



RADIO TEST REPORT

FCC ID : TVE-111M01A
Equipment : Secured Network Extension Device
Brand Name : FORTINET
Model Name : FortiExtender 312Fxxxxxx,
FORTIEXTENDER-312Fxxxxxx, FEX-312Fxxxxxx,
FortiExtender 311Fxxxxxx,
FORTIEXTENDER-311Fxxxxxx, FEX-311Fxxxxxx
(Refer to section 1.1.6 for detail information)
Applicant : Fortinet, Inc.
899 Kifer Road, Sunnyvale, CA 94086 USA
Manufacturer : Fortinet, Inc.
899 Kifer Road, Sunnyvale, CA 94086 USA
Standard : 47 CFR FCC Part 15.247

The product was received on Jun. 28, 2021, and testing was started from Jul. 08, 2021 and completed on Jul. 19, 2021. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory

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



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Photographs of EUT v01



TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A10_5 Ver1.3



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	-

Declaration of Conformity:

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

Comments and Explanations:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Viola 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	1	1
2.4-2.4835GHz	BT-EDR	1	1

Note:

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



1.1.2 Antenna Information

For Bluetooth antenna

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	WIESON	102700000021A	Chip Antenna	N/A	1.08

Note: The above information was declared by manufacturer.

For bluetooth mode (1TX/1RX)

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

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-BR(1Mbps)	0.743	1.29	2.875m	1k
BT-EDR(2Mbps)	0.759	1.2	2.881m	1k
BT-EDR(3Mbps)	0.739	1.31	2.881m	1k

Note:

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

1.1.4 EUT Operational Condition

EUT Power Type	From power adapter or PoE
Test Software Version	WCN_Comb (version 2.1749.00)

Note: The device has been installed with two certified WWAN modules. (FCC ID: XMR2020EM160RGL)

1.1.5 Table for Multiple Listing

Equipment Name	EUT No.	Model Name	Description
Secured Network Extension Device	EUT 1	FortiExtender 312Fxxxxxx, FORTIEXTENDER-312Fxxxxxx, FEX-312Fxxxxxx (where "x" can be "0-9", or "A-Z", or "-", or blank for marketing purposes or software changes only and no Safety or EMC related changes)	Contain two certified WWAN Modules
Secured Network Extension Device	EUT 2	FortiExtender 311Fxxxxxx, FORTIEXTENDER-311Fxxxxxx, FEX-311Fxxxxxx (where "x" can be "0-9", or "A-Z", or "-", or blank for marketing purposes or software changes only and no Safety or EMC related changes)	Contain one certified WWAN Module

Note 1: From the above models, model: FEX-312F (EUT 1) was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.



1.2 Applicable Standards

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

- ♦ 47 CFR FCC Part 15.247

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

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

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH02-CB	Paul Chen	24.7-26.4 / 54-57	Jul. 09, 2021
Radiated below 1GHz	10CH01-CB	Zack KUO	24-26 / 48-50	Jul. 15, 2021
Radiated above 1GHz	03CH05-CB	Stim Sung	26.2-27.7 / 65-69	Jul. 08, 2021~Jul. 09, 2021
AC Conduction	CO01-CB	Peter Wu	24-25 / 58-59	Jul. 19, 2021

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	2.0 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	1.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	2.5 dB	Confidence levels of 95%
Output Power Measurement	1.3 dB	Confidence levels of 95%
Power Density Measurement	2.5 dB	Confidence levels of 95%
Bandwidth Measurement	0.9%	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
BT-BR(1Mbps)	-
2402MHz	7
2440MHz	7
2480MHz	7
BT-EDR(2Mbps)	-
2402MHz	7
2440MHz	7
2480MHz	7
BT-EDR(3Mbps)	-
2402MHz	7
2440MHz	7
2480MHz	7

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Normal Link
1	GPS + Bluetooth + Sim 1 (Left) LTE Band 2 link + Sim 1 (Right) WCDMA Band 2 link + Adapter
2	GPS + Bluetooth + Sim 2 (Left) WCDMA Band 2 link + Sim 2 (Right) LTE Band 2 link + Adapter
Mode 1 has been evaluated to be the worst case among Mode 1~2, thus the measurement for Mode 3 will follow this same test mode.	
3	GPS + Bluetooth + Sim 1 (Left) LTE Band 2 link + Sim 1 (Right) WCDMA Band 2 link + PoE
For operating mode 3 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	EUT in Z axis-GPS + Bluetooth + Sim 1 (Left) LTE Band 2 link + Sim 1 (Right) WCDMA Band 2 link + Adapter
2	EUT in Y axis-GPS + Bluetooth + Sim 1 (Left) LTE Band 2 link + Sim 1 (Right) WCDMA Band 2 link + Adapter
Mode 1 has been evaluated to be the worst case among Mode 1~2, thus the measurement for Mode 3 will follow this same test mode.	
3	EUT in Z axis-GPS + Bluetooth + Sim 2 (Left) WCDMA Band 2 link + Sim 2 (Right) LTE Band 2 link + Adapter
Mode 1 has been evaluated to be the worst case among Mode 1~3, thus the measurement for Mode 4 will follow this same test mode.	
4	EUT in Z axis-GPS + Bluetooth + Sim 1 (Left) LTE Band 2 link + Sim 1 (Right) WCDMA Band 2 link + PoE
For operating mode 4 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX The EUT was performed at Y axis and Z axis position for Radiated emission above 1GHz test, and the worst case was found at Y axis. So the measurement will follow this same test configuration.
1	EUT in Y axis

Note: The Adapter and PoE are for measurement only, would not be marketed.

Adapter and PoE information as below:

Power	Brand	Model
Adapter	APD	WA-36A12R
PoE	Fortinet	FortiSwitch 108F-FPOE

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

N/A

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	SIM card	N/A	N/A	N/A
B	SIM card	N/A	N/A	N/A
C	Flash disk3.0	Transcend	JetFlash-700	N/A
D	PoE switch	Fortinet	FortiSwitch 108F-FPOE	N/A
E	WAN NB	DELL	E6430	N/A
F	PoE NB	DELL	E6430	N/A
G	GPS Simulator	WELNAVIGATE	GS-100	N/A
H	3G base station	R&S	CMU200	N/A
I	LTE Base station	Anritsu	MT8820C	N/A
J	Smart phone	Samsung	Galaxy J2	N/A
K	SFP NB	DELL	E6430	N/A
L	LAN NB	DELL	E6430	N/A

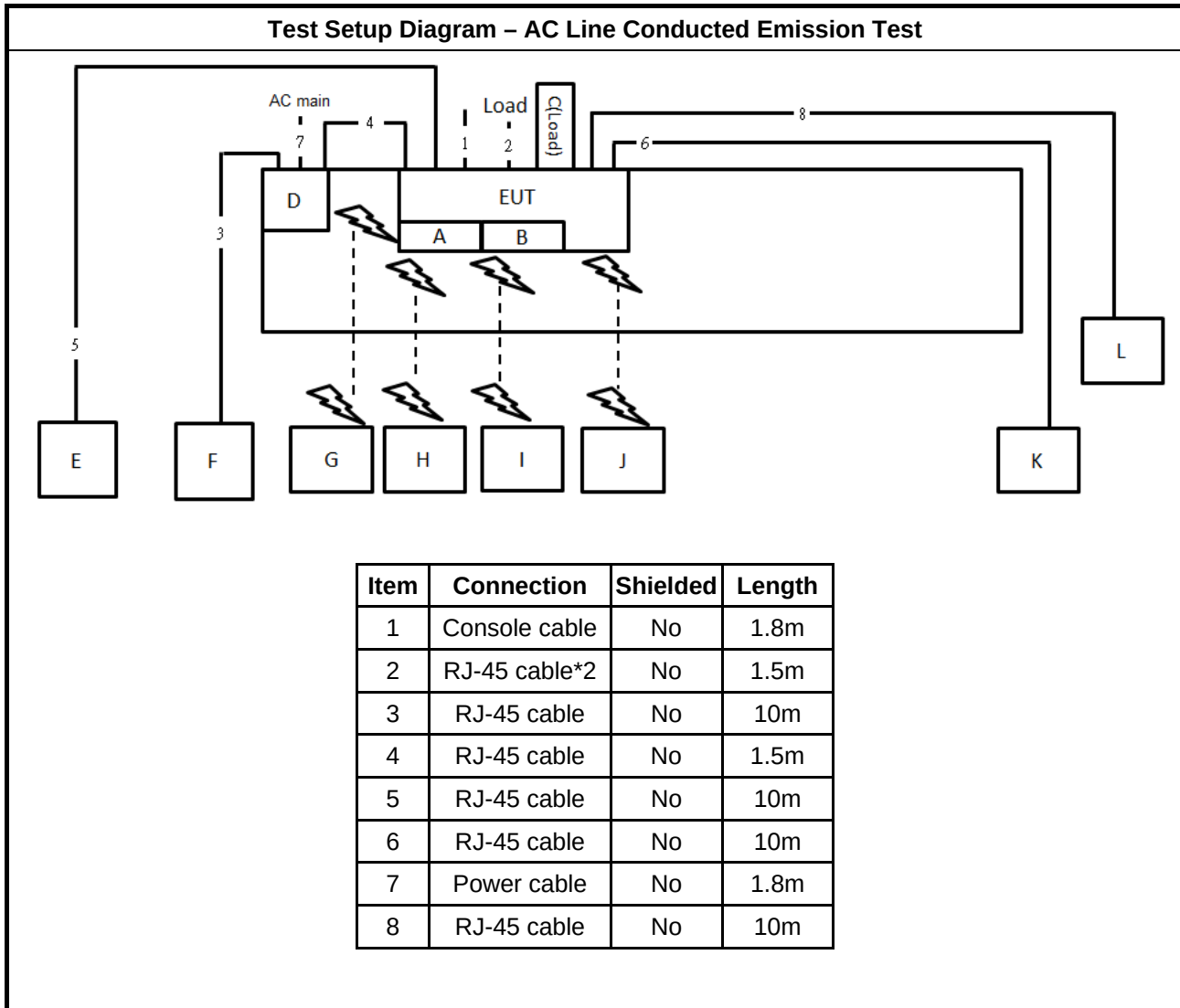
For Radiated (below 1GHz):

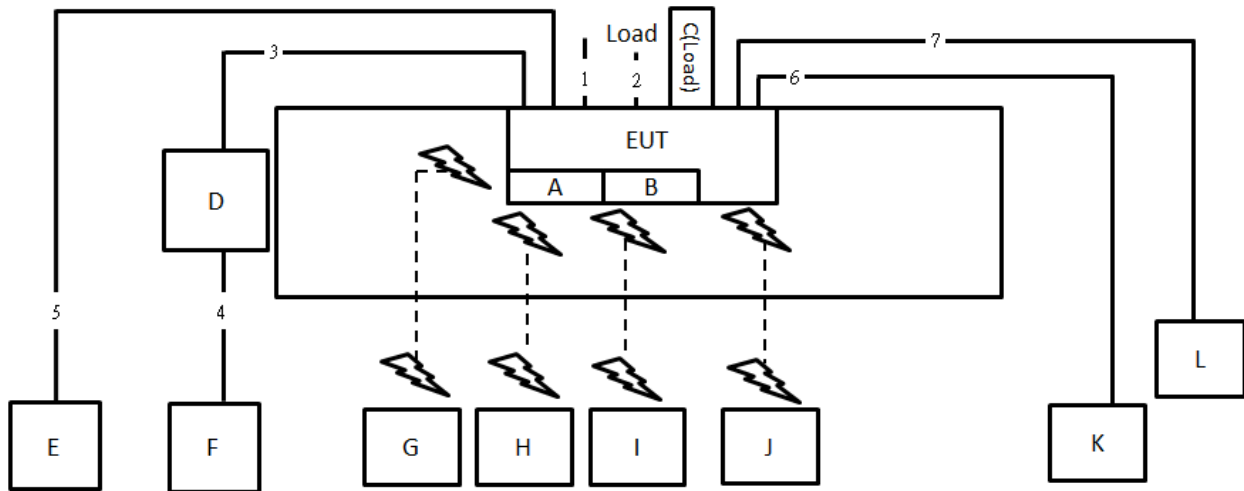
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	SIM card	N/A	N/A	N/A
B	SIM card	N/A	N/A	N/A
C	Flash disk3.0	Transcend	JetFlash-700	N/A
D	PoE switch	Fortinet	FortiSwitch 108F-FPOE	N/A
E	WAN NB	DELL	E6430	N/A
F	PoE NB	DELL	E6430	N/A
G	GPS Simulator	WELNAVIGATE	GS-100	N/A
H	3G base station	R&S	CMU200	N/A
I	LTE Base station	Anritsu	MT8820C	N/A
J	Smart phone	Samsung	Galaxy J2	N/A
K	SFP NB	DELL	E6430	N/A
L	LAN NB	DELL	E6430	N/A

**For Radiated (above 1GHz) and RF Conducted:**

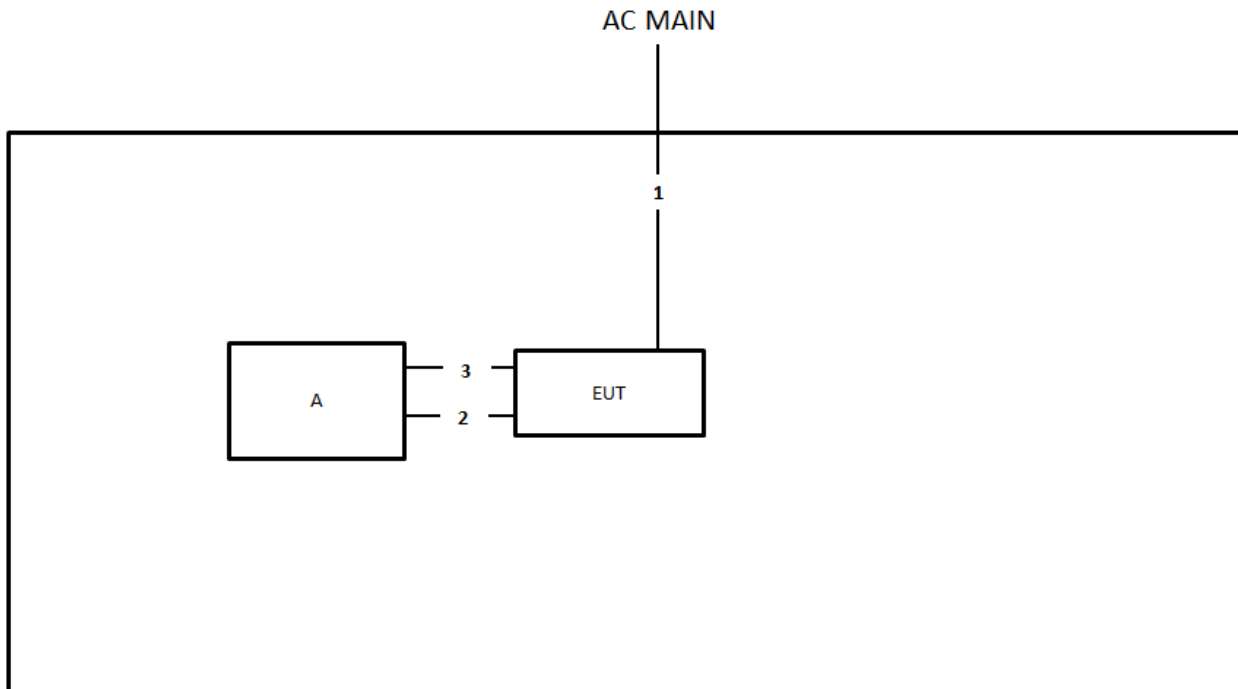
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
B	Adapter	APD	WA-36A12R	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz


Item	Connection	Shielded	Length
1	Console cable	No	1.8m
2	RJ-45 cable*2	No	1.5m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	1.5m
5	RJ-45 cable	No	10m
6	RJ-45 cable	No	10m
7	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test > 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	RJ-45 cable	No	1.5m
3	Console cable	Yes	1.9m



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

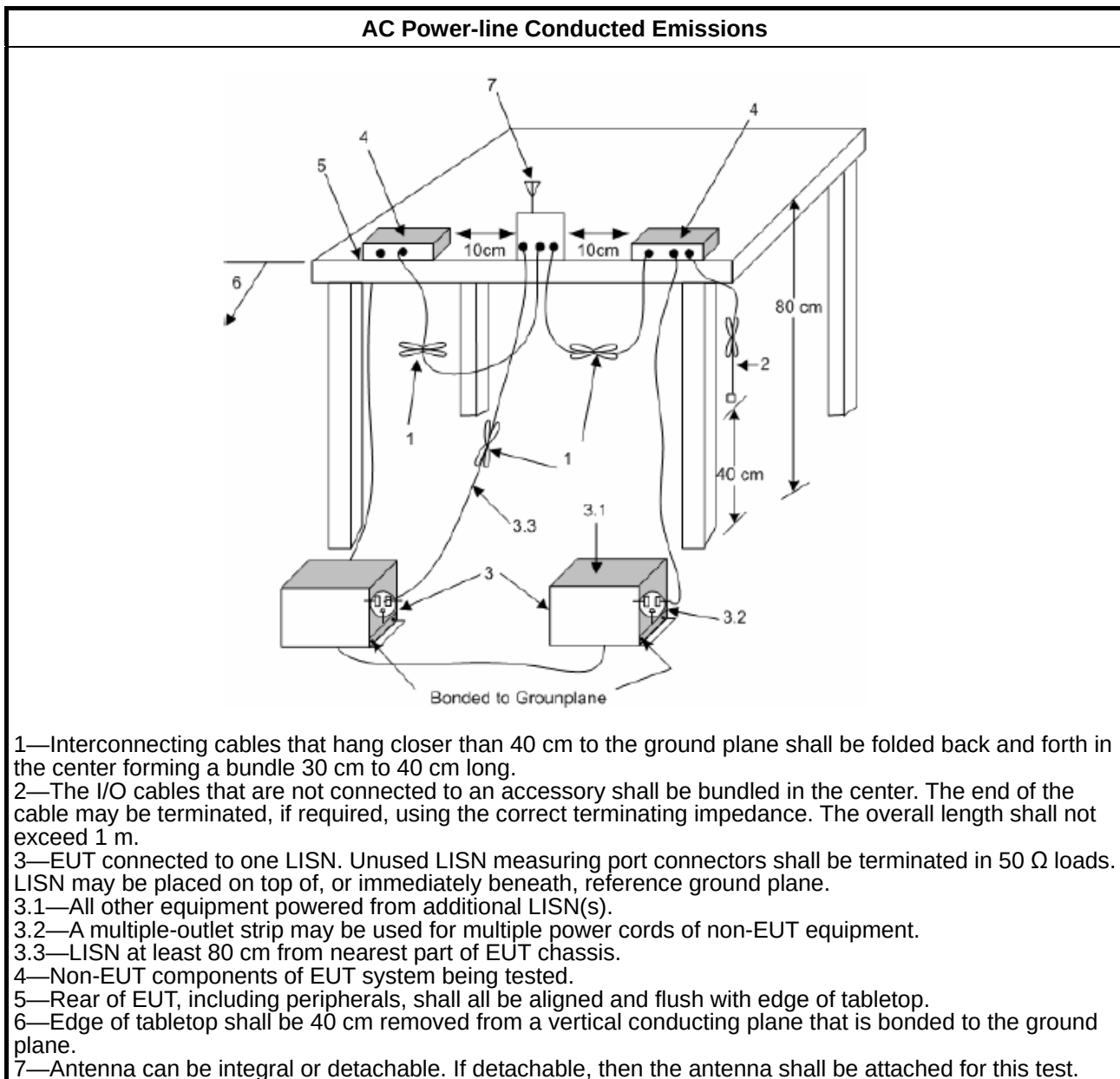
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



1.1.1. Measurement Results Calculation

The measured Level is calculated using:

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

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 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	

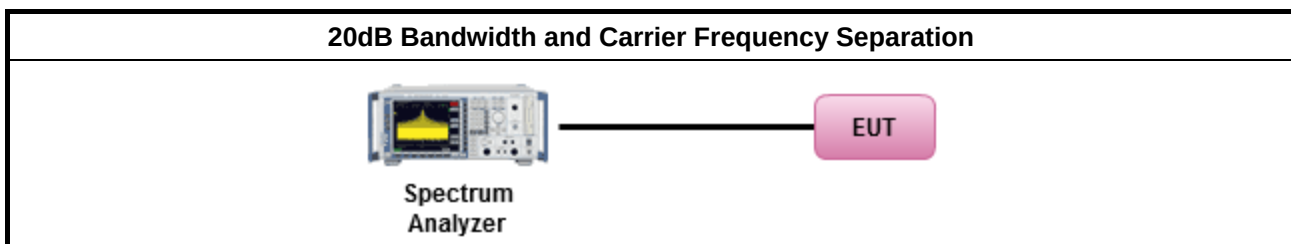
3.2.2 Measuring Instruments

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 ≥ 50; Power 30dBm; EIRP 36dBm	
▪ 50 > N ≥ 25; Power 23.98dBm; EIRP 29.98dBm	
▪ 2400-2483.5 MHz Band:	
▪ N ≥ 75; Power 30dBm; EIRP 36dBm	
▪ 75 > N ≥ 15; Power 21dBm; EIRP 27dBm	
▪ 5725-5850 MHz Band:	
▪ N ≥ 75; Power 30dBm; EIRP 36dBm	
N: Number of Hopping Frequencies	

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup

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 logging.

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

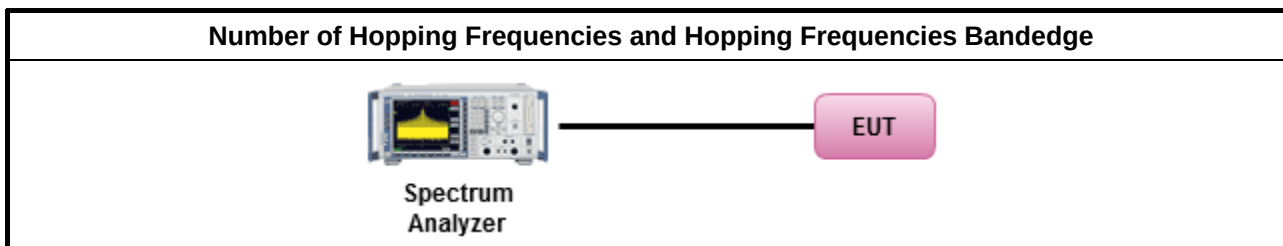
3.4.3 Measuring Instruments

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

3.4.4 Test Procedures

Test Method
▪ Refer as 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	

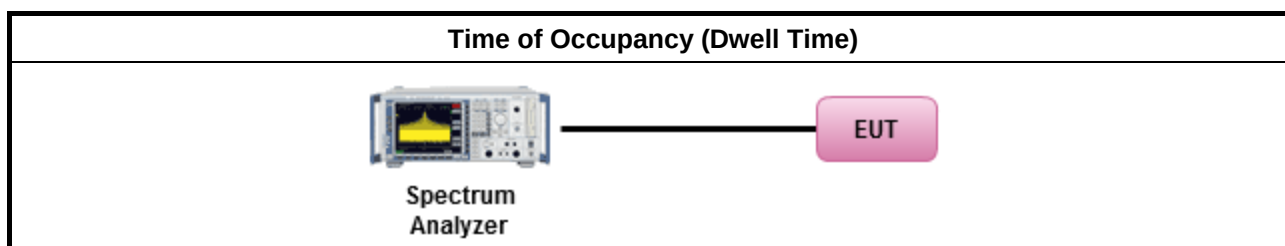
3.5.2 Measuring Instruments

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 (dBc)
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.	

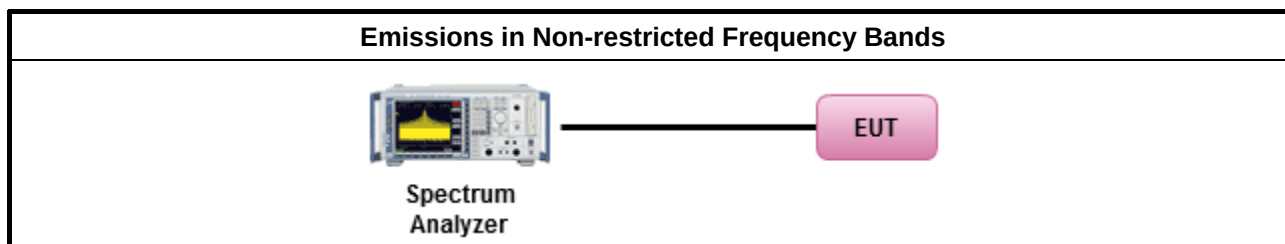
3.6.2 Measuring Instruments

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.

