



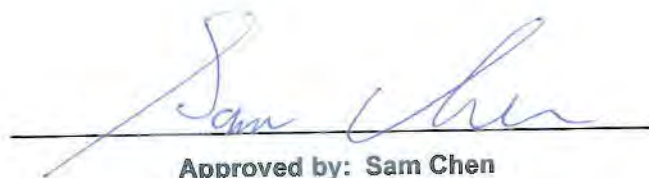
FCC RADIO TEST REPORT

FCC ID : NKR-DHURAZ68
Equipment : DHUR-AZ68 11a/b/g/n/ac 2x2 module
Brand Name : WNC
Model Name : DHUR-AZ68
Applicant : Wistron NeWeb Corporation
20 Park Avenue II, Hsinchu Science Park, Hsinchu
308, Taiwan
Manufacturer : Wistron NeWeb Corporation
20 Park Avenue II, Hsinchu Science Park, Hsinchu
308, Taiwan
Standard : 47 CFR FCC Part 15.247

The product was received on Oct. 20, 2017, and testing was started from Apr. 02, 2018 and completed on Apr. 23, 2018. 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 FCC Public Notice DA 00-705 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 variant 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: Sam Chen

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.....	4
Summary of Test Result.....	5
1 General Description	6
1.1 Information.....	6
1.2 Testing Applied Standards	9
1.3 Testing Location Information	9
1.4 Measurement Uncertainty	9
2 Test Configuration of EUT.....	10
2.1 Test Channel Mode	10
2.2 The Worst Case Measurement Configuration.....	11
2.3 EUT Operation during Test	13
2.4 Accessories	13
2.5 Support Equipment.....	13
2.6 Test Setup Diagram	14
3 Transmitter Test Result	16
3.1 AC Power-line Conducted Emissions	16
3.2 20dB Bandwidth and Carrier Frequency Separation.....	18
3.3 Maximum Conducted Output Power	19
3.4 Number of Hopping Frequencies and Hopping Bandedge	20
3.5 Time of Occupancy (Dwell Time)	21
3.6 Emissions in Non-restricted Frequency Bands	22
3.7 Emissions in Restricted Frequency Bands.....	23
4 Test Equipment and Calibration Data	26
Appendix A. Test Results of AC Power-line Conducted Emissions	
Appendix B. Test Results of 20dB Bandwidth AND Carrier Frequency Separation	
Appendix C. Test Results of Maximum Conducted Output Power	
Appendix D. Test Results of Number of Hopping Frequencies and Hopping Bandedge	
Appendix E. Test Results of Time of Occupancy (Dwell Time)	
Appendix F. Test Results of Emissions in Non-restricted Frequency Bands	
Appendix G. Test Results of Emissions in Restricted Frequency Bands	



Appendix H. Test Photos

Photographs of EUT v01



History of this test report

TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB Ver1.0

Page Number : 4 of 27
Issued Date : May 04, 2018
Report Version : 01



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	20dB Bandwidth	PASS	-
3.2	15.247(a)	Carrier Frequency Separation	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(a)	Number of Hopping Frequencies and Hopping Band edge	PASS	-
3.5	15.247(a)	Time of Occupancy (Dwell Time)	PASS	-
3.6	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.7	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Reviewed by: **Sam Chen**

Report Producer: **Vicky Huang**



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.
- ♦ Nss-Min is the minimum number of spatial streams.
- ♦ Nant is the number of outputs. e.g., 2(2, 3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

**1.1.2 Antenna Information**

Set	Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)		
							WLAN 2.4GHz	WLAN 5GHz	Bluetooth
1	1	1	WNC	-	Printed Antenna	N/A	5.31	5.92	-
	2	2	WNC	-	Printed Antenna	N/A	5.26	5.91	-
2	3	1	WNC	81.EK615.G69	PIFA Antenna	I-PEX	3.71	5.21	-
	4	2	WNC	81.EK615.G68	PIFA Antenna	I-PEX	2.44	6.64	-
3	5	1	WNC	81.EK615.G66	PIFA Antenna	I-PEX	2.02	5.20	-
	6	2	WNC	81.EK615.G65	PIFA Antenna	I-PEX	0.64	5.06	-
4	7	1	WNC	81.EK615.G72	PIFA Antenna	I-PEX	1.08	3.67	-
	8	2	WNC	81.EK615.G71	PIFA Antenna	I-PEX	0.68	2.47	-
5	9	1	WNC	81.EK615.G56	PIFA Antenna	I-PEX	1.97	3.83	-
	10	2	WNC	81.EK615.G57	PIFA Antenna	I-PEX	1.73	3.88	-
6	11	1	WNC	81.EK615.G58	PIFA Antenna	I-PEX	-	-	5.85
7	12	1	WNC	81.EK615.G59	PIFA Antenna	I-PEX	-	-	4.03
8	13	1	WNC	81.EK615.G51	PIFA Antenna	I-PEX	-	-	1.29
9	14	1	WNC	81.EK615.G64	PIFA Antenna	I-PEX	-	-	-0.5
10	15	1	WNC	81.EK615.G67	PIFA Antenna	I-PEX	-	-	1.84
11	16	1	WNC	81.EK615.G70	PIFA Antenna	I-PEX	-	-	0.73

Note: The EUT has eleven set antennas, and they have total of sixteen antennas.

For 2.4GHz / 5GHz WLAN function (2TX/2RX):

Antenna set 1~5 support 2.4GHz / 5GHz WLAN function.

Antenna set 2~5 are the same type antennas, only the higher gain antenna "Set 2" was tested and recorded in the report.

Port 1 and Port 2 could transmit/receive simultaneously.

For Bluetooth function (1TX/1RX):

Antenna set 6~11 support Bluetooth function.

Antenna set 6~11 are the same type antennas, only the higher gain antenna "Set 6" was tested and recorded in the report.

Only Port 1 can be used as transmitting/receiving.

**1.1.3 Mode Test Duty Cycle**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-BR(1Mbps)	0.575	2.403	2.876m	1k
BT-EDR(2Mbps)	0.576	2.396	2.879m	1k
BT-EDR(3Mbps)	0.576	2.396	2.881m	1k

1.1.4 EUT Operational Condition

EUT Power Type	From host system
Test Software Version	QATool_Dbg

1.1.5 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR7D1249AC

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

Modifications	Performance Checking
Adding 10 set antennas for PIFA antenna. (Set 2-Model Name: Port 1:81.EK615.G69/Port 2:81.EK615.G68, Set 3-Model Name: Port 1:81.EK615.G66/Port 2:81.EK615.G65, Set 4-Model Name: Port 1:81.EK615.G72/Port 2:81.EK615.G71, Set 5-Model Name: Port 1:81.EK615.G56/Port 2:81.EK615.G57, Set 6-Model Name: 81.EK615.G58, Set 7-Model Name: 81.EK615.G59, Set 8-Model Name: 81.EK615.G51, Set 9-Model Name: 81.EK615.G64, Set 10-Model Name: 81.EK615.G67, Set 11-Model Name: 81.EK615.G70)	It was performed for all tests.



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
- ♦ FCC Public Notice DA 00-705
- ♦ FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

Testing Location				
☐	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.	TEL : 886-3-327-3456	FAX : 886-3-318-0055
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.	TEL : 886-3-656-9065	FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Serway Li	25°C / 55%	Apr. 19, 2018~Apr. 23, 2018
Radiated	03CH01-CB	Eddie Weng & Justin Lin	22°C / 54%	Apr. 02, 2018~Apr. 23, 2018
AC Conduction	CO01-CB	Howard Liu	22°C / 58%	Apr. 11, 2018

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

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)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Bandwidth Measurement	9.74 x10 ⁻⁸	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
BT-BR(1Mbps)	-
2402MHz	Default
2440MHz	Default
2480MHz	Default
BT-EDR(2Mbps)	-
2402MHz	Default
2440MHz	Default
2480MHz	Default
BT-EDR(3Mbps)	-
2402MHz	Default
2440MHz	Default
2480MHz	Default

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX
1	EUT with Set 2 antennas (2.4GHz WLAN function)
2	EUT with Set 2 antennas (5GHz WLAN function)
3	EUT with Set 6 antennas (Bluetooth function)
For operating mode 1 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	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
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
The EUT was performed at X axis, Y axis and Z axis position for Emissions in Restricted Frequency Bands above 1GHz test. The worst case was found at Y axis, so the measurement will follow this same test configuration.	
1	EUT Y axis with Set 2 antennas (2.4GHz WLAN function)
2	EUT Y axis with Set 2 antennas (5GHz WLAN function)
3	EUT Y axis with Set 6 antennas (Bluetooth function)
For operating mode 1 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position. The worst case was found at Y axis, so the measurement will follow this same test configuration.	
1	EUT Y axis with Set 6 antennas (Bluetooth function)



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	EUT with Set 1 and Set 6 antennas (2.4GHz WLAN + Bluetooth function)
2	EUT with Set 1 and Set 6 antennas (5GHz WLAN + Bluetooth function)
3	EUT with Set 2 and Set 6 antennas (2.4GHz WLAN + Bluetooth function)
4	EUT with Set 2 and Set 6 antennas (5GHz WLAN + Bluetooth function)
Refer to Sporton Test Report No.: FA7D1249-01 for Co-location RF Exposure Evaluation.	



2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

N/A

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E6430	DoC
2	Earphone	e-Power	S90W	DoC
3	Mouse	Logitech	M-U0026	DoC
4	Fixture	WNC	48DHUR09.SGB	DoC
5	Flash disk3.0	Transcend	JetFlash-760	DoC

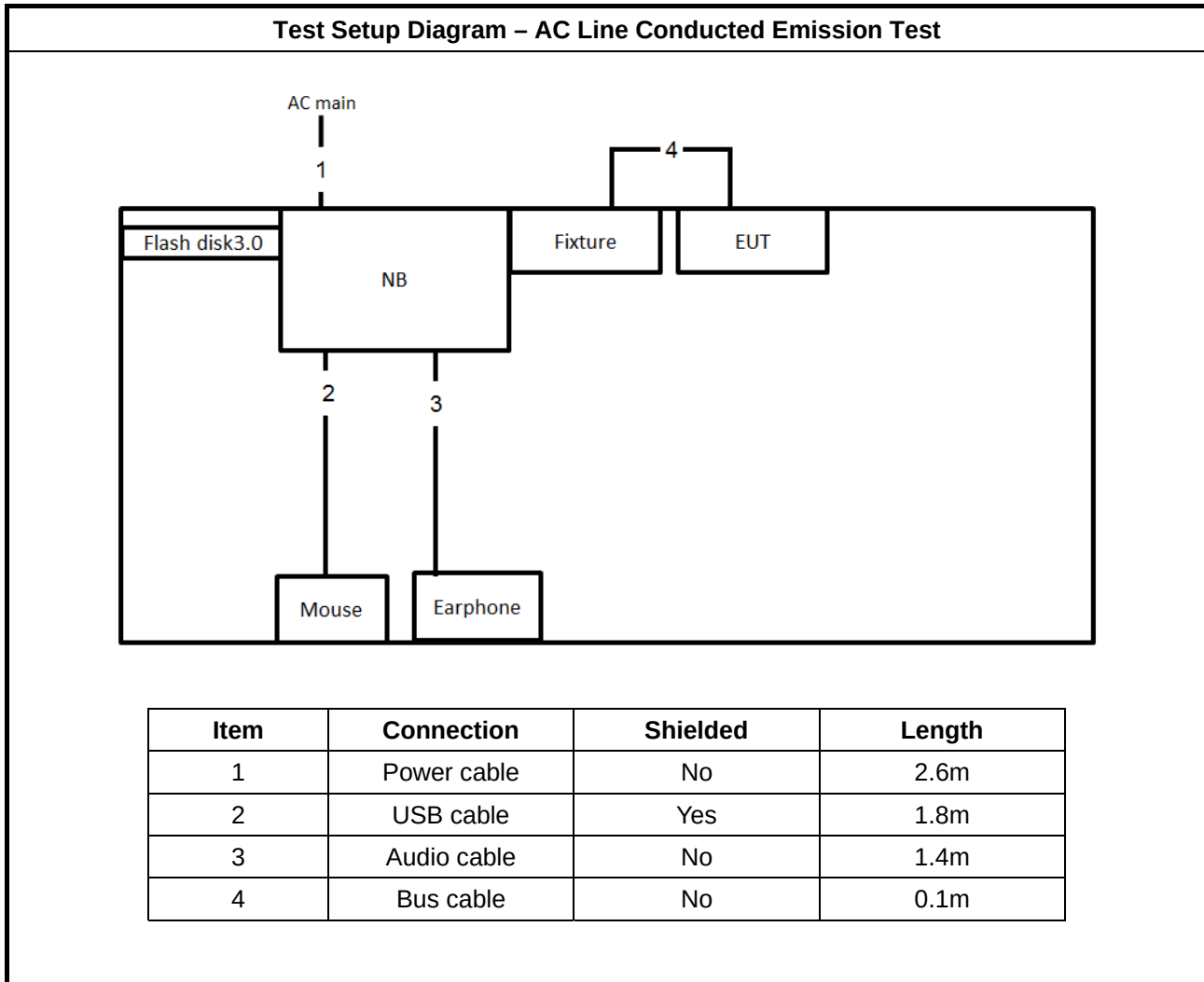
For Test Site No: 03CH01-CB

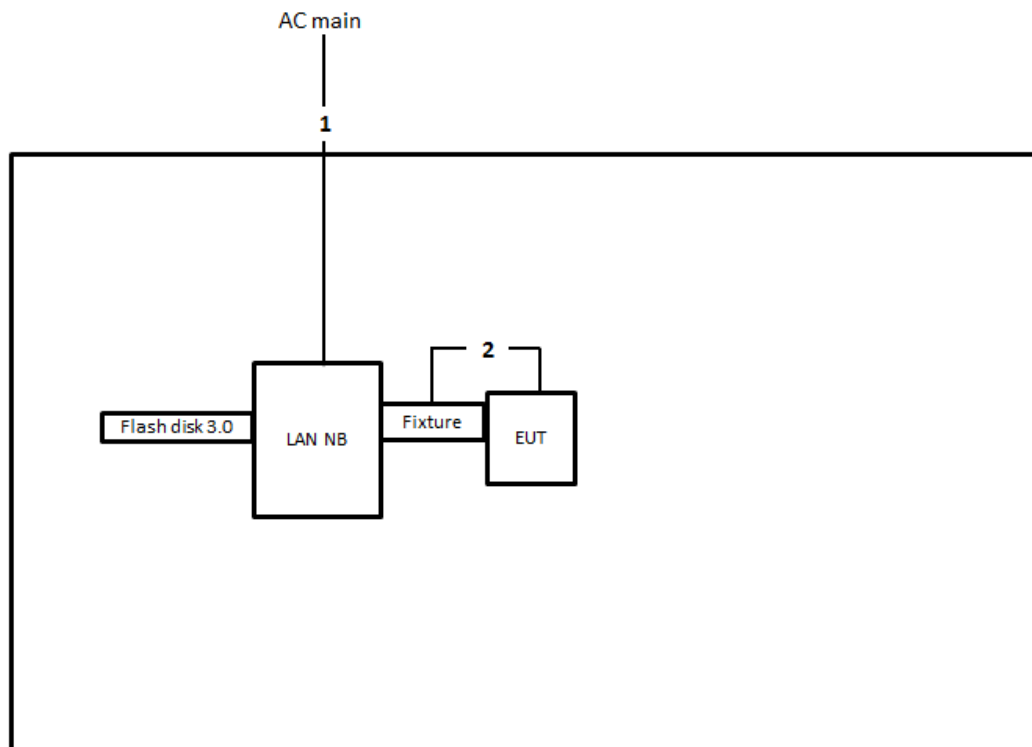
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	Fixture	WNC	48DHUR09.SGB	DoC
3	Flash disk3.0	Transcend	JetFlash-700	DoC

For Test Site No: TH01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	Fixture	WNC	48DHUR09.SGB	DoC

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test


Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	Bus cable	No	0.1m



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

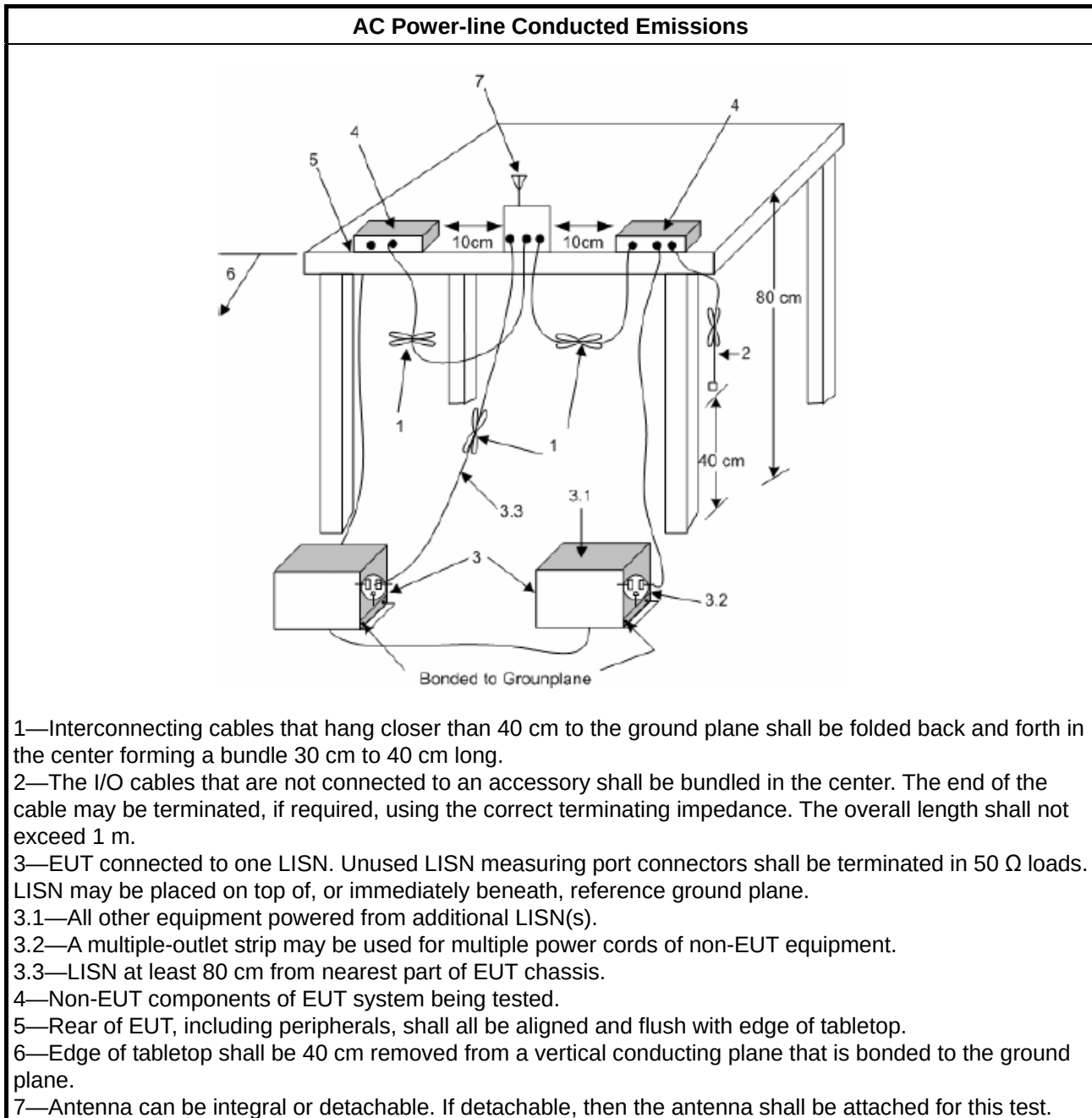
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



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.
N: Number of Hopping Frequencies; ChS: Hopping Channel Separation	

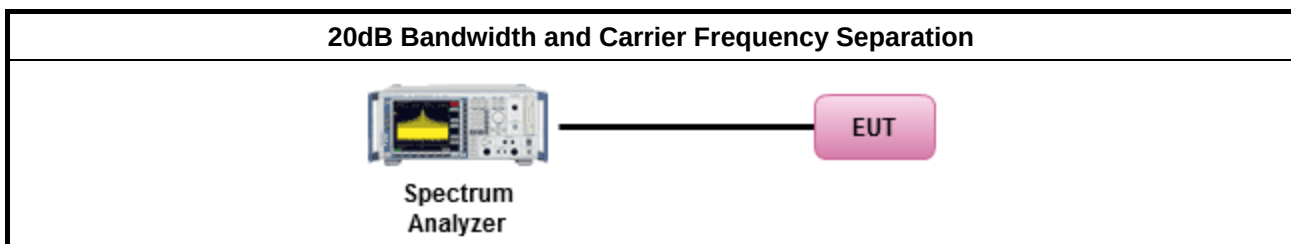
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
▪ Refer as FCC Public Notice DA 00-705 , clause 6.9.1 for 20 dB bandwidth measurement.
▪ Refer as FCC Public Notice DA 00-705 , 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:	
	▪ $N \geq 50$; Power 30dBm; EIRP 36dBm
	▪ $50 > N \geq 25$; Power 24dBm; EIRP 30dBm
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$; Power 30dBm; EIRP 36dBm
	▪ $75 > N \geq 15$; Power 21dBm; EIRP 27dBm
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$; 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 FCC Public Notice DA 00-705 , clause 7.8.5 for output power measurement.

