

# FCC Test Report

**Equipment** : cnPilot e430H Indoor  
**Brand Name** :  Cambium Networks  
**Model No.** : REG-PL-E430H  
**FCC ID** : Z8H89FT0039  
**Standard** : 47 CFR FCC Part 15.247  
**Operating Band** : 2400 MHz – 2483.5 MHz  
**Function** : ☒ Point-to-multipoint; ☐ Point-to-point  
**Applicant** : Cambium Networks Inc.  
3800 Golf Road, Suite 360 Rolling Meadows, IL 60008,  
USA  
**Manufacturer** : XAVi Technologies Corporation  
22F., No.69, Sec. 2, Guangfu Rd., Sanchong Dist., New  
Taipei City 241, Taiwan (R.O.C.)

The product sample received on Nov. 01, 2017 and completely tested on Jun. 26, 2018. We, SPORTON, 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., the test report shall not be reproduced except in full.



Approved by: Allen Lin



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## Summary of Test Result

Conformance Test Specifications				
Report Clause	Ref. Std. Clause	Description	Limit	Result
1.1.2	15.203	Antenna Requirement	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	FCC 15.207	Complied
3.2	15.247(a)	20dB Bandwidth	15.247(a)	Complied
3.2	15.247(a)	Carrier Frequency Separation	15.247(a)	Complied
3.3	15.247(b)	Maximum Conducted Output Power	15.247(b)	Complied
3.4	15.247(a)	Number of Hopping Frequencies and Hopping Bandedge	15.247(a)	Complied
3.5	15.247(a)	Time of Occupancy (Dwell Time)	15.247(a)	Complied
3.6	15.247(d)	Emissions in Non-restricted Frequency Bands	15.247(d)	Complied
3.7	15.247(d)	Emissions in Restricted Frequency Bands	Restricted Bands: FCC 15.209	Complied

## Revision History

[illegible]

# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Version	Ch. Frequency (MHz)	Channel Number
2400-2483.5	BR / EDR	2402-2480	0-78 [79]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-BR(1Mbps)	1	1TX
2.4-2.4835GHz	BT-EDR(2Mbps)	1	1TX
2.4-2.4835GHz	BT-EDR(3Mbps)	1	1TX

**Note:**

- ♦ Bluetooth BR uses a GFSK (1Mbps).
- ♦ Bluetooth EDR uses a combination of  $\pi/4$ -DQPSK (2Mbps) and 8DPSK (3Mbps).
- ♦ Bluetooth BR/EDR uses as a system using FHSS modulation.
- ♦ BWch is the nominal channel bandwidth.

### 1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector
1	1	-	-	PIFA Antenna	I-PEX
2	2	-	-	PIFA Antenna	I-PEX
3	1	-	-	PIFA Antenna	I-PEX
4	2	-	-	PIFA Antenna	I-PEX
5	1	-	-	PIFA Antenna	I-PEX

Ant.	Gain (dBi)			
	2.4G	5G		BT
		Non-Beamforming	Beamforming	
1	3.57	-	-	-
2	3.57	-	-	-
3	-	4.96	3.01	-
4	-	4.96	3.01	-
5	-	-	-	3.35

Note 1: The EUT has five antennas.

**For 2.4GHz function:**

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

Ant. 1 (port 1) or Ant. 2 (port 2) can be used as transmitting/receiving antenna alone and simultaneously.

For IEEE 802.11 n mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

**For 5GHz function:**

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

Ant. 3 (port 1) or Ant. 4 (port 2) can be used as transmitting/receiving antenna alone and simultaneously.

For IEEE 802.11 n/ac mode (2TX/2RX)

Ant. 3 (port 1) and Ant. 4 (port 2) could transmit/receive simultaneously.

**For BT function:**

For BT-LE/BR/EDR (1TX/1RX)

Only Ant. 5 (port 1) can be used as transmitting/receiving antenna.

**1.1.3 EUT Information**

Identify EUT	
RF Chip	IPQ4019(Qualcomm)
Operational Condition	
EUT Power Type	From AC Adapter & PoE
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) $\geq 1/T$
BT-BR(1Mbps)	0.759	1.198	2.898m	1k
BT-EDR(2Mbps)	0.789	1.029	2.906m	1k
BT-EDR(3Mbps)	0.752	1.238	2.907m	1k

### 1.1.5 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR7O2713AD

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Enclosure is replaced 2. PCB Layout: WiFi 2.4G and Bluetooth antenna location exchanged. 3. Heat sink was added 4. Change Equipment Name to cnPilot e430H Indoor and Change Model Name to REG-PL-E430H 5. Antenna gain was increased	1. Radiated Emission data above 1GHz was evaluated 2. Maximum Conducted Output Power was evaluated

### 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
- ♦ Public Notice DA 00-705
- ♦ ANSI C63.10-2013

### 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
RF Conducted	TH01-HY	Gary	22.7°C / 57%	07/Nov/2017
Radiated (9kHz to 30MHz)	03CH02-HY	Andy	23.5°C / 65%	29/Dec/2017
Radiated (30MHz to 1GHz)	03CH09-HY	Andy	23.5°C / 65%	14/Nov/2017
Radiated (above 1GHz)	03CH02-HY	Jeff	24.3°C / 68%	26/Jun/2018
AC Conduction	CO04-HY	Eric	23.5°C / 65%	13/Oct/2017

## 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)	3.6 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.0 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%



## 2 Test Configuration of EUT

### 2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V


### 2.2 Test Channel Mode

Test Software Version	QCARCT 3.0.265.0
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## 2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	AC power-line conducted emissions
<b>Condition</b>	AC power-line conducted measurement for line and neutral
<b>Operating Mode</b>	CTX
1	Adapter mode

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	20dB Bandwidth Carrier Frequency Separation Maximum Conducted Output Power Number of Hopping Frequencies Hopping Bandedge Time of Occupancy (Dwell Time) Emissions in Non-restricted Frequency Bands
<b>Test Condition</b>	Conducted measurement at transmit chains

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

## 2.4 Support Equipment

Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC
3	Notebook	DELL	E5410	DoC
4	Adapter for NB	DELL	HA65NM130	DoC
5	AC adaptor	CWT	KPL-050S-VI	-
6	Client	-	E430W	-

Note: Support equipment No.5 & 6 was provided by customer.

Support Equipment – Radiated Emission below 1GHz				
No.	Equipment	Brand Name	Model Name	FCC ID
1	AC adaptor	CWT	KPL-050S-VI	-

Note: Support equipment No.1 was provided by customer.

Support Equipment – Radiated Emission above 1GHz				
No.	Equipment	Brand Name	Model Name	FCC ID
1	PoE (Remote)	Cambium Networks	NET-P30-56IN	-

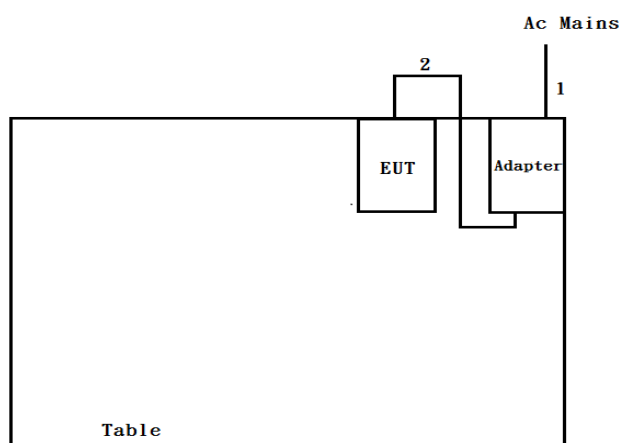
Note: Support equipment No.1 was provided by customer.

Support Equipment – AC Conduction				
No.	Equipment	Brand Name	Model Name	FCC ID
1	AC adaptor	CWT	KPL-050S-VI	-

Note: Support equipment No.1 was provided by customer.

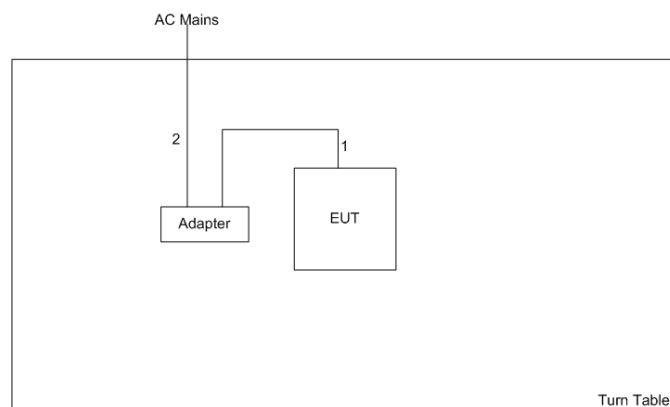
## 2.5 Test Setup Diagram

**Test Setup Diagram – AC Line Conducted Emission Test**

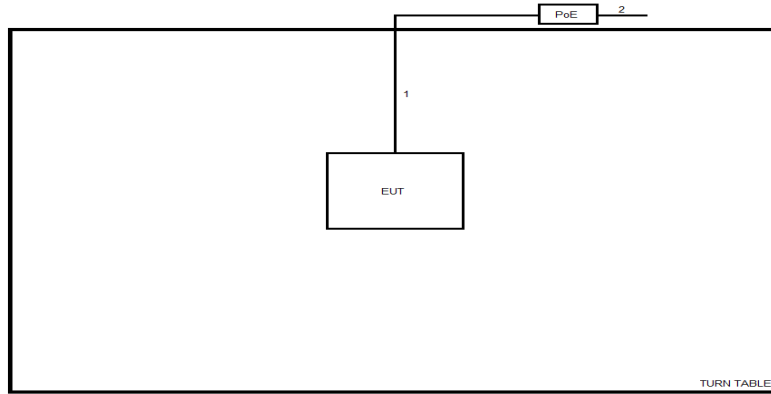


Item	Connection	Shielded	Length(m)	Remark
1	AC power line	No	1.8	-
2	DC power line	No	1	-

**Test Setup Diagram - Radiated Test below 1GHz**



Item	Connection	Shielded	Length(m)	Remark
1	DC power line	No	1	-
2	AC power line	No	1.8	-

**Test Setup Diagram - Radiated Test above 1GHz**


Item	Connection	Shielded	Length(m)	Remark
1	RJ45 Cable	No	10	-
2	AC Power line	No	1.8	-

### 3 Transmitter Test Result

### 3.1 AC Power-line Conducted Emissions

### 3.1.1 AC Power-line Conducted Emissions Limit

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

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

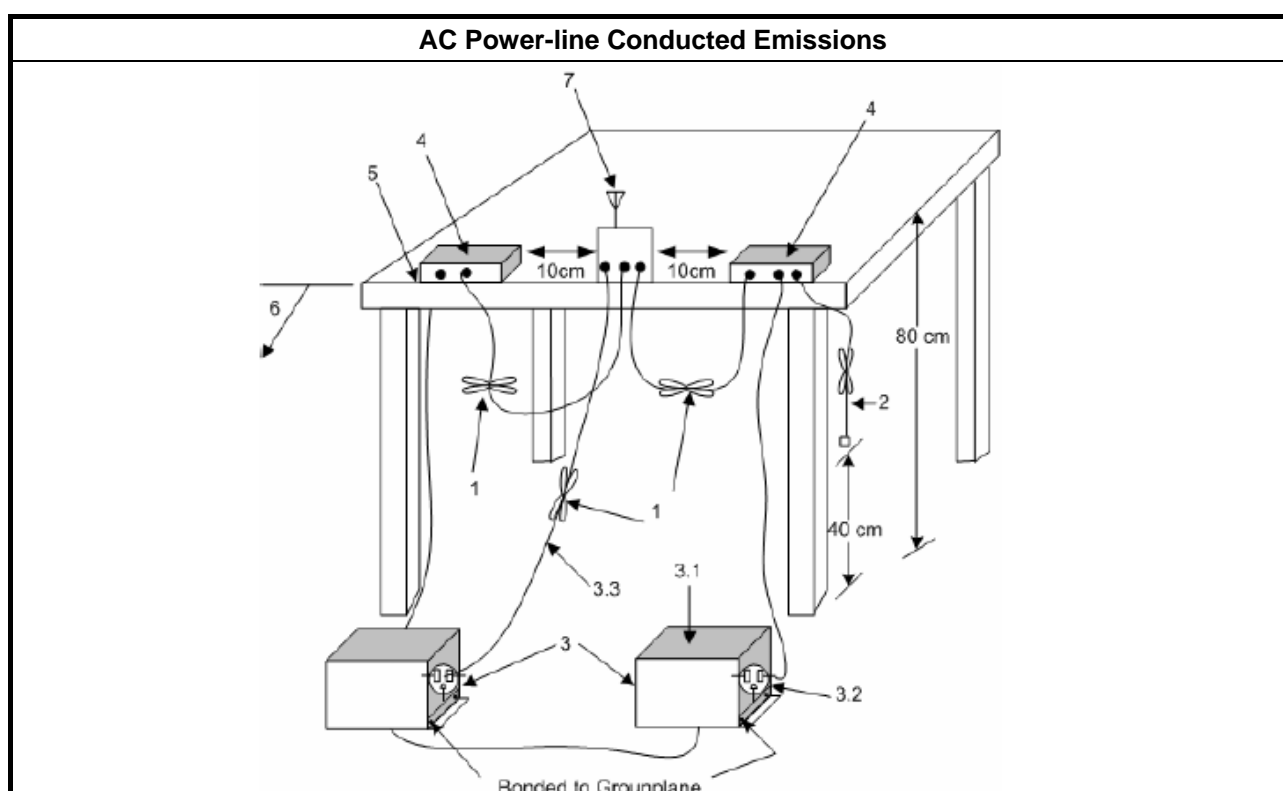
### 3.1.2 Measuring Instruments

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

### 3.1.3 Test Procedures

Test Method
<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 20dB Bandwidth and Carrier Frequency Separation

### 3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
▪ 902-928 MHz Band:	
	▪ $N \geq 50$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $\leq$ 250 kHz.
	▪ $50 > N \geq 25$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $>$ 250 kHz.
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz).
	▪ $75 > N \geq 15$ and $ChS \geq \text{MAX}$ (20 dB bandwidth 2/3, 25 kHz).
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $\leq$ 1 MHz.
<b>N:</b> Number of Hopping Frequencies; <b>ChS:</b> Hopping Channel Separation	

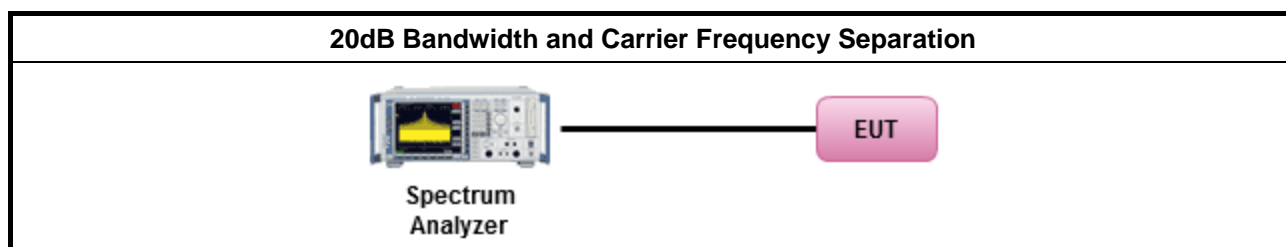
### 3.2.2 Measuring Instruments

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

### 3.2.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 6.9.2 for 20 dB bandwidth measurement.
▪ Refer as ANSI C63.10-2013, clause 7.8.2 for carrier frequency separation measurement.

### 3.2.4 Test Setup



### 3.2.5 Test Result of 20dB Bandwidth

Refer as Appendix B

### 3.2.6 Test Result of Carrier Frequency Separation

Refer as Appendix B

### 3.3 Maximum Conducted Output Power

#### 3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
▪ 902-928 MHz Band:	
▪ N ≥ 50; Power 30dBm; EIRP 36dBm	
▪ 50 > N ≥ 25; Power 24dBm; EIRP 30dBm	
▪ 2400-2483.5 MHz Band:	
▪ N ≥ 75; Power 30dBm; EIRP 36dBm	
▪ 75 > N ≥ 15; Power 21dBm; EIRP 27dBm	
▪ 5725-5850 MHz Band:	
▪ N ≥ 75; Power 30dBm; EIRP 36dBm	
N: Number of Hopping Frequencies	

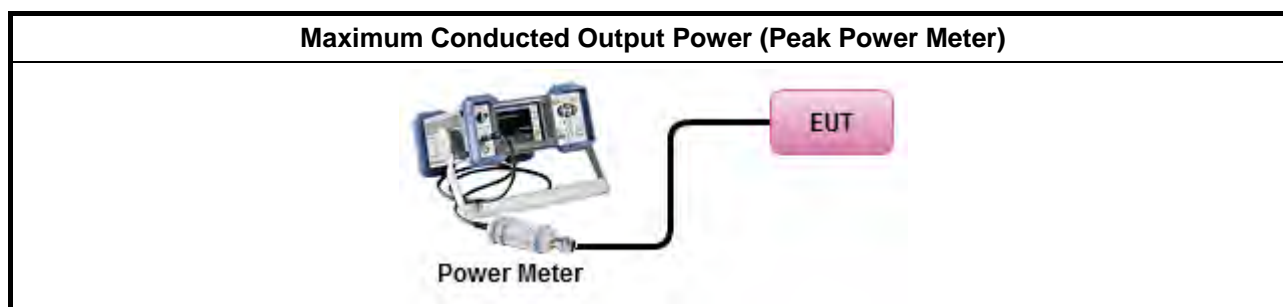
#### 3.3.2 Measuring Instruments

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

#### 3.3.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 7.8.5 for output power measurement.

#### 3.3.4 Test Setup



#### 3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C



### 3.4 Number of Hopping Frequencies and Hopping Bandedge

#### 3.4.1 Number of Hopping Frequencies Limit

Number of Hopping Frequencies Limit	
▪ 902-928 MHz Band:	
	▪ $N \geq 50$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $\leq$ 250 kHz.
	▪ $50 > N \geq 25$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $>$ 250 kHz.
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	▪ $75 > N \geq 15$ and $ChS \geq MAX$ (20 dB bandwidth 2/3, 25 kHz).
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $\leq$ 1 MHz.
N: Number of Hopping Frequencies; ChS : Hopping Channel Separation	

#### 3.4.2 Hopping Bandedge Limit

Refer clause 3.6.1 and clause 3.7.1

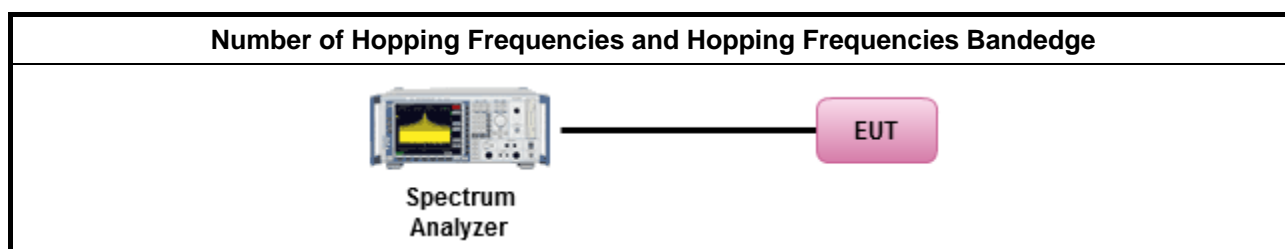
#### 3.4.3 Measuring Instruments

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

#### 3.4.4 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 7.8.3 for number of hopping frequencies measurement.
▪ Refer as ANSI C63.10-2013, clause 7.8.6 for hopping frequencies Bandedge measurement.

#### 3.4.5 Test Setup



#### 3.4.6 Test Result of Number of Hopping Frequencies

Refer as Appendix D

#### 3.4.7 Test Result of Number of Hopping Frequencies Bandedge

Refer as Appendix D

### 3.5 Time of Occupancy (Dwell Time)

#### 3.5.1 Time of Occupancy (Dwell Time) Limit

Time of Occupancy (Dwell Time) Limit for Frequency Hopping Systems	
▪ 902-928 MHz Band:	
	▪ $N \geq 50$ ; 0.4s in 20s period
	▪ $50 > N \geq 25$ ; 0.4s in 10s period
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$ ; 0.4s in $N \times 0.4$ period
	▪ $75 > N \geq 15$ ; 0.4s in $N \times 0.4$ period
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$ ; 0.4s in 30s period
N: Number of Hopping Frequencies	

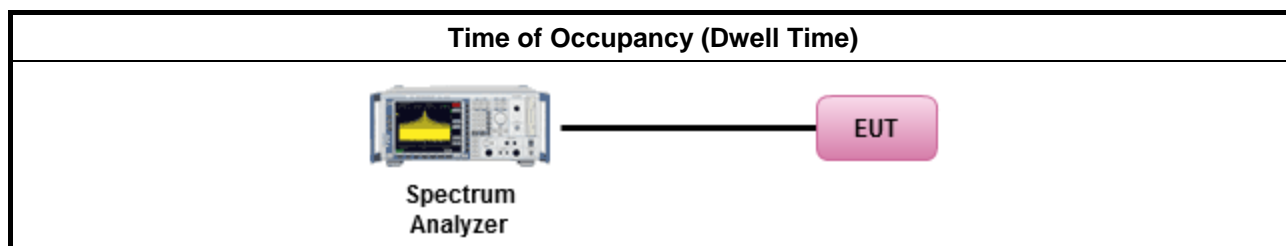
#### 3.5.2 Measuring Instruments

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

#### 3.5.3 Test Procedures

Test Method	
▪ Refer as ANSI C63.10-2013, clause 7.8.4 for dwell time measurement.	
▪ Bluetooth ACL packets can be 1, 3, or 5 time slots. Following as dwell time. Operate DH5 at maximum dwell time and maximum duty cycle.	
	▪ The DH5 packet can cover up to 5 time slots. Operate DH5 at maximum dwell time and maximum duty cycle. A maximum length packet has duration of 5 time slots. The hopping rate is 1600 hops/second so the maximum dwell time is $5/1600$ seconds, or 3.125ms. DH5 Packet permit maximum $1600 / 79 / 6 = 3.37$ hops per second in each channel.