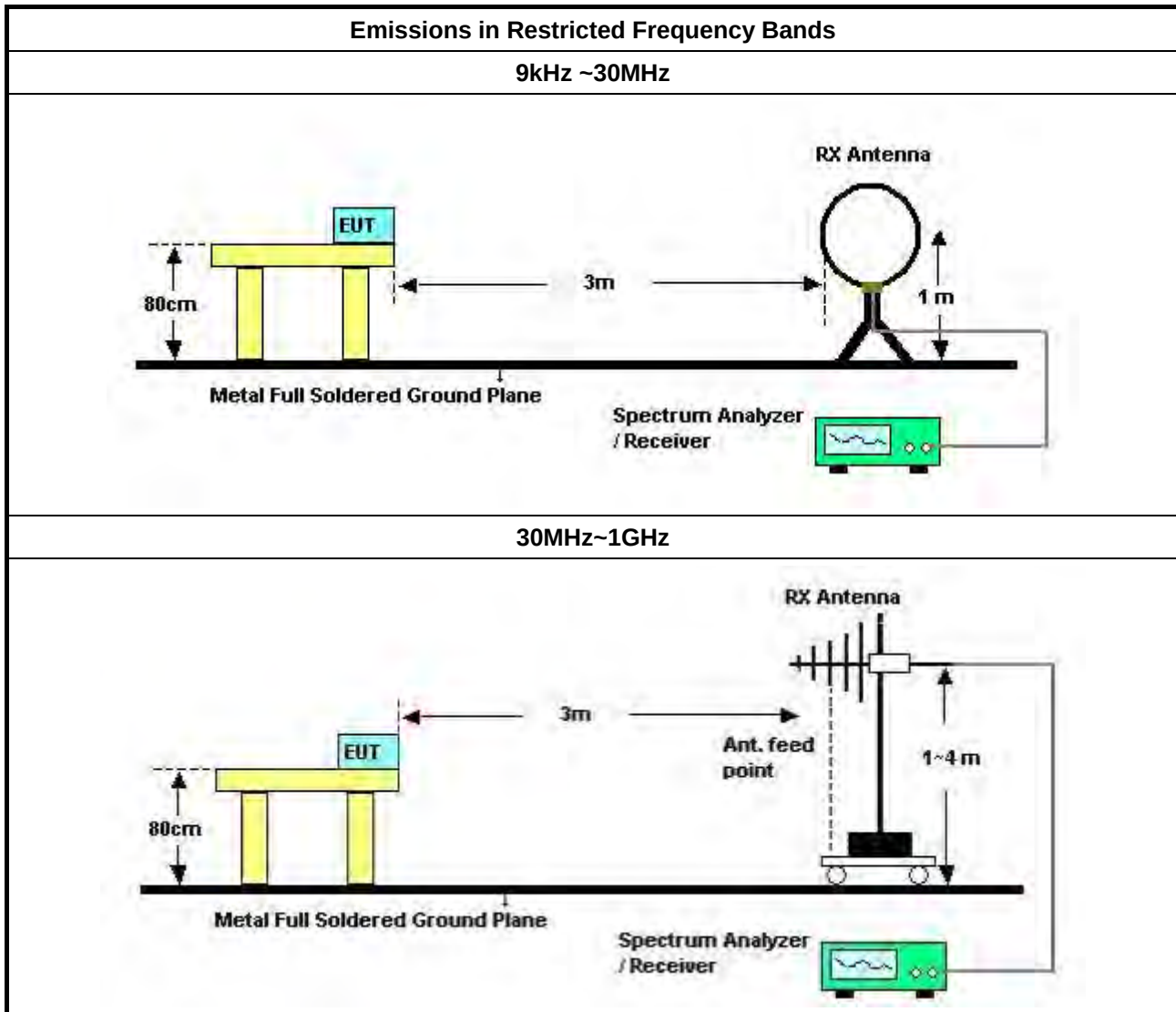
3.7.2 Measuring Instruments

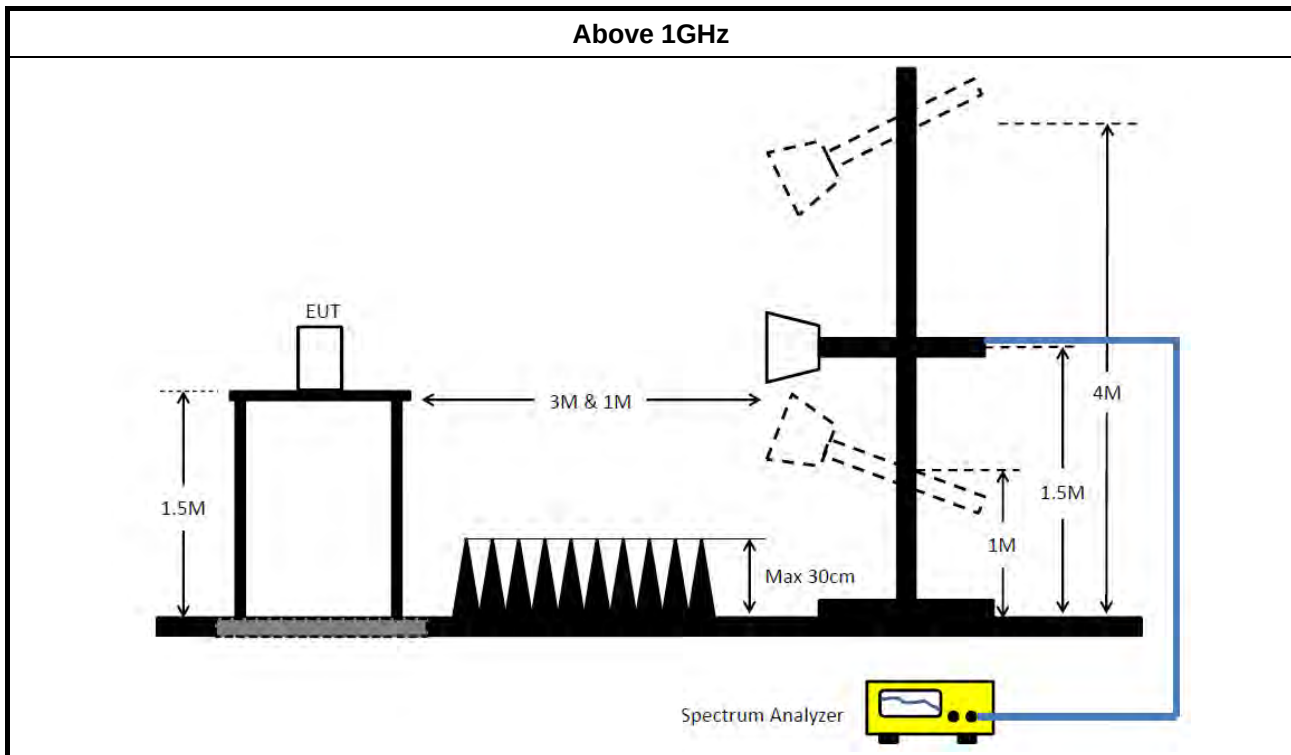
Refer a test equipment and calibration data table in this test report.

3.7.3 Test Procedures

Test Method	
▪ The average emission levels shall be measured in [hopping duty factor].	
▪ Refer as ANSI C63.10; clause 6.10.3 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 Measurement Results Calculation

The measured Level is calculated using:

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

3.7.6 Emissions in Restricted Frequency Bands (Below 30MHz)

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

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

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

3.7.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix G



4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Mar. 03, 2021	Mar. 02, 2022	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-1 6-2	04083	150kHz ~ 100MHz	Jan. 06, 2021	Jan. 05, 2022	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Mar. 07, 2021	Mar. 06, 2022	Conduction (CO01-CB)
Pulse Limiter	Rohde& Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Jan. 30, 2021	Jan. 29, 2022	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 19, 2021	May 18, 2022	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
10m Semi Anechoic Chamber NSA	TDK	SAC-10M	10CH01-CB	30MHz~1GHz 10m,3m	Jan. 28, 2021	Jan. 27, 2022	Radiation (10CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 14, 2021	Apr. 13, 2022	Radiation (10CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10783	9kHz ~ 1.3GHz	Mar. 11, 2021	Mar. 10, 2022	Radiation (10CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10784	9kHz ~ 1.3GHz	Mar. 11, 2021	Mar. 10, 2022	Radiation (10CH01-CB)
Low Cable	Woken	SUCOFLEX 104	low cable-01	25MHz ~ 1GHz	Oct. 20, 2020	Oct. 19, 2021	Radiation (10CH01-CB)
High Cable	Woken	SUCOFLEX 104	low cable-02	25MHz ~ 1GHz	Oct. 20, 2020	Oct. 19, 2021	Radiation (10CH01-CB)
Bilog Antenna with 6dB Attenuator	Chase & EMC	CBL6111A &N-6-06	1543 &AT-N0609	30MHz ~ 1GHz	Jul. 01, 2021	Jun. 30, 2022	Radiation (10CH01-CB)
EMI Test Receiver	Rohde& Schwarz	ESCI	100186	9kHz ~ 3GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (10CH01-CB)
Spectrum Analyzer	Rohde& Schwarz	FSV30	101026	9kHz ~ 30GHz	Mar. 08, 2021	Mar. 07, 2022	Radiation (10CH01-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz~18GHz 3m	Nov. 08, 2020	Nov. 07, 2021	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120 D-1291	1GHz~18GHz	Sep. 05, 2020	Sep. 04, 2021	Radiation (03CH05-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2020	Jul. 20, 2021	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz ~ 26.5GHz	Jul. 02, 2021	Jul. 01, 2022	Radiation (03CH05-CB)
Amplifier	-	-	TF-130N-R1	18GHz ~ 40GHz	Jun.15, 2021	Jun. 14, 2022	Radiation (03CH05-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Nov. 10, 2020	Nov. 09, 2021	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 27, 2020	Jul. 26, 2021	Conducted (TH02-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 13, 2020	Nov. 12, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH02-CB)

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

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



Conducted Emissions at Powerline

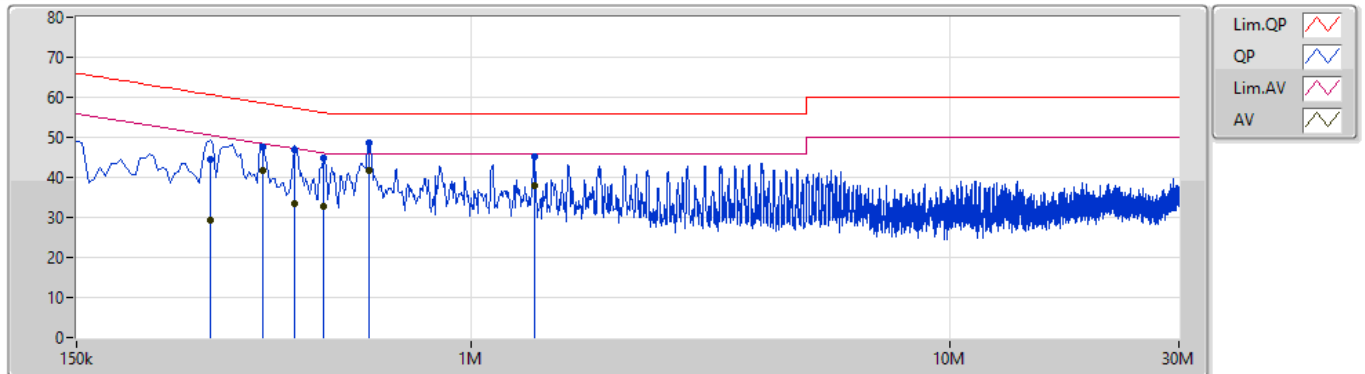
Appendix A

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 3	Pass	AV	613.5k	41.87	46.00	-4.13	Line

Mode 3

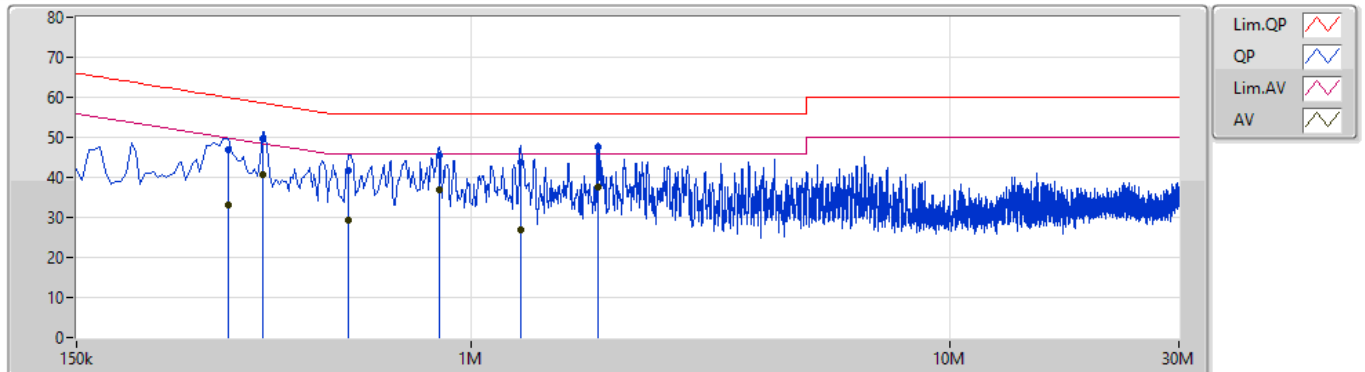
19/07/2021



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	285k	44.41	60.67	-16.26	9.90	Line	-	34.51	0.04	0.04	9.82			
AV	285k	29.16	50.67	-21.51	9.90	Line	-	19.26	0.04	0.04	9.82			
QP	366k	47.50	58.60	-11.10	9.90	Line	-	37.60	0.04	0.04	9.82			
AV	366k	41.84	48.60	-6.76	9.90	Line	-	31.94	0.04	0.04	9.82			
QP	429k	46.85	57.28	-10.43	9.90	Line	-	36.95	0.04	0.04	9.82			
AV	429k	33.48	47.28	-13.80	9.90	Line	-	23.58	0.04	0.04	9.82			
QP	492k	44.72	56.13	-11.41	9.90	Line	-	34.82	0.04	0.04	9.82			
AV	492k	32.70	46.13	-13.43	9.90	Line	-	22.80	0.04	0.04	9.82			
QP	613.5k	48.64	56.00	-7.36	9.91	Line	-	38.73	0.05	0.04	9.82			
AV	613.5k	41.87	46.00	-4.13	9.91	Line	"Worst"	31.96	0.05	0.04	9.82			
QP	1.352M	45.21	56.00	-10.79	9.95	Line	-	35.26	0.07	0.05	9.83			
AV	1.352M	37.89	46.00	-8.11	9.95	Line	-	27.94	0.07	0.05	9.83			

Mode 3

19/07/2021



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	312k	46.85	59.92	-13.07	9.89	Neutral	-	36.96	0.03	0.04	9.82			
AV	312k	33.02	49.92	-16.90	9.89	Neutral	-	23.13	0.03	0.04	9.82			
QP	366k	49.75	58.60	-8.85	9.89	Neutral	-	39.86	0.03	0.04	9.82			
AV	366k	40.70	48.60	-7.90	9.89	Neutral	"Worst"	30.81	0.03	0.04	9.82			
QP	555k	41.88	56.00	-14.12	9.90	Neutral	-	31.98	0.04	0.04	9.82			
AV	555k	29.33	46.00	-16.67	9.90	Neutral	-	19.43	0.04	0.04	9.82			
QP	856.5k	45.48	56.00	-10.52	9.92	Neutral	-	35.56	0.05	0.04	9.83			
AV	856.5k	36.75	46.00	-9.25	9.92	Neutral	-	26.83	0.05	0.04	9.83			
QP	1.266M	43.64	56.00	-12.36	9.94	Neutral	-	33.70	0.06	0.05	9.83			
AV	1.266M	27.03	46.00	-18.97	9.94	Neutral	-	17.09	0.06	0.05	9.83			
QP	1.842M	47.52	56.00	-8.48	9.96	Neutral	-	37.56	0.07	0.07	9.82			
AV	1.842M	37.42	46.00	-8.58	9.96	Neutral	-	27.46	0.07	0.07	9.82			

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)	937.5k	883.308k	883KF1D	935k	882.059k
BT-EDR(2Mbps)	1.281M	1.183M	1M18G1D	1.245M	1.177M
BT-EDR(3Mbps)	1.263M	1.196M	1M20G1D	1.249M	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

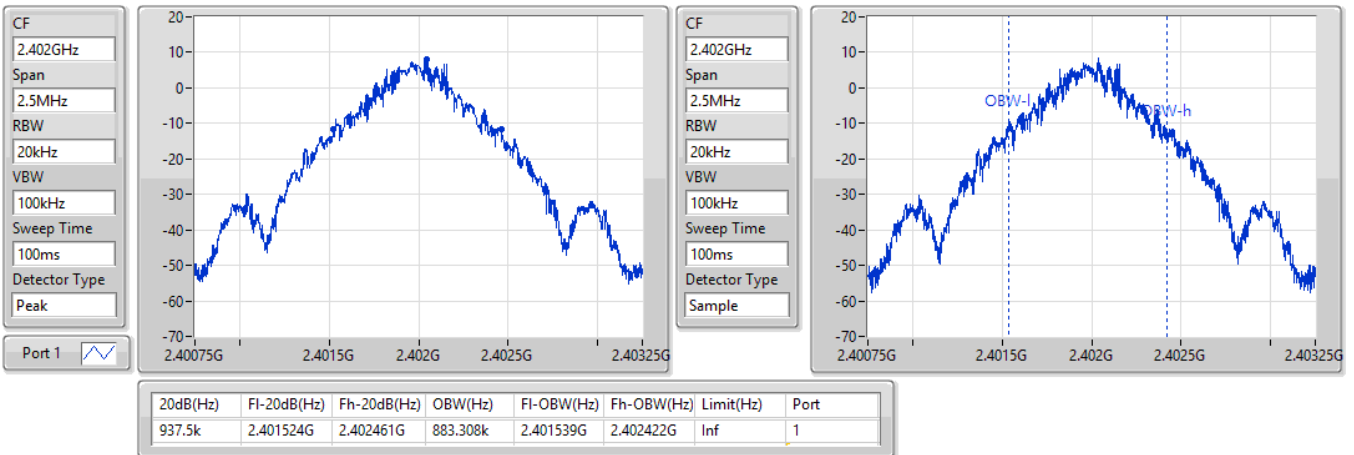
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	937.5k	883.308k
2440MHz	Pass	Inf	936.25k	882.059k
2480MHz	Pass	Inf	935k	882.059k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.245M	1.183M
2440MHz	Pass	Inf	1.281M	1.177M
2480MHz	Pass	Inf	1.248M	1.178M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.26M	1.196M
2440MHz	Pass	Inf	1.263M	1.184M
2480MHz	Pass	Inf	1.249M	1.182M

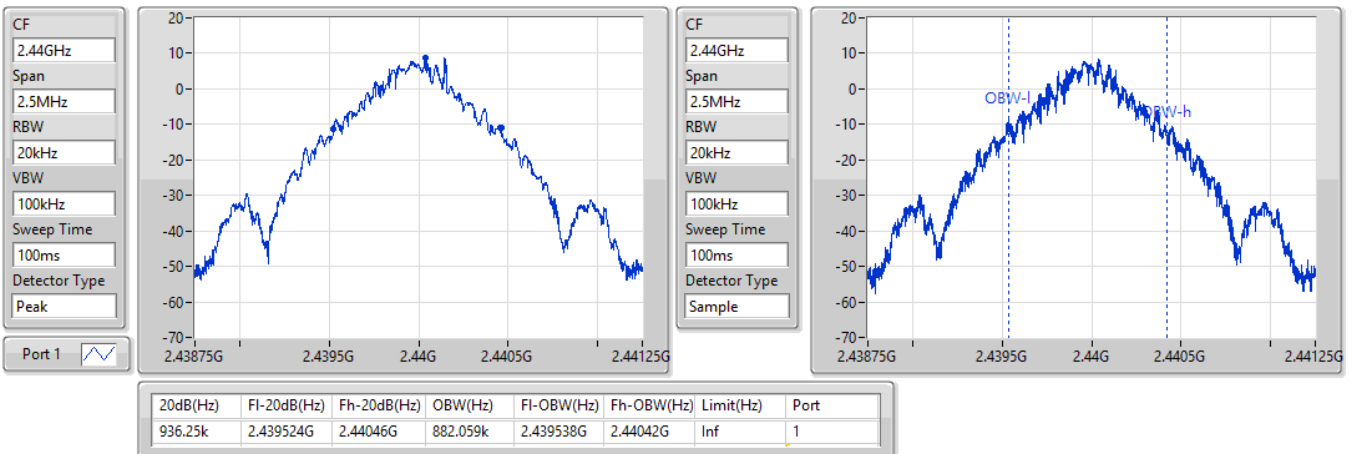
Port X-N dB = Port X 20dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

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

09/07/2021

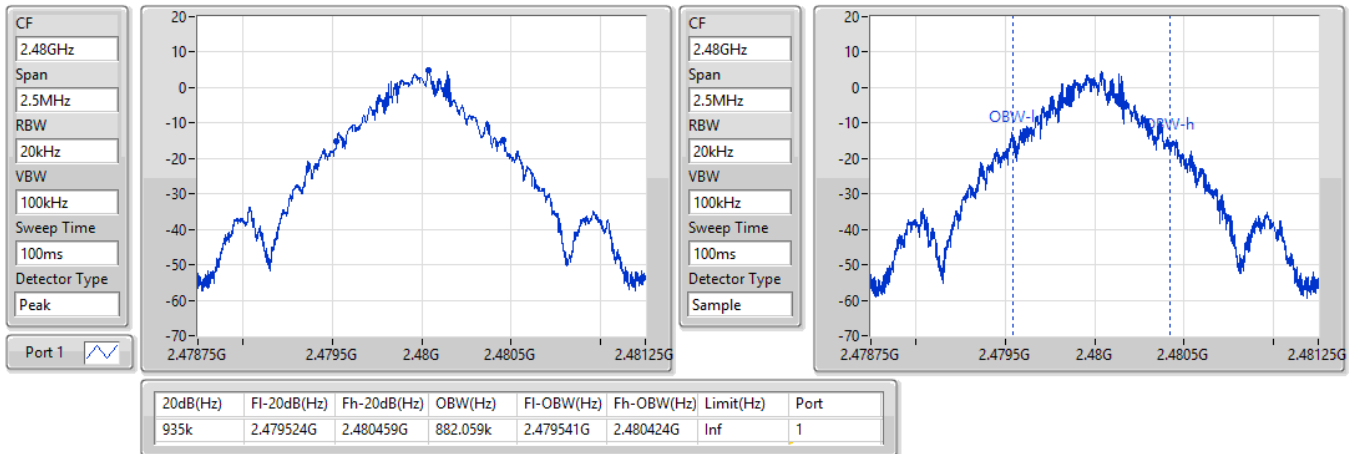

BT-BR(1Mbps)
2440MHz
EBW-FS

09/07/2021

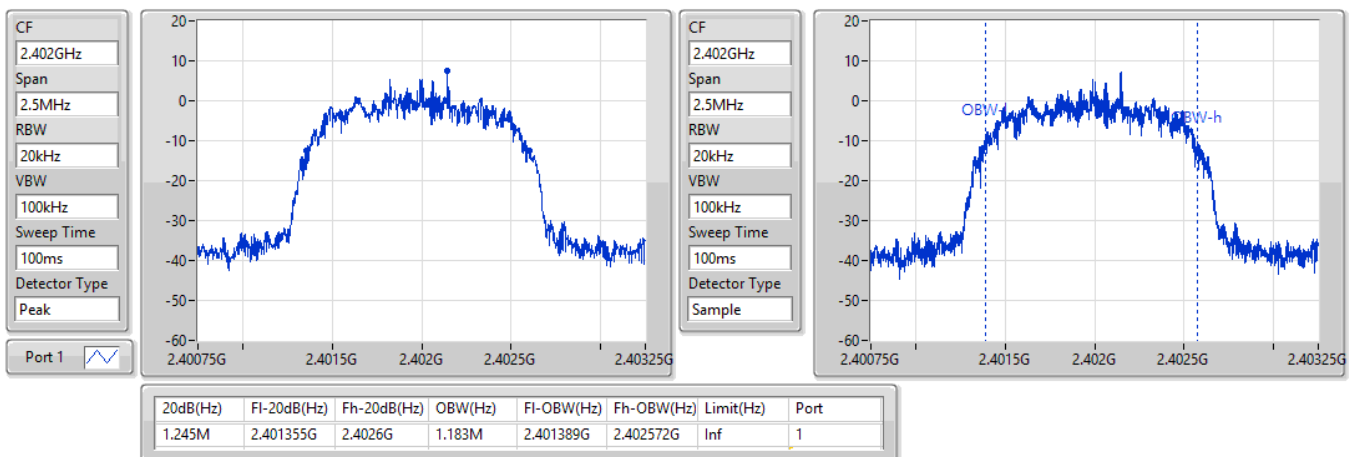


BT-BR(1Mbps)
EBW-FS
2480MHz

09/07/2021

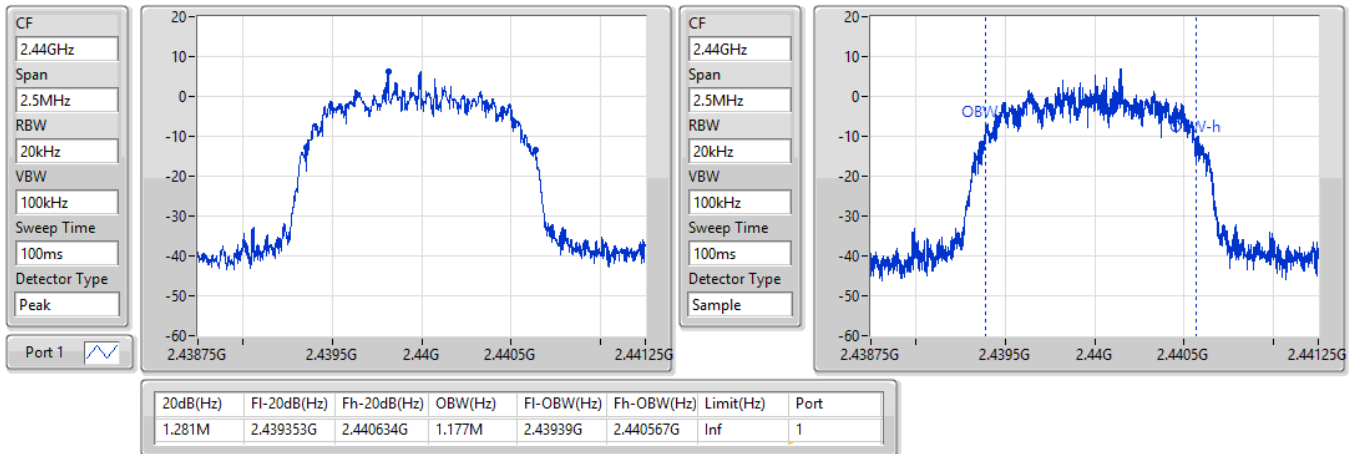

BT-EDR(2Mbps)
EBW-FS
2402MHz

09/07/2021

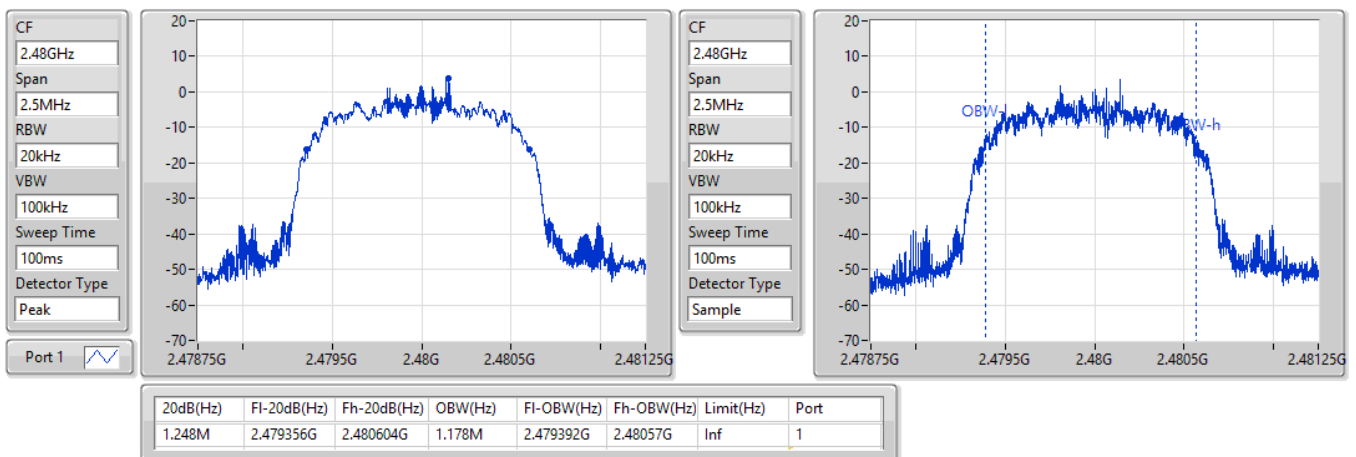


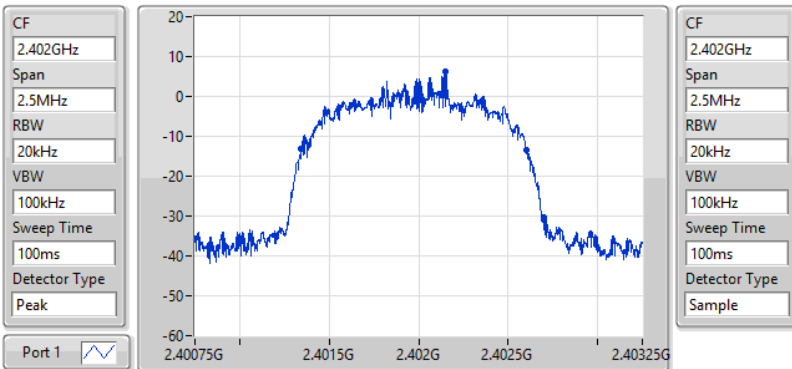
BT-EDR(2Mbps)
EBW-FS
2440MHz

09/07/2021

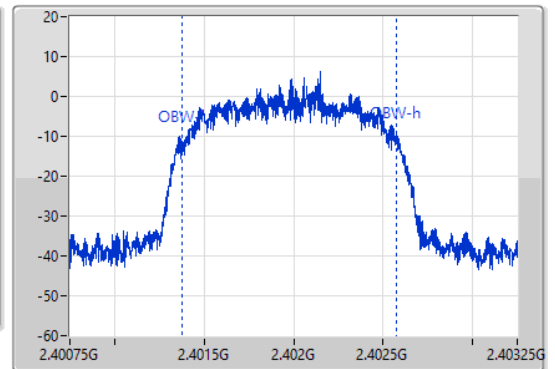
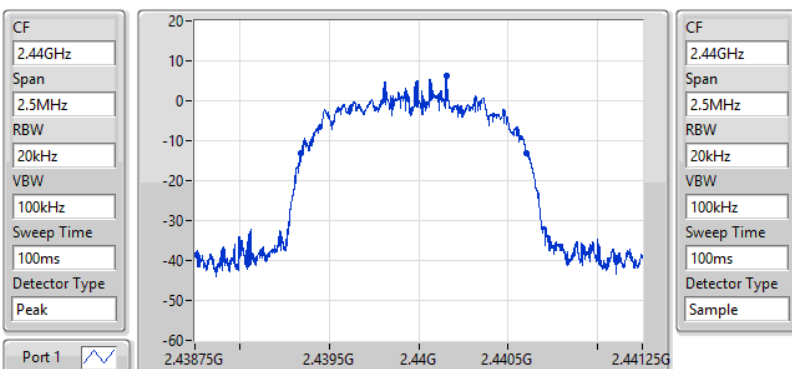

