



# FCC Test Report

**FCC ID** : 2ACIX-PX5  
**Equipment** : Wireless Headphones  
**Brand Name** : Bowers & Wilkins  
**Model Name** : PX5  
**Applicant/  
Manufacturer** : B&W Group Ltd  
Dale Road, Worthing, West Sussex. BN11 2BH,  
United Kingdom  
**Standard** : 47 CFR FCC Part 15.247

The product was received on May 23, 2019, and testing was started from Jun. 06, 2019 and completed on Jun. 21, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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



Approved by: Allen Lin

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**

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



# Table of Contents

**HISTORY OF THIS TEST REPORT .....3**

**SUMMARY OF TEST RESULT .....4**

**1 GENERAL DESCRIPTION .....5**

1.1 Information.....5

1.2 Testing Applied Standards .....7

1.3 Testing Location Information .....7

1.4 Measurement Uncertainty .....7

**2 TEST CONFIGURATION OF EUT.....8**

2.1 Test Condition .....8

2.2 Test Channel Mode .....8

2.3 The Worst Case Measurement Configuration.....9

2.4 Accessories and Support Equipment .....10

2.5 Test Setup Diagram .....11

**3 TRANSMITTER TEST RESULT .....13**

3.1 AC Power-line Conducted Emissions .....13

3.2 DTS Bandwidth.....14

3.3 Maximum Conducted Output Power .....15

3.4 Power Spectral Density .....17

3.5 Emissions in Non-restricted Frequency Bands .....18

3.6 Emissions in Restricted Frequency Bands.....19

**4 TEST EQUIPMENT AND CALIBRATION DATA.....22**

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

**APPENDIX B. TEST RESULTS OF DTS BANDWIDTH**

**APPENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER**

**APPENDIX D. TEST RESULTS OF POWER SPECTRAL DENSITY**

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

**APPENDIX F. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS**

**APPENDIX G. TEST PHOTOS**

**PHOTOGRAPHS OF EUT V01**





### Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	FCC 15.203
3.1	15.207	AC Power-line Conducted Emissions	PASS	FCC 15.207
3.2	15.247(a)	DTS Bandwidth	PASS	≥500kHz
3.3	15.247(b)	Maximum Conducted Output Power	PASS	Power [dBm]:30
3.4	15.247(e)	Power Spectral Density	PASS	PSD [dBm/3kHz]:8
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	Non-Restricted Bands: >30 dBc
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	Restricted Bands: FCC 15.209

<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: Jackson Tsai

Report Producer: Amber Chiu

# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

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

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX
2.4-2.4835GHz	BT-LE(2Mbps)	2.0	1TX

Note:

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

### 1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Peak Gain (dBi)
1	ADVANCED-CONNECTEK INC.	ABP6Y-100000	Dipole antenna	Mini i-Pex	0.45

**For BT function:**

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

Ant. 1 could transmit/receive simultaneously.

1.1.3 EUT Information

Operational Condition	
EUT Power Type	From Host System / Battery / 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)	0.555	2.56	397.5u	3k
BT-LE(2Mbps)	0.295	5.3	397.5u	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
- ◆ KDB 558074 D01 v05r02

## 1.3 Testing Location Information

Testing Location				
<input checked="" type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)		
		TEL : 886-3-327-3456	FAX : 886-3-327-0973	
Test site Designation No. TW1190 with FCC.				
<input type="checkbox"/>	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)		
		TEL : 886-3-656-9065	FAX : 886-3-656-9085	
Test site Designation No. TW0006 with FCC.				

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Jeff	22.1~25.1°C / 54.7~56.2%	21/Jun/2019
RF Conducted	TH06-HY	Gary	23.2~26°C / 62~66%	06/Jun/2019~ 12/Jun/2019
Radiated	03CH01-HY	Edward	24.2~27.5°C / 51.4~66.7%	13/Jun/2019

## 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)	3.54 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	1.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%



## 2 Test Configuration of EUT

### 2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	25°C
-	Vnom	3.8V

### 2.2 Test Channel Mode

Test Software Version	Blue Test3
-----------------------	------------




Mode	PowerSetting
BT-LE(1Mbps)	-
2402MHz	default
2440MHz	default
2480MHz	default
BT-LE(2Mbps)	-
2402MHz	default
2440MHz	default
2480MHz	default



### 2.3 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
Operating Mode	CTX
1	USB mode

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

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

## 2.4 Accessories and Support Equipment

Accessories				
Battery	Brand Name	VDL	Model Name	493035
	Manufacturer	-	SN	-
	Power Rating	3.8 Vdc, 600mAh	Type	Li-ion, Y
Type C USB Cable	Brand Name	Liang Gang	Model Name	TG-D10031-0082
	Signal Line	1.2 meter, shielded cable, w/o ferrite core		
Audio Cable	Brand Name	B&W	Model Name	4021XW01844ZAG
	Signal Line	1.1 meter, non-shielded cable, w/o ferrite core		

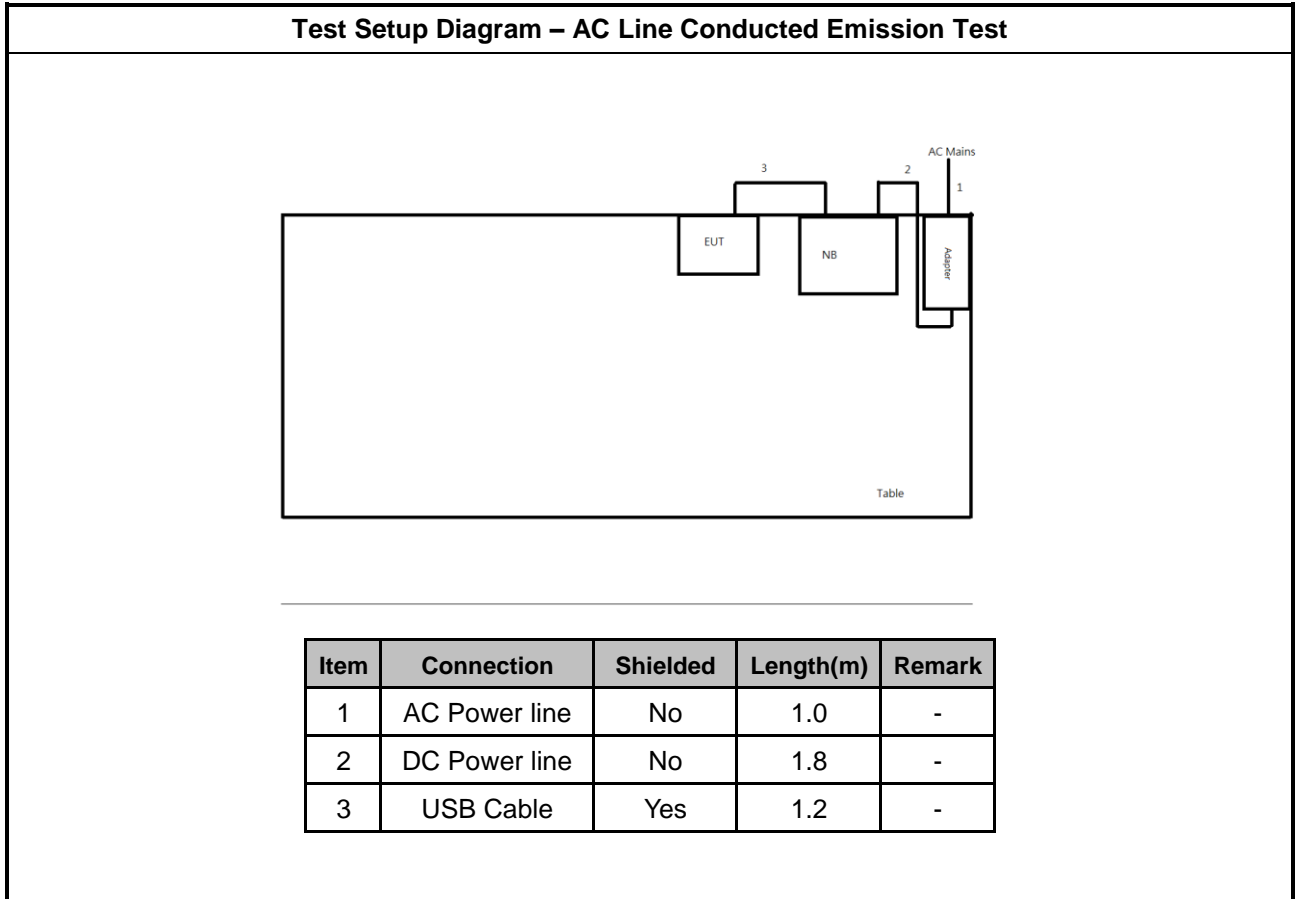
Reminder: Regarding to more detail and other information, please refer to user manual.

Support Equipment – AC Conduction				
No.	Equipment	Brand Name	Model Name	FCC ID
1	iPod	Apple	A1285	N/A
2	Notebook	Dell	E5570	N/A
3	AC Adapter for NB	Dell	LA90PM111	N/A
4	Mouse(USB)	Dell	MS116P	N/A

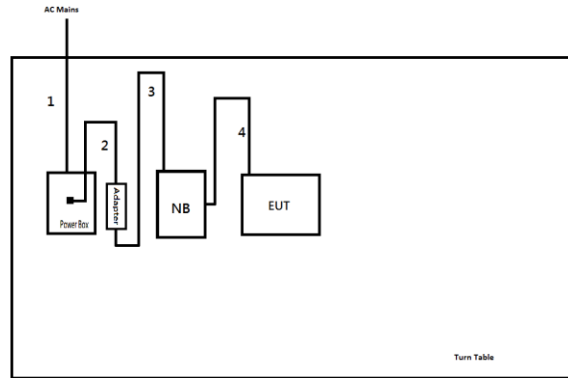
Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC

Support Equipment – Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	iPod	Apple	A1285	N/A
2	Notebook	Dell	E5570	N/A
3	AC Adapter for NB	Dell	LA90PM111	N/A
	Mouse(USB)	Dell	MS116P	N/A

## 2.5 Test Setup Diagram



Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.8	-
2	AC Power line	No	1.0	-
3	DC Power line	No	2.0	-
4	USB Cable	Yes	1.2	-

### 3 Transmitter Test Result

#### 3.1 AC Power-line Conducted Emissions

##### 3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: \* Decreases with the logarithm of the frequency.

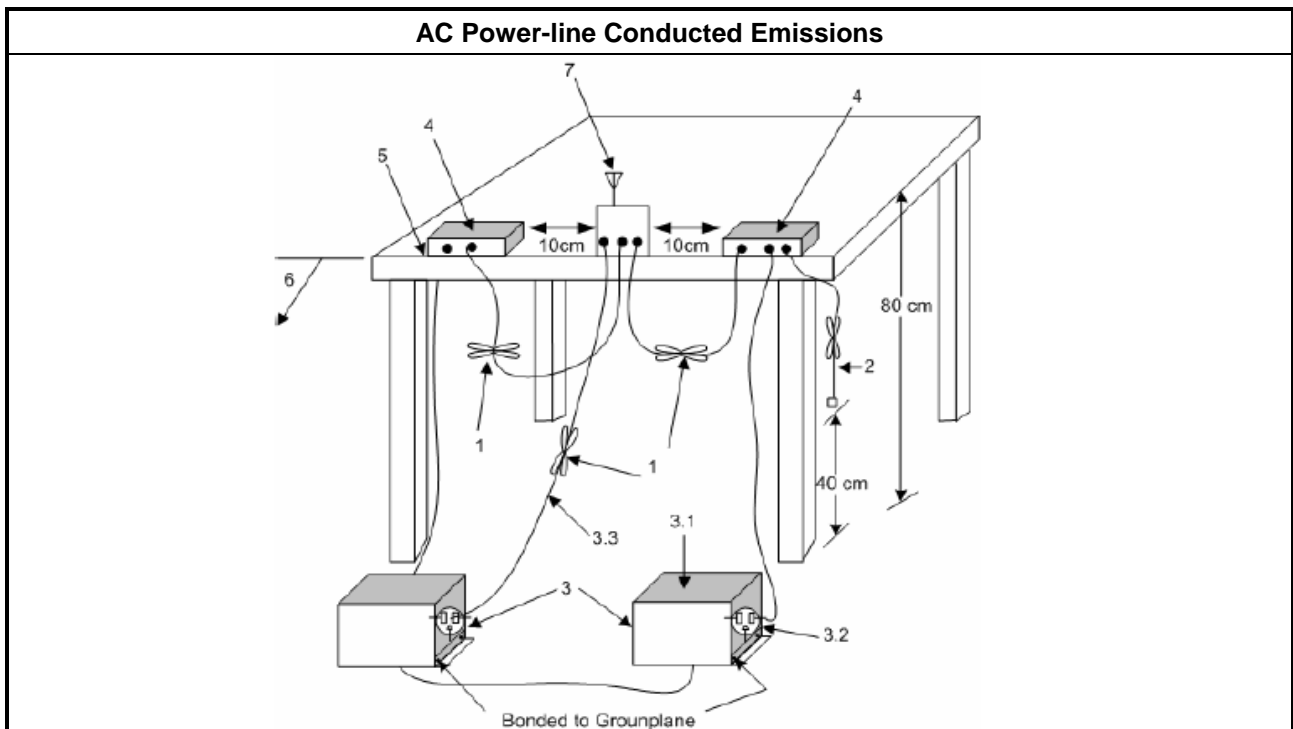
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

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

##### 3.1.4 Test Setup



##### 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>

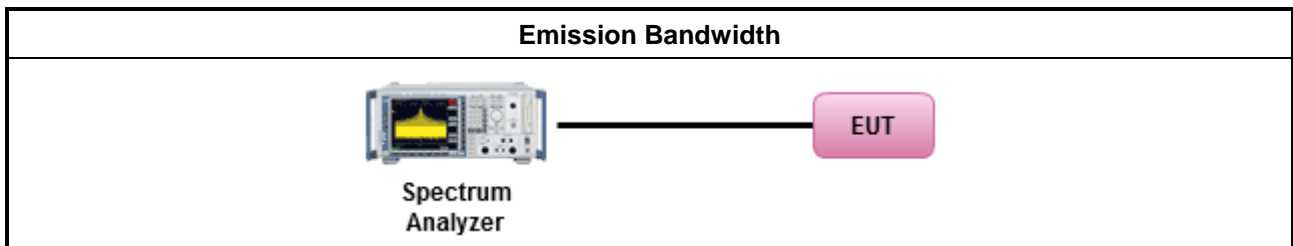
#### 3.2.2 Measuring Instruments

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 KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
<input type="checkbox"/> Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
<input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

#### 3.2.4 Test Setup



#### 3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

### 3.3 Maximum Conducted Output Power

#### 3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
	<ul style="list-style-type: none"> <li>▪ If <math>G_{TX} \leq 6</math> dBi, then <math>P_{Out} \leq 30</math> dBm (1 W)</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Point-to-multipoint systems (P2M): If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Point-to-point systems (P2P): If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Smart antenna system (SAS):</li> </ul>
	<ul style="list-style-type: none"> <li>- Single beam: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>- Overlap beam: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>- Aggregate power on all beams: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3 + 8</math> dB dBm</li> </ul>
<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.	

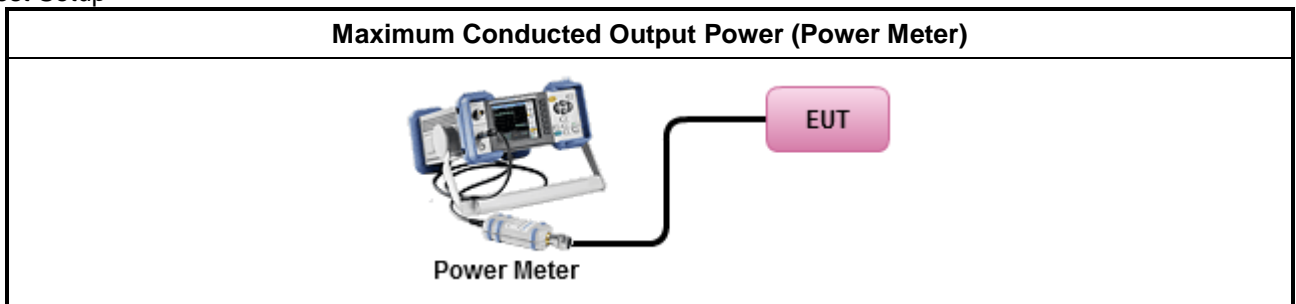
#### 3.3.2 Measuring Instruments

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>P_{total} = P_1 + P_2 + \dots + P_n</math>                      (calculated in linear unit [mW] and transfer to log unit [dBm])  <math>EIRP_{total} = P_{total} + DG</math> </li> </ul>	

#### Test Setup



### 3.3.4 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>

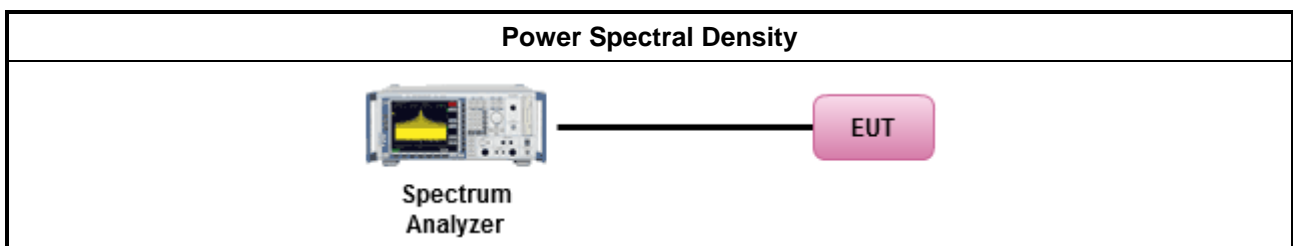
#### 3.4.2 Measuring Instruments

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) Method PKPSD.
<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.

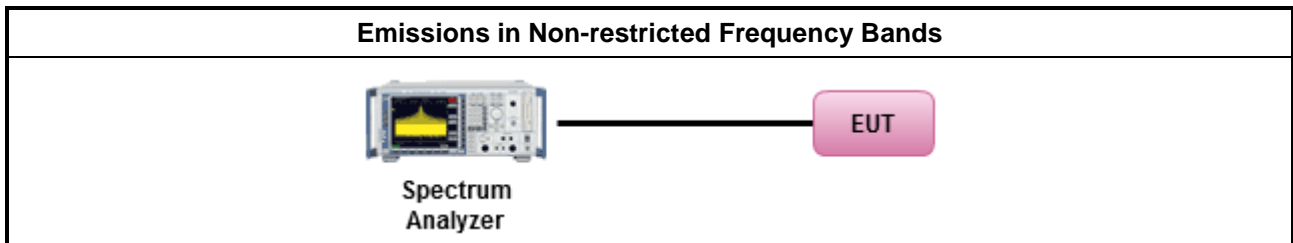
#### 3.5.2 Measuring Instruments

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.