#### 3.5.4 Test Setup



#### 3.5.5 Test Result of Time of Occupancy (Dwell Time)

Refer as Appendix E

### 3.6 Emissions in Non-restricted Frequency Bands

#### 3.6.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dB)
Peak output power procedure	20
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.	

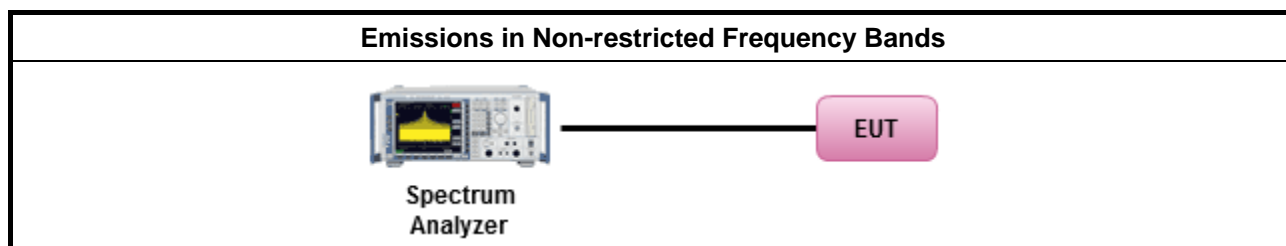
#### 3.6.2 Measuring Instruments

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>Refer as ANSI C63.10-2013, clause 7.8.8 for unwanted emissions into non-restricted bands.</li> </ul>

#### 3.6.4 Test Setup



#### 3.6.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix F

### 3.7 Emissions in Restricted Frequency Bands

#### 3.7.1 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.

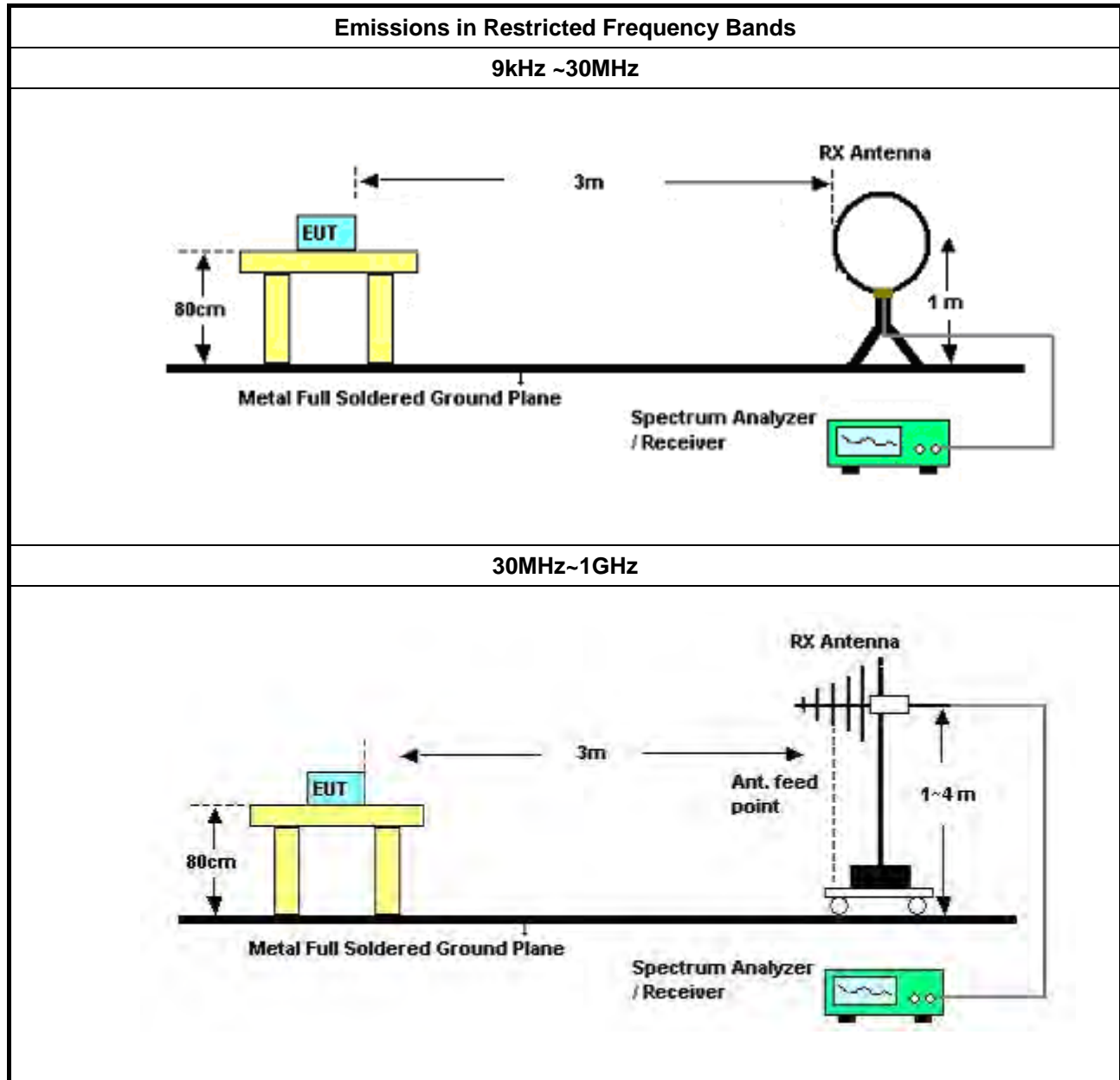
#### 3.7.2 Measuring Instruments

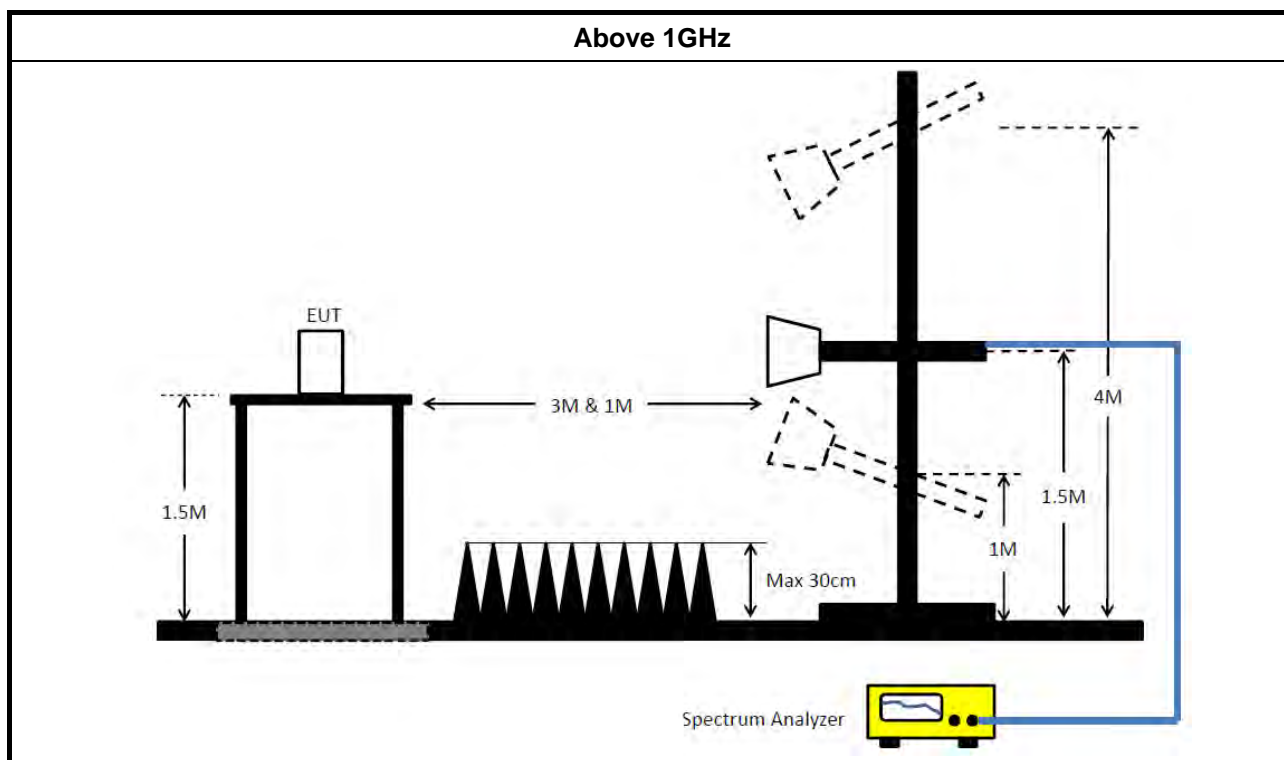
Refer a test equipment and calibration data table in this test report.

#### 3.7.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> <li>The average emission levels shall be measured in [hopping duty factor].</li> </ul>	
<ul style="list-style-type: none"> <li>Refer as ANSI C63.10; clause 6.9.2.2 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 ANSI C63.10, clause 4.1.4.2.1 QP value.</li> </ul>
	<ul style="list-style-type: none"> <li>Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.</li> </ul>
	<ul style="list-style-type: none"> <li>Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.</li> </ul>

### 3.7.4 Test Setup





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

Refer as Appendix G

## 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	29/Apr/2017	28/Apr/2018
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	15/Nov/2016	14/Nov/2017
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	06/Oct/2017	05/Oct/2018
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	R&S	ESH3-Z2	100921	10 kHz ~ 30 MHz	12/Oct/2017	11/Oct/2018

**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	30/Dec/2016	29/Dec/2017
Power Sensor	Anritsu	MA2411B	1027452	300MHz ~ 40GHz	24/Feb/2017	23/Feb/2018
Power Meter	Anritsu	ML2495A	1124009	300MHz ~ 40GHz	24/Feb/2017	23/Feb/2018
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	27/Jul/2017	26/Jul/2018
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY677/3	30MHz ~ 26.5GHz	25/Aug/2017	24/Aug/2018
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY678/3	30MHz ~ 26.5GHz	25/Aug/2017	24/Aug/2018
RF Cable-0.5m	HUBER+SUHNER	SUCOFLEX_104	MY10717/4	30MHz ~ 26.5GHz	25/Aug/2017	24/Aug/2018
Bluetooth Tester	ROHDE&SCHWARZ	CBT	101021	2.4GHz	28/Apr/2017	27/Apr/2018

**Instrument for Radiated Test - 9kHz to 30MHz**

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSP 40	101500	10Hz~40GHz	28/Jun/2017	27/Jun/2018
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz ~ 1GHz 3m	20/Oct/2017	19/Oct/2018
Amplifier	Agilent	8447D	2944A11149	100kHz ~ 1.3GHz	29/Jun/2017	28/Jun/2018
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz ~ 1GHz	26/Jan/2017	25/Jan/2018
Receiver	R&S	ESU3	102052	9kHz ~ 3.6GHz	29/Apr/2017	28/Apr/2018
Loop Antenna	TESEQ	HLA 6120	24155	9 kHz~30 MHz	03/Feb/2017	02/Feb/2018

**Instrument for Radiated Test – 30MHz to 1GHz**

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	31/Oct/2017	30/Oct/2018
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	19/Apr/2017	18/Apr/2018
Spectrum	R&S	FSV40	101500	9kHz ~ 40GHz	28/Jun/2017	27/Jun/2018
Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	29/Apr/2017	28/Apr/2018
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	26/Jan/2017	25/Jan/2018
Bilog Antenna	SCHAFFNER	CBL 6112B	22237	30MHz ~ 1GHz	08/Jul/2017	07/Jul/2018

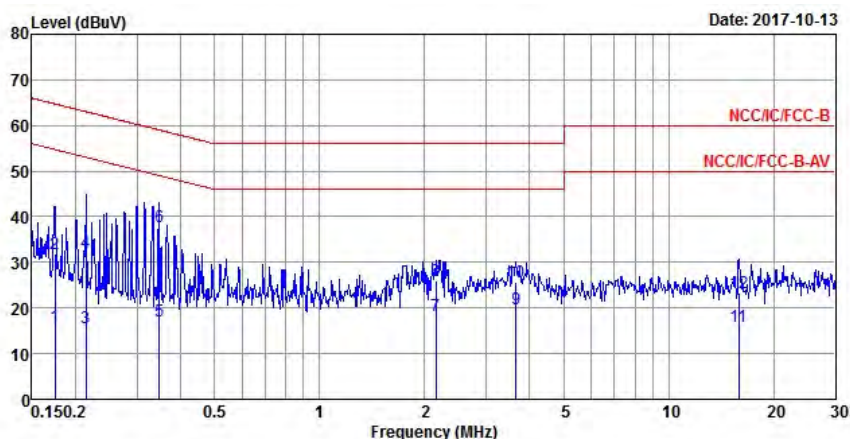
**Instrument for Radiated Test – above 1GHz**

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz ~ 18GHz 3m	01/Nov/2017	31/Oct/2018
Amplifier	Keysight	83017A	MY53270196	1GHz ~ 26.5GHz	31/Aug/2017	30/Aug/2018
Spectrum Analyzer	R&S	FSV 40	101514	10Hz ~ 40GHz	28/Aug/2017	27/Aug/2018
RF Cable-high	SUHNER	SUCOFLEX106	CB222	1GHz ~ 40GHz	26/Jan/2018	25/Jan/2019
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	18GHz ~ 40GHz	09/Feb/2018	08/Feb/2019
Horn Antenna	SCHWARZBECK	BBHA9120D	1531	1GHz ~ 18GHz	18/Apr/2018	17/Apr/2019



## AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Adapter mode		



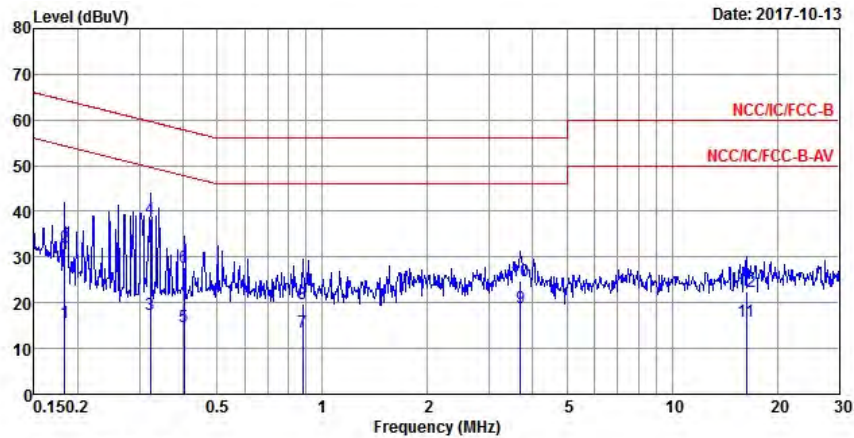
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.17491	15.91	-38.81	54.72	6.27	9.64	0.00	Average
2	0.17491	31.78	-32.94	64.72	22.14	9.64	0.00	QP
3	0.21392	15.76	-37.29	53.05	6.09	9.67	0.00	Average
4	0.21392	32.31	-30.74	63.05	22.64	9.67	0.00	QP
5	0.34830	17.04	-31.96	49.00	7.40	9.64	0.00	Average
6 MAX	0.34830	37.66	-21.34	59.00	28.02	9.64	0.00	QP
7	2.15531	18.16	-27.84	46.00	8.50	9.66	0.00	Average
8	2.15531	26.00	-30.00	56.00	16.34	9.66	0.00	QP
9	3.66111	19.88	-26.12	46.00	10.18	9.70	0.00	Average
10	3.66111	25.72	-30.28	56.00	16.02	9.70	0.00	QP
11	15.88538	15.96	-34.04	50.00	6.12	9.84	0.00	Average
12	15.88538	23.30	-36.70	60.00	13.46	9.84	0.00	QP

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	Adapter mode		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.18346	15.61	-38.72	54.33	5.96	9.65	0.00	Average
2	0.18346	32.09	-32.24	64.33	22.44	9.65	0.00	QP
3	0.32169	17.40	-32.26	49.66	7.73	9.67	0.00	Average
4 MAX	0.32169	38.25	-21.41	59.66	28.58	9.67	0.00	QP
5	0.40187	14.62	-33.19	47.81	4.94	9.68	0.00	Average
6	0.40187	27.61	-30.20	57.81	17.93	9.68	0.00	QP
7	0.88031	13.68	-32.32	46.00	4.04	9.64	0.00	Average
8	0.88031	19.75	-36.25	56.00	10.11	9.64	0.00	QP
9	3.68056	18.87	-27.13	46.00	9.10	9.77	0.00	Average
10	3.68056	24.82	-31.18	56.00	15.05	9.77	0.00	QP
11	16.31183	16.02	-33.98	50.00	6.17	9.85	0.00	Average
12	16.31183	22.46	-37.54	60.00	12.61	9.85	0.00	QP

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-BR(1Mbps)	928.75k	907.046k	907KF1D	918.75k	878.311k
BT-EDR(2Mbps)	1.329M	1.218M	1M22G1D	1.244M	1.198M
BT-EDR(3Mbps)	1.314M	1.229M	1M23G1D	1.241M	1.202M

**Max-N dB** = Maximum 20dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 20dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

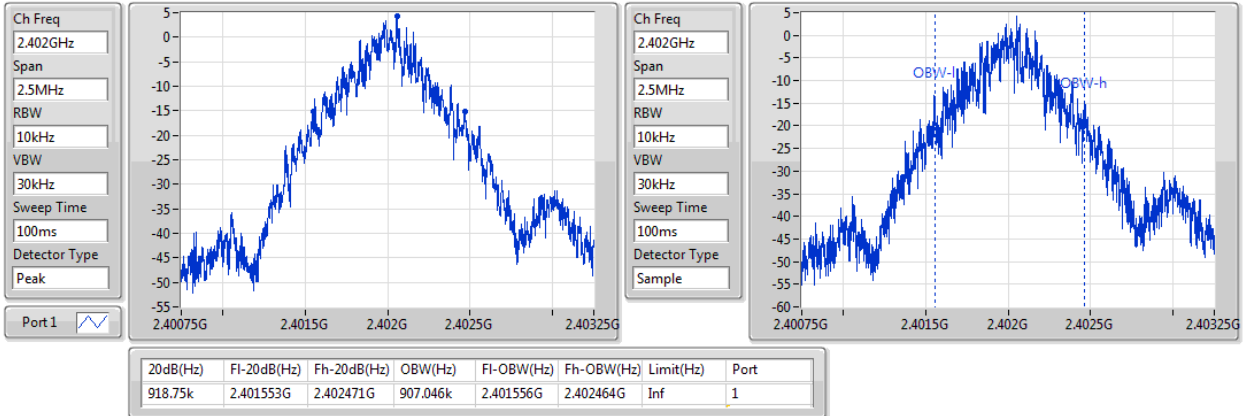
**Result**

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	Inf	918.75k	907.046k
2441MHz_TnomVnom	Pass	Inf	928.75k	878.311k
2480MHz_TnomVnom	Pass	Inf	925k	885.807k
BT-EDR(2Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	Inf	1.244M	1.198M
2441MHz_TnomVnom	Pass	Inf	1.329M	1.213M
2480MHz_TnomVnom	Pass	Inf	1.309M	1.218M
BT-EDR(3Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	Inf	1.266M	1.202M
2441MHz_TnomVnom	Pass	Inf	1.314M	1.218M
2480MHz_TnomVnom	Pass	Inf	1.241M	1.229M

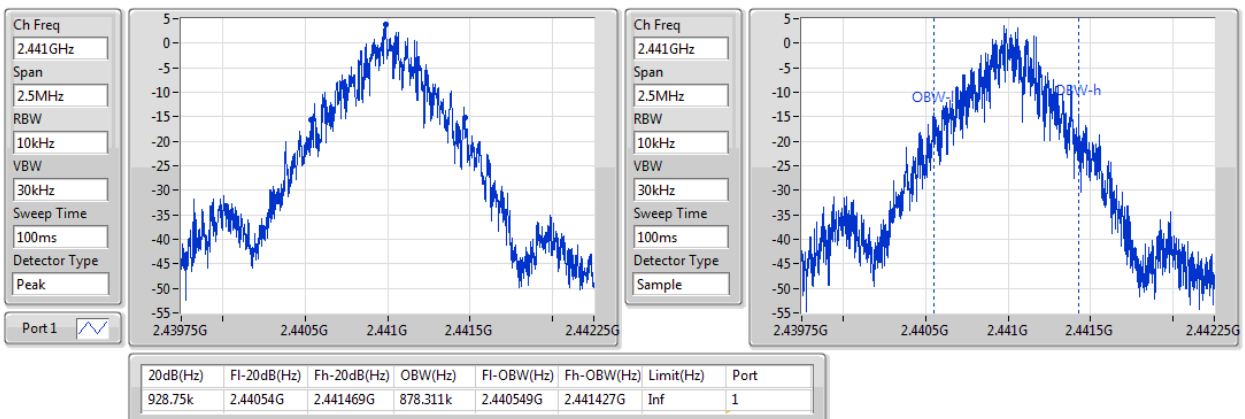
**Port X-N dB** = Port X 20dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