BT-EDR(2Mbps)
EBW-FS
2480MHz

09/07/2021

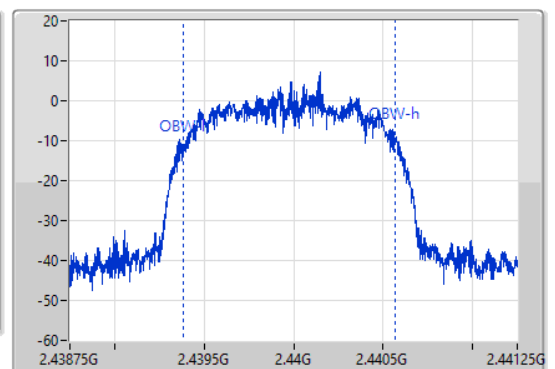


BT-EDR(3Mbps)
2402MHz

EBW-FS

09/07/2021

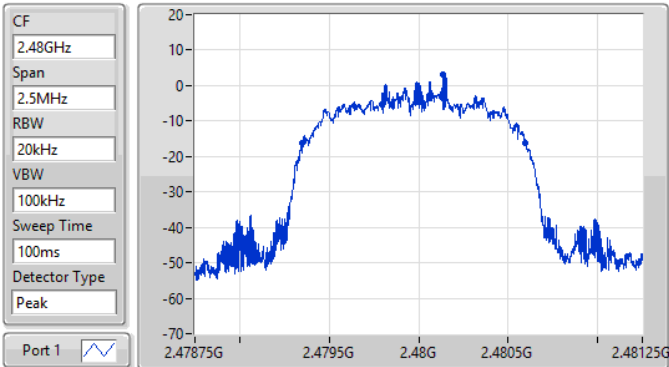

BT-EDR(3Mbps)
2440MHz

EBW-FS

09/07/2021



BT-EDR(3Mbps)

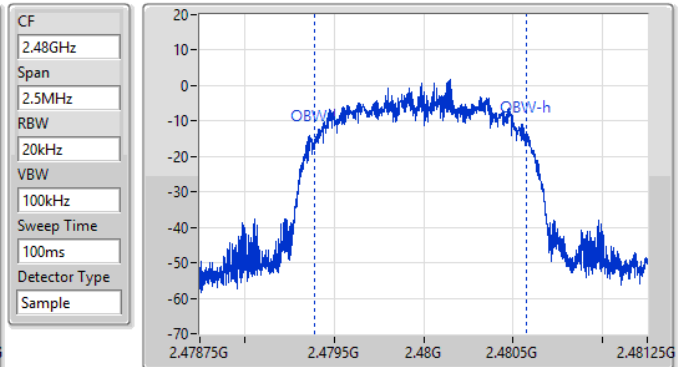
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.249M	2.479348G	2.480596G	1.182M	2.47939G	2.480572G	Inf	1

EBW-FS

09/07/2021





Summary

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

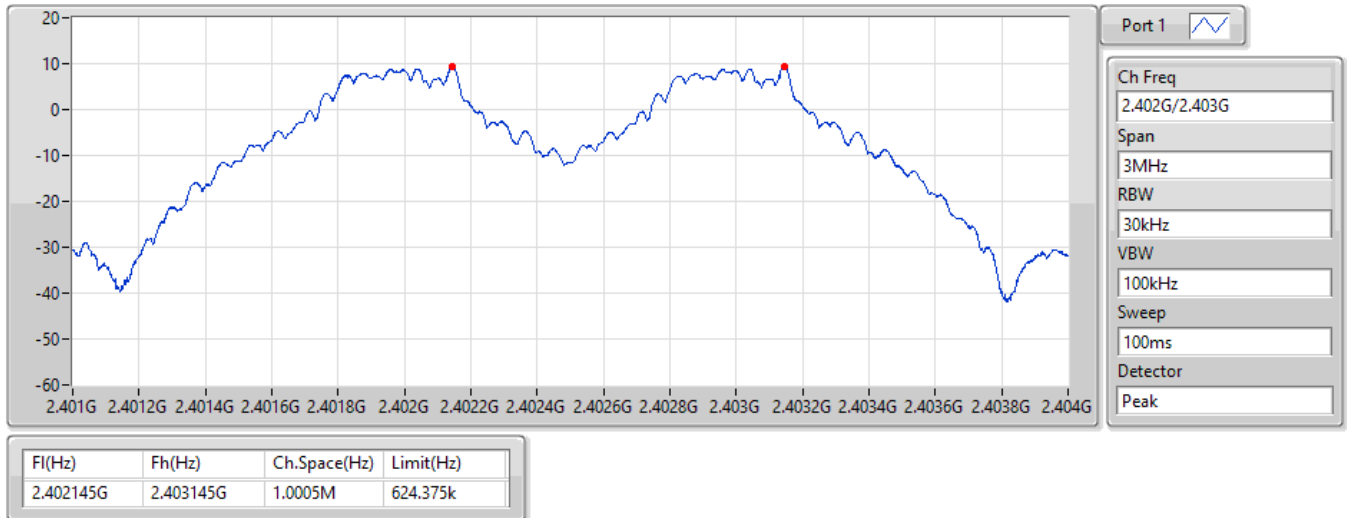
Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402145G	2.403145G	1.0005M	624.375k
2440MHz	Pass	2.440143G	2.441145G	1.002M	623.5425k
2480MHz	Pass	2.479142G	2.480145G	1.0035M	622.71k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.402146G	2.403145G	999k	829.17k
2440MHz	Pass	2.440146G	2.441147G	1.0005M	853.146k
2480MHz	Pass	2.479145G	2.480145G	1.0005M	831.168k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402143G	2.403144G	1.0005M	839.16k
2440MHz	Pass	2.440145G	2.441144G	999k	841.158k
2480MHz	Pass	2.479143G	2.480144G	1.0005M	831.834k

BT-BR(1Mbps)

2.402G/2.403GHz

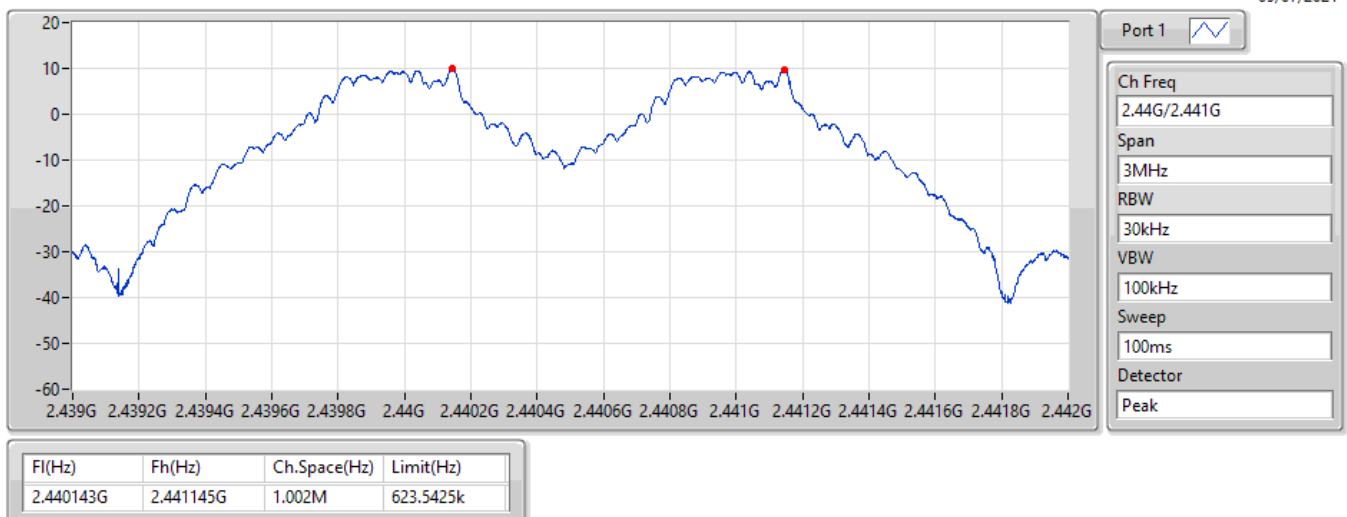
Channel Separation-FS



BT-BR(1Mbps)

2.44G/2.441GHz

Channel Separation-FS



BT-BR(1Mbps)

2.48G/2.479GHz

Channel Separation-FS

09/07/2021

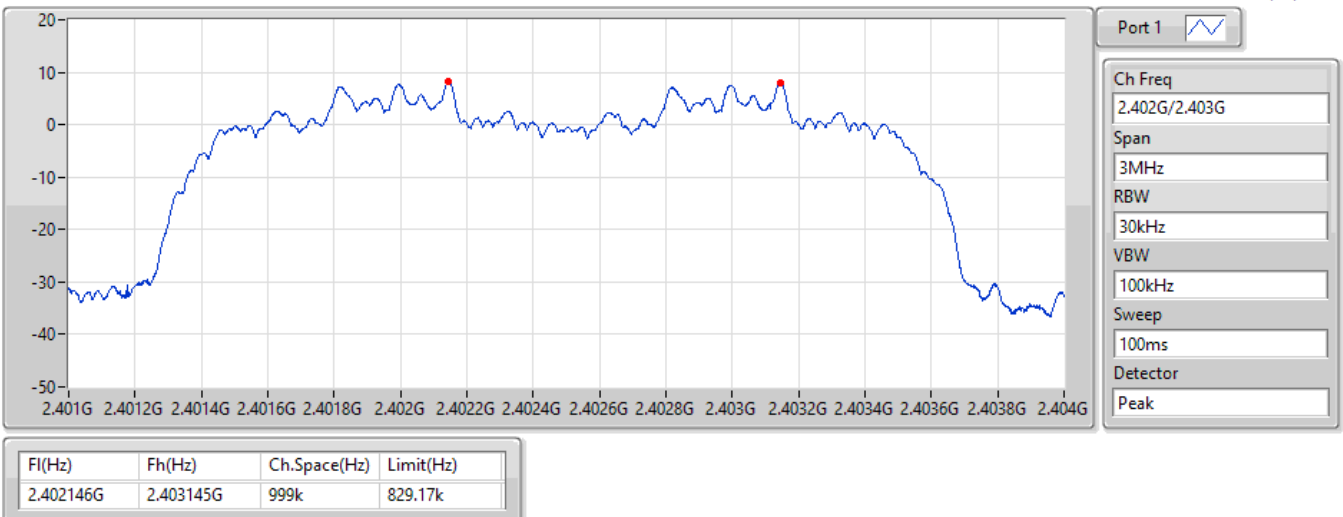


BT-EDR(2Mbps)

2.402G/2.403GHz

Channel Separation-FS

09/07/2021

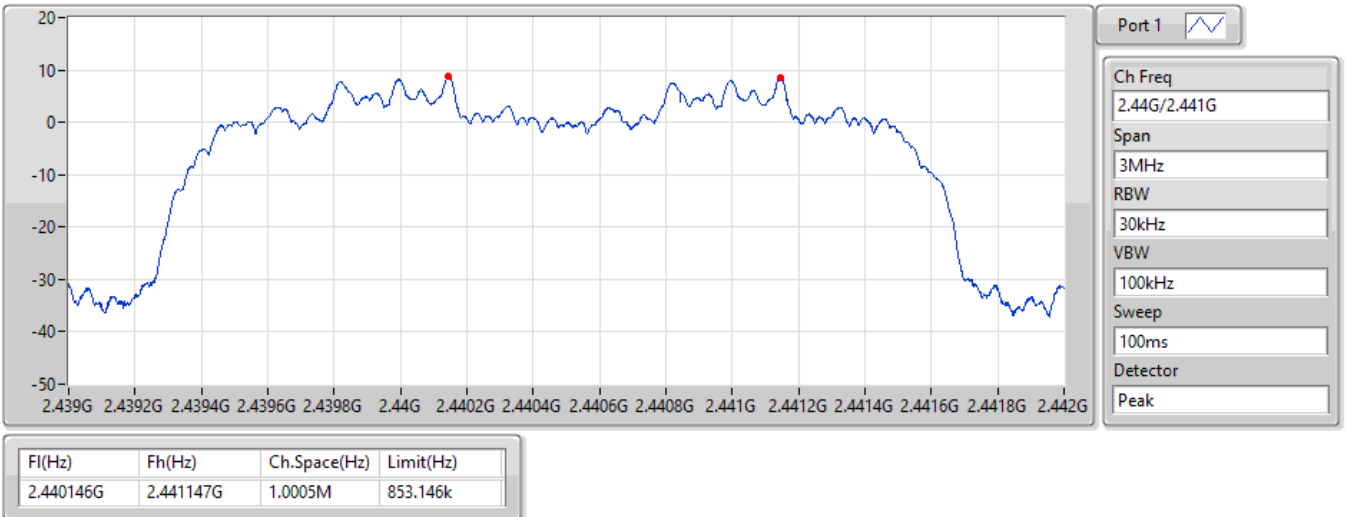


BT-EDR(2Mbps)

2.44G/2.441GHz

Channel Separation-FS

09/07/2021

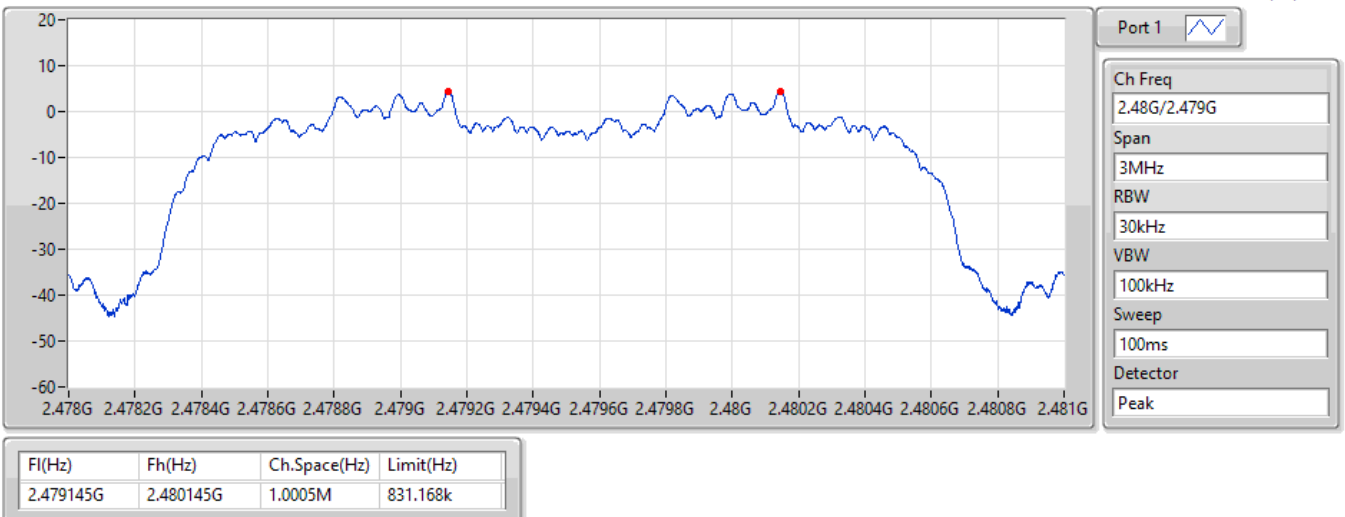


BT-EDR(2Mbps)

2.48G/2.479GHz

Channel Separation-FS

09/07/2021



BT-EDR(3Mbps)

2.402G/2.403GHz

Channel Separation-FS

09/07/2021

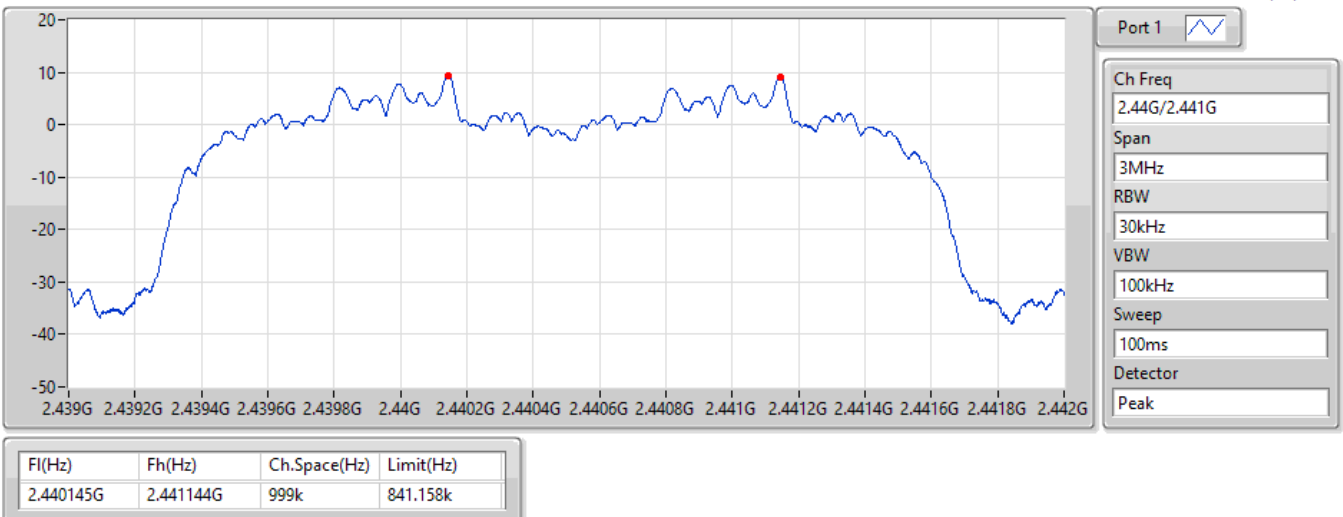


BT-EDR(3Mbps)

2.44G/2.441GHz

Channel Separation-FS

09/07/2021



BT-EDR(3Mbps)

2.48G/2.479GHz

Channel Separation-FS

09/07/2021





Average Power-FHSS

Appendix C.1

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	12.23	0.01671
BT-EDR(2Mbps)	9.96	0.00991
BT-EDR(3Mbps)	9.87	0.00971

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	1.08	11.75	21.00
2440MHz	Pass	1.08	12.23	21.00
2480MHz	Pass	1.08	8.10	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	1.08	9.59	21.00
2440MHz	Pass	1.08	9.96	21.00
2480MHz	Pass	1.08	5.68	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	1.08	9.62	21.00
2440MHz	Pass	1.08	9.87	21.00
2480MHz	Pass	1.08	5.67	21.00

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



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	12.61	0.01824
BT-EDR(2Mbps)	12.75	0.01884
BT-EDR(3Mbps)	12.90	0.01950

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	1.08	11.99	21.00
2440MHz	Pass	1.08	12.61	21.00
2480MHz	Pass	1.08	8.48	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	1.08	12.11	21.00
2440MHz	Pass	1.08	12.75	21.00
2480MHz	Pass	1.08	8.75	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	1.08	12.24	21.00
2440MHz	Pass	1.08	12.90	21.00
2480MHz	Pass	1.08	8.90	21.00

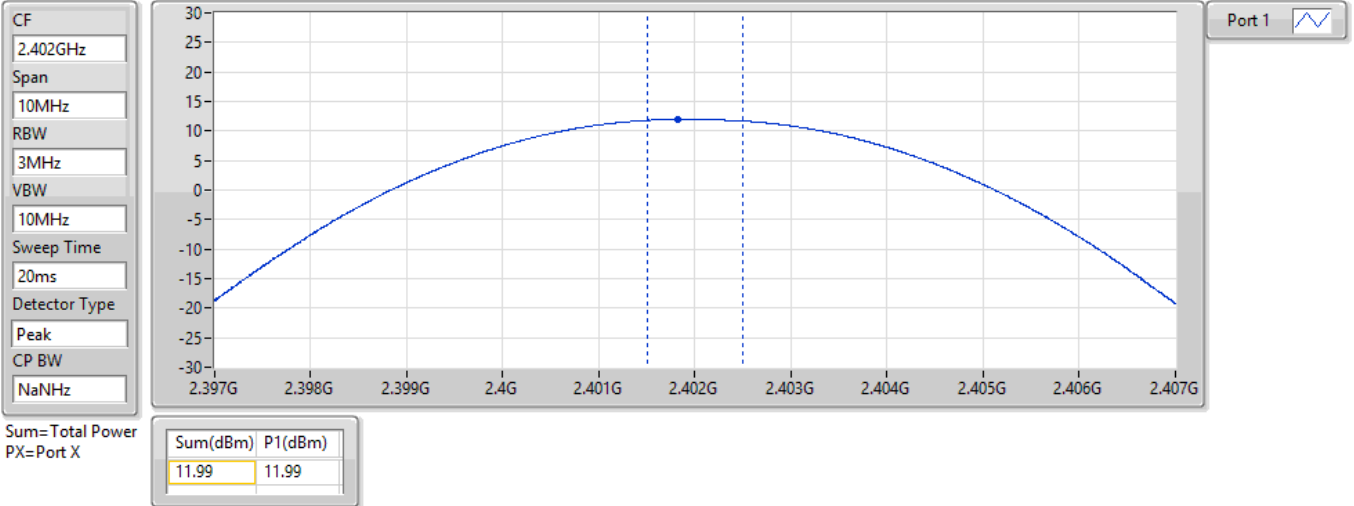
DG = Directional Gain; Port X = Port X output power

BT-BR(1Mbps)

PK Power-FS

2402MHz

09/07/2021

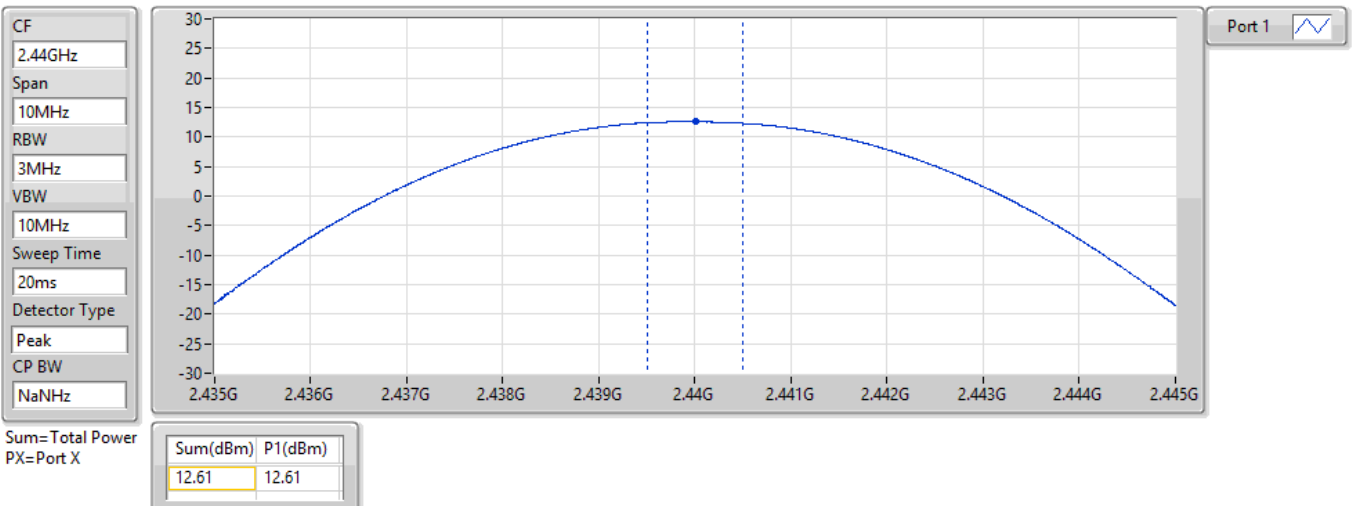


BT-BR(1Mbps)

