



# RADIO TEST REPORT

FCC ID : RAXKVD21  
Equipment : 5G Gateway  
Brand Name : T-Mobile  
Model Name : KVD21  
Applicant : Arcadyan Technology Corporation  
No.8, Sec.2, Guangfu Rd.,Hsinchu, 30071 Taiwan  
Manufacturer : Arcadyan Technology Corporation  
No.8, Sec.2, Guangfu Rd.,Hsinchu, 30071 Taiwan  
Standard : 47 CFR FCC Part 15.247

The product was received on Sep. 02, 2021, and testing was started from Oct. 05, 2021 and completed on Oct. 20, 2021. We, Sporton International Inc. Hsinchu 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. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Cliff Chang

**Sporton International Inc. Hsinchu Laboratory**

No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



## Table of Contents

**History of this test report.....3**

**Summary of Test Result.....4**

**1 General Description .....5**

1.1 Information.....5

1.2 Applicable Standards .....8

1.3 Testing Location Information .....8

1.4 Measurement Uncertainty .....8

**2 Test Configuration of EUT .....9**

2.1 Test Channel Mode .....9

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

2.3 EUT Operation during Test .....11

2.4 Accessories .....11

2.5 Support Equipment.....11

2.6 Test Setup Diagram .....12

**3 Transmitter Test Result .....14**

3.1 AC Power-line Conducted Emissions .....14

3.2 DTS Bandwidth .....16

3.3 Maximum Conducted Output Power .....17

3.4 Power Spectral Density .....20

3.5 Emissions in Non-restricted Frequency Bands .....22

3.6 Emissions in Restricted Frequency Bands.....23

**4 Test Equipment and Calibration Data .....27**

**Appendix A. Test Results of AC Power-line Conducted Emissions**

**Appendix B. Test Results of DTS Bandwidth**

**Appendix C. Test Results of Maximum Conducted Output Power**

**Appendix D. Test Results of Power Spectral Density**

**Appendix E. Test Results of Emissions in Non-restricted Frequency Bands**

**Appendix F. Test Results of Emissions in Restricted Frequency Bands**

**Appendix G. Test Photos**

**Appendix H. Photographs of EUT**





## Summary of Test Result

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

**Declaration of Conformity:**

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

**Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

**Reviewed by: Sam Chen****Report Producer: Jessie Wei**



# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

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

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX
2.4-2.4835GHz	BT-LE(2Mbps)	1.0	1TX

Note:

- ◆ Bluetooth LE uses a GFSK modulation.
- ◆ BWch is the nominal channel bandwidth.



**1.1.2 Antenna Information**

Ant.	Port			Brand	Model Name	Antenna Type	Connector	Gain (dBi)
	WLAN 2.4GHz	WLAN 5GHz	Bluetooth					
1	1	1	-	Maglayers	PCA-2510-25GC6-A1	Dipole	I-PEX	Note1
2	2	2	-	Maglayers	PCA-2510-25GC6-A2	Dipole	I-PEX	
3	3	3	-	Maglayers	PCA-2510-25GC6-A3	Dipole	I-PEX	
4	4	4	-	Maglayers	PCA-2510-25GC6-A4	Dipole	I-PEX	
5	-	-	1	Maglayers	PCA-2510-2G4C6-A1	Dipole	I-PEX	

Note 1:

Ant.	Port			Antenna Gain (dBi)					
	WLAN 2.4GHz	WLAN 5GHz	Bluetooth	WLAN 2.4GHz	WLAN 5GHz UNII 1	WLAN 5GHz UNII 2A	WLAN 5GHz UNII 2C	WLAN 5GHz UNII 3	Bluetooth
1	1	1	-	0.92	2.86	2.91	2.39	1.9	-
2	2	2	-	3.78	3.48	4.07	4.84	5.09	-
3	3	3	-	4.13	3.52	3.1	2.85	2.93	-
4	4	4	-	3.61	1.42	2.74	3.1	2.58	-
5	-	-	1	-	-	-	-	-	4.39

Note 2: The above information was declared by manufacturer.

**For WLAN 2.4GHz:**

**For IEEE 802.11b/g/n/VHT/ax mode (4TX/4RX):**

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

**For WLAN 5GHz:**

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

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

**For Bluetooth (1TX/1RX):**

Only Port 1 can be used as transmitting/receiving antenna.



**1.1.3 Mode Test Duty Cycle**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-LE(1Mbps)	0.614	2.12	383.75u	3k
BT-LE(2Mbps)	0.362	4.41	199.75u	10k

Note:

- ◆ DC is Duty Cycle.
- ◆ DCF is Duty Cycle Factor.

**1.1.4 EUT Operational Condition**

<b>EUT Power Type</b>	From Power Adapter		
<b>Function</b>	<input checked="" type="checkbox"/> Point-to-multipoint	<input type="checkbox"/>	Point-to-point
<b>Test Software Version</b>	MediaTek BT Tool_w2036		
<b>Support Mode</b>	<input checked="" type="checkbox"/>	LE 1M PHY: 1 Mb/s	
	<input type="checkbox"/>	LE Coded PHY (S=2): 500 Kb/s	
	<input type="checkbox"/>	LE Coded PHY (S=8): 125 Kb/s	
	<input checked="" type="checkbox"/>	LE 2M PHY: 2 Mb/s	

Note: The above information was declared by manufacturer.



### 1.2 Applicable Standards

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

- ♦ 47 CFR FCC Part 15.247
- ♦ ANSI C63.10-2013

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

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

### 1.3 Testing Location Information

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	TEL: 886-3-656-9065 FAX: 886-3-656-9085
	Test site Designation No. TW3787 with FCC.
	Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH02-CB	Jay Lo	23.1~24.6 / 55~57	Oct. 09, 2021~ Oct. 20, 2021
Radiated below 1GHz	03CH05-CB	Kevin Huang	24.5~25.6 / 56~59	Oct. 05, 2021~ Oct. 20, 2021
Radiated above 1GHz	03CH02-CB	Kevin Huang	24.2~26.1 / 55~58	Oct. 05, 2021~ Oct. 20, 2021
AC Conduction	CO01-CB	Peter Wu	21~23 / 55~57	Oct. 20, 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)	2.0 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.5 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	2.5 dB	Confidence levels of 95%
Output Power Measurement	1.3 dB	Confidence levels of 95%
Power Density Measurement	2.5 dB	Confidence levels of 95%
Bandwidth Measurement	0.9%	Confidence levels of 95%





## 2 Test Configuration of EUT

### 2.1 Test Channel Mode

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	7
2440MHz	7
2480MHz	7
BT-LE(2Mbps)	-
2402MHz	7
2440MHz	7
2480MHz	6

### 2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
1	EUT + Adapter – WLAN 2.4GHz
2	EUT + Adapter – WLAN 5GHz
3	EUT + Adapter – Bluetooth

For operating mode 1 is the worst case and it was record in this test report.

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



<b>The Worst Case Mode for Following Conformance Tests</b>	
<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
	The EUT was performed at X axis, Y axis and Z axis position for Radiated emission above 1GHz test, and the worst case was found at Y axis. So the measurement will follow this same test configuration.
1	EUT in Y axis + Adapter – WLAN 2.4GHz
2	EUT in Y axis + Adapter – WLAN 5GHz
3	EUT in Y axis + Adapter – Bluetooth
For operating mode 2 is the worst case and it was record in this test report.	
<b>Operating Mode &gt; 1GHz</b>	CTX
	The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Y axis. So the measurement will follow this same test configuration.
1	EUT in Y axis

<b>The Worst Case Mode for Following Conformance Tests</b>	
<b>Tests Item</b>	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
<b>Operating Mode</b>	
1	WLAN 2.4GHz + WLAN 5GHz + Bluetooth + WWAN
Refer to Sporton Test Report No.: FA190215 for Co-location RF Exposure Evaluation.	



### 2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

### 2.4 Accessories

Accessories			
Equipment Name	Brand Name	Model Name	Rating
Adapter	LUCENT TRANS	1A78	INPUT: 100-240V~1.2A, 50/60Hz OUTPUT: 5.0V, 3.0A, 15.0W 9.0V, 3.0A, 27.0W 15.0V, 3.0A, 45.0W

### 2.5 Support Equipment

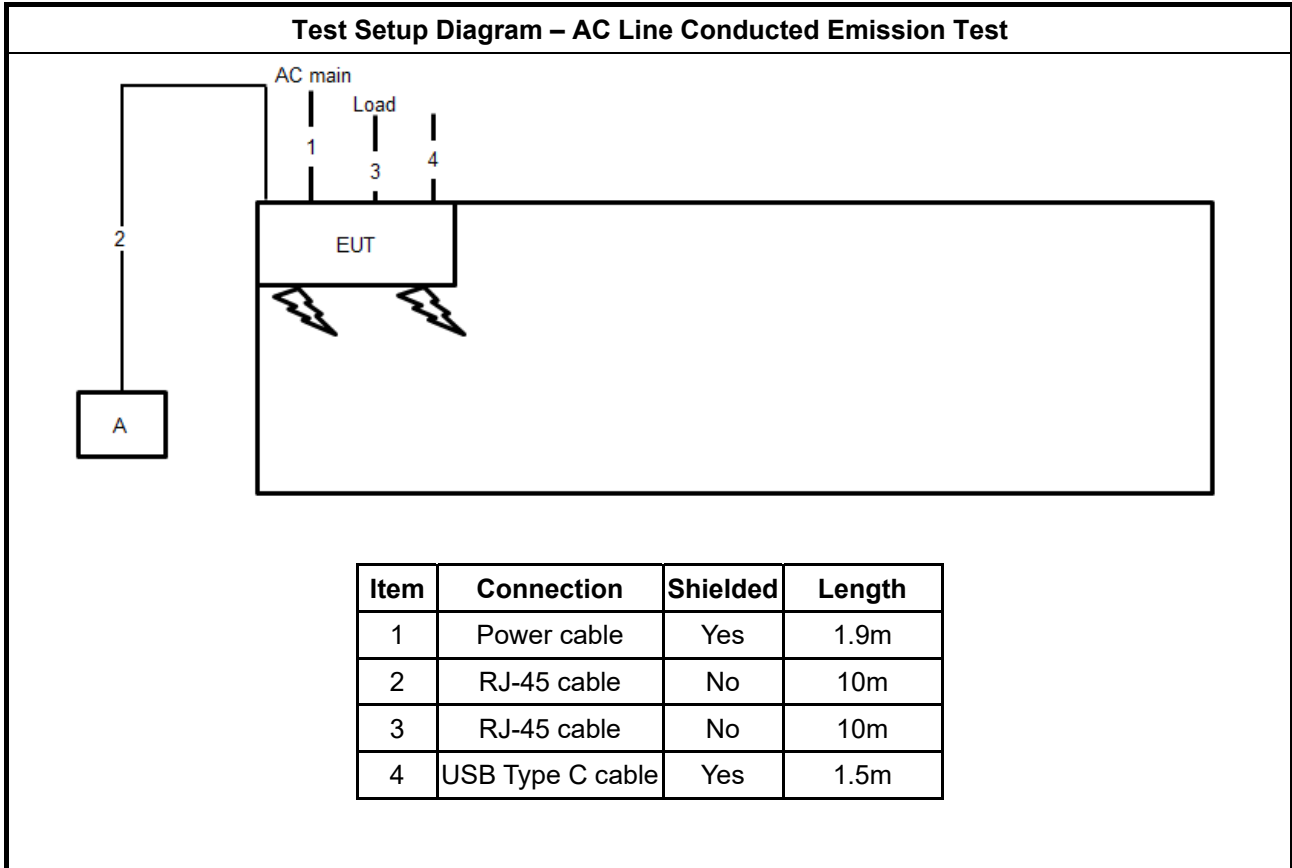
For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	LAN NB	DELL	E6430	N/A

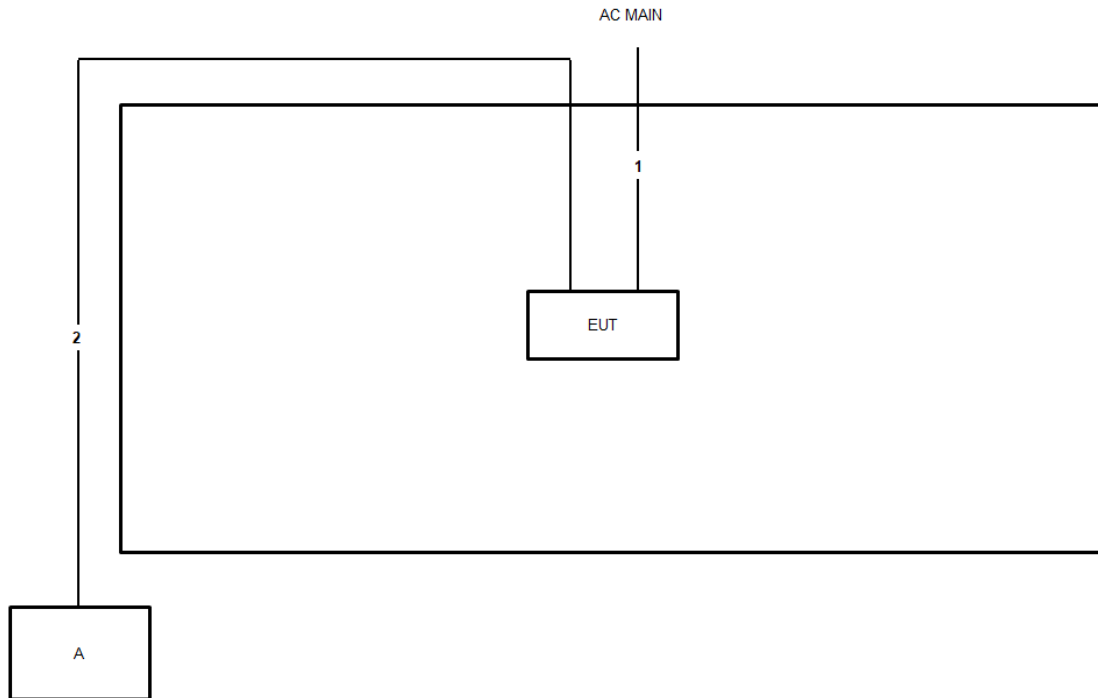
For Radiated and RF Conducted:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A

## 2.6 Test Setup Diagram



**Test Setup Diagram - Radiated Test**



Item	Connection	Shielded	Length
1	Power cable	Yes	1.9m
2	RJ-45 cable	No	10m



### 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.

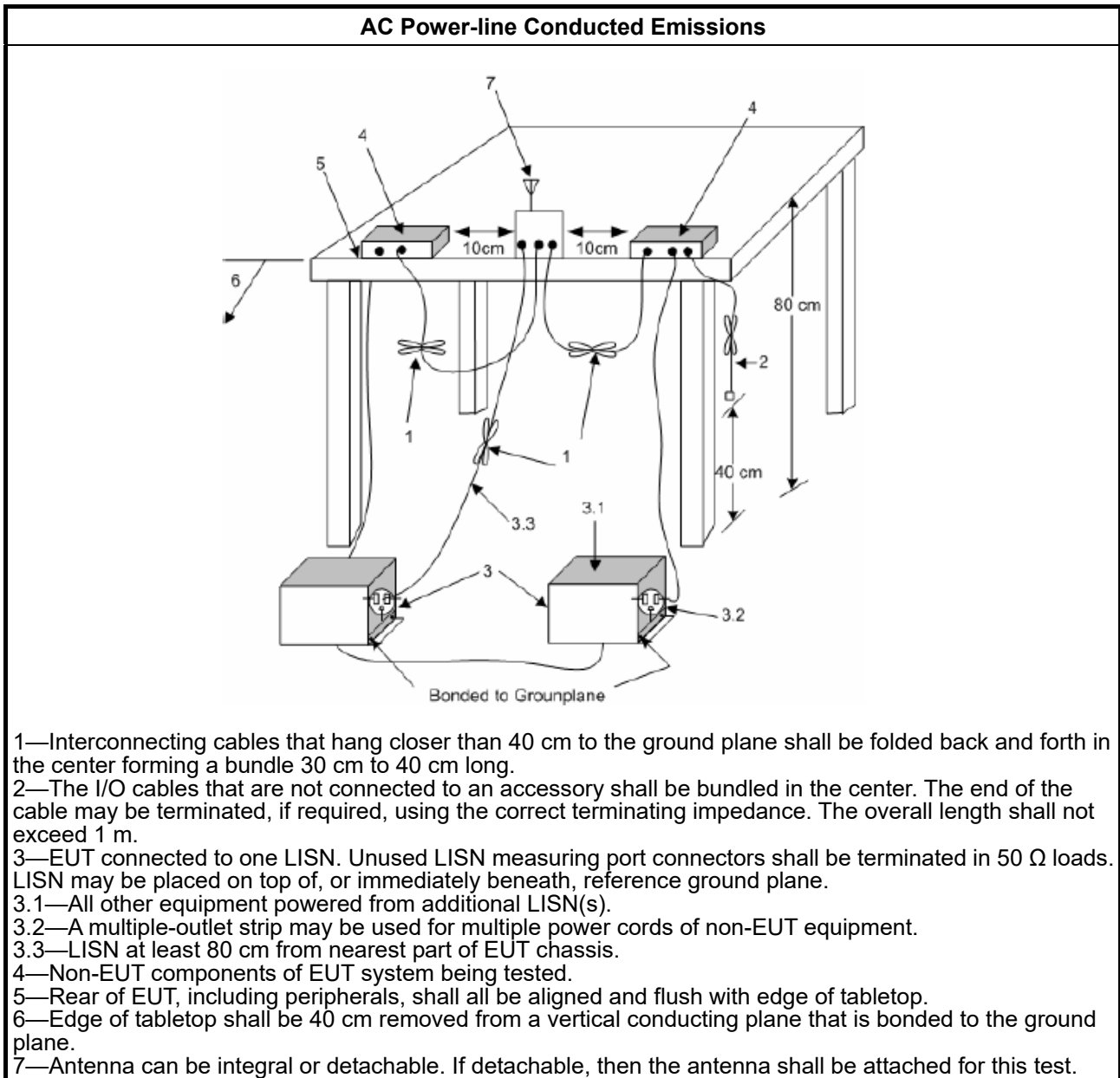
##### 3.1.2 Measuring Instruments

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 for AC power-line conducted emissions.

