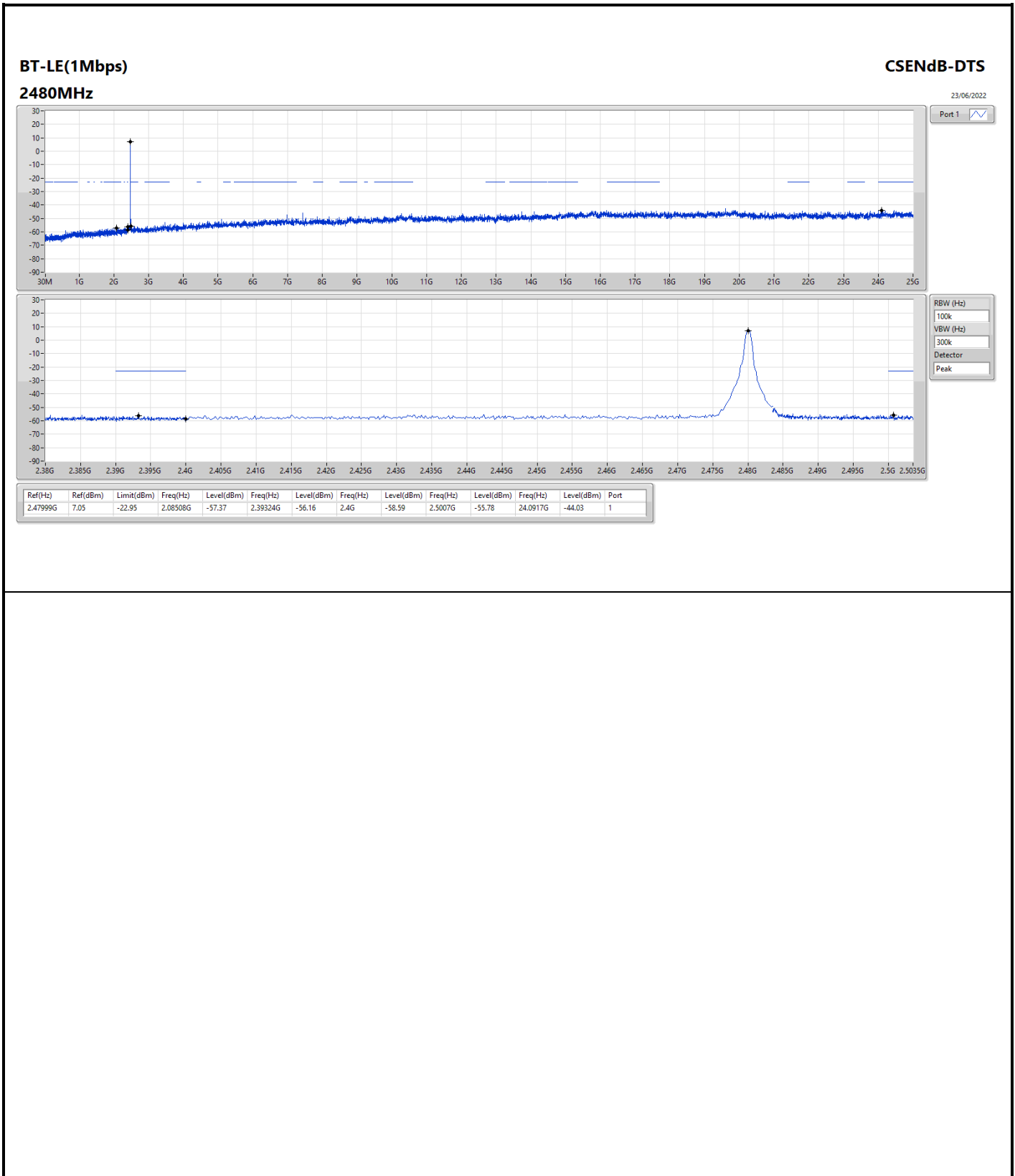
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.47999G	7.05	-22.95	1.94643G	-57.39	2.4G	-38.30	2.4G	-36.07	2.5007G	-55.40	24.65693G	-42.26	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	7.05	-22.95	1.94643G	-57.39	2.4G	-38.30	2.4G	-36.07	2.5007G	-55.40	24.65693G	-42.26	1
2440MHz	Pass	2.47999G	7.05	-22.95	2.12855G	-57.21	2.39152G	-55.55	2.4G	-57.91	2.50102G	-55.18	15.16622G	-43.46	1
2480MHz	Pass	2.47999G	7.05	-22.95	2.08508G	-57.37	2.39324G	-56.16	2.4G	-58.59	2.5007G	-55.78	24.0917G	-44.03	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	159.98M	36.72	43.50	-6.78	3	Vertical	0	1.00	-

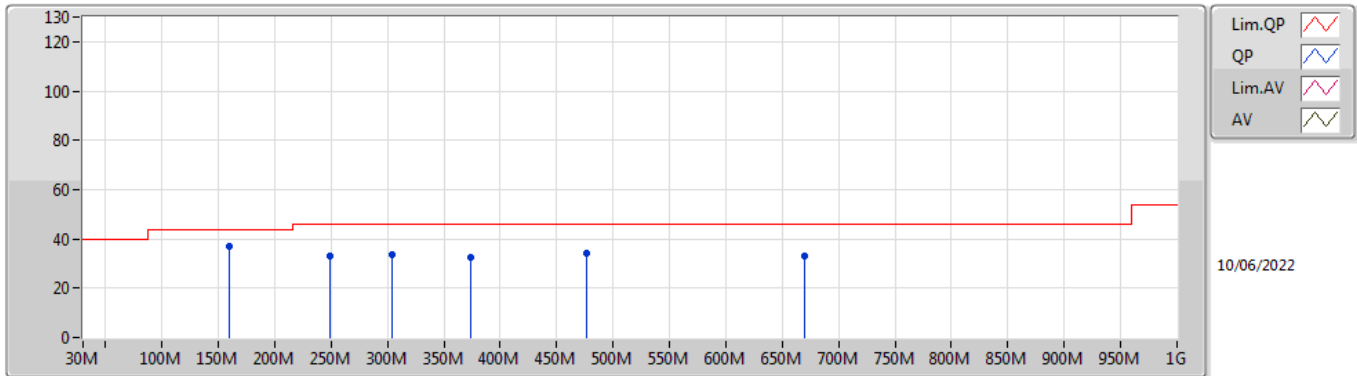


Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	159.98M	36.72	43.50	-6.78	3	Vertical	0	1.00	-
2440MHz	Pass	PK	249.22M	32.99	46.00	-13.01	3	Vertical	0	1.00	-
2440MHz	Pass	PK	303.54M	33.71	46.00	-12.29	3	Vertical	0	1.00	-
2440MHz	Pass	PK	373.38M	32.27	46.00	-13.73	3	Vertical	0	1.00	-
2440MHz	Pass	PK	476.2M	33.92	46.00	-12.08	3	Vertical	0	1.00	-
2440MHz	Pass	PK	670.2M	32.84	46.00	-13.16	3	Vertical	0	1.00	-
2440MHz	Pass	PK	167.74M	35.93	43.50	-7.57	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	249.22M	37.13	46.00	-8.87	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	334.58M	34.78	46.00	-11.22	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	470.38M	33.65	46.00	-12.35	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	580.96M	31.51	46.00	-14.49	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	703.18M	30.46	46.00	-15.54	3	Horizontal	360	1.00	-

**BT-LE(1Mbps)**

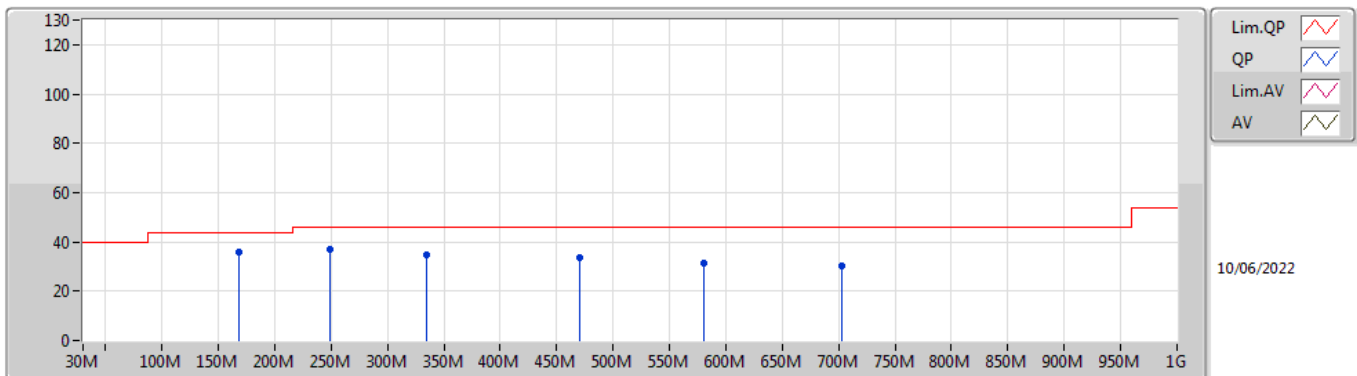
**2440MHz\_USB**



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	159.98M	36.72	43.50	-6.78	-10.52	3	Vertical	0	1.00	-	47.24	15.22	1.78	27.52
PK	249.22M	32.99	46.00	-13.01	-7.29	3	Vertical	0	1.00	-	40.28	17.47	2.26	27.02
PK	303.54M	33.71	46.00	-12.29	-6.09	3	Vertical	0	1.00	-	39.80	18.47	2.52	27.08
PK	373.38M	32.27	46.00	-13.73	-4.71	3	Vertical	0	1.00	-	36.98	20.04	2.79	27.54
PK	476.2M	33.92	46.00	-12.08	-2.41	3	Vertical	0	1.00	-	36.33	22.61	3.20	28.22
PK	670.2M	32.84	46.00	-13.16	-0.29	3	Vertical	0	1.00	-	33.13	24.19	3.74	28.22

**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	167.74M	35.93	43.50	-7.57	-10.70	3	Horizontal	360	1.00	-	46.63	14.97	1.83	27.50
PK	249.22M	37.13	46.00	-8.87	-7.29	3	Horizontal	360	1.00	-	44.42	17.47	2.26	27.02
PK	334.58M	34.78	46.00	-11.22	-5.61	3	Horizontal	360	1.00	-	40.39	18.99	2.65	27.25
PK	470.38M	33.65	46.00	-12.35	-2.51	3	Horizontal	360	1.00	-	36.16	22.50	3.17	28.18
PK	580.96M	31.51	46.00	-14.49	-0.96	3	Horizontal	360	1.00	-	32.47	23.91	3.52	28.39
PK	703.18M	30.46	46.00	-15.54	-0.22	3	Horizontal	360	1.00	-	30.68	24.19	3.82	28.23