PK Power-FS

2440MHz

09/07/2021

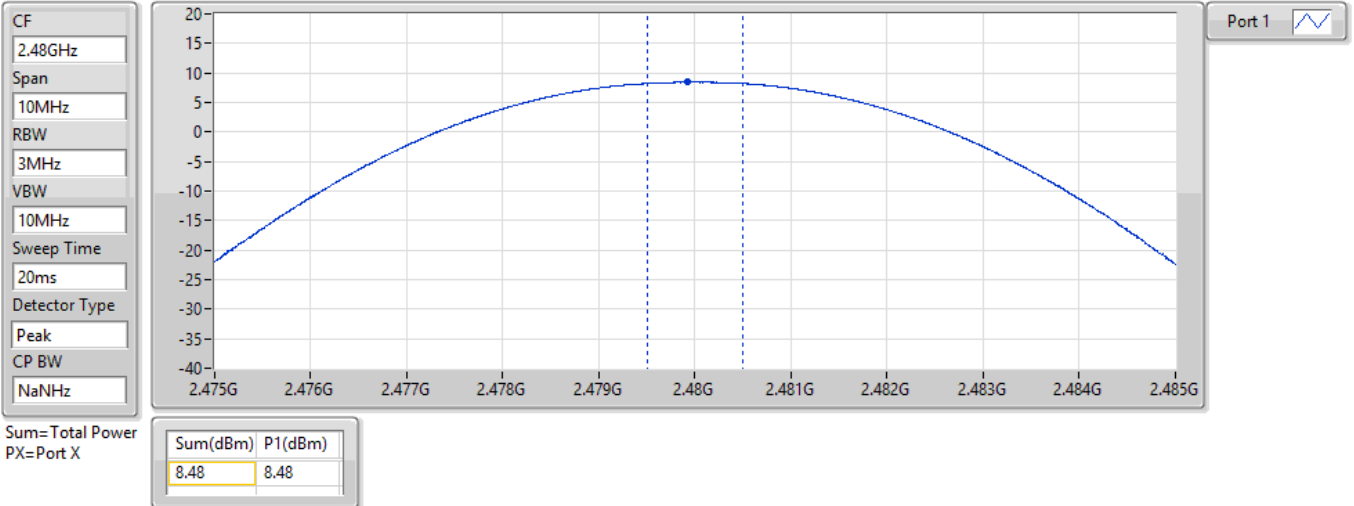


BT-BR(1Mbps)

PK Power-FS

2480MHz

09/07/2021

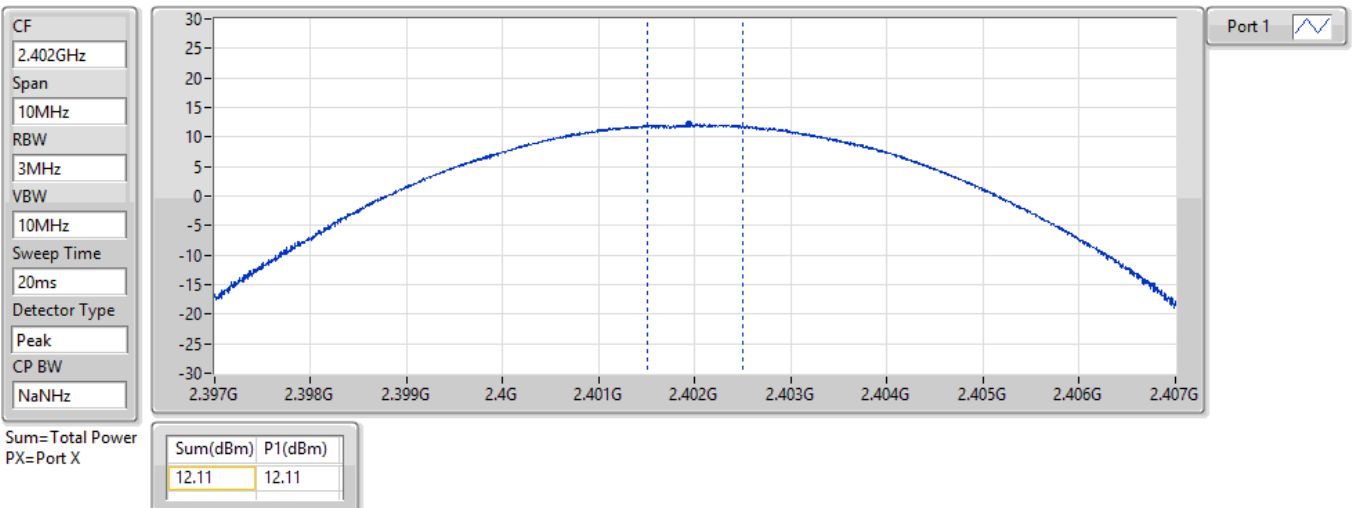


BT-EDR(2Mbps)

PK Power-FS

2402MHz

09/07/2021

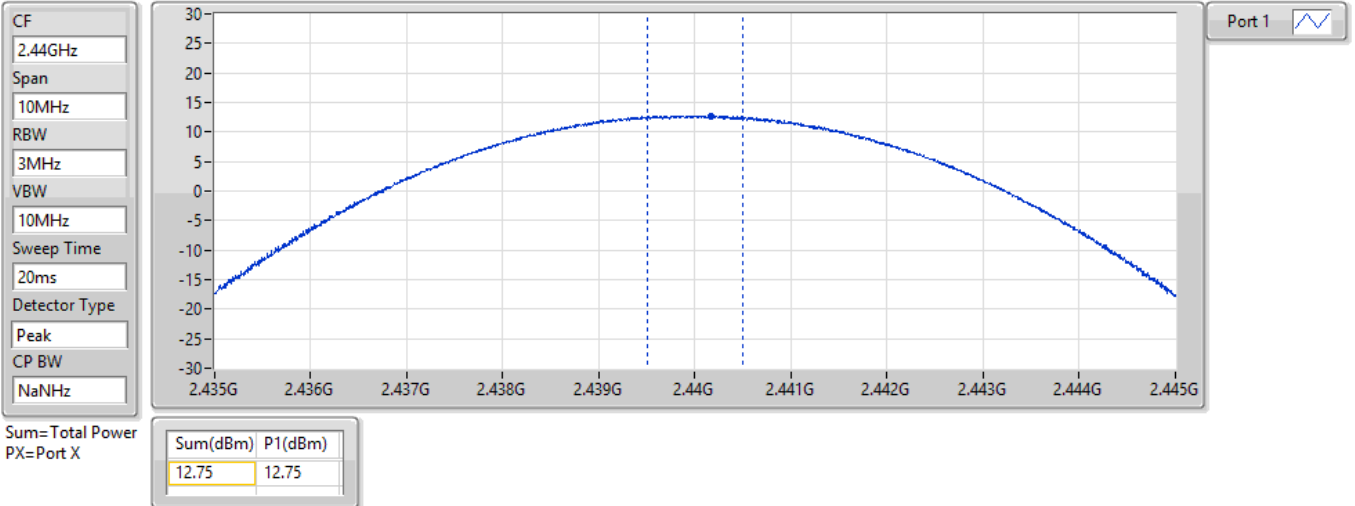


BT-EDR(2Mbps)

PK Power-FS

2440MHz

09/07/2021

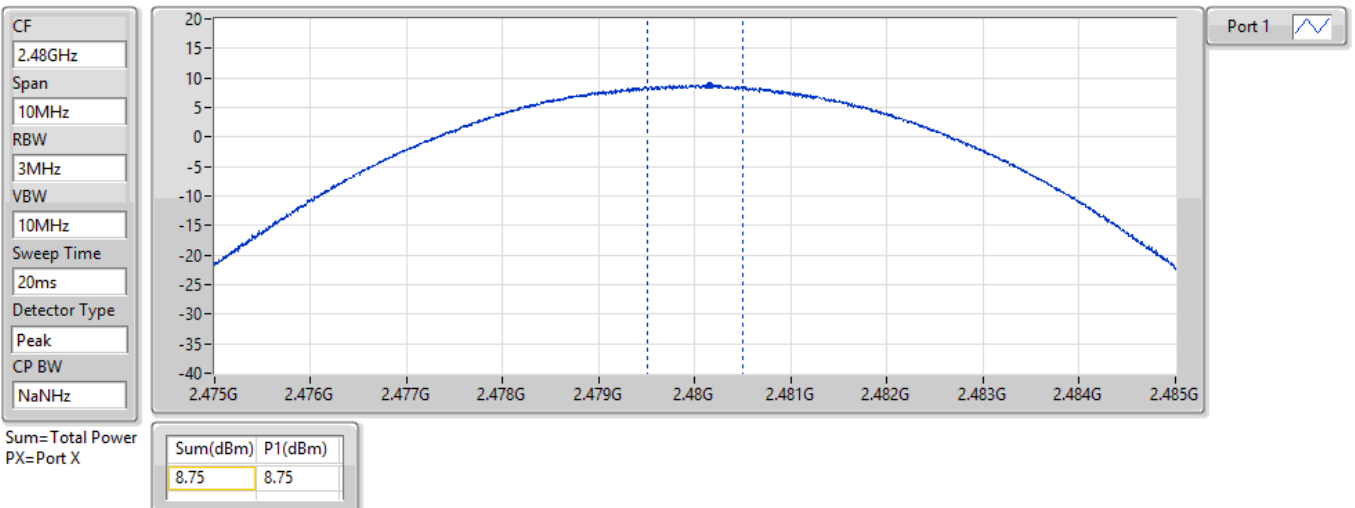


BT-EDR(2Mbps)

PK Power-FS

2480MHz

09/07/2021

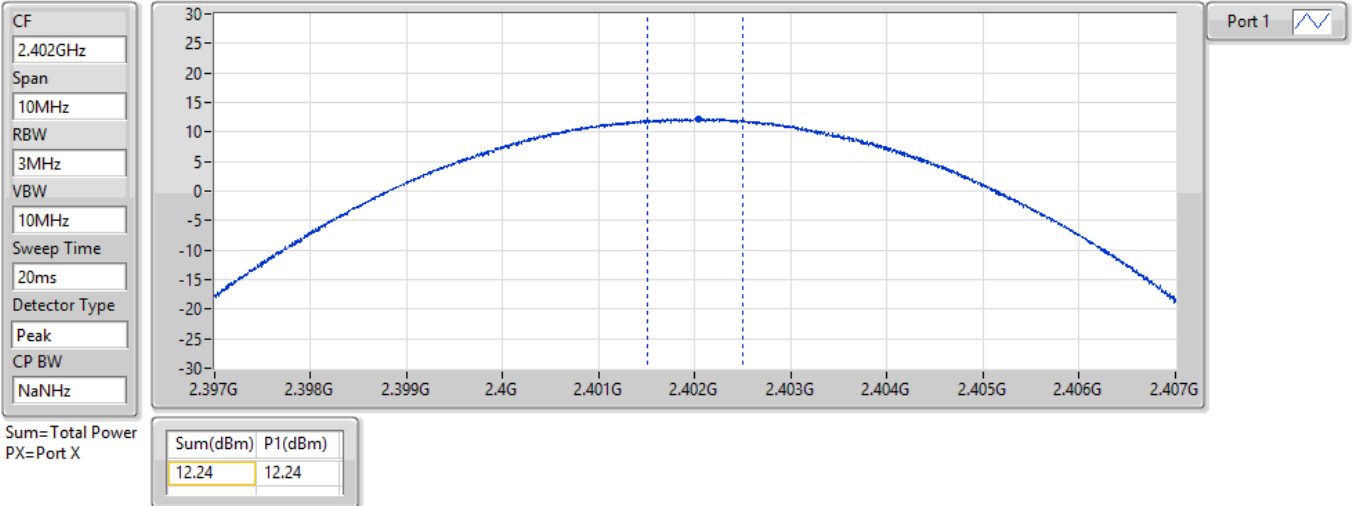


BT-EDR(3Mbps)

PK Power-FS

2402MHz

09/07/2021

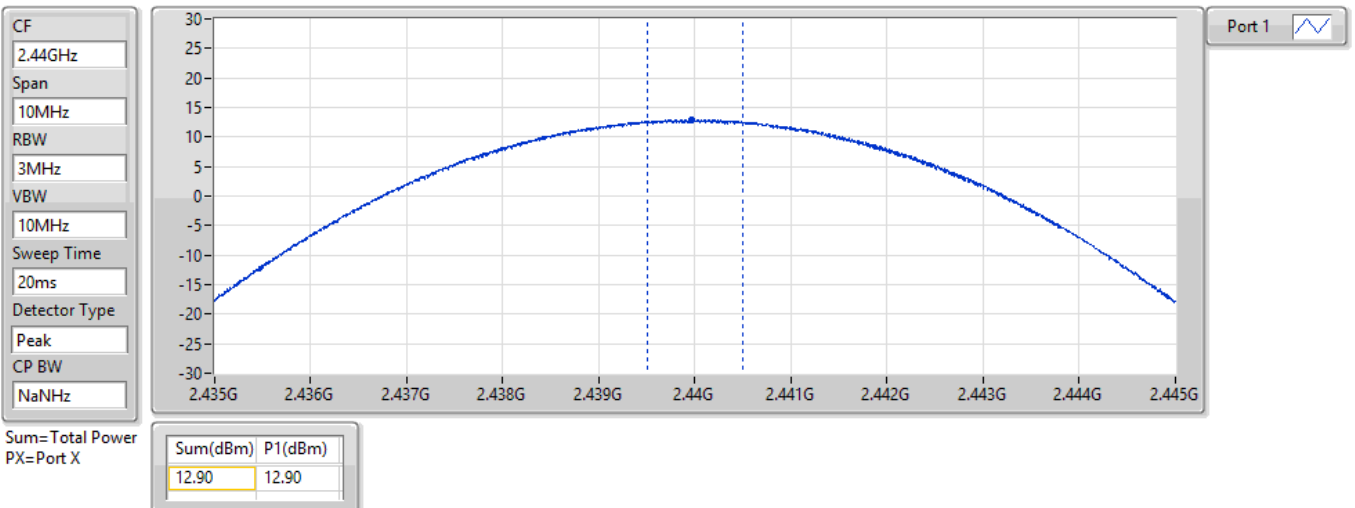


BT-EDR(3Mbps)

PK Power-FS

2440MHz

09/07/2021

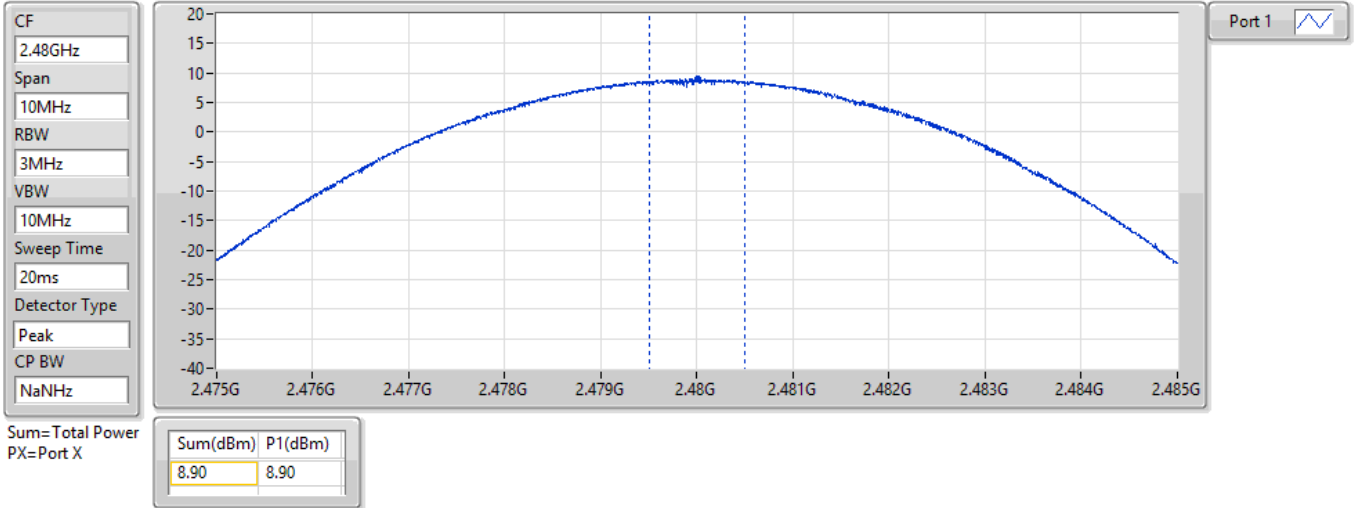


BT-EDR(3Mbps)

PK Power-FS

2480MHz

09/07/2021





Summary

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

Result

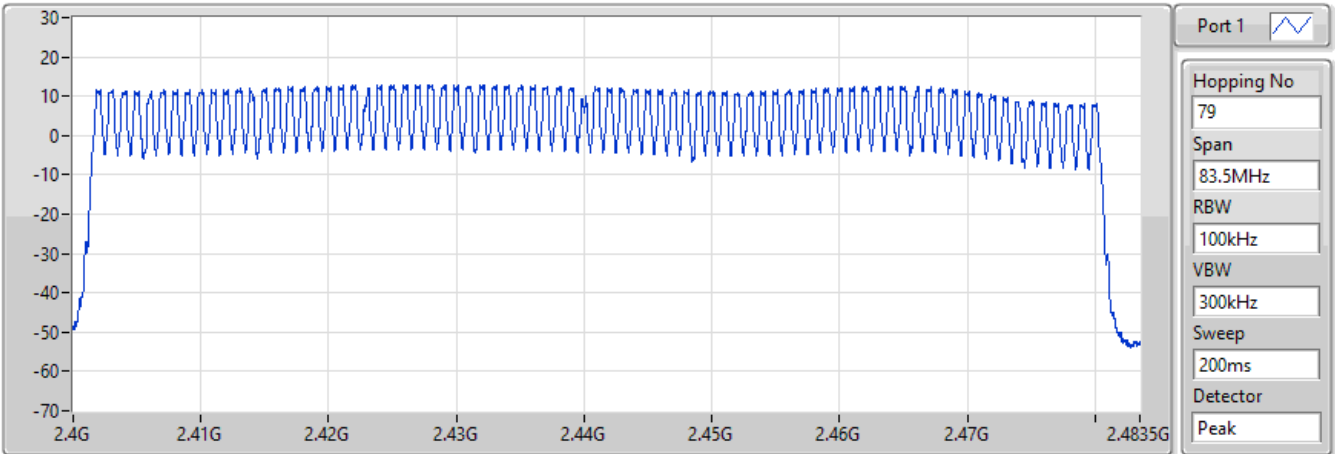
Mode	Result	Hopping No	Limit
BT-BR(1Mbps)	-	-	-
2440MHz	Pass	79	15
BT-EDR(2Mbps)	-	-	-
2440MHz	Pass	79	15
BT-EDR(3Mbps)	-	-	-
2440MHz	Pass	79	15

BT-BR(1Mbps)

2440MHz

Hopping-FS

09/07/2021



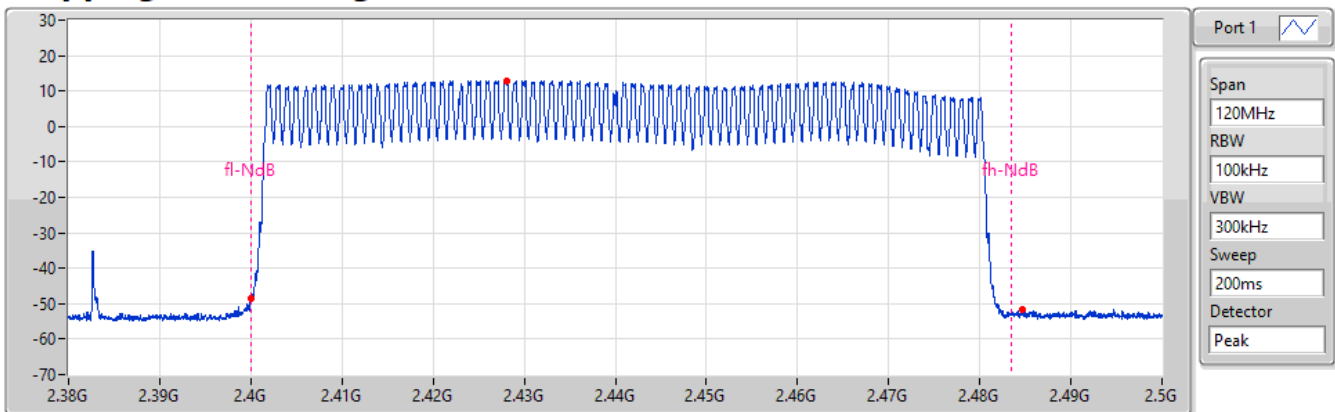
Hopping No	Limit
79	15

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

09/07/2021



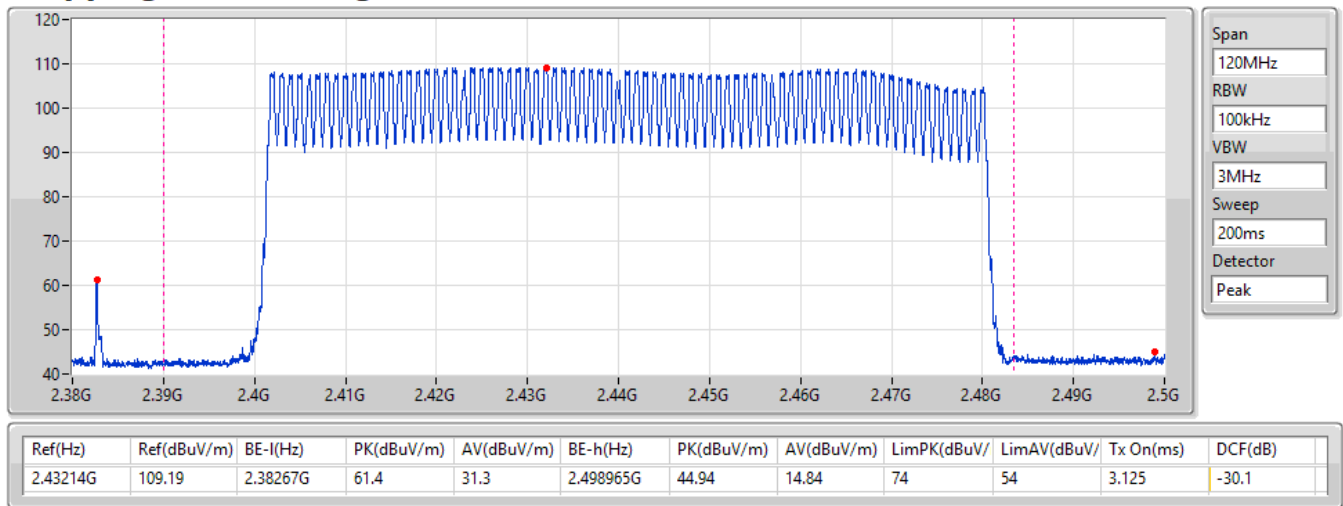
Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-7.11	2.428135G	12.89	2.399995G	-48.61	2.48467G	-51.75

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

09/07/2021

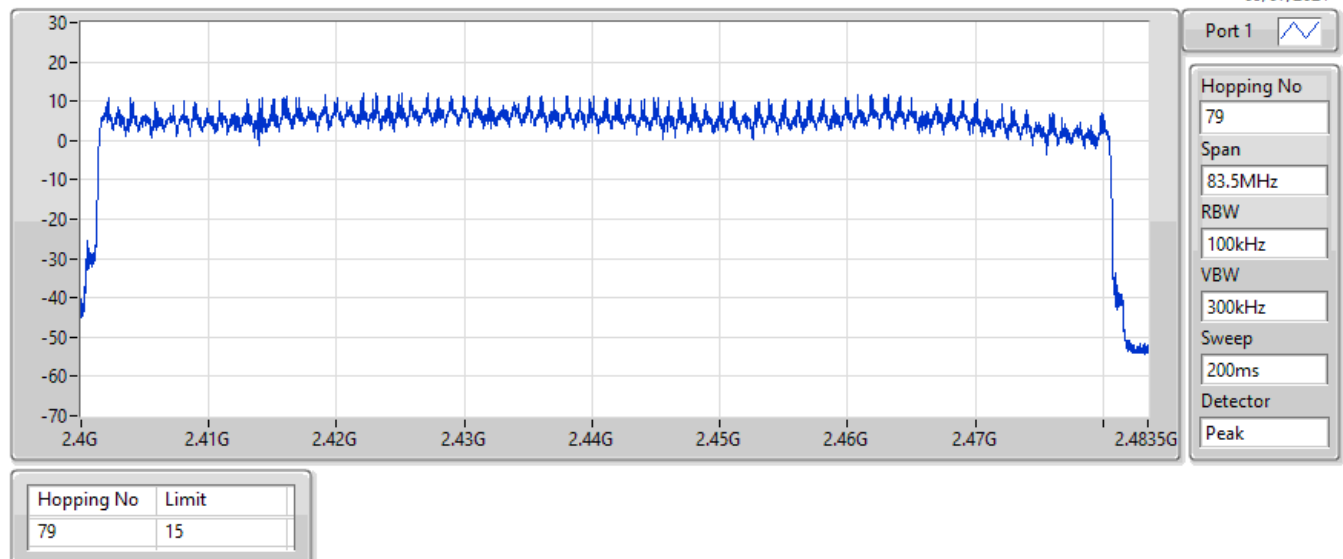


BT-EDR(2Mbps)

