

FCC Test Report

Equipment : MAP-AC1750
Brand Name : ASUS
Model No. : MAP-AC1750
FCC ID : MSQ-RTACRW00
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Applicant : ASUSTeK Computer Inc
4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan
Manufacturer : ASUSTeK Computer Inc
4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan

The product sample received on Oct. 03, 2017 and completely tested on Dec. 20, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given inanes 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.


Cliff Chang
SPORTON INTERNATIONAL INC.





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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 Band edge	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



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FCC ID: MSQ-RTACRW00

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

Ant.	2.4GHz Port	5GHz Port	Brand	Part Number	Antenna Type	Connector	Gain (dBi)			
							WLAN 2.4GHz	5GHz Band 1	5GHz Band 4	BT
1	1	2	WHA YU	C059-510402-A	Dipole Antenna	I-PEX	2.21	2.70	2.80	-
2	2	3	WHA YU	C059-510402-A	Dipole Antenna	I-PEX	2.28	2.81	2.34	-
3	3	1	WHA YU	C059-510402-A	Dipole Antenna	I-PEX	2.41	1.97	2.51	-
4	1	-	WHA YU	C059-510402-A	PIFA Antenna	I-PEX	-	-	-	2

Note: The EUT has four antennas.

For WLAN function (3TX, 3RX):

Ant. 1 ~ Ant. 3 can be used as transmitting/receiving antenna.

Ant. 1 ~ Ant. 3 could transmit/receive simultaneously.

For Bluetooth function (1TX, 1RX):

Only Ant. 4 can be used as transmitting/receiving functions.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-BR(1Mbps)	0.745	1.278	2.899m	1k
BT-EDR(2Mbps)	0.756	1.215	2.904m	1k
BT-EDR(3Mbps)	0.788	1.035	2.906m	1k

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter
Test Software Version	telnet

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	Paul Chen	22°C / 54%	Nov. 21, 2017~Dec. 20, 2017
Radiated	03CH01-CB	Zero Chen / Gino Huang / Mason Chen / Eddie Weng / Brian Sun	22°C / 54%	Nov. 02, 2017~Dec. 15, 2017
AC Conduction	CO02-CB	Rick Yeh	26°C / 60%	Dec. 13, 2017

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	9
2440MHz	9
2480MHz	9
BT-EDR(2Mbps)	-
2402MHz	9
2440MHz	9
2480MHz	9
BT-EDR(3Mbps)	-
2402MHz	9
2440MHz	9
2480MHz	9

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	Normal Link
1	Repeater Mode (2.4GHz + Bluetooth) + Adapter 1
2	Repeater Mode (5GHz + Bluetooth) + Adapter 1
Mode 2 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	Repeater Mode (5GHz + Bluetooth) + Adapter 2
For operating mode 2 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	Normal Link
1	Repeater Mode (2.4GHz + Bluetooth) + Adapter 1
2	Repeater Mode (5GHz + Bluetooth) + Adapter 1
Mode 2 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	Repeater Mode (5GHz + Bluetooth) + Adapter 2
For operating mode 2 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
1	CTX



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz + Bluetooth
Refer to Sporton Test Report No.: FA7N0218 for Co-location RF Exposure Evaluation.	

Note 1: The EUT supports AP/Repeater/slave without radar detection/Mesh, only Repeater mode has been tested and recorded in this test report.

Note 2: The EUT can only be used in Z axis position.

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

Accessories				
No.	Equipment Name	Brand Name	Model Name	Rating
1	Adapter 1	DVE	DSA-18PFR-12 FUS 120150	INPUT: 100-240V~50/60Hz, 0.6A Output: +12V, 1.5A
2	Adapter 2	DVE	DSA-18CB-12 FCA 120150	INPUT: 100-240V~50/60Hz, 0.6A Output: +12V, 1.5A
Others				
US Plug*1 (For adapter 2 use)				
RJ-45 cable*1, Non Shielded, 1m				

2.5 Support Equipment

For Test Site No: CO02-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*4	DELL	E6430	DoC
2	Device NB	DELL	E6430	DoC
3	Smart phone	Samsung	Galaxy J2	DoC
4	Device	ASUS	MAP-AC1750	DoC

For Test Site No: 03CH01-CB (below 1GHz)

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*5	DELL	E4300	DoC
2	Device	ASUS	MAP-AC1750	DoC
3	Smart phone	Samsung	Galaxy J2	DoC

For Test Site No: 03CH01-CB (above 1GHz)

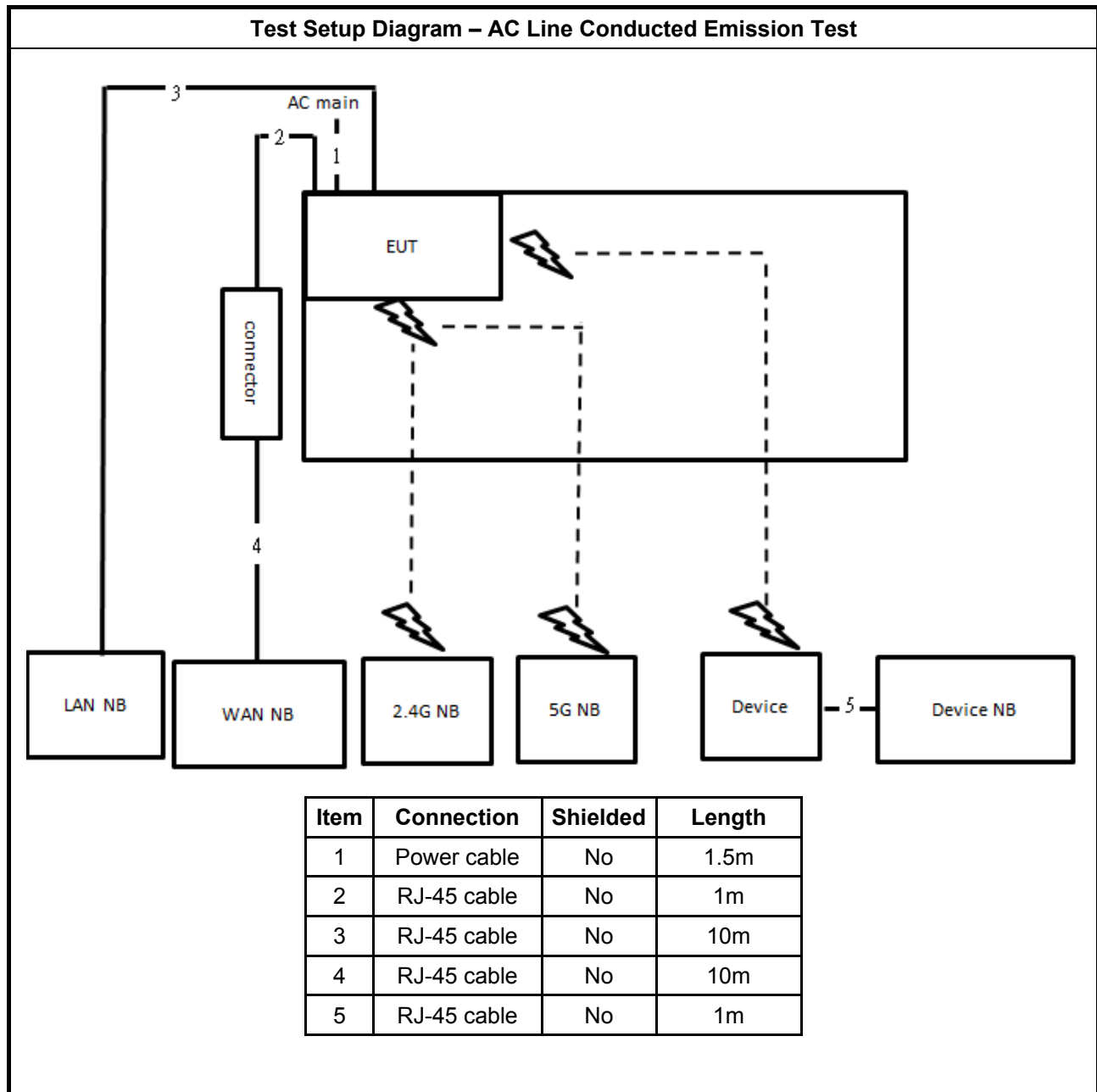
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC



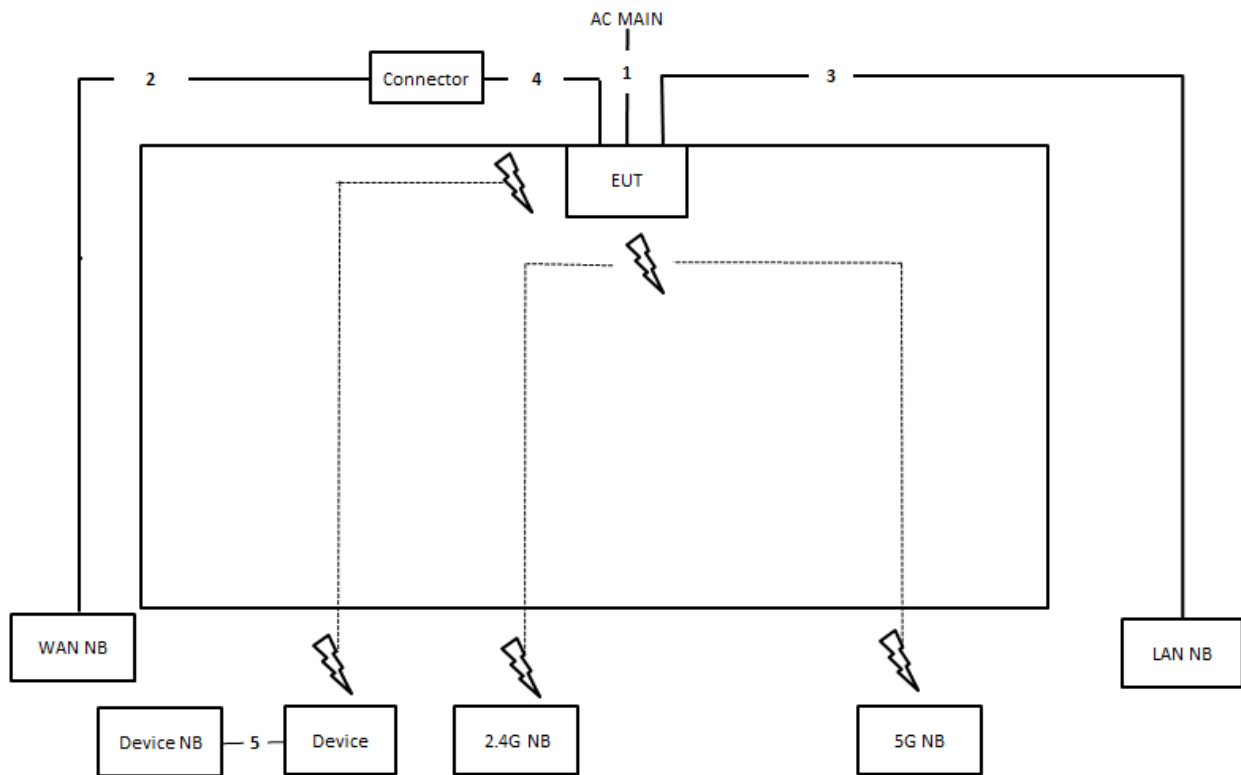
For Test Site No: TH01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC

2.6 Test Setup Diagram

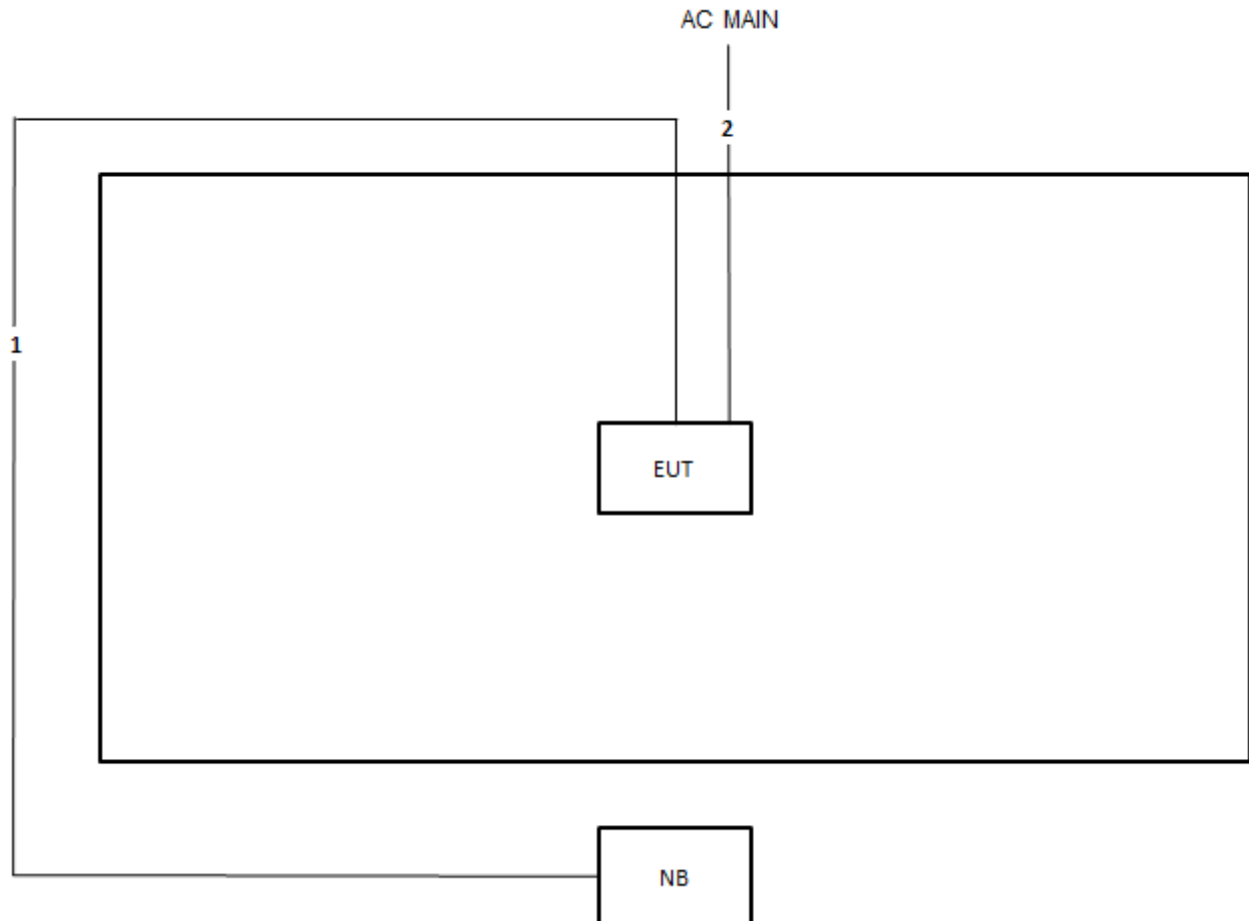


Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	1m
5	RJ-45 cable	No	1m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.5m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

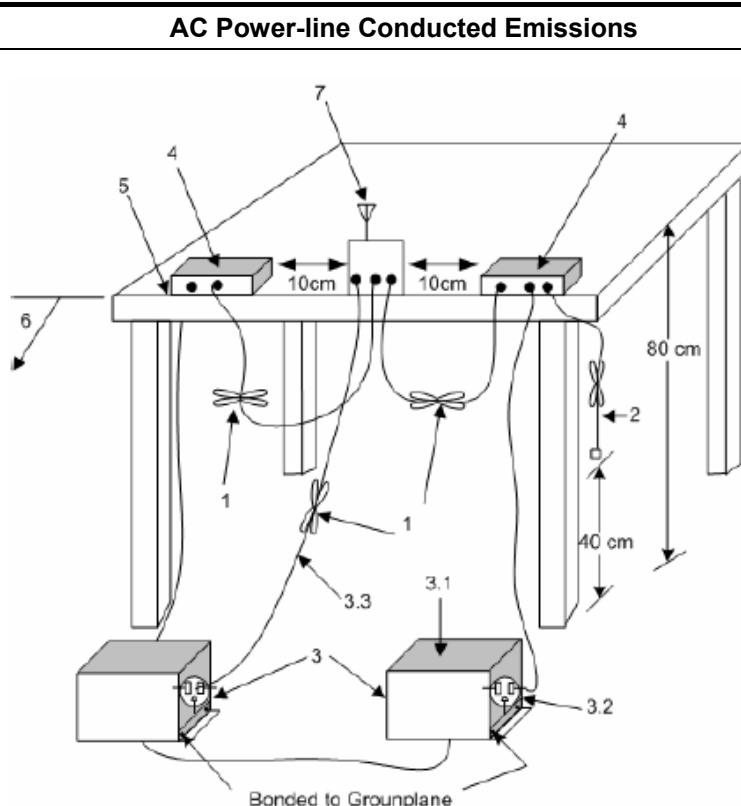
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



- 1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
- 2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- 3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
 - 3.1—All other equipment powered from additional LISN(s).
 - 3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
 - 3.3—LISN at least 80 cm from nearest part of EUT chassis.
- 4—Non-EUT components of EUT system being tested.
- 5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
- 6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
- 7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

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	

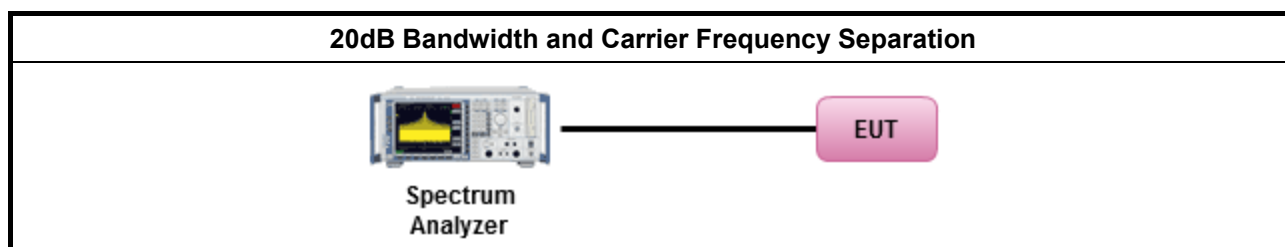
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 6.9.1 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:	
	▪ $N \geq 50$; 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	

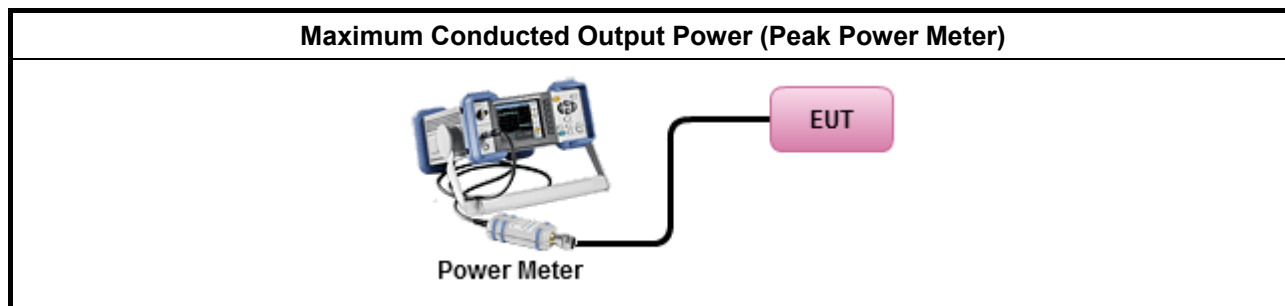
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method
▪ Refer as 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

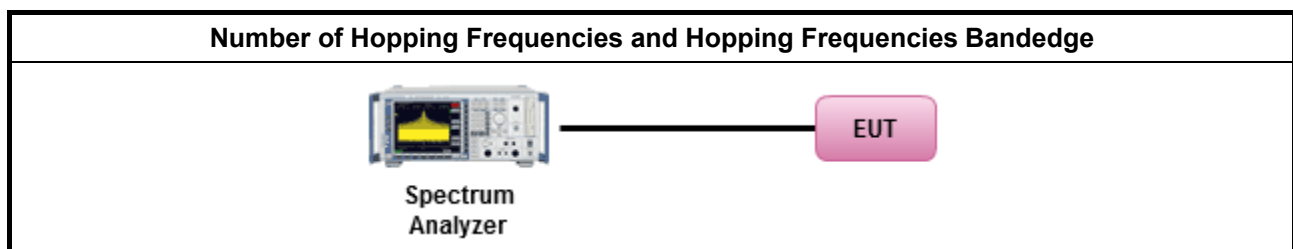
3.4.3 Measuring Instruments

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

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	

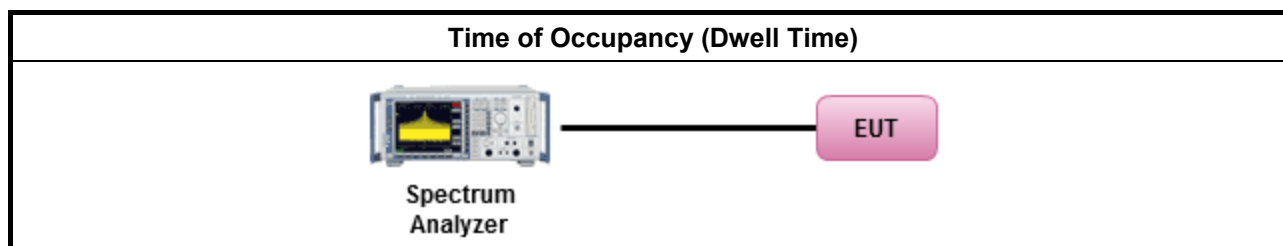
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method	
▪ Refer as 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.	