3.3.4 Test Setup

Maximum Conducted Output Power (Peak Power Meter)
 The diagram illustrates the test setup for measuring Maximum Conducted Output Power. It shows a Power Meter (a blue and white device with a screen and buttons) connected via a cable to an EUT (Equipment Under Test, represented by a pink box). The Power Meter is also connected to a computer (represented by a monitor and tower unit) for data recording.

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 $ChS \geq \text{MAX}$ (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.
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

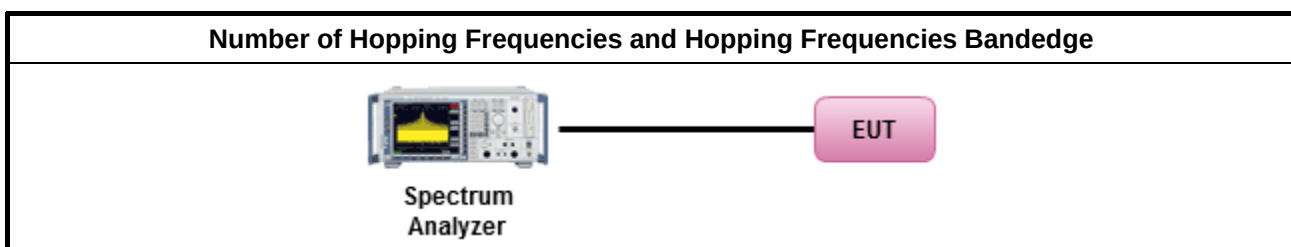
3.4.3 Measuring Instruments

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

3.4.4 Test Procedures

Test Method
▪ Refer as FCC Public Notice DA 00-705 , clause 7.8.3 for number of hopping frequencies measurement.
▪ Refer as FCC Public Notice DA 00-705 , 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

20dB Bandwidth and Carrier Frequency Separation 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	

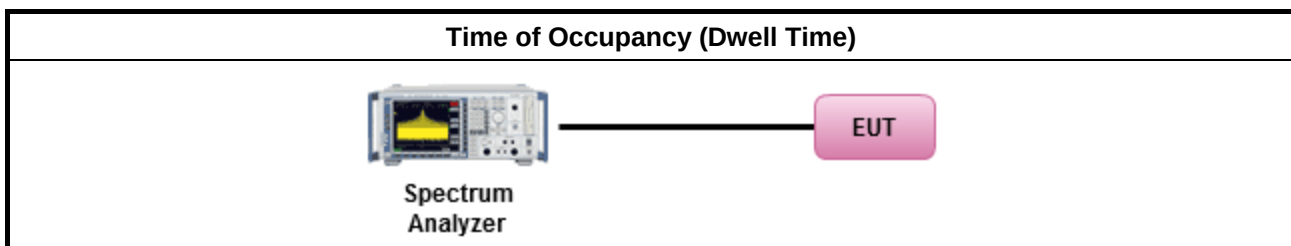
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method	
▪ Refer as FCC Public Notice DA 00-705 , 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.	

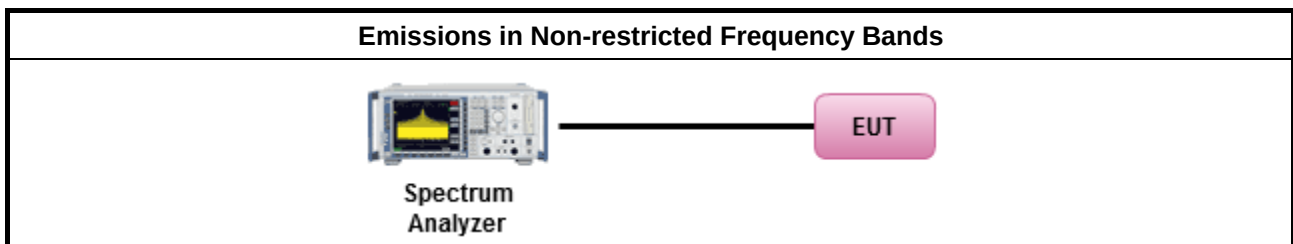
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Test Method
Refer as FCC Public Notice DA 00-705, clause 7.8.8 for unwanted emissions into non-restricted bands.

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.

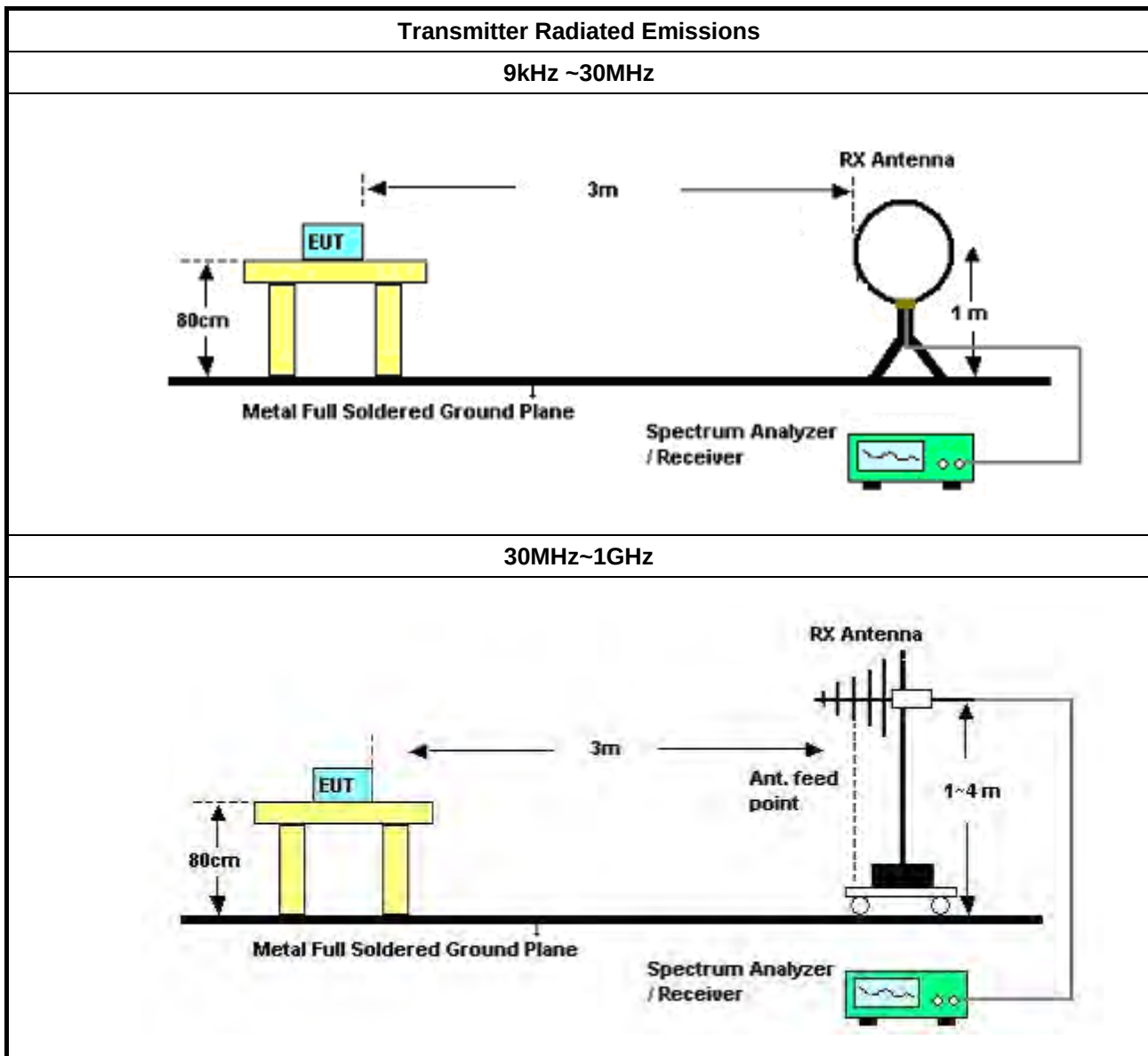
3.7.2 Measuring Instruments

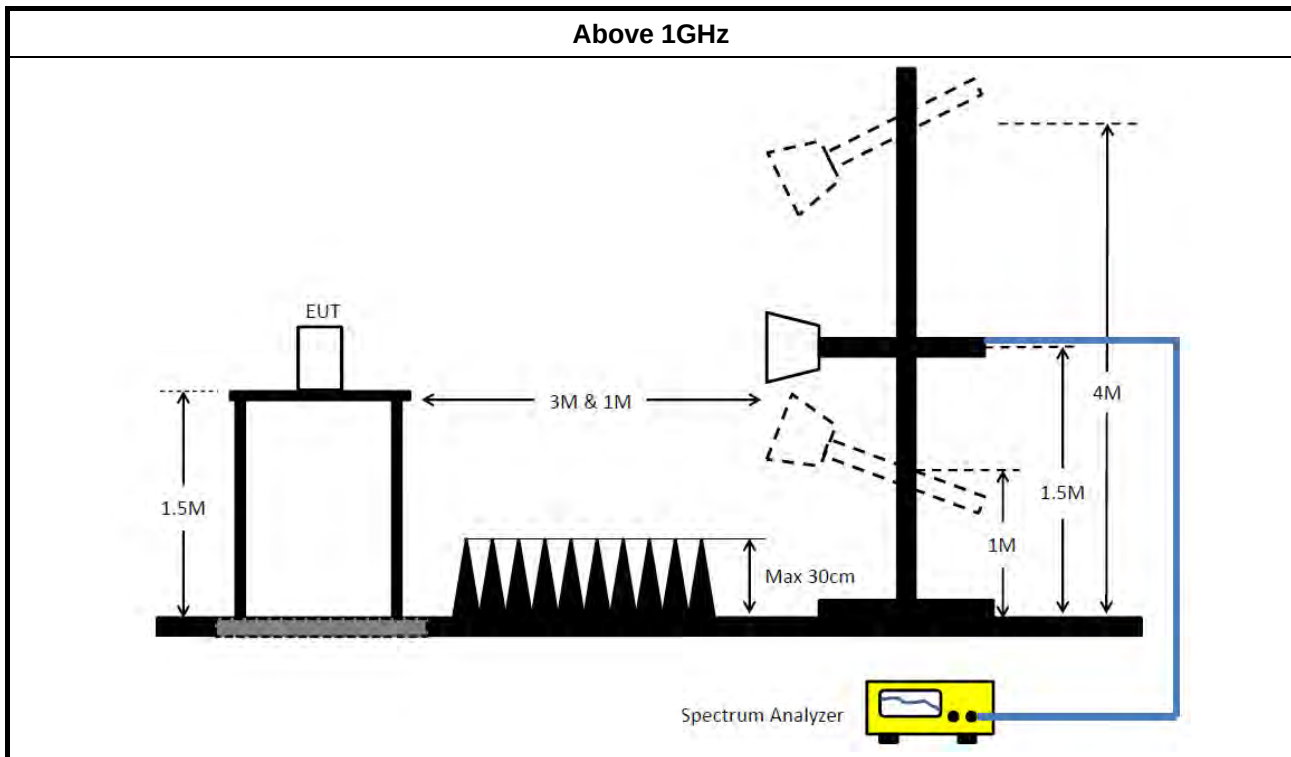
Refer a test equipment and calibration data table in this test report.

3.7.3 Test Procedures

Test Method	
▪ The average emission levels shall be measured in [hopping duty factor].	
▪ 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.	
▪ For the transmitter unwanted emissions shall be measured using following options below:	
	▪ Refer as ANSI C63.10, clause 4.1.4.2.1 QP value.
	▪ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.
	▪ Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.

3.7.4 Test Setup





3.7.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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

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

3.7.6 Transmitter Radiated Unwanted Emissions

Refer as Appendix G



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 31, 2018	Jan. 30, 2019	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 20, 2017	Dec. 19, 2018	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 29, 2017	Dec. 28, 2018	Conduction (CO01-CB)
Impulsbegrenzer Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 06, 2018	Feb. 05, 2019	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 23, 2017	May 22, 2018	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2017	Aug. 29, 2018	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2018	Mar. 15, 2019	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 20, 2017	Nov. 19, 2018	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 05, 2017	Jul. 04, 2018	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2017	May 01, 2018	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 09, 2018	Jan. 08, 2019	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 10, 2017	Jul. 09, 2018	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 23, 2017	Nov. 22, 2018	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 06, 2017	May 05, 2018	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 21, 2017	Dec. 20, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 20, 2017	Nov. 19, 2018	Conducted (TH01-CB)

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

NCR means Non-Calibration required.



AC Power-line Conducted Emissions Result

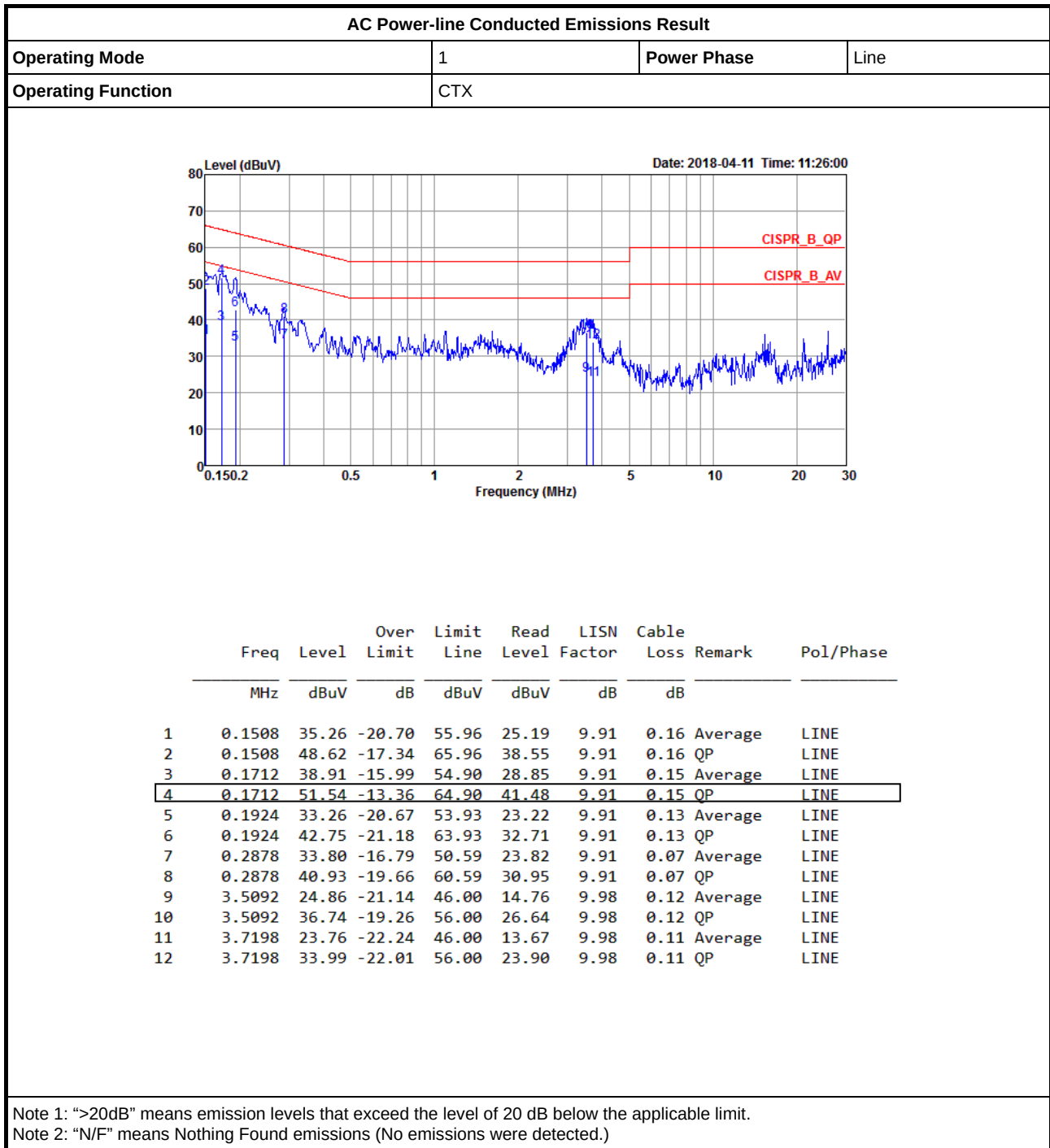
Appendix A

AC Power-line Conducted Emissions Result																																																																																																																																																					
Operating Mode	1			Power Phase			Neutral																																																																																																																																														
Operating Function	CTX																																																																																																																																																				
Level (dBuV) Date: 2018-04-11 Time: 11:28:04 Frequency (MHz) <table><tr><th></th><th>Freq</th><th>Level</th><th>Over Limit</th><th>Limit Line</th><th>Read Level</th><th>LISN Factor</th><th>Cable Loss</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th></th><th>MHz</th><th>dBuV</th><th>dB</th><th>dBuV</th><th>dBuV</th><th>dB</th><th>dB</th><th></th><th></th></tr><tr><td>1</td><td>0.1516</td><td>36.59</td><td>-19.32</td><td>55.91</td><td>26.51</td><td>9.92</td><td>0.16</td><td>Average</td><td>NEUTRAL</td></tr><tr><td>2</td><td>0.1516</td><td>49.08</td><td>-16.83</td><td>65.91</td><td>39.00</td><td>9.92</td><td>0.16</td><td>QP</td><td>NEUTRAL</td></tr><tr><td>3</td><td>0.1712</td><td>37.27</td><td>-17.63</td><td>54.90</td><td>27.20</td><td>9.92</td><td>0.15</td><td>Average</td><td>NEUTRAL</td></tr><tr><td>4</td><td>0.1712</td><td>46.24</td><td>-18.66</td><td>64.90</td><td>36.17</td><td>9.92</td><td>0.15</td><td>QP</td><td>NEUTRAL</td></tr><tr><td>5</td><td>0.2924</td><td>34.33</td><td>-16.13</td><td>50.46</td><td>24.35</td><td>9.92</td><td>0.06</td><td>Average</td><td>NEUTRAL</td></tr><tr><td>6</td><td>0.2924</td><td>40.89</td><td>-19.57</td><td>60.46</td><td>30.91</td><td>9.92</td><td>0.06</td><td>QP</td><td>NEUTRAL</td></tr><tr><td>7</td><td>0.4019</td><td>29.98</td><td>-17.83</td><td>47.81</td><td>20.05</td><td>9.92</td><td>0.01</td><td>Average</td><td>NEUTRAL</td></tr><tr><td>8</td><td>0.4019</td><td>36.73</td><td>-21.08</td><td>57.81</td><td>26.80</td><td>9.92</td><td>0.01</td><td>QP</td><td>NEUTRAL</td></tr><tr><td>9</td><td>3.2813</td><td>23.35</td><td>-22.65</td><td>46.00</td><td>13.25</td><td>9.97</td><td>0.13</td><td>Average</td><td>NEUTRAL</td></tr><tr><td>10</td><td>3.2813</td><td>32.07</td><td>-23.93</td><td>56.00</td><td>21.97</td><td>9.97</td><td>0.13</td><td>QP</td><td>NEUTRAL</td></tr><tr><td>11</td><td>3.7183</td><td>22.98</td><td>-23.02</td><td>46.00</td><td>12.89</td><td>9.98</td><td>0.11</td><td>Average</td><td>NEUTRAL</td></tr><tr><td>12</td><td>3.7183</td><td>32.42</td><td>-23.58</td><td>56.00</td><td>22.33</td><td>9.98</td><td>0.11</td><td>QP</td><td>NEUTRAL</td></tr></table>											Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase		MHz	dBuV	dB	dBuV	dBuV	dB	dB			1	0.1516	36.59	-19.32	55.91	26.51	9.92	0.16	Average	NEUTRAL	2	0.1516	49.08	-16.83	65.91	39.00	9.92	0.16	QP	NEUTRAL	3	0.1712	37.27	-17.63	54.90	27.20	9.92	0.15	Average	NEUTRAL	4	0.1712	46.24	-18.66	64.90	36.17	9.92	0.15	QP	NEUTRAL	5	0.2924	34.33	-16.13	50.46	24.35	9.92	0.06	Average	NEUTRAL	6	0.2924	40.89	-19.57	60.46	30.91	9.92	0.06	QP	NEUTRAL	7	0.4019	29.98	-17.83	47.81	20.05	9.92	0.01	Average	NEUTRAL	8	0.4019	36.73	-21.08	57.81	26.80	9.92	0.01	QP	NEUTRAL	9	3.2813	23.35	-22.65	46.00	13.25	9.97	0.13	Average	NEUTRAL	10	3.2813	32.07	-23.93	56.00	21.97	9.97	0.13	QP	NEUTRAL	11	3.7183	22.98	-23.02	46.00	12.89	9.98	0.11	Average	NEUTRAL	12	3.7183	32.42	-23.58	56.00	22.33	9.98	0.11	QP	NEUTRAL
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase																																																																																																																																												
	MHz	dBuV	dB	dBuV	dBuV	dB	dB																																																																																																																																														
1	0.1516	36.59	-19.32	55.91	26.51	9.92	0.16	Average	NEUTRAL																																																																																																																																												
2	0.1516	49.08	-16.83	65.91	39.00	9.92	0.16	QP	NEUTRAL																																																																																																																																												
3	0.1712	37.27	-17.63	54.90	27.20	9.92	0.15	Average	NEUTRAL																																																																																																																																												
4	0.1712	46.24	-18.66	64.90	36.17	9.92	0.15	QP	NEUTRAL																																																																																																																																												
5	0.2924	34.33	-16.13	50.46	24.35	9.92	0.06	Average	NEUTRAL																																																																																																																																												
6	0.2924	40.89	-19.57	60.46	30.91	9.92	0.06	QP	NEUTRAL																																																																																																																																												
7	0.4019	29.98	-17.83	47.81	20.05	9.92	0.01	Average	NEUTRAL																																																																																																																																												
8	0.4019	36.73	-21.08	57.81	26.80	9.92	0.01	QP	NEUTRAL																																																																																																																																												
9	3.2813	23.35	-22.65	46.00	13.25	9.97	0.13	Average	NEUTRAL																																																																																																																																												
10	3.2813	32.07	-23.93	56.00	21.97	9.97	0.13	QP	NEUTRAL																																																																																																																																												
11	3.7183	22.98	-23.02	46.00	12.89	9.98	0.11	Average	NEUTRAL																																																																																																																																												
12	3.7183	32.42	-23.58	56.00	22.33	9.98	0.11	QP	NEUTRAL																																																																																																																																												
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