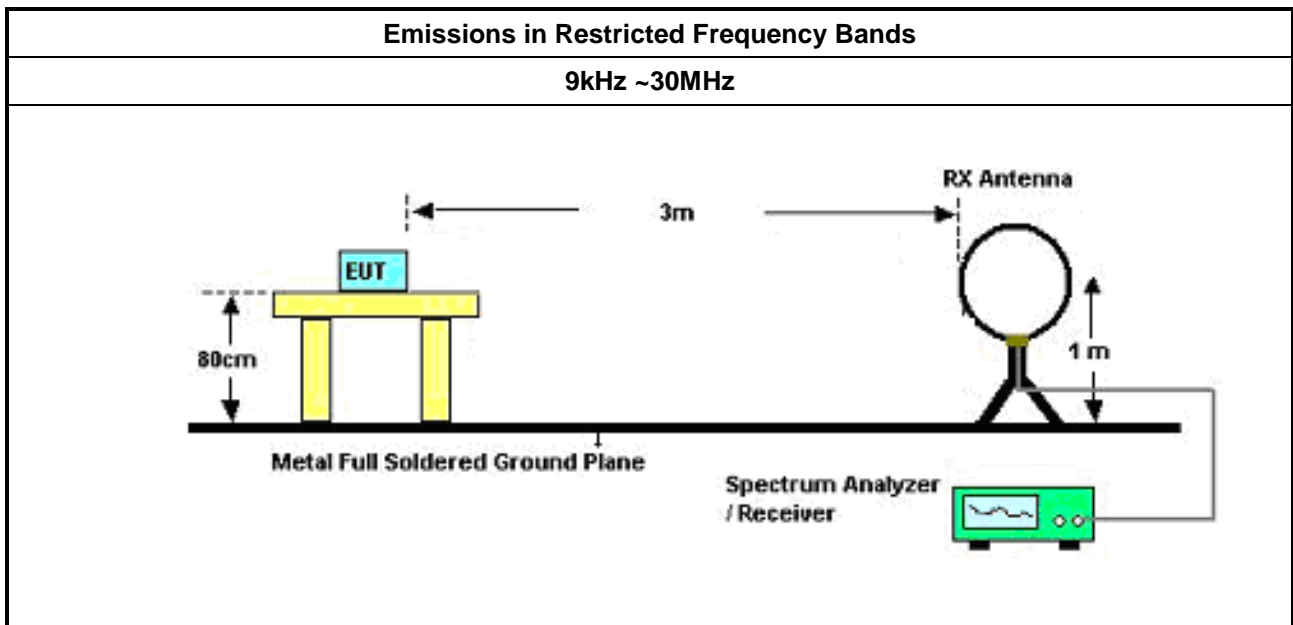
#### 3.6.2 Measuring Instruments

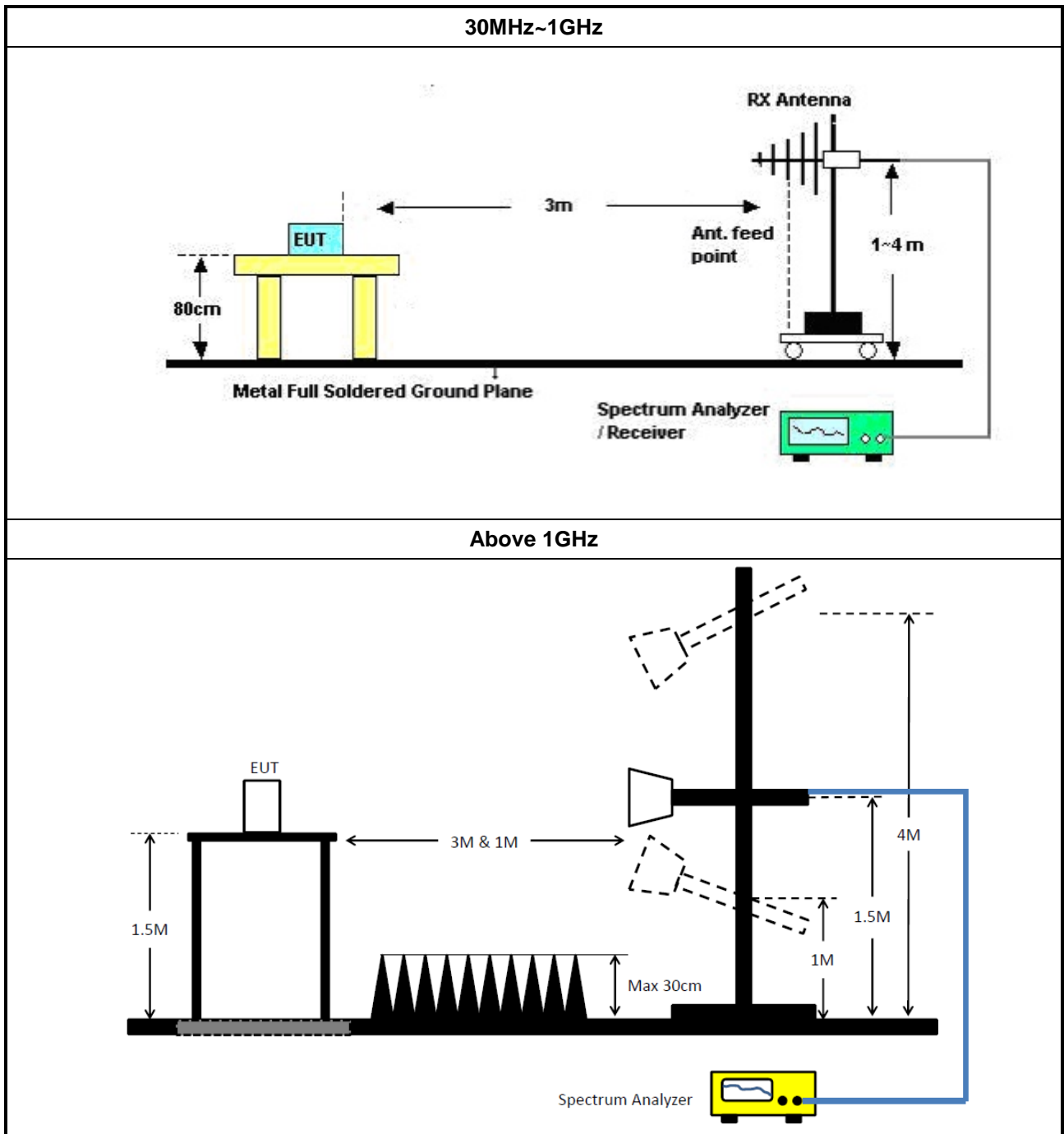
Refer a test equipment and calibration data table in this test report.

### 3.6.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> <li>The average emission levels shall be measured in [duty cycle <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:           <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 <math>f &lt; 1</math> GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.</li> <li>Set RBW = 1 MHz, VBW= 3MHz for <math>f \geq 1</math> GHz for peak measurement. For average measurement, refer as 1.1.4.</li> </ul> </li> </ul>	

### 3.6.4 Test Setup





### 3.6.5 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.

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

Refer as Appendix F

## 4 Test Equipment and Calibration Data

### Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMC Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	08/Nov/2018	07/Nov/2019
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	17/Sep/2018	16/Sep/2019
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	12/Oct/2018	11/Oct/2019

**NCR : Non-Calibration Require**

### Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	13/Mar/2019	12/Mar/2020
Power Sensor	Anritsu	MA2411B	1339407	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Power Meter	Anritsu	ML2495A	1517010	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.5m	HUBER	MY39470/4	RF Cable - 29	30MHz ~18G	10/Jan/2019	09/Jan/2020
CABLE 1.5m	HUBER	MY33066/4	RF Cable - 30	1 to 18GHz	10/Jan/2019	09/Jan/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020

**Instrument for Radiated Test**

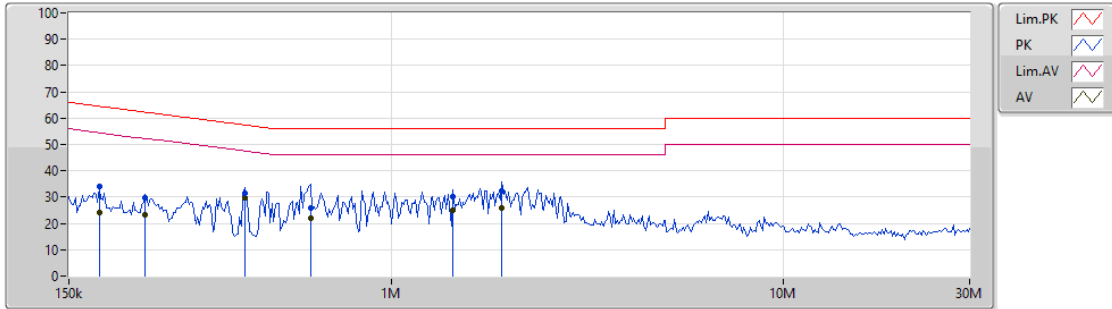
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	Riken	SAC-3M	03CH01-HY	30MHz ~ 1GHz 3m	11/Jan/2019	10/Jan/2020
3m Semi Anechoic Chamber	Riken	SAC-3M	03CH01-HY	1GHz ~ 18GHz 3m	09/Jan/2019	08/Jan/2020
PreAmplifier	COM-POWER	PA-103	161050	1 MHz ~ 1.0GHz	24/Jul/2018	23/Jul/2019
Microwave Preamplifier	Agilent	8449B	3008A02602	1GHz ~ 26.5GHz	27/Mar/2019	26/Mar/2020
Spectrum Analyzer	R&S	FSV40	101407	10Hz ~ 40GHz	16/Aug/2018	15/Aug/2019
RF Cable-R03m	Jye Bao	RG142	CB019	9kHz ~ 1GHz	14/Dec/2018	13/Dce/2019
RF Cable-high	SUHNER	SUCOFLEX 104	SN805196/4+MY 39495	1 GHz ~ 18 GHz	13/Mar/2019	12/Mar/2020
Bilog Antenna & 5db Attenuator	SCHAFFNER/MTJ	CBL6112D / MTJ6102-05	2678 / 001	30MHz ~ 2GHz	07/Jul/2018	06/Jul/2019
EMI Test Receiver	R&S	ESU-26	100422	20Hz ~ 26.5GHz	25/Oct/2018	24/Oct/2019
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	15/Mar/2019	14/Mar/2020
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170339	18GHz ~ 40GHz	19/Apr/2019	18/Apr/2020
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D-1130	1GHz ~ 18GHz	26/Oct/2018	25/Oct/2019

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	USB mode ; LE		

AC Conduction\_Mode 1

21/06/2019



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	179.422k	34.10	64.51	-30.41	19.47	Neutral	-	14.63	9.59	0.01	9.87
AV	179.422k	24.27	54.51	-30.24	19.47	Neutral	-	4.80	9.59	0.01	9.87
QP	234.722k	29.66	62.27	-32.61	19.47	Neutral	-	10.19	9.59	0.01	9.87
AV	234.722k	23.34	52.27	-28.93	19.47	Neutral	-	3.87	9.59	0.01	9.87
QP	422.196k	31.53	57.40	-25.87	19.48	Neutral	-	12.05	9.59	0.01	9.88
AV	422.196k	29.66	47.40	-17.74	19.48	Neutral	"Worst"	10.18	9.59	0.01	9.88
QP	622.369k	25.96	56.00	-30.04	19.48	Neutral	-	6.48	9.59	0.01	9.88
AV	622.369k	21.98	46.00	-24.02	19.48	Neutral	-	2.50	9.59	0.01	9.88
QP	1.436M	29.97	56.00	-26.03	19.52	Neutral	-	10.45	9.60	0.03	9.89
AV	1.436M	25.17	46.00	-20.83	19.52	Neutral	-	5.65	9.60	0.03	9.89
QP	1.916M	32.30	56.00	-23.70	19.53	Neutral	-	12.77	9.61	0.03	9.89
AV	1.916M	26.05	46.00	-19.95	19.53	Neutral	-	6.52	9.61	0.03	9.89

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

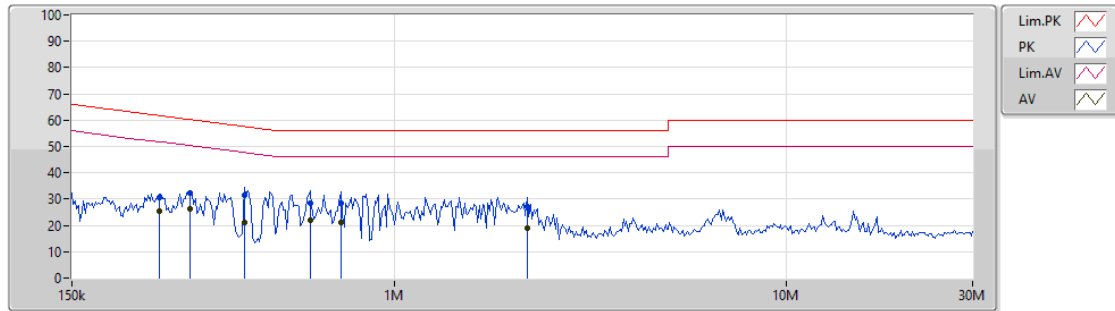


AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	USB mode ; LE		

AC Conduction\_Mode 1

21/06/2019



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	251.653k	30.61	61.70	-31.09	19.48	Line	-	11.13	9.60	0.01	9.87
AV	251.653k	25.60	51.70	-26.10	19.48	Line	-	6.12	9.60	0.01	9.87
QP	301.015k	32.45	60.21	-27.76	19.48	Line	-	12.97	9.59	0.01	9.88
AV	301.015k	26.45	50.21	-23.76	19.48	Line	"Worst"	6.97	9.59	0.01	9.88
QP	413.877k	31.45	57.57	-26.12	19.48	Line	-	11.97	9.59	0.01	9.88
AV	413.877k	21.18	47.57	-26.39	19.48	Line	-	1.70	9.59	0.01	9.88
QP	610.106k	28.43	56.00	-27.57	19.48	Line	-	8.95	9.59	0.01	9.88
AV	610.106k	21.77	46.00	-24.23	19.48	Line	-	2.29	9.59	0.01	9.88
QP	729.776k	28.56	56.00	-27.44	19.50	Line	-	9.06	9.60	0.02	9.88
AV	729.776k	21.24	46.00	-24.76	19.50	Line	-	1.74	9.60	0.02	9.88
QP	2.18M	27.08	56.00	-28.92	19.54	Line	-	7.54	9.62	0.03	9.89
AV	2.18M	18.82	46.00	-27.18	19.54	Line	-	-0.72	9.62	0.03	9.89

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



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)	721.25k	1.038M	1M04F1D	703.75k	1.033M
BT-LE(2Mbps)	1.263M	2.046M	2M05F1D	1.26M	2.034M

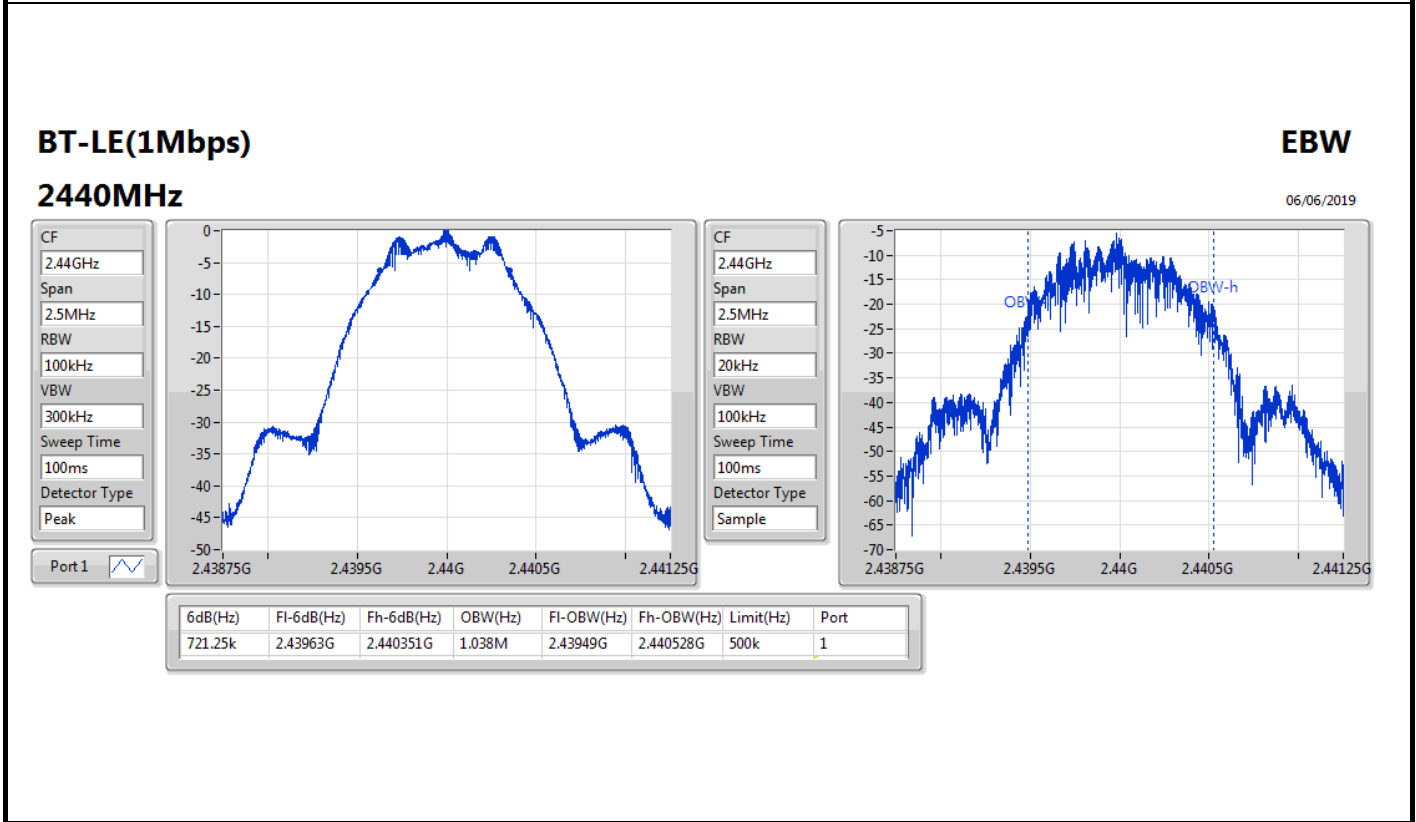
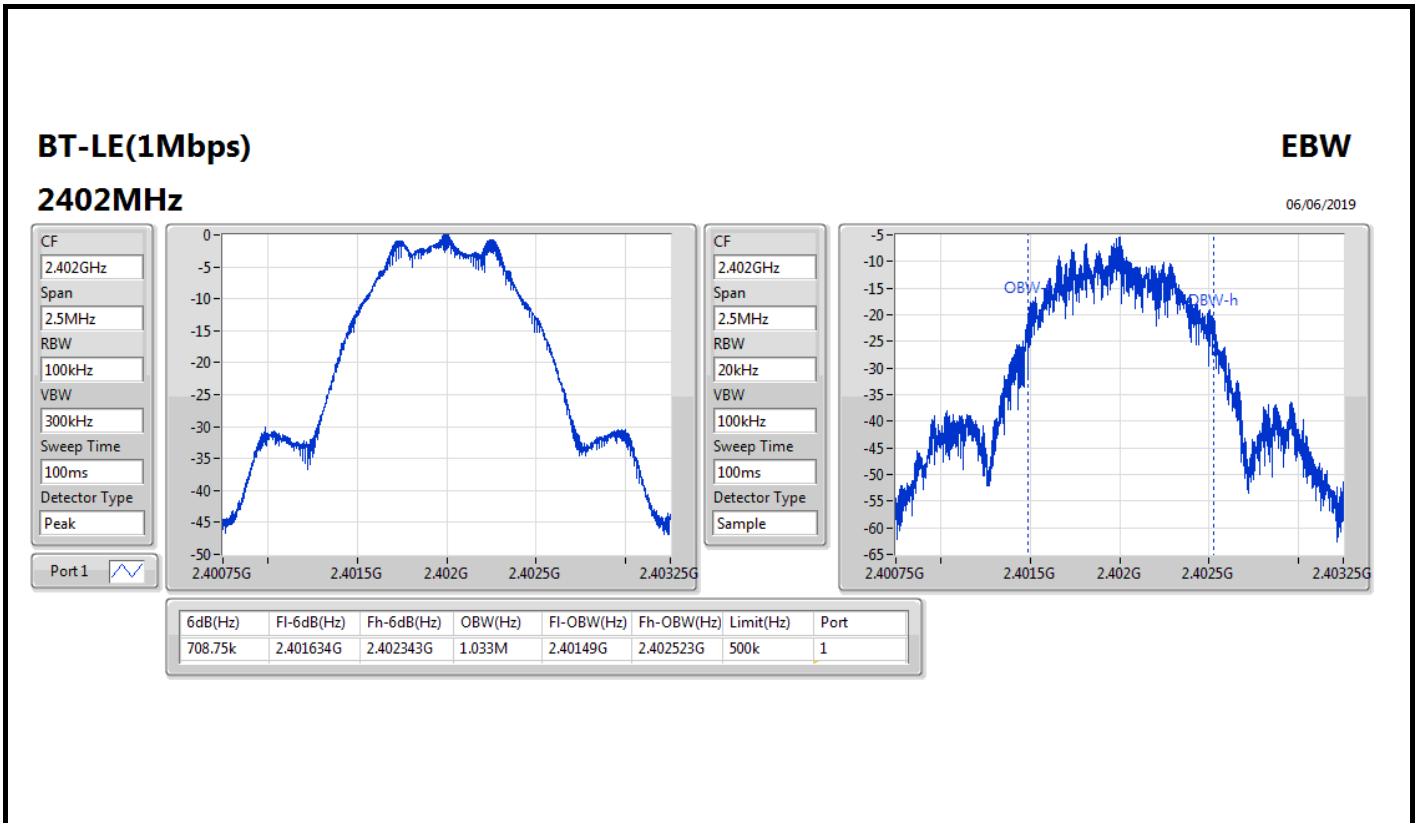
**Max-N dB** = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;  
**Min-N dB** = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