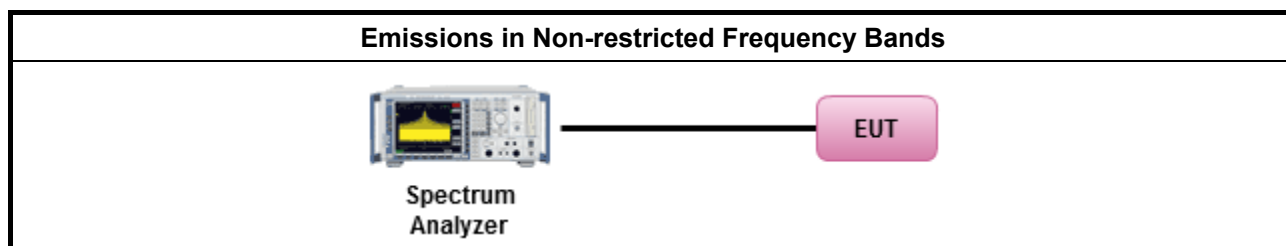
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Test Method
Refer as ANSI C63.10-2013, 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.

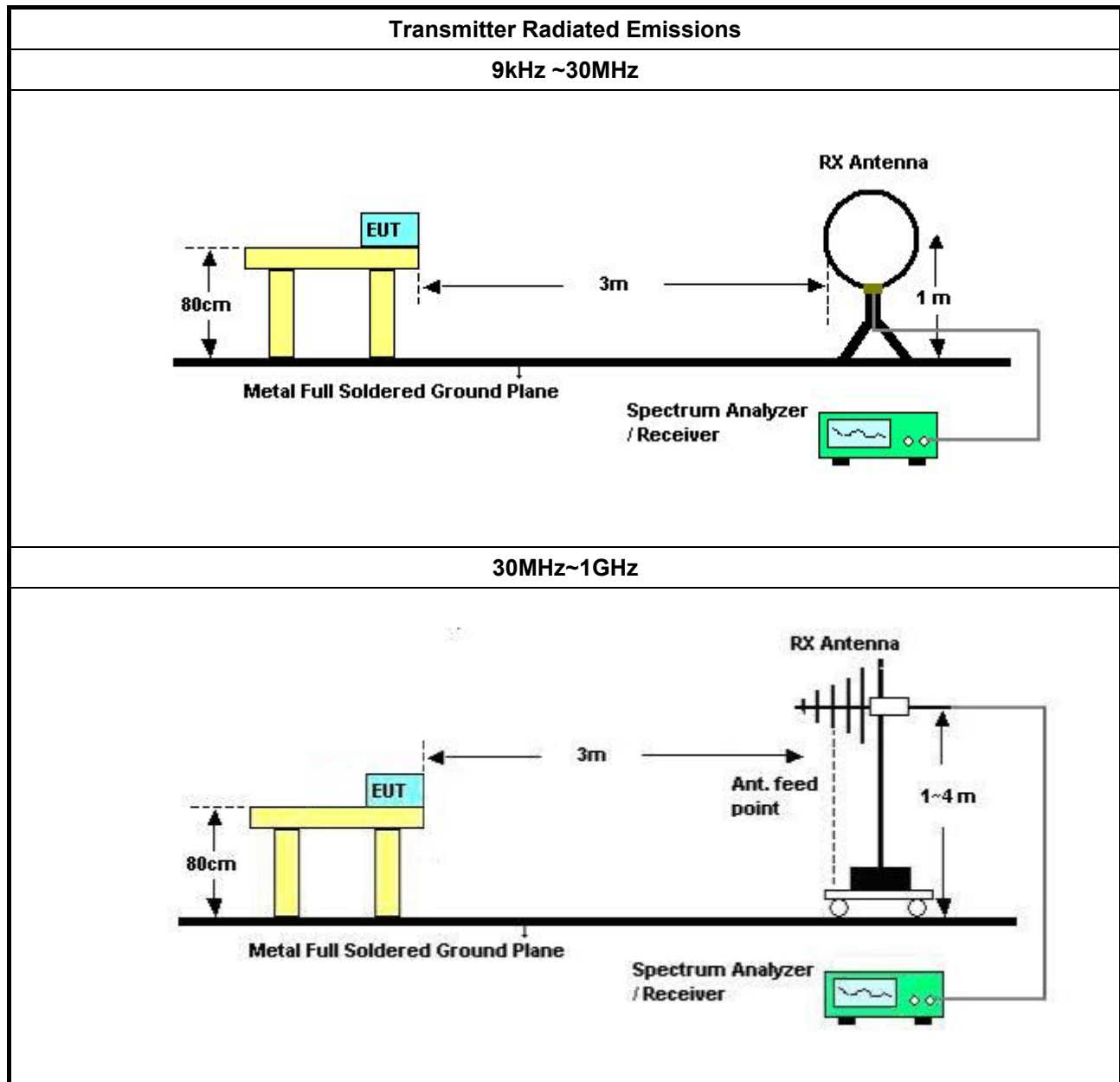
3.7.2 Measuring Instruments

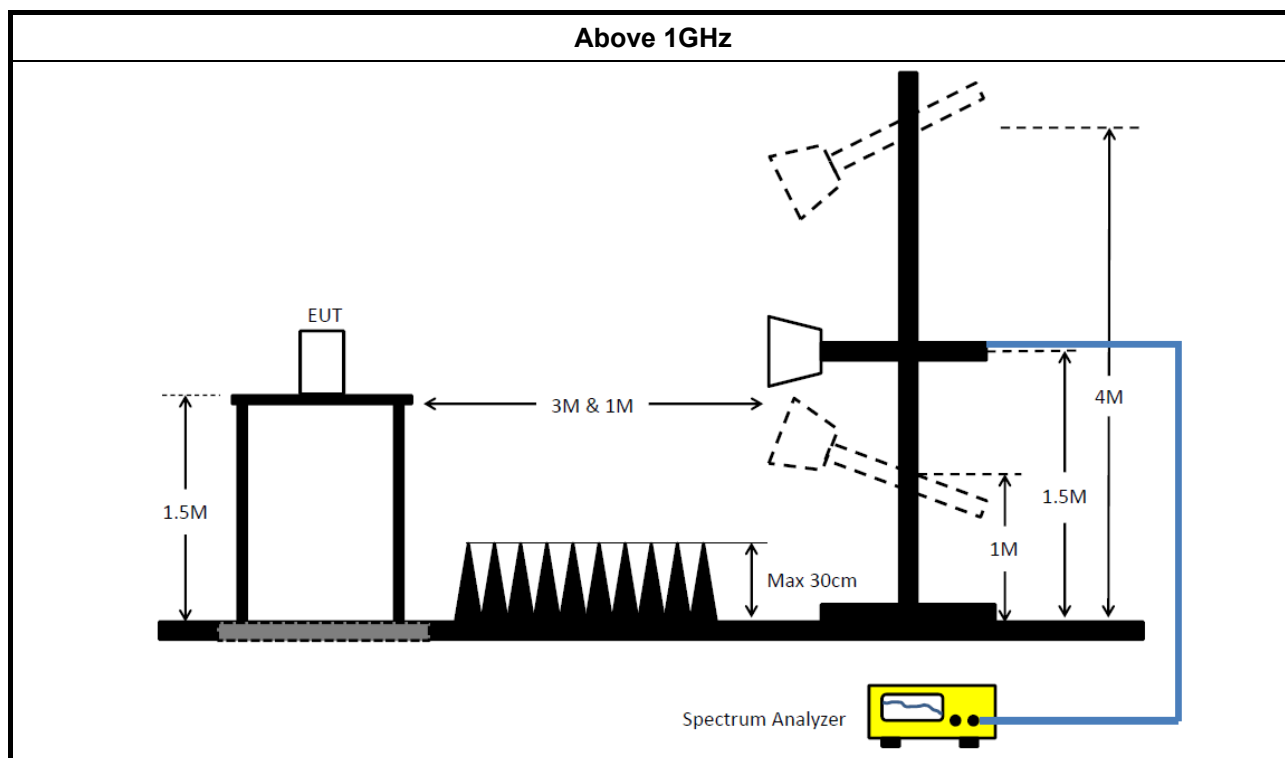
Refer a test equipment and calibration data table in this test report.

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.

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
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 24, 2017	Nov. 23, 2018	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 13, 2017	Nov. 12, 2018	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 16, 2017	Jan. 15, 2018	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Nov. 10, 2017	Nov. 09, 2018	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F	9561-F073	9kHz ~ 30MHz	Oct. 03, 2017	Oct. 02, 2018	Conduction (CO02-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Mar. 15, 2018*	Radiation (03CH01-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)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 10, 2016	Nov. 09, 2017	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. 16, 2017	Jan. 15, 2018	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. 22, 2016	Nov. 21, 2017	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)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 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#2	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	N/A	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 26, 2016	Dec. 25, 2017	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)

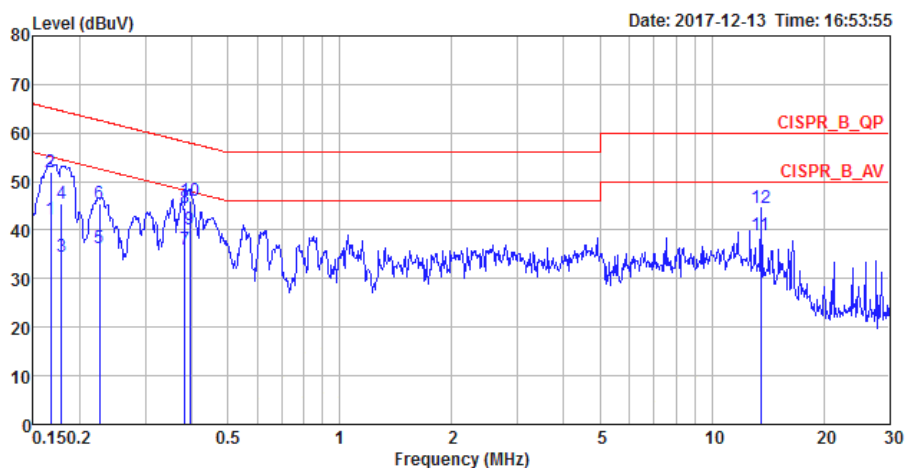
Note: Calibration Interval of instruments listed above is one year.

“*” Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

AC Power-line Conducted Emissions Result

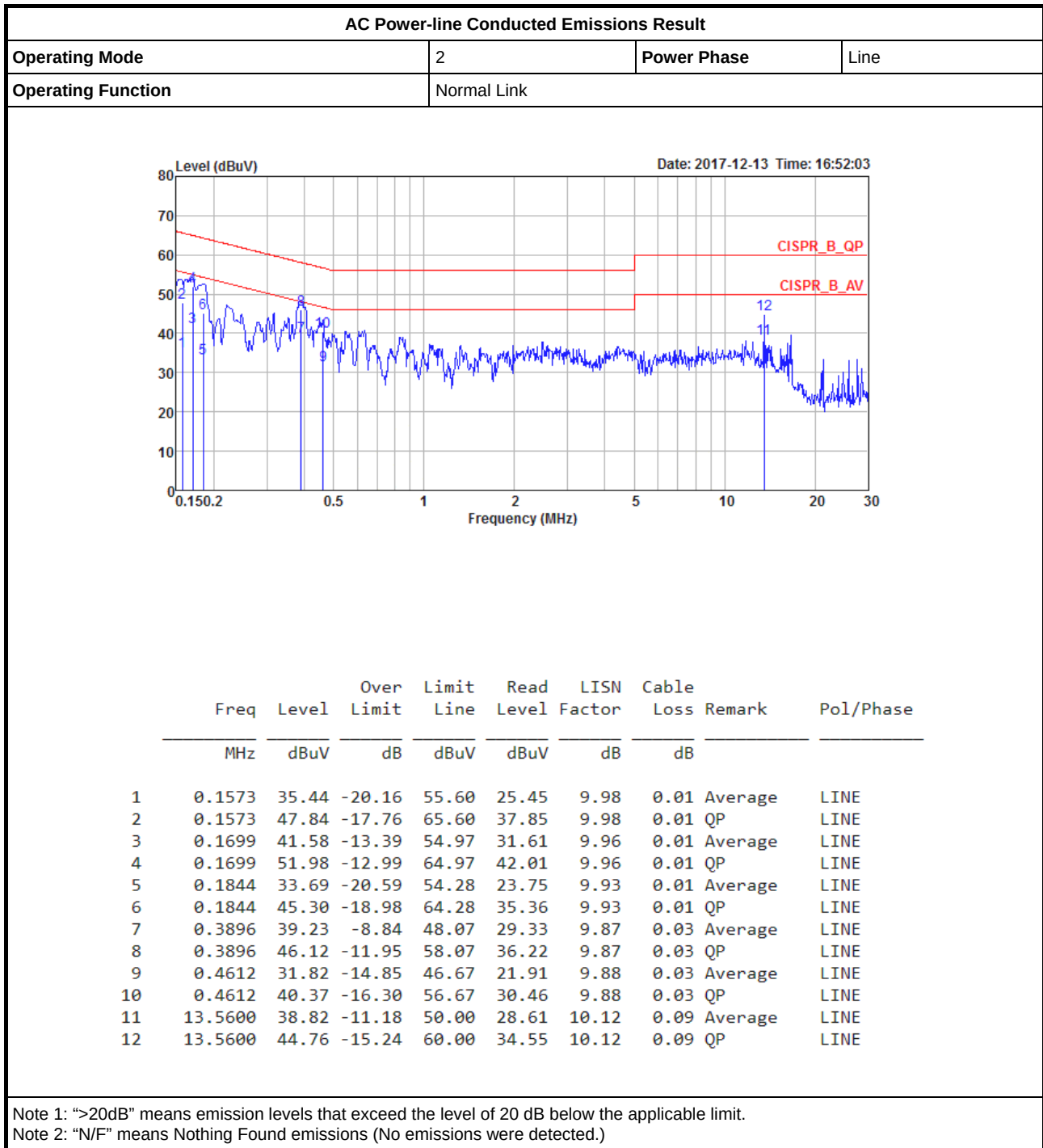
Operating Mode	2	Power Phase	Neutral
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1668	42.12	-13.00	55.12	32.10	10.01	0.01	Average	NEUTRAL
2	0.1668	52.03	-13.09	65.12	42.01	10.01	0.01	QP	NEUTRAL
3	0.1787	34.60	-19.95	54.55	24.60	9.99	0.01	Average	NEUTRAL
4	0.1787	45.57	-18.98	64.55	35.57	9.99	0.01	QP	NEUTRAL
5	0.2256	36.40	-16.21	52.61	26.43	9.96	0.01	Average	NEUTRAL
6	0.2256	45.34	-17.27	62.61	35.37	9.96	0.01	QP	NEUTRAL
7	0.3832	35.99	-12.22	48.21	26.02	9.94	0.03	Average	NEUTRAL
8	0.3832	44.69	-13.52	58.21	34.72	9.94	0.03	QP	NEUTRAL
9	0.3955	40.14	-7.81	47.95	30.17	9.94	0.03	Average	NEUTRAL
10	0.3955	46.08	-11.87	57.95	36.11	9.94	0.03	QP	NEUTRAL
11	13.5601	38.91	-11.09	50.00	28.62	10.20	0.09	Average	NEUTRAL
12	13.5601	44.58	-15.42	60.00	34.29	10.20	0.09	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.)



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)	926.25k	903.298k	903KF1D	921.25k	898.301k
BT-EDR(2Mbps)	1.284M	1.198M	1M20G1D	1.283M	1.193M
BT-EDR(3Mbps)	1.308M	1.199M	1M20G1D	1.246M	1.188M

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;

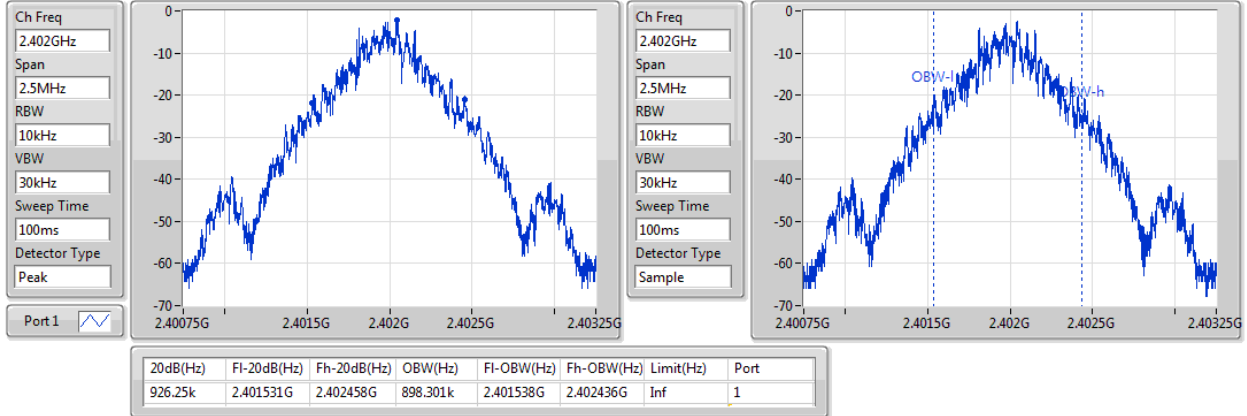
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	926.25k	898.301k
2440MHz	Pass	Inf	921.25k	903.298k
2480MHz	Pass	Inf	922.5k	903.298k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.284M	1.193M
2440MHz	Pass	Inf	1.283M	1.198M
2480MHz	Pass	Inf	1.283M	1.197M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.246M	1.188M
2440MHz	Pass	Inf	1.308M	1.199M
2480MHz	Pass	Inf	1.255M	1.192M

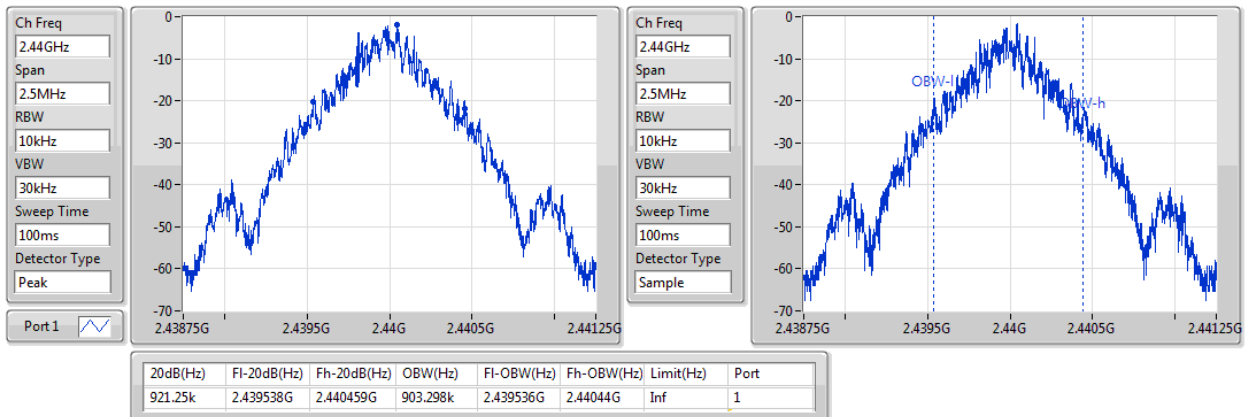
Port X-N dB = Port X 20dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-BR(1Mbps)
EBW
2402MHz