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	53.66	54.00	-0.34	3	Horizontal	52	1.50	-



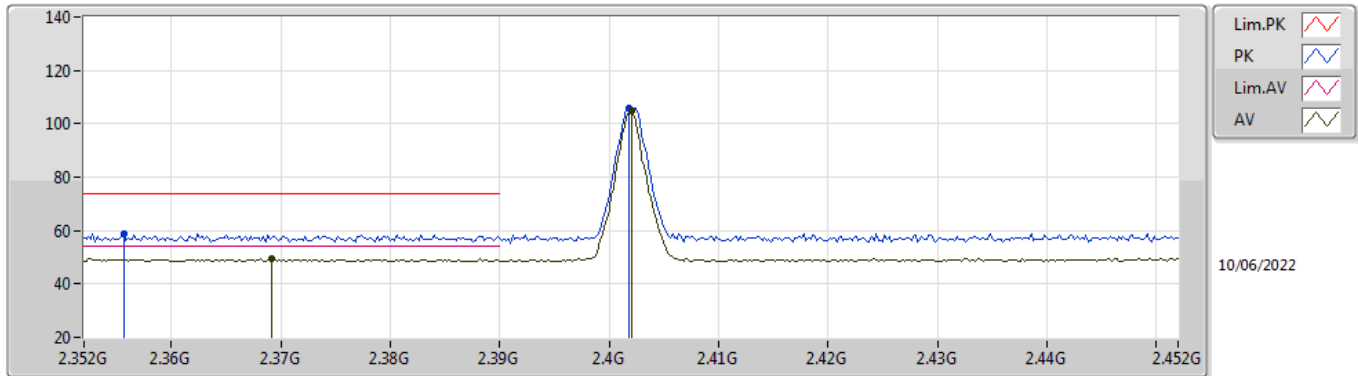


Result

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	2.3692G	49.51	54.00	-4.49	3	Vertical	208	2.81	-
2402MHz	Pass	AV	2.402G	104.68	Inf	-Inf	3	Vertical	208	2.81	-
2402MHz	Pass	PK	2.3556G	58.96	74.00	-15.04	3	Vertical	208	2.81	-
2402MHz	Pass	PK	2.4018G	105.97	Inf	-Inf	3	Vertical	208	2.81	-
2402MHz	Pass	AV	2.353G	49.64	54.00	-4.36	3	Horizontal	158	1.00	-
2402MHz	Pass	AV	2.402G	107.29	Inf	-Inf	3	Horizontal	158	1.00	-
2402MHz	Pass	PK	2.3848G	59.10	74.00	-14.90	3	Horizontal	158	1.00	-
2402MHz	Pass	PK	2.4018G	108.67	Inf	-Inf	3	Horizontal	158	1.00	-
2402MHz	Pass	AV	4.80351G	42.77	54.00	-11.23	3	Vertical	204	1.00	-
2402MHz	Pass	PK	4.80341G	49.35	74.00	-24.65	3	Vertical	204	1.00	-
2402MHz	Pass	AV	4.80351G	46.80	54.00	-7.20	3	Horizontal	343	1.24	-
2402MHz	Pass	PK	4.80357G	52.20	74.00	-21.80	3	Horizontal	343	1.24	-
2440MHz	Pass	AV	2.3836G	49.69	54.00	-4.31	3	Vertical	140	2.39	-
2440MHz	Pass	AV	2.44G	102.85	Inf	-Inf	3	Vertical	140	2.39	-
2440MHz	Pass	AV	2.4992G	50.29	54.00	-3.71	3	Vertical	140	2.39	-
2440MHz	Pass	PK	2.3804G	58.86	74.00	-15.14	3	Vertical	140	2.39	-
2440MHz	Pass	PK	2.44G	104.13	Inf	-Inf	3	Vertical	140	2.39	-
2440MHz	Pass	PK	2.4896G	59.65	74.00	-14.35	3	Vertical	140	2.39	-
2440MHz	Pass	AV	2.3788G	49.45	54.00	-4.55	3	Horizontal	329	1.02	-
2440MHz	Pass	AV	2.44G	107.27	Inf	-Inf	3	Horizontal	329	1.02	-
2440MHz	Pass	AV	2.484G	49.86	54.00	-4.14	3	Horizontal	329	1.02	-
2440MHz	Pass	PK	2.3764G	59.03	74.00	-14.97	3	Horizontal	329	1.02	-
2440MHz	Pass	PK	2.4396G	108.53	Inf	-Inf	3	Horizontal	329	1.02	-
2440MHz	Pass	PK	2.4996G	59.29	74.00	-14.71	3	Horizontal	329	1.02	-
2440MHz	Pass	AV	4.87947G	44.61	54.00	-9.39	3	Vertical	202	1.06	-
2440MHz	Pass	AV	7.3193G	43.78	54.00	-10.22	3	Vertical	346	1.40	-
2440MHz	Pass	PK	4.87973G	50.86	74.00	-23.14	3	Vertical	202	1.06	-
2440MHz	Pass	PK	7.3215G	52.35	74.00	-21.65	3	Vertical	346	1.40	-
2440MHz	Pass	AV	4.87953G	48.75	54.00	-5.25	3	Horizontal	341	1.00	-
2440MHz	Pass	AV	7.3193G	51.38	54.00	-2.62	3	Horizontal	342	1.00	-
2440MHz	Pass	PK	4.87954G	53.74	74.00	-20.26	3	Horizontal	341	1.00	-
2440MHz	Pass	PK	7.31936G	56.70	74.00	-17.30	3	Horizontal	342	1.00	-
2480MHz	Pass	AV	2.48G	103.23	Inf	-Inf	3	Vertical	138	2.60	-
2480MHz	Pass	AV	2.4835G	51.18	54.00	-2.82	3	Vertical	138	2.60	-
2480MHz	Pass	PK	2.4798G	104.60	Inf	-Inf	3	Vertical	138	2.60	-
2480MHz	Pass	PK	2.4835G	59.03	74.00	-14.97	3	Vertical	138	2.60	-
2480MHz	Pass	AV	2.4802G	105.91	Inf	-Inf	3	Horizontal	52	1.50	-
2480MHz	Pass	AV	2.4835G	53.66	54.00	-0.34	3	Horizontal	52	1.50	-
2480MHz	Pass	PK	2.4798G	108.33	Inf	-Inf	3	Horizontal	52	1.50	-
2480MHz	Pass	PK	2.4838G	62.09	74.00	-11.91	3	Horizontal	52	1.50	-
2480MHz	Pass	AV	4.95957G	44.07	54.00	-9.93	3	Vertical	187	1.63	-
2480MHz	Pass	AV	7.43931G	43.58	54.00	-10.42	3	Vertical	24	1.50	-
2480MHz	Pass	PK	4.96005G	49.81	74.00	-24.19	3	Vertical	187	1.63	-
2480MHz	Pass	PK	7.43929G	52.94	74.00	-21.06	3	Vertical	24	1.50	-
2480MHz	Pass	AV	4.95951G	47.75	54.00	-6.25	3	Horizontal	342	1.07	-
2480MHz	Pass	AV	7.43919G	50.38	54.00	-3.62	3	Horizontal	24	1.07	-
2480MHz	Pass	PK	4.95946G	53.02	74.00	-20.98	3	Horizontal	342	1.07	-
2480MHz	Pass	PK	7.4407G	55.97	74.00	-18.03	3	Horizontal	24	1.07	-

**BT-LE(1Mbps)**

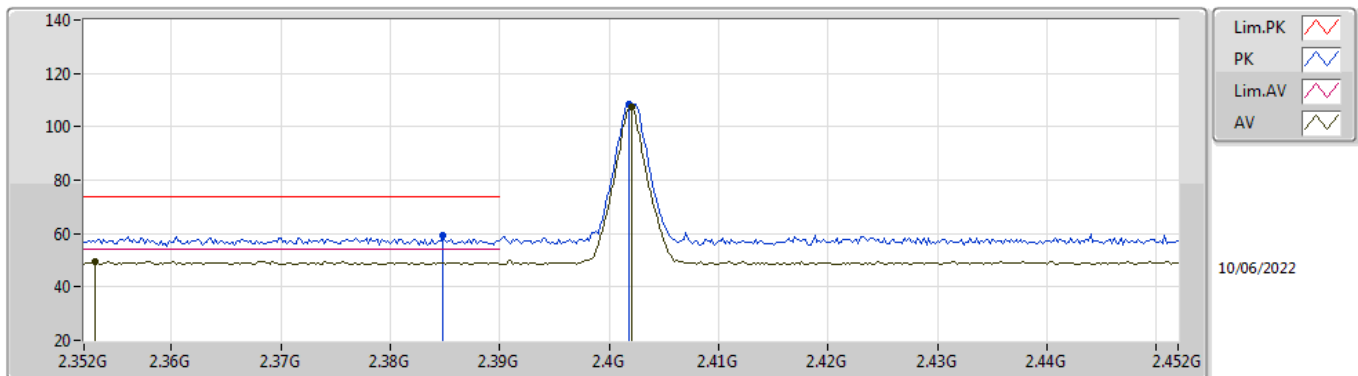
**2402MHz\_TX**



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	2.3692G	49.51	54.00	-4.49	35.51	3	Vertical	208	2.81	-	14.00	27.24	8.27	-
AV	2.402G	104.68	Inf	-Inf	35.60	3	Vertical	208	2.81	-	69.08	27.31	8.29	-
PK	2.3556G	58.96	74.00	-15.04	35.47	3	Vertical	208	2.81	-	23.49	27.21	8.26	-
PK	2.4018G	105.97	Inf	-Inf	35.60	3	Vertical	208	2.81	-	70.37	27.31	8.29	-