### 3.1.4 Test Setup



#### 1.1.1. Measurement Results Calculation

The measured Level is calculated using:

- a. Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level
- b. Margin = -Limit + Level

### 3.1.5 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
<b>Systems using digital modulation techniques:</b>
<ul style="list-style-type: none"> <li>▪ 6 dB bandwidth <math>\geq</math> 500 kHz.</li> </ul>

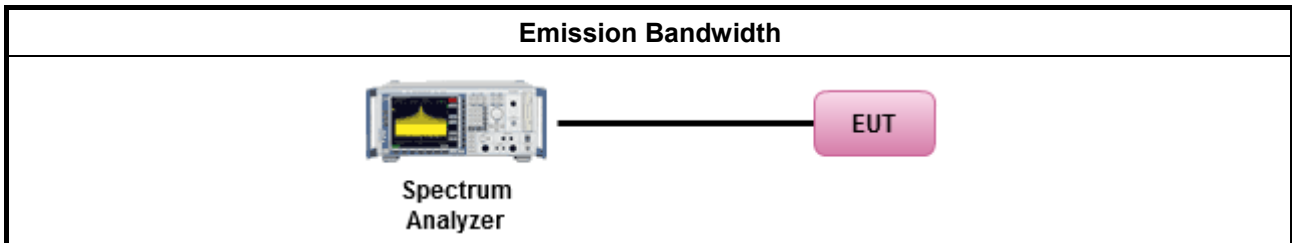
#### 3.2.2 Measuring Instruments

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 FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.1 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>
$P_{Out}$ = 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

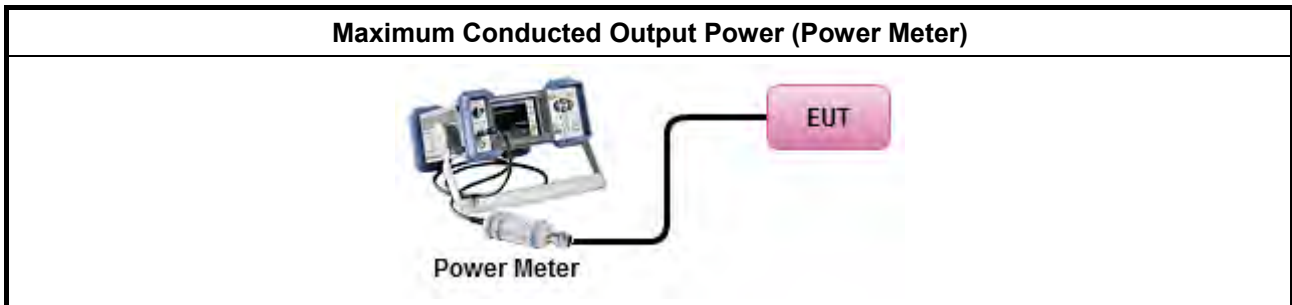
Refer a test equipment and calibration data table in this test report.



**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 FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
<ul style="list-style-type: none"> <li>▪ Maximum Conducted Output Power</li> </ul>	
[duty cycle ≥ 98% or external video / power trigger]	
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)
duty cycle < 98% and average over on/off periods with duty factor	
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative)
Measurement using a power meter (PM)	
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.1 Method AVGPM (using an RF average power meter).
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.2 Method AVGPM-G (using an gate RF average 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 FCC 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>

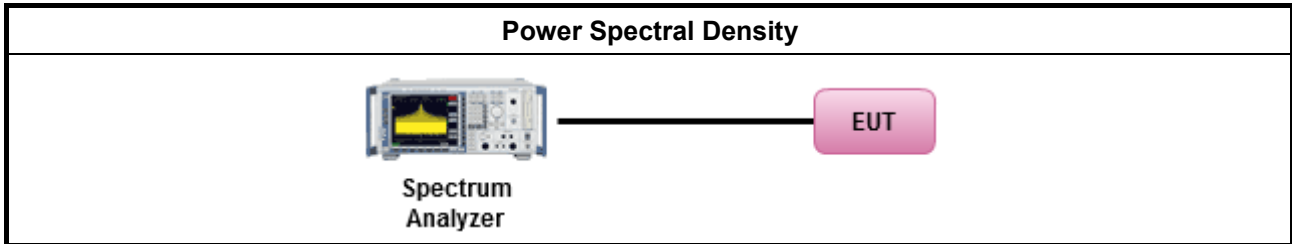
#### 3.4.2 Measuring Instruments

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 FCC KDB 558074, clause 8.4 & C63.10 clause 11.10 Method Max. PSD. [duty cycle ≥ 98% or external video / power trigger]
<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:           <ul style="list-style-type: none"> <li><input type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC 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> <li><input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,</li> <li><input type="checkbox"/> Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.</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 (dBc)
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 PSD 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 PSD level.

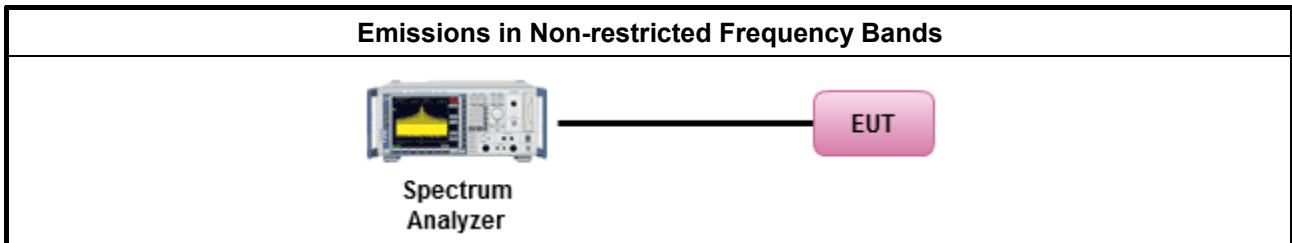
#### 3.5.2 Measuring Instruments

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 FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted 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.

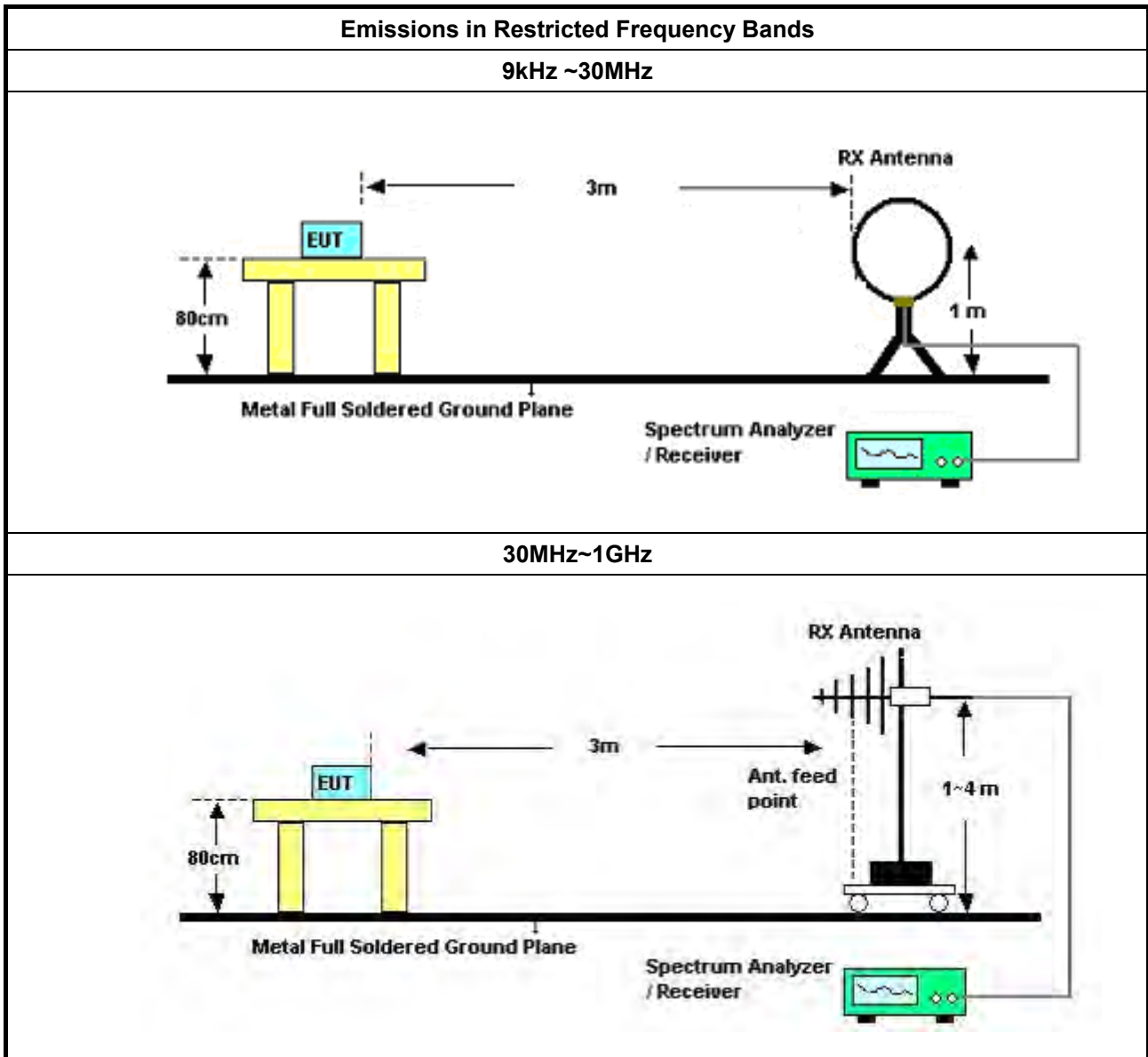


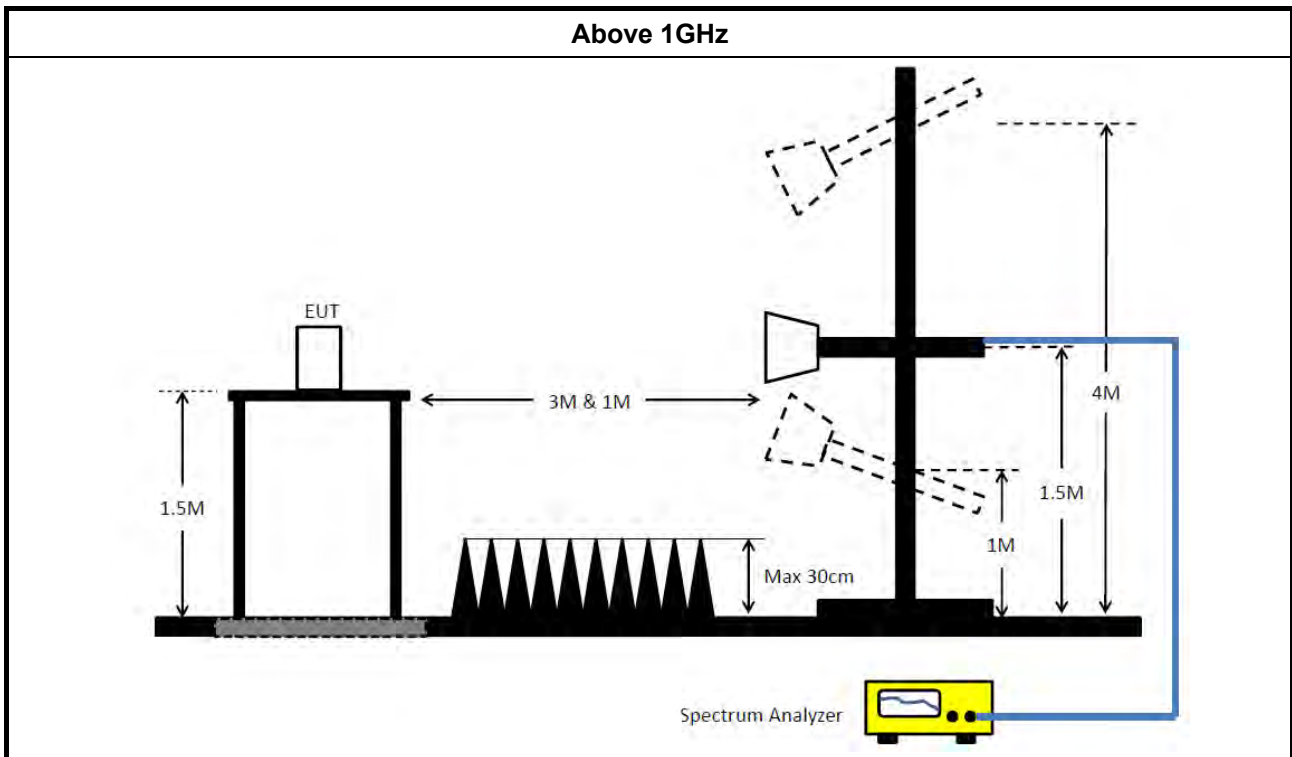
**3.6.3 Test Procedures**

<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 FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.</li> </ul>
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle $\geq$ 98%).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW $\geq$ 1/T).
<input type="checkbox"/>	Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
<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 FCC KDB 558074 clause 8.7 &amp; c63.10 clause 11.13.1, 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 FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).</li> </ul>
	<ul style="list-style-type: none"> <li>▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB</li> </ul>
	<ul style="list-style-type: none"> <li>▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.</li> </ul>



**3.6.4 Test Setup**





### 3.6.5 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

### 3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

### 3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



## 4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Mar. 03, 2021	Mar. 02, 2022	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Jan. 06, 2021	Jan. 05, 2022	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Mar. 07, 2021	Mar. 06, 2022	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Jan. 30, 2021	Jan. 29, 2022	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 19, 2021	May 18, 2022	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 09, 2021	Aug. 08, 2022	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 26, 2021	Mar. 25, 2022	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 27, 2021	Apr. 26, 2022	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 21, 2021	Jun. 20, 2022	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 14, 2021	Apr. 13, 2022	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz 3m	Mar. 27, 2021	Mar. 26, 2022	Radiation (03CH02-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	May 04, 2021	May 03, 2022	Radiation (03CH02-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH02-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSU	100015	9kHz~26GHz	Oct. 15, 2020	Oct. 14, 2021	Radiation (03CH02-CB)
Signal Analyzer	R&S	FSV40	101903	9kHz ~ 40GHz	Mar. 22, 2021	Mar. 21, 2022	Radiation (03CH02-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Aug. 02, 2021	Aug. 01, 2022	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Sep. 17, 2020	Sep. 16, 2021	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Sep. 17, 2020	Sep. 16, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH02-CB)

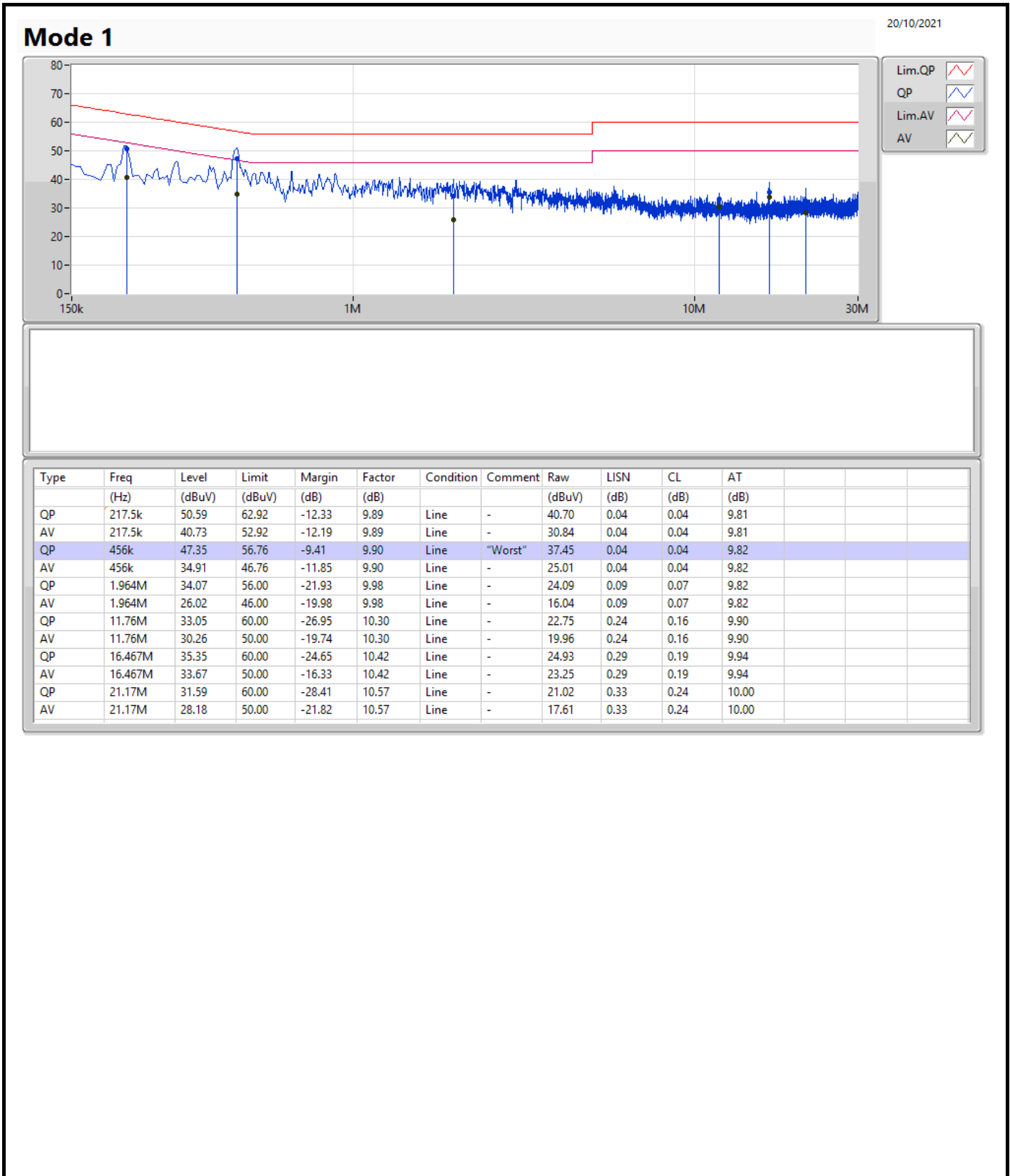
Note: Calibration Interval of instruments listed above is one year.

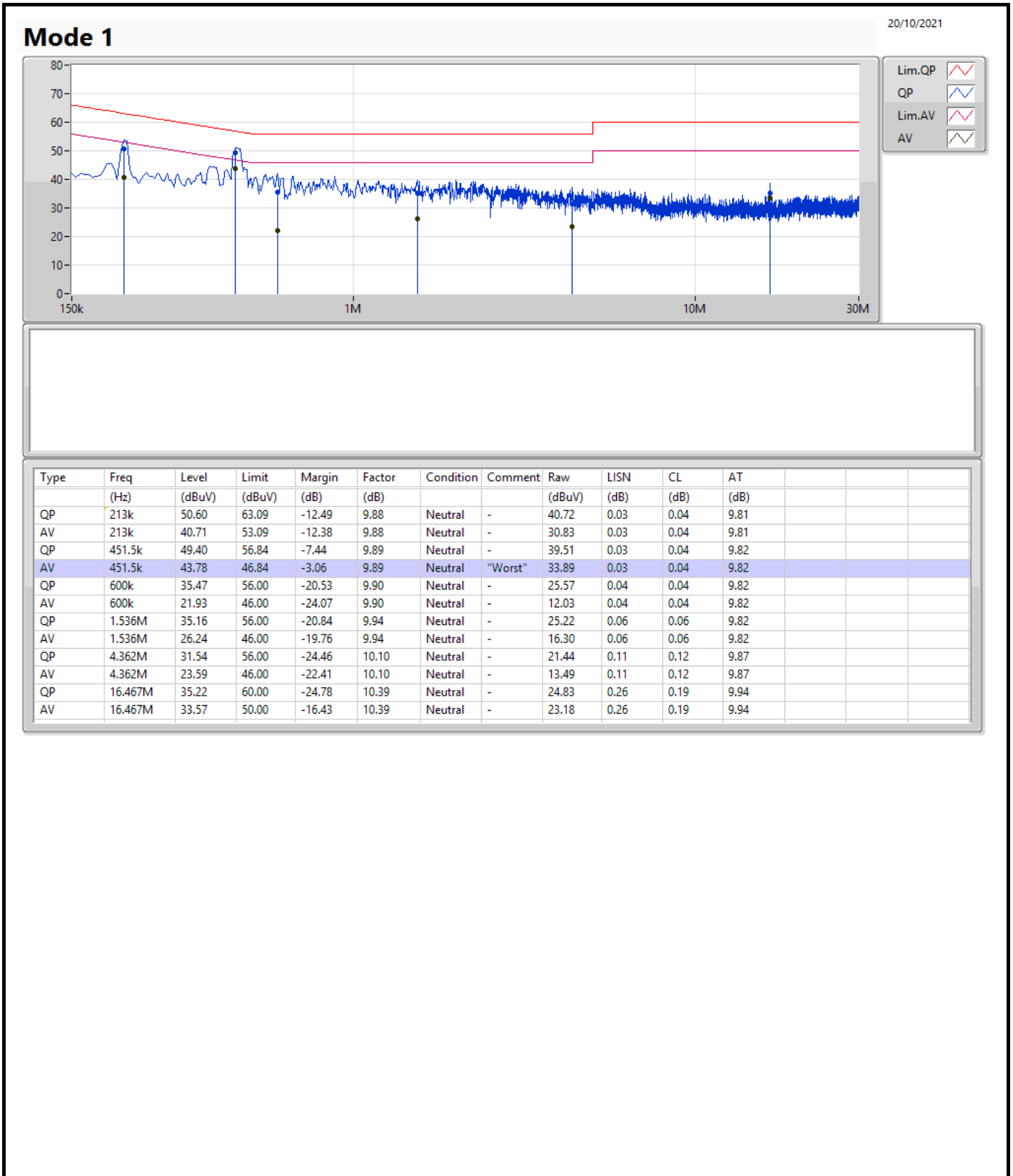
NCR means Non-Calibration required.