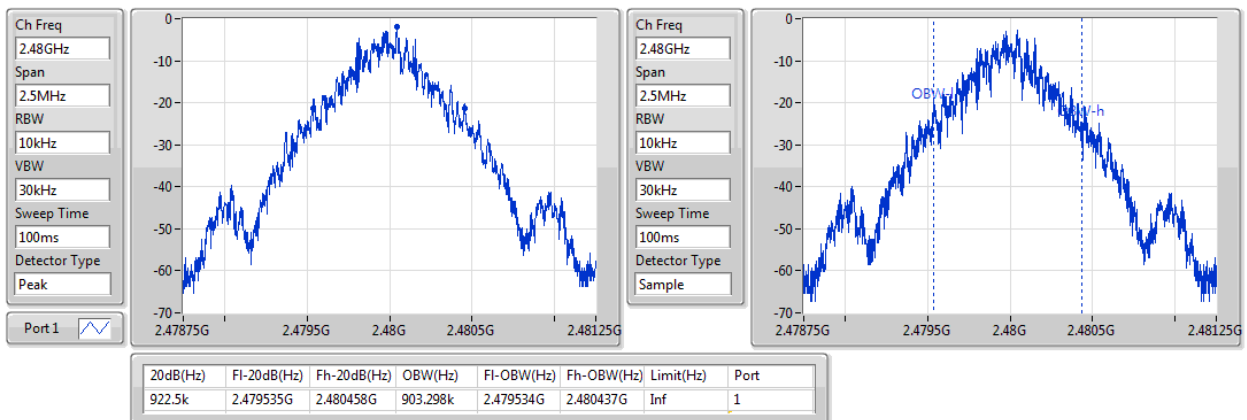
13/12/2017


BT-BR(1Mbps)
EBW
2440MHz

13/12/2017

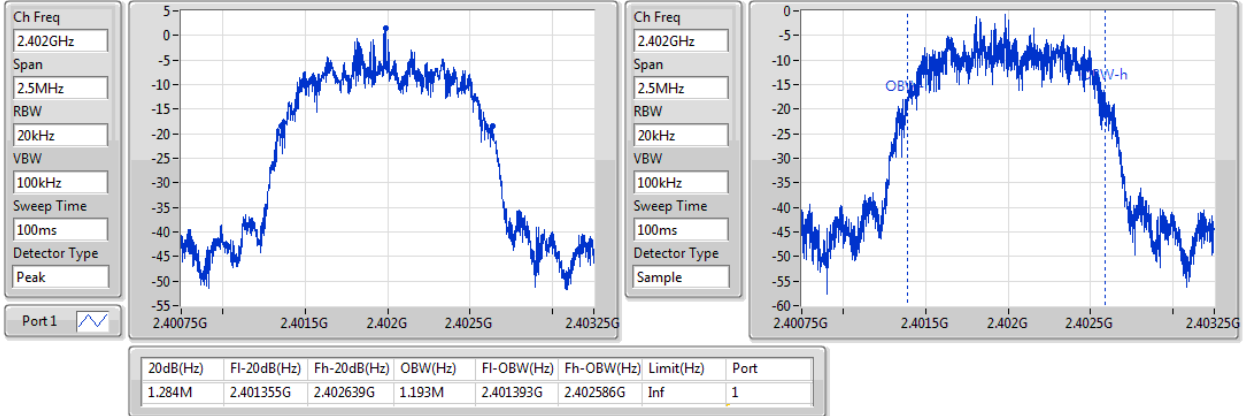

BT-BR(1Mbps)
EBW
2480MHz

13/12/2017

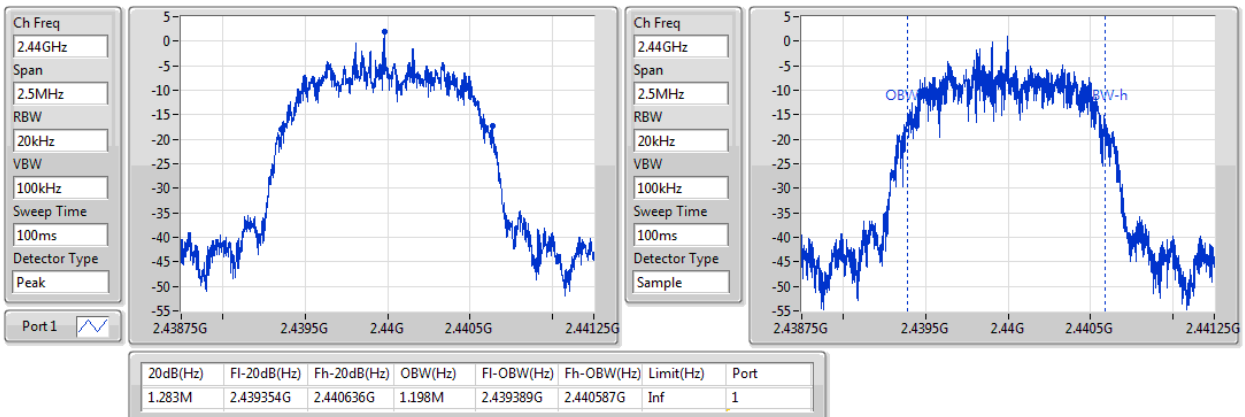


BT-EDR(2Mbps)
EBW
2402MHz

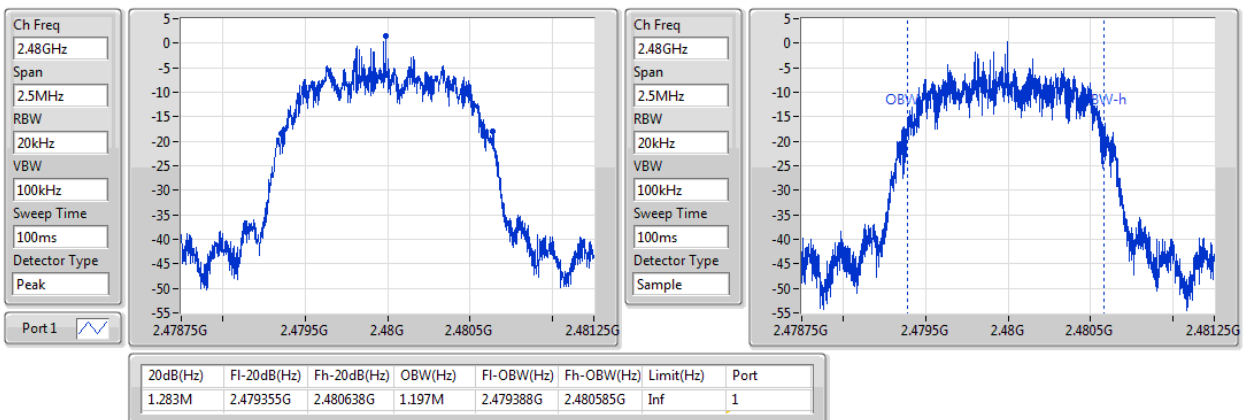
13/12/2017


BT-EDR(2Mbps)
EBW
2440MHz

13/12/2017

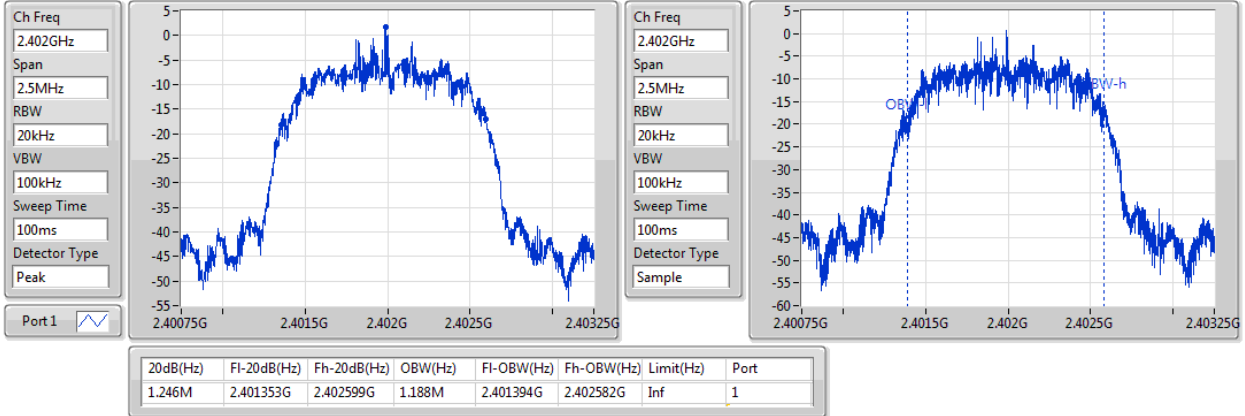

BT-EDR(2Mbps)
EBW
2480MHz

13/12/2017

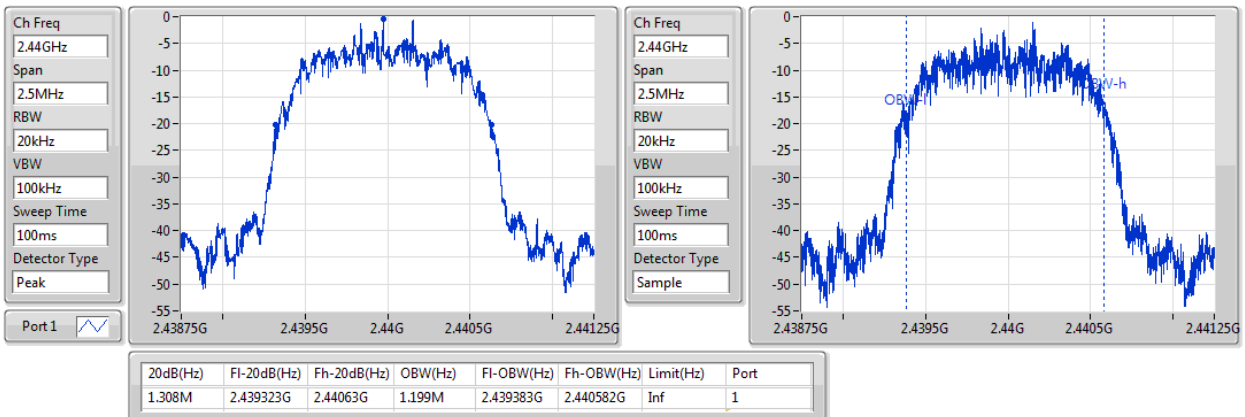


BT-EDR(3Mbps)
EBW
2402MHz

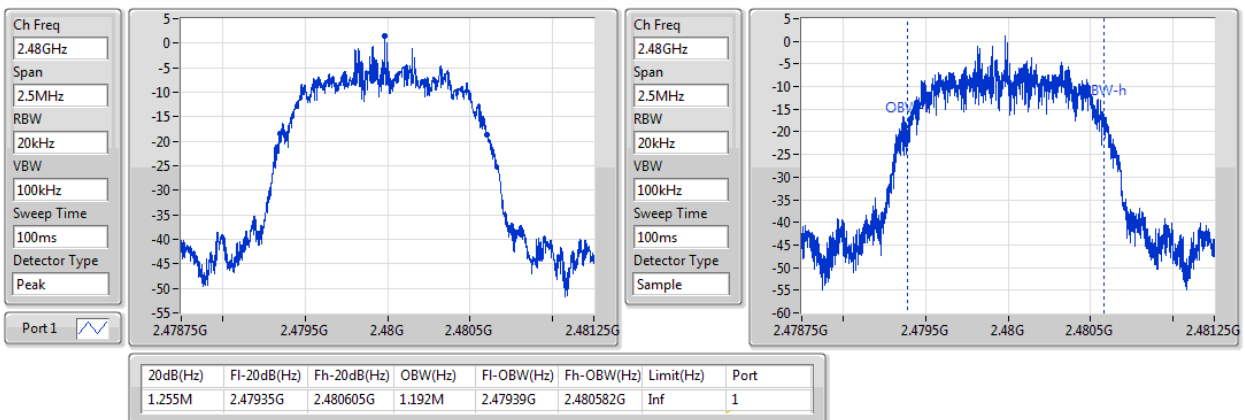
13/12/2017


BT-EDR(3Mbps)
EBW
2440MHz

13/12/2017


BT-EDR(3Mbps)
EBW
2480MHz

13/12/2017



Summary

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

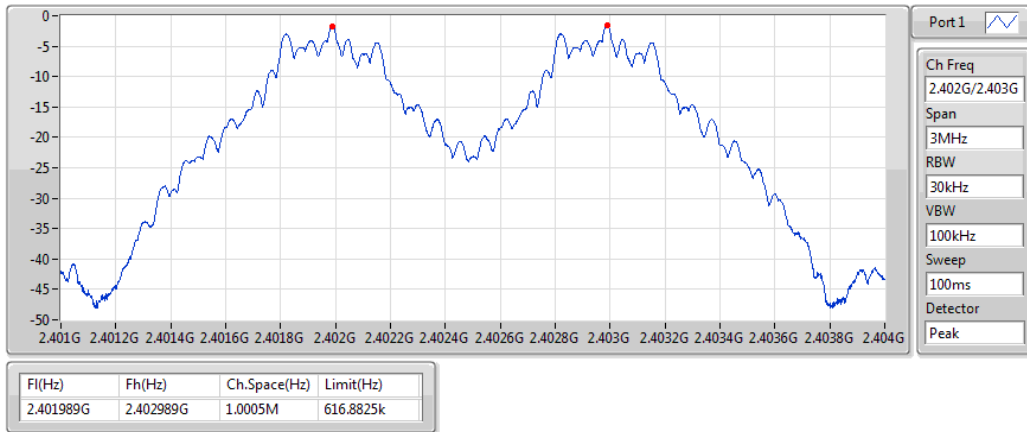
Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.401989G	2.402989G	1.0005M	616.8825k
2440MHz	Pass	2.439987G	2.440988G	1.0005M	613.5525k
2480MHz	Pass	2.478987G	2.479988G	1.0005M	614.385k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.401989G	2.402988G	999k	855.144k
2440MHz	Pass	2.439989G	2.440989G	1.0005M	854.478k
2480MHz	Pass	2.478987G	2.479988G	1.0005M	854.478k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.401987G	2.402991G	1.0035M	829.836k
2440MHz	Pass	2.439989G	2.440989G	1.0005M	871.128k
2480MHz	Pass	2.478987G	2.479989G	1.002M	835.83k

BT-BR(1Mbps)

Channel Separation

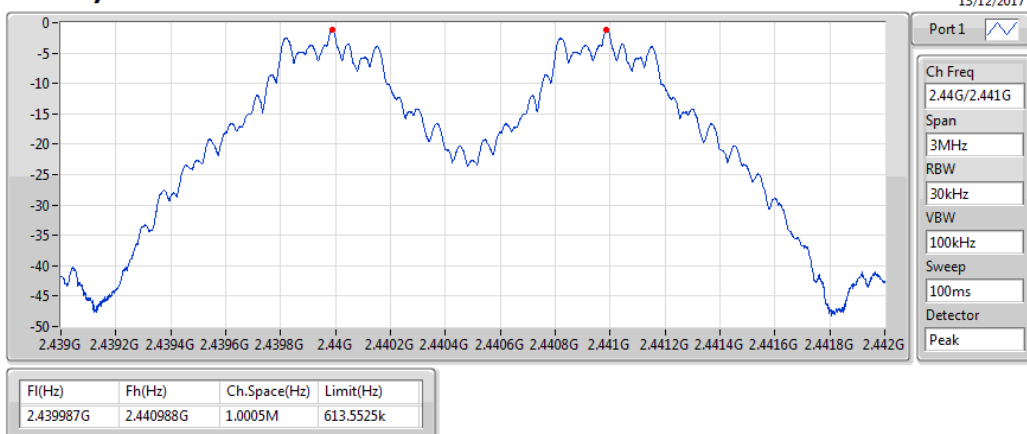
2.402G/2.403GHz



BT-BR(1Mbps)

Channel Separation

2.44G/2.441GHz



BT-BR(1Mbps)

Channel Separation

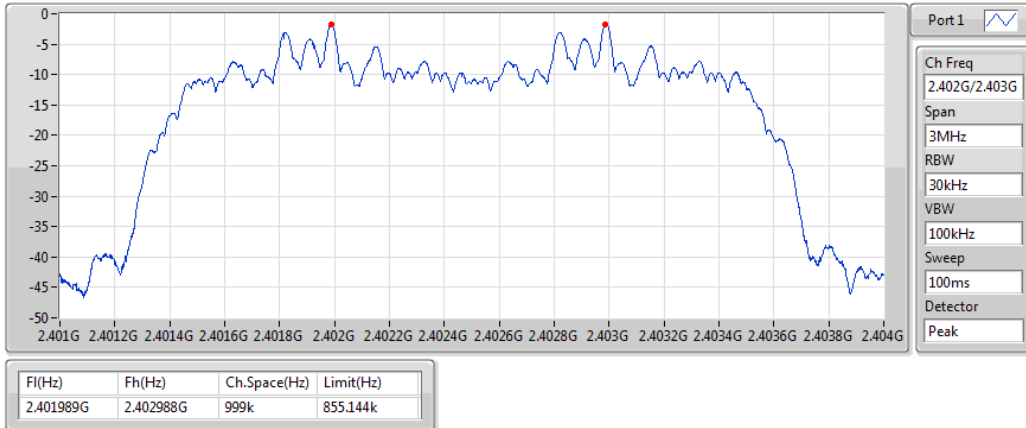
2.48G/2.479GHz



BT-EDR(2Mbps)

Channel Separation

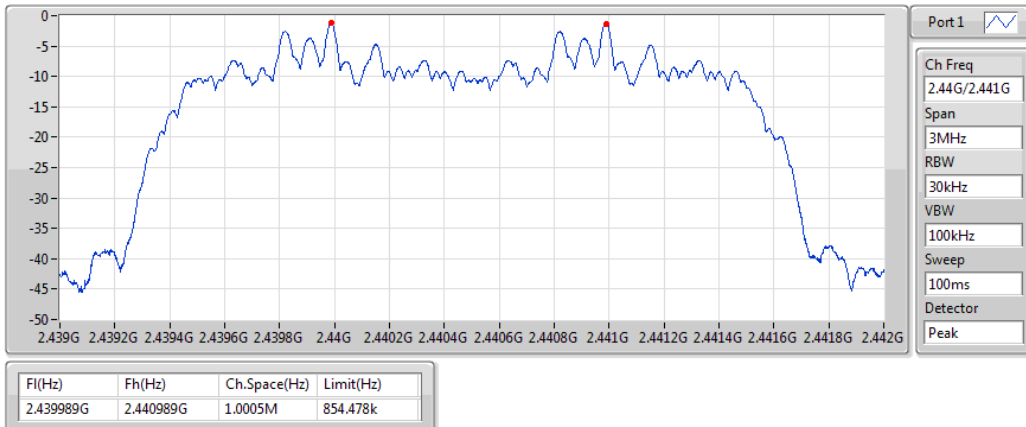
2.402G/2.403GHz



BT-EDR(2Mbps)

Channel Separation

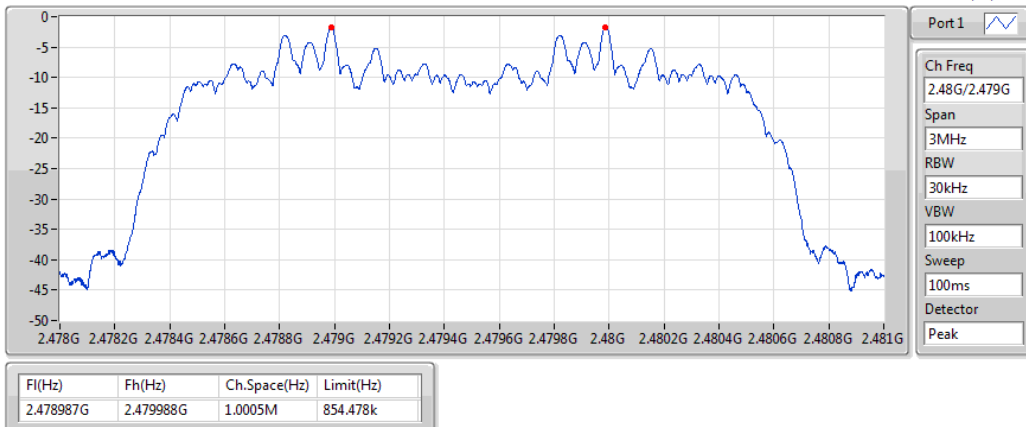
2.44G/2.441GHz



BT-EDR(2Mbps)

Channel Separation

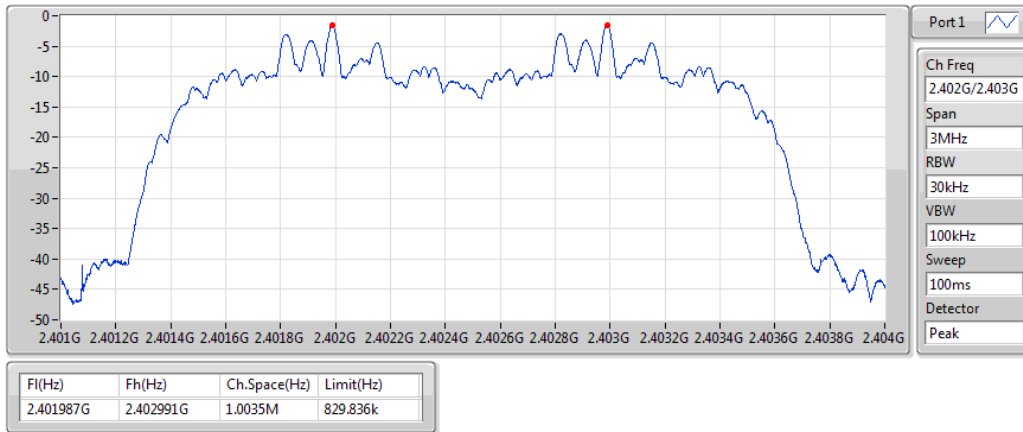
2.48G/2.479GHz



BT-EDR(3Mbps)