**BT-BR(1Mbps)**
**EBW**
**2402MHz**

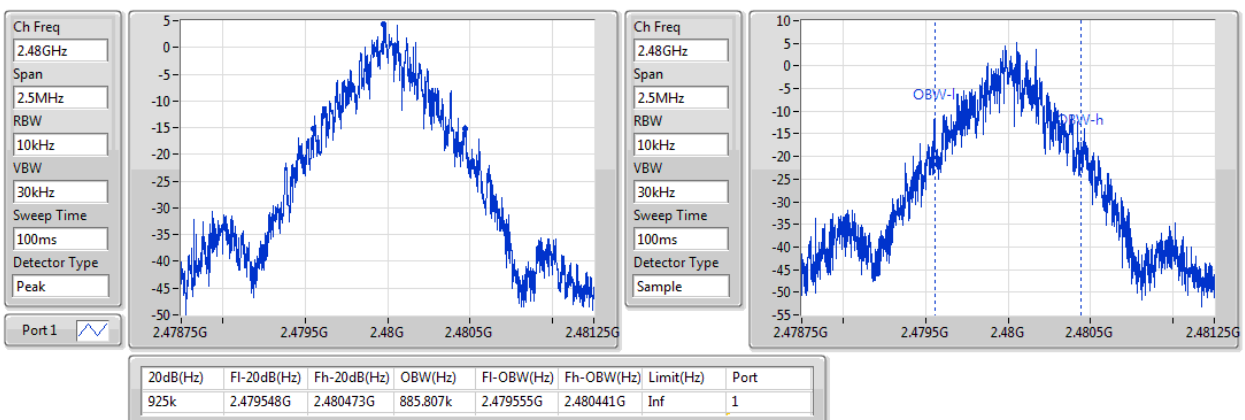
06/11/2017


**BT-BR(1Mbps)**
**EBW**
**2441MHz**

06/11/2017

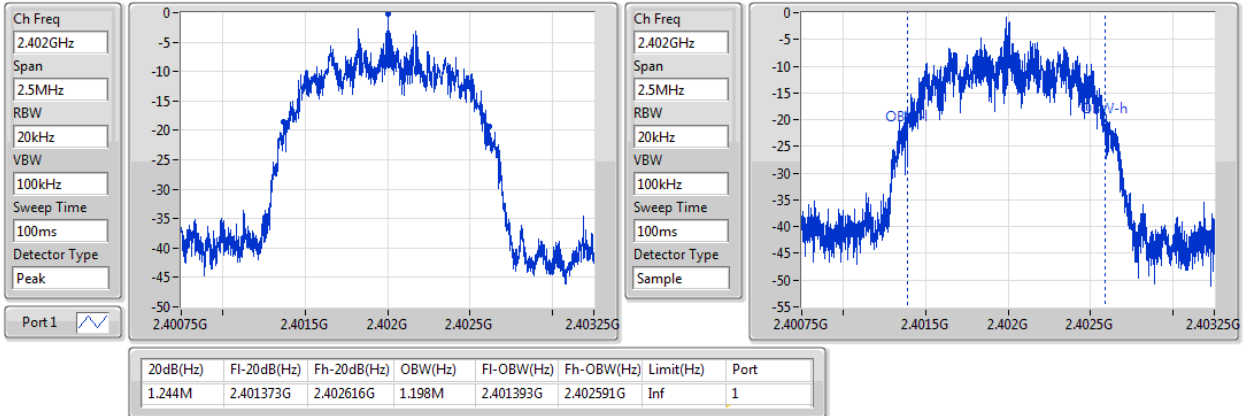

**BT-BR(1Mbps)**
**EBW**
**2480MHz**

06/11/2017

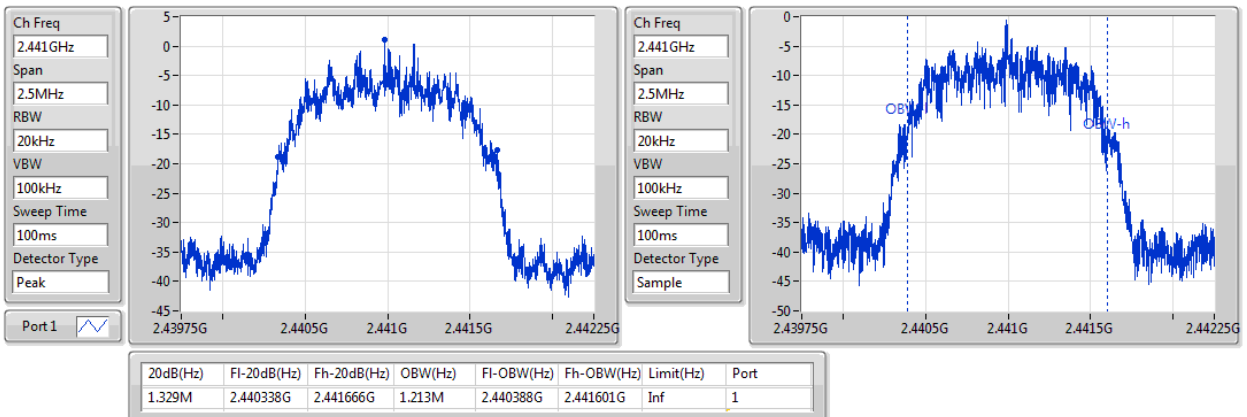


**BT-EDR(2Mbps)**
**EBW**
**2402MHz**

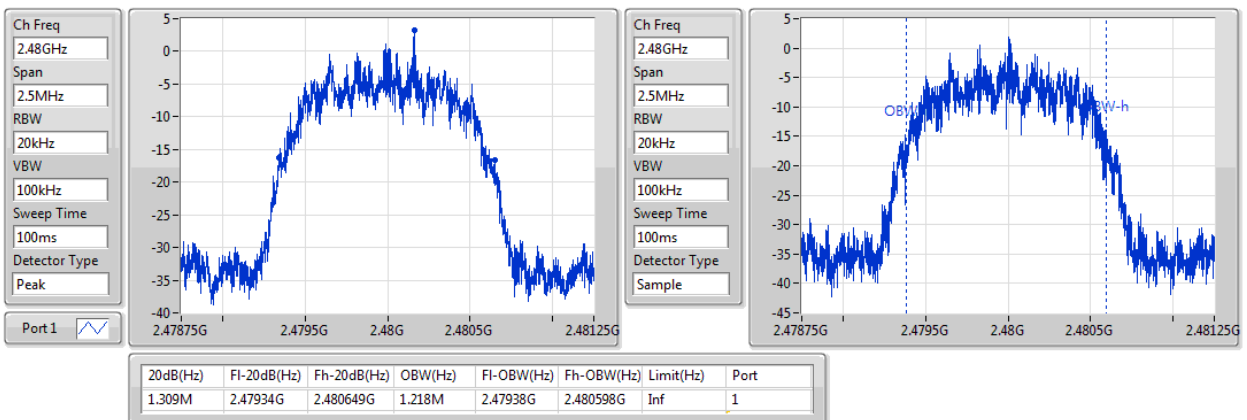
06/11/2017


**BT-EDR(2Mbps)**
**EBW**
**2441MHz**

06/11/2017


**BT-EDR(2Mbps)**
**EBW**
**2480MHz**

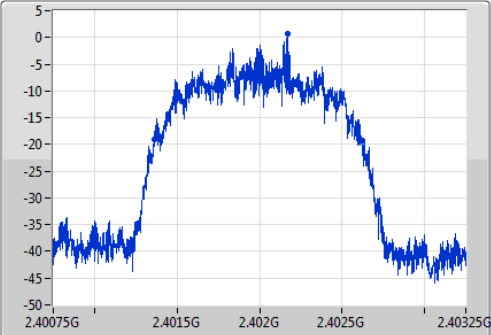
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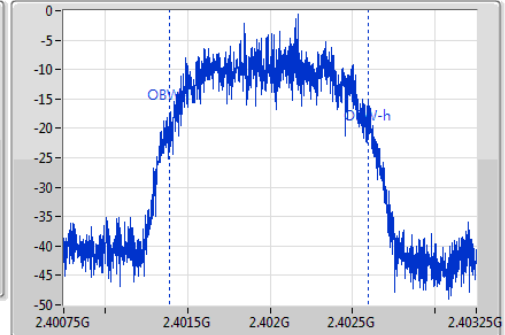
**BT-EDR(3Mbps)**
**EBW**
**2402MHz**

06/11/2017

Ch Freq  
2.402GHz  
Span  
2.5MHz  
RBW  
20kHz  
VBW  
100kHz  
Sweep Time  
100ms  
Detector Type  
Peak



Ch Freq  
2.402GHz  
Span  
2.5MHz  
RBW  
20kHz  
VBW  
100kHz  
Sweep Time  
100ms  
Detector Type  
Sample

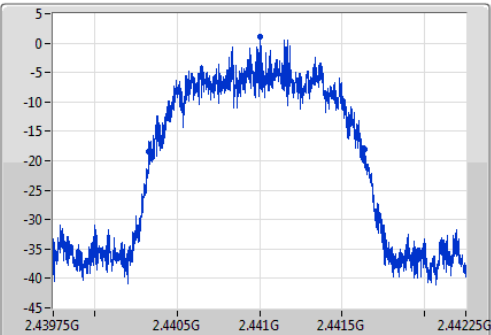


20dB(Hz)	FI-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.266M	2.40136G	2.402626G	1.202M	2.401394G	2.402596G	Inf	1

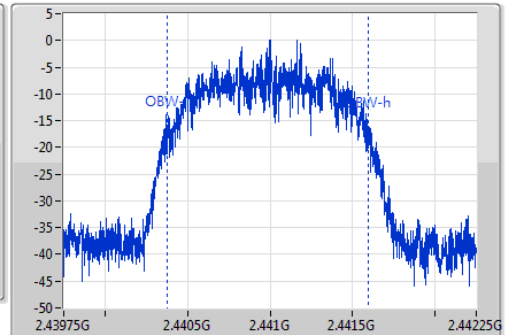
**BT-EDR(3Mbps)**
**EBW**
**2441MHz**

06/11/2017

Ch Freq  
2.441GHz  
Span  
2.5MHz  
RBW  
20kHz  
VBW  
100kHz  
Sweep Time  
100ms  
Detector Type  
Peak



Ch Freq  
2.441GHz  
Span  
2.5MHz  
RBW  
20kHz  
VBW  
100kHz  
Sweep Time  
100ms  
Detector Type  
Sample

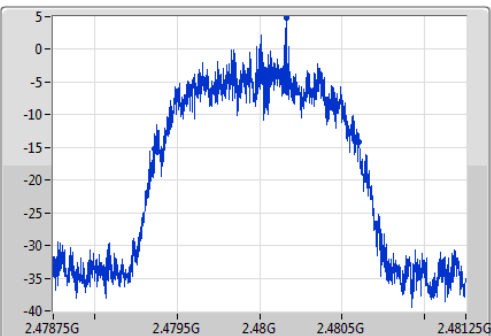


20dB(Hz)	FI-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.314M	2.440326G	2.44164G	1.218M	2.440378G	2.441596G	Inf	1

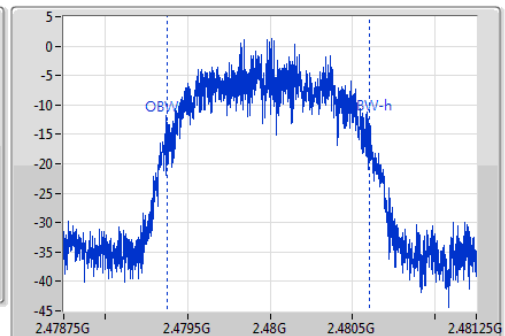
**BT-EDR(3Mbps)**
**EBW**
**2480MHz**

06/11/2017

Ch Freq  
2.48GHz  
Span  
2.5MHz  
RBW  
20kHz  
VBW  
100kHz  
Sweep Time  
100ms  
Detector Type  
Peak



Ch Freq  
2.48GHz  
Span  
2.5MHz  
RBW  
20kHz  
VBW  
100kHz  
Sweep Time  
100ms  
Detector Type  
Sample



20dB(Hz)	FI-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.241M	2.479364G	2.480605G	1.229M	2.479374G	2.480603G	Inf	1

**Summary**

Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	994.5k	885k
BT-EDR(2Mbps)	1.0095M	1.0005M
BT-EDR(3Mbps)	1.161M	1.008M

**Result**

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402167G	2.403162G	994.5k	611.8875k
2441MHz_TnomVnom	Pass	2.441056G	2.442009G	952.5k	618.5475k
2480MHz_TnomVnom	Pass	2.479169G	2.480054G	885k	616.05k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402001G	2.403003G	1.002M	828.504k
2441MHz_TnomVnom	Pass	2.44099G	2.442G	1.0095M	885.114k
2480MHz_TnomVnom	Pass	2.479005G	2.480006G	1.0005M	871.794k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402004G	2.403165G	1.161M	843.156k
2441MHz_TnomVnom	Pass	2.441001G	2.44216G	1.1595M	875.124k
2480MHz_TnomVnom	Pass	2.479158G	2.480166G	1.008M	826.506k

## BT-BR(1Mbps)

## Channel Separation

2.402G/2.403GHz



## BT-BR(1Mbps)

## Channel Separation

2.441G/2.442GHz



## BT-BR(1Mbps)

## Channel Separation

2.48G/2.479GHz

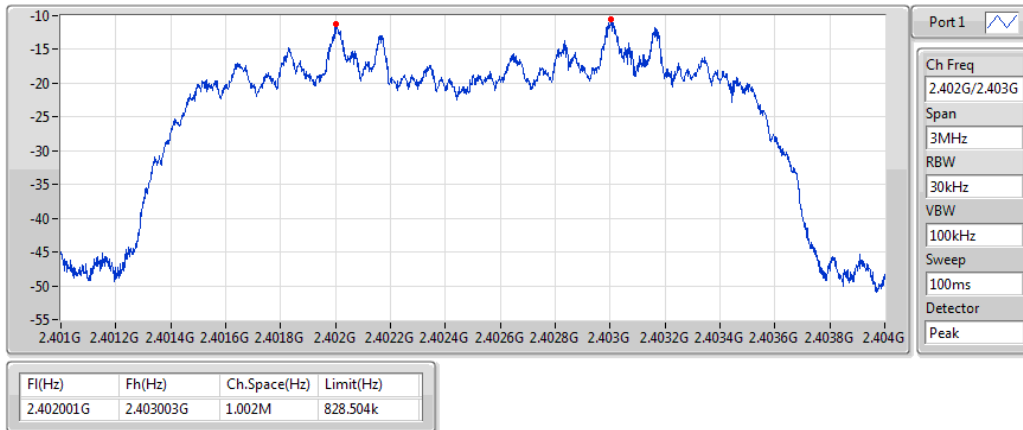




## BT-EDR(2Mbps)

## Channel Separation

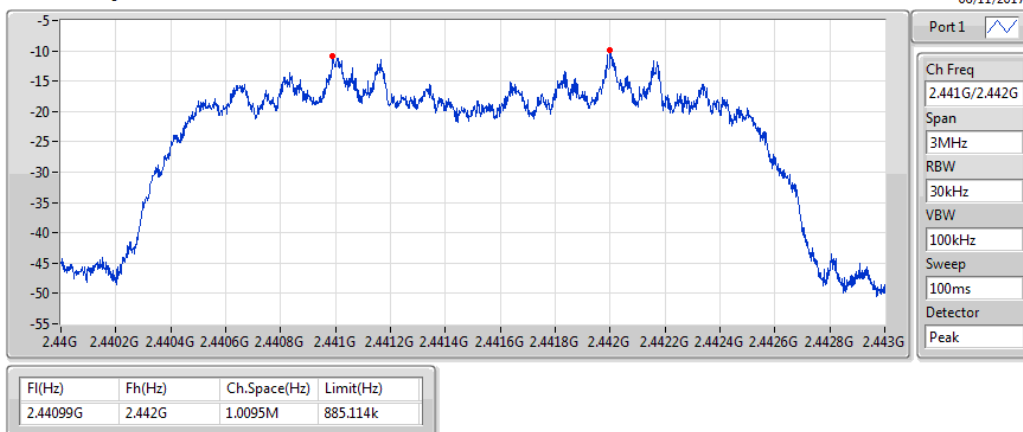
2.402G/2.403GHz



## BT-EDR(2Mbps)

## Channel Separation

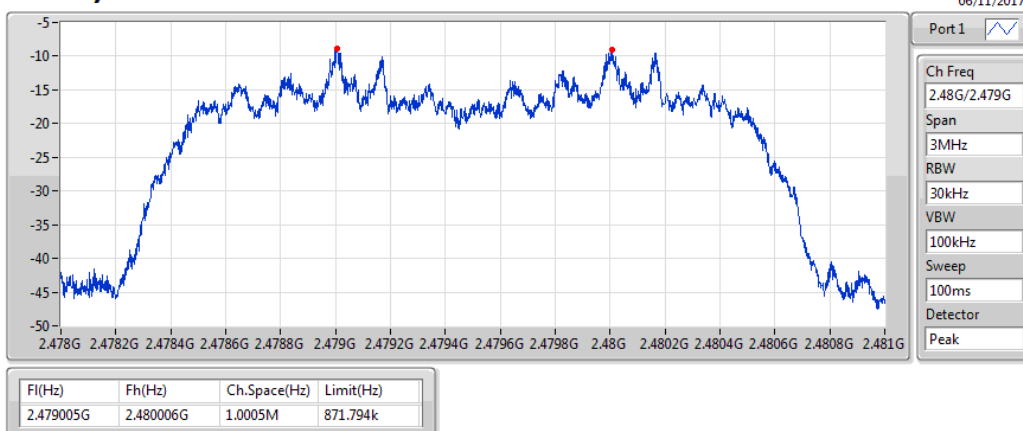
2.441G/2.442GHz



## BT-EDR(2Mbps)

## Channel Separation

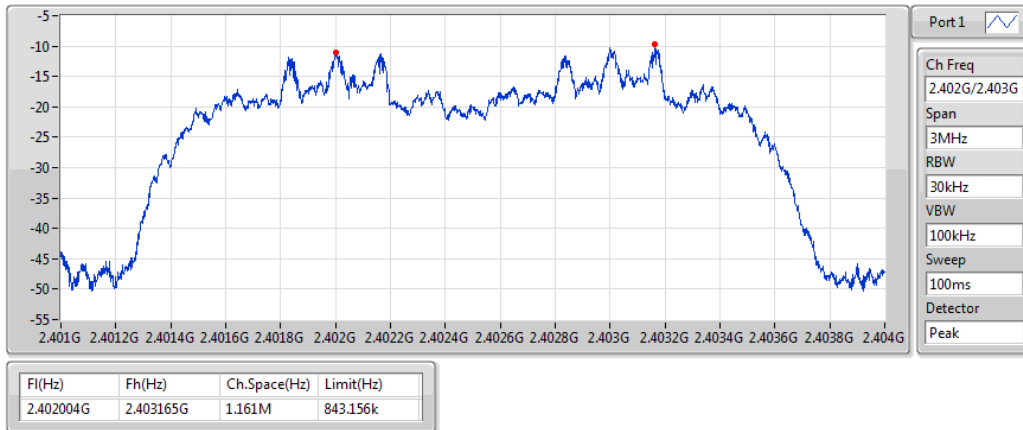
2.48G/2.479GHz



## BT-EDR(3Mbps)

## Channel Separation

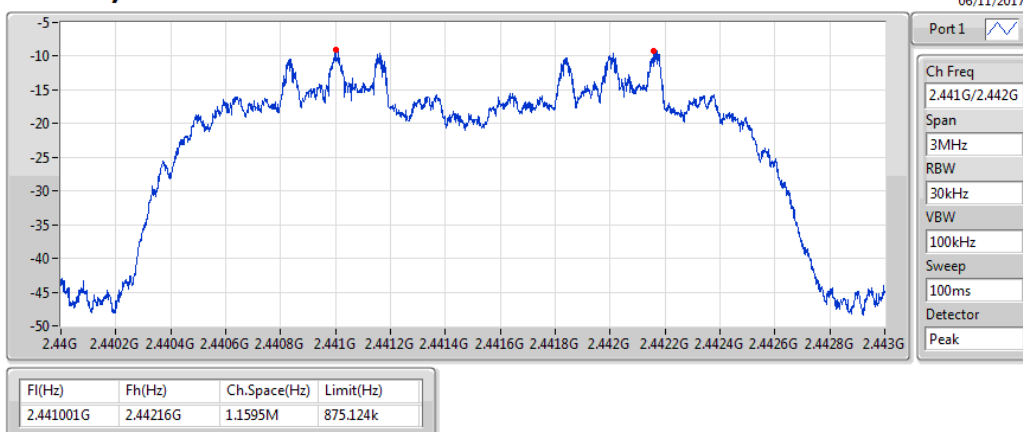
2.402G/2.403GHz



## BT-EDR(3Mbps)

## Channel Separation

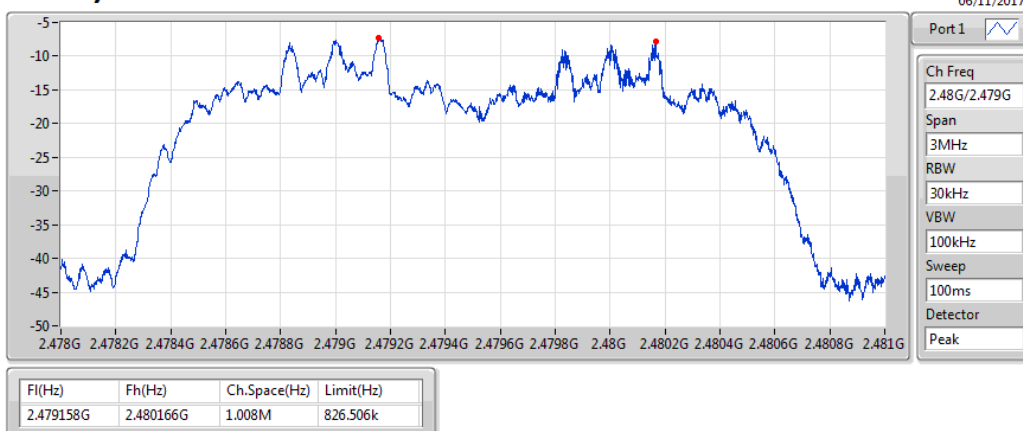
2.441G/2.442GHz



## BT-EDR(3Mbps)

## Channel Separation

2.48G/2.479GHz



**Summary**

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	7.54	0.00568
BT-EDR(2Mbps)	6.73	0.00471
BT-EDR(3Mbps)	6.93	0.00493

