

# FCC Radio Test Report

**FCC ID** : CFS8DLIPCAMWOC2  
**Equipment** : HD Wi-Fi Outdoor Camera  
**Brand Name** : Resideo  
**Model Name** : IPCAM-WOC2  
**Applicant** : Ademco Inc.  
2 Corporate Center Drive, Suite 100 Melville, NY 11747  
**Manufacturer** : EDIMAX TECHNOLOGY CO., LTD.  
No.278, Xinhua 1st Rd., Neihu Dist., Taipei City, Taiwan  
**Standard** : 47 CFR FCC Part 15.247

The product was received on Apr. 30, 2021, and testing was started from May 08, 2021 and completed on May 13, 2021. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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



Approved by: Allen Lin

**SPORTON INTERNATIONAL INC. Hsinhua Laboratory**

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



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### History of this test report

Report No.	Version	Description	Issued Date
FR121717AL	01	Initial issue of report	Jun. 10, 2021



### 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: Sam Tsai  
Report Producer: Debby Hung

# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

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

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

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)
1	MasterWave	98865MRSX004	Dipole antenna	Reversed-SMA	2.0

**For 2.4GHz function:**

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

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

**For BT function:**

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

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



1.1.3 EUT Information

Operational Condition	
EUT Power Type	From AC Adapter
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)	0.63	2.01	393.75u	3k

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

## 1.2 Testing Applied Standards

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

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

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

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

## 1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
<input checked="" type="checkbox"/>	Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)		
		TEL: 886-3-327-3456	FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Billy Wang	22.0~23.1°C / 54~56%	10/May/2021~11/May/2021
RF Conducted	TH07-HY	Justin Pan	20.1~26.0°C / 43.7~51.1%	11/May/2021~13/May/2021
<input checked="" 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.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH09-HY	Daniel Hsu	23.2~23.6°C / 54~56%	08/May/2021~10/May/2021



### 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




<b>Test Software Version</b>	Microsoft Windows6.1
------------------------------	----------------------

<b>Mode</b>	<b>Power Setting</b>
BT-LE(1Mbps)	-
2402MHz	39
2440MHz	39
2480MHz	39

## 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	Adapter mode

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	Adapter mode		
<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 Accessories

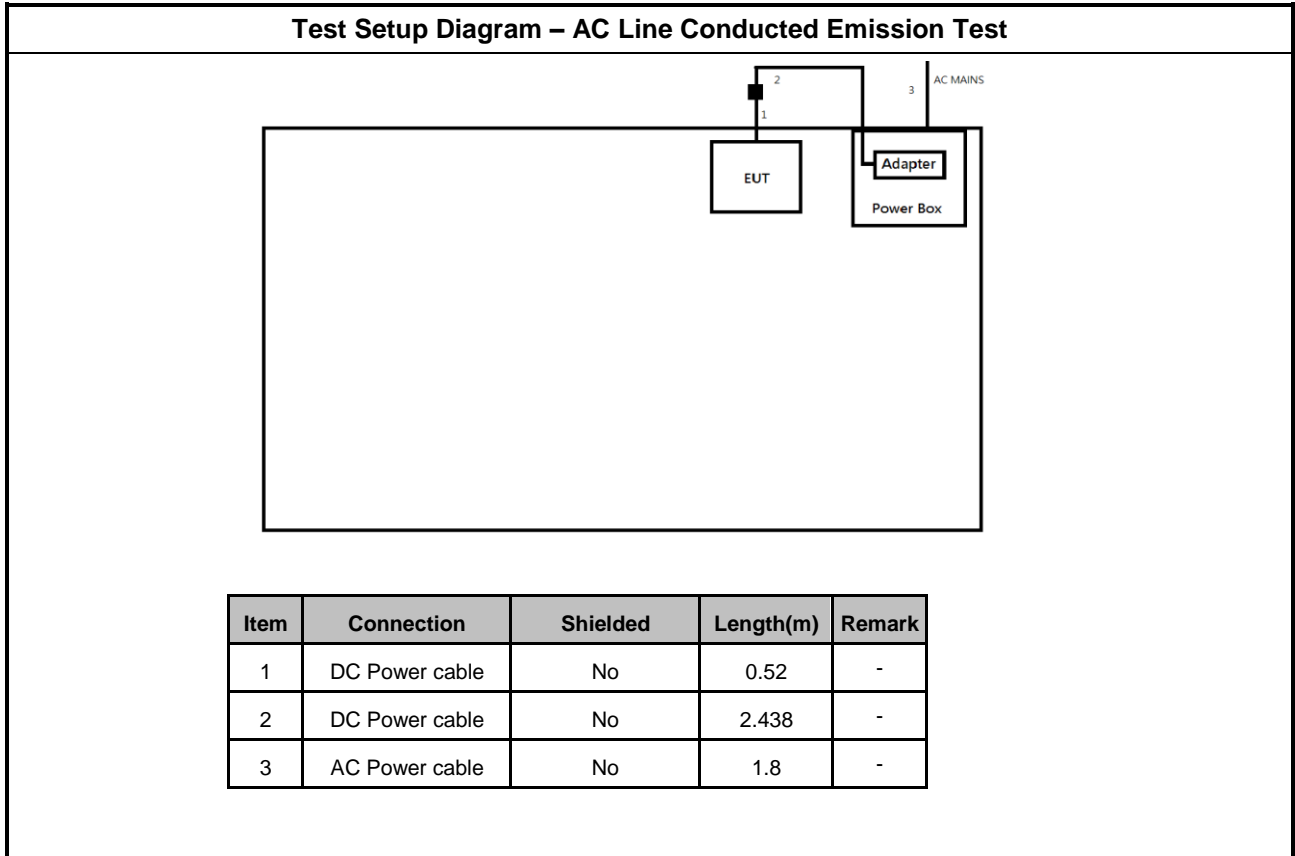
Accessories				
AC Adapter	Brand Name	AMIGO	Model Name	AMS159A-1201000FU
	Power Rating	I/P: 100-240 Vac, O/P: 12 Vdc, 1A		
	Power Cord	2.438 meter, non-shielded cable, w/o ferrite core		

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

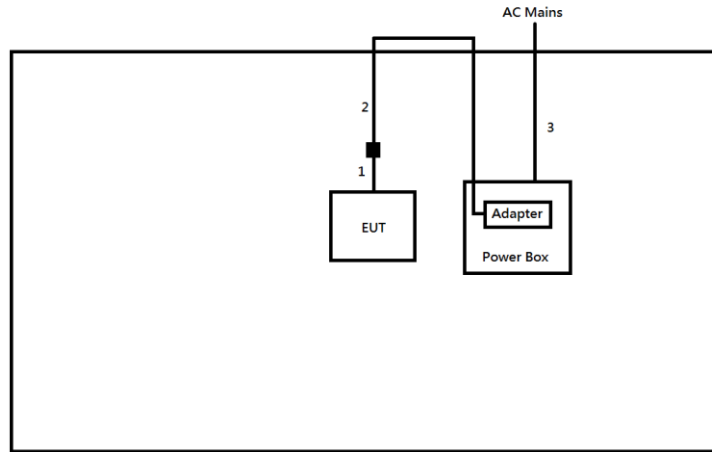
## 2.4 Support Equipment

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	HP	5220M	-	-
2	Adapter for NB	HP	PPP012L-E	-	-

## 2.5 Test Setup Diagram



Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	DC Power cable	No	0.52	-
2	DC Power cable	No	2.438	-
3	AC Power cable	No	1.8	-



### 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

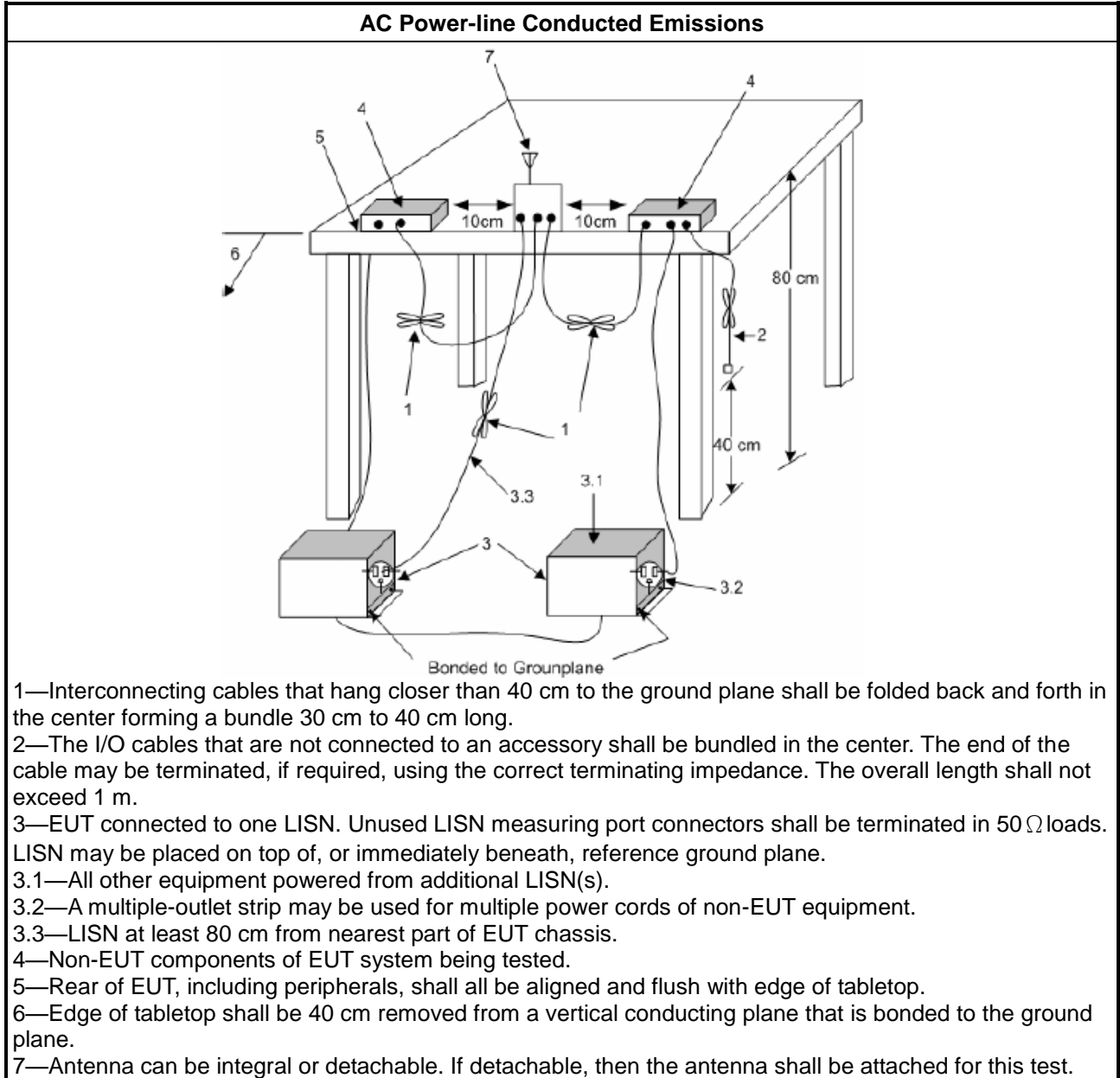
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

##### 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:
<ul style="list-style-type: none"> <li>▪ 6 dB bandwidth <math>\geq</math> 500 kHz.</li> </ul>

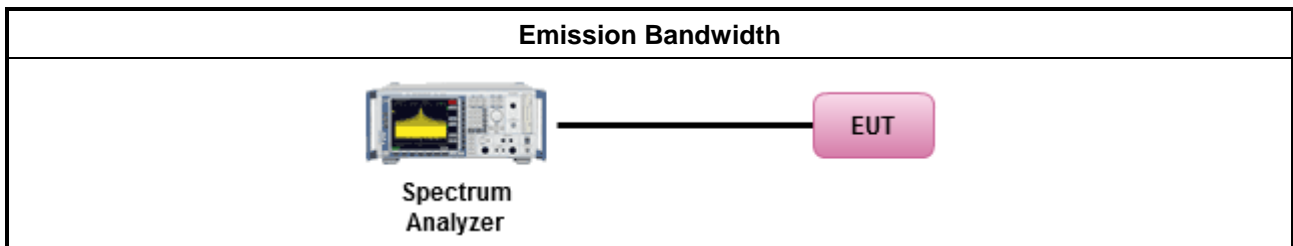
#### 3.2.2 Measuring Instruments

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

#### 3.2.3 Test Procedures

Test Method
<ul style="list-style-type: none"> <li>▪ For the emission bandwidth shall be measured using one of the options below:</li> </ul>
<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 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>
<b>e.i.r.p. Power Limit:</b>	
	<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>
$P_{Out}$ = maximum peak conducted output power or maximum conducted output power in dBm, $G_{TX}$ = the maximum transmitting antenna directional gain in dBi.	