Channel Separation

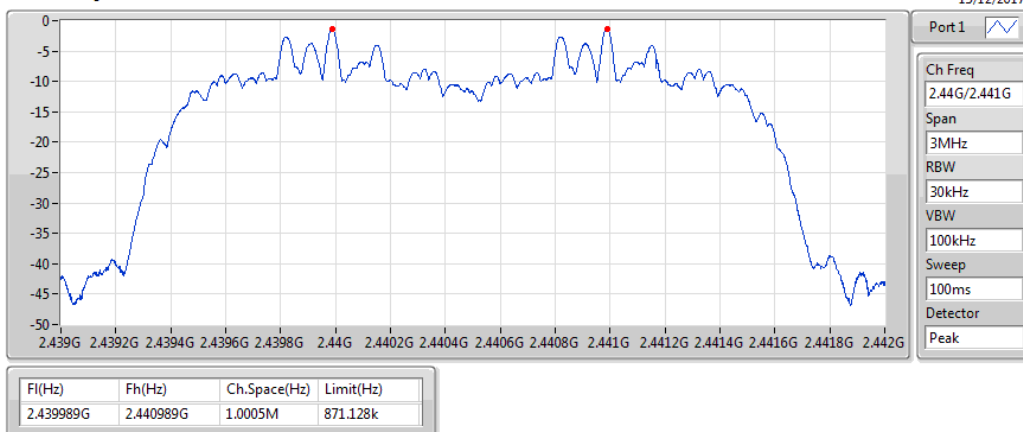
2.402G/2.403GHz



BT-EDR(3Mbps)

Channel Separation

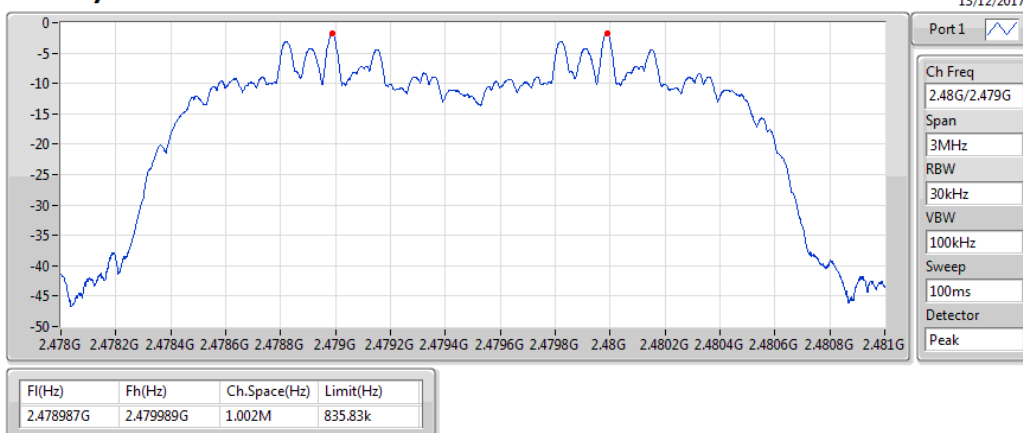
2.44G/2.441GHz



BT-EDR(3Mbps)

Channel Separation

2.48G/2.479GHz



Summary

Mode	Power	Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	4.29	0.00269
BT-EDR(2Mbps)	4.22	0.00264
BT-EDR(3Mbps)	4.61	0.00289

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.00	3.81	21.00
2440MHz	Pass	2.00	4.29	21.00
2480MHz	Pass	2.00	3.79	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.00	4.02	21.00
2440MHz	Pass	2.00	4.22	21.00
2480MHz	Pass	2.00	4.20	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.00	4.61	21.00
2440MHz	Pass	2.00	4.23	21.00
2480MHz	Pass	2.00	4.20	21.00

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	4.42	0.00277
BT-EDR(2Mbps)	6.93	0.00493
BT-EDR(3Mbps)	7.46	0.00557

Result

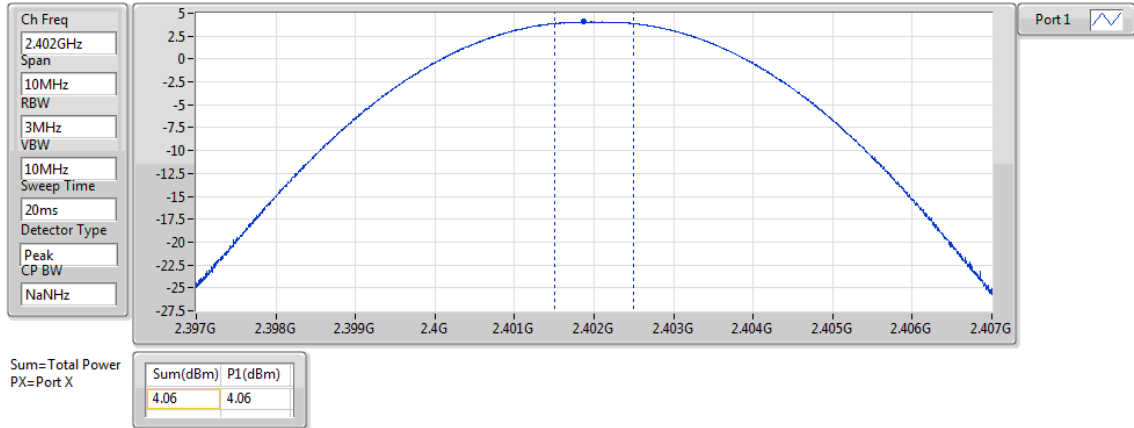
Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.00	4.06	21.00
2440MHz	Pass	2.00	4.42	21.00
2480MHz	Pass	2.00	3.91	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.00	6.45	21.00
2440MHz	Pass	2.00	6.93	21.00
2480MHz	Pass	2.00	6.38	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.00	6.94	21.00
2440MHz	Pass	2.00	7.46	21.00
2480MHz	Pass	2.00	6.89	21.00

BT-BR(1Mbps)

PK Power

2402MHz

13/12/2017

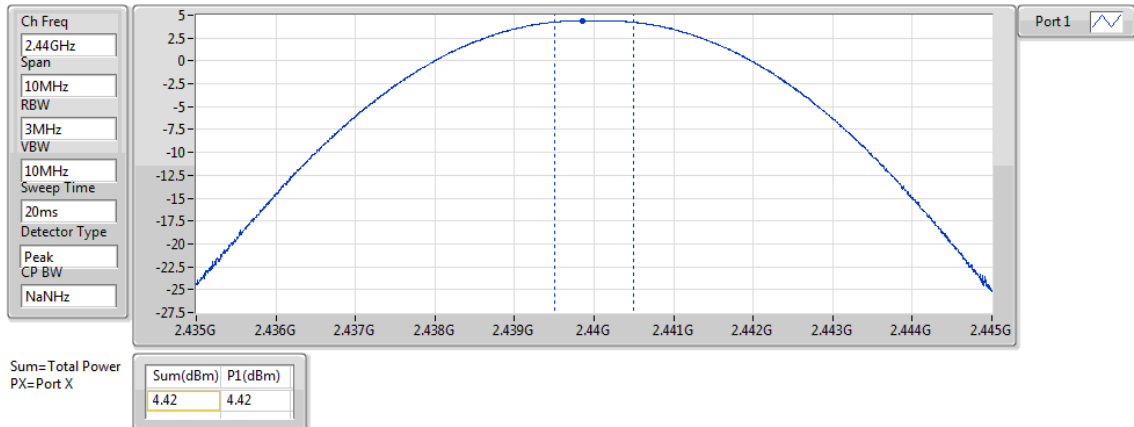


BT-BR(1Mbps)

PK Power

2440MHz

13/12/2017

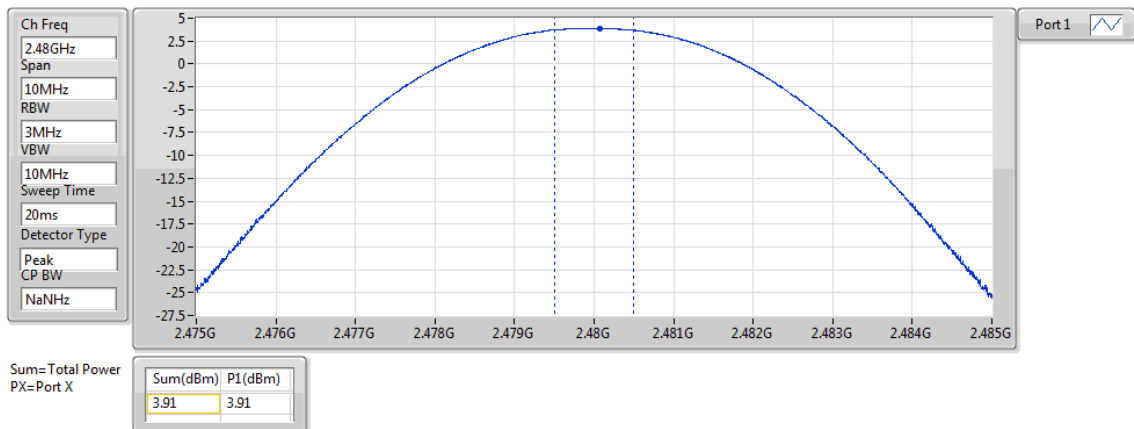


BT-BR(1Mbps)

PK Power

2480MHz

13/12/2017

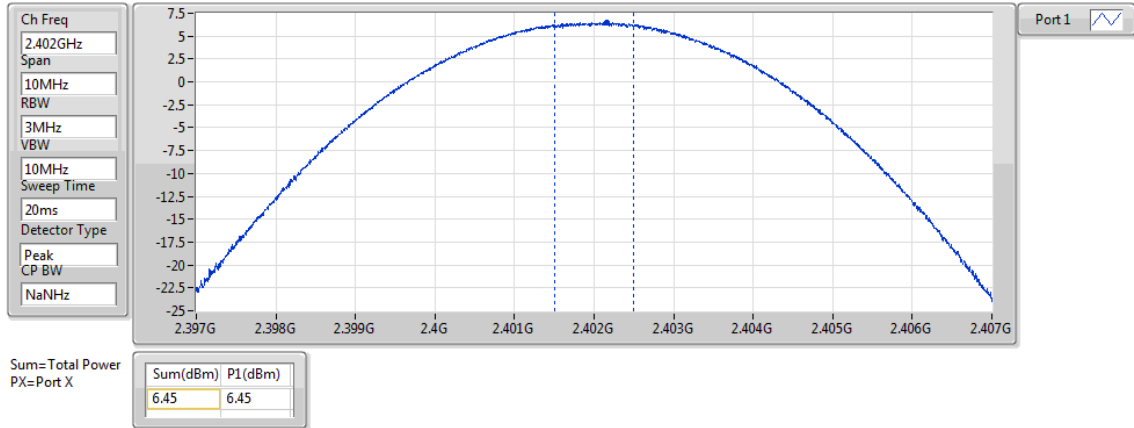


BT-EDR(2Mbps)

PK Power

2402MHz

13/12/2017

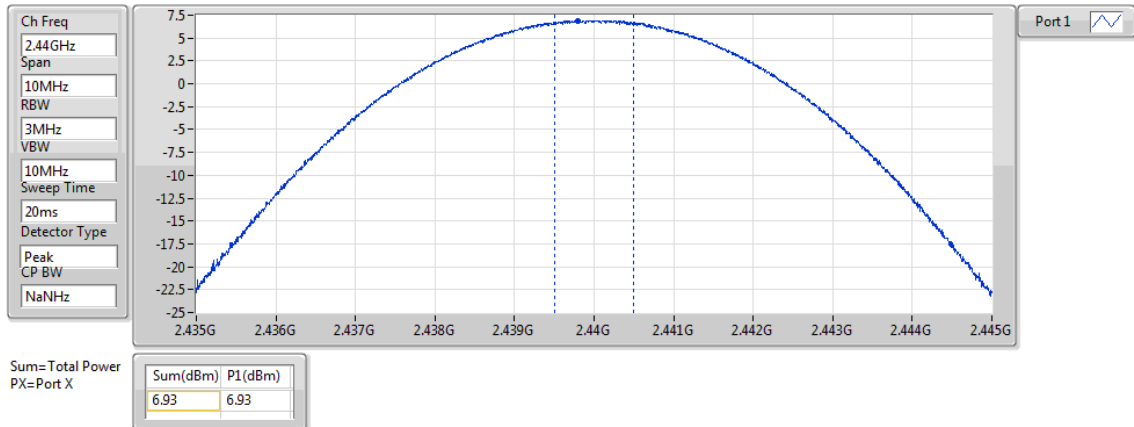


BT-EDR(2Mbps)

PK Power

2440MHz

13/12/2017

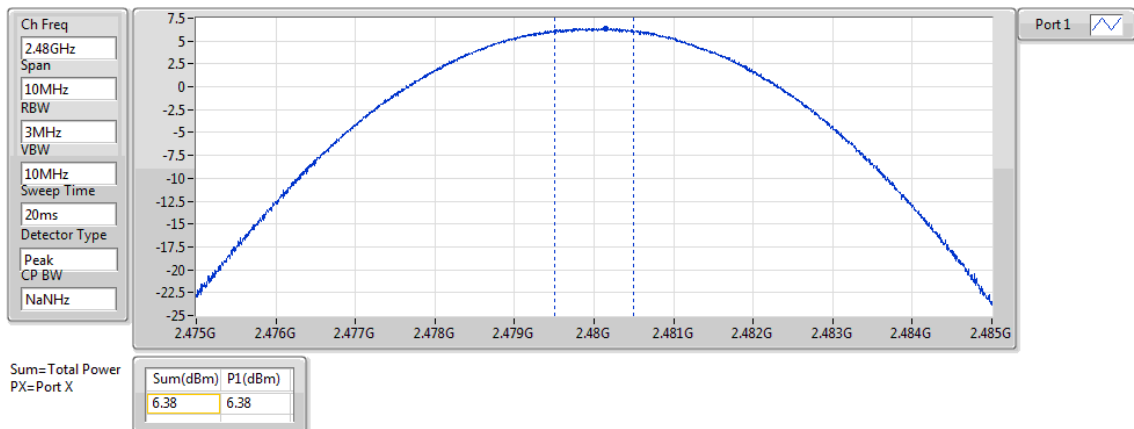


BT-EDR(2Mbps)

PK Power

2480MHz

13/12/2017

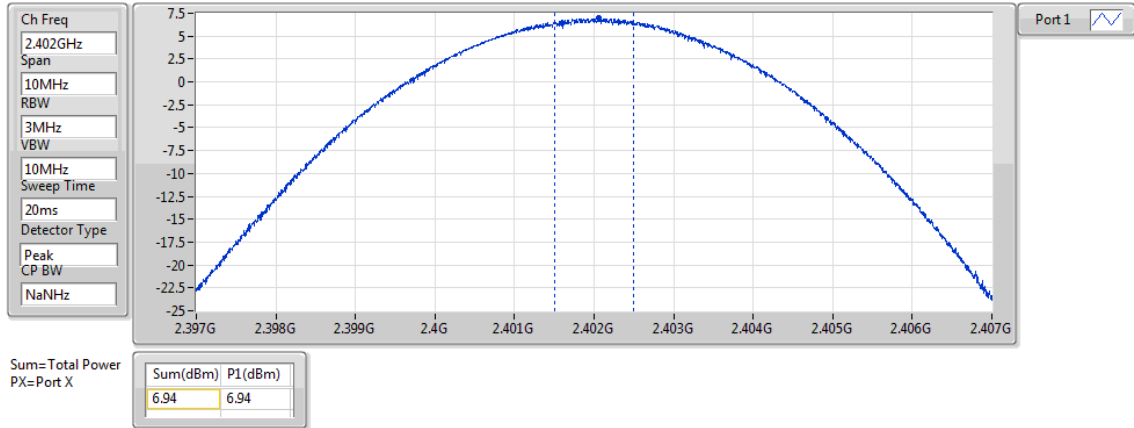


BT-EDR(3Mbps)

PK Power

2402MHz

13/12/2017

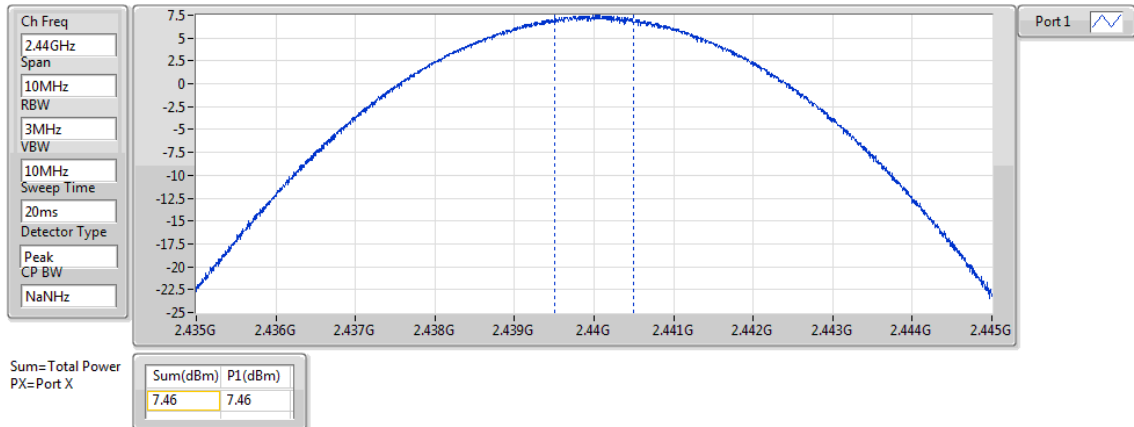


BT-EDR(3Mbps)

PK Power

2440MHz

13/12/2017

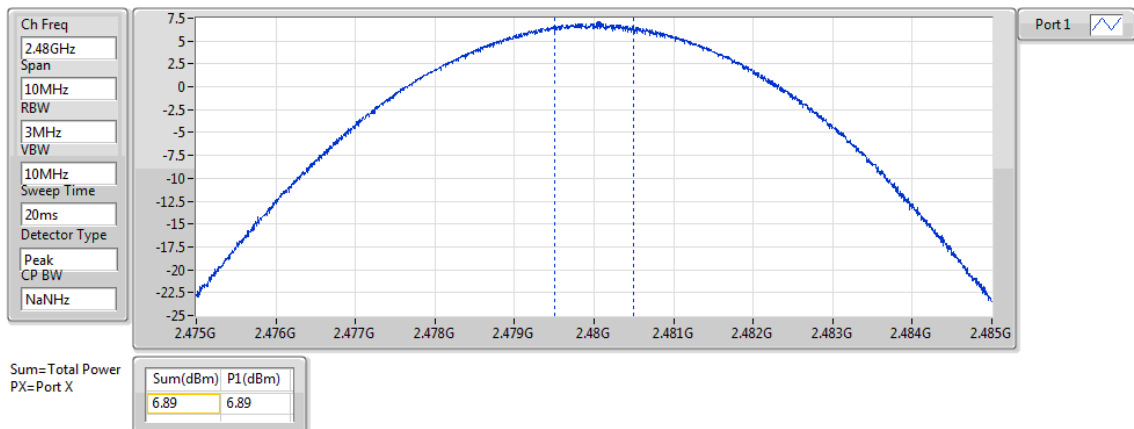


BT-EDR(3Mbps)

PK Power

2480MHz

13/12/2017



Summary

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

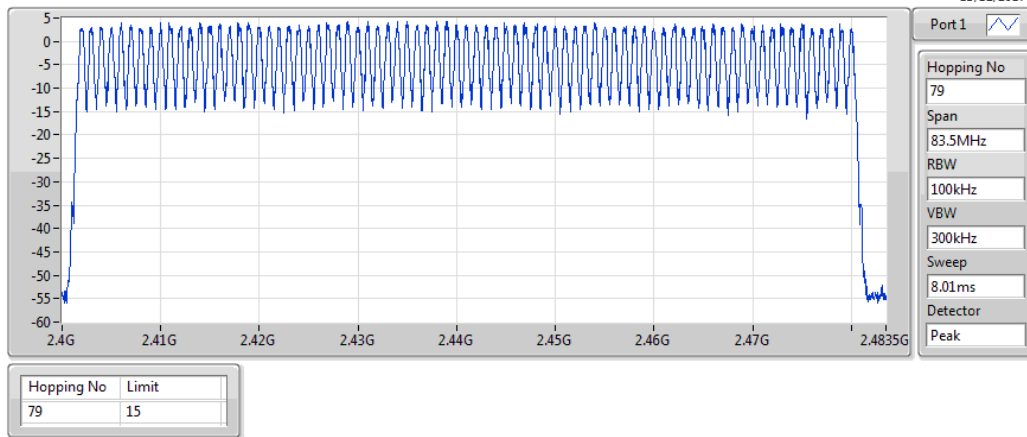
Result

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

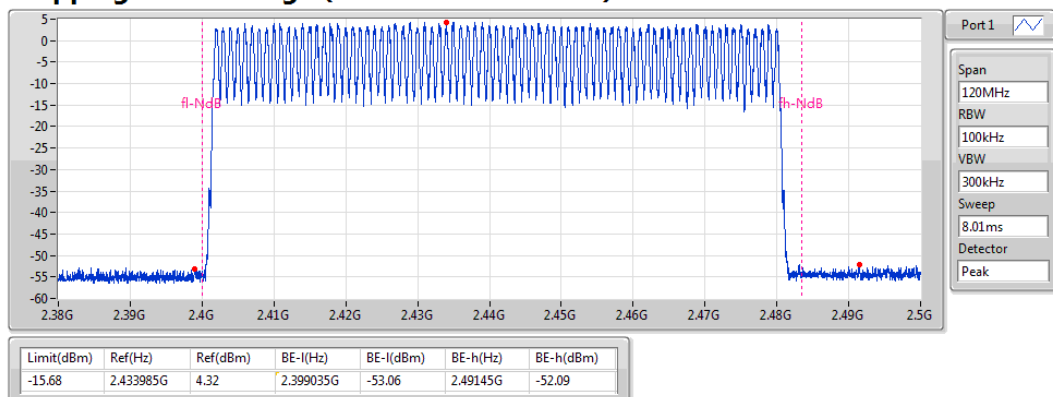
Hopping Ch



BT-BR(1Mbps)