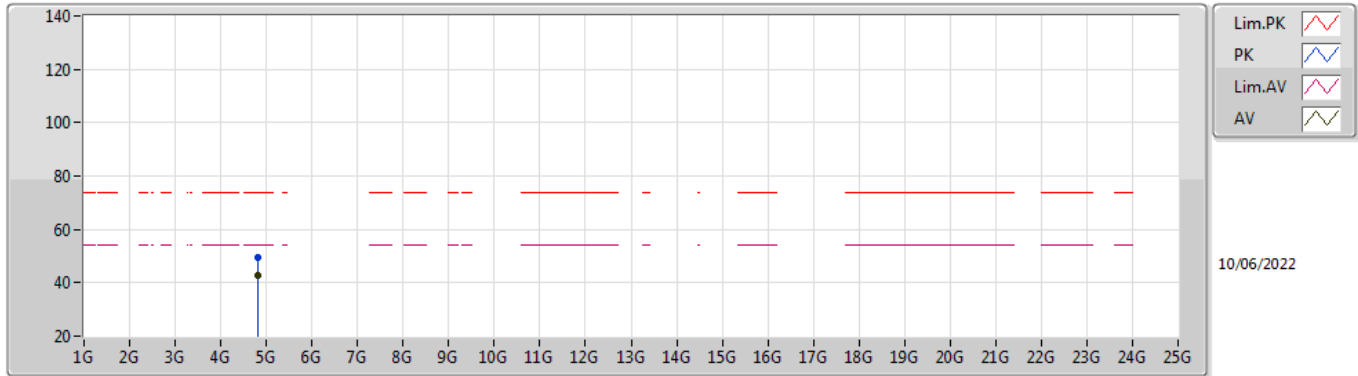
**BT-LE(1Mbps)**

**2402MHz\_TX**



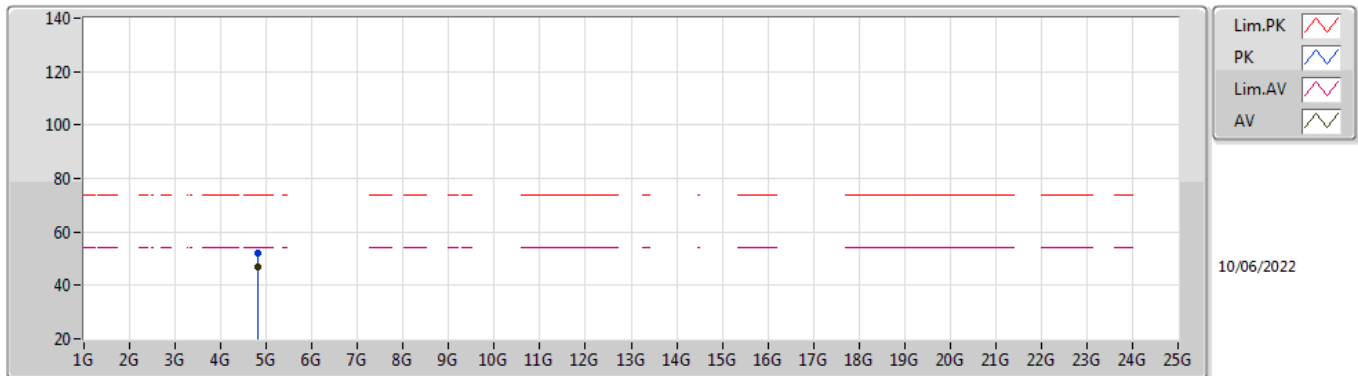
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.353G	49.64	54.00	-4.36	35.46	3	Horizontal	158	1.00	-	14.18	27.21	8.25	-
AV	2.402G	107.29	Inf	-Inf	35.60	3	Horizontal	158	1.00	-	71.69	27.31	8.29	-
PK	2.3848G	59.10	74.00	-14.90	35.55	3	Horizontal	158	1.00	-	23.55	27.27	8.28	-
PK	2.4018G	108.67	Inf	-Inf	35.60	3	Horizontal	158	1.00	-	73.07	27.31	8.29	-

**BT-LE(1Mbps)**  
**2402MHz\_TX**



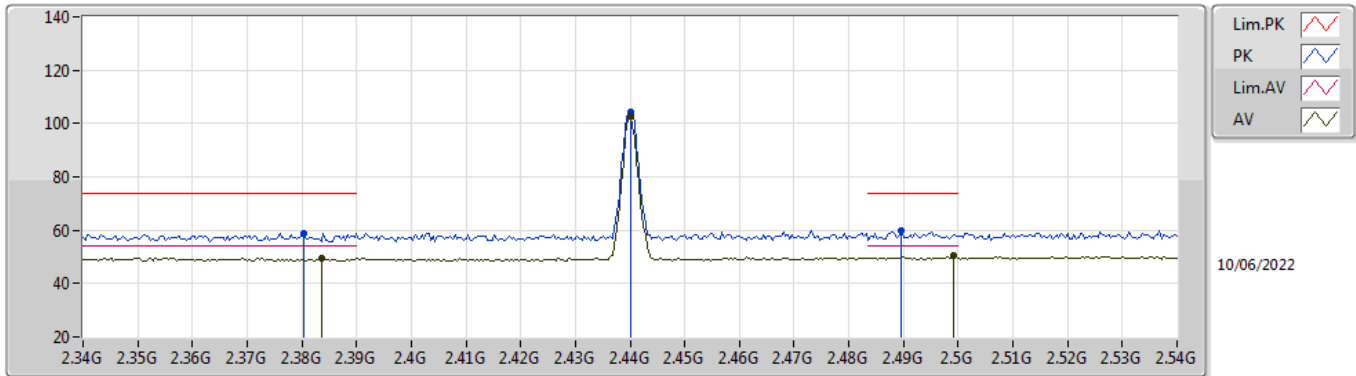
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80351G	42.77	54.00	-11.23	7.99	3	Vertical	204	1.00	-	34.78	32.51	9.67	34.19
PK	4.80341G	49.35	74.00	-24.65	7.99	3	Vertical	204	1.00	-	41.36	32.51	9.67	34.19

**BT-LE(1Mbps)**  
**2402MHz\_TX**



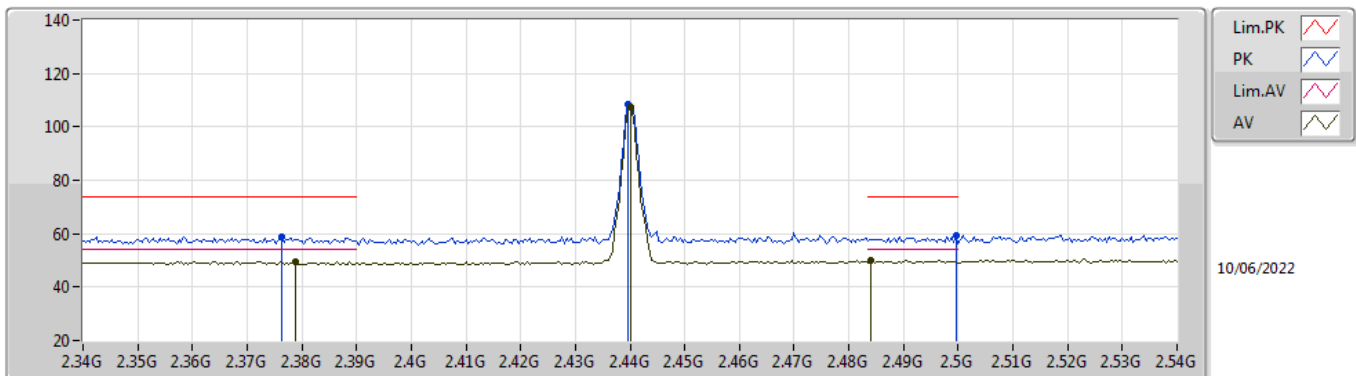
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80351G	46.80	54.00	-7.20	7.99	3	Horizontal	343	1.24	-	38.81	32.51	9.67	34.19
PK	4.80357G	52.20	74.00	-21.80	7.99	3	Horizontal	343	1.24	-	44.21	32.51	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	2.3836G	49.69	54.00	-4.31	35.55	3	Vertical	140	2.39	-	14.14	27.27	8.28	-
AV	2.44G	102.85	Inf	-Inf	35.78	3	Vertical	140	2.39	-	67.07	27.46	8.32	-
AV	2.4992G	50.29	54.00	-3.71	36.15	3	Vertical	140	2.39	-	14.14	27.80	8.35	-
PK	2.3804G	58.86	74.00	-15.14	35.54	3	Vertical	140	2.39	-	23.32	27.26	8.28	-
PK	2.44G	104.13	Inf	-Inf	35.78	3	Vertical	140	2.39	-	68.35	27.46	8.32	-
PK	2.4896G	59.65	74.00	-14.35	36.09	3	Vertical	140	2.39	-	23.56	27.74	8.35	-

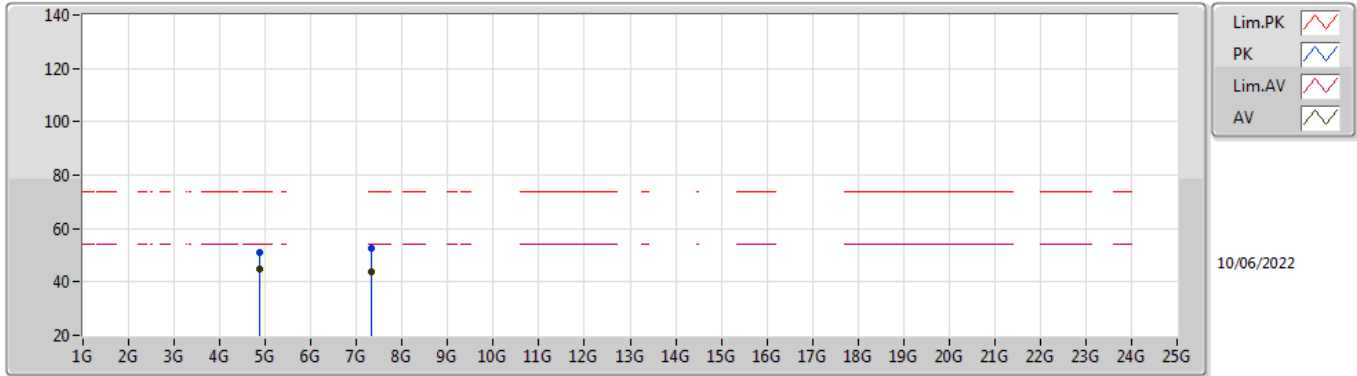
**BT-LE(1Mbps)**  
**2440MHz\_TX**



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	2.3788G	49.45	54.00	-4.55	35.53	3	Horizontal	329	1.02	-	13.92	27.26	8.27	-
AV	2.44G	107.27	Inf	-Inf	35.78	3	Horizontal	329	1.02	-	71.49	27.46	8.32	-
AV	2.484G	49.86	54.00	-4.14	36.04	3	Horizontal	329	1.02	-	13.82	27.70	8.34	-
PK	2.3764G	59.03	74.00	-14.97	35.52	3	Horizontal	329	1.02	-	23.51	27.25	8.27	-
PK	2.4396G	108.53	Inf	-Inf	35.78	3	Horizontal	329	1.02	-	72.75	27.46	8.32	-
PK	2.4996G	59.29	74.00	-14.71	36.15	3	Horizontal	329	1.02	-	23.14	27.80	8.35	-