Appendix A





EBW-FS Result

Appendix B.1

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)	921.25k	894.553k	895KF1D	920k	870.815k
BT-EDR(2Mbps)	1.281M	1.181M	1M18G1D	1.28M	1.177M
BT-EDR(3Mbps)	1.268M	1.183M	1M18G1D	1.265M	1.182M

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;

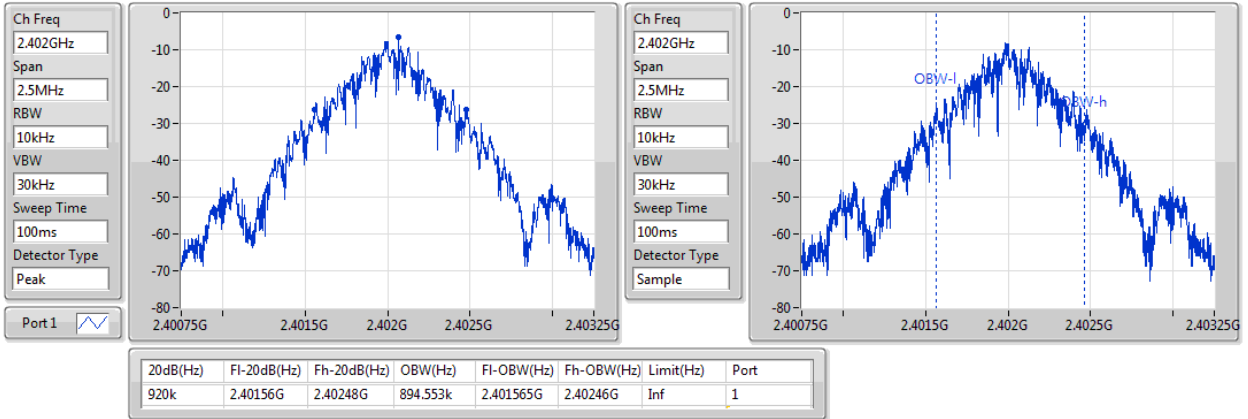
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	920k	894.553k
2440MHz	Pass	Inf	921.25k	870.815k
2480MHz	Pass	Inf	921.25k	872.064k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.28M	1.181M
2440MHz	Pass	Inf	1.28M	1.177M
2480MHz	Pass	Inf	1.281M	1.177M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.265M	1.182M
2440MHz	Pass	Inf	1.265M	1.182M
2480MHz	Pass	Inf	1.268M	1.183M

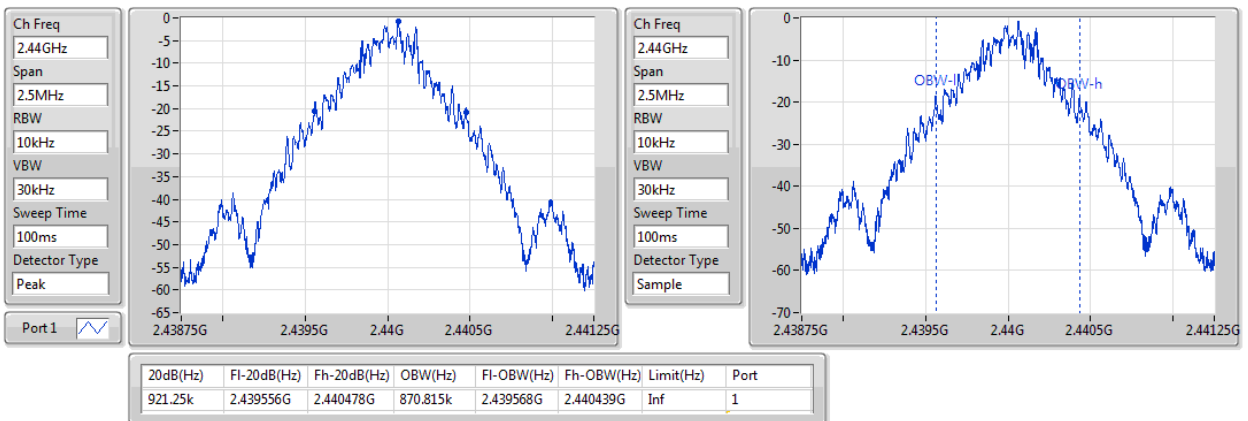
Port X-N dB = Port X 20dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-BR(1Mbps)
EBW
2402MHz

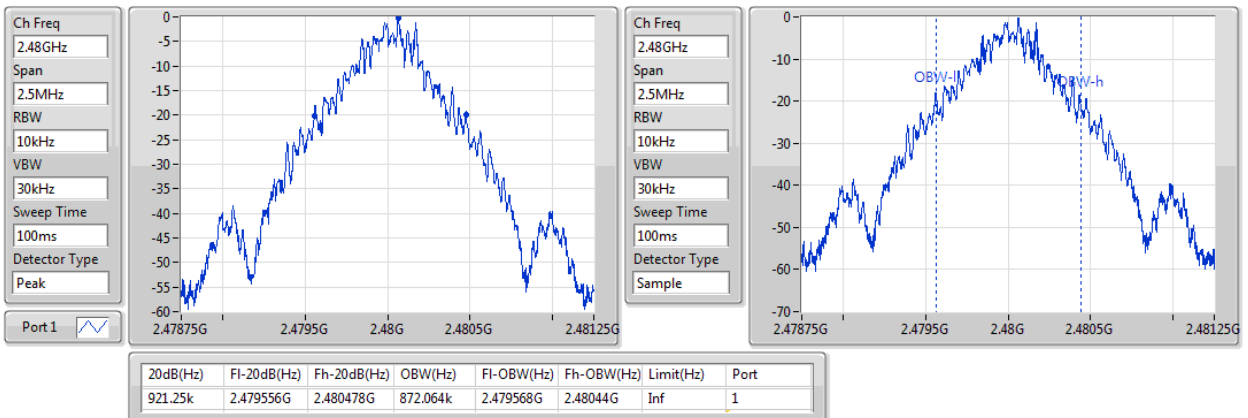
27/12/2017


BT-BR(1Mbps)
EBW
2440MHz

27/12/2017

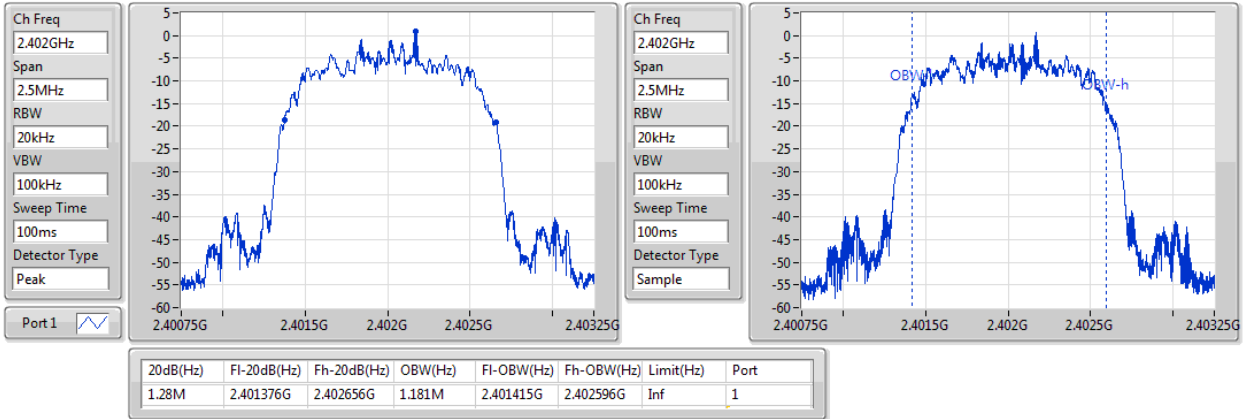

BT-BR(1Mbps)
EBW
2480MHz

27/12/2017

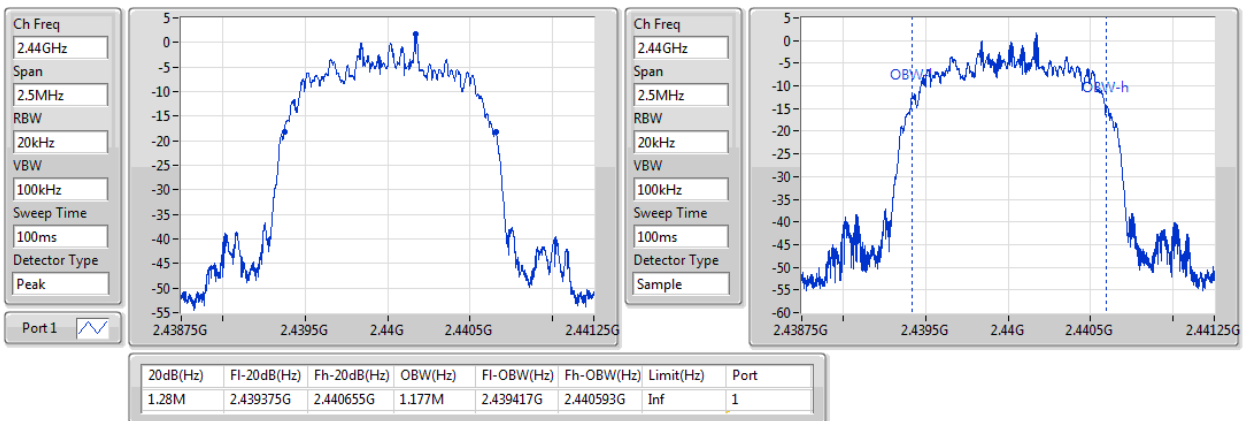


BT-EDR(2Mbps)
EBW
2402MHz

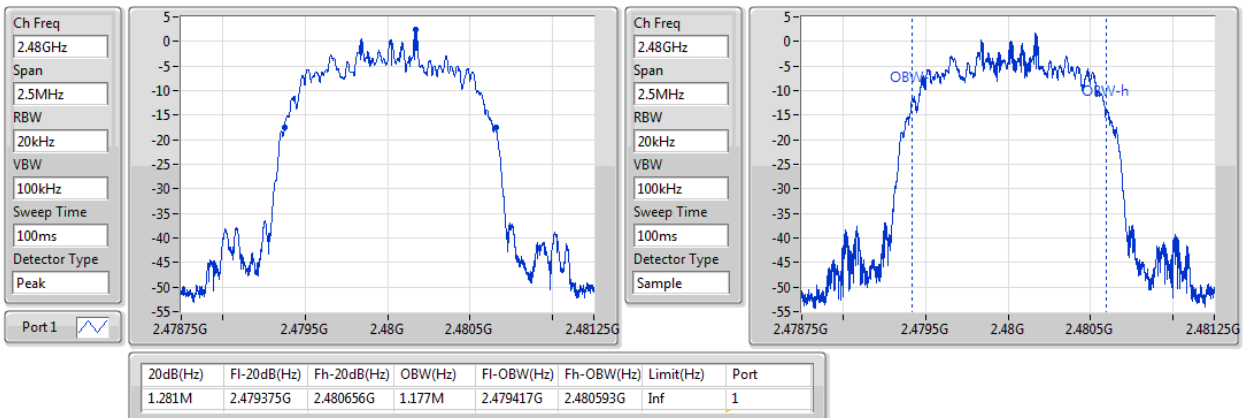
27/12/2017


BT-EDR(2Mbps)
EBW
2440MHz

27/12/2017

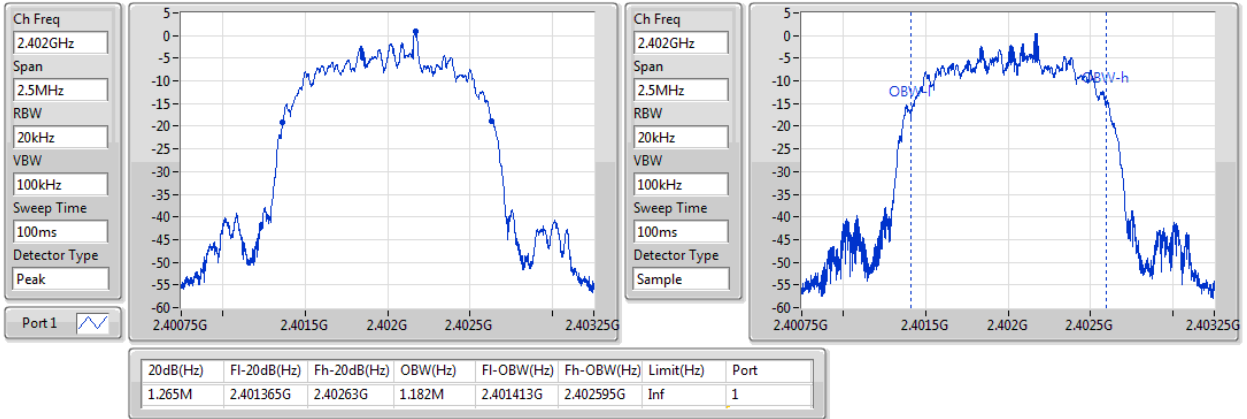

BT-EDR(2Mbps)
EBW
2480MHz

27/12/2017

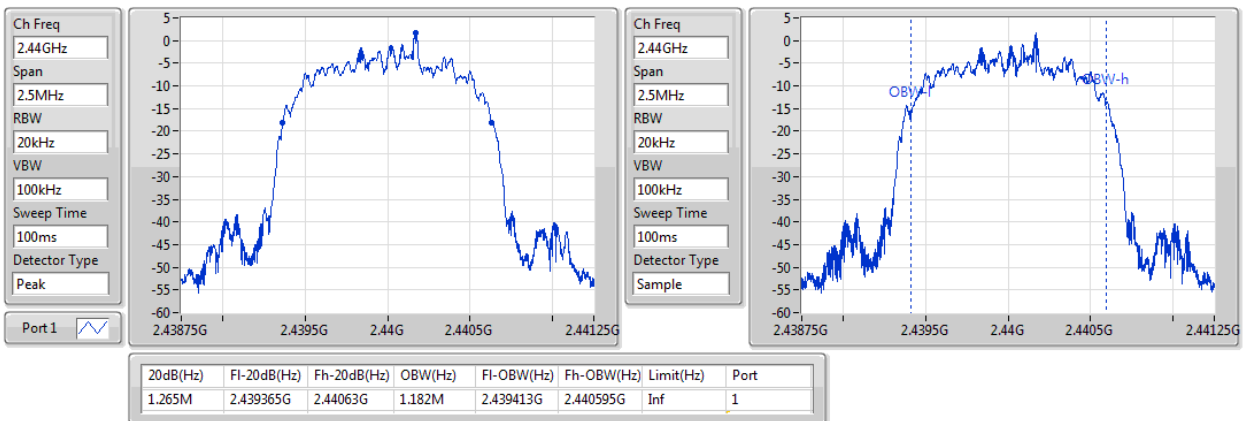


BT-EDR(3Mbps)
EBW
2402MHz

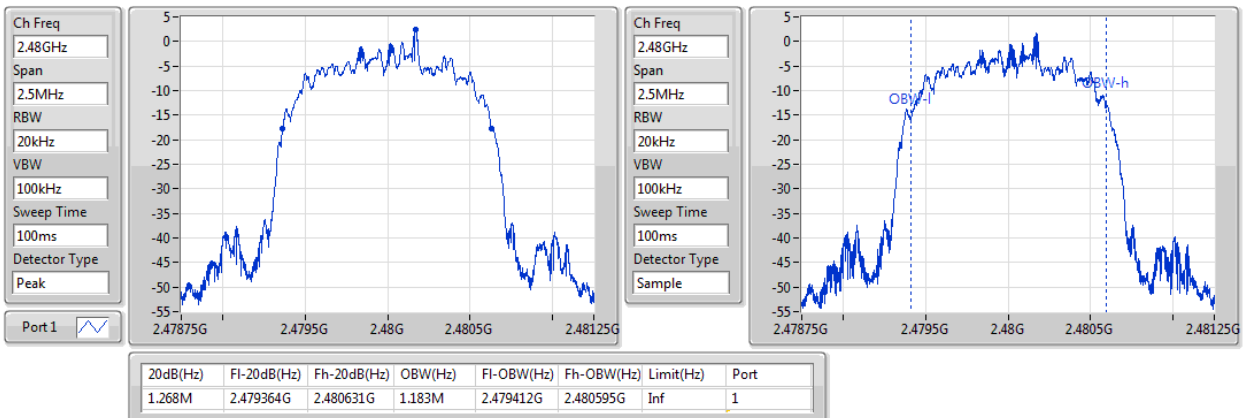
27/12/2017


BT-EDR(3Mbps)
EBW
2440MHz

27/12/2017


BT-EDR(3Mbps)
EBW
2480MHz

27/12/2017



Summary

Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.0035M	1.0005M
BT-EDR(2Mbps)	1.0005M	1.0005M
BT-EDR(3Mbps)	1.0005M	999k

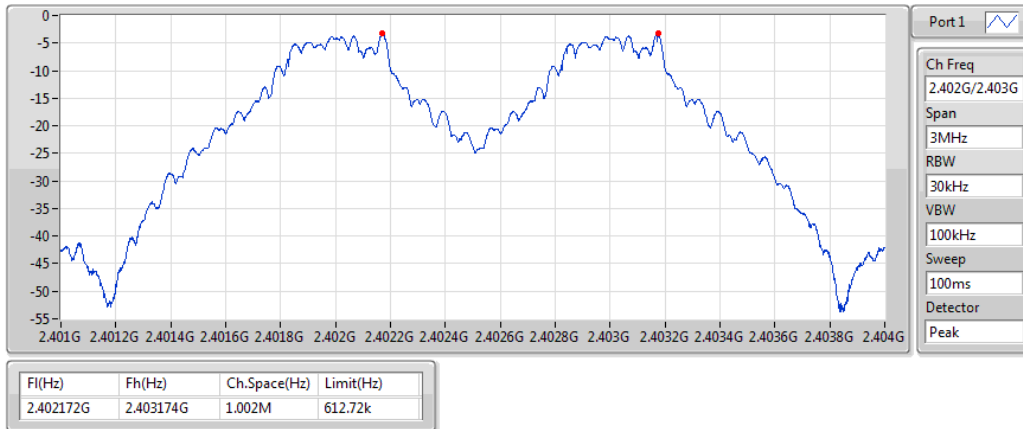
Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402172G	2.403174G	1.002M	612.72k
2440MHz	Pass	2.440167G	2.441171G	1.0035M	613.5525k
2480MHz	Pass	2.479169G	2.480169G	1.0005M	613.5525k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.40217G	2.403171G	1.0005M	852.48k
2440MHz	Pass	2.44017G	2.441171G	1.0005M	852.48k
2480MHz	Pass	2.47917G	2.480171G	1.0005M	853.146k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402169G	2.403169G	1.0005M	842.49k
2440MHz	Pass	2.44017G	2.441169G	999k	842.49k
2480MHz	Pass	2.47917G	2.480169G	999k	844.488k

BT-BR(1Mbps)