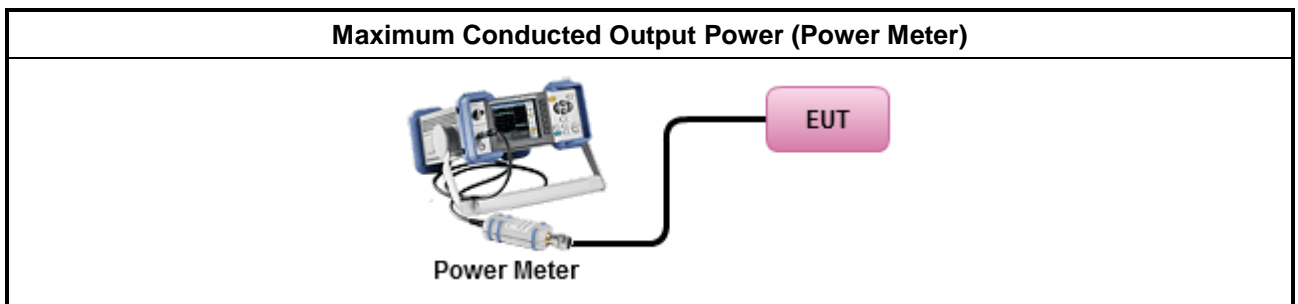
#### 3.3.2 Measuring Instruments

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

### 3.3.3 Test Procedures

Test Method	
<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 display="block">P_{total} = P_1 + P_2 + \dots + P_n</math>                     (calculated in linear unit [mW] and transfer to log unit [dBm])  <math display="block">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>

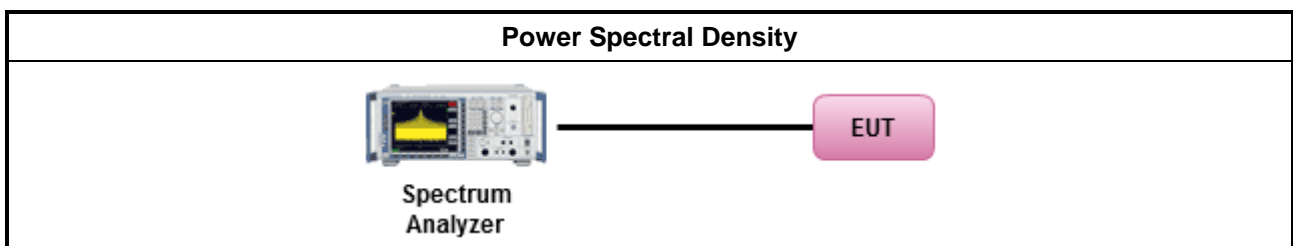
#### 3.4.2 Measuring Instruments

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

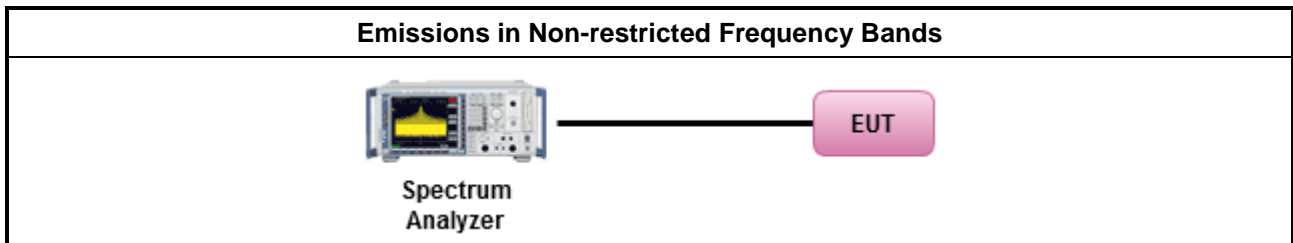
#### 3.5.2 Measuring Instruments

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

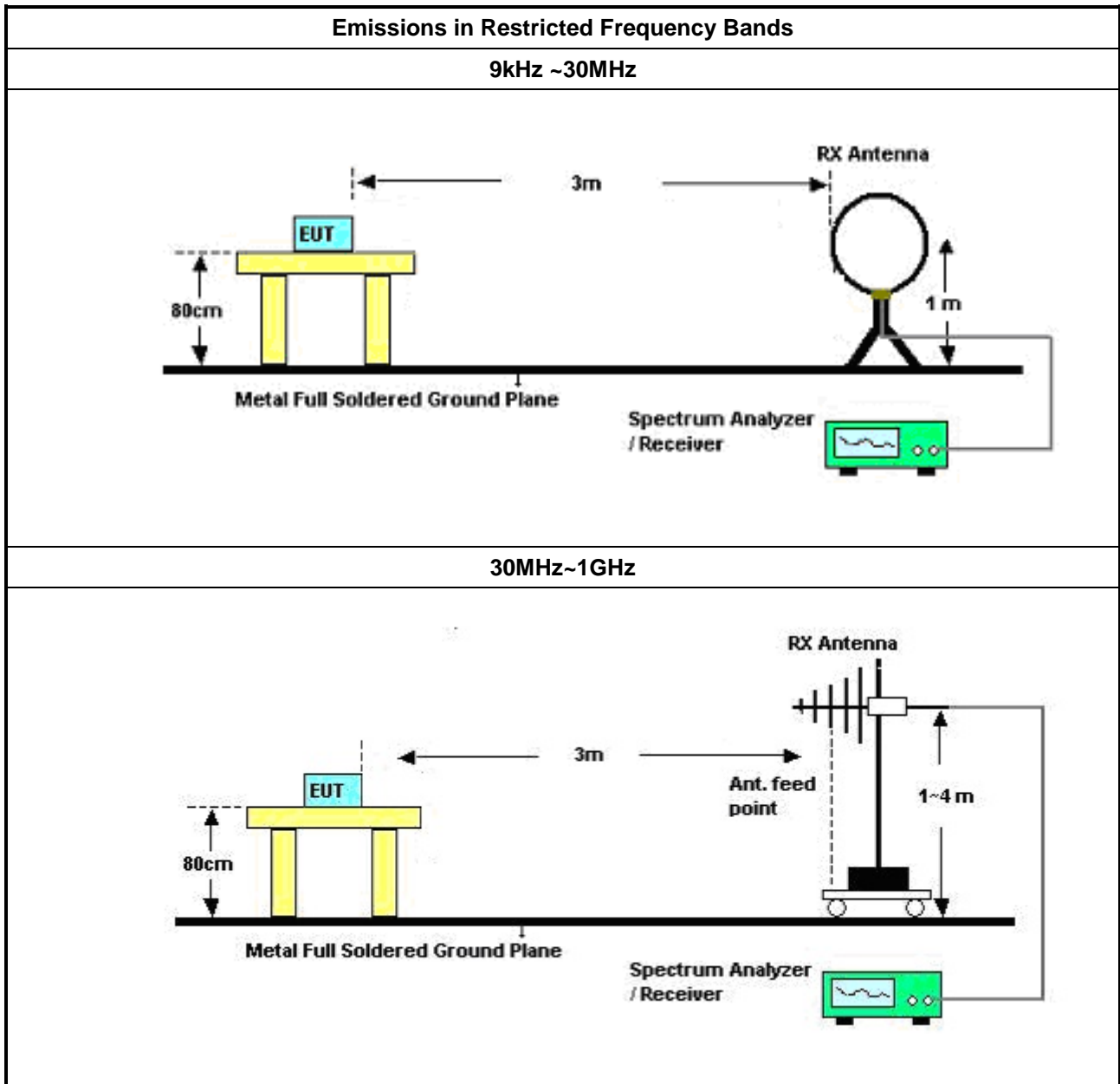
Test Method	
	<ul style="list-style-type: none"> <li>▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest 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:               <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> </li> </ul>
	<ul style="list-style-type: none"> <li>▪ For the transmitter band-edge emissions shall be measured using following options below:               <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> <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> <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> </li> </ul>
	<ul style="list-style-type: none"> <li>▪ Use the following spectrum analyzer settings:               <ul style="list-style-type: none"> <li>▪ Set RBW=100 kHz for f &lt; 1 GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.</li> <li>▪ Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement. For average measurement, refer as 1.1.4.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>▪ KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.               <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> <li>▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.</li> </ul> </li> </ul>

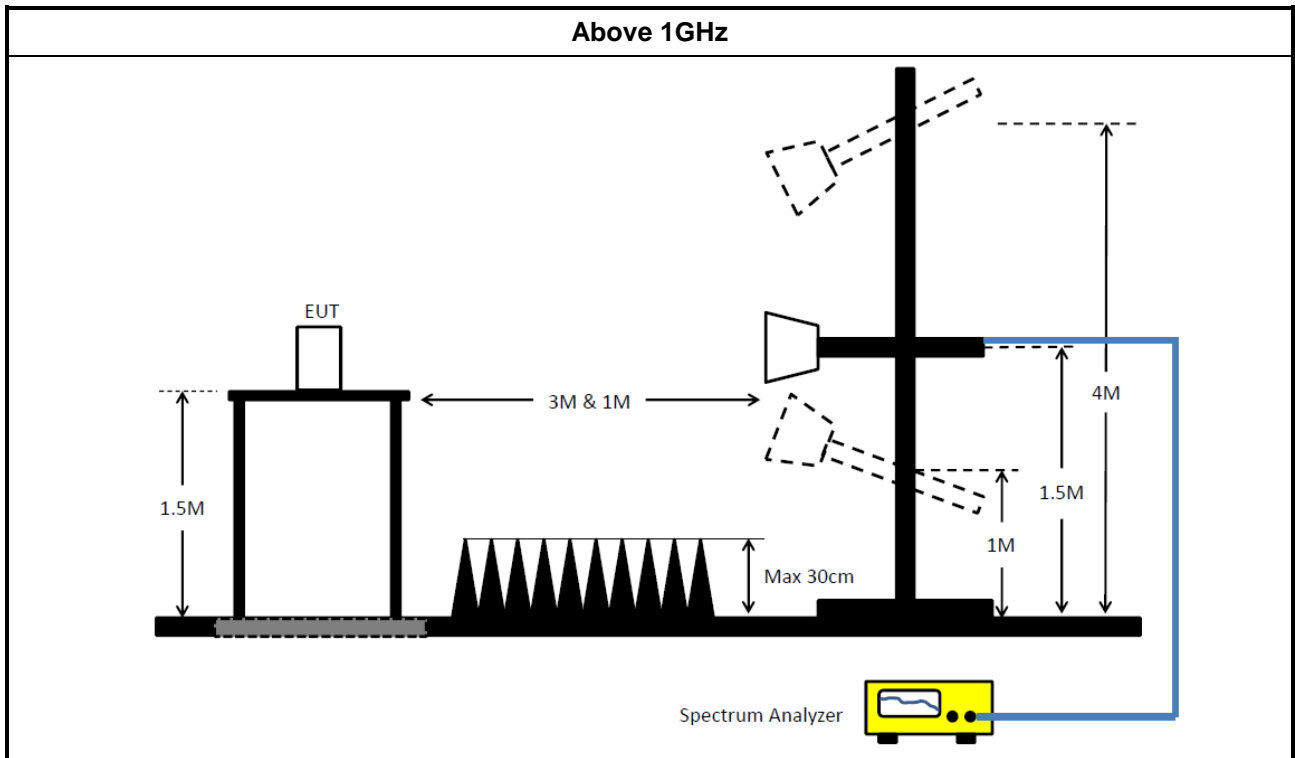
### 3.6.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(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	101515	10Hz~40GHz	26/Mar/2021	25/Mar/2022
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	20/Oct/2020	19/Oct/2021
Pulse Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	27/Nov/2020	26/Nov/2021
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	27/Nov/2020	26/Nov/2021