**BT-LE(1Mbps)**

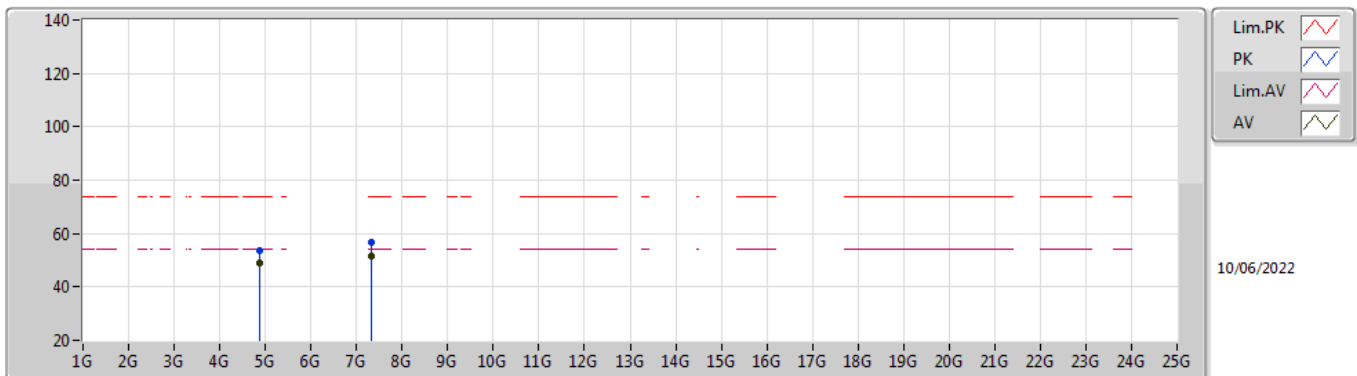
**2440MHz\_TX**



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	4.87947G	44.61	54.00	-9.39	8.20	3	Vertical	202	1.06	-	36.41	32.66	9.70	34.16
AV	7.3193G	43.78	54.00	-10.22	13.46	3	Vertical	346	1.40	-	30.32	36.64	11.32	34.50
PK	4.87973G	50.86	74.00	-23.14	8.20	3	Vertical	202	1.06	-	42.66	32.66	9.70	34.16
PK	7.3215G	52.35	74.00	-21.65	13.46	3	Vertical	346	1.40	-	38.89	36.64	11.32	34.50

**BT-LE(1Mbps)**

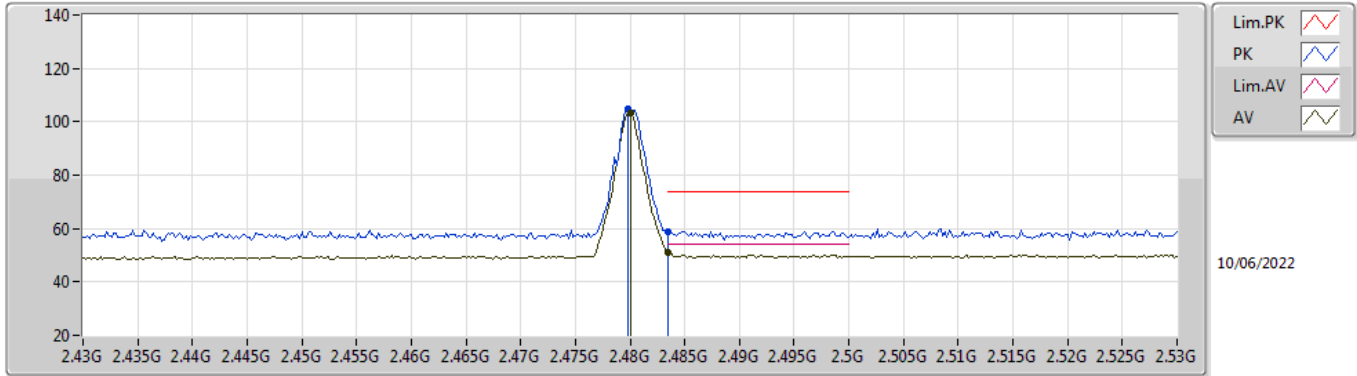
**2440MHz\_TX**



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87953G	48.75	54.00	-5.25	8.20	3	Horizontal	341	1.00	-	40.55	32.66	9.70	34.16
AV	7.3193G	51.38	54.00	-2.62	13.46	3	Horizontal	342	1.00	-	37.92	36.64	11.32	34.50
PK	4.87954G	53.74	74.00	-20.26	8.20	3	Horizontal	341	1.00	-	45.54	32.66	9.70	34.16
PK	7.31936G	56.70	74.00	-17.30	13.46	3	Horizontal	342	1.00	-	43.24	36.64	11.32	34.50

**BT-LE(1Mbps)**

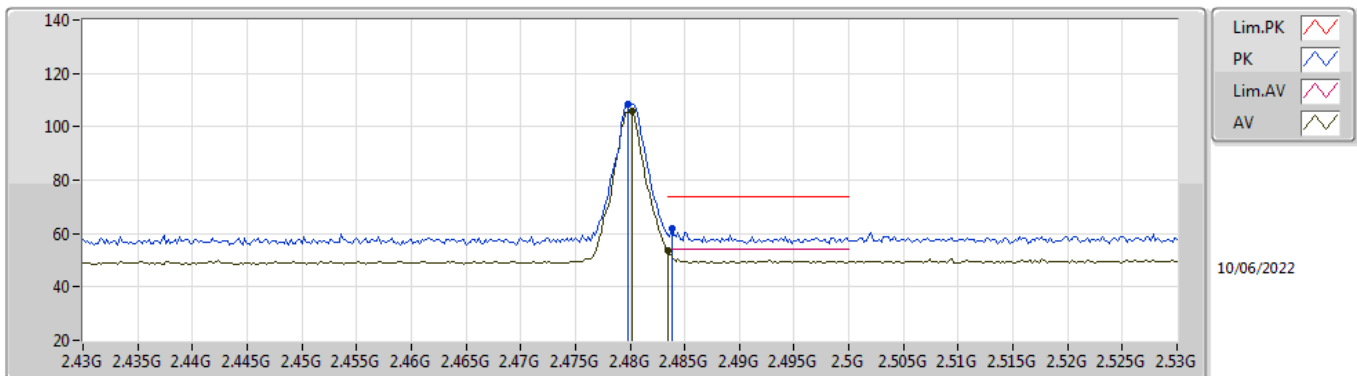
**2480MHz\_TX**



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	103.23	Inf	-Inf	36.02	3	Vertical	138	2.60	-	67.21	27.68	8.34	-
AV	2.4835G	51.18	54.00	-2.82	36.04	3	Vertical	138	2.60	-	15.14	27.70	8.34	-
PK	2.4798G	104.60	Inf	-Inf	36.02	3	Vertical	138	2.60	-	68.58	27.68	8.34	-
PK	2.4835G	59.03	74.00	-14.97	36.04	3	Vertical	138	2.60	-	22.99	27.70	8.34	-

**BT-LE(1Mbps)**

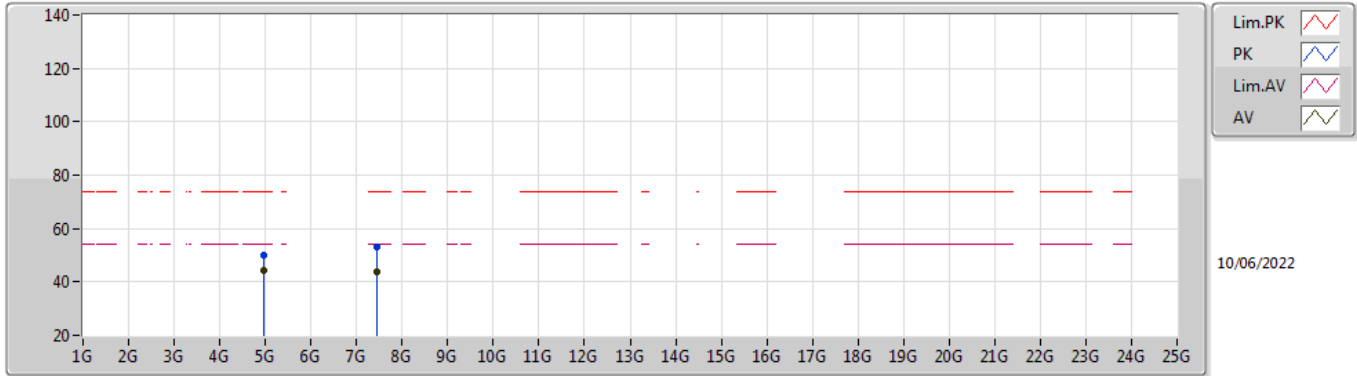
**2480MHz\_TX**



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	2.4802G	105.91	Inf	-Inf	36.02	3	Horizontal	52	1.50	-	69.89	27.68	8.34	-
AV	2.4835G	53.66	54.00	-0.34	36.04	3	Horizontal	52	1.50	-	17.62	27.70	8.34	-
PK	2.4798G	108.33	Inf	-Inf	36.02	3	Horizontal	52	1.50	-	72.31	27.68	8.34	-
PK	2.4838G	62.09	74.00	-11.91	36.04	3	Horizontal	52	1.50	-	26.05	27.70	8.34	-