**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	451.5k	43.78	46.84	-3.06	Neutral







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)	710k	1.037M	1M04F1D	703.75k	1.033M
BT-LE(2Mbps)	667.5k	1.041M	1M04F1D	660k	1.037M

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

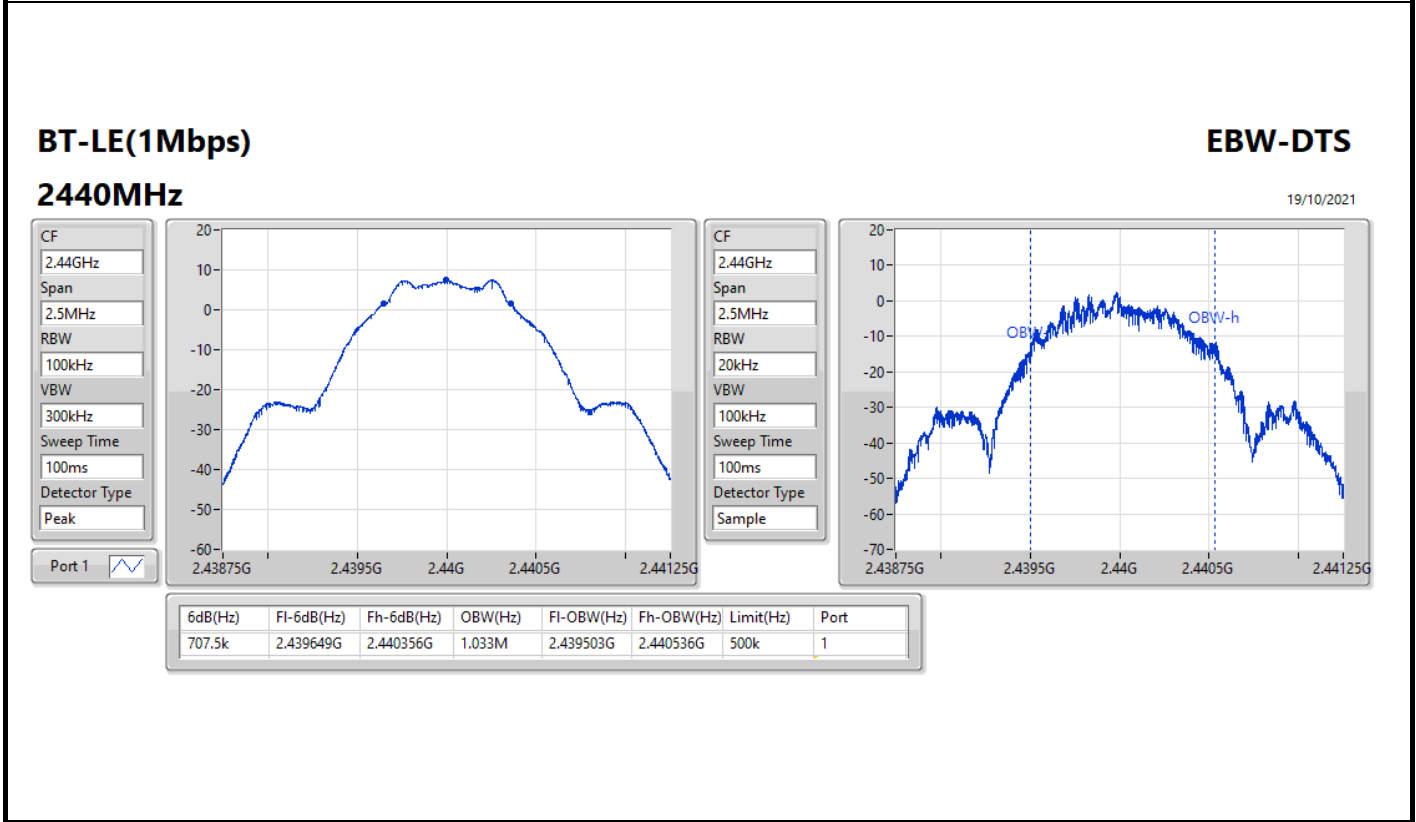
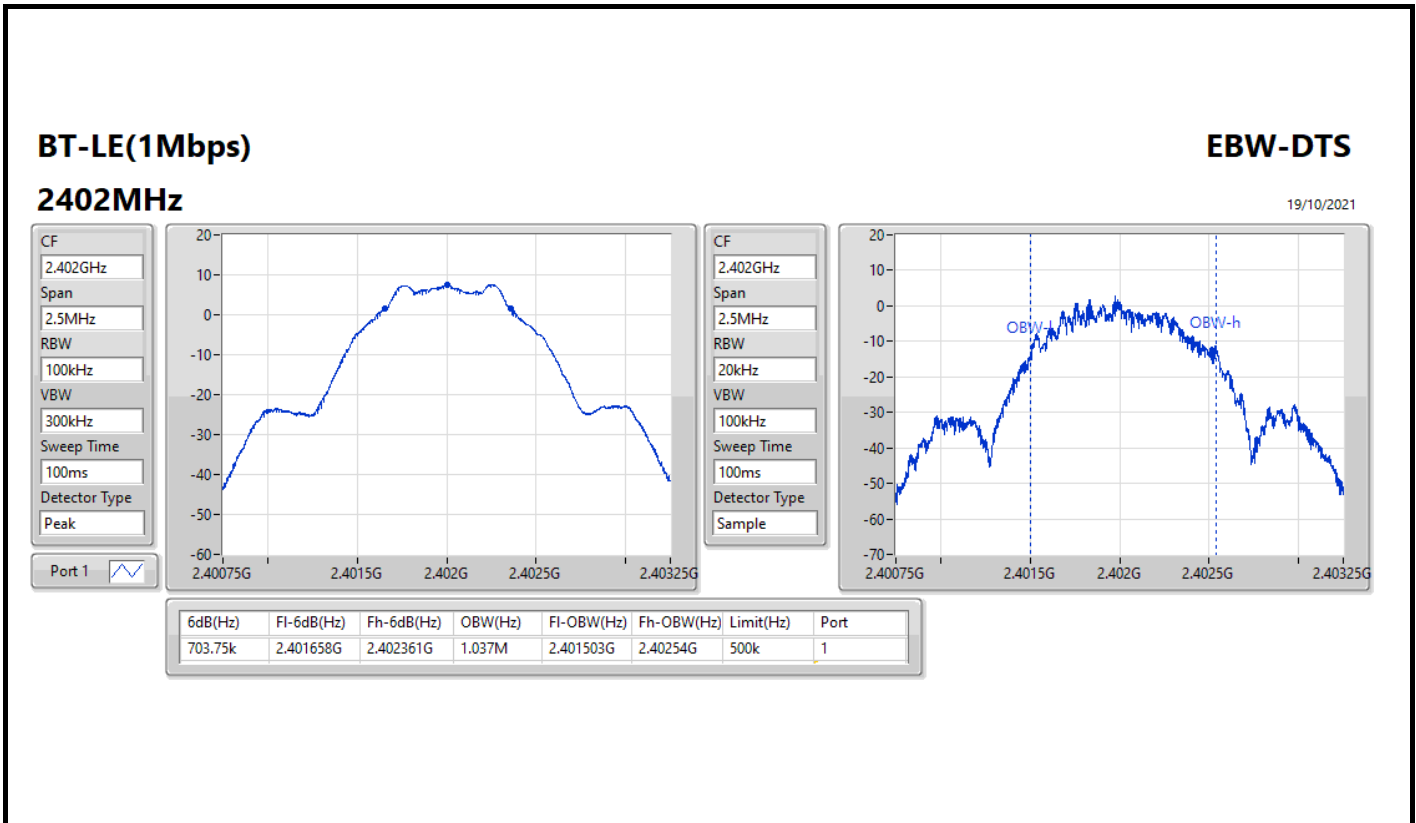




Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	703.75k	1.037M
2440MHz	Pass	500k	707.5k	1.033M
2480MHz	Pass	500k	710k	1.034M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	660k	1.037M
2440MHz	Pass	500k	667.5k	1.039M
2480MHz	Pass	500k	662.5k	1.041M

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

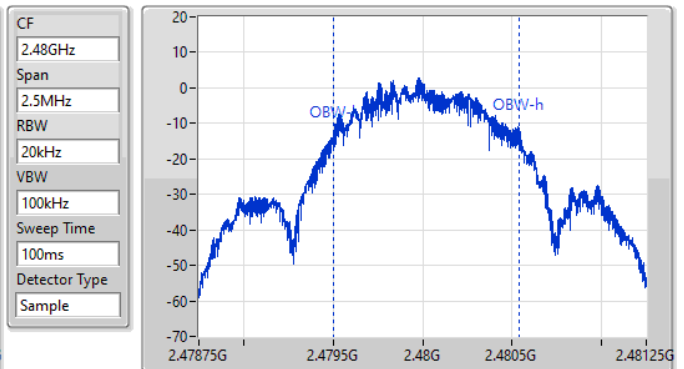
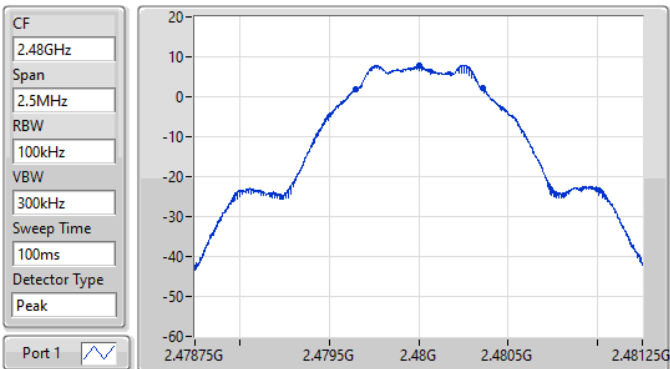


**BT-LE(1Mbps)**

**EBW-DTS**

2480MHz

19/10/2021



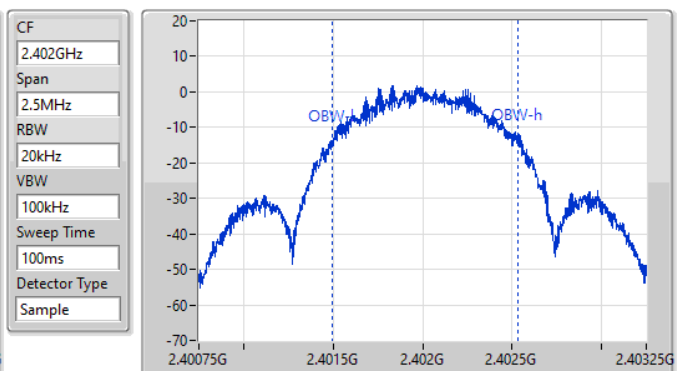
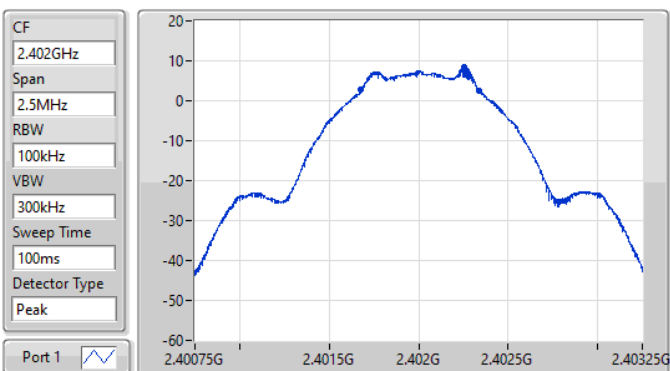
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
710k	2.479649G	2.480359G	1.034M	2.479503G	2.480537G	500k	1

**BT-LE(2Mbps)**

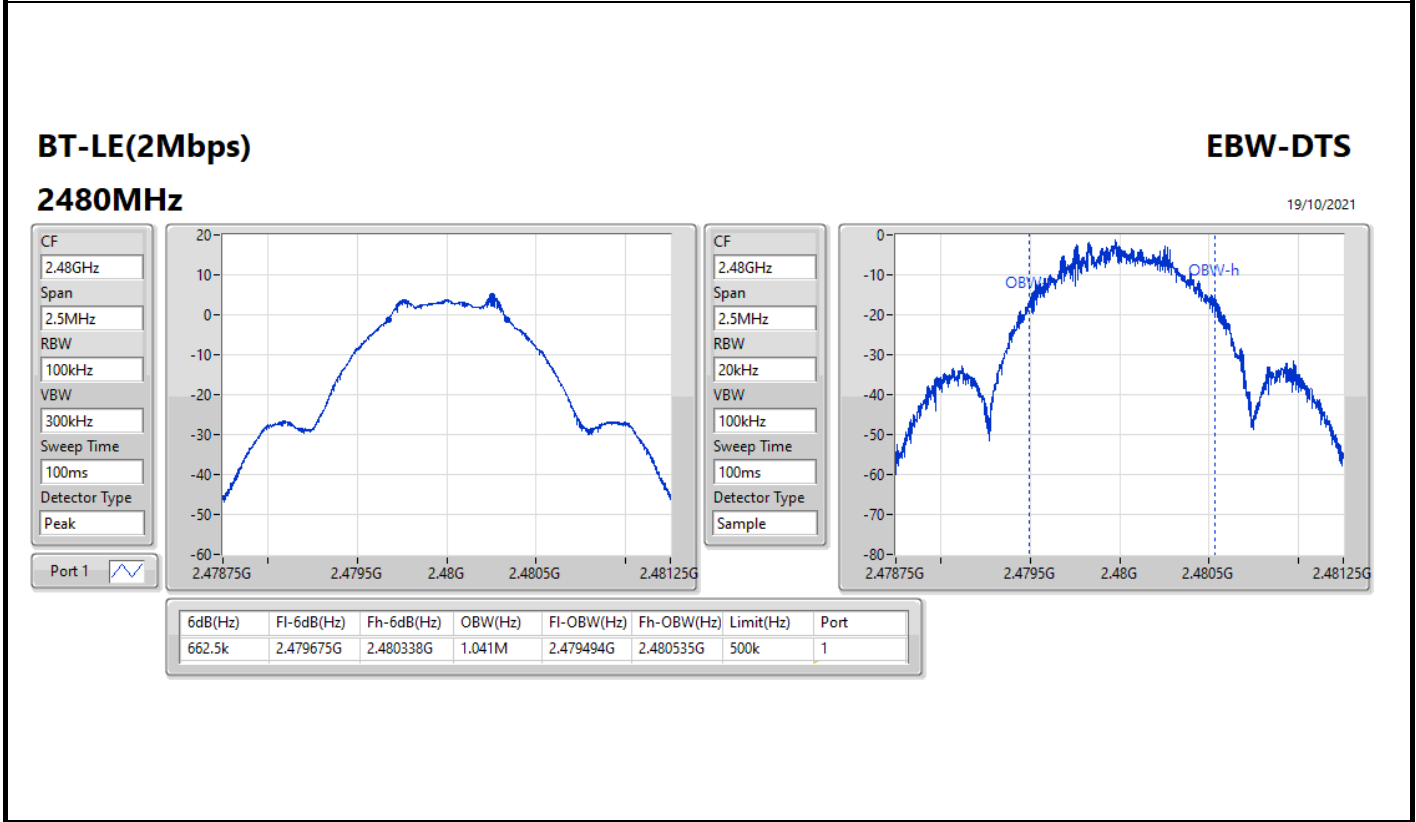
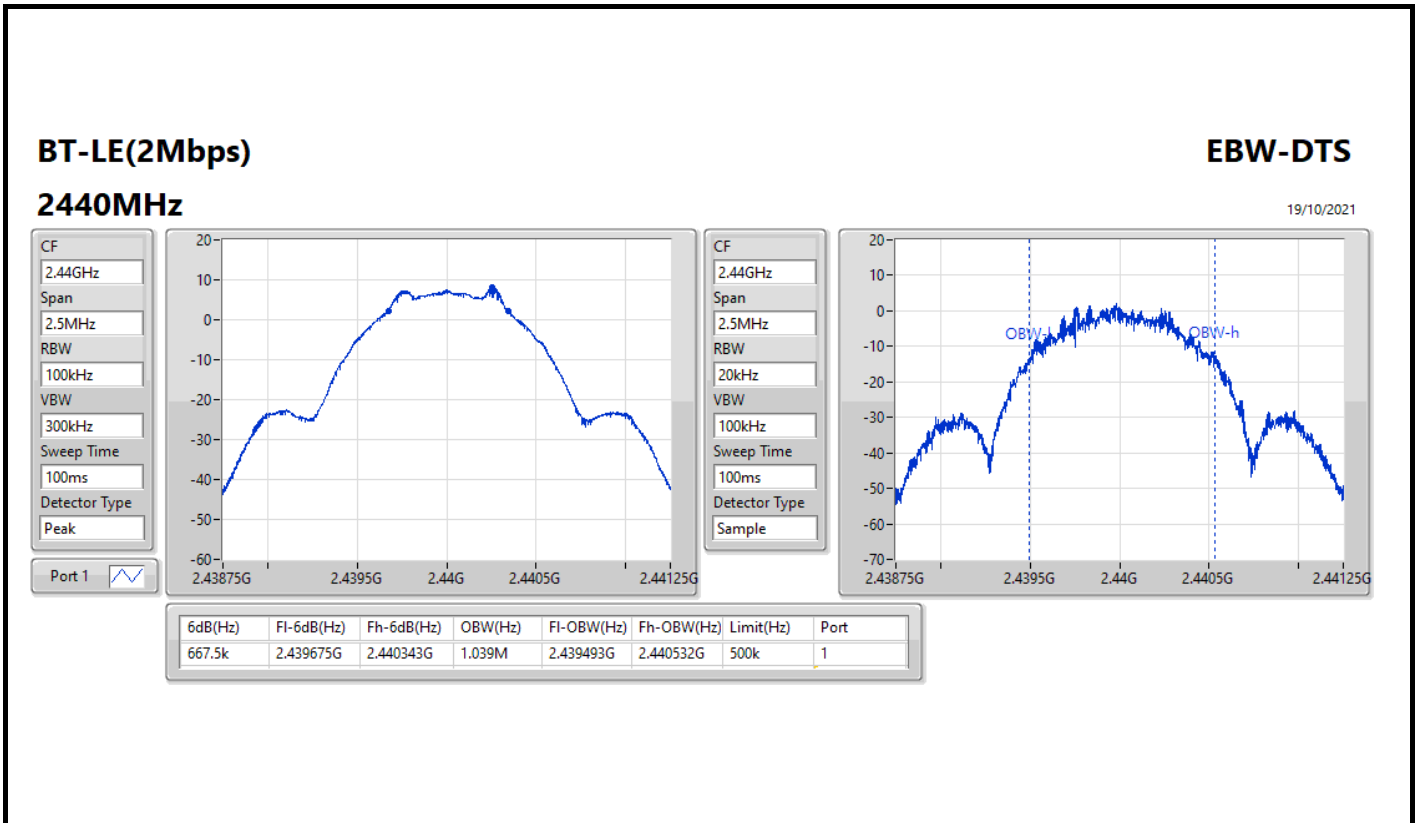
**EBW-DTS**