Channel Separation

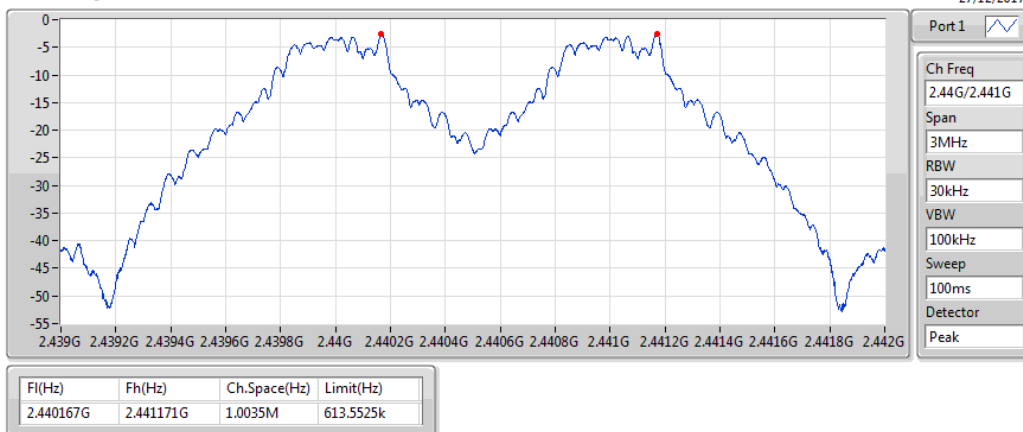
2.402G/2.403GHz



BT-BR(1Mbps)

Channel Separation

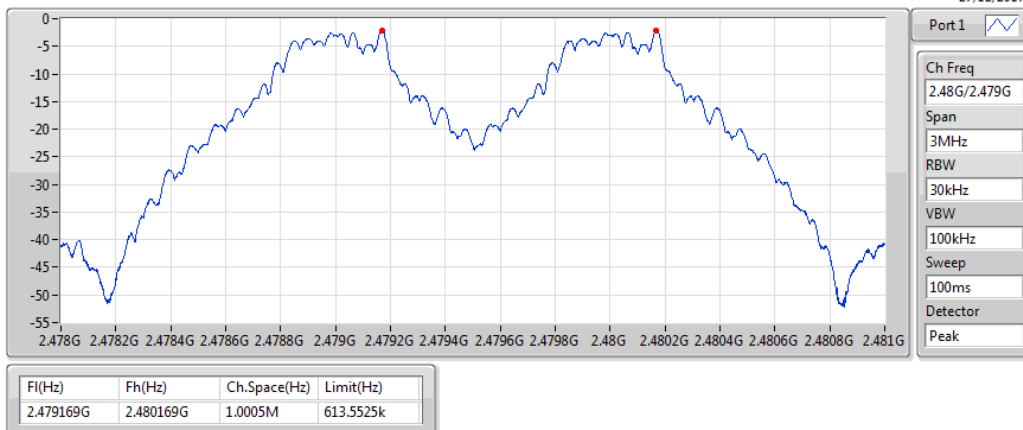
2.44G/2.441GHz



BT-BR(1Mbps)

Channel Separation

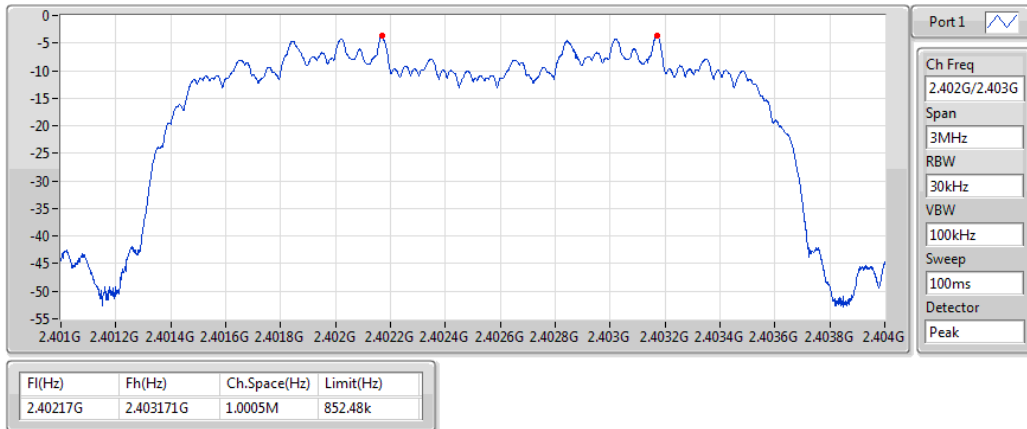
2.48G/2.479GHz



BT-EDR(2Mbps)

Channel Separation

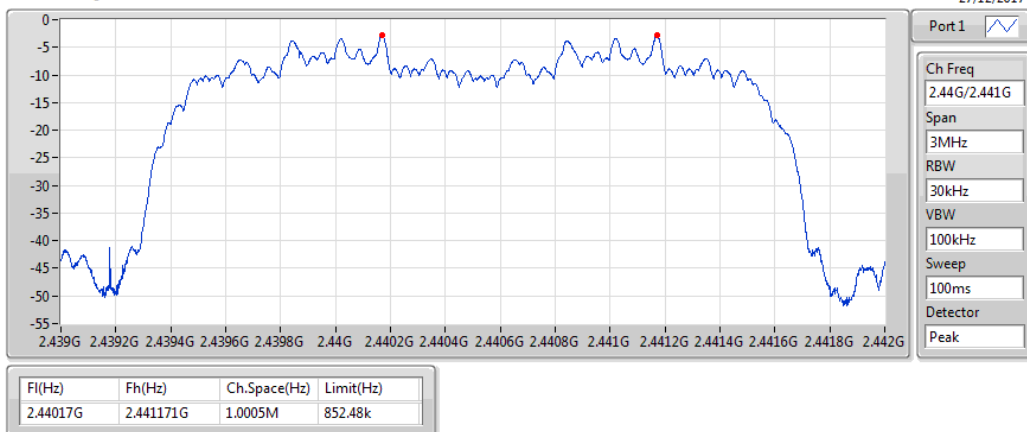
2.402G/2.403GHz



BT-EDR(2Mbps)

Channel Separation

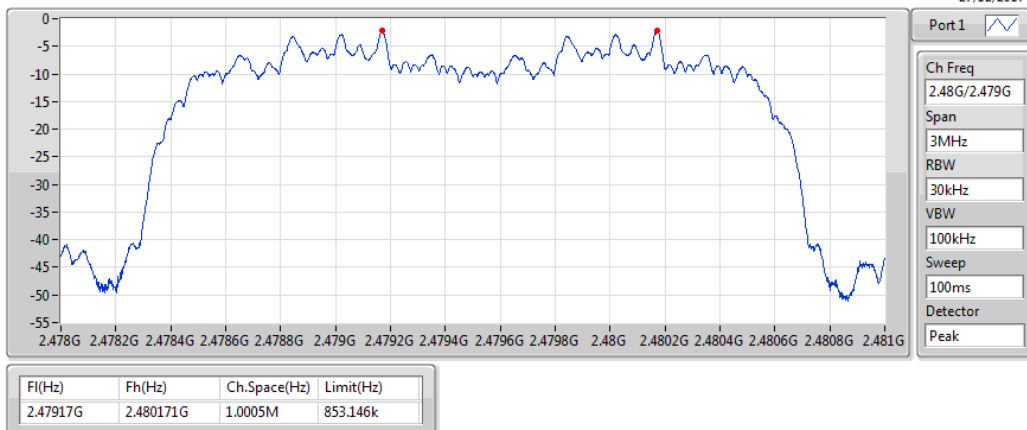
2.44G/2.441GHz



BT-EDR(2Mbps)

Channel Separation

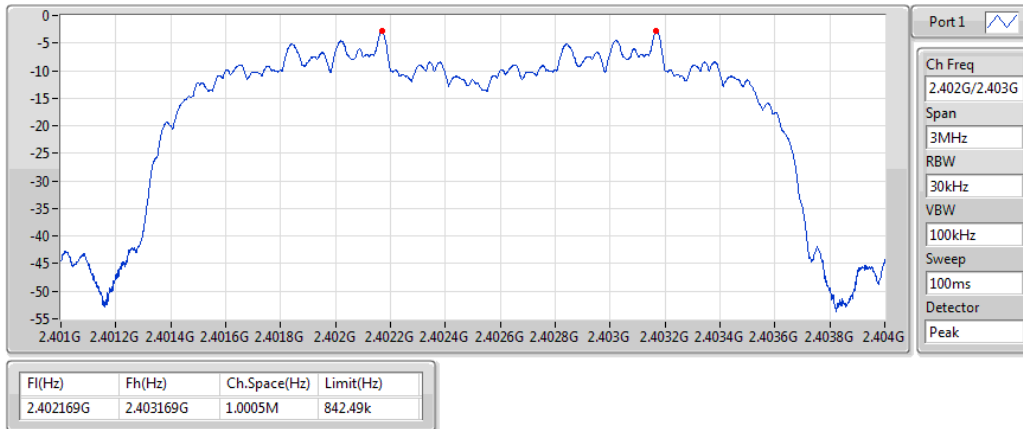
2.48G/2.479GHz



BT-EDR(3Mbps)

Channel Separation

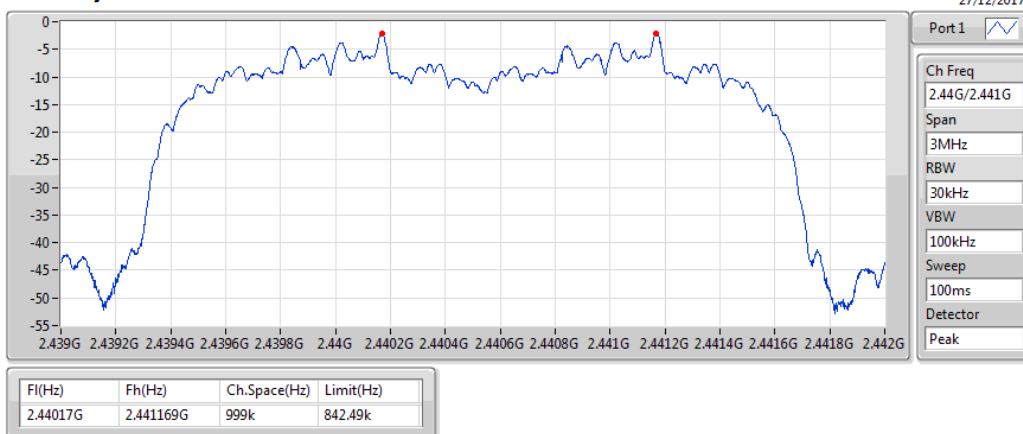
2.402G/2.403GHz



BT-EDR(3Mbps)

Channel Separation

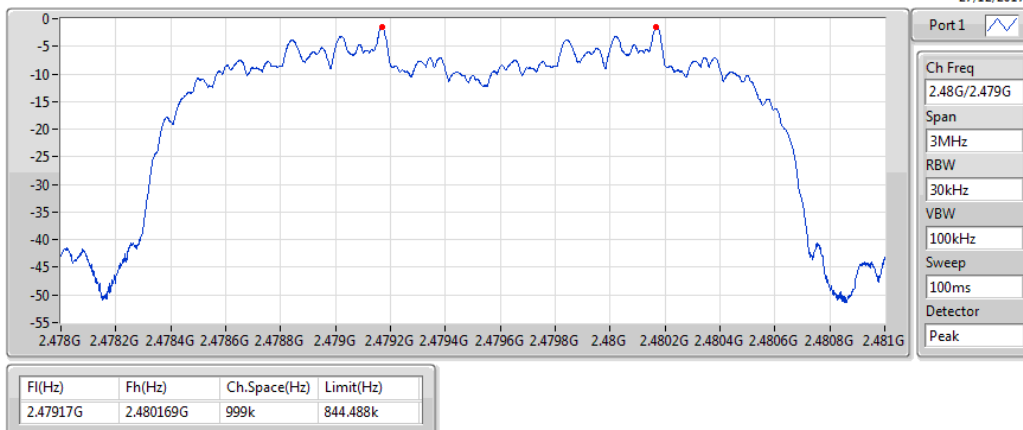
2.44G/2.441GHz



BT-EDR(3Mbps)

Channel Separation

2.48G/2.479GHz



Summary

Mode	Power	Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	6.84	0.00483
BT-EDR(2Mbps)	6.92	0.00492
BT-EDR(3Mbps)	6.83	0.00482

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	5.85	5.47	30.00
2440MHz	Pass	5.85	6.20	30.00
2480MHz	Pass	5.85	6.84	30.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	5.85	5.47	30.00
2440MHz	Pass	5.85	6.28	30.00
2480MHz	Pass	5.85	6.92	30.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	5.85	5.51	30.00
2440MHz	Pass	5.85	6.27	30.00
2480MHz	Pass	5.85	6.83	30.00

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	7.07	0.00509
BT-EDR(2Mbps)	8.54	0.00714
BT-EDR(3Mbps)	8.94	0.00783

Result

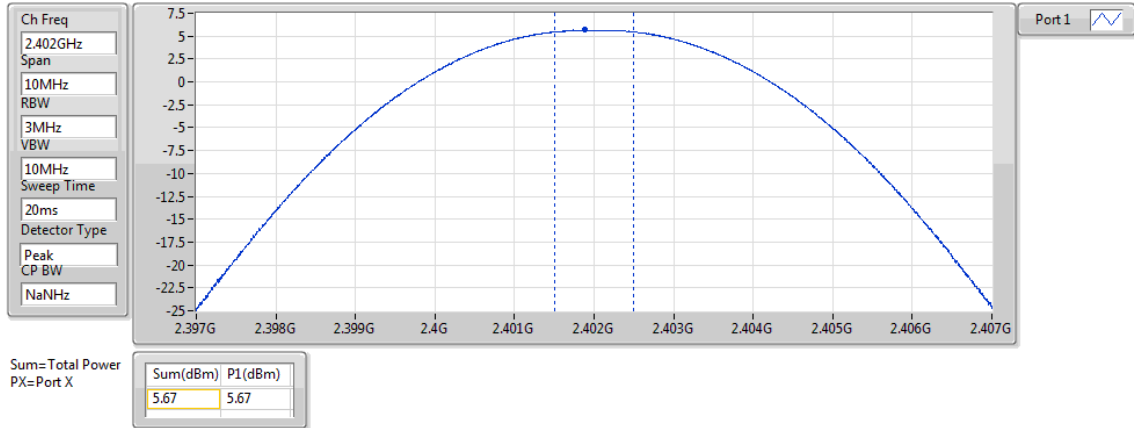
Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	5.85	5.67	30.00
2440MHz	Pass	5.85	6.50	30.00
2480MHz	Pass	5.85	7.07	30.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	5.85	7.20	30.00
2440MHz	Pass	5.85	7.98	30.00
2480MHz	Pass	5.85	8.54	30.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	5.85	7.57	30.00
2440MHz	Pass	5.85	8.37	30.00
2480MHz	Pass	5.85	8.94	30.00

BT-BR(1Mbps)

PK Power

2402MHz

28/12/2017

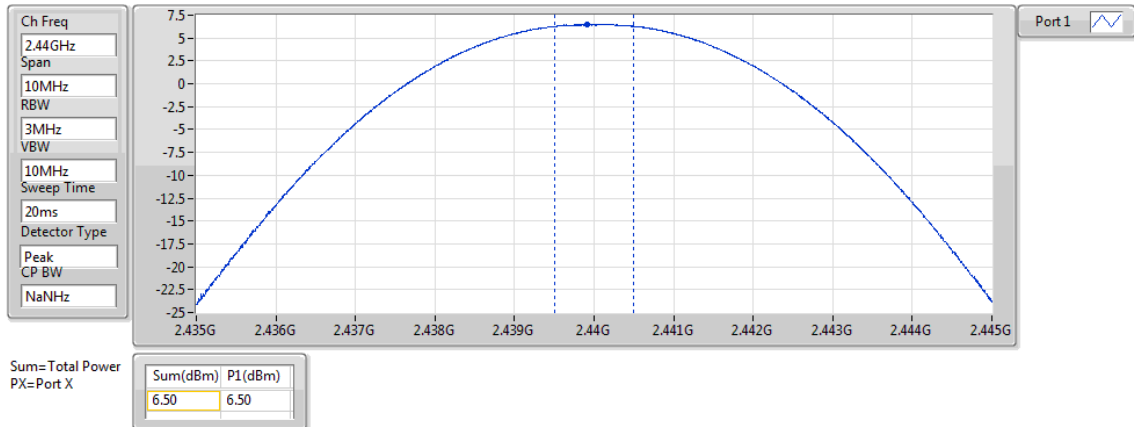


BT-BR(1Mbps)

PK Power

2440MHz

28/12/2017

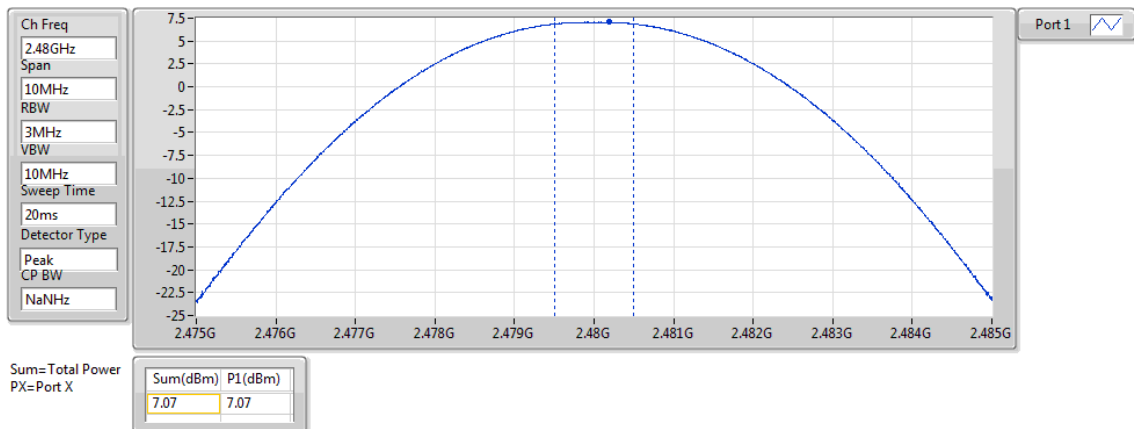


BT-BR(1Mbps)

PK Power

2480MHz

28/12/2017





Hopping Channel and Bandedge-FS Result

Appendix D

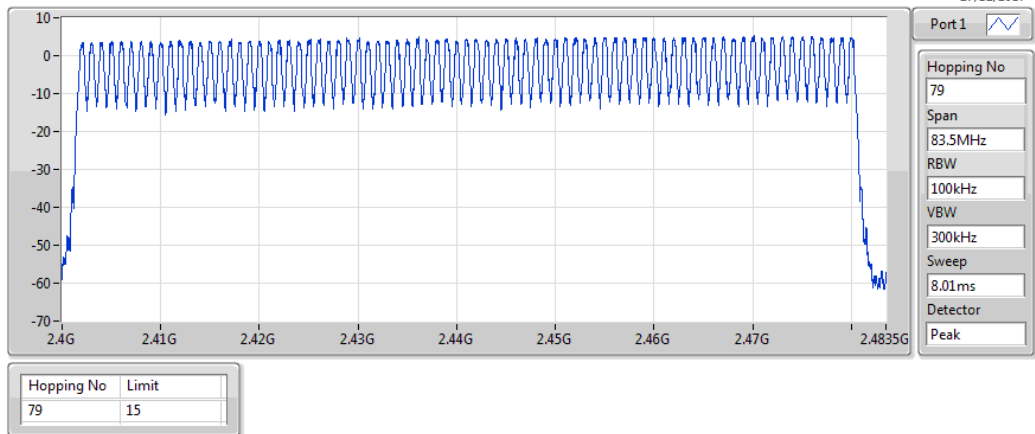
Summary

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

Result

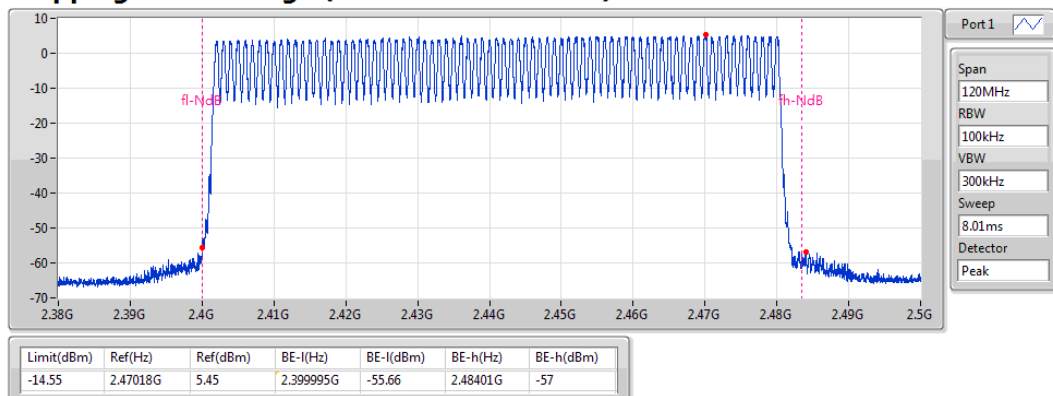
Mode	Result	Hopping No	Limit
BT-BR(1Mbps)	-	-	-
2440MHz	Pass	79	15
BT-EDR(2Mbps)	-	-	-
2440MHz	Pass	79	15
BT-EDR(3Mbps)	-	-	-
2440MHz	Pass	79	15