2440MHz

Hopping-FS

09/07/2021

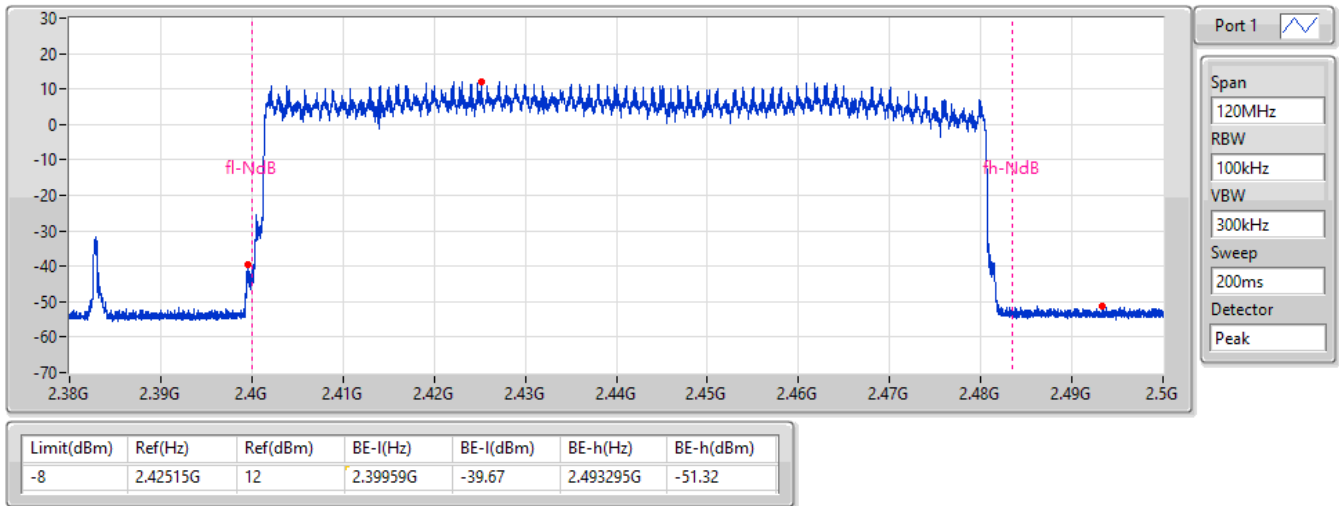


BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

09/07/2021

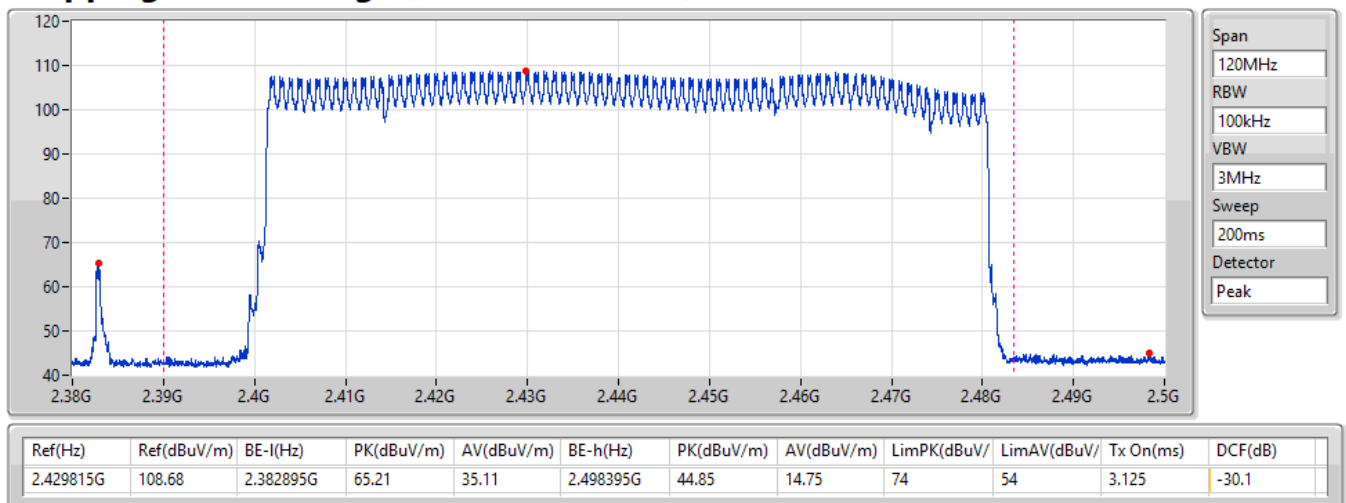


BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

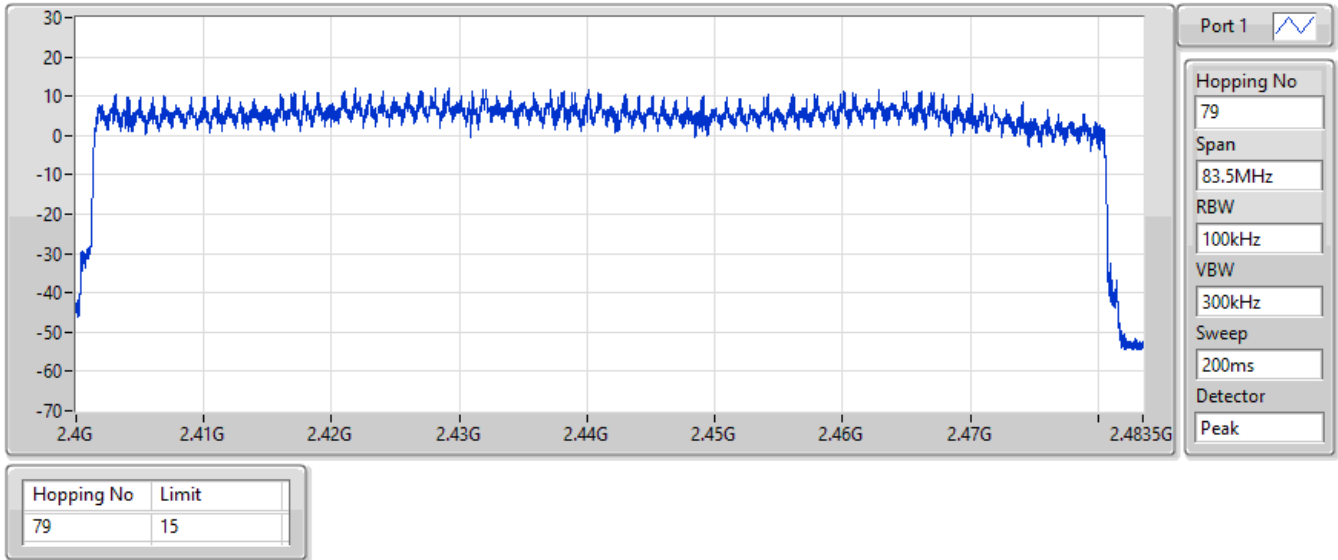
09/07/2021



BT-EDR(3Mbps) 2440MHz

Hopping-FS

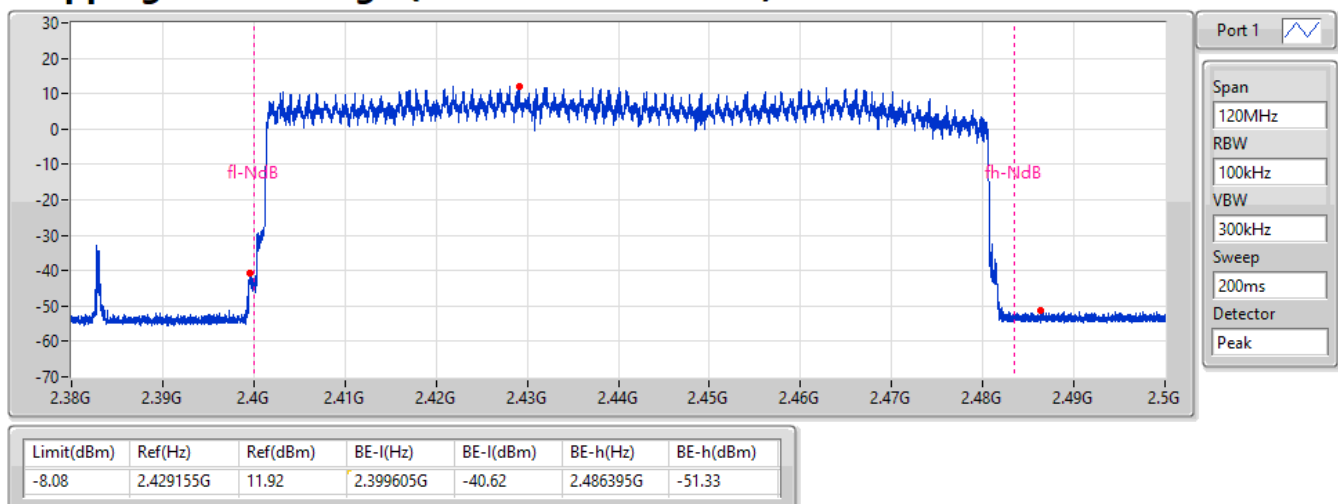
09/07/2021



BT-EDR(3Mbps) 2440MHz

Hopping Ch Bandedge (Non-restricted Band)

09/07/2021

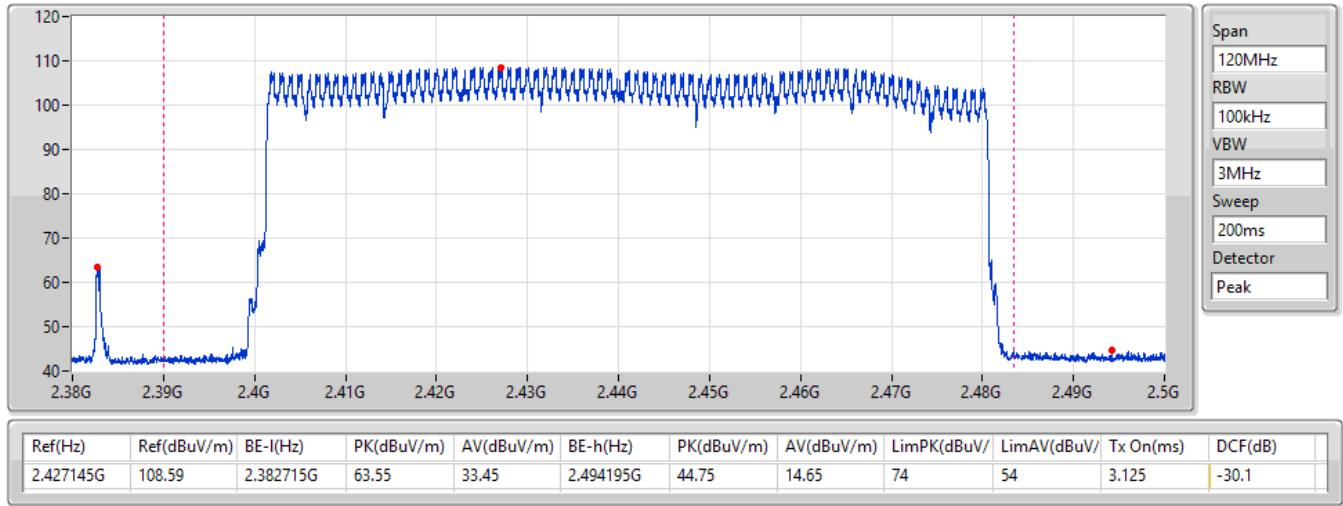


BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

09/07/2021





Summary

Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	307.08795m_DH5
BT-EDR(2Mbps)	307.40775m_DH5
BT-EDR(3Mbps)	307.46105m_DH5

Result

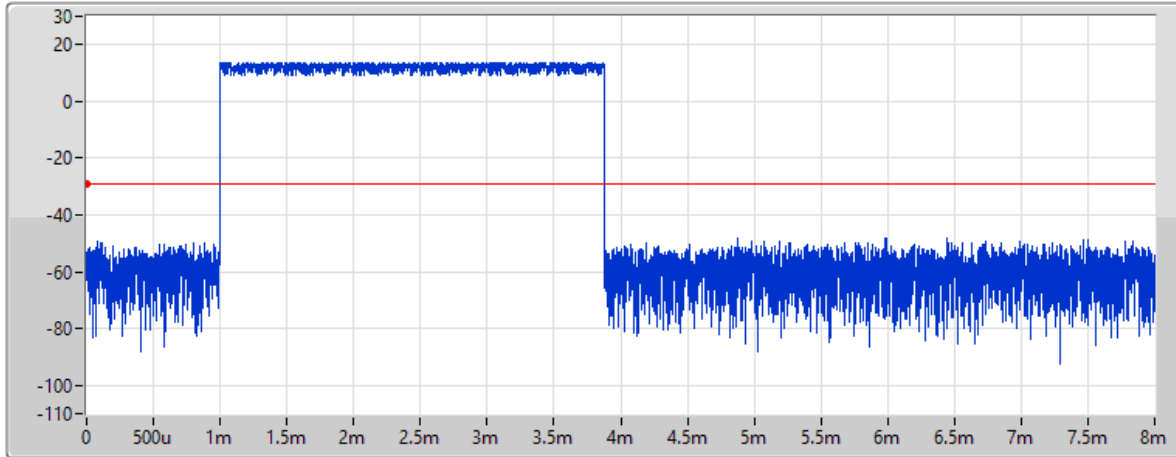
Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	307.08795m_DH5	400m	2.88075m
2440MHz	Pass	8	153.47735m_DH5-AFH	400m	2.8795m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	307.40775m_DH5	400m	2.88375m
2440MHz	Pass	8	153.7172m_DH5-AFH	400m	2.884m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	307.46105m_DH5	400m	2.88425m
2440MHz	Pass	8	153.730525m_DH5-AFH	400m	2.88425m

BT-BR(1Mbps)

Dwell-FS

2440MHz

09/07/2021



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.88075ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	307.08795m_DH5	400m	2.88075m

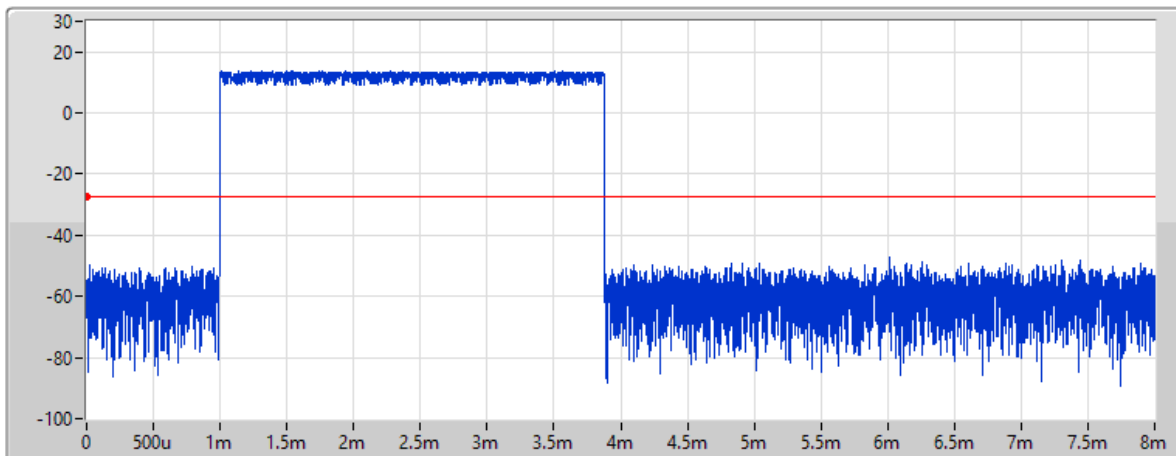
DH5

BT-BR(1Mbps)

Dwell-FS

2440MHz

09/07/2021



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.8795ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	153.47735m_DH5-AFH	400m	2.8795m

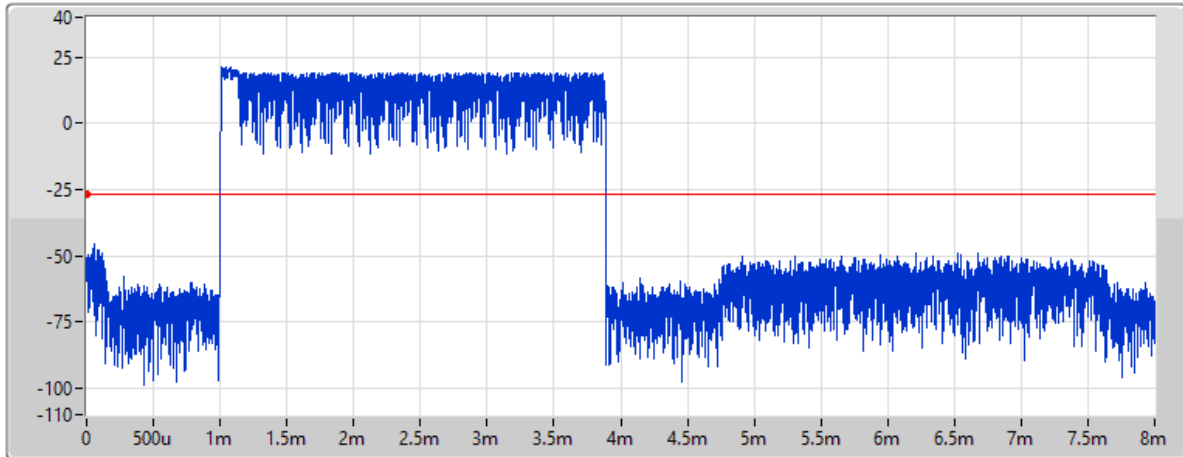
DH5-AFH

BT-EDR(2Mbps)

2440MHz

Dwell-FS

02/11/2021



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.88375ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	307.40775m_DH5	400m	2.88375m

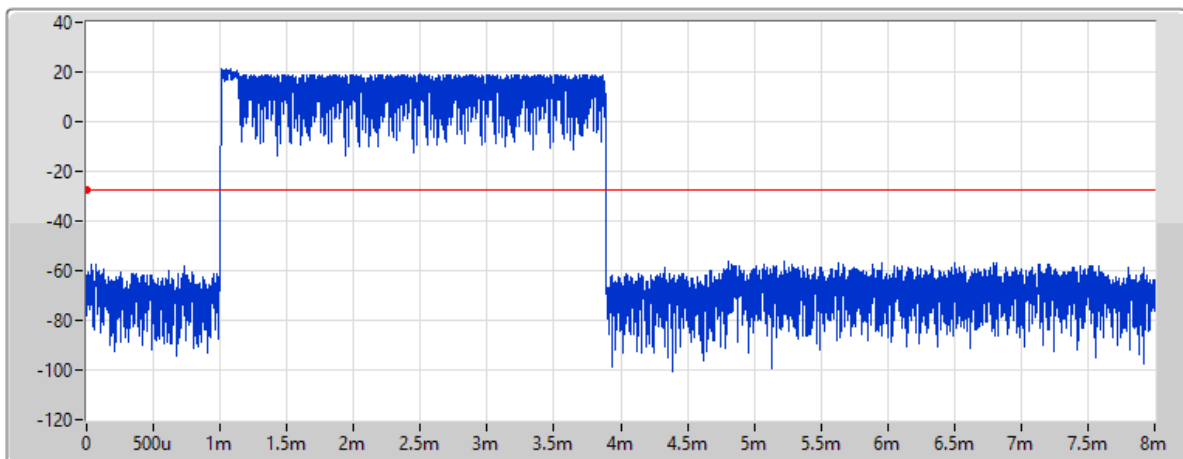
DH5

BT-EDR(2Mbps)

2440MHz

Dwell-FS

02/11/2021



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.884ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	153.7172m_DH5-AFH	400m	2.884m

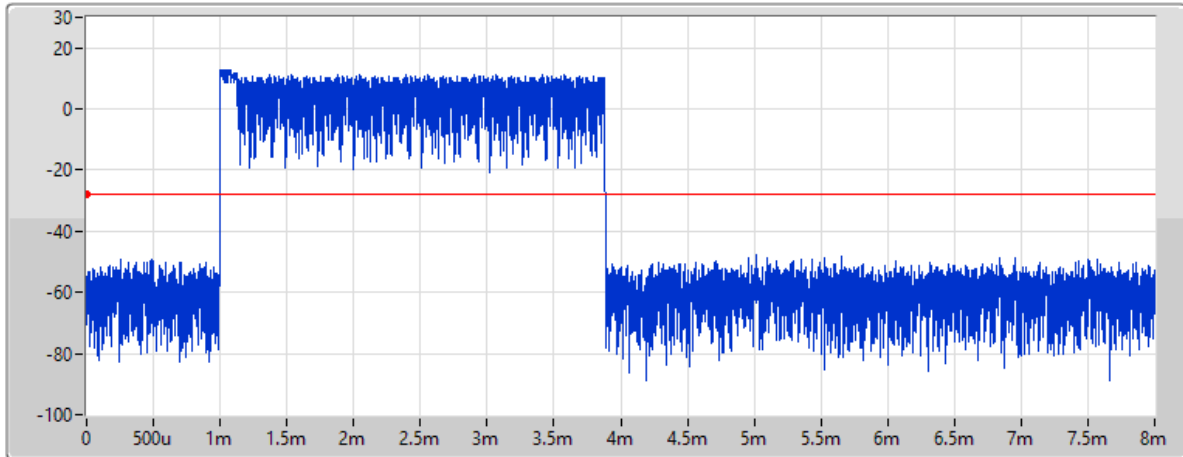
DH5-AFH

BT-EDR(3Mbps)

2440MHz

Dwell-FS

09/07/2021



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.88425ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	307.46105m_DH5	400m	2.88425m

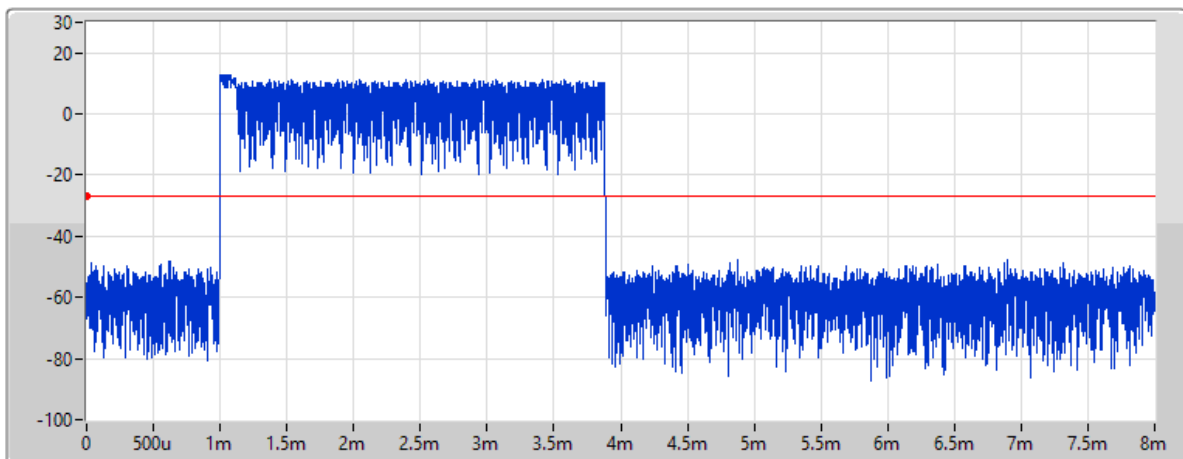
DH5

BT-EDR(3Mbps)

2440MHz

Dwell-FS

09/07/2021



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.88425ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	153.730525m_DH5-AFI	400m	2.88425m

DH5-AFH

Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.48016G	7.81	-12.19	885.11M	-52.92	2.39001G	-52.92	2.4835G	-54.00	2.4835G	-51.16	24.48258G	-46.66	1
BT-EDR(2Mbps)	Pass	2.4018G	11.17	-8.83	696.52M	-52.88	2.39956G	-39.51	2.4G	-39.53	2.48773G	-51.80	15.10716G	-46.47	1
BT-EDR(3Mbps)	Pass	2.40205G	10.24	-9.76	647.46M	-53.56	2.39954G	-39.30	2.4G	-43.26	2.48782G	-51.62	21.9461G	-46.08	1

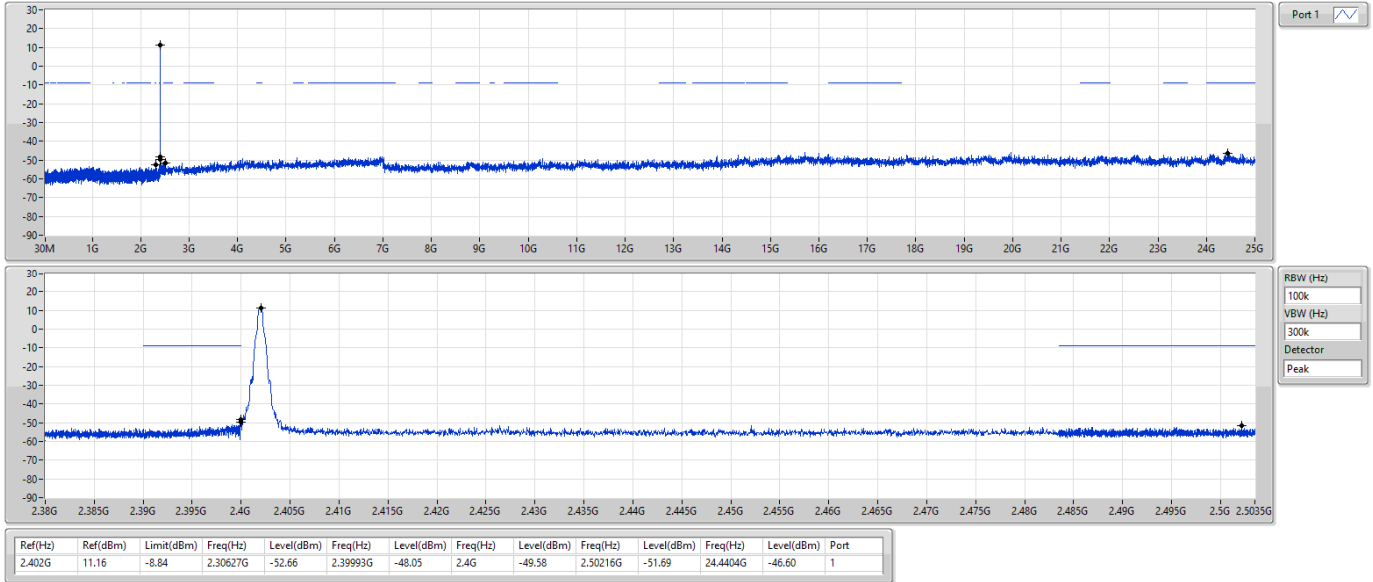
Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	11.16	-8.84	2.30627G	-52.66	2.39993G	-48.05	2.4G	-49.58	2.50216G	-51.69	24.4404G	-46.60	1
2440MHz	Pass	2.44004G	11.77	-8.23	754.09M	-52.34	2.39987G	-52.08	2.4835G	-53.87	2.48482G	-51.51	24.1142G	-45.75	1
2480MHz	Pass	2.48016G	7.81	-12.19	885.11M	-52.92	2.39001G	-52.92	2.4835G	-54.00	2.4835G	-51.16	24.48258G	-46.66	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.4018G	11.17	-8.83	696.52M	-52.88	2.39956G	-39.51	2.4G	-39.53	2.48773G	-51.80	15.10716G	-46.47	1
2440MHz	Pass	2.44012G	11.01	-8.99	756.15M	-52.46	2.39591G	-52.37	2.4G	-54.34	2.4912G	-51.74	24.88752G	-46.73	1
2480MHz	Pass	2.47987G	7.36	-12.64	710.33M	-52.69	2.39182G	-52.44	2.4835G	-54.26	2.50038G	-51.89	15.1859G	-46.28	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40205G	10.24	-9.76	647.46M	-53.56	2.39954G	-39.30	2.4G	-43.26	2.48782G	-51.62	21.9461G	-46.08	1
2440MHz	Pass	2.44004G	10.71	-9.29	848.09M	-53.43	2.39824G	-52.43	2.4835G	-54.58	2.49765G	-51.57	24.45727G	-46.10	1
2480MHz	Pass	2.47987G	6.64	-13.36	587.24M	-51.78	2.39791G	-52.92	2.4835G	-52.79	2.5013G	-52.40	24.50226G	-46.32	1