**Instrument for Radiated Test**

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz~1GHz 3m	26/Mar/2021	25/Mar/2022
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz~18GHz 3m	18/Mar/2021	17/Mar/2022
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz~44GHz	11/Aug/2020	10/Aug/2021
Amplifier	EMC	EMC9135	980232	9kHz~1GHz	12/Apr/2021	11/Apr/2022
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz~26.5GHz	24/Jul/2020	23/Jul/2021
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D& MTJ6102-05	35418 & 3	30MHz~1GHz	06/Sep/2020	05/Sep/2021
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	28/May/2020	27/May/2021
RF Cable-low	Jye Bao	RG142	CB031+324530/ 4	9kHz~30MHz	03/Sep/2020	02/Sep/2021
RF Cable-low	Jye Bao	RG142	CB031+324530/ 4	30MHz~1GHz	09/Feb/2021	08/Feb/2022
RF CABLE 5m+3m+1m	HUBER+SUHNER	SUCOFLEX1 04	SN MY25918/4+ SN MY39478/4 + SN 324530/4	1GHz~40GHz	15/Aug/2020	14/Aug/2021
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz~40GHz	11/Mar/2021	10/Mar/2022
Preamplifier	MITEQ	TTA1840-35- HG	1864481	18GHz~40GHz	18/Mar/2021	17/Mar/2022
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2021	15/Mar/2022
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	29/May/2020	28/May/2021



**Summary**

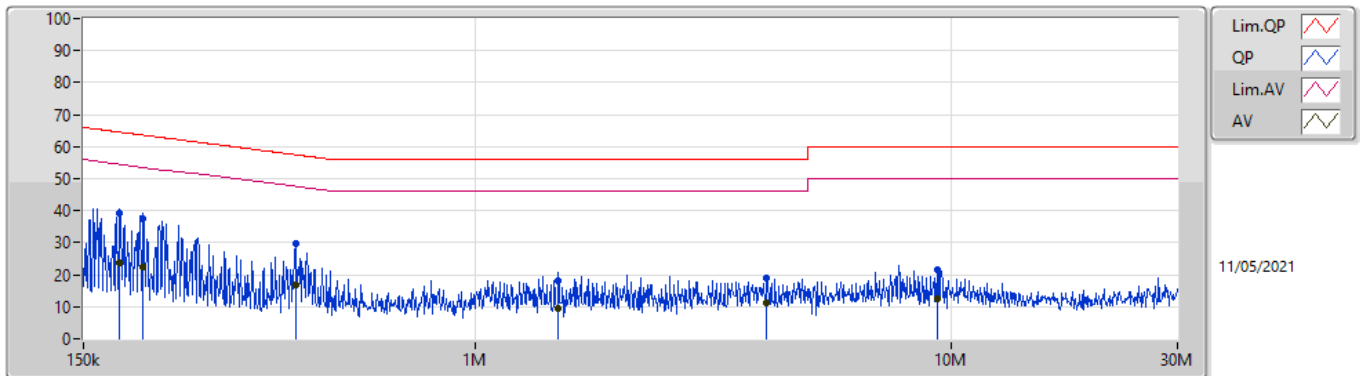
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	420.135k	36.71	47.45	-10.74	Neutral



Result

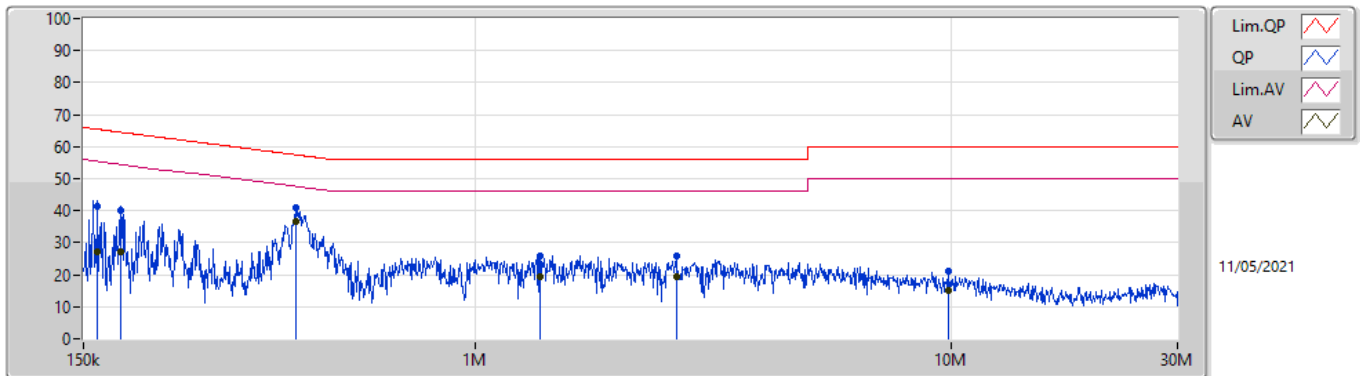
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	178.803k	39.40	64.55	-25.15	Line	-
Mode 1	Pass	AV	178.803k	23.80	54.55	-30.75	Line	-
Mode 1	Pass	QP	199.949k	37.44	63.61	-26.17	Line	-
Mode 1	Pass	AV	199.949k	22.36	53.61	-31.25	Line	-
Mode 1	Pass	QP	418.461k	29.59	57.47	-27.88	Line	-
Mode 1	Pass	AV	418.461k	16.68	47.47	-30.79	Line	-
Mode 1	Pass	QP	1.495M	17.99	56.00	-38.01	Line	-
Mode 1	Pass	AV	1.495M	9.52	46.00	-36.48	Line	-
Mode 1	Pass	QP	4.105M	18.79	56.00	-37.21	Line	-
Mode 1	Pass	AV	4.105M	11.23	46.00	-34.77	Line	-
Mode 1	Pass	QP	9.38M	21.61	60.00	-38.39	Line	-
Mode 1	Pass	AV	9.38M	12.31	50.00	-37.69	Line	-
Mode 1	Pass	QP	160.533k	41.58	65.43	-23.85	Neutral	-
Mode 1	Pass	AV	160.533k	27.23	55.43	-28.20	Neutral	-
Mode 1	Pass	QP	179.518k	40.18	64.51	-24.33	Neutral	-
Mode 1	Pass	AV	179.518k	27.11	54.51	-27.40	Neutral	-
Mode 1	Pass	QP	420.135k	41.01	57.45	-16.44	Neutral	-
Mode 1	Pass	AV	420.135k	36.71	47.45	-10.74	Neutral	-
Mode 1	Pass	QP	1.37M	25.97	56.00	-30.03	Neutral	-
Mode 1	Pass	AV	1.37M	19.48	46.00	-26.52	Neutral	-
Mode 1	Pass	QP	2.646M	25.75	56.00	-30.25	Neutral	-
Mode 1	Pass	AV	2.646M	19.24	46.00	-26.76	Neutral	-
Mode 1	Pass	QP	9.919M	21.15	60.00	-38.85	Neutral	-
Mode 1	Pass	AV	9.919M	15.30	50.00	-34.70	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	178.803k	39.40	64.55	-25.15	19.62	Line	-	19.78	9.68	0.04	9.90			
AV	178.803k	23.80	54.55	-30.75	19.62	Line	-	4.18	9.68	0.04	9.90			
QP	199.949k	37.44	63.61	-26.17	19.62	Line	-	17.82	9.68	0.04	9.90			
AV	199.949k	22.36	53.61	-31.25	19.62	Line	-	2.74	9.68	0.04	9.90			
QP	418.461k	29.59	57.47	-27.88	19.62	Line	-	9.97	9.67	0.06	9.89			
AV	418.461k	16.68	47.47	-30.79	19.62	Line	-	-2.94	9.67	0.06	9.89			
QP	1.495M	17.99	56.00	-38.01	19.57	Line	-	-1.58	9.68	0.09	9.80			
AV	1.495M	9.52	46.00	-36.48	19.57	Line	-	-10.05	9.68	0.09	9.80			
QP	4.105M	18.79	56.00	-37.21	19.73	Line	-	-0.94	9.69	0.14	9.90			
AV	4.105M	11.23	46.00	-34.77	19.73	Line	-	-8.50	9.69	0.14	9.90			
QP	9.38M	21.61	60.00	-38.39	19.82	Line	-	1.79	9.72	0.20	9.90			
AV	9.38M	12.31	50.00	-37.69	19.82	Line	-	-7.51	9.72	0.20	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	160.533k	41.58	65.43	-23.85	19.63	Neutral	-	21.95	9.69	0.04	9.90			
AV	160.533k	27.23	55.43	-28.20	19.63	Neutral	-	7.60	9.69	0.04	9.90			
QP	179.518k	40.18	64.51	-24.33	19.62	Neutral	-	20.56	9.68	0.04	9.90			
AV	179.518k	27.11	54.51	-27.40	19.62	Neutral	-	7.49	9.68	0.04	9.90			
QP	420.135k	41.01	57.45	-16.44	19.62	Neutral	-	21.39	9.67	0.06	9.89			
AV	420.135k	36.71	47.45	-10.74	19.62	Neutral	-	17.09	9.67	0.06	9.89			
QP	1.37M	25.97	56.00	-30.03	19.56	Neutral	-	6.41	9.67	0.09	9.80			
AV	1.37M	19.48	46.00	-26.52	19.56	Neutral	-	-0.08	9.67	0.09	9.80			
QP	2.646M	25.75	56.00	-30.25	19.64	Neutral	-	6.11	9.68	0.12	9.84			
AV	2.646M	19.24	46.00	-26.76	19.64	Neutral	-	-0.40	9.68	0.12	9.84			
QP	9.919M	21.15	60.00	-38.85	19.83	Neutral	-	1.32	9.73	0.20	9.90			
AV	9.919M	15.30	50.00	-34.70	19.83	Neutral	-	-4.53	9.73	0.20	9.90			



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	725k	1.044M	1M04F1D	712.5k	1.028M