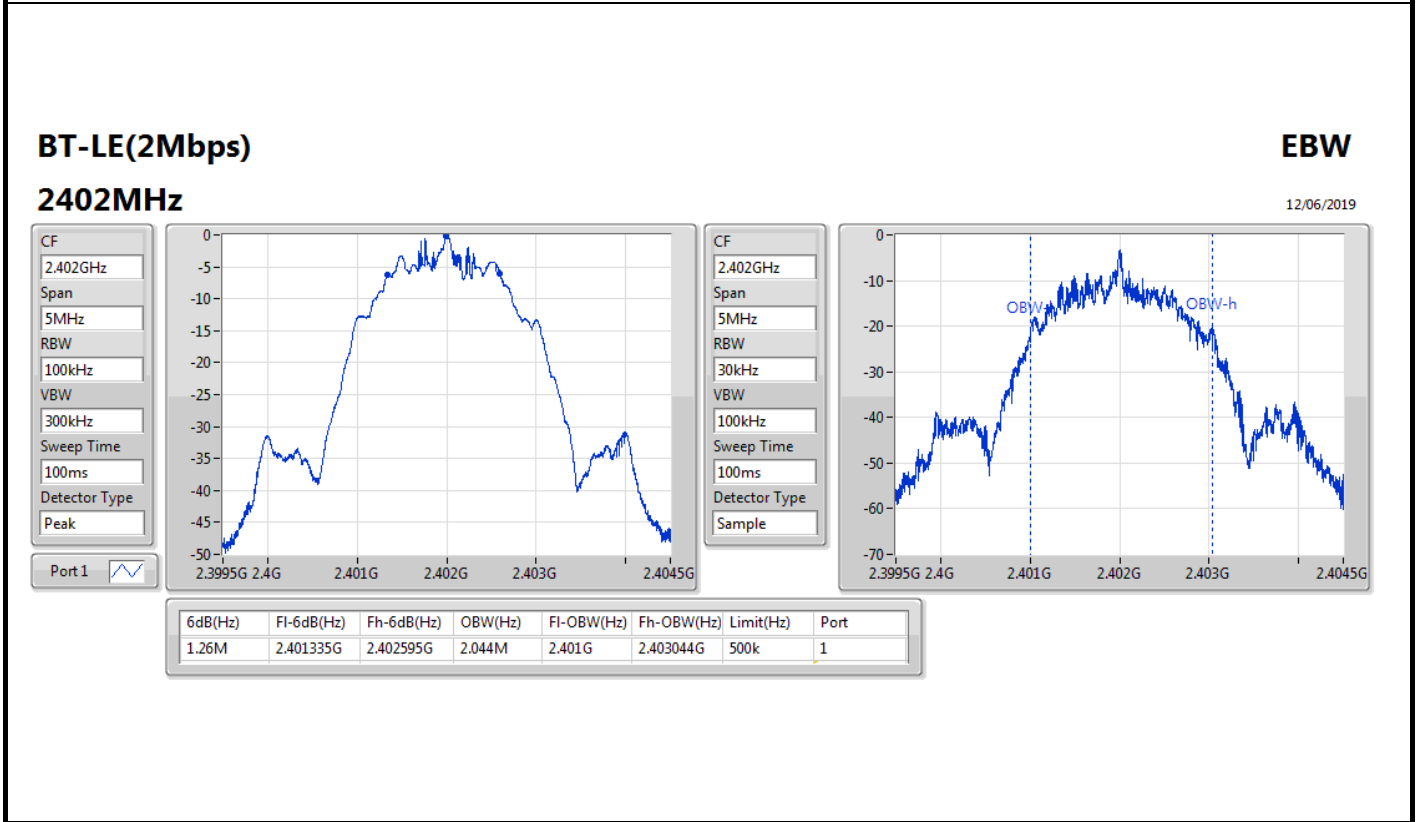
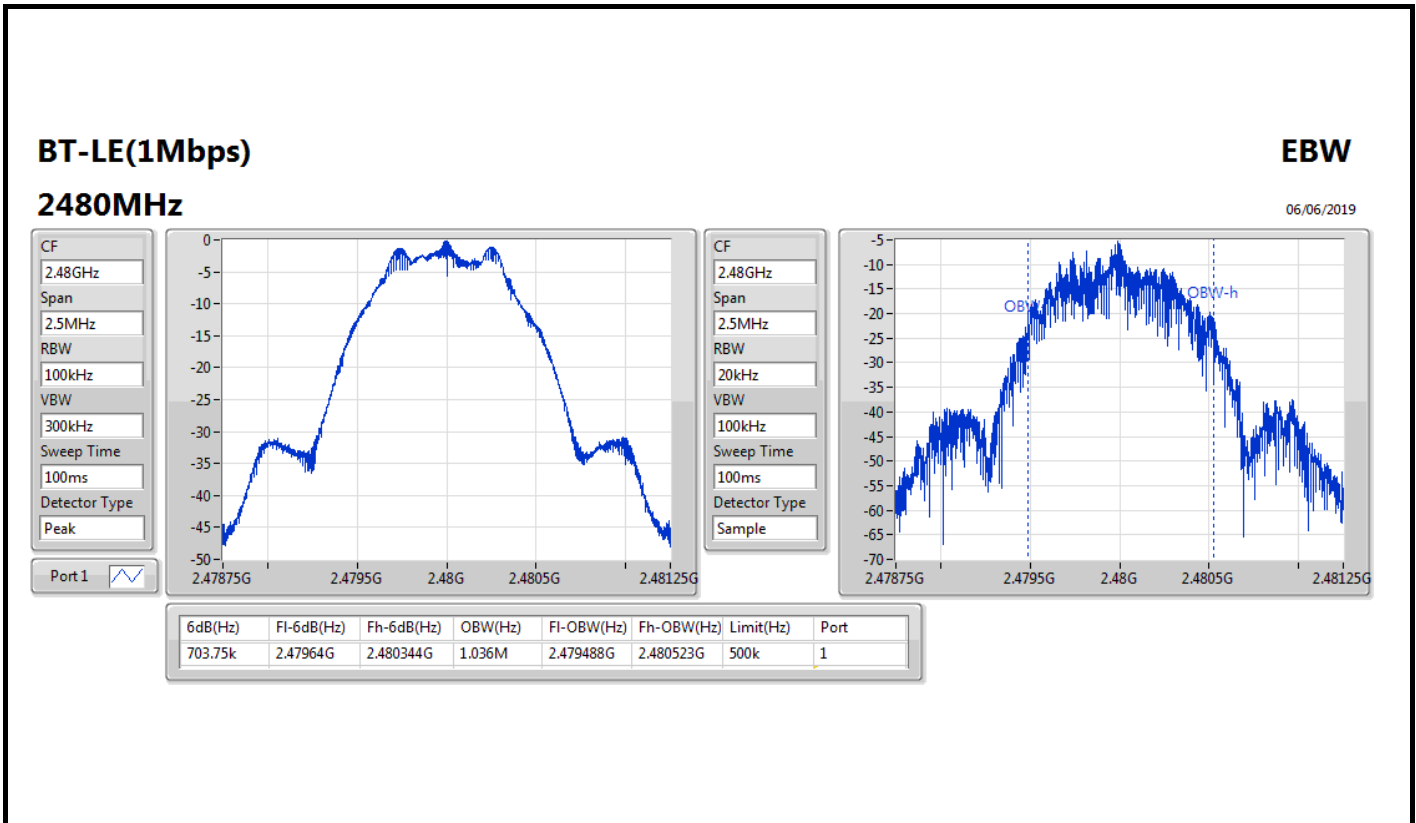


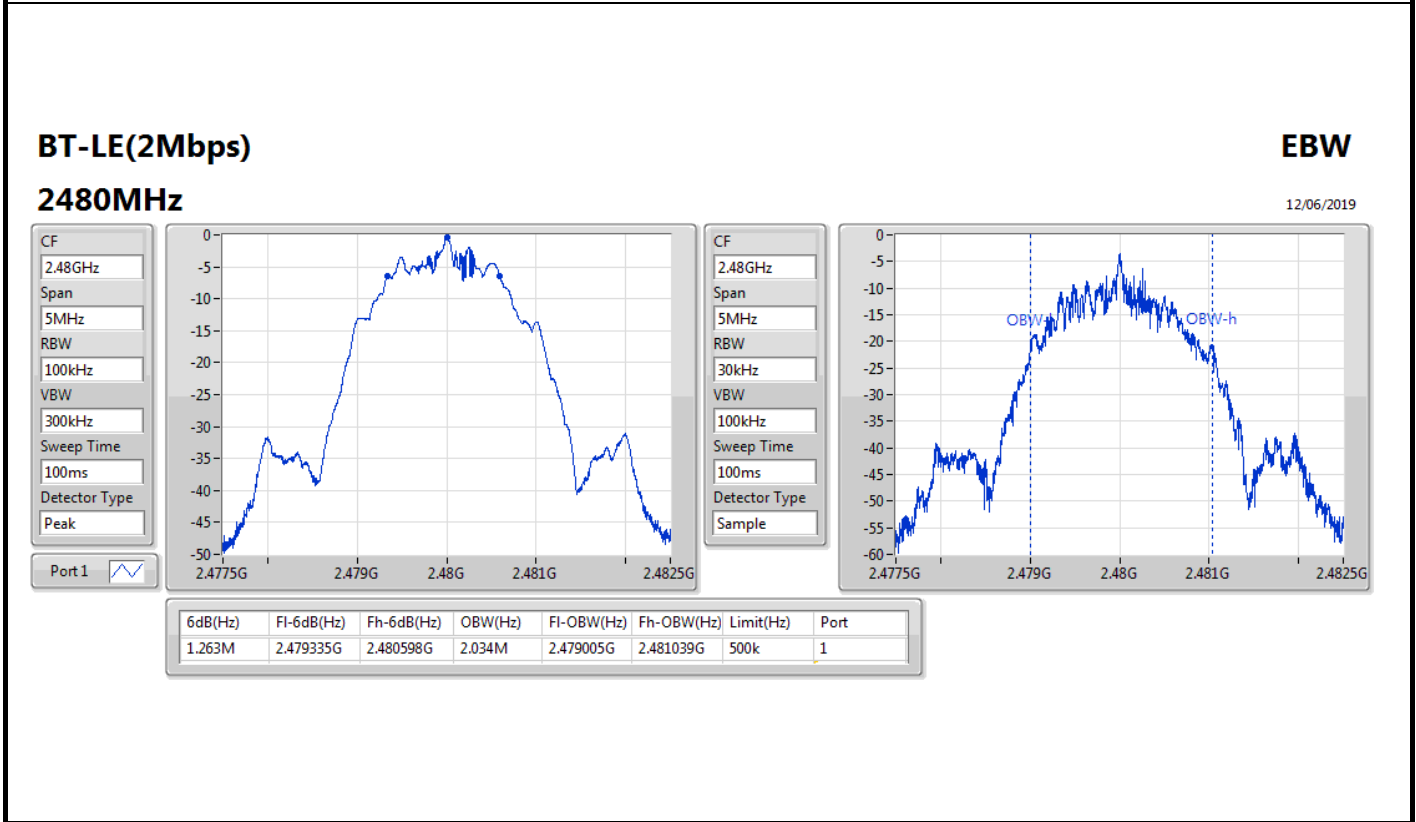
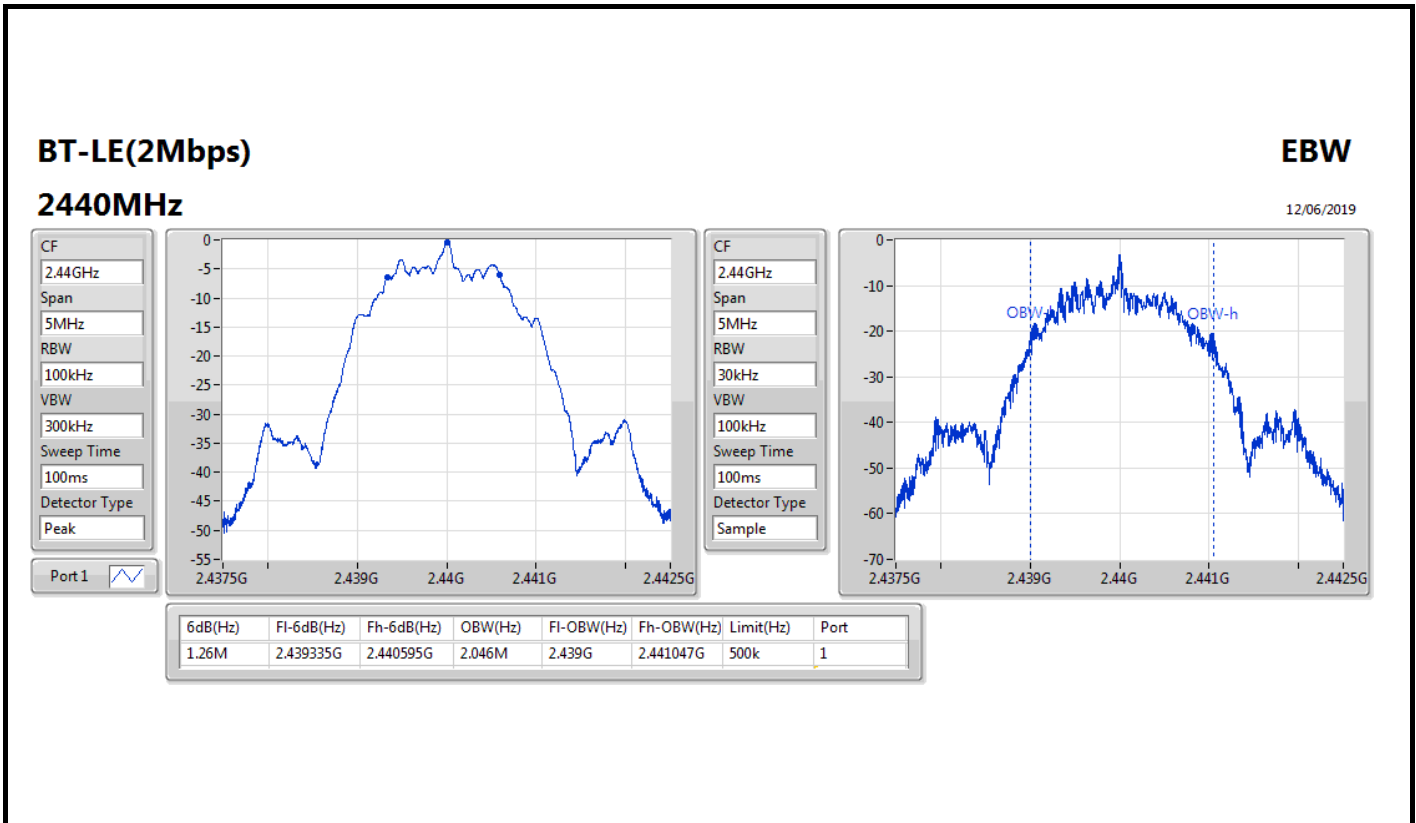
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	708.75k	1.033M
2440MHz	Pass	500k	721.25k	1.038M
2480MHz	Pass	500k	703.75k	1.036M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.26M	2.044M
2440MHz	Pass	500k	1.26M	2.046M
2480MHz	Pass	500k	1.263M	2.034M

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









**Summary**

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	-0.30	0.00093
BT-LE(2Mbps)	-0.40	0.00091



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	0.45	-0.30	30.00
2440MHz	Pass	0.45	-0.55	30.00
2480MHz	Pass	0.45	-0.62	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	0.45	-0.40	30.00
2440MHz	Pass	0.45	-0.58	30.00
2480MHz	Pass	0.45	-0.67	30.00

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





Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-15.75
BT-LE(2Mbps)	-17.95

RBW=3 kHz.

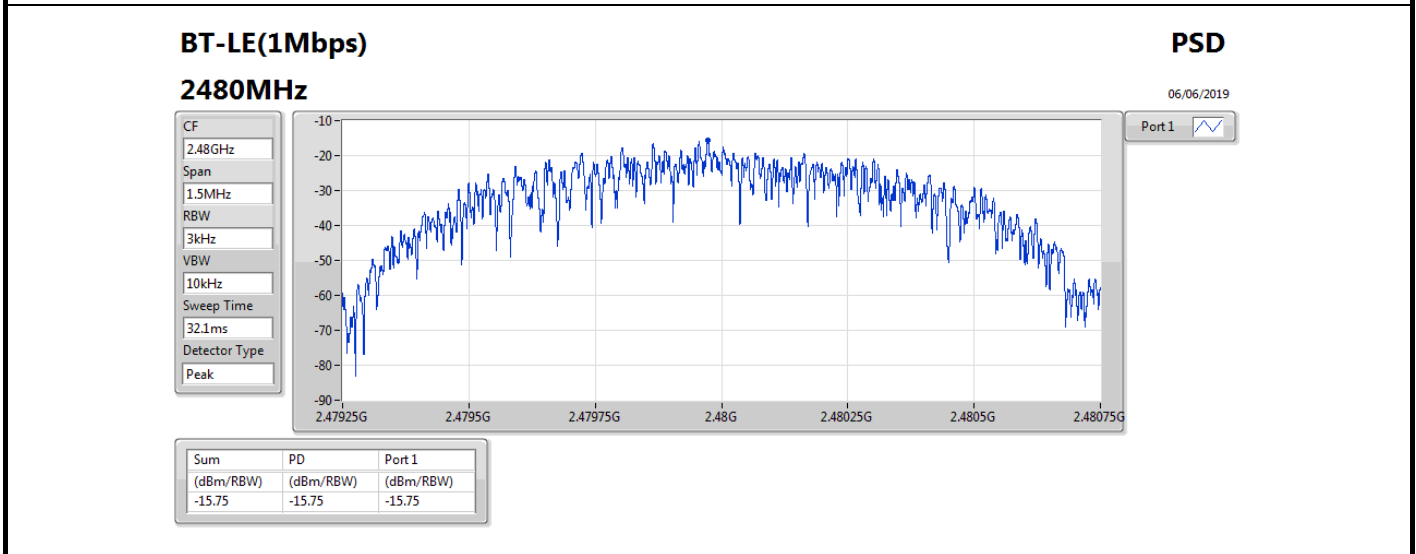
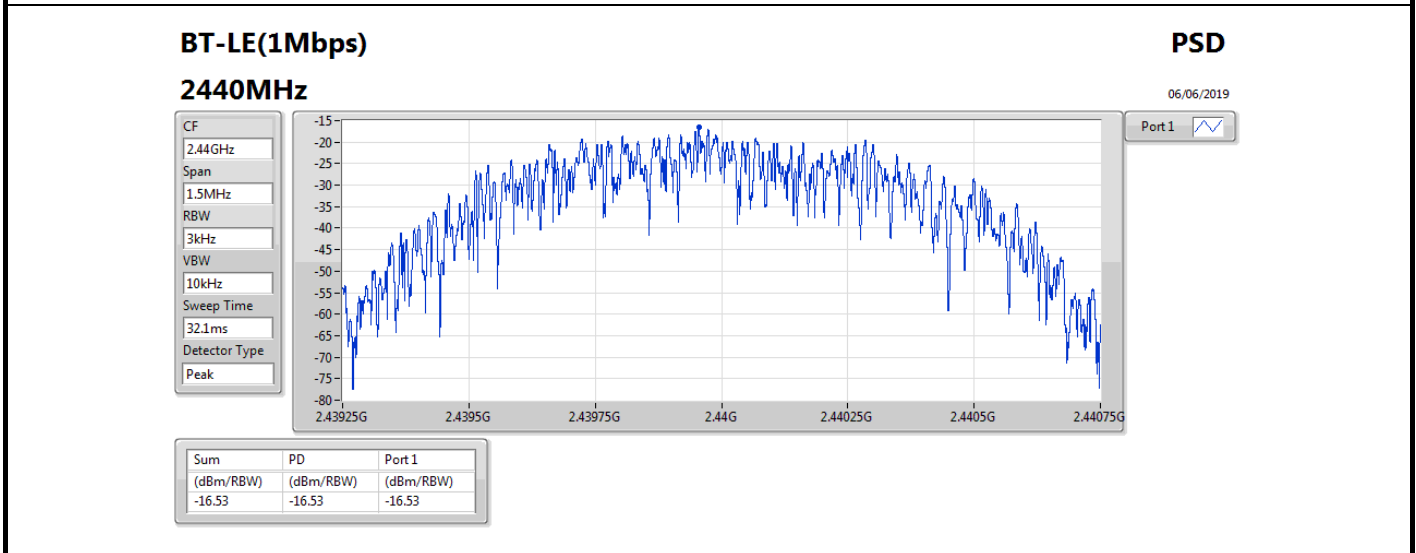
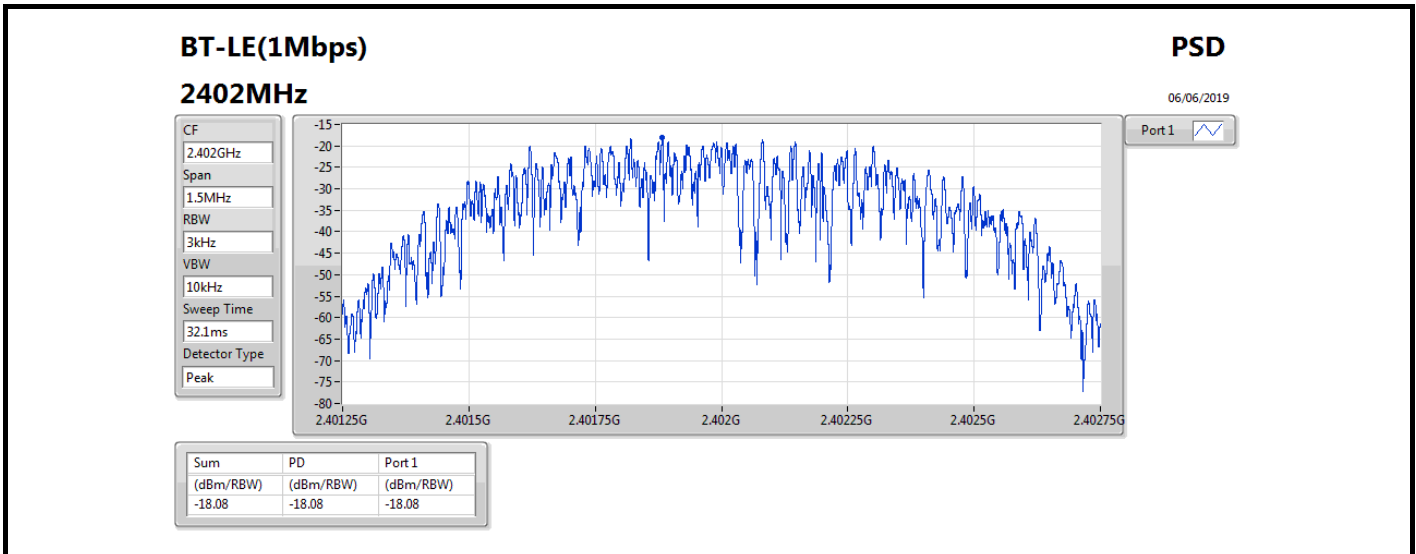