**Result**

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	3.35	5.46	21.00
2441MHz_TnomVnom	Pass	3.35	6.70	21.00
2480MHz_TnomVnom	Pass	3.35	7.54	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	3.35	4.00	21.00
2441MHz_TnomVnom	Pass	3.35	5.66	21.00
2480MHz_TnomVnom	Pass	3.35	6.73	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	3.35	4.32	21.00
2441MHz_TnomVnom	Pass	3.35	5.91	21.00
2480MHz_TnomVnom	Pass	3.35	6.93	21.00

**Summary**

Mode	Power	Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	7.26	0.00532
BT-EDR(2Mbps)	4.85	0.00305
BT-EDR(3Mbps)	4.84	0.00305

**Result**

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	3.35	5.03	21.00
2441MHz_TnomVnom	Pass	3.35	6.40	21.00
2480MHz_TnomVnom	Pass	3.35	7.26	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	3.35	1.56	21.00
2441MHz_TnomVnom	Pass	3.35	3.29	21.00
2480MHz_TnomVnom	Pass	3.35	4.85	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	3.35	1.51	21.00
2441MHz_TnomVnom	Pass	3.35	3.53	21.00
2480MHz_TnomVnom	Pass	3.35	4.84	21.00

## Summary

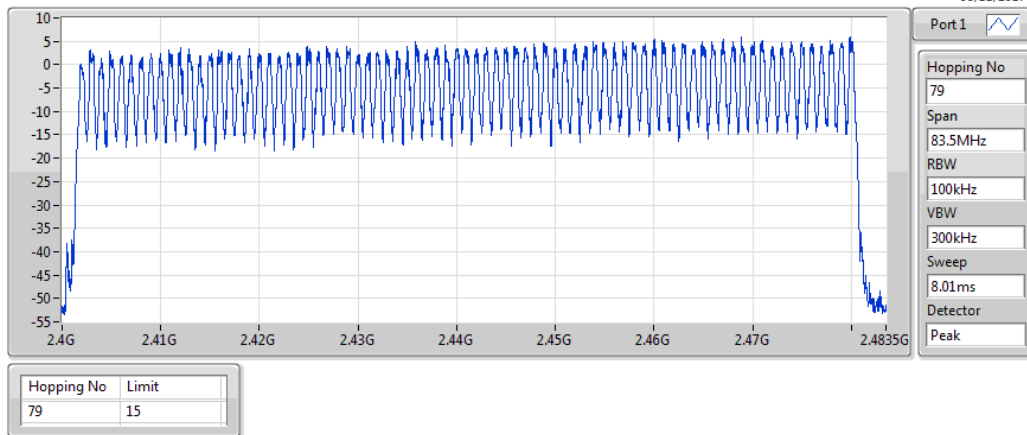
Mode	Max-Hop No
2.4-2.4835GHz	-
BT-BR(1Mbps)	79
BT-EDR(2Mbps)	79
BT-EDR(3Mbps)	79

## Result

Mode	Result	Hopping No	Limit
BT-BR(1Mbps)	-	-	-
2441MHz_TnomVnom	Pass	79	15
BT-EDR(2Mbps)	-	-	-
2441MHz_TnomVnom	Pass	79	15
BT-EDR(3Mbps)	-	-	-
2441MHz_TnomVnom	Pass	79	15

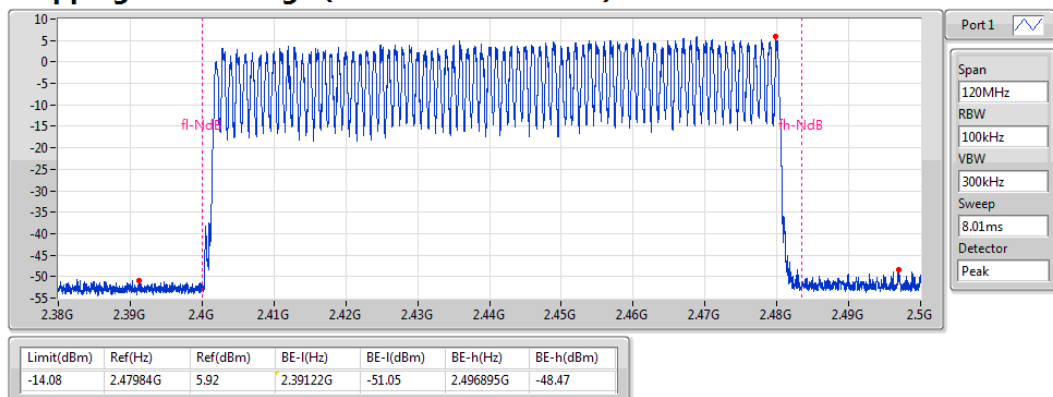
**BT-BR(1Mbps)**  
**2441MHz**

**Hopping Ch**



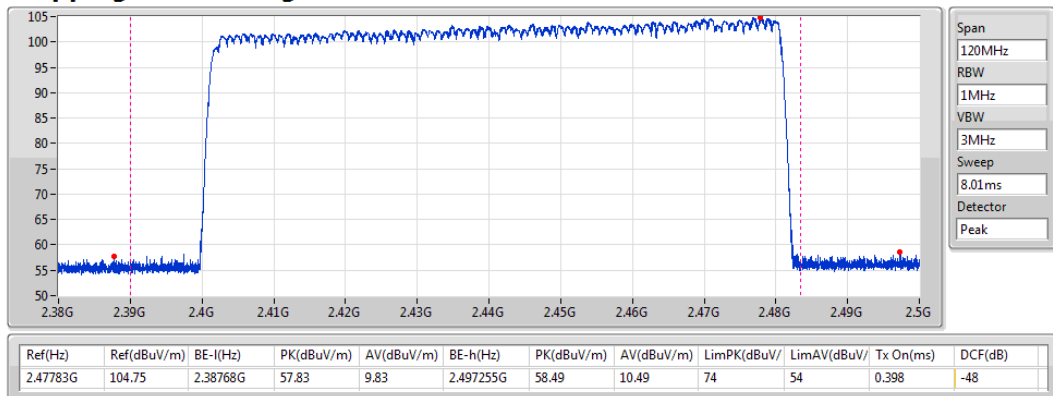
**BT-BR(1Mbps)**  
**2441MHz**

**Hopping Ch Bandedge (Non-restricted Band)**



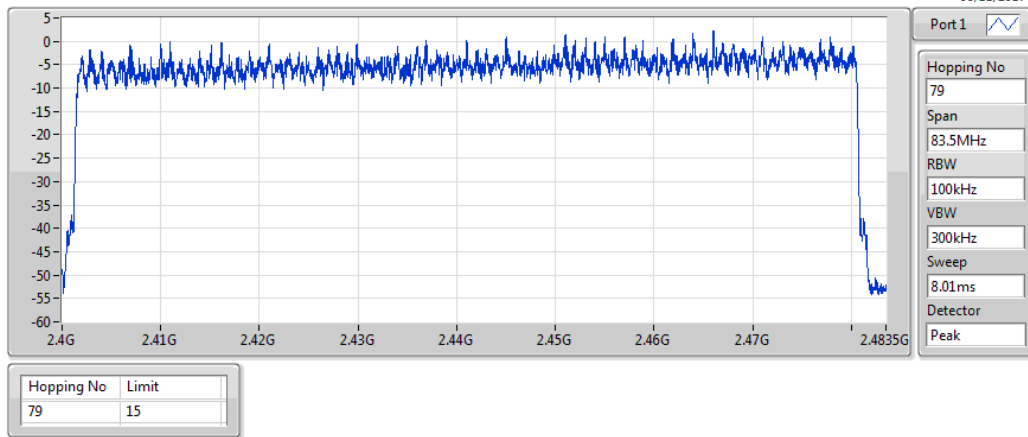
**BT-BR(1Mbps)**  
**2441MHz**

**Hopping Ch Bandedge (Restricted Band)**



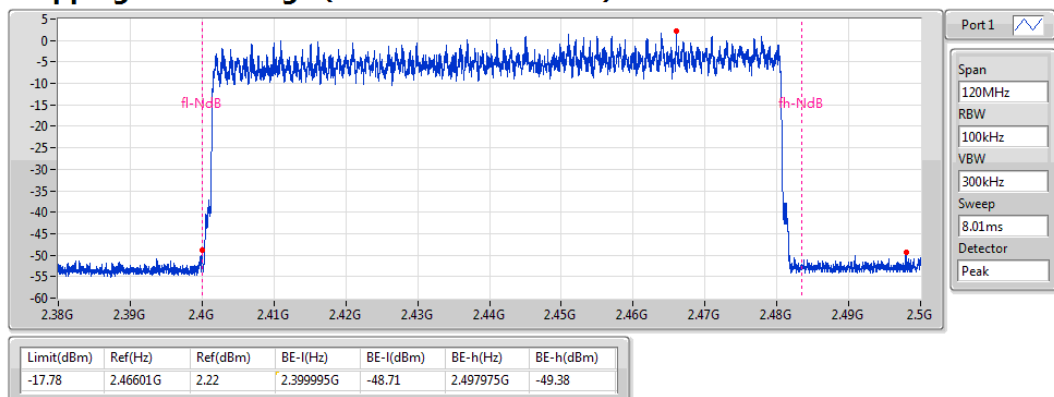
### BT-EDR(2Mbps) 2441MHz

### Hopping Ch



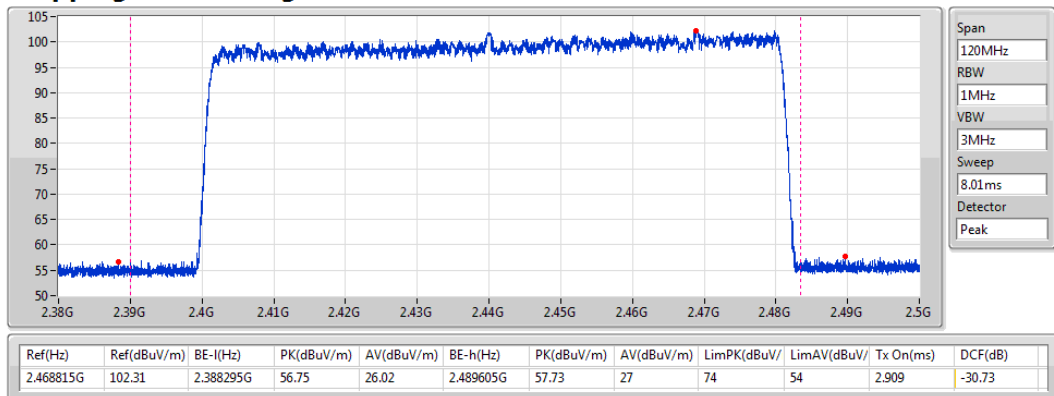
### BT-EDR(2Mbps) 2441MHz

### Hopping Ch Bandedge (Non-restricted Band)



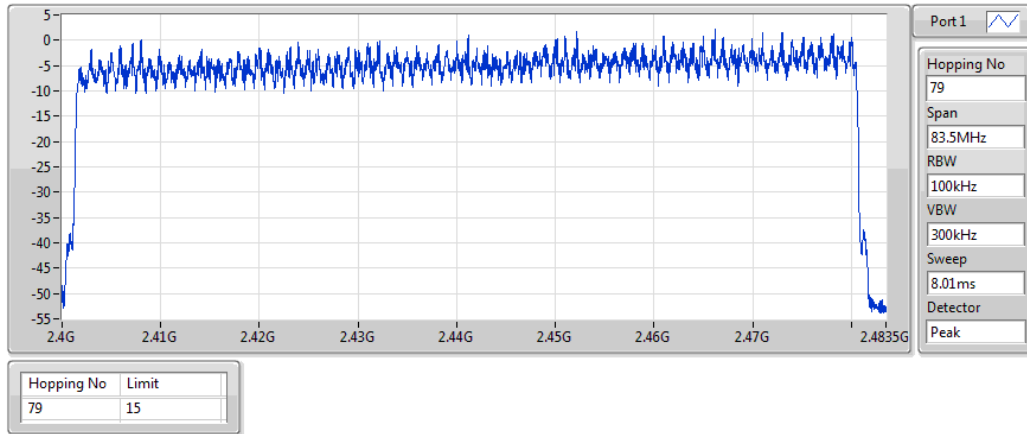
### BT-EDR(2Mbps) 2441MHz

### Hopping Ch Bandedge (Restricted Band)



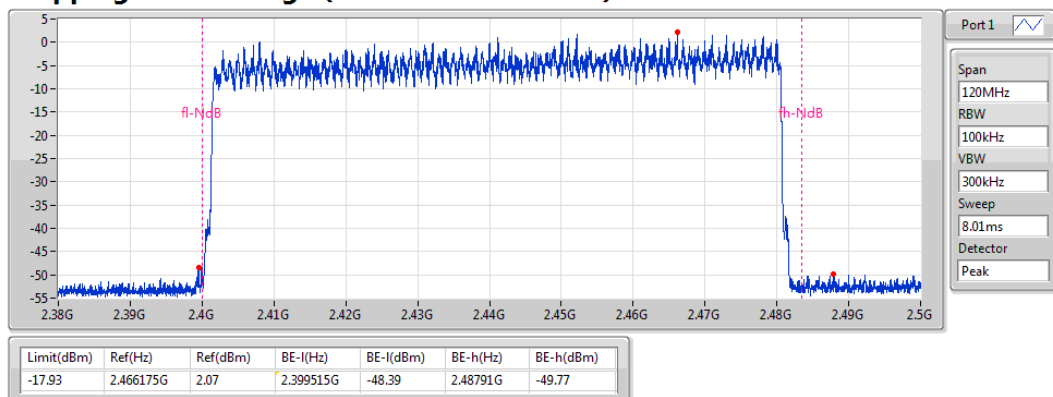
### BT-EDR(3Mbps) 2441MHz

### Hopping Ch



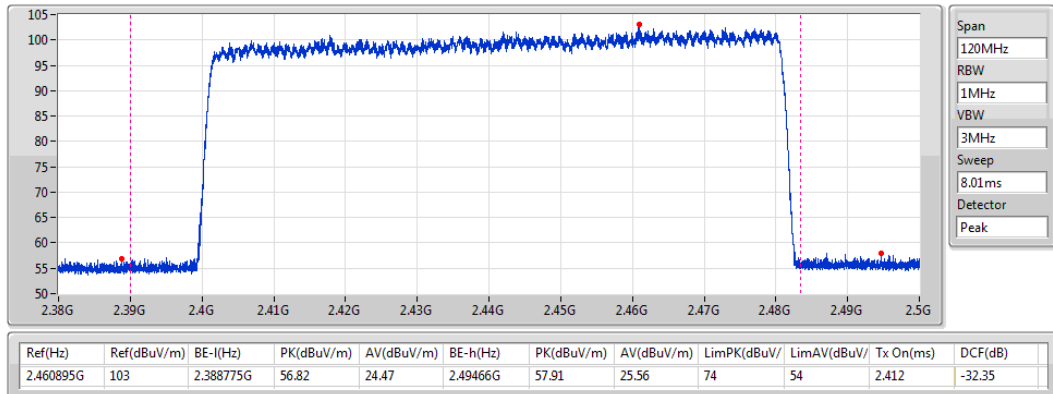
### BT-EDR(3Mbps) 2441MHz

### Hopping Ch Bandedge (Non-restricted Band)



### BT-EDR(3Mbps) 2441MHz

### Hopping Ch Bandedge (Restricted Band)





**Summary**

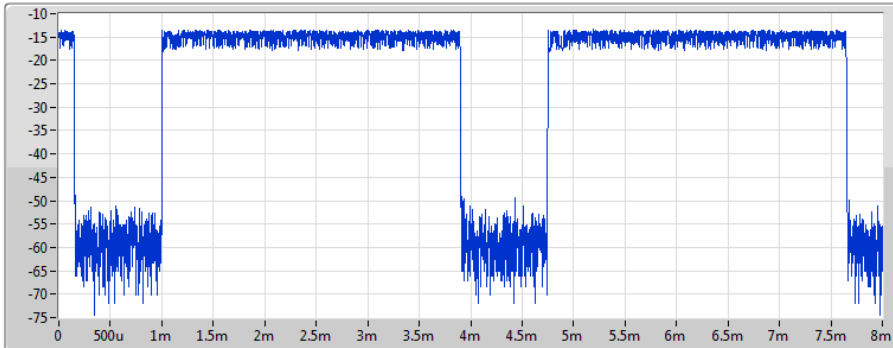
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	309.4598m
BT-EDR(2Mbps)	310.0994m
BT-EDR(3Mbps)	310.3126m

**Result**

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2441MHz_TnomVnom	Pass	31.6	309.4598m	400m	2.903m
BT-EDR(2Mbps)	-	-	-	-	-
2441MHz_TnomVnom	Pass	31.6	310.0994m	400m	2.909m
BT-EDR(3Mbps)	-	-	-	-	-
2441MHz_TnomVnom	Pass	31.6	310.3126m	400m	2.911m

## BT-BR(1Mbps)


2441MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	309.4598m	400m	2.903m

## Dwell

07/11/2017

Port 1 

Ch Freq  
2.441GHz

RBW  
300kHz

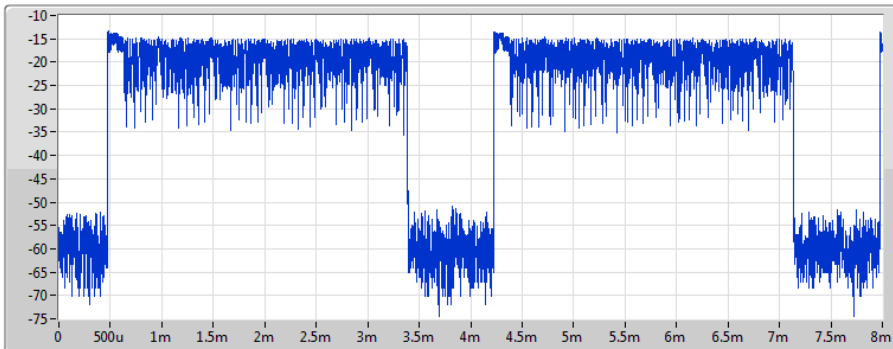
VBW  
1MHz

Sweep Time  
8ms

TX Time  
2.903ms

## BT-EDR(2Mbps)


2441MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	310.0994m	400m	2.909m

## Dwell

07/11/2017

Port 1 

Ch Freq  
2.441GHz

RBW  
300kHz

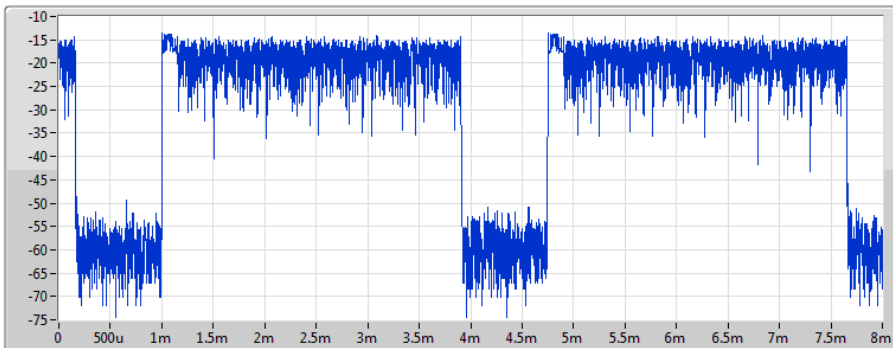
VBW  
1MHz

Sweep Time  
8ms

TX Time  
2.909ms

## BT-EDR(3Mbps)


2441MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	310.3126m	400m	2.911m

## Dwell

07/11/2017

Port 1 

Ch Freq  
2.441GHz

RBW  
300kHz

VBW  
1MHz

Sweep Time  
8ms

TX Time  
2.911ms

**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-BR(1Mbps)	Pass	2.401837G	9.03	-10.97	193.392M	-52.05	2.399972G	-39.59	2.48512G	-53.02	2.555858G	-39.36	1
BT-EDR(2Mbps)	Pass	2.402004G	1.27	-18.73	784.208M	-52.46	2.399516G	-41.02	2.48394G	-53.17	16.227788G	-47.12	1
BT-EDR(3Mbps)	Pass	2.401837G	-0.47	-20.47	423.088M	-53.05	2.399944G	-41.34	2.484588G	-53.09	2.555858G	-42.99	1