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

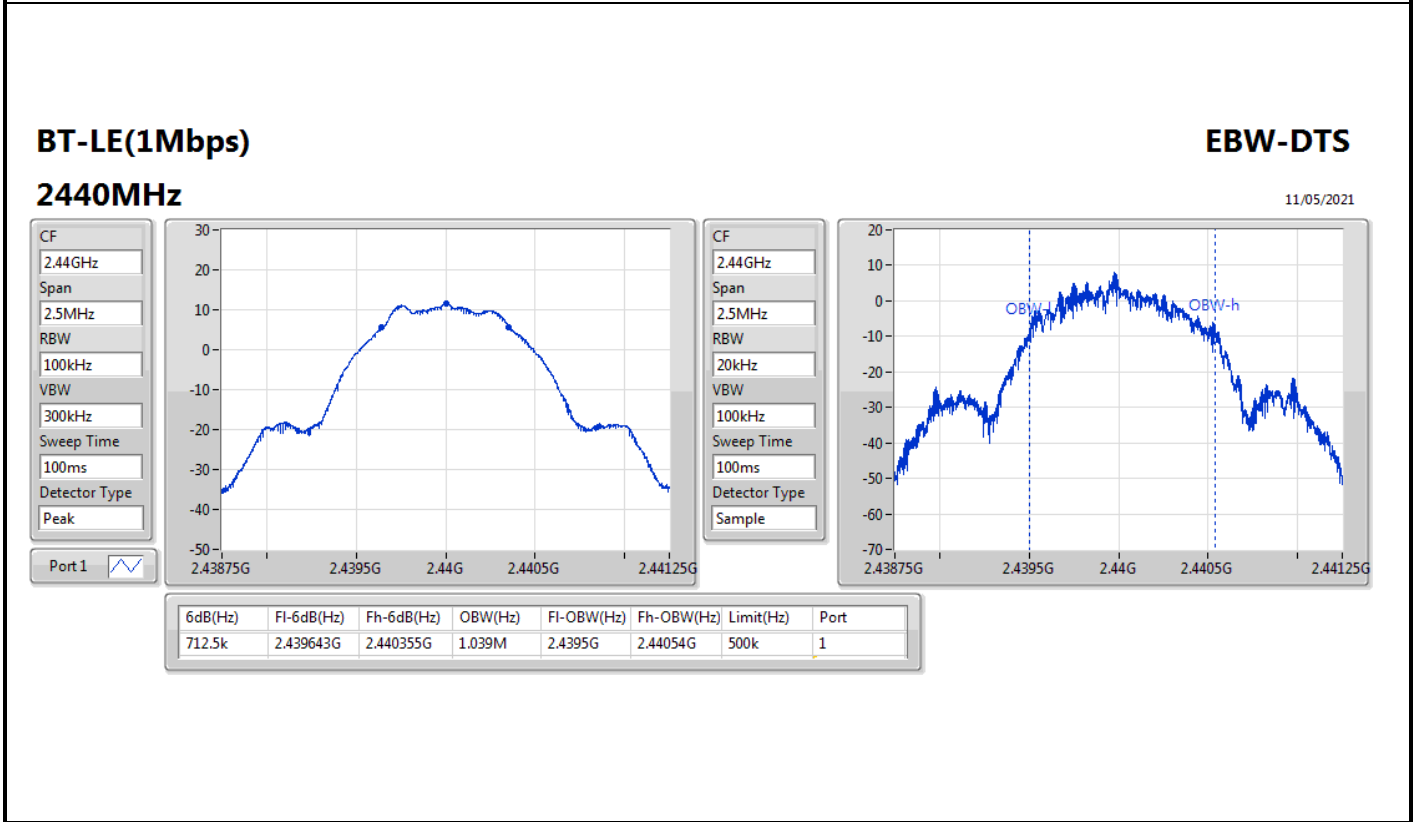
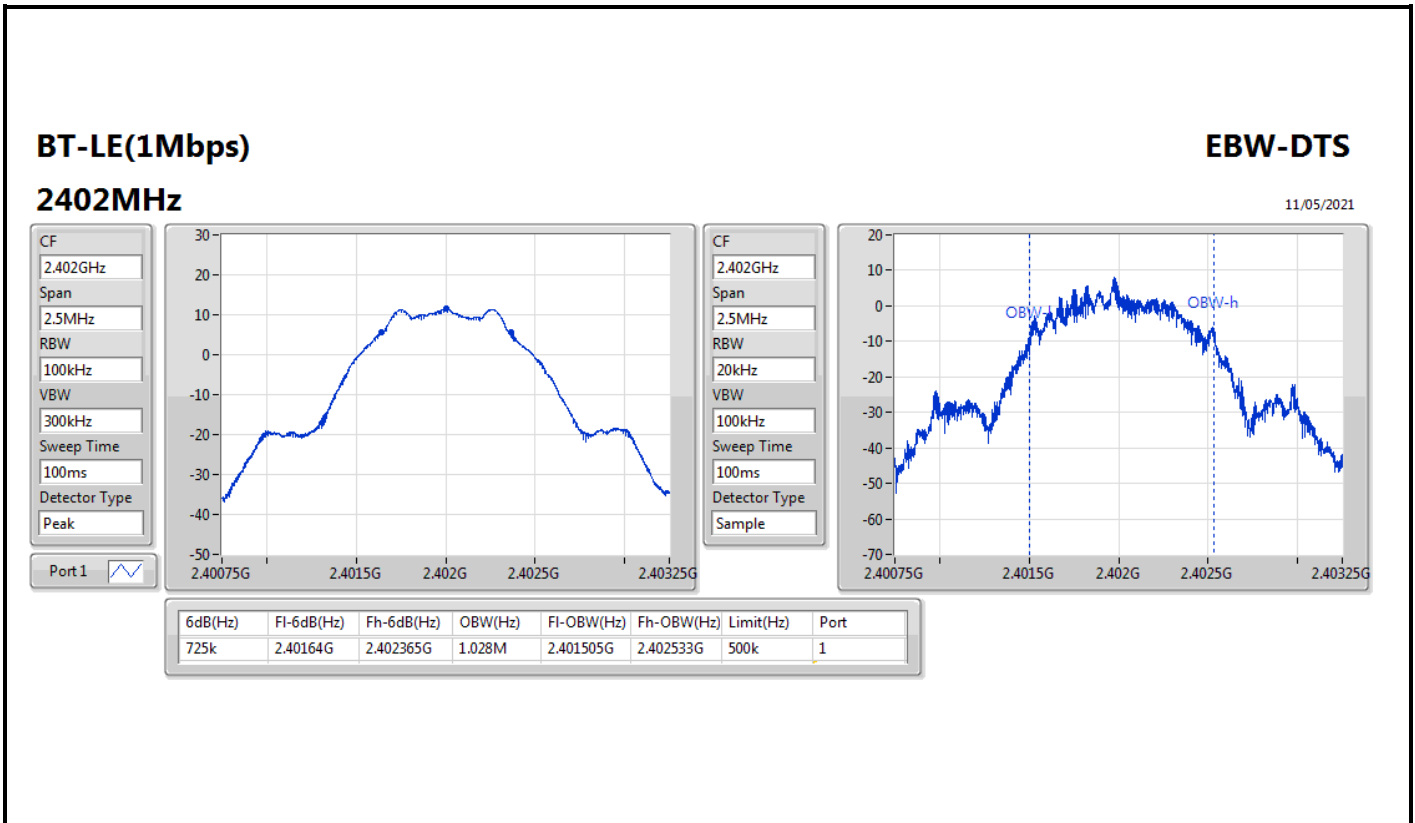


Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom-DTS	Pass	500k	725k	1.028M
2440MHz_TnomVnom-DTS	Pass	500k	712.5k	1.039M
2480MHz_TnomVnom-DTS	Pass	500k	712.5k	1.044M

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



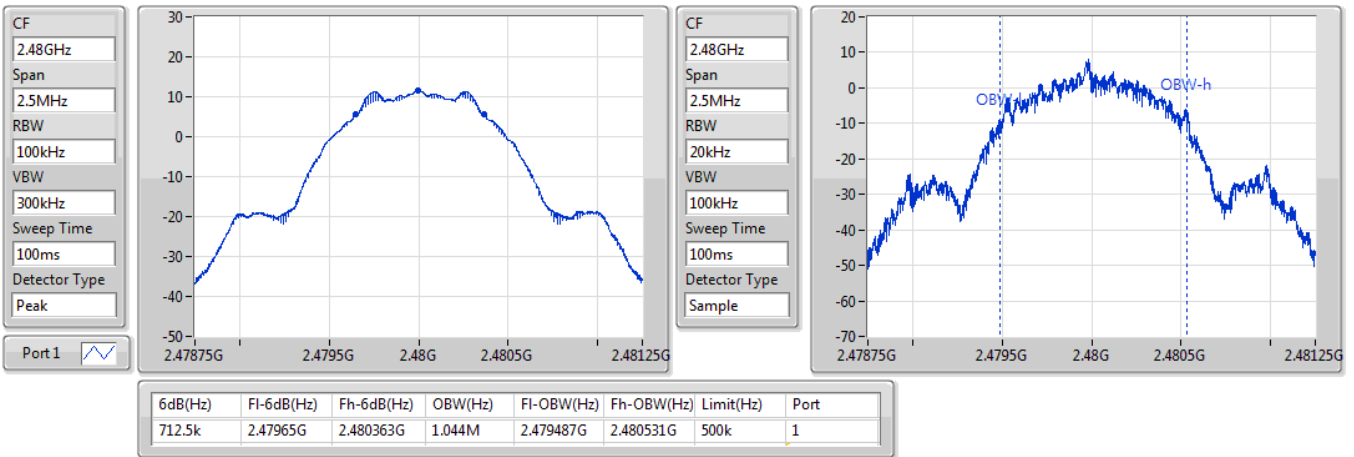


**BT-LE(1Mbps)**

**2480MHz**

**EBW-DTS**

11/05/2021





**Summary**

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	12.16	0.01644



**Result**

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom-DTS	Pass	2.00	12.03	30.00
2440MHz_TnomVnom-DTS	Pass	2.00	11.82	30.00
2480MHz_TnomVnom-DTS	Pass	2.00	12.16	30.00

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



**Summary**

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-3.22

RBW = 3kHz;



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom-DTS	Pass	2.00	-4.45	8.00
2440MHz_TnomVnom-DTS	Pass	2.00	-3.22	8.00
2480MHz_TnomVnom-DTS	Pass	2.00	-4.10	8.00

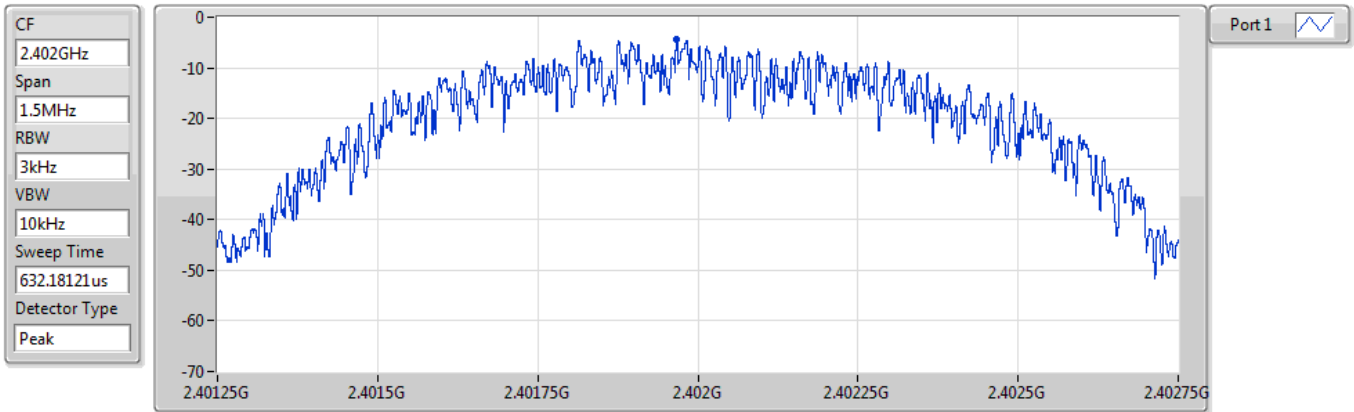
DG = Directional Gain; RBW = 3kHz;  
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

### BT-LE(1Mbps)

### PSD

#### 2402MHz

11/05/2021



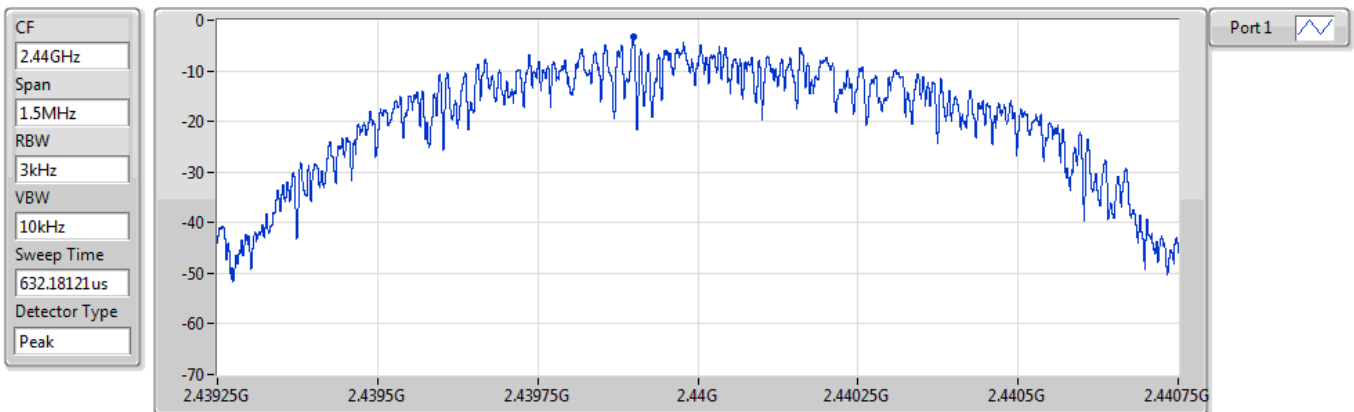
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.45	-4.45	-4.45