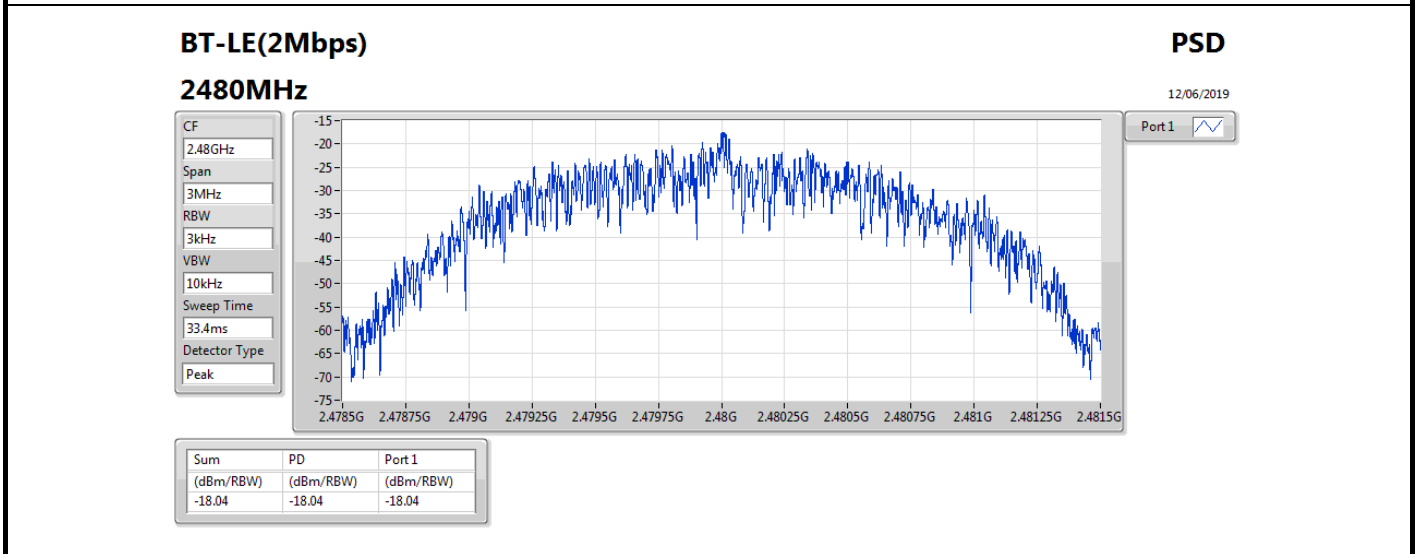
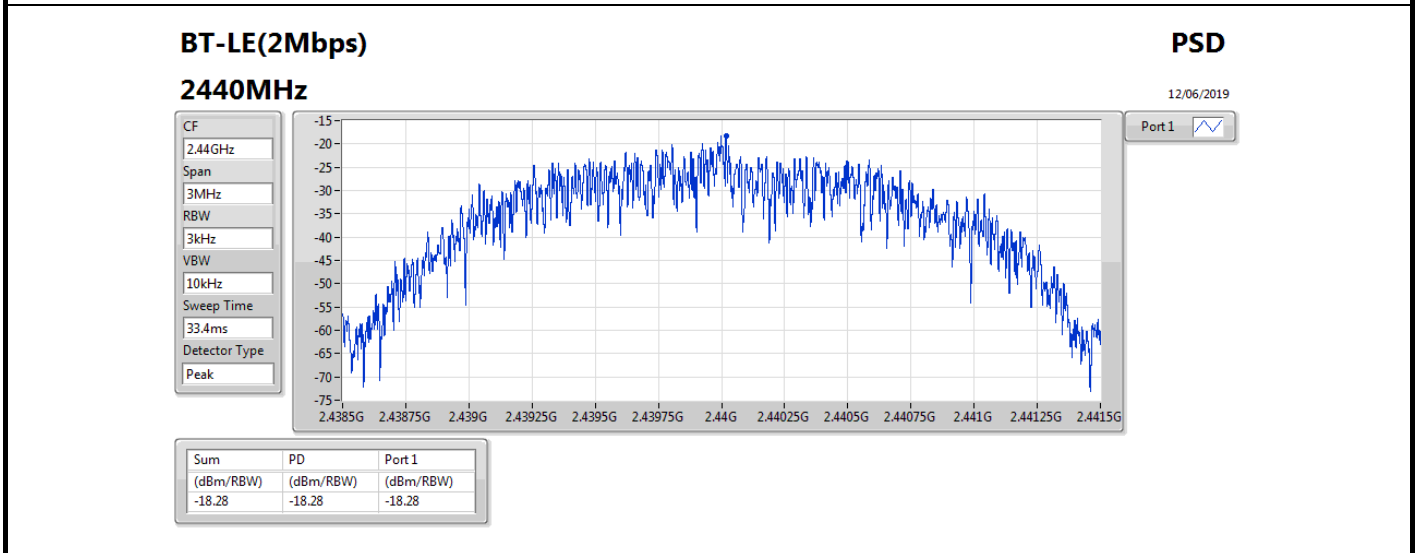
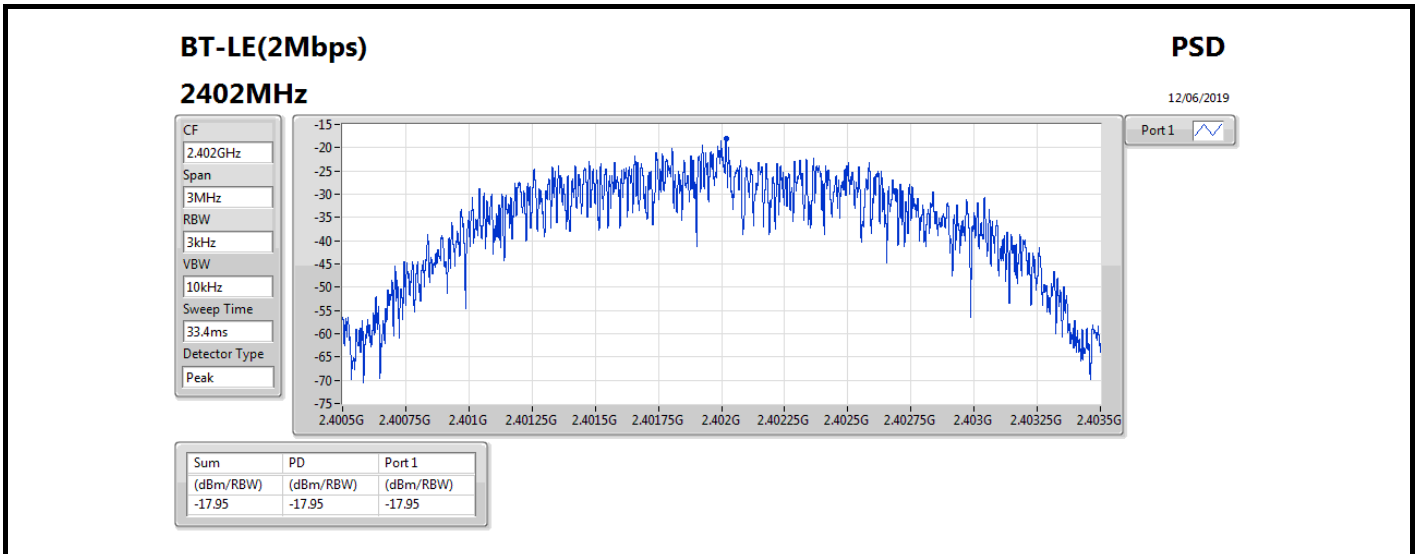
Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	0.45	-18.08	8.00
2440MHz	Pass	0.45	-16.53	8.00
2480MHz	Pass	0.45	-15.75	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	0.45	-17.95	8.00
2440MHz	Pass	0.45	-18.28	8.00
2480MHz	Pass	0.45	-18.04	8.00

DG = Directional Gain; RBW=3 kHz;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X power density;







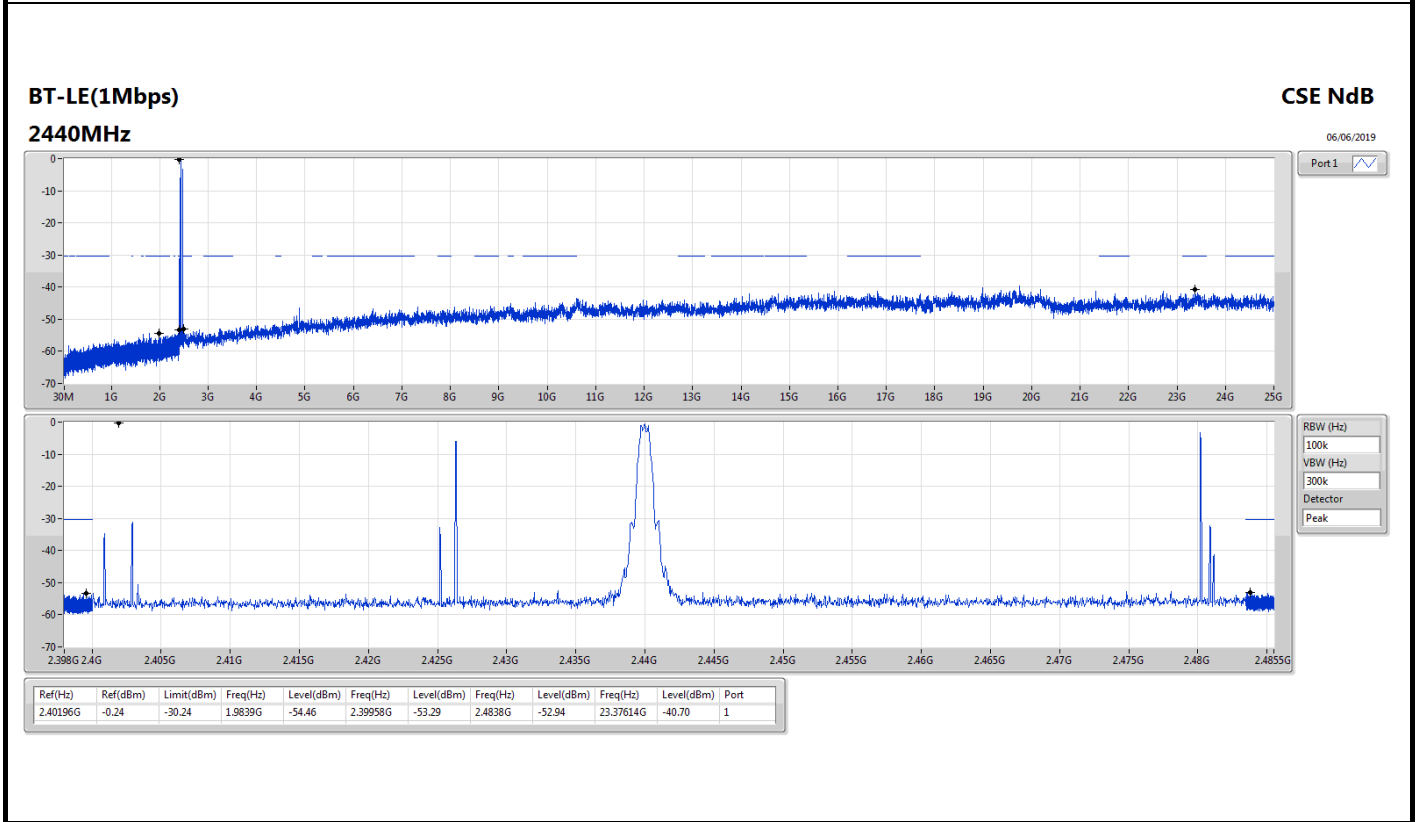
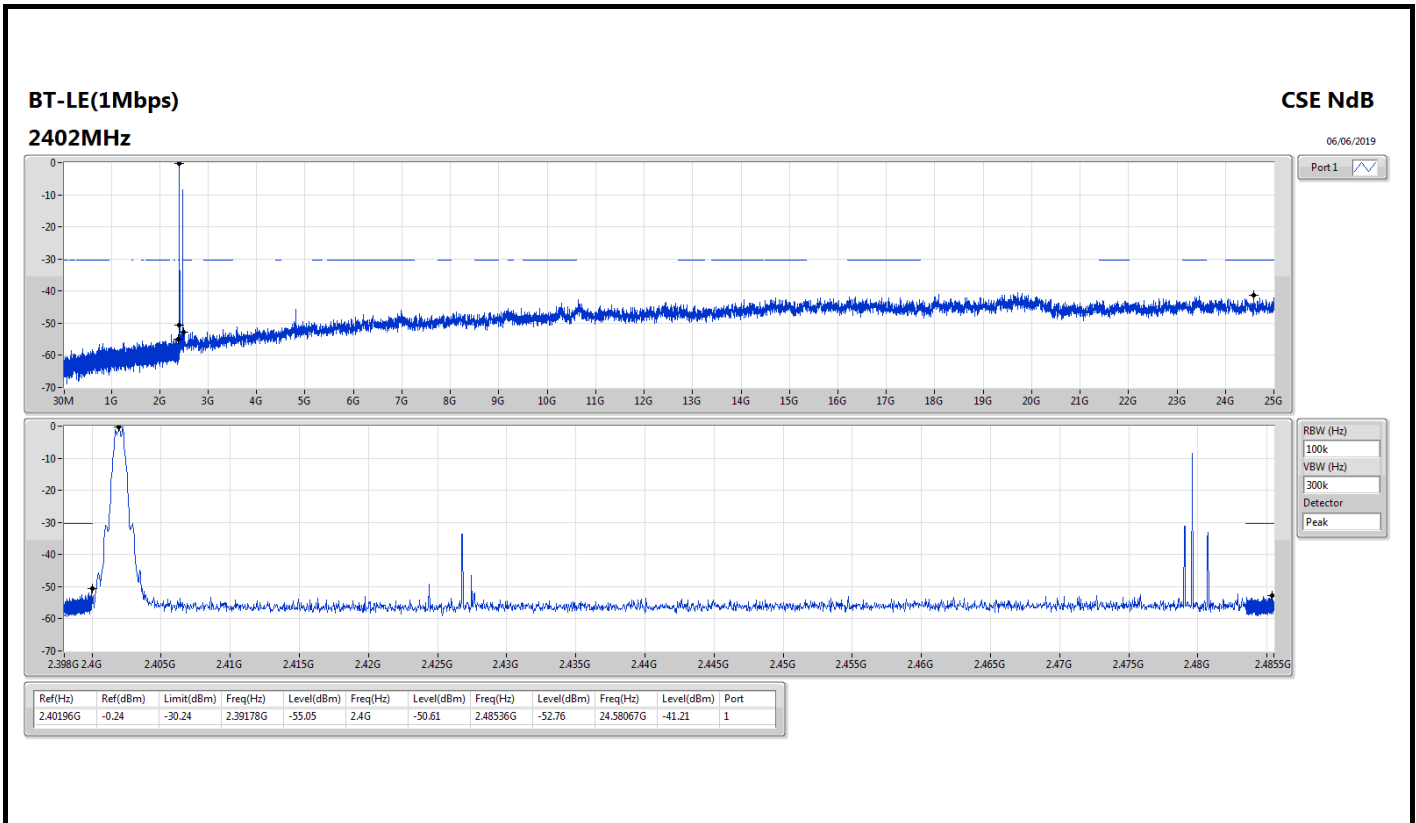
Summary