BT-BR(1Mbps) 2440MHz



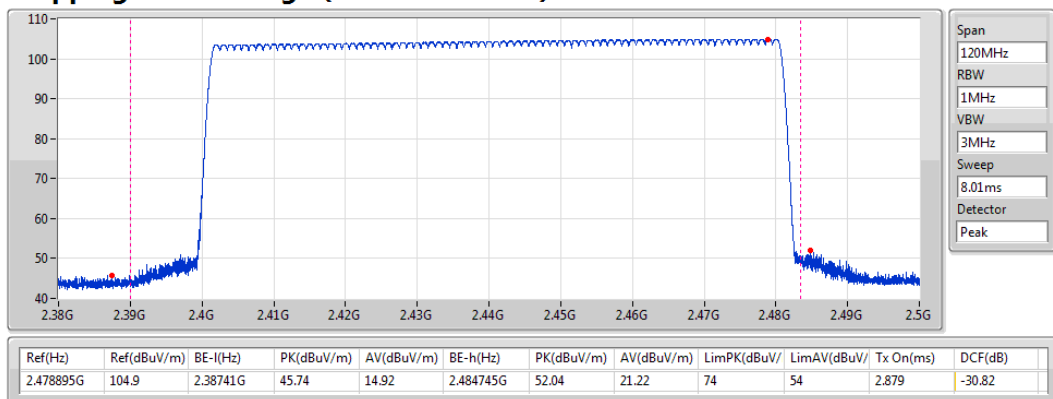
BT-BR(1Mbps) 2440MHz

Hopping Ch Bandedge (Non-restricted Band)



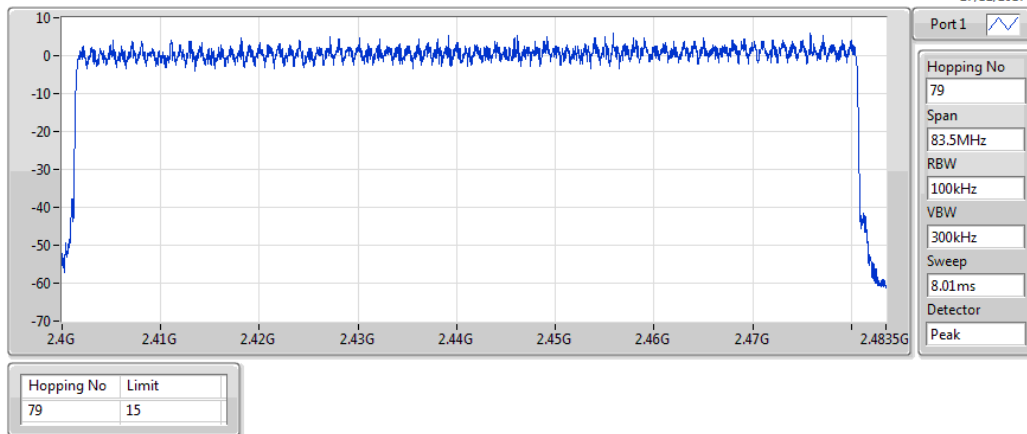
BT-BR(1Mbps) 2440MHz

Hopping Ch Bandedge (Restricted Band)



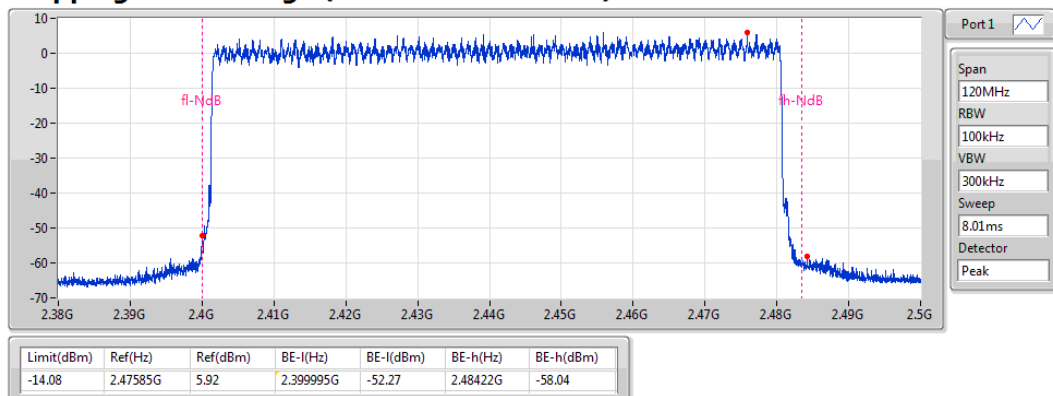
BT-EDR(2Mbps) 2440MHz

Hopping Ch



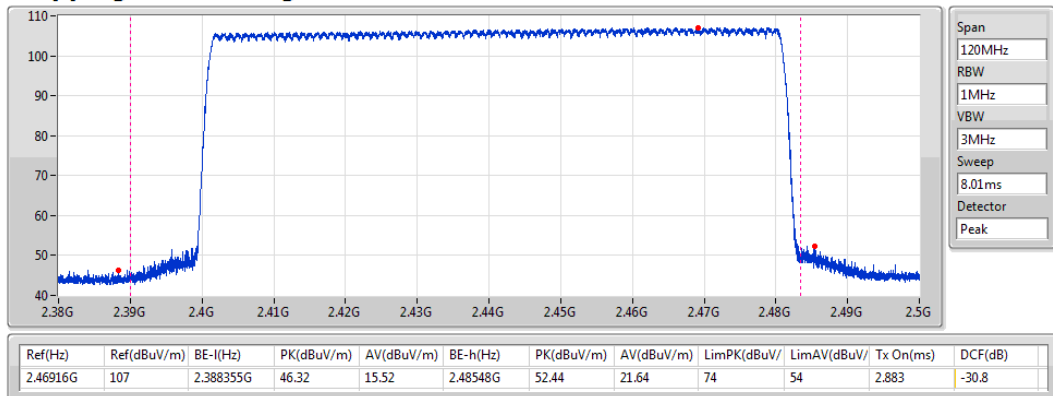
BT-EDR(2Mbps) 2440MHz

Hopping Ch Bandedge (Non-restricted Band)

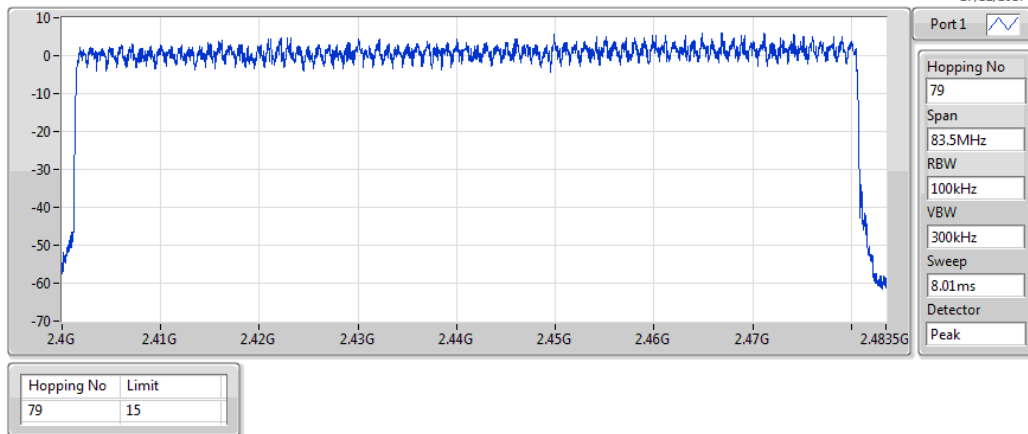


BT-EDR(2Mbps) 2440MHz

Hopping Ch Bandedge (Restricted Band)

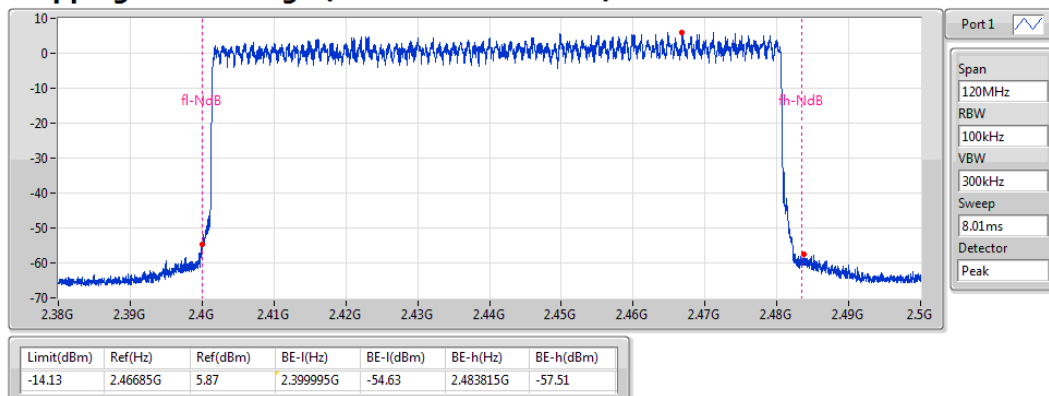


BT-EDR(3Mbps) 2440MHz



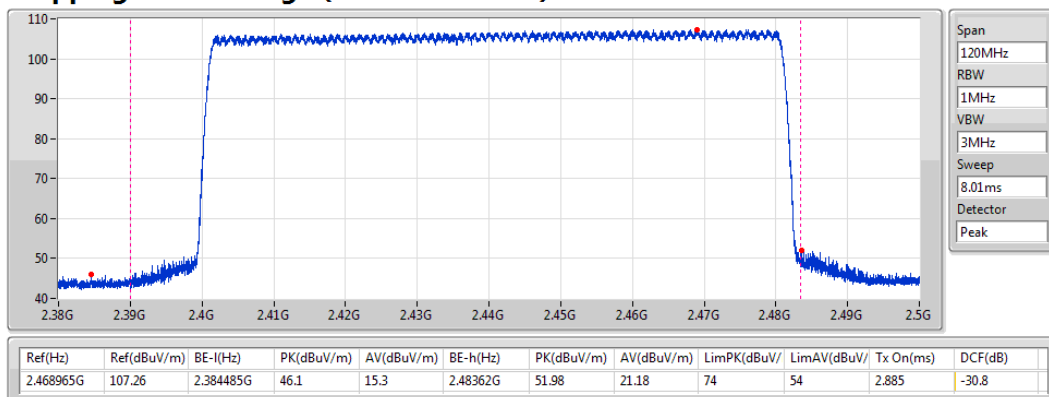
BT-EDR(3Mbps) 2440MHz

Hopping Ch Bandedge (Non-restricted Band)



BT-EDR(3Mbps) 2440MHz

Hopping Ch Bandedge (Restricted Band)





Dwell Time-FS Result

Appendix E

Summary

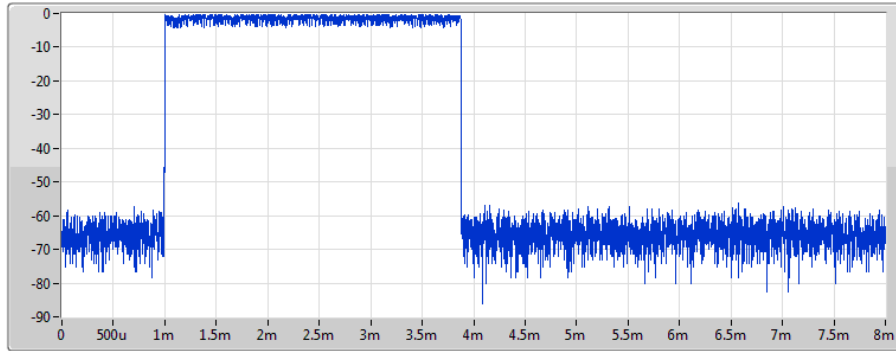
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	306.9014m
BT-EDR(2Mbps)	307.3278m
BT-EDR(3Mbps)	307.541m

Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	306.9014m	400m	2.879m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	307.3278m	400m	2.883m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	307.541m	400m	2.885m

BT-BR(1Mbps)

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	306.9014m	400m	2.879m

Dwell

27/12/2017

Port 1 

Ch Freq
2.44GHz

RBW
300kHz

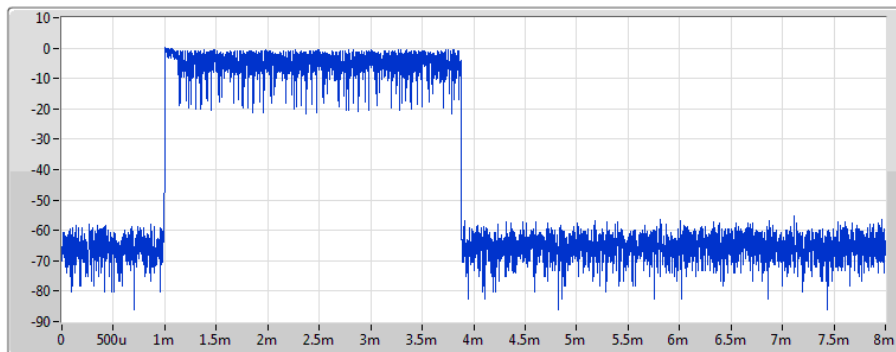
VBW
1MHz

Sweep Time
8ms

TX Time
2.879ms

BT-EDR(2Mbps)

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	307.3278m	400m	2.883m

Dwell

27/12/2017

Port 1 

Ch Freq
2.44GHz

RBW
300kHz

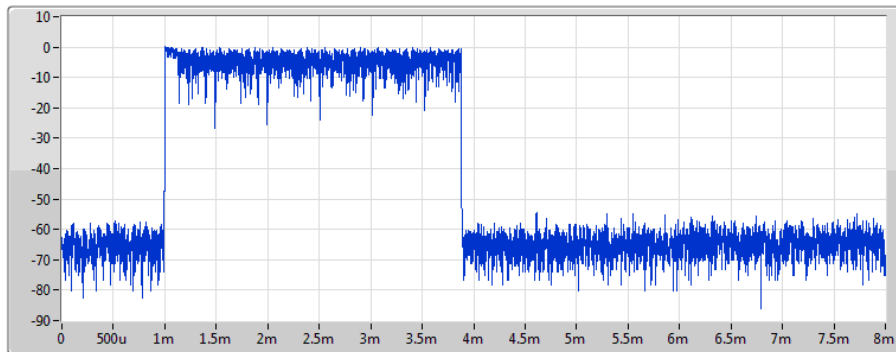
VBW
1MHz

Sweep Time
8ms

TX Time
2.883ms

BT-EDR(3Mbps)