### BT-LE(1Mbps)

### PSD

#### 2440MHz

11/05/2021



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.22	-3.22	-3.22

**BT-LE(1Mbps)**

**PSD**

**2480MHz**

11/05/2021

CF  
2.48GHz

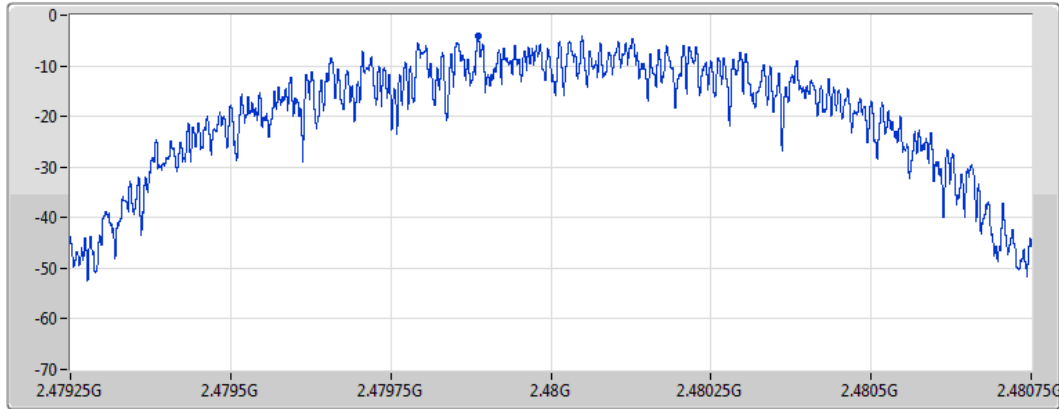
Span  
1.5MHz


RBW  
3kHz

VBW  
10kHz

Sweep Time  
632.18121us

Detector Type  
Peak



Port 1 

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.10	-4.10	-4.10





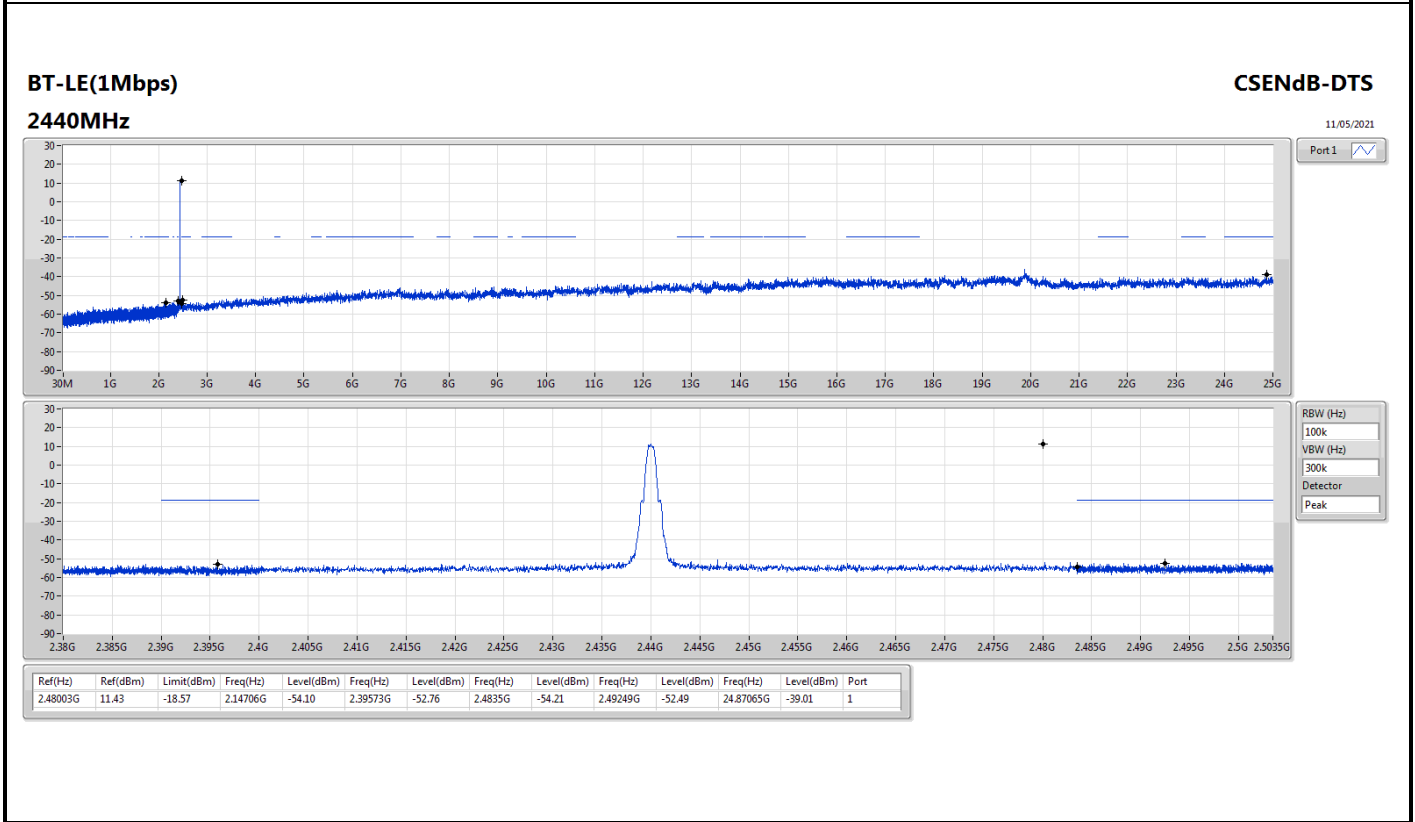
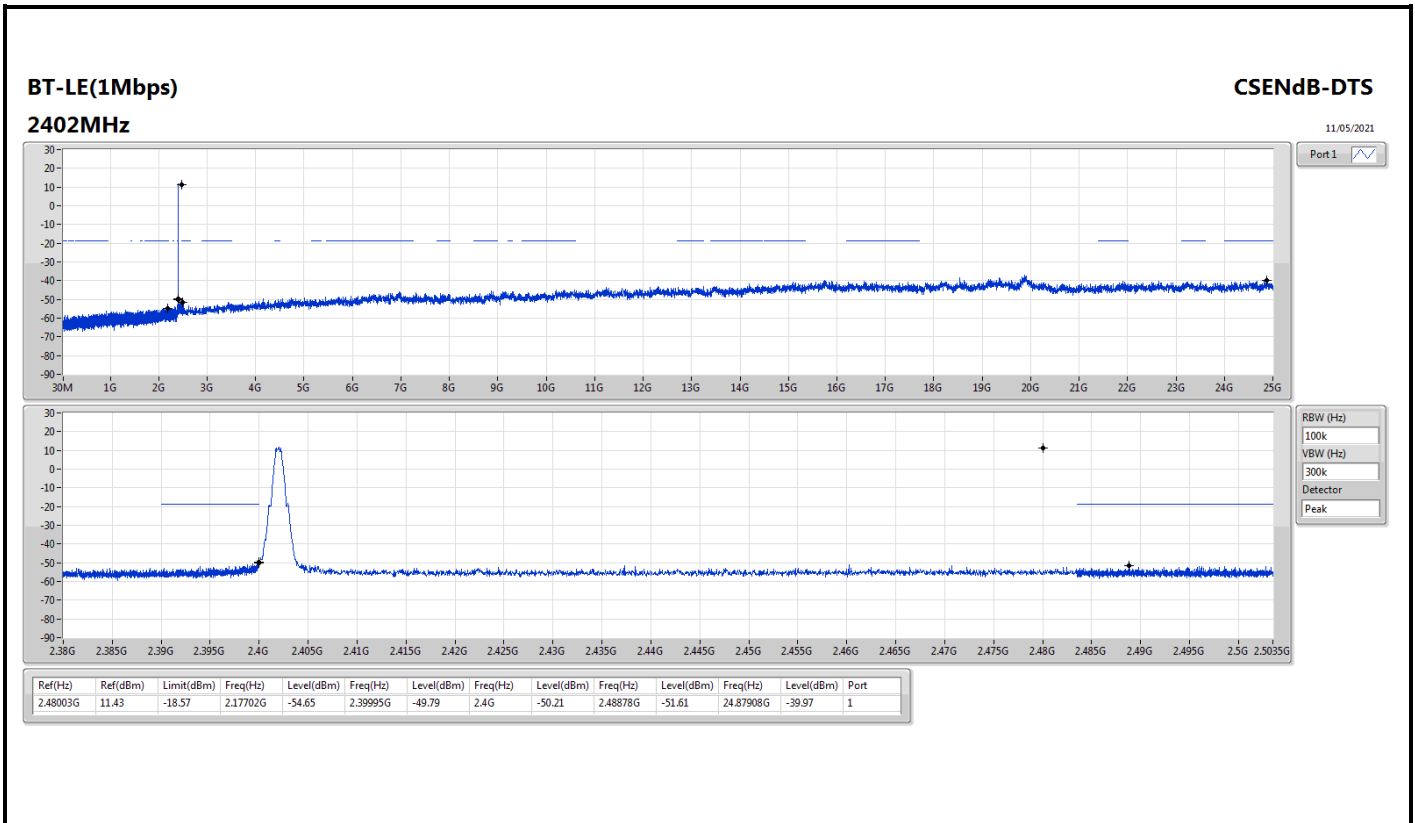
Summary

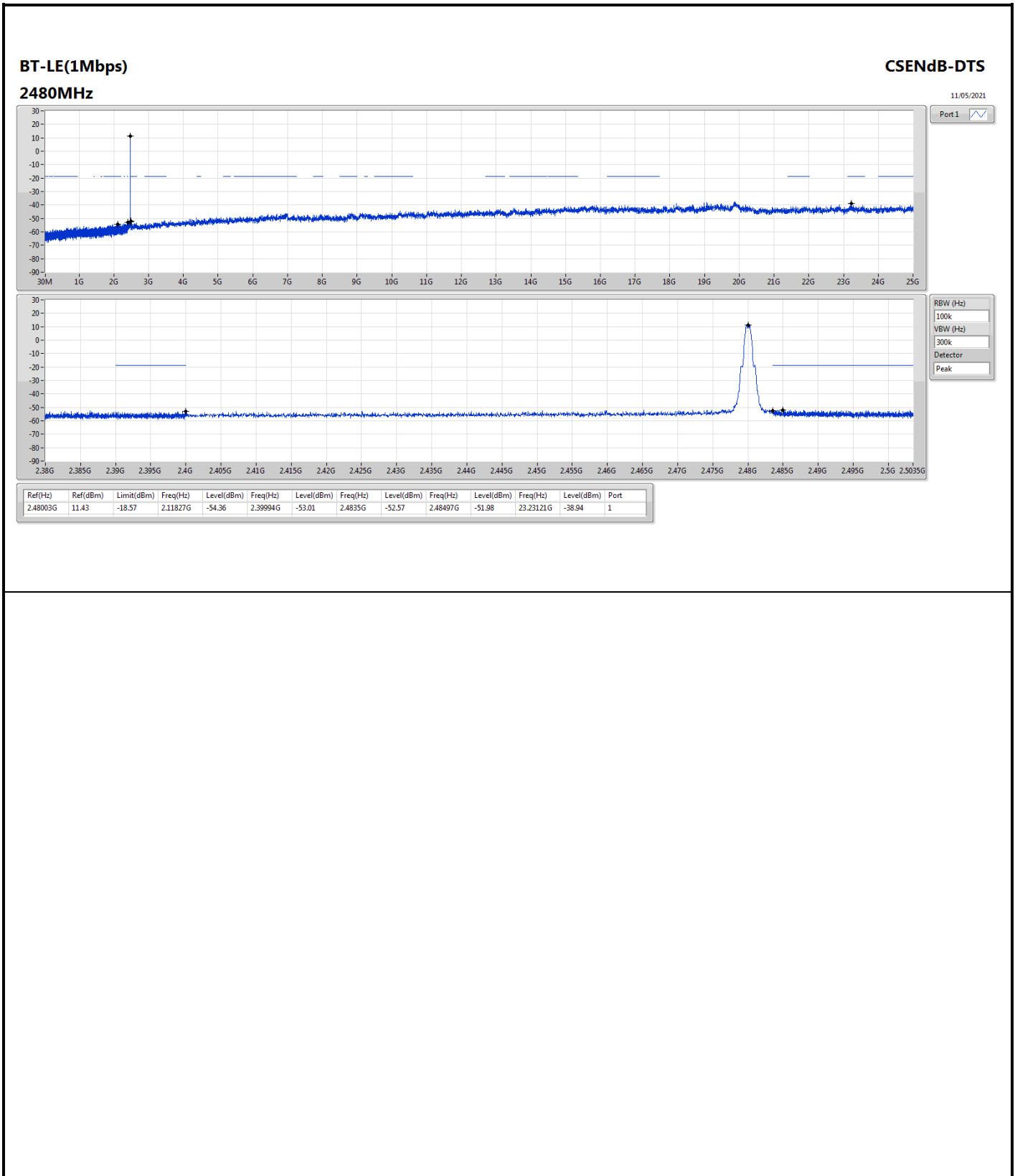
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.48003G	11.43	-18.57	2.17702G	-54.65	2.39995G	-49.79	2.4G	-50.21	2.48878G	-51.61	24.87908G	-39.97	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_TnomVnom-DTS	Pass	2.48003G	11.43	-18.57	2.17702G	-54.65	2.39995G	-49.79	2.4G	-50.21	2.48878G	-51.61	24.87908G	-39.97	1
2440MHz_TnomVnom-DTS	Pass	2.48003G	11.43	-18.57	2.14706G	-54.10	2.39573G	-52.76	2.4835G	-54.21	2.49249G	-52.49	24.87065G	-39.01	1
2480MHz_TnomVnom-DTS	Pass	2.48003G	11.43	-18.57	2.11827G	-54.36	2.39994G	-53.01	2.4835G	-52.57	2.48497G	-51.98	23.23121G	-38.94	1