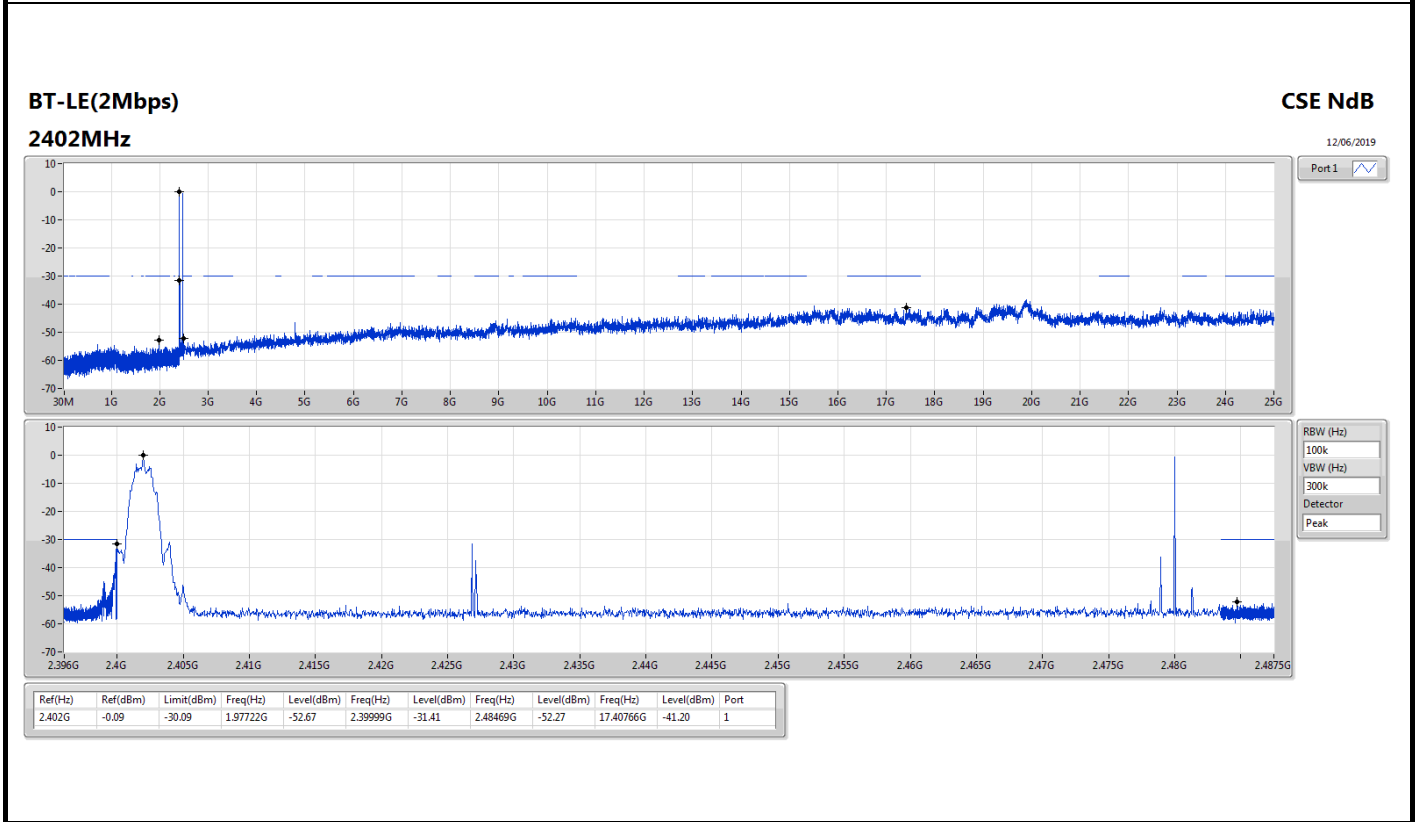
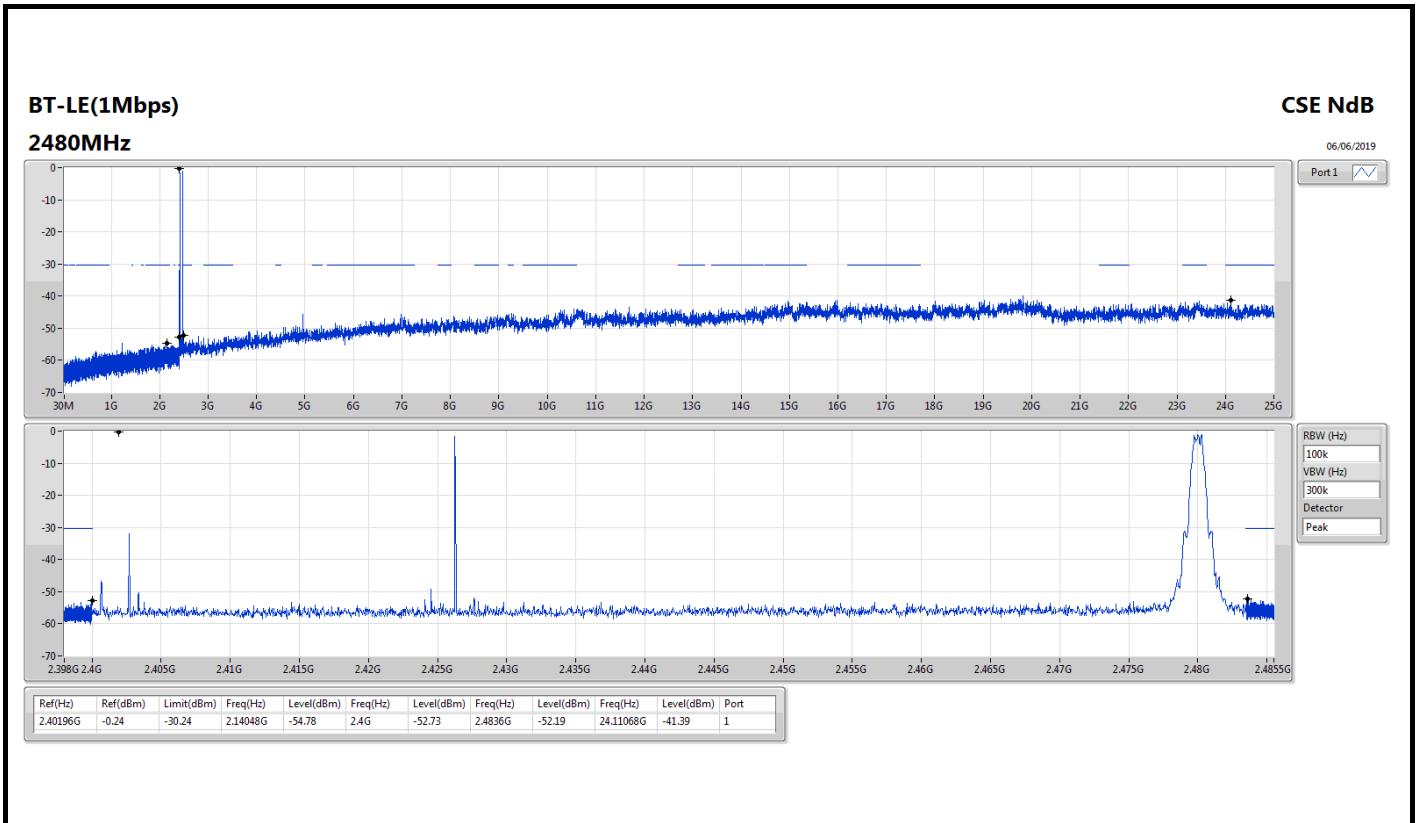
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.40196G	-0.24	-30.24	1.9839G	-54.46	2.39958G	-53.29	2.4838G	-52.94	23.37614G	-40.70	1
BT-LE(2Mbps)	Pass	2.402G	-0.09	-30.09	1.97722G	-52.67	2.39999G	-31.41	2.48469G	-52.27	17.40766G	-41.20	1



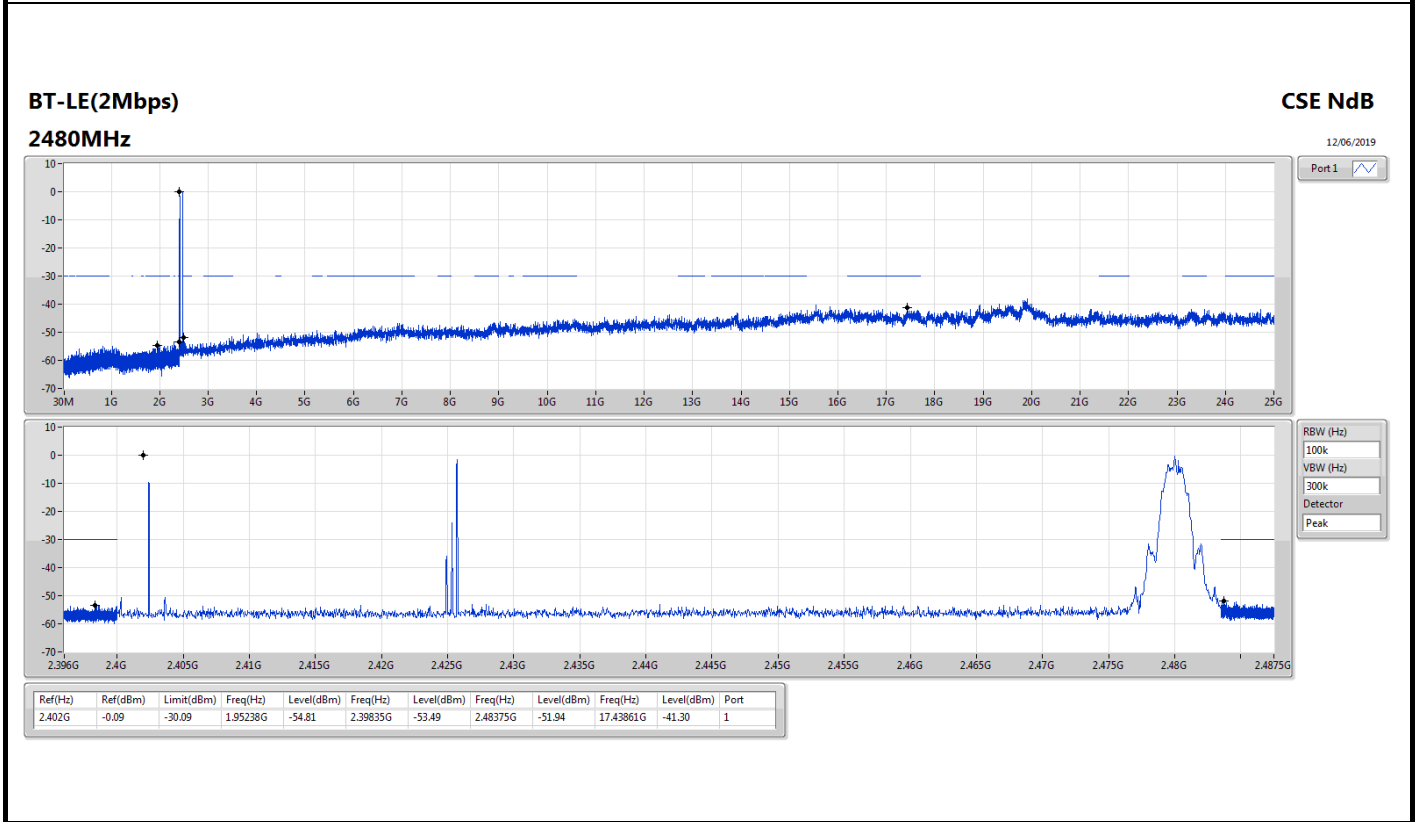
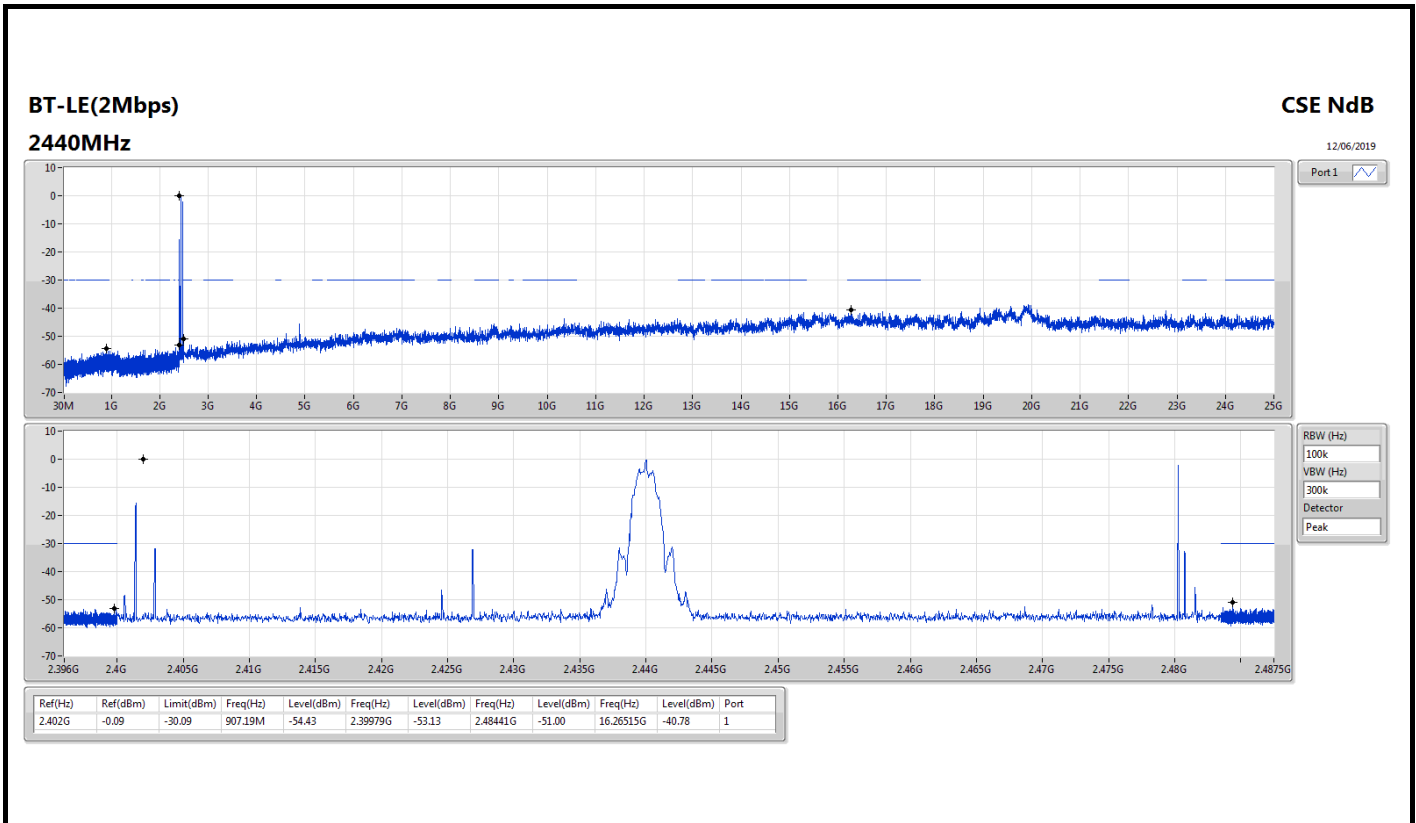
Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40196G	-0.24	-30.24	2.39178G	-55.05	2.4G	-50.61	2.48536G	-52.76	24.58067G	-41.21	1
2440MHz	Pass	2.40196G	-0.24	-30.24	1.9839G	-54.46	2.39958G	-53.29	2.4838G	-52.94	23.37614G	-40.70	1
2480MHz	Pass	2.40196G	-0.24	-30.24	2.14048G	-54.78	2.4G	-52.73	2.4836G	-52.19	24.11068G	-41.39	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	-0.09	-30.09	1.97722G	-52.67	2.39999G	-31.41	2.48469G	-52.27	17.40766G	-41.20	1
2440MHz	Pass	2.402G	-0.09	-30.09	907.19M	-54.43	2.39979G	-53.13	2.48441G	-51.00	16.26515G	-40.78	1
2480MHz	Pass	2.402G	-0.09	-30.09	1.95238G	-54.81	2.39835G	-53.49	2.48375G	-51.94	17.43861G	-41.30	1











Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	PK	90.45M	39.66	43.50	-3.84	-17.03	3	Vertical	360	1.00	-

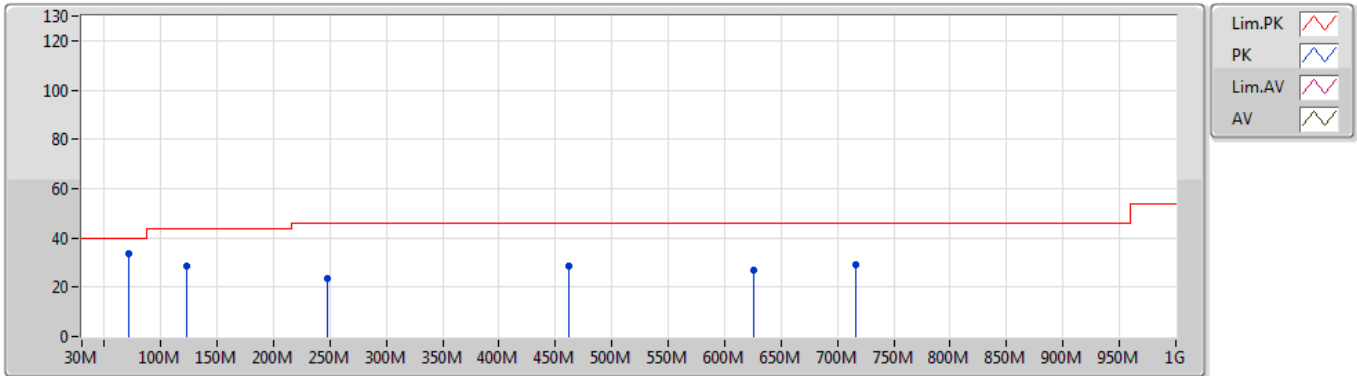


Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2441MHz_USB	Pass	PK	30M	32.85	40.00	-7.15	-8.16	3	Vertical	360	1.00	-
2441MHz_USB	Pass	PK	90.45M	39.66	43.50	-3.84	-17.03	3	Vertical	360	1.00	-
2441MHz_USB	Pass	PK	122.78M	27.49	43.50	-16.01	-13.75	3	Vertical	360	1.00	-
2441MHz_USB	Pass	PK	335.06M	20.10	46.00	-25.90	-10.78	3	Vertical	360	1.00	-
2441MHz_USB	Pass	PK	470.01M	27.97	46.00	-18.03	-6.66	3	Vertical	360	1.00	-
2441MHz_USB	Pass	PK	493.91M	28.39	46.00	-17.61	-6.28	3	Vertical	360	1.00	-
2441MHz_USB	Pass	PK	30M	31.90	40.00	-8.10	-8.16	3	Horizontal	0	1.00	-
2441MHz_USB	Pass	PK	90.45M	38.95	43.50	-4.55	-17.03	3	Horizontal	0	1.00	-
2441MHz_USB	Pass	PK	122.78M	29.40	43.50	-14.10	-13.75	3	Horizontal	0	1.00	-
2441MHz_USB	Pass	PK	325.22M	25.21	46.00	-20.79	-11.04	3	Horizontal	0	1.00	-
2441MHz_USB	Pass	PK	433.46M	25.46	46.00	-20.54	-7.49	3	Horizontal	0	1.00	-
2441MHz_USB	Pass	PK	482.67M	28.13	46.00	-17.87	-6.37	3	Horizontal	0	1.00	-

**BT-LE(2Mbps)**  
**2440MHz\_USB**

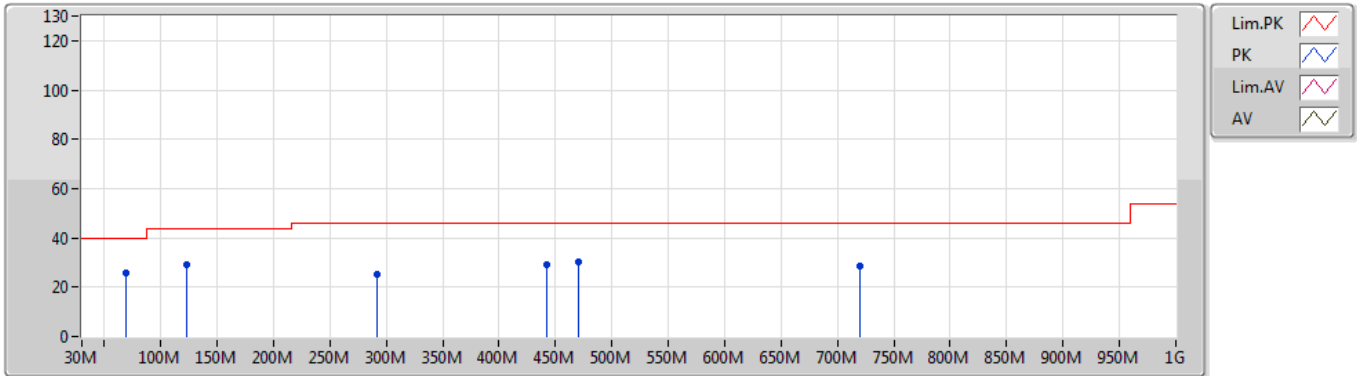
13/06/2019



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	72.17M	33.66	40.00	-6.34	-19.50	3	Vertical	360	1.00	-
PK	122.78M	28.75	43.50	-14.75	-13.75	3	Vertical	360	1.00	-
PK	247.9M	23.35	46.00	-22.65	-12.75	3	Vertical	360	1.00	-
PK	461.58M	28.82	46.00	-17.18	-6.88	3	Vertical	360	1.00	-
PK	626.06M	27.00	46.00	-19.00	-4.12	3	Vertical	360	1.00	-
PK	716.03M	29.23	46.00	-16.77	-3.62	3	Vertical	360	1.00	-

**BT-LE(2Mbps)**  
**2440MHz\_USB**

13/06/2019



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	69.36M	25.54	40.00	-14.46	-19.60	3	Horizontal	0	1.00	-
PK	122.78M	28.90	43.50	-14.60	-13.75	3	Horizontal	0	1.00	-
PK	291.48M	25.31	46.00	-20.69	-11.84	3	Horizontal	0	1.00	-
PK	441.9M	29.16	46.00	-16.84	-7.41	3	Horizontal	0	1.00	-
PK	470.01M	30.00	46.00	-16.00	-6.66	3	Horizontal	0	1.00	-
PK	720.25M	28.62	46.00	-17.38	-3.56	3	Horizontal	0	1.00	-



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	4.9604G	49.10	54.00	-4.90	2.02	3	Horizontal	32	1.48	-
BT-LE(2Mbps)	Pass	AV	4.96031G	48.93	54.00	-5.07	2.02	3	Horizontal	36	1.40	-



Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TX	Pass	AV	2.3524G	47.17	54.00	-6.83	30.83	3	Vertical	80	1.59	-
2402MHz_TX	Pass	AV	2.402G	88.18	Inf	-Inf	31.00	3	Vertical	80	1.59	-
2402MHz_TX	Pass	PK	2.383G	58.43	74.00	-15.57	30.93	3	Vertical	80	1.59	-
2402MHz_TX	Pass	PK	2.4022G	89.21	Inf	-Inf	31.00	3	Vertical	80	1.59	-
2402MHz_TX	Pass	AV	2.3878G	47.18	54.00	-6.82	30.95	3	Horizontal	170	1.70	-
2402MHz_TX	Pass	AV	2.402G	93.30	Inf	-Inf	31.00	3	Horizontal	170	1.70	-
2402MHz_TX	Pass	PK	2.3526G	59.73	74.00	-14.27	30.83	3	Horizontal	170	1.70	-
2402MHz_TX	Pass	PK	2.4022G	94.27	Inf	-Inf	31.00	3	Horizontal	170	1.70	-
2402MHz_TX	Pass	AV	4.80364G	38.56	54.00	-15.44	1.62	3	Vertical	238	1.05	-
2402MHz_TX	Pass	PK	4.80448G	46.98	74.00	-27.02	1.62	3	Vertical	238	1.05	-
2402MHz_TX	Pass	AV	4.80409G	45.55	54.00	-8.45	1.62	3	Horizontal	36	1.71	-
2402MHz_TX	Pass	PK	4.80358G	51.60	74.00	-22.40	1.62	3	Horizontal	36	1.71	-
2440MHz_TX	Pass	AV	2.3428G	47.17	54.00	-6.83	30.79	3	Vertical	67	1.30	-
2440MHz_TX	Pass	AV	2.44G	90.38	Inf	-Inf	31.14	3	Vertical	67	1.30	-
2440MHz_TX	Pass	AV	2.4932G	47.95	54.00	-6.05	31.33	3	Vertical	67	1.30	-
2440MHz_TX	Pass	PK	2.3712G	58.08	74.00	-15.92	30.89	3	Vertical	67	1.30	-
2440MHz_TX	Pass	PK	2.4396G	91.35	Inf	-Inf	31.14	3	Vertical	67	1.30	-
2440MHz_TX	Pass	PK	2.49G	58.93	74.00	-15.07	31.32	3	Vertical	67	1.30	-
2440MHz_TX	Pass	AV	2.3412G	47.18	54.00	-6.82	30.79	3	Horizontal	359	1.59	-
2440MHz_TX	Pass	AV	2.44G	93.64	Inf	-Inf	31.14	3	Horizontal	359	1.59	-
2440MHz_TX	Pass	AV	2.4992G	47.98	54.00	-6.02	31.36	3	Horizontal	359	1.59	-
2440MHz_TX	Pass	PK	2.3492G	58.44	74.00	-15.56	30.81	3	Horizontal	359	1.59	-
2440MHz_TX	Pass	PK	2.4396G	94.61	Inf	-Inf	31.14	3	Horizontal	359	1.59	-
2440MHz_TX	Pass	PK	2.4948G	58.89	74.00	-15.11	31.35	3	Horizontal	359	1.59	-
2440MHz_TX	Pass	AV	4.87958G	41.08	54.00	-12.92	1.81	3	Vertical	201	1.76	-
2440MHz_TX	Pass	AV	7.31927G	45.26	54.00	-8.74	7.50	3	Vertical	109	1.26	-
2440MHz_TX	Pass	PK	4.88054G	48.82	74.00	-25.18	1.81	3	Vertical	201	1.76	-
2440MHz_TX	Pass	PK	7.31926G	53.95	74.00	-20.05	7.50	3	Vertical	109	1.26	-
2440MHz_TX	Pass	AV	4.87975G	47.52	54.00	-6.48	1.81	3	Horizontal	33	1.47	-
2440MHz_TX	Pass	AV	7.3193G	45.84	54.00	-8.16	7.50	3	Horizontal	126	1.57	-
2440MHz_TX	Pass	PK	4.88048G	53.16	74.00	-20.84	1.81	3	Horizontal	33	1.47	-
2440MHz_TX	Pass	PK	7.32059G	54.55	74.00	-19.45	7.50	3	Horizontal	126	1.57	-
2480MHz_TX	Pass	AV	2.48G	88.72	Inf	-Inf	31.28	3	Vertical	98	1.67	-
2480MHz_TX	Pass	AV	2.4948G	47.97	54.00	-6.03	31.35	3	Vertical	98	1.67	-
2480MHz_TX	Pass	PK	2.4798G	89.74	Inf	-Inf	31.28	3	Vertical	98	1.67	-
2480MHz_TX	Pass	PK	2.4876G	59.63	74.00	-14.37	31.32	3	Vertical	98	1.67	-
2480MHz_TX	Pass	AV	2.48G	94.15	Inf	-Inf	31.28	3	Horizontal	9	1.51	-
2480MHz_TX	Pass	AV	2.4964G	48.22	54.00	-5.78	31.35	3	Horizontal	9	1.51	-
2480MHz_TX	Pass	PK	2.4798G	95.11	Inf	-Inf	31.28	3	Horizontal	9	1.51	-
2480MHz_TX	Pass	PK	2.4906G	59.42	74.00	-14.58	31.32	3	Horizontal	9	1.51	-
2480MHz_TX	Pass	AV	4.95975G	43.06	54.00	-10.94	2.02	3	Vertical	194	1.53	-
2480MHz_TX	Pass	AV	7.44068G	45.44	54.00	-8.56	7.81	3	Vertical	112	1.34	-
2480MHz_TX	Pass	PK	4.96068G	50.18	74.00	-23.82	2.02	3	Vertical	194	1.53	-
2480MHz_TX	Pass	PK	7.44038G	53.97	74.00	-20.03	7.81	3	Vertical	112	1.34	-
2480MHz_TX	Pass	AV	4.9604G	49.10	54.00	-4.90	2.02	3	Horizontal	32	1.48	-
2480MHz_TX	Pass	AV	7.44064G	45.65	54.00	-8.35	7.81	3	Horizontal	126	1.47	-
2480MHz_TX	Pass	PK	4.9595G	54.00	74.00	-20.00	2.02	3	Horizontal	32	1.48	-



Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz_TX	Pass	PK	7.43931G	54.20	74.00	-19.80	7.80	3	Horizontal	126	1.47	-
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TX	Pass	AV	2.3882G	47.43	54.00	-6.57	30.95	3	Vertical	78	1.34	-
2402MHz_TX	Pass	AV	2.402G	88.81	Inf	-Inf	31.00	3	Vertical	78	1.34	-
2402MHz_TX	Pass	PK	2.3608G	58.64	74.00	-15.36	30.85	3	Vertical	78	1.34	-
2402MHz_TX	Pass	PK	2.4026G	89.94	Inf	-Inf	31.00	3	Vertical	78	1.34	-
2402MHz_TX	Pass	AV	2.3884G	47.18	54.00	-6.82	30.95	3	Horizontal	168	1.69	-
2402MHz_TX	Pass	AV	2.4018G	92.83	Inf	-Inf	31.00	3	Horizontal	168	1.69	-
2402MHz_TX	Pass	PK	2.3662G	58.23	74.00	-15.77	30.88	3	Horizontal	168	1.69	-
2402MHz_TX	Pass	PK	2.4026G	94.44	Inf	-Inf	31.00	3	Horizontal	168	1.69	-
2402MHz_TX	Pass	AV	4.80371G	38.02	54.00	-15.98	1.62	3	Vertical	325	2.89	-
2402MHz_TX	Pass	PK	4.80304G	46.93	74.00	-27.07	1.62	3	Vertical	325	2.89	-
2402MHz_TX	Pass	AV	4.80382G	44.78	54.00	-9.22	1.62	3	Horizontal	32	1.38	-
2402MHz_TX	Pass	PK	4.80298G	50.70	74.00	-23.30	1.62	3	Horizontal	32	1.38	-
2440MHz_TX	Pass	AV	2.3828G	47.41	54.00	-6.59	30.93	3	Vertical	85	1.71	-
2440MHz_TX	Pass	AV	2.44G	87.75	Inf	-Inf	31.14	3	Vertical	85	1.71	-
2440MHz_TX	Pass	AV	2.4956G	47.97	54.00	-6.03	31.35	3	Vertical	85	1.71	-
2440MHz_TX	Pass	PK	2.38G	57.93	74.00	-16.07	30.92	3	Vertical	85	1.71	-
2440MHz_TX	Pass	PK	2.44G	90.65	Inf	-Inf	31.14	3	Vertical	85	1.71	-
2440MHz_TX	Pass	PK	2.4904G	58.72	74.00	-15.28	31.32	3	Vertical	85	1.71	-
2440MHz_TX	Pass	AV	2.3652G	47.41	54.00	-6.59	30.87	3	Horizontal	29	1.52	-
2440MHz_TX	Pass	AV	2.44G	92.82	Inf	-Inf	31.14	3	Horizontal	29	1.52	-
2440MHz_TX	Pass	AV	2.4956G	48.22	54.00	-5.78	31.35	3	Horizontal	29	1.52	-
2440MHz_TX	Pass	PK	2.3868G	58.78	74.00	-15.22	30.94	3	Horizontal	29	1.52	-
2440MHz_TX	Pass	PK	2.4396G	95.66	Inf	-Inf	31.14	3	Horizontal	29	1.52	-
2440MHz_TX	Pass	PK	2.496G	58.89	74.00	-15.11	31.35	3	Horizontal	29	1.52	-
2440MHz_TX	Pass	AV	4.87908G	39.71	54.00	-14.29	1.81	3	Vertical	201	1.77	-
2440MHz_TX	Pass	AV	7.31884G	43.50	54.00	-10.50	7.50	3	Vertical	117	1.50	-
2440MHz_TX	Pass	PK	4.88101G	48.83	74.00	-25.17	1.82	3	Vertical	201	1.77	-
2440MHz_TX	Pass	PK	7.31848G	54.09	74.00	-19.91	7.49	3	Vertical	117	1.50	-
2440MHz_TX	Pass	AV	4.879G	45.17	54.00	-8.83	1.81	3	Horizontal	34	1.47	-
2440MHz_TX	Pass	AV	7.31875G	44.43	54.00	-9.57	7.50	3	Horizontal	126	1.55	-
2440MHz_TX	Pass	PK	4.88107G	52.74	74.00	-21.26	1.82	3	Horizontal	34	1.47	-
2440MHz_TX	Pass	PK	7.31854G	54.18	74.00	-19.82	7.49	3	Horizontal	126	1.55	-
2480MHz_TX	Pass	AV	2.48G	86.86	Inf	-Inf	31.28	3	Vertical	96	1.71	-
2480MHz_TX	Pass	AV	2.4884G	47.95	54.00	-6.05	31.32	3	Vertical	96	1.71	-
2480MHz_TX	Pass	PK	2.4794G	89.72	Inf	-Inf	31.28	3	Vertical	96	1.71	-
2480MHz_TX	Pass	PK	2.486G	58.93	74.00	-15.07	31.31	3	Vertical	96	1.71	-
2480MHz_TX	Pass	AV	2.48G	92.26	Inf	-Inf	31.28	3	Horizontal	32	1.50	-
2480MHz_TX	Pass	AV	2.4835G	48.18	54.00	-5.82	31.30	3	Horizontal	32	1.50	-
2480MHz_TX	Pass	PK	2.4794G	95.07	Inf	-Inf	31.28	3	Horizontal	32	1.50	-
2480MHz_TX	Pass	PK	2.4838G	58.84	74.00	-15.16	31.30	3	Horizontal	32	1.50	-
2480MHz_TX	Pass	AV	4.96034G	43.29	54.00	-10.71	2.02	3	Vertical	195	1.54	-
2480MHz_TX	Pass	AV	7.44067G	45.12	54.00	-8.88	7.81	3	Vertical	116	1.49	-
2480MHz_TX	Pass	PK	4.96093G	50.05	74.00	-23.95	2.02	3	Vertical	195	1.54	-
2480MHz_TX	Pass	PK	7.4411G	53.67	74.00	-20.33	7.81	3	Vertical	116	1.49	-
2480MHz_TX	Pass	AV	4.96031G	48.93	54.00	-5.07	2.02	3	Horizontal	36	1.40	-
2480MHz_TX	Pass	AV	7.4406G	44.13	54.00	-9.87	7.81	3	Horizontal	0	1.49	-
2480MHz_TX	Pass	PK	4.95896G	54.42	74.00	-19.58	2.02	3	Horizontal	36	1.40	-



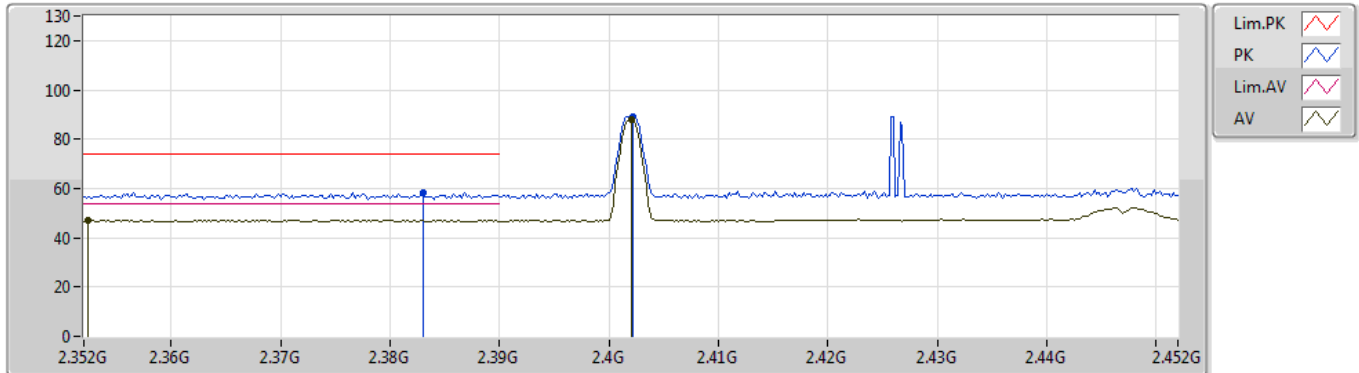


Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz_TX	Pass	PK	7.44159G	52.98	74.00	-21.02	7.81	3	Horizontal	0	1.49	-

**BT-LE(1Mbps)**

13/06/2019

**2402MHz\_TX**

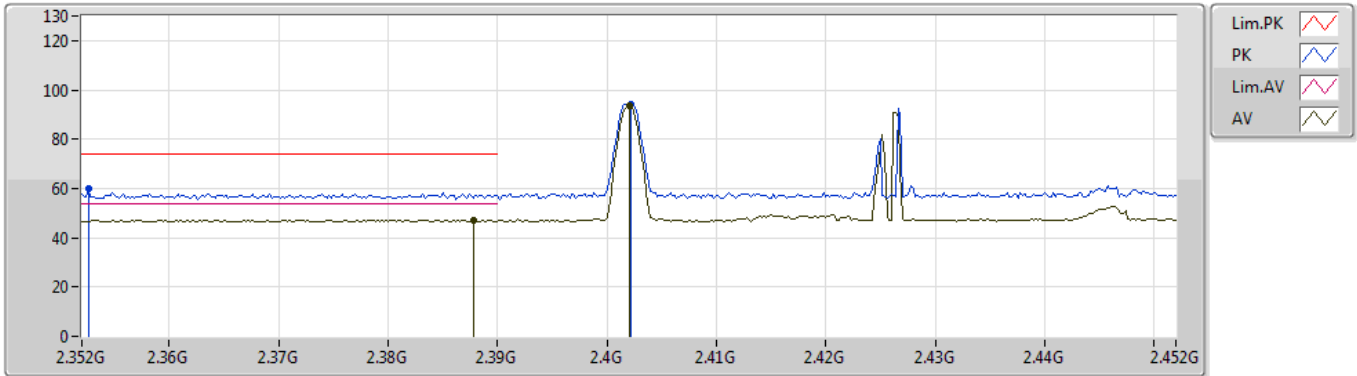


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.3524G	47.17	54.00	-6.83	30.83	3	Vertical	80	1.59	-
AV	2.402G	88.18	Inf	-Inf	31.00	3	Vertical	80	1.59	-
PK	2.383G	58.43	74.00	-15.57	30.93	3	Vertical	80	1.59	-
PK	2.4022G	89.21	Inf	-Inf	31.00	3	Vertical	80	1.59	-

**BT-LE(1Mbps)**

13/06/2019

**2402MHz\_TX**

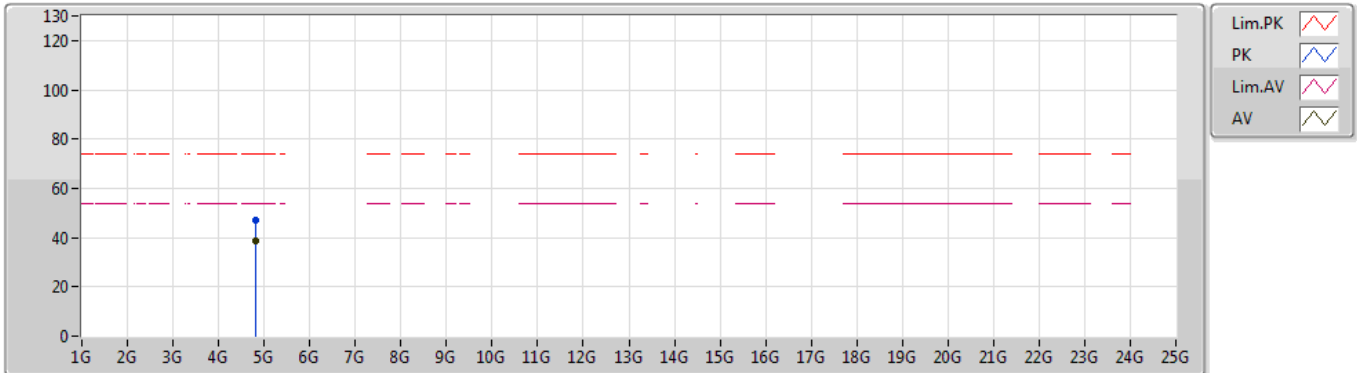


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.3878G	47.18	54.00	-6.82	30.95	3	Horizontal	170	1.70	-
AV	2.402G	93.30	Inf	-Inf	31.00	3	Horizontal	170	1.70	-
PK	2.3526G	59.73	74.00	-14.27	30.83	3	Horizontal	170	1.70	-
PK	2.4022G	94.27	Inf	-Inf	31.00	3	Horizontal	170	1.70	-

### BT-LE(1Mbps)

13/06/2019

### 2402MHz\_TX

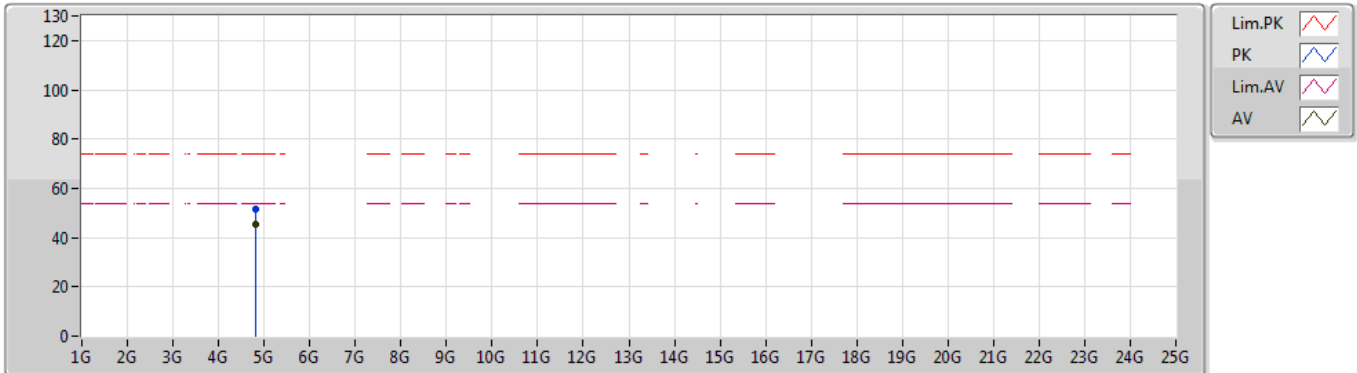


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.80364G	38.56	54.00	-15.44	1.62	3	Vertical	238	1.05	-
PK	4.80448G	46.98	74.00	-27.02	1.62	3	Vertical	238	1.05	-

### BT-LE(1Mbps)

13/06/2019

### 2402MHz\_TX

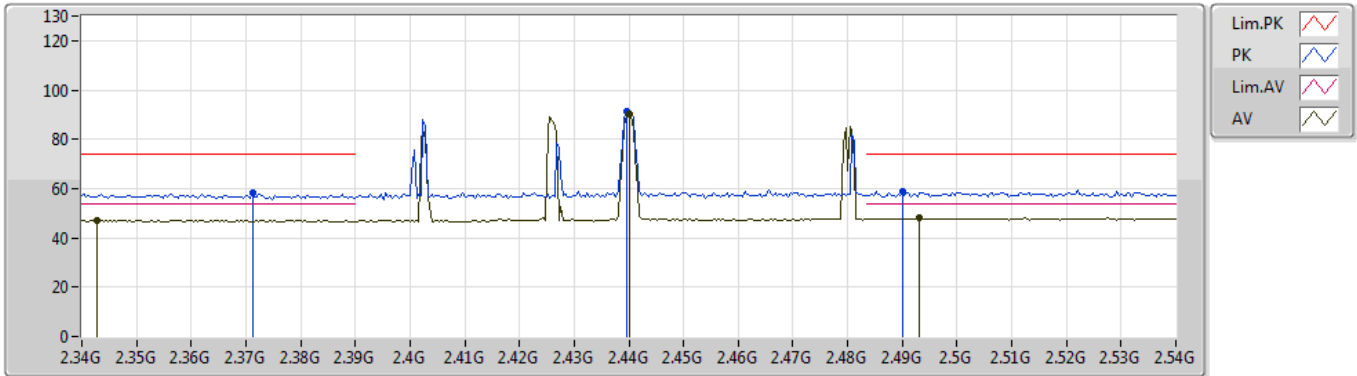


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.80409G	45.55	54.00	-8.45	1.62	3	Horizontal	36	1.71	-
PK	4.80358G	51.60	74.00	-22.40	1.62	3	Horizontal	36	1.71	-