**BT-LE(1Mbps)**

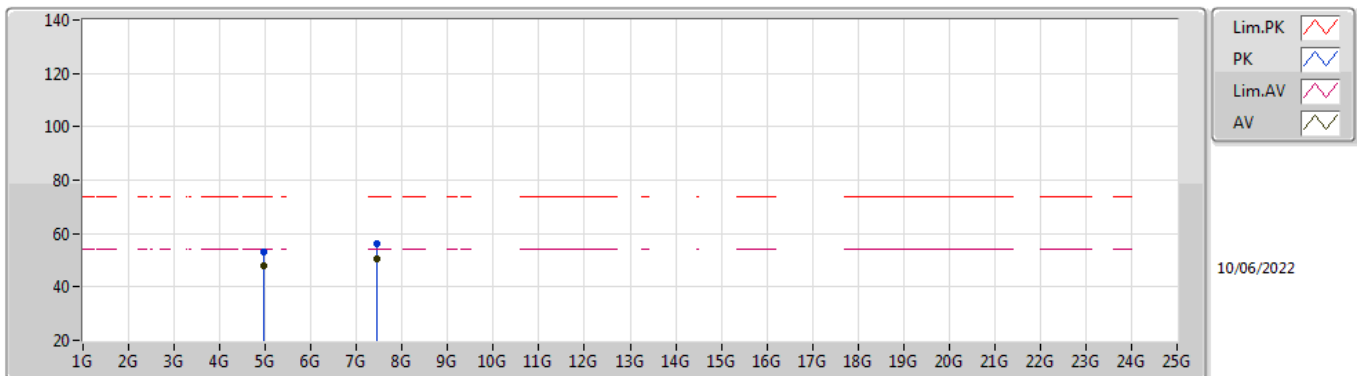
**2480MHz\_TX**



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	4.95957G	44.07	54.00	-9.93	8.55	3	Vertical	187	1.63	-	35.52	32.94	9.73	34.12
AV	7.43931G	43.58	54.00	-10.42	13.05	3	Vertical	24	1.50	-	30.53	36.24	11.30	34.49
PK	4.96005G	49.81	74.00	-24.19	8.55	3	Vertical	187	1.63	-	41.26	32.94	9.73	34.12
PK	7.43929G	52.94	74.00	-21.06	13.05	3	Vertical	24	1.50	-	39.89	36.24	11.30	34.49

**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	4.95951G	47.75	54.00	-6.25	8.55	3	Horizontal	342	1.07	-	39.20	32.94	9.73	34.12
AV	7.43919G	50.38	54.00	-3.62	13.05	3	Horizontal	24	1.07	-	37.33	36.24	11.30	34.49
PK	4.95946G	53.02	74.00	-20.98	8.55	3	Horizontal	342	1.07	-	44.47	32.94	9.73	34.12
PK	7.4407G	55.97	74.00	-18.03	13.05	3	Horizontal	24	1.07	-	42.92	36.24	11.30	34.49



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	49.4M	29.84	40.00	-10.16	3	Vertical	0	1.00	-



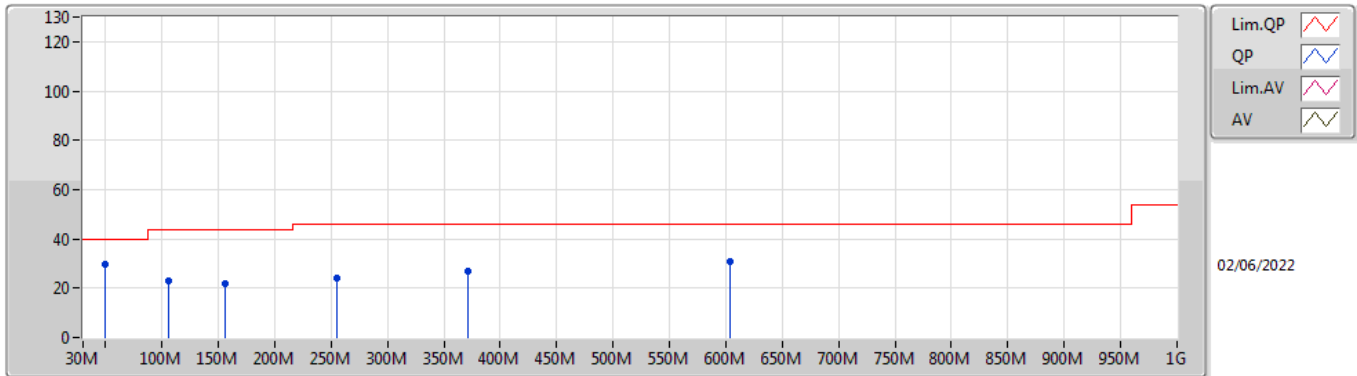


Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	49.4M	29.84	40.00	-10.16	3	Vertical	0	1.00	-
2440MHz	Pass	PK	105.66M	22.80	43.50	-20.70	3	Vertical	0	1.00	-
2440MHz	Pass	PK	156.1M	22.02	43.50	-21.48	3	Vertical	0	1.00	-
2440MHz	Pass	PK	255.04M	24.35	46.00	-21.65	3	Vertical	0	1.00	-
2440MHz	Pass	PK	371.44M	26.65	46.00	-19.35	3	Vertical	0	1.00	-
2440MHz	Pass	PK	604.24M	30.83	46.00	-15.17	3	Vertical	0	1.00	-
2440MHz	Pass	PK	35.82M	29.71	40.00	-10.29	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	49.4M	27.24	40.00	-12.76	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	218.18M	24.68	46.00	-21.32	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	264.74M	25.81	46.00	-20.19	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	524.7M	30.13	46.00	-15.87	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	627.52M	31.12	46.00	-14.88	3	Horizontal	360	1.00	-

**BT-LE(1Mbps)**

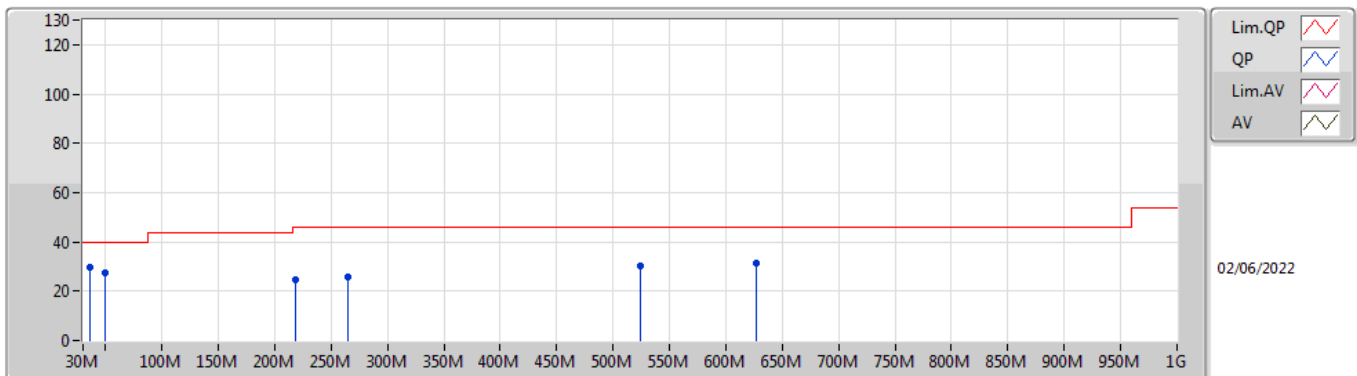
**2440MHz\_USB**



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	49.4M	29.84	40.00	-10.16	-13.21	3	Vertical	0	1.00	-	43.05	13.45	1.04	27.70
PK	105.66M	22.80	43.50	-20.70	-9.56	3	Vertical	0	1.00	-	32.36	16.77	1.45	27.78
PK	156.1M	22.02	43.50	-21.48	-10.46	3	Vertical	0	1.00	-	32.48	15.32	1.76	27.54
PK	255.04M	24.35	46.00	-21.65	-6.57	3	Vertical	0	1.00	-	30.92	18.16	2.29	27.02
PK	371.44M	26.65	46.00	-19.35	-4.73	3	Vertical	0	1.00	-	31.38	20.01	2.78	27.52
PK	604.24M	30.83	46.00	-15.17	-0.86	3	Vertical	0	1.00	-	31.69	23.95	3.60	28.41

**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	35.82M	29.71	40.00	-10.29	-5.99	3	Horizontal	360	1.00	-	35.70	20.17	1.02	27.18
PK	49.4M	27.24	40.00	-12.76	-13.21	3	Horizontal	360	1.00	-	40.45	13.45	1.04	27.70
PK	218.18M	24.68	46.00	-21.32	-10.81	3	Horizontal	360	1.00	-	35.49	14.29	2.11	27.21
PK	264.74M	25.81	46.00	-20.19	-6.11	3	Horizontal	360	1.00	-	31.92	18.59	2.33	27.03
PK	524.7M	30.13	46.00	-15.87	-2.28	3	Horizontal	360	1.00	-	32.41	22.70	3.36	28.34
PK	627.52M	31.12	46.00	-14.88	-0.33	3	Horizontal	360	1.00	-	31.45	24.32	3.65	28.30



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	50.61	54.00	-3.39	3	Vertical	253	1.40	-