**Result**

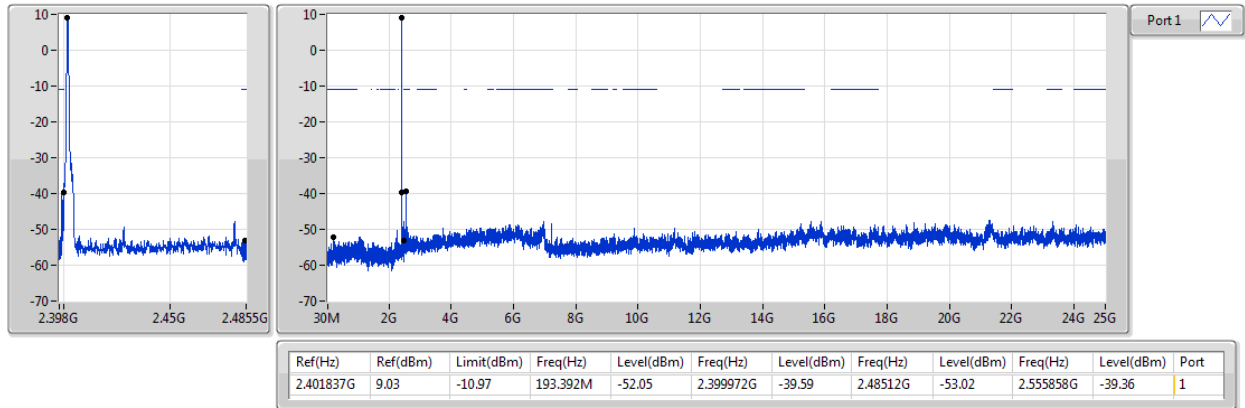
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.401837G	9.03	-10.97	193.392M	-52.05	2.399972G	-39.59	2.48512G	-53.02	2.555858G	-39.36	1
2441MHz_TnomVnom	Pass	2.440915G	9.09	-10.91	419.536M	-52.01	2.398664G	-54.01	2.48442G	-52.88	2.595258G	-43.78	1
2480MHz_TnomVnom	Pass	2.48016G	8.39	-11.61	738.032M	-52.83	2.39816G	-54.50	2.485464G	-50.60	6.9884G	-48.48	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402004G	1.27	-18.73	784.208M	-52.46	2.399516G	-41.02	2.48394G	-53.17	16.227788G	-47.12	1
2441MHz_TnomVnom	Pass	2.440915G	3.56	-16.44	363.888M	-53.59	2.399596G	-53.84	2.483824G	-53.99	6.951814G	-48.88	1
2480MHz_TnomVnom	Pass	2.479826G	3.91	-16.09	882.48M	-52.80	2.399612G	-53.71	2.483632G	-52.58	6.84487G	-48.15	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.401837G	-0.47	-20.47	423.088M	-53.05	2.399944G	-41.34	2.484588G	-53.09	2.555858G	-42.99	1
2441MHz_TnomVnom	Pass	2.440915G	4.13	-15.87	663.44M	-53.19	2.398432G	-53.75	2.484952G	-53.07	6.895528G	-47.41	1
2480MHz_TnomVnom	Pass	2.479993G	4.86	-15.14	855.248M	-52.78	2.399008G	-54.05	2.483552G	-51.14	6.039977G	-48.48	1

## BT-BR(1Mbps)

CSE NdB

2402MHz

06/11/2017

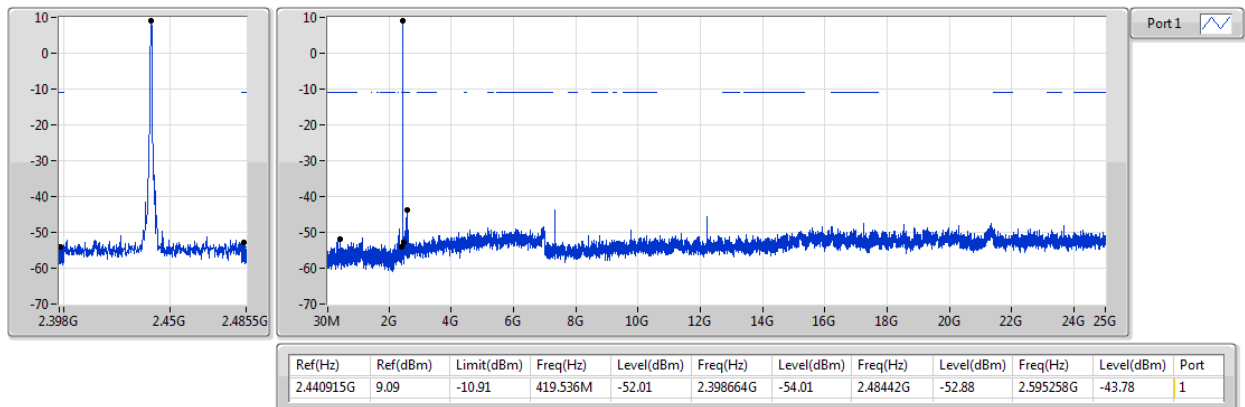


## BT-BR(1Mbps)

CSE NdB

2441MHz

06/11/2017

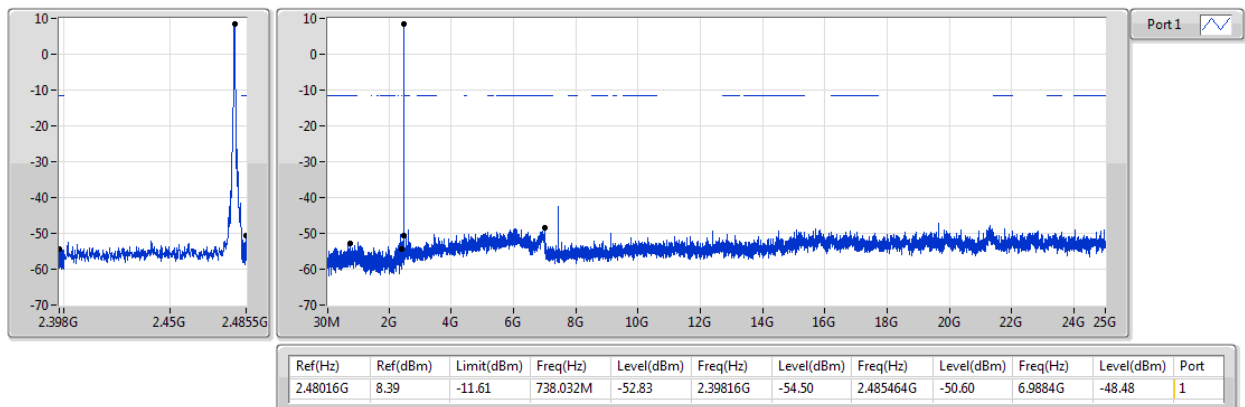


## BT-BR(1Mbps)

CSE NdB

2480MHz

06/11/2017

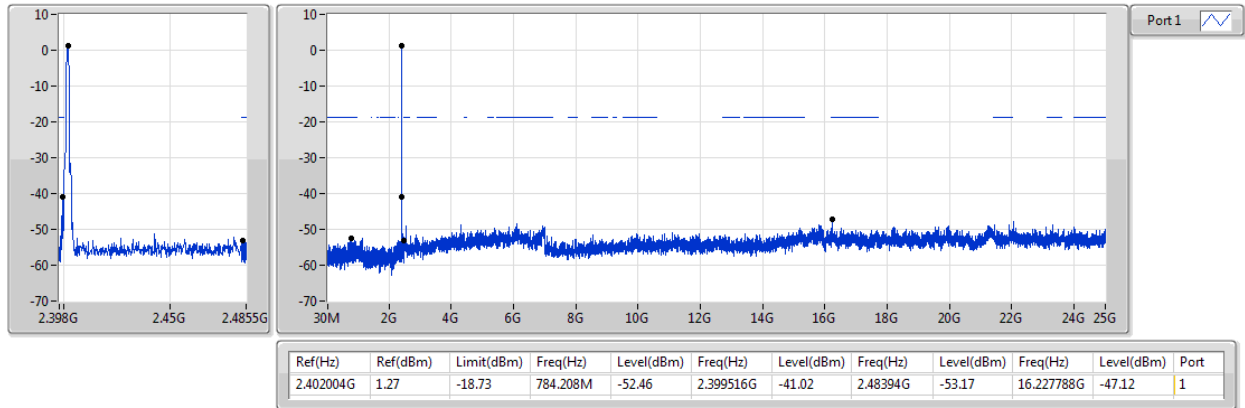


## BT-EDR(2Mbps)

CSE NdB

2402MHz

06/11/2017

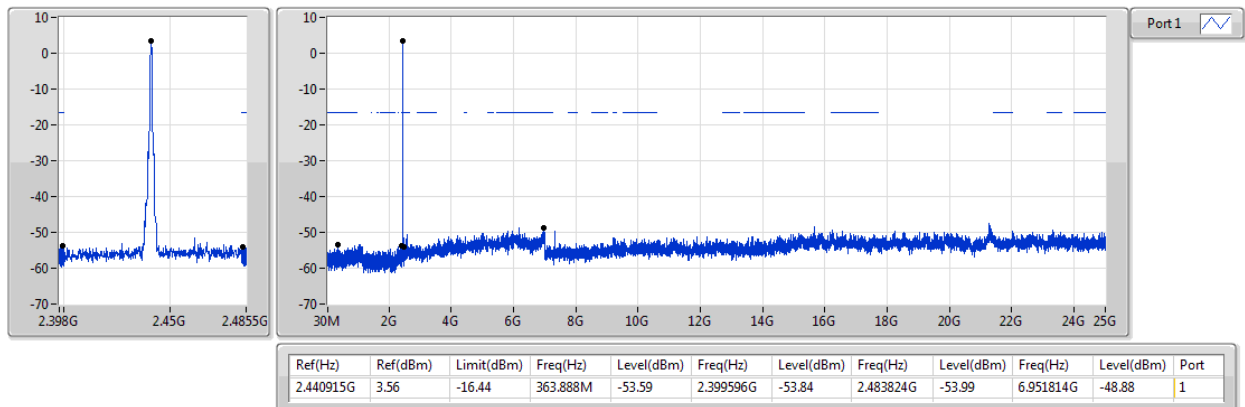


## BT-EDR(2Mbps)

CSE NdB

2441MHz

06/11/2017

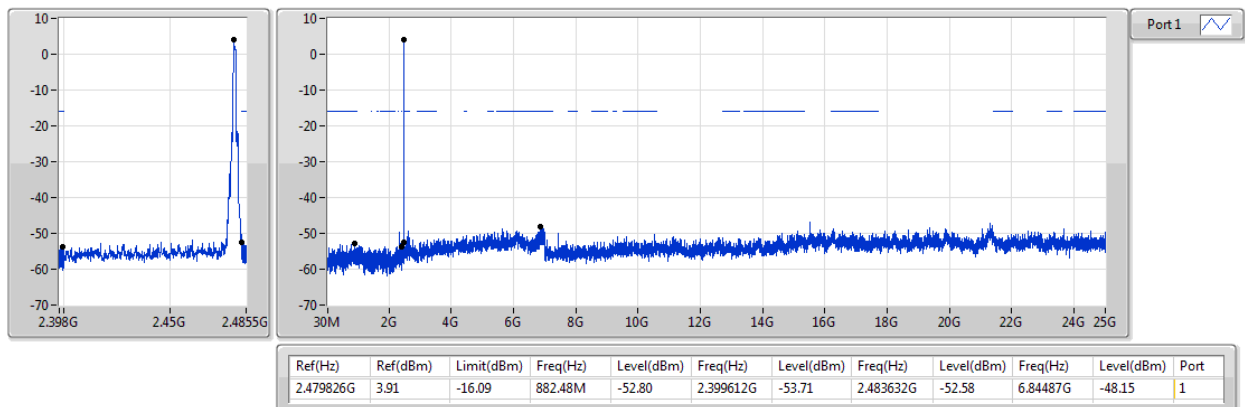


## BT-EDR(2Mbps)

CSE NdB

2480MHz

06/11/2017

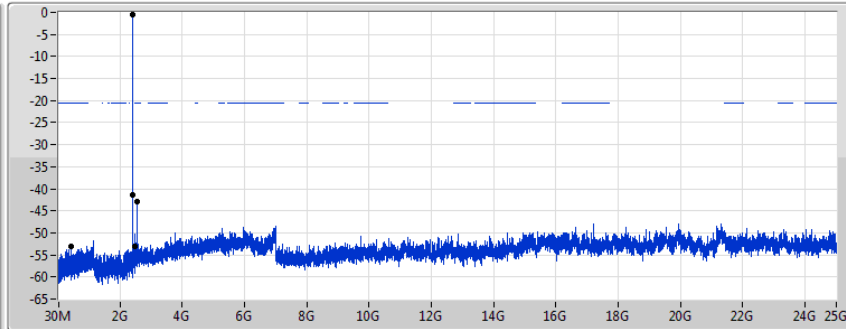
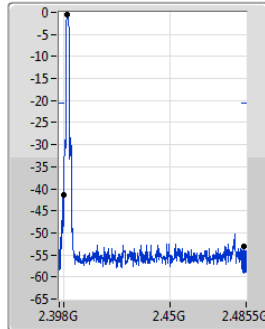


## BT-EDR(3Mbps)

CSE NdB

2402MHz

06/11/2017



Port 1

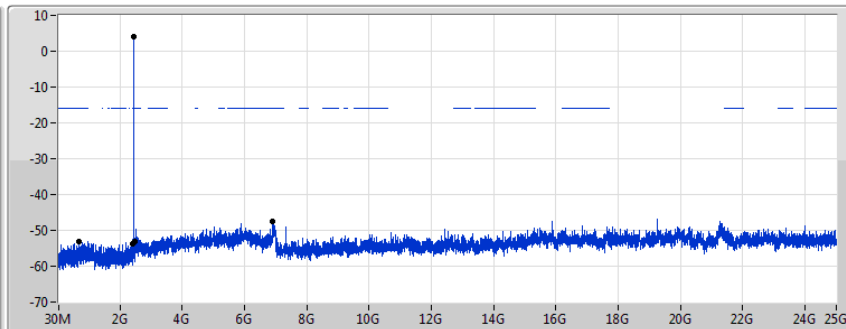
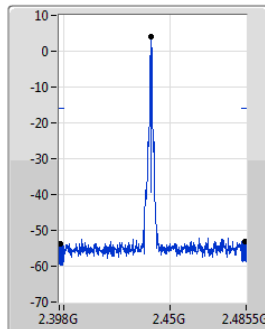
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.401837G	-0.47	-20.47	423.088M	-53.05	2.399944G	-41.34	2.484588G	-53.09	2.555858G	-42.99	1

## BT-EDR(3Mbps)

CSE NdB

2441MHz

06/11/2017



Port 1

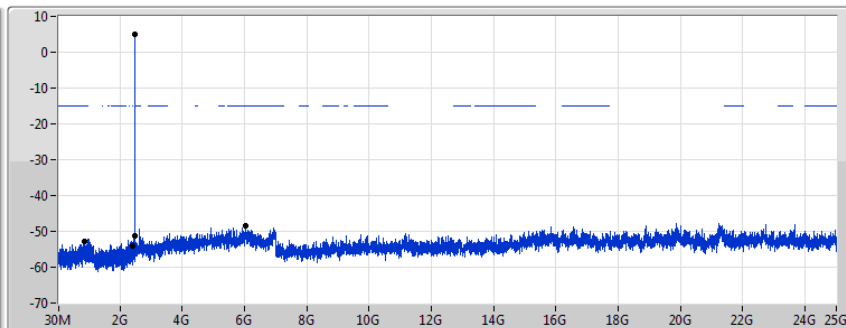
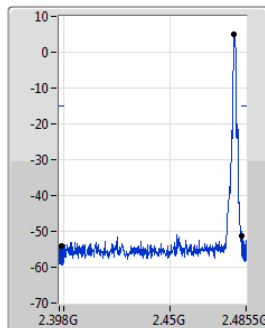
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.440915G	4.13	-15.87	663.44M	-53.19	2.398432G	-53.75	2.484952G	-53.07	6.895528G	-47.41	1

## BT-EDR(3Mbps)

CSE NdB

2480MHz

06/11/2017



Port 1

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.479993G	4.86	-15.14	855.248M	-52.78	2.399008G	-54.05	2.483552G	-51.14	6.039977G	-48.48	1



## RSE TX below 1GHz Result

Appendix G.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	QP	31.94M	36.23	40.00	-3.77	-3.57	3	Horizontal	72	3.12	-

**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	Pass	PK	29.843478k	45.61	118.09	-72.48	22.07	3	Horizontal	225	1.00	-
2441MHz	Pass	PK	69.895652k	33.06	110.71	-77.65	21.01	3	Horizontal	225	1.00	-
2441MHz	Pass	PK	109.947826k	33.17	106.77	-73.60	20.77	3	Horizontal	225	1.00	-
2441MHz	Pass	PK	1.188261M	39.74	66.13	-26.39	21.01	3	Horizontal	360	1.00	-
2441MHz	Pass	PK	3.567609M	47.20	69.50	-22.30	20.88	3	Horizontal	360	1.00	-
2441MHz	Pass	PK	17.021739M	37.78	69.50	-31.72	22.90	3	Horizontal	360	1.00	-
2441MHz	Pass	PK	185.2M	28.51	43.50	-14.99	-10.51	3	Horizontal	0	1.00	-
2441MHz	Pass	PK	297.72M	29.17	46.00	-16.83	-5.90	3	Horizontal	0	1.00	-
2441MHz	Pass	PK	369.5M	28.43	46.00	-17.57	-4.26	3	Horizontal	0	1.00	-
2441MHz	Pass	PK	474.26M	35.67	46.00	-10.33	-1.78	3	Horizontal	0	1.00	-
2441MHz	Pass	PK	701.24M	31.61	46.00	-14.39	0.23	3	Horizontal	0	1.00	-
2441MHz	Pass	QP	31.94M	36.23	40.00	-3.77	-3.57	3	Horizontal	72	3.12	-
2441MHz	Pass	PK	156.1M	34.77	43.50	-8.73	-9.86	3	Vertical	360	1.03	-
2441MHz	Pass	PK	297.72M	25.66	46.00	-20.34	-5.90	3	Vertical	360	1.03	-
2441MHz	Pass	PK	398.6M	29.36	46.00	-16.64	-3.47	3	Vertical	360	1.03	-
2441MHz	Pass	PK	472.32M	36.19	46.00	-9.81	-1.80	3	Vertical	360	1.03	-
2441MHz	Pass	PK	577.08M	30.29	46.00	-15.71	-0.75	3	Vertical	360	1.03	-
2441MHz	Pass	QP	31.94M	35.32	40.00	-4.68	-3.57	3	Vertical	128	1.01	-



## BT-BR(1Mbps)

## 2441MHz\_Adapter

29/12/2017



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	29.843478k	45.61	118.09	-72.48	22.07	3	Horizontal	225	1.00	-	23.54	22.00	0.07	-
PK	69.895652k	33.06	110.71	-77.65	21.01	3	Horizontal	225	1.00	-	12.05	20.94	0.07	-
PK	109.947826k	33.17	106.77	-73.60	20.77	3	Horizontal	225	1.00	-	12.40	20.69	0.08	-

## BT-BR(1Mbps)

## 2441MHz\_Adapter

29/12/2017

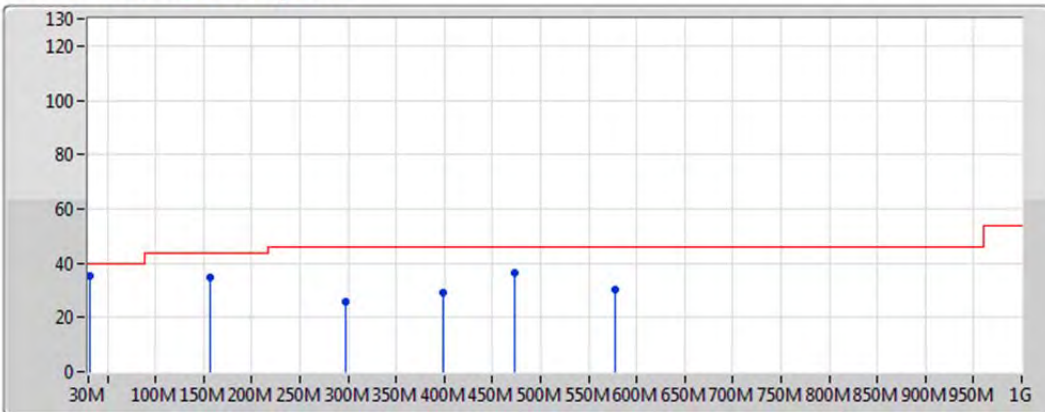


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	17.021739M	37.78	69.50	-31.72	22.90	3	Horizontal	360	1.00	-	14.88	22.13	0.77	-
PK	3.567609M	47.20	69.50	-22.30	20.88	3	Horizontal	360	1.00	-	26.32	20.48	0.40	-
PK	1.188261M	39.74	66.13	-26.39	21.01	3	Horizontal	360	1.00	-	18.73	20.67	0.34	-

## BT-BR(1Mbps)

## 2441MHz\_Adapter

29/12/2017

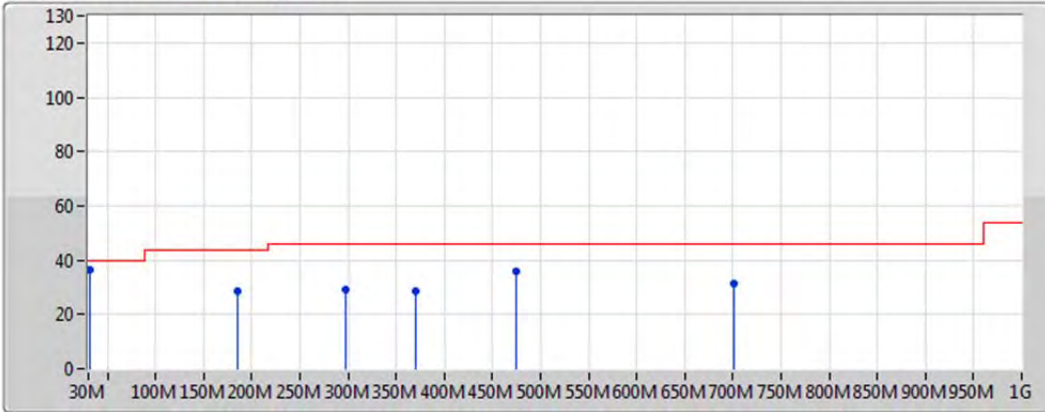


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	156.1M	34.77	43.50	-8.73	-9.86	3	Vertical	360	1.03	-	44.63	15.11	2.15	27.11
PK	297.72M	25.66	46.00	-20.34	-5.90	3	Vertical	360	1.03	-	31.56	18.39	2.39	26.68
PK	398.6M	29.36	46.00	-16.64	-3.47	3	Vertical	360	1.03	-	32.83	20.75	3.06	27.28
PK	472.32M	36.19	46.00	-9.81	-1.80	3	Vertical	360	1.03	-	37.99	22.41	3.48	27.68
PK	577.08M	30.29	46.00	-15.71	-0.75	3	Vertical	360	1.03	-	31.04	23.51	3.69	27.95
QP	31.94M	35.32	40.00	-4.68	-3.57	3	Vertical	128	1.01	-	38.89	22.27	1.74	27.58