2440MHz

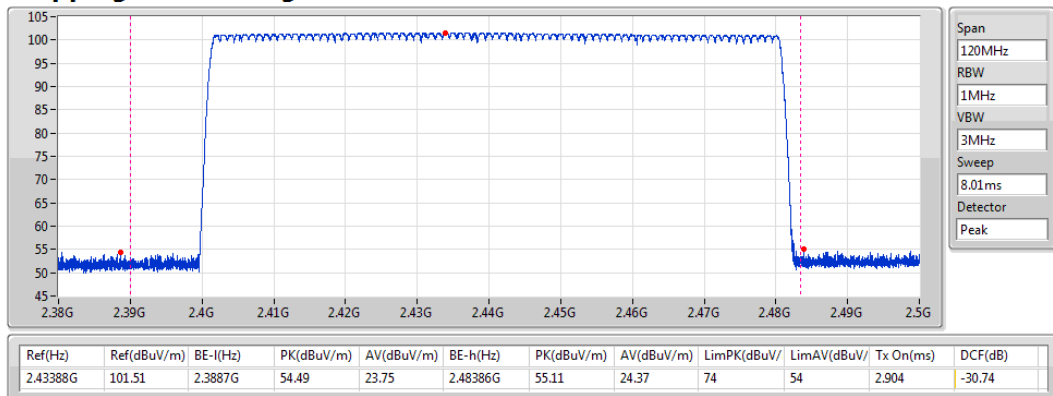
Hopping Ch Bandedge (Non-restricted Band)



BT-BR(1Mbps)

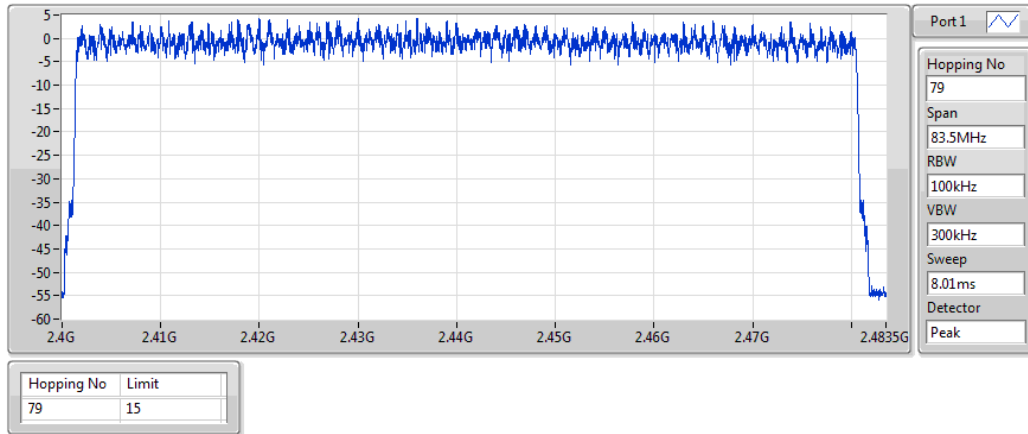
2440MHz

Hopping Ch Bandedge (Restricted Band)



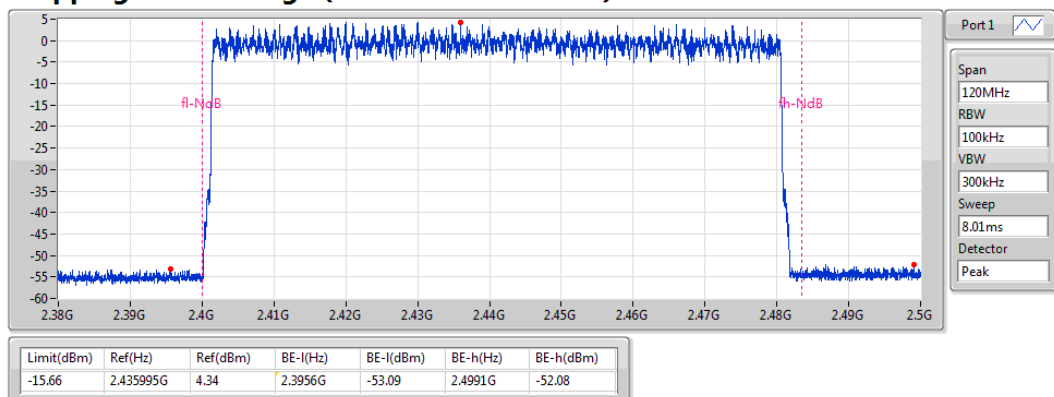
BT-EDR(2Mbps) 2440MHz

Hopping Ch



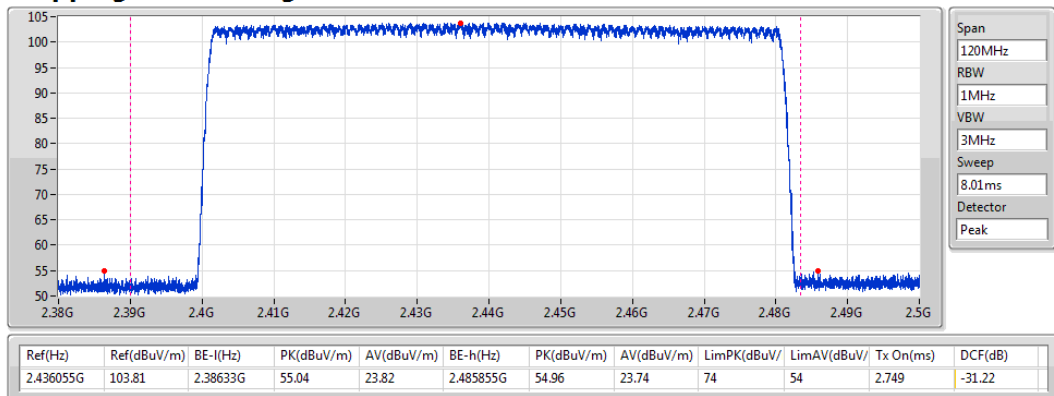
BT-EDR(2Mbps) 2440MHz

Hopping Ch Bandedge (Non-restricted Band)



BT-EDR(2Mbps) 2440MHz

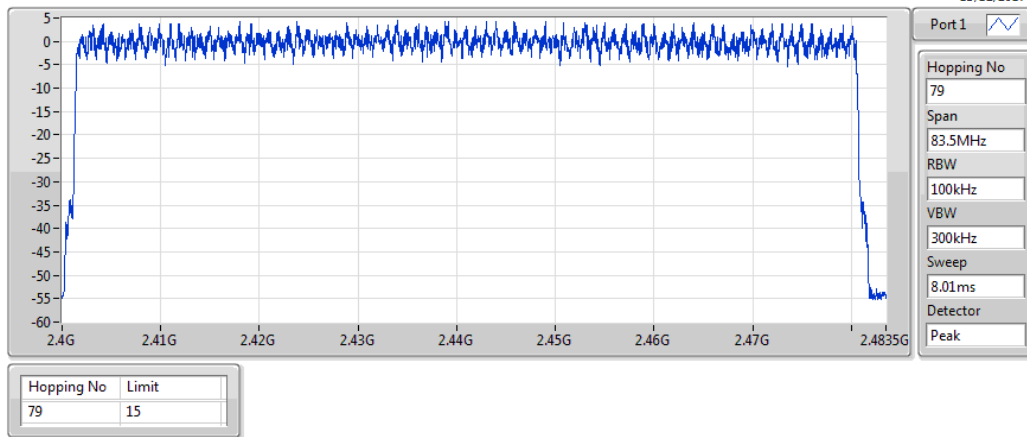
Hopping Ch Bandedge (Restricted Band)



BT-EDR(3Mbps)

2440MHz

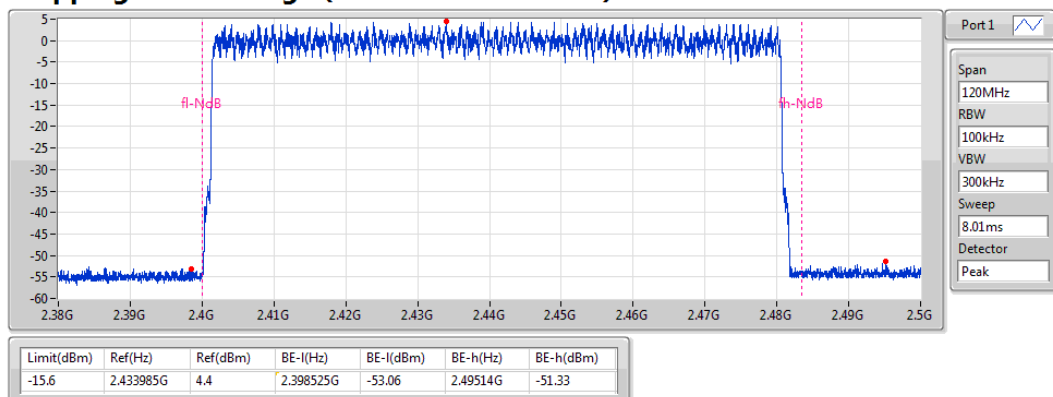
Hopping Ch



BT-EDR(3Mbps)

2440MHz

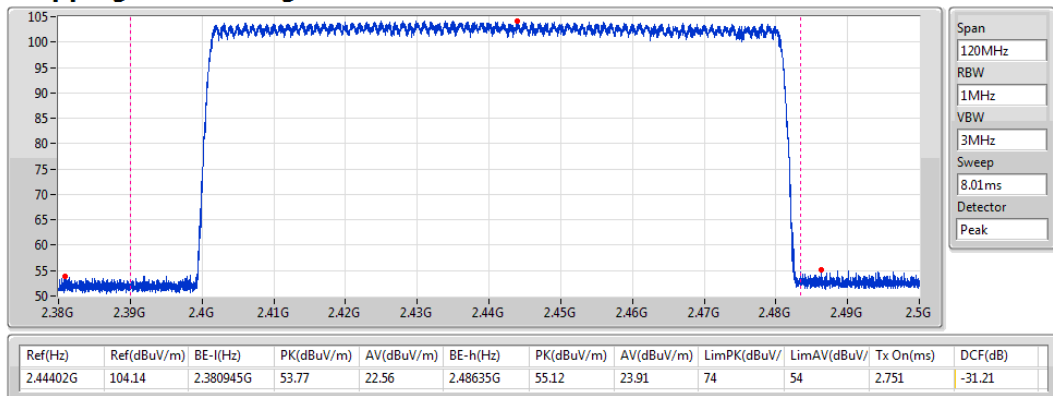
Hopping Ch Bandedge (Non-restricted Band)



BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)



Summary

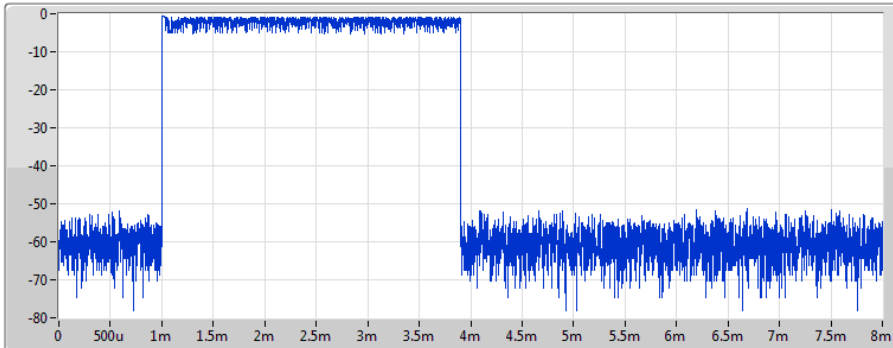
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	309.5664m
BT-EDR(2Mbps)	293.0434m
BT-EDR(3Mbps)	293.2566m

Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	309.5664m	400m	2.904m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	293.0434m	400m	2.749m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	293.2566m	400m	2.751m

BT-BR(1Mbps)

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	309.5664m	400m	2.904m

Dwell

13/12/2017

Port 1 

Ch Freq
2.44GHz

RBW
300kHz

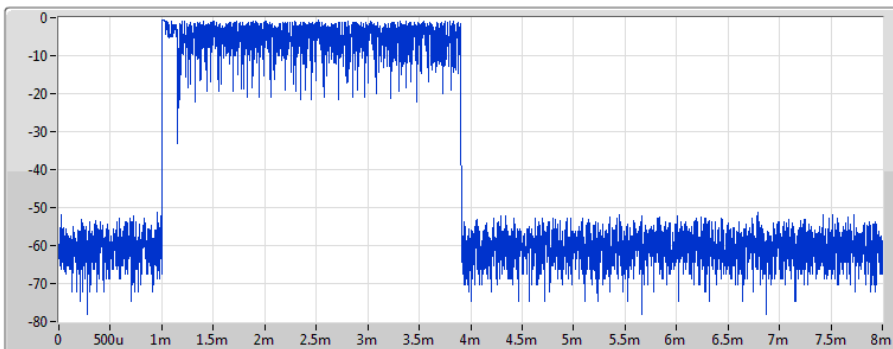
VBW
1MHz

Sweep Time
8ms

TX Time
2.904ms

BT-EDR(2Mbps)

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	293.0434m	400m	2.749m

Dwell

13/12/2017

Port 1 

Ch Freq
2.44GHz

RBW
300kHz

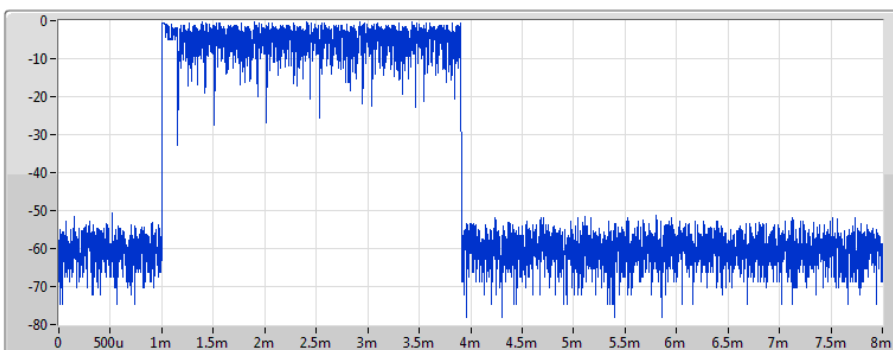
VBW
1MHz

Sweep Time
8ms

TX Time
2.749ms

BT-EDR(3Mbps)

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	293.2566m	400m	2.751m

Dwell

13/12/2017

Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.751ms

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	2.44008G	3.18	-16.82	816.176M	-53.37	2.399844G	-54.66	2.483884G	-53.43	24.788927G	-48.00	1
BT-EDR(2Mbps)	Pass	2.402004G	1.40	-18.60	642.128M	-52.63	2.399792G	-51.58	2.485348G	-53.19	6.9884G	-47.42	1
BT-EDR(3Mbps)	Pass	2.401837G	1.89	-18.11	946.416M	-53.66	2.399856G	-52.59	2.485424G	-54.08	24.285165G	-48.60	1

Result

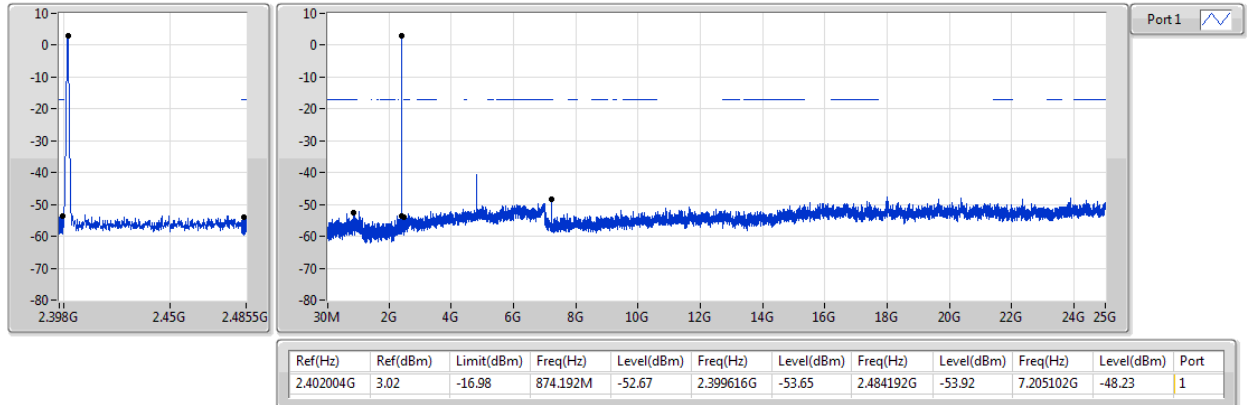
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402004G	3.02	-16.98	874.192M	-52.67	2.399616G	-53.65	2.484192G	-53.92	7.205102G	-48.23	1
2440MHz	Pass	2.44008G	3.18	-16.82	816.176M	-53.37	2.399844G	-54.66	2.483884G	-53.43	24.788927G	-48.00	1
2480MHz	Pass	2.48016G	2.65	-17.35	797.232M	-53.45	2.399064G	-54.45	2.483536G	-53.73	21.58061G	-48.63	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402004G	1.40	-18.60	642.128M	-52.63	2.399792G	-51.58	2.485348G	-53.19	6.9884G	-47.42	1
2440MHz	Pass	2.44008G	2.22	-17.78	916.816M	-53.29	2.399344G	-53.86	2.483584G	-53.75	24.344265G	-48.41	1
2480MHz	Pass	2.48016G	0.88	-19.12	748.688M	-52.33	2.399048G	-54.85	2.483748G	-52.39	6.9884G	-48.52	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.401837G	1.89	-18.11	946.416M	-53.66	2.399856G	-52.59	2.485424G	-54.08	24.285165G	-48.60	1
2440MHz	Pass	2.44008G	2.43	-17.57	846.96M	-53.51	2.398692G	-54.68	2.485024G	-54.14	6.982771G	-48.39	1
2480MHz	Pass	2.479993G	2.25	-17.75	891.952M	-53.43	2.398516G	-54.97	2.483816G	-52.30	24.321751G	-48.96	1

BT-BR(1Mbps)

CSE NdB

2402MHz

13/12/2017

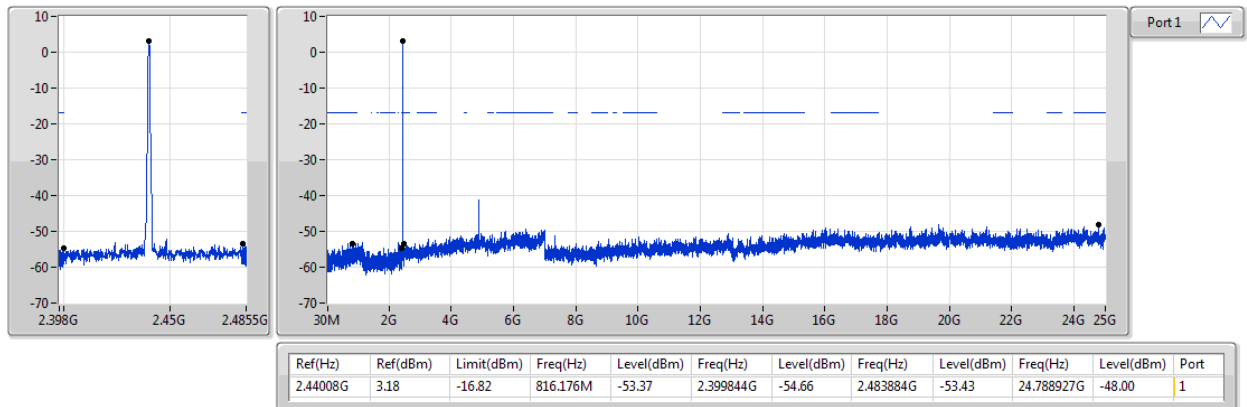


BT-BR(1Mbps)