2402MHz

19/10/2021



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
660k	2.401679G	2.402339G	1.037M	2.401497G	2.402533G	500k	1





**Summary**

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	8.88	0.00773
BT-LE(2Mbps)	8.79	0.00757



**Result**

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.39	8.64	30.00
2440MHz	Pass	4.39	8.44	30.00
2480MHz	Pass	4.39	8.88	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.39	8.79	30.00
2440MHz	Pass	4.39	8.52	30.00
2480MHz	Pass	4.39	5.13	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-6.93
BT-LE(2Mbps)	-8.87

RBW = 3kHz:



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.39	-6.96	8.00
2440MHz	Pass	4.39	-7.08	8.00
2480MHz	Pass	4.39	-6.93	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.39	-9.50	8.00
2440MHz	Pass	4.39	-8.87	8.00
2480MHz	Pass	4.39	-12.36	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;

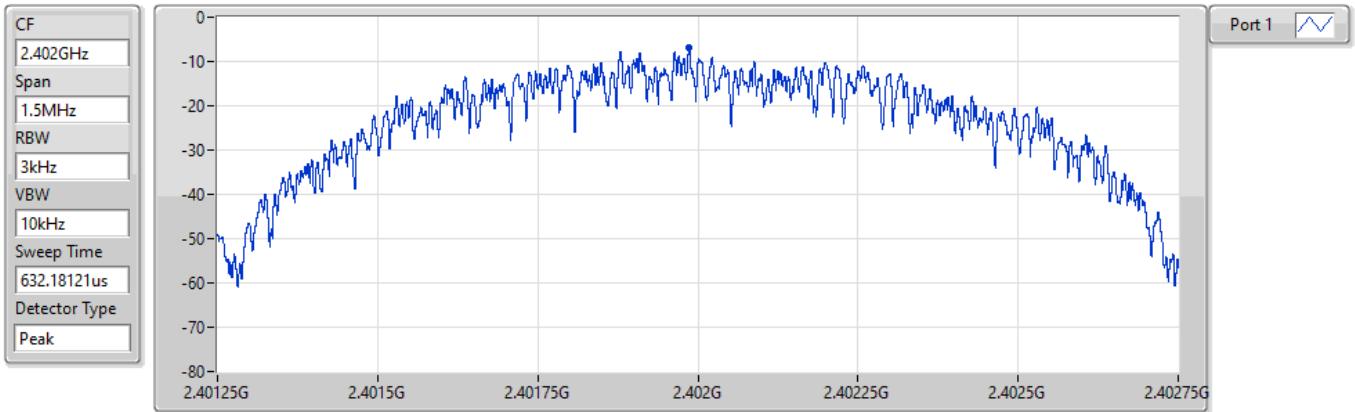


**BT-LE(1Mbps)**

**PSD**

**2402MHz**

19/10/2021



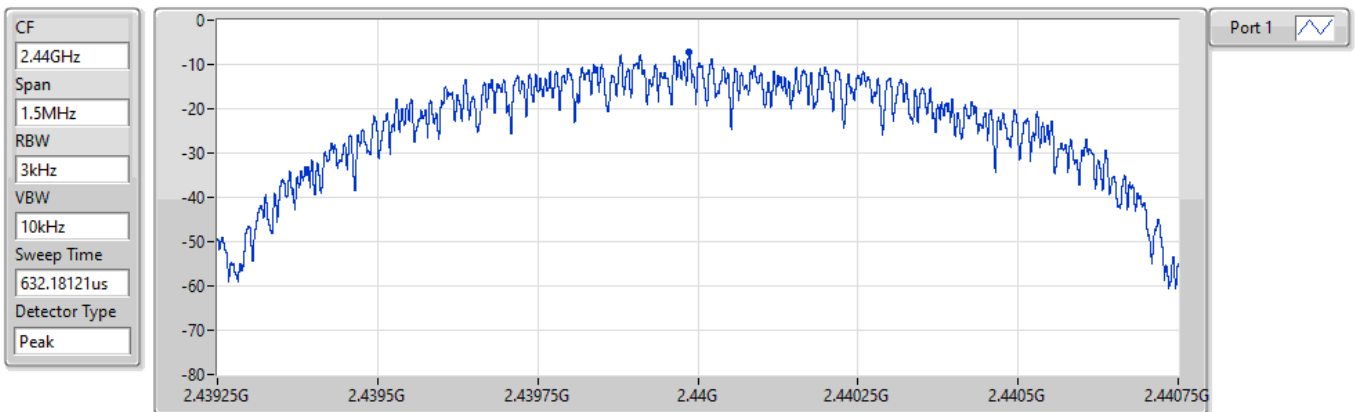
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.96	-6.96	-6.96

**BT-LE(1Mbps)**

**PSD**

**2440MHz**

19/10/2021



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.08	-7.08	-7.08

### BT-LE(1Mbps)

### PSD

2480MHz

19/10/2021

CF  
2.48GHz

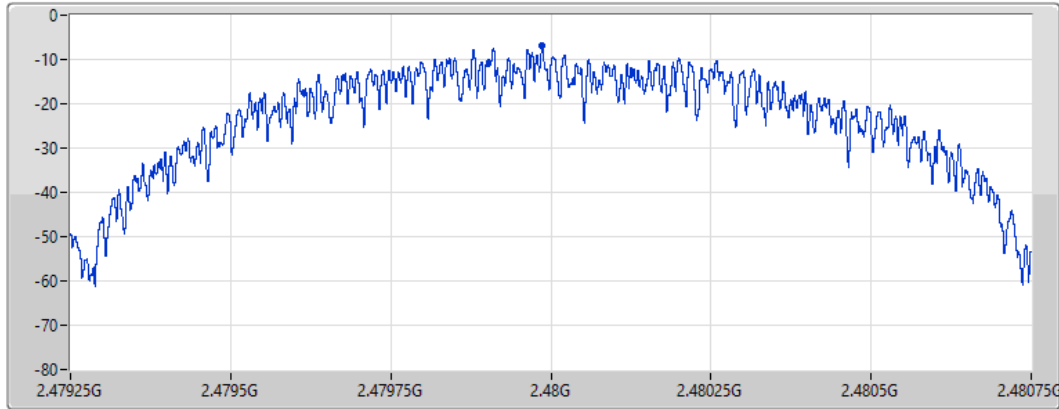
Span  
1.5MHz


RBW  
3kHz

VBW  
10kHz

Sweep Time  
632.18121us

Detector Type  
Peak



Port 1 

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.93	-6.93	-6.93

### BT-LE(2Mbps)

### PSD

2402MHz

19/10/2021

CF  
2.402GHz

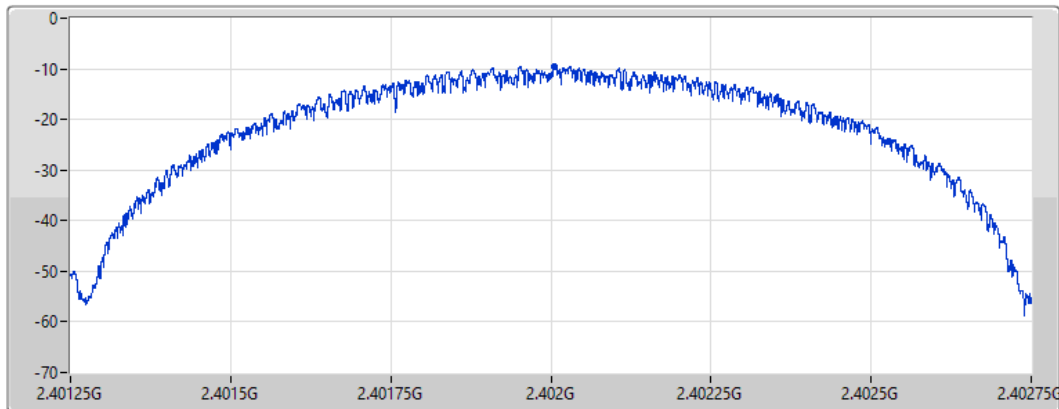
Span  
1.5MHz


RBW  
3kHz

VBW  
10kHz

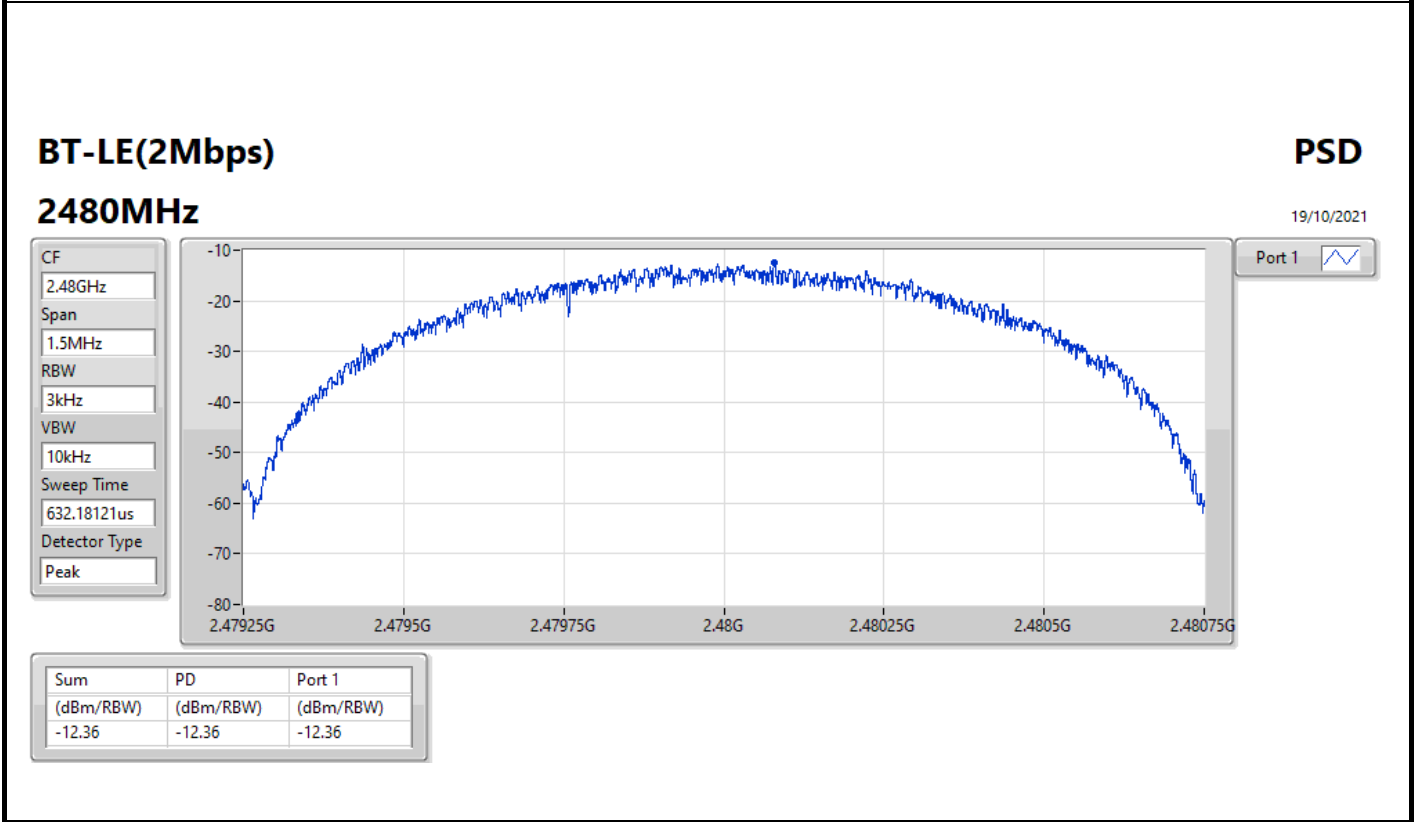
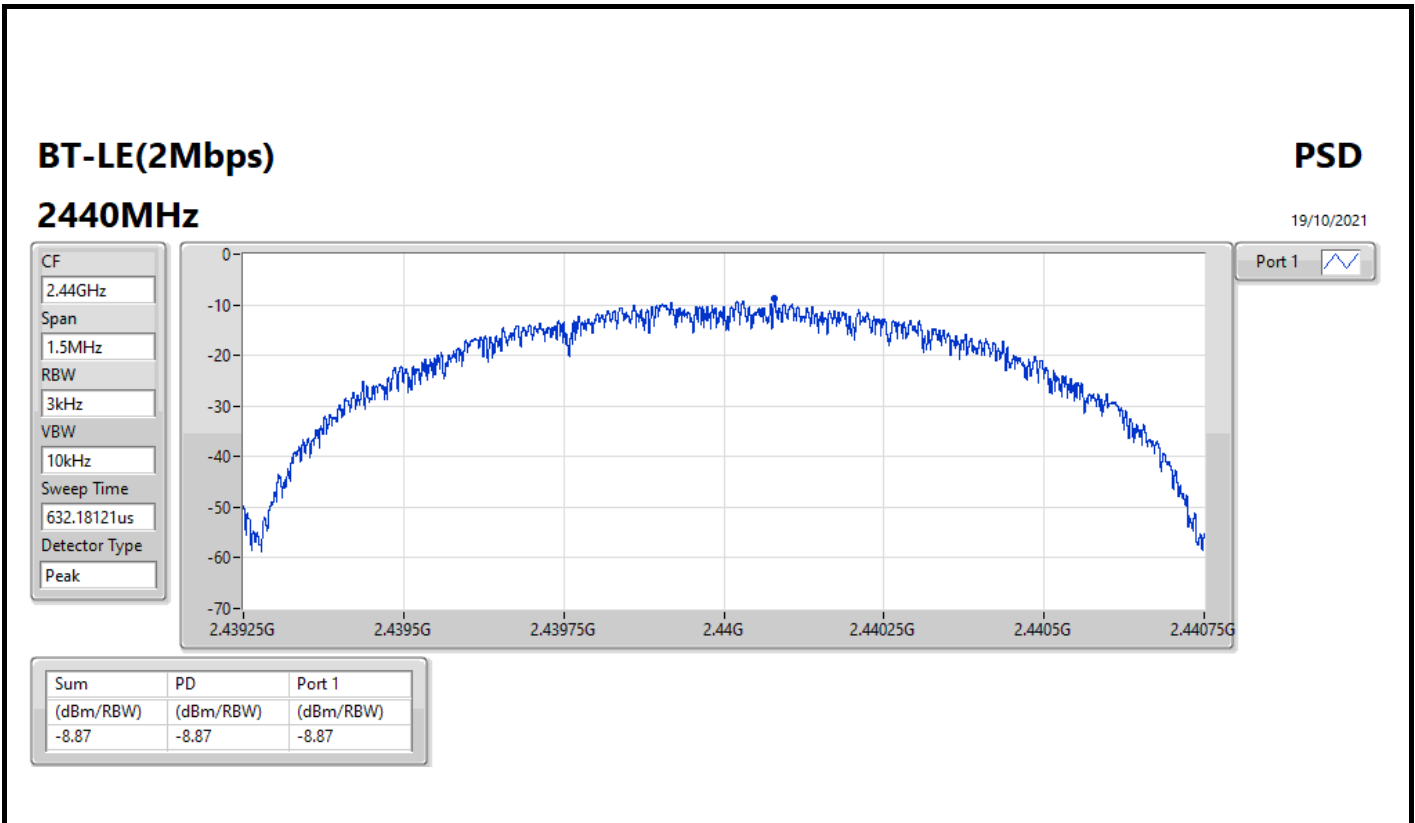
Sweep Time  
632.18121us