## BT-BR(1Mbps)

## 2441MHz\_Adapter

29/12/2017



Lim.PK  
PK

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	297.72M	29.17	46.00	-16.83	-5.90	3	Horizontal	0	1.00	-	35.07	18.39	2.39	26.68
PK	185.2M	28.51	43.50	-14.99	-10.51	3	Horizontal	0	1.00	-	39.02	14.17	2.30	26.98
PK	369.5M	28.43	46.00	-17.57	-4.26	3	Horizontal	0	1.00	-	32.69	19.84	3.01	27.11
PK	474.26M	35.67	46.00	-10.33	-1.78	3	Horizontal	0	1.00	-	37.45	22.43	3.48	27.69
PK	701.24M	31.61	46.00	-14.39	0.23	3	Horizontal	0	1.00	-	31.38	24.06	4.13	27.95
QP	31.94M	36.23	40.00	-3.77	-3.57	3	Horizontal	72	3.12	-	39.80	22.27	1.74	27.58

**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	AV	2.483502G	49.40	54.00	-4.60	30.69	3	Vertical	274	1.97	-
BT-EDR(2Mbps)	Pass	AV	2.483502G	48.17	54.00	-5.83	30.69	3	Vertical	277	1.95	-
BT-EDR(3Mbps)	Pass	AV	2.483502G	47.98	54.00	-6.02	30.69	3	Vertical	279	1.93	-

**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)	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3886G	43.55	54.00	-10.45	30.37	3	Vertical	350	1.67	-
2402MHz	Pass	AV	2.402G	95.25	Inf	-Inf	30.41	3	Vertical	350	1.67	-
2402MHz	Pass	PK	2.381G	54.87	74.00	-19.13	30.34	3	Vertical	350	1.67	-
2402MHz	Pass	PK	2.4022G	96.44	Inf	-Inf	30.42	3	Vertical	350	1.67	-
2402MHz	Pass	AV	2.3898G	43.57	54.00	-10.43	30.38	3	Horizontal	24	1.20	-
2402MHz	Pass	AV	2.402G	95.12	Inf	-Inf	30.41	3	Horizontal	24	1.20	-
2402MHz	Pass	PK	2.376G	54.48	74.00	-19.52	30.33	3	Horizontal	24	1.20	-
2402MHz	Pass	PK	2.4022G	96.31	Inf	-Inf	30.42	3	Horizontal	24	1.20	-
2402MHz	Pass	AV	4.80402G	33.71	54.00	-20.29	5.79	3	Vertical	228	1.74	-
2402MHz	Pass	PK	4.80435G	46.17	74.00	-27.83	5.79	3	Vertical	228	1.74	-
2402MHz	Pass	AV	4.80402G	35.99	54.00	-18.01	5.79	3	Horizontal	157	1.30	-
2402MHz	Pass	PK	4.80355G	46.56	74.00	-27.44	5.78	3	Horizontal	157	1.30	-
2441MHz	Pass	AV	2.389G	43.61	54.00	-10.39	30.37	3	Vertical	283	1.53	-
2441MHz	Pass	AV	2.441G	96.33	Inf	-Inf	30.55	3	Vertical	283	1.53	-
2441MHz	Pass	AV	2.4998G	44.10	54.00	-9.90	30.75	3	Vertical	283	1.53	-
2441MHz	Pass	PK	2.3846G	54.81	74.00	-19.19	30.36	3	Vertical	283	1.53	-
2441MHz	Pass	PK	2.441G	97.71	Inf	-Inf	30.55	3	Vertical	283	1.53	-
2441MHz	Pass	PK	2.4902G	55.27	74.00	-18.73	30.72	3	Vertical	283	1.53	-
2441MHz	Pass	AV	2.3886G	43.68	54.00	-10.32	30.37	3	Horizontal	14	1.27	-
2441MHz	Pass	AV	2.441G	94.67	Inf	-Inf	30.55	3	Horizontal	14	1.27	-
2441MHz	Pass	AV	2.4962G	44.08	54.00	-9.92	30.74	3	Horizontal	14	1.27	-
2441MHz	Pass	PK	2.3854G	54.84	74.00	-19.16	30.36	3	Horizontal	14	1.27	-
2441MHz	Pass	PK	2.441G	95.78	Inf	-Inf	30.55	3	Horizontal	14	1.27	-
2441MHz	Pass	PK	2.4854G	55.76	74.00	-18.24	30.70	3	Horizontal	14	1.27	-
2441MHz	Pass	AV	4.88194G	33.88	54.00	-20.12	5.95	3	Vertical	30	1.50	-
2441MHz	Pass	AV	7.32294G	47.54	54.00	-6.46	11.15	3	Vertical	80	1.69	-
2441MHz	Pass	PK	4.88248G	45.77	74.00	-28.23	5.96	3	Vertical	30	1.50	-
2441MHz	Pass	PK	7.32342G	57.76	74.00	-16.24	11.15	3	Vertical	80	1.69	-
2441MHz	Pass	AV	4.88198G	36.75	54.00	-17.25	5.95	3	Horizontal	144	1.41	-
2441MHz	Pass	AV	7.32294G	44.80	54.00	-9.20	11.15	3	Horizontal	180	1.61	-
2441MHz	Pass	PK	4.88149G	46.98	74.00	-27.02	5.95	3	Horizontal	144	1.41	-
2441MHz	Pass	PK	7.32354G	55.70	74.00	-18.30	11.15	3	Horizontal	180	1.61	-
2480MHz	Pass	AV	2.48G	98.34	Inf	-Inf	30.68	3	Vertical	274	1.97	-
2480MHz	Pass	AV	2.483502G	49.40	54.00	-4.60	30.69	3	Vertical	274	1.97	-
2480MHz	Pass	PK	2.4798G	99.40	Inf	-Inf	30.68	3	Vertical	274	1.97	-
2480MHz	Pass	PK	2.483502G	57.97	74.00	-16.03	30.69	3	Vertical	274	1.97	-
2480MHz	Pass	AV	2.48G	95.34	Inf	-Inf	30.68	3	Horizontal	0	1.41	-
2480MHz	Pass	AV	2.483502G	47.58	54.00	-6.42	30.69	3	Horizontal	0	1.41	-
2480MHz	Pass	PK	2.4802G	96.67	Inf	-Inf	30.68	3	Horizontal	0	1.41	-
2480MHz	Pass	PK	2.483502G	56.89	74.00	-17.11	30.69	3	Horizontal	0	1.41	-
2480MHz	Pass	AV	4.96G	35.51	54.00	-18.49	6.11	3	Vertical	171	2.84	-
2480MHz	Pass	AV	7.44G	48.27	54.00	-5.73	11.48	3	Vertical	75	1.80	-
2480MHz	Pass	PK	4.96018G	46.29	74.00	-27.71	6.11	3	Vertical	171	2.84	-
2480MHz	Pass	PK	7.43952G	58.86	74.00	-15.14	11.48	3	Vertical	75	1.80	-
2480MHz	Pass	AV	4.95994G	36.14	54.00	-17.86	6.11	3	Horizontal	318	1.58	-
2480MHz	Pass	AV	7.44G	44.57	54.00	-9.43	11.48	3	Horizontal	180	1.63	-
2480MHz	Pass	PK	4.9603G	47.75	74.00	-26.25	6.11	3	Horizontal	318	1.58	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz	Pass	PK	7.44G	55.63	74.00	-18.37	11.48	3	Horizontal	180	1.63	-
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3898G	43.60	54.00	-10.40	30.38	3	Vertical	349	1.65	-
2402MHz	Pass	AV	2.402G	89.86	Inf	-Inf	30.41	3	Vertical	349	1.65	-
2402MHz	Pass	PK	2.3618G	54.02	74.00	-19.98	30.29	3	Vertical	349	1.65	-
2402MHz	Pass	PK	2.4018G	93.97	Inf	-Inf	30.41	3	Vertical	349	1.65	-
2402MHz	Pass	AV	2.389998G	43.60	54.00	-10.40	30.38	3	Horizontal	19	1.18	-
2402MHz	Pass	AV	2.402G	89.75	Inf	-Inf	30.41	3	Horizontal	19	1.18	-
2402MHz	Pass	PK	2.3546G	54.66	74.00	-19.34	30.26	3	Horizontal	19	1.18	-
2402MHz	Pass	PK	2.4018G	93.75	Inf	-Inf	30.41	3	Horizontal	19	1.18	-
2441MHz	Pass	AV	2.3886G	43.56	54.00	-10.44	30.37	3	Vertical	284	1.52	-
2441MHz	Pass	AV	2.441G	91.81	Inf	-Inf	30.55	3	Vertical	284	1.52	-
2441MHz	Pass	AV	2.4998G	44.13	54.00	-9.87	30.75	3	Vertical	284	1.52	-
2441MHz	Pass	PK	2.3506G	55.33	74.00	-18.67	30.25	3	Vertical	284	1.52	-
2441MHz	Pass	PK	2.441G	95.89	Inf	-Inf	30.55	3	Vertical	284	1.52	-
2441MHz	Pass	PK	2.4914G	55.73	74.00	-18.27	30.72	3	Vertical	284	1.52	-
2441MHz	Pass	AV	2.389G	43.59	54.00	-10.41	30.37	3	Horizontal	16	1.06	-
2441MHz	Pass	AV	2.441G	90.19	Inf	-Inf	30.55	3	Horizontal	16	1.06	-
2441MHz	Pass	AV	2.4998G	44.13	54.00	-9.87	30.75	3	Horizontal	16	1.06	-
2441MHz	Pass	PK	2.3878G	54.17	74.00	-19.83	30.37	3	Horizontal	16	1.06	-
2441MHz	Pass	PK	2.441G	94.24	Inf	-Inf	30.55	3	Horizontal	16	1.06	-
2441MHz	Pass	PK	2.4982G	54.87	74.00	-19.13	30.75	3	Horizontal	16	1.06	-
2480MHz	Pass	AV	2.48G	94.05	Inf	-Inf	30.68	3	Vertical	277	1.95	-
2480MHz	Pass	AV	2.483502G	48.17	54.00	-5.83	30.69	3	Vertical	277	1.95	-
2480MHz	Pass	PK	2.4798G	98.08	Inf	-Inf	30.68	3	Vertical	277	1.95	-
2480MHz	Pass	PK	2.483502G	57.02	74.00	-16.98	30.69	3	Vertical	277	1.95	-
2480MHz	Pass	AV	2.48G	91.40	Inf	-Inf	30.68	3	Horizontal	6	1.41	-
2480MHz	Pass	AV	2.483502G	46.62	54.00	-7.38	30.69	3	Horizontal	6	1.41	-
2480MHz	Pass	PK	2.48G	95.24	Inf	-Inf	30.68	3	Horizontal	6	1.41	-
2480MHz	Pass	PK	2.483502G	54.80	74.00	-19.20	30.69	3	Horizontal	6	1.41	-
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3874G	43.58	54.00	-10.42	30.37	3	Vertical	350	1.67	-
2402MHz	Pass	AV	2.402G	89.80	Inf	-Inf	30.41	3	Vertical	350	1.67	-
2402MHz	Pass	PK	2.388G	55.23	74.00	-18.77	30.37	3	Vertical	350	1.67	-
2402MHz	Pass	PK	2.4018G	93.94	Inf	-Inf	30.41	3	Vertical	350	1.67	-
2402MHz	Pass	AV	2.389998G	43.59	54.00	-10.41	30.38	3	Horizontal	20	1.45	-
2402MHz	Pass	AV	2.402G	89.77	Inf	-Inf	30.41	3	Horizontal	20	1.45	-
2402MHz	Pass	PK	2.363G	53.80	74.00	-20.20	30.29	3	Horizontal	20	1.45	-
2402MHz	Pass	PK	2.4018G	93.89	Inf	-Inf	30.41	3	Horizontal	20	1.45	-
2441MHz	Pass	AV	2.3882G	43.61	54.00	-10.39	30.37	3	Vertical	286	1.51	-
2441MHz	Pass	AV	2.441G	91.62	Inf	-Inf	30.55	3	Vertical	286	1.51	-
2441MHz	Pass	AV	2.4998G	44.13	54.00	-9.87	30.75	3	Vertical	286	1.51	-
2441MHz	Pass	PK	2.365G	54.52	74.00	-19.48	30.30	3	Vertical	286	1.51	-
2441MHz	Pass	PK	2.441G	95.78	Inf	-Inf	30.55	3	Vertical	286	1.51	-
2441MHz	Pass	PK	2.4894G	55.49	74.00	-18.51	30.71	3	Vertical	286	1.51	-
2441MHz	Pass	AV	2.3814G	43.53	54.00	-10.47	30.35	3	Horizontal	15	1.04	-
2441MHz	Pass	AV	2.441G	89.64	Inf	-Inf	30.55	3	Horizontal	15	1.04	-
2441MHz	Pass	AV	2.4998G	44.08	54.00	-9.92	30.75	3	Horizontal	15	1.04	-
2441MHz	Pass	PK	2.3706G	54.90	74.00	-19.10	30.31	3	Horizontal	15	1.04	-

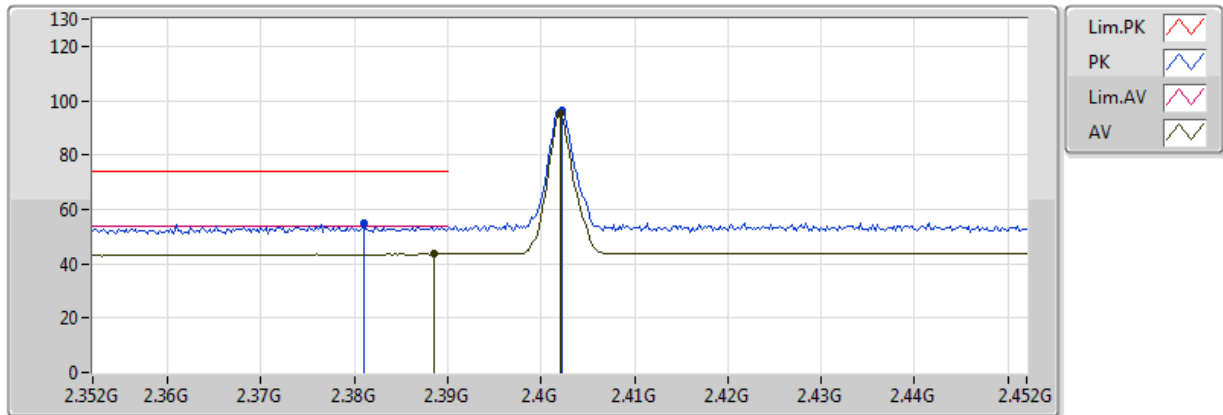
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2441MHz	Pass	PK	2.441G	93.84	Inf	-Inf	30.55	3	Horizontal	15	1.04	-
2441MHz	Pass	PK	2.4842G	56.38	74.00	-17.62	30.69	3	Horizontal	15	1.04	-
2480MHz	Pass	AV	2.48G	93.87	Inf	-Inf	30.68	3	Vertical	279	1.93	-
2480MHz	Pass	AV	2.483502G	47.98	54.00	-6.02	30.69	3	Vertical	279	1.93	-
2480MHz	Pass	PK	2.48G	98.05	Inf	-Inf	30.68	3	Vertical	279	1.93	-
2480MHz	Pass	PK	2.483502G	57.39	74.00	-16.61	30.69	3	Vertical	279	1.93	-
2480MHz	Pass	AV	2.48G	91.05	Inf	-Inf	30.68	3	Horizontal	13	1.21	-
2480MHz	Pass	AV	2.483502G	46.38	54.00	-7.62	30.69	3	Horizontal	13	1.21	-
2480MHz	Pass	PK	2.48G	95.12	Inf	-Inf	30.68	3	Horizontal	13	1.21	-
2480MHz	Pass	PK	2.483502G	55.75	74.00	-18.25	30.69	3	Horizontal	13	1.21	-



### BT-BR(1Mbps)

### 2402MHz\_TX

25/06/2018

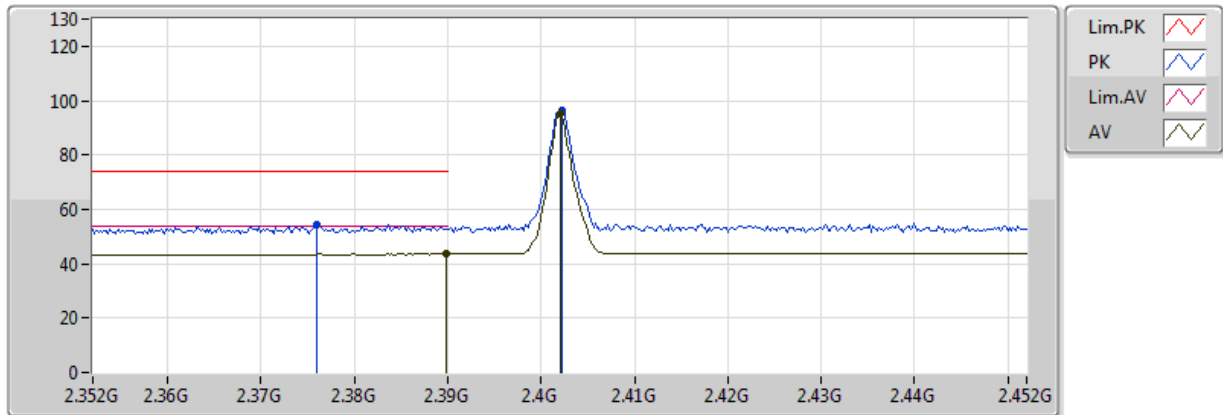


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3886G	43.55	54.00	-10.45	30.37	3	Vertical	350	1.67	-
AV	2.402G	95.25	Inf	-Inf	30.41	3	Vertical	350	1.67	-
PK	2.381G	54.87	74.00	-19.13	30.34	3	Vertical	350	1.67	-
PK	2.4022G	96.44	Inf	-Inf	30.42	3	Vertical	350	1.67	-

### BT-BR(1Mbps)

### 2402MHz\_TX

25/06/2018

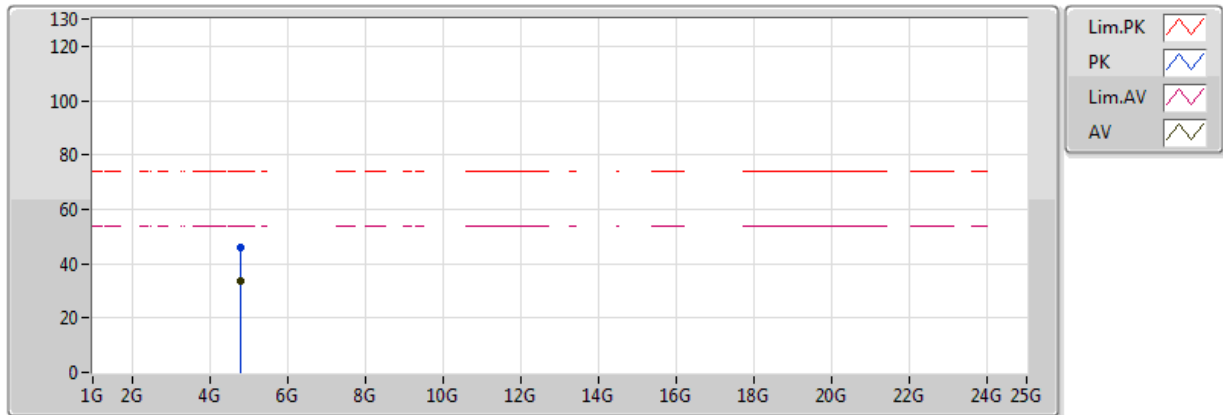


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3898G	43.57	54.00	-10.43	30.38	3	Horizontal	24	1.20	-
AV	2.402G	95.12	Inf	-Inf	30.41	3	Horizontal	24	1.20	-
PK	2.376G	54.48	74.00	-19.52	30.33	3	Horizontal	24	1.20	-
PK	2.4022G	96.31	Inf	-Inf	30.42	3	Horizontal	24	1.20	-

### BT-BR(1Mbps)

### 2402MHz\_TX

26/06/2018

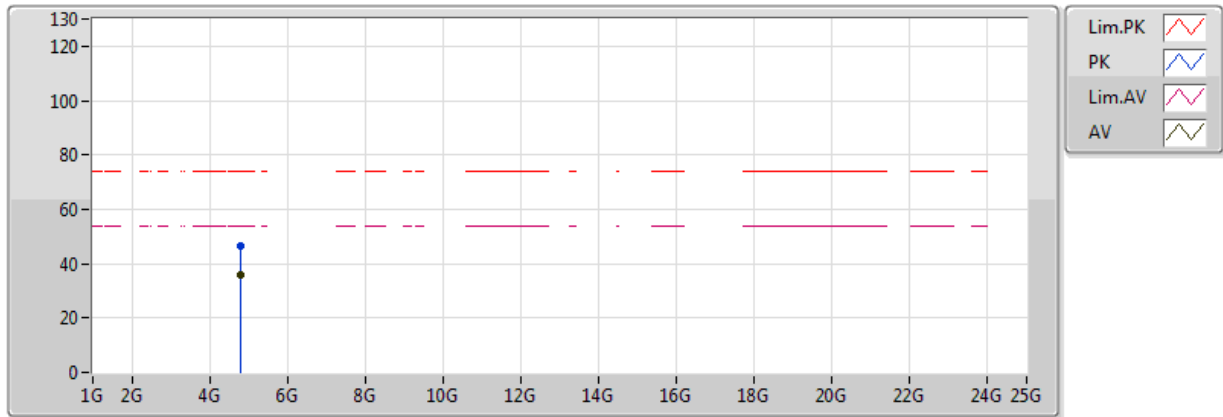


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.80402G	33.71	54.00	-20.29	5.79	3	Vertical	228	1.74	-
PK	4.80435G	46.17	74.00	-27.83	5.79	3	Vertical	228	1.74	-