Summary

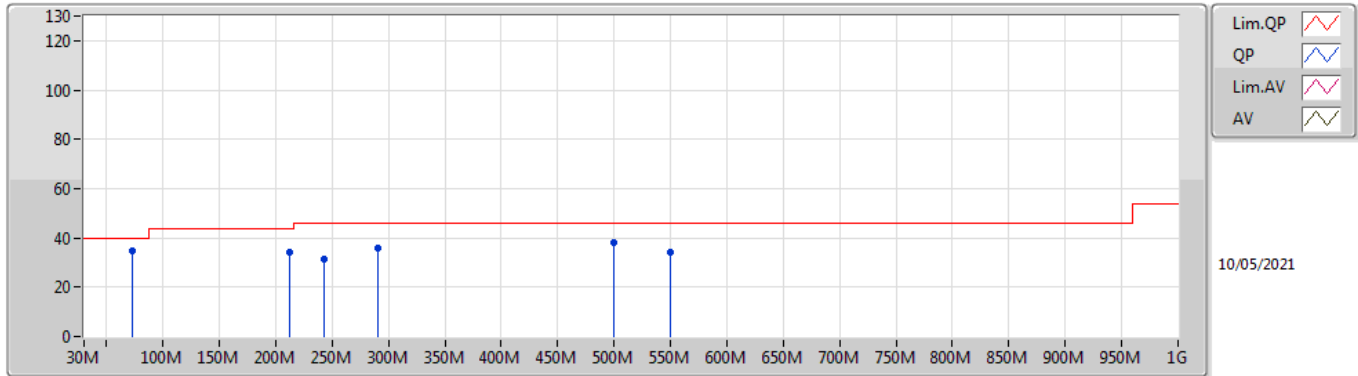
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	72.68M	34.86	40.00	-5.14	3	Vertical	360	1.00	-



Result

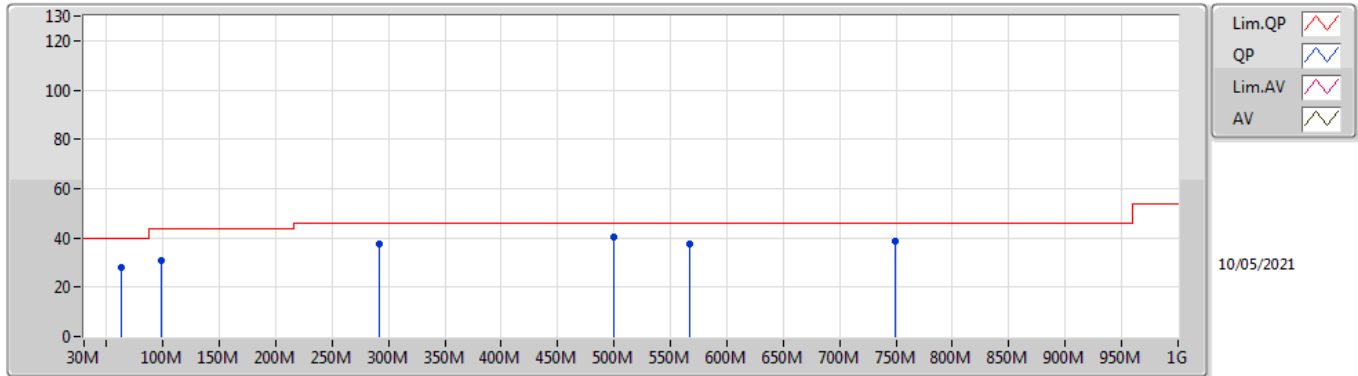
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	72.68M	34.86	40.00	-5.14	3	Vertical	360	1.00	-
2440MHz	Pass	PK	212.36M	34.43	43.50	-9.07	3	Vertical	360	1.00	-
2440MHz	Pass	PK	289.96M	36.01	46.00	-9.99	3	Vertical	360	1.00	-
2440MHz	Pass	PK	499.48M	37.97	46.00	-8.03	3	Vertical	360	1.00	-
2440MHz	Pass	PK	549.92M	34.32	46.00	-11.68	3	Vertical	360	1.00	-
2440MHz	Pass	QP	243.4M	31.26	46.00	-14.74	3	Vertical	105	1.00	-
2440MHz	Pass	PK	62.98M	28.17	40.00	-11.83	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	97.9M	30.62	43.50	-12.88	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	291.9M	37.71	46.00	-8.29	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	499.48M	40.21	46.00	-5.79	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	567.38M	37.43	46.00	-8.57	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	749.74M	38.43	46.00	-7.57	3	Horizontal	0	1.00	-

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



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	72.68M	34.86	40.00	-5.14	-24.58	3	Vertical	360	1.00	-	59.44	11.52	0.85	36.95
PK	212.36M	34.43	43.50	-9.07	-20.77	3	Vertical	360	1.00	-	55.20	14.17	1.36	36.30
PK	289.96M	36.01	46.00	-9.99	-16.64	3	Vertical	360	1.00	-	52.65	18.15	1.64	36.43
PK	499.48M	37.97	46.00	-8.03	-11.51	3	Vertical	360	1.00	-	49.48	23.25	2.23	36.99
PK	549.92M	34.32	46.00	-11.68	-10.25	3	Vertical	360	1.00	-	44.57	24.45	2.38	37.08
QP	243.4M	31.26	46.00	-14.74	-18.07	3	Vertical	105	1.00	-	49.33	16.82	1.48	36.37

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



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	62.98M	28.17	40.00	-11.83	-25.29	3	Horizontal	0	1.00	-	53.46	10.93	0.82	37.04
PK	97.9M	30.62	43.50	-12.88	-20.68	3	Horizontal	0	1.00	-	51.30	15.00	0.97	36.65
PK	291.9M	37.71	46.00	-8.29	-16.61	3	Horizontal	0	1.00	-	54.32	18.18	1.64	36.43
PK	499.48M	40.21	46.00	-5.79	-11.51	3	Horizontal	0	1.00	-	51.72	23.25	2.23	36.99
PK	567.38M	37.43	46.00	-8.57	-9.41	3	Horizontal	0	1.00	-	46.84	25.27	2.41	37.09
PK	749.74M	38.43	46.00	-7.57	-7.60	3	Horizontal	0	1.00	-	46.03	27.22	2.79	37.61





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	2.4838G	46.29	54.00	-7.71	3	Vertical	0	2.25	-

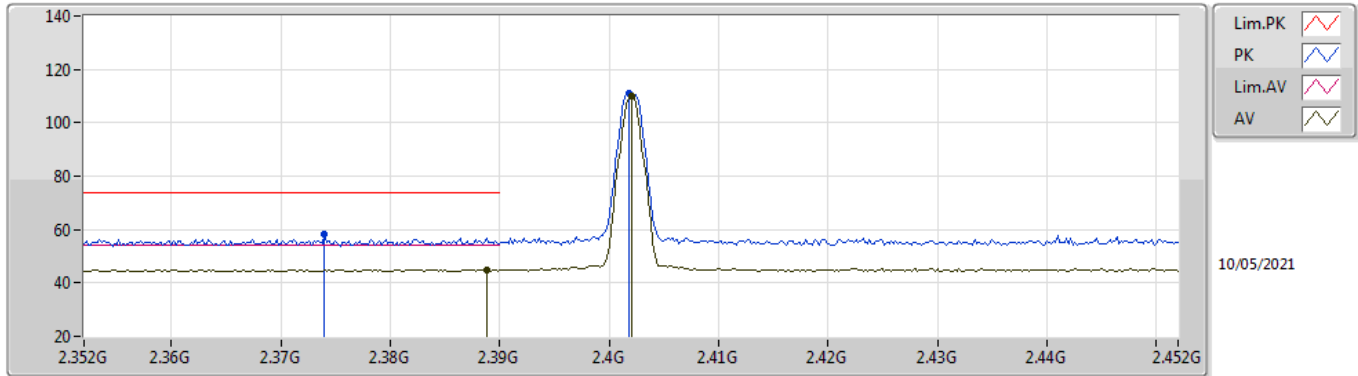


Result

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	2.3888G	45.08	54.00	-8.92	3	Vertical	86	2.17	-
2402MHz	Pass	AV	2.402G	109.85	Inf	-Inf	3	Vertical	86	2.17	-
2402MHz	Pass	PK	2.374G	58.02	74.00	-15.98	3	Vertical	86	2.17	-
2402MHz	Pass	PK	2.4018G	110.80	Inf	-Inf	3	Vertical	86	2.17	-
2402MHz	Pass	AV	2.3872G	45.04	54.00	-8.96	3	Horizontal	120	2.37	-
2402MHz	Pass	AV	2.402G	103.72	Inf	-Inf	3	Horizontal	120	2.37	-
2402MHz	Pass	PK	2.375G	56.97	74.00	-17.03	3	Horizontal	120	2.37	-
2402MHz	Pass	PK	2.402G	104.66	Inf	-Inf	3	Horizontal	120	2.37	-
2402MHz	Pass	AV	4.8043G	31.40	54.00	-22.60	3	Vertical	313	1.11	-
2402MHz	Pass	PK	4.80124G	42.53	74.00	-31.47	3	Vertical	313	1.11	-
2402MHz	Pass	AV	4.79632G	31.31	54.00	-22.69	3	Horizontal	331	1.26	-
2402MHz	Pass	PK	4.8037G	43.01	74.00	-30.99	3	Horizontal	331	1.26	-
2440MHz	Pass	AV	2.3492G	45.09	54.00	-8.91	3	Vertical	360	1.81	-
2440MHz	Pass	AV	2.44G	110.20	Inf	-Inf	3	Vertical	360	1.81	-
2440MHz	Pass	AV	2.4912G	45.50	54.00	-8.50	3	Vertical	360	1.81	-
2440MHz	Pass	PK	2.3656G	56.47	74.00	-17.53	3	Vertical	360	1.81	-
2440MHz	Pass	PK	2.4404G	111.17	Inf	-Inf	3	Vertical	360	1.81	-
2440MHz	Pass	PK	2.4924G	57.02	74.00	-16.98	3	Vertical	360	1.81	-
2440MHz	Pass	AV	2.3552G	45.17	54.00	-8.83	3	Horizontal	123	2.58	-
2440MHz	Pass	AV	2.44G	103.43	Inf	-Inf	3	Horizontal	123	2.58	-
2440MHz	Pass	AV	2.486G	45.40	54.00	-8.60	3	Horizontal	123	2.58	-
2440MHz	Pass	PK	2.3508G	56.56	74.00	-17.44	3	Horizontal	123	2.58	-
2440MHz	Pass	PK	2.4396G	104.44	Inf	-Inf	3	Horizontal	123	2.58	-
2440MHz	Pass	PK	2.4988G	56.95	74.00	-17.05	3	Horizontal	123	2.58	-
2440MHz	Pass	AV	4.87987G	33.50	54.00	-20.50	3	Vertical	16	1.35	-
2440MHz	Pass	PK	4.88056G	44.49	74.00	-29.51	3	Vertical	16	1.35	-
2440MHz	Pass	AV	4.88014G	33.97	54.00	-20.03	3	Horizontal	43	1.00	-
2440MHz	Pass	PK	4.87995G	44.78	74.00	-29.22	3	Horizontal	43	1.00	-
2480MHz	Pass	AV	2.48G	109.93	Inf	-Inf	3	Vertical	0	2.25	-
2480MHz	Pass	AV	2.4838G	46.29	54.00	-7.71	3	Vertical	0	2.25	-
2480MHz	Pass	PK	2.48G	110.89	Inf	-Inf	3	Vertical	0	2.25	-
2480MHz	Pass	PK	2.4868G	57.24	74.00	-16.76	3	Vertical	0	2.25	-
2480MHz	Pass	AV	2.48G	102.47	Inf	-Inf	3	Horizontal	240	2.48	-
2480MHz	Pass	AV	2.4922G	45.48	54.00	-8.52	3	Horizontal	240	2.48	-
2480MHz	Pass	PK	2.4802G	103.46	Inf	-Inf	3	Horizontal	240	2.48	-
2480MHz	Pass	PK	2.4838G	57.61	74.00	-16.39	3	Horizontal	240	2.48	-
2480MHz	Pass	AV	4.95987G	33.21	54.00	-20.79	3	Vertical	1	2.21	-
2480MHz	Pass	PK	4.95933G	45.25	74.00	-28.75	3	Vertical	1	2.21	-
2480MHz	Pass	AV	4.9601G	33.98	54.00	-20.02	3	Horizontal	48	1.12	-
2480MHz	Pass	PK	4.95972G	44.83	74.00	-29.17	3	Horizontal	48	1.12	-