Detector Type  
Peak



Port 1 

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.50	-9.50	-9.50





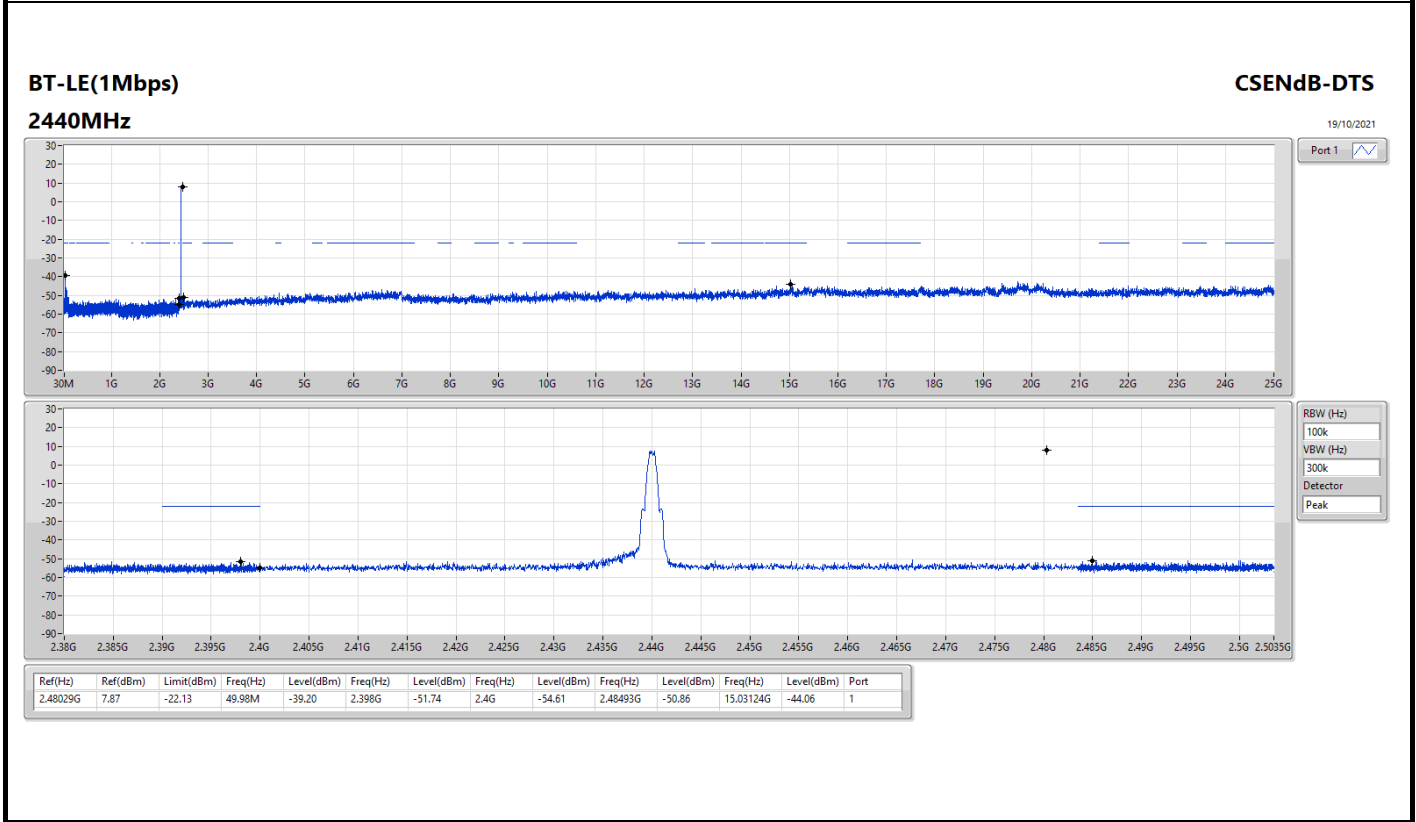
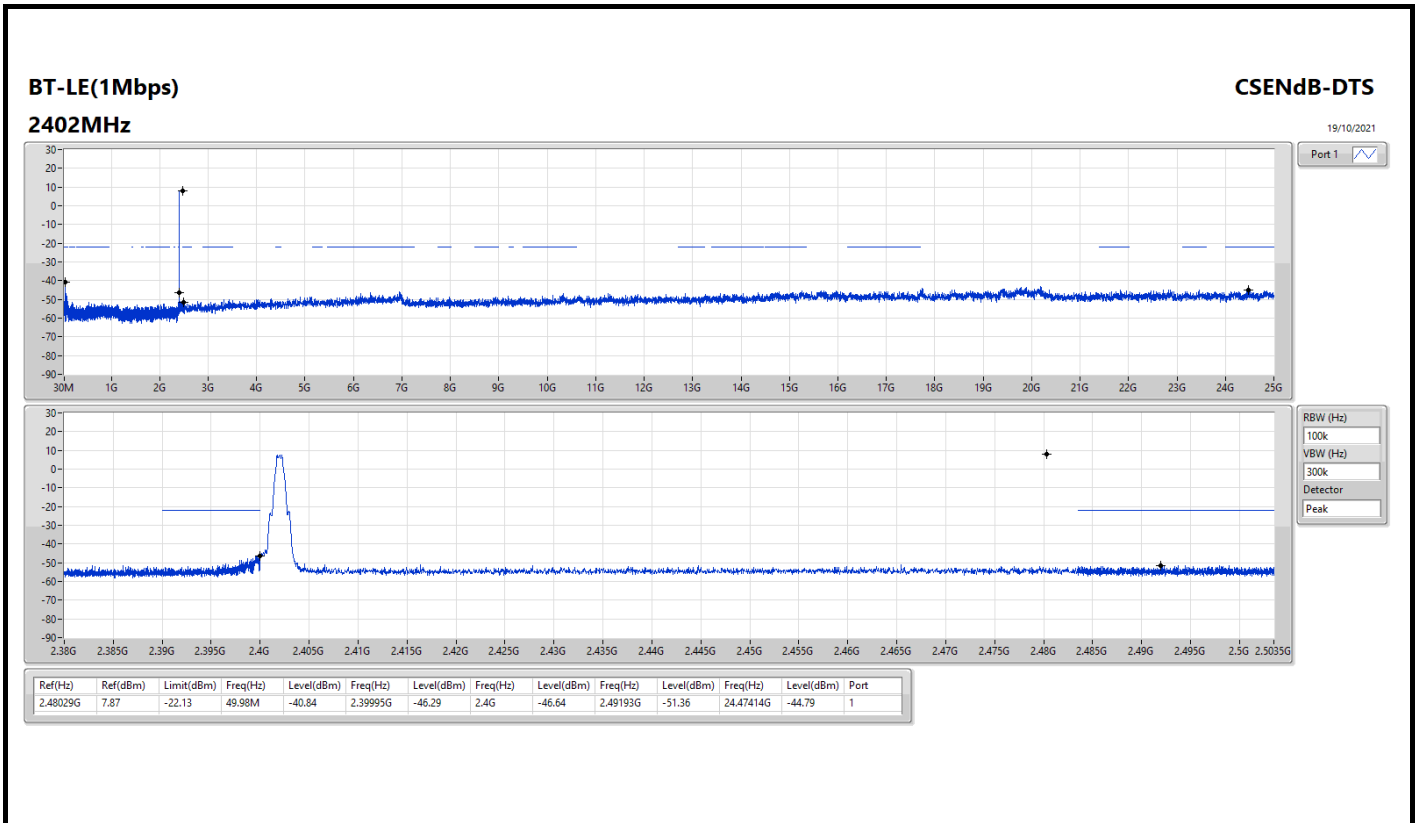
Summary

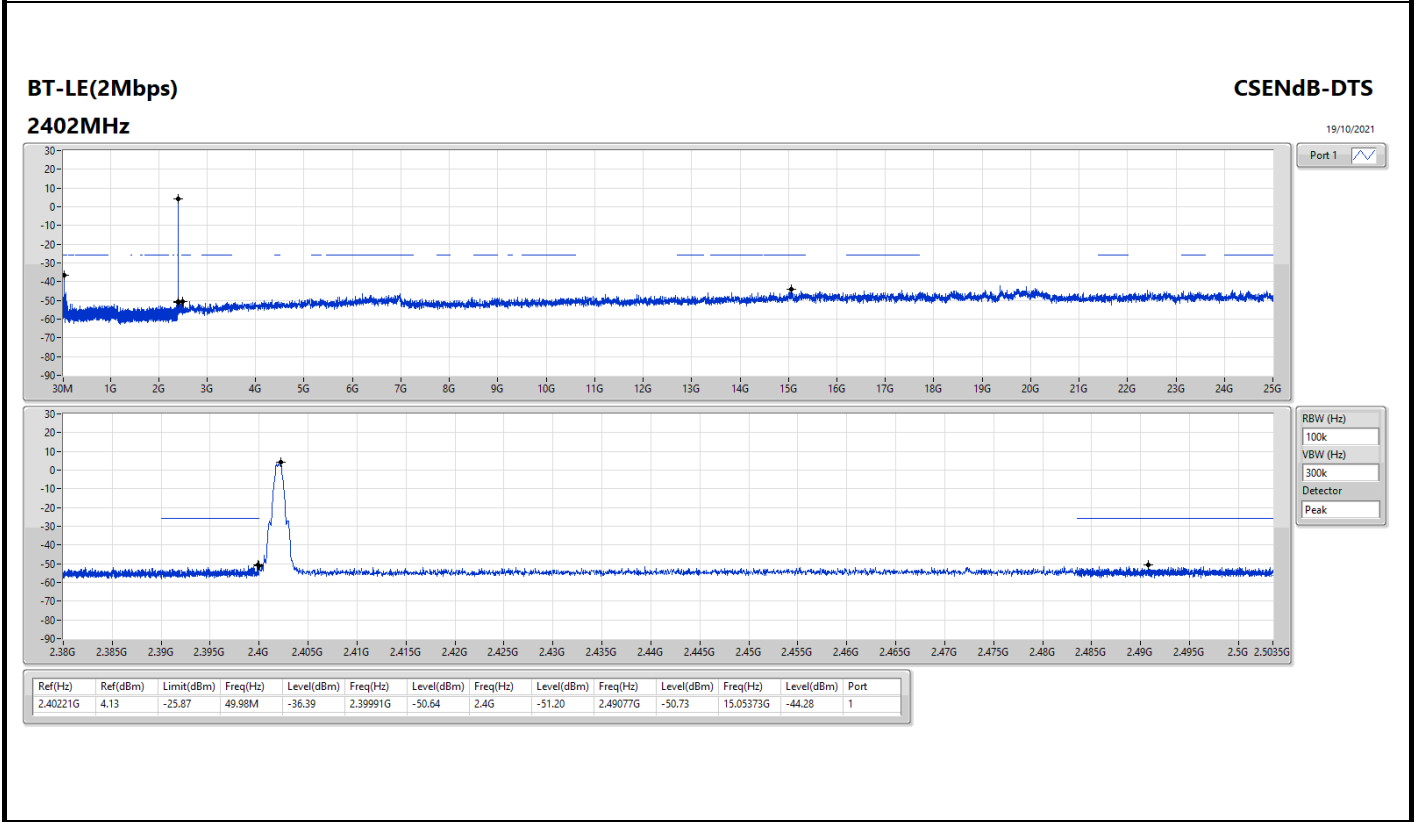
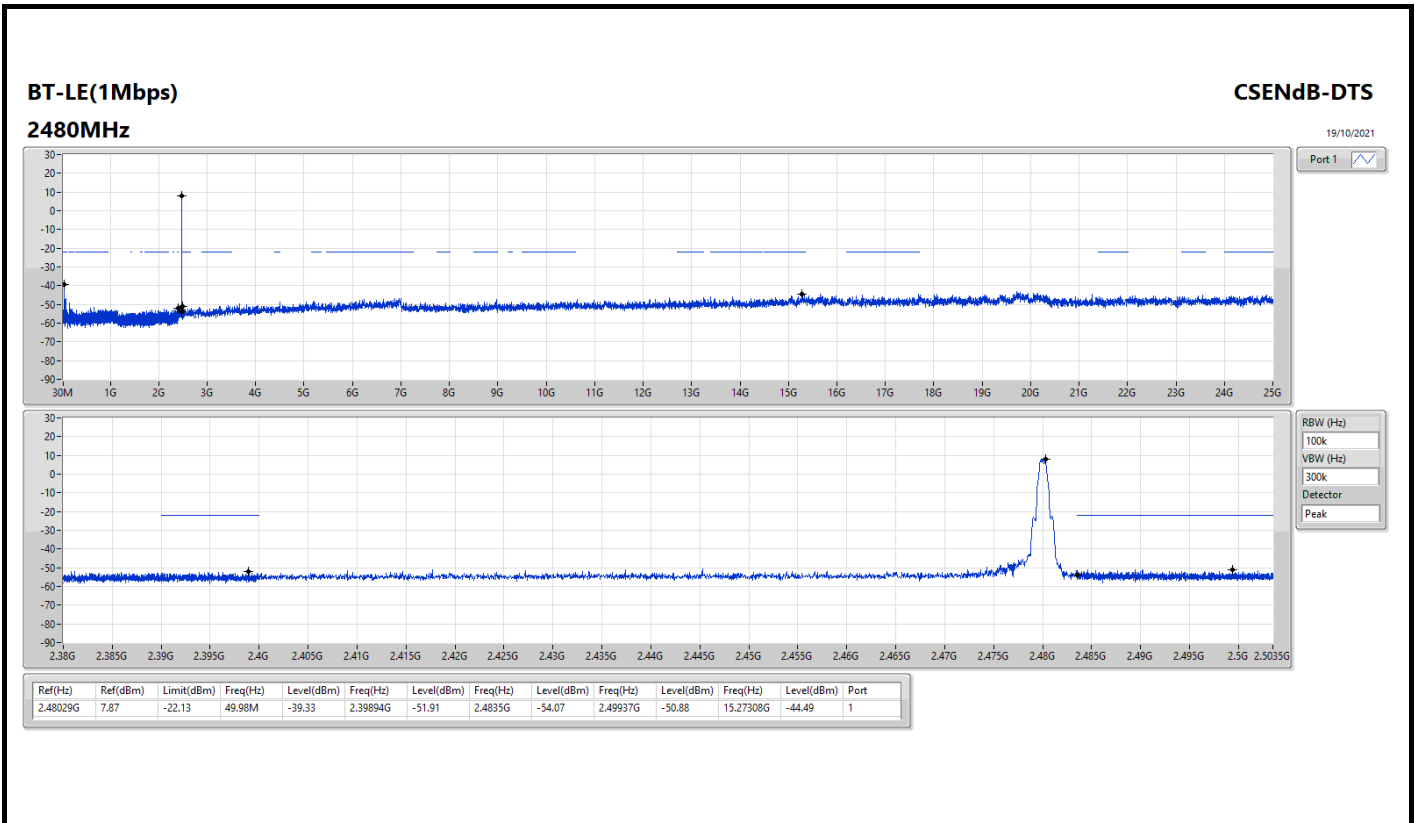
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.48029G	7.87	-22.13	49.98M	-39.20	2.398G	-51.74	2.4G	-54.61	2.48493G	-50.86	15.03124G	-44.06	1
BT-LE(2Mbps)	Pass	2.40221G	4.13	-25.87	49.98M	-35.33	2.39824G	-51.28	2.4835G	-54.16	2.48505G	-51.38	23.57428G	-44.17	1

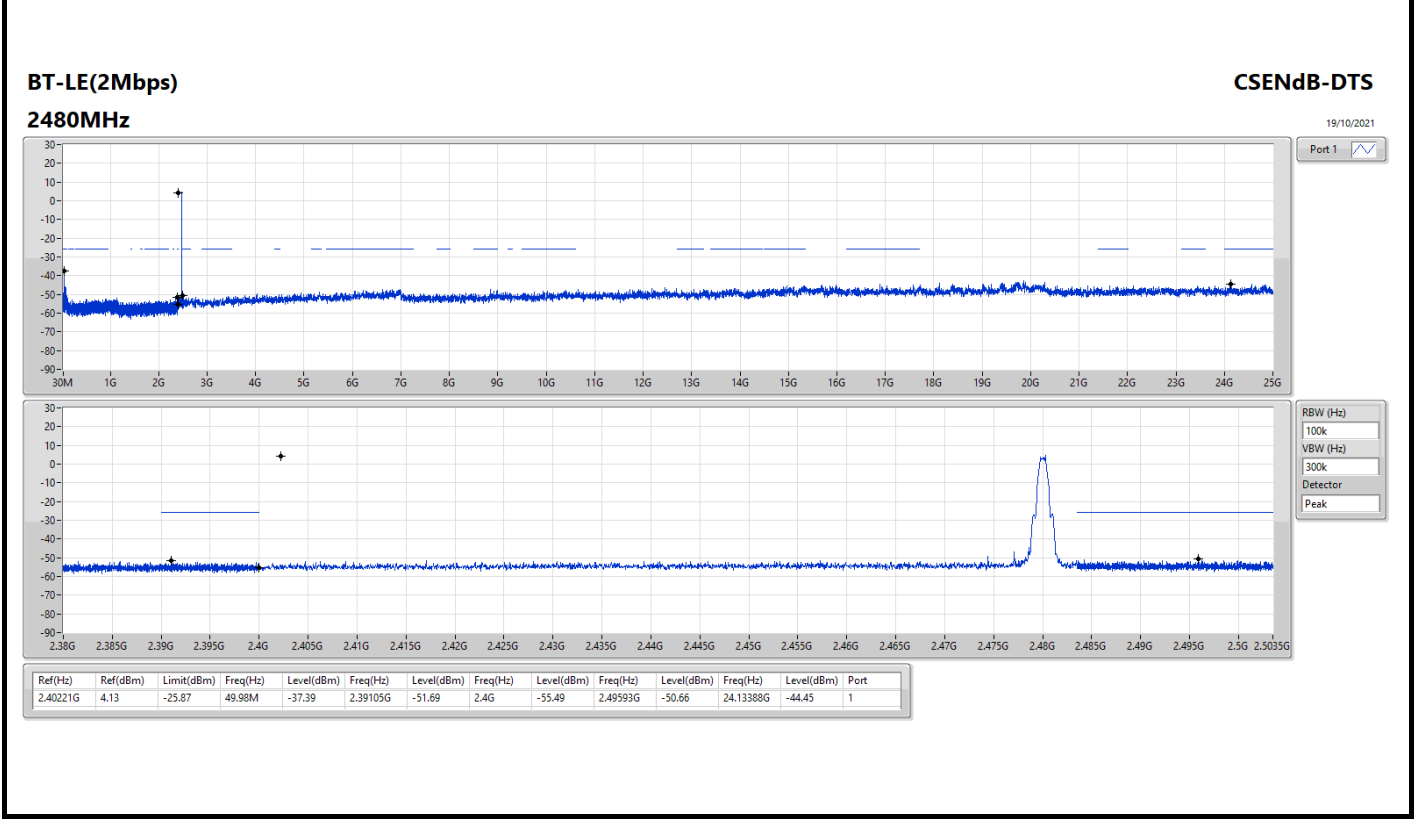
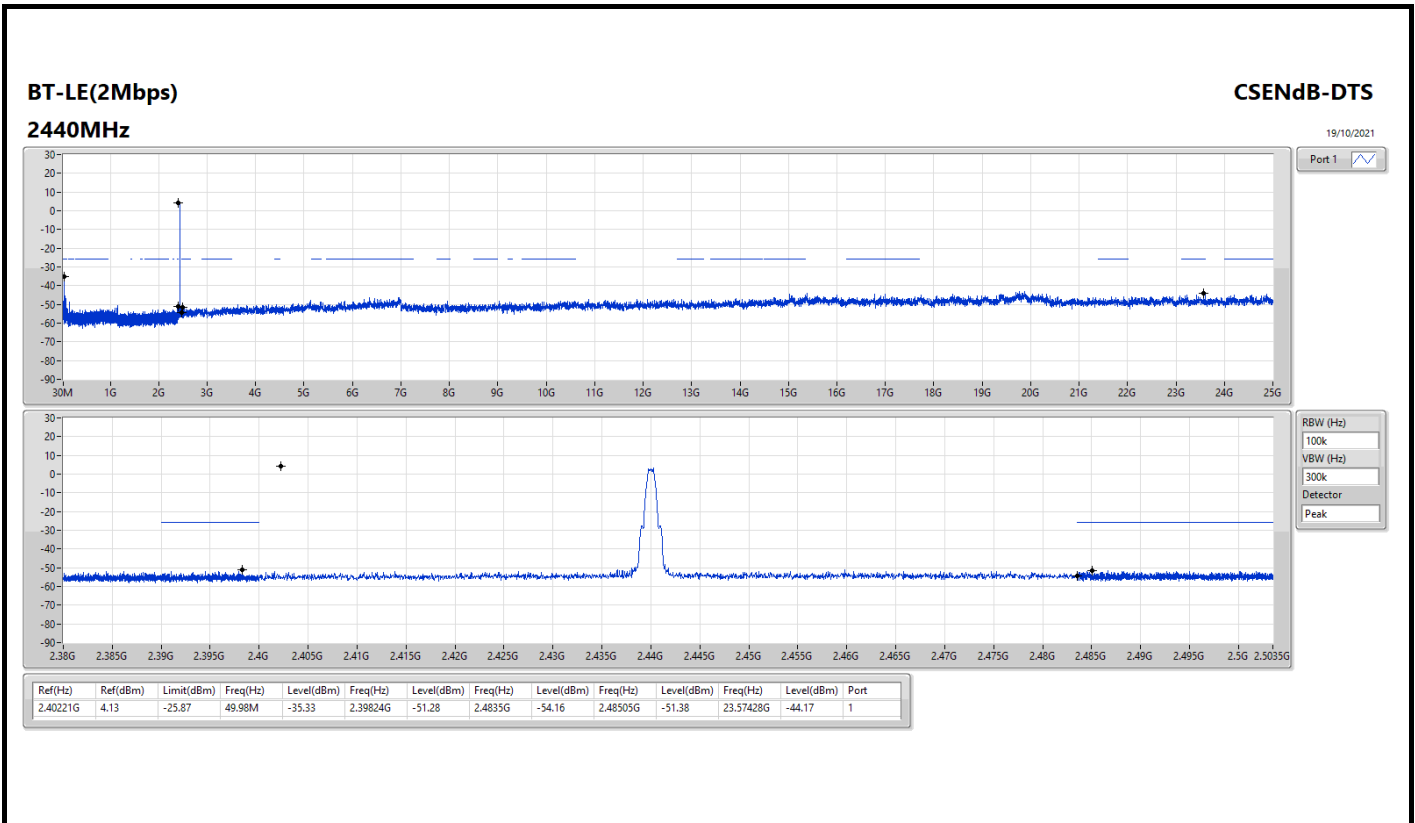