### BT-BR(1Mbps)

### 2402MHz\_TX

26/06/2018

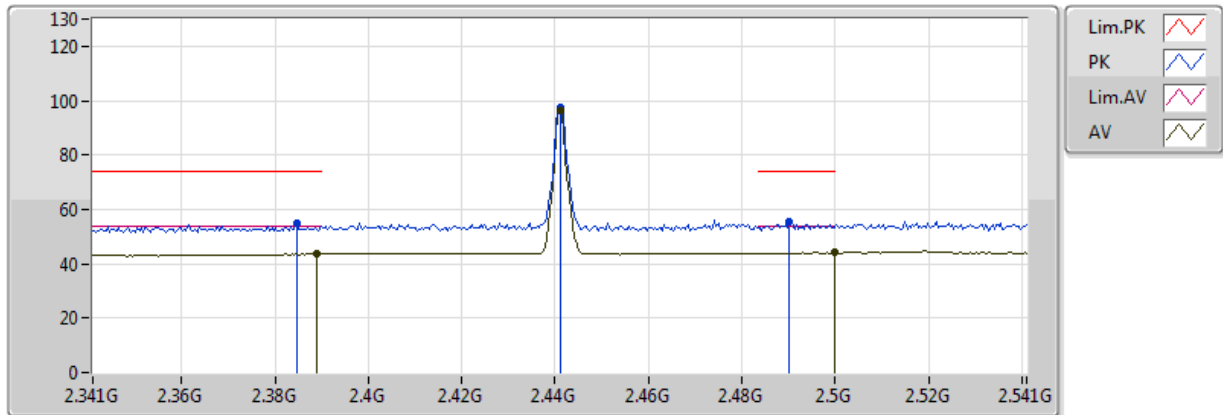


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.80402G	35.99	54.00	-18.01	5.79	3	Horizontal	157	1.30	-
PK	4.80355G	46.56	74.00	-27.44	5.78	3	Horizontal	157	1.30	-

## BT-BR(1Mbps)

## 2441MHz\_TX

26/06/2018

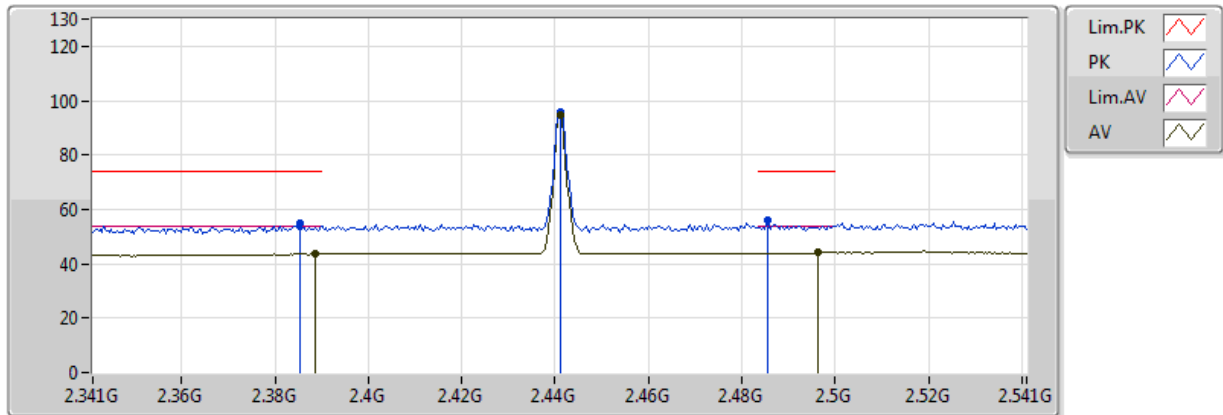


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.389G	43.61	54.00	-10.39	30.37	3	Vertical	283	1.53	-
AV	2.441G	96.33	Inf	-Inf	30.55	3	Vertical	283	1.53	-
AV	2.4998G	44.10	54.00	-9.90	30.75	3	Vertical	283	1.53	-
PK	2.3846G	54.81	74.00	-19.19	30.36	3	Vertical	283	1.53	-
PK	2.441G	97.71	Inf	-Inf	30.55	3	Vertical	283	1.53	-
PK	2.4902G	55.27	74.00	-18.73	30.72	3	Vertical	283	1.53	-

### BT-BR(1Mbps)

### 2441MHz\_TX

26/06/2018

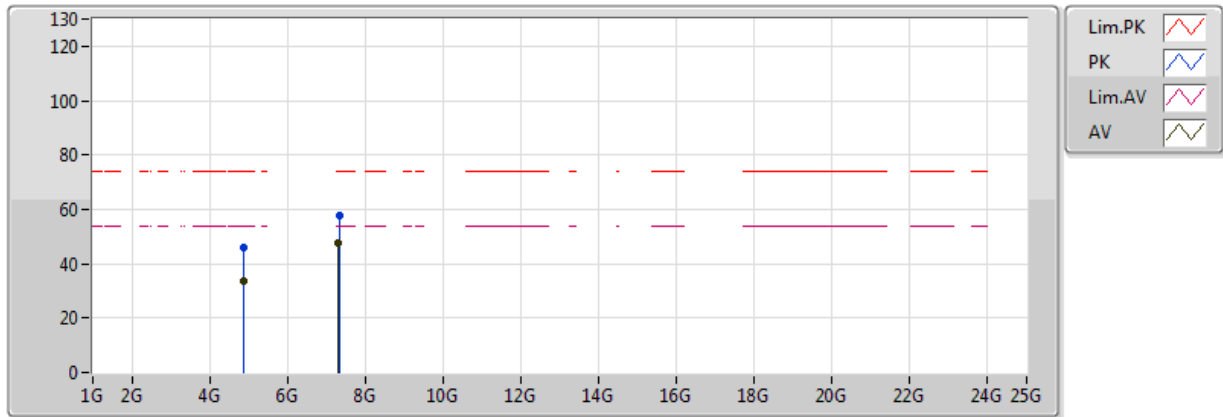


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3886G	43.68	54.00	-10.32	30.37	3	Horizontal	14	1.27	-
AV	2.441G	94.67	Inf	-Inf	30.55	3	Horizontal	14	1.27	-
AV	2.4962G	44.08	54.00	-9.92	30.74	3	Horizontal	14	1.27	-
PK	2.3854G	54.84	74.00	-19.16	30.36	3	Horizontal	14	1.27	-
PK	2.441G	95.78	Inf	-Inf	30.55	3	Horizontal	14	1.27	-
PK	2.4854G	55.76	74.00	-18.24	30.70	3	Horizontal	14	1.27	-

### BT-BR(1Mbps)

### 2441MHz\_TX

26/06/2018

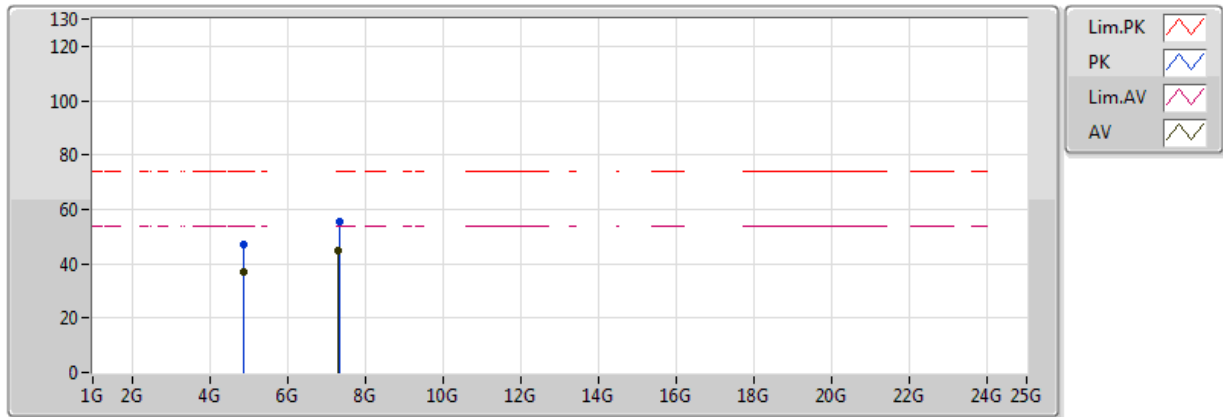


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.88194G	33.88	54.00	-20.12	5.95	3	Vertical	30	1.50	-
AV	7.32294G	47.54	54.00	-6.46	11.15	3	Vertical	80	1.69	-
PK	4.88248G	45.77	74.00	-28.23	5.96	3	Vertical	30	1.50	-
PK	7.32342G	57.76	74.00	-16.24	11.15	3	Vertical	80	1.69	-

### BT-BR(1Mbps)

### 2441MHz\_TX

26/06/2018



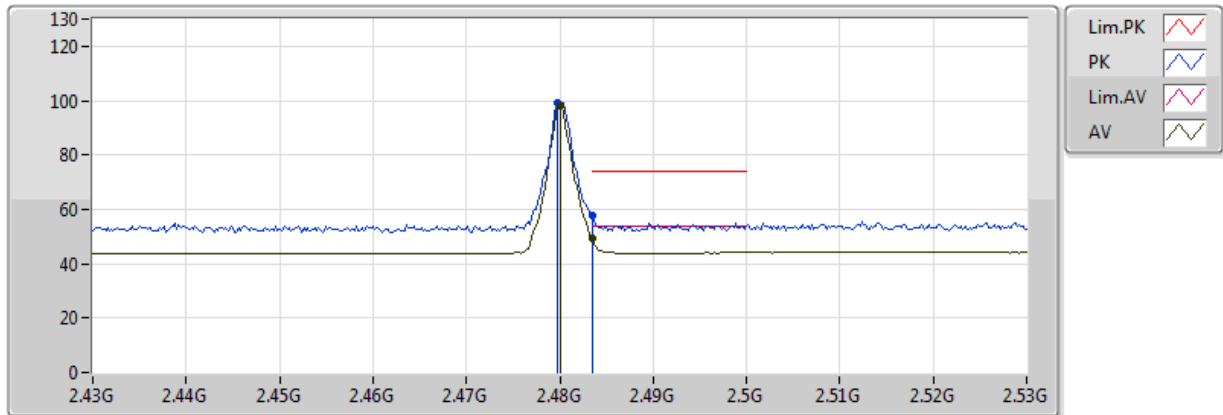
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.88198G	36.75	54.00	-17.25	5.95	3	Horizontal	144	1.41	-
AV	7.32294G	44.80	54.00	-9.20	11.15	3	Horizontal	180	1.61	-
PK	4.88149G	46.98	74.00	-27.02	5.95	3	Horizontal	144	1.41	-
PK	7.32354G	55.70	74.00	-18.30	11.15	3	Horizontal	180	1.61	-



## BT-BR(1Mbps)

## 2480MHz\_TX

26/06/2018

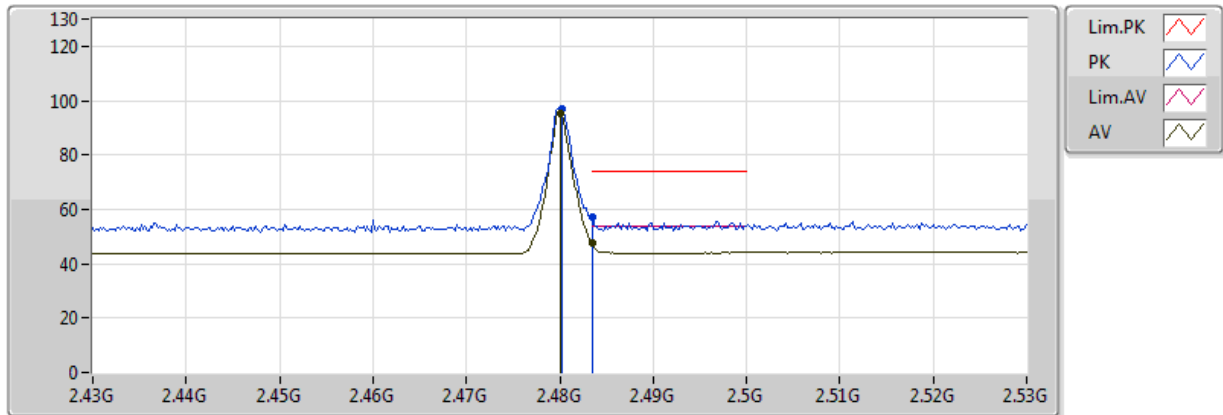


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	98.34	Inf	-Inf	30.68	3	Vertical	274	1.97	-
AV	2.483502G	49.40	54.00	-4.60	30.69	3	Vertical	274	1.97	-
PK	2.4798G	99.40	Inf	-Inf	30.68	3	Vertical	274	1.97	-
PK	2.483502G	57.97	74.00	-16.03	30.69	3	Vertical	274	1.97	-

### BT-BR(1Mbps)

### 2480MHz\_TX

26/06/2018

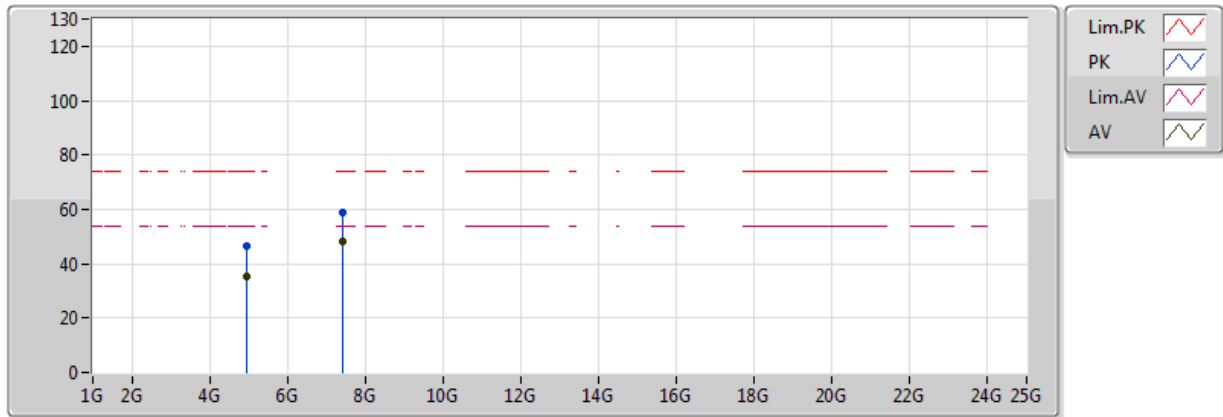


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	95.34	Inf	-Inf	30.68	3	Horizontal	0	1.41	-
AV	2.483502G	47.58	54.00	-6.42	30.69	3	Horizontal	0	1.41	-
PK	2.4802G	96.67	Inf	-Inf	30.68	3	Horizontal	0	1.41	-
PK	2.483502G	56.89	74.00	-17.11	30.69	3	Horizontal	0	1.41	-

### BT-BR(1Mbps)

### 2480MHz\_TX

26/06/2018



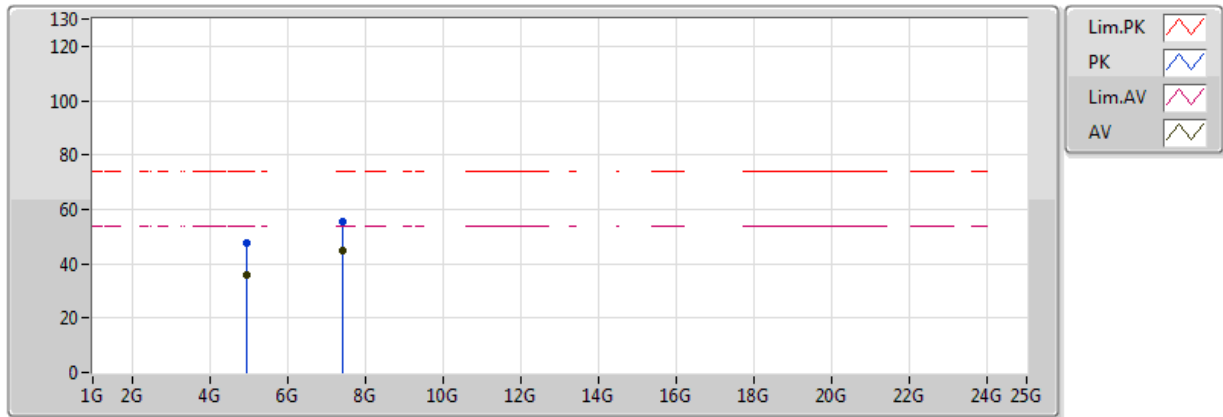
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Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.96G	35.51	54.00	-18.49	6.11	3	Vertical	171	2.84	-
AV	7.44G	48.27	54.00	-5.73	11.48	3	Vertical	75	1.80	-
PK	4.96018G	46.29	74.00	-27.71	6.11	3	Vertical	171	2.84	-
PK	7.43952G	58.86	74.00	-15.14	11.48	3	Vertical	75	1.80	-

### BT-BR(1Mbps)

### 2480MHz\_TX

26/06/2018

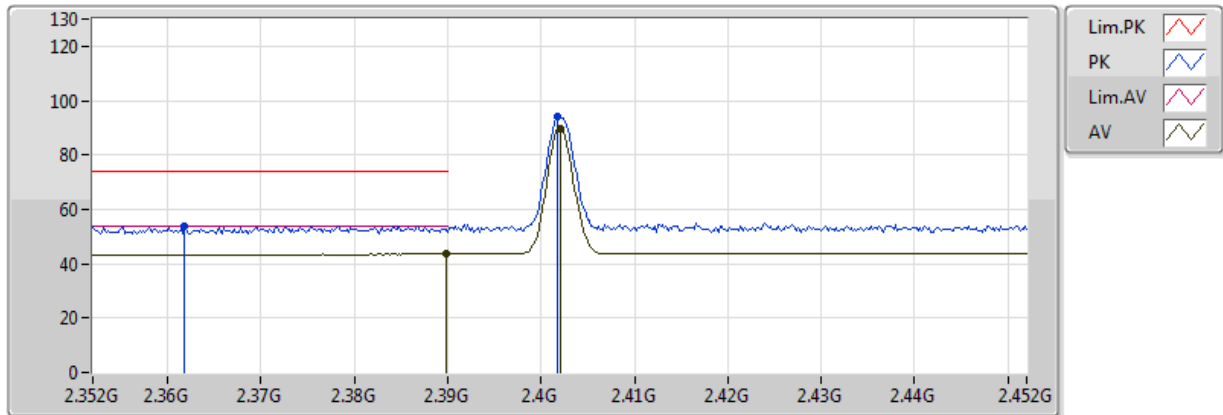



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.95994G	36.14	54.00	-17.86	6.11	3	Horizontal	318	1.58	-
AV	7.44G	44.57	54.00	-9.43	11.48	3	Horizontal	180	1.63	-
PK	4.9603G	47.75	74.00	-26.25	6.11	3	Horizontal	318	1.58	-
PK	7.44G	55.63	74.00	-18.37	11.48	3	Horizontal	180	1.63	-

### BT-EDR(2Mbps)

### 2402MHz\_TX

26/06/2018

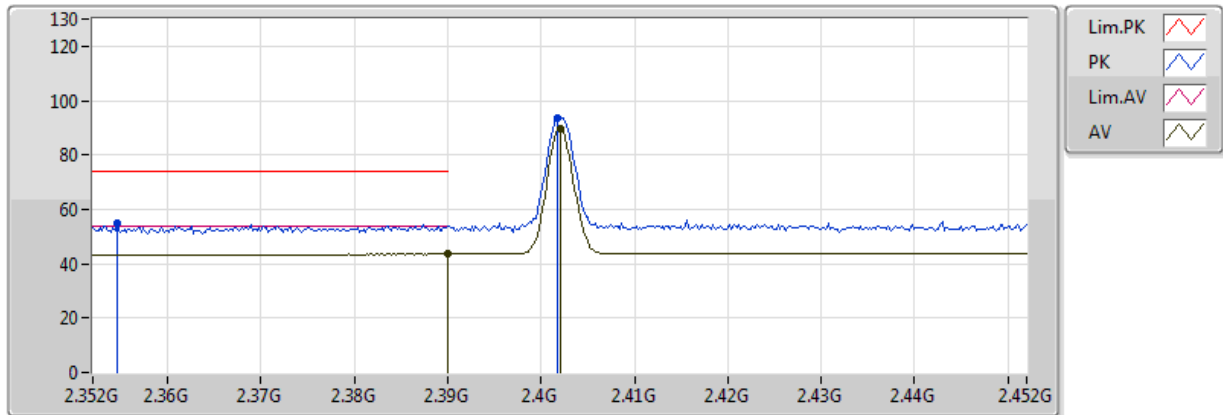


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3898G	43.60	54.00	-10.40	30.38	3	Vertical	349	1.65	-
AV	2.402G	89.86	Inf	-Inf	30.41	3	Vertical	349	1.65	-
PK	2.3618G	54.02	74.00	-19.98	30.29	3	Vertical	349	1.65	-
PK	2.4018G	93.97	Inf	-Inf	30.41	3	Vertical	349	1.65	-