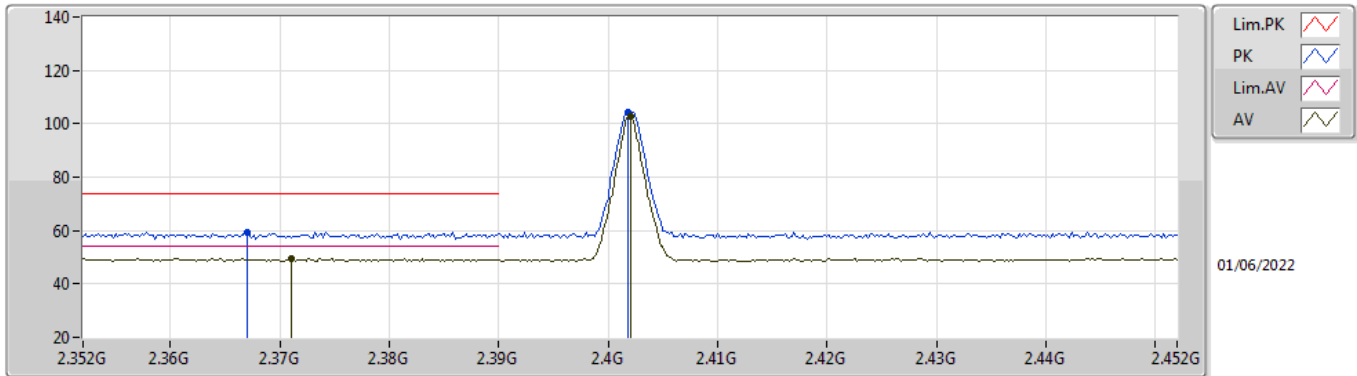


Result

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	2.371G	49.62	54.00	-4.38	3	Vertical	228	2.78	-
2402MHz	Pass	AV	2.402G	102.89	Inf	-Inf	3	Vertical	228	2.78	-
2402MHz	Pass	PK	2.367G	59.44	74.00	-14.56	3	Vertical	228	2.78	-
2402MHz	Pass	PK	2.4018G	104.31	Inf	-Inf	3	Vertical	228	2.78	-
2402MHz	Pass	AV	2.3672G	49.63	54.00	-4.37	3	Horizontal	304	2.59	-
2402MHz	Pass	AV	2.402G	102.97	Inf	-Inf	3	Horizontal	304	2.59	-
2402MHz	Pass	PK	2.3782G	60.28	74.00	-13.72	3	Horizontal	304	2.59	-
2402MHz	Pass	PK	2.4018G	104.29	Inf	-Inf	3	Horizontal	304	2.59	-
2402MHz	Pass	AV	4.80336G	35.50	54.00	-18.50	3	Vertical	227	1.47	-
2402MHz	Pass	PK	4.80361G	44.73	74.00	-29.27	3	Vertical	227	1.47	-
2402MHz	Pass	AV	4.80339G	34.97	54.00	-19.03	3	Horizontal	22	1.59	-
2402MHz	Pass	PK	4.80501G	45.25	74.00	-28.75	3	Horizontal	22	1.59	-
2440MHz	Pass	AV	2.3404G	49.62	54.00	-4.38	3	Vertical	224	2.47	-
2440MHz	Pass	AV	2.44G	102.65	Inf	-Inf	3	Vertical	224	2.47	-
2440MHz	Pass	AV	2.4988G	50.10	54.00	-3.90	3	Vertical	224	2.47	-
2440MHz	Pass	PK	2.3576G	59.33	74.00	-14.67	3	Vertical	224	2.47	-
2440MHz	Pass	PK	2.4396G	104.02	Inf	-Inf	3	Vertical	224	2.47	-
2440MHz	Pass	PK	2.496G	59.52	74.00	-14.48	3	Vertical	224	2.47	-
2440MHz	Pass	AV	2.3432G	49.49	54.00	-4.51	3	Horizontal	312	2.93	-
2440MHz	Pass	AV	2.44G	103.58	Inf	-Inf	3	Horizontal	312	2.93	-
2440MHz	Pass	AV	2.4912G	50.03	54.00	-3.97	3	Horizontal	312	2.93	-
2440MHz	Pass	PK	2.3484G	59.46	74.00	-14.54	3	Horizontal	312	2.93	-
2440MHz	Pass	PK	2.4396G	105.04	Inf	-Inf	3	Horizontal	312	2.93	-
2440MHz	Pass	PK	2.4904G	59.51	74.00	-14.49	3	Horizontal	312	2.93	-
2440MHz	Pass	AV	4.87946G	38.80	54.00	-15.20	3	Vertical	171	1.50	-
2440MHz	Pass	AV	7.31903G	45.04	54.00	-8.96	3	Vertical	177	1.50	-
2440MHz	Pass	PK	4.87974G	46.89	74.00	-27.11	3	Vertical	171	1.50	-
2440MHz	Pass	PK	7.31938G	52.41	74.00	-21.59	3	Vertical	177	1.50	-
2440MHz	Pass	AV	4.8801G	35.80	54.00	-18.20	3	Horizontal	0	1.31	-
2440MHz	Pass	AV	7.31928G	42.61	54.00	-11.39	3	Horizontal	273	2.03	-
2440MHz	Pass	PK	4.87843G	45.79	74.00	-28.21	3	Horizontal	0	1.31	-
2440MHz	Pass	PK	7.3206G	50.97	74.00	-23.03	3	Horizontal	273	2.03	-
2480MHz	Pass	AV	2.48G	101.91	Inf	-Inf	3	Vertical	253	1.40	-
2480MHz	Pass	AV	2.4835G	50.61	54.00	-3.39	3	Vertical	253	1.40	-
2480MHz	Pass	PK	2.4802G	103.19	Inf	-Inf	3	Vertical	253	1.40	-
2480MHz	Pass	PK	2.4926G	60.77	74.00	-13.23	3	Vertical	253	1.40	-
2480MHz	Pass	AV	2.48G	100.35	Inf	-Inf	3	Horizontal	102	2.23	-
2480MHz	Pass	AV	2.4912G	50.18	54.00	-3.82	3	Horizontal	102	2.23	-
2480MHz	Pass	PK	2.4802G	101.73	Inf	-Inf	3	Horizontal	102	2.23	-
2480MHz	Pass	PK	2.4836G	60.87	74.00	-13.13	3	Horizontal	102	2.23	-
2480MHz	Pass	AV	4.95961G	39.02	54.00	-14.98	3	Vertical	327	1.50	-
2480MHz	Pass	AV	7.44015G	39.59	54.00	-14.41	3	Vertical	225	2.40	-
2480MHz	Pass	PK	4.95958G	47.89	74.00	-26.11	3	Vertical	327	1.50	-
2480MHz	Pass	PK	7.44014G	50.35	74.00	-23.65	3	Vertical	225	2.40	-
2480MHz	Pass	AV	4.96177G	34.87	54.00	-19.13	3	Horizontal	125.3	1.09	-
2480MHz	Pass	AV	7.43793G	40.22	54.00	-13.78	3	Horizontal	168	2.22	-
2480MHz	Pass	PK	4.95828G	45.80	74.00	-28.20	3	Horizontal	125.3	1.09	-
2480MHz	Pass	PK	7.44188G	50.49	74.00	-23.51	3	Horizontal	168	2.22	-

**BT-LE(1Mbps)**

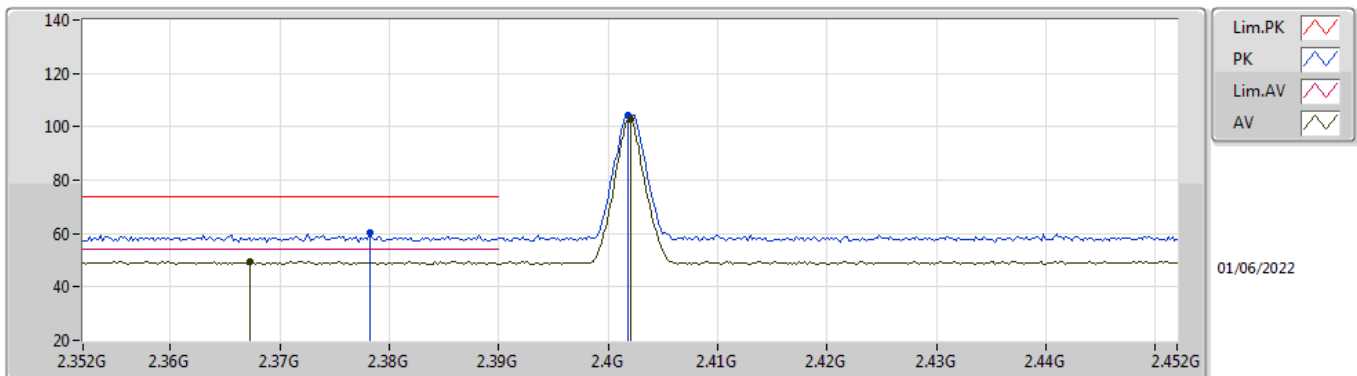
**2402MHz\_TX**



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	2.371G	49.62	54.00	-4.38	35.51	3	Vertical	228	2.78	-	14.11	27.24	8.27	-
AV	2.402G	102.89	Inf	-Inf	35.60	3	Vertical	228	2.78	-	67.29	27.31	8.29	-
PK	2.367G	59.44	74.00	-14.56	35.50	3	Vertical	228	2.78	-	23.94	27.23	8.27	-
PK	2.4018G	104.31	Inf	-Inf	35.60	3	Vertical	228	2.78	-	68.71	27.31	8.29	-

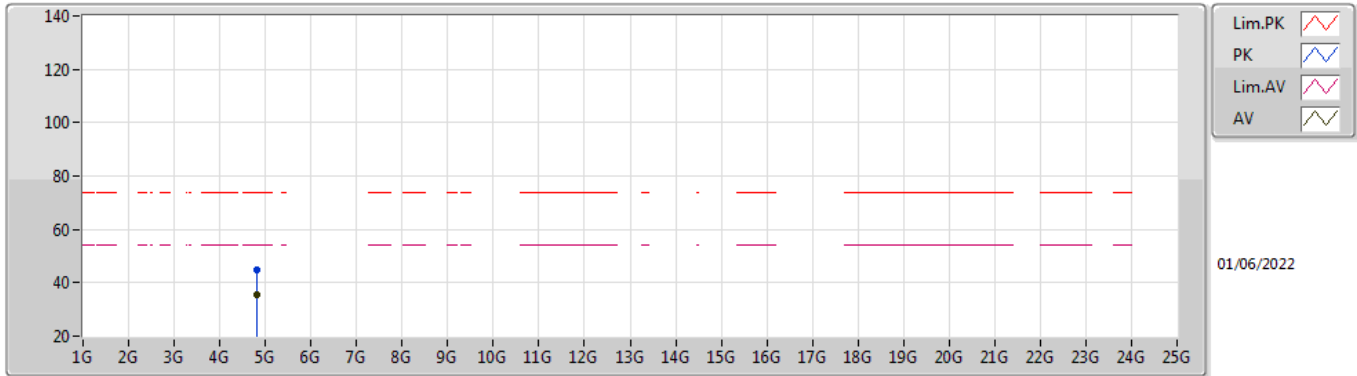
**BT-LE(1Mbps)**

**2402MHz\_TX**



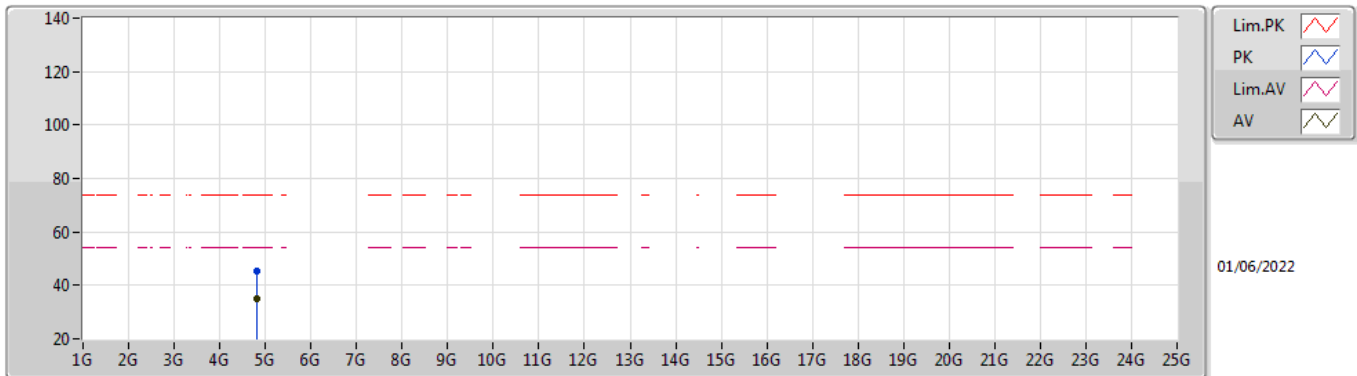
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AV	2.3672G	49.63	54.00	-4.37	35.50	3	Horizontal	304	2.59	-	14.13	27.23	8.27	-
AV	2.402G	102.97	Inf	-Inf	35.60	3	Horizontal	304	2.59	-	67.37	27.31	8.29	-
PK	2.3782G	60.28	74.00	-13.72	35.53	3	Horizontal	304	2.59	-	24.75	27.26	8.27	-
PK	2.4018G	104.29	Inf	-Inf	35.60	3	Horizontal	304	2.59	-	68.69	27.31	8.29	-