**BT-LE(1Mbps)**

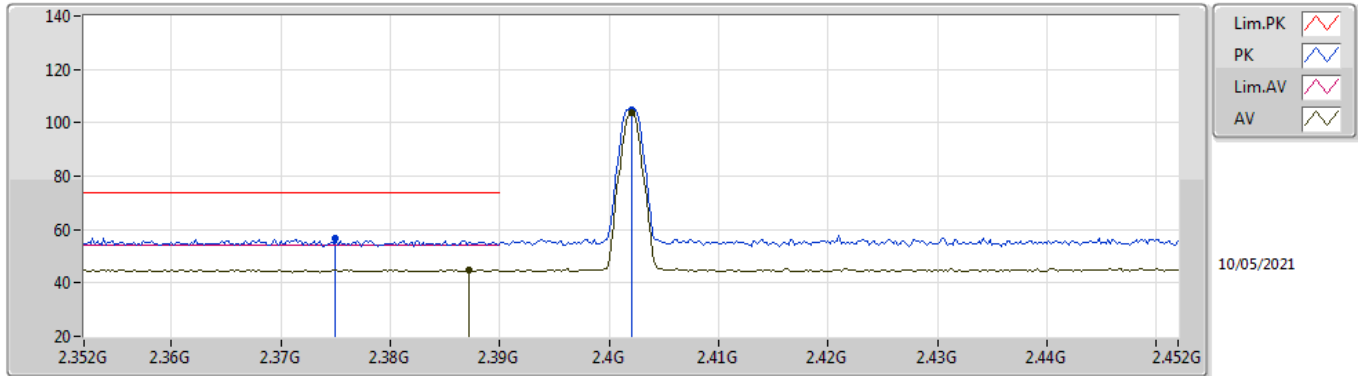
**2402MHz\_TX**



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	2.3888G	45.08	54.00	-8.92	31.52	3	Vertical	86	2.17	-	13.56	27.64	3.88	-
AV	2.402G	109.85	Inf	-Inf	31.50	3	Vertical	86	2.17	-	78.35	27.60	3.90	-
PK	2.374G	58.02	74.00	-15.98	31.56	3	Vertical	86	2.17	-	26.46	27.70	3.86	-
PK	2.4018G	110.80	Inf	-Inf	31.50	3	Vertical	86	2.17	-	79.30	27.60	3.90	-

**BT-LE(1Mbps)**

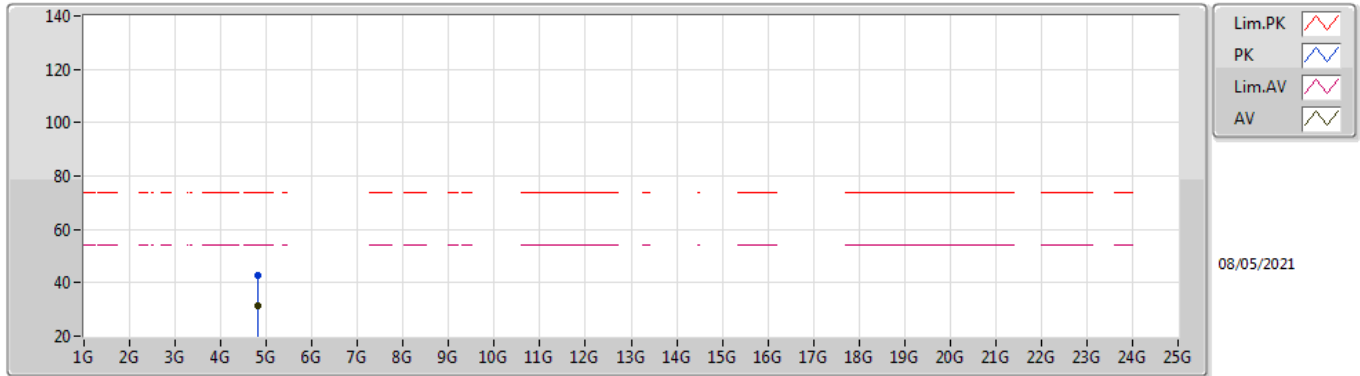
**2402MHz\_TX**



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	2.3872G	45.04	54.00	-8.96	31.53	3	Horizontal	120	2.37	-	13.51	27.65	3.88	-
AV	2.402G	103.72	Inf	-Inf	31.50	3	Horizontal	120	2.37	-	72.22	27.60	3.90	-
PK	2.375G	56.97	74.00	-17.03	31.56	3	Horizontal	120	2.37	-	25.41	27.70	3.86	-
PK	2.402G	104.66	Inf	-Inf	31.50	3	Horizontal	120	2.37	-	73.16	27.60	3.90	-

### BT-LE(1Mbps)

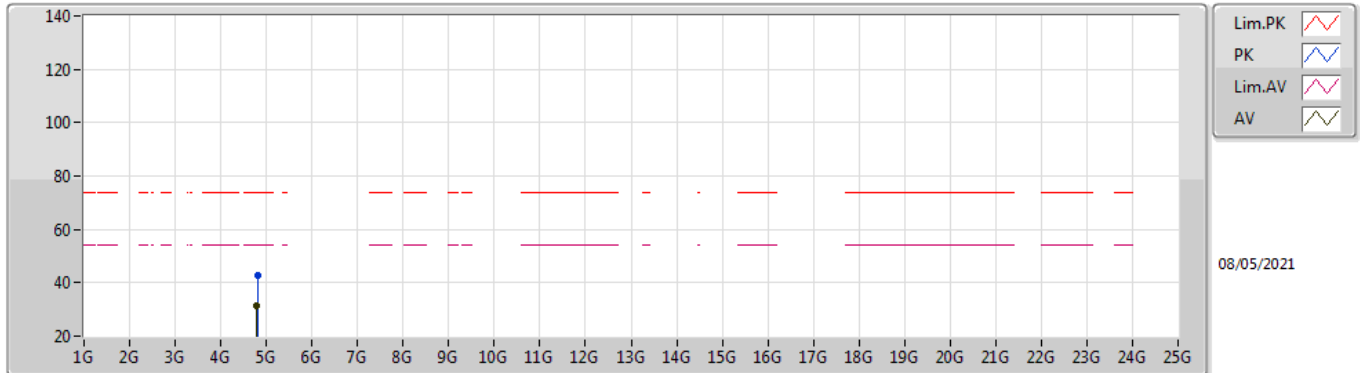
### 2402MHz\_TX



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	4.8043G	31.40	54.00	-22.60	1.49	3	Vertical	313	1.11	-	29.91	31.12	5.30	34.93
PK	4.80124G	42.53	74.00	-31.47	1.47	3	Vertical	313	1.11	-	41.06	31.10	5.30	34.93

### BT-LE(1Mbps)

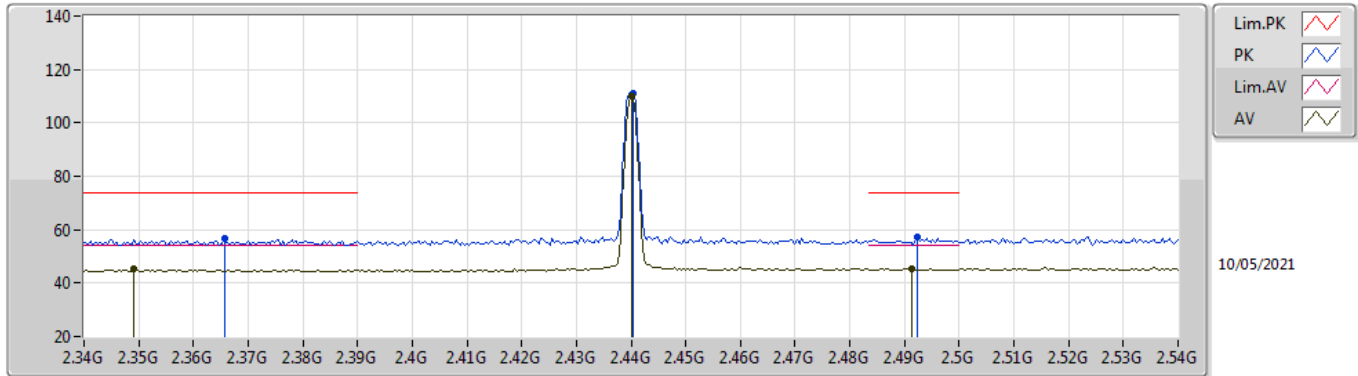
### 2402MHz\_TX



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	4.79632G	31.31	54.00	-22.69	1.48	3	Horizontal	331	1.26	-	29.83	31.11	5.30	34.93
PK	4.8037G	43.01	74.00	-30.99	1.48	3	Horizontal	331	1.26	-	41.53	31.11	5.30	34.93

**BT-LE(1Mbps)**

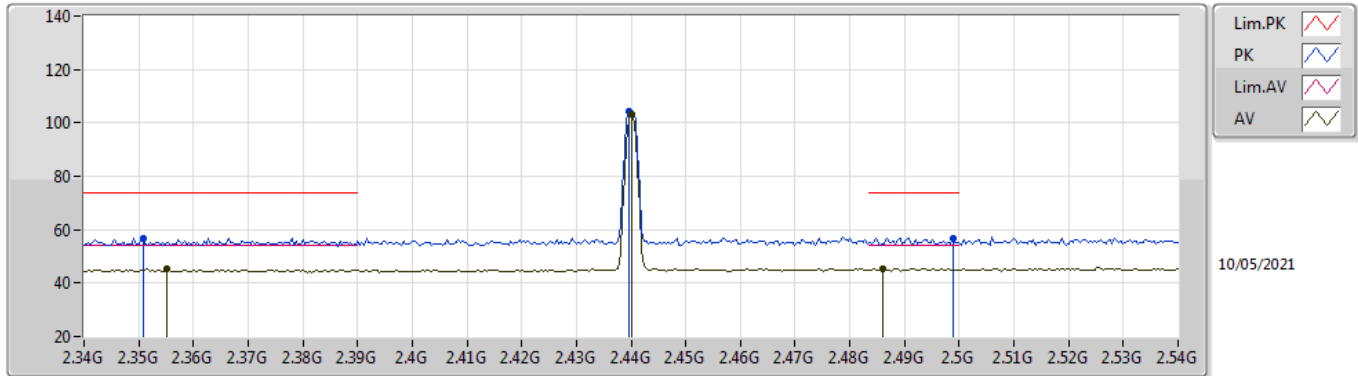
**2440MHz\_TX**



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	2.3492G	45.09	54.00	-8.91	31.62	3	Vertical	360	1.81	-	13.47	27.80	3.82	-
AV	2.44G	110.20	Inf	-Inf	31.56	3	Vertical	360	1.81	-	78.64	27.60	3.96	-
AV	2.4912G	45.50	54.00	-8.50	31.64	3	Vertical	360	1.81	-	13.86	27.60	4.04	-
PK	2.3656G	56.47	74.00	-17.53	31.59	3	Vertical	360	1.81	-	24.88	27.74	3.85	-
PK	2.4404G	111.17	Inf	-Inf	31.56	3	Vertical	360	1.81	-	79.61	27.60	3.96	-
PK	2.4924G	57.02	74.00	-16.98	31.64	3	Vertical	360	1.81	-	25.38	27.60	4.04	-