BT-BR(1Mbps)

CSENdB-FS

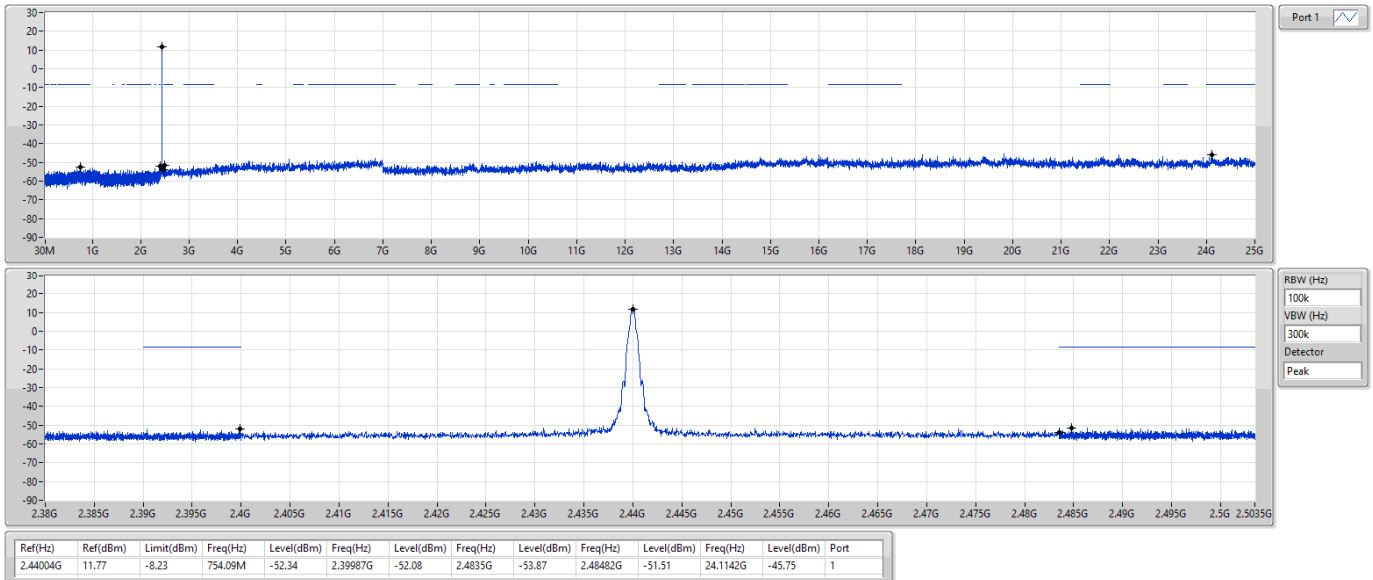
2402MHz



BT-BR(1Mbps)

CSENdB-FS

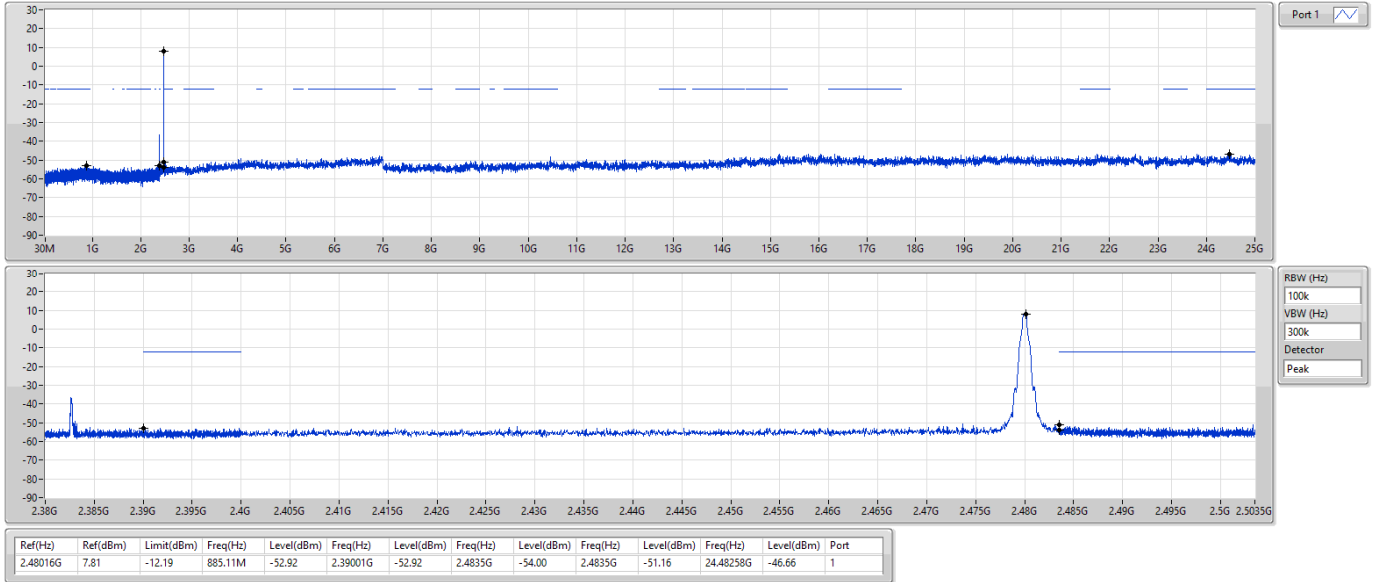
2440MHz



BT-BR(1Mbps)

CSEndB-FS

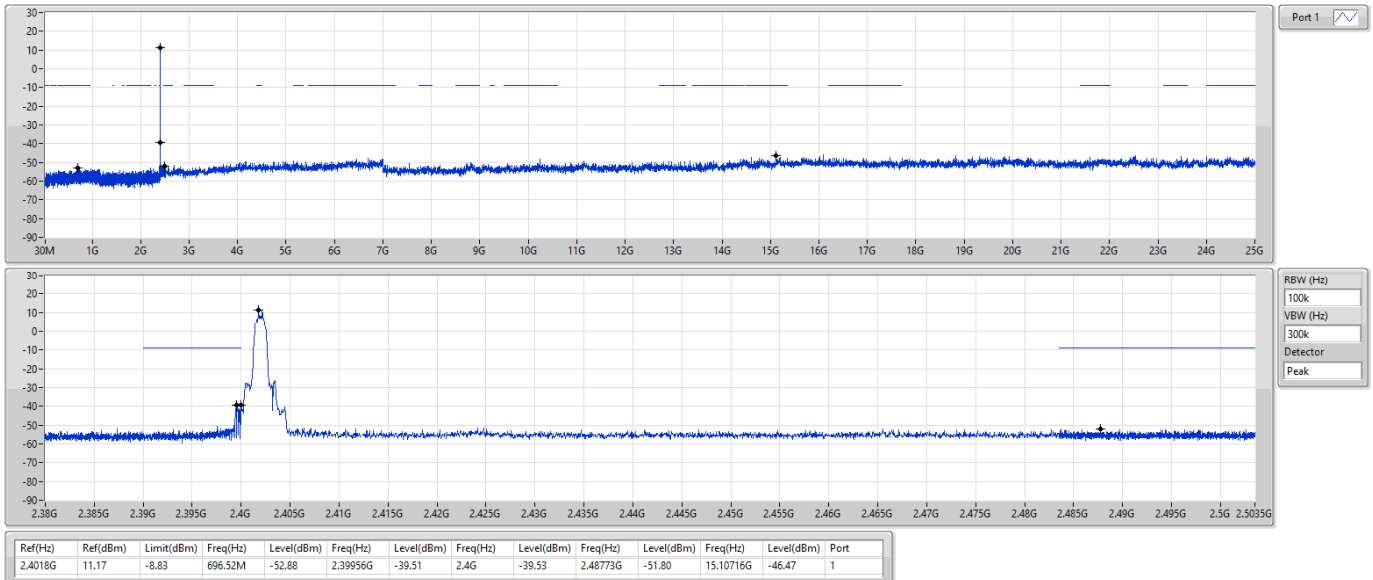
2480MHz



BT-EDR(2Mbps)

CSEndB-FS

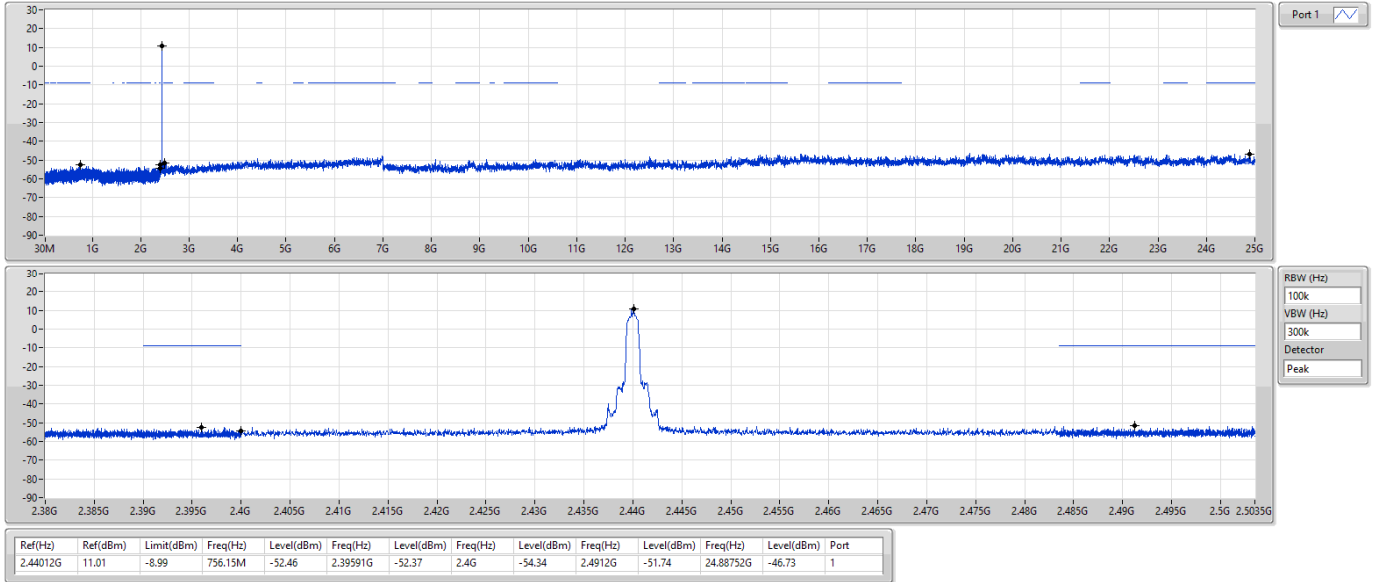
2402MHz



BT-EDR(2Mbps)

CSEndB-FS

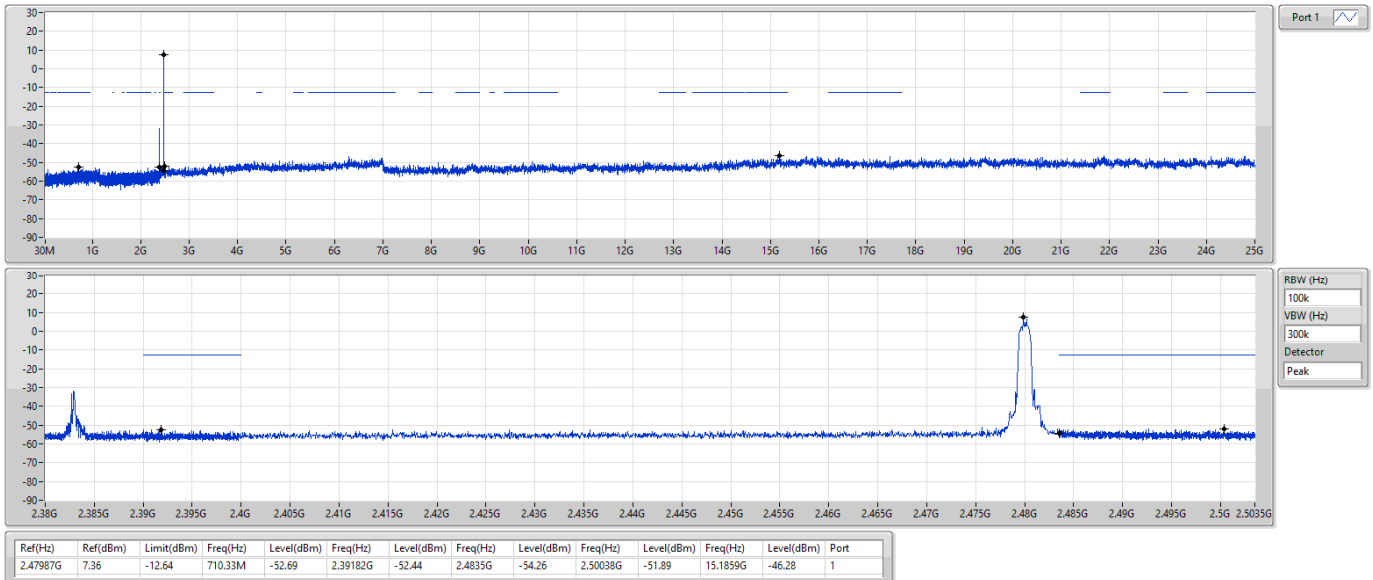
2440MHz



BT-EDR(2Mbps)

CSEndB-FS

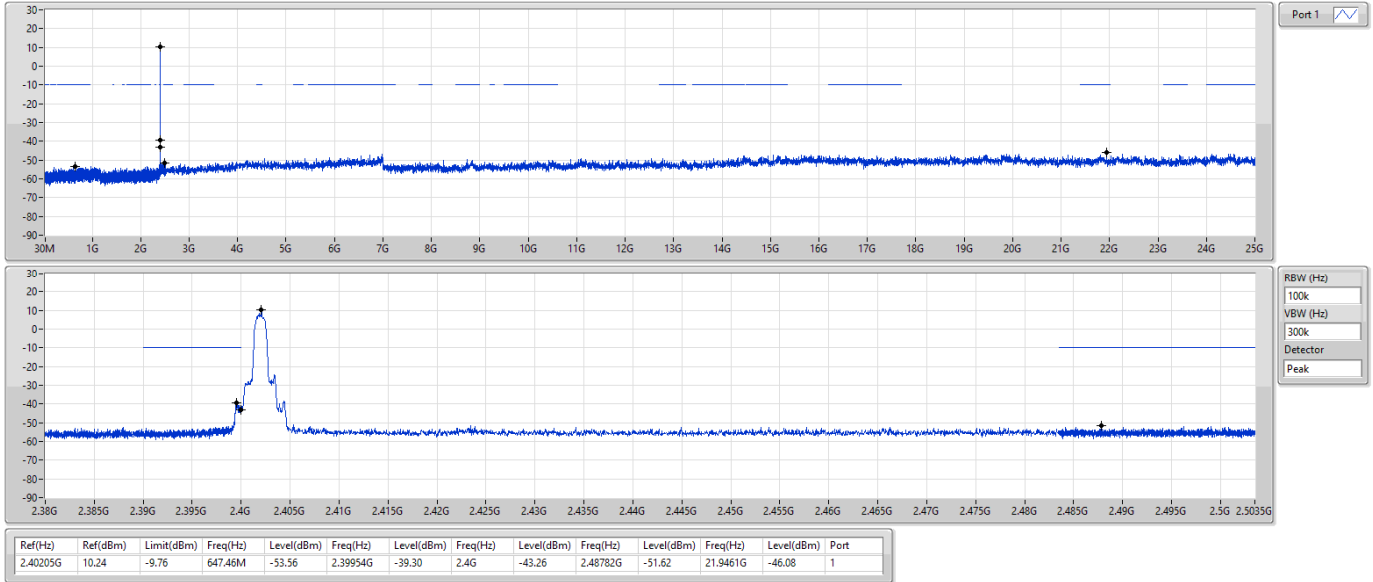
2480MHz



BT-EDR(3Mbps)

CSEndB-FS

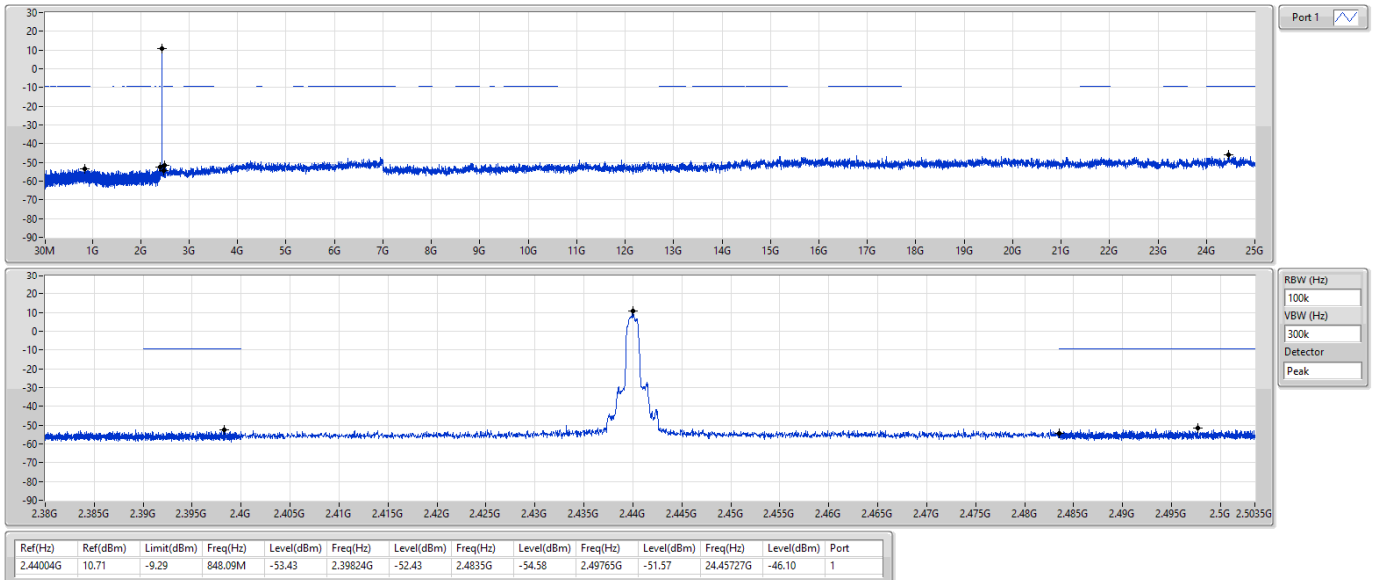
2402MHz



BT-EDR(3Mbps)

CSEndB-FS

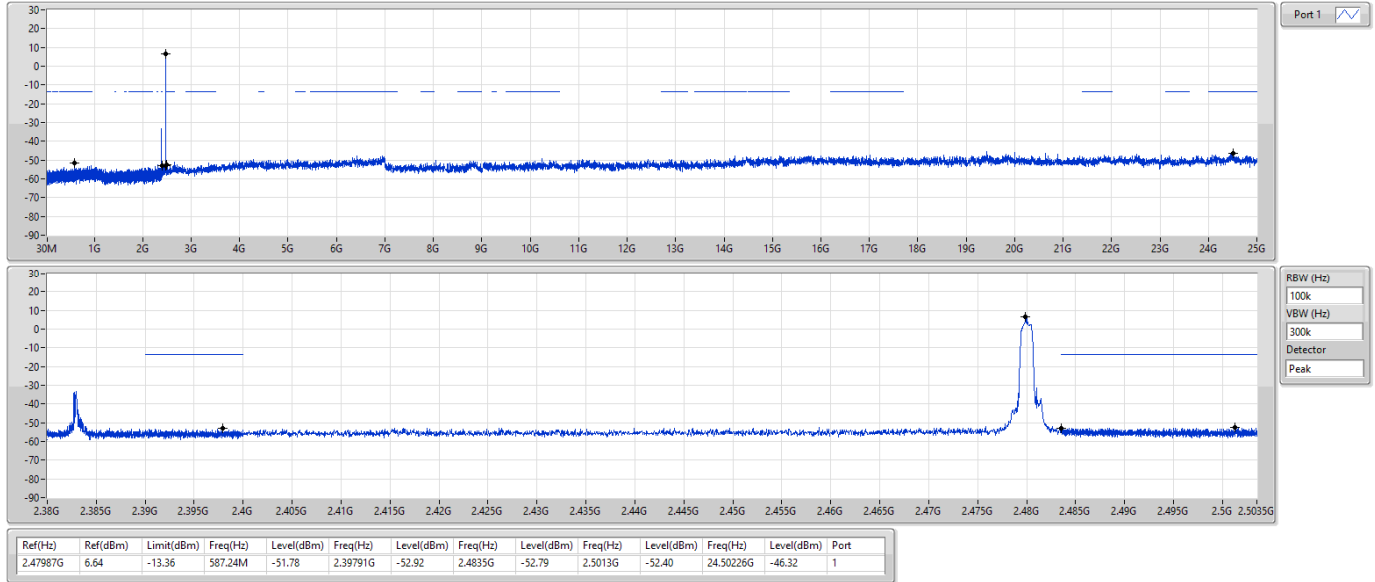
2440MHz



BT-EDR(3Mbps)

CSEndB-FS

2480MHz





Radiated Emissions below 1GHz

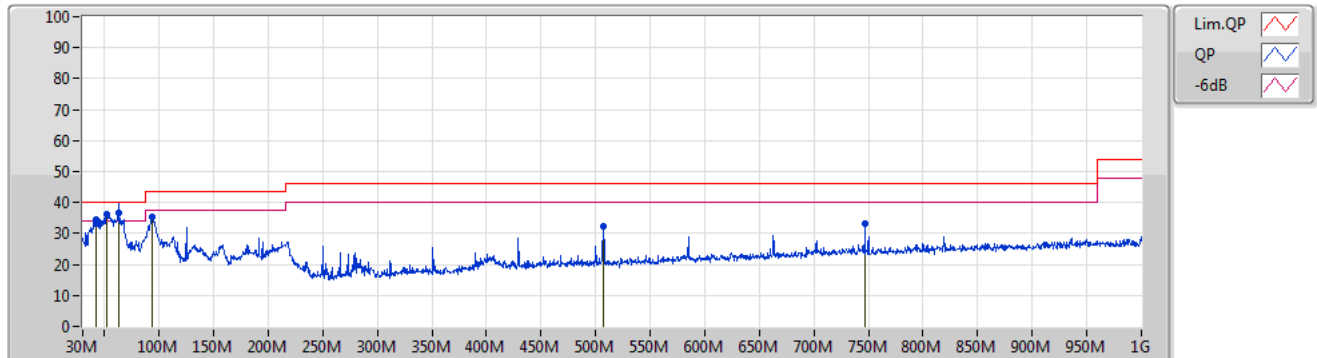
Appendix G.1

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 4	Pass	QP	62.5M	36.79	40.00	-3.21	Vertical

Mode 4

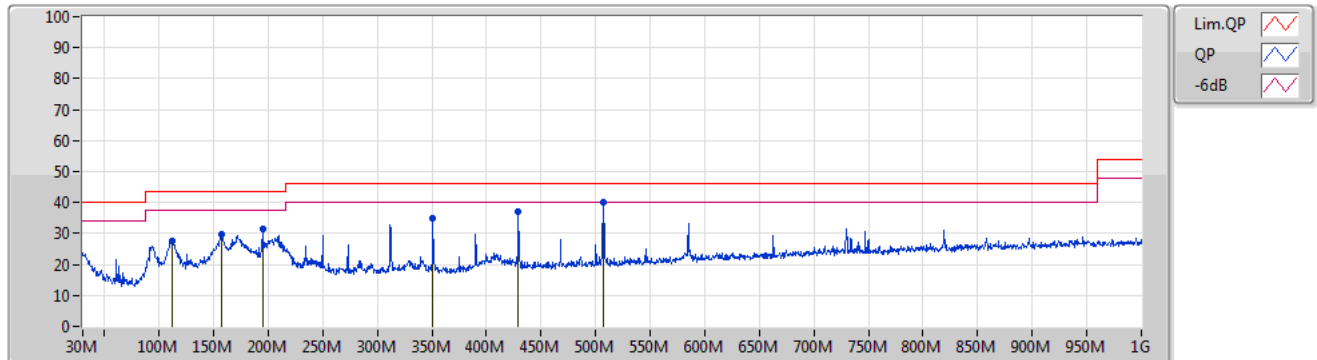
15/07/2021



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	41.64M	34.37	40.00	-5.63	-9.18	3	Vertical	27	1.00	-	43.55	17.47	1.33	27.98
PK	51.83M	36.14	40.00	-3.86	-13.13	3	Vertical	0	1.00	-	49.27	13.29	1.54	27.96
QP	62.5M	36.79	40.00	-3.21	-13.62	3	Vertical	93	2.00	"Worst"	50.41	12.46	1.75	27.83
PK	94.02M	35.42	43.50	-8.08	-9.79	3	Vertical	141	3.00	-	45.21	15.76	2.28	27.83
PK	506.76M	32.39	46.00	-13.61	-5.33	3	Vertical	73	4.00	-	37.72	17.73	4.84	27.90
PK	746.83M	33.20	46.00	-12.80	-1.19	3	Vertical	255	1.00	-	34.39	20.41	5.99	27.59