Result

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	2.48029G	7.87	-22.13	49.98M	-40.84	2.39995G	-46.29	2.4G	-46.64	2.49193G	-51.36	24.47414G	-44.79	1
2440MHz	Pass	2.48029G	7.87	-22.13	49.98M	-39.20	2.398G	-51.74	2.4G	-54.61	2.48493G	-50.86	15.03124G	-44.06	1
2480MHz	Pass	2.48029G	7.87	-22.13	49.98M	-39.33	2.39894G	-51.91	2.4835G	-54.07	2.49937G	-50.88	15.27308G	-44.49	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40221G	4.13	-25.87	49.98M	-36.39	2.39991G	-50.64	2.4G	-51.20	2.49077G	-50.73	15.05373G	-44.28	1
2440MHz	Pass	2.40221G	4.13	-25.87	49.98M	-35.33	2.39824G	-51.28	2.4835G	-54.16	2.48505G	-51.38	23.57428G	-44.17	1
2480MHz	Pass	2.40221G	4.13	-25.87	49.98M	-37.39	2.39105G	-51.69	2.4G	-55.49	2.49593G	-50.66	24.13388G	-44.45	1







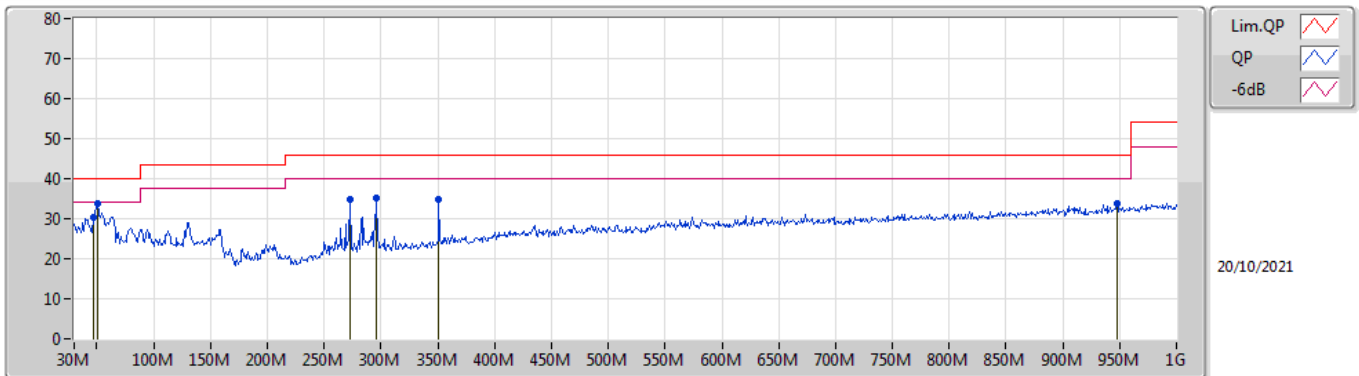




**Summary**

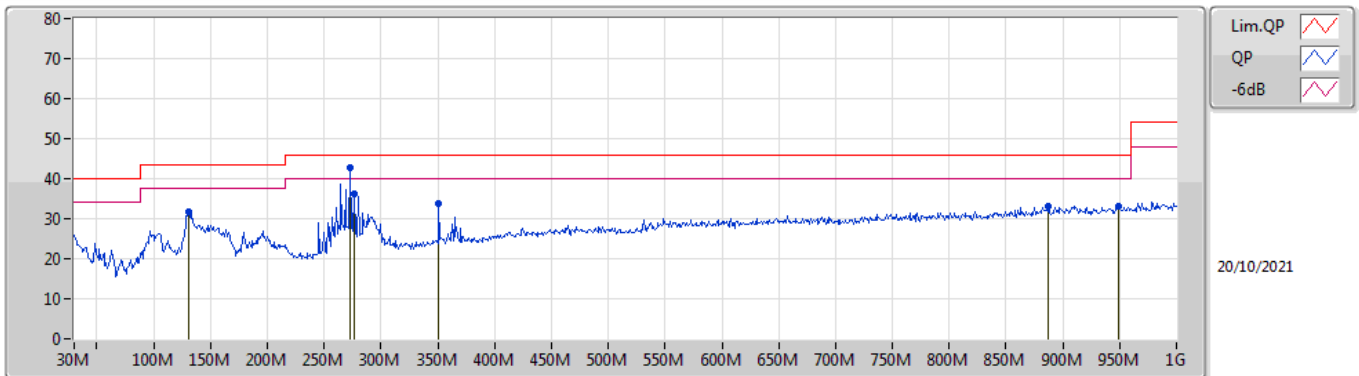
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 2	Pass	PK	272.5M	42.66	46.00	-3.34	Horizontal

Mode 2



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	46.49M	30.39	40.00	-9.61	-15.38	3	Vertical	359	1.00	-	45.77	15.35	1.00	31.73
PK	50.37M	33.87	40.00	-6.13	-16.92	3	Vertical	359	1.00	"Worst"	50.79	13.83	1.01	31.76
PK	272.5M	34.82	46.00	-11.18	-10.95	3	Vertical	123	2.00	-	45.77	18.56	2.53	32.04
PK	295.78M	35.15	46.00	-10.85	-10.53	3	Vertical	240	2.00	-	45.68	18.87	2.67	32.07
PK	351.07M	34.69	46.00	-11.31	-8.88	3	Vertical	280	2.00	-	43.57	20.33	2.90	32.11
PK	947.62M	33.68	46.00	-12.32	-1.15	3	Vertical	9	1.50	-	34.83	26.42	5.00	32.57

Mode 2



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	130.88M	31.89	43.50	-11.61	-12.58	3	Horizontal	272	1.50	-	44.47	17.66	1.71	31.95
PK	272.5M	42.66	46.00	-3.34	-10.95	3	Horizontal	207	1.25	"Worst"	53.61	18.56	2.53	32.04
PK	276.38M	36.30	46.00	-9.70	-10.91	3	Horizontal	245	1.25	-	47.21	18.58	2.56	32.05
PK	351.07M	33.75	46.00	-12.25	-8.88	3	Horizontal	326	1.25	-	42.63	20.33	2.90	32.11
PK	887.48M	33.08	46.00	-12.92	-1.54	3	Horizontal	0	2.00	-	34.62	26.19	4.92	32.65
PK	949.56M	33.11	46.00	-12.89	-1.12	3	Horizontal	344	2.00	-	34.23	26.45	5.00	32.57

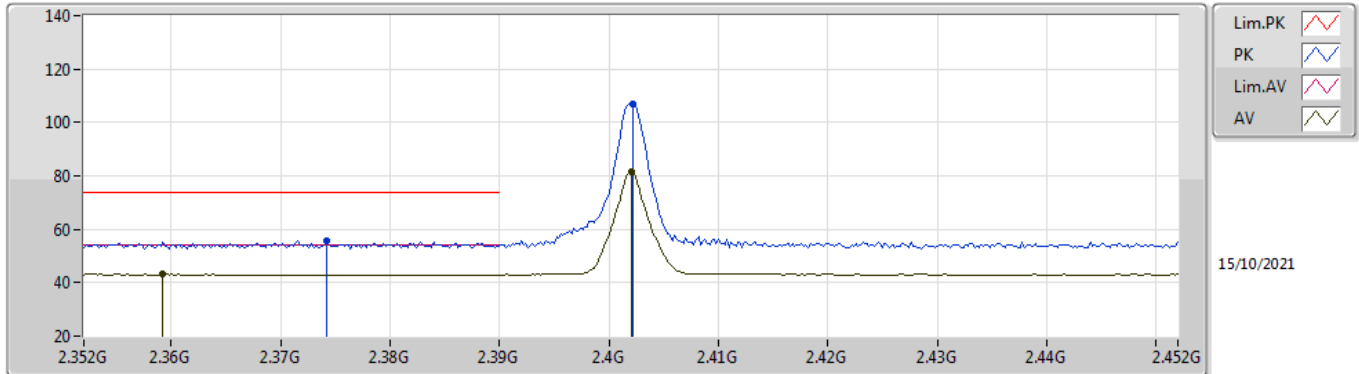


Summary

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	52.26	54.00	-1.74	3	Vertical	76	1.20	-

### BT-LE(1Mbps)

### 2402MHz\_TX

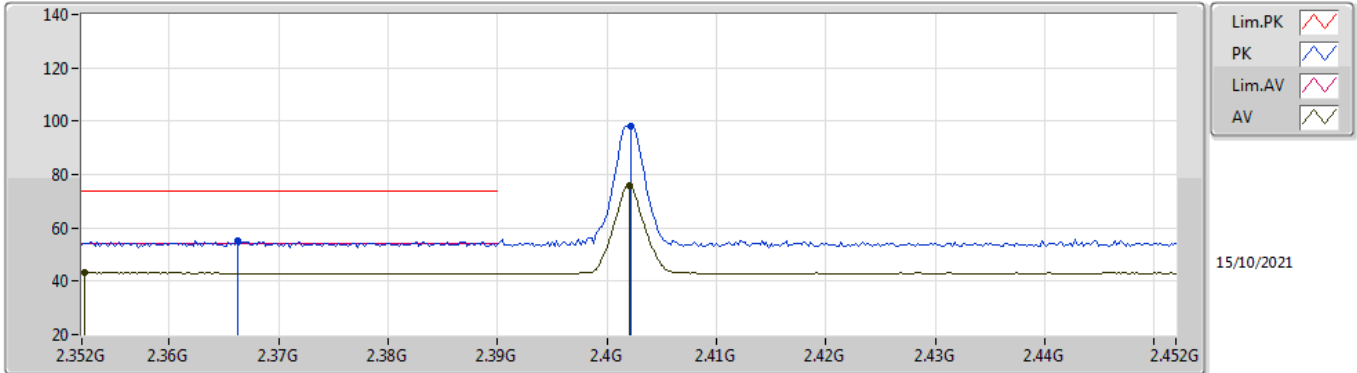


EUT Y\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3742G	55.63	74.00	-18.37	24.49	3	Vertical	62	1.68	-	28.35	2.79	-
AV	2.3592G	43.05	54.00	-10.95	11.95	3	Vertical	62	1.68	-	28.32	2.78	-
PK	2.4022G	106.75	Inf	-Inf	75.55	3	Vertical	62	1.68	-	28.40	2.80	-
AV	2.402G	81.48	Inf	-Inf	50.28	3	Vertical	62	1.68	-	28.40	2.80	-

**BT-LE(1Mbps)**

**2402MHz\_TX**

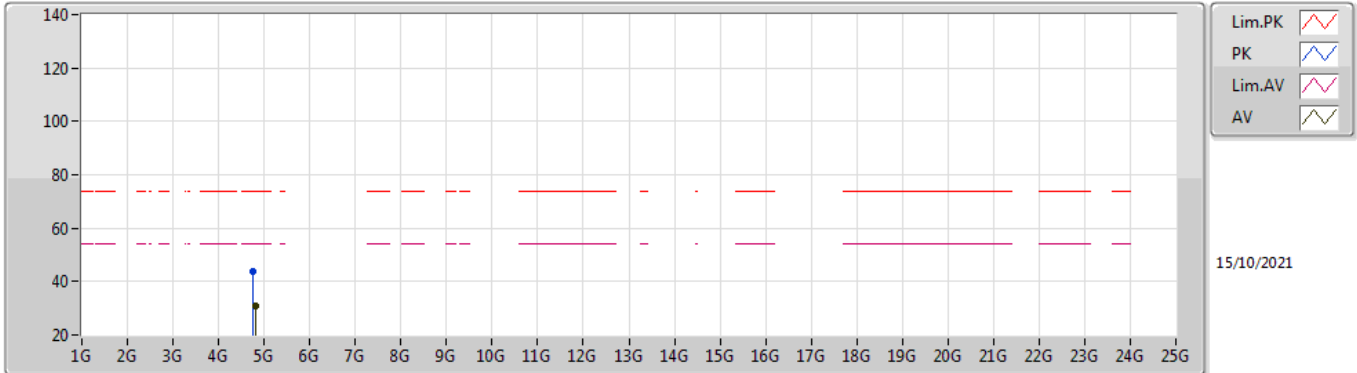


EUT\_V\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3662G	55.07	74.00	-18.93	23.96	3	Horizontal	146	2.21	-	28.33	2.78	-
AV	2.3522G	43.04	54.00	-10.96	11.96	3	Horizontal	146	2.21	-	28.30	2.78	-
PK	2.4022G	98.26	Inf	-Inf	67.06	3	Horizontal	146	2.21	-	28.40	2.80	-
AV	2.402G	76.09	Inf	-Inf	44.89	3	Horizontal	146	2.21	-	28.40	2.80	-

**BT-LE(1Mbps)**

**2402MHz\_TX**

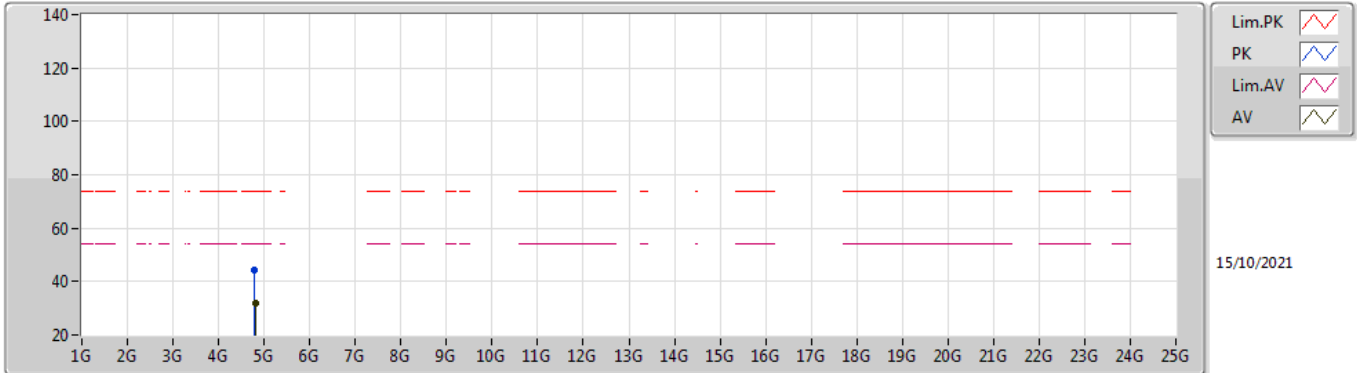


EUT Y\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.7574G	43.58	74.00	-30.42	38.14	3	Vertical	185	1.48	-	32.61	5.08	32.25
AV	4.8238G	30.80	54.00	-23.20	25.12	3	Vertical	185	1.48	-	32.80	5.10	32.22

### BT-LE(1Mbps)

### 2402MHz\_TX



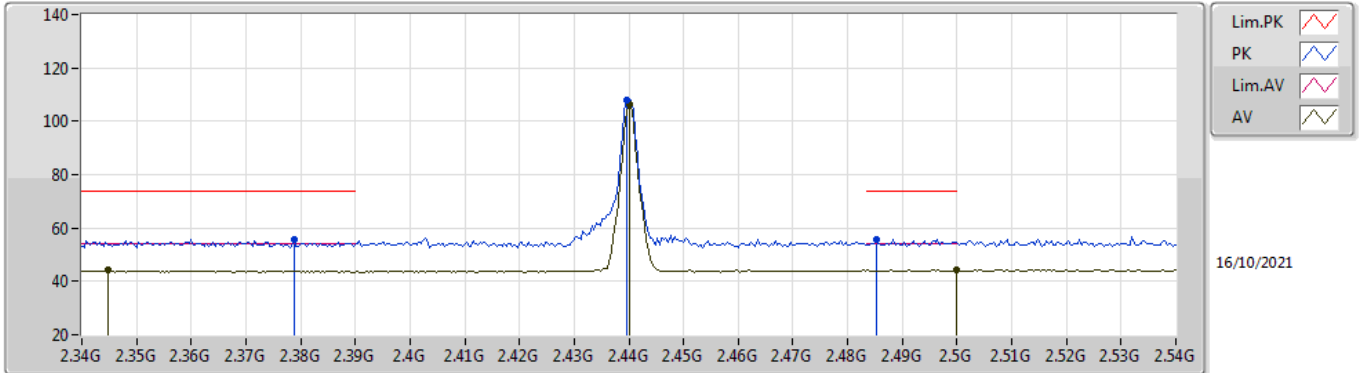
EUT Y\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.7908G	44.32	74.00	-29.68	38.78	3	Horizontal	258	1.02	-	32.68	5.10	32.24
AV	4.8228G	31.85	54.00	-22.15	26.18	3	Horizontal	258	1.02	-	32.79	5.10	32.22



**BT-LE(1Mbps)**

**2440MHz\_TX**

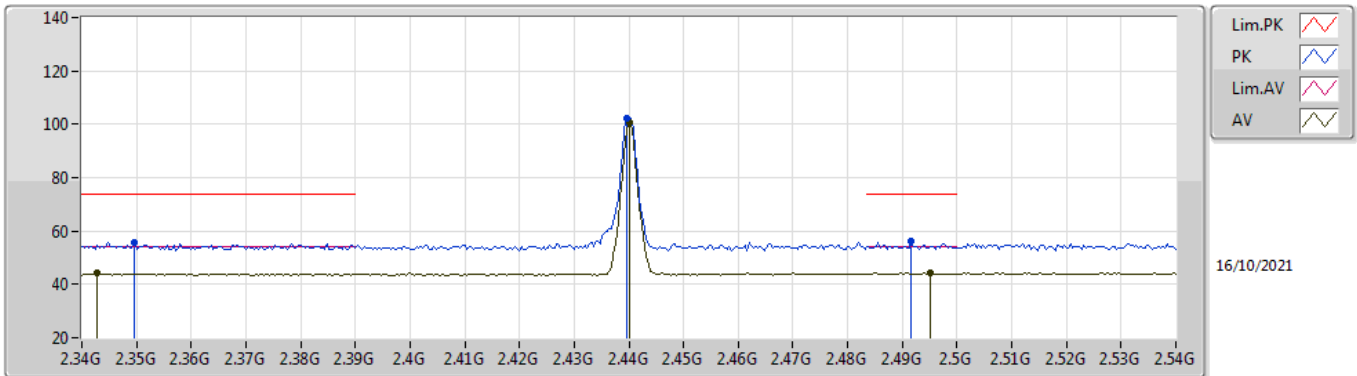


EUT\_V\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3788G	55.61	74.00	-18.39	24.46	3	Vertical	72	1.01	-	28.36	2.79	-
AV	2.3448G	44.07	54.00	-9.93	13.02	3	Vertical	72	1.01	-	28.28	2.77	-
PK	2.4396G	107.84	Inf	-Inf	76.60	3	Vertical	72	1.01	-	28.40	2.84	-
AV	2.44G	106.46	Inf	-Inf	75.22	3	Vertical	72	1.01	-	28.40	2.84	-
PK	2.4852G	55.94	74.00	-18.06	24.51	3	Vertical	72	1.01	-	28.54	2.89	-
AV	2.5G	44.18	54.00	-9.82	12.68	3	Vertical	72	1.01	-	28.60	2.90	-