**BT-LE(1Mbps)**  
**2402MHz\_TX**



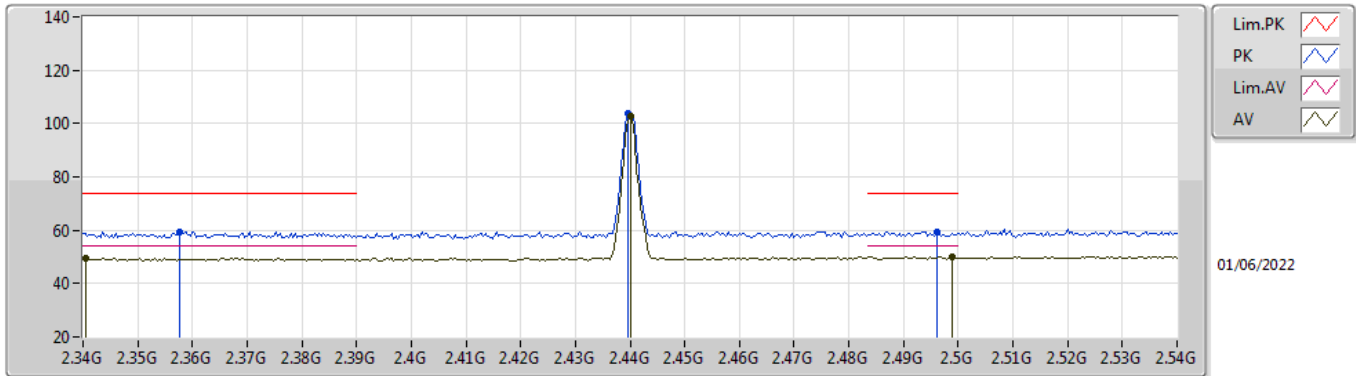
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80336G	35.50	54.00	-18.50	7.99	3	Vertical	227	1.47	-	27.51	32.51	9.67	34.19
PK	4.80361G	44.73	74.00	-29.27	7.99	3	Vertical	227	1.47	-	36.74	32.51	9.67	34.19

**BT-LE(1Mbps)**  
**2402MHz\_TX**



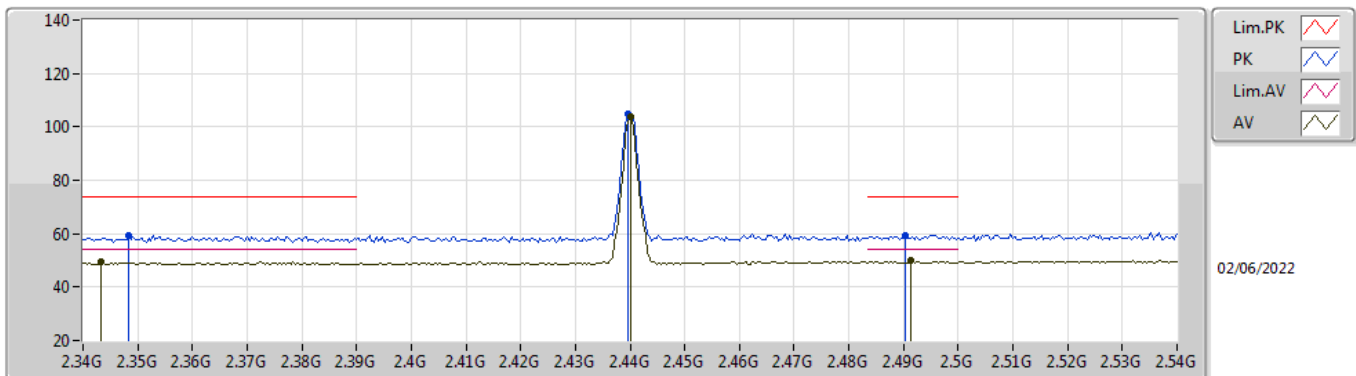
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80339G	34.97	54.00	-19.03	7.99	3	Horizontal	22	1.59	-	26.98	32.51	9.67	34.19
PK	4.80501G	45.25	74.00	-28.75	7.99	3	Horizontal	22	1.59	-	37.26	32.51	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	2.3404G	49.62	54.00	-4.38	35.41	3	Vertical	224	2.47	-	14.21	27.16	8.25	-
AV	2.44G	102.65	Inf	-Inf	35.78	3	Vertical	224	2.47	-	66.87	27.46	8.32	-
AV	2.4988G	50.10	54.00	-3.90	36.14	3	Vertical	224	2.47	-	13.96	27.79	8.35	-
PK	2.3576G	59.33	74.00	-14.67	35.48	3	Vertical	224	2.47	-	23.85	27.22	8.26	-
PK	2.4396G	104.02	Inf	-Inf	35.78	3	Vertical	224	2.47	-	68.24	27.46	8.32	-
PK	2.496G	59.52	74.00	-14.48	36.13	3	Vertical	224	2.47	-	23.39	27.78	8.35	-

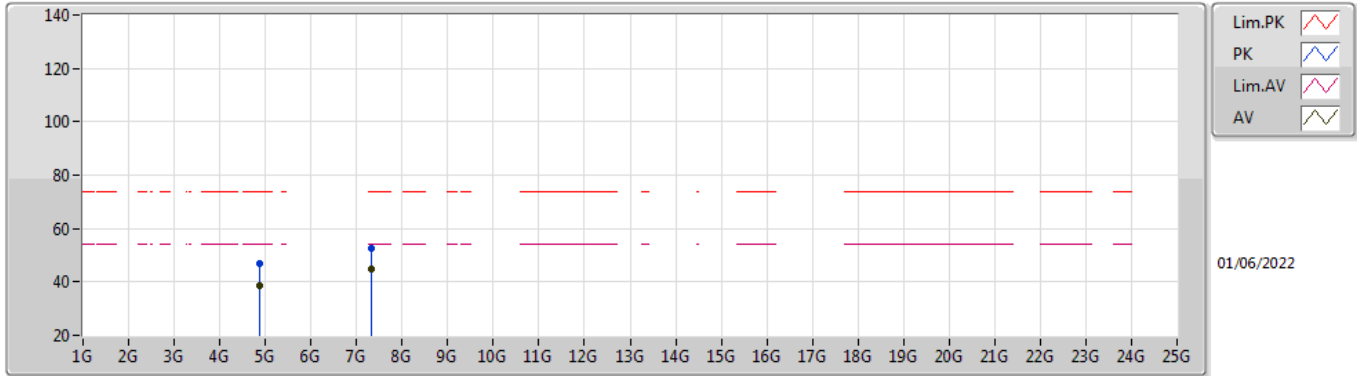
**BT-LE(1Mbps)**  
**2440MHz\_TX**



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	2.3432G	49.49	54.00	-4.51	35.42	3	Horizontal	312	2.93	-	14.07	27.17	8.25	-
AV	2.44G	103.58	Inf	-Inf	35.78	3	Horizontal	312	2.93	-	67.80	27.46	8.32	-
AV	2.4912G	50.03	54.00	-3.97	36.10	3	Horizontal	312	2.93	-	13.93	27.75	8.35	-
PK	2.3484G	59.46	74.00	-14.54	35.44	3	Horizontal	312	2.93	-	24.02	27.19	8.25	-
PK	2.4396G	105.04	Inf	-Inf	35.78	3	Horizontal	312	2.93	-	69.26	27.46	8.32	-
PK	2.4904G	59.51	74.00	-14.49	36.09	3	Horizontal	312	2.93	-	23.42	27.74	8.35	-

**BT-LE(1Mbps)**

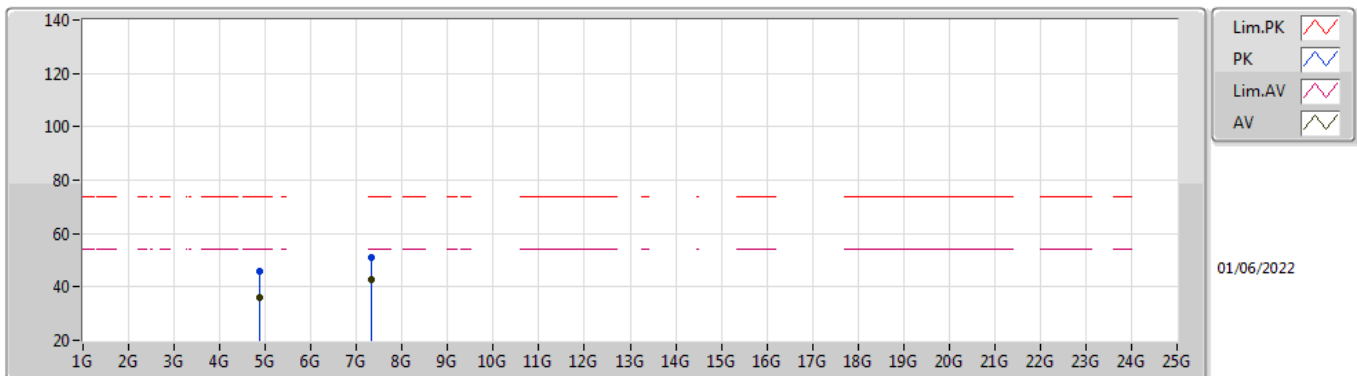
**2440MHz\_TX**



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	4.87946G	38.80	54.00	-15.20	8.20	3	Vertical	171	1.50	-	30.60	32.66	9.70	34.16
AV	7.31903G	45.04	54.00	-8.96	13.46	3	Vertical	177	1.50	-	31.58	36.64	11.32	34.50
PK	4.87974G	46.89	74.00	-27.11	8.20	3	Vertical	171	1.50	-	38.69	32.66	9.70	34.16
PK	7.31938G	52.41	74.00	-21.59	13.46	3	Vertical	177	1.50	-	38.95	36.64	11.32	34.50