**BT-LE(1Mbps)**

13/06/2019

**2440MHz\_TX**

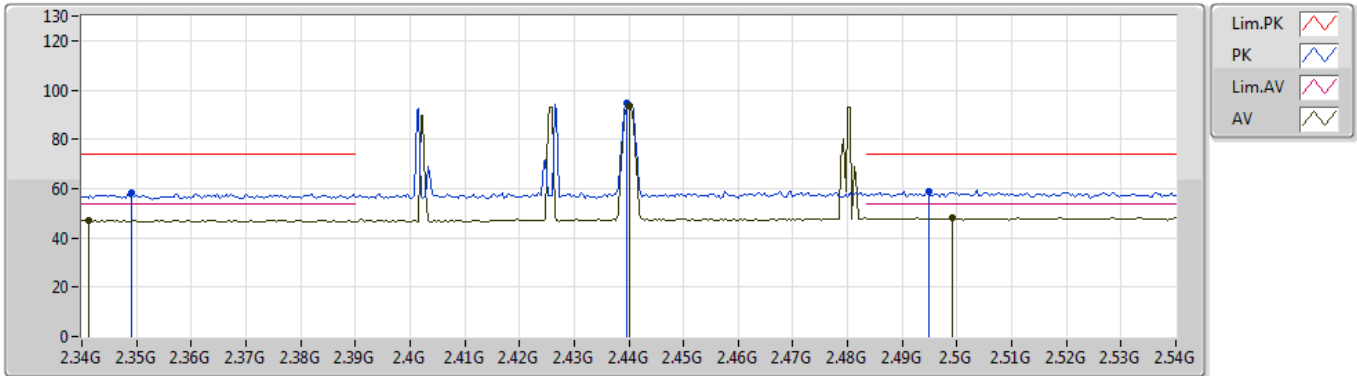


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.3428G	47.17	54.00	-6.83	30.79	3	Vertical	67	1.30	-
AV	2.44G	90.38	Inf	-Inf	31.14	3	Vertical	67	1.30	-
AV	2.4932G	47.95	54.00	-6.05	31.33	3	Vertical	67	1.30	-
PK	2.3712G	58.08	74.00	-15.92	30.89	3	Vertical	67	1.30	-
PK	2.4396G	91.35	Inf	-Inf	31.14	3	Vertical	67	1.30	-
PK	2.49G	58.93	74.00	-15.07	31.32	3	Vertical	67	1.30	-

**BT-LE(1Mbps)**

13/06/2019

**2440MHz\_TX**

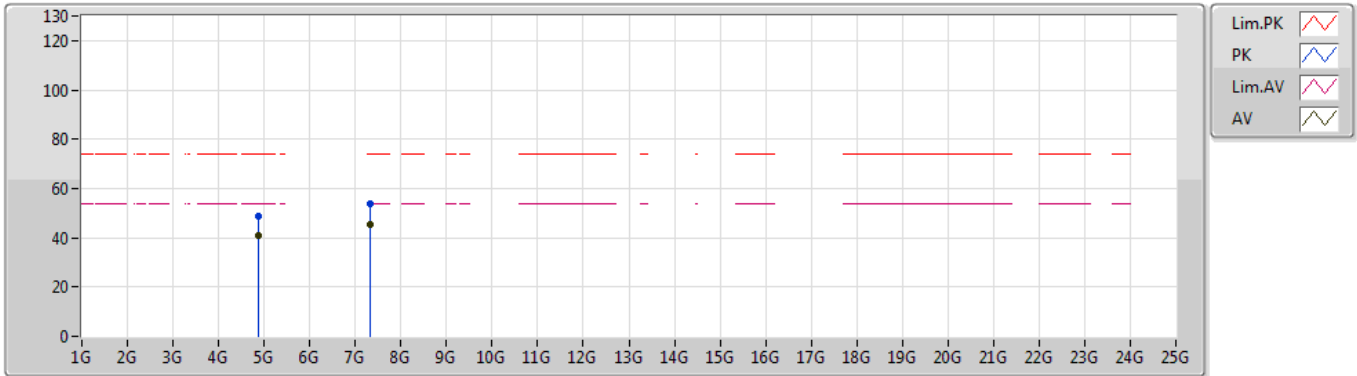


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.3412G	47.18	54.00	-6.82	30.79	3	Horizontal	359	1.59	-
AV	2.44G	93.64	Inf	-Inf	31.14	3	Horizontal	359	1.59	-
AV	2.4992G	47.98	54.00	-6.02	31.36	3	Horizontal	359	1.59	-
PK	2.3492G	58.44	74.00	-15.56	30.81	3	Horizontal	359	1.59	-
PK	2.4396G	94.61	Inf	-Inf	31.14	3	Horizontal	359	1.59	-
PK	2.4948G	58.89	74.00	-15.11	31.35	3	Horizontal	359	1.59	-

**BT-LE(1Mbps)**

13/06/2019

**2440MHz\_TX**



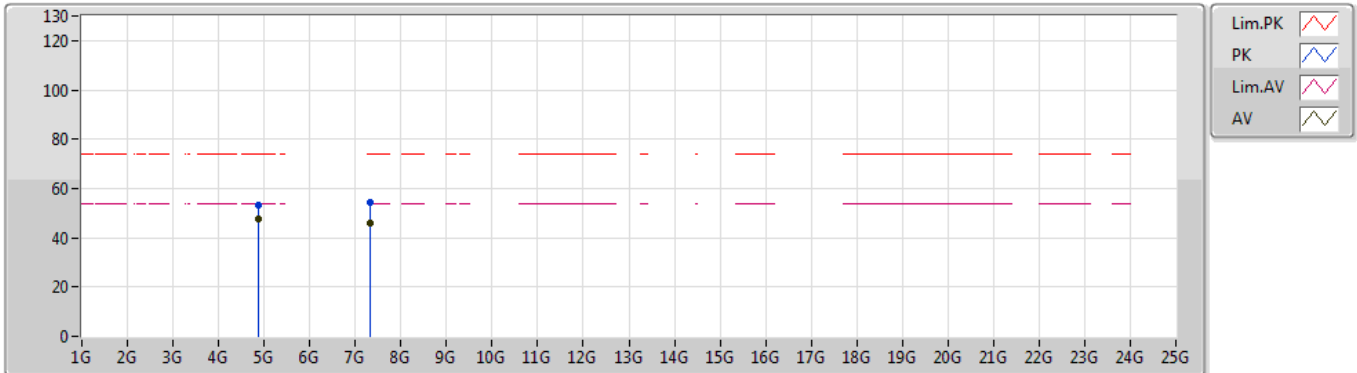
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.87958G	41.08	54.00	-12.92	1.81	3	Vertical	201	1.76	-
AV	7.31927G	45.26	54.00	-8.74	7.50	3	Vertical	109	1.26	-
PK	4.88054G	48.82	74.00	-25.18	1.81	3	Vertical	201	1.76	-
PK	7.31926G	53.95	74.00	-20.05	7.50	3	Vertical	109	1.26	-



### BT-LE(1Mbps)

13/06/2019

### 2440MHz\_TX

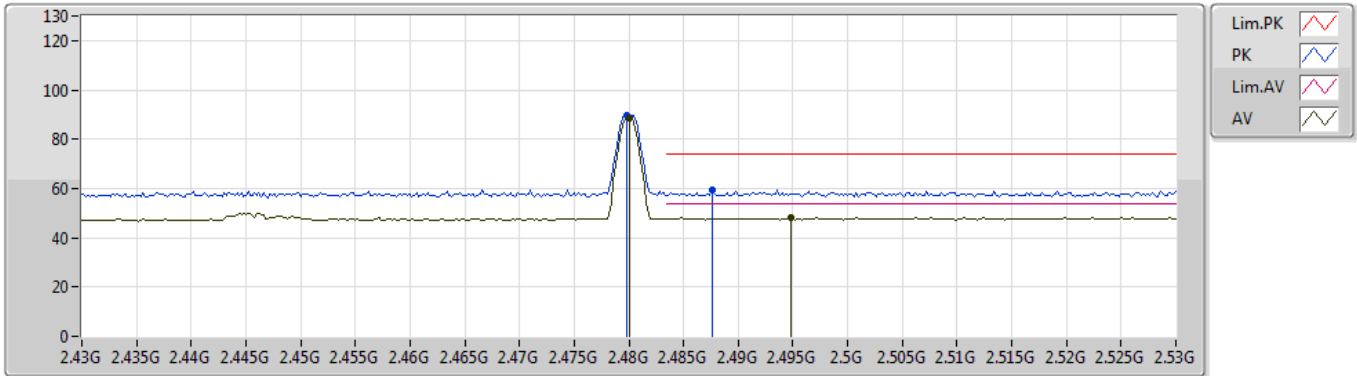


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.87975G	47.52	54.00	-6.48	1.81	3	Horizontal	33	1.47	-
AV	7.3193G	45.84	54.00	-8.16	7.50	3	Horizontal	126	1.57	-
PK	4.88048G	53.16	74.00	-20.84	1.81	3	Horizontal	33	1.47	-
PK	7.32059G	54.55	74.00	-19.45	7.50	3	Horizontal	126	1.57	-

**BT-LE(1Mbps)**

13/06/2019

**2480MHz\_TX**

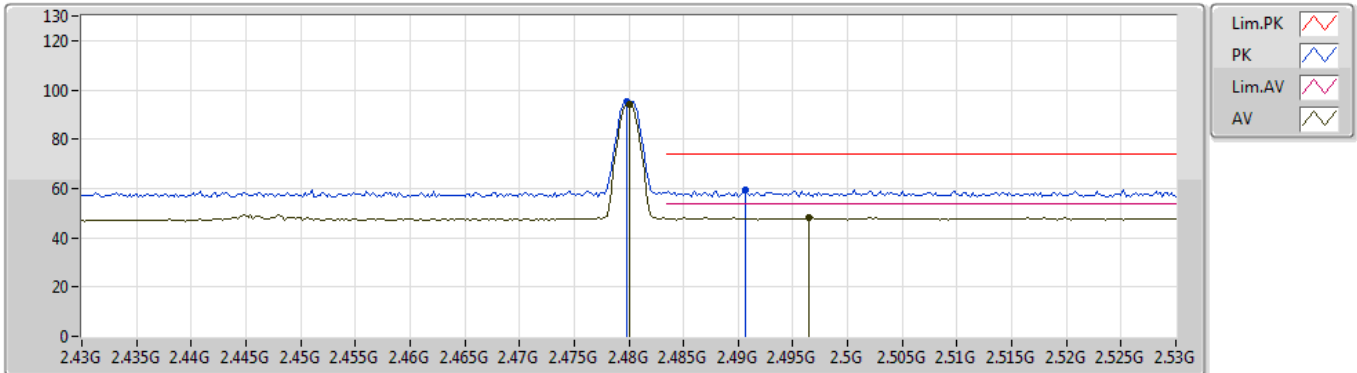


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.48G	88.72	Inf	-Inf	31.28	3	Vertical	98	1.67	-
AV	2.4948G	47.97	54.00	-6.03	31.35	3	Vertical	98	1.67	-
PK	2.4798G	89.74	Inf	-Inf	31.28	3	Vertical	98	1.67	-
PK	2.4876G	59.63	74.00	-14.37	31.32	3	Vertical	98	1.67	-

**BT-LE(1Mbps)**

13/06/2019

**2480MHz\_TX**

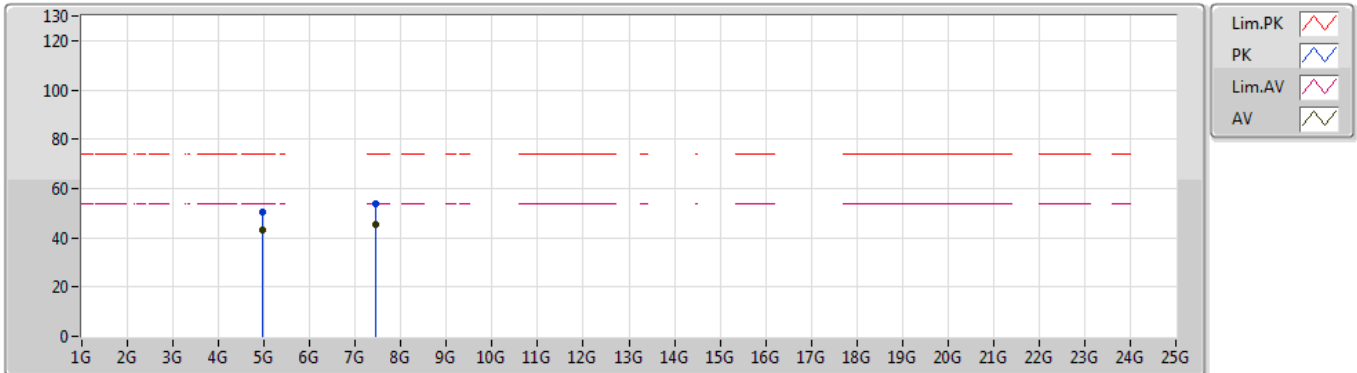


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.48G	94.15	Inf	-Inf	31.28	3	Horizontal	9	1.51	-
AV	2.4964G	48.22	54.00	-5.78	31.35	3	Horizontal	9	1.51	-
PK	2.4798G	95.11	Inf	-Inf	31.28	3	Horizontal	9	1.51	-
PK	2.4906G	59.42	74.00	-14.58	31.32	3	Horizontal	9	1.51	-

**BT-LE(1Mbps)**

13/06/2019

**2480MHz\_TX**

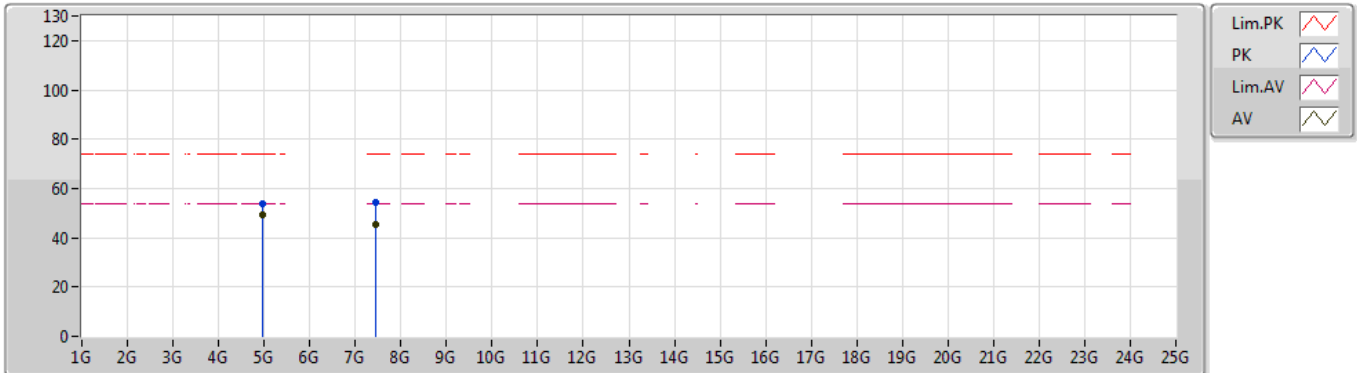


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.95975G	43.06	54.00	-10.94	2.02	3	Vertical	194	1.53	-
AV	7.44068G	45.44	54.00	-8.56	7.81	3	Vertical	112	1.34	-
PK	4.96068G	50.18	74.00	-23.82	2.02	3	Vertical	194	1.53	-
PK	7.44038G	53.97	74.00	-20.03	7.81	3	Vertical	112	1.34	-

### BT-LE(1Mbps)

13/06/2019

### 2480MHz\_TX

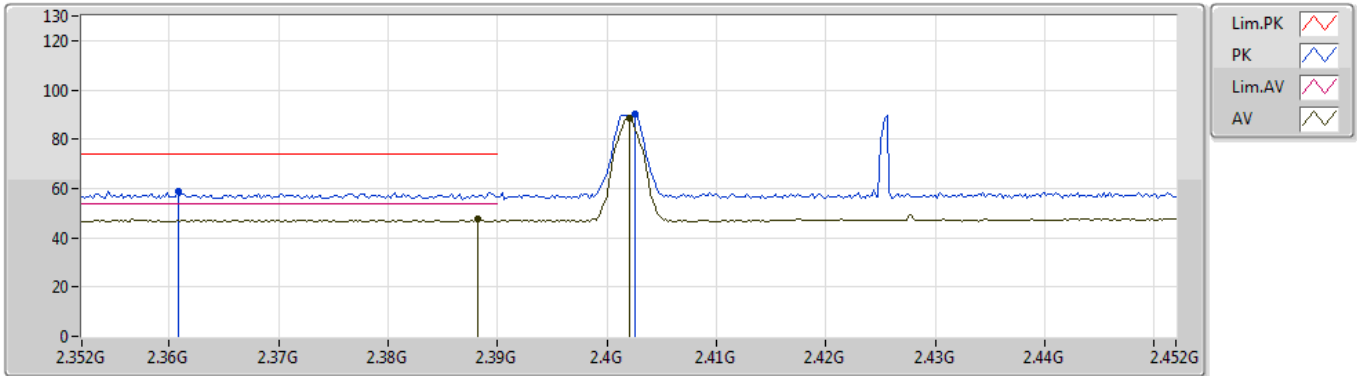


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.9604G	49.10	54.00	-4.90	2.02	3	Horizontal	32	1.48	-
AV	7.44064G	45.65	54.00	-8.35	7.81	3	Horizontal	126	1.47	-
PK	4.9595G	54.00	74.00	-20.00	2.02	3	Horizontal	32	1.48	-
PK	7.43931G	54.20	74.00	-19.80	7.80	3	Horizontal	126	1.47	-

**BT-LE(2Mbps)**

13/06/2019

**2402MHz\_TX**

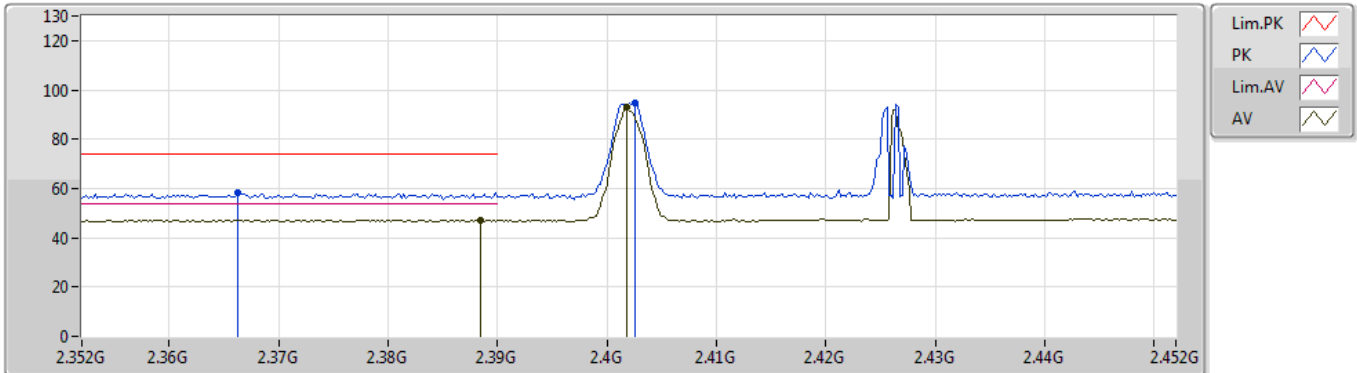


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.3882G	47.43	54.00	-6.57	30.95	3	Vertical	78	1.34	-
AV	2.402G	88.81	Inf	-Inf	31.00	3	Vertical	78	1.34	-
PK	2.3608G	58.64	74.00	-15.36	30.85	3	Vertical	78	1.34	-
PK	2.4026G	89.94	Inf	-Inf	31.00	3	Vertical	78	1.34	-

**BT-LE(2Mbps)**

13/06/2019

**2402MHz\_TX**

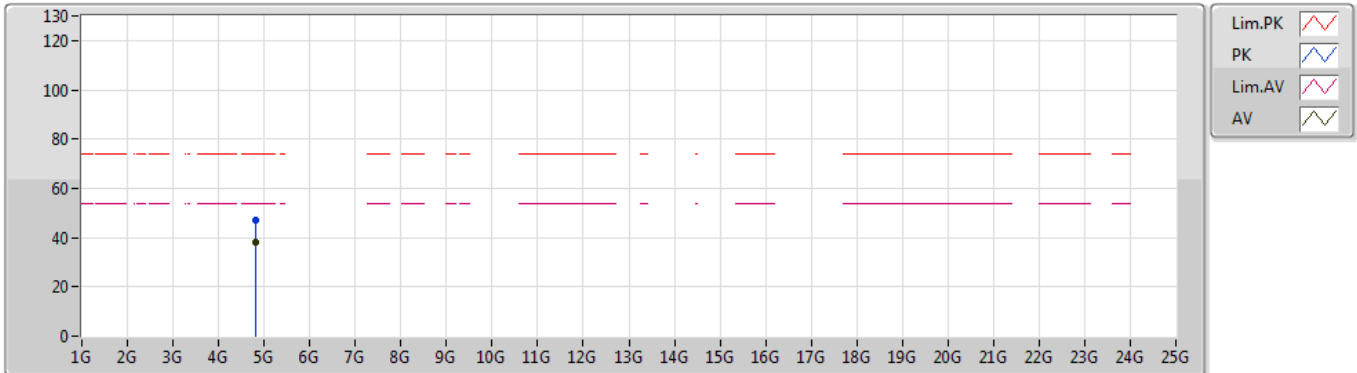


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.3884G	47.18	54.00	-6.82	30.95	3	Horizontal	168	1.69	-
AV	2.4018G	92.83	Inf	-Inf	31.00	3	Horizontal	168	1.69	-
PK	2.3662G	58.23	74.00	-15.77	30.88	3	Horizontal	168	1.69	-
PK	2.4026G	94.44	Inf	-Inf	31.00	3	Horizontal	168	1.69	-