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	307.541m	400m	2.885m

Dwell

27/12/2017

Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.885ms



CSE Non-restricted Band-FS Result

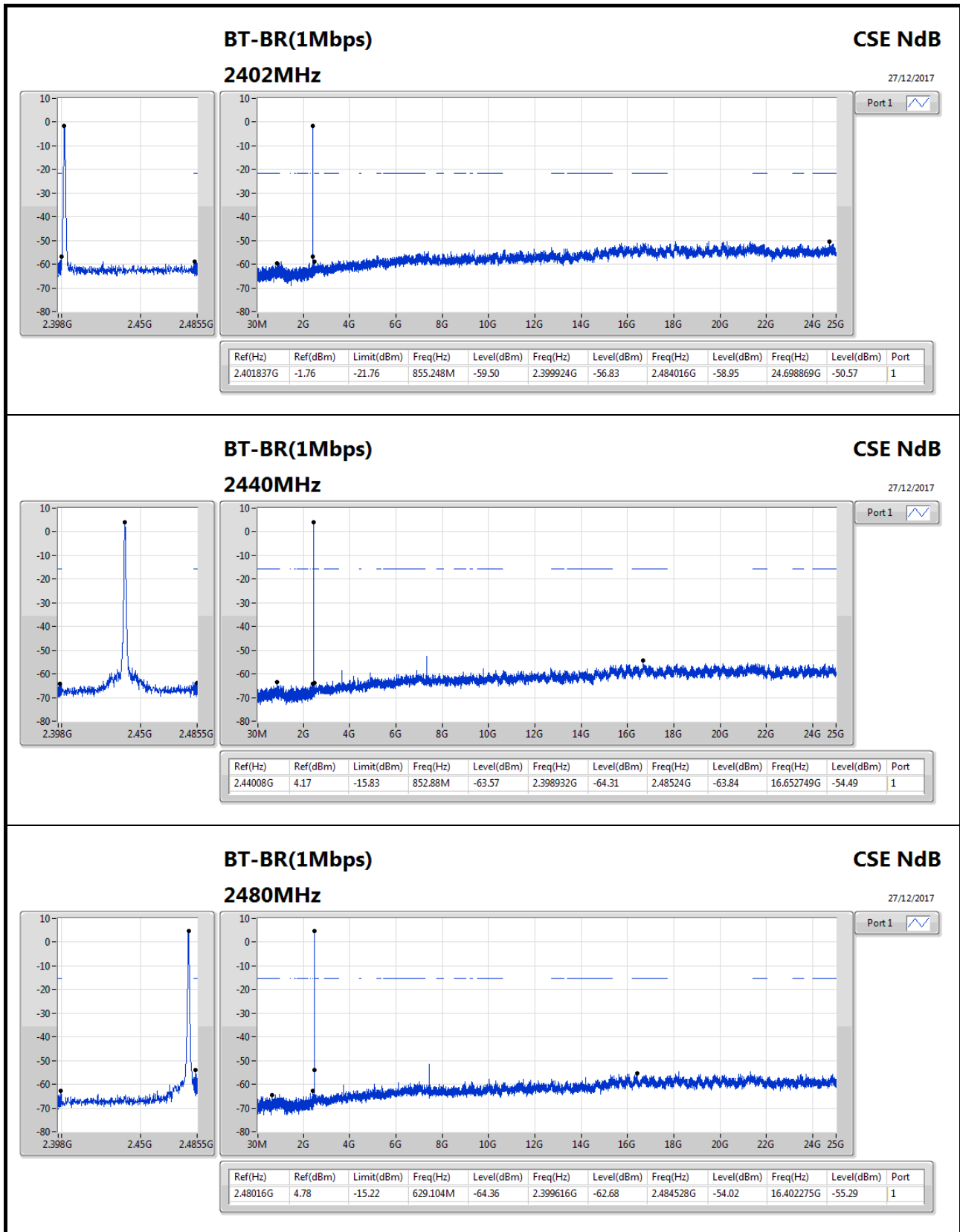
Appendix F

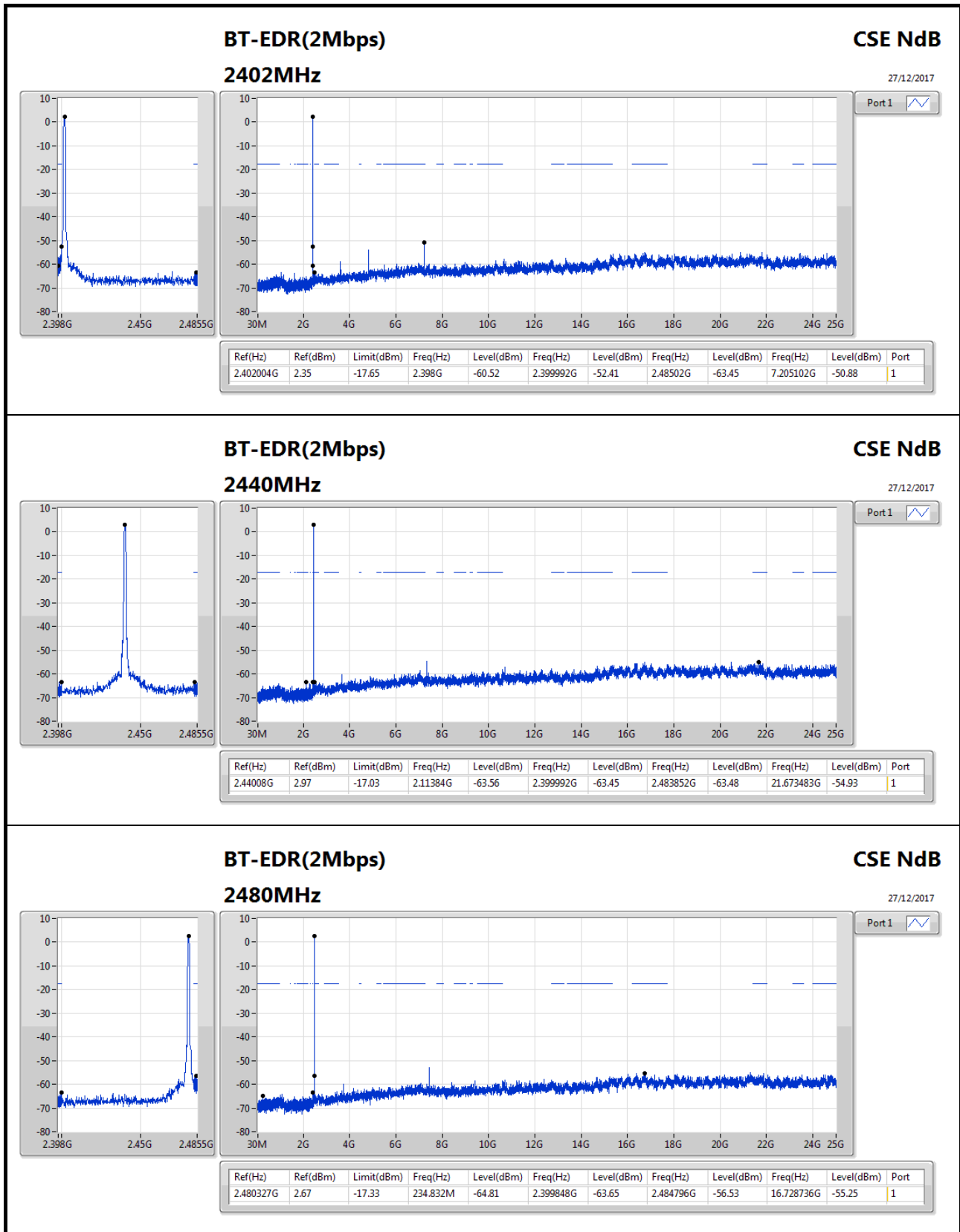
Summary

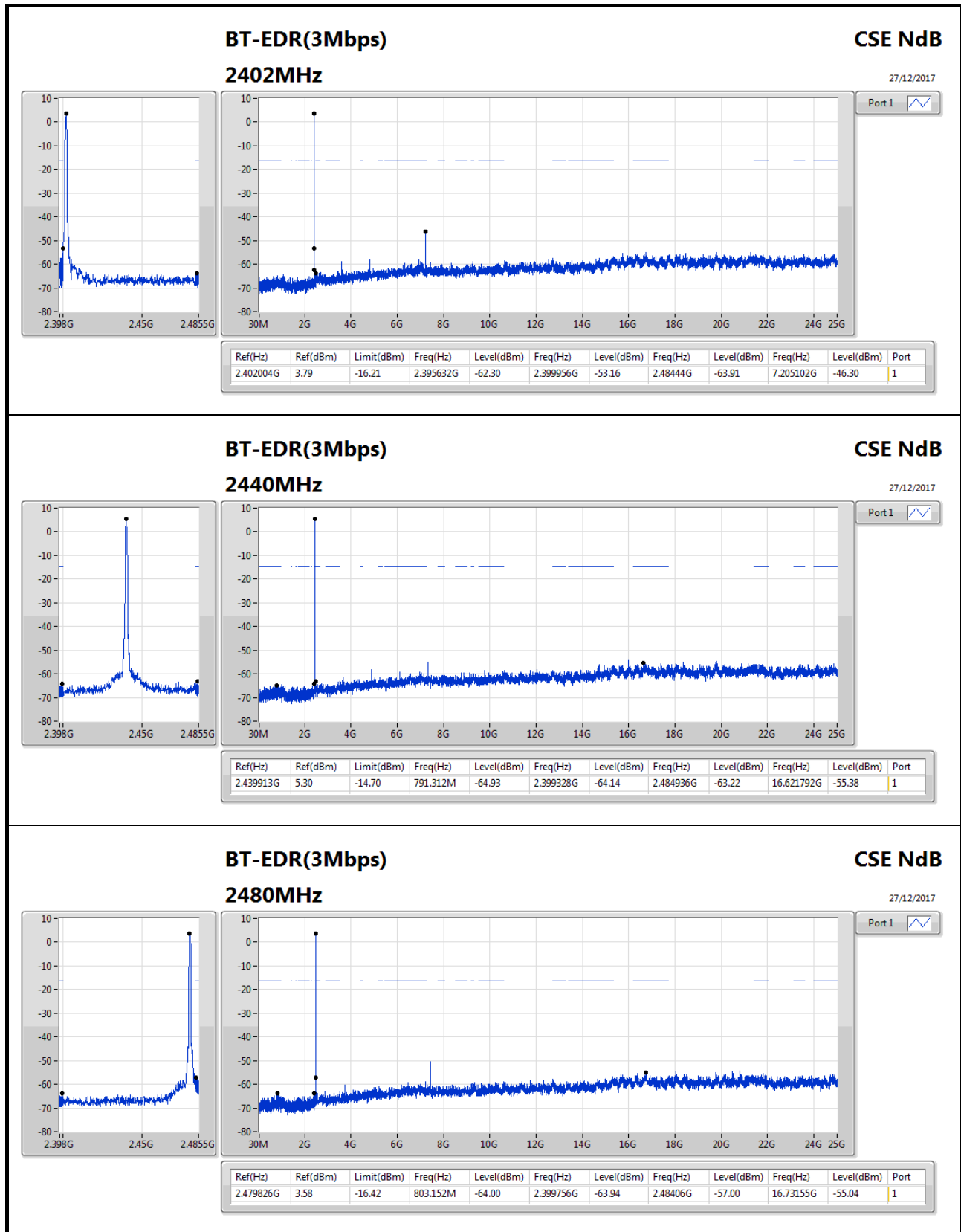
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.401837G	-1.76	-21.76	855.248M	-59.50	2.399924G	-56.83	2.484016G	-58.95	24.698869G	-50.57	1
BT-EDR(2Mbps)	Pass	2.402004G	2.35	-17.65	2.398G	-60.52	2.399992G	-52.41	2.48502G	-63.45	7.205102G	-50.88	1
BT-EDR(3Mbps)	Pass	2.402004G	3.79	-16.21	2.395632G	-62.30	2.399956G	-53.16	2.48444G	-63.91	7.205102G	-46.30	1

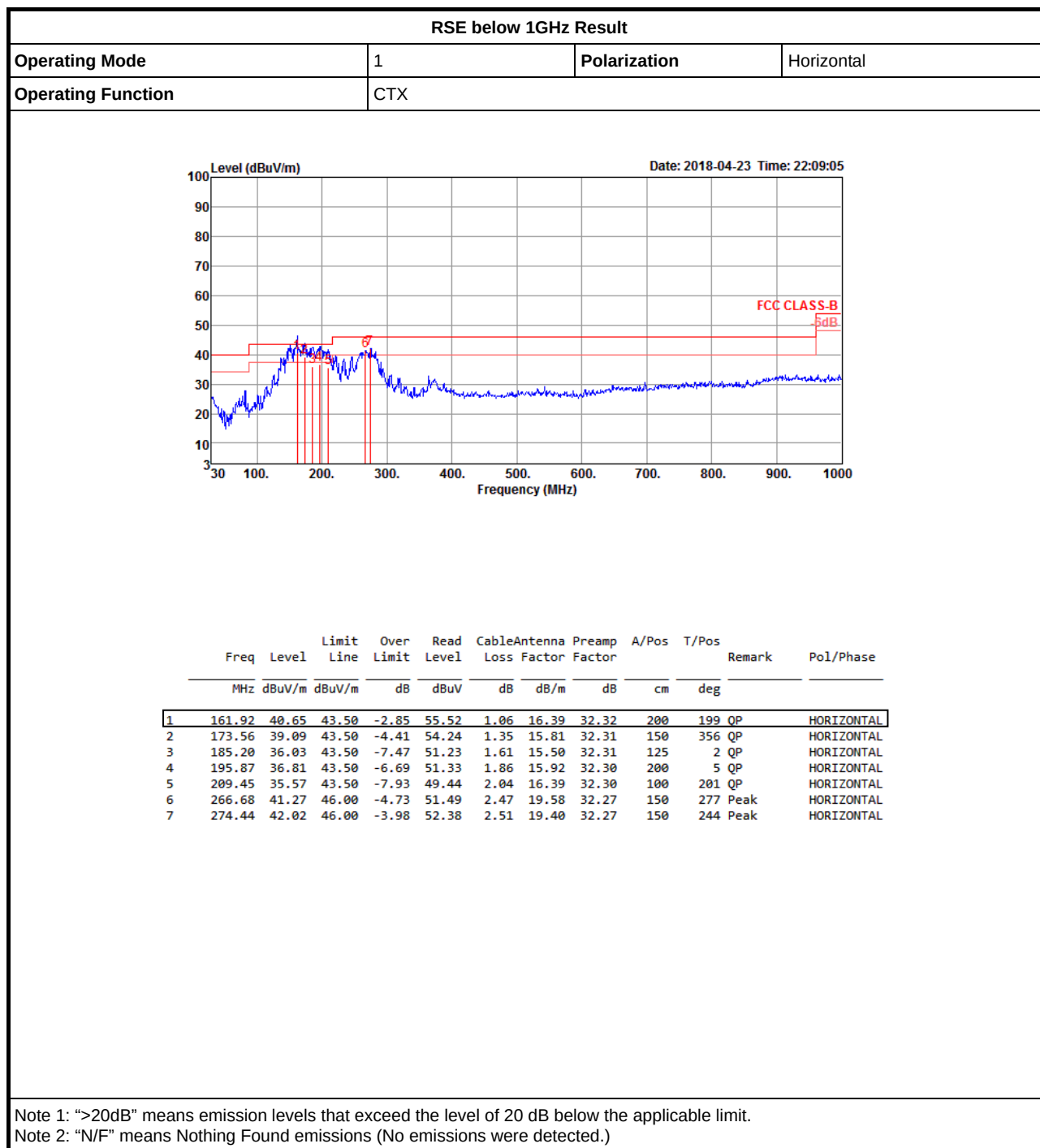
Result

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	Pass	2.401837G	-1.76	-21.76	855.248M	-59.50	2.399924G	-56.83	2.484016G	-58.95	24.698869G	-50.57	1
2440MHz	Pass	2.44008G	4.17	-15.83	852.88M	-63.57	2.398932G	-64.31	2.48524G	-63.84	16.652749G	-54.49	1
2480MHz	Pass	2.48016G	4.78	-15.22	629.104M	-64.36	2.399616G	-62.68	2.484528G	-54.02	16.402275G	-55.29	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402004G	2.35	-17.65	2.398G	-60.52	2.399992G	-52.41	2.48502G	-63.45	7.205102G	-50.88	1
2440MHz	Pass	2.44008G	2.97	-17.03	2.11384G	-63.56	2.399992G	-63.45	2.483852G	-63.48	21.673483G	-54.93	1
2480MHz	Pass	2.480327G	2.67	-17.33	234.832M	-64.81	2.399848G	-63.65	2.484796G	-56.53	16.728736G	-55.25	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402004G	3.79	-16.21	2.395632G	-62.30	2.399956G	-53.16	2.48444G	-63.91	7.205102G	-46.30	1
2440MHz	Pass	2.439913G	5.30	-14.70	791.312M	-64.93	2.399328G	-64.14	2.484936G	-63.22	16.621792G	-55.38	1
2480MHz	Pass	2.479826G	3.58	-16.42	803.152M	-64.00	2.399756G	-63.94	2.48406G	-57.00	16.73155G	-55.04	1





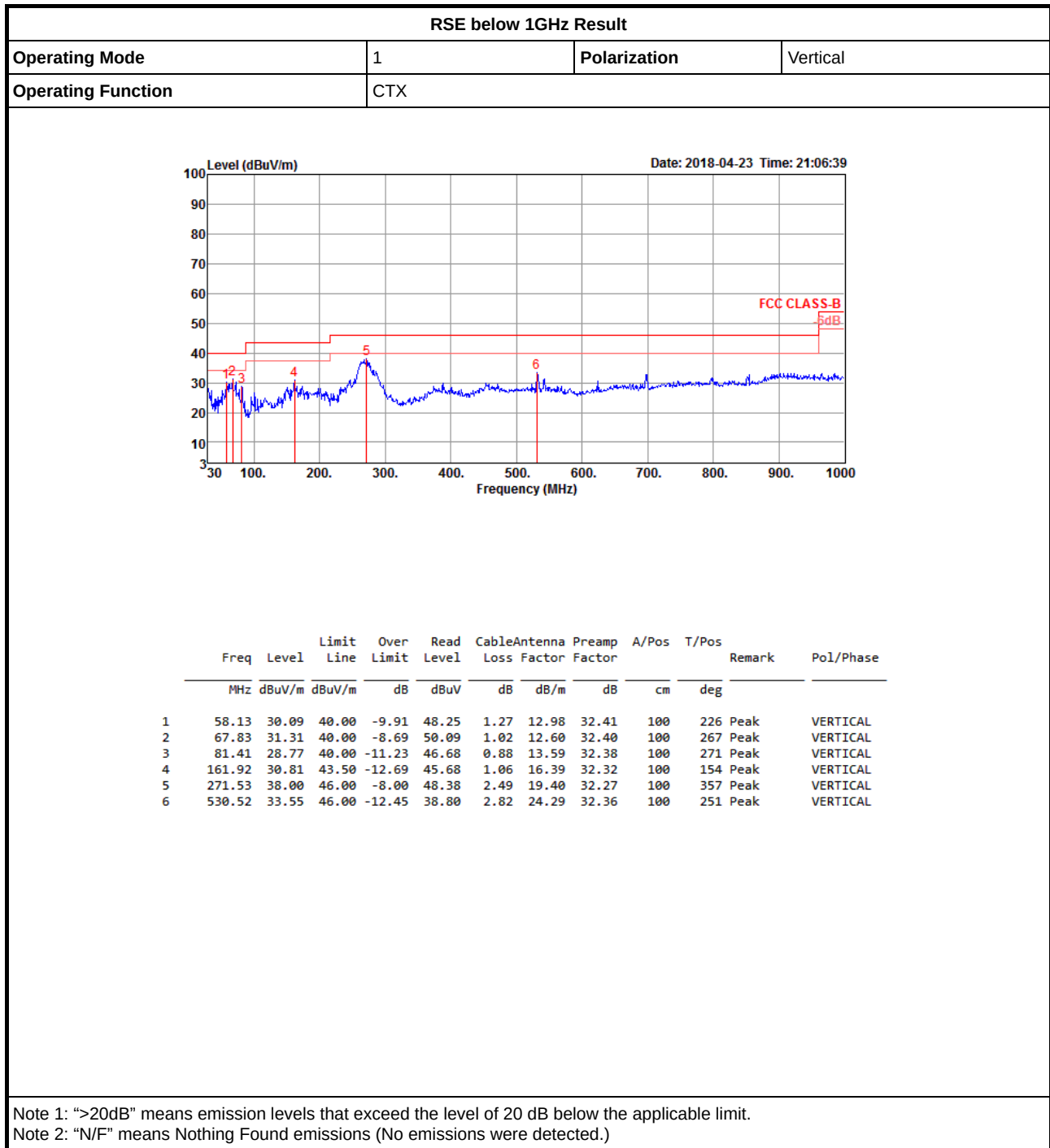






RSE below 1GHz Result

Appendix G.1





RSE TX above 1GHz Result

Appendix G.2

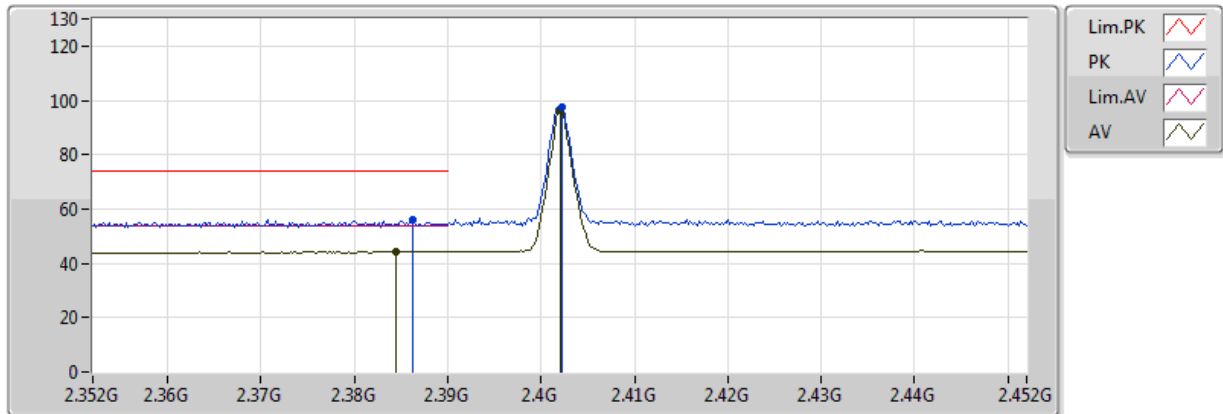
Summary

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	45.94	54.00	-8.06	32.42	3	Vertical	217	1.77	-

BT-BR(1Mbps)

2402MHz_TX

20/04/2018



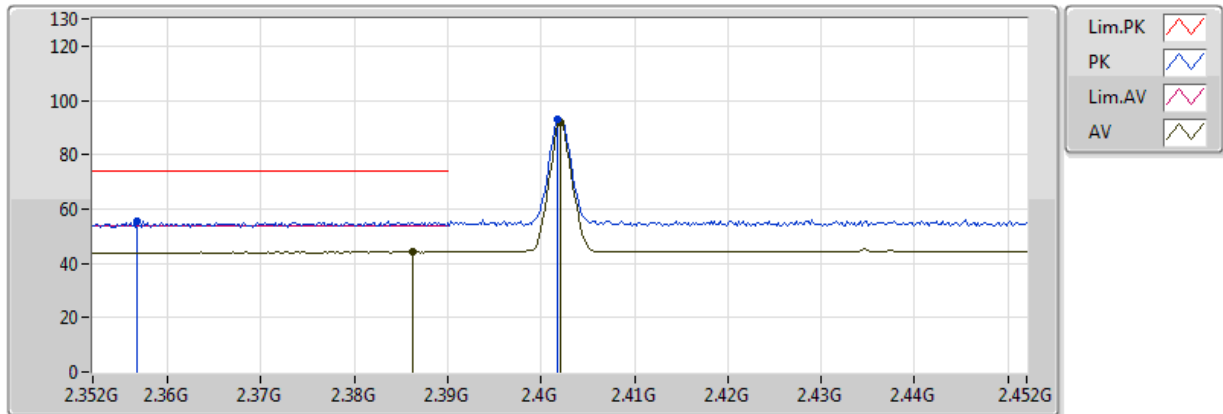
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.3862G	55.94	74.00	-18.06	32.11	3	Vertical	128	2.46	-
AV	2.3844G	44.34	54.00	-9.66	32.10	3	Vertical	128	2.46	-
PK	2.4022G	97.39	Inf	-Inf	32.16	3	Vertical	128	2.46	-
AV	2.402G	96.54	Inf	-Inf	32.16	3	Vertical	128	2.46	-

BT-BR(1Mbps)

2402MHz_TX

20/04/2018



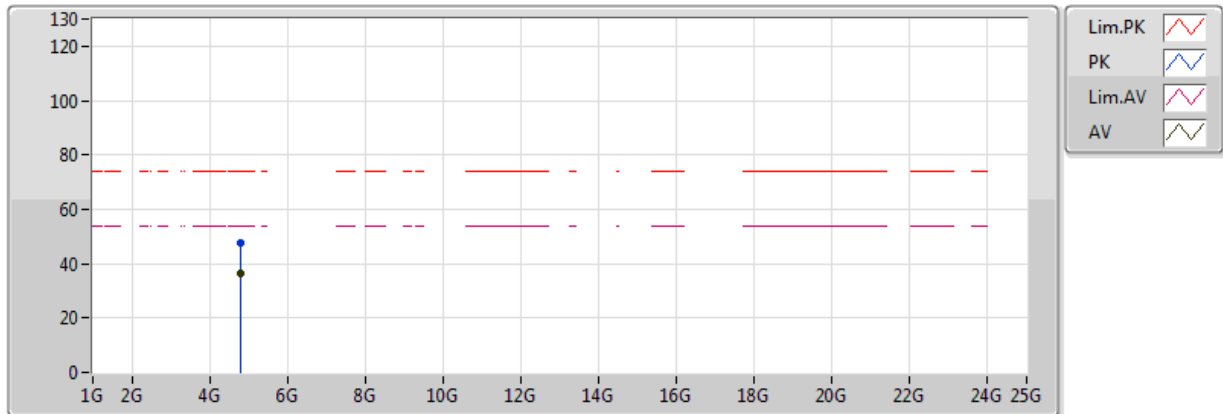
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.3568G	55.37	74.00	-18.63	32.01	3	Horizontal	145	1.47	-
AV	2.3862G	44.26	54.00	-9.74	32.11	3	Horizontal	145	1.47	-
PK	2.4018G	93.15	Inf	-Inf	32.16	3	Horizontal	145	1.47	-
AV	2.402G	92.05	Inf	-Inf	32.16	3	Horizontal	145	1.47	-

BT-BR(1Mbps)