CSE NdB

2440MHz

13/12/2017

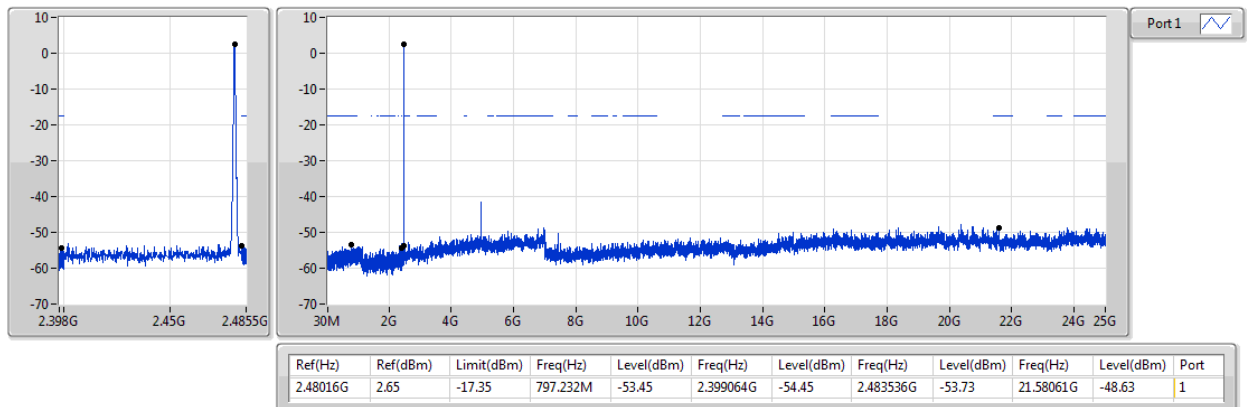


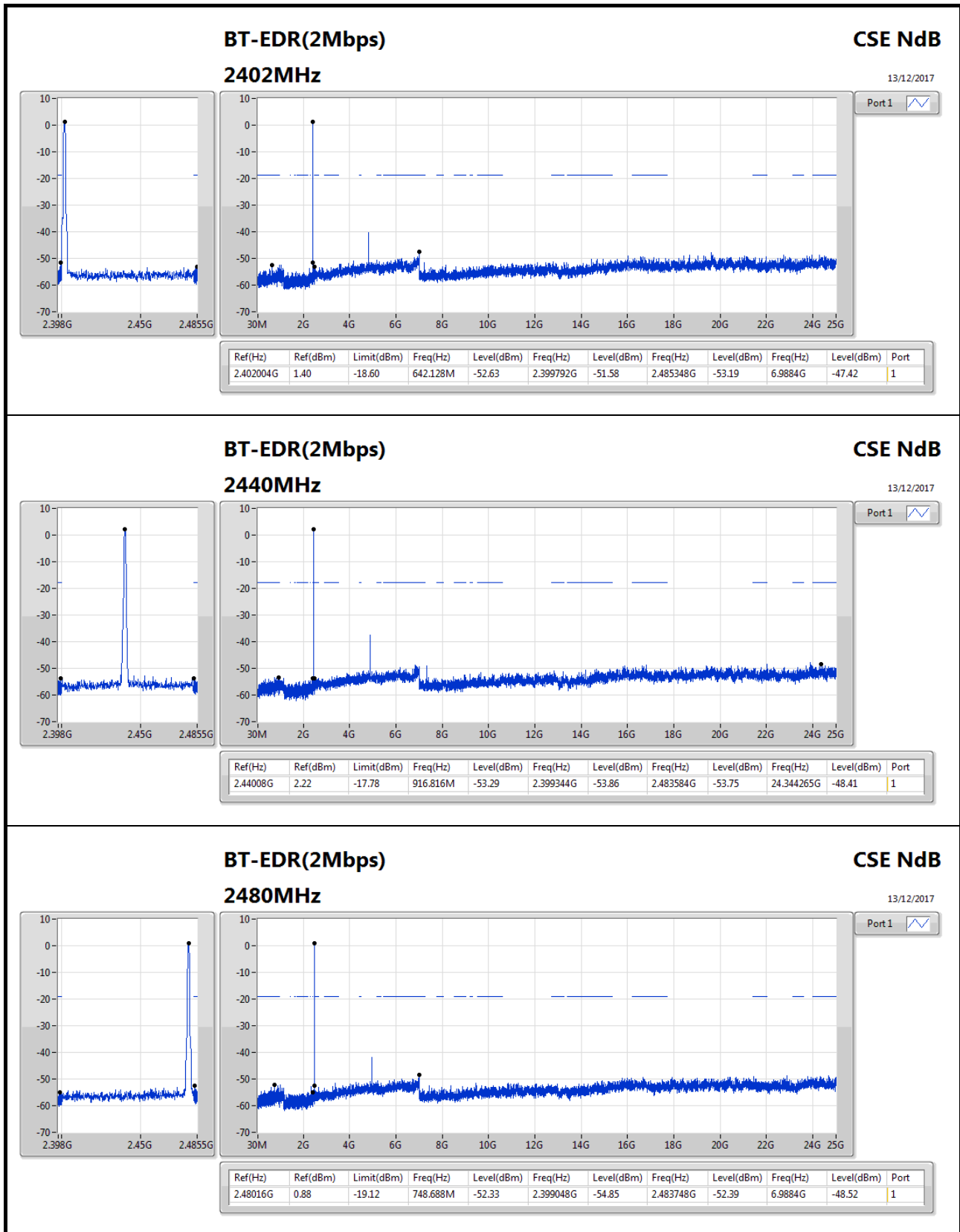
BT-BR(1Mbps)

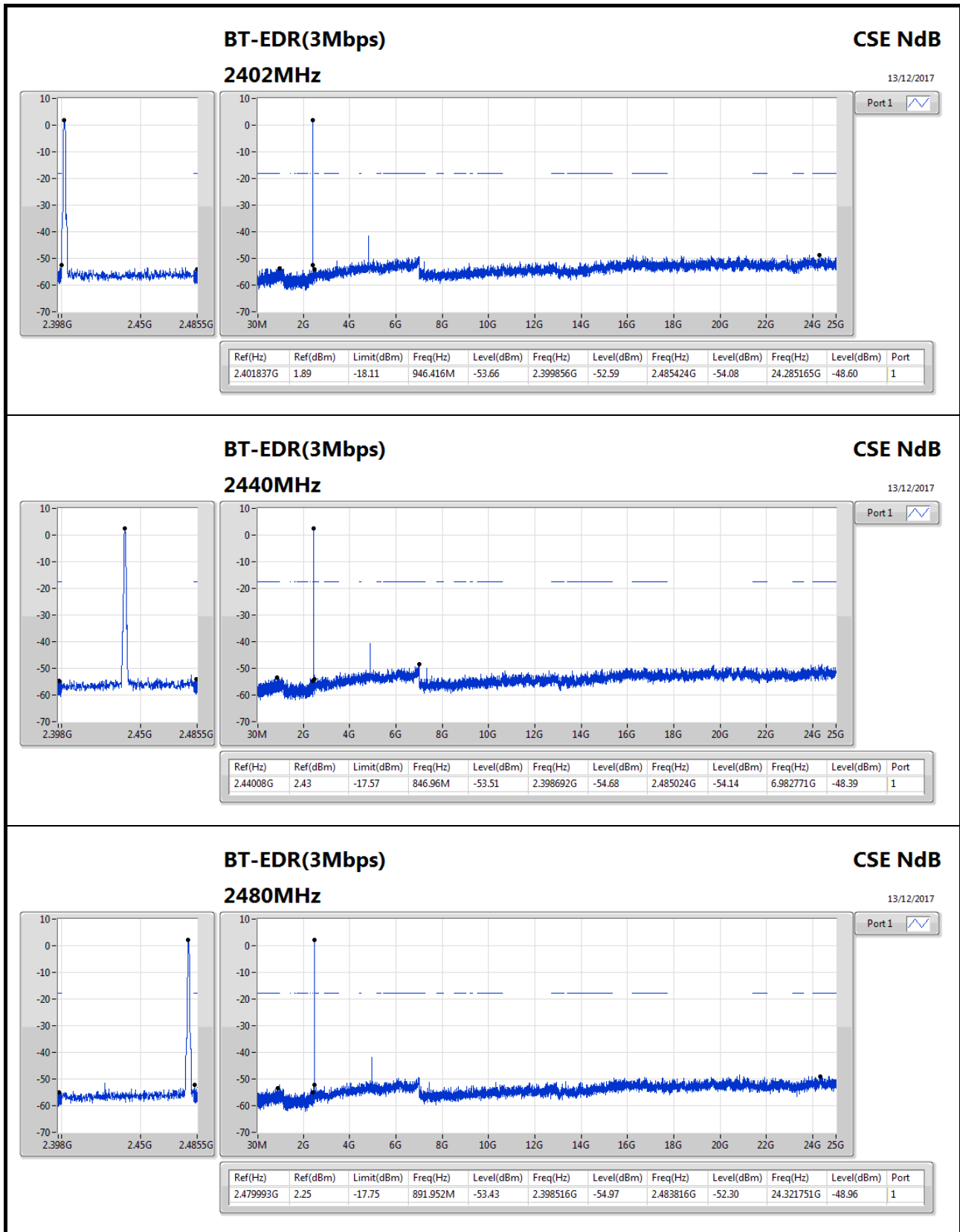
CSE NdB

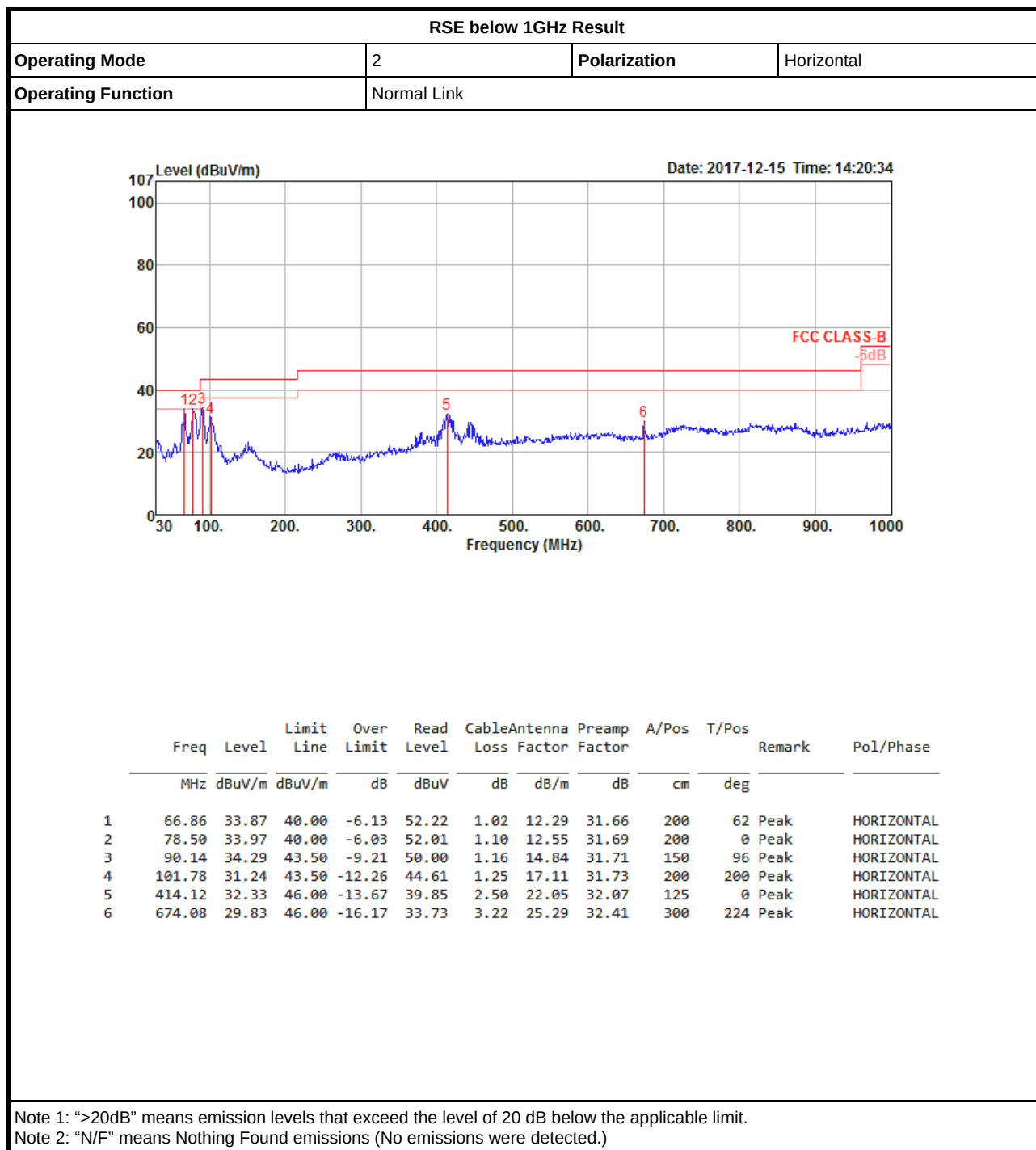
2480MHz

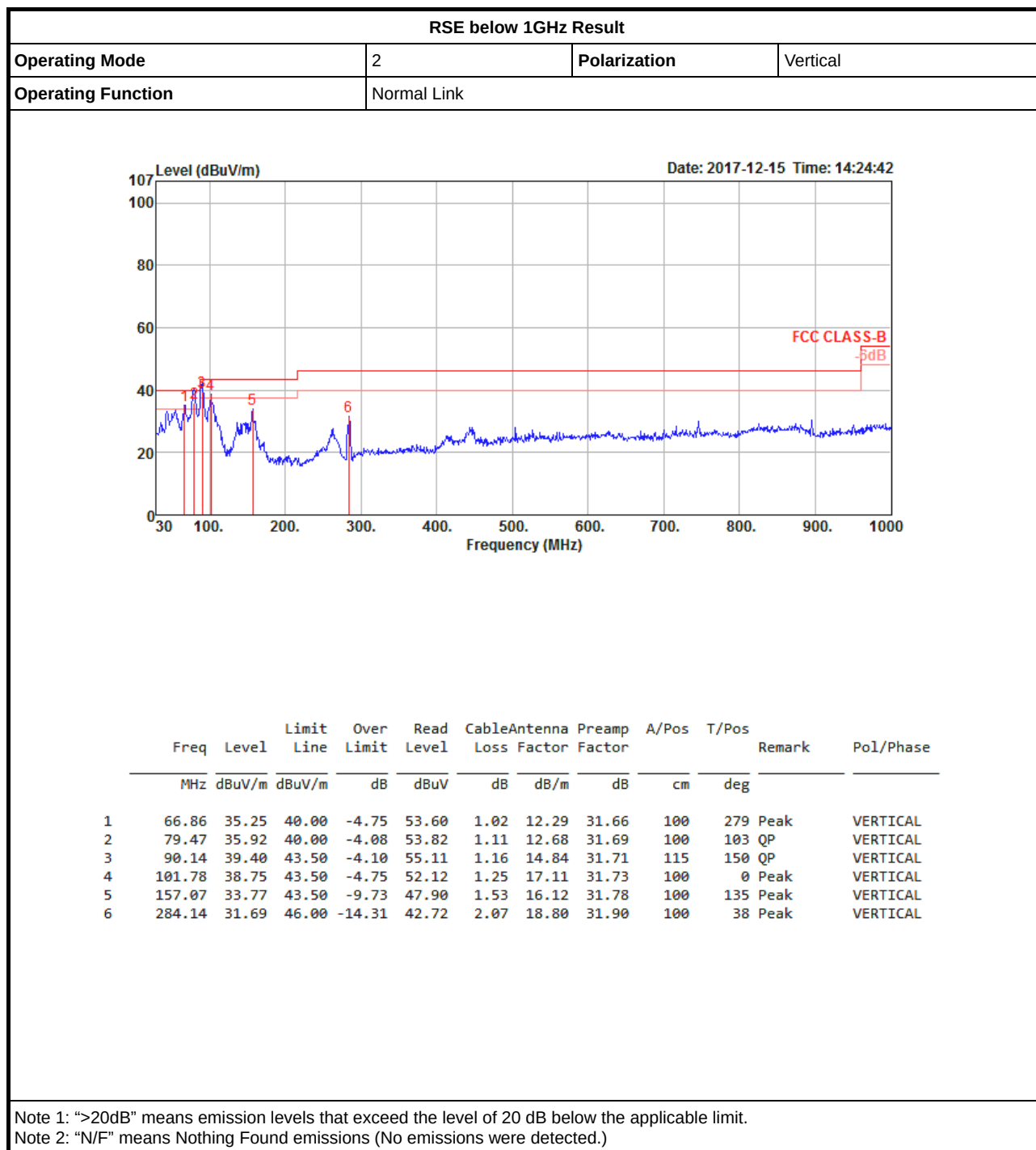
13/12/2017













RSE TX above 1GHz Result

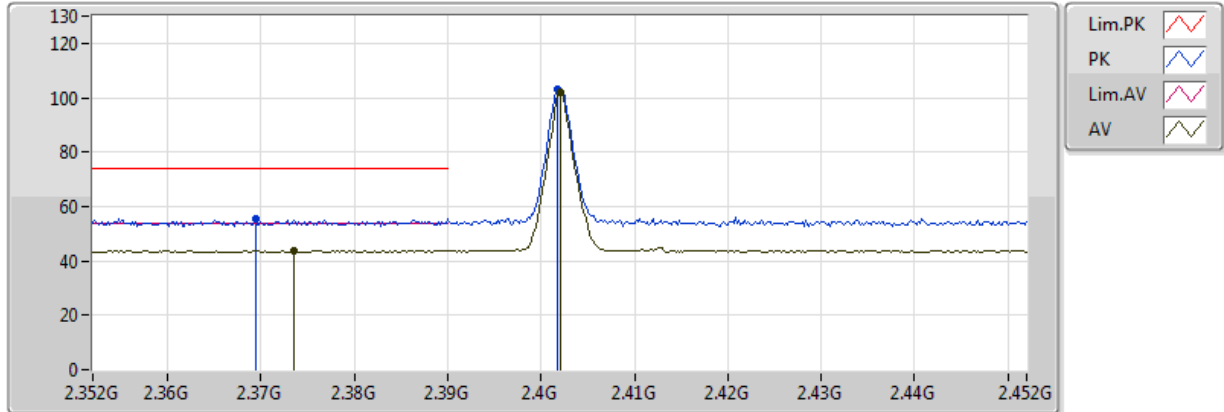
Appendix G.2

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	AV	4.80401G	51.27	54.00	-2.73	6.56	3	H	105	2.72	-

BT-BR(1Mbps)

2402MHz_TX

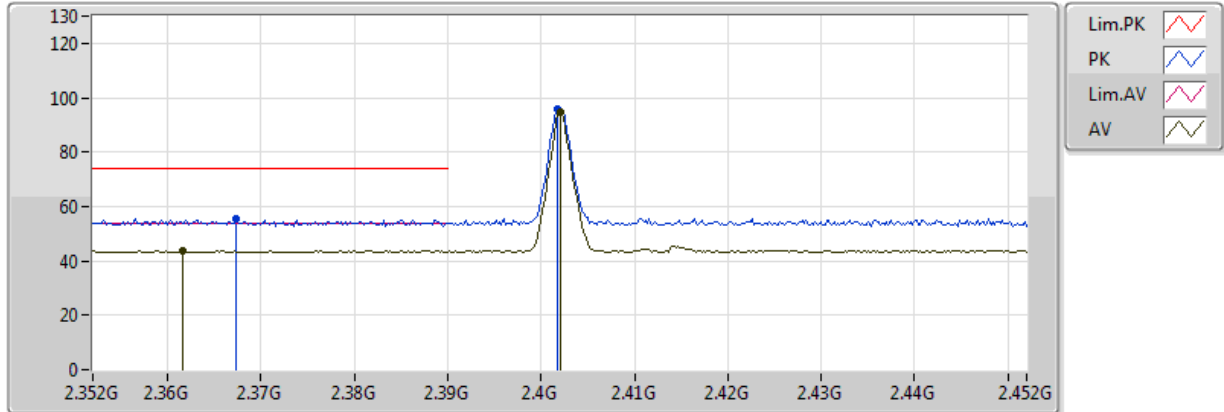


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3736G	43.64	54.00	-10.36	31.87	3	V	266	1.16	-
AV	2.402G	102.06	Inf	-Inf	31.94	3	V	266	1.16	-
PK	2.3694G	55.58	74.00	-18.42	31.86	3	V	266	1.16	-
PK	2.4018G	103.12	Inf	-Inf	31.94	3	V	266	1.16	-

BT-BR(1Mbps)

2402MHz_TX

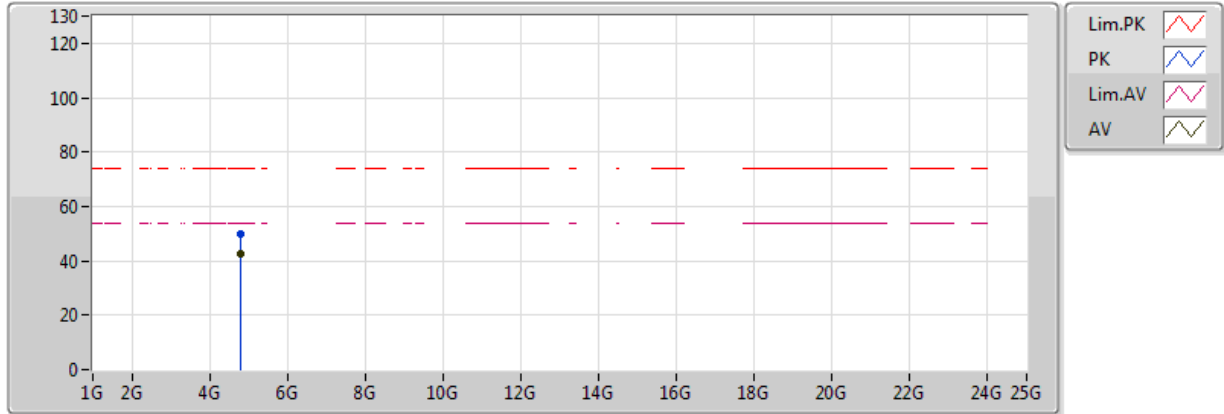


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3616G	43.56	54.00	-10.44	31.84	3	H	71	1.45	-
AV	2.402G	94.62	Inf	-Inf	31.94	3	H	71	1.45	-
PK	2.3674G	55.53	74.00	-18.47	31.86	3	H	71	1.45	-
PK	2.4018G	95.77	Inf	-Inf	31.94	3	H	71	1.45	-