**BT-LE(1Mbps)**

**2440MHz\_TX**

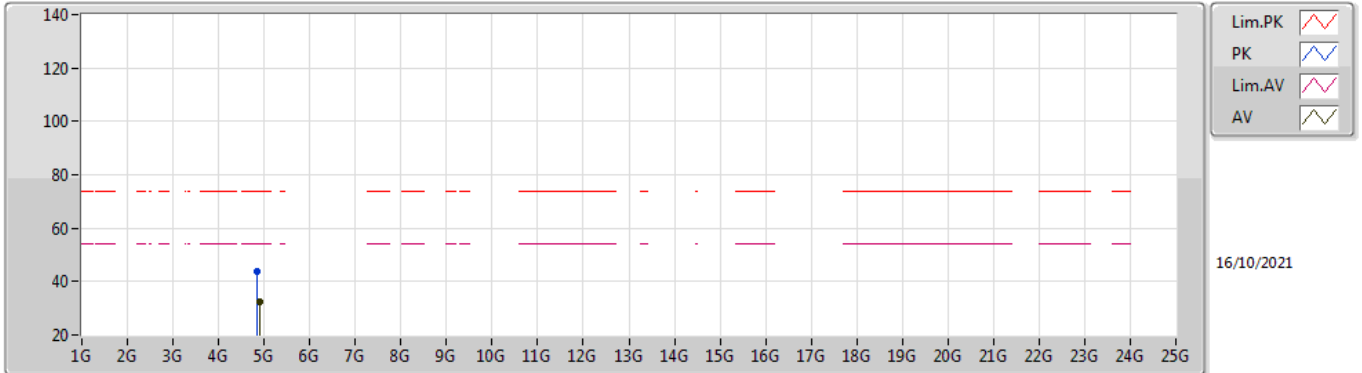


EUT\_V\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3496G	55.77	74.00	-18.23	24.70	3	Horizontal	90	1.24	-	28.30	2.77	-
AV	2.3428G	44.13	54.00	-9.87	13.09	3	Horizontal	90	1.24	-	28.27	2.77	-
PK	2.4396G	102.13	Inf	-Inf	70.89	3	Horizontal	90	1.24	-	28.40	2.84	-
AV	2.44G	100.52	Inf	-Inf	69.28	3	Horizontal	90	1.24	-	28.40	2.84	-
PK	2.4916G	56.02	74.00	-17.98	24.56	3	Horizontal	90	1.24	-	28.57	2.89	-
AV	2.4952G	44.21	54.00	-9.79	12.73	3	Horizontal	90	1.24	-	28.58	2.90	-

**BT-LE(1Mbps)**

**2440MHz\_TX**

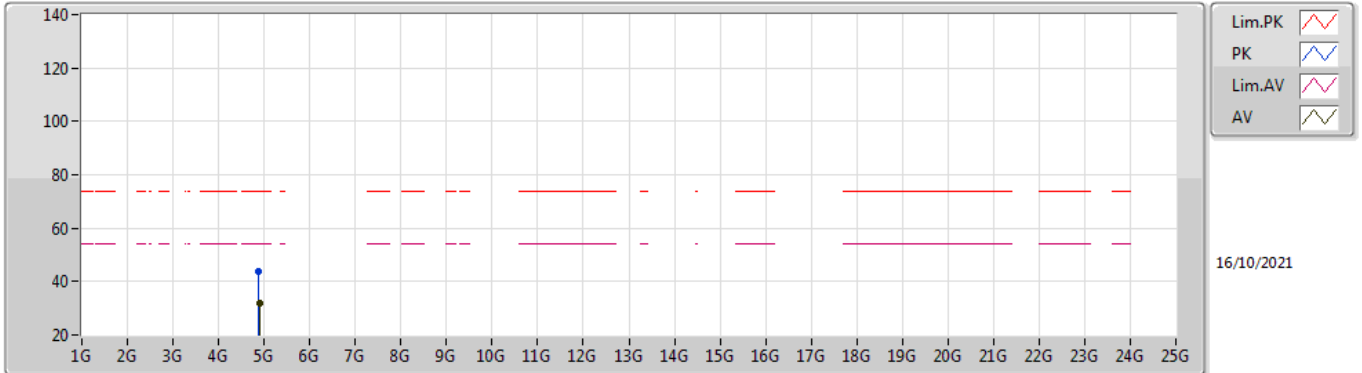


EUT Y\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.844G	43.76	74.00	-30.24	38.00	3	Vertical	5	2.75	-	32.88	5.10	32.22
AV	4.9066G	32.17	54.00	-21.83	26.22	3	Vertical	5	2.75	-	33.04	5.10	32.19

**BT-LE(1Mbps)**

**2440MHz\_TX**

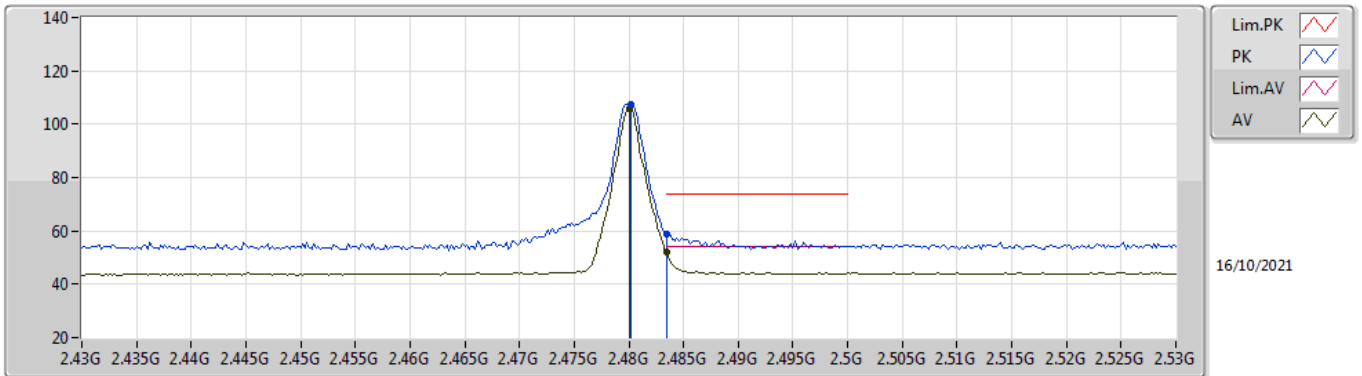


EUT V\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.8726G	43.97	74.00	-30.03	38.13	3	Horizontal	204	2.92	-	32.95	5.10	32.21
AV	4.906G	31.91	54.00	-22.09	25.96	3	Horizontal	204	2.92	-	33.04	5.10	32.19

**BT-LE(1Mbps)**

**2480MHz\_TX**

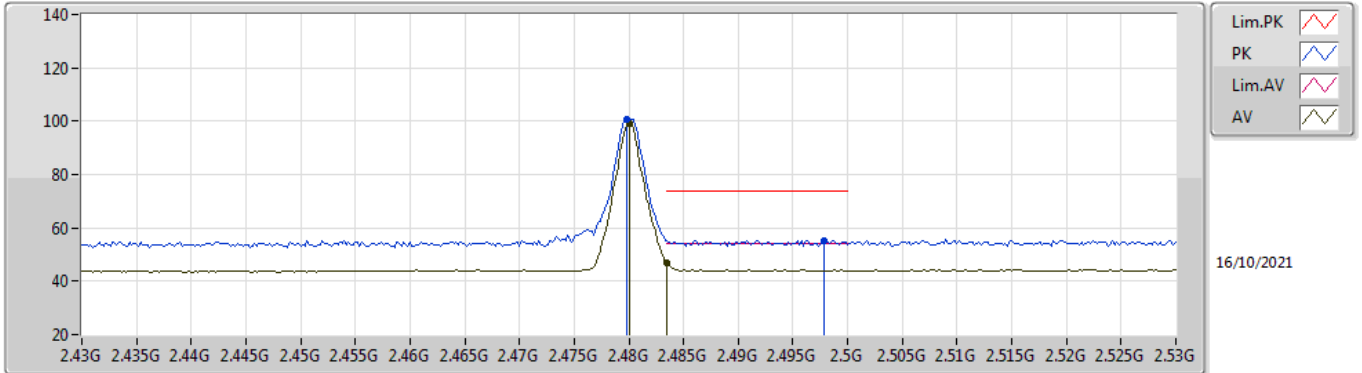


EUT\_V\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.4802G	107.22	Inf	-Inf	75.82	3	Vertical	76	1.20	-	28.52	2.88	-
AV	2.48G	105.78	Inf	-Inf	74.38	3	Vertical	76	1.20	-	28.52	2.88	-
PK	2.4835G	58.62	74.00	-15.38	27.21	3	Vertical	76	1.20	-	28.53	2.88	-
AV	2.4835G	52.26	54.00	-1.74	20.85	3	Vertical	76	1.20	-	28.53	2.88	-

**BT-LE(1Mbps)**

**2480MHz\_TX**

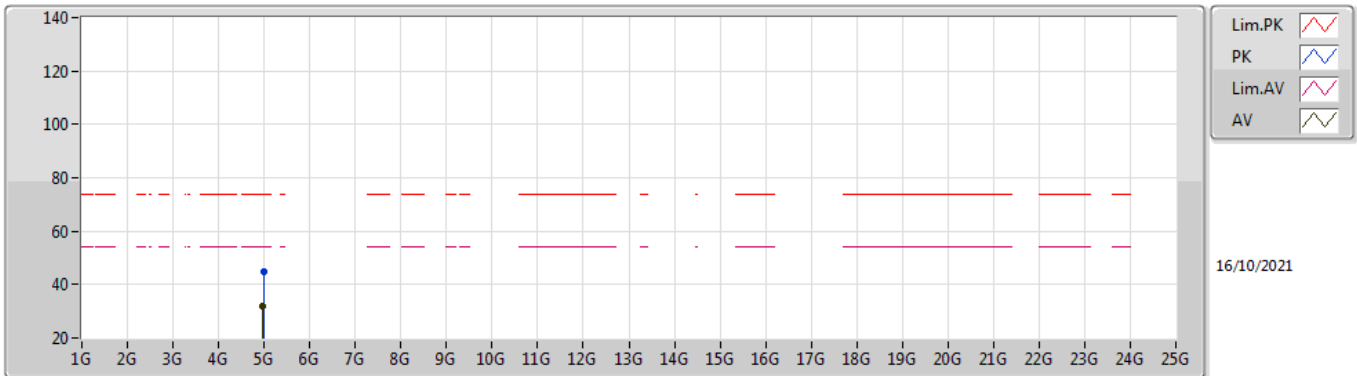


EUT\_V\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.4798G	100.70	Inf	-Inf	69.30	3	Horizontal	124	2.31	-	28.52	2.88	-
AV	2.48G	99.28	Inf	-Inf	67.88	3	Horizontal	124	2.31	-	28.52	2.88	-
PK	2.4978G	55.38	74.00	-18.62	23.89	3	Horizontal	124	2.31	-	28.59	2.90	-
AV	2.4835G	47.15	54.00	-6.85	15.74	3	Horizontal	124	2.31	-	28.53	2.88	-

**BT-LE(1Mbps)**

**2480MHz\_TX**

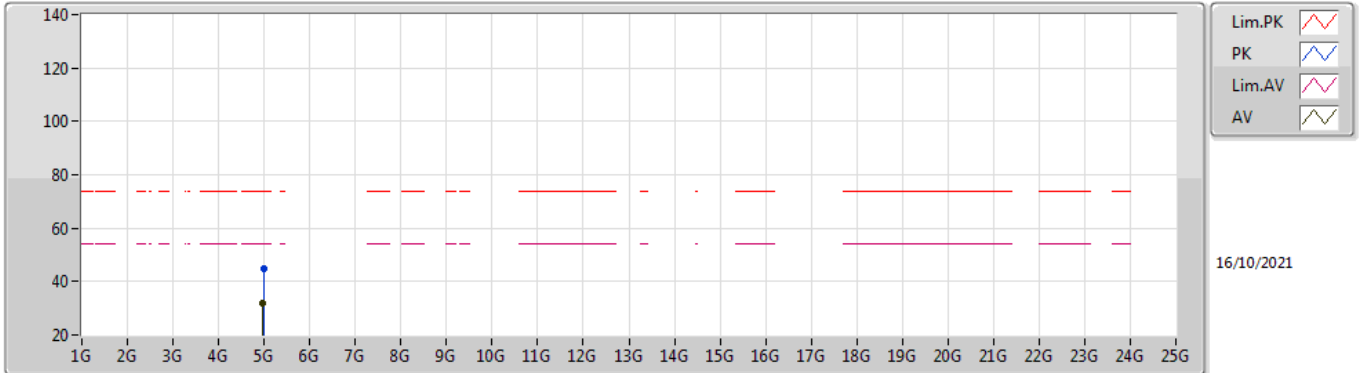


EUT Y\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.989G	44.57	74.00	-29.43	38.41	3	Vertical	279	1.87	-	33.22	5.10	32.16
AV	4.9778G	32.07	54.00	-21.93	25.90	3	Vertical	279	1.87	-	33.24	5.10	32.17

**BT-LE(1Mbps)**

**2480MHz\_TX**



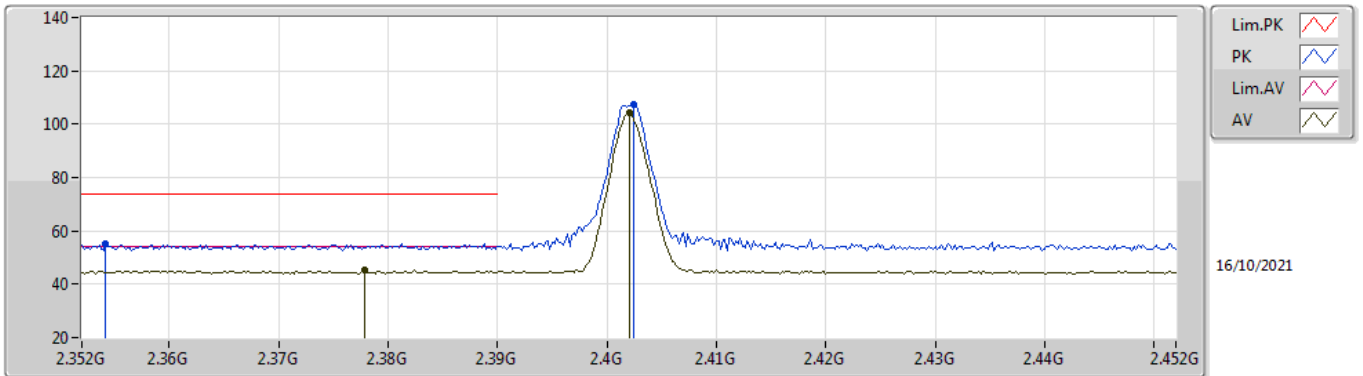
EUT Y\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	5.0078G	44.60	74.00	-29.40	38.43	3	Horizontal	46	1.10	-	33.22	5.11	32.16
AV	4.9668G	32.02	54.00	-21.98	25.82	3	Horizontal	46	1.10	-	33.27	5.10	32.17



**BT-LE(2Mbps)**

**2402MHz\_TX**

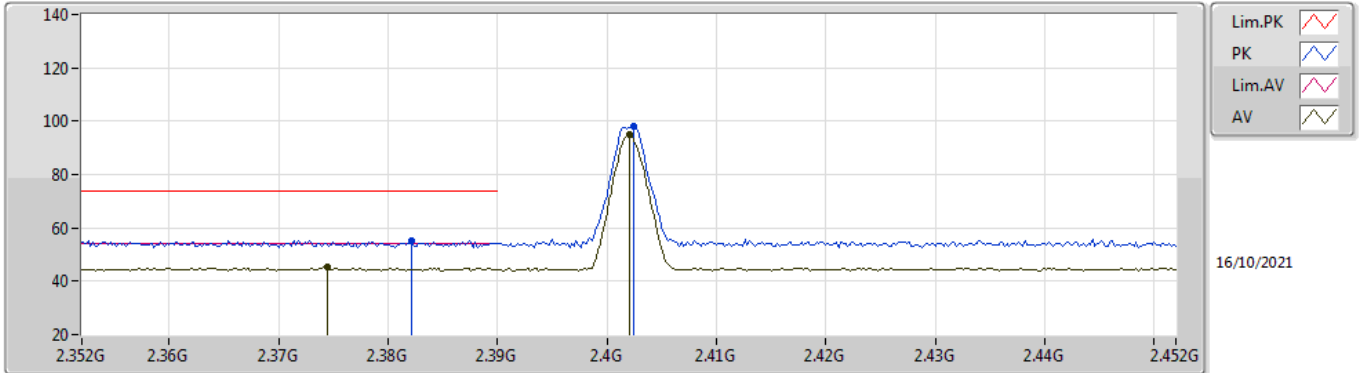


EUT\_V\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3542G	55.28	74.00	-18.72	24.19	3	Vertical	73	1.23	-	28.31	2.78	-
AV	2.3778G	45.25	54.00	-8.75	14.10	3	Vertical	73	1.23	-	28.36	2.79	-
PK	2.4024G	107.19	Inf	-Inf	75.99	3	Vertical	73	1.23	-	28.40	2.80	-
AV	2.402G	104.15	Inf	-Inf	72.95	3	Vertical	73	1.23	-	28.40	2.80	-

**BT-LE(2Mbps)**

**2402MHz\_TX**

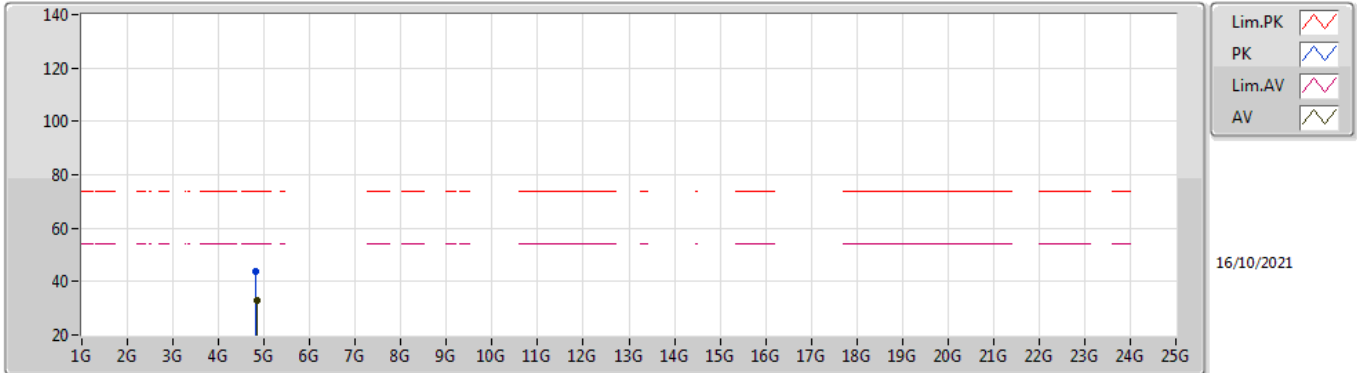


EUT\_V\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3822G	55.33	74.00	-18.67	24.18	3	Horizontal	147	1.80	-	28.36	2.79	-
AV	2.3744G	45.27	54.00	-8.73	14.13	3	Horizontal	147	1.80	-	28.35	2.79	-
PK	2.4024G	98.15	Inf	-Inf	66.95	3	Horizontal	147	1.80	-	28.40	2.80	-
AV	2.402G	94.89	Inf	-Inf	63.69	3	Horizontal	147	1.80	-	28.40	2.80	-