### BT-LE(2Mbps)

13/06/2019

### 2402MHz\_TX



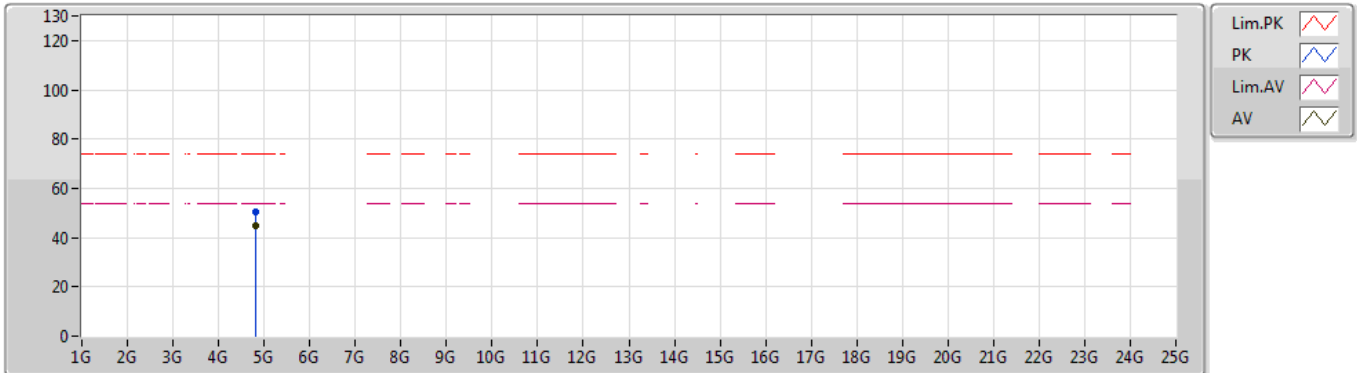
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.80371G	38.02	54.00	-15.98	1.62	3	Vertical	325	2.89	-
PK	4.80304G	46.93	74.00	-27.07	1.62	3	Vertical	325	2.89	-



### BT-LE(2Mbps)

13/06/2019

### 2402MHz\_TX

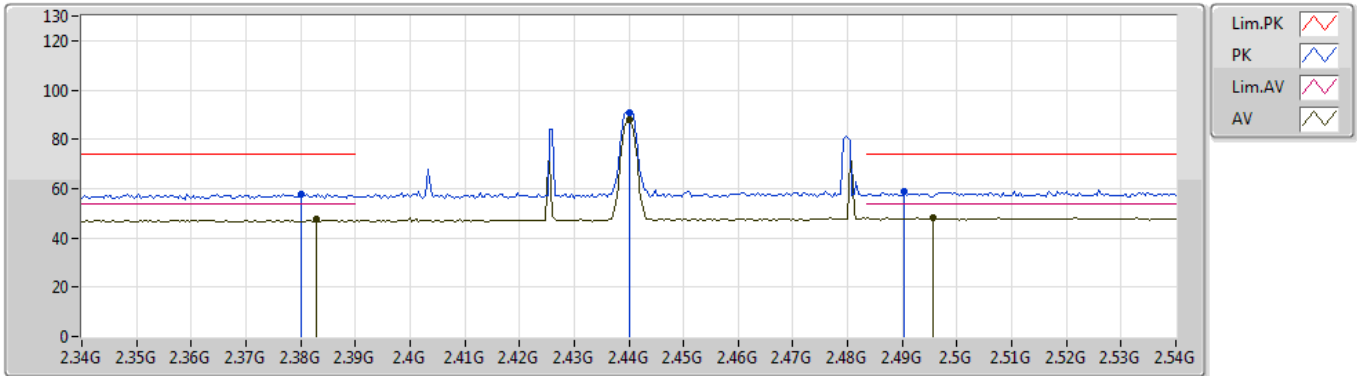


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.80382G	44.78	54.00	-9.22	1.62	3	Horizontal	32	1.38	-
PK	4.80298G	50.70	74.00	-23.30	1.62	3	Horizontal	32	1.38	-

**BT-LE(2Mbps)**

13/06/2019

**2440MHz\_TX**

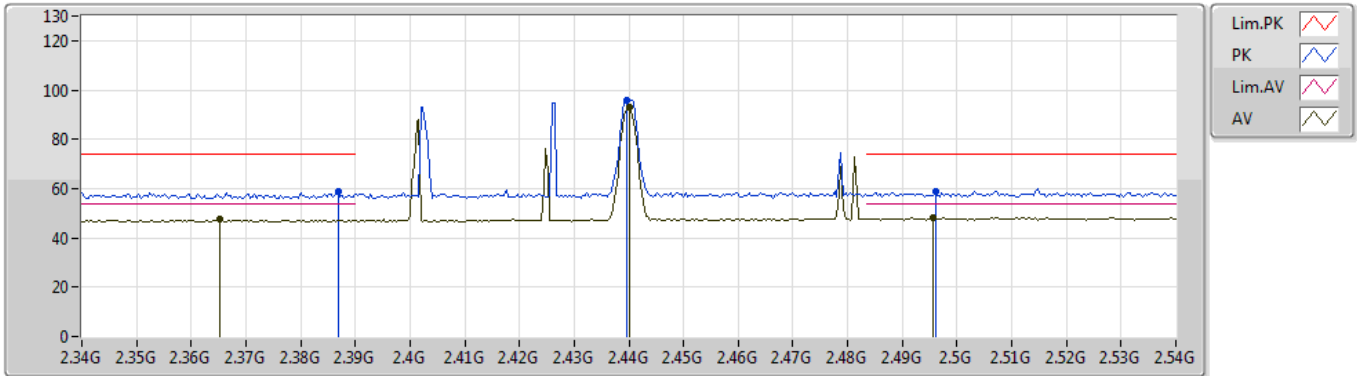


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.3828G	47.41	54.00	-6.59	30.93	3	Vertical	85	1.71	-
AV	2.44G	87.75	Inf	-Inf	31.14	3	Vertical	85	1.71	-
AV	2.4956G	47.97	54.00	-6.03	31.35	3	Vertical	85	1.71	-
PK	2.38G	57.93	74.00	-16.07	30.92	3	Vertical	85	1.71	-
PK	2.44G	90.65	Inf	-Inf	31.14	3	Vertical	85	1.71	-
PK	2.4904G	58.72	74.00	-15.28	31.32	3	Vertical	85	1.71	-

**BT-LE(2Mbps)**

13/06/2019

**2440MHz\_TX**

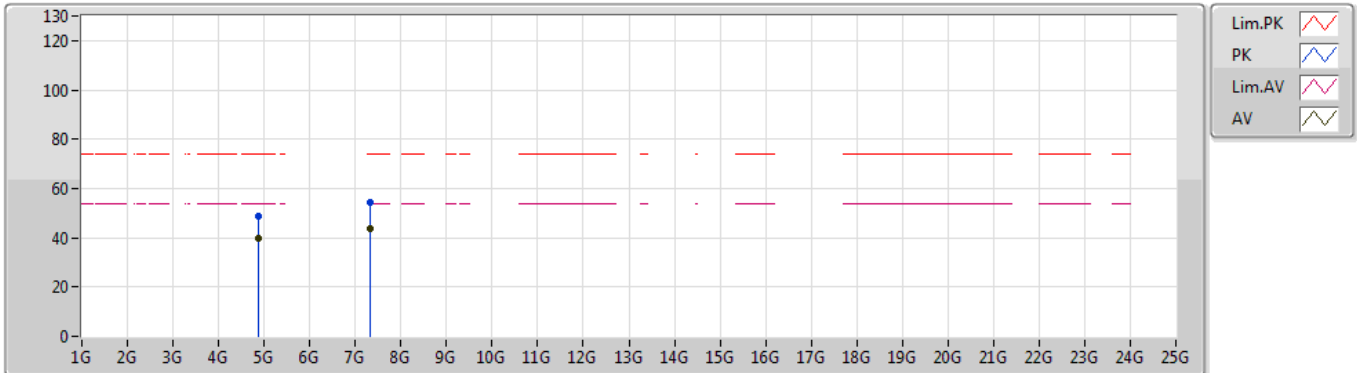


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.3652G	47.41	54.00	-6.59	30.87	3	Horizontal	29	1.52	-
AV	2.44G	92.82	Inf	-Inf	31.14	3	Horizontal	29	1.52	-
AV	2.4956G	48.22	54.00	-5.78	31.35	3	Horizontal	29	1.52	-
PK	2.3868G	58.78	74.00	-15.22	30.94	3	Horizontal	29	1.52	-
PK	2.4396G	95.66	Inf	-Inf	31.14	3	Horizontal	29	1.52	-
PK	2.496G	58.89	74.00	-15.11	31.35	3	Horizontal	29	1.52	-

**BT-LE(2Mbps)**

13/06/2019

**2440MHz\_TX**

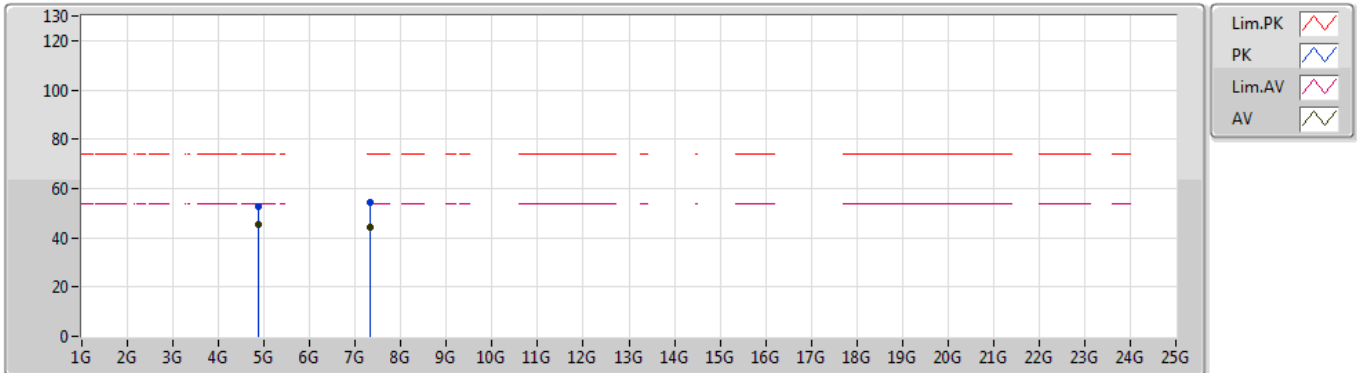


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.87908G	39.71	54.00	-14.29	1.81	3	Vertical	201	1.77	-
AV	7.31884G	43.50	54.00	-10.50	7.50	3	Vertical	117	1.50	-
PK	4.88101G	48.83	74.00	-25.17	1.82	3	Vertical	201	1.77	-
PK	7.31848G	54.09	74.00	-19.91	7.49	3	Vertical	117	1.50	-

### BT-LE(2Mbps)

13/06/2019

### 2440MHz\_TX

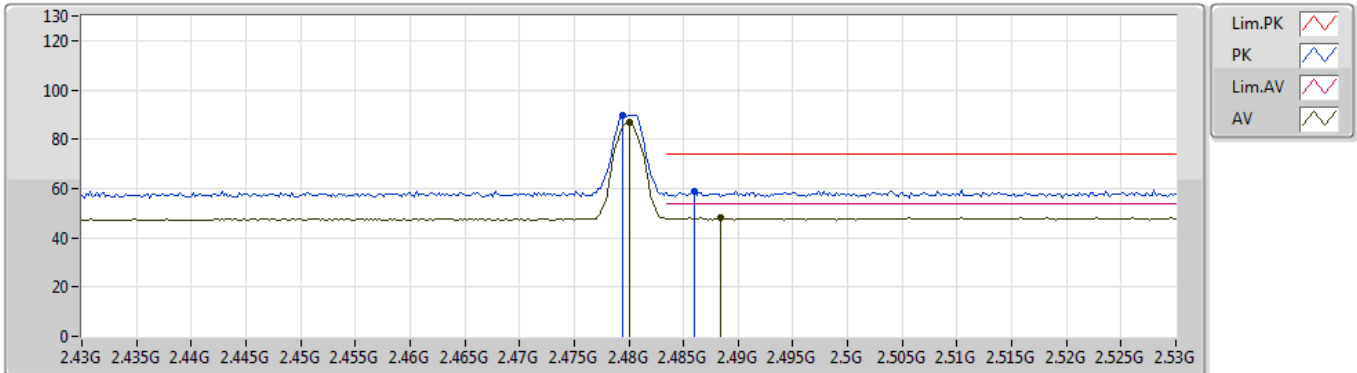


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.879G	45.17	54.00	-8.83	1.81	3	Horizontal	34	1.47	-
AV	7.31875G	44.43	54.00	-9.57	7.50	3	Horizontal	126	1.55	-
PK	4.88107G	52.74	74.00	-21.26	1.82	3	Horizontal	34	1.47	-
PK	7.31854G	54.18	74.00	-19.82	7.49	3	Horizontal	126	1.55	-

**BT-LE(2Mbps)**

13/06/2019

**2480MHz\_TX**

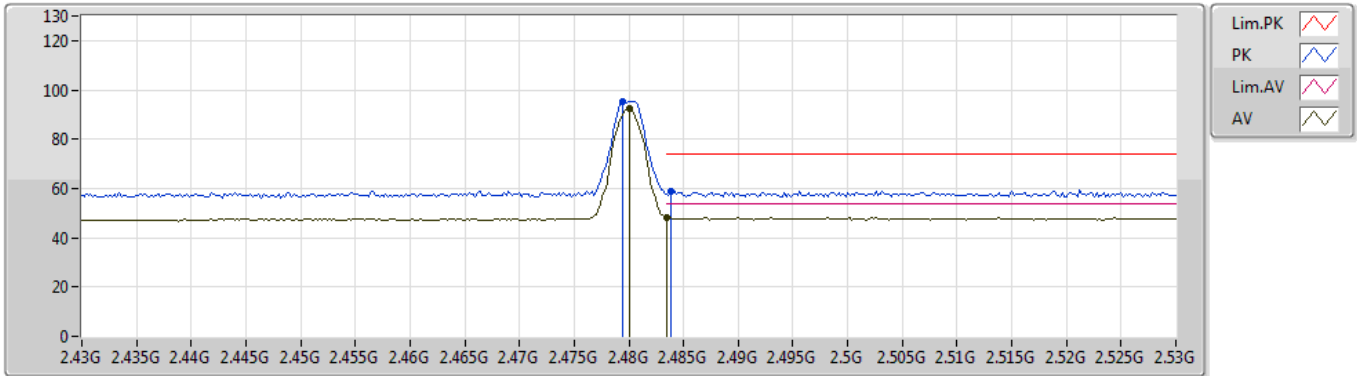


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.48G	86.86	Inf	-Inf	31.28	3	Vertical	96	1.71	-
AV	2.4884G	47.95	54.00	-6.05	31.32	3	Vertical	96	1.71	-
PK	2.4794G	89.72	Inf	-Inf	31.28	3	Vertical	96	1.71	-
PK	2.486G	58.93	74.00	-15.07	31.31	3	Vertical	96	1.71	-

**BT-LE(2Mbps)**

13/06/2019

**2480MHz\_TX**

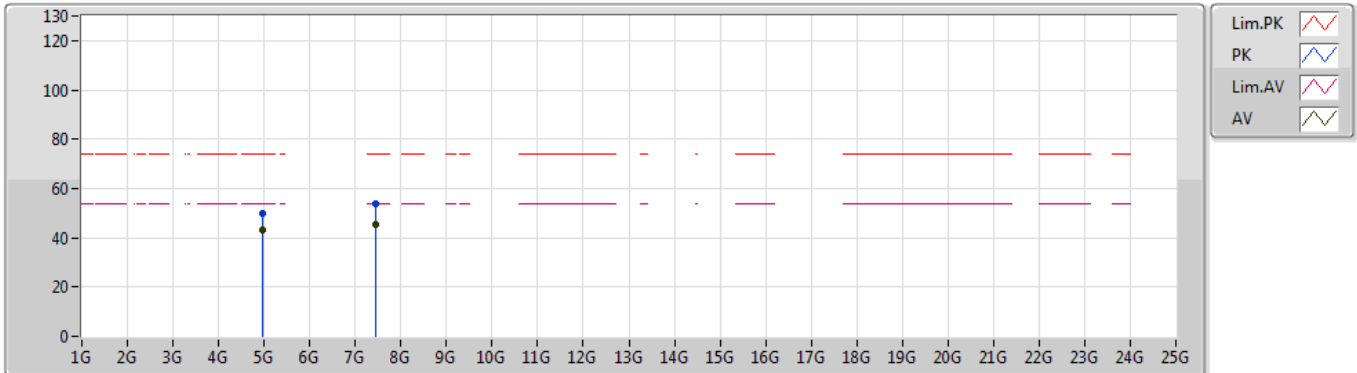


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	2.48G	92.26	Inf	-Inf	31.28	3	Horizontal	32	1.50	-
AV	2.4835G	48.18	54.00	-5.82	31.30	3	Horizontal	32	1.50	-
PK	2.4794G	95.07	Inf	-Inf	31.28	3	Horizontal	32	1.50	-
PK	2.4838G	58.84	74.00	-15.16	31.30	3	Horizontal	32	1.50	-

**BT-LE(2Mbps)**

13/06/2019

**2480MHz\_TX**



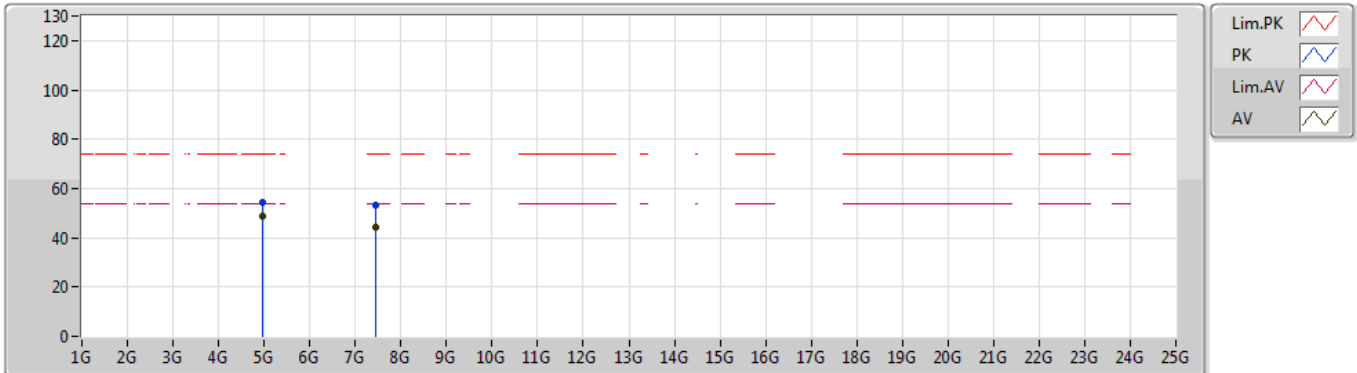
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.96034G	43.29	54.00	-10.71	2.02	3	Vertical	195	1.54	-
AV	7.44067G	45.12	54.00	-8.88	7.81	3	Vertical	116	1.49	-
PK	4.96093G	50.05	74.00	-23.95	2.02	3	Vertical	195	1.54	-
PK	7.4411G	53.67	74.00	-20.33	7.81	3	Vertical	116	1.49	-



**BT-LE(2Mbps)**

13/06/2019

**2480MHz\_TX**



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
AV	4.96031G	48.93	54.00	-5.07	2.02	3	Horizontal	36	1.40	-
AV	7.4406G	44.13	54.00	-9.87	7.81	3	Horizontal	0	1.49	-
PK	4.95896G	54.42	74.00	-19.58	2.02	3	Horizontal	36	1.40	-
PK	7.44159G	52.98	74.00	-21.02	7.81	3	Horizontal	0	1.49	-