Mode 4

15/07/2021



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	111.48M	27.70	43.50	-15.80	-7.16	3	Horizontal	54	1.00	-	34.86	17.98	2.57	27.71
PK	157.07M	29.54	43.50	-13.96	-8.23	3	Horizontal	197	2.00	-	37.77	16.12	3.17	27.52
PK	194.9M	31.40	43.50	-12.10	-8.59	3	Horizontal	36	1.00	-	39.99	15.06	3.65	27.30
PK	351.07M	35.06	46.00	-10.94	-7.42	3	Horizontal	201	3.00	-	42.48	15.39	4.10	26.91
PK	429.16M	37.04	46.00	-8.96	-6.53	3	Horizontal	123	4.00	-	43.57	16.55	4.47	27.55
PK	507.24M	39.90	46.00	-6.10	-5.34	3	Horizontal	288	2.00	"Worst"	45.24	17.72	4.84	27.90

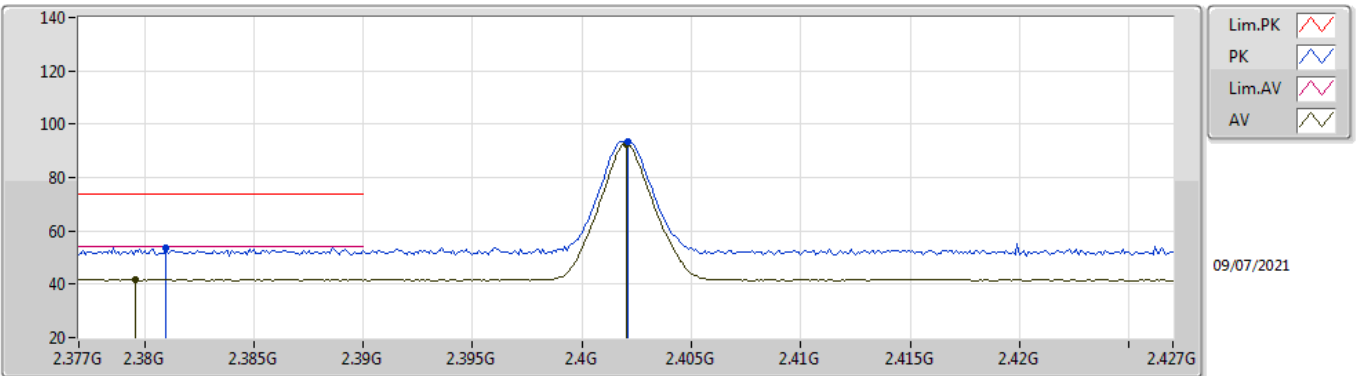


Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	AV	2.4835G	46.94	54.00	-7.06	3	Horizontal	304	1.54	-

BT-BR(1Mbps)

2402MHz_TX

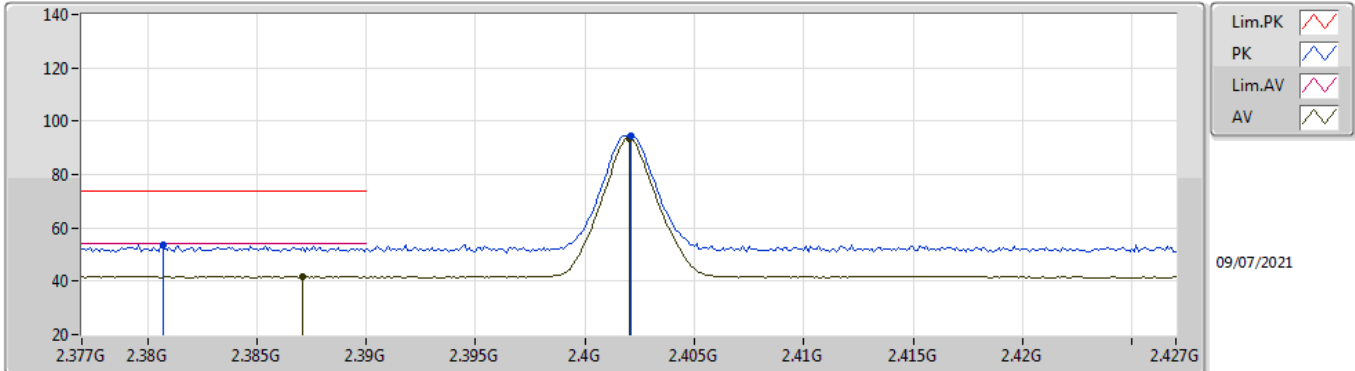


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.381G	53.73	74.00	-20.27	23.54	3	Vertical	261	2.04	-	27.61	2.58	-	
AV	2.3796G	41.73	54.00	-12.27	11.53	3	Vertical	261	2.04	-	27.62	2.58	-	
PK	2.4021G	93.49	Inf	-Inf	63.39	3	Vertical	261	2.04	-	27.50	2.60	-	
AV	2.402G	92.54	Inf	-Inf	62.44	3	Vertical	261	2.04	-	27.50	2.60	-	

BT-BR(1Mbps)

2402MHz_TX

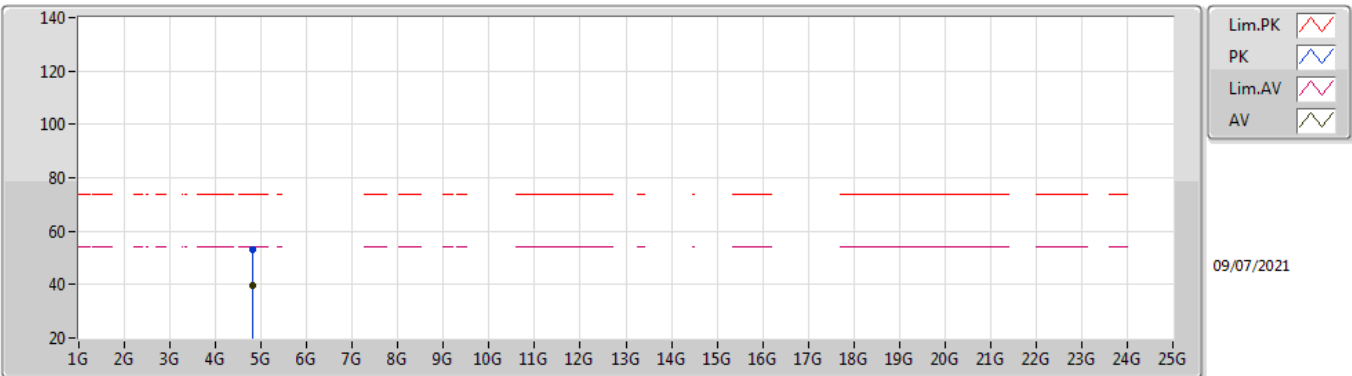


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.3807G	53.80	74.00	-20.20	23.60	3	Horizontal	228	1.80	-	27.62	2.58	-	
AV	2.3871G	41.68	54.00	-12.32	11.51	3	Horizontal	228	1.80	-	27.58	2.59	-	
PK	2.4021G	94.54	Inf	-Inf	64.44	3	Horizontal	228	1.80	-	27.50	2.60	-	
AV	2.402G	93.61	Inf	-Inf	63.51	3	Horizontal	228	1.80	-	27.50	2.60	-	

BT-BR(1Mbps)

2402MHz_TX

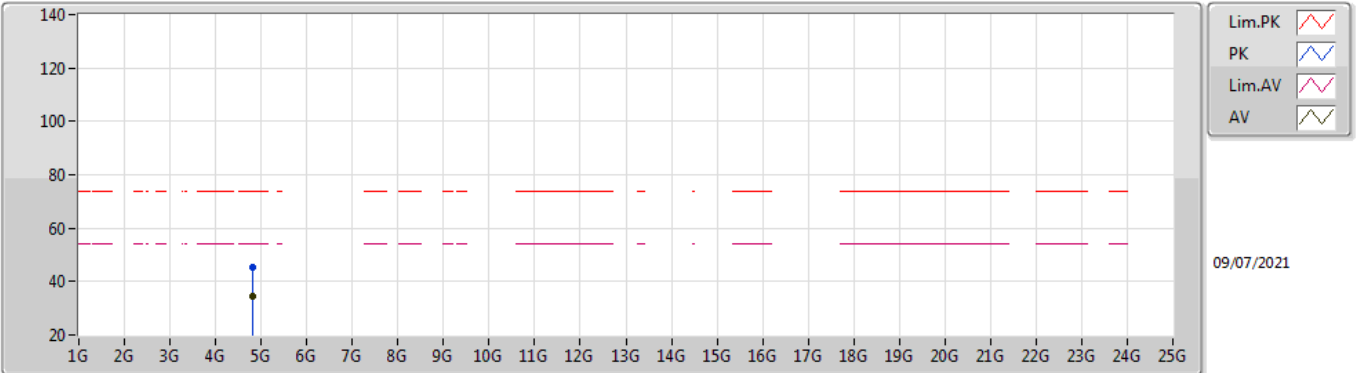


EUT Y_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.8076G	52.88	74.00	-21.12	51.44	3	Vertical	102	1.81	-	31.32	6.01	35.89	
AV	4.80288G	39.70	54.00	-14.30	38.28	3	Vertical	102	1.81	-	31.31	6.00	35.89	

BT-BR(1Mbps)

2402MHz_TX

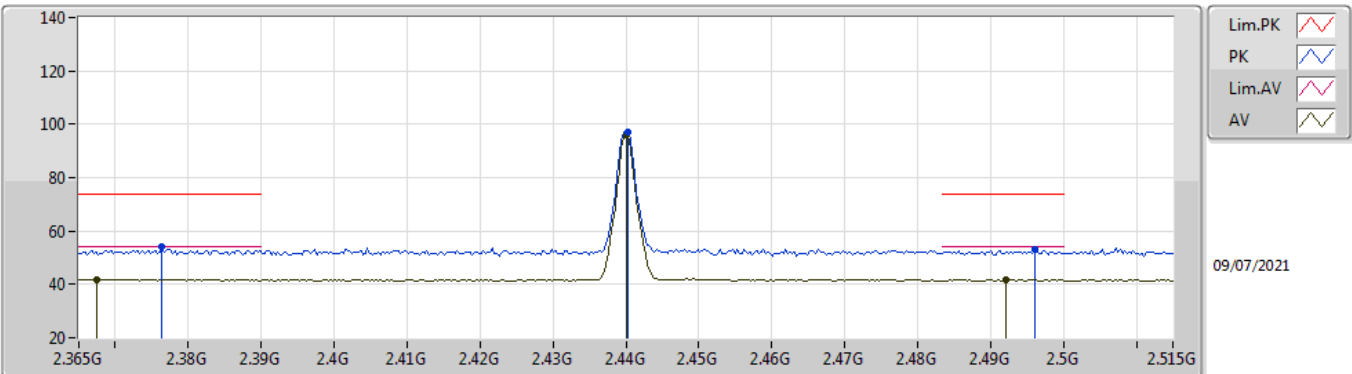


EUT Y_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.81308G	45.28	74.00	-28.72	43.82	3	Horizontal	302	1.10	-	31.33	6.02	35.89	
AV	4.80688G	34.61	54.00	-19.39	33.18	3	Horizontal	302	1.10	-	31.31	6.01	35.89	

BT-BR(1Mbps)

2440MHz_TX

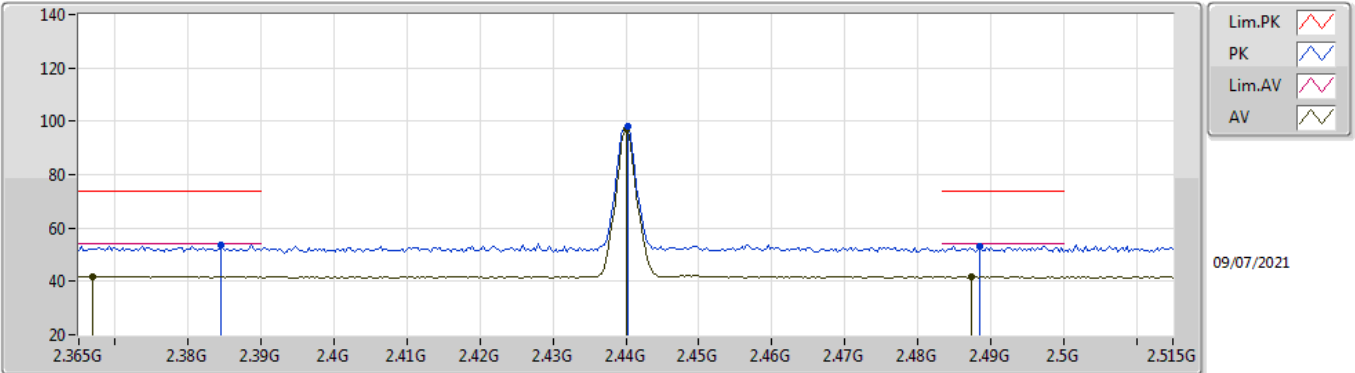


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.3764G	54.08	74.00	-19.92	23.86	3	Vertical	258	1.93	-	27.64	2.58	-	
AV	2.3764G	41.89	54.00	-12.11	11.62	3	Vertical	258	1.93	-	27.70	2.57	-	
PK	2.4403G	97.24	Inf	-Inf	67.18	3	Vertical	258	1.93	-	27.42	2.64	-	
AV	2.44G	96.25	Inf	-Inf	66.19	3	Vertical	258	1.93	-	27.42	2.64	-	
PK	2.4961G	52.86	74.00	-21.14	22.85	3	Vertical	258	1.93	-	27.31	2.70	-	
AV	2.4922G	41.68	54.00	-12.32	11.67	3	Vertical	258	1.93	-	27.32	2.69	-	

BT-BR(1Mbps)

2440MHz_TX

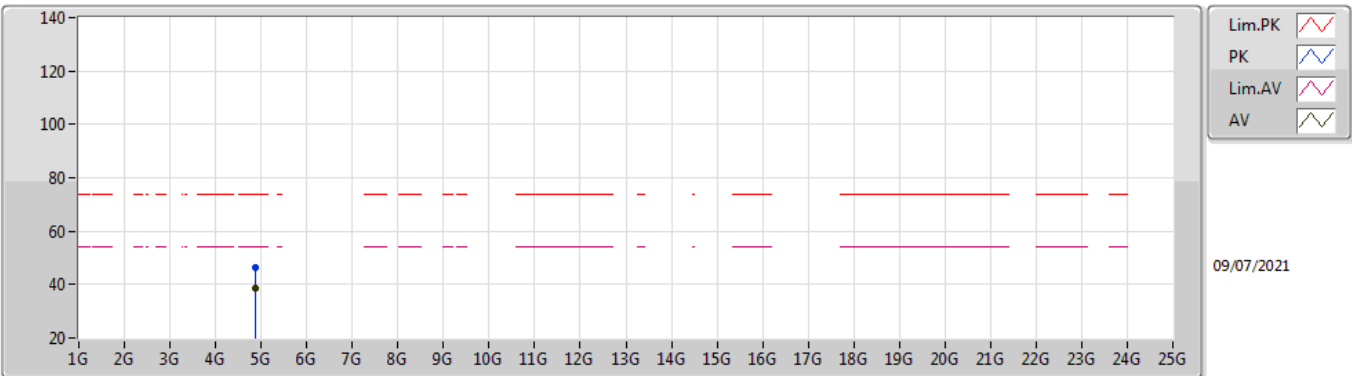


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.3845G	53.86	74.00	-20.14	23.69	3	Horizontal	224	1.95	-	27.59	2.58	-	
AV	2.3668G	41.79	54.00	-12.21	11.52	3	Horizontal	224	1.95	-	27.70	2.57	-	
PK	2.4403G	97.94	Inf	-Inf	67.88	3	Horizontal	224	1.95	-	27.42	2.64	-	
AV	2.44G	96.96	Inf	-Inf	66.90	3	Horizontal	224	1.95	-	27.42	2.64	-	
PK	2.4886G	53.35	74.00	-20.65	23.34	3	Horizontal	224	1.95	-	27.32	2.69	-	
AV	2.4874G	41.71	54.00	-12.29	11.69	3	Horizontal	224	1.95	-	27.33	2.69	-	

BT-BR(1Mbps)

2440MHz_TX

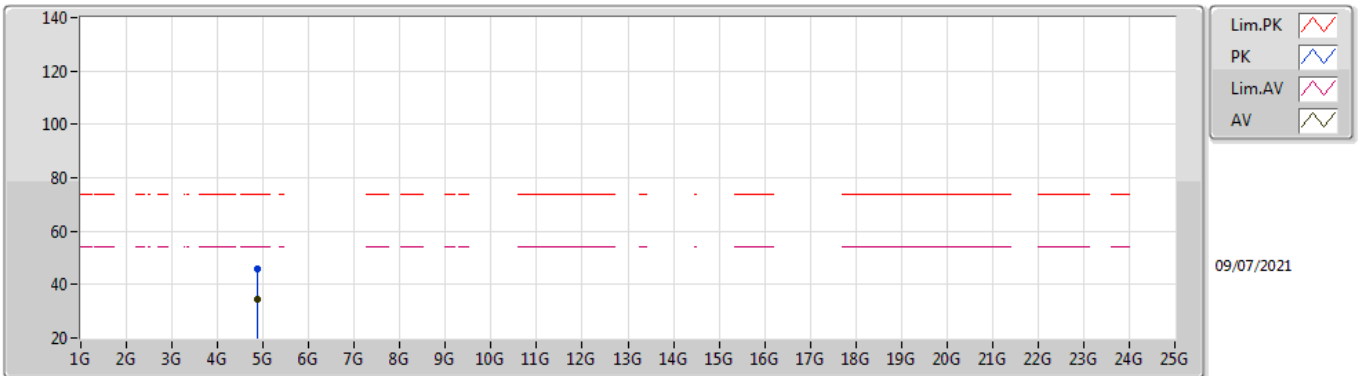


EUT Y_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.87964G	46.28	74.00	-27.72	44.74	3	Vertical	209	1.89	-	31.28	6.12	35.86
AV	4.87996G	38.81	54.00	-15.19	37.27	3	Vertical	209	1.89	-	31.28	6.12	35.86

BT-BR(1Mbps)

2440MHz_TX

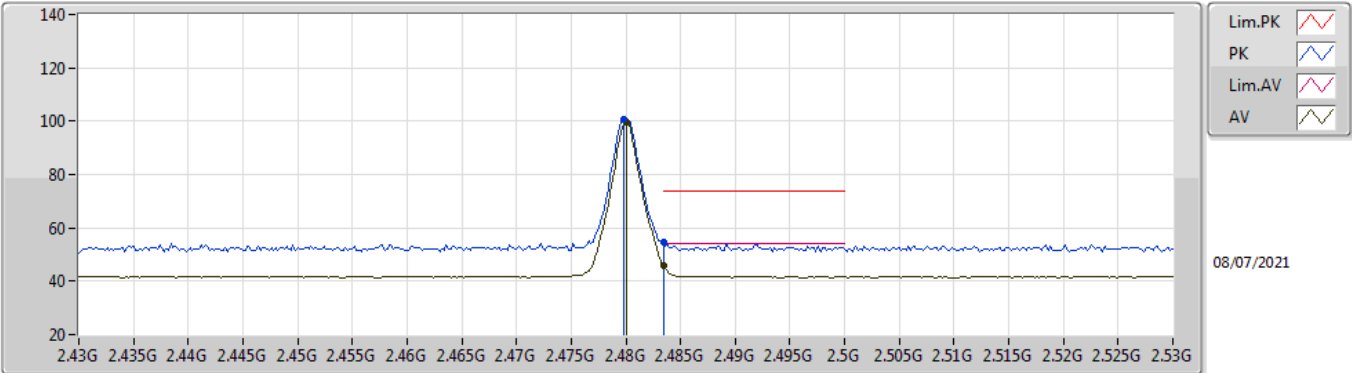


EUT Y_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.8804G	45.73	74.00	-28.27	44.19	3	Horizontal	58	3.00	-	31.28	6.12	35.86
AV	4.87996G	34.31	54.00	-19.69	32.77	3	Horizontal	58	3.00	-	31.28	6.12	35.86

BT-BR(1Mbps)

2480MHz_TX

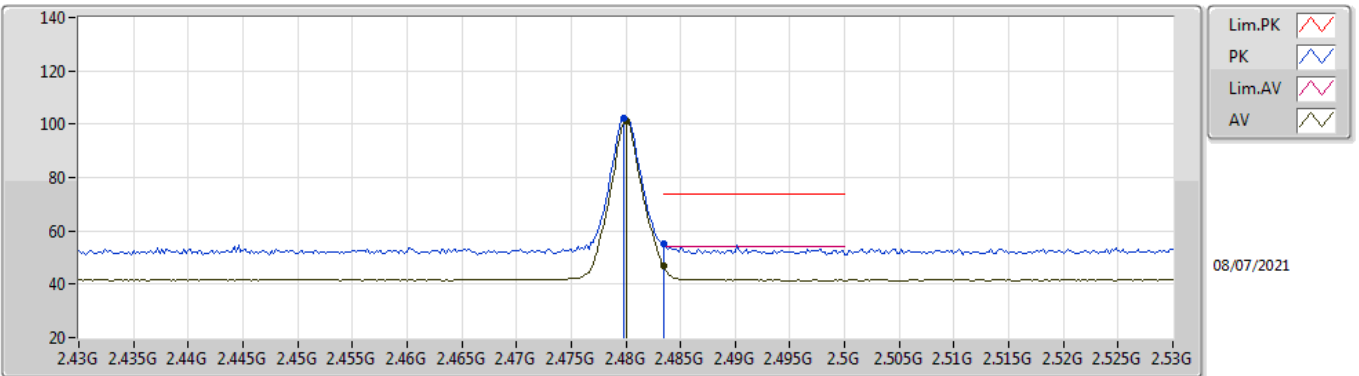


EUT V_1TX
Setting 7
05-A-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.4798G	100.86	Inf	-Inf	70.84	3	Vertical	133	2.08	-	27.34	2.68	-	
AV	2.48G	99.70	Inf	-Inf	69.68	3	Vertical	133	2.08	-	27.34	2.68	-	
PK	2.4835G	54.53	74.00	-19.47	24.52	3	Vertical	133	2.08	-	27.33	2.68	-	
AV	2.4835G	45.85	54.00	-8.15	15.84	3	Vertical	133	2.08	-	27.33	2.68	-	

BT-BR(1Mbps)

2480MHz_TX

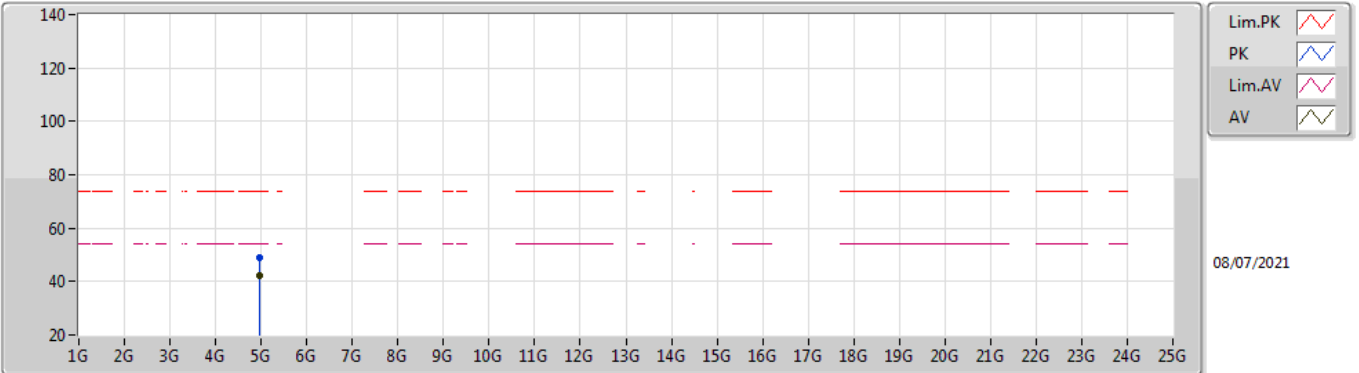


EUT V_1TX
Setting 7
05-A-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.4798G	102.16	Inf	-Inf	72.14	3	Horizontal	304	1.54	-	27.34	2.68	-	
AV	2.48G	101.05	Inf	-Inf	71.03	3	Horizontal	304	1.54	-	27.34	2.68	-	
PK	2.4835G	55.39	74.00	-18.61	25.38	3	Horizontal	304	1.54	-	27.33	2.68	-	
AV	2.4835G	46.94	54.00	-7.06	16.93	3	Horizontal	304	1.54	-	27.33	2.68	-	

BT-BR(1Mbps)

2480MHz_TX

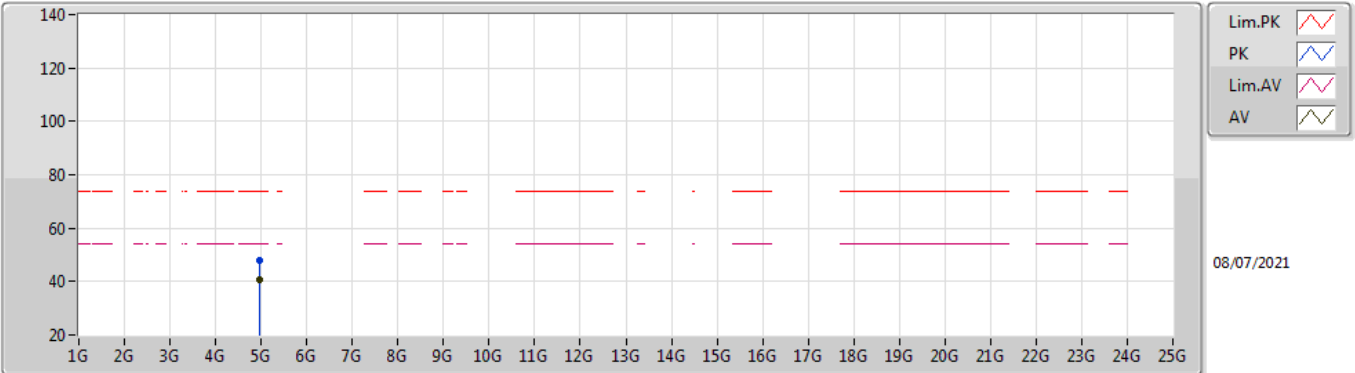


EUT V_1TX
Setting 7
05-A-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.95988G	48.91	74.00	-25.09	47.06	3	Vertical	213	2.54	-	31.44	6.24	35.83	
AV	4.95993G	42.05	54.00	-11.95	40.20	3	Vertical	213	2.54	-	31.44	6.24	35.83	