2402MHz_TX

20/04/2018



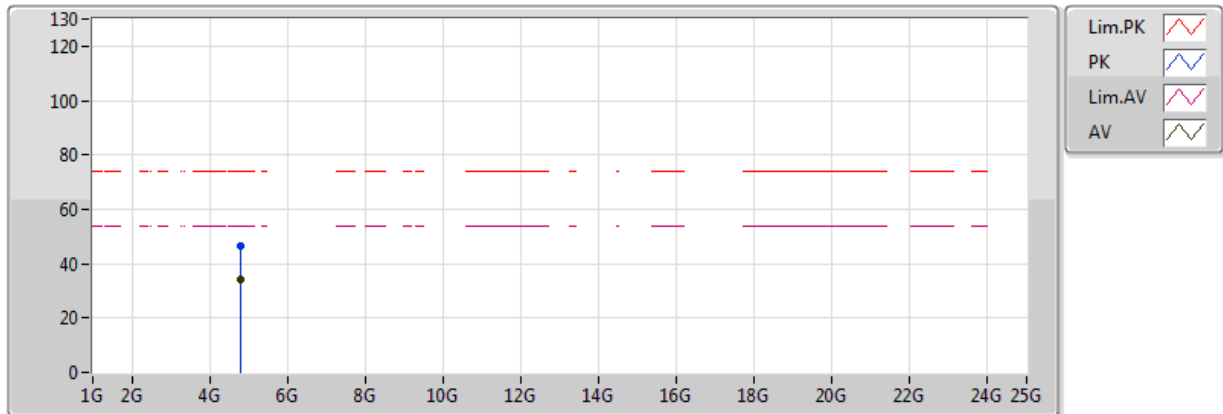
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.803908G	47.79	74.00	-26.21	6.64	3	Vertical	29	2.11	-
AV	4.804076G	36.62	54.00	-17.38	6.64	3	Vertical	29	2.11	-

BT-BR(1Mbps)

2402MHz_TX

20/04/2018



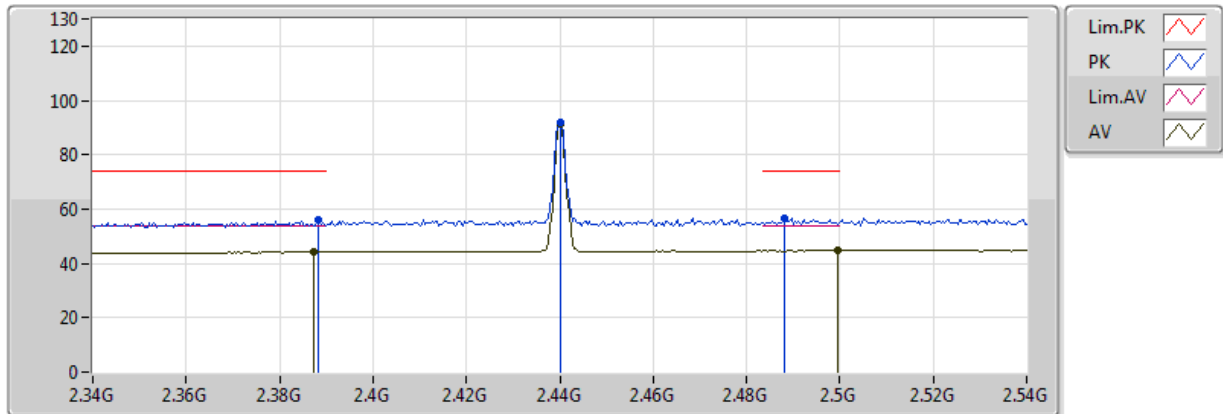
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.803696G	46.48	74.00	-27.52	6.64	3	Horizontal	130	3.00	-
AV	4.803968G	34.29	54.00	-19.71	6.64	3	Horizontal	130	3.00	-

BT-BR(1Mbps)

2440MHz_TX

20/04/2018



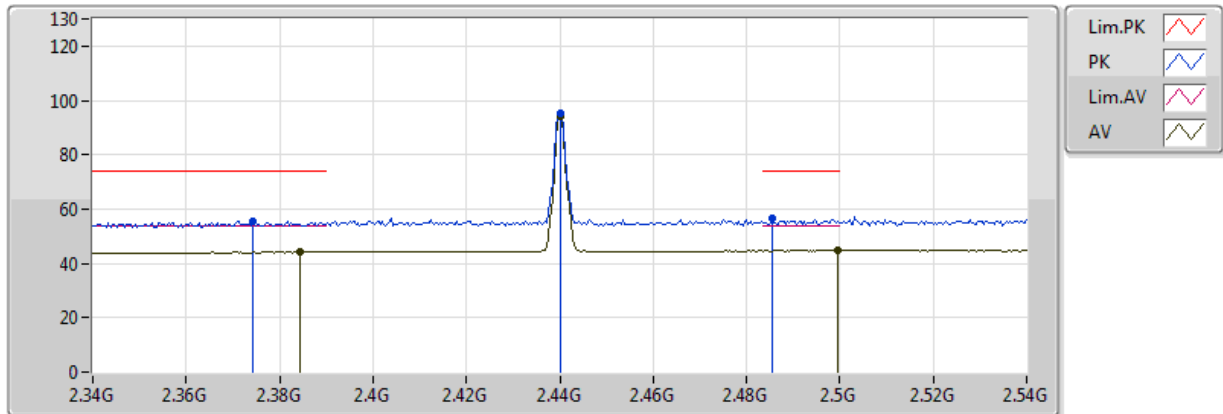
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.3884G	55.86	74.00	-18.14	32.11	3	Vertical	333	2.04	-
AV	2.3872G	44.30	54.00	-9.70	32.11	3	Vertical	333	2.04	-
PK	2.44G	92.12	Inf	-Inf	32.28	3	Vertical	333	2.04	-
AV	2.44G	91.09	Inf	-Inf	32.28	3	Vertical	333	2.04	-
PK	2.488G	56.73	74.00	-17.27	32.43	3	Vertical	333	2.04	-
AV	2.4996G	44.79	54.00	-9.21	32.47	3	Vertical	333	2.04	-

BT-BR(1Mbps)

2440MHz_TX

20/04/2018



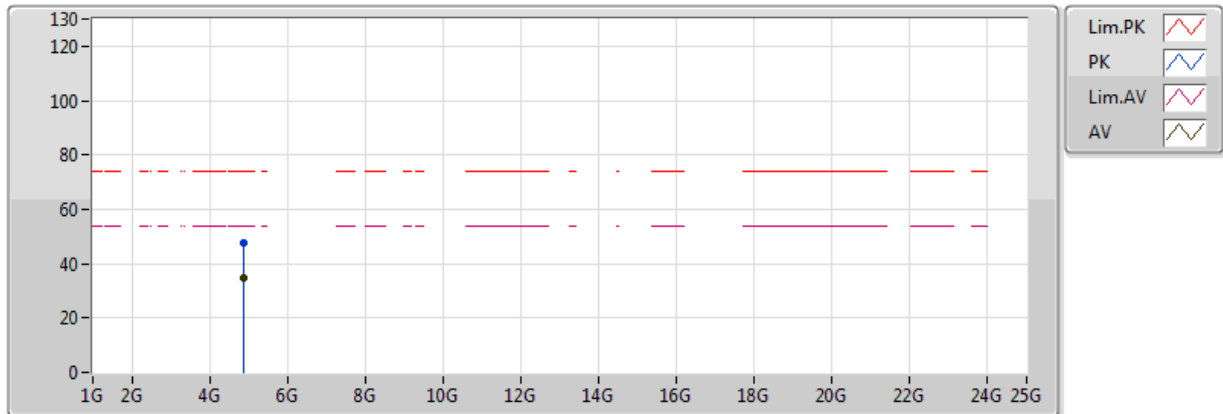
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.3744G	55.72	74.00	-18.28	32.07	3	Horizontal	129	1.52	-
AV	2.3844G	44.27	54.00	-9.73	32.10	3	Horizontal	129	1.52	-
PK	2.44G	95.28	Inf	-Inf	32.28	3	Horizontal	129	1.52	-
AV	2.44G	94.14	Inf	-Inf	32.28	3	Horizontal	129	1.52	-
PK	2.4856G	56.66	74.00	-17.34	32.43	3	Horizontal	129	1.52	-
AV	2.4996G	44.77	54.00	-9.23	32.47	3	Horizontal	129	1.52	-

BT-BR(1Mbps)

2440MHz_TX

20/04/2018



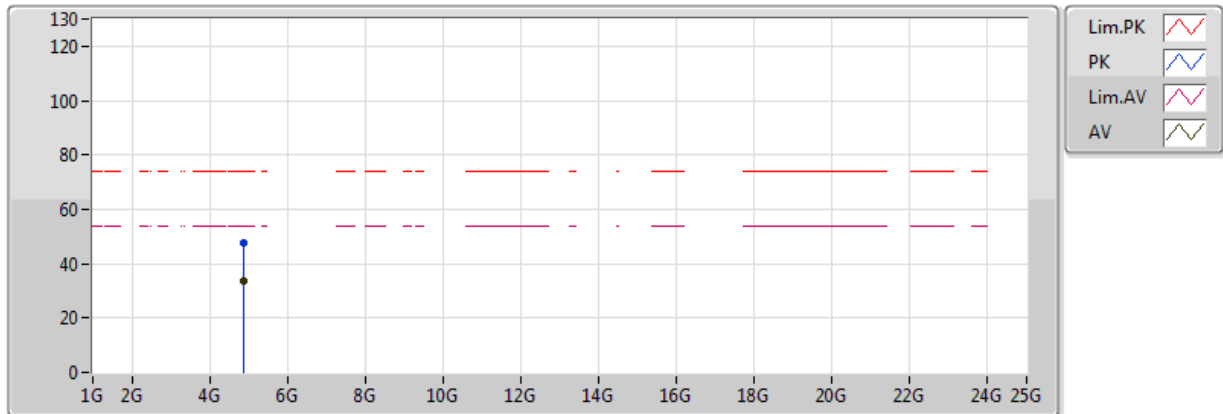
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.879528G	47.51	74.00	-26.49	6.85	3	Vertical	228	1.81	-
AV	4.879992G	35.02	54.00	-18.98	6.85	3	Vertical	228	1.81	-

BT-BR(1Mbps)

2440MHz_TX

20/04/2018



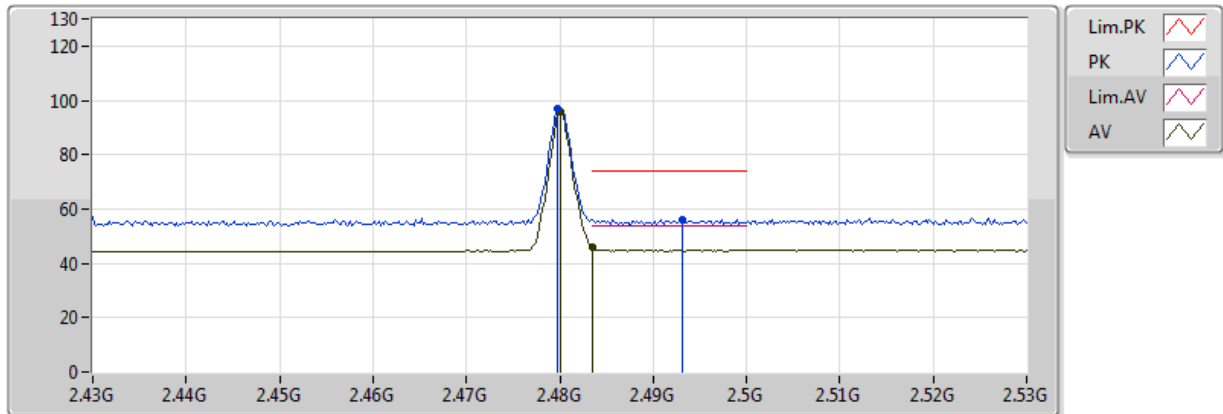
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.880384G	47.52	74.00	-26.48	6.86	3	Horizontal	263	1.82	-
AV	4.880208G	33.68	54.00	-20.32	6.85	3	Horizontal	263	1.82	-

BT-BR(1Mbps)

2480MHz_TX

20/04/2018



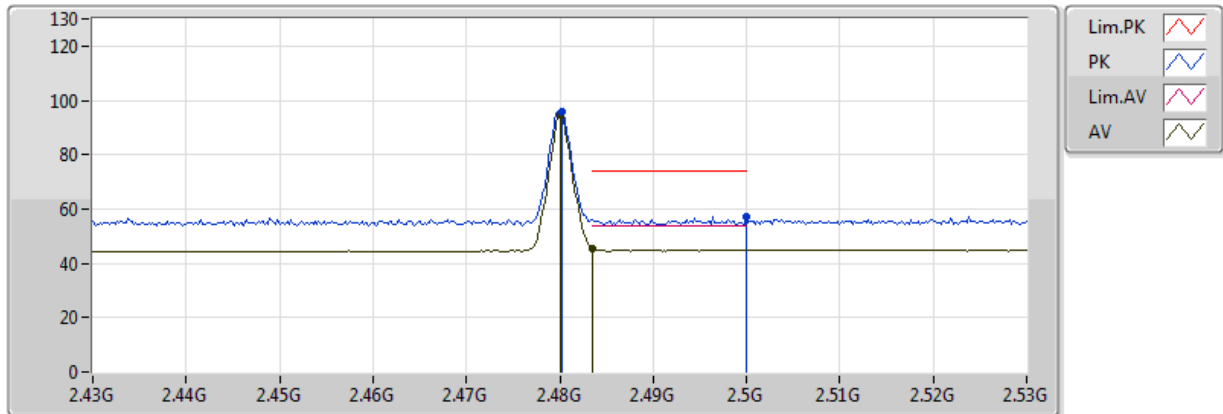
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.4798G	96.99	Inf	-Inf	32.41	3	Vertical	217	1.77	-
AV	2.48G	95.91	Inf	-Inf	32.41	3	Vertical	217	1.77	-
PK	2.4932G	56.24	74.00	-17.76	32.45	3	Vertical	217	1.77	-
AV	2.483502G	45.94	54.00	-8.06	32.42	3	Vertical	217	1.77	-

BT-BR(1Mbps)

2480MHz_TX

20/04/2018



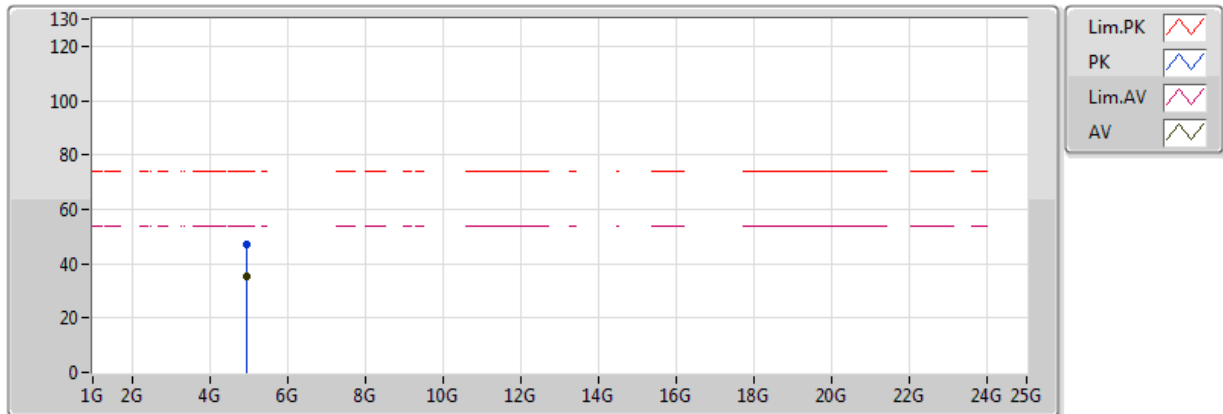
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.4802G	95.98	Inf	-Inf	32.41	3	Horizontal	132	1.92	-
AV	2.48G	94.87	Inf	-Inf	32.41	3	Horizontal	132	1.92	-
PK	2.5G	57.30	74.00	-16.70	32.48	3	Horizontal	132	1.92	-
AV	2.483502G	45.63	54.00	-8.37	32.42	3	Horizontal	132	1.92	-

BT-BR(1Mbps)

2480MHz_TX

20/04/2018



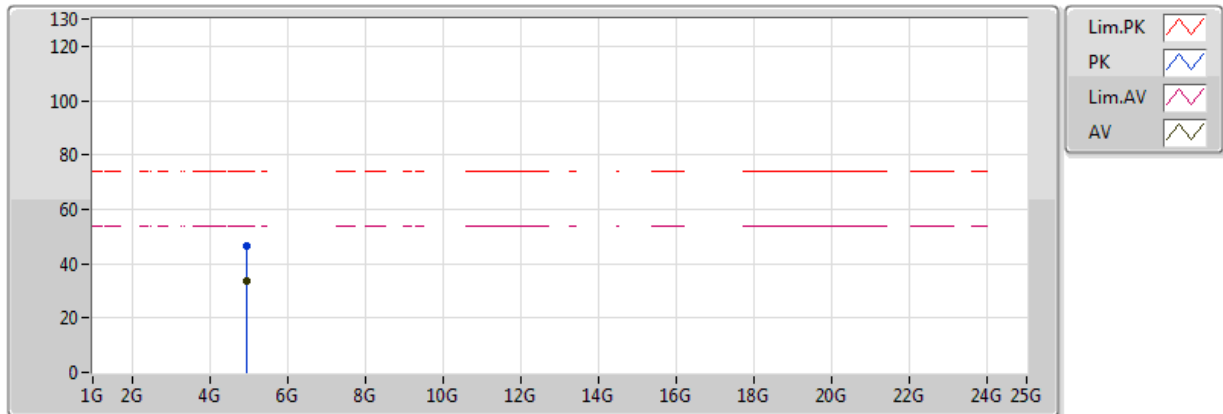
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.960572G	47.20	74.00	-26.80	7.08	3	Vertical	259	2.75	-
AV	4.960016G	35.19	54.00	-18.81	7.08	3	Vertical	259	2.75	-

BT-BR(1Mbps)

2480MHz_TX

20/04/2018



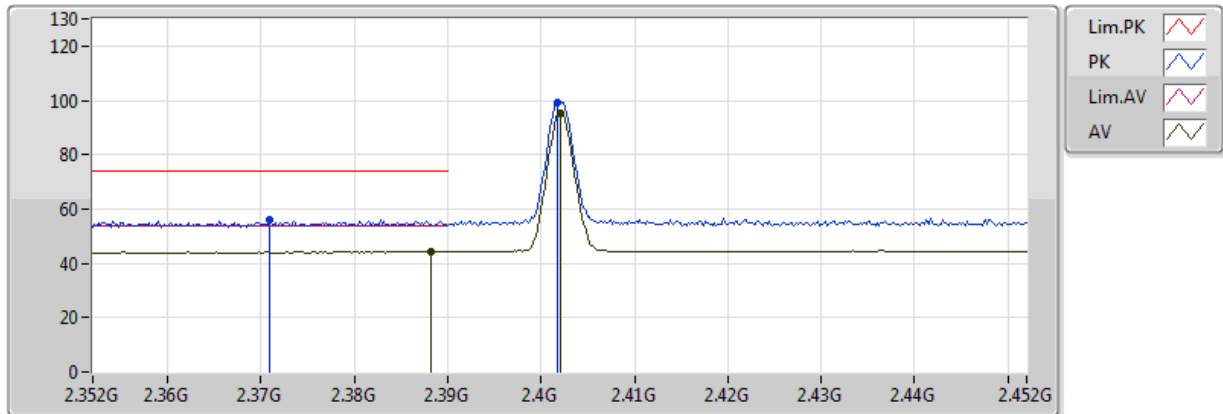
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.960352G	46.64	74.00	-27.36	7.08	3	Horizontal	198	2.22	-
AV	4.959972G	33.60	54.00	-20.40	7.08	3	Horizontal	198	2.22	-

BT-EDR(3Mbps)

2402MHz_TX

20/04/2018



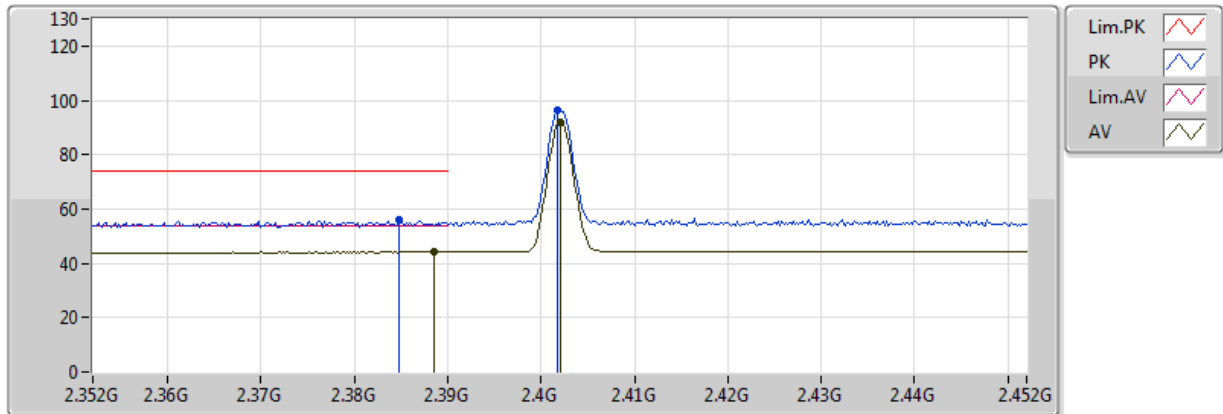
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.371G	56.06	74.00	-17.94	32.06	3	Vertical	138	1.04	-
AV	2.3882G	44.30	54.00	-9.70	32.11	3	Vertical	138	1.04	-
PK	2.4018G	99.32	Inf	-Inf	32.16	3	Vertical	138	1.04	-
AV	2.402G	95.07	Inf	-Inf	32.16	3	Vertical	138	1.04	-