BT-BR(1Mbps)

2402MHz_TX

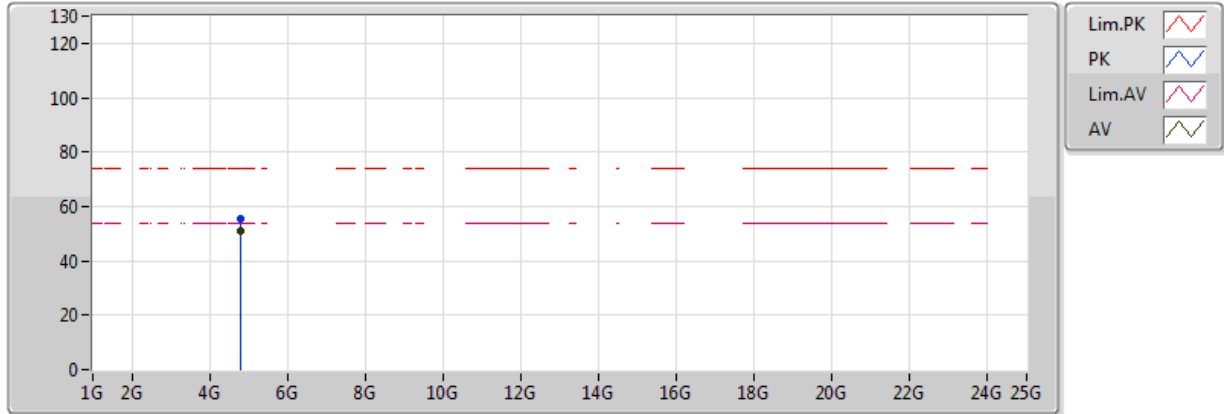


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.80401G	42.58	54.00	-11.42	6.56	3	V	279	1.38	-
PK	4.80394G	49.70	74.00	-24.30	6.56	3	V	279	1.38	-

BT-BR(1Mbps)

2402MHz_TX

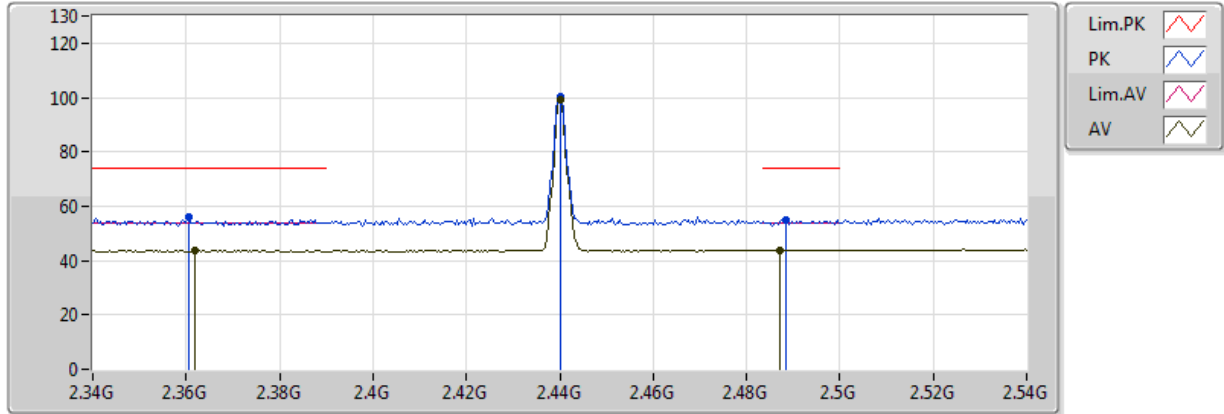


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.80401G	51.27	54.00	-2.73	6.56	3	H	105	2.72	-
PK	4.80378G	55.65	74.00	-18.35	6.56	3	H	105	2.72	-

BT-BR(1Mbps)

2440MHz_TX

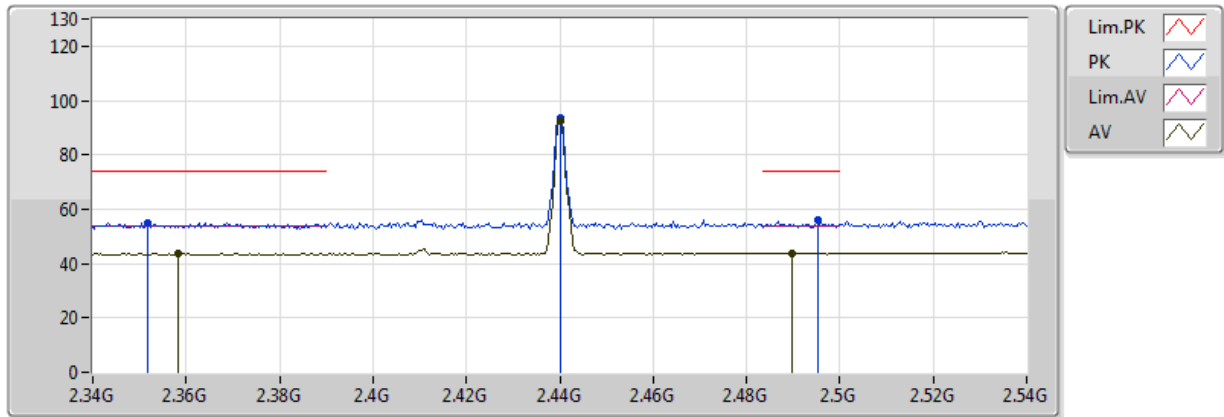


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.362G	43.97	54.00	-10.03	31.84	3	V	263	1.36	-
AV	2.44G	99.04	Inf	-Inf	32.04	3	V	263	1.36	-
AV	2.4872G	43.92	54.00	-10.08	32.15	3	V	263	1.36	-
PK	2.3604G	55.81	74.00	-18.19	31.84	3	V	263	1.36	-
PK	2.44G	100.06	Inf	-Inf	32.04	3	V	263	1.36	-
PK	2.4884G	55.02	74.00	-18.98	32.15	3	V	263	1.36	-

BT-BR(1Mbps)

2440MHz_TX

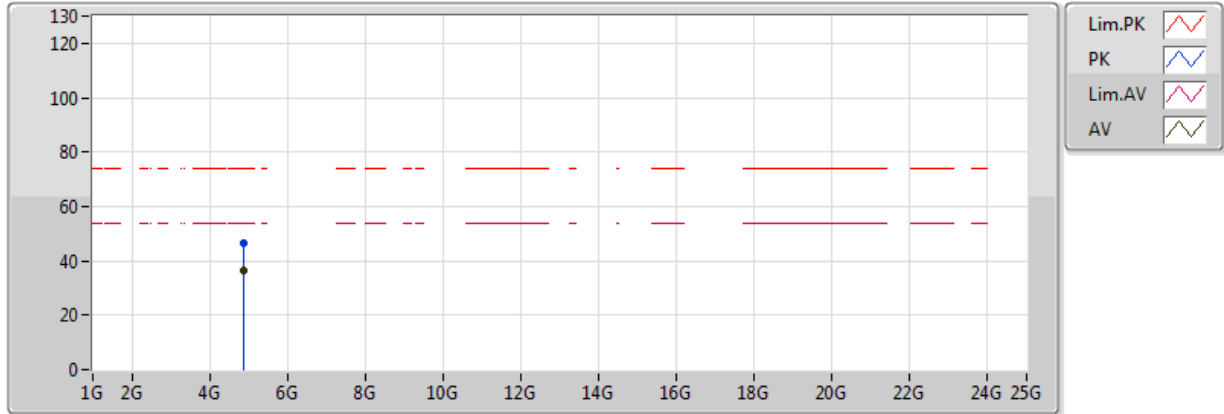


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3584G	43.53	54.00	-10.47	31.83	3	H	266	1.22	-
AV	2.44G	92.52	Inf	-Inf	32.04	3	H	266	1.22	-
AV	2.4896G	43.86	54.00	-10.14	32.16	3	H	266	1.22	-
PK	2.3516G	55.19	74.00	-18.81	31.81	3	H	266	1.22	-
PK	2.44G	93.55	Inf	-Inf	32.04	3	H	266	1.22	-
PK	2.4952G	56.03	74.00	-17.97	32.17	3	H	266	1.22	-

BT-BR(1Mbps)

2440MHz_TX

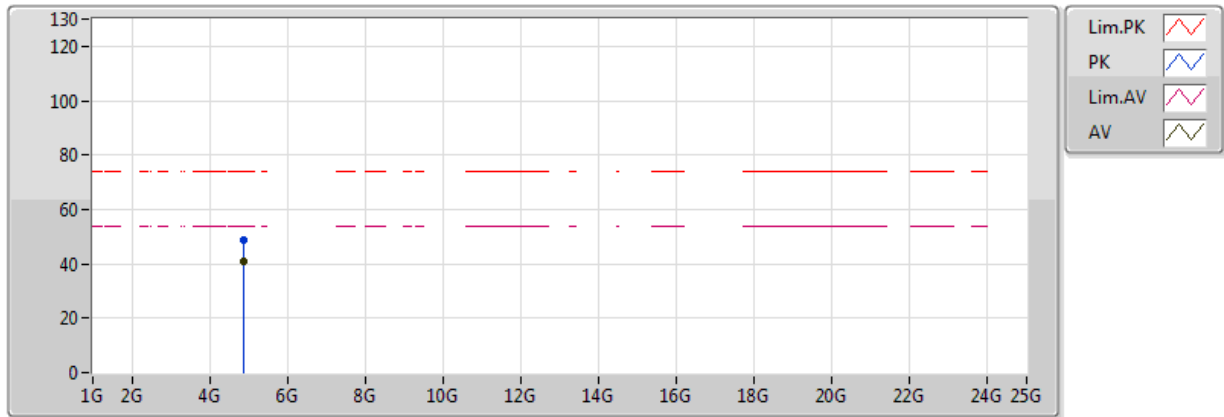


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.88G	36.67	54.00	-17.33	6.73	3	V	267	1.01	-
PK	4.8795G	46.60	74.00	-27.40	6.73	3	V	267	1.01	-

BT-BR(1Mbps)

2440MHz_TX

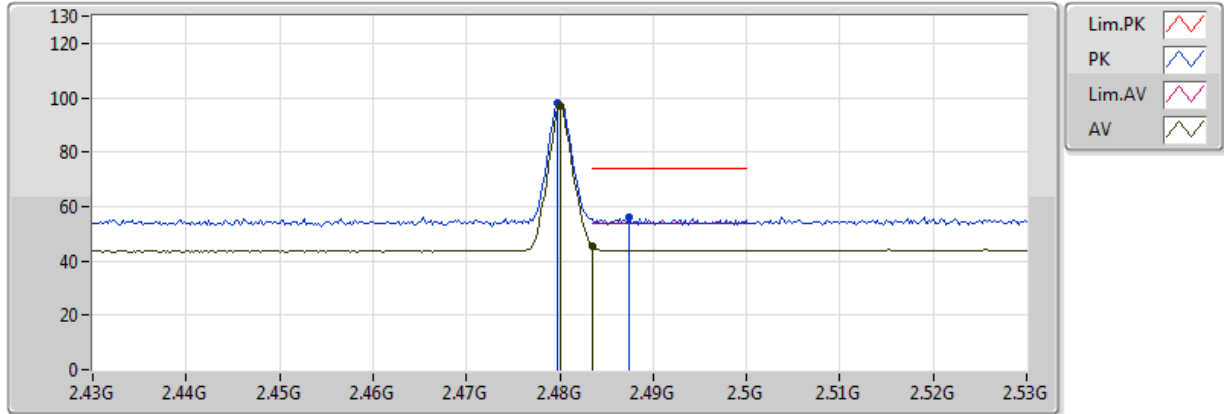


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.87993G	40.73	54.00	-13.27	6.73	3	H	86	1.01	-
PK	4.88026G	48.86	74.00	-25.14	6.73	3	H	86	1.01	-

BT-BR(1Mbps)

2480MHz_TX

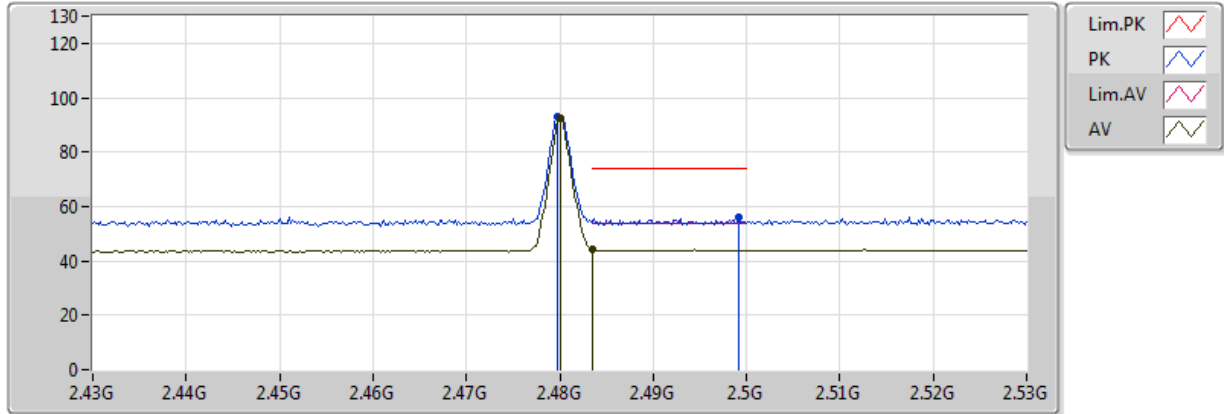


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.48G	96.96	Inf	-Inf	32.13	3	V	233	1.07	-
AV	2.483502G	45.49	54.00	-8.51	32.14	3	V	233	1.07	-
PK	2.4798G	97.97	Inf	-Inf	32.13	3	V	233	1.07	-
PK	2.4874G	56.14	74.00	-17.86	32.15	3	V	233	1.07	-

BT-BR(1Mbps)

2480MHz_TX

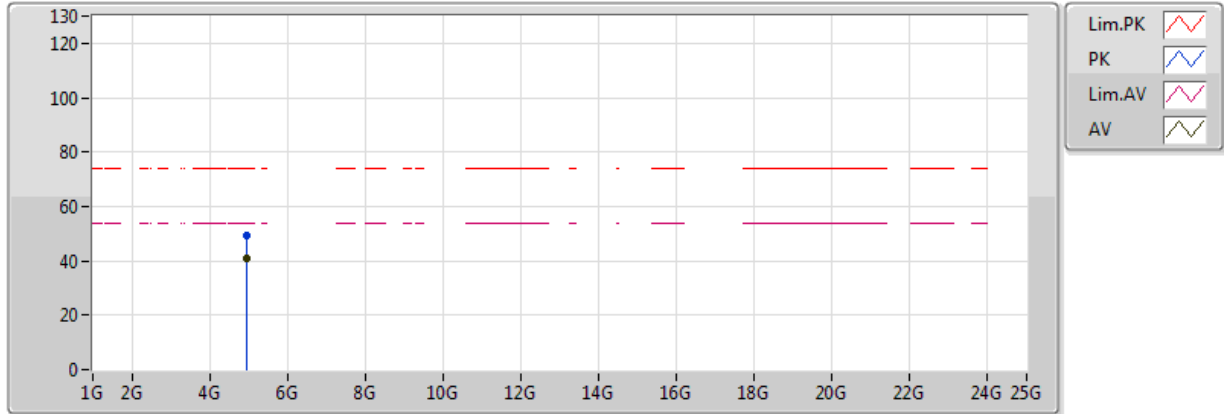


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.48G	92.24	Inf	-Inf	32.13	3	H	60	2.48	-
AV	2.483502G	44.22	54.00	-9.78	32.14	3	H	60	2.48	-
PK	2.4798G	93.28	Inf	-Inf	32.13	3	H	60	2.48	-
PK	2.4992G	55.89	74.00	-18.11	32.18	3	H	60	2.48	-

BT-BR(1Mbps)

2480MHz_TX

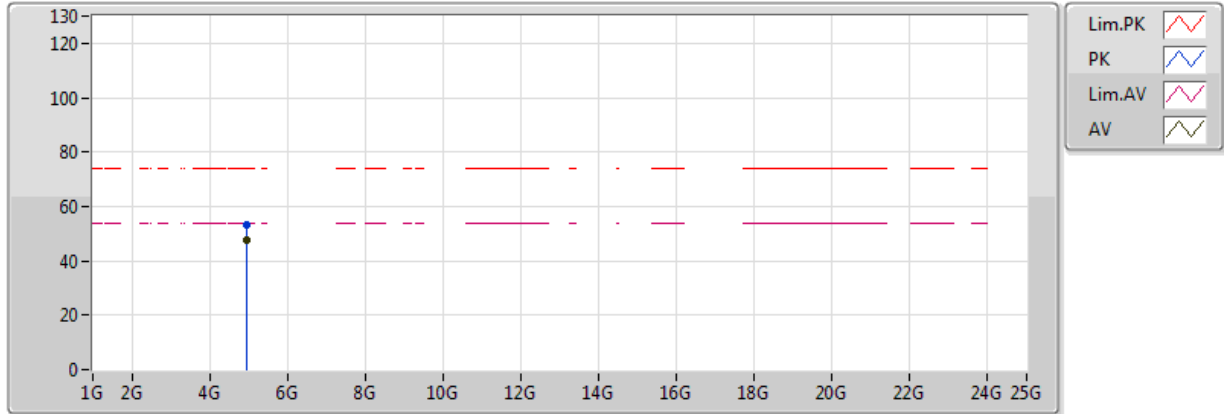


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.95992G	41.00	54.00	-13.00	6.93	3	V	0	1.04	-
PK	4.96033G	49.13	74.00	-24.87	6.93	3	V	0	1.04	-

BT-BR(1Mbps)

2480MHz_TX

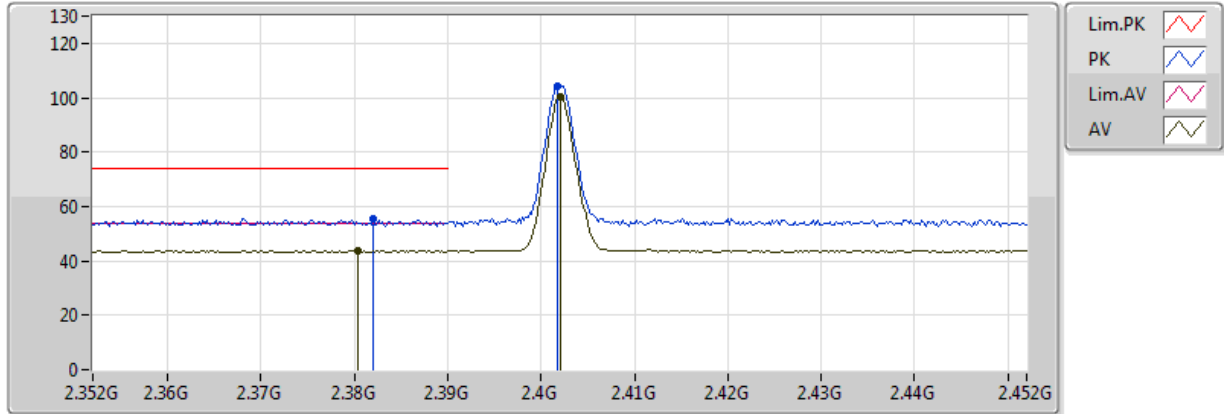


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.96004G	47.58	54.00	-6.42	6.93	3	H	80	1.00	-
PK	4.95986G	53.42	74.00	-20.58	6.93	3	H	80	1.00	-

BT-EDR(3Mbps)