### BT-LE(2Mbps)

### 2402MHz\_TX

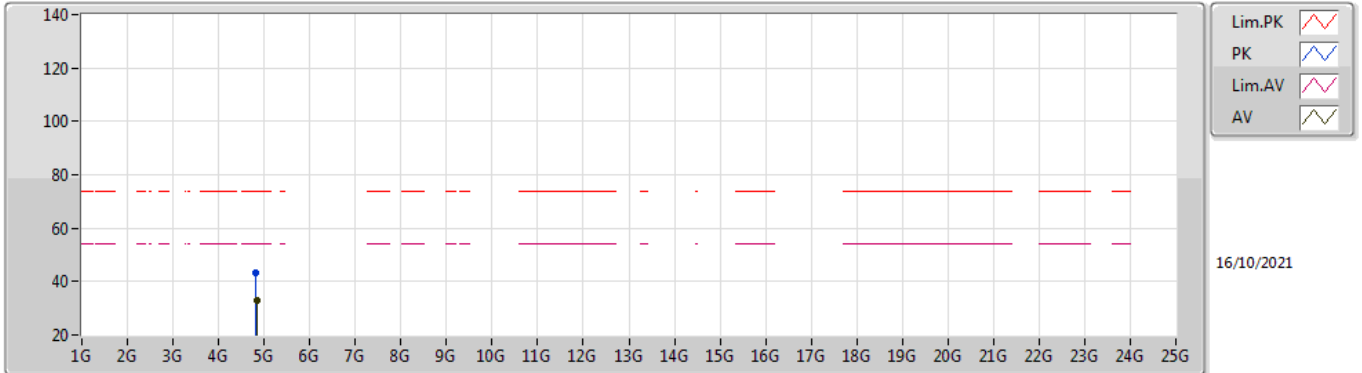


EUT Y\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.8146G	43.96	74.00	-30.04	38.33	3	Vertical	35	1.26	-	32.76	5.10	32.23
AV	4.8334G	33.11	54.00	-20.89	27.40	3	Vertical	35	1.26	-	32.83	5.10	32.22

**BT-LE(2Mbps)**

**2402MHz\_TX**

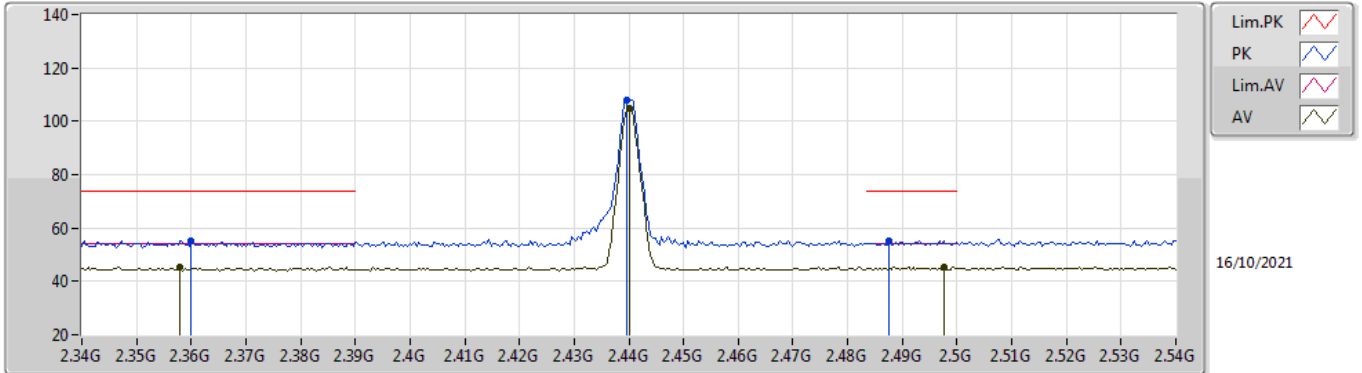


EUT Y\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.8176G	43.45	74.00	-30.55	37.81	3	Horizontal	133	2.58	-	32.77	5.10	32.23
AV	4.8366G	32.79	54.00	-21.21	27.06	3	Horizontal	133	2.58	-	32.85	5.10	32.22

**BT-LE(2Mbps)**

**2440MHz\_TX**

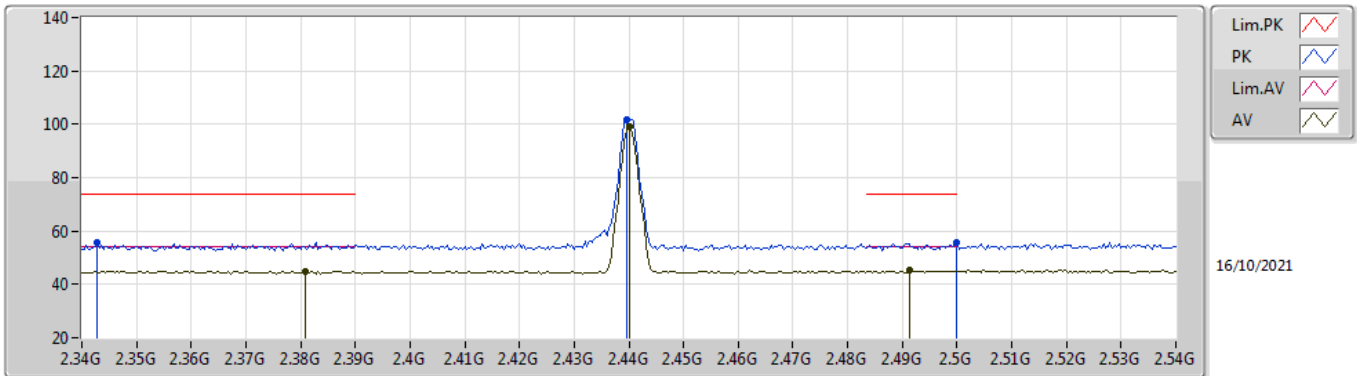


EUT\_V\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.36G	55.38	74.00	-18.62	24.28	3	Vertical	72	1.02	-	28.32	2.78	-
AV	2.358G	45.22	54.00	-8.78	14.12	3	Vertical	72	1.02	-	28.32	2.78	-
PK	2.4396G	108.01	Inf	-Inf	76.77	3	Vertical	72	1.02	-	28.40	2.84	-
AV	2.44G	105.08	Inf	-Inf	73.84	3	Vertical	72	1.02	-	28.40	2.84	-
PK	2.4876G	55.21	74.00	-18.79	23.77	3	Vertical	72	1.02	-	28.55	2.89	-
AV	2.4976G	45.37	54.00	-8.63	13.88	3	Vertical	72	1.02	-	28.59	2.90	-

**BT-LE(2Mbps)**

**2440MHz\_TX**

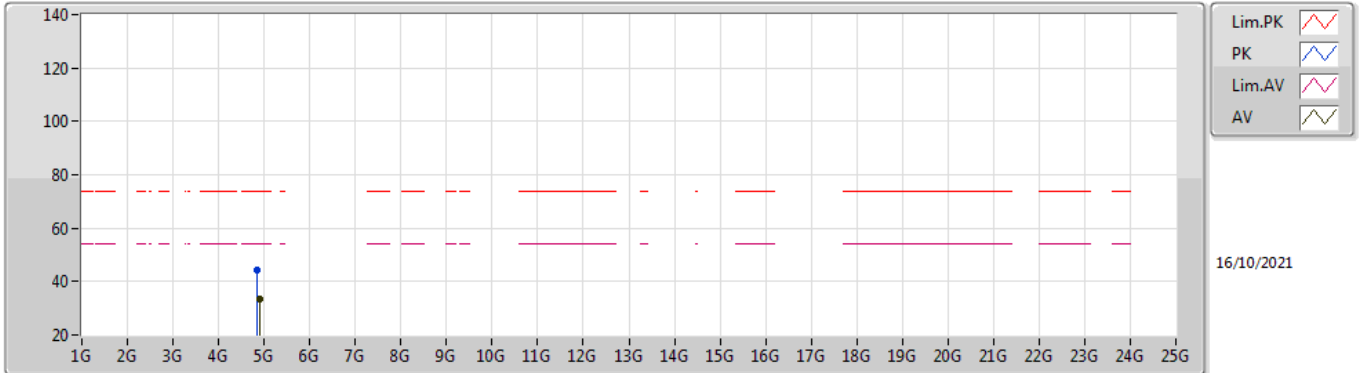


EUT\_V\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3428G	55.88	74.00	-18.12	24.84	3	Horizontal	90	1.26	-	28.27	2.77	-
AV	2.3808G	45.06	54.00	-8.94	13.91	3	Horizontal	90	1.26	-	28.36	2.79	-
PK	2.4396G	101.96	Inf	-Inf	70.72	3	Horizontal	90	1.26	-	28.40	2.84	-
AV	2.44G	98.90	Inf	-Inf	67.66	3	Horizontal	90	1.26	-	28.40	2.84	-
PK	2.5G	55.91	74.00	-18.09	24.41	3	Horizontal	90	1.26	-	28.60	2.90	-
AV	2.4912G	45.09	54.00	-8.91	13.64	3	Horizontal	90	1.26	-	28.56	2.89	-

**BT-LE(2Mbps)**

**2440MHz\_TX**

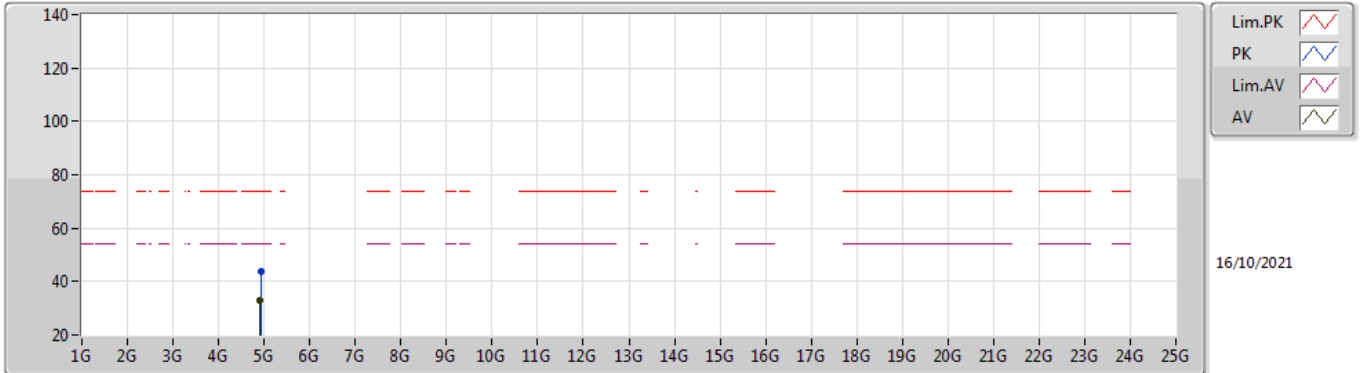


EUT Y\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.8322G	44.50	74.00	-29.50	38.79	3	Vertical	4	2.65	-	32.83	5.10	32.22
AV	4.9014G	33.38	54.00	-20.62	27.47	3	Vertical	4	2.65	-	33.01	5.10	32.20

**BT-LE(2Mbps)**

**2440MHz\_TX**



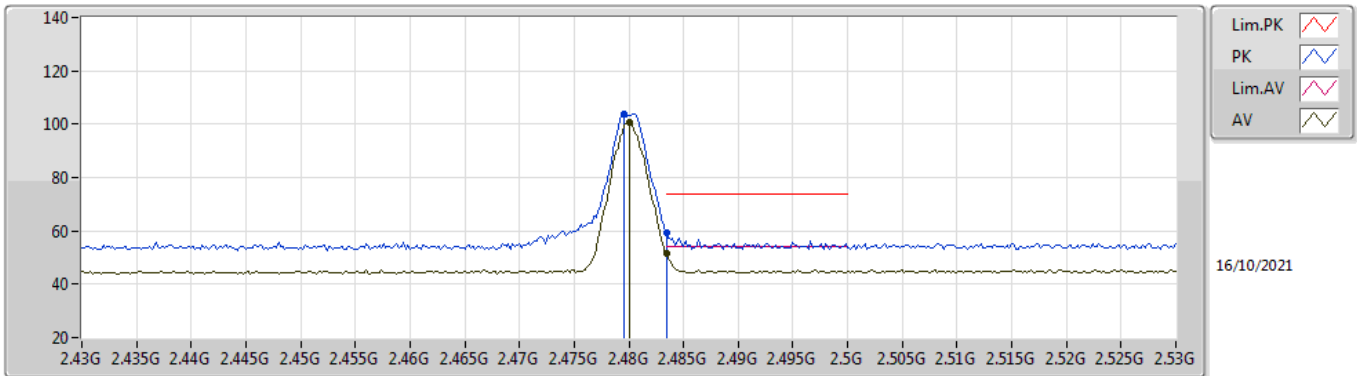
EUT Y\_1TX  
Setting 7  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.9228G	43.63	74.00	-30.37	37.58	3	Horizontal	155	2.49	-	33.14	5.10	32.19
AV	4.8972G	33.16	54.00	-20.84	27.27	3	Horizontal	155	2.49	-	32.99	5.10	32.20



**BT-LE(2Mbps)**

**2480MHz\_TX**

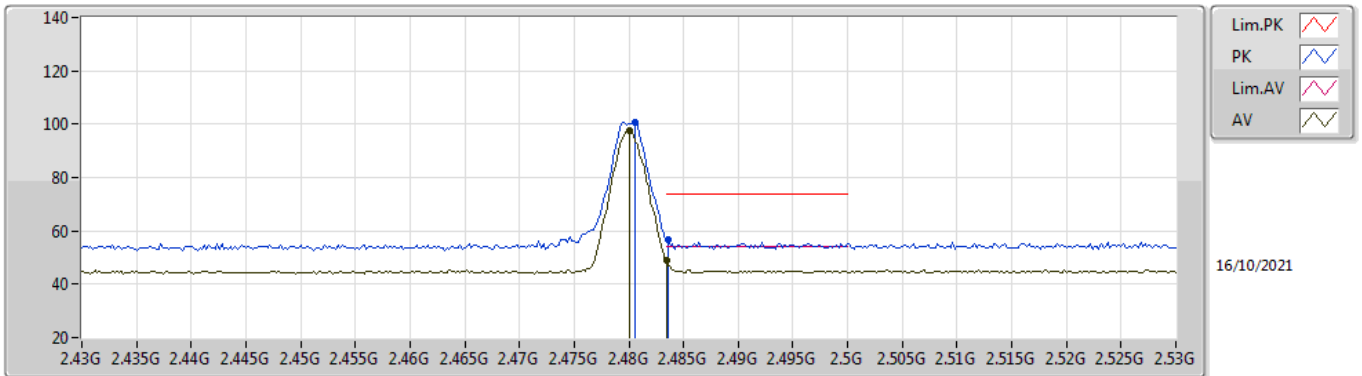


EUT Y\_1TX  
Setting 6  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.4796G	103.65	Inf	-Inf	72.25	3	Vertical	90	1.00	-	28.52	2.88	-
AV	2.48G	100.72	Inf	-Inf	69.32	3	Vertical	90	1.00	-	28.52	2.88	-
PK	2.4835G	59.08	74.00	-14.92	27.67	3	Vertical	90	1.00	-	28.53	2.88	-
AV	2.4835G	51.43	54.00	-2.57	20.02	3	Vertical	90	1.00	-	28.53	2.88	-

**BT-LE(2Mbps)**

**2480MHz\_TX**

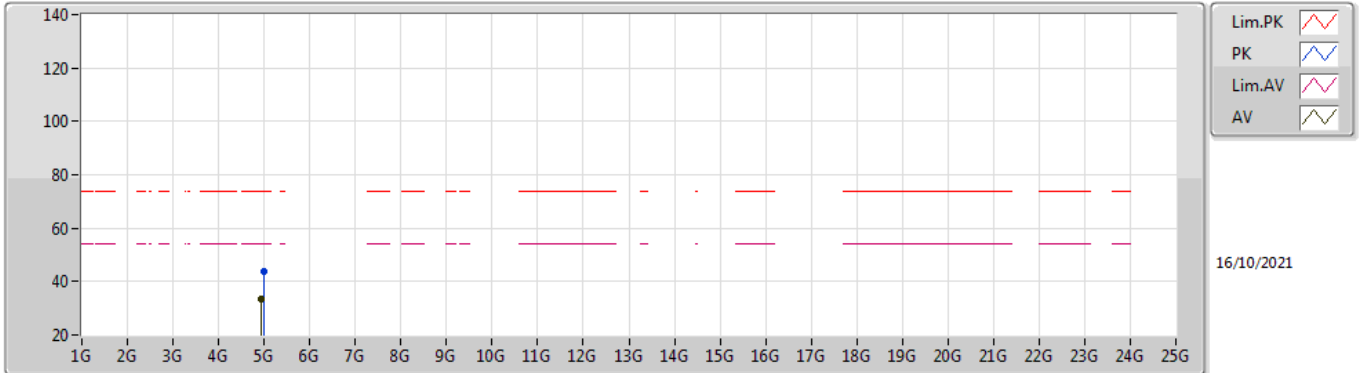


EUT\_V\_1TX  
Setting 6  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.4806G	100.57	Inf	-Inf	69.17	3	Horizontal	124	1.50	-	28.52	2.88	-
AV	2.48G	97.69	Inf	-Inf	66.29	3	Horizontal	124	1.50	-	28.52	2.88	-
PK	2.4836G	56.62	74.00	-17.38	25.21	3	Horizontal	124	1.50	-	28.53	2.88	-
AV	2.4835G	49.19	54.00	-4.81	17.78	3	Horizontal	124	1.50	-	28.53	2.88	-

**BT-LE(2Mbps)**

**2480MHz\_TX**

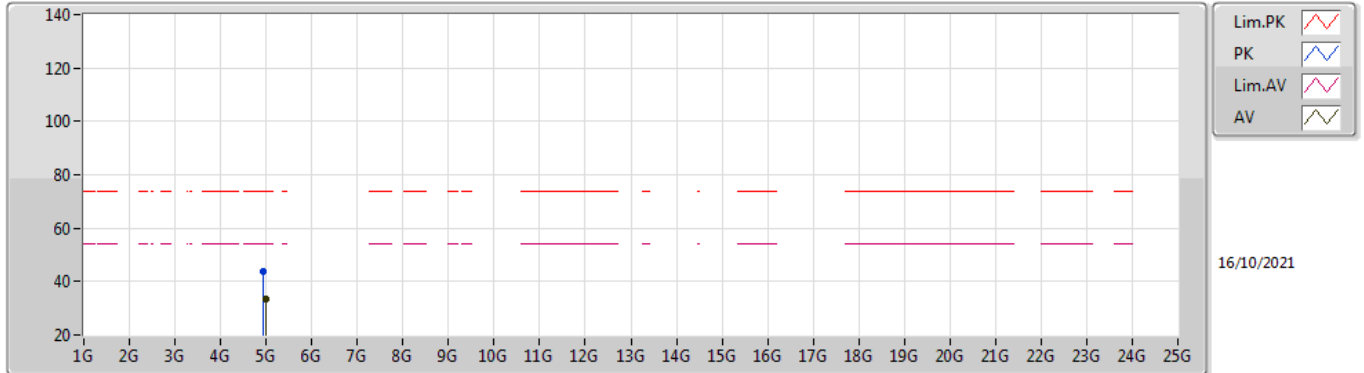


EUT Y\_1TX  
Setting 6  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	5.001G	43.54	74.00	-30.46	37.40	3	Vertical	119	2.07	-	33.20	5.10	32.16
AV	4.9228G	33.33	54.00	-20.67	27.28	3	Vertical	119	2.07	-	33.14	5.10	32.19

### BT-LE(2Mbps)

### 2480MHz\_TX



EUT Y\_1TX  
Setting 6  
02-C-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.9232G	43.69	74.00	-30.31	37.64	3	Horizontal	119	2.28	-	33.14	5.10	32.19
AV	4.986G	33.48	54.00	-20.52	27.32	3	Horizontal	119	2.28	-	33.23	5.10	32.17