BT-EDR(3Mbps)

2402MHz_TX

20/04/2018



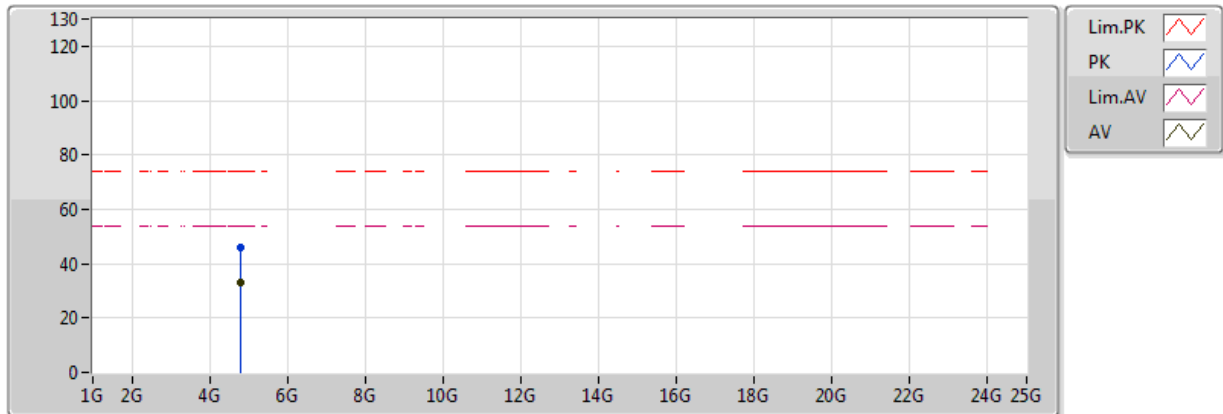
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.3848G	56.06	74.00	-17.94	32.10	3	Horizontal	251	2.50	-
AV	2.3886G	44.34	54.00	-9.66	32.11	3	Horizontal	251	2.50	-
PK	2.4018G	96.30	Inf	-Inf	32.16	3	Horizontal	251	2.50	-
AV	2.402G	91.96	Inf	-Inf	32.16	3	Horizontal	251	2.50	-

BT-EDR(3Mbps)

2402MHz_TX

20/04/2018



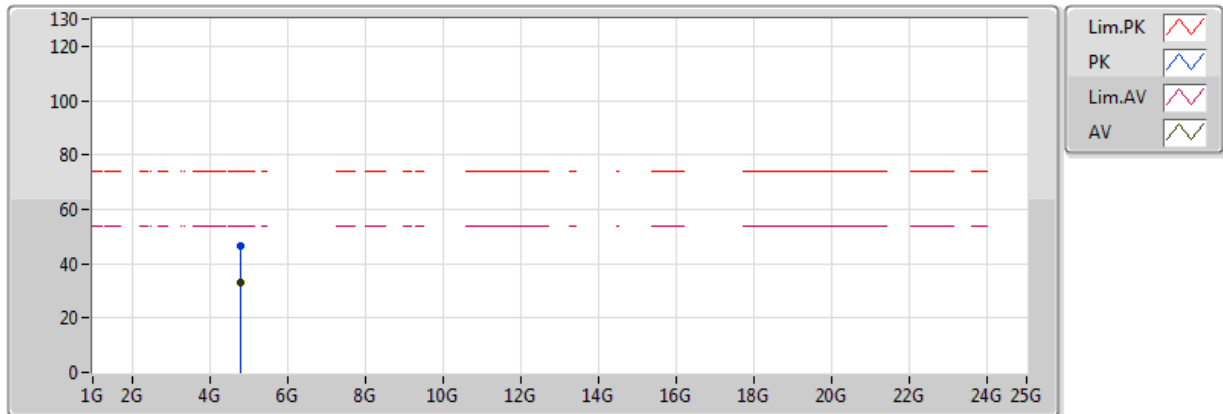
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.803624G	46.21	74.00	-27.79	6.64	3	Vertical	174	1.46	-
AV	4.8039G	33.08	54.00	-20.92	6.64	3	Vertical	174	1.46	-

BT-EDR(3Mbps)

2402MHz_TX

20/04/2018



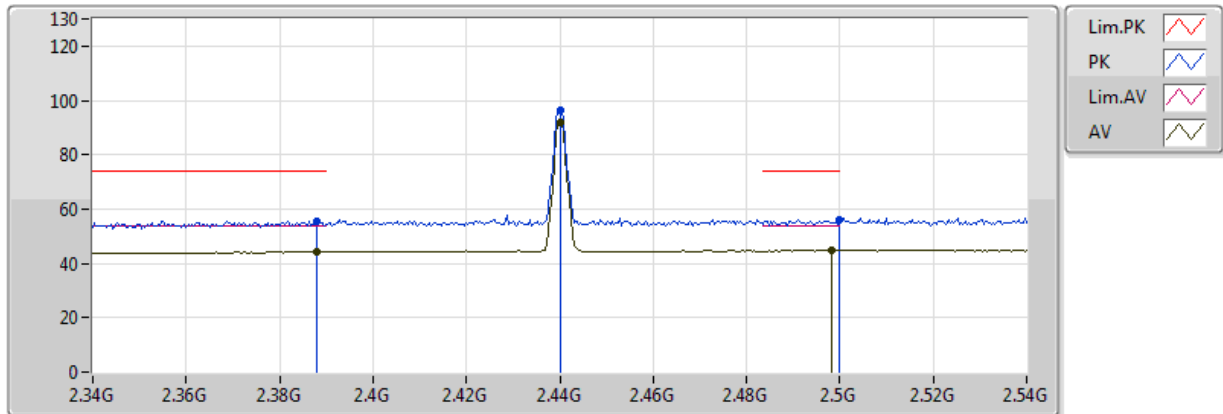
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.804824G	46.38	74.00	-27.62	6.64	3	Horizontal	265	1.98	-
AV	4.804244G	32.90	54.00	-21.10	6.64	3	Horizontal	265	1.98	-

BT-EDR(3Mbps)

2440MHz_TX

20/04/2018



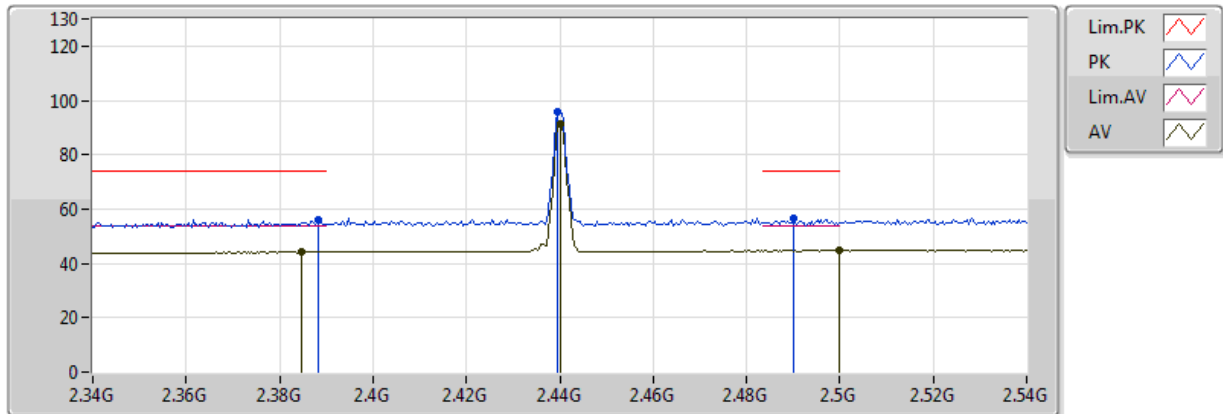
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.388G	55.75	74.00	-18.25	32.11	3	Vertical	124	1.14	-
AV	2.388G	44.26	54.00	-9.74	32.11	3	Vertical	124	1.14	-
PK	2.44G	96.52	Inf	-Inf	32.28	3	Vertical	124	1.14	-
AV	2.44G	92.08	Inf	-Inf	32.28	3	Vertical	124	1.14	-
PK	2.5G	56.30	74.00	-17.70	32.48	3	Vertical	124	1.14	-
AV	2.4984G	44.78	54.00	-9.22	32.47	3	Vertical	124	1.14	-

BT-EDR(3Mbps)

2440MHz_TX

20/04/2018



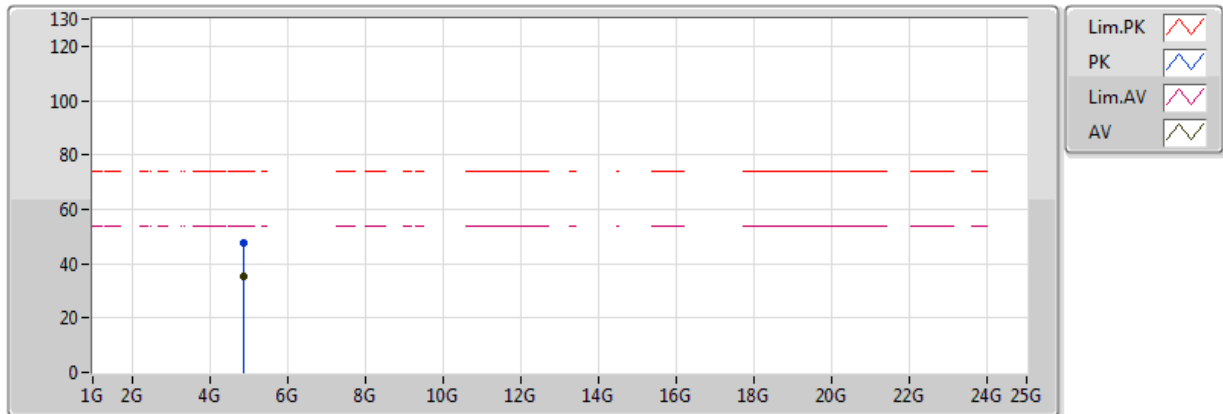
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.3884G	55.97	74.00	-18.03	32.11	3	Horizontal	124	1.61	-
AV	2.3848G	44.37	54.00	-9.63	32.10	3	Horizontal	124	1.61	-
PK	2.4396G	95.59	Inf	-Inf	32.28	3	Horizontal	124	1.61	-
AV	2.44G	91.25	Inf	-Inf	32.28	3	Horizontal	124	1.61	-
PK	2.49G	56.65	74.00	-17.35	32.45	3	Horizontal	124	1.61	-
AV	2.5G	44.73	54.00	-9.27	32.48	3	Horizontal	124	1.61	-

BT-EDR(3Mbps)

2440MHz_TX

20/04/2018



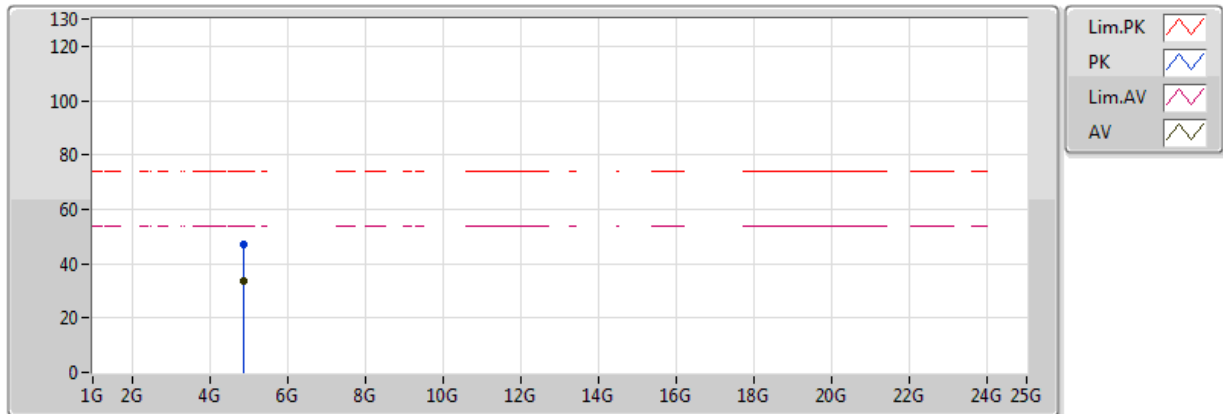
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.88034G	47.55	74.00	-26.45	6.85	3	Vertical	315	1.77	-
AV	4.88008G	35.23	54.00	-18.77	6.85	3	Vertical	315	1.77	-

BT-EDR(3Mbps)

2440MHz_TX

20/04/2018



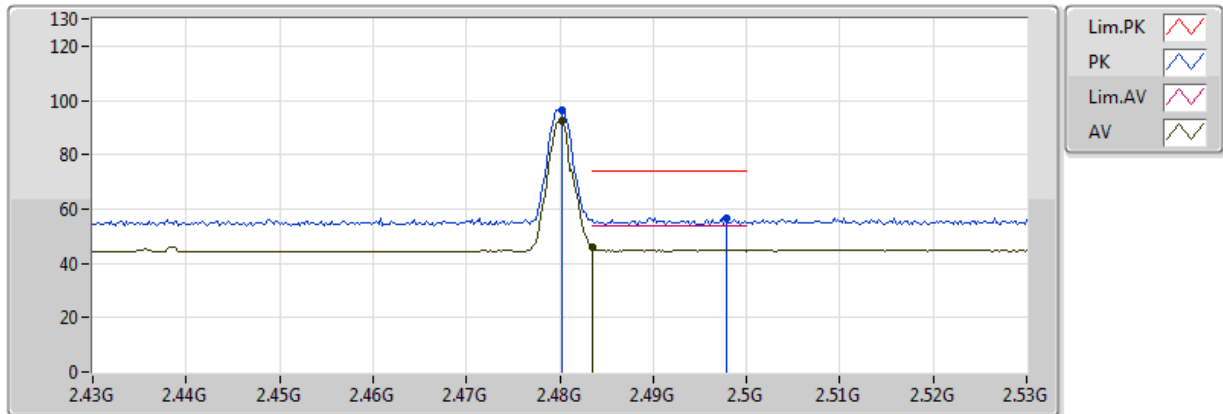
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.879796G	46.92	74.00	-27.08	6.85	3	Horizontal	88	1.44	-
AV	4.880072G	33.84	54.00	-20.16	6.85	3	Horizontal	88	1.44	-

BT-EDR(3Mbps)

2480MHz_TX

20/04/2018



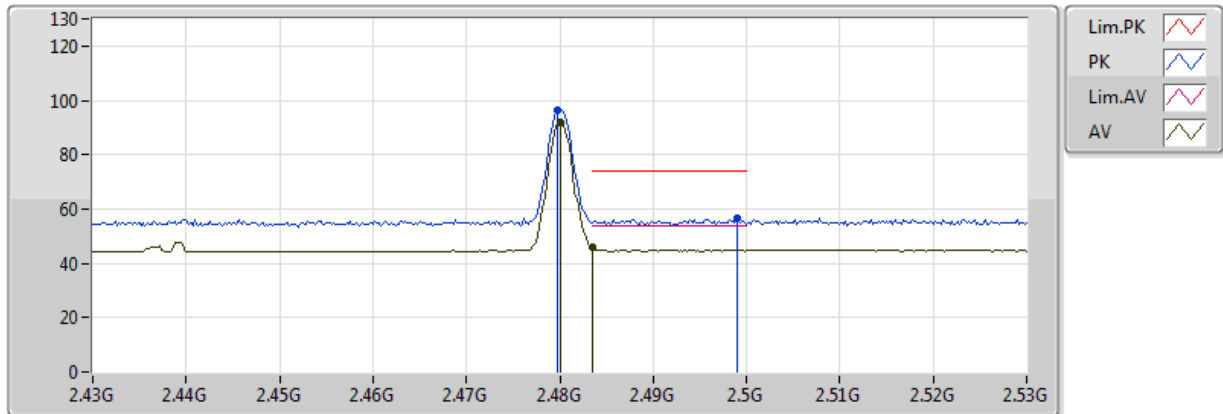
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.4802G	96.55	Inf	-Inf	32.41	3	Vertical	228	1.34	-
AV	2.4802G	92.18	Inf	-Inf	32.41	3	Vertical	228	1.34	-
PK	2.4978G	56.80	74.00	-17.20	32.46	3	Vertical	228	1.34	-
AV	2.483502G	45.73	54.00	-8.27	32.42	3	Vertical	228	1.34	-

BT-EDR(3Mbps)

2480MHz_TX

20/04/2018



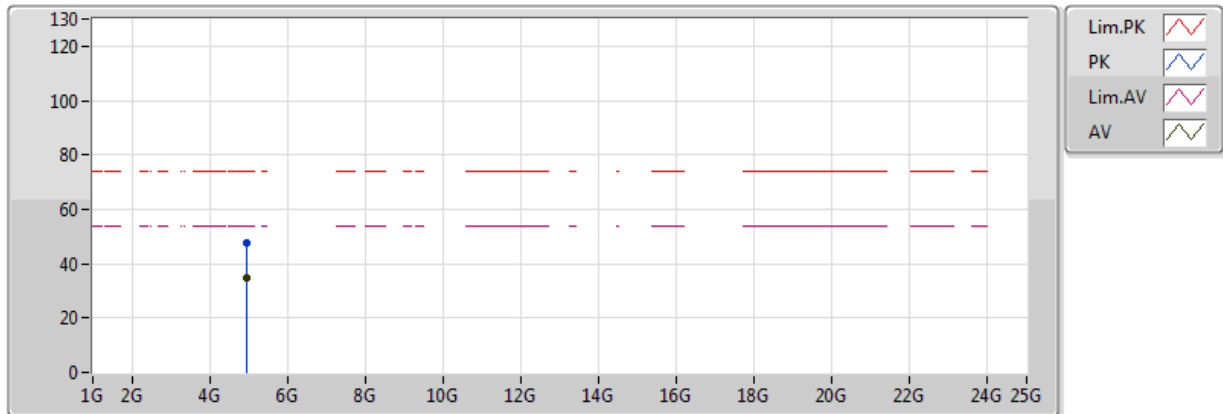
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	2.4798G	96.19	Inf	-Inf	32.41	3	Horizontal	134	1.73	-
AV	2.48G	91.80	Inf	-Inf	32.41	3	Horizontal	134	1.73	-
PK	2.499G	56.38	74.00	-17.62	32.47	3	Horizontal	134	1.73	-
AV	2.483502G	45.80	54.00	-8.20	32.42	3	Horizontal	134	1.73	-

BT-EDR(3Mbps)

2480MHz_TX

20/04/2018



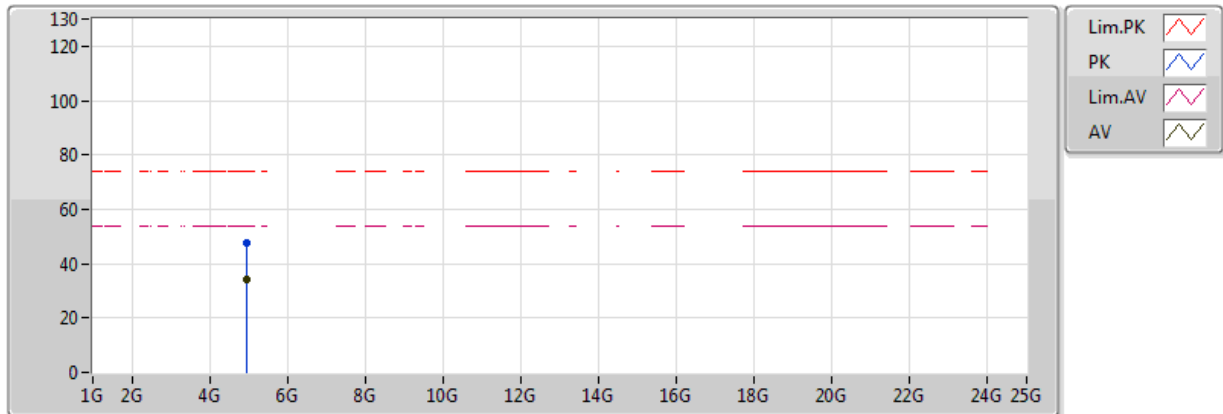
EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.960052G	47.83	74.00	-26.17	7.08	3	Vertical	244	2.23	-
AV	4.959992G	34.85	54.00	-19.15	7.08	3	Vertical	244	2.23	-

BT-EDR(3Mbps)

2480MHz_TX

20/04/2018



EUT Y_1TX
Setting Default
06-L-3
FSP(100080)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	4.96036G	47.62	74.00	-26.38	7.08	3	Horizontal	281	2.69	-
AV	4.960196G	34.34	54.00	-19.66	7.08	3	Horizontal	281	2.69	-