2402MHz_TX

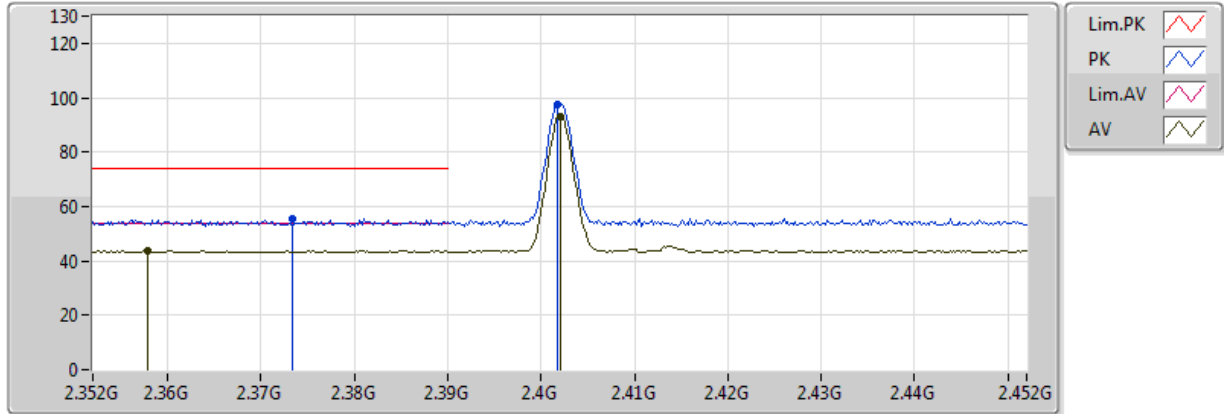


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3804G	43.73	54.00	-10.27	31.89	3	V	262	1.40	-
AV	2.402G	100.11	Inf	-Inf	31.94	3	V	262	1.40	-
PK	2.382G	55.74	74.00	-18.26	31.89	3	V	262	1.40	-
PK	2.4018G	104.34	Inf	-Inf	31.94	3	V	262	1.40	-

BT-EDR(3Mbps)

2402MHz_TX

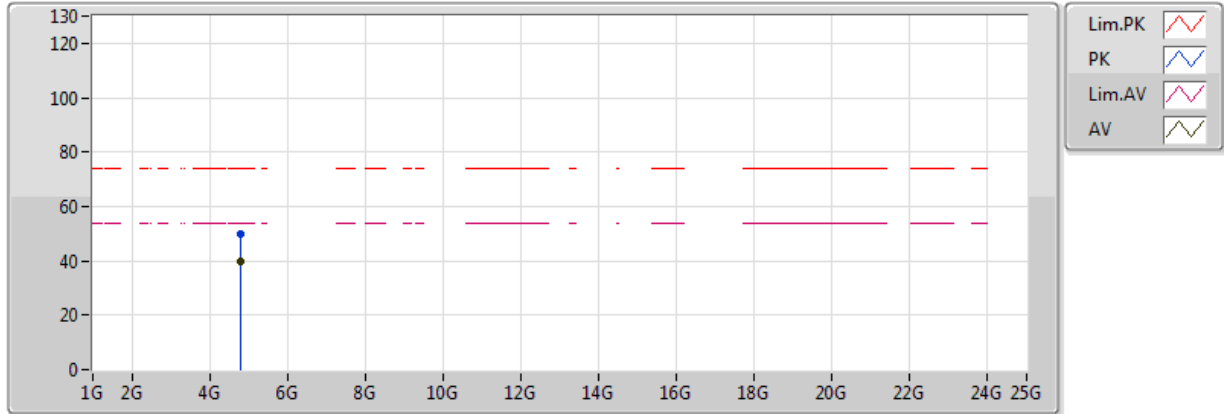


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3578G	43.61	54.00	-10.39	31.83	3	H	73	1.41	-
AV	2.402G	93.06	Inf	-Inf	31.94	3	H	73	1.41	-
PK	2.3734G	55.46	74.00	-18.54	31.87	3	H	73	1.41	-
PK	2.4018G	97.30	Inf	-Inf	31.94	3	H	73	1.41	-

BT-EDR(3Mbps)

2402MHz_TX

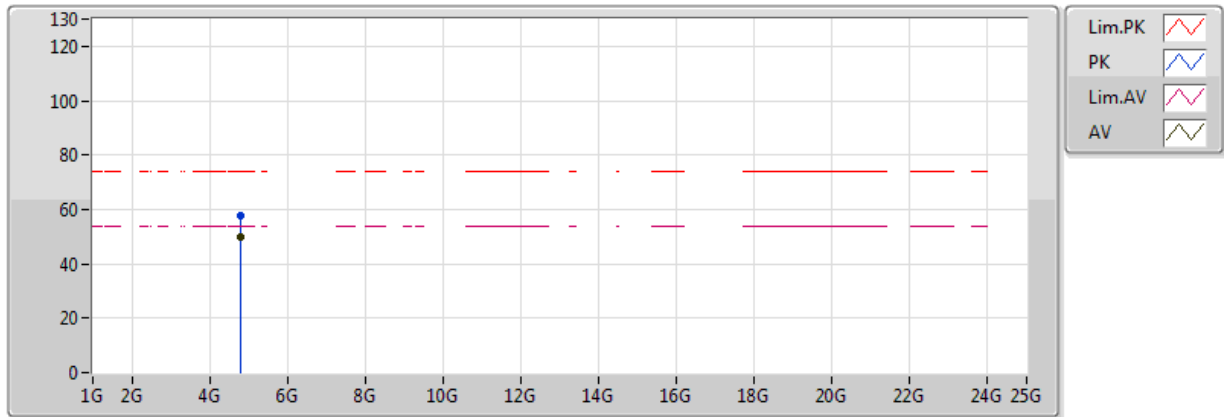


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.80402G	39.86	54.00	-14.14	6.56	3	V	281	1.50	-
PK	4.80356G	49.77	74.00	-24.23	6.56	3	V	281	1.50	-

BT-EDR(3Mbps)

2402MHz_TX

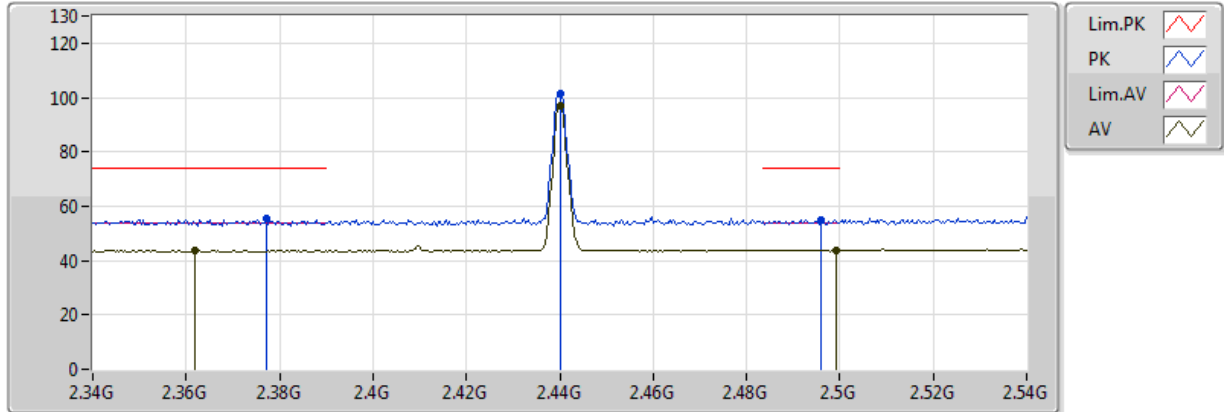


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.80395G	49.62	54.00	-4.38	6.56	3	H	106	2.71	-
PK	4.80393G	57.58	74.00	-16.42	6.56	3	H	106	2.71	-

BT-EDR(3Mbps)

2440MHz_TX

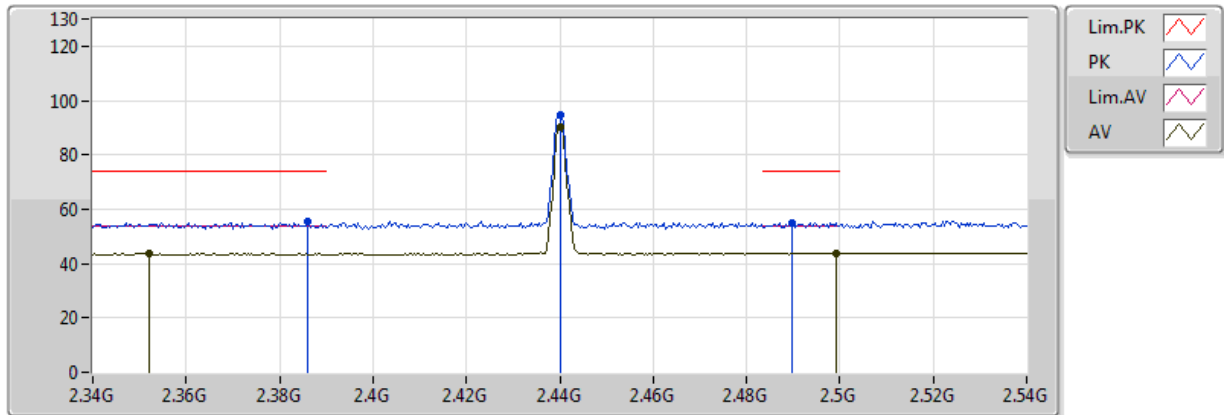


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.362G	43.62	54.00	-10.38	31.84	3	V	264	1.34	-
AV	2.44G	97.10	Inf	-Inf	32.04	3	V	264	1.34	-
AV	2.4992G	43.83	54.00	-10.17	32.18	3	V	264	1.34	-
PK	2.3772G	55.59	74.00	-18.41	31.88	3	V	264	1.34	-
PK	2.44G	101.33	Inf	-Inf	32.04	3	V	264	1.34	-
PK	2.496G	55.19	74.00	-18.81	32.17	3	V	264	1.34	-

BT-EDR(3Mbps)

2440MHz_TX

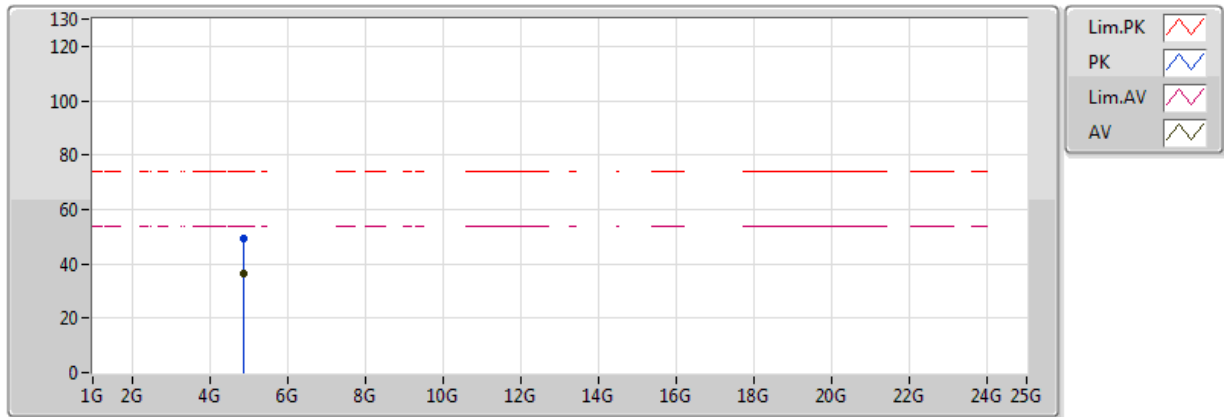


20171212
EUT Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.352G	43.65	54.00	-10.35	31.82	3	H	267	1.20	-
AV	2.44G	90.41	Inf	-Inf	32.04	3	H	267	1.20	-
AV	2.4992G	43.78	54.00	-10.22	32.18	3	H	267	1.20	-
PK	2.386G	55.24	74.00	-18.76	31.90	3	H	267	1.20	-
PK	2.44G	94.71	Inf	-Inf	32.04	3	H	267	1.20	-
PK	2.4896G	55.11	74.00	-18.89	32.16	3	H	267	1.20	-

BT-EDR(3Mbps)

2440MHz_TX

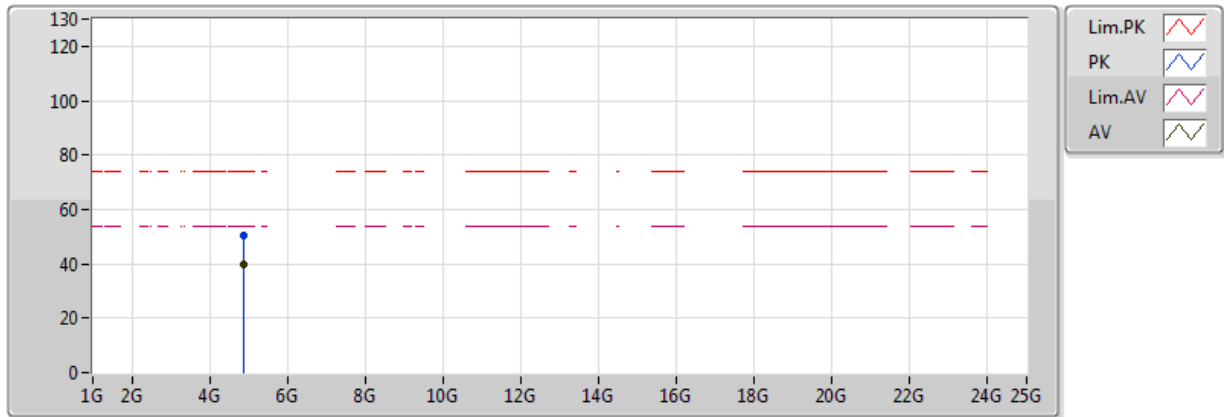


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.87983G	36.23	54.00	-17.77	6.73	3	V	265	1.01	-
PK	4.88007G	49.09	74.00	-24.91	6.73	3	V	265	1.01	-

BT-EDR(3Mbps)

2440MHz_TX

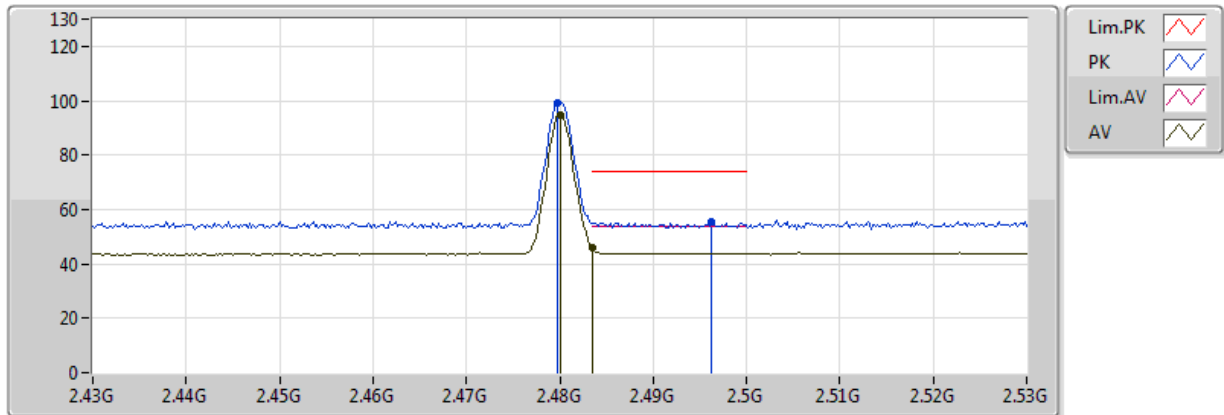


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.88005G	40.02	54.00	-13.98	6.73	3	H	81	1.01	-
PK	4.88013G	50.24	74.00	-23.76	6.73	3	H	81	1.01	-

BT-EDR(3Mbps)

2480MHz_TX

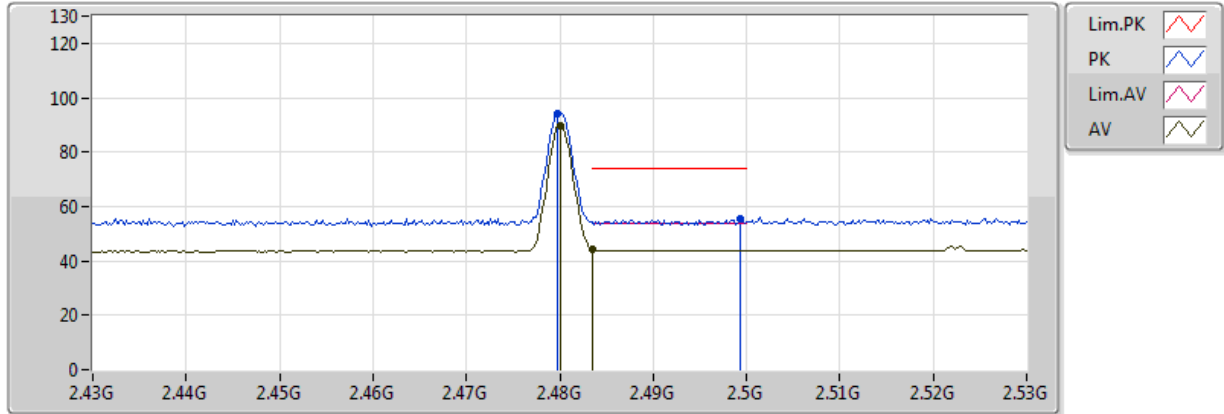


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.48G	94.77	Inf	-Inf	32.13	3	V	235	1.04	-
AV	2.483502G	45.91	54.00	-8.09	32.14	3	V	235	1.04	-
PK	2.4798G	99.03	Inf	-Inf	32.13	3	V	235	1.04	-
PK	2.4962G	55.22	74.00	-18.78	32.17	3	V	235	1.04	-

BT-EDR(3Mbps)

2480MHz_TX

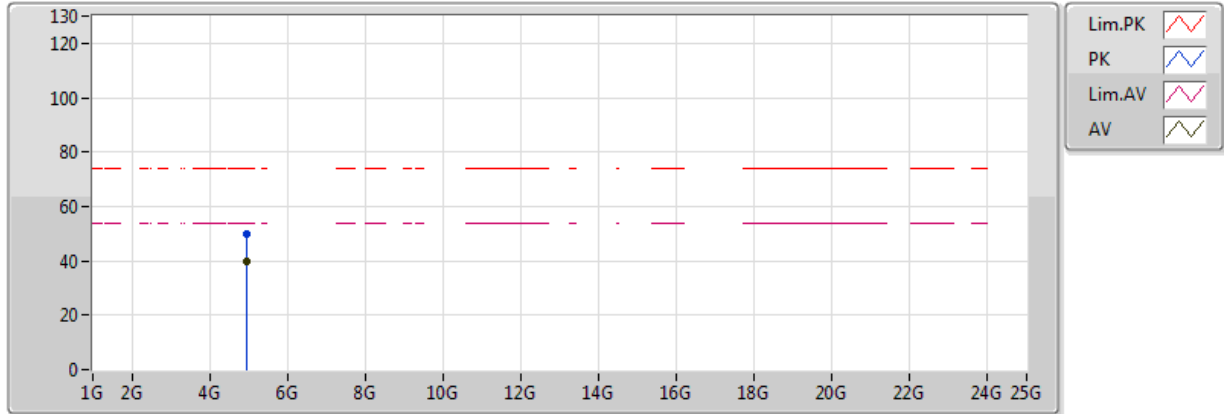


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.48G	89.81	Inf	-Inf	32.13	3	H	63	1.50	-
AV	2.483502G	44.50	54.00	-9.50	32.14	3	H	63	1.50	-
PK	2.4798G	94.19	Inf	-Inf	32.13	3	H	63	1.50	-
PK	2.4994G	55.57	74.00	-18.43	32.18	3	H	63	1.50	-

BT-EDR(3Mbps)

2480MHz_TX

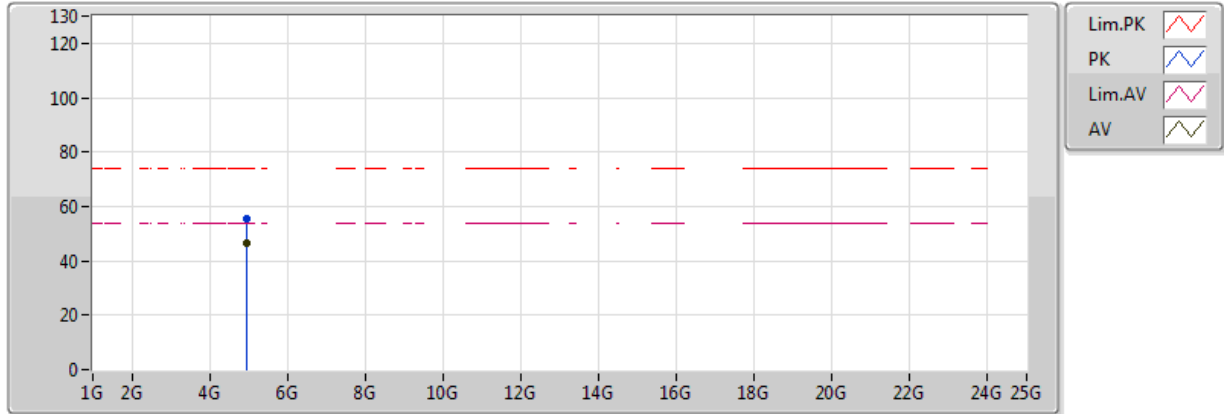


20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.95979G	39.55	54.00	-14.45	6.93	3	V	0	1.03	-
PK	4.95985G	50.13	74.00	-23.87	6.93	3	V	0	1.03	-

BT-EDR(3Mbps)

2480MHz_TX



20171212
EUT_Z_1TX
Setting 9
03-C-5
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.95998G	46.42	54.00	-7.58	6.93	3	H	79	1.01	-
PK	4.96006G	55.28	74.00	-18.72	6.93	3	H	79	1.01	-