### BT-EDR(2Mbps)

### 2402MHz\_TX

26/06/2018

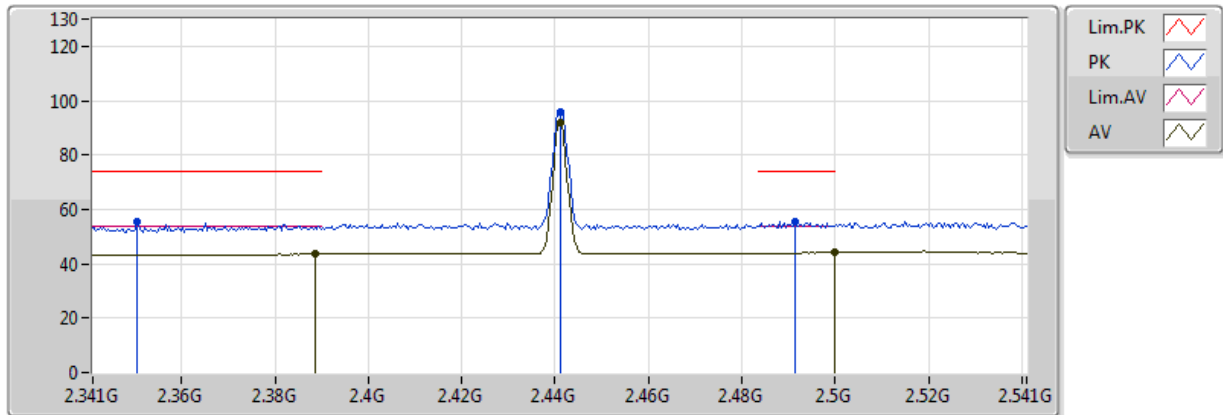


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.389998G	43.60	54.00	-10.40	30.38	3	Horizontal	19	1.18	-
AV	2.402G	89.75	Inf	-Inf	30.41	3	Horizontal	19	1.18	-
PK	2.3546G	54.66	74.00	-19.34	30.26	3	Horizontal	19	1.18	-
PK	2.4018G	93.75	Inf	-Inf	30.41	3	Horizontal	19	1.18	-

### BT-EDR(2Mbps)

### 2441MHz\_TX

26/06/2018

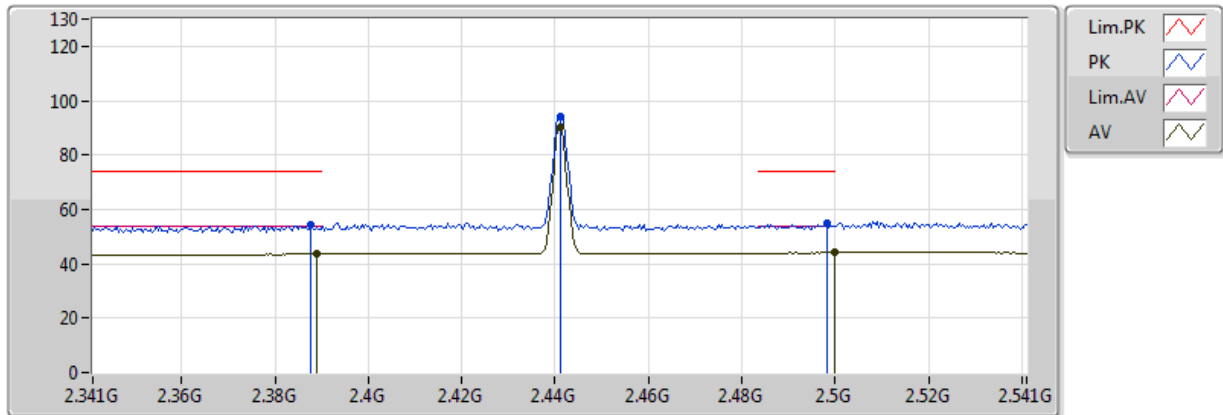


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3886G	43.56	54.00	-10.44	30.37	3	Vertical	284	1.52	-
AV	2.441G	91.81	Inf	-Inf	30.55	3	Vertical	284	1.52	-
AV	2.4998G	44.13	54.00	-9.87	30.75	3	Vertical	284	1.52	-
PK	2.3506G	55.33	74.00	-18.67	30.25	3	Vertical	284	1.52	-
PK	2.441G	95.89	Inf	-Inf	30.55	3	Vertical	284	1.52	-
PK	2.4914G	55.73	74.00	-18.27	30.72	3	Vertical	284	1.52	-

### BT-EDR(2Mbps)

### 2441MHz\_TX

26/06/2018



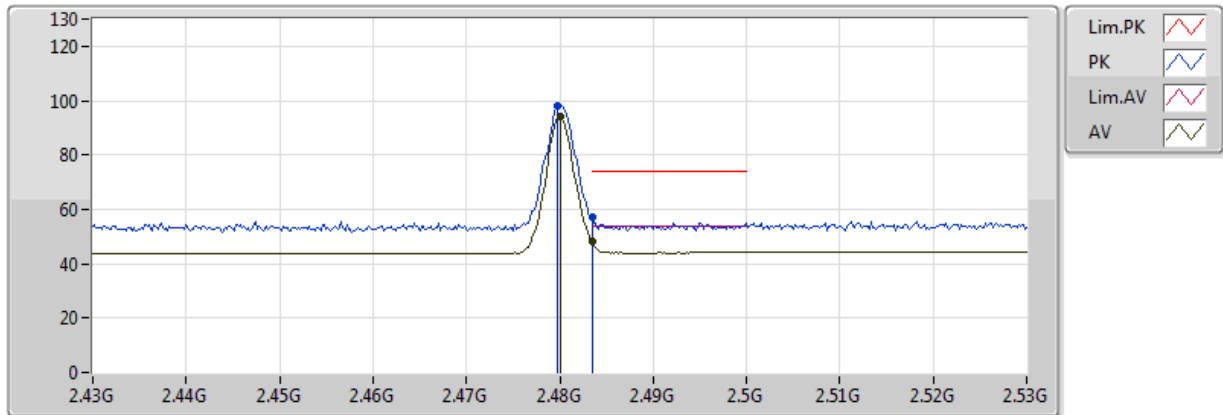
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.389G	43.59	54.00	-10.41	30.37	3	Horizontal	16	1.06	-
AV	2.441G	90.19	Inf	-Inf	30.55	3	Horizontal	16	1.06	-
AV	2.4998G	44.13	54.00	-9.87	30.75	3	Horizontal	16	1.06	-
PK	2.3878G	54.17	74.00	-19.83	30.37	3	Horizontal	16	1.06	-
PK	2.441G	94.24	Inf	-Inf	30.55	3	Horizontal	16	1.06	-
PK	2.4982G	54.87	74.00	-19.13	30.75	3	Horizontal	16	1.06	-



### BT-EDR(2Mbps)

### 2480MHz\_TX

26/06/2018

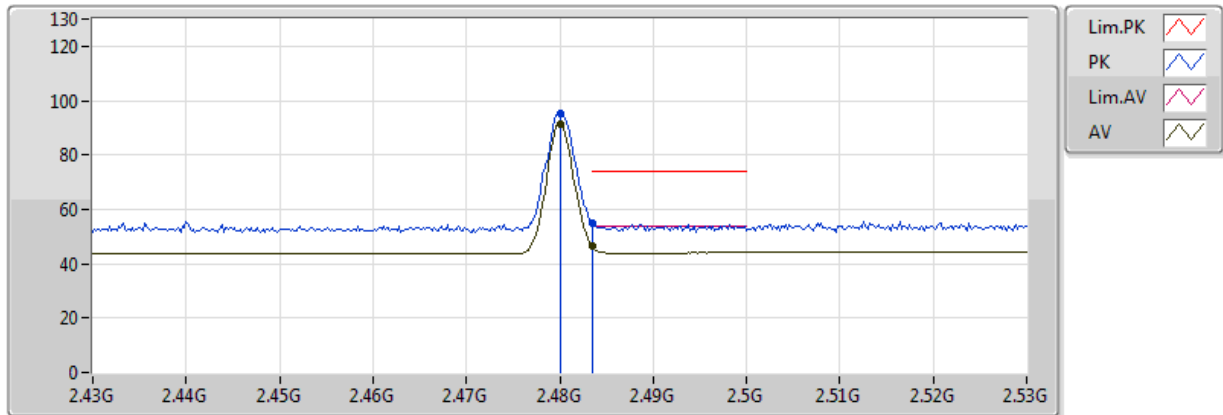


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	94.05	Inf	-Inf	30.68	3	Vertical	277	1.95	-
AV	2.483502G	48.17	54.00	-5.83	30.69	3	Vertical	277	1.95	-
PK	2.4798G	98.08	Inf	-Inf	30.68	3	Vertical	277	1.95	-
PK	2.483502G	57.02	74.00	-16.98	30.69	3	Vertical	277	1.95	-

## BT-EDR(2Mbps)

## 2480MHz\_TX

26/06/2018

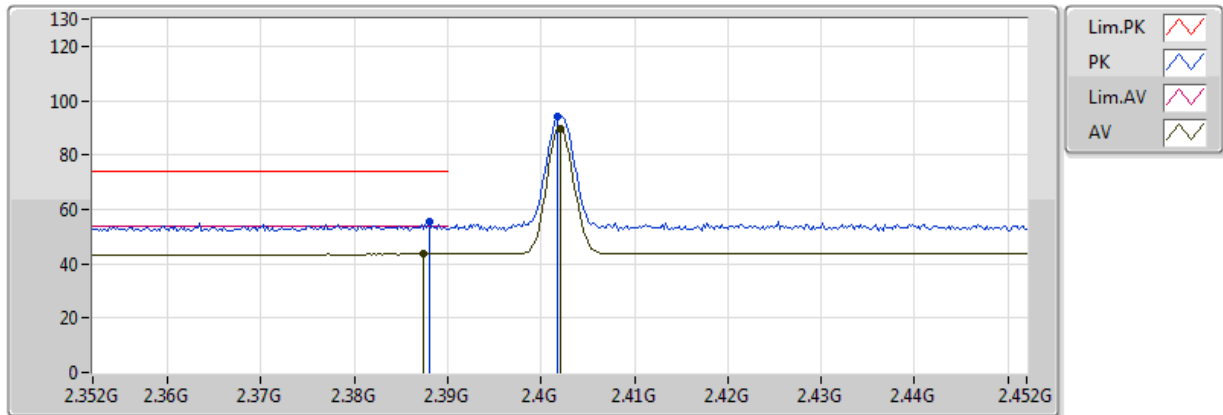


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	91.40	Inf	-Inf	30.68	3	Horizontal	6	1.41	-
AV	2.483502G	46.62	54.00	-7.38	30.69	3	Horizontal	6	1.41	-
PK	2.48G	95.24	Inf	-Inf	30.68	3	Horizontal	6	1.41	-
PK	2.483502G	54.80	74.00	-19.20	30.69	3	Horizontal	6	1.41	-

## BT-EDR(3Mbps)

## 2402MHz\_TX

26/06/2018

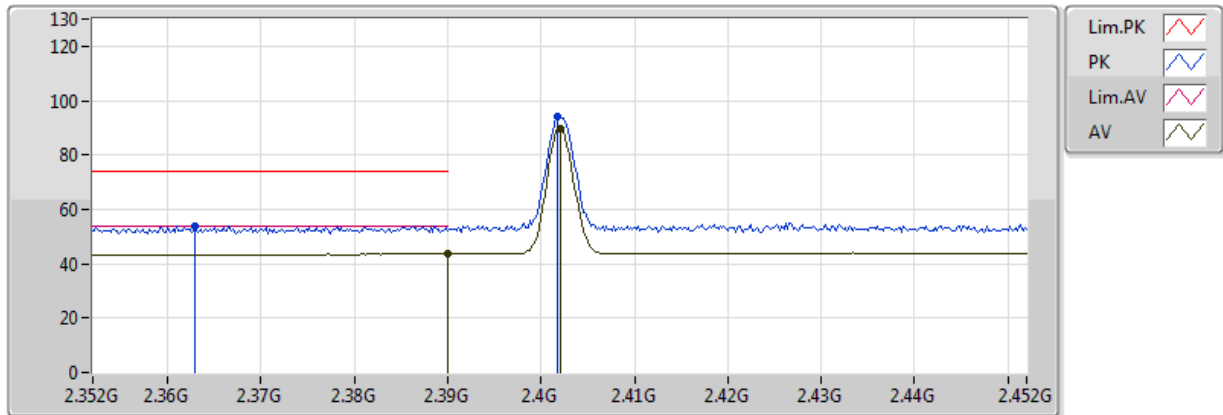


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3874G	43.58	54.00	-10.42	30.37	3	Vertical	350	1.67	-
AV	2.402G	89.80	Inf	-Inf	30.41	3	Vertical	350	1.67	-
PK	2.388G	55.23	74.00	-18.77	30.37	3	Vertical	350	1.67	-
PK	2.4018G	93.94	Inf	-Inf	30.41	3	Vertical	350	1.67	-

### BT-EDR(3Mbps)

### 2402MHz\_TX

26/06/2018

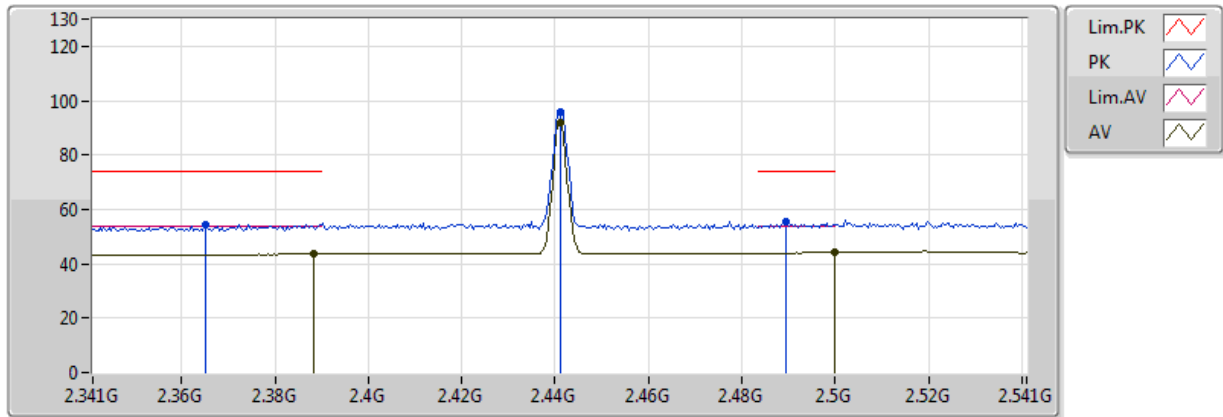


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.389998G	43.59	54.00	-10.41	30.38	3	Horizontal	20	1.45	-
AV	2.402G	89.77	Inf	-Inf	30.41	3	Horizontal	20	1.45	-
PK	2.363G	53.80	74.00	-20.20	30.29	3	Horizontal	20	1.45	-
PK	2.4018G	93.89	Inf	-Inf	30.41	3	Horizontal	20	1.45	-

### BT-EDR(3Mbps)

### 2441MHz\_TX

26/06/2018

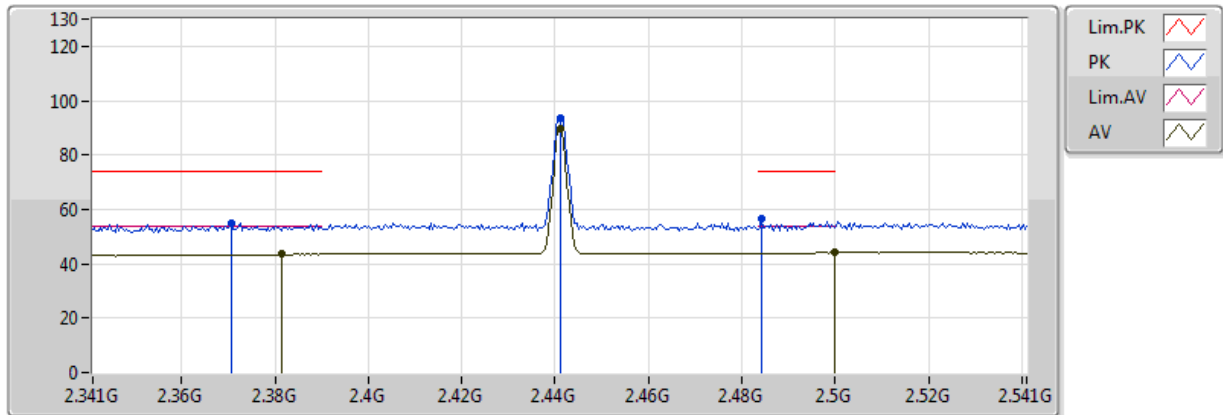


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3882G	43.61	54.00	-10.39	30.37	3	Vertical	286	1.51	-
AV	2.441G	91.62	Inf	-Inf	30.55	3	Vertical	286	1.51	-
AV	2.4998G	44.13	54.00	-9.87	30.75	3	Vertical	286	1.51	-
PK	2.365G	54.52	74.00	-19.48	30.30	3	Vertical	286	1.51	-
PK	2.441G	95.78	Inf	-Inf	30.55	3	Vertical	286	1.51	-
PK	2.4894G	55.49	74.00	-18.51	30.71	3	Vertical	286	1.51	-

### BT-EDR(3Mbps)

### 2441MHz\_TX

26/06/2018

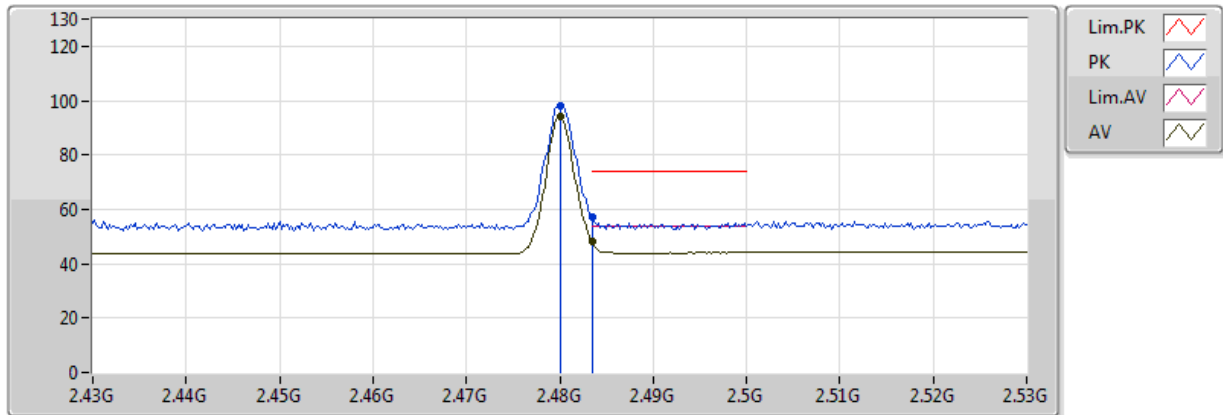


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3814G	43.53	54.00	-10.47	30.35	3	Horizontal	15	1.04	-
AV	2.441G	89.64	Inf	-Inf	30.55	3	Horizontal	15	1.04	-
AV	2.4998G	44.08	54.00	-9.92	30.75	3	Horizontal	15	1.04	-
PK	2.3706G	54.90	74.00	-19.10	30.31	3	Horizontal	15	1.04	-
PK	2.441G	93.84	Inf	-Inf	30.55	3	Horizontal	15	1.04	-
PK	2.4842G	56.38	74.00	-17.62	30.69	3	Horizontal	15	1.04	-

## BT-EDR(3Mbps)

## 2480MHz\_TX

26/06/2018



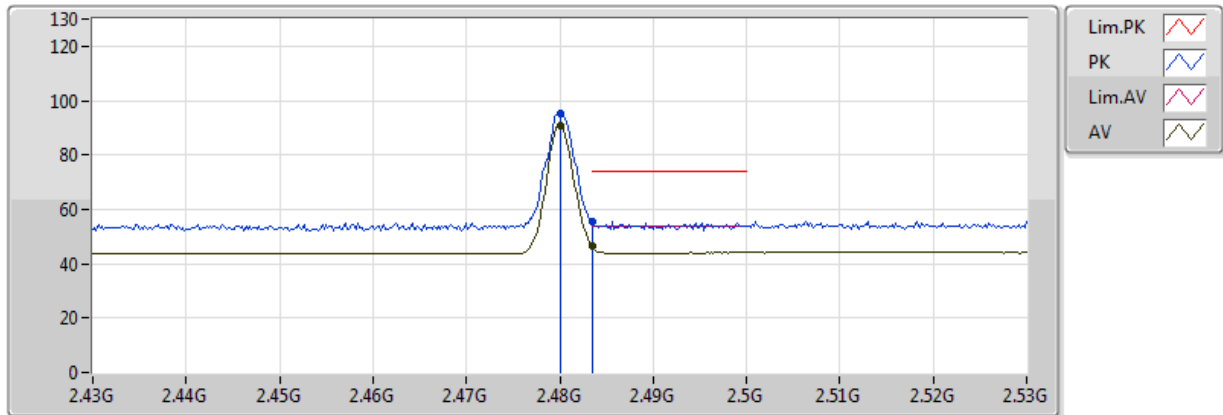
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	

AV	2.48G	93.87	Inf	-Inf	30.68	3	Vertical	279	1.93	-
AV	2.483502G	47.98	54.00	-6.02	30.69	3	Vertical	279	1.93	-
PK	2.48G	98.05	Inf	-Inf	30.68	3	Vertical	279	1.93	-
PK	2.483502G	57.39	74.00	-16.61	30.69	3	Vertical	279	1.93	-

## BT-EDR(3Mbps)

## 2480MHz\_TX

26/06/2018



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	91.05	Inf	-Inf	30.68	3	Horizontal	13	1.21	-
AV	2.483502G	46.38	54.00	-7.62	30.69	3	Horizontal	13	1.21	-
PK	2.48G	95.12	Inf	-Inf	30.68	3	Horizontal	13	1.21	-
PK	2.483502G	55.75	74.00	-18.25	30.69	3	Horizontal	13	1.21	-