**BT-LE(1Mbps)**

**2440MHz\_TX**

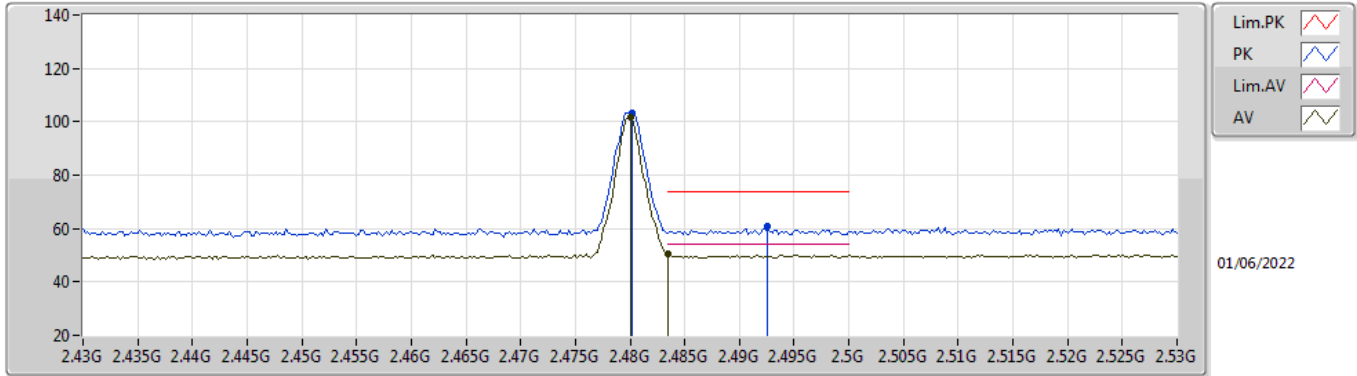


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.8801G	35.80	54.00	-18.20	8.20	3	Horizontal	0	1.31	-	27.60	32.66	9.70	34.16
AV	7.31928G	42.61	54.00	-11.39	13.46	3	Horizontal	273	2.03	-	29.15	36.64	11.32	34.50
PK	4.87843G	45.79	74.00	-28.21	8.20	3	Horizontal	0	1.31	-	37.59	32.66	9.70	34.16
PK	7.3206G	50.97	74.00	-23.03	13.46	3	Horizontal	273	2.03	-	37.51	36.64	11.32	34.50



**BT-LE(1Mbps)**

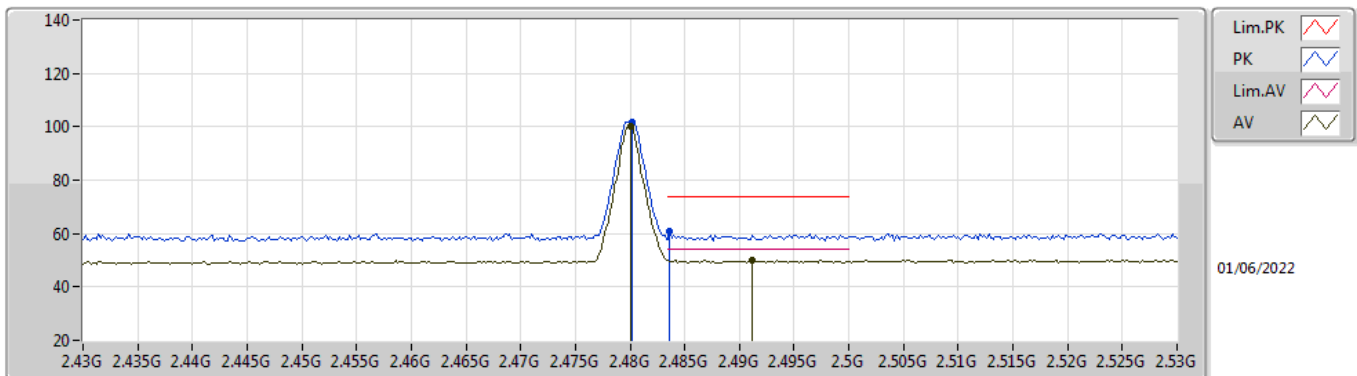
**2480MHz\_TX**



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	101.91	Inf	-Inf	36.02	3	Vertical	253	1.40	-	65.89	27.68	8.34	-
AV	2.4835G	50.61	54.00	-3.39	36.04	3	Vertical	253	1.40	-	14.57	27.70	8.34	-
PK	2.4802G	103.19	Inf	-Inf	36.02	3	Vertical	253	1.40	-	67.17	27.68	8.34	-
PK	2.4926G	60.77	74.00	-13.23	36.11	3	Vertical	253	1.40	-	24.66	27.76	8.35	-

**BT-LE(1Mbps)**

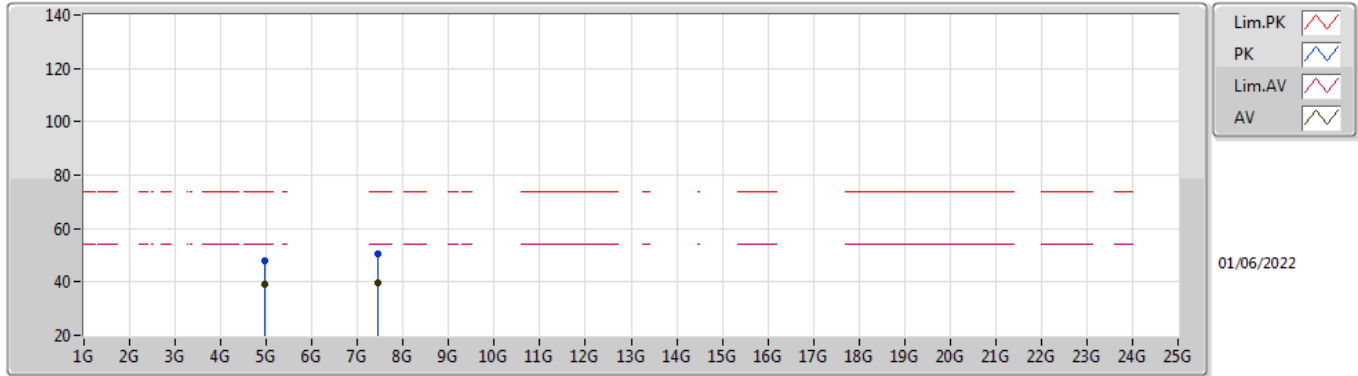
**2480MHz\_TX**



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	100.35	Inf	-Inf	36.02	3	Horizontal	102	2.23	-	64.33	27.68	8.34	-
AV	2.4912G	50.18	54.00	-3.82	36.10	3	Horizontal	102	2.23	-	14.08	27.75	8.35	-
PK	2.4802G	101.73	Inf	-Inf	36.02	3	Horizontal	102	2.23	-	65.71	27.68	8.34	-
PK	2.4836G	60.87	74.00	-13.13	36.04	3	Horizontal	102	2.23	-	24.83	27.70	8.34	-

### BT-LE(1Mbps)

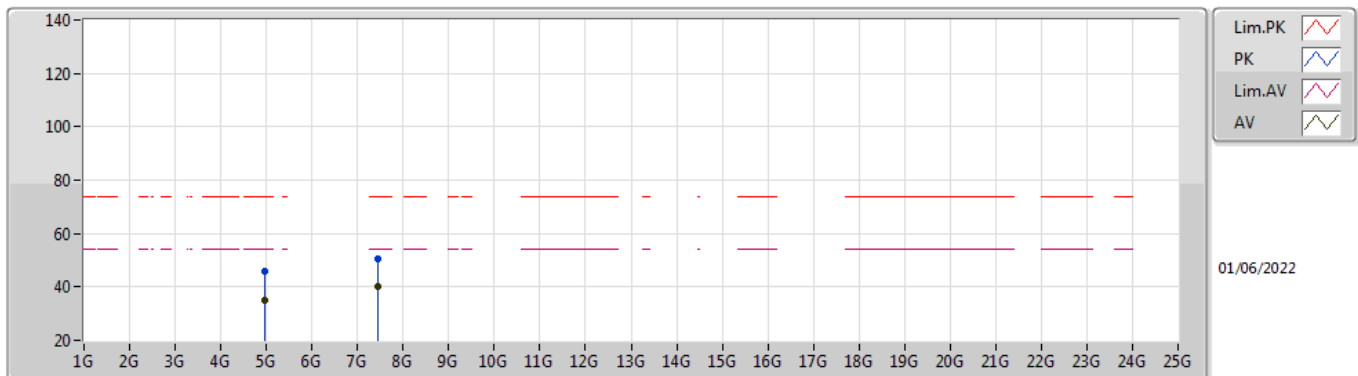
### 2480MHz\_TX



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	4.95961G	39.02	54.00	-14.98	8.55	3	Vertical	327	1.50	-	30.47	32.94	9.73	34.12
AV	7.44015G	39.59	54.00	-14.41	13.05	3	Vertical	225	2.40	-	26.54	36.24	11.30	34.49
PK	4.95958G	47.89	74.00	-26.11	8.55	3	Vertical	327	1.50	-	39.34	32.94	9.73	34.12
PK	7.44014G	50.35	74.00	-23.65	13.05	3	Vertical	225	2.40	-	37.30	36.24	11.30	34.49

### 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	4.96177G	34.87	54.00	-19.13	8.56	3	Horizontal	125.3	1.09	-	26.31	32.95	9.73	34.12
AV	7.43793G	40.22	54.00	-13.78	13.06	3	Horizontal	168	2.22	-	27.16	36.25	11.30	34.49
PK	4.95828G	45.80	74.00	-28.20	8.54	3	Horizontal	125.3	1.09	-	37.26	32.93	9.73	34.12
PK	7.44188G	50.49	74.00	-23.51	13.04	3	Horizontal	168	2.22	-	37.45	36.23	11.30	34.49