**BT-LE(1Mbps)**

**2440MHz\_TX**

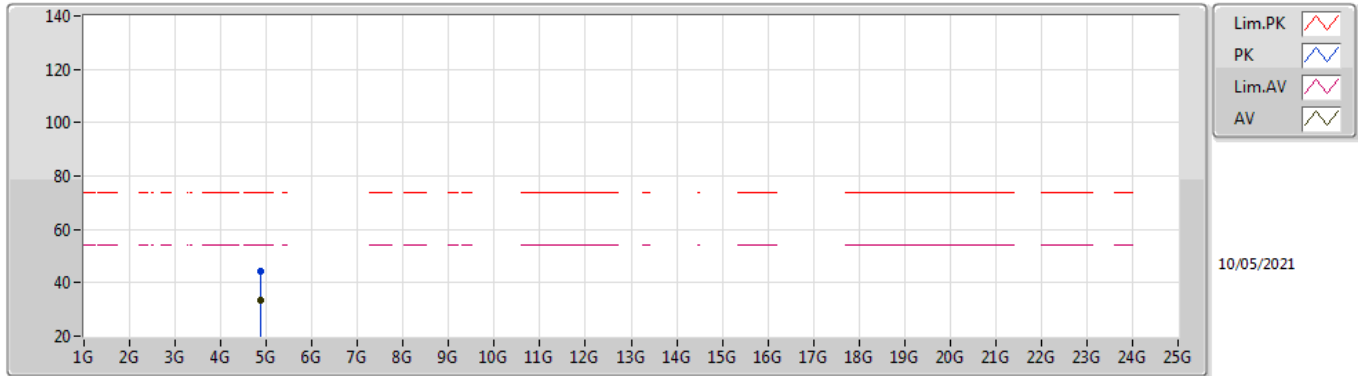


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3552G	45.17	54.00	-8.83	31.61	3	Horizontal	123	2.58	-	13.56	27.78	3.83	-
AV	2.44G	103.43	Inf	-Inf	31.56	3	Horizontal	123	2.58	-	71.87	27.60	3.96	-
AV	2.486G	45.40	54.00	-8.60	31.63	3	Horizontal	123	2.58	-	13.77	27.60	4.03	-
PK	2.3508G	56.56	74.00	-17.44	31.63	3	Horizontal	123	2.58	-	24.93	27.80	3.83	-
PK	2.4396G	104.44	Inf	-Inf	31.56	3	Horizontal	123	2.58	-	72.88	27.60	3.96	-
PK	2.4988G	56.95	74.00	-17.05	31.65	3	Horizontal	123	2.58	-	25.30	27.60	4.05	-



### BT-LE(1Mbps)

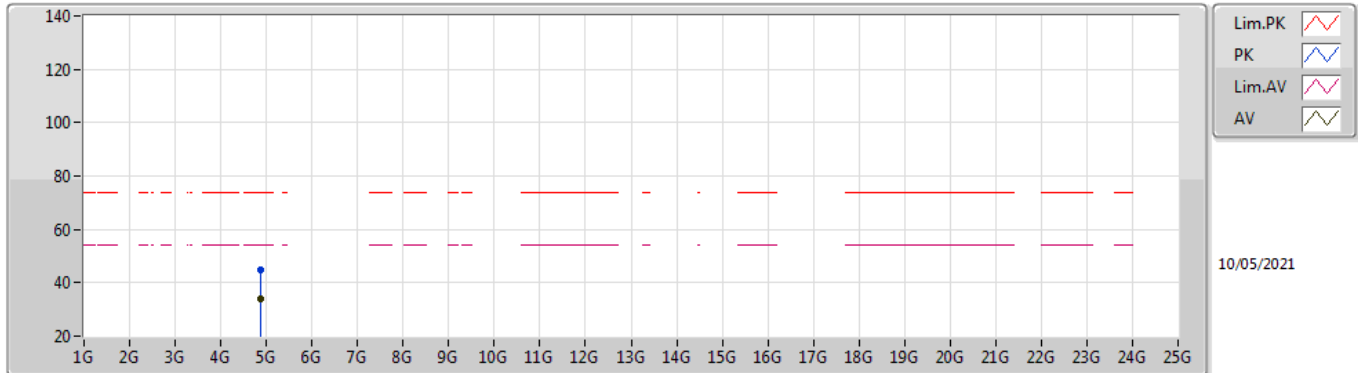
### 2440MHz\_TX



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	4.87987G	33.50	54.00	-20.50	1.65	3	Vertical	16	1.35	-	31.85	31.24	5.34	34.93
PK	4.88056G	44.49	74.00	-29.51	1.65	3	Vertical	16	1.35	-	42.84	31.24	5.34	34.93

### BT-LE(1Mbps)

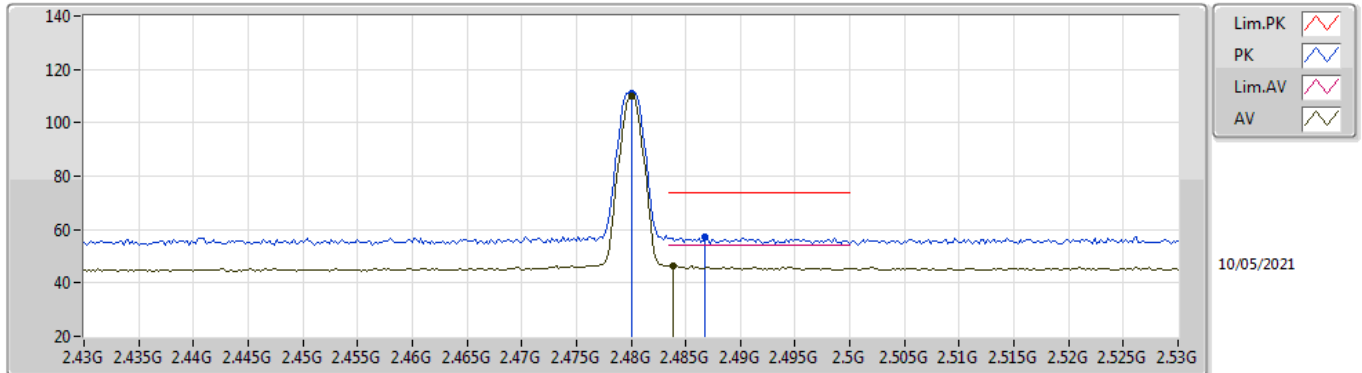
### 2440MHz\_TX



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	4.88014G	33.97	54.00	-20.03	1.65	3	Horizontal	43	1.00	-	32.32	31.24	5.34	34.93
PK	4.87995G	44.78	74.00	-29.22	1.65	3	Horizontal	43	1.00	-	43.13	31.24	5.34	34.93

**BT-LE(1Mbps)**

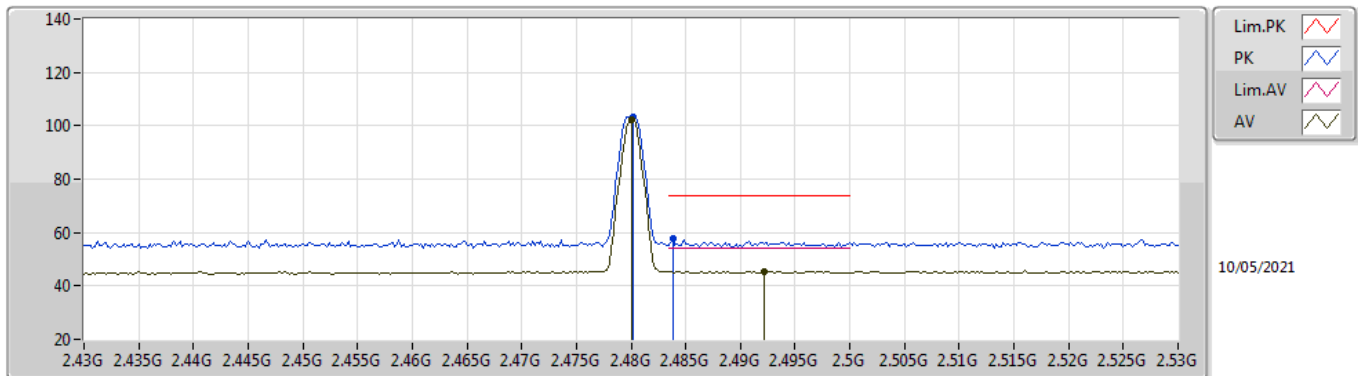
**2480MHz\_TX**



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	109.93	Inf	-Inf	31.62	3	Vertical	0	2.25	-	78.31	27.60	4.02	-
AV	2.4838G	46.29	54.00	-7.71	31.63	3	Vertical	0	2.25	-	14.66	27.60	4.03	-
PK	2.48G	110.89	Inf	-Inf	31.62	3	Vertical	0	2.25	-	79.27	27.60	4.02	-
PK	2.4868G	57.24	74.00	-16.76	31.63	3	Vertical	0	2.25	-	25.61	27.60	4.03	-

**BT-LE(1Mbps)**

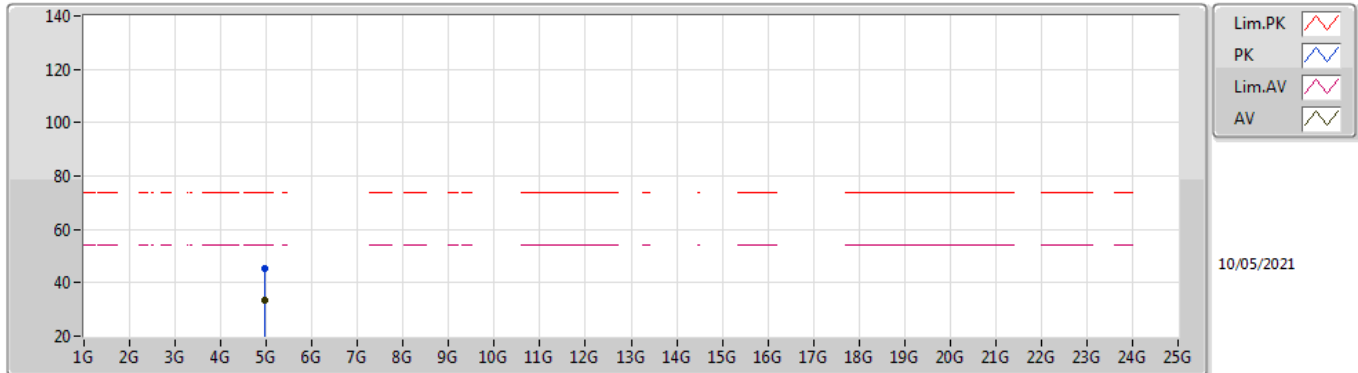
**2480MHz\_TX**



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	102.47	Inf	-Inf	31.62	3	Horizontal	240	2.48	-	70.85	27.60	4.02	-
AV	2.4922G	45.48	54.00	-8.52	31.64	3	Horizontal	240	2.48	-	13.84	27.60	4.04	-
PK	2.4802G	103.46	Inf	-Inf	31.62	3	Horizontal	240	2.48	-	71.84	27.60	4.02	-
PK	2.4838G	57.61	74.00	-16.39	31.63	3	Horizontal	240	2.48	-	25.98	27.60	4.03	-

**BT-LE(1Mbps)**

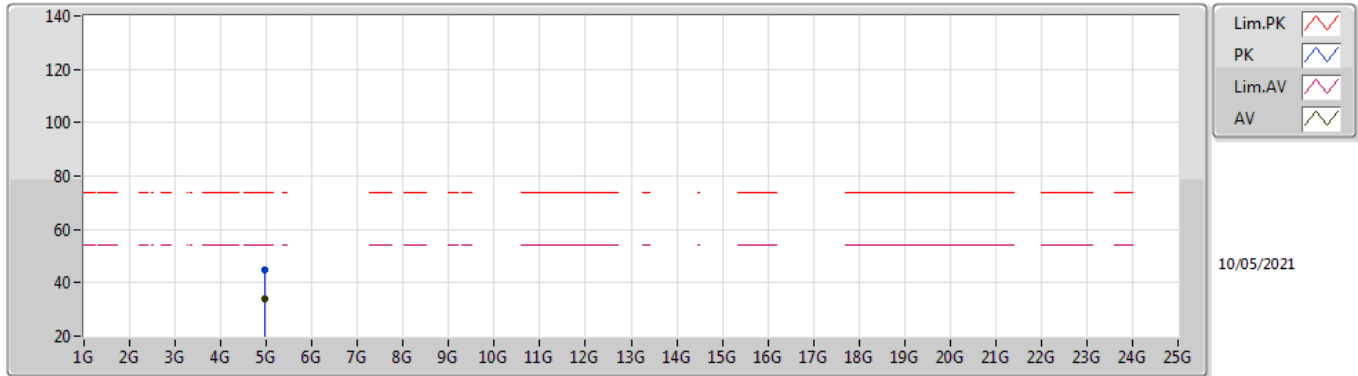
**2480MHz\_TX**



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	4.95987G	33.21	54.00	-20.79	1.86	3	Vertical	1	2.21	-	31.35	31.42	5.38	34.94
PK	4.95933G	45.25	74.00	-28.75	1.86	3	Vertical	1	2.21	-	43.39	31.42	5.38	34.94

### 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	4.9601G	33.98	54.00	-20.02	1.86	3	Horizontal	48	1.12	-	32.12	31.42	5.38	34.94
PK	4.95972G	44.83	74.00	-29.17	1.86	3	Horizontal	48	1.12	-	42.97	31.42	5.38	34.94