BT-BR(1Mbps)

2480MHz_TX

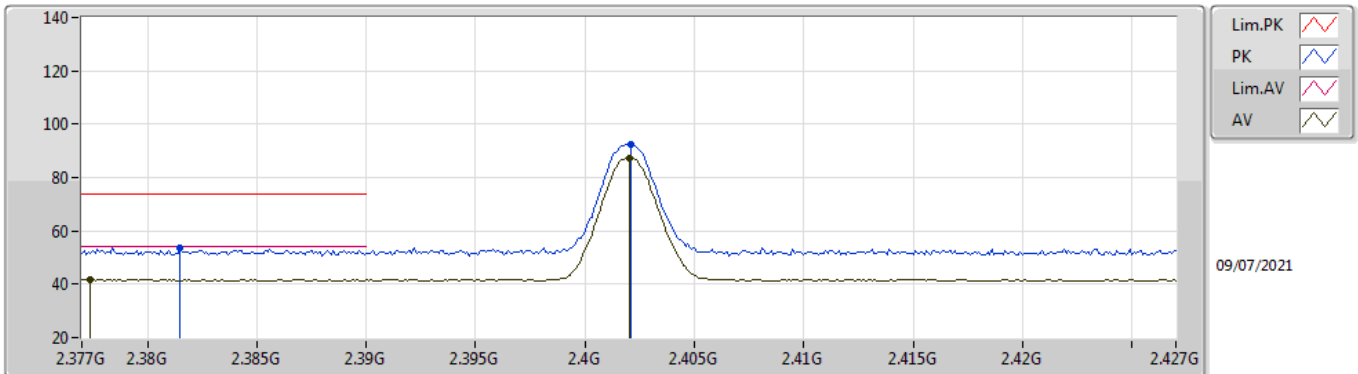


EUT V_1TX
Setting 7
05-A-K-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.95953G	47.98	74.00	-26.02	46.13	3	Horizontal	55	2.52	-	31.44	6.24	35.83	
AV	4.95997G	40.46	54.00	-13.54	38.61	3	Horizontal	55	2.52	-	31.44	6.24	35.83	

BT-EDR(3Mbps)

2402MHz_TX

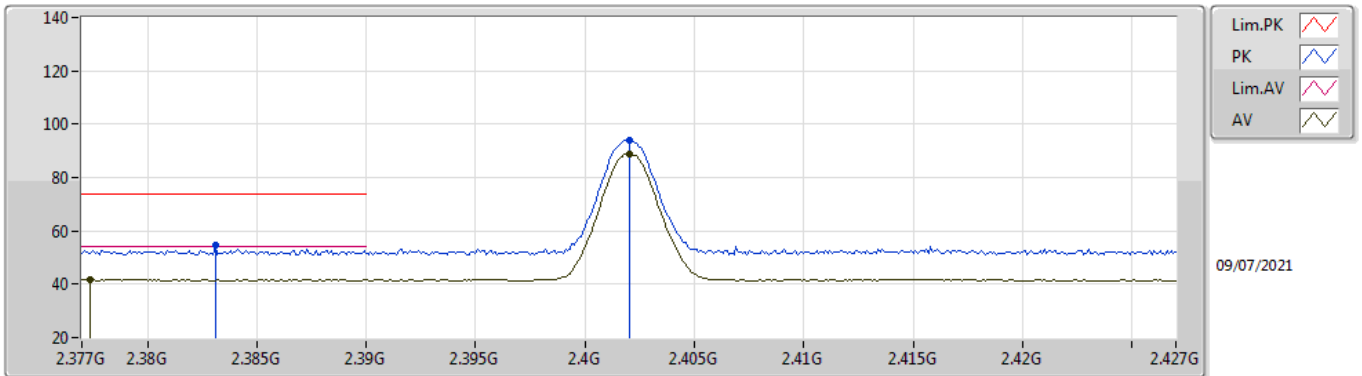


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.3815G	53.57	74.00	-20.43	23.38	3	Vertical	262	1.90	-	27.61	2.58	-	
AV	2.3774G	41.68	54.00	-12.32	11.46	3	Vertical	262	1.90	-	27.64	2.58	-	
PK	2.4021G	92.35	Inf	-Inf	62.25	3	Vertical	262	1.90	-	27.50	2.60	-	
AV	2.402G	87.33	Inf	-Inf	57.23	3	Vertical	262	1.90	-	27.50	2.60	-	

BT-EDR(3Mbps)

2402MHz_TX

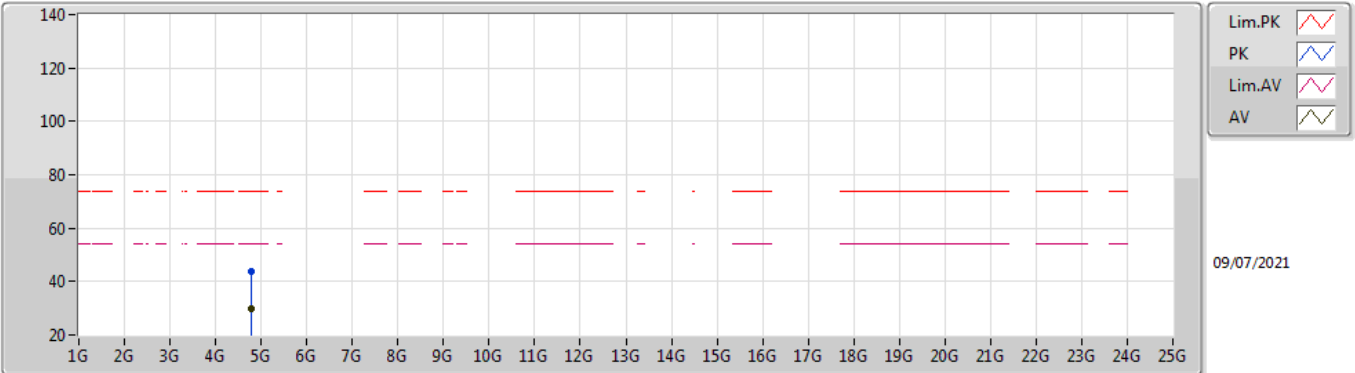


EUT_V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.3831G	54.65	74.00	-19.35	24.47	3	Horizontal	228	1.80	-	27.60	2.58	-	
AV	2.3774G	41.68	54.00	-12.32	11.46	3	Horizontal	228	1.80	-	27.64	2.58	-	
PK	2.402G	93.83	Inf	-Inf	63.73	3	Horizontal	228	1.80	-	27.50	2.60	-	
AV	2.402G	88.75	Inf	-Inf	58.65	3	Horizontal	228	1.80	-	27.50	2.60	-	

BT-EDR(3Mbps)

2402MHz_TX

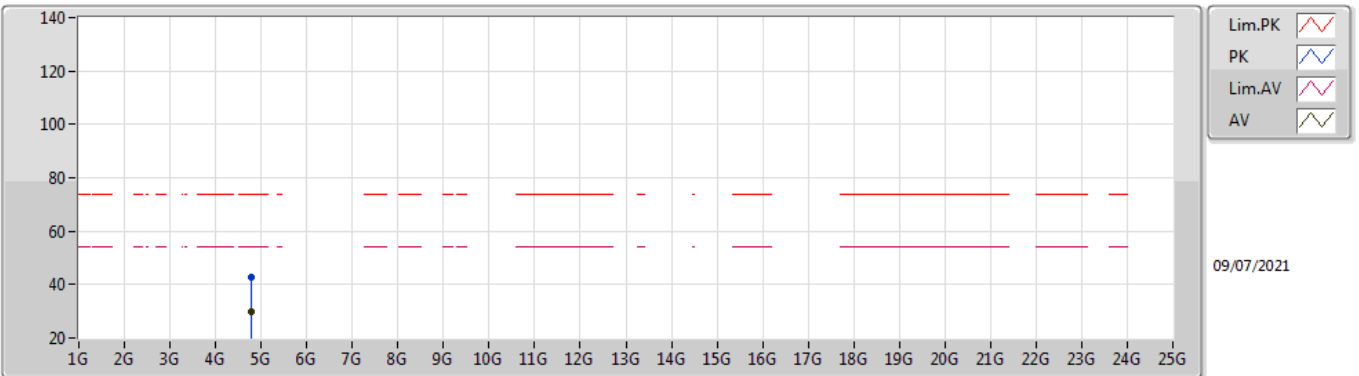


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.79648G	43.82	74.00	-30.18	42.41	3	Vertical	13	2.56	-	31.30	6.00	35.89	
AV	4.79428G	29.79	54.00	-24.21	28.39	3	Vertical	13	2.56	-	31.30	5.99	35.89	

BT-EDR(3Mbps)

2402MHz_TX

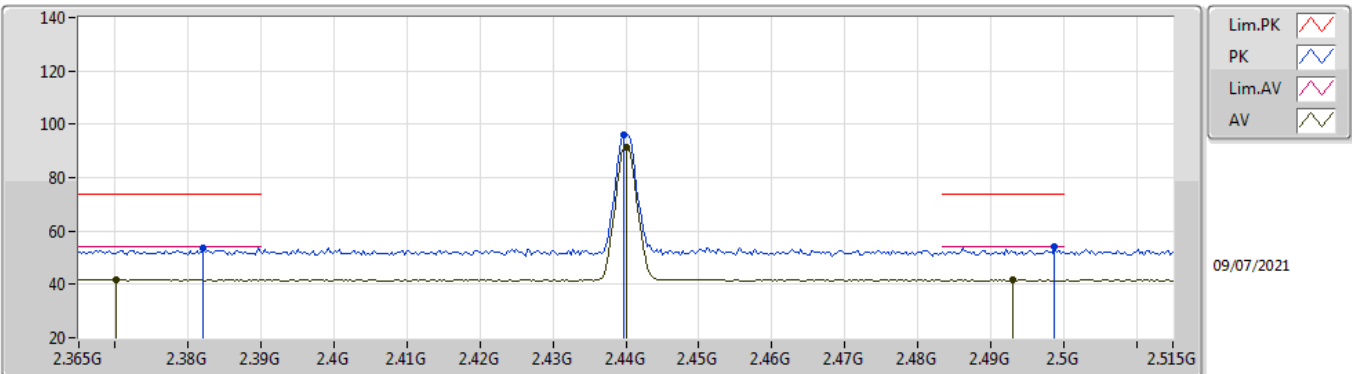


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.79756G	42.55	74.00	-31.45	41.14	3	Horizontal	148	2.37	-	31.30	6.00	35.89	
AV	4.7952G	29.89	54.00	-24.11	28.48	3	Horizontal	148	2.37	-	31.30	6.00	35.89	

BT-EDR(3Mbps)

2440MHz_TX

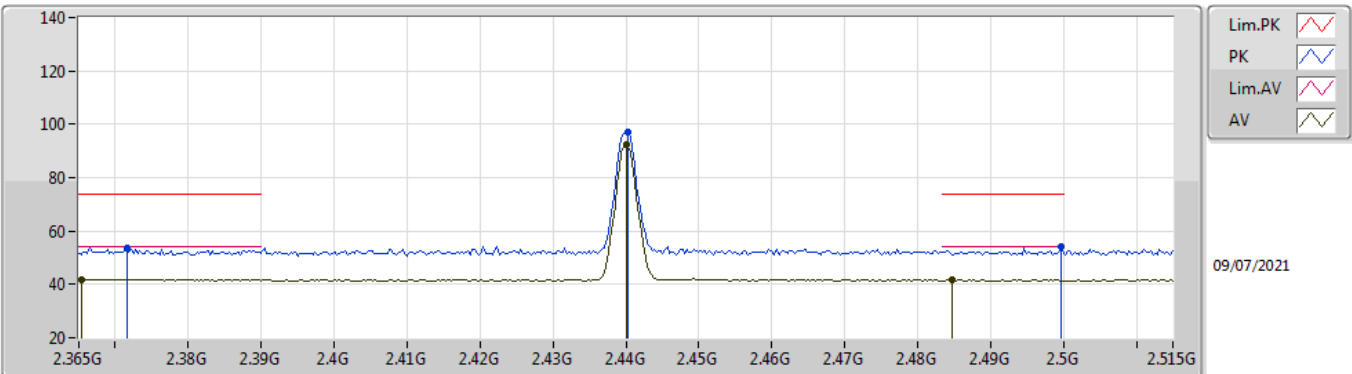


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.3821G	53.39	74.00	-20.61	23.20	3	Vertical	257	1.92	-	27.61	2.58	-	
AV	2.3701G	41.80	54.00	-12.20	11.55	3	Vertical	257	1.92	-	27.68	2.57	-	
PK	2.4397G	95.97	Inf	-Inf	65.91	3	Vertical	257	1.92	-	27.42	2.64	-	
AV	2.44G	91.43	Inf	-Inf	61.37	3	Vertical	257	1.92	-	27.42	2.64	-	
PK	2.4988G	53.97	74.00	-20.03	23.97	3	Vertical	257	1.92	-	27.30	2.70	-	
AV	2.4931G	41.54	54.00	-12.46	11.54	3	Vertical	257	1.92	-	27.31	2.69	-	

BT-EDR(3Mbps)

2440MHz_TX

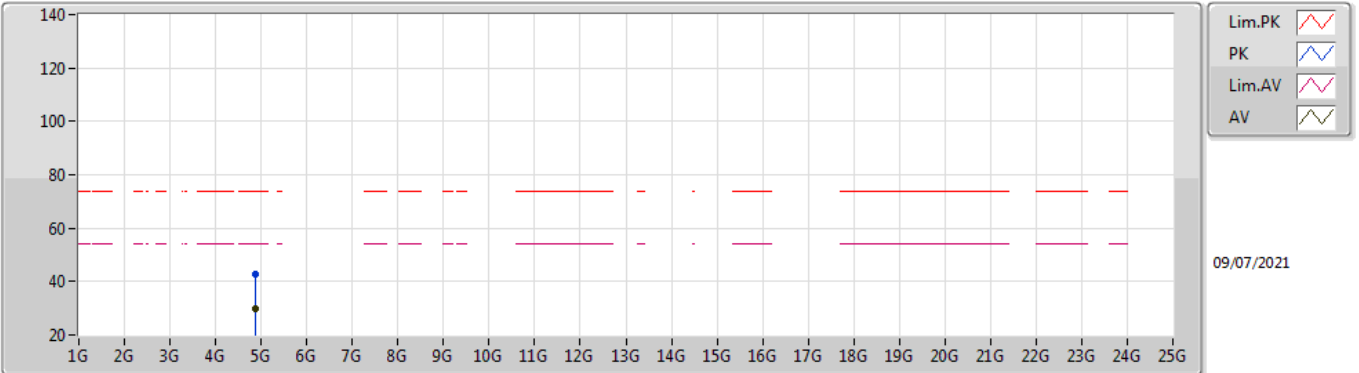


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.3716G	53.52	74.00	-20.48	23.28	3	Horizontal	225	1.76	-	27.67	2.57	-	
AV	2.3653G	41.79	54.00	-12.21	11.51	3	Horizontal	225	1.76	-	27.71	2.57	-	
PK	2.4403G	97.25	Inf	-Inf	67.19	3	Horizontal	225	1.76	-	27.42	2.64	-	
AV	2.44G	92.28	Inf	-Inf	62.22	3	Horizontal	225	1.76	-	27.42	2.64	-	
PK	2.4997G	54.10	74.00	-19.90	24.10	3	Horizontal	225	1.76	-	27.30	2.70	-	
AV	2.4847G	41.70	54.00	-12.30	11.69	3	Horizontal	225	1.76	-	27.33	2.68	-	

BT-EDR(3Mbps)

2440MHz_TX

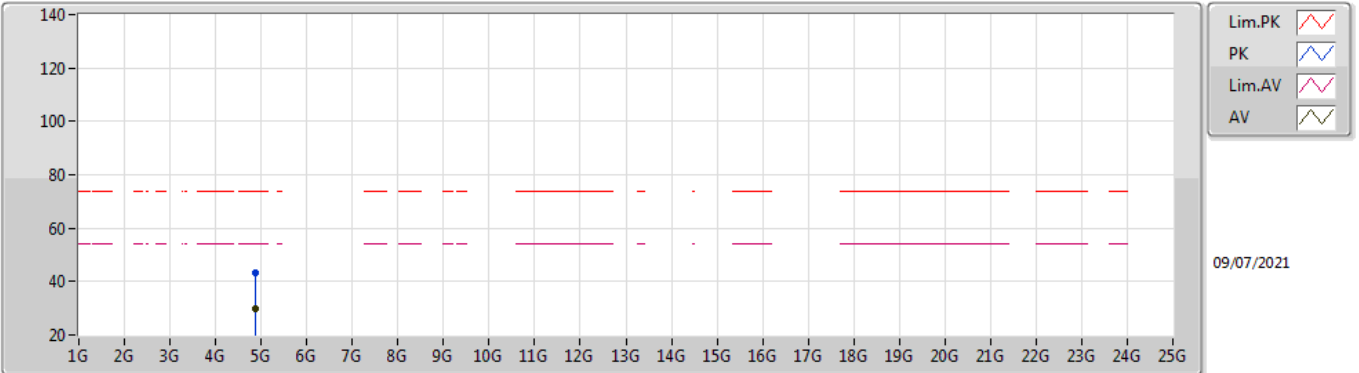


EUT Y_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.88424G	42.92	74.00	-31.08	41.39	3	Vertical	357	2.28	-	31.26	6.13	35.86
AV	4.88496G	29.82	54.00	-24.18	28.29	3	Vertical	357	2.28	-	31.26	6.13	35.86

BT-EDR(3Mbps)

2440MHz_TX

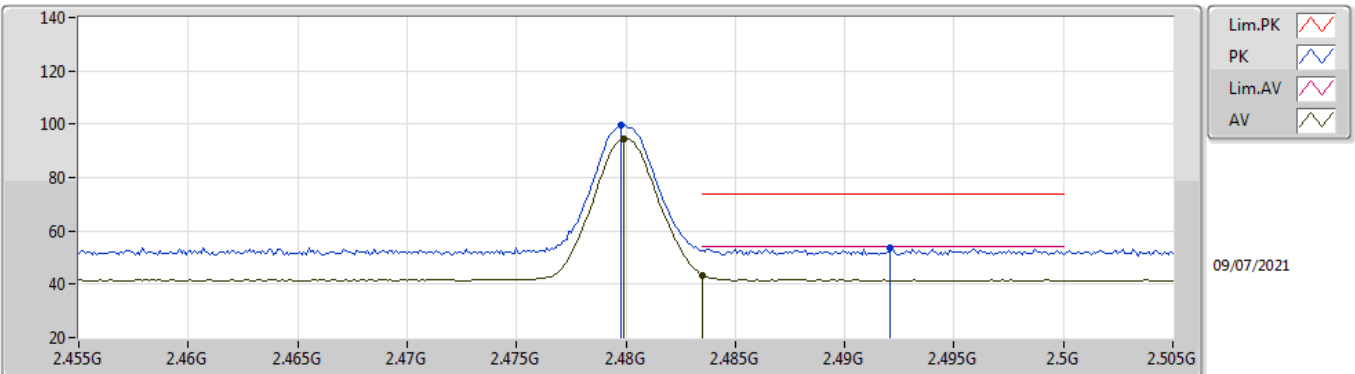


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.88664G	43.08	74.00	-30.92	41.56	3	Horizontal	118	1.47	-	31.25	6.13	35.86	
AV	4.88112G	29.97	54.00	-24.03	28.43	3	Horizontal	118	1.47	-	31.28	6.12	35.86	

BT-EDR(3Mbps)

2480MHz_TX

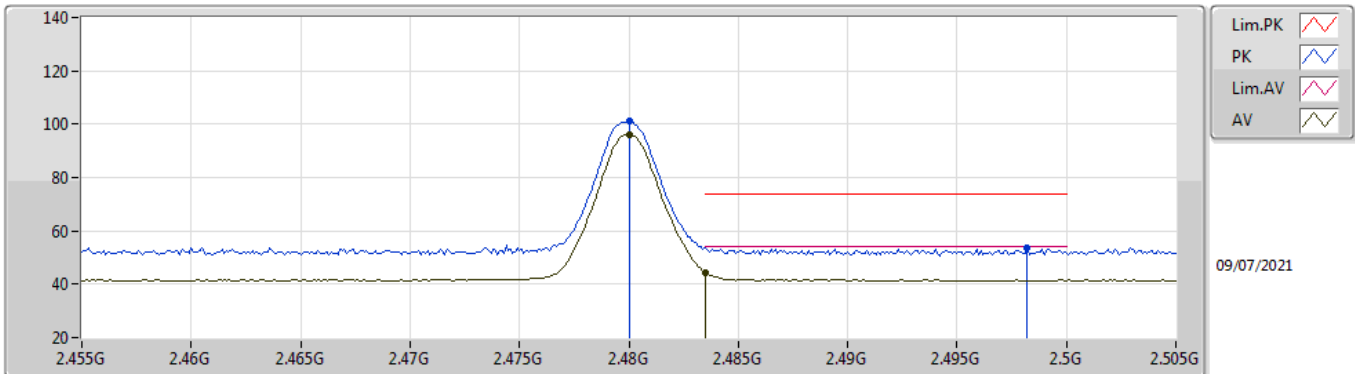


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.4798G	99.56	Inf	-Inf	69.54	3	Vertical	131	1.85	-	27.34	2.68	-	
AV	2.4799G	94.49	Inf	-Inf	64.47	3	Vertical	131	1.85	-	27.34	2.68	-	
PK	2.4921G	53.68	74.00	-20.32	23.67	3	Vertical	131	1.85	-	27.32	2.69	-	
AV	2.4835G	43.49	54.00	-10.51	13.48	3	Vertical	131	1.85	-	27.33	2.68	-	

BT-EDR(3Mbps)

2480MHz_TX

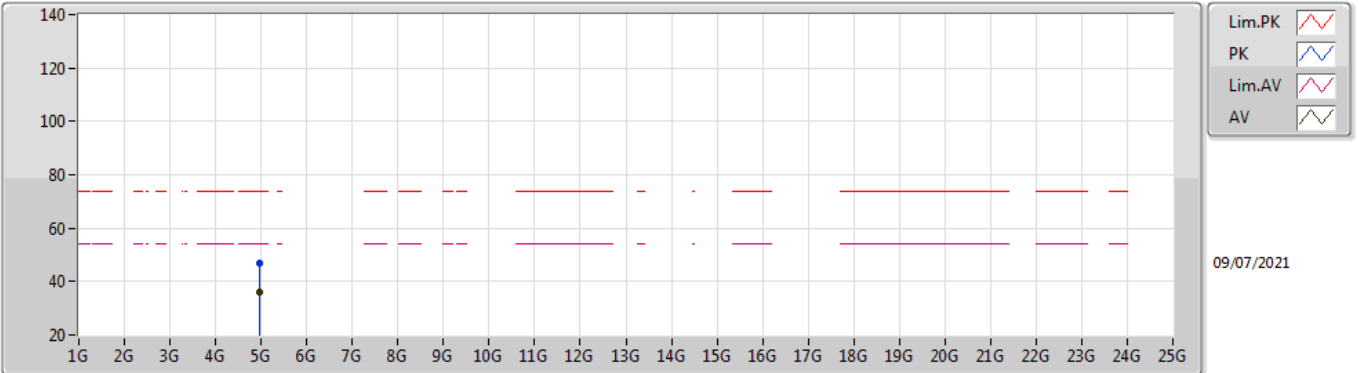


EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.48G	101.11	Inf	-Inf	71.09	3	Horizontal	304	1.92	-	27.34	2.68	-	
AV	2.48G	96.18	Inf	-Inf	66.16	3	Horizontal	304	1.92	-	27.34	2.68	-	
PK	2.4982G	53.74	74.00	-20.26	23.74	3	Horizontal	304	1.92	-	27.30	2.70	-	
AV	2.4835G	44.33	54.00	-9.67	14.32	3	Horizontal	304	1.92	-	27.33	2.68	-	

BT-EDR(3Mbps)

2480MHz_TX

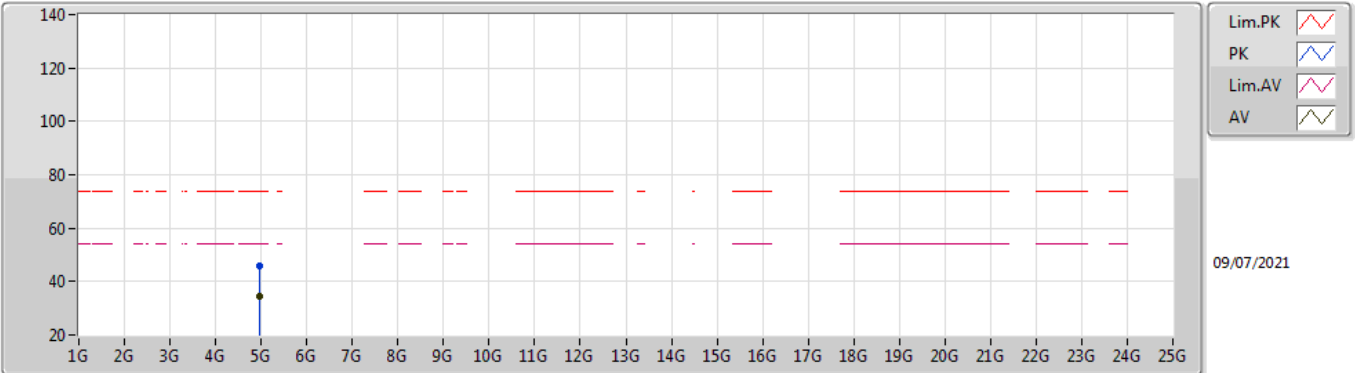


EUT Y_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.95992G	46.76	74.00	-27.24	44.91	3	Vertical	207	1.86	-	31.44	6.24	35.83
AV	4.96008G	36.06	54.00	-17.94	34.21	3	Vertical	207	1.86	-	31.44	6.24	35.83

BT-EDR(3Mbps)

2480MHz_TX



EUT V_1TX
Setting 7
05-A-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.9604G	45.99	74.00	-28.01	44.14	3	Horizontal	54	2.67	-	31.44	6.24	35.83	
AV	4.95988G	34.31	54.00	-19.69	32.46	3	Horizontal	54	2.67	-	31.44	6.24	35.83	